

## **ARTICLE 1 GENERAL**

**1-1 SCOPE:** These Rules and Regulations are promulgated pursuant to the authority granted in § 32-1-1001(1)(m), C.R.S., as a comprehensive body of regulations governing the operations of the District and shall supersede and have priority over any and all informal practices or policies of the District, whether in written form or otherwise.

**1-2 PURPOSE:** The purposes for which this District was organized are, subject to all rights, powers, rules, regulations and policies of the District:

**1-2-1** To construct, operate and maintain a domestic water distribution system and to provide potable water and, should the District Board of Directors so elect, nonpotable irrigation water, within the area of the District as may be economically feasible from dependable and reliable source or sources from time to time;

**1-2-2** To construct, operate and maintain a sanitary sewer system to collect, transmit, and treat wastewater within and from the area of the District to the Metro Wastewater Reclamation District (MWRD).

**1-3 SERVICES AND FACILITIES:** The services and facilities provided by the District consist of water mains and distribution lines and structures, sewer collection and transmission lines and structures, related equipment and fixtures, and appurtenances thereto, together with services necessary to the proper operation and maintenance thereof rendered to the District under contracts with other governmental entities and private consultants and contractors.

**1-4 AREA SERVED:** The area served and to be served by the District is the area included within the boundaries of the District as shown on the map thereof currently on file with the Board of County Commissioners of Arapahoe County, Colorado, with the Division of Local Government of the Department of Local Affairs of the State of Colorado except such portions thereof as to which the Board of Directors of the District may find it infeasible, impractical or undesirable for the good of the entire District to which to extend its lines and facilities. Nothing herein shall be construed to obligate the District to provide service if: a) water is unavailable; b) it would be cost prohibitive to provide the service; c) providing new service would interfere with existing service commitments; or d) providing service would be hazardous or detrimental to the District or its users.

**1-5 USAGE, TITLES AND CROSS REFERENCES:** All words and phrases shall be construed and understood according to the common and approved usage of the language, but technical words and phrases and such others as may have acquired a particular and appropriate meaning in the law shall be construed and understood according to such particular and appropriate meaning. The title of any heading in these Rules and Regulations shall not be deemed in any way to restrict, qualify, or limit the effect of the provisions set forth in the section or subsection set forth under each heading. Cross referencing is done for convenience only; the absence of same does not necessarily mean that no other section applies, and the presence of a cross-reference note is not necessarily exhaustive.

**1-6 AMENDMENTS; REPEAL; ADDITIONS:** These Rules and Regulations are revised and reenacted effective as of October 1, 2005. Additions and amendments to and repeals and reenactments of any of the provisions of these Rules and Regulations shall be made by Resolutions of the Board taking such action by specific reference to the Article, Part, Section, Subsection and Subsection number hereof. Upon the effective date of any such resolution, the District shall prepare new or reprinted pages incorporating herein the changes so enacted, and such new or reprinted pages shall be prima facie evidence of such action until such time as these Rules and Regulations, as subsequently amended, are readopted as a new set of Rules and Regulations.

**1-7 PRIOR OFFENSES; CONTRACTS NOT AFFECTED:** Nothing in these Rules and Regulations shall affect any offense or act committed or done, or any obligation, penalty or forfeiture incurred by any person, or any contract or right established or accruing before the effective date of these Rules and Regulations.

**1-8 SEVERABILITY:** Should any one or more sections or provisions of these Rules and Regulations be judicially determined in-valid or unenforceable, such judgment shall not affect, impair or invalidate the remaining provisions of these Rules and Regulations, the intention being that the various sections and provisions hereof are severable.

**1-9 CONNECTION TO OTHER SYSTEMS AND INCORPORATION OF STANDARDS BY REFERENCE:**

The District is responsible for the operation and maintenance of the Water System and the Sewer System in a sound and economical manner, in accordance with these Rules and Regulations. The Water System is connected to Denver Water Department conduits, through which water is conveyed to the District pursuant to the District's Distributor's Agreement, Contract #174, with Denver Water. The Sewer System is connected to a MWRD trunk line, through which wastewater is conveyed to the MWRD wastewater treatment facility. Wastewater treatment is provided by MWRD pursuant to the District's Special Connector's Agreement with MWRD. The terms and provisions of the District's Distributor Agreement with Denver Water, and the District's Special Connector's Agreement with MWRD, as now constituted or hereafter revised or amended, are hereby incorporated into these Rules and Regulations by reference, in all particulars, and made part hereof, to the extent that the provisions thereof have an impact or in any way affect the design, operation or specifications of the Water or Sewer Systems and these Rules and Regulations; provided, however, that no provision of the Denver Water Department or MWRD Rules and Regulations shall be, by reason of this referential incorporation, dispositive of any controversy between the District and the Denver Water Department or MWRD, or binding upon the District except in accordance with applicable law and existing valid contracts between the Denver Water Department and MWRD. In the event of a conflict or inconsistency between these Rules and Regulations and those hereby incorporated which cannot be resolved by interpretation, the District's Board of Directors, or its designee, shall have sole authority to resolve such conflict or inconsistency.

**1-10 DISTRICT SYSTEM:**

**1-10-1 Ownership** - The District exercises the responsibilities of full ownership of the existing District System and, in the future, may accept ownership responsibilities for only those additional facilities which have been formally conveyed to and accepted by the District in accordance with Article 6.

**1-10-2 Operation and Maintenance** - The District operates, maintains, repairs and replaces the District System. Such services include, without limitation, inspections of private premises, in addition to periodic, systematic inspection and maintenance of District facilities. (Cross reference: 9A-1 SERVICE LINES)

**1-10-3 Repair Shut-offs** - The District may, without notice and without liability to anyone, suspend service when necessary repairs to the District system require the same.

**1-10-4 Variations in Water Pressure** - Water pressure and water flow in a main may vary as part of normal operations of the Water System. The District provides no guarantee of pressure or ranges of pressure in the operation of its Water System. The District reserves the right at any time, without notice, to modify water pressure or shut off the water in a main as part of its operation, repair, replacement, modification and maintenance of the Water System. The District is not responsible or liable for damage resulting from pressure changes or stoppage of the flow of water through the Water System, and no person is entitled to damages or payment of refunds by reason of temporary or permanent pressure changes or stoppage of the flow of water through the Water System. The User is responsible for the purchase, plumbing and/or fire code compliance, location, installation, maintenance, operation and repair of any water pressure regulator assembly or pump serving the User's premises, if required.

**1-11 SERVICE OUTSIDE OF DISTRICT:** The District has no obligation whatever to provide any service outside of its legal boundaries. The Board may permit connection to the District System by persons or entities located outside the District's legal boundaries, or lease or contract to provide excess capacity in lines owned by the District, but such permits, leases or contracts shall be in writing and shall provide for limitation on connections to whatever extent may be necessary to enable the District to meet its primary obligations to provide service to the residents of the District. All such permits, leases or contracts shall be subject to the Rules and Regulations of the District and shall contain payment terms sufficient for the District to be fully reimbursed for the costs of furnishing service, with an additional amount to be determined by the Board. Permits, leases or contracts, at amounts less than the above minimum, may be made if warranted by economics, but an agreement providing for such lesser amounts shall not extend for more than one year or shall be revocable by the District. (Cross reference: 5-11 EXTRATERRITORIAL SERVICE)

**1-12 CONNECTION REQUIRED:**

**1-12-1 Requirement** - Unless exempted by the Board for good cause and in conformity with applicable statutes and regulations, all improvements within the District Boundaries requiring water service or wastewater disposal service may be required to be connected to the District System if District facilities are within 400 feet of the boundary of the parcel of property on which such improvements are located. Such connection shall be made within 60 days after written notice to the Property Owner by the District, and any existing private water system shall

be rendered inoperative, and any existing private wastewater disposal system, including but not limited to septic systems, vaults, tanks, grease traps, oil or sand traps or any other holding tank connected to wastewater disposal, shall thereupon be properly emptied, cleaned and filled with pea gravel.

**1-12-2 Exemptions** - During the construction of any improvements, temporary toilet facilities may be used in accordance with the regulations of the Tri-County Health Department or of the Colorado Department of Public Health and Environment (CDPHE), but as soon as such improvement is connected to District facilities, such use shall be abandoned and all evidence of such use properly covered or disposed of. Further, the Board may authorize a private wastewater disposal system upon approval by the Tri-County Health Department.

**1-12-2.1** Where water service to any parcel of land is considered by the District and the owner of said land not to be reasonably available at the time said landowner seeks water service from the District, said parcel of land may be served on a temporary basis with water from a well or wells to be constructed by the landowner at the landowner's expense, subject to the following limitations. Any such plan for an alternate supply of water must be approved by the District in writing which shall provide that, at such time as water is available, the landowner shall, on request by the District: (1) connect all of the property to the District's water system in accordance with these Rules and Regulations; and (2) consent irrevocably to the District's perpetual use of all water in the Denver, Arapahoe, and Laramie-Fox Hills aquifers, and any other aquifer or aquifers that may be hereafter discovered, underlying said parcel of land.

**1-13 DUTY TO REPORT:** Any person (1) who damages or alters any District facility; or (2) who causes or permits any foreign materials to enter the District System; or (3) who causes any obstruction in the flow of water or wastewater in any District facility, and any person who discovers, observes, or has reasonable cause to believe that any of the foregoing has occurred, shall immediately report the same to the District. (Cross reference: 3-7-12 Failure to Report; 8-1-17 False Official Statement; Report)

**1-14 NOTICE OF EXCAVATIONS:** Except in "Emergency Situations" as defined herein, any person who excavates in any area where district facilities are located shall give written, personal or telephone notice of the date, extent, and duration of such excavation to the District at least two business days prior to the commencement of the work, not including the day of actual notice, and shall, in addition, notify the Utility Notification Center of Colorado (UNCC) to locate district facilities. If the exact location of district facilities is not verifiable based upon the district's records, the District will mark the surface or otherwise indicate the possible location based upon its best estimate of the location of the facilities. Any person proceeding to excavate after having received notice from the District that the District cannot make an accurate location must exercise due caution and care to prevent damaging any underground facility. Such due caution and care includes but is not necessarily limited to "Potholing" to a depth two (2) feet deeper than the maximum depth of the intended excavation to determine whether any underground facilities are present. For purposes of this §1-13, "Emergency Situations" include ruptures and sudden leakage of pipelines, explosions, fires, and similar instances where immediate action is necessary to prevent loss of life or significant damage to property, including but not limited to

underground facilities, and advance notice of proposed excavation is impracticable under the circumstances. Any person performing emergency excavation shall take such precautions as are reasonable under the circumstances to avoid damage to underground facilities, and shall notify the District of such excavation as soon as possible, and shall comply with all additional notice requirements as provided by law. (Cross reference: 3-7-19 Failure to Give Notice; 9B-1-4 Subsurface Structures; §9-1.5-102(2), 103(3),(4)(c)(II)(B), and (5), C.R.S.)

**1-15 NO DAMAGES FOR FAILURE TO ENFORCE:** The purpose of these Rules and Regulations is to establish an operating framework for the District and its users and connectors, for the exclusive benefit of the District. Nothing herein shall create any right to damages against the District, its Directors, officers, agents or employees for the District's failure to enforce these Rules and Regulations.

## **ARTICLE 2 DEFINITIONS**

As used in these Rules and Regulations, unless the context clearly indicates otherwise, the words defined below shall have the respective meanings set forth for them:

**2-1 ABANDON**: To discontinue the use of any connection with the District System in such a manner or in such circumstances as to permit the reasonable inference that such connection is no longer needed or desired, such as the destruction and non-replacement of improvements to which a service line had been connected.

**2-2 ACTUAL COSTS**: All direct and indirect costs attributable to any project or undertaking. Actual costs to the District include its engineering, legal, labor, material, equipment, administrative and overhead expenses, and all direct payments to third parties, at cost.

**2-3 BOARD or BOARD OF DIRECTORS**: The duly constituted Board of Directors of the District.

**2-4 CONSTRUCTION OBSERVATION FEES**: Fees assessed for time expended by the District Engineer or other agent of the District in observing the construction of new or repaired elements of the District System, including but not limited to main extensions.

**2-5 CONTRACTOR**: Any person who performs any work, either for himself or another, on any water or sewer facilities, public or private, within the District, including all subcontractors, agents, employees, officers and other representatives of such person.

**2-6 DENVER WATER or DENVER WATER DEPARTMENT**: The City and County of Denver, acting by and through its Board of Water Commissioners.

**2-7 DISTRICT**: Cherry Creek Valley Water and Sanitation District, Arapahoe County, Colorado, and its manager, authorized employees, agents, officers, directors, insurers, and professional consultants.

**2-8 DISTRICT ENGINEER**: Licensed engineer who has contracted to do engineering work and consultation for the District.

**2-9 DISTRICT SYSTEM**: All facilities, systems and assets owned or directly controlled by the District. As used herein, the term includes both water and sewer systems unless otherwise specified. Service lines and privately owned lift stations are not part of the District System.

**2-10 FOREIGN MATERIALS**: Objects or substances not regularly, ordinarily and customarily transmitted by sanitary sewer facilities.

**2-11 GROUNDWATER**: Water below the surface of the earth, from whatever source; including underground streams and percolating water.

**2-12 INCLUSION FEE**: A fee charged for adding property to the District's service area whether or not such property is located within or outside of the existing exterior boundary of the District.

**2-13 INDUSTRIAL WASTES**: The combination of liquid and water-carried waste discharged from any industrial processes, including the wastewater from pre-treatment facilities and polluted cooling water, as distinct from residential and commercial wastewater. Any waste, the discharge of which requires a permit under the regulations of either the Environmental Protection Agency or the Colorado Department of Public Health and Environment.

**2-14 INSPECTION FEES:** Fees to offset costs and expenses incurred by the District for the inspection of new elements or appurtenances of the District System or related earthwork, materials, equipment or facilities, when the District is not itself contracting for the construction. The term “inspection” for purposes of this section does not include construction observation.

**2-15 LICENSED CONTRACTOR:** Any person or commercial entity authorized by the District to perform work and to furnish materials within the District on the basis of a determination by the Board upon recommendation of the District’s Engineer and/or manager that that person’s or entity’s references and record of prior performance justify such authorization. Payment to the District of an annual license fee is a requirement.

**2-16 MAIN:** Any pipe and appurtenant facility of the District System used for carrying water (water main) or wastewater (sewer main).

**2-17 MAIN EXTENSION:** The construction of any main, or the main itself, which is intended to become a part of the District System upon acceptance by the District in accordance with Article 6.

**2-18 MANAGER:** Person employed by the District to act in a managerial capacity, or his/her duly authorized deputies.

**2-18.5 MASTER WATER METER:** In submetering arrangements, the Water Meter upstream from the distribution point at which water is diverted to individual units within a building. The Master Water Meter must be in the name of a home owners’ association or other single Property Owner legally responsible for payment of the water service charges based on the flows measured at the Master Water Meter.

**2-19 MDSDD#1:** Metropolitan Denver Sewage Disposal District #1, former name of Metro Wastewater Reclamation District (“MWRD”).

**2-20 METER TESTING FEES:** Fees assessed for testing a Water Meter for accuracy. Meter testing fees are assessed only when such test, performed at the request of a Property Owner, determines that the Water Meter is accurate.

**2-21 MWRD:** Metro Wastewater Reclamation District, the entity that operates the Publicly Owned Treatment Works (POTW) that provides wastewater treatment and disposal services for the District.

**2-22 PERMITTED PREMISES:** The land area and improvements thereto to which water or sewer service is limited under any particular Tap Permit.

**2-23 PERSON:** Associations, corporations, firms, partnerships and bodies politic and corporate, as well as individuals.

**2-24 PLAN REVIEW FEES:** Fees assessed for time expended by the District engineer or manager for or in connection with the review of plans for proposed construction of new elements of the District System, including but not limited to plan review and tap size calculations for new water service lines and new sewer service lines, review of easements, and updating District maps to record new facilities and easements.

**2-25 PRIVATE SYSTEM:** Any and all water or sewer lines, facilities and appurtenances for distribution of water to more than one building through a common water main or mains that connect to the District Water System, or for the collection of wastewater discharge from more than one building to a common sewer main or mains that connect to the District Sewer System, but which water or sewer lines, facilities and appurtenances have not been

accepted for ownership and maintenance by the District and are not part of the District System. In the case of a private water system, such private system includes all lines, facilities and appurtenances downstream from and including the saddle fitting if any and corporate stop, or other fitting on the District's water main. In the case of a private sewer system, such private system includes all lines, facilities and appurtenances upstream from and including the "tee" fitting, saddle fitting, or other fitting on the District's main or any fitting within a manhole.

**2-26 PROPERTY OWNER:** Any person who, solely or with others, owns real property within the District. When property is owned by more than one person, the term includes all owners thereof. As used in these Rules and Regulations, the term shall apply to such person only in connection with his ownership of any specific parcel of real property involved in any specific matter governed by these Rules and Regulations. In Article 6, MAIN EXTENSIONS AND OTHER SYSTEM IMPROVEMENTS, the owner of any System Improvement as defined therein and appurtenant facilities is designated "Developer."

**2-27 RECORD DRAWINGS:** Representations of installation based on information available from construction observation, measurements, and construction contract requirements. The District does not warrant the accuracy of record drawings in its possession.

**2-28 RULES AND REGULATIONS:** These Rules and Regulations, as amended from time to time by the Board of Directors.

**2-29 SANITARY WASTEWATER:** The combination of liquid and water-carried wastes discharged from toilet and other sanitary plumbing facilities.

**2-30 SERVICE:** The provision of water or sewer service by the District to a property.

**2-31 SERVICE LINES AND FIRE LINES:** Any pipe, system of piping, and appurtenances intended or used as a conduit between a connection to the District System and a residential, commercial or industrial improvement. Service Lines and Fire Lines are owned by, and are the sole responsibility of, the Property Owner.

**2-31-1 SEWER SERVICE LINES** - Any sewer lines or portions thereof located upstream from and including the point of connection to the District's Sewer Main such as a Tee or saddle fitting, if any, on the District's Sewer Main, or the Tee or other connection within a manhole, intended or used to convey wastewater from Permitted Premises to the District Sewer System.

**2-31-2 WATER SERVICE LINES AND FIRE LINES** - All pipe, fittings, and appurtenances, including the Water Meter, which convey water from the District water main intended or used to serve water to the Permitted Premises from the District Water System.

**2-32 SEWAGE:** See Section 2-48, Wastewater.

**2-33 SEWER/SEWER SYSTEM:** All facilities and works owned by the District for collecting, pumping, and transmitting wastewater. See Section 2-8, District System.

**2-34 SFE:** Single Family Equivalent. This term is used to describe the basic unit of measurement for service availability fee or Tap Fee determination and refers to the number of gallons per day typically discharged from a single-family residence. Each residential unit within a multi-family residential structure is classified as a single-family unit, and therefore represents one SFE. Tap Fees for commercial and industrial buildings and improvements are based on the number of SFEs represented by the anticipated flows. Anticipated flows are determined by water meter sizing.



**2-35 SPECIAL SERVICE FEES:** Fees imposed by the District for providing temporary water or sewer services or extraordinary services for which it is inappropriate to charge the usual residential or commercial System Development Fees and Services Charges.

**2-35.5 SUBMETER:** A Water Meter measuring the flows to an individual unit within a multi-occupant residential or commercial building, which has a Master Water Meter.

**2-36 SUBSURFACE STRUCTURES:** Any and all pipe, cable, conduits, wires, portions of buildings, drainage facilities and any and all other man-made things of any kind or nature, all or some part or portion of which is located below the surface of the ground.

**2-37 SURFACE WATER:** Water from rain, springs, melting snow, sprinkling systems, lakes, ponds, streams or any other source which lies upon or above the surface of the ground, whether or not in a defined location, course, or channel, and including water on and/or flowing from the roof or any part of any building or structure.

**2-38 SWIMMING POOL DISCHARGE:** Filter backwash effluent from any swimming pool conveyed to the District Sewer System. The District does not permit the pool drain to be connected to the District System, or pool water, except for the filter backwash effluent, to enter the District System.

**2-39 SWIMMING POOL PERMIT:** Written permission granted by the District for connecting, and discharging the effluent from, a swimming pool filter backwash system into the District sewer system.

**2-40 SWIMMING POOL PERMIT FEE:** An annual fee imposed by the District for discharging swimming pool filter backwash effluent into the District sewer system.

**2-41 TAP or SERVICE CONNECTION:** The physical connection to a District main which, together with the Tap Permit for same, effects water or sewer service to any permitted premises, or water for irrigation.

**2-42 TAP FEE or SYSTEM DEVELOPMENT FEE:** A fee imposed by the District as a prerequisite for connecting to the District water system or sewer system. This fee is based upon the total availability of services provided by the District and is not limited to or a reflection of costs incurred in simply making the connection to the District System.

**2-43 TAP PERMIT:** The written authority to make a Tap for water or sewer service to Permitted Premises from the District System.

**2-44 TECHNICAL STANDARDS AND SPECIFICATIONS:** The provisions of the Part C of Article 9 of these Rules and Regulations, which prescribe the minimum technical standards and related operating rules for the design, installation, construction, and maintenance of all District facilities, and of all private facilities and appurtenances that connect to the District water system or sewer system, directly or indirectly.

**2-45 TURN-OFF/TURN-ON FEES:** Fees assessed for turning water services on or off.

**2-46 UNAUTHORIZED TAP OR SERVICE CONNECTION:** Any tap which is made without having obtained a Tap Permit.

**2-47 USER:** Any person who receives water service from the District or who discharges or causes the discharge of wastewater to the District System.

**2-48 WASTEWATER:** The combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants and institutions.

**2-49 WATER METER:** A device prescribed by the District to measure the amount of water passing from the District Water System through the Property Owner's Water Service Line. The Water Meter is owned by, and is the sole responsibility of, the Property Owner. When individual units of a multiple-unit residential or commercial building are submetered, the District will read only the master meter for such building, and the District service charges will be invoiced to the building as a whole. If such building is in condominium ownership or other multiple-owner arrangement, it is the responsibility of the owners to establish and authorize a single Property Owner for purposes of District billing and service records.

**2-50 WATER SYSTEM:** All facilities and works owned by the District and used for collecting, pumping, treating and delivering water.

**2-50-1 POTABLE WATER SYSTEM** - All facilities owned by the District and used for developing, collecting, storing, pumping, treating and delivering water suitable for human consumption.

**2-50-2 NON-POTABLE WATER SYSTEM** - All facilities owned by the District and used for developing, collecting, storing, pumping, treating and delivering water that is not suitable for human consumption or domestic use, but is intended for such uses as irrigation and landscape amenities.

## **ARTICLE 3 ENFORCEMENT AND ADMINISTRATION**

**3-1 DISTRICT AGENTS AND REPRESENTATIVES:** The District Manager and any other employee of the District designated by the District Manager, the District's Consulting Engineer, each member of the Board of Directors of the District, and any agent of the District designated by the Board, shall have full authority to act for and on behalf of the District in any matter affecting the administration or enforcement of these Rules and Regulations.

**3-2 CONCURRENT JURISDICTION:** District personnel are hereby authorized and empowered to enforce any and all applicable provisions of Denver Water and MWRD, and any lawful order or direction of either within the area of the District with the same force and effect as if such provision or order were set forth verbatim in these Rules and Regulations or issued by the District. Likewise, duly accredited personnel of Denver Water and MWRD are hereby authorized and empowered to enforce such provisions or orders within the area of the District with the same force and effect as District Personnel.

**3-3 RIGHT OF ENTRY FOR INSPECTIONS AND EMERGENCY CORRECTIVE MEASURES:** Duly authorized representatives of the District bearing proper credentials and identification shall be permitted to enter upon all property at reasonable times for the purpose of inspecting, observing, measuring, sampling, and testing, or to effect any emergency maintenance, repairs or corrective procedures, in connection with the enforcement and administration of these Rules and Regulations. This does not impose any obligation upon the District to affect any maintenance, repair or correction procedure. To the extent practicable, District representatives will give notice to the occupant of any commercial or private residential premises prior to entry. (See Section 18-8-106, C.R.S.).

**3-4 SUSPENSION OR TERMINATION OF SERVICE:** In addition to and without waiving any other available remedy, the District shall have and may exercise the right to suspend or terminate service to any property where a violation of these Rules and Regulations has occurred.

**3-4-1 IMMEDIATE SUSPENSION/TERMINATION** - The District may terminate service immediately and without notice upon revocation of any Tap or Discharge Permit, or suspend service when such suspension is necessary in order to stop or prevent an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons or to the environment, or causes interference or damage to District, Denver Water, or MWRD facilities, or causes the MWRD Treatment Plant to violate any condition of its National Pollutant Discharge Elimination System (NPDES) permit. In the absence of such emergency circumstances, the District will provide notice and an opportunity to be heard prior to suspension or termination of service.

### **3-4-2 NOTICE OF OPPORTUNITY FOR HEARING**

**3-4-2.1** The District's billing statements contain the notice that services are subject to suspension or termination if payment becomes over thirty (30) days delinquent. When any fees or charges imposed under these Rules and Regulations have become delinquent, or any private sewer facilities in the District, or any use being made of private or District water or sewer facilities, are not in conformity with these Rules and Regulations, any permit or approved plans, or any applicable agreement or contract, the District may, at its sole option, mail or deliver to the owner of the property where or as to which the deficiency occurs, at the service address or a known current mailing address for the Property Owner of the affected

property, or affix to the main entry door of the affected property, a notice advising the Property Owner and/or anyone acting on his/her behalf, of the deficiency, and that water and/or sewer service to the property will be suspended or terminated on account of such deficiency on a date not less than thirty (30) days from the date of the notice (the shut-off date) unless the stated deficiency is sooner cured.

**3-4-2.2** Upon written request to the District, the Property Owner receiving such notice has the right to a hearing concerning the deficiency. The request for a hearing shall not delay or postpone the shut-off date. If the Property Owner does not cure the stated deficiency or request a hearing within the time provided, the District shall order the service to be suspended or terminated on the shut-off date.

**3-4-2.3** If the Property Owner makes written request for hearing, the District shall schedule and hold such hearing, at which the Property Owner may be represented by counsel at the Property Owner's expense, to be held before an impartial hearing officer appointed by the Board. The hearing officer shall issue a decision within a reasonable time and shall state the reasons supporting his/her decision. If the hearing officer finds that the deficiency does not exist, or has been cured, he/she shall order services reinstated at once. At the time of his/her appointment, such hearing officer shall be instructed, in writing, that total impartiality is a condition of the appointment, notwithstanding that his/her compensation, if any, will be paid by the District.

**3-4-3 EXECUTION OF ORDER** - Any person notified of a suspension or termination of sewer service shall immediately stop or discontinue the discharge of any and all wastewater from the property affected by such order. A suspension or termination of water service shall be executed by turning off the service. The District may take such steps as deemed necessary, including immediate severance or blockage of the connection, in order to enforce the suspension or termination order. (Cross reference: 3-7-16 Violation of Suspension/Termination Order)

**3-4-4 REINSTATEMENT OF SUSPENDED SERVICE** - Any suspension order shall be rescinded by the District upon a determination that the deficiency forming the basis for such suspension order has been cured and that no further or other non-conforming conditions or uses of the District system are evident on the property affected by the suspension order. The District shall not reinstate service until the person requesting reinstatement has paid the full amount of any applicable disconnection charge and the District's reasonable estimate of any applicable Reconnection Charge imposed under Section 7-13, and any and all other amounts then due to the District from such person.

**3-4-5 GROUNDS FOR TERMINATION; EFFECT** - Service shall be terminated and not merely suspended if (1) the Tap or Discharge Permit therefore is revoked; or (2) the connection providing such service was not authorized when made; or (3) the service was suspended at least two times within the preceding five years. Any service terminated under this Section 3-4 may not be reinstated. The Property Owner of any property for which service has been terminated may apply for new service for such property as provided in Article 5.

### **3-5 CURE OF VIOLATIONS:**

**3-5-1 ORDER TO CURE** - If the District determines that any sewer facilities are not in conformity with these Rules and Regulations or that the terms of any easement or other agreement between the District and a Property Owner are being violated, it may give written notice thereof to the Property Owner at the service address or any other address for such person known to the District. Such notice shall specify the non-conformity, direct the Property Owner at Property Owner's sole cost and subject to Parts B and C, Article 9, to perform specified curative work, and specify the period of time determined by the District to be reasonably necessary for completion of the curative work.

**3-5-2 DISTRICT CURE AT OWNER COST** - If the Property Owner fails within the specified time following such notice to cure the non-conformity stated therein, the District may, in addition to and without waiving any other remedy, perform the work and charge the Property Owner for the District's actual costs incurred in connection therewith. Those provisions of Article 7 applicable to invoicing and collection of fees and charges shall apply to any charges assessed to the Property Owner under this Section. (Cross reference: 7-14 CURE CHARGES; 7-18 WITHHOLDING APPROVALS, ACCEPTANCES AND PERMITS)

**3-6 APPEALS**: Any orders, directives or decisions of the District relating to the administration or enforcement of these Rules and Regulations may be appealed, in writing, to the Board of Directors, within ten (10) days of the effective date of the order, directive or decision.

**3-7 PENALTY CHARGES**: For the purposes of defraying the District's costs and expenses incurred in discovering, investigating, curing, and repairing the consequences of violations of applicable requirements, and in order to deter persons from committing such violations, there is hereby imposed upon any person whom the Board finds and determines causes, or attempts to cause, or who permits, solicits, aids or abets any other person to cause or attempt to cause, by act or omission, any of the violations set forth below the following penalty charges:

**3-7-1 UNAUTHORIZED CONNECTION** - For any connection made to the District System without a proper Tap Permit therefor: an amount equal to twice the System Development Fee for the size of such connection, as established by Section 7-2 below, in addition to any System Development Fee imposed or paid pursuant to said Section for the connection when made in conformity with these Rules and Regulations. (Cross reference: 5-1 PERMIT REQUIRED; 5-5 MULTIPLE USE OF TAP PROHIBITED; 8-1-4 Unauthorized Connection)

**3-7-2 UNAUTHORIZED USE or DISCHARGE** - For discharging or otherwise putting wastewater into the District System without proper District authorization therefor or introducing any foreign materials or wastewater into the District System in violation of any provision of these Rules and Regulations, other than by the means described in Section 3-7-1 above: \$5,000.00. (Cross reference: 5-7-2 Increased Volume Permits; 8-1-5 Unauthorized Discharge; 8-1-10 Foreign Materials)

**3-7-3 INTERCEPTOR VIOLATIONS** - For bypassing, failure to have, failure to use, or failure to maintain to District standards any fats, oil, grease or sand/sediment interceptor: \$1,000.00.  
(Cross reference: 9A-3 INTERCEPTORS)

**3-7-4 SWIMMING POOL DISCHARGE VIOLATIONS** - For failure to obtain or comply with the terms of a swimming pool discharge permit: \$1,000.00. (Cross reference: 9A-4-1 Permit Required)

**3-7-5 INTERFERENCE; FAILURE TO PERMIT INSPECTION** - For interfering with the employees or agents of the District in the performance of their duties or refusing to permit District employees or agents to inspect the premises, despite reasonable advisement of the need and reason for such inspection: \$1,000.00. (Cross reference: 3-3 RIGHT OF ENTRY FOR INSPECTION AND EMERGENCY CORRECTIVE MEASURES; 8-1-13 Interference)

**3-7-6 PROHIBITED DRAINS** - For connecting a prohibited drain to the District System: \$1,000.00.  
(Cross reference: 9A-8 CERTAIN DRAINS PROHIBITED)

**3-7-8 EASEMENT VIOLATIONS** - For placing any prohibited plant or structure within the boundaries of any District right-of-way or easement, in violation of 8-1-12: \$1,000.00.  
(Cross reference: 8-1-12 Right-of-Way/Easement Violations)

**3-7-9 UNAUTHORIZED ENTRY** - For opening any manhole or entering any portion of the District System without authorization: \$1,000.00. (Cross reference: 8-1-9 Unauthorized Entry)

**3-7-10 INFILTRATION; INFLOW; INTRUSION** - For permitting root intrusion, or infiltration/inflow of storm runoff, groundwater, or water or liquid from any source to enter the District Sewer System by any means other than the service tap: \$1,000.00. (Cross reference: 9A-1-2 Maintenance)

**3-7-11 ESCAPE OF WATER OR WASTEWATER** - For permitting wastewater to escape from the District System: \$1,000.00. (Cross reference: 8-1-6 Escape of Wastewater)

**3-7-12 FAILURE TO REPORT** - For failing to report damage to or alteration of any District facility, or any foreign materials or obstruction in the flow of wastewater in any District facility: \$1,000.00. (Cross reference: 1-13 DUTY TO REPORT)

**3-7-13 FAILURE TO NOTIFY OF USE CHANGES** - . For failure to notify the District of any use change resulting in need for grease or sand interceptor, Swimming Pool Permit, or Increased Volume Permit: \$1,000.00  
(Cross reference: 9A-11 CHANGES IN USE, EQUIPMENT OR SERVICE)

**3-7-14 VIOLATION OF STOP WORK ORDER** - For performing or continuing to perform any work in violation of a Stop Work Order: \$1,000.00. (Cross reference: 9B-3 STOP WORK ORDERS)

**3-7-15 FAILURE TO PROVIDE RECORD DRAWINGS** - For failure to furnish record drawings of Taps as installed and any completed work that is accepted as part of the District System: \$1,000.00.

(Cross reference: 5-6-2 Record Drawing)

**3-7-16 VIOLATION of SUSPENSION/TERMINATION ORDER** - For failure to stop or eliminate the discharge of wastewater from property in violation of an Order suspending or terminating service to such property: \$2,000.00. (Cross reference: 3-4-3 Execution of Order)

**3-7-17 FALSE OFFICIAL STATEMENT** - For making or filing with the District any statement, report or application which the person making or filing same knows or has reasonable cause to know is false or substantially inaccurate or omitting any material fact in connection with such statement, report or application when the omission thereof leaves the remainder of the information given misleading or substantially inaccurate: \$1,000.00.

(Cross reference: 1-13 DUTY TO REPORT; 5-2-1 Approval Standards; 5-2-3 Revocation; 5-7-2 Increased Volume Permits; 5-10-1 Permit Required; 6-8-1.2 (4) Grantor Requirements; 6-10-1.3(1) Property Owner and/or Property Owner Requirements; 8-1-15 False Official Statement; Report; 9A-10 CHANGES IN USE, EQUIPMENT OR SERVICE)

**3-7-18 FAILURE TO USE METER** - For failure to use water meter when required to do so: \$1,000.00. (Cross reference: 8-1-20 Failure to Use Meter; 9A-2 WATER METERS)

**3-7-19 FAILURE TO GIVE NOTICE OF EXCAVATIONS** - For failure to give notice of excavation in any area where District facilities are located: \$1,000.00. (Cross reference: 1-13 NOTICE OF EXCAVATIONS)

**3-7-20 JEOPARDIZING PURITY OF WATER** - For failure to prevent any fluid or other substance from entering the District Water System: \$1,000.00.

**3-7-21 UNAUTHORIZED CONNECTION OF TWO OR MORE TAPS** - For joining two or more taps without the express authorization of the District, including but not limited to interconnections and manifolding: an amount equal to twice the Tap Fee for the size of such connection, as established by Section 7-2 below, in addition to any Tap Fee imposed or paid pursuant to said Section for the connection when made in conformity with these Rules and Regulations. (Cross reference: 5-1 PERMIT REQUIRED; APPLICATION; 5-4 NON-TRANSFERABILITY OF TAP PERMIT OR TAP FEE; 5-5 MULTIPLE USE OF TAP PROHIBITED; 8-1-21 Unauthorized Joining of Two or More Taps; 9A-1 SERVICE LINES)

**3-7-22 UNAUTHORIZED USE or IMPROPER EQUIPMENT USED FOR SPECIAL WATER SERVICE FROM FIRE HYDRANTS** - Failure to notify the District of hydrant use or failure to use proper equipment when obtaining water from a fire hydrant: \$1,000.00. (Cross reference: 9A-12-2 SPECIAL WATER SERVICE THROUGH FIRE HYDRANTS)

**3-8 PROPERTY OWNER RESPONSIBLE**: For the purposes of this Article, it shall be presumed that the Property Owner of property served by the District where or upon which a violation of these Rules and Regulations exists, or the owner of property which directly benefits from such violation, is the person who caused or permitted the same to occur, provided, however, that such presumption shall not limit the District's authority to impose penalties or seek damages against other parties, either in place of the Property Owner or in addition thereto, who violate any provisions of these Rules and Regulations including this Article 3, at the District's sole discretion.

**3-9 SEPARATE VIOLATIONS**: After notice to correct any violation, a separate and distinct violation shall be deemed committed upon each day or portion of thereof that any such violation shall occur or continue. Those provisions of Article 7 applicable to invoicing and collection of fees and charges shall apply to any and all charges imposed under Section 3-7.

**3-10 CIVIL DAMAGES**: In addition to and without waiving any other available remedy, the District may recover civil damages from any person liable under the laws of the United States or the State of Colorado to the District as a result of any violation of these Rules and Regulations or other unlawful act or omission. Such damages shall include the District's actual costs of discovering, investigating, curing, mitigating and repairing the consequences of such violation or other unlawful acts or omissions.

**3-11 INJUNCTIVE RELIEF:** In addition to and without waiving any other available remedy, the District may seek injunctive relief from any act or omission which violates these Rules and Regulations, or which otherwise jeopardizes the property or health of any person, including the District.

**3-12 REMEDIES CUMULATIVE:** The remedies available to the District under these Rules and Regulations and under the laws of the State of Colorado shall be deemed cumulative, and the utilization by the District of any single such remedy or combination thereof shall not preclude the District from utilizing any other remedy or combination thereof.

**3-13 WHEN PROPERTY OWNER LIABLE FOR EXCAVATION AND REPAIR:** If any person reports a backup in a Service Line and attributes same to a blockage or other condition of District facilities, and the District cannot, by other reasonable means, determine the accuracy of such claim, the District facilities will be excavated and inspected. Then, if it is determined that the Service Line backup was not caused by a blockage or other condition of the District facilities, the Property Owner shall be obligated to the District for the costs of such excavation, inspection and related expenses. If, as a part of such excavation and inspection, the Service Line is repaired, the Property Owner shall reimburse the District for all costs of such repair, in addition to the excavation and inspection charges, provided that the Property Owner is given prior notice of such repair. Nothing herein shall obligate the District to repair any Service Line.

## **ARTICLE 4 INCLUSIONS**

**4-1 REQUIRED SUBMITTALS:** Any Property Owner who desires to include his/her property within the District's boundaries shall submit the following to the District:

**4-1-1 PETITION** - A written petition stating that assent to the inclusion is given by the fee owner or owners of the property proposed for inclusion and signed by each such owner exactly as his/her name appears on the instrument by which he/she took title to the property. The signatures of all petitioners must be acknowledged in the same manner as provided by Colorado law for acknowledgments on instruments conveying real property.

**4-1-2 LEGAL DESCRIPTION AND SURVEY DRAWING** - A printed legal description of the property proposed for inclusion, and a survey drawing showing the property's exact location, its location in relation to the boundaries of the District and bearing the signature and seal of a professional engineer or land surveyor registered in the State of Colorado.

**4-1-3 VICINITY MAP** - A vicinity map showing the general location and the boundaries of the property in relation to existing streets or other prominent terrain features.

**4-1-4 EVIDENCE OF TITLE AND AUTHORIZATION OF SIGNATORIES** - Evidence of title sufficient to assure that the Petitioner(s) has/have fee title to the property. If a corporation, partnership, or joint venture owns the property, the Petitioner(s) shall furnish such additional information (i.e., partnership agreement, Joint Venture Affidavit as provided by Section 38-30-166, C.R.S., etc.) as may be requested by the District in order to determine that the signatories have been authorized by that entity to execute such documents.

**4-1-5 NARRATIVE DESCRIPTION** - A written statement setting forth the total acreage of the property to be included, the existing zoning, the proposed zoning, the proposed use, the construction schedule, and the service requirements.

**4-1-6 COSTS DEPOSIT** - A deposit as determined by resolution of the District Board of Directors from time to time to defray the District's costs of reviewing and processing the Petition as provided by and subject to the terms of Section 7-6 below.

**4-2 PROCEDURE:** Following submittal and District approval of the submittals required in Section 4-1 above, inclusion proceedings shall be conducted as follows:

**4-2-1 FEASIBILITY STUDY** - The District shall perform a feasibility study in order to determine whether and under what conditions the property proposed for inclusion can be served by the District System.

**4-2-2 NOTICE OF PUBLIC HEARING** - At the first regular meeting of the Board following approval of the submittals, the Board shall set the date of the public hearing on the inclusion and order notice thereof to be provided according to law.

**4-2-3 PUBLIC HEARING** - The public hearing and the Board decision made pursuant thereto shall be held in accordance with applicable state law.

**4-2-4 CONDITIONS** - If the Board Order of Inclusion contains conditions which must be met before it is to become effective, the District will ensure that all such conditions have been met before filing the Board Order of Inclusion with the court and applying for a Court Order of Inclusion.

**4-3 CONDITIONS OF INCLUSION:** The included property and its owners are subject to the following conditions, together with any and all such additional conditions and requirements as may be imposed by the Board:

**4-3-1 RULES AND REGULATIONS** - With respect to all matters affecting or in any way touching upon the allocation or provision of service to the property, the property and its owners shall be bound by and subject to these Rules and Regulations, as now or hereafter constituted.

**4-3-2 EASEMENTS** - The Property Owner shall, at no cost to the District, obtain, grant and convey to the District any and all easements within or outside the included property required by the District to serve such property. In addition, the Property Owner shall be responsible for and pay all costs and expenses of whatever kind associated



with the acquisition and approval of all such easements, whether located within the included property or outside of it. These expenses may include those associated with condemnation, but this shall not be construed as imposing any obligation whatever upon the District to commence or prosecute any condemnation action.

**4-3-3 DESIGN and CONSTRUCTION** - The Property Owner shall, at his/her sole cost and expense, design, construct, and install all Water Mains and Sewer Mains and any other facilities required by the District to serve the included property. All such facilities shall be constructed according to these Rules and Regulations, and such design, construction, and installation shall be subject to inspection/observation and approval by the District.

**4-3-4 CONVEYANCE OF FACILITIES** - Upon completion of the Water Mains and Sewer Mains and any other facilities and approval thereof by the District, the Property Owner shall convey them to the District according to the terms and conditions set forth in Article 6 of these Rules and Regulations.

**4-3-5 SERVICE NOT GUARANTEED** - The allocation of Taps for and the provision of service to the included property shall be governed at all times by these Rules and Regulations. The process of including property within the District does not guarantee service to the included property. The District may be limited in the number of new Taps that may be made to the District System because of allocation policies imposed by Denver Water and/or MWRD, and the provisions of service to the included property may further be limited or delayed indefinitely because of the location or capacity limitations of existing facilities. Accordingly, by including its property within the District, the Property Owner shall be deemed to waive any right, claim, or cause of action of any kind which it may assert against the District based upon the inability of the latter to provide service to the included property.

**4-3-6 ENLARGEMENT OF STRUCTURES** - No Property Owner may enlarge, add on to, or extend any portion of his/her existing improvements receiving service (including buildings, landscape areas, and any other grounds or structures that use District water services) into an area outside the boundaries of the District without including such additional property prior to commencing such enlargement or extension, or obtaining approval for extra-territorial service for such improvements.

**4-3-7 INCLUSION AGREEMENT/CONVEYANCE OF WATER RIGHTS** - Upon District approval of the inclusion, the Property Owner and the District shall enter into an inclusion agreement setting forth the terms and conditions of such inclusion and containing all provisions relating to the particular circumstances of serving the property. At such time, the Property Owner shall convey to the District, by such documents as the District may reasonably require, all water and water rights associated with, appurtenant to, or used on or in connection with the property, including but not limited to, all of the water in the Denver, Arapahoe, and Laramie-Fox Hills aquifers underlying the property.

**4-3-8 EVIDENCE of INCLUSION** - Property Owner shall furnish satisfactory 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.

## **ARTICLE 5 SERVICE APPLICATIONS AND PERMITS**

**5-1 PERMIT REQUIRED; APPLICATION:** No person shall cause or permit any connection to any District facility without first obtaining a Tap Permit therefor as provided in this Article 5. Any person who desires to obtain new service to property or expand the water and/or sewer service to property within the District shall make written application therefor at the office of the District upon such forms as may be prescribed and furnished by the District. (Cross reference: 3-7-1 Unauthorized Connection; 8-1-4 Unauthorized Connection)

### **5-2 APPROVAL STANDARDS; REVOCATION:**

**5-2-1 APPROVAL STANDARDS** - Upon a determination that all of the following conditions exist or have been met with respect to the application, the District shall issue its Tap Permit for the service requested:

**5-2-1.1** The written application is accurate, complete, and proper as to form. (Cross reference: 8-1-17 False Official Statement; Report)

**5-2-1.2** The person making application is a licensed and bonded plumber, and has the authority or consent from the Property Owner

**5-2-1.3** All applicable fees imposed by or through the District have been paid at the time of application. (Cross reference: 7-2 TAP FEES)

**5-2-1.4** The property proposed for service is within the legal boundaries of the District.

**5-2-1.5** The Main on which the Tap will be made has been accepted by the District and approved for use by all other governmental entities and agencies having jurisdiction.

**5-2-1.6** The District System and the Denver Water and/or MWRD transmission and treatment facilities and water supplies and facilities are adequate to serve the proposed Tap.

**5-2-1.7** The Tap applied for is available under any current Tap Allocation program. (Cross reference: 5-9 TAP ALLOCATIONS)

**5-2-2 CONFORMITY WITH DISTRICT STANDARDS** - Notwithstanding any other provision of these Rules and Regulations to the contrary, the District may withhold permits or approvals for service from any facilities, private or public, which do not conform to District Rules and Regulations, including incorporated provisions.

**5-2-3 REVOCATION** - The District may revoke any Tap Permit, before or after the Tap is activated, upon a determination that the application therefor contained false or inaccurate information and, but for such misinformation, the application would have been denied when made. (Cross reference: 3-4-1 Suspension/Termination; 8-1-17 False Official Statement; Report)

**5-3 EXPIRATION:** Obtaining a Tap Permit from the District does not obligate the Property Owner to activate the Tap, but such Permit shall expire and be of no further force or effect if the Tap is not activated within one year from the date issued. The Tap Fee is not refundable, but the amount of the Fee so paid will be applied toward applicable fees if the Property Owner re-applies for the Tap, under the then current schedule of System Development Fees, provided that the applicant complies with this Article 5 at the time of such re-application.

**5-4 NON-TRANSFERABILITY OF TAP PERMIT OR SYSTEM DEVELOPMENT FEE:** Each Tap Permit applies only to the Permitted Premises identified thereon and is not deemed in any sense to be real or personal property. No Tap Permit or System Development Fee may be transferred from one premises to another without the approval of the District, but a Tap Permit and System Development Fee shall be deemed to follow any transfer or sale of the fee ownership of the Permitted Premises.

**5-5 MULTIPLE USE OF TAP PROHIBITED:** Not more than one separately described parcel of land, and not more than one building (a structure or improvement under one roof), shall be served by any single Tap, but this

provision shall not be construed to require owners of separate condominium units within any one building or group of buildings in the same condominium development to obtain their own separate Taps, or to prohibit submetering of water, if the Tap and Master Water Meter for the entire building or project is of adequate size and is in the name of the home owners' association. Each separate building in a common interest community or other planned unit development shall have a separate Tap and Service Line. In the event of a subdivision, sale, or transfer of any part or parts of any separately described parcel of land served by a single Tap, the owner of that part of the Permitted Premises closest to the Tap, following the route taken by the service line, shall keep the original Tap, and the owner of each other part shall be required to obtain a new and separate Tap for his/her part of the property under this Article 5. If there are improvements upon such other part of the property which were served by the Tap at the time of the subdivision, sale, or transfer, a new and separate Tap must be obtained for such other part within 30 days of the date of such subdivision, sale or transfer. Any violation of this Section shall be deemed an unauthorized Tap or connection to the District System. (Cross Reference: 2-35.5 SUBMETER; 2-18.5 MASTER WATER METER; 2-41 TAP or SERVICE CONNECTION; 3-7-1 Unauthorized Connection)

**5-6 INSTALLATION STANDARDS:** The Property Owner shall make the Tap at his/her sole cost, subject to all requirements of Parts B and C of Article 9, and subject further to the following:

**5-6-1 INSPECTION** - No Tap shall be activated until the service connection has been inspected and approved by the District. Property Owner shall notify the District and shall set a time for the District's inspection of the service connection not less than 48 hours before initiating any discharge through the service line. (Cross reference: 9B-1-6 Inspections)

**5-6-2 RECORD DRAWING** - The Property Owner shall supply the District with a record drawing conforming to the District's standards on electronic media compatible with the District records within two weeks after the Tap has been completed, showing the location of the Tap and the service line. (Cross reference: 2-27 RECORD DRAWINGS; 3-7-15 Failure to Provide Record Drawings)

**5-6-3 CURE OF DEFECTS** - The Property Owner shall, at his/her sole cost and subject to Part B, Article 9, correct, repair or replace any part or parts of any work performed during installation of a Tap which the District reasonably determines were not constructed in conformity with these Rules and Regulations, approved plans, construction notes or specifications, or which the District determined to be defective, of poor or unworkmanlike quality, or otherwise not in conformity with any applicable warranty. Cure of defects by Property Owner shall be administered and enforced under the Rules set forth in Sections 7-14 and 9B-4.

**5-7 TAP SIZING, SINGLE FAMILY EQUIVALENTS (SFE):** The size of the Tap and/or number of SFEs calculated for the Tap shall be determined based on water meter size according to a table adopted by the Board of Directors of the District from time to time. Any increase in the size of the Tap or the number of SFEs calculated for the tap shall obligate the Property Owner to pay additional Tap Fees to the District for the increase in size or increase in the number of SFEs based upon current Tap Fees at the time of such increase. No adjustment shall be made for a decrease in the size or decrease in the number of SFEs of any Tap. (Cross reference: 7-2 TAP FEES)

**5-8 VOLUNTARY DISCONNECTION/ABANDONMENT:** Any Property Owner desiring to have sewer service permanently disconnected shall notify the District a minimum of 48 hours in advance of the date of disconnection. Property Owner shall, at his/her sole cost, uncover the Service Line at the location determined by the District and install a plug. If a water or sewer tap is abandoned without notification as required hereunder, the District shall cause a plug to be installed, thereby effecting a permanent disconnection. Disconnection of service by this means shall not be deemed completed until the District has inspected and approved the plug. All work done pursuant to this Section shall be at the Property Owner's sole cost, subject to the provisions of Part B, Article 9. From and after the effective date of disconnection, the District shall not assess any service charges for the property so disconnected, but this shall not relieve the property from liability for periodic service charges from Denver Water or MWRD, nor shall it limit the District's right to levy taxes against the property. Any reinstatement of a service disconnected pursuant to this Section shall be treated as an application for new service, and no credit shall be allowed for any Tap Fee previously paid.

**5-9 TAP ALLOCATIONS:** The issuance of taps may be restricted from time to time due to limited capacity in District Facilities or as a result of provisions imposed by Denver Water (water) or MWRD (sewer) upon the District. During any period of such restrictions, taps shall be allocated and sold within the District on a first come, first served basis.

**5-10 SWIMMING POOL PERMIT:**

**5-10-1 PERMIT REQUIRED** - Any Property Owner who desires to use the District System to carry Swimming Pool Discharge, as defined in Section 2-38 above, shall make written application for a Swimming Pool Permit at the office of the District's Consulting Engineers upon such forms as may be prescribed and furnished by the District. (Cross-reference: 7-7 SWIMMING POOL PERMIT FEES; 8-1-17 False Official Statement; Report; 9A-4 SWIMMING POOLS)

**5-10-2 GENERAL CONDITIONS** - The District may impose such reasonable restrictions as to frequency, times, volume and rate of swimming pool discharge as may be appropriate to reduce the risk of surcharge or avoid other potential problems which may result from the entry of Swimming Pool Discharge into the District System. (Cross reference: 3-7-4 Swimming Pool Discharge Violations)

**5-10-3 MECHANICAL CONTROLS** - The District may further require Property Owner, at his/her sole cost and subject to the provisions of Part B of Article 9, to install such equipment as the District may reasonably prescribe to ensure compliance with the general conditions of the Permit. Such equipment shall not be modified, altered, removed or bypassed without the express written consent of the District. (Cross reference: 3-7-7 Tampering)

**5-10-4 REVOCATION** - The restrictions and requirements of Sections 5-10-2 and 5-10-3 shall be conditions of the permit, and a breach or violation of any of the same shall constitute cause for revocation thereof. The District shall afford the Property Owner notice and an opportunity to be heard before revoking any Swimming Pool permit. Upon revocation of any such permit, the Property Owner shall, at his/her sole expense, immediately cause the swimming pool facilities to be physically severed and disconnected so that no Swimming Pool Discharge can enter the District System. Failure to comply with this requirement shall constitute cause for suspension or termination of all sewer service to the property in accordance with Section 3-4 above.

**5-11 EXTRA-TERRITORIAL SERVICE:** Provided that services outside the District shall in no way cause any limitation of the availability of services within the District, nothing in these Rules and Regulations shall prohibit the District from providing services outside its legal boundaries under such terms and conditions as the Board may determine, subject to the limitations set forth in Section 1-11 and this Section. All tap and service fee charges for extra-territorial services will be assessed with an additional 25% charge above current fees charged within the District. Any such service shall be rendered only by written permit, lease or contract approved by the Board, and no oral statement and no course of dealing or action on the part of the District shall create an express or implied contract or obligation for such service. No written permit, lease or contract for extra-territorial services, or the services rendered pursuant thereto, shall be construed to impose upon the District any obligation to provide other service outside of its legal boundaries, nor shall the existence of such contract or the services rendered in connection therewith constitute an offer by the District to serve outside of its boundaries generally. A person, entity, association, corporation, municipality or quasi-municipal corporation whose sewer system or line connects with or discharges into the District System or any facility owned or operated by the District, and the situs of which is located outside the legal boundaries of the District, shall be referred to as an Outside Connector. (Cross reference: 1-11 SERVICE OUTSIDE THE DISTRICT)

**5-11-1 TYPES OF CONNECTIONS**

**5-11-1.1 FIXED CAPACITY CONNECTIONS** - A written agreement allocating to an Outside Connector a specific capacity in District Facilities, or any portion thereof, expressed in millions of gallons per day, based upon peak flows.

**5-11-1.2 LICENSED CONNECTIONS** - Any connection whereby an Outside Connector is permitted to connect to the District System or Facilities without a fixed capacity allocation.

**5-11-1.3 UNAUTHORIZED CONNECTIONS** - Any connection which is made without the consent of the District.

**5-11-2 CONNECTION CRITERIA** - The District is under no obligation to permit connection to the Interceptor or any other District Facilities, and may do so at the sole discretion of the Board only if the following conditions are met:

**5-11-2.1 SURPLUS CAPACITY** - Surplus capacity exists which feasibly and reasonably allows the District to allocate such capacity to an Outside Connector without impairing the ability of the District to serve users within the District's legal boundaries.

**5-11-2.2 COMPENSATION TO DISTRICT** - Contractual obligations are undertaken by the prospective Outside Connector to pay to the District, upon terms acceptable to the Board, the value of the capacity entitlement allocated to such prospective Outside Connector.

**5-11-2.3 CHARGES ASSESSED FOR COSTS OF OWNING AND MAINTAINING THE SYSTEM** - The prospective Outside Connector agrees to pay a share, determined by the Board, for the costs of operating and maintaining the facilities to which connection is made.

**5-11-2.4 DISCONNECT** - The prospective Outside Connector agrees to disconnect upon reasonable notice by the District should the capacity be needed by the District, pay all costs involved with the disconnect, and hold the District harmless for any injuries the prospective Outside Connector sustains as a result of the disconnect.

**5-12 NO JOINING OF TAPS**: Each Tap is a separate permit for use, and no user may or shall allow any Taps to be joined, interconnected or manifolded together. This section does not prohibit arrangements for allocation, collection or reimbursement of water charges between or among occupants of a single permitted premises, including submetering. (Cross reference: 2-35.5 SUBMETER; 3-7-21 Unauthorized Connection of Two or More Taps; 5-1 PERMIT REQUIRED; APPLICATION; 5-4 NON-TRANSFERABILITY OF TAP PERMIT OR SYSTEM DEVELOPMENT FEE; 5-5 MULTIPLE USE OF TAP PROHIBITED; 9A-1 SERVICE LINES)

**5-13 INDUSTRIAL USERS**: Industrial users, as defined in the Code of Federal Regulations, are required to supply information and to submit to various inspections, testing and monitoring in accordance with MWRD's NPDES Permit and Colorado Discharge Permit, as well as all other applicable federal, state and local rules and regulations pertaining to the discharge, transmission and treatment of wastewater. (Cross reference: 1-9 CONNECTION TO OTHER SYSTEMS AND INCORPORATION OF STANDARDS BY REFERENCE)

**5-13-1** The requirements applicable to a particular industrial user may be obtained from MWRD, and any permits, licenses, monitoring programs and pretreatment standards will be issued and implemented by MWR Administration. While the District does have enforcement responsibilities in regard to industrial users, it is not directly involved in any permitting or monitoring process and does not determine or apply pretreatment standards as to any industrial user. Inquiries should be directed to MWRD.

**5-13-2** If, as a result of any requirement of MWRD or other authority, any industrial user is directed to install or place any effluent monitoring device or equipment in, upon, or in close proximity to any District facility, it shall be the responsibility of the industrial user and the authority requiring or supervising the monitoring, to notify the District prior to such installation or placement, and to comply with the directives and requirements of the District's Consulting Engineer concerning the installation or placement of any such required device or equipment.

## **ARTICLE 6 MAIN EXTENSIONS AND OTHER SYSTEM IMPROVEMENTS**

**6-1 APPROVAL REQUIRED; IMPROVEMENTS AGREEMENT:** No person shall commence any construction to extend a water or sewer Main or install any appurtenant facility within the jurisdiction of the District without the prior written approval of the District, following formal application therefor, upon compliance with these Rules and Regulations. If required by the District, any person desiring to extend a District Main or install any appurtenant facility shall enter into a written Improvements Agreement with the District setting forth any or all terms and conditions applicable to any Main Extension or installation. For purposes of this Article 6, all Main Extensions and appurtenant facilities of whatever kind or nature shall be collectively referred to as "System Improvements," and the person desiring to construct or install System Improvements shall be referred to as the "Developer."

**6-2 LOCATION:** System Improvements shall be installed only in rights-of-way or easements deeded to the District, or in platted easements or roads or streets which a city, county, State Highway Department, or other public agency has accepted for maintenance as a public right-of-way.

**6-3 DEEDED RIGHTS-OF-WAY AND EASEMENTS:** Deeded rights-of-way or easements are required to cover System Improvements not located in public rights-of-way and shall be granted at no cost to the District upon such terms as the District may reasonably require before construction of any such System Improvements begins. Plans for construction of System Improvements within easements or rights-of-way shall not be reviewed, nor shall construction be authorized, prior to the acceptance of the easement or right-of-way by the District. The minimum width of any easement granted to the District shall be 30 feet for an exclusive easement, and 50 feet for a non-exclusive easement, except that a non-exclusive easement that is coterminous with a private surfaced roadway may be 30 feet in width. The following additional minimum requirements shall be in effect in connection with all such easements:

**6-3-1 LEGAL DESCRIPTION** - The District shall be provided a legal description of all right-of-way or easement parcels to be granted by any single conveyance instrument, consisting of a printed legal description certified by a land surveyor registered in the State of Colorado and an accurate survey drawing of each parcel, including north arrow and scale, tying each parcel to a survey land corner or corner of a platted parcel of land.

**6-3-2 EVIDENCE OF TITLE** - The District shall be provided suitable evidence of title, consisting of a title insurance policy or commitment, an attorney title opinion, a subdivision certificate, or a written ownership and encumbrance report, dated within 30 days before the date of submission to the District. Evidence of title must show all current mortgages and deeds of trust, liens, and other encumbrances against the property.

**6-3-3 SUBORDINATION AGREEMENT OR PARTIAL RELEASE** - The District may require a properly executed and acknowledged subordination agreement or partial release, at the Board's discretion, for any easement or right-of-way parcel to exempt the same from the lien of any mortgage or deed of trust. If so required, the District shall not accept the System Improvements for maintenance until it receives all required subordinations or partial releases, whichever is required. The District reserves the right to require additional or supplemental evidence of title when the subordination agreement or partial release is tendered to the District for recording.

**6-4 EASEMENT AND RIGHT OF WAY ACQUISITION COSTS:** The Developer shall be responsible for and pay all costs and expenses associated with the acquisition and approval of all easements necessitated thereby. These expenses include, but are not necessarily limited to, the District's actual costs, and may include those associated with condemnation. This Section shall not be construed as imposing any obligation whatever upon the District to commence or prosecute any condemnation action.

**6-5 DESIGN AND CONSTRUCTION:** The Developer shall be solely responsible for any and all costs and expenses of design, construction, and installation of such System Improvements, including without limitation frontage extensions, reasonably required by the District. All such work shall be in conformity with and subject to

the District's Master Plan and to these Rules and Regulations, and in particular, to the Technical Specifications set forth in Article 9, Part C.

**6-6 PLAN REVIEW AND APPROVAL:** No construction of any System Improvements shall begin unless and until (a) the plans and design therefor have been reviewed and approved by the District as conforming with applicable standards; and (b) the District has issued written notice that construction may begin. (Cross reference: 7-3 PLAN REVIEW FEES)

**6-7 CONSTRUCTION OBSERVATION AND INSPECTION:** The District shall be notified at least 48 hours before construction is commenced, and at any and all other times specified by the District, for construction observation, inspection or testing required in any plan approvals or otherwise required by the District. (Cross reference: 7-4 INSPECTION FEES; 9B-1-6 Inspections)

**6-8 CONDITIONAL ACCEPTANCE:**

**6-8-1 STANDARDS** - Upon completion of construction, a request shall be submitted to the District for a preliminary inspection and conditional acceptance of the System Improvements. The System Improvements will qualify for Conditional Acceptance by the District when all of the following conditions have been met:

**6-8-1.1 DISTRICT REVIEW** - The District has determined that the System Improvements have been constructed and connected to District facilities in conformity with these Rules and Regulations, approved plans, construction notes and specifications, has passed all necessary tests, and has been approved for use by all other governmental entities and agencies having jurisdiction.

**6-8-1.2 DEVELOPER REQUIREMENTS** - . Developer has tendered and the District has approved the following:

- (1) Record drawings photographically reduced to 1" = 50' scale and provided on electronic media compatible with the District standards;
- (2) Certified compaction test results;
- (3) Construction plans and drawings and key map pages consistent in form and content with current District requirements as set forth in Part C of Article 9, Technical Specifications, showing the location of all component parts of the System Improvements, or other arrangements approved in writing by the District have been made for the preparation thereof;
- (4) A 12-month maintenance bond, or other security approved by the District, in an amount equal to 10% of the costs of constructing the System Improvements, or such greater amount as may be reasonably determined by the District on account of special circumstances of the particular System Improvements, or any portion thereof;
- (5) A duly executed written statement that all suppliers of labor and materials have been fully paid, with lien waivers attached; (Cross reference: 8-1-17 False Official Statement; Report)
- (6) A duly executed written assignment of all manufacturer's warranties on materials, if applicable;
- (7) All subordination agreements and partial releases required pursuant to Section 6-3-3 above;
- (8) Payment of all sums then due to the District in connection with the System Improvements; and
- (9) A verified statement of Actual Cost of the System Improvements, itemized as the District may require. (Cross reference: 8-1-17 False Official Statement; Report)

**6-8-2 APPROVAL; TAP PERMITS** - The District will evaluate the request for conditional acceptance and give written notice to the Developer of its action, stating any special conditions attached to the Conditional Acceptance, or the reasons for denial of the request, if applicable. No Taps or Service Connections to the System Improvements will be permitted, nor will the District accept applications for such Taps, until the District has conditionally accepted the System Improvements as herein provided.

**6-8-3 EFFECTIVE DATE** - Conditional Acceptance shall be effective as of the date the District executes the Conditional Acceptance appearing on the District-approved "Conveyance and Acceptance" form. As of such date, the System Improvements shall be deemed operational, and any person may apply to the District for Tap Permits for service connections thereto. The District's acceptance of the System Improvements, whether conditional or final, does not, however, guarantee that Taps will be available. Availability of Taps is governed at all times by the

provisions of Article 5, and such availability is determined in accordance therewith at the time proper application for service is made.

**6-9 MAINTENANCE AND REPAIR**: Until Final Acceptance of the System Improvements, Developer shall be solely responsible for all routine maintenance and for correction of any and all defects in the System Improvements, as set forth below:

**6-9-1 ROUTINE MAINTENANCE** - Developer shall, at its sole cost, protect the System Improvements and perform all routine maintenance thereon so as to keep the System Improvements in good repair and operating condition. Such obligations shall include the repair or replacement of any part or parts thereof damaged as a result of street construction, paving, other utility installation or vehicular traffic. In addition, Developer shall, at its sole cost, correct any soil subsidence or erosion which the District determines occurred in connection with or as a result of construction of the System Improvements.

**6-9-2 CURE OF DEFECTS AND DEFICIENCIES** - Developer shall, at its sole cost and subject to Parts B and C of Article 9, correct, repair or replace any part or parts of the System Improvements which the District reasonably determines were not constructed in conformity with these Rules and Regulations, approved plans, construction notes or specifications, or which the District determines to be defective, of poor or unworkmanlike quality, or otherwise not in conformity with any applicable warranty. Cure of defects and deficiencies by Developer shall be administered and enforced under the rules set forth in Sections 9B-4 and 7-14.

## **6-10 ACCEPTANCE FOR MAINTENANCE (FINAL MAINTENANCE)**

**6-10-1 STANDARDS** - . Prior the expiration of one year from the date of Conditional Acceptance (or any longer period of time reasonably determined by the District on account of the particular circumstances) of the System Improvements or any portion thereof, Developer may request the District to perform a final inspection and accept the System Improvements for maintenance. Upon such request, the District shall inspect the System Improvements and shall accept the same for maintenance when all of the following conditions are met:

**6-10-1.1 DISTRICT REVIEW** - The District determines that the System Improvements have been constructed and connected to District facilities in conformity with these Rules and Regulations, approved plans, construction notes and specifications, have passed all necessary tests, and have been approved for use by all other governmental entities and agencies having jurisdiction.

**6-10-1.2 MAINTENANCE AND REPAIR** - Developer has fully performed all maintenance and repair obligations imposed upon it by Section 6-9 above during the period of conditional acceptance.

**6-10-1.3 ADDITIONAL REQUIREMENTS** - Developer has tendered and the District has approved all of the following:

- (1) A verified statement of Actual Cost of the System Improvements, itemized as the District may require; (Cross reference: 8-1-17 False Official Statement; Report)
- (2) Any and all deeds, bills of sale, or other conveyance instruments necessary to vest title to all component parts of the System Improvements in the District with warranties of title as provided in Section 6-10-2;
- (3) All drawings, maps and construction notes pertaining to any changes in the System Improvements made during the period of Conditional Acceptance;
- (4) Payment of all sums due to the District from Developer on account of the System Improvements; and
- (5) Lien waivers in form acceptable to the District by all independent contractors or materialmen.

**6-10-2 EFFECTIVE DATE** - The District's final acceptance of the System Improvements for maintenance shall be effective as of the date the District executes the Final Acceptance appearing on the District-approved Conveyance and Acceptance form. As of such date, all of Developer's right, title and interest in and to the constructed System Improvements, including all Mains, manholes, appurtenances, and related parts and materials which comprise the constructed System Improvements, shall immediately pass to and vest in the District, free and clear of all liens and encumbrances, and Developer shall warrant and defend the conveyance of such System Improvements to the District, its successors and assigns against all and every person or persons whomsoever. As of the date of Final



Acceptance, the District shall operate and maintain the System Improvements at its expense. Nothing contained herein, however, shall be construed to relieve Developer from its warranty obligations set forth in Section 9B-1-5. Notwithstanding Final Acceptance, any connecting Property Owner, his/her successors and assigns, shall remain responsible for all service lines and private sewer facilities.

**6-11 DISTRICT SYSTEM IMPROVEMENTS**: Notwithstanding any of the foregoing, the District reserves the right to extend Mains and make other System Improvements in situations which it determines may be in the best interests of the District and its constituents, upon such terms and conditions as the District may reasonably determine.

**6-12 OVERSIZING REIMBURSEMENT**: Under certain circumstances, when these Rules and Regulations require System Improvements to be designed and constructed with a capacity in excess of that needed solely to serve the property of a particular Property Owner or Developer, it may be fair and equitable for such Property Owner or Developer (hereinafter referred to as "Applicant") to recover a portion of the costs of such System Improvements, by means of charges imposed on subsequent connectors to such System Improvements. The purpose of this section 6-12 is to set forth standards and procedures for the consideration, administration and enforcement of reimbursement plans.

**6-12-1 APPLICATIONS** - At any time before or during the process of obtaining District approval for the design of any System Improvements, an Applicant may file with the Board a written application for reimbursement of some portion of the costs of constructing such System Improvements. Such application shall contain the following:

- (1) A statement that the Applicant is the owner of an area located within the District, or immediately contiguous to the District; and the size of such area is stated in both acres and square feet.
- (2) A statement explaining why reimbursement is appropriate under the circumstances, and a detailed plan or formula consistent with the provisions of this Section for determining the sources and amounts of reimbursement proposed. Such plan shall include a map clearly showing the property subject to proposed reimbursement charges. (Cross reference: 6-12-5 Minimum Plan Requirements; Agreement)
- (3) A statement obligating the Applicant to compensate the District for its actual costs incurred in evaluating, processing, and considering the reimbursement application, regardless of whether the same is ultimately approved.

**6-12-2 THRESHOLD CONDITION** - Reimbursement will be considered only when, at the District's request, the System Improvements constructed by Applicant are of greater capacity than needed to serve the Applicant's property.

**6-12-3 PROCEDURE** - Any reimbursement plan shall include at a minimum the following:

- (1) Upon conditional acceptance of the System Improvements, the Applicant shall determine and certify to the Board the total cost of construction for the System Improvements, including without limitation design and engineering fees, construction costs, District inspection and approval fees, and easement and right-of-way acquisition costs. The Applicant shall further submit evidence that all such costs have been paid in full.
- (2) The District Engineer shall review the total costs of construction as determined and certified by the Applicant to evaluate the reasonableness of such costs and whether and to what extent the certified costs should be subject to reimbursement.
- (3) Before approving any reimbursement plan, the Board shall conduct a public hearing, following notice to the Applicant and to the owners of all property within the area proposed to be subject to reimbursement charges, whereat all such parties in interest may appear and be heard.

**6-12-4 BOARD DISCRETION** - Because of the serious and adverse impact which unforeseen development patterns can have upon the administration and enforcement of any reimbursement plan, the Board of Directors may deny any application for reimbursement when, in its sole judgment, future development of property affected by the proposed plan is sufficiently uncertain or unpredictable as to create a risk that unacceptable or unwarranted

administrative or legal burdens may be imposed upon the District in connection with the administration or enforcement of such plan. It is the intent of this provision to reserve to the Board absolute discretion in making such determination.

**6-12-5 MINIMUM PLAN REQUIREMENTS; AGREEMENT** - Reimbursement will be approved only under the terms of a written agreement between the District and the Applicant. Although the specific terms of each reimbursement agreement will vary according to the particular System Improvements to be constructed, each reimbursement agreement shall contain all of the following provisions, which shall be deemed to be minimum requirements of any reimbursement plan:

- (1) The Applicant shall notify the District of any connection made or about to be made to the System Improvements.
- (2) The obligation of the District with respect to collecting the reimbursement charges shall be to exercise reasonable care that such charge shall be collected in full at the time application is made for taps for new service within the benefit area, and to remit the amount of charges so collected to the Applicant within 60 days thereof. In no case shall the District be liable to the Applicant for any reimbursement charges not actually collected by the District.
- (3) By entering into a reimbursement agreement with the District, the Applicant shall agree to indemnify and hold harmless the District, its officers, agents and employees, from any and all claims, expenses and demands arising out of or in any way involving the District's collection or attempted collection of reimbursement charges.
- (4) The District and the Applicant shall cooperate fully with each other in responding to any challenge to or refusal to pay the reimbursement charges, but the Applicant shall reimburse the District all of its costs and expenses associated therewith.
- (5) Notwithstanding any other provision of the reimbursement plan or agreement, the District shall have no liability to the Applicant in any case in which the reimbursement charge is or has been determined by a court of competent jurisdiction for any reason to be invalid or unenforceable.
- (6) The reimbursement charges to be imposed by the District shall terminate on a date specified in the agreement and plan, which date shall in no event be later than ten (10) years from the date of conditional acceptance of the System Improvements.
- (7) The total reimbursement charges to be imposed by the District shall not exceed the total cost of constructing the System Improvements, and no reimbursement charges shall include any allowance for interest on the costs of constructing the System Improvements.
- (8) If the District determines that the Applicant has violated any provisions of these Rules and Regulations in connection with its construction of the System Improvements and has failed after notice and a reasonable opportunity to cure such violation, the District may terminate the reimbursement plan and agreement, and thereupon any right of the Applicant to collect reimbursement pursuant thereto shall terminate and be of no further force or effect.
- (9) To the extent the District incurs any expenses in administering the reimbursement plan, it shall be allowed to deduct an amount equal to the actual costs thereof from the sums remitted to the Applicant.

## **ARTICLE 7 FEES AND CHARGES**

### **7-1 GENERAL:**

**7-1-1 PURPOSES** - The purpose of the fees and charges provided in this Article is to provide for the payment of all actual costs of operating, maintaining, repairing, replacing, and expanding the District System, such costs including without limitation a reasonable contingency fund. All such fees and charges are based upon the cost of providing the service for which such fees and charges are made and have been determined by the Board of Directors to be necessary for the recovery of all such costs.

**7-1-2 LIABILITY** - The fees and charges provided below are hereby imposed and assessed by the District for the purposes set forth in Section 7-1-1 and as more specifically set forth below. Such fees and charges are the personal, joint and several obligation of the owners of the property for which the applicable service is furnished, but the full amount of any such fees and charges shall also be a perpetual lien against any such property, as provided by Section 32-1-1001(1)(j), C.R.S. The District assumes no responsibility for any agreement made between Property Owners and their tenants, regardless of how made or whether the District has notice thereof. Notwithstanding the foregoing, any Plan Review, Inspection, or Disconnection/Reconnection Fee shall also be the personal obligation of any person who orders or requests the District to perform such work, even though such person may have acted in a representative capacity when doing so.

**7-2 TAP FEES or SYSTEM DEVELOPMENT FEES:** For the purpose of enabling the District to defray all costs incurred in making water or sewer service available through a Tap or service connection to the District System and to provide for capital expansions of the District System, there is hereby imposed a Water System Development Fee and a Sewer System Development Fee in amounts determined by the District Board of Directors from time to time and set forth in the Appendix, which shall be due and payable in full at the time application for a Tap Permit is made or a Building Permit is requested from the Arapahoe County Building Department.

**7-3 PLAN REVIEW FEES:** Plan Review Fees are charged whenever these Rules and Regulations require the District Engineer to review construction plans, whether for the construction of Water Service Lines, Sewer Service Lines, Water Mains, Sewer Mains, tap connections, or any other proposed modification affecting the Water System or the Sewer System. The amount of the Plan Review Fee is based on the hourly rates of the District Engineer and/or the District's maintenance personnel and reflects the amount of time expended on the project. The person requesting or needing the plan review shall deposit an amount estimated by the District to cover the fee for such plan review, set forth in the Appendix. A schedule of the applicable hourly rates shall be on file in the District Manager's office. Additional deposits will be required as needed based upon the District's further and ongoing estimate of actual costs, and the processing of the Plan Review will be suspended until any required additional deposit is made. Any deposit of Plan Review Fees paid in excess of the District's actual costs in performing the plan review will be refunded within sixty (60) days of acceptance of the plans by the District and any other agency requiring review. (Cross reference: 6-6 PLAN REVIEW AND APPROVAL)

**7-4 INSPECTION/OBSERVATION FEES:** Whenever any provision of these Rules and Regulations requires or provides for an inspection or construction observation by the District, the person liable therefor shall reimburse the actual costs incurred by the District for such inspection/observation. The applicable hourly rate shall be as set forth in the Appendix. The person requesting or needing the inspection/observation shall deposit an amount estimated by the District to cover the fee for such inspection when the request for or notice of the needed inspection is made. Any unused portion of the deposit will be refunded. At least \$1,500.00 shall be kept on deposit at all times until the project is completed. If the deposit account falls below \$1,500.00, the deficit will be invoiced to the responsible party, and the account must be replenished before further inspections will be made. (Cross reference: 7-18 WITHHOLDING APPROVALS, ACCEPTANCES AND PERMITS)

**7-5 NO CONSTRUCTION WITHOUT DEPOSITS:** Construction shall not commence on any project requiring plan review or inspection by the District until deposits have been made in accordance with Sections 7-3 and 7-4 above.

**7-6 INCLUSION FEES:** Any person who petitions for inclusion of his property into the District pursuant to Section 32-1-401(1), C.R.S. and Article 4 above shall pay the fees and charges as determined by the District Board of Directors from time to time, as well as actual costs incurred by the District in processing the Petition for Inclusion, payable regardless whether the property is actually included. Petitioner shall make a deposit in the amount set forth in the Appendix such costs when the Petition for Inclusion is filed. Any unused portion of the deposit will be refunded, and any deficit will be invoiced to Petitioner within 30 days of recordation of the Inclusion Order of the District Court. (Cross reference: 4-1-6 Costs Deposit)

**7-7 SWIMMING POOL SERVICE FEES:** An annual Swimming Pool Services Fee is assessed for discharging swimming pool filter effluent into the Sewer System. Such fees, the amount of which shall be determined from time to time by the Board of Directors and set forth in the Appendix hereto, shall be submitted on a yearly basis, together with an application for a Swimming Pool Permit which shall, when completed and approved by the District, specify the times during which such discharge into the Sewer System may occur. (Cross reference: 5-10 SWIMMING POOL PERMIT)

**7-8 SPECIAL SERVICE FEES:** A Special Service Fee is assessed for water used pursuant to an approved permit for special water service through fire hydrants, and for any other special water or sewer services provided pursuant to any agreements between Property Owners and the District. The amount of the Special Service Fees shall be determined on a case by case basis.

**7-9 TURN-OFF AND TURN-ON FEES:** A Turn-Off and Turn-On Fee will be assessed per service each time a Property Owner requests the District to turn water service off or on because of vacations, vacancy for rental, etc. Turn-Off and Turn-On Fees will also be charged if the District discontinues or resumes any services as a result of the Property Owner's tardiness in payment of District charges. Only District personnel may turn services off or on. Property Owners who turn off or turn on their service connection(s) will be assessed a penalty for doing so. Turn-off and turn-on fees are set forth in the Appendix hereto.

**7-10 WASTEWATER CHARGES:** Wastewater Charges are billed on a monthly basis. The amount of the Wastewater Service Charge is determined by the Board of Directors from time to time, taking into account the charges made by MWRD to the District for wastewater treatment services, and the District's costs of operating, maintaining, repairing, and replacing the District Sewer System. Wastewater Charges are also referred to as "sewer service charges" or "sewer rates."

**7-11 WATER CHARGES:** The Board will periodically establish a meter rate for the metered customers served. Billing charges will be calculated on the basis of the amount of water used and the appropriate rate. Metered rate charges are due and payable upon issuance of the bill therefor. Water Charges are also referred to as "water service charges" or "water rates."

**7-12 METER TESTING FEES:** If the Property Owner requests a Water Meter test to determine the meter's accuracy, the District shall charge a fee for such testing only if the meter is determined to be accurate. The amount of the Meter Testing Fee shall be determined by the Board of Directors from time to time and set forth in the Appendix hereto. If the meter is not working properly and needs repair, there will be no charge assessed for testing; however, the Property Owner will then be obligated to have the Water Meter repaired, at Property Owner's expense, within sixty days of the test in which the meter was found deficient. After such repair, the District will then retest the Water Meter at no charge. If the Property Owner refuses or fails to effectuate such repair within sixty days, the District will make the repair subject to reimbursement of costs in accordance with Section 7-14 herein.

**7-13 DISCONNECTION/RECONNECTION CHARGES:** Whenever any Water or Sewer Service is physically disconnected or reconnected by the District for any reason, the Property Owner or any other person liable therefor shall reimburse the actual costs incurred by the District for such work.

**7-14 CURE CHARGES:** Whenever the District cures any defect, deficiency, nonconformity or violation as provided in these Rules and Regulations, any person who is responsible under these Rules and Regulations to cure such condition, or whose act or omission resulted in the necessity for the curative action, shall be liable and obligated to reimburse the actual costs incurred by the District for such undertaking. (Cross reference: 3-5 CURE OF VIOLATIONS; 9B-4 CURE OF DEFECTS)

**7-15 CIVIL FINES PASS THROUGH:** Any person who, by act or omission, causes the District to incur any fine or penalty assessment imposed by state, federal or other governmental authorities shall be fully liable to the District for the total amount of the fine so assessed.

**7-16 DELINQUENCY CHARGES; COLLECTION COSTS; LIEN:** Full payment of any and all fees or charges imposed or assessed by the District is due upon presentation of the District's invoice, unless these Rules and Regulations provide otherwise for notice or payment of any specific charge. The invoice shall be conclusively deemed presented to any person if personally served upon such person, or if mailed postage prepaid by first class mail addressed to such person in care of the Property Owner, at the service address or any other address for such person known to the District. Any amount so invoiced or otherwise due and payable will become delinquent 30 days thereafter, and the full amount of any delinquent balance shall thereafter bear interest at the maximum rate permitted by law. Additionally, the District may assess a separate delinquency charge to the maximum extent permitted by law. Any person liable for such fees and charges shall also be obligated to pay any and all costs of collection, including reasonable attorney fees and court costs, actually incurred by the District. Until paid, all rates, tolls, fees, charges, interest, penalties, and costs of collection shall constitute a perpetual lien on or against the property served. (Cross Reference: §29-1-1101 and 1102, C.R.S.)

**7-17 MISCELLANEOUS COSTS AND EXPENSES:** All costs and expenses of service incident to the installation and connection of water and/or sewer service shall be charged to the Property Owner. The Property Owner shall indemnify the District for any loss or damage that may directly or indirectly be occasioned by the installation of facilities and/or the provision of water and/ or sewer services. Further, all costs and expenses incident to any request, petition or application to the District, and not otherwise addressed in these Rules and Regulations, shall be reimbursed to the District by the person making the request, petition, or application, upon receipt of the District's invoice.

**7-18 WITHHOLDING APPROVALS, ACCEPTANCES AND PERMITS:** Notwithstanding any provision of these Rules and Regulations to the contrary, the District may withhold permits, approvals, acceptances, or other authorizations from any person until all sums then due to the District from such person are paid in full.

**7-19 LIABILITY FOR PAYMENT:** The Property Owner and any tenants of the property are deemed equally liable for the rates, fees, and/or charges billed by the District for providing water and/or sewer services to the property. The District assumes no responsibility for any agreement made between Property Owner and their tenants regardless of how made or whether the District has been notified of such agreement.

**7-20 REVOCATION OF SERVICE:** Service shall be revocable by the District upon non-payment of valid fees, or upon failure to comply with these Rules and Regulations. If the District has decided to disconnect sewer service, a written disconnection notice shall be posted on the property, announcing the District's intent to disconnect or block sewer service after 72 hours.

**7-21 VARIANCE FEE:** Whenever a variance from any provision of these Rules and Regulations is requested, a fee in the amount set forth in the Appendix shall be assessed to defray the District's costs in processing such variance. Such fees shall be paid whether or not the variance is granted.

**7-22 DEVELOPMENT FEE:** When the District extends a Main or makes any other System Improvement at District expense, each property connecting to such Main Extension or other System Improvement shall be assessed, prior to connection and in addition to the Tap Fee, a percentage of the District's Actual Costs of such Main Extension or other System Improvement. Such percentage shall be calculated by dividing the total square footage of the property seeking service by the total square footage of all the property connecting to or served by such Main Extension or System Improvement. (Cross reference: 2-2 ACTUAL COSTS; 6-11 DISTRICTSYSTEM IMPROVEMENTS)

**7-23 STUB-IN FEE:** An annual Stub-in Fee is assessed for reasonably necessary water during construction used pursuant to an approved permit for special water service through a stub-in, defined as all fittings and pipe necessary to extend the service line from the main to the property line. The amount of the Stub-in Fee is set forth in the Appendix. (Cross reference: 9A-15 STUB-IN PERMITS)

## **ARTICLE 8 PROHIBITIONS**

**8-1 GENERAL:** It shall be unlawful for any person to cause or to attempt to cause, or to permit, solicit, aid or abet any other person to cause or attempt to cause, by act or omission, any of the following:

**8-1-1 FAILURE TO COMPLY WITH RULES AND REGULATIONS** - Failure or refusal to comply with any requirement imposed in these Rules and Regulations.

**8-1-2 VIOLATION OF INCORPORATED PROVISIONS** - Any violation of or failure to comply with any applicable requirement of Denver Water or MWRD. (Cross reference: 1-9 CONNECTION TO OTHER SYSTEMS AND INCORPORATION OF STANDARDS BY REFERENCE)

**8-1-3 GROUNDWATER, SURFACE WATER** - Any groundwater, storm water, roof runoff, cooling water, subsurface drainage, air-conditioning wastewater, polluted or unpolluted industrial process waters, or any surface water of any kind or nature to enter the District System. (Cross reference: 3-6-10 Infiltration; 9A-8 CER-TAIN DRAINS PROHIBITED)

**8-1-4 UNAUTHORIZED CONNECTION** - Make any connection to any District facility without all District Permits required therefor by these Rules and Regulations. (Cross reference: 3-7-1 Unauthorized Connection; Article 5 SERVICE APPLICATIONS AND PERMITS)

**8-1-5 UNAUTHORIZED DISCHARGE** - Discharge into the District System without a permit or in violation of the terms of any Permit provided by these Rules and Regulations. This prohibition applies, without limitation, to the discharge of wastewater from recreational vehicles, trailers or any other mobile source. (Cross reference: 3-7-2 Unauthorized Use or Discharge)

**8-1-6 ESCAPE OF WASTEWATER** - The escape of any wastewater from the District Sewer System. (Cross reference: 3-7-10 Escape of Water or Wastewater)

**8-1-7 WASTE OF WATER** - The waste of any water through failure to make prompt repairs to faulty plumbing, through excessive lawn sprinkling, or otherwise.

**8-1-8 SALE OF WATER** - The sale or exchange for value of water obtained through the District System.

**8-1-9 UNAUTHORIZED ENTRY** - Opening of or entry into any District facility without District authorization. (Cross reference: 3-7-9 Unauthorized Entry)

**8-1-10 FOREIGN MATERIALS** - The entry of any foreign materials into any water or sewer facility, public or private. Without limiting the generality of the foregoing, no person shall discharge, cause to be discharged, or permit to be discharged any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastic, wood, paunch manure or any solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper and normal operation of the Sewer System. (Cross reference: 3-7-2 Unauthorized Use or Discharge)

**8-1-11 DISCHARGE THROUGH TAPS ONLY** - The entry of any wastewater into the District Sewer System except through a Tap or Service Connection duly authorized by the District for the uses actually made thereof. This provision shall specifically include, without limitation, discharging any wastewater into the District System through manholes. (Cross reference: 3-7-1 Unauthorized Connection; 3-7-2 Unauthorized Use or Discharge; 3-7-3 Interceptor Violations; 3-7-9 Unauthorized Entry)

**8-1-12 RIGHT OF WAY/EASEMENT VIOLATIONS** - Constructing, installing, or placing any structures or improvements of any kind, surface or subsurface, temporary or permanent, or planting any tree, woody plant or nursery stock of any kind within the boundaries of any District Right of Way or Easement in violation of the terms or conditions of such Right of Way or Easement, without express written authorization from the District. For purposes of this provision, the term "structures" includes but is not necessarily limited to buildings, improved walkways, roads, curbs, gutters, sprinkling systems, other utility facilities including those for cable TV, fences, walls, pools, ponds, water features, athletic playing fields or courts, berms and any and all other earthen improvements, including but not limited to grades providing lateral support to any building or other structure, whether or not such structure is itself within the boundaries of the Right of Way or Easement. (Cross reference: 3-7-8 Easement Violations)

**8-1-13 INTERFERENCE** - Any interference with employees or agents of the District in the performance of their duties. (Cross reference: 3-7-5 Interference; Failure to Permit Inspection)

**8-1-14 TAMPERING** - Bypassing, breaking, damaging, destroying, removing, uncovering, altering, defacing, or otherwise tampering with any portion of the District System. (Cross reference: 3-7-7 Tampering)

**8-1-15 OBSTRUCTING FLOW** - Any act that obstructs or is reasonably likely to obstruct the flow of water or wastewater in the District System. (Cross reference: 3-7-7 Tampering)

**8-1-16 VIOLATION OF TERMINATION/SUSPENSION ORDER** - The entry of any wastewater into the District System in violation of a Suspension or Termination Order under Section 3-4. (Cross reference: 3-4-3 Execution of Order; 3-7-16 Violation of Suspension/Termination Order)

**8-1-17 FALSE OFFICIAL STATEMENT; REPORT** - The making or filing with the District of any statement, report or application by a person who knows or has reasonable cause to know that such statement report or application is false or substantially inaccurate, or the omission of any material fact in connection with such statement, report or application when the omission leaves the remainder of the information given misleading or substantially inaccurate. (Cross reference: 1-13 DUTY TO REPORT; 3-7-17 False Official Statement; 5-2-1 Approval Standards; 5-2-3 Revocation; 5-10-1 Permit Required; 6-8-1.2 (4) Grantor Requirements; 6-10-1.3 (1) Tap Owner of Record and or Property Owner Requirements; 9A-10 CHANGES IN USE, EQUIPMENT OR SERVICE)

**8-1-18 UNAUTHORIZED TAKING** - The taking or using of any water from the District System without having made the payments prescribed in these Rules and Regulations.

**8-1-19 JEOPARDIZING PURITY OF WATER** - The use of any fluid or other substance in such a manner as to present the possibility that such substance could enter the District Water System. This prohibition includes, but is not limited to, the use of poisons, insecticides, pest control products, or lawn and plant food products in conjunction with a lawn sprinkling system in such a manner that such fluids could possibly back-flow into and through the service line and enter the District Water System. Insofar as this Section is applicable to lawn sprinkling systems, its requirements shall be deemed to have been satisfied by the use of backflow prevention devices approved by the Colorado Department of Health, as such approval may change from time to time, in good operating condition. (Cross reference: 3-7-20 Jeopardizing Purity of Water)

**8-1-20 FAILURE TO USE METER** - The failure of any person required to use a meter to do so, whether by tampering with the meter in some manner, or otherwise. (Cross reference: 3-7-18 Failure to Use Meter)

**8-1-21 UNAUTHORIZED JOINING OF TWO OR MORE TAPS** - The joining of any two or more taps, allowing a joint use or manifolding of Taps to any District Facility or Service Line connected to any District Facility, without the express authorization therefor by the District. This section does not prohibit arrangements for allocation, collection or reimbursement of water charges between or among occupants of a single permitted premises, including submetering. (Cross reference: 2-35.5 SUBMETER; 3-7-21 Unauthorized Connection of Two or More Taps; 5-1 PERMIT REQUIRED; APPLICATION; 5-4 NON-TRANSFERABILITY OF TAP PERMIT OR TAP FEE; 5-5 MULTIPLE USE OF TAP PROHIBITED; 9A-1 SERVICE LINES)

**8-1-22 WATER OR OTHER DISCHARGE FROM UNDERGROUND STORAGE TANK (UST) REMEDIATION PROJECTS** - The discharge to the District System of any groundwater or other fluid or substance produced or brought to the surface by or in connection with any groundwater cleanup project at or from a leaking UST site, unless a Permit is first obtained from MWRD, pursuant to MWRD's policies and procedures, and a request is made to, and approved by, the District. (Cross reference: 3-7-2 Unauthorized Use or Discharge; 3-7-10 Infiltration, etc.; 3-7-20 Jeopardizing Purity of Water)

**8-1-23 SWIMMING POOLS** - Discharge into the District system of: (a) any swimming pool water through the pool drain, and (b) any pool filter backwash effluent, except as expressly permitted under these Rules and Regulations. (Cross reference: 5-10 SWIMMING POOL USE; 9A-4 SWIMMING POOLS)

**8-1-24 CROSS-CONNECTION CONTROL** - The backflow of non-potable water, other liquids or foreign materials into the District System, or the installation of any device which has an effect on inter-connection and cross-connection control without first obtaining District approval thereof.

**8-2 SEPARATE VIOLATIONS:** For the purposes of this Article 8, a separate and distinct violation shall be deemed committed upon each day or portion thereof that any such violation shall occur or continue.



**8-3 CRIMINAL STATUTES:** The following sections of the Colorado Revised Statutes are potentially applicable.

Any suspected violation may be reported to the Arapahoe County Sheriff and prosecuted in State Courts:

18-4-401	Theft
18-4-501	Criminal Mischief (Damages or destruction of property)
18-4-503 & 504	Trespass
18-5-505 & 506	Tampering (Interruption of Service; unauthorized connection)
18-8-102	Obstructing Government Operation
18-8-106	Refusing Inspection
18-8-111	False Reporting
18-8-113	Impersonating Public Servant
18-8-114	Abuse of Public Records

**8-4 PROHIBITED DISCHARGES:** No person shall cause to be discharged to the District Sewer System any prohibited discharges as defined herein, except where suitable treatment has been provided in accordance with the provisions of these Rules and Regulations, and local, state and federal regulations.

**8-4-1 SPECIFIC PROHIBITIONS** - No person shall cause to be discharged, either directly or indirectly, any substance as follows:

**8-4-1.1** Any liquids, solids, or gases which, by reason of their nature or quantity, are or may be sufficient, either alone or by interaction with other substances, to cause fire or explosion or be injurious in any other way to the District System or to the MWRD Publicly Owned Treatment Works ("POTW") or to the operation of the District System or the POTW. At no time shall 2 successive readings on any explosion hazard meter, at the point of discharge into the system (or at any point in the system) be more than 5%, nor any single reading over 10% of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to: gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides and sulfides, and any other substances which the MWRD, the State, or EPA has notified the user is a fire hazard or a hazard to the system.

**8-4-1.2** Solid or viscous substances which may cause obstruction to the flow in a sewer, or other interference with the operation of the MWRD wastewater treatment facilities, such as, but not limited to: grease, garbage with particles greater than ½" in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas, tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass, grinding or polishing wastes, and other like or similar materials.

**8-4-1.3** Any wastewater having a pH less than 5.0 or more than 9.0, or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the District or MWRD.

**8-4-1.4** Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the District or MWRD, to contaminate the sludge of any MWRD systems, or to exceed the limitations set forth in a Categorical Pre-treatment Standard. A toxic pollutant shall include, but not be limited to, any pollutant identified pursuant to the Federal Water Pollution Control Act, 33 U.S.C. 1251, Section 307(a), as amended from time to time, or state law or regulation.

**8-4-1.5** Any noxious or malodorous liquids, gases or solids which, either singly or by interaction with other wastes, are sufficient to prevent entry into the sewers for maintenance and repair.

**8-4-1.6** Any substance which may cause MWRD's effluent or any other product of the MWRD POTW, such as residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the

reclamation process. In no case shall a substance discharged to the District's System cause the MWRD POTW to be in non-compliance with the sludge use or disposal criteria, guidelines, or regulations affecting sludge use or disposal.

8-4-1.7 Any substance which will cause the MWRD POTW to violate its NPDES permit or the receiving water quality standards.

8-4-1.8 Any wastewater with objectionable color not removable in the treatment process, including, but not limited to, dye wastes and vegetable tanning solutions.

8-4-1.9 Any pollutants, including oxygen-demanding pollutants (BOD, etc.) which a user knows or has reason to know will cause interference to the MWRD POTW. In no case shall a slug load have a flow rate or contain concentrations or quantities of pollutants that exceed for any time period longer than 15 minutes more than 5 times the average 24-hour concentration, quantities or flow during normal operation.

8-4-1.10 Any wastewater containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the District in compliance with applicable State Rules and Regulations Pertaining to Radiological Control, published by the Department of Health, State of Colorado.

8-4-1.11 Any wastewater which causes a hazard to human life or creates a public nuisance and is not contained in the wastewater system.

8-4-1.12 Any wastewater having a temperature which will cause the temperature of the influent to the wastewater treatment plant to exceed 104 o F. and/or inhibit the biological activity in the MWRD POTW.

8-4-1.13 Any water or waste which contains grease or oil or any other substances that will solidify or become discernibly viscous at temperatures between 32o F. (0 o C.) and 150 o F. (65.5 o C.).

8-4-1.14 Any water or waste containing free, floating or insoluble oil.

8-4-1.15 Wastes from septic tank pumpage or vaults except at locations permitted in writing by the District.

8-4-1.16 Waters containing garbage that has not been ground or comminuted to such a degree that all particles will be carried freely in suspension under conditions normally prevailing in public sewers. Solid particles shall be no more than ½" in any dimension.

8-4-1.17 Unusual concentrations of dissolved solids.

8-4-1.18 Any wastewater containing BOD, total solids, or suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the wastewater treatment plant; provided, however, that a user may be permitted by specific, written agreement with the MWRD POTW, which agreement to discharge such BOD or TSS may provide for special charges, surcharges, payments or provisions for treating and testing equipment.

8-4-1.19 Ammonia nitrogen, phosphorus or phosphate containing compounds (excluding cleaning compounds), or substances readily converted thereto, in amounts that would cause the MWRD POTW to fail to comply with its NPDES permit.

8-4-1.20 Any materials which would present a health risk to plant personnel or cause the need for unusual protective equipment or precautions under normal work conditions.

8-4-1.21 Any material or substance not specifically mentioned in this Section which in itself is corrosive, irritating or noxious to human beings and animals, or which by interaction with other water or waste in the public sewer system could produce undesirable effects or create any other condition deleterious to structures, treatment processes, and quantity of the receiving stream.

8-4-1.22 Any material or substance which would interfere with the treatment process.

**8-5 FEDERAL AND STATE PRETREATMENT STANDARDS:** No person shall cause to be discharged, either directly or indirectly, any substance in violation of any Industrial Pretreatment Program adopted by the District.

## **ARTICLE 9 USER REQUIREMENTS**

### **PART A SERVICES**

#### **9A-1 SERVICE LINES AND FIRE LINES:**

**9A-1-1 CONSTRUCTION- Construction.** Separate and independent service lines and fire lines shall be designed, installed and constructed by the Property Owner at his sole cost and expense for every building or other improvement requiring water or sewer service. Such service lines, fire lines and any other sewer facilities located on the property shall be designed and constructed in accordance with applicable rules, regulations, standards and building codes. An individual residential or commercial unit within a building is not generally required to have separate water service or a separate Water Meter, and this section does not prohibit arrangements for allocation, collection or reimbursement of water charges between or among occupants of a single permitted premises, including submetering. (Cross reference: 2-35.5 SUBMETER; 2-49 WATER METER; 5-5 MULTIPLE USE OF TAP PROHIBITED; 9A-2-4 Common Service for Individual Units)

**9A-1-1.1 SEWER** - All sewer service lines shall be connected to the sewer main with a standard "Tee" connection. No sewer service line may discharge directly into a manhole.

#### **9A-1-2 MAINTENANCE**

**9A-1-2.1 SEWER** - The Property Owner shall be responsible for maintaining, repairing and replacing the entire length of the Property Owner's sewer service line up to and including the Tee or saddle fitting on the Main, and shall ensure that no root infiltration, surface water, or groundwater enters the District System through such service line or lines. All repairs and maintenance to the sewer service line must be performed by a licensed and bonded plumber. The District may effect the repair or otherwise cure any such condition and may charge the Property Owner the costs thereof as provided in Section 3-5, but the District is not obligated to effect any repairs or curative work on any Property Owner's service line. (Cross reference: 3-7-10 Infiltration; 8-1-3 Groundwater; Surface Water)

**Control Manholes Required:** When required by the District, any Industrial User shall install and maintain at its sole expense a District-approved control manhole in the service line to facilitate observation, sampling and measurement of the wastewater flows.

**9A-1-2.2 WATER** - Each Property Owner shall be responsible for maintaining the entire length of the Water Service Lines and Fire Lines serving Property Owner's property up to the District Water Main. Leaks or breaks in such Water Service Line or Fire Line must be repaired at the Property Owner's expense, within a reasonable period of time after notification of such condition by the District. The determination of what constitutes a reasonable time period during which to effect repairs shall be within the sole discretion of the District. All repairs and maintenance to the water service line or fire line must be performed by a licensed and bonded plumber. If satisfactory progress toward repairing a leak or break has not been completed within the time period determined by the District, the District shall have the right to effect the repair and collect such costs as may be incurred from the Property Owner. The District shall place a lien on the property if such costs are not paid.

**9A-2 WATER METERS:** All users of District water shall be required to have Water Meters installed to measure the flow of water through the Tap. The Property Owner shall, at Property Owner's sole expense, purchase from the District and install a Water Meter. Each Water Meter shall be placed at a point on the Water Service line as directed by the District and shall have an isolation valve on each side and a backflow preventer as specified in Part C of this Article 9. (Cross Reference: 2-35.5 SUBMETER; 2-18.5 MASTER WATER METER; 2-41 TAP or SERVICE CONNECTION; 2-49 WATER METER; 3-7-1 Unauthorized Connection)

#### **9A-2-1 LOCATION**

**9A-2-1.1 ACCESSIBILITY REQUIRED-** All meters, whether located in meter pits or inside buildings, must be located so as to allow the District unimpeded and non-hazardous access to the meter at

reasonable times. Meters must also be located so that the radio frequency signal from the automatic meter reading device can be obtained from a publicly-accessible street or another location conveniently accessible to the District's meter-reading vehicles and equipment.

**9A-2-1.2 METER PIT OR INSIDE BUILDING-** The specific location of meters shall be designated by the Property Owner, subject to the provisions of this section.

**METER PIT.** All meters shall be installed outside the structure being served unless an interior location is specifically approved by the District. Meters shall be installed in a frost proof meter pit or vault: (1) within the boundaries of a public street or in an easement measuring at least ten (10) feet by ten (10) feet, and as accessible to the District as a public street would be; or (2) in front of the premises to be served, either in the right-of-way or on the property of the premises, not more than five (5) feet from the property line and adequately protected from hazards and interferences. Meters may not be installed in paved areas without prior approval by the District.

**INSIDE BUILDING.** With prior written approval from the District, a meter may be installed at an easily accessible location inside a commercial or industrial building on the premises to be served, provided that there will be no reasonable possibility for water to be taken from the service line without passing through the meter. The location of the indoor meter shall be heated to prevent freezing, shall be adjacent to a floor drain and shall not be obstructed. The meter shall be equipped with a remote type automatic meter reading device that will be mounted on the outside of the structure in accordance with the District's engineering standards.

**9A-2-1.3 CLEARANCE FROM OBSTRUCTIONS AND UTILITIES-** Meter pits for service sizes 3/4 and 1-inch require a five (5) foot radius clearance from center of lid to any building, structure, retaining wall, fence, transformer, fire service line, utility pedestal, tree, woody nursery stock, street and site light poles, signs, utility poles, all buried utilities, and any other permanent obstruction and utility. Meter pits for services sizes 1-1/2 and 2-inch require a seven (7) foot radius clearance from center of lid, and meter vaults for service sizes 3-inch and above require a five (5) foot clearance from the belowground perimeter walls of the vault to any of the same.

**9A-2-2 TESTING-** Each Water Meter shall be tested by District personnel and properly adjusted at the time of installation. The District may make periodic tests of Water Meters and replace or repair Water Meters as needed. The Property Owner shall be required to pay the costs of repair or replacement. (Cross reference: 7-12 METER TESTING FEES)

**9A-2-3 NO REMOVAL OR INTERFERENCE WITH METER-** Once installed, the Water Meter shall be deemed the property of the Property Owner; however, the Water Meter may not be removed or interfered with except upon prior approval by the District.

**9A-2-4 ONE BUILDING PER METER-** No more than one building shall be served by one Water Meter. A "building" for this purpose is a structurally independent improvement with plumbing facilities installed. No manifolding or looping of two or more Water Meters is permitted. (Cross reference: 3-7-21 Unauthorized Connection of Two or More Taps; 9a-2-4 Common Service for Individual Units.)

**9A-2-5 COMMON SERVICE FOR INDIVIDUAL UNITS-** An individual residential or commercial unit within a building is not generally required to have separate water service or a separate Water Meter. If an owner of an individual unit within an independent structure requests a separate water service or separate metering, such request shall be considered by the District in its sole discretion. If approved, all costs of providing separate water service shall be borne solely by the owner.

**9A-2-6 SEPARATE SERVICE REQUIRED-** If a dispute arises between owners of individual units within a multi-unit residential or commercial building supplied through a common service pipe, regarding compliance with the District's rules or failure to pay charges due, the District may require separate water service and separate Water Meters for each unit. If the District requires separate water service in order to provide separate bills for each unit, it shall notify the owners of each individual unit by means of written or posted notice on or near the door of the unit or the nearest location in or on the Building at which access for District personnel is permitted. Such notice shall provide that the owners must arrange for the installation of separate water service for each unit within 30 days of such notice. If the owners of the individual units fail to comply within the specified time, the District may, in its

discretion, install the separate water services and bill each owner an appropriate share of the costs of such installation. If any owner fails to pay the apportioned share of the costs of installation by the due date on the bill, the District may suspend water service for nonpayment under these Rules and Regulations or may assess a lien against the property as authorized by law.

**9A-2-7 CROSS CONNECTION CONTROL**- All water facilities shall be constructed and installed in compliance with the Colorado Department of Public Health and Environment Cross Connection Manual. All fire protection systems must utilize a reduced pressure principle back-flow prevention device

**9A-3 PREVENTION OF FOOD RELATED GREASE IN DISTRICT SYSTEM**: Food-related grease build-up in the District Sewer System is a significant concern, and grease management measures are required for all food service facilities to prevent the entry of animal or vegetable oil, grease or greasy waste or any other fats, oils, and grease (FOG) into the District System. It is the obligation of the Property Owner to notify the District of any use of the premises that includes the preparation of foods. Compliance with this Section 9A-3 and its subsections is the joint and separate responsibility of both the Property Owner and the tenant, if any, operating a food service facility, but the District holds the Property Owner ultimately responsible to ensure compliance. This Section does not apply to residential homes. For purposes of this section, “food-service facilities” includes Class 1 and Class 2 facilities, defined as follows:

**Class 1.** All facilities used and operated regularly for the preparation or sale of prepared or processed food, including, but not necessarily limited to, restaurants, cafes, fast food outlets, catering kitchens or facilities, pizza outlets, delicatessens, sandwich shops, butcher shops, and any and all other kinds and types of food preparation or vending establishments in which any food preparation, cooking, cutting, or processing takes place on the premises, as well as schools, churches, boarding houses with communal kitchen facilities, nursing homes, and day care centers which have kitchens and engage in the cooking and other preparation of food. Facilities are identified as Class 1 facilities whether or not such facilities are located in a separate building or structure, or occupy space in a building or structure that is occupied by other businesses or entities, and in which cooking, food preparation or processing generates any animal/vegetable oil, grease or greasy waste that is discharged to the sanitary sewer system through sink drains, floor drains, or by other means.

**Class 2.** Facilities described in Class 1 but which do not generate any animal/vegetable oil, grease or greasy waste that is discharged to the sanitary sewer system. In general, such facilities include those that receive all foods prepared from an outside source, which utilize paper and other disposable goods to heat and serve foods, and which do not wash dishes, pots, pans, cutlery, or utensils on the premises.

**9A-3-1 BEST MANAGEMENT PRACTICES** - All food preparation and service facilities are required to implement best management practices (BMPs) to minimize the generation and contribution of animal/vegetable oil, grease, greasy waste, and FOG to the sanitary sewer. The BMPs include the following:

Scrape food from plates into a garbage can.

Pre-wash plates by spraying them off with cold water over a small mesh catch basin positioned over a drain. This catch basin should be cleaned into a garbage can as needed.

Install and maintain screens over all sinks and floor drains.

Liquid and solid oil and grease from cooking equipment and utensils shall be collected into a waste grease bin.

The collected oil and grease shall be managed and disposed of properly. Disposing of collected oil and grease generated from commercial facilities into the domestic trash, the sanitary sewer, other surface waters or impervious areas such as parking lots, alleyways or landscaping is not proper management and is prohibited.

Other kitchen practices identified by District and/or facility which will decrease the point source discharge of oil and grease.

**9A-3-2 GREASE INTERCEPTORS** - In addition to the BMPs set forth above, grease interceptors are required for all Class 1 food-service facilities. Grease interceptors will not be required for Class 2 facilities unless the District notes a build-up of grease or FOG in the District System reasonably determined to be caused by discharge from

such facility. (Cross reference: 9A-8 CHANGES IN USE, EQUIPMENT OR SERVICE; 9C INTERCEPTOR DESIGN AND INSTALLATION STANDARDS)

**9A-3-2.1 SIZE AND LOCATION** - All grease interceptors required to be installed by these Rules and Regulations shall be sized in accordance with the provisions of Part C of this Article 9 hereof and shall be located outside the building served on private property and shall be so installed and connected as to be at all times easily accessible for inspection and cleaning. Grease interceptors shall not be closer than 3 feet to any building or property line.

Sinks, floor drains, floor sinks, mop sinks, disposals, dishwashers and other plumbing fixtures in kitchens, bars, bussing stations, and other food service areas into which wastewater is likely to or has the potential to contain fats oils or grease (FOG) must be connected to the grease interceptor. All garbage disposal discharges must go through the grease interceptor. Drain piping serving the applicable fixtures shall be combined prior to and enter the interceptor through a single designated inlet pipe. Water closets, urinals, and other plumbing fixtures conveying human waste shall not drain into or through the grease interceptor. Each business establishment for which a grease interceptor is required shall have an interceptor serving only that business. Shared grease interceptors are only allowed under a variance to be considered by the District on a case-by-case basis.

**9A-3-2.2 INSTALLATION AND MAINTENANCE**- The Property Owner shall install interceptors in accordance with the provisions of Part C of this Article 9 at their sole cost, and at all times use, maintain, clean, and ensure the effective operation of any and all interceptors. The Property Owner shall submit a Certificate of Maintenance to the District each time the interceptor is cleaned. The certificate must indicate the quantity of grease collected and removed at the time of cleaning. Based on historical records and certificates received by the District, the cleaning interval must be adjusted so as not to allow the interceptor to be more than 80 percent full at the time of cleaning. If the Property Owner fails to meet these requirements, the District may affect the necessary cleaning, maintenance, or repairs, and may charge the Property Owner the cost thereof. (Cross reference: 3-7-3 Interceptor Violations; 7-4 Inspection Fee)

**9A-3-2.3 INSPECTION; NOTICE OF VIOLATION**- The District may go upon the property where any interceptor is installed to inspect such interceptor from time to time and without prior notice as it deems necessary, and in accordance with the provisions of subsection 9A-3-2.4 below, and the Property Owner shall be liable for the Inspection Fees as provided by Section 7-4 above. Facilities that are required to pump and/or repair interceptors, as documented by inspections, shall be given written notices of violation. Pumping and repairs shall be completed within a maximum of five (5) calendar days and thirty (30) calendar days respectively upon written notice of violation. Facilities with violations shall be re-inspected following the elapsed time period to ensure compliance. (Cross reference: 3-7-3 Interceptor Violations; 7-4 Inspection Fee)

**9A-3-2.4 CLASSIFICATION OF INTERCEPTORS** - Interceptors will be classified into two (2) categories:

- (1) Problem or Significant Grease Interceptors. The facilities connected to these grease interceptors contribute significant amounts of fat, animal/vegetable oil and/or grease (FOG) to the sanitary sewer system. These grease interceptors will be inspected at a frequency of every three (3) to six (6) months.
- (2) Non-significant Grease Interceptors. The facilities connected to these grease interceptors do not contribute significant amounts of FOG to the sanitary sewer system. These grease interceptors will be inspected at a frequency of every six (6) to twelve (12) months.

**9A-3-2.5 GREASE INTERCEPTOR PUMPING SCHEDULES** - Initially, all Users connected to grease interceptors will be required to pump out their interceptors quarterly or every three (3) months. Inspections of the grease interceptors by the District will determine if this frequency needs to be increased to control the amounts of oil and grease entering the sanitary sewer system or if the pumping frequency can be decreased.

**9A-3-3 INTERIOR OR INTERNAL GREASE TRAPS:** The District may grant a variance permitting an interior or internal grease trap (“grease trap”) for a Class 1 facility instead of the exterior grease interceptor as above provided. The variance procedure and application form may be obtained from the District Engineer. In general, interior grease traps will be considered only if it is physically impracticable to install an external interceptor for the facility or if the applicant demonstrates grease management practices that substantially eliminate the entry of animal/vegetable oil, grease or greasy waste (FOG) into the District System, and the applicant is willing to enter into an agreement for more frequent inspections at the applicant’s expense.

9A-3-3.1 GREASE TRAP PUMPING SCHEDULES- A facility with a permitted grease trap shall maintain the grease trap appropriately to minimize the contribution of oil and grease to the sanitary sewer. Facilities that do not maintain these grease traps appropriately will be required to implement more frequent pumping schedules, determined by inspection observations of the District. If the management of the interior grease trap is not successful in minimizing the contribution of oil and grease to the sanitary sewer, or if the facility persists in noncompliance with requirements, the District will require the facility to install an outside grease interceptor.

**9A-3-4 TREATMENTS AND ADDITIVES:** Biological, chemical, thermal, enzyme or other treatments or additives that alter the contents of grease interceptors shall not be a substitute for the pumping of the grease interceptor or grease trap at the frequency determined by the District.

**9A-3-5 OTHER SOURCES:** Dischargers and Property Owners not covered by other provisions of this Section 9A-3 that generate significant amounts of fats, oil and grease (FOG), whether or not such sources are food service facilities, will be identified through inspection of the District System by the District or MWRD. Once these sources are identified, they will be required to implement BMPs identified in Section 9A-3-1 to keep FOG out of the Sewer System.

If the BMPs are not successful at the facility and the facility continues to contribute significant amounts of FOG to the sanitary sewer, as documented by field inspections, then the facility will be required to install an adequately sized grease interceptor.

This section 9A-3-5 pertains to any type of building, structure, business, or dwelling unit or units, including but not limited to multifamily residential buildings or complexes. The requirements of subsections 9A-3-2.1 through 9A-3-2.5, 9A-3-4, and 9A-3-6 herein shall apply to all facilities for which grease interceptors are required.

**9A-3-6 RECORDS:** Facilities with grease interceptors, grease traps, and/or waste grease bins are required to maintain receipts, paid invoices, work orders and other documentation of all purchases of such equipment, repairs, parts, maintenance operations, and cleaning for a minimum of three (3) years and have these records accessible for review.

**9A-4 OIL, SAND/SEDIMENT TRAPS:** Oil and sand/sediment traps are required for all gas stations, parking structures, commercial garages and car wash facilities.

**9A-4-1 LOCATION-** All oil or sand/sediment traps required to be installed by these Rules and Regulations shall be located outside the building served on private property, shall be so installed and connected as to be at all times easily accessible for inspection and cleaning, and shall not be closer than 3 feet to any building or property line.

**9A-4-2 INSTALLATION AND MAINTENANCE-** The Property Owner shall install oil and sand/sediment traps in accordance with the provisions of Part C of this Article 9 at his/her sole cost, and at all times use, maintain, clean and ensure the effective operation of any and all such traps. The Property Owner of each facility for which such a trap is required shall submit a Certificate of Maintenance to the District each time the interceptor is cleaned. The certificate must indicate the quantity of oil, sand or sediment collected and removed at the time of cleaning. Based on historical records and certificates received by the District, the cleaning interval may be adjusted so as not to allow the trap to be more than 80 percent full at the time of cleaning. If the Property Owner fails to meet these requirements, the District may effect the necessary cleaning, maintenance or repairs, and may charge the Property Owner the cost thereof. (Cross reference: 3-7-3 Interceptor Violations)

**9A-4-3 INSPECTION-** The District may go upon the property where any trap is installed to inspect such trap from time to time as it deems necessary, and the Property Owner shall be liable for the Inspection Fees as provided by Section 7-4 above.

**9A-5 SWIMMING POOLS:**

**9A-5-1** No person shall discharge or permit to be discharged any Swimming Pool Discharge into the District System without first obtaining a Permit therefor as provided in Section 5-10 above, and except in conformity with conditions of any such permit and these rules and regulations. The pool drain may not be connected to the District System. (Cross reference: 2-38 SWIMMING POOL DISCHARGE; 3-7-4 Swimming Pool Discharge Violations; 5-10-2 General Conditions; 5-10-3 Mechanical Controls)

**9A-5-2** The District may inspect any facilities designed or utilized to permit Swimming Pool Discharge to enter the District System, and Property Owner shall be responsible for payment of the Inspection Fees as provided by Section 7-4 above.

**9A-6 CAR WASH HOLDING TANKS:** Car wash operations may be required to install holding tanks sized to reduce peak flow to the sewer system. In any event, such holding tanks shall not have less than 10,000 gallon capacity. When holding tanks are determined by the District to be necessary, they shall utilize a pump to discharge water from the holding tank to the sewer system. The maximum flow rate of the pump for the installed condition shall not exceed the rate of flow approved by the District.

**9A-7 PRIVATE DISPOSAL SYSTEMS:** Any person permitted to own and operate a private wastewater disposal system shall be responsible to operate, clean, maintain, and dispose of waste materials from such system in accordance with the terms of any permit therefor. In no event shall waste materials or effluent from such system be discharged into the District System. (Cross reference: 1-12-2 Exemptions)

**9A-8 PRIVATE LIFT STATIONS:** The District has determined that lift stations constitute a source of maintenance and operational problems and should be avoided if practicable. Where there is no alternative alignment that would allow gravity flow of wastewater from any served premises to the District System, then a lift station will be permitted subject to approval by the District of the design and discharge rate of such lift station. The purpose of such approval is exclusively for the purpose of ensuring that the discharge from the lift station does not exceed the anticipated flow from such served premises based upon the number of SFE taps issued for such premises, and the such lift station shall be a private facility, not part of the District System, and the District will assume no responsibility for the sufficiency, quality, operation, repair, maintenance or replacement of such lift station. If the District determines in its sole discretion that a lift station is needed on a proposed or existing District Main or other part of the District System in order to operate the District System or any portion thereof, then the District will design and construct such lift station, and the Developer of property to be served thereby shall bear all the District's costs incurred for or relating to such design and construction, without limitation.

**9A-9 CERTAIN DRAINS PROHIBITED:** No drain may be connected to the District System which would or could permit groundwater or surface water to enter the District System. This prohibition applies to basement drains, and any and all groundwater and surface water drainage structures or systems, or clear water connections, without limitation. Sump pumps shall not be connected to or permitted to discharge into the District System without express written permission by the District. (Cross reference: 3-7-6 Prohibited Drains)

**9A-10 CESSPOOLS AND SEPTIC TANKS:** No connection to a District Main or appurtenant facility will be permitted if the service line extends through or from a cesspool or septic tank.

**9A-11 CHANGES IN USE, EQUIPMENT OR SERVICE:** Property Owner shall notify the District at any time the use being made of his/her property changes in such a way that any grease or sand interceptor will or may be required under Section 9A-3 or 9A-4, or a Swimming Pool Permit will be required under Section 9A-5 above, or an Increased Volume Permit will be required under Section 5-7-2, or for a change in building use to a higher use, i.e.,



from warehouse to office, or for any expansion in square footage. Tap Fees shall be paid for such proposed use according to the Tap Fee schedule then in effect, with an amount subtracted as a credit for the previously paid fees. The amount subtracted shall be adjusted so that it reflects the current fee schedule. For a change in use to lower use, i.e., office to warehouse, no adjustment will be made.

(Cross reference: 3-7-13 Failure to Notify of Use Changes; 8-1-17 False Official Statement; Report)

## **9A-12 SPECIAL SERVICES:**

**9A-12-1 SPECIAL CONTRACTS** - The District may enter into special contracts for special purchase of water or sewer service if it is in the District's best interest to do so.

**9A-12-2 SPECIAL WATER SERVICE THROUGH FIRE HYDRANTS** - The District owns and maintains fire hydrants for fire protection emergency use and training only; however, the District may make water available on a special project basis, such as for construction water, provided that no such use shall be authorized unless a permit is issued and renewed for use in accordance with this Section. Any person seeking to use temporary water service through a fire hydrant within the District shall submit an application for a permit in writing and shall meet the following requirements. A copy of the District's Hydrant Use Program and Policy can be obtained from the District office. (Cross Reference: 3-7-22 Unauthorized Use or Improper Equipment Used for Special Water Service from Fire Hydrants)

**9A-12-2.1** The written application for a permit shall contain a statement of the purpose of use and anticipated duration of use.

**9A-12-2.2** Any person using a fire hydrant in the District must provide their own assembly for obtaining water from a hydrant as described in the District's Hydrant Use Program and Policy. A deposit of the anticipated use must be made prior to the issuance of the permit. Use greater than the anticipated use will be due and payable within 24 hours if the duration and/or use is longer/more than stated in the application. No renewal will be approved for subsequent use unless current and past due charges are paid. If the use is less than stated in the application, a proportionate refund of the deposit will be made. (Cross reference: 7-8 SPECIAL SERVICE FEES)

**9A-12-2.3** There will be only one gate valve in use on a hydrant in the District at one time, and valve service will be allocated on a first come, first served basis. No hydrant use permit will be issued on or for weekends or legal holidays. If a permit is issued, gate valves will be installed daily, Monday through Friday, and removed daily not later than 4:00 p.m. each day.

**9A-12-2.4** All hoses and connections to hydrants shall be water-tight, at least ten feet from the hydrant.

**9A-12-2.5** Any damage to the hydrant or District property resulting from hydrant water use will be paid for by the user, and the user indemnifies the District and holds the District harmless from and against any and all damage or injury to any person or property resulting from or in any way connected with temporary water use through a hydrant.

**9A-12-2.6** All special permit usage of hydrants shall be subject to the emergency requirements of the South Metro Fire Rescue Authority or any fire protection entity responding to a fire emergency within the District, and any user pursuant to a special use permit shall do all acts and things necessary to cooperate fully with such Fire Rescue Authority or other responding entity.

**9A-13 CONSTRUCTION CONSULTANTS:** The District may enter into contracts with one or more consultants in connection with construction projects in which the District has an interest. Such consultants may be individuals or companies in any profession or trade that, at the discretion of the Board, is deemed capable of providing needed testing, information, pre-construction work, or other assistance, including, but not limited to, design engineering, soils engineering, hydrological engineering, surveying and construction staking, and project supervision. Contracts with such consultants shall be subject to the provisions of Section 9B-1-9, and all subsections thereunder, pertaining to insurance coverage. For purposes of Section 9B-1-9 and its subsections, the term "Contractor" shall include any and all construction consultants as herein defined. (Cross reference: 9B-1-9 Insurance)

**9A-14 CONTROL MANHOLES REQUIRED:** When required by the District or MWRD, any Industrial User shall install and maintain at its sole expense a suitable control manhole in the service line to facilitate observation, sampling and measurement of the wastewater flows.

**9A-15 STUB-IN PERMITS:** A stub-in is defined as all fittings and pipe necessary to extend the service line from the main to the property line and shall be permitted during construction of premises for which application has been made for one or more water taps. The contractor may use water accessed through the stub as a source of water during construction, subject to the following conditions:

**9A-15-1** All stub-ins must be inspected and approved by the District before any water is used from the stub.

**9A-15-2** The Contractor shall pay a non-refundable permit application fees, as set forth in the Appendix, to cover the use of water, inspection, and administration costs for one year.

**9A-15-3** The stub-in permit is good for one calendar year from the date of application and payment. If the stub has not been converted to a tap or decommissioned and removed within the one-year period, the stub-in permit may be renewed upon payment of an additional non-refundable permit application fee.

**9A-15-4** Each stub shall be clearly marked at the point of termination on the lot with a 4" x 4" wood post. The length of the stub from the main to the end shall be marked on the as-built plans, as well as the distance from the downstream manhole.

**9A-15-5** Any stub-in pursuant to this section is permitted for the sole convenience of the applicant so that Applicant may receive benefits such as the ability to pave streets above the physical installation of the tap and service line, and to permit the use of construction water.

**9A-15-6** A stub-in pursuant to this section does not guarantee that the stub-in can be converted to a tap, or that conversion of the stub-in will be given preference of any kind over other requests for water service.

**9A-15-7** Maintenance and repair of any stub installed pursuant hereto shall be the sole responsibility of the Applicant.

**9A-15-8** The applicant shall use water through the stub only to the extent reasonably necessary for construction purposes and shall not waste water or use water in unreasonable or excessive quantities. In the event of a violation of this subsection h., the District may revoke the stub-in permit and may avail itself of whatever other penalties and/or legal recourse are available for the unauthorized use of its facilities.

**9A-15-9** The applicant shall ensure that no contaminants are able to enter the District's water system through the stub.

**9A-15-10** The applicant shall be subject at all times to the Rules and Regulations of the District, as same may be amended from time to time. (Cross reference: 7-23 STUB-IN FEES)

**9A-16 MANHOLE LINING REQUIRED:** If the District observes notable concrete corrosion inside District System manholes located adjacent to User types that are generally known to cause such corrosion through the generation of excessive hydrogen sulfide or acidic discharge (specifically multiple restaurants, breweries, or as determined by the District), the District may require the User to install or reimburse the District the cost of installing a protective concrete lining system inside the affected manhole(s) (up to but no more than 3 manholes closest to each affected User's service location, as determined by the District). The lining material shall consist of SpectraShield as provided by Concrete Conservation LLC or District-approved equivalent product.

## **ARTICLE 9 USER REQUIREMENTS**

### **PART B CONSTRUCTION STANDARDS**

**9B-1 GENERAL CONSTRUCTION STANDARDS:** All excavations and other work on Main Extensions, Taps, or other District facilities shall be performed in conformity with and are subject to the requirements and conditions set forth below. The term Contractor as used in this Part B applies also to the Property Owner.

**9B-1-1 COMPLIANCE** - Contractor shall comply with all District, local, State, and Federal Rules, Regulations, Standards and Specifications, and those imposed by Denver Water and/or MWRD, as applicable.

**9B-1-2 SAFETY** - It shall be Contractor's responsibility to determine, initiate, maintain and supervise all measures necessary to protect the public during construction.

**9B-1-3 PERMITS** - The Contractor shall be solely responsible for determining and obtaining any and all permits required for the work from other governmental entities or agencies having jurisdiction and shall perform the work in accordance with any and all applicable ordinances, regulations, laws and orders of, or permits issued by, such entities or agencies.

**9B-1-4 SUBSURFACE STRUCTURES** - The District shall make available to the Contractor record drawings showing the location of its facilities in the vicinity of the work, but the Contractor shall be finally and solely responsible for determining the existence and location of all subsurface structures in such area and shall indemnify and hold the District harmless against any and all claims for damages to any such structures.

**9B-1-5 WARRANTY** - All materials and workmanship furnished by the Contractor shall be warranted for a period of one year and shall conform to the provisions of Part C of this Article 9 and to all plans and designs approved by the District and shall be free from all defects due to faulty or non-conforming materials or workmanship.

**9B-1-6 INSPECTIONS** - No inspection or testing shall be performed by the District on weekends or holidays, or before 8:00 a.m. or after 5:00 p.m., without the express agreement of the District secured in advance. Whenever an inspection or testing is required by any specific provision of these Rules and Regulations or by the terms of any permit or plan approval, the Contractor shall give the District such notice as is required and shall not cover or otherwise obscure the work to be inspected until the inspection has been made. If required by the District, the Contractor shall uncover or otherwise make such work accessible for inspection when ordered to do so by the District. The inspections, testing and reviews performed by the District are for the sole and exclusive benefit of the District. No liability shall attach to the District by reason of any inspections, testing, or reviews required or authorized by these Rules and Regulations, or by reason of the issuance of any approval or permit for any work subject to this Section.

**9B-1-7 INDEPENDENT INVESTIGATION** - Contractor shall thoroughly examine the work site to ascertain for himself all soil, geological, groundwater and other conditions to be encountered which might affect the work being undertaken. The Contractor shall enter into such work relying on his own investigation and information, and not on any statements or representations, if any, that have been made by the District.

**9B-1-8 INDEMNIFICATION** - By undertaking any work subject to this Section, Contractor agrees to indemnify and hold harmless the District from any and all liability, claims, and demands, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with any work subject to this Section if such injury, loss, or damage is caused in whole or in part by, or is claimed to be caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault or Contractor, or which arise out of any Worker's Compensation claim of any employee of the Contractor. Contractor shall investigate, handle, respond to any and all claims, and to provide defense for the District at the sole expense of Contractor. The Contractor also shall bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not any such liability, claims, or demands alleged are ground-less, false, or fraudulent.

**9B-1-9 INSURANCE** - Contractor shall not commence work on District facilities until insurance as provided hereunder has been obtained and certificates evidencing the same have been issued by the respective insurance companies to the District. Such insurance companies must have a rating of A plus 2A or better in Best's Insurance Service. (Cross reference: 9A-13 CONSTRUCTION CONSULTANTS)

**9B-1-9.1 Scope of Coverage** - Contractor shall procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability claims, demands, and other obligations assumed by Contractor pursuant to 9B-1-8. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to 9B-1-8 by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

**9B-1-9.2 Types of Coverage** - Contractor shall procure and maintain and shall cause all subcontractors of the Contractor to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers acceptable to the District. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Contractor pursuant to 9B-1-8. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

- (1) Performance Bond in a form approved by the District.
- (2) Worker's Compensation insurance to cover obligations imposed by applicable laws for any employee engaged in the performance of work under this contract, and Employers' Liability insurance with minimum limits of FIVE HUNDRED THOUSAND DOLLARS (\$500,000) each accident, FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease - policy limit, and FIVE HUNDRED THOUSAND DOLLARS (\$500,000) disease - each employee. All Contractors shall request their Worker's Compensation carrier to issue to the District a Certificate of Insurance indicating that it is for Worker's Compensation coverage and listing the District as the Certificate holder. If the Contractor fails to pay any premium when due that is required to keep the policy in full force and effect while Contractor is performing work for the District, the District shall be entitled, but not required, to pay costs necessary to keep the policy in effect or to substitute coverage if that policy is no longer available and recover the cost of such insurance from the Contractor. Said amount may be deducted from the contract price or any royalties or other money due, owing, or to become due to the Contractor or its subcontractors. Failure to keep Worker's Compensation coverage in full force and effect is grounds for immediate termination of the contract. Contractor shall indemnify and hold the District harmless from any claims made by any of its employees or subcontractors or subcontractor's employees. Contractor shall pay for all awards, costs, and expenses including attorneys' fees incurred by the District as a result of any claim made by any of the Contractor's employees or any subcontractors or subcontractor's employees.
- (3) General Liability insurance with minimum combined single limits of ONE MILLION DOLLARS (\$1,000,000) each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contractors, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests provision.
- (4) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS (\$1,000,000) each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate with respect to each of Developer's/Contractor's owned, hired or non-owned vehicles assigned to or used in performance of the services. The policy shall contain a severability of interests provision.
- (5) Professional Liability insurance with minimum limits of THREE HUNDRED THOUSAND (\$300,000) each claim and SIX HUNDRED THOUSAND DOLLARS (\$600,000) aggregate.

**9B-1-9.3 Miscellaneous** - The policy required by Paragraphs (3) and (4) above shall be endorsed to include the District and its officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the District shall be excess and not contributory insurance to that provided by Contractor. No additional insured endorsement to the policy required by Paragraph (2) above shall contain any exclusion for bodily injury or property damage arising from

completed operations. Contractor shall be solely responsible for any deductible losses under any policy required above.

**9B-1-9.4 Enforcement** - Failure on the part of Contractor to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute cause for issuance of a Stop Work Order under 9B-3. In addition, without waiving any other available remedy, the District may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the District shall be charged to and paid by Contractor under Section 7-14.

**9B-1-9.5 Governmental Immunity** - The District relies on and does not waive or intend to waive the monetary limitations (presently \$350,000 per person and \$990,000 per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, Section 24-10-101 *et seq.*, 10 C.R.S., as now or hereafter constituted, or otherwise available to the District.

**9B-1-10 Record Drawings** - Upon completion of the work, Contractor shall submit to the District Record Drawings on electronic media compatible with the District records and certified compaction test results relating to such work.

**9B-2 REQUIRED SUBMITTALS:** No Contractor shall begin any excavation or any other work on any Main Extension, Tap, or other District facilities until he has obtained the prior approval of the District therefor, and has submitted, in addition to any other materials required elsewhere herein, the following, approved as to form by the District:

**9B-2-1 WRITTEN AGREEMENT** - A writing duly signed by Contractor (1) acknowledging Contractor's consent to be bound by the provisions of Section 9B-1; (2) warranting that the work shall conform to such provisions and shall be free from defects due to faulty or nonconforming materials and workmanship; (3) agreeing to indemnify the District as provided in Section 9B-1-8, and (4) agreeing to pay any and all applicable fees and charges provided by these Rules and Regulations in connection with the work.

**9B-2-2 INSURANCE CERTIFICATES** - Certificates prepared by Contractor's insurance agent in a form satisfactory to the District evidencing that policies providing the required coverages, conditions, and minimum limits are in full force and effect. The certificate shall identify the work being performed and shall provide that the coverages afforded under the policies shall not be cancelled, terminated or materially changed until at least 30 days' prior written notice has been given to the District. The District reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

**9B-2-3 PLUMBING PERMIT** - A true copy of a current plumbing permit issued by the Arapahoe County Building Department, containing a description of the work to be performed and authorization therefor, and drawings approved by Arapahoe County.

**9B-2-4 FEES** - The full amount of all fees payable in advance, or any required costs deposits, or both.

### **9B-3 STOP WORK ORDERS:**

**9B-3-1 ORDER** - The District may revoke any approval for work and issue a Stop Work Order upon a determination that the Contractor has violated or has failed to meet any condition of the approval, any provision of this Part B, or any other standard, specification, or rule imposed by the District. A Stop Work Order may be issued orally or in writing by the District Manager or the District Engineer, and shall take effect immediately upon the issuance thereof, and remain in full force and effect until rescinded in writing by the District

**9B-3-2 EFFECT** - It is unlawful for any person to do any work in violation of the terms of any Stop Work Order issued pursuant to this Section except such as may be permitted by the District in order to render the construction site safe and secure. (Cross reference: 3-7-14 Violation of Stop Work Order)

### **9B-4 CURE OF DEFECTS:**

**9B-4-1 ORDER TO CURE** - If the District determines that any part of the work was not performed in conformity with these Rules and Regulations or approved plans, or is defective, of poor or unworkmanlike quality, or otherwise

not in conformity with any applicable warranty, it may give written notice thereof to the Contractor. Such notice shall specify the non-conformity, direct the Contractor at his cost and subject to this Part B to perform specified curative work, and specify the period of time determined by the District reasonably necessary for completion of the curative work.

**9B-4-2 DISTRICT CURE** - If the Contractor fails within the time stated following such notice to cure the nonconformity specified therein, the District, in addition to and without waiving any of its other remedies, may perform the work and charge the Contractor for its actual costs incurred in connection therewith, calculated in accordance with the rates set forth in the Appendix hereto. The provisions of Article 7 applicable to invoicing and collection of fees and charges shall apply to any charges assessed to Contractor under this Section. (Cross reference: 7-14 CURE CHARGES; 7-18 WITH-HOLDING APPROVALS AND PERMITS)

**9B-5 FEES**: Contractor shall pay the District all fees imposed and assessed by the District for permits, reviews, inspections, tests, approvals, and any other undertakings performed by the District or its professional consultants in connection with the administration and enforcement of these Rules and Regulations, as provided by Article 7.

**9B-6 RELOCATION OF DISTRICT FACILITIES**: It is the policy of the District to work in cooperation with state and local governmental entities when needed public construction projects require the relocation, adjustment or rebuilding of District facilities. It is the purpose of this Section to set forth the terms and conditions applicable to such relocation, adjustment or rebuilding.

**9B-6-1 GENERAL CONSTRUCTION PROVISIONS APPLICABLE** - All provisions of these Rules and Regulations applicable to Contractors and Property Owners also apply to the activities of any governmental entity in effecting any relocation, adjustment, rebuilding or other work on District facilities which lie in the public way. For purposes of this Section 9B-6 and its subsections, the term "Public Entity" is used to designate the governmental unit requesting relocation, adjustment or rebuilding of District facilities.

**9B-6-2 PUBLIC ENTITY TO BEAR COSTS** - The public entity shall bear all costs, direct and indirect, of the relocation, adjustment or rebuilding of District facilities.

**9B-6-3 NOTICE OF NEED FOR RELOCATION** - The public entity shall notify the District immediately when it has taken under consideration any construction project which shall or may require the relocation or adjustment of District facilities. Such notice shall be in writing and shall contain or include the following:

**9B-6-3.1** A description of the proposed construction project;

**9B-6-3.2** An explanation of the necessity of the project which will or may cause the need for relocation of District facilities;

**9B-6-3.3** A listing of any and all alternatives that have been considered by the public entity that would avoid the need for relocation or adjustment of District facilities, and, for each such alternative that has been rejected, a statement of the reason for its being rejected;

**9B-6-3.4** All reasons that have been considered by the public entity in reaching the determination that the District facilities need to be or may need to be relocated or adjusted;

**9B-6-3.5** Drawing or drawings showing all design alternatives under consideration for the project and demonstrating the way in which each proposed design impacts District facilities, and a narrative description of such expected impact, including, but not necessarily limited to, vertical or horizontal distances that the District line or other facility would have to be moved and the nature of any other adjustment, relocation or rebuilding of District facilities that will or may be entailed.

**9B-6-3.6** The date upon which the proposed construction is planned to commence;

**9B-6-3.7** A recitation of pertinent financial information, including verification that funds have been properly budgeted and appropriated for the project, the projected costs, whether any other agency or source will participate in the funding, and anticipated disbursement procedures and schedules.

**9B-6-4 MEETING WITH DISTRICT ENGINEER** - As soon as practicable after the issuance of the notice, engineering representatives of the public entity shall meet with the District Engineer or his designee to discuss the project, coordinate the needs of the District and the public entity, and review any alternatives to make certain that all options have been fully considered.

**9B-6-5 PRELIMINARY APPROVAL** - The District Board of Directors will give preliminary approval to the requested relocation, adjustment, or rebuilding of District facilities as provided in this Section, if the Board of Directors, with the advice of the District Engineer and counsel, makes a determination or finding that the following conditions are met:

**9B-6-5.1** All requirements of these Rules and Regulations, including but not limited to the provisions of this Section, have been complied with by the public entity;

**9B-6-5.2** The Board finds that the construction project causing the request for such relocation, adjustment or rebuilding is necessary;

**9B-6-5.3** The Board determines that the public entity has the authority to undertake the project;

**9B-6-5.4** The Board finds that the manner in which the project has been planned and implemented has not been arbitrary, capricious, unreasonable or discriminatory against the District;

**9B-6-5.5** The Board finds that suitable arrangements have been made to pay the costs of the relocation, adjustment or rebuilding of District facilities; and

**9B-6-5.6** The Board finds that no justifiable reason exists in fact or in law for withholding approval.

**9B-6-6 COORDINATED CONSTRUCTION SCHEDULE** - Upon preliminary approval by the District Board, the District Engineer shall meet with the engineering representatives of the public entities to develop a coordinated construction schedule which shall thereafter be adhered to by all parties unless altered by mutual consent.

**9B-6-7 CONSTRUCTION DRAWINGS REQUIRED** - As soon as available, a set of construction plans for the proposed project showing the locations of the District facilities to be relocated, adjusted, or rebuilt shall be provided to the District.

**9B-6-8 DISTRICT MAY ELECT WHETHER TO PERFORM RELOCATION** - The District, in its sole discretion, may choose to perform the work itself. If so, the public entity shall pay the cost of such work in accordance with a payment schedule or plan to be agreed upon between the District and the public entity. If the District does not make such election, any relocation, adjustment or rebuilding performed by the public entity shall be conducted in accordance with these Rules and Regulations in all particulars and be in accordance with plans approved by the District. Such work shall be accomplished without impairing or interrupting the District's ability to provide service to its constituents. The public entity shall warrant all work against any and all defects and workmanship or materials for a period of two (2) years.

**9B-6-9 DISTRICT TO BE REIMBURSED FOR ALL DIRECT AND INDIRECT COSTS** - Any and all costs incurred by the District as a reasonable consequence of the public entity's request for services to be provided by the District in connection with any relocation, adjustment or rebuilding of District facilities under this Section, whether deemed direct or indirect, shall be reimbursed to the public entity. All charges for plan reviews and inspections shall be paid in advance in accordance with the applicable provisions of these Rules and Regulations. (Cross reference: 7-3 PLAN REVIEW FEES; 7-4 INSPECTION FEES)

## **ARTICLE 9 USER REQUIREMENTS**

### **PART C TECHNICAL STANDARDS AND SPECIFICATIONS**

**9C-1 SEWER COLLECTION SYSTEM MATERIALS**: The sewer (sanitary) standards set forth in this Part 9C-1 and the Sewer Notes in Part 9C-6 and District Standard Details are the minimum standards of the Cherry Creek Valley Water and Sanitation District. These standards are to be enforced by the Design Engineer as a minimum but do not restrict the use of more stringent design criteria and do not relieve the Design Engineer of responsibility for errors or omissions in plans or specifications.

**9C-1-1 SEWER PIPE** - Sewer pipelines and services shall be constructed of polyvinyl chloride (PVC) pipe, or ductile-iron pipe (DIP). All pipe and other material shall be checked at the jobsite for out-of-round joints, surface damage, gasket damage, cracks or other defects. Any pipe or materials found to be defective shall be rejected and shall be removed immediately from the job site.

**9C-1-1.1 Polyvinyl Chloride Pipe** - PVC pipe shall meet or exceed all material requirements of ASTM D3034 for sizes 4-inch through 15-inch and ASTM F679 for larger than 15-inch diameters. Provide SDR 35 (PS46 for F679) for burial depths of up to 20-ft of cover, and SDR 26 (PS115 for F679) for burial depths greater than 20-ft of cover. PVC material shall be Classified 12454 B or 12454 C in accordance with ASTM D1784, and gaskets shall conform to ASTM F477. Each length of PVC pipe and each PVC fitting shall have marked on the exterior the following.

National Sanitation Foundation seal for:

- ▶ Gravity Sewer Pipe
- ▶ Class and Size
- ▶ Pressure Rating
- ▶ Name or Trademark of Manufacturer

**9C-1-1.2 Ductile Iron Pipe** - DIP shall be Class 52 in accordance with ANSI A 21.51 and shall have a lining of ceramic-epoxy equal to or exceeding that of Protecto-401. The pipe exterior shall have a standard 1 mil bituminous coating. All DIP joints shall be push-on type with nitrile gasket, conforming to the requirements set forth in ANSI A 21.11.

**9C-1-2 MANHOLES** - Length between manholes shall not exceed 400 feet. Manholes may not be located in line with curb and gutter or in sidewalks or under parking. Service lines may not tie into or within 5-ft of manholes unless specifically allowed in writing by the District Engineer.

**9C-1-2.1 Bases** - Bases to manholes shall be constructed of cast-in-place concrete with No. 4 reinforcing bars placed in accordance with the District Standard Details. Precast bases shall not be used unless specifically approved in writing by the District Engineer.

**9C-1-2.2 Invert Channels and Benches** - Manhole invert channels may be formed in the concrete of the manhole base, or, if straight through, by embedding a section of pipe with the top half cut off in the manhole base. The invert channels shall be smooth and "U" in shape extending up to the level of the pipe crown. Changes in pipe size and grade shall be made gradually and uniformly, and changes in direction shall be made with as large of a swept radius as possible.

**9C-1-2.3 Barrel Sections** - Concrete barrel sections shall be precast conforming to ASTM C478. Manholes shall have a 4-foot inside diameter for pipe size 15-inch diameter and smaller and 20-ft or less in depth from rim to invert, and a minimum of 5-ft inside diameter for pipe size larger than 15-inches or depths greater than 20-ft, or as otherwise directed by the District Engineer in special cases.

**9C-1-2.4 Manhole Cone Sections** - Cone sections shall conform to ASTM C478 and shall be eccentric. In striped collector or arterial roadways, rotate the cone to place the manhole cover outside the wheel path centered in the traffic lane, or on the edge of the traffic lane; whichever is closer. In residential



streets, rotate the cone to place the manhole cover on the uphill side of the street cross section if located near the gutter, or as directed by the District Engineer.

Flat-top slabs with eccentric opening in accordance with ASTM C478 may be considered for shallow manhole installations if approved in advance by the District Engineer.

**9C-1-2.5 Manhole Joints** - Intermediate joints between all manhole barrel, cone, and adjustment ring sections shall be sealed by two concentric rings of K. T. Snyder RUB/R-NEK and provided with perimeter wrap around the exterior in accordance with the District Standard Details. Joints shall not be grouted. The joint between the manhole base and the first manhole section shall be sealed with three concentric rings of K. T. Snyder RUB/R-NEK or approved equal and grouted around the exterior perimeter only.

**9C-1-2.6 Manhole Inlet/Outlet Pipe Connections** - Pipe pieces shall be cut as necessary and installed to provide a gasketed joint on all sewer pipelines entering and exiting manholes within 18-inches of the manhole concrete base. A rubber gasket designed specifically for use as a waterstop shall be installed around the outside of all pipes where embedded in the concrete base to provide a leak-tight seal.

**9C-1-2.7 Manhole Ring and Cover** - Manhole rings and covers shall be 24-inch diameter, manufactured of cast or ductile iron, with the word "SEWER" cast on the cover. Manhole rings and covers shall be NEENAH R-1706 or approved equivalent and meet standard Denver Public Works traffic tread pattern.

The manhole ring and cover shall be parallel to the finished road surface. The cover shall be not more than 18 inches or less than 12 inches above the top of the concrete cone section.

Adjustment of the ring and cover shall be by the use of precast concrete adjusting rings per ASTM C478 and shims placed underneath the ring only. Drop-in steel adjusting "mud" rings are strictly prohibited and will be rejected by the District.

**9C-1-2.8 Manhole Steps** - Manhole steps shall be structural steel rod fully and completely encapsulated within textured polypropylene plastic manufactured specifically for sanitary manhole use in accordance with ASTM C478. Steps shall be placed at 12-inch vertical intervals. The top step shall not be more than 18-inches below the rim, and the bottom step shall not be more than 12-inches above the bench.

**9C-1-2.9 Drop Manholes** - Drop manholes are required where the difference in manhole inverts exceed 18 inches. Drop manholes shall use exterior "wye" pattern fittings of the same type and classification of the pipe for the drop transitions. Larger drop distances may consider the use of exterior vertical pipe that transitions via a "wye" fitting, or interior pipe utilizing the use of a drop bowl, subject to approval and direction of the District Engineer. Drop manholes shall be subject to approval by the District.

**9C-1-2.10 Concrete and Reinforcement** - Concrete for manhole bases, sewer pipeline encasement, and similar items shall have a 28-day compressive strength of not less than 4,000 psi.

Reinforcement shall be standard deformed reinforcement, conforming to the requirements set forth in ASTM A615, Grade 40.

**9C-1-3 SEWER SERVICES** - Standards for sewer service lines and taps are set forth in Part 9C-9 herein.

**9C-2 SEWER PIPELINE INSTALLATION:** The installation standards set forth in this Part 9C-2 and in Part 9C-6 and associated District Standard Details are the minimum standards of the Cherry Creek Valley Water and Sanitation District. These standards are to be enforced by the Design Engineer as a minimum, but do not restrict the use of more stringent design criteria and do not relieve the Design Engineer of responsibility for errors and omissions in plans or specifications.

**9C-2-1 FOREIGN MATERIAL IN PIPELINE** - All pipe joints, interior surface of sockets, exterior surface of spigots, and fittings shall be cleaned of foreign material prior to placement in the trench, and pipe shall remain clean at all times thereafter. Whenever the pipe is left unattended or pipe laying is not in progress, temporary plugs shall be installed at all openings. All sewer pipelines shall be flushed with water until clean before final acceptance. The resulting flushing water shall not be introduced into the existing sewer pipeline.

**9C-2-2 SEWER MAIN TIE-INS AT MANHOLES** - The manhole into which the proposed sewer line is to be tied shall have the outlet sealed with a temporary leak-proof mortar plug or other approved plug. This plug shall remain in place until after the final inspection and final acceptance of the sewer line by the District. It shall be

completely removed prior to placing the sewer pipeline in service. If a stub-out has not been previously provided when connecting a new sewer to an existing sewer manhole the incoming invert shall be neatly and smoothly cut into the existing concrete base pad. Entrance to the manhole through the barrel section is prohibited unless written approval is obtained from the District.

**9C-2-3 SEWER PIPE LAYING DIRECTION** - Pipe laying shall proceed upgrade, with the spigot ends of the pipe pointing in the direction of the flow. Each pipe length shall be laid true to line and grade.

**9C-2-4 SEWER SEPERATION FROM ADJACENT UTILITIES** - Adequate separation of sanitary pipelines from all other utilities shall be maintained for the ease of access, excavation, installation of shoring, rehabilitation, maintenance, and repair of the sanitary system, and for protection of the potable water supply from potential contamination.

**9C-2-4.1 Protection of Treated (Potable) Water Pipelines** - When a new sanitary sewer pipeline is laid parallel to an existing or new water pipeline, the distance between the pipelines shall be 10 feet. When the pipelines are 12-inches and smaller in diameter, the District generally considers a spacing of 10-feet measured center-to-center horizontally to meet this criterion which also satisfies horizontal spacing criteria within standard 30-foot water and sewer easements. When pipelines are larger than 12-inches in diameter, the edge-to-edge clear separation distance of 10 feet should generally be considered.

If a new sanitary pipeline is less than 10 feet horizontally from a water pipeline that is parallel or converging to the sewer pipeline, and the sewer alignment cannot be moved to an approved new alignment that is 10 feet from the water pipeline, then extra protection shall be provided for the sewer pipeline. Extra protection may consist of encapsulating the sewer pipeline within diggable flowfill or flashfill encasement or installing it within a casing pipe sleeve continuous for the limits within 10 feet of the water pipeline, or constructing the sewer pipeline with restrained joint pressure-rated Class 305 C-900 PVC or lined ductile iron pipe for the affected section of sewer pipeline for the full length between manholes (i.e., no intermediate pipe material changes allowed between manholes), or other appropriate method, subject to the approval and direction of the District.

Vertical separation at pipeline crossings shall maintain a minimum of 18-inches (1.5-ft) of clearance as measured between the outside of pipes. When a new sanitary sewer pipeline crosses an existing or new water pipeline and the sewer is above or less than 18 inches below the water pipeline, the Contractor shall center a full 18 or 20-ft "stick" of sewer pipe on the water pipeline such that there shall be no sewer pipeline joints within 9-ft of the waterline and provide extra protection for the sewer pipeline. Extra protection may consist of either of the following, subject to approval of the District:

- ▶ Reinforced concrete encasement around the entire length of the 18 or 20-ft stick of sewer pipeline (exclusive of the joint at each end, provide formwork to exclude concrete from the joint area). This option is available only if the sewer pipeline crosses below the water pipeline.
- ▶ Or, continuous (without joints) 20-ft long welded steel or ductile iron casing pipe sleeve (centered on the waterline) through which the carrier sewer pipe is installed on skids and provided with end seals.
- ▶ The above criteria assume the water and sewer pipeline crossing is at a right angle, perpendicular. If the crossing angle is oblique, the concrete encasement or casing sleeve length shall be extended to a point measured 10 feet horizontally and perpendicular to both sides of the water pipeline.

**9C-2-4.2 Sewer Separation from Dry and Other Utilities** - Sanitary pipelines installed adjacent to other utilities such as buried electrical, telecommunications, natural gas lines, storm drains, etc., shall maintain a minimum of 5-feet of horizontal clearance. When lines are installed in parallel, the distance between alignments shall be such that the 5-feet of clearance is measured from the outside edge of manholes, inlets, and junction structures. Horizontal clearance from the base of overhead power poles, traffic signal poles, and other overhead utility and light poles shall be 10 feet minimum.

Vertical separation at crossings shall maintain a minimum of 18-inches (1.5-ft) of clearance as measured between the outside of pipes, ducts, or encasements. If 18-inches of clearance is not feasible in any manner, then extra protection shall be provided for the sanitary line, for the other utility, or both, as directed by the District on a case-by-case basis and in accordance with the District Standard Details.

All dry and other utilities must maintain a 5-ft radius clearance from the edge of manholes, cleanouts, and lamp holes for system repair and maintenance.

**9C-2-5 DESIGN-PHASE POTHOLING AND SUE REQUIRED** - All existing and proposed utilities that the proposed sewer pipeline will cross – wet and dry, including traffic and street lighting utilities and utility service lines – shall be shown accurately in the design profile on the sewer plans. Label depths of cover over pipelines, and vertical clearance distances measured between outside of pipes at crossings. Show existing and proposed future grade as applicable. Identify extra protection measures at crossings, limits of flowfill backfill, location of trench dams, and other design elements as required or applicable to the design.

Unless otherwise allowed by the District, all existing utilities shall be shown at their actual top and bottom elevation based on potholing data collected by the Design Engineer or developer during design. If Subsurface Utility Engineering (SUE) law requirements apply to the project, then potholing will be conducted as part of the SUE design as Quality Level A information and stamped by the Engineer of Record accordingly. If SUE requirements do not apply to the project, potholing of crossing utilities during design shall occur regardless and the information shall be reflected in the design. If the proposed sewer will cross an existing storm drain or other gravity pipeline with more than 2.0-ft of vertical clearance, edge to edge, then the existing gravity pipeline may be portrayed in the profile at the elevation determined by survey of invert elevations at nearby manholes subject to approval of the District Engineer. If the clearance will be less than 2.0-ft, then the gravity pipeline shall be potholed consistent with Quality Level A information. The Design Engineer's survey files shall be provided to the District for informational purposes only with the plan review.

**9C-3 SEWER PIPELINE EXCAVATION, BEDDING, BACKFILL, AND COMPACTION:** The installation standards set forth in this Part 9C-3 and in Part 9C-6 and associated District Standard Details are the minimum standards of the Cherry Creek Valley Water and Sanitation District. These standards are to be enforced by the Design Engineer as a minimum, but do not restrict the use of more stringent design criteria and do not relieve the Design Engineer from responsibility for errors and omissions in plans or specifications. Backfill shall meet the requirements, as indicated in the following sections, or the requirements of the entity controlling the roadway being excavated, whichever is more stringent.

**9C-3-1 TRENCH EXCAVATION WIDTHS** - The minimum clear trench width measured at the top of the pipe barrel shall be not less than the outside pipe diameter, plus 16 inches, nor greater than the outside pipe diameter plus 20 inches.

**9C-3-2 SEWER PIPELINE BEDDING** - Sewer pipe shall be bedded from a point 6 inches below the invert of the pipe, to a point at least 12 inches above the top of pipe. The bedding material shall consist of imported concrete coarse aggregate, meeting the requirements of ASTM C33 and D448, Gradation No. 67. Bedding material shall be placed in 6-inch lifts (maximum) and compacted around the pipe by hand using tamping bars or shovel handles.

**9C-3-3 BACKFILL MATERIAL** - The remainder of the trench above the bedding material shall be backfilled with material from the excavated earth, unless a more stringent material is required by the agency having jurisdiction over the roadway. The backfill material shall not contain frozen material, rubbish, broken pavement, rocks greater than 6 inches in diameter, or other debris.

**9C-3-4 TRENCH COMPACTION** - Bedding and backfill material shall be compacted, and percentage compaction requirements shall be in accordance with ASTM D698 (Standard Proctor). The specified aggregate bedding to 12 inches above the pipe shall be compacted to 95 percent of maximum dry density (70 percent relative density). The remaining backfill material above the bedding material shall be compacted to 95 percent of maximum dry density as determined by ASTM method D698, except when more stringent compaction is required by the governmental entity controlling the roads and streets. Backfill shall be carefully placed at maximum 8-inch lifts.

**9C-3-5 COMPACTION TESTING** - The Contractor and Owner shall arrange to have compaction tests made by a registered soils engineer and submitted to the District for approval.

**9C-4 TESTING OF SEWER AND MANHOLES:** All tests must be passed prior to placing any new sewer in service. All sewer pipelines and manholes shall be tested in the following manner:

**9C-4-1 TELEVISIONING** - All sewer pipelines shall be televised in the presence of a representative of the District. If pipelines show deflection, poor alignment, displaced joints, debris or other defects, the defects shall be corrected. Video recordings shall be given to the District.

**9C-4-2 LEAKAGE TEST** - An infiltration and/or exfiltration test for pipeline watertightness shall be performed by the Contractor in the presence of a District representative. Infiltration tests shall be used if the groundwater is more than 1 foot above the highest point of the finished pipeline; otherwise, only the exfiltration test will be used. An alternate air test for PVC pipe may be used in lieu of the exfiltration test for pipelines. Air test shall be in conformance with UNI-BELL UNI-B-6 unless exceeded herein.

**PVC SEWER PIPELINE AIR TEST**

**Minimum Test Time for a 0.5 PSIG (Maximum) Pressure Drop for (3.5 PSIG to 3.0 PSIG)  
for Size and Length of Pipe Indicated**

1 Pipe Diam. (In)	2 Min. Test Duration (Min:Sec)	3 Test Duration (Sec)	Representative Minimum Testing Time Duration Required (Min:Sec)							
			100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	350 Ft.	400 Ft.	450 Ft.
4	1:53	0.190 L	1:53	1:53	1:53	1:53	1:53	1:53	1:53	1:53
6	2:50	0.427 L	2:50	2:50	2:50	2:50	2:50	2:50	2:51	3:12
8	3:47	0.760 L	3:47	3:47	3:47	3:47	3:48	4:26	5:04	5:42
10	4:43	1.187 L	4:43	4:43	4:43	4:57	5:56	6:55	7:54	8:54
12	5:40	1.709 L	5:40	5:40	5:42	7:08	8:33	9:58	11:24	12:50
15	7:05	2.671 L	7:05	7:05	8:54	11:08	13:21	15:35	17:48	20:02
18	8:30	3.846 L	8:30	9:37	12:49	16:01	19:14	22:26	25:38	28:51
21	9:55	5.235 L	9:55	13:05	17:27	21:49	26:11	30:32	34:54	39:16
24	11:20	6.837 L	11:24	17:57	22:48	28:30	34:11	39:53	45:35	51:17

The minimum head for the water exfiltration test shall be 2 feet above the top of the pipe at its highest point in the test section. The sewer and connections shall not leak water in excess of the following rate for a 24-hour test period.

PIPE SIZE INCHES	ALLOWABLE LEAKAGE IN GAL/FT. OF SEWER/24HRS
8	0.30
10	0.38
12	0.45
15	0.57
18	0.68
21	0.80
Larger than 21"	As Determined by the District

At the sole discretion of the District, the time for the leakage test may be shortened to 4 hours. Any section of pipeline failing to pass the appropriate test shall be repaired and re-tested by the Contractor until satisfactory results are obtained.

Infiltration test shall be considered failing if infiltration is observed in the pipeline.

**9C-4-3 MANHOLE LEAKAGE TEST** - An exfiltration test shall be conducted in the presence of a District representative for each manhole, prior to backfilling.

All lines leading into or out of the manhole shall be tightly plugged. The manhole shall be filled with water to at least 1 foot above the bottom of the cone section. If, at the end of a 2-hour stabilization period the water level has dropped, additional water will be added to bring the level above the joint as before. Any visible external leakage noted within the next 1-hour test period shall constitute failure. Repair the manhole and retest until satisfactory tightness is obtained.

*Alternate Vacuum Test: All pipes entering and exiting the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.*

*The test head shall be placed at the top of the manhole and the seal inflated in accordance with the manufacturer's recommendations.*

*A vacuum of 10-inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head shall be closed, and the vacuum pump shut-off. The time shall be measured from the vacuum to drop to 9-inches of mercury.*

*The manhole will be declared unacceptable if the time to drop from 10-inches of mercury to 9-inches of mercury is less than the time shown in the following table:*

<i>DEPTH (FEET) (Vertical Length of Manhole)</i>	<i>TIME (Seconds)</i>		
	<i>48" Diameter</i>	<i>60" Diameter</i>	<i>72" Diameter</i>
8	20	26	33
10	25	33	41
12	30	39	49
14	35	46	57
16	40	52	67
18	45	59	73
20	50	65	81
22	55	72	89
24	59	78	97
26	64	85	105
28	69	91	113
30	74	98	121

**9C-5 SEWER APPROVALS REQUIRED:** All sewer main utility designs shall be reviewed and approved by the District prior to construction. Plans submitted shall have the approval forms in the following language placed on the cover sheet of the plans:

**DISTRICT APPROVAL**

Approved this \_\_\_\_ day of \_\_\_\_\_ A.D., 20\_\_\_\_, for engineering conformity only, and does not relieve the Design Engineer from responsibility for errors or omissions in plans, specifications, or field survey.

\_\_\_\_\_  
District Engineer

Approved this \_\_\_\_ day of \_\_\_\_\_ A.D., 20\_\_\_\_, by the Cherry Creek Valley Water and Sanitation District for construction of sewer main lines as shown hereon.

\_\_\_\_\_  
District Manager

**9C-6 SEWER NOTES REQUIRED ON PLANS:** The following SEWER NOTES shall be predominantly displayed on the plans. These notes shall not be construed to relieve the Design Engineer or the Contractor from conformance with the full requirements of those Rules or Regulations, or the design specifications. These are to be constructed as only a minimum summary of the Rules and Regulation and design specifications.

**SEWER NOTES**

1. Pre-Construction Conference: At least 48 hours before the start of construction, the Contractor, Cherry Creek Valley Water and Sanitation District (District, 303-755-4474), District Engineer (303-964-3333), Arapahoe County (720-874-6500), Developer/Owner, and other interested parties shall meet for a pre-construction conference at the location of the District office. The Contractor shall have the foreman who will be performing the work present at the meeting. The Contractor shall be responsible for setting up the meeting and for notifying the interested parties to coordinate a time. The Contractor shall bring 6 full-size approved drawing sets to the meeting for distribution to attending parties. No field work shall occur prior to the pre-construction conference.
2. Construction Inspection: All work shall be performed under full time construction observation of the District. The Contractor shall notify the District (303-755-4474) and District Engineer (303-964-3333) at least 48 hours prior to the start of construction to coordinate field inspection. District inspection is full time and is paid for on a time and materials basis by the Developer from the escrow account held by the District. Work that is backfilled or covered by the Contractor prior to District approval shall be uncovered for inspection at the Contractor's expense.
3. Sanitary sewer pipe shall be PVC conforming to ASTM D3034 for pipe sizes 15-inches and smaller, and ASTM F679 for pipe sizes larger than 15-inches. Wall thickness shall correspond to SDR 35 (PS46 for F679 pipe) for depths of burial up to 20-ft of cover, and SDR 26 (PS115) for burial depths greater than 20-ft of cover. PVC material shall conform to ASTM D1784 classification 12454B or 12454C, and gaskets shall conform to ASTM F477. All fittings, tees, and plugs shall be of the same pipe specification and classification as the pipe to which they are attached. In special circumstances where extra strength or protection is required, or where directed by the District Engineer, Class 52 ductile iron pipe with Protecto-401 ceramic epoxy lining and nitrile gaskets may be used and shall meet the requirements specified by the District Engineer.
4. PVC pipe shall not be "over-belled". The factory "insertion line" shall be visible against the bell entrance for proper assembly. For field-cut pipe sections, the spigot end shall be beveled by abrasive disc and

marked by hand at the proper distance from the pipe end prior to bell insertion. The making of all joints shall be witnessed by the District Inspector. If CCTV inspection upon job completion reveals over-belled joints, the Contractor will be required to re-excavate and re-lay the pipe to the satisfaction of the District prior to acceptance.

5. Service taps for new sewer mains shall only be made with tee fittings installed on the main. Tee pattern service saddles are allowed only when connecting to a previously installed (existing) sewer main. Wye pattern tap connections are not allowed. Service lines shall not connect to manholes or connect to the main within 5 feet of manholes unless specifically allowed in writing by the District Engineer. Service taps shall be spaced no closer than 3 feet apart, center-to-center.
6. Service lines shall have a minimum slope of 2%. Service lines shall be installed perpendicular from the main to the easement or right-of-way line when viewed in plan; no horizontal bends or deflections of any kind are allowed under any circumstances within the easement or right-of-way. 45-degree maximum bend fittings are allowed outside the easement or right-of-way in accordance with the District Standard Details. In no circumstances are 90-degree fittings ever allowed, either horizontally or vertically, in buried piping outside of the building. If the service from the main is to be temporarily stubbed at the right-of-way line, provide a temporary watertight plug. In front of the plug, install a steel fence post or 2x4 lumber in a vertical orientation prior to backfilling, with the top located 12-inches below finish grade. The post shall remain in place until the service location is marked by an "X" on the curb face as described in a later note herein.
7. An exterior two-way sanitary cleanout is required 5 feet outside of the building for all service lines, including on residential construction. Wing-nut style elastomeric plugs shall be used; threaded cleanout plugs are not allowed. Cleanout plugs shall be located under traffic-rated cast iron frames and covers marked "CLEANOUT" or equivalent centered within a concrete slab as shown on the District Standard Details. Round plastic boxes without a concrete slab are acceptable in landscaped areas for residential construction only.
8. Trench width measured at the top of the pipe shall not be less than the outside pipe diameter plus 16 inches, nor greater than the outside pipe diameter plus 20 inches.
9. Bedding for all pipe and fittings shall be No. 67 Coarse Aggregate (AASHTO M 43). The bedding zone shall extend from 4 inches below the pipe invert to 12 inches above the pipe crown. Bedding shall be placed and compacted in 6-inch maximum lifts. Compaction shall include tamping under the haunches of the pipe for the entire pipeline length using the handle end of a shovel or by other mechanical means acceptable to the District Inspector. Bedding compaction shall achieve a minimum equivalent to 95% of maximum dry density per ASTM D698 (Standard Proctor). Placement by dumping or spreading without compaction or tamping will not be accepted.
10. Backfill above the bedding zone may be suitable native material, unless required otherwise by the County, Developer, or other entity having jurisdiction. Backfill shall be compacted to a minimum of 95% of maximum dry density per ASTM D698 (Standard Proctor) unless more stringent compaction is required. Backfill shall be placed and compacted in maximum 12-inch lifts. Contractor or Developer shall provide the services of an independent third-party licensed compaction testing firm at their cost to verify compaction of all backfill, which shall be subject to approval by the District Engineer. Submit test results to the District.
11. Manholes shall have a minimum inside diameter of 4 feet. Provide larger diameter manholes for pipe sizes larger than 15-inches in diameter or for depths greater than 20-ft, or where directed by the District Engineer. Manhole spacing shall not exceed 400-feet.
12. Manhole bases shall be cast-in-place concrete with No. 4 reinforcing bar spaced at 12 inches on-center in both directions, plus bottom and top perimeter hoops and diagonal reinforcing at pipe penetrations. The subgrade shall be mechanically well compacted. Reinforcing bar shall be chaired 3" above the subgrade with "Dobie" supports. Concrete shall have a minimum 28-day compressive strength of 4,000 psi, and reinforcing bar shall comply with ASTM A615 Grade 40 (minimum). Moistened blankets shall be used for concrete curing. Precast concrete manhole bases are not allowed unless approved by the District Engineer in writing.
13. Barrel sections shall be precast concrete meeting the requirements of ASTM C478. Bottom and intermediate joints shall be sealed by two rings of K.T. Snyder RUB/R-NEK or equal stacked vertically. Wrap



exterior perimeter of each joint with RUB/R-NEK External Joint Wrap and primer, or equal. Grout only the exterior perimeter of the bottom section where it meets the cast-in-place base or use External Joint Wrap if a good seal can be achieved. Specialty grouting of interior joints may be considered by the District Engineer for the purposes of repairing a manhole that failed the initial infiltration test..

14. Manhole cone sections shall be eccentric. In striped collector or arterial roadways, rotate the cone to place the manhole cover centered in the traffic lane or on the edge of the traffic lane (whichever is closer); outside the wheel path. In residential streets, rotate the cone to place the manhole cover on the uphill side of the street cross section if located near the gutter, or as directed otherwise by the District Engineer or agency having jurisdiction over the roadway.
15. Manhole frames and covers shall be 24-inch nominal diameter, traffic rated, manufactured of cast or ductile iron and coated with asphalt or coal tar, with the word "SEWER" cast on the cover. Frames and covers shall be NEENAH R-1706 or equivalent. Frames and covers shall be adjusted to finish grade prior to acceptance of the project. Adjustment shall be made with precast concrete adjusting rings (ASTM C478), no less than 3 steel shims spaced equally around the perimeter, and a continuous bed of high strength grout placed beneath the frame only. The maximum grout bed thickness allowed is 1.5-inches; if a greater thickness is needed then provide an additional precast concrete adjusting ring instead. Provide RUB/R-NEK joint sealant between each adjusting ring and wrap the perimeter of all rings with RUB/R-NEK External Joint Wrap and primer. Adjustment using drop-in metal ring inserts is not acceptable and will be rejected by the District. The rim shall be between 8 inches (minimum) and 16 inches (maximum) above the top of eccentric cone section. Frames and covers shall be parallel to the plane of the street surface and shall be 1/8-inch minimum to 1/4-inch maximum below the surface.
16. Manhole pipe connections shall be made with short spool pieces of the specified sewer main pipe cast in the base, which shall result in a flexible gasketed bell joint located no more than 18 inches from the outside face of the manhole base for all pipe that enters/exits the manhole. Bell ends shall face upstream. A rubber gasket designed specifically for use as a waterstop shall be installed around the outside of all pipe where embedded in the concrete base to provide a leak-tight seal.
17. Invert channels and benches shall be formed in the concrete of the manhole base. Invert channels shall be "U"-shaped in cross section, with a width and depth equal to the pipe diameter. Channels shall be smooth and semicircular in shape, and changes in size, direction, and grade shall be made gradually and uniformly. Bench surfaces shall slope at 2% towards the invert channel for drainage of standing water. In straight-through manholes, invert channels may be made by embedding a section of sewer main pipe in the manhole base with the top half cut off, as long as the waterstop gasket and flexible gasketed bell joint criteria specified above are met.
18. Manhole steps shall be structural steel rod fully and completely encapsulated within textured polypropylene plastic manufactured specifically for sanitary manhole use in accordance with ASTM C478. Steps shall be placed at 12-inch vertical intervals. The top step shall not be more than 18-inches below the rim, and the bottom step shall not be more than 12-inches above the bench.
19. Drop manholes shall be provided where the difference in pipe inverts in a manhole exceeds 24 inches. Drop manholes shall use a "wye" pattern fitting for the drop transition, unless a "tee" pattern is approved by the District Engineer for higher drops. Drop manholes shall provide in-line access to the upper pipe (i.e. both upper and lower pipes shall penetrate into the manhole).
20. Tracer wire and warning tape are required for all sanitary mains and services. Warning tape shall be non-metallic highly stretchable plastic, green in color and marked with the text "CAUTION – SEWER LINE BELOW" or equivalent, installed continuously on top of the aggregate bedding 12-inches over the pipe. Tracer wire shall be #12 solid core copper wire with green-colored insulation rated for direct burial. Tape to the top of the pipe and service lines at 10-foot intervals. Splices shall be made with silicone-filled splice kits as manufactured by 3M. Tracer wire access shall be provided at manholes and cleanouts as shown in the District Standard Details. Electronic signal continuity testing shall be successfully demonstrated to the District for all mains and services prior to project acceptance.
21. In all cases, sewers shall maintain a 10-foot horizontal distance from, and 1.5-foot vertical clearance below, potable water lines. Provide extra protection in accordance with CDPHE requirements at potable water crossings when the minimum distances cannot be achieved, subject to the review and approval of the District Engineer.

22. Pipe laying shall proceed upgrade, with the bell ends facing upstream (spigot ends point downstream). Each pipe length shall be laid true to line and grade using a laser or professional survey equipment. Cover all pipe openings whenever the pipe is left unattended or pipe laying is not in progress.
23. A letter "X" shall be permanently etched or cut onto the face of the concrete curb over all sewer service laterals. Service locations shall be as marked by the buried steel fence post described previously. If the post is missing or has been disturbed, or when directed by the District Engineer, the Contractor shall re-excavate or pothole to locate the service line at no expense to the District so that the "X" can be accurately located.
24. Flushing: All sewer pipelines shall be flushed with water until clean before final acceptance. The flushing water shall not enter the District's existing sewer system unless approved in advance by the District in writing. Capture and remove solid debris at the downstream manhole.
25. Testing: All sewer pipelines and manholes shall be tested for leakage by infiltration or exfiltration methods in accordance with the District Rules and Regulations. The testing requirements may be obtained from the District. All tests must be passed prior to acceptance and placing any new sewer system into service. Testing shall be done in the presence of the District Inspector.
26. All sewer pipelines shall be televised by robotic CCTV prior to final acceptance. All service taps and pipe penetrations at manholes shall be thoroughly videotaped from multiple angles. Videotaping shall be performed in the presence of the District Inspector. If pipelines show deflection, poor alignment, over-inserted joints, displaced joints, debris, or other defects, the defects shall be corrected prior to final acceptance. Provide electronic video files to the District.
27. A set of record drawings on Mylar film, reflecting the as-built condition, shall be provided to the District prior to final acceptance of this project. All other utilities crossing the trench shall be accurately labeled and stationed on the plan and on the profile. An electronic file of the drawings shall be provided to the District. All data shall be tied into the Arapahoe County control system.

**9C-7 WATER DISTRIBUTION SYSTEM:** Water system construction shall conform to the standards of the Denver Water Department Engineering Standards, Capital Projects Construction Standards (CPCS) Specifications and Standard Drawings, latest issue, or the Cherry Creek Valley Water and Sanitation District's requirements which include those specified in Part 9C-7-4 herein, whichever is more stringent. The standards set forth represent the minimum standards of the Cherry Creek Valley Water and Sanitation District, and the Denver Water Department. These standards are to be enforced by the Design Engineer as a minimum, but do not restrict the use of more stringent design criteria, and do not relieve the Design Engineer of responsibility for errors and omissions in plans or specifications.

**9C-7-1 FOREIGN MATERIAL IN WATER PIPELINE** - Pipe shall be stored off the ground on pallets and with all open ends capped or tightly covered with plastic and secured with tape to omit dust, insects, animals, and other debris that may contaminate the public water supply. All pipe joints, interior surface of sockets, exterior surface of spigots, and fittings shall be cleaned of foreign material prior to placement in the trench, and pipe shall remain clean at all times thereafter. Visually verify the interior of each length of pipe is free of any foreign objects prior to lowering into the trench. Whenever the pipe is left unattended or pipe laying is not in progress, temporary plugs shall be installed at all openings. Do not allow standing water in the trench to enter the pipe.

**9C-7-2 WATER SEPARATION FROM ADJACENT UTILITIES** - Adequate separation of water pipelines from all other utilities shall be maintained for the ease of access, excavation, installation of shoring, rehabilitation, maintenance, and repair of the water utility system, and for protection of the potable water supply from potential contamination.

**9C-7-2.1 Protection From Contamination** - When a new water pipeline is laid parallel to an existing or new sanitary or storm drain pipeline, the distance between the pipelines shall be 10 feet. When the pipelines are 12-inches and smaller in diameter, the District generally considers a spacing of 10-feet measured center-to-center horizontally to meet this criteria which also satisfies horizontal spacing criteria within standard 30-foot utility easements. When pipelines are larger than 12-inches in diameter, the edge-to-edge clear separation distance of 10 feet should generally be considered. If a new water pipeline is less than 10 feet horizontally from a new or existing sanitary or storm pipeline that is parallel or converging to the water pipeline, and the water alignment cannot be moved to an approved new

alignment that is 10 feet from the sanitary or storm pipeline, then extra protection shall be provided for the sanitary or storm pipeline as described in Part 9C-2-4.1. If the sewer or storm pipeline is existing, then replacement or retrofitting of extra protection on the existing pipeline may be necessary at the time the new water pipeline is installed, subject to the approval and direction of the District. Vertical separation at pipeline crossings shall maintain a minimum of 18-inches (1.5-ft) of clearance as measured between the outside of pipes. Water pipelines shall endeavor to cross above (over) sanitary and storm pipelines when possible. If a new water pipeline crosses under a new or existing sanitary sewer or storm pipeline, or if there is less than 18 inches of vertical clearance, extra protection shall be provided. Extra protection may consist of either of the following, subject to approval or direction of the District:

Install reinforced concrete pipe encasement around the lower pipeline of the crossing which shall extend to 10-ft on each side of the pipeline crossing. And, in addition:

- ▶ If the lower pipeline is existing and the upper pipeline is new: the new pipeline shall be installed with one full 18 or 20-ft “stick” of pipeline centered over the crossing such that it has no joints within 9-ft of the crossing.
- ▶ If the lower pipeline is new and the upper pipeline is existing: center a full 18 or 20-ft “stick” of pipeline centered under the crossing such that it has no joints within 9-ft of the crossing. The concrete encasement shall be formed short of the joints on each end.
- ▶ If both pipelines are new: Center a full stick of pipe for both pipelines on the crossing such that all joints are as far as possible from the crossing. Concrete encasement on the lower pipeline shall be formed short of the joints on each end.

Or install a continuous (without joints) 20-ft long welded steel or ductile iron casing pipe sleeve (centered on the crossing) through which the carrier pipeline is installed on skids and provided with end seals. The casing may be provided for either the upper or lower pipeline of the crossing. If both crossing utilities are new, then the pipeline that is not cased (sleeved) shall have a full stick of pipe centered on the crossing such that its joints are as far as possible from the crossing location.

The above criteria assume the pipelines are crossing at a right angle, perpendicular. If the crossing angle is oblique, the concrete encasement or casing sleeve length shall be extended to a point measured 10 feet horizontally and perpendicular to both sides of the pipeline that it crosses.

**9C-7-2.2 Water Separation from Dry Utilities** - Water pipelines, water meter pits and vaults, valves, valve boxes, fire hydrants, blowoffs, and the like installed adjacent to other utilities such as buried electrical, telecommunications, natural gas lines, etc. shall maintain a minimum of 5-feet of horizontal clearance, measured edge-to-edge. Horizontal clearance from the base of overhead power poles, traffic signal poles, and other overhead utility and light poles shall be 10 feet minimum. Vertical separation of water pipelines at dry utility crossings shall maintain a minimum of 18-inches (1.5-ft) of clearance above or below as measured between the outside of pipes, ducts, or encasements. If 18-inches of clearance is not feasible in any manner, then extra protection shall be provided for the water pipeline, for the other utility, or for both, as directed by the District on a case-by-case basis and in accordance with the District Standard Details. All dry and other utilities must maintain a 5-ft radius clearance from vaults, fire hydrants, meter pits, valves, valve boxes, and blowoffs for system repair and maintenance.

**9C-7-3 DESIGN PROFILE, POTHOLING, AND SUE REQUIRED:** Unless otherwise allowed by the District, all water pipeline designs shall be accompanied by an accurate and scaled design profile on the plans. The profile may be included on the “utility plan” sheet of the standard Denver Water plan preparation format. The profile shall call out stations, elevations, depths of cover over pipelines, and vertical clearance distances measured between outside of pipes at utility crossings. Show existing and proposed future grade as applicable. Show existing and proposed utilities, wet and dry, including traffic and street lighting utilities and utility service lines. Identify valves, points of connections, horizontal and vertical bend fittings and thrust blocks, proposed rotations of horizontal bends to achieve vertical deflection, and straight pipe joint deflections. Identify extra protection measures at crossings, limits of flowfill backfill, extents of mechanical joint restraints, location of trench dams, and other design elements as required or applicable to the design.

Crossing utilities shall be shown in the profile at their actual top and bottom elevation based on potholing data collected by the Design Engineer or developer during design. If Subsurface Utility Engineering (SUE) law requirements apply to the project, then potholing will be conducted as part of the SUE design as Quality Level A information and stamped by the Engineer of Record accordingly. If SUE requirements do not apply to the project, potholing of crossing utilities during design shall occur regardless and the information shall be reflected in the design, with the exception that surveyed invert elevations at adjacent gravity pipeline manholes (i.e. storm and sanitary) may be used for portraying the elevations and sizes of gravity pipelines at crossings subject to approval of the District. The Design Engineer's survey files shall be provided to the District for informational purposes only with the plan review.

**9C-7-4 WATER NOTES REQUIRED ON PLANS:** The following WATER NOTES shall be prominently displayed on the plans. These notes shall not be construed to relieve the Design Engineer or the Contractor from conformance with the full requirements of these Rules and Regulations or the design requirements. These are to be construed as only a minimum summary of the Rules and Regulations, and design specifications. The standards set forth are the minimum standards of the Cherry Creek Valley Water and Sanitation District, and the Denver Water Department. Their standards are to be enforced by the Design Engineer as a minimum, but do not restrict the use of more stringent design criteria, and do not relieve the Design Engineer or responsibility for errors and omissions in plans or specifications.

### **WATER NOTES**

1. All materials and workmanship shall be in conformance with the Denver Water Engineering Standards, Denver Water Capital Projects Construction Standards (CPCS) Specifications and Standard Drawings (latest editions); or the Cherry Creek Valley Water and Sanitation District (District) requirements, whichever is more stringent.
2. The Contractor shall have in their possession at all times one signed copy of the Plans which have been approved by Denver Water and the District.
3. Pre-Construction Conference: Before the start of construction, the Contractor, District (303-755-4474), District Engineer (303-964-3333), Arapahoe County (720-874-6500), Denver Water (see DWD notes for contact info), Developer/Owner, South Metro Fire Rescue, and other interested parties shall meet for a pre-construction conference at the location of the District office. The Contractor shall have the foreman who will be performing the work present at the meeting. The Contractor shall be responsible for setting up the meeting and for notifying the interested parties to coordinate a time. The Contractor shall bring 6 full-size approved drawing sets to the meeting for distribution to attending parties. No field work shall occur prior to the pre-construction conference.
4. Construction Inspection: All work shall be inspected and approved by personnel of the District and Denver Water. The Contractor shall notify Denver Water (303-628-6606) and the District Engineer (303-964-3333) at least 48 hours prior to the start of construction to coordinate field inspection. District inspection is full time, and is paid for on a time and materials basis by the developer from the escrow account held by the District. Work that is backfilled or covered by the Contractor prior to Denver Water or District approval shall be uncovered for inspection at the Contractor's expense.
5. Water mains and services 3" and larger shall be ductile-iron pipe, Class 52, with push-on single gasket type joints per AWWA C150 and C151. Fittings shall be gray-iron or ductile iron and furnished with mechanical joint ends per AWWA C110 or C153. All fittings shall have a minimum pressure rating of 250 psi. Pipe and fittings shall be furnished with an exterior asphaltic coating and an interior standard thickness cement mortar lining. All stored pipe or laid pipe left unattended shall have all open ends capped or covered with plastic secured with tape. Wrap all pipe and fittings with an 8 mil minimum thickness polyethylene material per AWWA C105.
6. Water service lines 2" and smaller shall be Type K copper. Connections shall be by the flared or brazed silver solder method; compression fittings are not allowed. Joints shall be leak tight and shall be verified under pressure by the District Inspector prior to backfill. A continuous length of unbroken copper shall be

provided between corp and curb stops; splices or couplings are not allowed in this reach under any circumstances. Conductivity insulators shall be provided at corp stops and at changes in pipe material.

7. Service Taps: Taps 2" and smaller shall be made by Denver Water for developer projects. Combination fireline/domestic services per Denver Water CPCS Detail 33262 are not allowed in the District; two separate taps from the main are required. Service taps shall not be located less than 5 feet from each other and from adjacent fittings or joints on the main. In special circumstances the District may allow reducing this distance to no less than 3 feet.
8. Meter pits: Meter pits and curb stops shall generally be located in landscaping areas behind sidewalks or between the sidewalk and curb in the tree lawn in accordance with the Denver Water CPCS details. Meter pits for service sizes 3/4" and 1" shall be clear of all permanent obstructions and utilities within a 5-foot radius measured in all directions around the center of the lid. Meter pits for service sizes 1-1/2" and 2" shall be clear within a 7-foot radius of the center of the lid, and meter vaults for service sizes 3" and larger shall be clear within 5-feet in all directions measured from the belowground walls of the vault. Permanent obstructions and utilities include buildings, structures, walls, fences, transformers, utility pedestals, trees, woody nursery stock, street and site light poles, signs, utility poles, all buried utilities, and the like. Small landscaping shrubs, clump grasses, and groundcovers shall be at least 2 feet clear of lids.
9. Fireline Services: The minimum line size within the right-of-way or easement shall be 4" DIP. The Fireline service size may reduce outside of these limits if desired. Firelines shall meet the District standards for mains, except that all joints shall be mechanically restrained regardless of location. District jurisdiction for design review and construction inspection extends to the flange in the riser room. Comply with the District standard detail for risers. Firelines shall be disinfected and pressure tested as specified. Design review, construction inspection, and testing shall also be provided by South Metro Fire Rescue in accordance with their requirements.
10. Fire hydrants shall be Watrous Pacer WB-67-250, no equal. Fire hydrant assemblies shall include all pipe, fittings, valves, materials, and labor which are necessary to install the hydrant complete in place. Fire hydrants shall be clear of all permanent obstructions and utilities within a 5-foot radius measured in all directions around the center of the hydrant. Permanent obstructions and utilities include buildings, structures, walls, fences, transformers, utility pedestals, trees, nursery stock, street and site light poles, signs, utility poles, all buried utilities, and the like.
11. Gate valves shall be Mueller A-2360 Resilient Wedge Gate Valve conforming to AWWA C509 or District approved equal. Valves shall have an upgraded stem alloy option as required by the latest CPCS specifications. Valves shall open to the right (clockwise open).
12. Bedding: Water pipelines shall be bedded from 6 inches below the pipe bottom to a minimum of 12 inches above the top of pipe. The bedding material shall consist of a clean, free draining well graded rounded squeegee pea gravel and conform to the gradation limits as set forth in the Denver Water Engineering Standards. Bedding shall be stockpiled separately on a hard surface (i.e. asphalt) and shall be kept strictly clean of contamination by native soil, broken asphalt, rocks, trash, and other debris prior to and after installation around the pipe. Bedding shall be tamped under the haunches of the pipe for the entire pipeline length using the handle end of a shovel or by other mechanical means acceptable to the District Inspector. Placement by dumping or spreading without compaction or tamping will not be accepted.
13. Cover: There shall be a minimum cover of 4.5 feet over all water mains unless approved otherwise in writing by the District Engineer.
14. Thrust Restraint: All horizontal and vertical bends, tees, fire hydrants, blow-offs, valves, and plugs at dead end mains shall be protected from thrust by using both concrete thrust blocks AND mechanical restraints.

a. Mechanical Restraints: All restraints shall terminate behind the first available fitting or joint that meets or exceeds the Denver Water standards for length of restrained pipe (Denver Water CPCS Detail 33144). All bend fittings shall have a 15-foot (minimum) length of pipe immediately adjacent to each side of the bend fitting. Mechanical restraint devices on ductile iron shall be Megalug Series 1100 (mechanical joint) or Series 1700 (push-on joint) as manufactured by EBAA Iron, Inc, or equivalent product by Star with upgraded epoxy coating; no equal. Restraint devices on existing cast iron mains shall be traditional rods and bell clamps only. When connecting to existing cast iron pipelines, hand tighten blue Megalug bolts snugly against the outside of the cast iron pipe; do NOT break off.

- b. Concrete Thrust Blocks: Comply with the District Standard Details for horizontal and vertical thrust blocks. Ninety degree bends shall use 1.4 times the area for tee or dead ends. Concrete thrust blocks for upper vertical bends shall be based on the mass weight of concrete required to secure the bend, not on bearing surface area. Such thrust blocks shall be located beneath the bend and securely tied up to the bend with epoxy-coated rebar or stainless steel straps.
15. Connecting to Existing Mains: Tapping sleeves and valves are not allowed in the District unless approved in writing by the District Engineer. All tie-ins shall be made by cutting in the appropriate fitting into the existing main, with long pattern mechanical joint solid sleeve and new ductile iron pipe closure piece if necessary. "Wedding bands" shall be provided to close pipe gaps greater than 1/4-inch within solid sleeves. Where tees are to be cut in, the run of the tee shall be restrained in addition to the tee branch. The run along the existing pipeline on each side of the new tee shall be exposed and restrained a minimum of two pipe lengths. Split ring EBAA Iron Megalug or equivalent Star restraints may be used on ductile iron pipelines only. Traditional tie rods and bell clamps shall be used on cast iron pipelines.
  16. Utility Crossings: A minimum vertical clearance of 1.50 feet shall be maintained between outside of pipes at all wet and dry utility crossings, unless otherwise approved by the District Engineer in writing. Provide extra protection in accordance with CDPHE requirements at sanitary sewer crossings when applicable. Vertical offsets utilizing fittings per Denver Water CPCS Detail 33216 are not allowed in the District unless approved on a case-by-case basis in writing by the District Engineer. Instead, pipe joints upstream and downstream of the crossing shall be deflected to achieve the required clearance above or below the conflicting utility. During design, the Design Engineer or Developer shall pothole all crossing utilities and provide design profiles of the proposed pipeline grades and crossing clearances for District review and approval.
  17. Tracer Wire: All water mains, fire hydrant branches, and fire line services shall have installed a 12-gauge single strand tracer wire taped to the pipe. Wire shall have blue-colored insulation. Splice with silicone-filled kits rated for direct burial. Tracer wire shall terminate at test stations adjacent to fire hydrants, within fire riser rooms, or as directed by the District. Comply with Denver Water CPCS Detail 33225. Test station boxes shall be 18 inches long by 5-inch diameter as manufactured by C.P. Test Services Inc., Model NM-4. Test stations shall be H-20 traffic rated.
  18. Compaction of trench backfill must be attained and certified compaction test results submitted to the Denver Water Construction Inspection Division and the District Engineer. Compaction in landscaped areas shall achieve a minimum of 90% per Standard Proctor Density, and a minimum of 95% under roadways, unless the agency having jurisdiction over roadways has more stringent requirements. Contractor or Developer shall provide an independent third-party licensed compaction testing firm, which shall be subject to approval by the District Engineer. Submit test results to the District.
  19. Chlorination and Flushing: All water mains and fire lines shall be cleaned, chlorinated and flushed per Section 8.24 of the Denver Water Engineering Standards. The lines shall be chlorinated in accordance with AWWA C651, "Disinfecting Water Mains." Chlorination and flushing shall be provided by the Contractor. The approved method is to mix an approved chlorination agent with potable water as it is filling the main (slurry method). Chlorine tablets adhered to the pipe with adhesive are not permissible and will not be allowed. The residual chlorine concentration shall be at least 25 mg/l following the 24-hour contact period. The Contractor shall contact the District Engineer to take samples and confirm the concentration prior to flushing. The chlorination of any finished pipeline shall be done prior to the hydrostatic testing. A state-certified independent testing laboratory or Tri-County Health Department (341-9370) shall perform the bacteriological testing. Their written release shall constitute acceptable disinfection. Submit their written test results to the District. Bacteriological testing services shall be coordinated and paid for by the Contractor. Swabbing is an acceptable means of disinfection in certain cases when approved by the District. Chlorination agent for swabbing shall be "Pure Bright" only; Clorox or common bleach is not allowed.
  20. Hydrostatic Testing: Water mains shall be tested per the requirements of Section 8.22 of the Denver Water Engineering Standards. All pipe shall be field pressure tested to a minimum of 150 psi. All testing shall be done in the presence of the Denver Water Inspector and the District Inspector. Testing equipment shall include both a pressure gauge and a flow meter to monitor the test pressure and gallons of water

added to the pipeline. Allowable leakage for each section of pipe between line valves shall not exceed the leakage rate set forth below. Leakage for sizes not shown shall be determined by the District.

Pipe Sizing Inside Diameter	Allowable Leakage per 1000 ft. Gal. per Hr
4"	0.33
6"	0.50
8"	0.66
12"	0.99
16"	1.32
20"	1.66
24"	1.99

21. Only one connection to the existing water system shall be allowed until all new facilities are tested, disinfected and accepted.
22. All valves are to be located on property line extensions. Other valve locations may be required as shown on the plans. Valves shall be fully wrapped in 8 mil polyethylene per AWWA C105 to just below the nut and secured around the valve body and adjacent pipe with multiple passes of tape.
23. All valve boxes shall be raised to final grade prior to acceptance of water mains by the District. Adjustment of boxes shall be by rotation of the screwed top piece. Adjustment using drop-in inserts is not acceptable and will be rejected by the District. Valve boxes shall be installed plumb and centered over the valve nut. Clean valve boxes after installation to remove debris and ensure the valve nut is fully exposed.
24. A letter "V" shall be permanently etched or cut onto the face of the concrete curb over all water service pipelines.
25. The design drawings approved by the District and Denver Water shall be corrected to reflect the as-built condition and shall be delivered to the District on Mylar film prior to final acceptance of the job. All utilities encountered during the construction shall be stationed and shown accurately (horizontally and vertically) on the plans and profiles. An electronic file of the plans shall be provided to the District in AutoCAD format. The data shall be tied to the Arapahoe County control system.

**9C-7-5 FIRE LINES:** Fire lines shall be designed by the Owner's Engineer. Fire lines shall at a minimum meet the District Standards for potable water mains. All fire lines shall be capable of flushing without alarm activation. Refer to the District Standard for fire line flushing inside the building. The District shall inspect installation of fire lines into the building to the first joint. South Metro Fire Rescue Authority shall inspect the fire system inside the building. All fire lines shall have the appropriate backflow prevention device to meet the degree of hazards as designated by the Denver Water Department.

**9C-7-6 RE-USE OF FIRE HYDRANTS:** Fire hydrants shall comply with the latest District requirements at the time of installation. If an existing fire hydrant is to be "relocated", this shall generally be interpreted to mean removal and delivery of the existing hydrant to the District and furnishing and installing a new hydrant at the new location. Re-use of existing fire hydrants in relocations or elsewhere shall not be allowed unless the District inspects and gives written permission in advance to reuse an existing hydrant on a case-by-case basis.

## **9C-8 WATER APPROVALS**

**9C-8-1 DISTRICT WATER APPROVALS** - All designs for water utility extensions, fire hydrant relocations, and pipe and service sizes 3-inches and larger shall be reviewed and approved by the District and Denver Water prior to construction. Designs shall also be reviewed by and bear the approval stamp of the South Metro Fire Rescue Authority acknowledging the stated fire flow requirement and hydrant spacing and layout is correct and acceptable prior to submittal to the District.

Plans submitted shall have approval forms in the following language placed on the cover sheet of the plans:

<b>DISTRICT APPROVAL</b>	
The fire flow requirement stated below, number of fire hydrants and hydrant locations as shown on this water main installation are correct and adequate to satisfy the fire protection requirements as confirmed by the South Metro Fire Rescue District.	
Signature of Fire Chief or Designated Representative	Required Fire Flow (gpm)
Approved this ____ day of _____ A.D., 20 ____, for engineering conformity only, and does not relieve the Design Engineer from responsibility for errors or omissions in plans, specifications, or field survey.	
_____ District Engineer	
Approved this ____ day of _____ A.D., 20 ____, by the Cherry Creek Valley Water and Sanitation District for construction of water main lines and sewer main lines as shown hereon.	
_____ District Manager	

**9C-8-2 DENVER WATER DEPARTMENT APPROVALS** - All water utility extensions, fire hydrant relocations, and designs for piping and services 3-inches in diameter and larger shall be reviewed and approved by the Denver Water Department. The developer will submit plans and other required files to the District, and the District will submit the files to Denver Water on behalf of the developer. Denver Water review comments will be received by the District and will be clarified or revised for consistency with District requirements prior to return to the developer. Expenses and logistics of the Denver Water Department approval process are the responsibility of the party requesting utility extensions.

**9C-9 WATER AND SEWER SERVICES:** All cost and expense incident to the installation and connection of the water and sewer service shall be borne by the Owner/Developer. The installation of a water or sewer service shall be by open-cut trench installation methods unless otherwise approved by the District.

**9C-9-1 WATER SERVICES** - Water service lines are owned by, and are the responsibility of, the individual service tap owner, who is responsible for installation and maintenance. Installations shall comply with the applicable District and Denver Water Standard Details.

**9C-9-1.1 Water Service Materials** - For service sizes 2.5-inches and smaller in diameter, the water service line shall be by Type K soft copper. Fittings shall be flared or silver-soldered brass or copper alloy. Compression style fittings are not allowed.

Service sizes 3-inches and larger in diameter shall be ductile iron pipe of the same requirements specified for water mains in Part 9C-7-4 herein.



Squeegee shall be used for bedding service lines of all sizes, placed from 6-inches below to 12-inches above the service line.

**9C-9-1.2 Water Service Installation** - All construction shall be done by personnel experienced in work for this kind. Water services shall be brought to and into the building at an elevation that will allow a minimum of four and one-half feet (4.5-ft) of cover for its entire length. The service line may not be routed closer than 5 feet to any building wall (other than as it enters the building it serves), fence or other wall and bearing wall (except for nearly perpendicular crossings), light pole, utility vault, or other structures and the like. The water service shall be laid at uniform grade and in straight alignment. The straight alignment shall be perpendicular to the main and property or easement line within the right-of-way or easement. Pipe laying and backfill shall be performed in accordance with specifications in Part 9C-7 herein.

Copper services shall have a continuous, unjointed length of copper line between the corporation stop at the main and the curb stop. If an existing meter pit is being relocated further from the roadway, the entire length of copper to the main must be replaced. No unions or splices are allowed. No unions, fittings, increasers, or changes in horizontal direction are allowed within 5-ft downstream of the meter.

**9C-9-1.3 Water Service Taps** - Materials and installation shall comply with District and Denver Water requirements, Denver Water CPCS specifications, and applicable standard details.

Taps for services 2.5-inches in diameter and smaller shall utilize a double strap tapping saddle on the main, corporation stop ball valve, and insulator fitting. Taps shall be installed by Denver Water forces, unless approved otherwise by the District in writing.

Taps for services 3-inches in diameter and larger shall utilize a mechanical joint ductile iron tee fitting on the main, with swivel branch or anchor coupling attachment to gate valve. If a new service is added to an existing main, a mechanical joint swivel tee and solid sleeve fitting shall be cut in along the main. Tapping sleeves and tapping valves are not allowed in the District.

Adjacent taps shall not be located closer than 5-ft apart along the main, center-to-center. In special cases, the District may consider reducing the spacing to 3-ft minimum, if approved in advance and permission is given by the District in writing.

**9C-9-1.4 Water Meter Pits and Vaults** - Meter pits shall be located in landscaped areas, outside of sidewalks, driveways, and curbs. In special cases where no alternative is possible, the District may consider placing meter pits in driveways if approved in advance by the District in writing. Such installations shall utilize Denver Water CPCS Detail 33084 "Manhole Ring and Cover Over Meter Pit" or current equivalent detail in effect at the time of the installation. Meter pits shall be precast concrete and domes shall be ductile iron in accordance with the current Denver Water CPCS Specifications. Composite (plastic) pits and domes are allowed upon approval from the District depending on location. Meter pits shall be 24 inches inside diameter. Dome lids and meter vault covers shall be compatible with the latest District requirements for electronic AMI meter reading equipment antennas.

**9C-9-1.5 Water Service Separation From Other Utilities** - Separation of water service lines from other utilities shall comply with the separation requirements specified in Part 9C-7-2 herein, including 10-ft separation requirement from adjacent sewer mains and sewer service lines. Clearance from meter pits and vaults shall be measured from the outside edge of the structure.

**9C-9-2 SEWER SERVICES** - Sewer service lines are owned by, and are the responsibility of, the individual service tap owner, who is responsible for installation and maintenance. Installations shall comply with the applicable District Standard Details.

**9C-9-2.1 Sewer Service Materials** - Sewer Service lines and fittings shall be plastic pipe consistent with the current District specification for sewer mains in Part 9C-1-1 herein, or Schedule 40 PVC. Fitting and pipe joints may be solvent-welded or gasketed. All joints shall be watertight and shall be leak tested with the main as set forth in Part 9C-4 herein. Bedding shall be No. 67 coarse aggregate (3/4" washed rock) from 6" below to 12" above service line.

**9C-9-2.2 Sewer Service Installation** - Service lines shall be laid in a straight line perpendicular to the sewer main and easement or property line, or as otherwise approved by the District. The service line may

not be routed closer than 5 feet to any building wall (other than as it exits the building it serves), fence (except for nearly perpendicular crossings), light pole, utility vault, or other structures and the like. The grade shall be a constant 2% or greater downslope or may be flatter if allowed by the adopted version of the Plumbing Code only when a 2% grade is not feasible, subject to the approval of the District.

Within the right-of-way or easement, service lines shall generally be kept as deep as possible and shall be laid on a straight and constant line and grade. Once into the property, fittings can be used to adjust the vertical or horizontal grade and alignment of the service line. Fittings shall not be located closer than 3-ft to each other (except that cleanout fittings may be spaced closer). The maximum allowable bend angle is 45-degrees. 90-degree fittings shall not be allowed in service lines outside the building footprint. The minimum burial depth allowed for services is 3-ft.

**9C-9-2.3 Sewer Service Taps** - Sewer service lines shall connect to the sewer main at a tee-pattern fitting or saddle tee. Tee fittings shall match the type and classification of the pipe on which they are installed. Saddle tees shall be permitted only in cases where a connection is being made to a previously installed (existing) sewer line or if approved in writing by the District. Wye pattern taps are not allowed in the District.

Taps shall not be spaced closer than 3-ft apart from each other along the main, center-to-center, nor closer than 5-ft to a manhole. Service connection taps shall not be made directly to manholes.

**9C-9-2.4 Sewer Service Cleanouts** - An exterior two-way cleanout shall be provided within 5-ft of the building it serves for ALL sewer services. Interior cleanouts installed per the Plumbing Code will not be accepted as a substitute for the District-required exterior cleanout. Cleanout ends shall be closed by removable elastomeric wing-nut plugs; threaded cleanout plugs shall not be acceptable. For long services, intermediate cleanouts are required at a spacing not to exceed 100-ft. For commercial and multi-family construction, cleanouts shall be enclosed within traffic-rated cast iron boxes with covers marked "cleanout" at grade. A 2-ft concrete collar shall be provided where located in landscape areas. For single family residential construction, traffic-rated cast iron boxes and covers shall be provided where located in a driveway, or round plastic boxes and covers without a concrete collar are acceptable in landscape areas.

**9C-9-2.5 Sewer Service Tracer Wire** - Tracer wire shall be installed on all services continuous from the sewer main to the building line. Wire shall be accessible from the cleanout adjacent to the building it serves, and continuous with the tracer wire installed along the main. Tracer wire shall be made continuous with the wire along the main by looping tracer wire up and back along services, or by silicon-filled splice kits made specifically for that purpose. Tracer wire shall be #12 solid core burial-rated copper, green colored insulation.

**9C-9-2.6 Sewer Service Separation From Other Utilities** - Separation of sewer service lines from other utilities shall comply with the separation requirements specified in Part 9C-2-4 herein, including 10-ft separation requirement from adjacent potable water mains and service lines.

**9C-9-3 RE-USE OF EXISTING WATER AND SEWER SERVICES:** When an existing building is changed, remodeled, or replaced, the water and sewer service to the new or changed building, up to and including the tap at the main, must meet the current requirements and specifications of these Rules and Regulations that are in effect at the time of the work, as they are amended from time to time. If an enlargement and/or increase in the service taps is required, the Property Owner shall receive credit for the tap equivalency previously purchased. Existing water meter pits, curb stops, meters and yokes that are to be relocated shall not be reused unless they are inspected and approved by the District on a case-by-case basis and meet the current requirements for backflow prevention and other District and Denver Water requirements in effect at the time of the relocation.

**9C-9-4 PLUMBING WORK DONE ON WATER OR SEWER SERVICE NOTIFYING DISTRICT:** Work on water or sewer service lines shall be done by licensed and bonded plumbers or apprentices, except that plumbing work contracted for by a licensed plumber may be performed by them through journeymen plumbers or apprentices under their direct supervision and shall meet the Colorado Department of Public Health and Environment's requirements and Technical Plumbing Code.

**9C-9-5 CONSTRUCTION AND MATERIAL STANDARD:** All construction work and materials shall meet the most stringent requirements of all entities involved, whether these are standards and specifications of the Cherry Creek Valley Water and Sanitation District, the City and County of Denver, the Denver Water Department, the Technical Plumbing Code of the Colorado Department of Public Health and Environment, or the Metro Wastewater Reclamation District.

All contractors, plumbers and others doing work on any water or sewer main, service lines, or structures in the District shall comply with Arapahoe County, the CCVW&SD, or the Colorado Department of Transportation regulations and excavation, backfill, compaction and restoration of surfacing, whichever is more stringent.

**9C-10 BACKFLOW PREVENTION:** See Section 10.

**9C-10-1 METER YOKE DOUBLE CHECK VALVE:** All meter yokes require a double check valve. The District will provide the yoke at the customer's expense.

**9C-10-2 LOW HAZARD APPLICATION:** Fire lines to sprinkler systems without pressure boosting pumps, chemical additives, anti-freeze, or other foreign substances, shall be considered low hazard. These fire lines shall be constructed with a double detector check assembly backflow prevention device installed between the area to be served by the fire line and the water main. The installation shall be in a vault at the property line, or in the building to be served.

**9C-10-3 HIGH HAZARD APPLICATION:** Fire lines to sprinkler systems with booster pumps, chemical additives, anti-freeze or other foreign substances shall be considered high hazard. These fire lines shall be constructed with a reduced pressure backflow prevention device installed between the pipelines so contaminated, and the water mains. The installation shall be in a vault at the property line or in the building to be served. Installations shall have drains to daylight.

**9C-10-4 LANDSCAPE IRRIGATION:** Landscape irrigation systems shall be equipped with reduced pressure backflow prevention devices at or near the point of connection to the potable water service, upstream of the irrigation control valve station, to prevent contamination of the potable water service and distribution system.

**9C-11 WATER TAP AND METER SIZING PROCEDURE:** All water taps and meters are to be sized by a Registered Professional Engineer in accordance with criteria presented in the American Water Works Association Manual No. M22, Sizing Water Service Lines and Meters, 2004 edition. Calculations shall be summarized on the District's form and should be supplemented by spreadsheet or manual calculations prepared by the Professional Engineer as an attachment to justify the summarized values.

**9C-11-1 WATER TAP AND METER SIZING PROCEDURES**

1. Determine and tabulate the total Fixture Value for the building being served.
2. Determine the building peak demand in gpm
3. Calculate the pressure at the building in psi. Use a main pressure of 80 psi in the District high service zone\*, and 60 psi in the mid and low service zones\*, to calculate the maximum expected flow. It is the Design Engineer's responsibility to determine the requirements for minimum flows, and to satisfy these requirements based on anticipated pressure fluctuations.
4. Determine the adjusted building demand in gpm by applying the appropriate Pressure Adjustment Factor for delivery pressure at the building line.

The adjusted demand should not exceed the following, subject to District approval:

METER SIZE IN INCHES	MAX ALLOWABLE FLOW RATE
¾ "	15
1"	25
1 ½"	55
2"	80

\*Refer to Denver Water Standards for sizes 3 inches and larger.

5. Calculate the velocity in the service line using the adjusted building demand.
6. Calculate the head loss in the service line and meter using the adjusted building demand, (must be less than 25 psi total, from main to building) on the Water Tap and Meter Sizing Calculations form provided by the District. If the resulting pressure exceeds the pressure setting of a service pressure reducing valve (PRV) if provided at the building line, use the PRV pressure setting in the calculation.
7. Submit the above calculations, along with a project site plan, showing the size and location of all service lines and meters, prepared by a Registered Professional Engineer, to the District for review. The initial review submittal may be unsealed. The final calculation shall bear the seal and signature of the Professional Engineer and shall be submitted with the tap application.

\* The zone boundary is the East leg of the Highline Canal as it passes through the District, with the mid and low zones being located west of the canal.

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Project Name and Address

CHERRY CREEK VALLEY WATER AND SANITATION DISTRICT  
WATER TAP AND METER SIZING CALCULATIONS

Total Fixture Value, Table 4-2<sup>1</sup> (1) \_\_\_\_\_  
Demand from Figure 4-2 or 4-3<sup>1</sup> (2) \_\_\_\_\_ gpm Circle: Lower or Upper Curve

	<u>Trial No. 1</u>	<u>Trial No. 2</u>
Main Pressure	_____ psi	_____ psi
<u>Assumed</u> Pressure at Building	_____ psi	_____ psi
Pressure Adjustment Factor, Table 4-1 <sup>1</sup> (3)	_____	(3) _____
Adjusted Demand (2) x (3)	(4) _____ gpm	(4) _____ gpm
Assumed Tap and Meter Size	_____ inch	_____ inch
<u>Main to 5-ft Beyond Meter Pit</u>		
Length of ____” Pipe	_____ ft	_____ ft
Pipe friction loss (at (4), typ) (Table 5-1 <sup>1</sup> , Type K copper or Class 52 DIP, C=130)	(5) _____ psi	(5) _____ psi
Total Minor Losses (attach tabulation) (Entrance, corp stop, curb stop, meter pit fittings, and meter losses, Tables 5-2 and 5-3 <sup>1</sup> )	(6) _____ psi	(6) _____ psi
<u>5-ft Beyond Meter Pit to Building Line</u>		
Length of ____” Pipe	_____ ft	_____ ft
Pipe Friction Loss (Table 5-1 <sup>1</sup> , Type K copper or Class 52 DIP, C=130)	(7) _____ psi	(7) _____ psi
Total Minor Losses (attach tabulation) (Increaser if applicable, bends and fittings, Tables 5-2 and 5-3 <sup>1</sup> )	(8) _____ psi	(8) _____ psi
Backflow Preventer Head Loss (If present, indicate type. Table 5-4 <sup>1</sup> , P open + k factor. If none, indicate “none”)	(9) _____ psi	(9) _____ psi
Total Head Loss, Main to Building (5) + (6) + (7) + (8) + (9)	(10) _____ psi	(10) _____ psi
New Pressure at Building Main pressure minus (10)	(11) _____ psi	(11) _____ psi
Service PRV Setting, or indicate “none”	(12) _____ psi	(12) _____ psi

Note: If new pressure at building (11) differs by more than 5 psi from assumed pressure, then recalculate pressure at building starting with a new assumed pressure. Sum of (5), (6), (7), and (8) may not exceed 25.0 psi. If (11) is greater than (12), use (12) for the final calculation.

<sup>1</sup>From Sizing Water Service Lines and Meters, AWWA Manual M22, 2004 edition.

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P.E. Name and Contact

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P.E. Signature and Stamp

**9C-12 GREASE INTERCEPTOR SIZING AND DESIGN PROCEDURE:** The design for grease interceptors required in Section 9A-3 shall be submitted to and approved by the District prior to installation. Submit electronic PDF plans and design data showing the size, design, and location of each interceptor and associated drainage and vent piping. Provide plumbing plans and/or schematics and schedules showing pipe sizes and fixtures served. Submit sizing calculations.

Grease interceptors shall be designed and sized in accordance with the following provisions:

1. Grease interceptors shall be of watertight and impervious construction capable of withstanding abrupt and extreme changes in temperature. They shall be suitable for Traffic-Rated loading (AASHTO HS-20 or better load rating). If cast-in-place concrete is used, the walls and floors shall be of a single pour. Detailed drawings and the load rating shall be submitted to the District for review and approval.
2. Grease interceptors shall have two (2) vent pipes, one shall vent the body of the interceptor and one shall connect to the effluent piping downstream of the interceptor. Vent pipes shall remain independent to a location above finished grade. Vents shall be independent of any other building venting system and shall be in accordance with local building and plumbing codes.
3. Grease interceptors shall be located outside buildings on private property, not closer than 3 feet to any building or property line. They shall be easily accessible at all times for inspection and maintenance. They shall not be located within drive-through lanes or main entrance driveways. A site plan showing the interceptor location, maintenance access ports, relevant dimensions, and inlet and outlet sewer alignments shall be submitted to the District for review and approval.
4. Garbage disposal grinders are required to discharge to the grease interceptor.
5. Property Owners shall consider upsizing grease interceptors to a size larger than the calculated minimum to accommodate unforeseen future renovations or additions or other tenant improvements that add fixture load or throughput to the interceptor. If future renovations occur, the required interceptor size shall be re-computed at that time and if necessary the District will require removal and replacement with a larger interceptor accordingly.
6. The minimum grease interceptor capacity shall be 500gallons.

**9C-12-1 CALCULATING GREASE INTERCEPTOR SIZE** - Size calculations shall be prepared by the Property Owner and submitted to the District for review and approval per the following methods:

- Where the establishment is a restaurant or similar dine-in setting and the seating capacity or number of meals can be determined, compute:  
 Number of seats x a full capacity factor of 0.9 x turnover rate of 2.2 per meal period = number of meals served per meal period.  
 Number of meals served per meal period x 2.5 gallons per meal = volumetric water capacity of the grease interceptor.
- Where seating capacity or number of meals cannot be adequately determined for the establishment, the following rule shall apply:  
 The following table establishes the fixture unit values for various drainage fixtures that are connected to the grease interceptor.  
 The total number of fixture units connected to the grease interceptor shall be multiplied by 7.5 gpm to determine the maximum rate of flow into the grease interceptor. The volumetric water capacity of the unit (gallons) shall be 8 times the maximum rate of flow.

<u>Fixture Type</u>	<u>Drain Size</u>	<u>No. of Fixture Units</u>
Floor drains	1-1/2" to 3"	2
Laundry tubs	1-1/2"	3
Clothes Washers	2"	3
Receptors (floor sinks) receiving waste from refrigerators, coffee urns, water stations.	1-1/2"	1
Receptors receiving waste from commercial sinks, dishwashers, etc.	1-1/2" to 2" 3" 4"	3 6 8
Service sinks, dishwashers (direct connection): commercial, industrial, schools, etc.	1-1/2" to 2"	3
Bar sinks and hand sinks	1-1/4" to 1-1/2"	2
Mop sink	1-1/2" to 2"	3

**9C-13 OIL, SAND/SEDIMENT TRAP SIZING AND DESIGN PROCEDURE:** Oil and sand/sediment traps required in Section 9A-4 shall be sized in accordance with the following provisions:

- All traps shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be watertight, and if necessary, gastight and vented. They shall be suitable for Traffic-Rated loading (AASHTO HS-20 or better load rating). If cast-in-place concrete is used,

the walls and floors shall be of a single pour. Detailed drawings and the load rating shall be submitted to the District for review and approval.

2. All traps shall be located outside buildings on private property, not closer than 3 feet to any building or property line. They shall be easily accessible at all times for inspection and maintenance. A site plan showing the interceptor location, maintenance access ports, relevant dimensions, and inlet and outlet sewer alignments shall be submitted to the District for review and approval.
3. The minimum oil and sand/sediment trap capacity shall be 1,500 gallons.

**9C-13-1 CALCULATING OIL, SAND/SEDIMENT TRAP SIZE** - Size calculations shall be prepared by the Property Owner and submitted to the District for review and approval per the following method:

1. Total fixture units connected x 7.5 gpm x 5 minutes = minimum volumetric trap size.
2. The total fixture unit values shall be based on the following table:

<u>Facility or Fixture</u>	<u>No. of Fixture Units</u>
Floor drain	
3" trap size	6
4" trap size	8
Vehicle wash drain	8
Service bay with Trench Drain	
380 sq. ft. or less	6
381 sq. ft. through 760 sq. ft.	12
761 sq. ft. through 1,140 sq. ft.	18
1,141 sq. ft. and larger	(Follows the same calculation pattern)

## **9C-14 DISTRICT STANDARD DRAWINGS**

### **9C-14.1 SANITARY STANDARD DETAILS**

S-01	1 of 2, Sanitary Manhole
S-01	2 of 2, Sanitary Manhole
S-02	Sanitary Main Bedding & Trench Backfill
S-03	Sanitary Tracer Wire
S-04	Sanitary Main Bell Joint Insertion Requirements
S-11	Typical Sanitary Sewer Service Detail
S-12	Sanitary Cleanout
S-21	Grease Interceptor
S-22	Oil and Sand/Sediment Trap

### **9C-14.2 WATER STANDARD DETAILS**

W-01	(To be added later, inquire with the District)
W-02	(To be added later, inquire with the District)



## **ARTICLE 10 BACKFLOW PREVENTION**

**10-1 GENERAL:** The purpose of this regulation is to protect the District's Water System from contaminants or pollutants that could enter the District Water System by backflow from a Property Owner's water supply system through the service connection.

**10-2 AUTHORITY:** The authority to implement this program is contained in the following statute, legislation and regulations and acts:

- C.R.S. § 25-1-114 and 114.1
- Section 39 of 5 CCR 1002-11, Colorado Primary Drinking Water Regulations
- Colorado Plumbing Code

These sources provide the following authority to the District:

**10-2-1** To survey all service connections within the District Water System to determine if the connection is a cross-connection.

**10-2-2** To control all service connections within the District Water System if the connection is a cross-connection.

**10-2-3** To control any service connections within the District Water System in lieu of a survey as long as the service connection is controlled with an air gap or reduced pressure zone backflow prevention assembly.

**10-2-4** To collect fees for the administration of this program.

**10-2-5** To maintain records of cross-connection surveys and the installation, testing and repair of all backflow prevention assemblies installed for containment and containment by isolation purposes.

**10-2-6** To administer, implement, and enforce the provisions of this regulation, except as otherwise provided by law.

**10-3 APPLICABILITY:** This regulation applies to all commercial, industrial and multi-family residential service connections within the District Water System and to any persons outside the District who are, by contract or agreement with the District, users of the District Water System. This Regulation does not apply to single-family residential service connections unless the District becomes aware of a cross connection at the single family connection.

### **10-4 DEFINITIONS:**

**10-4-1** "ACTIVE DATE" means the first day that a backflow prevention assembly or backflow prevention method is used to control a cross-connection in each calendar year.

**10-4-2** "AIR GAP" is a physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel installed in accordance with standard AMSE A112.1.2.

**10-4-3** "BACKFLOW" means the undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the public Water Systems District Water System from any source or sources other than its intended source.

**10-4-4** "BACKFLOW CONTAMINATION EVENT" means backflow into a public Water System from an uncontrolled cross connection such that the water quality no longer meets the Colorado Primary Drinking Water Regulations or presents an immediate health and/or safety risk to the public.

**10-4-5** "BACKFLOW PREVENTION ASSEMBLY" means any mechanical assembly installed at a water service line or at a plumbing fixture to prevent a backflow contamination event, provided that the mechanical assembly is appropriate for the identified contaminant at the cross connection and is an in-line field-testable assembly.

**10-4-6** “BACKFLOW PREVENTION METHOD” means any method and/or non-testable device installed at a water service line or at a plumbing fixture to prevent a backflow contamination event, provided that the method or non-testable device is appropriate for the identified contaminant at the cross connection.

**10-4-7** “CERTIFIED CROSS-CONNECTION CONTROL TECHNICIAN” means a person who possesses a valid Backflow Prevention Assembly Tester certification from one of the following approved organizations: American Society of Sanitary Engineering (ASSE) or the American Backflow Prevention Association (ABPA). If a certification has expired, the certification is invalid.

**10-4-8** “CONTAINMENT” means the installation of a backflow prevention assembly or a backflow prevention method at any connection to the District Water System that supplies an auxiliary water system, location, facility, or area such that backflow from a cross connection into the District Water System is prevented.

**10-4-9** “CONTAINMENT BY ISOLATION” means the installation of backflow prevention assemblies or backflow prevention methods at all cross connections identified within a Property Owner’s water system such that backflow from a cross connection into the District Water System is prevented.

**10-4-10** “CONTROLLED” means having a properly installed, maintained, and tested or inspected backflow prevention assembly or backflow prevention method that prevents backflow through a cross connection.

**10-4-11** “CROSS CONNECTION” means any connection that could allow any water, fluid, or gas such that the water quality could present an unacceptable health and/or safety risk to the public, to flow from any pipe, plumbing fixture, or a Property Owner’s water system into the District Water System’s District Water System or any other part of the District Water System through backflow.

**10-4-12** “MULTI-FAMILY” means a single residential connection to the District Water System’s District Water System from which two or more separate dwelling units are supplied water.

**10-4-13** “SINGLE-FAMILY” means:

**10-4-13.1** A single dwelling which is occupied by a single family and is supplied by a separate service line; or

**10-4-13.2** A single dwelling comprised of multiple living units where each living unit is supplied by a separate service line.

**10-4-14** “UNCONTROLLED” means not having a properly installed and maintained and tested or inspected backflow prevention assembly or backflow prevention method, or the backflow prevention assembly or backflow prevention method does not prevent backflow through a cross connection.

**10-4-15** “WATER SUPPLY SYSTEM” means a water District Water System, piping, connection fittings, valves and appurtenances within a building, structure, or premises. Water supply systems are also referred to commonly as premise plumbing systems.

## **10-5 REQUIREMENTS:**

**10-5-1** Commercial, industrial and multi-family service connections shall be subject to a survey for cross connections. If a cross connection has been identified an appropriate backflow prevention assembly and or method shall be installed at the Property Owner’s water service connection, at the Property Owner’s expense, within 120 days of its discovery. The assembly shall be installed downstream of the water meter or as close to that location as deemed practical by the District. If the assembly or method cannot be installed within 120 days the District must take action to control or remove the cross connection, suspended service to the cross connection or receive an alternative compliance schedule from the Colorado Department of Public Health and Environment.

**10-5-2** In no case shall it be permissible to have connections or tees between the meter and the containment backflow prevention assembly.

**10-5-3** In instances where a reduced pressure principle backflow preventer cannot be installed, the owner must install approved backflow prevention devices or methods at all cross-connections within the owner’s plumbing system.

**10-5-4** Backflow prevention assemblies and methods shall be installed in a location which provides access for maintenance, testing and repair.

10-5-5 Reduced pressure principle backflow preventers shall not be installed in manner subject to flooding.

10-5-6 Provisions shall be made to provide adequate drainage from the discharge of water from reduced pressure principle backflow prevention assemblies. Such discharge shall be conveyed in a manner which does not impact waters of the state.

10-5-7 All assemblies and methods shall be protected to prevent freezing. Those assemblies and methods used for seasonal services may be removed in lieu of being protected from freezing. The assemblies and methods must be reinstalled and then tested by a certified cross-connection control technician upon reinstallation.

10-5-8 Where a backflow prevention assembly or method is installed on a water supply system using storage water heating equipment such that thermal expansion causes an increase in pressure, a device for controlling pressure shall be installed.

10-5-9 All backflow prevention assemblies shall be tested at the time of installation and on an annual schedule thereafter. Such tests must be conducted by a Certified Cross-Connection Control Technician.

10-5-10 The public Water System shall require inspection, testing, maintenance and as needed repairs and replacement of all backflow prevention assemblies and methods, and of all required installations within the owner's plumbing system in the cases where containment assemblies and or methods cannot be installed.

10-5-11 All costs for design, installation, maintenance, testing and as needed repair and replacement shall be borne by the Property Owner.

10-5-12 No grandfather clauses exist except for fire sprinkler systems where the installation of a backflow prevention assembly or method will compromise the integrity of the fire sprinkler system.

10-5-13 For new buildings, all building plans must be submitted to the public Water System and approved prior to the issuance of water service. Building plans must show:

10-5-13.1 Water service type, size and location

10-5-13.2 Meter size and location

10-5-13.4 Backflow prevention assembly size, type and location

10-5-13.5 Fire sprinkler system(s) service line, size and type of backflow prevention assembly.

10-5-13.5-1 All fire sprinkling lines shall have a minimum protection of \_\_\_\_\_ an approved double check valve assembly for containment \_\_\_\_\_ of the system.

10-5-13.5-2 All glycol (ethylene or propylene), or antifreeze systems shall have an approved reduced pressure principle backflow \_\_\_\_\_ preventer for containment.

10-5-13.5-3 Dry fire systems shall have an approved double check \_\_\_\_\_ valve assembly installed upstream of the air pressure valve.

10-5-13.5-4 In cases where the installation of a backflow prevention assembly or method will compromise the integrity of the fire sprinkler system the District's Water System can choose not to require the backflow protection. The District Water System will measure chlorine residual at location representative of the service connection once a month and perform periodic bacteriological testing at the site. If the \_\_\_\_\_ District suspects water quality issues the District will evaluate the practicability of requiring that the fire sprinkler system be flushed periodically.

## **10-6 INSPECTION, TESTING AND REPAIR:**

10-6-1 Backflow prevention assemblies or methods shall be tested by a Cross-Connection Control Technician who has been certified by the American Society of Safety Engineers or the American Backflow Prevention Association. Such testing shall take place upon installation and at least annually thereafter. The tests shall be made at the expense of the Property Owner.

10-6-1.1 Any backflow prevention assemblies or methods that are non-testable, shall be inspected at least once annually by a certified cross-connection control technician. The inspections shall be made at the expense of the Property Owner.

10-6-2 As necessary, backflow prevention assemblies or methods shall be repaired and retested or replaced and tested at the expense of the Property Owner whenever the assemblies or methods are found to be defective.

10-6-3 Testing gauges shall be tested and calibrated for accuracy at least once annually.

**10-7 REPORTING AND RECORDKEEPING:**

10-7-1 Copies of records of test reports, repairs and retests, or replacements shall be kept by the Property Owner for a minimum of three (3) years.

10-7-2 Copies of records of test reports, repairs and retests shall be submitted to the District by mail, facsimile or e-mail by the testing company or testing technician.

10-7-3 Information on test reports shall include, but may not be limited to

10-7-3.1 Assembly or method type

10-7-3.2 Assembly or method location

10-7-3.3 Assembly make, model and serial number

10-7-3.4 Assembly size

10-7-3.5 Test date; and

10-7-3.6 Test results including all results that would justify a pass or fail outcome

10-7-3.7 Certified cross-connection control technician certification agency

10-7-3.8 Technician's certification number

10-7-3.9 Technician's certification expiration date

10-7-3.10 Test kit manufacturer, model and serial number

10-7-3.11 Test kit calibration date

**10-8 RIGHT OF ENTRY:**

10-8-1 A properly credentialed representative of the District shall have the right of entry to survey any and all buildings and premises for the presence of cross-connections for possible contamination risk to and for determining compliance with this section. This right of entry shall be a condition of water service in order to protect the public health, safety and welfare throughout the District.

**10-9 COMPLIANCE:**

10-9-1 Property Owners shall cooperate with the installation, inspection, testing, maintenance, and as needed repair and replacement of backflow prevention assemblies and with the survey process. For any identified uncontrolled cross-connections, the District shall complete one of the following actions within 120 days of its discovery:

10-9-1.1 Control the cross connection

10-9-1.2 Remove the cross connection

10-9-1.3 Suspend service to the cross connection

10-9-2 The District shall give notice in writing to any Property Owner whose plumbing system has been found to present a risk to the District's District Water System through an uncontrolled cross connection. The notice and order shall state that the Property Owner must install a backflow prevention assembly or method at each service connection to the Property Owner's premises to contain the water service. The notice and order will give a date by which the Property Owner must comply.

10-9-2.1 In instances where a backflow prevention assembly or method cannot be installed, the Property Owner must install approved backflow prevention assemblies or methods at all cross-connections within the Property Owner's water supply system. The notice and order will give a date by which the Property Owner must comply.

**10-10 VIOLATIONS AND PENALTIES:**

10-10-1 Any violation of the provisions of this regulation shall, upon conviction, be punishable as provided in all applicable statutes, laws, and regulations.

**10-10-2** In addition to any other remedy available to the District by rule or at law or equity, the District shall have the authority to suspend water service to any building, structure, or facility that is in violation of this regulation, pursuant to the provisions of Section 3-4 of these Rules and Regulations.

**10-11 CONFLICT WITH OTHER CODES:**

**10-11-1** If a dispute or conflict arises between the Colorado Plumbing Code as adopted herein, and any plumbing, mechanical, building, electrical, fire or other code adopted by the State, then the most stringent provisions of each respective code shall prevail.

**10-12 DISTRICT'S COSTS AND EXPENSES:**

**10-12-1** If and to the extent the District's costs and expenses incurred in the enforcement of this Article 10 are not recoverable pursuant to Article 7 of these Rules and Regulations, all such costs and expenses shall be charged to the Property Owner who shall pay the same within thirty (30) days after the date of the District's invoice, and thereafter any unpaid amount of such charges shall become a lien against the subject property pursuant to C.R.S. § 32-1-1001(1)(j)(l).

## **ARTICLE 11 RESIDENTIAL FIRE SPRINKLER SYSTEMS**

### **11-1 DEFINITION; APPLICABILITY:**

**11-1-1** Residential fire sprinkler systems consist of: (a) service connections to the water service line downstream of the meter, (b) all pumps, piping, sprinkler heads, and appurtenant facilities.

**11-1-2** An automatic fire sprinkler system shall be installed in one and two family dwellings and townhomes built or moved into the District when South Metro Fire Rescue Authority, its successor, or any fire authority or entity with lawful jurisdiction, has provided the District with written notice that such installation is required for the particular dwelling.

**11-2 OPERATION:** Residential fire sprinkler systems are installed for fire protection for the property on which they are installed and are not to be used for any other purpose. All fire service openings will be kept closed and sealed, except in the case of fire. No water shall be used from the Residential fire sprinkler system pipes, except to extinguish fires.

**11-3 CONNECTION AND METERING:** No unmetered residential fire sprinkler system is permitted. Residences using a residential fire sprinkler system shall not connect the fire sprinkler system directly to the District main but shall have a combination domestic water service line and fire service line. A valve shall be required at the main, and additional valves must be installed on each of the service branches, including the Residential fire sprinkler system service line, so that each line may be controlled independently. The combination domestic water service and fire service line shall be metered accordance with District requirements for all domestic water service lines.

**11-4 DESIGN AND PLAN REVIEW:** No Residential fire sprinkler system shall be installed without prior plan review and approval by the District. Plans for a new Residential fire sprinkler system or modification or addition to an existing system shall be submitted to the District and shall include details of size, type and location of the connection, fire line(s), pump(s), standpipe(s), sprinkler heads, backflow prevention valves, and any other system components and features in accordance with the District's Technical Specifications.

**11-4-1** Residential fire sprinkler system service connections, piping and appurtenances design, installation, inspection and maintenance shall comply with NFPA 13D Installation of Sprinkler Systems in One and Two Family Dwellings and Mobile Manufactured Homes, 2002 2013 Edition (Copyright 2012 by National Fire Protection Association Inc.), and with any and all specifications and standards adopted by the District. USE OF DOMESTIC SERVICE FOR WATER SUPPLY TO AUTOMATIC FIRE SPRINKLER SYSTEMS THAT DO NOT COMPLY WITH NFPA 13D IS PROHIBITED.

**11-4-2** All residential fire sprinkler lines shall have a minimum protection of an approved double check valve for containment of the system. All glycol, ethylene, propylene, and other chemical antifreeze systems shall have an approved Reduced Pressure Zone assembly for containment.

**11-4-3** Plans must include a proposed installation and testing schedule for the residential fire sprinkler system, including the backflow prevention valves for such system. Tests will be conducted in accordance with A.S.S.E. and/or U.S.C.-C.C.C. and H.R. performance standards and field test procedures as directed by the Colorado Department of Public Health and Environment.

**11-4-4** All costs for design, plan review, installation, maintenance, repair, and testing are to be borne by the Property Owner.

**11-4-5** For residential structures for which a fire sprinkler system is required, installation of the water service line will not be allowed until a fire sprinkler submittal has been received, reviewed, and approved by the District.

**11-5 INSPECTION:** The District will require inspection of all residential fire sprinkler systems, including containment system installations. Approval and inspection by the District shall not assure adequacy of operation or

protect the user or owner from damage resulting from the system failure. The Property Owner and user will retain all such liability as a condition of service.

**11-6 TESTING AND MAINTENANCE**: At least once per year, it will be the duty of the Property Owner where any backflow prevention or other containment device is installed to have a certified inspection or test made of those devices. In those specific instances where the District deems the hazard to be great enough, certified inspections or tests at more frequent intervals may be required. These inspections or tests shall be at the expense of the Property Owner and shall be performed by a certified technician approved by the Colorado Department of Public Health and Environment.

**11-6-1** As necessary, the containment devices shall be repaired or replaced at the expense of the customer whenever the containment devices are found to be defective. Records of all such inspections, tests, repairs or replacement shall be kept by customer and the District.

**11-6-2** Existing containment devices shall be sealed by the technician performing the inspection or test at the completion of the inspection or test.

**11-6-3** All testing equipment used in testing of containment devices shall be checked for accuracy at least annually, and proof of compliance shall be submitted to the District upon request.

**11-6-4** The District retains the right to inspect or test the installation and operation of any containment device at any time to assure proper operation.

**11-7 ENFORCEMENT**: The requirements of this Article 11 shall be administered and enforced pursuant to applicable provisions of Colorado law, the District's Regulations, and the applicable Plumbing Code.