BASALT SANITATION DISTRICT

RULES AND REGULATIONS

Adopted by the Board of Directors

By Resolution No. 11, Series of 2020

October 14, 2020

Revised 02/2022

List of Appendices

ARTICLE 1 SCOPE

1.01 Scope

These Rules and Regulations shall govern the operations and functions of the Basalt Sanitation District (hereinafter "District"). These Rules and Regulations are adopted pursuant to CRS Section 31-1-1001(1).

1.02 Purpose:

The purpose of these Rules and Regulations is to provide for the administration and operation of the District Sewer System.

1.03 Policy:

The Rules and Regulations hereinafter set forth will serve the public in securing the health, safety, prosperity, security and general welfare of the inhabitants of the District.

1.04 Penalty:

Unless otherwise specifically stated, the penalty for violation of any of these Rules and Regulations shall be a fine of $500.00 per each EQR for each day the violation continues. In addition, the violator shall be liable for reimbursement to the District of any and all actual costs and/or damages the District may incur as a result of the violation, including, without limitation, legal and engineering fees.

1.05 District Action at Customer Expense:

These Rules and Regulations require District Customers to take certain actions at their own expense. In the event that a Customer fails or refuses to take such action, the District shall mail a written notice to the Customer or the owner of the property on which District service is or will be received. The notice shall request that the required action be taken within the time specified in the applicable Rule or Regulation or, if no time is specified in these Rules and Regulations, then within the time set forth in the notice. If the Customer still has not taken the required action within the allotted time, then the Customer shall be in violation of this Section and shall be subject to the penalty provisions of Section 1.04, above. The District may, but is not obligated to, take the required action and bill the expense to the Customer. In the event it is necessary for the District to act immediately to protect the health, safety, and welfare of the general public, the District may act without notice to the Customer and bill the expense to the Customer. The District shall be entitled to pursue all remedies granted to it by these Rules and Regulations and Colorado law for collection of the amounts due to it for taking such required actions on behalf of the Customer.

1.06 Waiver for Cause and Variances:

At its sole discretion, the Board of Directors of the Basalt Sanitation District (hereinafter "Board") may waive any penalty, or liability for costs imposed by these Rules and Regulations. Such waiver shall be only for good cause shown in a written application to the Board, must not cause harm to other District Customers, and must not cause the applicant or the District to violate any federal, state, or local laws. In addition, the Board may grant a variance from any of the requirements imposed by these Rules and Regulations for good cause shown in a written

application to the Board for consideration at a public meeting. Good cause shown shall include but not be limited to:

1.06.01 Evidence that strict enforcement of the requirement, penalty, or liability would result in severe hardship to the applicant, financial or otherwise, which would outweigh the benefits to the District from such strict enforcement; or

1.06.02 Evidence that the applicant or Customer will provide or has provided a benefit or benefits to the District which will outweigh the positive impacts of strict enforcement; or

1.06.03 Evidence that the property for which the variance is sought has such unique characteristics that strict enforcement of the requirements of these Rules and Regulations would result in the property being unable to be served by the District or at such a cost to the applicant that service would be untenable; or

1.06.03 The Customer was acting in good faith and responded in a timely manner.

1.07 Effective Date:

The effective date of these Rules and Regulations shall be October 15, 2020.

1.08 Amendment:

These Rules and Regulations may be amended at any time and such amendment shall be effective as prescribed by the Board at the time of such Amendment, and if not prescribed at the time of Amendment, the Amendment shall be effective immediately upon adoption by the District Board.

1.09 Inspection or Purchase of Rule and Regulations:

These Rules and Regulations shall be available to the public for inspection at the District's office or the offices of the Attorney for the District. A copy shall also be available for purchase at a price listed in Appendix A. A PDF copy can also be downloaded from the District’s website for free.

1.10 Organization of Board and Designation of Officers:

The number of Directors of the Board shall be fixed from time to time by the Board of Directors. The Board shall elect one of its members as chairman of the Board and president of the District, one of its members as vice chairman of the Board and vice president of the District, one of its members as treasurer of the Board and of the District, and a secretary who may, but need not be a member of the Board. Any vacancy on the Board shall be filled by appointment by the remaining Director(s). The appointee shall serve until the next regular election, at which time, the vacancy shall be filled by election for any remaining unexpired portion of the term.

ARTICLE 2 DEFINITIONS

Unless the context indicates otherwise, the meaning of terms used herein shall be as follows:

(A) Actual Cost:

All direct costs applicable to the construction of a given facility, including surveys, construction, preliminary and design engineering, inspection, construction observation, administrative and legal costs, plan approval fees, Record Drawings, and other costs necessary for completion.

(B) Applicant for System Extension:

Any person, association, corporation, entity or governmental agency desiring sewer services for premises under his, her, or its control; often a Subdivider, a Developer, or an Owner.

(C) Appurtenant:

Belonging to, accessory, or incident to, adjunct, appended, or annexed to.

(D) Authorized Representative:

A person employed or designated by the District who is authorized by the Board of Directors to conduct activities and other duties on behalf of the District.

(E) Bedroom:

Any room in a building or other structure which could be used predominantly for sleeping accommodations.

(F) Board and Board of Directors:

The duly elected Board of Directors of the District, which acts as the governing body of the District.

(G) Building Drain:

Except as to individual ejector pumps, that part of the lowest horizontal piping of a building drainage system from the stack or horizontal branch, exclusive of storm sewer, extending to a point not less than five feet (5') outside of the building wall.

(H) Collection System:

Sewer mains, together with all appurtenances, - including manholes, cleanouts, taps, and associated materials - property, and equipment collecting wastewater from customers, excluding Service Lines.

(I) Collector Sewer Line:

Any sewer line designed to collect the flow from two or more sewer Service Lines in a subdivision, planned unit development, or other defined residential, commercial, or industrial area, and transport that collected flow to a sewer main.

(J) Commercial Kitchen:

Any kitchen used for food preparation, food service, or staging of meals for banquet, food sales, or large numbers of patrons. Any business that sells food for commercial purposes and has a kitchen shall be considered a commercial kitchen.

(K) Commercial Units:

Any structure used primarily for commercial or business purposes that is not classified as a Residential Unit under these Rules and Regulations.

(L) Connection:

Any physical connection of a Service Line to a pre-approved stub out or a sewer main, regardless of whether use actually commences at the time of connection, and regardless of whether the Service Line is connected to the structure to be served.

(M) Contractor:

Any person, firm, or corporation authorized by the District to perform work and to furnish materials within the District.

(N) Customer:

Any person, company, corporation, entity, governmental authority, or agency connected or authorized to connect to the District Sewer System under a permit issued by the Board of Directors.

(O) Dedication:

An appropriation of an interest in land or chattels for public or District use, made by the owner, and accepted for such use by the public or by the District on behalf of the public.

(P) Defective:

Work that is unsatisfactory, faulty or deficient, or does not meet the requirements of any inspection, test, or approval referred to in the Technical Specifications or which has been damaged prior to the approval.

(Q) Deposit:

Cash, letters of credit, payment, performance bonds, or other security for performance, as required by these Rules and Regulations or as approved by the Board in its sole discretion.

(R) Developer:

Any person who owns land and seeks to have the land served by the District.

(S) Discharger:

A person, residence, business, industry, or entity that contributes wastewater flow to the wastewater collection system or treatment process.

(T) District:

The Basalt Sanitation District, Eagle and Pitkin Counties, Colorado.

(U) District Boundaries

A perimeter description of the property contained within the boundaries of the District as presently existing or property included pursuant to a Petition for Inclusion which has been approved by the District and for which an Order for Inclusion in the District has been approved by the District Court. Property contained within the District Boundaries shall be subject to District taxation, including the imposition of a mill levy. The District Boundaries may or may not be contiguous to the District Service Area. The most recent boundary map can be found in Appendix D.

(V) District Engineer:

Person or firm that has contracted to do engineering work for the District.

(W)District Inspectors:

The authorized representatives of the District acting within the scope of the particular duties entrusted to them.

(X) District Service Area:

A perimeter description of the property contained within the District Boundaries, and any additional property which the District Board of Directors has determined may be serviced by the District, in its sole discretion, with or without inclusion within the District Boundaries, as determined by the District Board. Nothing herein shall obligate the District to provide service outside the District Boundaries. The most recent service area map can be found in Appendix E.

(Y) Duplexes:

Residential structures composed of two Single-Family Residential Units.

(Z) Ejector Pump:

A pump that serves an individual service connection to convey wastewater to the sewer main. All individual ejector pumps are privately-owned and are not maintained by the District.

(AA) Equivalent Resident Unit (EQR):

A standard of measurement used by the District in calculating fees and dedication requirements based on the estimated amount of sewage produced by a Single Family Residential Unit. One (1) EQR is equivalent to 300 gallons per day (gpd).

(BB) Extension of Service:

Any extension of the District Sewer System for which a fee is assessed.

(CC) Inclusion:

The act of attaching, adding, joining, or uniting a parcel of land to the legal boundaries of the District.

(DD) Industrial Business

Any business that operates industrial processes, such as breweries, distilleries, car washes, greenhouses, marijuana grow facilities, metal plating and finishing, and/or other establishment

that has the potential to discharge wastes and/or wastewater which may contain chemicals not normally found in domestic wastewater, heavy metals, or that are defined as categorical by the EPA. These businesses shall have an industrial pretreatment facility, the plans and specifications for which shall be approved by the Board of Directors.

(EE) Inspection Fee:

Costs to be paid by the Developer for the District Engineer's and/or the District Inspector's time associated with construction inspection and/or observation services.

(FF) Interceptor or Trunk Line:

A sewer line larger than eight inches (8") in size.

(GG) Kitchen:

Any room used to cook, heat, or prepare food, as may be evidenced by the use or existence of any of the following items: sink, refrigerator, place for food storage, stove, oven, microwave oven, or hot plate. The Board reserves the right, in its discretion, to designate a given room within a residence as a kitchen; provided, however, that the existence of a stove, oven, or microwave oven within a room also containing a sink and refrigerator shall conclusively establish said room as a kitchen.

(HH) Line Connection Agreement:

An agreement between the District and a Customer which identifies the terms and conditions by which a Developer or Customer is permitted to connect to the District Sewer System and receive sewer service therefrom.

(II) Licensed Plumber or Pipe Layer:

Any person who has been provided a license by the State of Colorado to perform plumbing and/or pipe laying work.

(JJ) Line Extension Agreement:

An agreement between the District and a Developer or Customer that identifies the terms and conditions by which the parties agree to extend the District Sewer System and permit the Customer to connect to the District Sewer System and receive sewer service therefrom.

(KK) Line Extension Cost Recovery Fees:

Fees charged by the District pursuant to Article VIII of these Rules and Regulations and determined by the Board of Directors, based on the size in acres of the property to be served by the new connection, the zoning of the property, the existing and potential uses of the property, the potential EQR demand from the property, and any other similar, relevant factors which the Board of Directors believes should be considered.

(LL) Main Extension:

Extension to the existing sewer collection system located within the District and which ownership of the proposed extension will be turned over to the District.

(MM) Manager or Administrator:

The person, if any, retained by the Board to administer and supervise the affairs of the District and its employees.

(NN) May:

Is permitted.

(OO) Measurement of wastewater generation or water usage:

The amount of water and/or water with organic material that has been produced by a residence or customer that can be physically measured.

(PP) Multiple-Family Residential Unit:

Apartments, condominiums, townhouses, and similar facilities in the same complex and small cabin clusters not associated with motels.

(QQ) Person:

Shall mean any individual, developer, firm, company, society, corporation, association, partnership, group, or other entity.

(RR) Plat:

A map or chart, prepared by a surveyor licensed by the State of Colorado, of a piece of land subdivided into lots with streets, alleys, roads, easements, and other such avenues of transportation delineated thereon and drawn to a scale.

(SS) Pre-Treatment Facilities:

Structures, devices, or equipment approved by the District and installed for the purpose of removing harmful or prohibited substances from wastes discharged into a District sewer main.

(TT) Record Drawings:

Accurate drawings representing the final installed location of sewer system lines or other sewer facilities which have been installed in accordance with an agreement or understanding with the District and further described in Section 7.05(C) and in the Technical Specifications and Procedures in Appendix B.

(UU) Redevelopment Fee:

Fee paid by a Developer that represents the difference in the original Tap Fee paid to the District at the time the Property was first connected to the District's Sewer System and the current Tap Fee. This fee must be paid for any existing Taps at the time that the application for redevelopment is approved by the Town of Basalt, Pitkin or Eagle County as applicable.

(VV) Replat:

To make a change in an original plat.

(WW) Sampling:

The collection of sewage samples for analysis.

(XX) Secondary Residential Units:

Guest houses, separate apartments attached to Single Family Residential Units, accessory dwelling units, and other separate residential units associated with Single Family Residential Units and containing their own separate kitchens.

(YY) Service Line:

The pipe or line owned, maintained, and repaired, which is the sole responsibility of the Customer, used to provide sewer service from the building drain to a sewer main. Customer is responsible for maintenance of this pipe or line to the connection point of the sewer main and privately owned line.

(ZZ) Sewage:

Any liquid waste which may contain organic or inorganic material in suspension or solution originating within residential, commercial, or industrial structures, which is discharged into the District Sewer System.

(AAA) Sewer Main:

A sewer line owned by the District and installed in a public street or dedicated easement.

(BBB) Sewer System:

All facilities owned by the District and used for collecting, pumping, treating, and disposing of sewage.

(CCC) Shall

Is mandatory.

(DDD) Shop Drawings

All drawings, diagrams, illustrations, brochures, and other data which are specifically prepared by a Contractor, subcontractor, manufacturer, fabricator, supplier, or distributor to illustrate some portion of the work and submitted by the foregoing to illustrate material or equipment for some portion of the work.

(EEE) Significant Industrial Users (SIU)

Significant Industrial Users (SIU) are dischargers with a potential to violate pretreatment standards and regulations.

(FFF) Single Family Residential Unit

All single-family homes, individually billed mobile homes, mobile homes on individual lots, and mobile homes established as permanent residences which have no more than one (1) kitchen.

(GGG) Tap

The connection of a Service Line to a pre-approved stub out or a sewer main.

(HHH) Tap Fee (System Development Fee)

The fee charged by the District for connecting to the District Sewer System which represents the Customer's investment in the Sewer System.

(III) Tap Permit

Written permission of the District allowing connection to and discharge into the Sewer System pursuant to these Rules and Regulations through a specified sewer tap.

(JJJ) Testing

The analysis of samples of wastewater/sewage.

(KKK) User

Any person to whom sewer service is provided, whether renter, record owner, corporation, company, individual, educational institution, etc.

(LLL) Vacuum

The process in which air has been partially removed so that the gas remaining in the space is less pressure than the atmosphere.

(MMM) Variance

A request made to the Board under Section 1.06 of these Rules and Regulations for a departure from the requirements of any Rule or Regulation herein.

(NNN) Violation

Any failure to follow, uphold, or comply with the requirements of these Rules and Regulations, intentionally or unintentionally, by act of commission or omission, whether or not the violator knew of the existence of the Rule or Regulation. Unless otherwise stated, each day that a Violation exists or continues shall be considered a separate Violation, subject to the penalties which apply.

ARTICLE 3 OWNERSHIP AND OPERATION OF FACILITIES

3.01 Policy

The District is a Colorado Special District, formed and functioning under the authority of C.R.S. §32-1-101 et seq. The District was created for the collection and treatment of sewage from District Customers, and for the maintenance, repair and replacement of all District sewer mains and facilities. The District shall not be liable or responsible for interruption of sewer service. All buildings located within the District and within four hundred (400) feet of any sewer main, which are used for residential or business purposes, or in which persons congregate or are employed, must be connected with the District Sewer System, and all plumbing fixtures therein shall be connected therewith. Where a sewer main is not available, and only if approved by the District, the building sewer shall be connected to a private sewage disposal system in conformity with the Eagle County or Pitkin County design criteria and the rules and regulations of the Colorado Department of Public Health and Environment.

The District shall endeavor to plan for, capitalize, and build adequate capital improvements as demand occurs and shall operate and maintain the Sewer System in a sound and economical manner. However, the District shall not be liable or responsible for the consequences of its failure or refusal to accept additional or new service which would exceed the capacity of the Sewer System.

It is the District's policy that all sewer mains and trunk or interceptor lines within public rights-of-way or District easements shall be public sewers, and that Service Lines shall be installed by the Customer and owned, maintained, and repaired by the Customer from the structure being served to the connection with the sewer main; provided, however, the District shall reserve and always have a right of access to such Service Lines, cleanouts, flow meters, and other facilities as necessary to carry out its functions.

3.02 Liability

No claim for damage shall be made against the District by reason of the following: breaking of any sewer line or connection by a third party, whether or not such third party relied on Record Drawings for the location of stub outs and/or lines; breaking of any sewer line by any employee or agent of the District; the unauthorized acts of any employee of the District; the making of connections or extensions; broken or frozen service pipes or other facilities not owned by the District; or for doing anything to the District Sewer System deemed appropriate by the Board of Directors or its agents. The District hereby reserves the right to disconnect sewer service at any time, for any reason deemed appropriate including, but not limited to, any violation of these Rules and Regulations or Board policies as set forth in the District minutes . Nothing in these Rules and Regulations shall be deemed or construed to constitute a waiver of the Governmental Immunity Act (C.R.S. § 24-10-10L et seq.).

No claim for damage shall be made against the District by reason of the following:

1. Blockage in the Sewer System causing the backup of wastewater, whether or not said blockage was intended or caused by the District;

2. Damage caused by smoking of lines to determine drainage connections to District lines;

3. Breakage of sewer mains by District personnel or third parties;

4. Interruption of sewer service and the conditions resulting therefrom where said interruption of service is brought about by request of claimant, interruption of electrical service or by circumstances beyond the District's control.

3.03 Ownership

Upon acceptance, all existing and future sewer mains, connected with and forming an integral part of the District Sewer System, shall become the property and responsibility of the District; however, the District Board reserves the right to determine, in its sole discretion, whether acceptance of dedicated sewer mains is appropriate in all circumstances. Said ownership will remain valid whether the sewer mains are constructed, financed, paid for, or otherwise acquired by the District or by other persons.

That portion of all existing and future Service Lines extending from the sewer main to each unit or building connected with and forming an integral part of the District Sewer System shall be deemed private facilities owned by the Customer. The Customer's ownership of and responsibility to bear the expense of installing, maintaining, repairing, and replacing said Service Line shall exist whether the Service Lines are constructed, financed, paid for, or otherwise acquired by the District or by another person.

Any provision herein to the contrary notwithstanding, the District reserves and shall at all times have a right of access to all Service Lines and other facilities necessary for the District to carry out its lawful functions.

3.04 Powers and Authority of Agents

The Manager/Administrator and other duly authorized representatives of the District, bearing proper credentials and identification, shall be permitted to enter upon all properties served by the District, or for which application for service by the District has been made, for the purpose of inspection, observations, measurement, sampling, testing, or any other reasonable purpose in accordance with the provisions of these Rules and Regulations. The right of entry shall include the right by District employees or authorized representatives to verify fixtures and bedrooms or install, read, or otherwise gather data from the water meter(s) on a Customer's property in order to assist the District in analyzing individual sewage production by the Customer. In addition, upon request, a Customer shall provide the District with any applicable water meter records which document the Customer's water usage, and shall consent to the District obtaining the Customer's water meter records from applicable entities possessing such records.

A Customer's application for sewer service shall be deemed consent to such entry by the District and consent to obtaining water usage records as set forth above. Entry upon the property of Customers shall only be made after reasonable notice, and during reasonable business hours, unless an emergency exists as determined by the District. Subject to the above provisions, all owners and tenants of property connected to the District Sewer System shall be deemed to have agreed to entry onto such property for the purposes set forth herein.

In order to facilitate proper accounting of water use records, if the District determines that it is necessary to separately measure the water use data for a particular class of use located on a Customer's property, the District may, in its sole discretion, require the Customer to install a sub-meter by which water flow to the individual class of use can be separately measured. A remote readout shall be installed with all such sub-meters. The Customer shall be responsible for the installation, maintenance and repair of the sub-meter, and any defective or inoperable sub-meter shall be repaired or replaced within thirty (30) days following discovery or notice from the District of the need of such repair. In the event that a defective sub-meter is not repaired or replaced by the Customer within the 30-day period, as provided, such repair or replacement may be completed by the District and the cost thereof charged to the Customer.

ARTICLE 4 USE OF DISTRICT SEWER SYSTEM

No person shall uncover, make any connection with or opening into, use, discharge into, alter, or disturb any sewer main or appurtenance without first obtaining a Tap Permit from the District. All installations for sewer service from the District shall be made in accordance with these Rules and Regulations, the specifications and procedures set forth in Appendix B, and all federal, state, county, and local requirements. Prior to the commencement of construction thereof, Record Drawings and specifications therefore, prepared by a Colorado licensed professional engineer, shall be provided to the District for approval, which drawings shall show the location of the Service Line, including the distance from the nearest manhole to the Tap of the Sewer Main and the alignment of the Service Line from the Sewer Main to the structure(s) served. All utilities serving the property and in the right-of-way and all property improvements shall be shown on the Record Drawings. All Record Drawings and GIS information shall be submitted to the District in accordance with Section 7.05.C. All work upon or in connection with any portion of the District Sewer System or any Service Lines or facilities which connect thereto shall be by a contractor and shall be performed in conformity with the design criteria of the Colorado Department of Public Health and Environment and these Rules and Regulations **Every sewer tap and Service Line connected to the District Sewer System must be inspected by a representative of the District before it is covered.** The District shall charge the fees set forth in Appendix A for such inspections, which inspection shall be performed upon receipt of at least 48 hours notice to the District. If a permanent connection to the District Sewer System is covered before inspection, it must be excavated by the owner for inspection at the owner's expense. The District will mail to the owner of the property on which the uninspected connection is located a written request that the connection be excavated for inspection. If the connection is not excavated for inspection within ten (10) days after such request is sent, the District will excavate and inspect the connection at the owner’s expense.

4.01 Responsibilities of Customers

Each Customer shall be responsible for maintaining the entire length of the Service Line serving the property and shall maintain the property in such a manner as to prevent damage to the District Sewer System. Leaks, stoppage, or breaks in a Service Line must be repaired by the Customer within seventy-two (72) hours after knowledge of such condition or notification by the District. If satisfactory progress toward repairing said leak, stoppage, or break has not been completed within such time period, the District's authorized representative may shut off the Customer’s water service until the sewer leak(s), stoppage, or break(s) have been repaired. The District's or other appropriate water service provider's authority to shut off a Customer's water service for such purposes shall be deemed consented to by the Customer at the time the Customer connects to the District Sewer System. Any provision herein to the contrary notwithstanding, the District may, but is not required to, take immediate steps to repair any Service Line leak, stoppage or break which the District, in its sole discretion, considers to constitute a health hazard or emergency. In such event, the District shall recover the cost of such repair from the Customer owning the Service Line. If the Customer fails to pay any costs for which the Customer is responsible within thirty (30) days of the District mailing notice thereof to the Customer, the District may take such action as is necessary to collect such costs,

including the imposition and foreclosure of a lien on the Customer's property, and the District shall be entitled to recover all costs of such collection, including reasonable attorney's fees, late charges, and interest.

4.02 Tap Permit Provisions

The District sewer Tap Permit allows connection to and discharge into the District Sewer System of sewage not otherwise restricted or prohibited by these Rules and Regulations through a specified sewer tap. Spot discharges of recreational vehicle wastes, portable toilet wastes, or any other wastes, and discharges of swimming pool water, must be specifically authorized by the Tap Permit or other written permit. The Tap Permit for swimming pools and hot tubs shall specify the hours when and the rate (expressed in gallons per minute) at which such pools and hot tubs may be drained into the District Sewer System, and may include limits on the amount of chemicals, such as chlorine (expressed as MG/L) allowed in such discharge.

4.02A. Independent Connections Required

The plumbing and drainage systems of each house, dwelling, apartment building, accessory dwelling unit, mobile home, cottage, bungalow, store, premises, office, restaurant, business, building or other structure connected to or with the District's Sewer System shall be separate and independent from that of every other house, dwelling, apartment building, accessory dwelling unit, mobile home, cottage, bungalow, store, premises, office, restaurant, business, building or other structure, and each shall have a separate and independent connection with the Sewer System.

4.03 Discharge Restrictions – General

Except as hereinafter provided, no person shall discharge, or cause to be discharged, to any sewer main, any waste prohibited by these Rules and Regulations, or any harmful waters or wastes, whether liquid, solid, or gas, capable of causing obstruction to the flow in sewer lines, damage or hazard to structures, equipment, or personnel of the District Sewer System; inhibiting the biological activity in the wastewater treatment facilities; otherwise interfering with the proper operation of the District Sewer System; constituting a hazard through exposure to the District sewer effluent; or causing the District to be in violation of federal, state, or local laws.

4.04 Discharge Restrictions – Maximum Allowable

The maximum allowable discharge concentrations to the District's sanitary collection and treatment system for the following constituents are as follows:

- Biological Oxygen Demand – 240 mg/l
- Total Suspended Solids – 230 mg/l
- Temperature – 100 F
- pH – 6.5 to 8.5
- Total Dissolved Solids – 330 mg/l

- Oil and Grease – 76 mg/l
- Free Ammonia – 20 mg/l
- Total Ammonia – 30 mg/l
- Total Kjeldahl Nitrogen – 40 mg/l
- Total Nitrogen – 35 mg/l
- Organic Nitrogen – 14 mg/l
- Nitrites and Nitrates – 0 mg/l
- Total Phosphorus – 5.6 mg/l
- Sulfate – 36 mg/l
- Chlorides – 59 mg/l

Pre-treatment of any discharge, whether existing or new, shall be required when the discharge is in violation of the above concentrations. New discharges shall meet these discharge requirements within 30 days of initial discharge. Existing users shall have up to 60 days from the date of notification to submit a plan to the District for review and approval. After plan approval, existing users will have up to 90 days to install the proposed treatment equipment. After successful start-up of the equipment, the existing discharger will have 30 days to meet the required discharge concentrations.

Where pretreatment facilities are provided, they shall be operated and maintained in continuously efficient operation by the Customer, at its own expense. Pursuant to section 4.03.03 below, the District may require a control access point and can take samples from this point at any time.

4.05 Discharge Restrictions – Prohibited Waste

Any discharger discharging toxic or poisonous substances, including but not limited to any of the substances listed below, shall be required, at its expense, to prepare a site specific analysis of the effect of such discharge on the District's Sewer System. The analysis shall identify all substances and their concentrations expected in the discharge and the type of pre-treatment options available. After consultation with the District Engineer, the Board may, in its sole discretion, allow discharge of the prohibited waste, provided such discharge does not violate, or cause the District to violate, federal, state, county, or local laws.

1. Total Chromium
2. Copper
3. Nickel
4. Cadmium
5. Zinc
6. Iron
7. Lead
8. Aluminum
9. Arsenic
10. Magnesium
11. Chlorine
12. Cadmium

13. Mercury
14. Selenium
15. Silver
16. Sodium
17. Sulfide
18. Radium
19. Uranium

If approved, the Board may prescribe the times, places, concentrations, total amounts, fees and charges, sampling requirements, and any other conditions under which such prohibited waste may be discharged. Where necessary in the opinion of the Board, the Customer shall provide, at its expense, such pretreatment facilities as may be necessary to treat such prohibited waste prior to discharge to the sewer main. Plans, specifications, and any other pertinent information relating to proposed pretreatment facilities shall be submitted for the approval of the District and of the Colorado Department of Public Health and Environment, and no construction of such facilities shall be commenced until such approval is obtained in writing. Where pretreatment facilities are provided for any prohibited waste, they shall be operated and maintained in continuously efficient operation by the Customer, at its own expense.

4.06 Discharge Restrictions – Control Access Point

When required by the District, the Customer served by a Service Line carrying substances in excess of the prescribed amount or prohibited wastes shall install and maintain, at its expense, a suitable control access point in the Service Line to facilitate observation, sampling and measurement of the wastes. The access point shall be installed by the Customer and maintained at the Customer's expense. The access point type and location shall be approved by the District and shall provide access at all times for District staff. In the event that no special access point has been required, the control access point shall be considered to be the nearest down-stream access point in the sewer main to the point at which the Service Line is connected. If the downstream access point does not provide an acceptable means of sampling and testing, the Customer will be required to install an access point for District use.

All measurements, tests, and analysis of the characteristics of waters and wastes shall be determined in accordance with "Standard Methods for the Examination of Water and Wastewater," latest edition, and shall be determined at the control access point, or upon suitable samples taken at said control access point . The Customer, at a minimum, shall take samples of the constituents according to the guidelines outlined in their approvals and submit them to the District for review on a monthly basis. Sampling records shall also be kept onsite for review by District staff. Sampling results taken by the District shall be available for review by the Customer upon request.

If at any time, sampling results are in excess of the approved discharge levels, the Customer shall stop discharging, notify the District immediately, and provide documentation indicating how the discharge will be brought back into compliance.

4.07 Grease Trap/Interceptor Required.

Certain Dischargers shall be required to install grease traps or grease interceptors as part of their connection to the District's Sewer System when, in the opinion of the Board or its authorized representatives, such a facility is necessary for the proper handling of prohibited waste or liquid wastes containing grease in excessive amounts. If a grease trap or grease interceptor is not installed when the connection was made to the District's Sewer System, and the Board determines such a grease trap or grease interceptor is required, the Discharger shall construct such a facility. All grease traps and grease interceptors shall be installed pursuant to the specifications contained in Appendix B to these Rules and Regulations for the design or in the Uniform Codes as adopted by the relevant local jurisdiction, whichever is more restrictive, at the Discharger's sole expense and pursuant to plans and specifications approved by the District. All food service industries are required to have a grease trap or grease interceptor. Grease traps or grease interceptors shall generally not be required for individual residential dwelling units unless deemed necessary by the District.

4.08 Maintenance of Grease Traps/Interceptors Required and Penalties and Fees for Inspection Failures.

Where installed, grease traps and/or grease interceptors shall be operated, maintained, repaired, and replaced by the Customer, at its sole expense, to insure continuous and efficient operation at all times. Maintenance records shall be kept by the Customer and made available to the District for inspection upon request. Customers with grease traps and/or grease interceptors shall also be required to have a grease disposal receptacle on the Customer's property to insure proper disposal when maintenance occurs.

Customer shall be responsible for regular grease trap and interceptor cleaning and maintenance. Accumulated grease and grit shall be removed as solids and disposed of in a manner approved by the town or county with jurisdiction over the property. Unless otherwise approved by the District, cleaning shall be required on a frequency of at least once per month for interceptors and once per week for traps. Proof of adequate cleaning shall be the responsibility of the Customer and may consist of presenting to the District cleaning service bills showing date and volume of grease removed. Other proof of cleaning shall be subject to District approval.

The District reserves the right to inspect a Customer's grease trap and/or grease interceptor on a quarterly basis during business hours upon reasonable notice to the Customer. In the event an inspection results in a failure due to lack of maintenance, the Customer shall have the grease trap and/or interceptor maintained within five (5) business days. A fee of $100.00 shall apply to any inspections following a failure. In addition to the fee, in the event of a subsequent failure in each calendar year, the Customer shall pay a penalty to the District of $500.00 for the second inspection failure and $1,000.00 for the third inspection failure and every failure thereafter. The penalties and fees provided for herein shall be subject to the District's lien rights on the Customer's property and interest and attorney's fees as provided for in these Rules and Regulations regarding nonpayment of fees when due.

4.09 Sand/Oil Separators Required.

Certain Dischargers shall be required to install sand/oil separators as part of their connection to the District's Sewer System when, in the opinion of the Board or its authorized representatives, such facilities are necessary for the proper handling of prohibited waste, or any flammable waste, sand, or other harmful ingredients. If a sand/oil separator is not installed when a connection was made to the District's Sewer System and the Board determines such a sand/oil separator is required, the Discharger shall construct such a facility. All sand/oil separators shall be installed pursuant to the specifications contained in Appendix B to these Rules and Regulations for the design or in the Uniform Codes adopted by the relevant local jurisdiction, whichever is more restrictive, at the Discharger's sole expense and pursuant to plans and specifications approved by the District. Such separators shall generally not be required for single family residential units unless deemed necessary by the District.

4.10 Maintenance of Sand/Oil Separators Required, Inspections, Penalties for Failure to Maintain.

Sand/oil interceptors and separators shall be maintained by regularly scheduled removal of the accumulated sand and oil so that they will properly operate as intended to intercept the sand and oil from the customer's wastewater and prevent the discharge of sand and oil to the District's collection system. Maintenance of sand/oil interceptors and separators shall be done only by a business or professional normally engaged in the servicing of such plumbing fixtures. Maintenance shall be performed in a workmanlike manner before the retention capacity of the interceptor is exceeded. Detailed and accurate records of maintenance shall be maintained on-site and shall be provided to and made available to the District upon request. The records shall include detailed information relating to the amount of sand and oil removed compared to the size of the sand/oil interceptor and/or separator. A copy of the invoice from the business or professional reporting the date the interceptor was cleaned, the amount of oil and/or sand removed, and a recommendation of how frequently the interceptor should be cleaned is to be on file at the business being served and available to the District upon request. Any sand/oil interceptor in service in the District shall be serviced at a maximum interval of 120 days. A variance from this requirement may be obtained when the owner can confirm that there is no normal use during any given 120 calendar day period. With written authorization from the Board, the maximum time variance between services can be extended to 365 calendar days.

The District reserves the right to inspect a Customer's sand/oil separators during business hours upon reasonable notice to the Customer. In the event an inspection results in a failure due to lack of maintenance, the Customer shall have the sand/oil separator maintained within five (5) business days. A fee of $100.00 shall apply to any and all inspections following a failure. In addition to the inspection fee, in the event of a subsequent failures in each calendar year, the Customer shall pay a penalty to the District of $500.00 for the second inspection failure and $1,000.00 for the third inspection failure and every failure thereafter. The penalties and fees provided for herein shall be subject to the District's lien rights on the Customer's property and interest and attorney's fees as provided for in these Rules and Regulations regarding nonpayment of fees when due.

4.11 Protection from Damage, Violations of Rules and Regulations.

No person shall break, damage, destroy, uncover, deface, or tamper with any portion of the District Sewer System.

Any person who violates the provisions of this Section may be charged pursuant to applicable State statute or local regulation, and upon conviction thereof, shall be fined in an amount as established by the court for each violation. In addition to any other applicable penalties provided for in these Rules and Regulations, any Customer violating this Section shall be subject to a fine of $1,000.00 per occurrence.

Any person violating any of the provisions of these Rules and Regulations shall, in addition to any and all other remedies and penalties provided for herein or at law or equity, become liable to the District for any expense, loss or damage occasioned by reasons of such violation, including attorney's fees and costs.

4.12 Abandonment and Disconnection

No person shall abandon any private or public sanitary sewer service connection to the District's wastewater collection system without first obtaining written authorization through the District.

Any existing service tap that is no longer active or will not be used must be abandoned at the main with an approved water-tight plug. A variance may be requested through the District's Board. All requests will be reviewed on a case-by-case basis.

If a variance is approved, all pipes that are to be abandoned in place shall have the ends physically cut and capped with two linear feet of non-shrink grout meeting specifications approved by the District, at the locations identified by the District. The service must not allow any infiltration into the District's wastewater collection system.

ARTICLE 5 APPLICATION FOR SERVICE

5.01 New Connections for Property Located within the District:

Except as hereafter provided, and subject to these Rules and Regulations, service shall be provided only to persons whose property is included within the District. It shall be incumbent upon the applicant to furnish evidence of inclusion whenever such evidence is requested by the District. Satisfactory evidence shall consist of a tax receipt, or certificate in lieu thereof, received from and signed by the County Treasurer.

An applicant owning land both within and outside the boundaries of the District, who desires service, must include into the District all of its land contiguous to the parcel upon which service is desired, unless the District determines, in its sole discretion, otherwise. The District's standard form of inclusion petition will be furnished to the applicant upon request. The applicant shall be required to execute a Special Fee and Cost Reimbursement Agreement (in the form set forth in Appendix C) prior to the District's review of the petition. Inclusions of property shall be accomplished in accordance with the provisions of C.R.S. §32-1-401, et seq., and all costs in connection therewith, including legal and engineering fees, publication and recording costs, and all other actual costs incurred by the District shall be borne by the applicant.

Any applicant for inclusion into the District may be required to enter into a pre-inclusion agreement with the District pursuant to C.R.S. § 32-1-402(1)(c) as a condition of the District's approval of the inclusion petition. Said pre-inclusion agreement shall set forth the applicant's and District's respective rights and obligations with respect to fees, charges, the construction of sewer mains, and other terms and conditions under which the applicant’s property may be included in the District. Any inclusion petition and/or pre-inclusion agreement provided to the applicant by the District shall be signed and returned to the District by the applicant within forty-five (45) days following receipt by the applicant. If the pre-inclusion agreement is not executed and returned to the District by the applicant within forty-five (45) days from receipt thereof, the District’s prior approval of the agreement shall be null and void and of no further force and effect, and a new request for approval of the inclusion petition and/or pre-inclusion agreement shall be required; provided, however, that the District may extend said 45-day execution deadline prior to its expiration for an additional 30-day period upon good cause shown by the applicant.

Any proposed addition to the District shall be in conformance with the Northwest Colorado Council of Governments' (NWCCOG) Regional Water Quality Management Plan (208 Plan).

5.02 Service Outside the District:

The District may, in its sole discretion, furnish service to properties located outside the District Boundaries, but under no circumstances, shall the District construct any sewer mains, at its own expense, to service such properties. No service shall ever be provided to properties located outside the District Boundaries, except upon the express written consent of the District. The District shall not be required to extend service outside of the District Boundaries.

Service charges and Tap Fees for furnishing sewer service outside the District Boundaries shall be at the minimum rate of one and one-half (1 1/2) times the current service charges and Tap

Fees for in-District service as provided for in the Fee Schedule in Appendix A, as the same may be amended from time to time, or as agreed upon by the District and Customer.

These Rules and Regulations shall be applicable to all property owners outside the District who are furnished sewer service by the District. No connection to the District Sewer System shall be permitted until the property owner has agreed in writing to comply with the District Rules and Regulations and shall have granted the District lien rights as provided in C.R.S. §32-1-001(1)j)

5.03 Application for Sewer Service:

Any property owner who desires sewer service from the District shall submit an application for sewer service to the District along with any supporting documentation required thereby. The application shall be on the District's standard form and shall contain at a minimum the following information:

1. Name, address, and phone number of applicant;
2. Name, address, and phone number of owner of the premises where said connection is to be made or drain or line is to be laid;
3. Location of the proposed connection, drain, or sewer lines;
4. Specifications shall be provided, such as size and type of material to be used and any other information required by these Rules and Regulations governing the particular installation proposed;
5. Statement as to the type of connection and type of materials to be discharged into the Sewer System;
6. The applicant's consent to entry and water use record availability pursuant to Section 3.04 and consent to water shut off pursuant to Section 4.01 of these Rules and Regulations;
7. Information about the structure(s) to be served to calculate the EQR of sewer service requested, including, without limitation, plumbing or mechanical plans showing all water and sewer fixtures; and
8. The applicant's consent to abide by and be bound by these Rules and Regulations, as amended from time to time.
9. Sewer service plan and profile, including all site improvements and utilities whether existing or proposed, shall be submitted to the District for review and approval. Plans shall be on a scale that is legible, but not greater than 1:40, and shall be stamped by a Professional Engineer. The plans shall meet all requirements set forth in the District's Rules and Regulations.
10. An existing conditions survey prepared by a licensed surveyor in the State of Colorado shall be provided. The survey shall show all easements, rights-of-way, existing utilities including services, roads, hardscapes, landscaping, trees, etc.

The application shall be accompanied by all Tap Fees and inspection fees required by these Rules and Regulations.

Each application for sewer service is subject to the approval of the District Board of Directors. In order to obtain such approval, the property owner or his or her authorized agent shall appear in person before the Board and submit such information regarding the application as the Board may require. However, an application for sewer service for property situated in a subdivision having a sewer utility plan approved by the District shall not require the approval of the Board nor the personal appearance of the property owner unless said property owner or the developer of the subdivision is in violation of these Rule and Regulations.

Upon the District's approval of the application and payment of the Tap Fee, the District shall issue a Tap Permit to the applicant that contains all the information contained in the application and shall specify any and all sewer line specifications and appurtenances to be utilized in the sewer construction. No tap onto the District Sewer System shall be allowed until: the required Tap Fee has been paid; a Tap Permit has been issued; and any and all other applicable fees have been paid. Tap Fees shall be non-refundable, unless expressly otherwise agreed by the Board.

5.04 Denial of Application for Service:

The District reserves the right to deny an application for service for any or all of the following reasons:

1. There has been misrepresentation in the application as to the property and fixtures contained in the property;
2. The proper fees have not been paid;
3. The service applied for would create an excessive demand or adverse impact on the District Sewer System, unless the applicant proposes a means to eliminate such excessive demand or adverse impact to the satisfaction of the District;
4. The applicant has violated these Rules and Regulations;
5. The District does not have any remaining, uncommitted capacity in the wastewater treatment plant and/or the facilities to be utilized by the applicant, as determined by the District; or
6. The District's sewer system has not been constructed in the vicinity of the proposed service.

5.05 Change in Customer Service or Application for Redevelopment:

A Customer shall file an amended application for Sewer Service with the District prior to making any increase in the size of a structure served by the District, including any modifications or additions to the structure served that would change the EQR count therefore, or in the type of service received. Examples of such changes are the construction of additions to houses or other buildings, changes in use of an existing structure, or additional connections to the District’s sewer mains. In addition, a Customer shall file an application for Sewer Service with the District prior to redeveloping a property that has been served by the District in the past but for which service has been discontinued, or the current structure is being removed and replaced, or completely gutted and rebuilt with an addition. The District shall collect any additional Tap Fees

and/or service charges due and owing retroactive to the date of any such change; redevelopment Tap Fees shall be assessed as discussed in Section 6, below. Purchasers of real property in the District are strongly encouraged to verify that the amount and type of service for which the District is currently charging is consistent with the type and amount of service which the seller purports to have paid for and wishes to convey. At any time, the Board may review actual sewer usage to determine if such actual usage is greater than that implied by the number of EQR units assessed to the Customer at the time the application for sewer service was accepted. Winter water use records may be utilized for this purpose. Any time the Board determines to evaluate or re-evaluate the appropriate EQR value assessed to a particular Customer, the Customer shall reimburse the District for the actual costs of that review. If the Board finds greater actual sewer usage, the Customer shall be assessed a greater number of EQR units to reflect actual sewer usage. In no event shall a refund, credit, or rebate of Tap Fees or Line Extension Cost Recovery Fees previously paid be permitted in the event of a decrease in the type or amount of service.

5.06 Prohibition on Transfer of EQR Credits:

EQR credits obtained by direct purchase from the District are considered appurtenant to the structure and/or land for which they were obtained and may not be transferred to any other structure or property.

5.07 Service Application for Subdivision Developers:

Any Developer who desires sewer service from the District for a subdivision shall submit an application for subdivision sewer service to the District. All Developers shall be required to execute a Special Fee and Cost Reimbursement Agreement (in the form set forth in Appendix C) with the District prior to the District's review of the application. The application shall be on the District's standard form and shall be accompanied by a request to enter into a Line Extension or Line Connection Agreement. The Developer shall comply with all conditions of Article VII (Sewer Main Extensions) of these Rules and Regulations.

5.08 Temporary Connections:

5.08.01 At the discretion of the Board of Directors, temporary connections to the District Sewer System may be permitted, pursuant to terms and conditions established by the Board. Any person wishing to make a temporary connection must first make an application for service to the District, pay the fees required, have the application approved, and a Tap Permit issued before making any connection. Each temporary connection shall be subject to inspection by a representative of the District. Unauthorized connections shall be subject to the penalties set forth in Section 6.15.

5.08.02 Temporary connection of construction trailers or non-permanent construction buildings to the District Sewer System may be made for periods not to exceed six months, or such longer period as the Board may approve. At the time of making the application for sewer service, the applicant shall either pay the Tap Fee for 1.0 EQR of sewer service or demonstrate that a Tap Fee for at least 1.0 EQR of sewer service has been paid for the building under construction. The construction

trailer or non-permanent construction building shall thereafter be assigned an EQR value of 1.0 for purposes of calculating monthly sewer service charges, which charges shall be assessed at two (2) times the monthly rate then in effect.

ARTICLE 6 FEES AND CHARGES

The information contained in this Section is pertinent to all charges of whatever nature to be levied for provision of sewer service by the District. Said rates and charges shall be established by the Board and shall remain in effect until modified by the Board under the provisions of these Rules and Regulations and under the applicable statutes of the State of Colorado. Nothing contained herein shall limit the Board from modifying rates and charges or from modifying any classification.

6.01 Application of This Article:

The rates, charges and other information shown herein shall apply only to Customers served by the District or eligible for service because within the District boundaries, and shall in no way obligate the District to provide service outside the District Boundaries under any of the conditions contained in this Article.

6.02 Type of Service:

Unless otherwise stated, charges and fees for sewer service shall be based on EQRs of service calculated in accordance with the EQR Schedule in Appendix A. The charge per EQR shall be at the rates in the District Fee Schedule, as the same may be amended from time to time.

6.03 Tap Fee:

Except as otherwise determined by the Board, a Tap Fee shall be charged to all Customers of the District prior to any physical connection to the District Sewer System. The Board maintains authority to establish differential Tap Fees in its absolute discretion. Such fees shall be assessed as provided for in the EQR Schedule at Appendix A, as the same may be amended from time to time. No tap onto, or service from, the District Sewer System shall be allowed until all Tap Fees required by these Rules and Regulations have been paid and a Tap Permit has been issued. Tap Fees and System Development Fees shall be non-refundable, unless otherwise expressly agreed to by the Board.

6.04 Redevelopment Tap Fee:

As described in Section 5.05, above, if a property, served or previously served by the District, is subject to an application for redevelopment, due to either a reinstatement of discontinued service to an existing structure(s), rebuilding after removal of a structure (or structures), or the gutting and remodeling of an existing structure with an addition, the Customer must first pay the District the difference between the original Tap Fee (or Fees) paid to the District at the time of the original connection(s) and the current Tap Fee in effect, plus any additional Tap Fees, at the current rate, that may be applicable due to a change in the number of EQRs assessed to the development pursuant to the redevelopment. Such Tap Fees must be paid upon the issuance of a building permit or permits. The Customer must provide written evidence of the amount of the original Tap Fee(s) paid; otherwise the same shall be set as the Baseline Redevelopment Tap Fee set forth in Appendix A as may be amended from time to time.

6.05 Service Charge:

Full service charges, calculated under the District's Rules and Regulations and EQR Schedule, as amended from time to time, shall commence and accrue six (6) months from the date of the Board's approval of the proposed sewer connection or, where no approval is required, six (6) months after the issuance of the connection permit by the Clerk of the District or upon the issuance of a temporary certificate of occupancy or certificate of occupancy for the structure being served, whichever first occurs. At such time, the full quarter of service charges shall be billed and paid, even though a portion of the quarterly period may have expired. Service charges shall be based on the EQR value applicable to the property being served, and any changes in EQR values shall also result in adjustments in monthly service charges; provided, however, each Customer shall be charged a minimum service charge based upon one (1) EQR. The Customer shall be liable to the District for payment of such service charges regardless of whether the Customer actually uses District sewer service by means of said connection. Service charges for District sewer service shall be as described in Appendix A.

6.06 Zone or Other Surcharges:

Where any defined part of the District's sewer service depends on a pumping station or other discrete facility owned and maintained by the District, or certain Customers in the District have received particular benefits, including but not limited to financing of Tap Fees through a District-acquired revenue-based loan, or the District's performance of additional services, the Board of Directors may establish and charge such Customers a monthly zone surcharge. The zone surcharge shall be based on the pro rata cost to each applicable Customer of the pumping station or other facility and its maintenance, or other service provided by the District.

6.07 Undefined Tap Fees:

In those situations where a person applies for a Tap Permit for service to a structure not defined in these Rules and Regulations, or where, in the Board's opinion, said structure represents a classification not contemplated in the establishment of the previously defined Tap Fees, the Board shall, at its sole discretion, establish a fair Tap Fee for said structure.

6.08 Amended Monthly Service Charges:

In those situations where, in the Board's sole discretion, the monthly service charges shown in the previous articles do not represent a fair charge for the intended use, the Board, at its sole discretion, may adjust said rates.

6.09 No Standby Fees:

The District shall have no standby fees. Standard monthly sewer service charges shall continue for properties that have been connected to the District Sewer Service even if water service provided by the Town of Basalt has been shut-off, provided, however, that the Board of Directors may, at its discretion, grant a variance from this provision. Any such variance shall require a written agreement between the property owner and the District, which agreement shall be subject to the approval of the Board of Directors.

6.10 Payment of Service Charges:

Statements for service charges and/or other applicable fees shall be rendered to Customers at intervals to be established by the District, but not more frequently than monthly nor less frequently than quarterly. Charges for such things as late payments, turn-on, and turn-off shall be included in the statements. Accounts must remain in the owner's name. Statements for service charges will be directed to the property owner only, regardless of whether the property is occupied by a person other than the property owner. When a Customer receives service for a number of units which are provided water service through one water meter, the District shall send only one bill to the Customer for sewer service for such units. Nothing herein shall constitute a waiver of the owner's liability for service charges and fees, including penalties and interest, nor a waiver of the District's statutory lien rights.

Service charges are due on the 20th day of the month for which they are billed. Service charges shall be billed quarterly (every three months) on January 1, April 1, July 1, and October 1. In the event that any quarterly billing installment is not paid by the 20th of the month for which it is due, then such amount shall accrue interest thereon at the rate of one percent (1%) per month, or part thereof, in which the fee (excluding late charges) remains unpaid. Further, any quarterly billing installment that is not paid by the 26th of the month in which it is due shall incur a late charge of five percent (5 %) of the unpaid amount, or part thereof, which remains unpaid, up to a maximum of 25% of the amount due. If any charges remain unpaid for thirty (30) days or more, the District may revoke the Customer's service pursuant to the provisions of Section 6.15 below.

In addition to the District's right to shut off service pursuant to Section 6.16, the District may enforce the Customer's payment obligations by any and all other lawfully available means, including suits for collection and/or foreclosure of the District's lien on the Customer's property. In any event, the District shall be entitled to recover all costs incurred in the collection of delinquent payments, including reasonable attorneys' fees, recording fees, filing fees and court costs. Any deposit received by the District for service to the Customer may be applied against delinquent payments.

6.11 Payment of Tap Fees and System Development Fees:

In addition to the $500.00 per day fine provided for in Section 6.15 for unauthorized connections, late payments of Tap Fees shall be subject to the following charges: (1) a late charge of five percent (5%) per month, up to a maximum of 25% of the amount due, plus the value of any administrative costs (i.e., postage) incurred by the District; (2) interest at the rate of one percent (1%) per month on the amount due (excluding the late charge); and (3) all applicable service charges. Statements, letters, notices, or other documents concerning unpaid Tap Fees shall be directed to the owner of the property for which the fee is due. Regardless of any rental agreement, lease agreement, or any other contractual arrangement in existence, the owner of a property for which a Tap Fee is due shall remain solely liable for payment of that fee.

6.12 Miscellaneous Costs and Expenses:

All costs and expenses incident to the installation and connection of Service Lines shall be borne by the Customer. In addition, the Customer shall indemnify the District for any loss or

damage that may directly or indirectly be incurred by the installation of a Service Line. No installation or connection of Service Lines by District personnel shall be done on Saturdays, Sundays, or holidays unless written permission is granted by the Manager/Administrator.

The fees and charges that shall apply to District services are listed in the Fee Schedule in Appendix A.

6.13 Liability for Payment; Collection, Perpetual Lien:

All fees, rates, tolls, penalties, or charges of the District shall be paid by the owner of the property served. The District shall not be bound by any agreement between an owner and occupant concerning payment of charges, regardless of whether the District has been notified of the agreement. Until paid, all rates, tolls, fees, and charges shall constitute a first and perpetual lien on or against the property served, and any such lien may be foreclosed in the manner provided by law.

The District shall have the right to collect, from any Customer who is delinquent in payment of its account, all legal, court, and other costs and expenses necessary or incidental to the collection of said account, including reasonable attorneys' fees, filing fees and other costs, and recording fees . A fee in the amount set forth in the Fee Schedule in Appendix A shall be imposed on any check tendered to the District which, upon presentment to the bank for payment, is returned unpaid due to insufficient funds, an overdrawn or closed account, or for whatever reason. Such fee shall accrue each time a check is returned unpaid.

6.14 Seller’s and Buyer’s Responsibilities:

The District assumes no responsibility for agreements between sellers and buyers of property within the District's Service Area. It shall be the responsibility of the buyer to ascertain whether appropriate fees and charges for the type and amount of service received from the District have been paid by the seller. Regardless of ownership, failure of the District to collect fees and charges at the time of the issuance of permits, or any other act or omission of the District, unpaid fees and charges shall constitute a first and perpetual lien on and against the property which lien may be foreclosed as provided by law and these Rules and Regulations.

6.15 Unauthorized Use or Connections:

Any person who makes a connection to or discharges into the District Sewer System without first paying the appropriate fees and obtaining the appropriate permits may be fined $500.00 per day for each unauthorized EQR of use or connection. This fine shall be in addition to the District's right to charge for all services used and to any and all other remedies which the District may have.

In addition, the District may require and/or carry out immediate disconnection, in which event the District shall be entitled to collect any and all costs and damages incurred by the District as a result thereof, including the fees set forth in the Fee Schedule in Appendix A; or the District may authorize connection on such terms and conditions as the District may approve. Should the District be required to pursue any legal proceeding or process with regard to unauthorized use or connection to the District's system, the person making the unauthorized use or connection

shall be liable for all attorneys' fees, filing fees, recording costs, court costs, or other legal expenses incurred by the District.

Any unauthorized use, reconnection, unblocking, or turning back on of District sewer service after it has been disconnected, blocked, or turned off pursuant to this Section shall constitute an additional unauthorized use or connection, subject to an additional fine of $500.00 per day.

6.16 Revocation of Service:

Service shall be revocable by the District upon non-payment of fees owing to the District, or upon failure to comply with these Rules and Regulations. In the event of non-payment of obligations or noncompliance with these Rules and Regulations, the Customer shall be given written notice of a hearing to revoke sewer service and to discontinue water service from the Town of Basalt. The notice shall be sent by certified mail, return receipt requested, to the Customer's billing address at least ten (10) days before the date of the hearing and shall specify the date, time, and place of the hearing, as well as the reason or reasons for revocation of service. The notice shall advise the Customer that he or she may appear at the hearing to show cause why his or her water and sewer service should not be disconnected. The notice also shall state that the District may request the property's water service provider to discontinue water service to the property upon decision of the Board of Directors following the hearing.

The hearing shall be held by the District at a regular or special meeting of the Board of Directors at which time the Customer shall have an opportunity to present testimony and evidence to the Board. Within fifteen (15) days of the conclusion of the hearing, the Board shall issue a written Memorandum of Decision, which decision shall be final. Thereafter, the District may revoke service to the property by turning off, disconnecting, severing, or blocking the Service Line to the property and may provide written notification to the Administrator of the property's water service provider that water service to the property should be discontinued and cooperate with the water service provider regarding the disconnection of service. Such actions shall be subject to the fees set forth for inspection, disconnection, and reconnection as described in the Fee Schedule in Appendix A. Any fee for disconnection of sewer service shall be in addition to the District's actual costs of disconnection, and upon disconnection of sewer service, the District shall notify the local building authority.

Any Customer who after notification fails to appear at the public hearing on their past due account and has not paid the account to the satisfaction of the Board within the allotted time will be assessed a charge of $250.00 for the cost of the hearing. The Board will also terminate service, if necessary.

Any unauthorized reconnection, unblocking, or turning back on of District sewer service after it has been turned off, disconnected, severed, or blocked pursuant to this Section shall constitute an unauthorized use or connection pursuant to Section 6.15 above, subject to the $500.00 per day fine under that Section.

6.17 Turn-Off Service:

Customers desiring that their service be turned off, disconnected, or blocked for such purposes as vacancy of rental property, inactive taps, or construction shall pay the fees set forth in the

Fee Schedule in Appendix A. If any such Customer fails to pay the applicable fees as set forth in Appendix A for a period of nine (9) months, the tap shall be abandoned, and the start-up of new service shall require payment of a new tap. Any unauthorized reconnection, unblocking, or turning back on of District water or sewer service after it has been disconnected, blocked, or turned off pursuant to this Section shall constitute an unauthorized use or connection pursuant to Section 6.14 above, subject to the $500.00 per day fine under that Section.

6.18 Reimbursement of Costs and Fees to District:

Any person requesting inclusion or exclusion of property from the District, constructing a line extension project, or undertaking any other activity requiring preparation of plats or plans, legal and engineering review and advice, inspections, filing or recording fees, or other out-of-pocket expenses by the District shall be required to reimburse the District for all such costs and fees. Such person shall be required, prior to commencement of the project or activity, to enter into a Special Fee and Cost Reimbursement Agreement substantially similar to that set forth in Appendix C. Pursuant to that agreement, the person shall make such deposit as the Board, in its sole discretion, deems appropriate.

ARTICLE 7 SEWER MAIN EXTENSIONS

All line extensions shall be made under the observation of the District's Engineer and constructed according to the District's specifications and procedures set forth in Appendix B, these Rules and Regulations, and all federal, state, county, and local requirements.

7.01 Sewer Main Sizes:

The minimum size sewer main shall be 8 inches in diameter, except as specifically authorized by the Board.

7.02 Application for Line Extension:

It shall be unlawful for any person to construct a sewer line extension for District sewer service without first having made formal application to the Board for approval and having complied with these Rules and Regulations and any other requirements set forth by the Board.

7.03 Line Extension/Connection Agreements:

All sewer line extensions for District sewer service shall require the execution of a Line Extension Agreement or Line Connection Agreement, in a form approved by the attorney for the District and by the Board, prior to the commencement of any construction or the recordation of a final plat. Such Agreement shall set forth the respective rights and obligations of the parties regarding the provision of District sewer service to the subject property.

Any Line Extension or Line Connection Agreement approved by the District shall be executed and returned to the District by the property owner within forty-five (45) days from approval of the agreement. If the Line Extension Agreement is not executed and returned to the District by the property owner within forty-five (45) days from the District's prior approval, the agreement shall be null and void and of no further force and effect, and a new request for approval of the agreement shall be required; however, the District may extend said 45-day execution deadline prior to its expiration for an additional 30-day period upon good cause shown by the property owner.

7.04 Location of Sewer Line Extensions and Additions:

Sewer line extensions shall be installed in roads or streets which the Town, County, State Highway Department, or other public agency has accepted for maintenance as public rights-of-way, or in easements granted to the District. All easements shall be in accordance with Section 1.05 of Appendix B. Prior to the acceptance of sewer mains by the District, all easements necessary for the installation and maintenance of such mains or lines, shall be platted or conveyed to the District by warranty deed, as appropriate, duly recorded in the County real estate records.

7.05 Procedure for Sewer Line Extension Construction by Developer:

Final design plans, stamped by a Colorado licensed professional engineer, for line extensions shall be submitted to the District for its review and approval along with an application for a line extension no later than the preliminary plan submittal to the County. Said plans shall be reviewed and approved for compliance with the District's Service Plan and Rules and

Regulations, and the costs associated with the District's determination of compliance shall be reimbursed by the Developer to the District.

(A) Security/Sewer Improvements Guaranty:

Subject to the exemption listed below, prior to the recordation of the Final Plat, the Developer shall provide the District an improvement guaranty in the form acceptable to the District, such as a surety bond, cash or acceptable collateral, a letter of credit, or other security acceptable to the District, guaranteeing the completion of all of the sewer improvements necessary for the development, including engineering, construction observation, inspection, and legal fees which may be required. Construction costs shall include acquisition of rights-of-way or easements, valves, sewer mains, Service Lines, and any other facilities and appurtenances. Such guaranty shall be deposited with the District in an amount not less than the estimate of the entire cost to complete the sewer improvements. The cost estimates for the sewer improvements shall be prepared by the Developer, and must be reviewed and approved by the District. If requested by the District, such estimates shall be later adjusted to reflect actual costs and the Developer shall, upon ten (10) days' written notification, deposit the balance due with the District to complete the work.

If the Developer desires to begin construction of the facilities after Preliminary Plan approval by Eagle County, Pitkin County, or the Town of Basalt and prior to the recordation of the Final Plat, subject to the exemption listed below, the Developer shall, after execution of a Line Extension Agreement, deposit with the District an improvements guaranty in the amount of ten percent (10%) of the entire cost estimate of the sewer improvements to secure the timely and workmanlike connection of the development's facilities to the District Sewer System; provided, however, as stated above, prior to the recordation of the Final Plat, Developer shall provide an improvement guaranty in an amount not less than the estimate of the cost to complete the remaining sewer improvements.

Any Developer constructing a sewer line extension may be exempted from posting a sewer improvements guaranty, provided the District, in its sole discretion, determines such Developer satisfies the following requirements:

1. The Developer submits an application for Subdivision Sewer Service on the District's standard form; and
2. The Developer provides adequate assurances and documentation establishing that such Developer has posted a surety bond with another public entity pursuant to a Subdivision Improvements Agreement (SIA) with another public entity where such SIA provides for:
    a) a guarantee amount sufficient to cover the cost of all necessary sewer improvements;
    b) written approval by the District of sewer improvements prior to release of the portion of the guarantee covering the sewer improvements by the public entity; and
    c) a provision requiring the District to be a named beneficiary as to the value of all improvements to be dedicated to the District; or the Developer provides adequate assurances and documentation establishing that the property to be served with District

sewer improvements is the Developer's residence or business, and that the property is not held for speculative purposes.

3. The Developer requests and receives a written release of the sewer improvements guaranty from the District.

   As improvements are completed to the satisfaction of the District, the Developer may petition the District for a release of part or all of the collateral deposited with the District as an improvement guaranty. Any such partial release shall be made at the sole discretion of the District upon a determination that the partial improvements are completed and have been approved by the District in writing. Upon completion of all required sewer improvements to the satisfaction of the District and compliance with these Rules and Regulations, the bond, collateral, letter of credit, or other security shall be released within forty-five (45) days following written request for full release by the Developer and written acceptance by the District. In the event the District determines that the Developer will not within a reasonable period of time construct or complete any or all of the sewer improvements required for the development, the District may liquidate and withdraw and employ from the deposit of collateral such funds as may be necessary to construct or complete the improvements necessary to provide sewer service to users within the development.

   The District maintains the right to terminate the sewer improvements guaranty exemption in the event a surety bond provided to another public entity is prematurely released and the District determines the necessary sewer improvements are not complete.

(B) Construction Inspection and Observation:

Refer to Section 1.04 of Appendix B. Any construction observation fees incurred by the District shall be paid by the Developer. Such fees shall include the costs of reasonable review of drawings and specifications, meetings, inspections, administration, and any other time reasonably required of the District’s Engineer, attorney, superintendent, manager, or other authorized representative.

(C) Record Drawings, Deposit, Forfeiture:

Upon completion of the Project the Applicant and/or Developer shall submit, at the their cost, three (3) sets of field verified Record Drawings (paper copies), one (1) .pdf copy, and one Mylar, prepared by a Colorado-registered Professional Surveyor or Engineer and submitted according to the specifications and procedures set forth in Appendix B, a video documentation of the interiors of the sewer mains and written reports of lamp tests, vacuum tests, and all other tests required by Appendix B (hereinafter collectively referred to as "Inspection Reports"), and a summary of actual costs incurred by the Developer for the line extension project.

The surveyed as-builts shall show all of the installed sanitary infrastructure in accordance with the District’s Rules and Regulations, all easements, all road improvements including other utilities, etc. These drawings shall be prepared following final paving and/or grade adjustments to manholes. The Record Drawings are to show corrected line lengths, locations, grades, tap

locations, invert elevations and services, ties to manholes and taps. The Record Drawings shall also depict the established easements for each line segment with reference to the specific Eagle County or Pitkin County recording information. The drawings of record shall be stamped by a Colorado professional engineer or professional land surveyor.

The Record Drawings shall also be submitted in AutoCAD format and submitted on CD or other digital format approved by the District.

In addition to Record Drawings, the Applicant and/or Developer shall submit as-built GIS data to the District for inclusion into their system. They shall have GIS as-builts prepared and submitted to the District electronically. GIS as-builts shall include a GIS shapefile of all utilities with a data point for each piece of as built infrastructure. The GIS as-built file shall be in State Plane Coordinates (Colorado Central NAD 83 US Survey Feet), insertable into the District's GIS system and must include at least two local common control or USGS monuments.

No line extension project shall be approved, and no sewer mains shall be accepted by the District until satisfactory Record Drawings/Inspection Reports for the project are received by the District and approved by the District Engineer, which review shall be completed within thirty (30) days of submission by the Developer. The District may deny service through any sewer main extension until the above requirements have been met and the sewer main extension has been accepted by the Board. Submitted Inspection Reports of sewer lines shall become the property of the District upon acceptance of the sewer lines.

At the same time and in addition to the deposit required under Section 7.05(A) for the cost of a line extension project, the Developer shall deposit with the District an amount to be determined by the Board, but at least three percent (3%) of the estimate of the entire cost of the sewer improvements, to ensure that satisfactory Record Drawings and Inspection Reports for the project are submitted to and approved by the District. The Board shall determine the amount of the Record Drawings deposit based on the District Engineer's estimate of the cost to prepare such drawings for each line extension project. Said Deposit shall not be released back to the Developer until satisfactory Record Drawings and Inspection Reports are submitted by the Developer and approved by the District Engineer.

In the event that satisfactory Record Drawings and Inspection Reports are not received by the District within sixty (60) days of the completion of construction, as required by the above provisions, the District shall mail a written notice to the Developer. The notice shall specify the date, time, and place of a hearing in which the Board will consider forfeiture of the Record Drawings/Inspection Reports Deposit, and the reasons why forfeiture may be required. The notice shall be mailed not less than ten (10) days before the hearing, to the last known address of the Developer. At the hearing, the Developer shall be allowed to present testimony and other evidence. If in the opinion of the Board the Developer's failure to submit acceptable Record Drawings/Inspection Reports should not be excused, the Record Drawings/Inspection Reports Deposit shall be forfeited as liquidated damages. Such forfeiture of the Record Drawings/Inspection Reports Deposit shall be ordered by formal written resolution of the Board, and said Deposit shall be used to obtain acceptable Record Drawings/Inspection Reports of the project; provided, however, the Developer shall be responsible for the actual cost of the Record Drawings/Inspection Reports if such cost is greater than the Deposit.

(D) Warranty:

The Developer shall submit a warranty guaranteeing to the District that the facilities have been constructed in a good and workmanlike manner and free of material defects for a period of two (2) years from the date of acceptance of the facilities by the District. The Developer shall also pay for the mitigation of any odor problems, the existence of which shall be determined by the Board, for a period of five (5) years from the date of the acceptance of the facilities by the District. The warranty shall be in a format acceptable to the District and shall be secured, if required, by the District in the form of security acceptable to the District.

A site review for both the facilities and odors will be performed by the District and its Engineer before the warranty is expired. Any deficiencies will be noted and sent to the Developer. All deficiencies will need to be corrected by the Developer at their cost within thirty (30) days of notification.

(E) Acceptance of Line Extensions:

Upon the completion of construction, installation, and connection of a line extension, the Developer shall certify to the Board that these Rules and Regulations have been complied with and request the District to accept the facilities. The District Engineer shall confirm in writing to the Board that such facilities have been constructed and installed in accordance with these Rules and Regulations and in accordance with the applicable provisions of federal, state, county, and local laws. Upon satisfactory completion of the above requirements, the District shall formally accept the sewer line extension by a motion entered in the minutes of the Board of Directors. Such acceptance shall constitute dedication by Developer of such facilities to the District. The parties agree that the District is under no obligation to provide sewer service to Developer until acceptance and dedication. The Developer shall, upon the District's acceptance, convey such lines and all appurtenances to the District, free and clear of all liens and encumbrances, by Bill of Sale.

7.06 Special Structures:

Special structures required to ensure proper operation of sewer line extensions shall be constructed from designs of the District's Engineer in consultation with the Developer and the cost of the design and construction shall be the responsibility of the Developer.

7.07 Oversizing

The District may, when it determines it is appropriate to accommodate future service needs, require the construction of sewer mains of a size larger than the minimum sizes otherwise required by the District for service to a Developer's property. Participation by the District in the cost of installation of oversized mains shall be at the sole discretion of the District.

7.08 Preservation of Gravity Sewer System:

In those instances where pumping stations and force mains are required, the District Sewer System may be so designed as to permit eventual connection into a gravity system with a minimum of expense. Where practicable, easements shall be provided and lines constructed to

connect into the gravity system. The District may, in its discretion, require deposits to ensure the eventual construction of gravity lines.

7.09 Extension of Sewer Main to Designated Point Required:

The Developer or Customer shall extend any sewer main constructed pursuant to this article to a point on the property to be designated by the Board, so that the District Sewer System may continue beyond such property. The Board shall determine the point to which each new sewer main shall be extended based on the advice of the District Engineer, in accordance with the District Service Plan and the logical extension of service to adjoining properties. The Board shall also take into consideration pre-existing easements and rights-of-way, and Developer-dedicated easements and rights-of-way in designating the point to which each sewer main shall be extended.

7.10 Sewer Main Extension Construction by District:

Notwithstanding any provision of this Article, the District itself may, in its discretion, extend sewer mains under such conditions as the Board deems appropriate. The Board shall oversee such line extension projects, and, in conjunction with the District Engineer and attorney, carry out all necessary planning, evaluation of bids, selection of contractors, financing, right-of-way acquisition, inspections and preparation of Record Drawings/Inspection Reports. Installed sewer mains shall terminate at a point on the line or corner of the property being served which requires the least amount of construction by the District.

The District reserves the right to impose a Line Extension Cost Recovery Fee surcharge pursuant to Section 8.01 payable by Customers utilizing District constructed sewer main extensions to recover the District's actual costs.

7.11 Extensions of Sewer Mains to Serve Unplatted Property, Inside the District:

Extension of sewer mains to serve property already in the District Boundaries or the District Service Area, but not part of a platted subdivision, shall be the responsibility of the property owner, subject to the right of reimbursement as hereinafter provided or as otherwise provided by future agreement.

7.12 Extensions of Sewer Mains Outside the District:

No sewer mains shall be extended outside the District Boundaries, except with the purpose of servicing property that is within the District Boundaries (across islands or between peninsulas) or within the District Service Area. Exceptions may be granted upon the express consent of the Board under the terms of a revocable permit.

7.13 Lift Station / Pump Station

The District will permit the use of lift station(s)/pump station(s) to convey wastewater to the District’s collection system and wastewater treatment facility. All lift station/pump station plans and specifications shall be reviewed and approved by the District Engineer and paid for by the Developer. Refer to Appendix B for specifications and Appendix F for submittal requirements.

7.13A Lift Stations/Pump Station Ownership

a. The District will not accept ownership or assume operation and maintenance of a lift station(s)/pump station(s) servicing a group of households or subdivisions. All maintenance and operation will be the responsibility of the lift station(s)/pump station(s) owner and associated force main will be the responsibility of the owner.
b. Lift station approval will be contingent on a planning study as listed in Appendix B, Section 2.01, review of the lift station plans and specifications, and approval from the District Engineer, in addition to any other approvals from other local and state agencies.
c. Ownership of the land and easements associated with a lift station and force main shall be provided to the District for review.
d. Any private lift station/pump station servicing one or more properties will be required to list only one owner under the Service Line connection agreement with the District.
e. Operation of any lift station/pump station will not be allowed until all of the CDPHE documentation and approvals have been granted and proper documentation has been provided to the District for review approval.
f. The District shall be present for the startup of the facility to verify operation before discharge to its system is allowed.

7.14 Soil Compaction Tests:

Whenever a Developer or Customer seeking sewer service from the District is required to obtain a road cut permit from a governmental entity to install a sewer main in an existing public road, such person shall be required to provide the District's Engineer with soil compaction tests from a registered soils engineer. The soils engineer shall conduct a minimum of one test for each layer or lift (not to exceed 8" or per the geotechnical engineer's recommendation, whichever is more stringent) for each 200 linear feet or less of trench during construction as determined by the District's Engineer to confirm that ninety-five percent (95%) of maximum density based upon ASTM D69 or AASHTO T99 has been achieved. The District Engineer will refuse to accept or approve mains or lines which have been installed in a public road if such compaction test results are not submitted and approved by the District's Engineer.

ARTICLE 8 LINE EXTENSION COST RECOVERY FEES

8.01 Line Extension Cost Recovery Fees:

In order to recover the costs incurred by a Developer or Customer which has paid for extending a main sewer line, the District may charge a Line Extension Cost Recovery Fee to property owners desiring to connect to the District Sewer System utilizing the extended line. The Line Extension Cost Recovery Fee shall be based on the size in acres of the property to be served by the extended line, the zoning of the property, the existing and potential uses of the property, the potential EQR demand from the property, and any other similar, relevant factors which the Board believes should be considered in arriving at an equitable reimbursement; provided, however, the District's collection of Line Extension Cost Recovery Fees under this Article shall not be construed as an obligation to provide operations, maintenance, repair, or replacement of such line extensions.

The Line Extension Cost Recovery Fee charged against the benefitted property shall not exceed the actual cost, including engineering fees, of the extension. All Line Extension Cost Recovery Fees charged pursuant to this Section shall be due and payable at the time a Tap Permit is issued or a Line Extension Agreement is executed. The District may charge an administrative fee for collection and reimbursement of Line Extension Cost Recovery Fees, not to exceed $100.00 per EQR.

The District will use its best efforts to collect such fees; provided, however, the District shall not be liable for the failure to collect such fees.

8.02 Reimbursements:

The District may pay Line Extension Cost Recovery Fees collected on a sewer main constructed by a Developer for a period of five (5) years after the execution of the Line Extension Agreement for such line as described in Section 8.03. Upon application prior to the termination of the initial five-year period, and upon District approval, such reimbursements shall continue for a maximum of five (5) additional years. The right to such reimbursement shall permanently cease at that time, regardless of the amount of reimbursement received. In no event shall the reimbursement exceed the actual construction cost of the sewer main.

8.03 Cost Recovery Provision in Line Extension Agreements:

No Line Extension Cost Recovery Fee shall be collected by the District or reimbursed to any Developer unless the District and Developer have previously entered into a written Line Extension Agreement containing provisions setting forth at least the following:

1. The amount of each Line Extension Cost Recovery Fee to be charged,
2. The Developer’s right to reimbursement by means of the Line Extension Cost Recovery Fees,
3. The procedure by which the District shall collect the sewer Line Extension Cost Recovery Fees and forward them to the Developer, including time limitations,
4. The right of the District to retain an administrative fee of up to $100.00 per EQR from each Line Extension Cost Recovery Fee collected, and

5. The District's obligation to use its best efforts to collect sewer Line Extension Cost Recovery Fees. In addition, however, an agreement that the Developer will not hold the District liable for non-payment of the Line Extension Cost Recovery Fees, or for any failure to collect the Line Extension Cost Recovery Fees.
6. Interest shall not be allowed.

All terms and conditions of the Line Extension Agreement shall comply with Article 7 of these Rules and Regulations.

APPENDIX A
BASALT SANITATION DISTRICT FEE AND EQR SCHEDULE

I. FEE SCHEDULE

A.	Standard Tap Fee (effective August 10, 2016)	$7000.00/EQR
B.	Standard District Service Charge (Subject to applicable zone or other surcharge adjustments)	$147.00/EQR per Quarter
C.	Location, Excavation, and Materials Fee	Actual Cost + 15% Fee (to cover administrative costs)
D.	For each inspection of a private Service Line connected to a stubout or sanitary sewer main	$100.00/each
E.	For each sewer connection to or disconnection from a District line, or line blocking or unblocking physically carried out by District personnel (does not include location, excavation, and materials)	$150.00/each
F.	For services performed by District representatives, beyond those services described in subsections D and E, above, that are specific to a District Customer.	Actual Cost
G.	For turning on or turning off service (does not include location, excavation, and materials)	Actual Cost + 15% Fee (to cover administrative costs)
H.	Name change due to sale of property; final billings	$20.00/each
I.	Hard copy of the current Rules and Regulations of the District	$25.00/each
J.	Returned Check Fee (for each time a check is returned unpaid)	$20.00
K.	Administrative Fee for Line Extension Cost Recovery Fee	up to $100.00/EQR
L.	Baseline Tap Fee (if no documentation is provided for amount of originally paid Tap Fee)	$2000

II. EQR SCHEDULE

NOTE: Pursuant to Section 5.03 and Section 6.03 of these Rules and Regulations, all Tap Fees shall be paid upon submission of an application for sewer service and prior to physical connection to the District Sewer System. Full service charges shall begin accruing six (6) months from the date the Board approves the proposed connection or from the date a connection permit is issued, as applicable, or upon the issuance of a certificate of occupancy, whichever first occurs, in accordance with Section 6.05 of the District's Rules and Regulations.

CLASS OF USE	EQR VALUE
Note: One (1) EQR is equivalent to 300 gpd	
A. RESIDENTIAL CLASSIFICATIONS:	
NOTE: For all residential units: Swimming pools, hot tubs and spas are additional, per Section D(1), below. Each residential unit shall have no more than one (1) kitchen, as defined in Section Article 2(GG) of the Rules and Regulations.	
1. Average Single-Family Residential Units. Single-family houses, each unit of a duplex, townhouses, or similar type condominium units with individual service, individually billed mobile homes, mobile homes on a single lot, and mobile home spaces in a mobile home park.	1.0 (Per Unit) up to 4.0 bedrooms
2. Large Single-Family Residential Units. Large Single-Family houses with more than 4 bedrooms will require additional EQR's per additional bedroom, in addition to the Average Single-Family Residential Units.	0.2 (per additional bedroom)
NOTE: Occupation of the dwelling or a portion of the dwelling by more than one family or by more than a maximum of five (5) unrelated persons in one dwelling is not included in the base EQR value. Additional apartments or rental rooms with kitchens are not included in the base EQR value and are additional, per Section A(2), below.	
3. Multi-Family Residential Units. Apartments, condominiums, and townhouses each with a common sewer service, similar dwellings in the same complex, additional apartments, and small cabins in courts not associated with motels.	Per Unit:
a. 2 or more bedroom unit	1.0
b. 1-bedroom unit	0.8
c. Studio unit (1 room unit with 600 square feet maximum floor area)	0.6
NOTE: The EQR values include individual unit laundry hook-ups. Common laundry facilities are additional per Section B(3). Common clubhouse facilities are additional per Section A(3). A 1/2 bathroom is defined as any area having a toilet. A bathroom is defined as any area having a toilet and a shower or bathtub.	
4. Transient Residential Units. Hotels, motels, group residence, bed and breakfast establishments, dormitories, recreational vehicle parks, and similar facilities.	Per Unit:
a. Manager's unit	1.0

CLASS OF USE	EQR VALUE
b. Motels and hotels without kitchen facilities in the unit.	0.3
c. Motels and hotels with kitchen facilities in the unit.	0.4
d. Common clubhouse or recreation room facilities (not including facilities qualifying as commercial classification areas)	0.35 (per 1,000 square feet of gross floor area)
e. Dormitories without kitchen facilities	0.1 (per bed)
f. Recreational vehicle parks	0.4 (per space)
NOTE: Laundry facilities are additional per Section B(3). Each complex shall have a minimum of one manager's unit and room counts shall include rooms furnished to employees. A rental room is defined as a room with not more than 2 beds per room.	
B. COMMERCIAL CLASSIFICATIONS:	
1. Restaurants, coffee shops, bars, food and drink preparation and service. Restaurants, take-out food service, food delivery service, delicatessens, bakeries, bars, lounges, restaurants selling prepackaged foods, banquet rooms and drive-ins.	
a. Base rate (up to and including 10 seats) Also applies to take-out or delivery services	1.5
b. Restaurant seating (per block of 10 additional seats)	0.65
c. Bar seating (per block of 10 additional seats)	0.3
d. Banquet rooms (per block of 10 additional seats)	0.3
e. Coffee Shops and places selling prepackaged foods (per block of 10 additional seats or part thereof)	0..25
NOTE: Seating count shall be based upon the maximum number of interior seats; outside seats used seasonally are not to be counted. Bench seating shall be calculated as 24 lineal inches per seat along the bench. Large commercial or food preparation facilities are not included in this category.	
2. Commercial Kitchen. Commercial kitchen for delivered or take-out food, including catering. **Note: see Section Article 2(J) for a definition of Commercial Kitchen.**	Per Kitchen:
a. Commercial Kitchen	1.0
b. Commercial kitchen combined with other commercial classification.	0.5
3. Laundry Facilities. All laundry facilities, except those in single family residential units, per machine in service, by load capacity.	
a. Less than 12 pounds	0.5
b. 12.1 to 21 pounds	0.7
c. 21.1 to 31 pounds	1.0
d. 31.1 to 41 pounds	1.3
e. 41.1 to 51 pounds	1.6
f. 51.1 to 75 pounds	2.0
4. Service Stations and Other Gasoline Retailers. (includes two (2) vehicle spaces/nozzles.)	1.0
a. per two (2) additional vehicle fueling spaces/nozzles	0.5

CLASS OF USE	EQR VALUE
NOTE: Bays/racks where vehicles can be washed are additional per Section B(5).	
5. Vehicle and/or Equipment Washes. Bay, rack, or area where cars, trucks, construction machinery, or similar equipment can be washed.	Per bay or rack:
a. For each self-service bay or rack with wand and/or foaming brush.	3.15
NOTE: A bay or rack shall include a floor drain. Grease and grit traps are required.	
b. For each automatic car wash bay	15.6*
NOTE: Installation of a submeter is required. *Once actual water use data is obtained, the EQR value may be increased, as appropriate, based on the rate of 2.5 EQRs per 1,000 gpd of water used. A bay or rack shall include a floor drain. Grease and grit traps are required.	
6. Theaters. (Per 25 seats or part thereof)	0.6
7. Commercial Buildings. Offices, office buildings, retail sales buildings or areas, multiple use buildings, convenience stores, barber/beauty shops, non-retail work areas (such as garages), shops, garages, vehicle or equipment repair, machine shops, fire station bays, warehouses, stocking/receiving areas in conjunction with a retail establishment, light manufacturing, and similar facilities or uses having no process water requirements. (Based upon fixtures)	
a. For each toilet or urinal with manual flushing mechanism	0.5
b. For each lavatory	0.2
c. For each shower or tub or combination thereof	0.3
d. For each laundry or mop sink	0.2
e. For each other water-using fixture or appliance except as otherwise specified in this table, including drinking fountains that are not continuous flow or decorative fountains which recycle water	0.3
f. Continuous flow drinking or decorative fountains (non-recycling)	1.0
NOTE: Common bathrooms are additional per Section D(3). Laundry facilities are additional per Section B(3). Minimum of one (1) EQR per building address.	
8. Process Water. Process water from commercial establishments discharged into the collection system shall be evaluated based upon metered inflow.	3.3 (per 1,000 gpd, maximum daily flow)
9. Dental Office. Per non-wet chair.	0.25
NOTE: The District, at the District's discretion, may re-evaluate the EQR of the discharger should the impact exceed the equivalent of the single-family residential unit. Should the sewage strength exceed 300 mg/l of BOD 5 or of the suspended solids,	

CLASS OF USE	EQR VALUE
additional charges will be assessed for these strengths. In cases where there is a batch discharge of process water, the discharger may be required to obtain prior approval of the time and rate of the discharge from the District Plant Manager. EQR classification may be re-evaluated with installation of recycling or other alternative reuse or settling methods.	
C. CHURCHES AND SCHOOL CLASSIFICATIONS:	
1. Churches. (Per 100 seats or fraction thereof.)	1.5
NOTE: Seat count shall include all sanctuary, classroom, meeting room, and general assembly area seating. Bench or pew seating shall be determined to be calculated as 24 lineal inches per seat along the bench or pew. Rectories or other living areas are additional in accordance with the appropriate residential classification in Section A.	
2. Schools. Day care centers, public and private day schools, and adult night schools.	
a. Without a gym and without a cafeteria and/or cooking facilities (per first 25 students or a fraction thereof).	1.0
b. Add for each additional ten (10) students or fraction thereof.	0.25
c. Without gym and with cafeteria and/or cooking facilities or with gym and without cafeteria and/or cooking facilities. Multiply base rate (a + b) by:	1.2
d. With gym and with cafeteria and/or cooking facilities. Multiply base rate (a + b) by:	1.4
NOTE: The EQR value includes an allowance for teachers, librarians, custodians, and administrative personnel associated with the school function. Administrative centers, warehouses, equipment or machinery repair and/or storage centers (such as bus barns), swimming pools, and similar facilities are additional per the respective classification. Student count is to be the design student capacity of the building. Additional EQRs shall be assigned to a school with a gymnasium only if locker rooms with showers are installed (one (1) EQR minimum).	
3. Colleges and Higher Education Campuses. Colleges, junior colleges, and post-secondary higher education campuses.	
a. Per Full-Time Equivalent Student ("FTE"). (Calculated based upon the State of Colorado definition of Full-time Equivalent student.)	11.0 (per 100 FTE or fraction thereof)
b. Dormitory rooms without kitchen facilities.	0.25 (per bed space)
NOTE: Includes administrative centers, classrooms, laboratories, veterinary technical centers, laundry facilities, warehouses, motor pools, buildings for equipment repair and/or storage (such as for buses). Use of such campuses for private (i. e., non-public) purposes, and swimming pools, hot tubs, spas, and similar facilities are additional. Staff includes teachers, librarians, custodians, and administrative personnel associated with school functions.	
D. MISCELLANEOUS CLASSIFICATIONS:	
1. Swimming Pools, Hot Tubs, and Spas.	
a. Swimming pools (per 20,000 gallons of capacity; lesser amounts may be prorated accordingly).	1.0

CLASS OF USE	EQR VALUE
b. Hot tubs, spas or similar water using tanks which discharge into the sanitation system (per 300 gallons or fraction thereof).	0.2
NOTE: Separate buildings which house swimming pools or hot tubs and which are not covered by any other classification in this Fee and EQR Schedule, shall be additional per Section B(8), above.	
2. Public Building Meeting Rooms. Including associated kitchen facilities (per 1,000 square feet of gross floor area or fraction thereof).	1.0
3. Public Restrooms. Not connected to or a part of other use classifications.	
a. For each toilet or urinal	0.5
b. For each lavatory sink or mop sink	0.2
c. For each shower, tub or combination	0.3

E. OTHER CLASSIFICATIONS AND CONSIDERATIONS:

1. Industrial Uses. The District Board of Directors shall evaluate and determine, on a case-by-case basis, the EQR value for industrial uses not classified in Use Classifications A, B, C or D.

   NOTE: Industrial users are subject to the requirements of the United States Environmental Protection Agency, as those requirements pertain to pretreatment and to the assessment of user charges and cost recovery. (Refer to 40 C.F.R., part 35.)

2. Unclassified Uses. The District Board of Directors reserves the right to review, evaluate and establish rates for any use not identified or otherwise covered in this Appendix A. Flow analysis will be required for the Board's review and assessment. The District Board of Directors will review the use and assess the appropriate EQR value on a case-by-case basis according to the anticipated sewer generation.

3. Change in Use. If, at any time during the District's provision of sewer service to a user, such user adds to an existing structure, enlarges a building or alters the nature of the use of the property so that a larger number of EQR units could be assessed to the use in accordance with the schedule set forth in this Appendix A, the Board of Directors shall: (1) review the proposed addition, enlargement, or usage increase; (2) calculate the additional number of basic units attributable to such addition, enlargement or usage increase; (3) calculate the additional number of EQR units attributable to such addition, enlargement or usage increase; and (4) assess such greater number of EQR units to the user from the time the change in use occurred.

4. Sewer Usage Review and Recalculation. For purposes of computing and re-computing the number of EQR units attributable to a particular use and the assessment and collection of Tap Fees and service charges in connection therewith, the Board shall have the following authority:

a. At any time the Board may review actual sewer usage to determine if such actual usage is greater than that implied by the number of EQR units assessed to the user at the time application for service was accepted. For this purpose, 300 gpd equals one (1) EQR. Winter water use records may be utilized for this purpose. If the Board finds greater actual sewer usage, the user shall be assessed a greater number of EQR units to reflect actual sewer usage. Any time the Board determines to evaluate or re-evaluate the appropriate EQR value assessed to a particular user, the user shall reimburse the District for the actual costs of that review.

b. Upon any recalculation and increase in the number of EQR units attributable to use pursuant to the terms of this Section, the user shall pay additional Tap Fees for each additional EQR unit assessed to its use at the rate set forth in this Appendix A prior to the issuance of any necessary permit from the Board or within thirty (30) days of the increased assessment of EQR units, whichever is earlier. The user's monthly service fee will henceforth be based upon the revised number of EQR units.

c. Notwithstanding the general provisions of this Appendix A or the particular provisions of this Section, nothing herein is intended to automatically modify, revise, or amend the terms of any prior individualized assessment or agreement memorialized by a writing or reflected in District minutes, motions, or resolutions, nor shall it prevent such modification, revision, or amendment at the sole discretion of the Board.

d. Mixed use facilities shall be calculated according to the classifications above for each use on an additional basis, unless otherwise specifically noted and in circumstances where one of the uses does not clearly fall into one of the classifications described above, the EQRs shall be determined by Special Review.

F. MODIFICATIONS AND REVISIONS:

1. The District Board of Directors reserves the right to classify and reclassify establishments and to change EQR rates and values as the needs of the District require.

APPENDIX B
TECHNICAL SPECIFICATIONS AND PROCEDURES

SECTION 1 GENERAL REQUIREMENTS

1.01 Authority

The Standard Specifications for Sewer Lines (the "Specifications") are promulgated by the Basalt Sanitation District ("District"). The interpretation and enforcement of the Specifications is hereby delegated to the District Engineer.

These items are an inclusion to the Basalt Sanitation District Rules and Regulations. These standards still require the applicant to present both drawings and specifications for the design and installation of a Basalt Sanitation District sewer line extension for review.

The Specifications shall be in effect immediately upon formal adoption by the District and shall supersede all former District standard specifications for sewer construction.

1.02 Revisions, Amendments or Additions

The Specifications may be revised, amended or added thereto. Such revisions, amendments and additions shall be binding and in full force immediately upon formal adoption by the District.

1.03 Design

All new sewer services, taps, and line extensions are to be designed, approved, and signed by a Registered Professional Engineer licensed in the State of Colorado. All drawings are to show a plan and profile of the alignment along with line, tie-in, and manhole details. All drawings shall also show all existing utilities and improvements along the full length of the proposed sewer line. All designs shall use existing Basalt Sanitation District manhole numbers and elevations for the datum for all line extensions. The District is also to be provided with material and installation specifications. Both plans and specifications are to be reviewed and approved by the District's Engineer prior to any construction.

1.04 Inspection

Inspection of the installation of the lines will be performed by the District Inspector or a designated representative of the District. A mandatory preconstruction meeting shall be held with the contractor, design engineer, and District representative prior to any work on the project. The District Engineer shall be notified 2 weeks in advance of any start of any line extension construction and the preconstruction conference. A schedule for construction start-up will be reviewed at that time. All inspections after the initial start of the project will require 48 hours notice.

A District Inspector shall be present during any installation or backfilling of any line extension, manhole base and section installation and backfilling, line and manhole testing, and all other inspections as required by the District Rules and Regulations or other special conditions as determined by the District Inspector. All installations without inspection and approval of the District Inspector will be required to be excavated, removed, and reinstalled under District supervision. All required field design changes will be performed by the original design engineer whose stamp is on the drawings. All inspection costs are to be paid for by the developer.

1.05 Easements

District requires all easements to be a minimum 30-foot wide or twice the depth of the sewer installation, whichever is greater, and are to be shown on the drawings. The sewer pipe shall be centered in the easement unless otherwise approved by the District. No other utilities will be allowed to share the District's easement.

Sewer lines installed within public right-of-ways are subject to review and approval by the Board. Sewers installed in public right-of-ways must meet separation requirements from water lines established by the Colorado Department of Public Health and Environment. Minimum separation from utilities other than potable water lines is 5 feet, edge of pipe to edge of pipe, unless depth of sewer would cause future repair and replacement burden on the District, then added separation may be required.

Sewer lines that are not owned by the District will not require easements, since operations and maintenance are the owner's responsibility. Any Service Line that the District accepts ownership of will require a minimum 30-foot wide easement or as specified above.

SECTION 2 DESIGN REQUIREMENTS

2.01 Planning Study Overview

A planning study for sewer will be required when an applicant proposes to extend or improve the District's collection systems. Applicants that are planning private collection improvement (applicant owned and operated sanitary sewer collection mains), may be exempt from completing a planning study, at the discretion of the District Engineer. Applicants that will have a small impact (sewer line extension of 200 feet or less or as indicated by the District Engineer; all items that are considered small impacts shall obtain written approval for the District or its representative for exemption) to the utility system and are applying for a service connection(s) only, might be exempted from performing a planning study at the discretion of the District Engineer. Any applicant requesting an exemption from the planning study must submit a written description of the project and gain written permission from the District Engineer prior to construction and connection to the District's collection system.

If a planning study is required, the study shall be prepared by a Colorado registered professional engineer and shall include the following items:

- Applicant Information
- Location Information
- Wastewater Collection System Basin(s) map for proposed area
- Impacts to the sewer collection system (Narrative accompanied by any supporting calculations)
- Impacts to the wastewater treatment facility

2.02 Design Flow

Sanitary sewers shall be designed to convey the projected instantaneous peak flow plus infiltration and inflow (I & I). Wastewater flows shall be calculated based on the projected build out of the area or basin to be served by the proposed sewer. The average daily wastewater flow

shall be calculated using the EQR/Tap Schedule in Appendix A. Sewers shall be designed using a design peak flow calculated from the following equation:

Design peak flow = 4.0 x average daily flow + infiltration + inflow

where,

- Residential infiltration-(gpd/acre of developed area), 250
- Commercial infiltration-(gpd/acre of developed area), 200
- Inflow-(gpd/acres in drainage basin), 250

Note: Infiltration = (developed residential acres x residential infiltration) + (developed commercial acres x commercial infiltration)

2.03 Pipe Size

The minimum allowable size for a sewer main shall be eight (8) inches in diameter. The minimum allowable size for an individual Service Line shall be four (4) inches in diameter. Design peak flows calculated using the criteria established in Section 2.01 should be used to size the sewer main. The depth (d) of flow to the diameter (D) of the pipe (d/D) shall not exceed 0.75. All changes in pipe size and material must be made at a manhole.

2.04 Velocity

Sanitary mains and service lines shall be designed to provide a minimum velocity of two (2) feet per second at design peak flow. The maximum velocity should not exceed ten (10) feet per second. If the design peak flow velocity in any section of the sewer correctly sized for ultimate development will be less than two (2) feet per second during the initial years of operation and a reduction in pipe size will result in a pipe size too small for future requirements, the pipe size will be selected based on the future requirements.

2.05 Slope

Sewer mains shall be constructed with uniform slopes between manholes. Changes of slope will only occur at manholes. Minimum and maximum slopes should be as follows:

Pipe Size (in)	Minimum Slope (ft/ft)	Maximum Slope (ft/ft)
4 (Service Lines only)	0.0208	0.209
6 (Service Lines only)	0.0104	0.100
8	0.0060	0.075
10	0.0025	0.055
12	0.0020	0.045
15	0.0015	0.035
18	0.0011	0.025
21	0.0009	0.020
24	0.0008	0.018

*Higher maximum slope values may be acceptable depending on flow depth and as long as the maximum flow velocity in the pipe does not exceed 10 feet per second and minimum velocity of no less than 2 feet per second.

All dead end sewer mains shall have a minimum slope of two (2) percent unless the Applicant/Developer can show the minimum velocities in Section 2.04 can be met for the entire dead-end line using a lesser slope.

2.06 Depth

Sanitary sewer mains and services shall have a minimum cover of five (5) feet. Sewer mains shall not be deeper than eighteen (18) feet unless specifically approved by the District.

The District may allow sewer mains and services to be installed at less than five feet deep if it is properly insulated. This requires insulation over the top and both sides of the sewer pipe to a point not less than the bottom of the pipe. Minimum insulation thickness shall be one inch for every foot of depth that cannot be met. Insulation shall be rigid foam Blue Board or approved equal. These conditions will be reviewed on a case by case basis by the District.

2.07 Alignment

Sanitary sewers shall be installed in dedicated street right-of-ways or dedicated easements. Sanitary sewers shall be located no closer than ten (10) feet from the curb flow line unless approved by the District Engineer. The minimum width requirements for sanitary sewer easements are thirty (30) feet or twice the depth of the sewer installation, whichever is greater. The pipeline shall be centered in the easement and offset a minimum of five (5) feet from any property line.

Sanitary sewers shall be located a minimum of ten (10) feet horizontally from existing or proposed water mains. Where sewer lines cross water mains, the sewer shall be a minimum of eighteen (18) inches vertical clear distance below the water main. In addition, if it is not possible to obtain this clear distance, or if the sewer must be above the water line, the water main shall be DIP for ten (10) feet each side of the crossing. Sanitary sewers shall be located a minimum of five (5) feet from all other utilities. Greater distances may be required in certain instances and will be reviewed on a case by case basis.

When the 18-inch requirement or when the sanitary line has to cross over the water main, the sanitary sewer material shall be C-900 PVC class 150 (psi) pipe or an approved equal meeting all CDPHE requirements. The C-900 PVC class 150 (psi) pipe shall be installed from manhole to manhole or structure to the main for all services. The length of sewer pipe shall be centered on the water line.

Sanitary sewers shall be installed with a straight alignment between manholes. Changes in direction shall only occur at manholes. Sanitary sewer mains shall begin and end at a manhole.

Any proposed river crossing with a sanitary sewer shall require special review and approval by the District Engineer. Evidence that proper permitting has been obtained from the U.S. Army Corps of Engineers or other regulatory agencies must be submitted to the District Engineer.

2.08 Manholes

Manholes shall be installed at both ends of each section of sewer, at changes in grade, size or alignment, at intersections, and at distances not greater than four hundred (400) feet for all diameter sewers.

A drop manhole shall be provided for a sewer entering a manhole at an invert elevation of twenty-four (24) inches or more above the manhole invert. The wye fitting and vertical pipe shall be encased in flow-fill meeting the Colorado Department of Transportation's specifications. The Contractor shall submit a flow-fill mix design to the District for approval prior to placement. Drop manholes should be avoided whenever possible and will not be allowed simply to minimize excavation requirements.

DROP MANHOLES: The incorporation of outside drop manholes shall be severely restricted by the designer to those locations where no other means of attaining slope or accommodating adequate flow velocity is feasible (flow velocities shall not exceed 10 ft/sec). Outside drop manholes shall conform to the District's Standard Details in configuration and size. Inside drop manholes are not allowed for either mainline sewers or service connections.

Manholes shall not be located in concrete areas such as sidewalks, cross-pans, aprons, curbs, and gutters.

The internal diameter of the manhole barrel should not be less than forty-eight (48) inches for sanitary sewers of sizes eighteen (18) inches or less. Sixty-inches for sizes twenty-one (21) inches to twenty-seven (27) inches inclusive and seventy-two (72) inches for sizes thirty-six (36) inches and larger.

2.09 Pretreatment for Grease Removal

A. General

Food-service operations (including food service operations that only serve prepackaged foods and food trucks) typically use grease traps/interceptors to trap fats, oils, and grease (FOG) and to prevent excessive discharge of FOG into the wastewater collection and treatment system. If grease traps/interceptors are not properly designed and maintained, slug loads of grease will interfere with the performance of both the collection system and treatment system. Grease traps are generally located inside the food-service establishment, while grease interceptors are large in-ground outdoor tanks. A grease interceptor will be required when it is determined an interior grease trap will not adequately restrict the flow of grease into the collection system. The traps/interceptors use the physical principal that fats, oils and grease are lighter than water and will rise to the top of a water surface when the mixture is allowed to stand for a period of time in quiet conditions.

B. Design Requirements

Gravity Grease traps/interceptors will have a minimum of two compartments in series with a minimum volume of 300 gallons. A sampling box shall be provided after the grease trap/interceptor for testing purposes. The inlet will be designed to divert flow downward and the outlet will be subsurface and draw from as close as possible to the bottom of the compartment. The top of the outlet tee will be as close to the top of the compartment as possible.

Hydromechanical Grease Interceptor design type incorporates air entrapment, the buoyancy of grease in water and hydromechanical separation with interior baffling for

grease, FOG separation. Hydromechanical Grease interceptors continuously separate the FOG at the velocity it enters the interceptor.

C. Location/Design Requirements

The grease traps/interceptors shall be installed in a location that is readily accessible for periodic cleaning, inspection, and/or sampling. When needed, an appropriately designed traffic cover shall be installed over the grease interceptors.

The grease traps/interceptors shall provide for the removal of FOG from the wastewater.

Cleanouts are required immediately downstream of the sand/oil interceptor.

D. Design Criteria for Grease Traps

Grease traps are designed and sized for pot washing sinks and/or commercial dishwashers according to the rate of incoming flow, in gallons per minute (gpm). Associated with this incoming flow rate is the trap's capacity. This rate capacity, in pounds, is listed at twice the flow rate. Design criteria guidelines are set forth by the Plumbing and Drainage Institute.

For pot washing sinks:

Step 1- Calculate the capacity of the sink in cubic inches (measurements for one compartment), and multiply by the number of compartments.

Length (inches)	x	Width (inches)	x	Depth (inches)	x	=	Volume (cubic inches)

Volume (cubic inches)	x	No. of Compartments	=	Total Volume (cubic inches)

Step 2- Convert the total volume from total cubic inches to flow rate in gallons per minute (gpm).

Total Volume (cubic inches)	/	231	=	Flow Rate (gpm)

Step 3- Adjust for displacement (displacement takes into consideration the actual usable capacity of the sink).

Flow Rate (cubic inches)	/	0.75	=	Adjusted Flow Rate (gpm)

If draining multiple sinks into one grease trap:

Determine the flow rate for each sink to be serviced by the grease trap using the same calculation as the single sink. Add together 100 percent of the largest flow rate, with 50 percent of the second largest sink's flow rate, and 25 percent of all other sinks draining into the common grease trap.

Calculating grease trap requirements for commercial dishwashers:

The Plumbing and Drainage Institute recommends that all dish machines have their own grease trap. The sizing chart below shows grease trap sizes for the various commercial dishwasher tank capacities:

Tank Capacity (gallons)	Grease trap Size (Pounds)
10-15	15
20-30	20
30-50	25
50-70	35
70-100	100

Gravity grease traps shall be designed and sized based on peak wastewater flow, in gallons per minute (GPM) and a minimum detention time of 30 minutes.

Hydromechanical grease interceptors shall be designed and sized based on peak wastewater discharge.

Peak wastewater discharge shall be computed by using one of the follow methods:

1. Calculated peak discharge for gravity pipes shall be calculated by assuming full pipe flow and the designed slope, or
2. Calculated peak discharge can be from Drainage Fixture Units (DFU's) from the universal plumbing code and applying a peaking factor appropriate for the facility.

For Gravity Grease Traps:

Step 1 – Calculate the capacity of a Gravity Grease Trap as follows:

$$Volume\ (gallons) = Peak\ Flow\ (gpm) \times minimum\ detention\ time\ (minutes)$$

E. Design Criteria for Grease Interceptors

Grease interceptors are designed and sized based on anticipated flow rates and organic load for maximum efficiency. Grease interceptors shall be sized to conform to the Uniform Plumbing Code. To calculate the size of a grease interceptor needed by a food service operation, refer to the following formula taken from Appendix H of the Uniform Plumbing Code:

No. of Meals per Peak Hour[1]	x	Waste Flow Rate[2]	x	Retention Time[3]	x	Storage Factor[4]	=	Interceptor Size (Liquid Capacity)

1	Meals Served at Peak Hour (Seating Cap. x Meal Factor = Meals per Peak Hour)	
	Establishment Type	Meal Factor
	Fast Food (45 minutes)	1.33
	Restaurant (60 minutes)	1.00
	Leisure Dining (90 minutes)	0.67
	Dinner Club (120 minutes)	0.50
2	To calculate the Waste Flow Rate, add all that apply:	

	With dishwashing machine	6 gallons
	Without dishwashing machine	5 gallons
	Single-service kitchen	2 gallons
	Food waste disposer	1 gallon
3	Retention Times:	
	Commercial kitchen waste	
	Dishwasher	2.5 hours
	Single-service kitchen	
	Single serving	1.5 hours
4	Storage Factors:	
	Fully equipped commercial kitchen	
	8-hour operation	1
	16-hour operation	2
	24-hour operation	3
	Single-service kitchen	1.5

Sizing calculations are to be prepared and submitted to the District for the sizing of all grease traps/interceptors.

F. Grease Trap/Interceptor Installation Requirements

Every property owner and customer affected by these regulations shall submit to the District their proposed design, including calculations, and location for grease removal facilities. The submittal shall first be approved by the District before installation.

G. Maintenance of Sand/Oil Interceptors and Separators

Sand/oil interceptors and separators shall be maintained by regularly scheduled removal of the accumulated sand and oil so that they will properly operate as intended to intercept the sand and oil from the customer's wastewater and prevent the discharge of sand and oil to the District's collection system. Maintenance of sand/oil interceptors and separators shall be done only by a business/professional normally engaged in the servicing of such plumbing fixtures. Maintenance shall be performed in a workmanlike manner before the retention capacity of the interceptor is exceeded. Detailed and accurate records of maintenance shall be maintained on-site and shall be provided to and available to the District upon request. The records shall include detailed information relating to the amount of sand and oil removed compared to the size of the sand/oil interceptor and/or separator. A copy of the invoice from the business/professional reporting the date the interceptor was cleaned, the amount of oil and/or sand removed, and a recommendation of how frequently the interceptor should be cleaned is to be on file at the business being served and available to the District upon request. Any sand/oil interceptor in service in the District shall be serviced at a maximum interval of 120 days. A variance from this requirement may be obtained when the owner can confirm that there is no normal use during any given 120 calendar day period. With written authorization from the Board, the maximum time variance between services can be extended to 365 calendar days.

H. Inspection

The District shall have the right to make a periodic inspection of grease pretreatment facilities and take samples for testing. The customer shall permit inspections by the District's employees upon request. The customer will be charged at a rate established by the District for any re-inspection that may be necessary.

2.10 Pretreatment for Sand/Oil Removal

Any automotive servicing, car wash, parking garages, underground garages, elevator sumps, or other establishment that has the potential to discharge wastes and/or wastewater which may contain sand or oil shall have a sand/oil interceptor and/or separator(s) installed. Standards for sand/oil interceptors and separators are presented below.

A. General

The term “sand/oil interceptor” shall mean a precast or cast-in-place concrete oil and/or solids removal device with a minimum capacity of 300 gallons. The term “separator” shall mean a rust/corrosion resistant oil and/or solids separation device, typically designed to serve a single plumbing fixture, with a minimum flow rating of 20 gallons per minute (GPM).

All plumbing fixtures which may discharge wastewater containing oil and/or solids to the sanitary sewer system including, but not limited to, floor drains, service sinks, mop sinks, and drains serving wash areas and/or trash enclosures shall be connected to the sand/oil interceptor.

B. Location/Design Requirements

The sand/oil interceptor and/or separator(s) shall be installed in a location that is readily accessible for periodic cleaning, inspection, and/or sampling. When needed, an appropriately designed traffic cover shall be installed over the sand/oil interceptor and/or separator(s).

The sand/oil interceptor shall be designed to reduce turbulence of the flow through the unit.

The sand/oil interceptor shall provide for the removal of floatables and settleables from the wastewater to the maximum extent practicable using multiple sedimentation chambers, pipe elbows installed between chambers and/or other pretreatment design elements.

Cleanouts are required immediately downstream of the sand/oil interceptor.

Sump and/or elevator sump requirements:

- Discharge into a mop sink for visual inspections. Mop sinks shall be connected to the sand/oil interceptor.
- Indicate the type of hydraulic fluid that will be used and all chemicals, solvents, etc. that may end up in the sump. Pre-treatment may be required for these items.
- Indicate the pumping rate of the proposed system.

- The sump shall be sealed/waterproofed, so no groundwater is being pumped into the District's sanitary system.
- An alarm should be provided that indicates the pump is running. The alarm shall notify the Owner or Owner's representative.
- The Owner will have to prove initially and annually the sump is not receiving groundwater.
- The Owner will need to provide annual inspection reports for the elevator to the District.
- The Owner needs to provide the District with a method to complete annual inspections.

C. Design Criteria for Sand/Oil Interceptors

Sizing calculations are to be prepared and submitted to the District per the following:

Fixture Units Connected	x	7.5 GPM	x	5 minutes	=	Interceptor Size (gallons)

For fixture unit determination:

Three inch (3") diameter floor drains shall be rated at six (6) fixture units.

Four inch (4") diameter floor drains shall be rated at eight (8) fixture units.

Where trough drains are used, each bay or compartment area equaling the square foot surface area of a standard service bay which is served by the trough drain shall be rated at six (6) fixture units.

Vehicle wash drains shall be rated at eight (8) fixture units each, regardless of size.

D. Design Criteria for Separators

The sizing of a separator for the proposed application will be determined by the District on a case by case basis. The design, specifications, operation, and effectiveness of the separator for the proposed application must be certified by a licensed professional engineer prior to approval by the District.

The separator shall be connected to specific plumbing fixtures or drains as required by the District. Typically separators shall be installed in any business that plans on discharging oily or sediment-laden wastewater to the sewer system. These businesses usually include quick-lube stations, transportation fueling facilities, vehicle/heavy equipment repair, and businesses using steam or pressure washers.

Sanitary waste shall not be plumbed to a separator.

The inlet pipe to the separator shall be equipped with a flow control fitting. The flow control fitting shall be designed so that the flow through the fitting does not exceed the designed input rate of the separator. A flow control fitting that has adjustable or removable parts is prohibited.

The inlet to the separator shall be equipped with a solids capturing device (e.g. screen or basket).

2.11 Industrial Pretreatment

Any industry or business that operates an industrial process, greenhouse, marijuana growing facility, breweries, distilleries, and/or other establishment that has the potential to discharge wastes and/or wastewater which may contain chemicals not normally found in domestic wastewater, heavy metals, and/or that are defined as categorical industries by the EPA shall have an industrial discharge permit. A business that is required to have an industrial discharge permit is referred to as a significant industrial user.

Significant Industrial Users (SIU) are dischargers with a potential to violate pretreatment standards and regulations. Permitted industries must adhere to discharge and/or pollutant limits and are subject to compliance monitoring and reporting requirements. All industrial users must have an industrial discharge permit if they meet one of the following requirements:

1. Discharge an average of 15,000 gallons per day or more of process wastewater to the wastewater treatment plant.
2. Contribute a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the wastewater treatment plant.
3. Have a reasonable potential for adversely affecting the wastewater treatment plant's operation or for violating any pretreatment standard or requirement.
4. Are defined as a categorical industry by federal regulation

Businesses required to obtain an industrial discharge permit must submit a permit application or permit renewal application. Issued permits will contain pollutant limitations and other requirements for approved discharge of industrial wastewater. Once permitted, the business must adhere to all permit requirements, including monitoring and reporting, and are subject to annual inspections by district staff.

SECTION 3 MATERIALS

3.01 Materials and Testing

All materials must conform to the Material Specifications.

All materials utilized shall be new and undamaged. Everything necessary to complete all installations shall be in accordance with the Specifications and all installations shall be completed as fully operable, functioning parts of the District’s system.

Acceptance of materials, or the waiving of inspection thereof, shall in no way relieve the Applicant of the responsibility for furnishing materials which meet the requirements of the Specifications.

3.02 Pipe Pressure Classes

The District has established minimum design safety factors for system piping. The following minimum AWWA and ASTM pressure classes for acceptable types of pipe are required:

Polyvinyl Chloride (PVC) -	Non-pressured pipe, SDR 26 (4” thru 15”
	Non-pressured pipe, PS 115 (18” thru 36”)

Ductile Iron Pipe (DIP) -	Class 350 with Protecto 401 Ceramic Epoxy lining or approved equivalent, AWWA C 151

Use PVC SDR 26 for all sewer main lines, unless another pipe material is listed in this section. Other pipe materials are permissible with written approval from the District. Maximum depth for PVC Class SDR 26 is 18 feet, when the pipe is laid to the Basalt Sanitation District standards for excavation, bedding, installation, compaction, and backfill. Proposed sewers greater than 18 feet in depth are subject to special review and approval of the District Engineer. Pressurized pipe for a force main is subject to special review and approval of the District Engineer.

Ductile Iron Pipe shall only be used in the following applications:

1. Sanitary sewer force mains shall be DIP pipe unless a different material has prior approval from District Engineer.
2. Sanitary sewer force mains and gravity sewer mains within steel casings under major roadways, rail road crossings, and crossing under major water ways.
3. Above grade piping within lift stations and the wastewater treatment facility.

3.03 Pipe and Fittings

A. Polyvinyl Chloride (PVC): 4"-15", ASTM D3034, Type PSM, SDR 26; 18"-27", ASTM F679, Minimum pipe stiffness of 115 psi with push-on joints and molded rubber gaskets.

B. Ductile Iron: AWWA C151, Class 350. Push-on joints. Poly-lined or Griffin "Sewper-Coat" lined, ASTM 746.

1. DIP solid sleeves. Poly-lined or Griffin "Sewper-Coat" lined, ASTM 746.

C. PVC Wye: SDR 26, with integral elastomeric gaskets, Harco, GPK Series 107, or accepted equal.

D. PVC Tapping Saddle: SDR 26, with integral elastomeric gaskets, Harco, GPK Series 135, or accepted equal.

E. Flexible couplings and adapters such as Fernco style fittings are not allowed on sewer mains or service lines.

3.04 Manholes

A. Manhole bases: Precast concrete, ASTM C478 with proper foundation material, minimum 12 inches of 3/4-inch compacted screened rock or Class 6 material. Cast-in-place manhole bases are allowed for replacement of existing manholes only and requires special review and approval by the District Engineer.

B. Manhole Sections: ASTM C478. Precast concrete (wetcast) with the lip outside, low end down. Cones shall be eccentric.

C. Manhole Rings and Covers: Cast iron, ASTM A48 with a flat lid with the lettering “SEWER” cast on the cover. Ring and cover combined weight is to be greater than 255 lbs.; nominal twenty-four (22" actual clear opening) inches diameter and machined to fit securely with a non-rocking cover. Waffle pattern hot dipped in

asphalt or black bituminous paint. HS-20 traffic loading. Neenah R-1594, Castings, Inc., or accepted equivalent.

D. Manhole Steps: Non-skid grooves in surface of step and capable of carrying load of one thousand pounds (1000 lbs), six inches (6") from face of manhole. The steps shall meet industry standards and be copolymer polypropylene encapsulated ½" grade 60 steel reinforced center. M.A. Industries, Inc. or accepted equivalent.

E. Manhole Joint Sealant: RAMNEK. One inch (1") on forty-eight inch (48") diameter manholes. 1-1/2 inch on all larger manhole sizes. Manufactured by the Henry Company, or accepted equivalent.

F. Manhole Flexible Pipe to Manhole Connectors: EPDM rubber compound, providing a flexible watertight joint. Specifically designed for manhole to pipe connections in precast concrete manholes. Complies with ASTM C-923 requirements. NPC Inc., KOR-N-SEAL, or accepted equivalent.

G. Manhole Coatings: Exterior coating to be a water based concrete coating (damp proofing) such as ConSeal CS-55 or accepted equivalent on all manholes.

H. Manhole Coatings and Admixtures:

a. Exterior coating to be a water based concrete coating (damp proofing) such as ConSeal CS-55 or approved equal.

b. The three (3) types of manhole construction which have the following admixtures and/or interior coasting are approved as follows:

1. Type 1 – Standard Manhole.
2. Type 2 – Manhole with ConShield Concrete Admixture or approved equivalent (Type 2 manholes shall be used where wastewater flow has the potential to become turbulent and has the potential for production of sewer gases).
3. Type 3 – Manhole with Raven 400 Epoxy Coating or approved equivalent. (Type 3 manholes should be used in location where wastewater will experience turbulent flow and sewer gases will be produced, i.e. manholes where force mains discharge to, manholes where an influent and effluent pipe drastically changes grade, drop manholes, etc.)

I. Manhole Encapsulation System: ANSI/AWWA C216, Canusa-CPS "WrapidSeal" manhole encapsulation system or accepted equivalent.

3.05 Bedding

A. All gravity sewer pipelines shall be installed using imported granular bedding material meeting the latest CDOT Class 6 gradation requirements.

B. Use of on-site bedding material will not be allowed.

3.06 Concrete Material

A. General: All materials furnished from sources approved in writing by the District.

B. Cement ASTM C-150 for Portland Cement, Type II. Cement which has become partially set or contains lumps of caked cement shall be rejected.

C. Aggregate: ASTM C33.

D. Water: Water used in mixing or curing concrete shall be clean and free from oil, acids, salt, alkali, or organic materials harmful to concrete.

E. Concrete Mix Design: The concrete mix design shall comply with the following:

a. Minimum allowable 28 day compressive field strength: 4,000 psi when cured and tested in accordance with ASTM C31 and C39.

b. Coarse Aggregate Size: 0.5 inch and smaller

c. Water/Cement Ratio: 0.38

d. Air Entrainment: Between 5.0 and 7.5%

e. Water Reducers: Use in all concrete as per manufacturer's recommended guidelines.

f. Superplasticizer: Use in all walls.

g. Slump Range: 1 to 4 inches before addition of superplasticizer

h. Slump Range: 5 to 9 inches after addition of superplasticizer

F. Concrete repair grout: Non-shrink, high strength grout, Fosroc All Crete 20 or All Crete 5, or accepted equal.

3.07 Pavement Replacement

All pavement replacement materials shall comply with the requirements of the Town of Basalt, Pitkin County, Eagle County, the Colorado Department of Transportation, or any other governmental entity having jurisdiction over the pavement replacement. Any traffic control requirements/permits required by the appropriate governmental entity shall be obtained and adhered to.

SECTION 4 PIPE AND MANHOLE INSTALLATION

4.01 Safety

Safety of workers shall be provided as required by the Occupational Safety and Health Administration (OSHA).

4.02 Reference Standards

A. Uni-Bell: Uni-B-5, Recommended Practice for the Installation of Polyvinyl Chloride Sewer Pipe.

B. Uni-Bell: Uni-B-6, Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe.

C. AWWA C600-93, Standard for Installation of Ductile Iron Water Mains and their Appurtenances (use for waterline crossings).

4.03 Handling of Materials

Pipe and fittings shall be loaded and unloaded by lifting so as to avoid shock or damage. Under no circumstances shall such material be dropped. If, however, any part of the pipe is damaged,

the replacement or repair of the damaged pipe shall be done to the satisfaction of the District Engineer. Any pipe or fittings that are not acceptable to the District shall be removed from the job site immediately. All pipe handling equipment and pipe handling methods shall be in accordance with the methods and equipment recommended by the manufacturer. **Under no circumstance shall forks be inserted into any pipe and or fitting.**

4.04 Inspection and Preparation of Pipe and Fittings

Before placing pipe in the trench, each pipe or fitting shall be thoroughly cleaned of all foreign material, kept clean at all times thereafter, and carefully examined for cracks and other defects before installation. Bell ends and spigot ends are to be examined with particular care.

All lumps, blisters and excess coatings shall be removed from the pipe and fitting, and the outside of the spigot and the inside of the bell shall be wiped clean, dry and free from oil and grease before the pipe or fitting is installed. Dirt and any other material must be removed from the barrel of the pipe before installation.

4.05 Cutting and Fitting of Pipe

Pipe shall be cut in accordance with manufacturer's recommendations, whenever necessary, to conform to location of fittings, line, or grade. All cuts shall be straight and true and beveled, when required, and completed in a workmanlike manner. All burrs shall be removed from the ends of cut pipe.

4.06 Pipe Joint Lubrication

Joint lubricant shall be supplied by the pipe manufacturer. Joint lubricant shall be non-toxic and water-soluble.

4.07 Pipe Joints

All pipe joints shall be uniform and smooth transitions shall exist from joint to joint or fitting.

4.08 Pipe Alignment and Grade

Manholes shall be installed at staked locations and elevations.

Main and service installation stakes for alignment and grade shall be set under the supervision of a Professional Land Surveyor (PLS) who is registered in the State of Colorado.

A uniform grade between manholes shall be maintained. When specified grades are defined numerically on the plan and profile drawings, the pipelines shall be constructed to precisely those grades.

Flat areas or low spots are not acceptable.

Pipe shall be laid with the bell ends facing in the direction of laying, unless directed otherwise by the District. Where pipe is to be installed on a grade of ten percent (10 %) or greater, the laying shall start at the bottom and shall proceed upward with the bell ends of the pipe up grade.

Sewer lines are to be straight and true, no deflections will be allowed.

Backfill cover is to be a minimum of five (5) feet over the top of the sewer line.

The following tolerances establish acceptable conformance with the lines and grades shown on the plans. When pipeline construction falls within the tabulated tolerances, the installation will be

acceptable to the District, with respect to lines and grades. If the tolerances are not met, the Contractor shall be responsible for performing modifications to the facilities to bring the pipelines into the tolerances.

Description	Maximum Permissible Deviation from Alignment and Elevation Shown on the Plan and Profile
Horizontal centerline alignment of sewer lines	0.10 feet
Horizontal location, Manholes and other appurtenances	0.10 feet
Vertical elevation of sewer line	0.02 feet

4.09 Temporary Bulkheads for All Pipe Types

A manufacturer's approved plug shall be used as a temporary plug during line installation. All temporary plugs shall be provided by the Contractor.

4.10 Frost

No pipe or appurtenant structure shall be installed upon a foundation into which frost has penetrated, or if at any time there is danger of ice formation. No pipe or appurtenant structure shall be installed unless backfilling can be completed before the formation of ice and frost.

4.11 Lowering of Materials into the Trench

Proper implements, tools and facilities satisfactory to the District shall be provided and used by the Contractor for the safe and convenient performance of the work. All pipe, manholes and accessories shall be carefully lowered into the trench piece by piece by means of ropes or other suitable tools or equipment, in such a manner as to prevent damage to the materials. Under no circumstances shall the materials be dropped or dumped into the trench. If damage occurs to any pipe, manholes or main accessories in handling, the damage shall be immediately brought to the attention of the District Engineer.

4.12 Laying of Pipe

A. General

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the trench. If the pipe laying crew cannot put the pipe into the trench and in place without getting earth into the pipe, the Contractor shall place a heavy, tightly woven canvas bag of suitable size over each end before lowering the pipe into the trench. Said bag shall be left in place until the connection is to be made to the adjacent pipe. During laying operations, no debris, tools, clothing or other materials shall be placed in the pipe. The canvas bag shall be in place during unattended times to ensure that debris does not enter the sewer main.

As each length of pipe is placed in the trench, the spigot end shall be centered in the bell and the pipe forced home with a slow steady pressure without jerky or jolting movements and brought to correct line and grade. The pipe shall be secured in place with approved backfill material tamped under it except at the bells. Precautions shall be taken to

prevent dirt from entering the joint space. No wooded blocking shall be left at any point under the pipeline.

No pipe shall be laid when trench conditions are unsuitable.

All sewer line grades and alignments shall be established and maintained by using lasers.

B. Polyvinyl Chloride Pipe (PVC)

1. Elastomeric Gasket Joint

Immediately before joining two (2) lengths of PVC pipe, the inside of the bell or coupling, the outside of the spigot, and the elastomeric gasket shall be thoroughly cleaned to remove all foreign material.

Lubrication of the joint and rubber gasket shall be done in accordance with the pipe manufacturer's specifications.

Care shall be taken that only the correct elastomeric gasket, compatible with the annular groove of the bell, is used. Insertion of the elastomeric gasket in the annular groove of the bell or coupling must be in accordance with the manufacturer's recommendations. Pipe that is furnished with a depth mark shall be marked before assembly to ensure that the spigot end is inserted to the fill depth of the joint. In some applications, beveling of the pipe may be necessary to achieve this condition.

The spigot and bell or coupling shall be aligned and pushed until the reference line on the spigot is flush with the end of the bell or coupling. Pushing shall be done in a smooth, steady motion. Upon completion of joining the pipe, an inspection shall be made to assure that the gasket is correctly aligned in the gasket recess of the bell socket and not twisted or turned. No deflection will be allowed at a joint of PVC pipe.

Installation of PVC pipe will be in accordance with the manufacturer's recommendation.

2. Pipe Storage

Pipe to be stored outside, and exposed to sunlight for more than thirty (30) days is to be covered with an opaque material such as canvas. Clear plastic sheets are not to be used to cover pipe. Air circulation will be provided under the covering.

3. Handling of Pipe in Cold Weather

PVC pipe has reduced flexibility and impact resistance as temperatures approach and drop below freezing. Extra care should be used in handling and installing PVC pipe during cold weather.

C. Ductile Iron Pipe

1. Push-On Joint

Immediately before joining two (2) lengths of ductile iron pipe, the inside of the bell, the outside of the spigot end, and rubber gasket shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter. The rubber shall be flexed inward and inserted in the gasket recess of the bell socket. Since different manufactured brands of

pipe require different types of gaskets, the Contractor shall exercise caution to ensure that the correct type of gasket is used.

A thin film of approved gasket lubricant shall be applied to either the inside face of the gasket, or the spigot end of the pipe, or both.

The spigot end of the pipe shall be placed in the bell end with care to prevent the joint from contacting the ground. Pipe furnished without a depth mark on the spigot end shall be marked before assembly to assure insertion to full depth of the joint. The pipe shall be kept in straight alignment and the joint shall be completed by **pushing** the pipe home with a slow, steady pressure without jerky or jolting movements by using a forked tool or jack-type tool or other device approved by the District. The District recommends that a backhoe not be used to push home pipe sections. However, if pipe is pushed home with a backhoe bucket, a wooden shield must be placed between the backhoe bucket and the end of the pipe. The spigot end of field cut pipe lengths shall be filed, or ground to resemble the spigot end of such pipe as manufactured.

Upon completion of joining push-on joint pipe, an inspection shall be made to assure that the gasket is correctly aligned in the gasket recess of the bell socket and not twisted or turned.

D. Bedding of Pipe

All bedding materials shall be compacted to District specifications. Compaction shall be made in two (2) lifts. The first lift shall be from the bottom of the trench, the pipe shall be installed and then the final lift of bedding material shall be compacted to the spring line of the pipe. Compaction shall continue as per the Engineer's specification requirements.

1. All compaction shall conform to maximum dry density according to ASTM D698, Moisture-Density Relations of Soils (Standard Proctor). **Water flooding of trenches is not allowed.**
2. Over excavation under the pipe a minimum of four (4) inches is required, and replaced with granular bedding compacted to ninety-five (95) percent.

E. Cut Off Walls

Clay or concrete cut off walls shall be considered in all locations where seasonal high groundwater occurs. Field conditions may warrant that additional cut off walls be installed as determined by the District Engineer.

F. Ready Mixed Concrete

Said materials must be proportioned, mixed and transported in accordance with ASTM C94. Any concrete that is not plastic and workable when it reaches the project shall be rejected.

G. Job-Mixed Concrete (only allowed by specific permission of District Engineer)

Job-mixed concrete will be mixed in a drum mixer conforming to Concrete Paving Mixer Standards of Mixer Manufacturers Bureau of Associated General Contractors of America. The mixer shall be capable of combining aggregates, cement, and water into thoroughly mixed and uniform mass. The entire contents of the drum are to be

discharged before recharging. The mixing of each batch will continue for not less than ten (10) minutes after all materials are in the drum.

H. Dewatering

Pipe trenches and structure excavation shall be kept free from water during pipe laying and other related work. The method of dewatering shall provide for a completely dry foundation at the final lines and grades of the excavation.

A Colorado Department of Public Health and Environment (CDPHE) construction dewatering permit should be obtained prior to commencing dewatering operations at contractor's expense. The permit shall be adhered to throughout the project.

The dewatering operation shall continue until such time as it is safe to allow the water table to rise in the excavations. Pipe trenches shall contain enough backfill to prevent pipe flotation. Pumping or diverting storm/groundwater into a sanitary sewer is strictly prohibited.

Where excessive groundwater is encountered, the District will require construction of a piped underdrain to reduce infiltration. Underdrains are not to be connected into the sewer main, but are to be daylighted to the nearest suitable point as approved by the District Engineer.

Underdrain main construction shall be done in accordance with engineered construction plans for the work prepared by a Colorado registered professional engineer and approved by the District.

4.13 Manholes

Manholes shall be precast concrete and constructed in accordance with the District's approved drawings. Precast manholes shall be designed so that all joints are waterproof. Precast manholes shall be made water tight after construction by use of sealants, epoxies or other approved methods. All dimensions, locations and elevations shall be coordinated by the Applicant and Contractor and meet the requirements of the District.

A. Gaskets shall be placed around the exterior of the pipe, in the center of the wall, where the pipe passes through the manhole base.

B. All manhole inverts shall be smooth and with minimum depth of that equal to the pipe diameter.

C. All manholes require a one-tenth (0.1) foot drop inside, from invert-in to invert-out for straight-through manholes. Manholes that have a change in sewer alignment or an intersection of a connecting pipeline shall have a two-tenths (0.2) foot drop.

D. Three-way manhole bases shall have a well-defined flow channel and plastic piping shall be removed from the flow channel.

E. Sections and tops:

1. All joints are to be sealed with a double layer of "Rub-R-Nek"; grout shall not be used to seal manhole sections or top joints.

2. All outside joints shall be sealed with 5-Star Grout or other acceptable non-shrink grout after the installation of Rub-R-Nek.
3. A manhole encapsulation system shall be installed as per manufacturer's recommendations. The system shall encapsulate the bottom ring of the manhole casing ring, the adjusting rings, and to at least 5-inches below the joint of the top precast manhole section or a minimum of 4 feet below grade.
4. Grade rings shall not exceed eight (8) inches in height.
5. Tie-ins or connections to existing manholes or existing lines, will require the installation of NEW manholes; cast-in-place bases may be allowed to facilitate construction.
6. Manholes shall be plugged and tested in accordance with Section 4.18 prior to backfilling.

4.14 Service Lines

Service Lines shall be placed true to line and grade in accordance with the construction drawings, from the main line to structure, in shortest direct route. All Service Lines shall be located ten feet (10) minimum from all water lines. A minimum separation of 18 inches shall be maintained between physical taps. Stubouts shall be located five feet (5) from the lowest corner of the lot and terminated one (1) foot into the lot or as shown on drawings. Where full-body wyes have not been installed into the main, Contractor shall tap by a machine drilling a hole into the main, which has been sized to fit the gasketed tapping saddle for the Service Line. Each wye or drilled tap and saddle shall be inspected and approved by a District Representative**.** All Service Lines are subject to observation, inspection and approval by a District Representative to ensure conformance with the District's Rules and Regulations. Service Line shall have a minimum grade of one-quarter inch (1/4) per foot. If Service Line is to be stopped at property line, a 3M marker shall be installed at the termination of the stub and a water-tight plug will be placed in the end of the Service Line. A six foot (6) steel fence post, painted green, shall be placed at the end of the Service Line and shall extend four feet (4) above the ground. Refer to the Standard Detail S-3 for additional information.

A 3M stubout locator disk shall be installed *by* the Contractor/Applicant and shall be placed in accordance with the Specifications. *The* 3M *disk shall be provided by the District.* See Detail S-3.

No Service Line shall be greater than 150 feet in length unless approved by the District. Requests will be reviewed on a case by case basis.

Cleanouts shall be installed at all bends in the Service Line and every one-hundred (100) feet. A two-way cleanout shall be provided within five feet of the structure.

Connection of Service Lines directly to District manholes is not permitted.

Stubout locations shall be triangulated from a minimum of three (3) permanent objects and described as such on the required Drawings of Record. Examples of "permanent objects" are property pins, manhole lids, transformers, power line poles, water valve boxes, etc.

A. Tapping Existing Mains

Application for service must be filed with the District on forms provided by the District and accompanied by appropriate fees prior to any action to connect to the system. Only upon authorized approval of the application and a receipt therefore may a connection to the system be made. All taps shall be made by the District and paid for in advance. Taps made on existing grades and the corresponding Service Line require review by the District Inspector.

A minimum separation of eighteen (18) inches shall be maintained between physical taps on opposite sides of the pipe (outside of pipe to outside of pipe). Taps made on the same side of the pipe shall have a minimum separation of three (3) feet (outside of pipe to outside of pipe). Taps shall have a minimum separation of three (3) feet from the end of the sewer main. All sewer taps/flow lines, shall be made 30 degrees above the spring line of the main. See Detail S-3.

All connections shall be crown of pipe to crown of pipe of the highest main or per the direction of the District.

4.15 Backfill / Compaction

Trench excavated material may be used as backfill material if approved by a geotechnical engineer and District Engineer. All geotechnical and engineering costs are the responsibility of the Contractor. Wet, soft or frozen material, pieces of asphalt or other undesirable substances should not be used for backfill. The backfill material shall be free from rubbish and stones larger than four inches (4-inches in diameter), clods, and frozen lumps of soil. If the excavated material is not suitable for backfill as determined by the Geotechnical and District Engineer, suitable material, such as CDOT Class 6 aggregate or approved equal, shall be hauled in and utilized and the rejected material hauled away. Snow shall be removed from the trench prior to backfill operations.

Backfill shall be conducted in a manner to prevent damage to the pipe or its coating and shall be kept as close to the pipe laying operation as possible.

All backfill around structures shall be consolidated by mechanical tamping.

Backfill material shall be compacted throughout the depth of the trench to at least ninety-five (95) percent, the maximum density obtainable using standard Proctor. The minimum moisture content shall not deviate above or below the standard optimum by more than two (2) percent.

If, in the opinion of the District Inspector, the trench shows signs of being improperly backfilled or if settlement occurs, the trenches shall be reopened to a depth required for proper compaction, refilled and recompacted in accordance with these specifications.

Compaction tests taken by an independent commercial laboratory shall be taken every two-hundred (200) feet or at the discretion of the District Inspector while construction is proceeding.

The District Inspector shall pick the location and depths at which compaction tests shall be taken. Compaction tests shall be taken at depths below finish subgrade ranging from one (1) foot above the top of bedding to one (1) foot below grade at an interval not exceeding two (2) feet. The District Inspector shall be present when each test is taken and the results shall be forwarded to the District. The applicant shall bear the cost of compaction tests.

4.16 Sanitary Sewer Line Exfiltration / Infiltration Test by Air

Each section of pipe between consecutive manholes shall be tested. Pressure-holding time is based on an average holding pressure of three (3) psi gauge or a drop from 3.5 psi to 2.5 psi gauge. Additional air must be added until internal air pressure of the sewer line is raised to approximately 4.0 psi gauge. After internal pressure of approximately 4.0 psi is obtained, allow time for air pressure to stabilize. Pressure will normally show some drop until temperature of air in test section stabilizes. When pressure has stabilized and is at or above starting test, pressure may be allowed to drop to 3.5 psi. Contractor must record the drop in pressure for the test period. If pressure has dropped more than 1.0 psi gauge during the test, the Service Line has failed. Test may be discontinued when prescribed test time has been completed even though 1.0 psi drop has not occurred. Reference: ASTM C828 "Low Pressure Air Test for Sanitary Sewer."

If the section of sewer to be tested is fully or partially submerged in groundwater at the time of the test, the test pressure shall be increased if necessary to overcome the actual static pressure exerted by the groundwater. If a test pressure greater than 8 psi results, air testing shall not be used, and exfiltration testing will be required.

The time elapsed shall not be less than the following:

Pipe Size (Inches)	Time (Minutes)
4	2 ½
6	4
8	5
10	6 ½
12	7 ½
15	9 ½
18	12
21	14
24	15 1/2

The District Inspector shall be notified in writing a minimum of one week prior to the date and time of the test. Test results shall be submitted to the District Inspector.

4.17 Sanitary Sewer Line Testing by Vacuum

A. Vacuum testing may be used in lieu of other specified test methods upon approval from the District.

B. Use extreme care and follow safety precautions during testing operations. Keep personnel out of and away from manholes during testing.

C. Where practical, clean pipe prior to testing and wet the pipe surface. Isolate test segment as necessary, including closing service connections.

D. Test Procedures:

1. Determine test time for size of pipe being tested using following Minimum Test Time Table.

2. Test time is time required for vacuum to drop from 3.5 to 2.5 psi.

Minimum Test Time Table

Nominal Pipe (Inches)	T (time) Minutes/100 ft. of pipe	Nominal Pipe (Inches)	T (time) Minutes/100 ft. of pipe
4	0.3	21	3.0
6	0.7	24	3.6
8	1.2	27	4.2
10	1.5	30	4.8
12	1.8	33	5.4
15	2.1	36	6.0
18	2.4		

3. Use a vacuum pump with capacity to evacuate sewer test section in time equal or less than that shown in Minimum Test Time Table for size of pipe being tested.
4. Evacuate air until internal air pressure of the sewer line is lowered by approximately 4.0 psi. Allow the air pressure to stabilize.
5. When air pressure is stabilized, near the starting test vacuum pressure of 3.5 psi, commence test by allowing gauge pressure to drop to 3.5 psi, then commence time recording. Record drop in vacuum pressure for test period.
6. If drop in vacuum is 1.0 psi or less during test period, test will be considered successfully passed.
7. If drop in vacuum is greater than 1.0 psi during test period, inspect, evaluate, repair, and retest.

4.18 Manhole Testing

All manholes shall be tested by a vacuum test. The District Inspector shall be present for all manhole testing. Test results shall be submitted to the District Inspector. The procedures to be followed for said tests are as follows:

A. Vacuum Test

1. Plug all inlets and outlets.
2. Install the vacuum tester head assembly on the manhole.
3. Attach the vacuum pump assembly to the proper connection on the test head assembly. Make sure the vacuum inlet/outlet valve is in the closed position.
4. Inflate the sealing element to twice the test pressure to be used. Do not over inflate.
5. Start the vacuum pump assembly engine and allow preset RPM's to stabilize.
6. Open the inlet/outlet ball valve and evacuate the manhole to 10” Hg. (mercury) which is equivalent to approximately 5 PSIG (0.3 bar) back pressure.

7. Close the vacuum inlet/outlet ball valve, disconnect the vacuum pump and monitor the vacuum for one (1) minute.
8. Allowable leakage: less than 1” Hg in one (1) minute.
9. Repair all manholes that do not meet leakage test and retest.

4.19 Video Inspection

A. After placement and compaction of the backfill, but prior to the placement of permanent surface materials, each section of the pipeline shall be videoed and video files shall be submitted within thirty (30) days to the District.

Prior to acceptance of any sanitary sewer line by the District, said line shall be inspected internally by video inspection as outlined below. Defects such as high and low spots, joint separations, offset joints, chipped ends, cracked or damaged pipe, infiltration points and debris in lines shall be corrected by the Contractor. For joint separations, low spots and chipped ends, the following maximum acceptable limits will apply:

Joint separations - none (Manufacturers Specification)
Low spots - none (near zero tolerance)
Chipped ends - none (zero tolerance)

B. The complete job is ready for video inspection when the following work has been completed.

1. All sewer pipelines are installed and backfilled.
2. All attributes are in place, all inverts are complete and pipelines are accessible from structures.
3. All other underground facilities, utility piping and conduits are installed.
4. Final street subgrading is completed.
5. Pipelines to be inspected have been preliminarily balled, flushed, and the deflection test completed for flexible sewer lines.
6. Final air test has been completed.

C. The District Inspector shall be present during all video inspection.

D. The Contractor shall provide the District the "original" of all video inspection on DVD in a format supported by Windows Media Player with an audio narrative of the inspection with all footages and locations noted on each tape. District reference manhole numbers and subdivision name shall accompany each DVD/submittal.

E. Mains shall be videoed with water introduced into the main at the direction of the District's Inspector. Video inspection shall occur with the direction of flow unless prior written approval has been given by the District's Inspector.

F. Submitted video inspection shall include:

1. The original DVD. Copies will be rejected.
2. The original cut sheets. Copies will be rejected.
3. Footage indicator.
4. Running Time.
5. Date.
6. Location.

7. Beginning and ending manhole numbers for each run.

G. Those portions of the pipeline system that have been corrected must be re-videoed.

SECTION 5 FINAL ACCEPTANCE

5.01 Requirements

The following items shall be required to be submitted to the District for approval prior to Final Acceptance. Once these items have been received, reviewed and approved by the District, Final Acceptance may occur.

A. Drawings of Record and GIS Information

B. All Record Drawings and GIS information shall be submitted to the District in accordance with Section 7.05.C.Easement Documents

   The District shall require easement documentation to demonstrate that the constructed sewer main has been field verified to be within the proposed easement. Additionally, the documentation shall also show the proposed easement meets the minimum requirements for main lines. The District shall require a Colorado Professional Land Surveyor stamped survey of the easement(s), including legal description and figure.

C. Conveyance Agreement

   The District's standard "Sewer Main Conveyance Agreement" form shall be completely filled out, notarized, and submitted to meet this requirement. Please refer to the document obtained from the District office.

D. Video Inspection

   A video inspection of all new facilities shall be performed and a video inspection submitted in accordance with Section 4.19.

E. Project Costs

   The Applicant/Engineer shall submit to the District a written statement of costs for the project. The intent of this statement is to show an accurate account of the value of the asset that the District is being asked to accept. Some type of document or documentation is required to substantiate the submitted costs.

F. Acceptance by Design Engineer

   The design engineer of record shall submit a letter to the District certifying that the project was constructed in accordance with the approved plans and specifications.

G. Test Results

   Evidence of all required test results, as outlined in these specifications, shall be submitted including compaction, concrete, pipeline exfiltration/infiltration and manhole testing.

H. Two (2) Year Construction Warranty

A letter from the Applicant/Owner providing the District a two (2) year Construction Warranty from the date of “Final Acceptance."

I. Board Motion

After all the required submittals have been reviewed and approved by the District, the applicant shall submit a request for final acceptance that will be reviewed by the District Board of Directors. Final acceptance of the project requires a Board motion.

BASALT SEWER PIPE BEDDING S-1 DWG

BASALT STANDARD MANHOLE S-2 DWG

BASALT SEWER SERVICE CONNECTION S-3 DWG

BASALT DROP-SHALLOW MANHOLE DETAIL S-4 DWG

BASALT SERVICE CONNECTION FOR LINED CLAY PIPE S-5 DWG

APPENDIX C
AGREEMENTS AND PERMITS

WASTEWATER FACILITIES CONVEYANCE AGREEMENT,
BILL OF SALE AND WARRANTY

For and in consideration of the covenants contained in that certain Line Extension Agreement (Agreement) dated _____, 20__ between the Basalt Sanitation District (District), PO Box 527, Basalt CO 81621 and _____, (Developer [or other shorthand name]) [insert address] , _____hereby dedicates, sells, assigns, conveys and transfers to the Basalt Sanitation District, the following personal property:

The wastewater facilities required to be constructed and dedicated to the District by the Agreement and shown on the as-built plans prepared by _____ [engineer] dated _____, 20__ (Job No. _____), a copy of which is attached hereto. [Attach an 11 X 17]

Developer dedicates and conveys such property free and clear of all liens and encumbrances, and will defend, indemnify and hold the District harmless against any claim to or against the property, including reasonable attorney fees and costs. Developer has full authority to assign and transfer the property herein conveyed.

Developer hereby warrants for the benefit of the District, for a two year period from the date of acceptance set forth below that the wastewater facilities have been constructed in a good and workmanlike manner and that the materials and facilities are free of defects. In the event it is necessary for the District to enforce this warranty, the District shall be awarded its reasonable attorney fees and costs if it substantially prevails in such action.

This Wastewater Facilities Conveyance Agreement, Bill of Sale and Warranty is executed pursuant to the terms and conditions of the Agreement referred to above.

Dated this __ day of _____, 20__.

Developer:_____

Acceptance: The District hereby accepts this conveyance, subject to the terms and conditions set forth herein and in the Agreement referred to above this __ day of _____, 20__.

Basalt Sanitation District

By: _____
Title: _____

APPLICATION FOR INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Business name _____

Facility address _____

_____

_____

Phone Number _____

Person completing application _____

1. List environmental control permits held by the facility

   _____

   _____

   _____

2. List SIC/NAICS numbers that apply to this facility _____

3. Number and type of employees _____

4. Hours of work or hours of operation of the facility _____

5. Times and durations of discharge _____

6. Include a diagram showing the location of the discharge points to the sanitary sewer system.

7. Include a description of activities, facilities and plant processes to be conducted on the premises, including each product to be produced by type, amount, process and rate of production, type and amount of principal raw materials and catalysts to be used and all materials which are or could be discharged.

8. List of people authorized to sign reports that are required by the Industrial Pretreatment Program.

Name	Title or Position

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations."

Signature	Title
Print name	Date

APPLICATION FOR INDUSTRIAL WASTEWATER DISCHARGE PERMIT RENEWAL

Business name _____

Facility address _____

_____

_____

Phone Number _____

Person completing application _____

1. List environmental control permits held by the facility

   _____

   _____

   _____

2. List SIC/NAICS numbers that apply to this facility _____

3. Number and type of employees _____

4. Hours of work or hours of operation of the facility _____

5. Times and durations of discharge _____

6. Have there been any changes in the facility lay out, plumbing or sewer connections that have not been reported to the Industrial Pretreatment Office?

   Yes No

   If yes, include all relevant site plans, floor plans, mechanical and plumbing plans and details to show all sewers, connections and appurtenances by size, location and elevation, including dual systems for handling sanitary and industrial wastewater when required.

7. Have there been any changes in manufacturing processes, chemical usage, wastewater treatment, wastewater facilities, or volume of wastewater discharge not previously reported to the Industrial Pretreatment Office?

   Yes No

   If yes, include a detailed description of these changes with this application.

8. Provide a description of the anticipated major changes to the operations or wastewater discharge from this facility that the new permit may need to address. Include information about discharge points for each new process. Provide estimates of monthly daily average and monthly daily maximum flows of the new discharges.

_____

_____

_____

_____

9. List of people authorized to sign reports that are required by the Industrial Pretreatment Program.

Name	Title or Position
_____	_____
_____	_____
_____	_____
_____	_____

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations."

_____ _____

Signature Title

_____ _____

Print name Date

APPENDIX D
DISTRICT BOUNDARY MAP

APPENDIX E
DISTRICT SERVICE AREA MAP

APPENDIX F
SUBMITTAL REQUIREMENTS

CALCULATIONS AND DOCUMENTATION

- ☐ Planning Study (if required)

  (Containing any design assumptions, calculations verify pipe velocity less than 10 fps and greater than 2 fps, pipe sizing calculations, wastewater flow generation calculations, head calculations, etc.)
- ☐ Provide written description of project (if planning study is not required).
- ☐ Technical specifications on all equipment and other items not covered in these Rules and Regulations with in the proposed design documents

  or
- ☐ Specific cut sheets and or product specific data on the any equipment or other item that are being called out in the proposed design documents not covered in these Rules and Regulations with in the proposed design documents
- ☐ Cost Reimbursement Agreement (Form provided by District)

GENERAL PLAN SET REQUIREMENTS

- ☐ Minimum Scale for 11"x17" drawing (minimum of 40 scale)
- ☐ Title Block
- ☐ Jurisdictional signature and approval block
- ☐ Stamped and Signed Registered Professional Engineer in the State of Colorado

SANITARY PLAN & PROFILE

General Items

- ☐ North arrow
- ☐ Bar scale matches plan (scale should be acceptable to jurisdictional standards)
- ☐ Legend (matches plan style and type)
- ☐ Match lines match referenced sheets
- ☐ References to other sheets match sheets referenced
- ☐ Boundary lines
- ☐ Street names labeled
- ☐ Adjacent sites labeled
- ☐ Show and label all utility crossing conflicts in plan and profile.
- ☐ Show pipe size, length, slope, and material, on profile
- ☐ Structure rim and floor elevations
- ☐ Are valve boxes clear of pan (min. 2 feet from lip to edge of lid)
- ☐ Label public vs. private lines
- ☐ Bedding class for pipe labeled on plan (verify jurisdictional requirements)
- ☐ Verify maintenance access provided
- ☐ Confirm that site features do not conflict with pipe layout (i.e. light poles, transformers, walls, manholes)
- ☐ Air release and vacuum valves are indicated.
- ☐ Thrust blocks and joint restraints at all bends and fittings are indicated
- ☐ Dimension between any parallel water lines shown

Plan View

- ☐ All existing and proposed surface features (buildings, walls, walks, curbs, etc.) shown
- ☐ Existing & proposed contours shown and labeled
- ☐ Existing and proposed utilities shown and labeled
- ☐ Benchmark/Bore Locations
- ☐ Build Notes
- ☐ Area with multiple fittings require blown up schematic of the area.
- ☐ Alignment deflections are to be called and degree of the deflection shown.
- ☐ North arrow with scale
- ☐ Control points, bench marks, and geotech bore holes
- ☐ Call outs for connection locations
- ☐ Call out for force main length
- ☐ Call outs for fittings, valves, hydrants, etc.
- ☐ Proposed water bolder than other proposed utilities
- ☐ Centerline of water profile with stationing shown and labeled (verify that it matches profile)
- ☐ Is line geometry labeled and constructible (coordinates or stations and offsets)
- ☐ Dimension to property line, flow line, and centerline (both existing and proposed water lines)
- ☐ Force Main elements (i.e., gate valves, tees, bends, etc.) labeled with designations and coordinates, stations and offsets.

- ☐ Utility easements shown and labeled
- ☐ Proposed connections to existing water labeled
- ☐ Service Line piping length, size, and type of material referenced
- ☐ Label ROW and widths
- ☐ Show structures to scale

Profile View

- ☐ Existing & proposed grade shown and labeled
- ☐ Horizontal/vertical scale shown
- ☐ Utility crossings shown and labeled correctly (less than 1.5 feet, encase sewer)
- ☐ Adequate cover over pipe
- ☐ Sanitary structures designation, station, rim, inverts, and size labeled
- ☐ Show pipe size, length, and slope
- ☐ Adequate cover over pipe
- ☐ Call outs for all service connections
- ☐ Call out for connection locations

FORCE MAIN PLAN & PROFILE

General Items

- ☐ North arrow
- ☐ Bar scale matches plan (scale should be acceptable to jurisdictional standards)
- ☐ Legend (matches plan style and type)
- ☐ Match lines match referenced sheets
- ☐ References to other sheets match sheets referenced
- ☐ Boundary lines
- ☐ Street names labeled
- ☐ Adjacent sites labeled
- ☐ Show and label all utility crossing conflicts in plan and profile.
- ☐ Show pipe size, length, and material, on profile
- ☐ Structure rim and floor elevations
- ☐ Are valve boxes clear of pan (min. 2 feet from lip to edge of lid)
- ☐ Label public vs. private lines
- ☐ Bedding class for pipe labeled on plan (verify jurisdictional requirements)
- ☐ Verify maintenance access provided
- ☐ Confirm that site features do not conflict with pipe layout (i.e., light poles, transformers, walls, manholes)
- ☐ Air release and vacuum valves are indicated.
- ☐ Thrust blocks and joint restraints at all bends and fittings are indicated
- ☐ Dimension between any parallel water lines shown

Plan View

- ☐ All existing and proposed surface features (buildings, walls, walks, curbs, etc.) shown
- ☐ Existing & proposed contours shown and labeled
- ☐ Existing and proposed utilities shown and labeled
- ☐ Benchmark/Bore Locations
- ☐ Build Notes
- ☐ Area with multiple fittings require blown up schematic of the area.
- ☐ Alignment deflections are to be called and degree of the deflection shown.
- ☐ North arrow with scale
- ☐ Control points, bench marks, and geotech bore holes
- ☐ Call outs for connection locations
- ☐ Call out for force main length
- ☐ Call outs for fittings, valves, hydrants, etc.
- ☐ Proposed water bolder than other proposed utilities
- ☐ Centerline of water profile with stationing shown and labeled (verify that it matches profile)
- ☐ Is line geometry labeled and constructible (coordinates or stations and offsets)
- ☐ Dimension to property line, flow line, and centerline (both existing and proposed water lines)
- ☐ Force Main elements (i.e. gate valves, tees, bends, etc.) labeled with designations and coordinates, stations and offsets.

- ☐ Utility easements shown and labeled
- ☐ Proposed connections to existing water labeled
- ☐ Service Line piping length, size, and type of material referenced
- ☐ Label ROW and widths

Profile View

- ☐ Existing & proposed grade shown and labeled
- ☐ Horizontal/vertical scale shown
- ☐ Force Main elements (gate valves, tees, bends, etc.) shown and labeled
- ☐ Utility crossings shown and labeled correctly (less than 1.5 feet, encase sewer)
- ☐ Adequate cover over pipe
- ☐ Utility crossing shown and labeled
- ☐ Label the force main minimum bury depth
- ☐ Label for force main pipe size and material if known
- ☐ Call out for connection locations
- ☐ Call outs for all service connections

LIFT STATION PLANS

Overall Plan

- ☐ North arrow
- ☐ Bar scale matches plan (scale should be acceptable to jurisdictional standards)
- ☐ Legend (matches plan style and type)
- ☐ Match lines match referenced sheets
- ☐ References to other sheets match sheets referenced
- ☐ Boundary lines
- ☐ Street names labeled
- ☐ Adjacent sites labeled
- ☐ Show and label all utility crossing conflicts in plan and profile.
- ☐ Show pipe size, length, and material, on profile
- ☐ Structure rim and floor elevations
- ☐ Are valve boxes clear of pan (min. 2 feet from lip to edge of lid)
- ☐ Label public vs. private lines
- ☐ Bedding class for pipe labeled on plan (verify jurisdictional requirements)
- ☐ Verify maintenance access provided
- ☐ Confirm that site features do not conflict with pipe layout (i.e., light poles, transformers, walls, manholes)
- ☐ Air release and vacuum valves are indicated.
- ☐ Thrust blocks and joint restraints at all bends and fittings are indicated
- ☐ Dimension between any parallel water lines shown

☐ **Proposed Grading Plan**

☐ **Piping Plan**

- ☐ Piping elements (i.e. gate valves, tees, bends, etc.) labeled with designations
- ☐ Cross Section(s)
- ☐ Structural Call outs
- ☐ Pipe Elevations are Labeled
- ☐ Concrete slab elevations are labeled
- ☐ Dimensions

☐ **Mechanical Plan(s)**

☐ **Electrical Plan(s)**

APPENDIX G
SAMPLE CALCULATIONS

EXAMPLE CALCULATION FOR GREASE TRAP DESIGN FOR POT WASHING SINKS:

Step 1 - Calculate the capacity of the sink in cubic inches (measurements for one compartment), and multiply by the number of compartments.

Assume you have a 23-inch (W) by 23-inch (L) by 12-inch (D) two compartment sink (sink 1).

Step 2 - Calculate the Volume of the sink:

$$Length \times Width \times depth = Volume$$

$$23 \times 23 \times 12 = 6{,}348\ in^3$$

$$Volume \times Number\ of\ Compartments = Total\ Volume$$

$$6{,}348 \times 2 = 12{,}696\ in^3$$

Step 3 - Convert the total volume from total cubic inches to flow rate in gallons per minute (gpm).

$$Total\ Volume/_{231} = Flow\ Rate\ (gpm)$$

$$12{,}696/_{231} = 54.9\ gpm\ \cong 55\ gpm$$

Step 4 - Adjust for displacement (displacement takes into consideration the actual usable capacity of the sink).

$$Flow\ Rate/_{0.75} = Adjusted\ Flow\ Rate\ (gpm)$$

$$55/_{0.75} = 73.3\ gpm\ \cong 73\ gpm$$

If draining multiple sinks into one grease trap:

Assume you have another 18-inch (W) by 18-inch (L) by 12-inch (D) (sink 2) two compartment sink and an 18-inch (W) by 18-inch (L) by 14-inch (D) (sink 3) one compartment sink will be connected to the same grease trap.

Determine the flow rate for each sink to be serviced by the grease trap using the same calculation as the single sink. Add together 100 percent of the largest flow rate, with 50 percent of the second largest sink's flow rate, and 25 percent of all other sinks draining into the common grease trap.

Step 5 - Calculate the flow rate for Sink 2:

$$18 \times 18 \times 12 = 3{,}888\ in^3$$

$$3{,}888 \times 2 = 7{,}776\ in^3$$
$$^{7{,}776}/_{231} = 33.7\ gpm\ \cong\ 34\ gpm$$
$$^{34}/_{0.75} = 45.3\ gpm\ \cong 45\ gpm$$

Step 6 - Calculate the flow rate of Sink 3:

$$18 \times 18 \times 14 = 4{,}536\ in^3$$
$$4{,}536 \times 2 = 4{,}536\ in^3$$
$$^{4{,}536}/_{231} = 19.6\ gpm\ \cong\ 20\ gpm$$
$$^{20}/_{0.75} = 26.7\ gpm\ \cong 27\ gpm$$

Calculate the flow rate to size a grease trap that will have more than one pot sink connection:

Step 7 - Determine the largest sink by total volume:

$$Sink\ 1\ > Sink\ 2\ > Sink\ 3$$

Step 8 - Calculate the flow rate for the grease trap based on the three sinks total volumes

$$(sink\ 1\ flow\ rate)(1.00) + (sink\ 2\ flow\ rate)(0.50) + (sink\ 3\ flow\ rate)(0.25) = Total\ Flow\ Rate$$

$$(73\ gpm)(1.00) + (45\ gpm)(0.50) + (27\ gpm)(0.25) = 102.25\ gpm\ \cong 102\ gpm$$

Gravity grease traps shall be designed and sized based on peak wastewater flow, in gallons per minute (GPM) and a minimum detention time of 30 minutes.

Step 9 – Calculate the minimum detention volume

$$Peak\ Flow\ (gpm) \times minimum\ detention\ time\ (minutes) =\ \ Volume\ (gallons)$$

$$102\ gpm\ \times 30\ mins\ = 3{,}060\ gallons$$

EXAMPLE CALCULATION FOR GREASE INTERCEPTORS:

Hydromechanical grease interceptors shall be designed and sized based on peak wastewater discharge.

Peak wastewater discharge shall be computed by using one of the follow methods:

1. Calculated peak discharge for gravity pipes shall be calculated by assuming full pipe flow and the designed slope; or

2. Calculated peak discharge can be from Drainage Fixture Units (DFU's) from the universal plumbing code and applying a peaking factor appropriate for the facility or based on pot washing sink volumes.

EXAMPLE CALCULATIONS FOR GREASE INTERCEPTORS FOR FOOD SERVICE OPERATION

Grease interceptors are designed and sized based on anticipated flow rates and organic load for maximum efficiency. Grease interceptors shall be sized to conform to the Uniform Plumbing Code. To calculate the size of a grease interceptor needed by a food service operation, refer to the following formula taken from Appendix H of the Uniform Plumbing Code:

For this example, assume we are building a fast food restaurant without dishwashing machine, one food waste disposers, and seating capacity of 60 patrons, that provides a 24-hour food service. Using the table found in Section 2.01.E of Appendix "B". (Dishwasher will have to connect to a separate grease trap).

Step 1 Determine Establishment Type: Fast Food – Meal Factor = 1.33 and the Seating Capacity = 60

Step 2 Calculate the number of meals per peak hour using the meal factor and seating capacity

$$60 \times 1.33 = 79.8$$

Step 3 Determine the Waste Flow Rate = 5 gallons

Step 4 Determine the Retention Time = 1.5 Hours

Step 5 Determine the Storage Factor = 3

Step 6 Calculate the interceptor size based on site specific information and the equation found in Section 2.01.E of Appendix "B".

No. of Meals per Peak Hour[1]	x	Waste Flow Rate[2]	x	Retention Time[3]	x	Storage Factor[4]	=	Interceptor Size (Liquid Capacity)

$$79.8 \times 5 \times 1.5 \times 3 = 1{,}795.5 \cong 1{,}796\ gallons$$

EXAMPLE CALCULATION FOR SAND/OIL INTERCEPTORS

For example, assume an industrial use requiring a sand/oil interceptor that would like to connect to the district's collection system. This industry has a total of 12 fixtures one (1) three- (3-) inch floor drain and trough drain that services three (3) bays with a total of 500 square feet and the average bay area is 200 square feet.

Step 1 Determine the number of fixtures

12 regular fixtures as stated in the example

Step 2 Determine the equivalent fixtures for the floor drains using the information for equivalent fixtures in found in Section 2.10 of Appendix "B".

1 – 3 inch floor drain

$$1\ (number\ of\ 3"\ floor\ drains)\ \times 6\ (fixtures\ units\ per\ drain) = 6\ fixtures$$

Step 3 Determine the equivalent fixtures for the trough drain.
Using the guidelines listed in Section 2.10 of Appendix "B".

Average bay square footage is = 200 sf

$$\frac{500\ sf\ (total\ area\ of\ bays)}{200\ sf\ (avg.bay\ area)} \times 6\ (fixtures\ per\ unit) = 15\ fixtures$$

Step 4 Determine the total number of equivalent fixtures.

$$12\ (fixtures) + 6\ (floor\ drain\ equivalent) +\ 15\ (trench\ drain\ equivalent) = 33\ fixtures$$

Step 5 Using the calculation found in Section 2.10 of Appendix "B" to determine the Interceptor size in gallons.

Fixture Units Connected	x	7.5 GPM	x	5 minutes	=	Interceptor Size (gallons)

$$33\ fixtures \times\ 7.5\ GPM\ \times 5\ mins =\cong ,238\ gallons$$