COLORADO
Department of Public Health & Environment

IMPLEMENTATION POLICY

Clean Water Program
Policy Number: CW-14

Regulation No. 22 - Site Location and Design Regulations for Domestic Wastewater Treatment Works (5 CCR 1002-22)

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ABBREVIATION LIST

208 Plan	Regional Water Quality Management Plan
ADF	Average Daily Flow
BDR	Basis of Design Report
BOD	Biochemical Oxygen Demand
cBOD	Carbonaceous Biochemical Oxygen Demand
CAP	Corrective Action Plan
CCRs	Covenants, Conditions, and Restrictions
CDPHE	Colorado Department of Public Health and Environment
CEI	Compliance Evaluation Inspection
COD	Chemical Oxygen Demand
Commission	Water Quality Control Commission
Committee	New Technology and Design Criteria Variance Committee
CFR	Code of Federal Regulations
C.R.S.	Colorado Revised Statutes
Department	Colorado Department of Public Health and Environment
Design Criteria	*State of Colorado Design Criteria for Domestic Wastewater Treatment Works (WPC-DR-1)*
Discharge Permit	Colorado Discharge Permit System Permit
Division	Water Quality Control Division of the Colorado Department of Public Health and Environment
DMR	Discharge Monitoring Report
DORA	Colorado Department of Regulatory Agencies
DWWTW	Domestic Wastewater Treatment Works
FEMA	Federal Emergency Management Agency
gpcd	Gallons per Capita Day
gpd	Gallons per Day
I&I	Inflow and Infiltration
MFE	Multi-Family Equivalent
MGD	Million Gallons per Day
MMF	Maximum Month Average Daily Flow or Maximum Month Flow
OWTS	On-site Wastewater Treatment System
PELs	Preliminary Effluent Limits or Preliminary Effluent Limitations
PDR	Process Design Report
PFD	Process Flow Diagram
PHF	Peak Hour Flow
PIF	Peak Instantaneous Flow
Policy 6	*Water Quality Site Application Policy Number 6: Multiple On-site Wastewater Treatment Systems*
Regulation 21	*Regulation No. 21 – Procedural Rules*
Regulation 22	*Regulation No. 22 - Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works (5 CCR 1002-22)*
Regulation 31	*Regulation No. 31 - The Basic Standards And Methodologies For Surface Water (5 CCR 1002-31)*
Regulation 43	*Regulation No. 43 - On-site Wastewater Treatment System Regulation (5 CCR 1002-43)*
Regulation 61	*Regulation No. 61 - Colorado Discharge Permit System Regulations (5 CCR*

	1002-61)
Regulation 62	*Regulation No. 62 - Regulations for Effluent Limitations (5 CCR 1002-62)*
Regulation 84	*Regulation No. 84 - Reclaimed Water Control Regulation (5 CCR 1002-84)*
Regulation 100	*Regulation No. 100 – Water and Wastewater Facility Operators Certification Requirements (5 CCR 1003-2)*
RAS	Return Activated Sludge
SDS	Safety Data Sheet
SFE	Single Family Equivalent
SRF	State Revolving Fund
SSO	Sanitary Sewer Overflow
TIN	Total Inorganic Nitrogen
TMDL	Total Maximum Daily Loads
TN	Total Nitrogen
TOC	Total Organic Carbon
TOD	Total Oxygen Demand
TP	Total Phosphorus
TRC	Total Residual Chlorine
Treatment Plant	Domestic Wastewater Treatment Plant
Treatment Works	Domestic Wastewater Treatment Works
TSS	Total Suspended Solids
WAS	Waste Activated Sludge
WET	Whole Effluent Toxicity
WQBELs	Water Quality Based Effluent Limits
WQPTs	Water Quality Planning Targets

GENERAL INFORMATION REGARDING REGULATION 22

This section of the policy provides background and general information regarding Regulation 22 and the associated requirements.

I. BACKGROUND INFORMATION

A. Regulatory Framework

The Colorado Water Quality Control Act established the statutory framework for the creation of *Regulation No. 22 - Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works* (Regulation 22) by requiring site location and design approval through the Water Quality Control Division (Division). The statute, C.R.S. 25-8-702, states "no person shall commence construction of any domestic wastewater treatment works or the enlargement of the capacity of an existing domestic wastewater treatment works, unless the site location and the design for the construction or expansion have been approved by the Division." Between November 1967 and 1981, the Division made recommendations for approval, but all approval decisions were made by the Water Quality Control Commission (Commission). Regulation 22 was initially adopted by the Commission in November of 1981 to define the proper procedures for applicants to obtain site location approval and establish the information necessary for the Division to make a determination of site location approval. Thus, Regulation 22 provides the specific provisions to implement the statutory requirements regarding site location and design decisions. The technical criteria used to review treatment works designs are provided in a separate Water Pollution Control Program policy entitled, *State of Colorado Design Criteria for Domestic Wastewater Treatment Works - Water Pollution Control Program Policy Number WPC-DR-1* (design criteria).

B. Purpose of the Policy

The Division's primary goal in preparing and issuing this policy is to facilitate a better understanding of Regulation 22 and the Division's expectations with regard to site location and design application submittals. This will help to ensure that applicants submit complete and accurate applications and that the Division's review efforts are as consistent as possible. This policy is further intended to interpret, clarify, and provide information and direction to applicants, consulting engineers, and Division staff with regard to site location and design applications, review processes, and requirements that are delineated in Regulation 22.

This policy has been updated by the Division through a stakeholder process, following the revisions to Regulation 22 that were adopted by the Commission on March 9, 2020 and became effective on June 14, 2020.

II. GENERAL INFORMATION

A. Organization of this Policy

In general, the organization of Regulation 22 is based upon the specific site location application type (i.e., New Domestic Wastewater Treatment Plant, Increasing or Decreasing the Design Capacity of an Existing Domestic Wastewater Treatment Plant, Interceptors, Lift Stations, etc.). Subsequent to this background and general information section, the policy is organized and numbered to be consistent with the specific sections in Regulation 22.

Forms, flow charts, website links and contact lists referenced in this policy may be modified periodically by the Division, as needed. Additionally, modifications to address changes in the titles or numbering of referenced policies and/or regulations may be made by the Division as necessary to keep this policy as current as possible. These minor revisions will be made by the Division and interested parties will be notified that the policy has been revised via the monthly Water Quality Information Bulletin.

B. When Site Location and Design Approval is Required

Regulation 22 addresses the following site location application types and other topics:

- 22.6 New Domestic Wastewater Treatment Plants;
- 22.7 Capacity Changes of Existing Domestic Treatment Plants associated with Construction;
- 22.8 Interceptors and Certification Procedures for Eligible Interceptor Sewers;
- 22.9 Lift Stations (New and Change in Capacity);
- 22.10 Amendments of Existing Site Location Approval (Treatment Plants and Lift Stations);
- 22.11 Demonstration Projects;
- 22.12 In-Kind Replacements; and
- 22.13 Design Application Process.

Based upon the types of site location applications identified in Regulation 22, site location and design approvals for treatment works are required for the following circumstances:

- Proposed construction of new treatment plants, including on-site wastewater treatment systems (OWTS) that have a design capacity to receive greater than 2,000 gallons per day (gpd) of domestic wastewater.
    - Note that vaults are defined as OWTS and require site location and design approval prior to commencement of construction.

- Proposed construction related to modifications of existing treatment plants, including OWTS that have a design capacity to receive greater than 2,000 gpd of domestic wastewater. Modifications are considered to include, but are not limited to capacity changes, process changes, new or modified chemical additions, etc.
- Proposed construction of new or modified lift stations that have a design capacity to receive greater than 2,000 gpd of domestic wastewater. This includes changes to the rated hydraulic capacity of a lift station, critical components (pumps, wet/dry wells, emergency overflow storage capacity, etc.), and location of an existing lift station.
- Proposed construction of new or modified interceptor sewers with a nominal pipe diameter equal to or greater than 24-inches.
- Proposed design capacity increases or decreases where no construction has taken or will take place (these are generally called 'paper re-ratings'), or a change in the design flow portioning that does not change the design capacity.
- Proposed re-ratings from a design capacity that is above 2,000 gpd to a capacity that is at or below the 2,000 gpd threshold despite whether construction will take place. Note, this decision at the state level is not intended to supersede the local county/city approvals that may be required for systems that have a design capacity to receive 2,000 gpd or less.
- Moving an outfall sewer (discharge point) to a location that has not received site location approval and/or which is proposed to be moved to a different stream segment.
- The proposed addition or expansion of a treatment process to generate or store reclaimed domestic wastewater (as defined in *Regulation No. 84 - Reclaimed Water Control Regulation* (Regulation 84)) regardless of the location of the added or expanded treatment process (i.e., upstream or downstream of the point of compliance as defined in Regulation 84).
- A partial or full change in the type of discharge employed (e.g., from a Category 1 use to a Category 2 use or from a localized system to a centralized system) with regard to reclaimed domestic wastewater (as defined in Regulation 84) regardless of whether construction will take place.
- Proposed construction related to changes in the type of discharge from a wastewater treatment plant (surface water to ground water or vice-versa; a partial or complete change from a surface water or groundwater discharge to reclaimed domestic wastewater (as defined in Regulation 84)).
- Proposed construction of lift stations for reclaimed domestic wastewater (as defined in Regulation 84) where the proposed lift station is located upstream of the point of compliance (as defined in Regulation 84).
- Prior to permanent utilization of Division-authorized demonstration project processes/equipment (after completion of the approved demonstration project).

Due to the compliance implications with regard to State Statute and Regulation 22, applicants are strongly encouraged to review the definitions provided in Section 22.2 of Regulation 22.

There are some limited situations where an OWTS may be present at a site location required to obtain site location approval, but the OWTS would not be required to connect to the central treatment works and could be permitted at the local level. These types of situations include:

- Summer camp with a state permitted treatment works discharging to a stream, and year-round caretaker house on single family OWTS;
- Year-round camp facility with a state permitted treatment works discharging to groundwater, and a year-round director's house on a single family OWTS in a separate location on the property (i.e., away from collection system); and
- Seasonal lodge with a state permitted treatment works using a septic tank and additional treatment and discharging to a stream; and off-season use limited to the proprietor family involves valving to direct off-season wastewater flow from the treatment works to a single family OWTS.

Note, a year-round facility with a state permitted treatment works and lower flows in some months does not go in and out of the state permitting and compliance system. State permit treatment works monitoring and reporting continues for all months.

The guiding principles for whether a locally-permitted OWTS can also be present on a site location with a treatment works are:

- Surface water discharge is always permitted at the state level;
- OWTS must be a distinctly separate situation. If the seasonal variation involves the same treatment works, the facility will get one state permit, even if the discharge is to groundwater and includes variable flows with months of little or no flow;
- State site location approval letters for state permitted treatment works should identify OWTS for other dwellings; and
- For large properties, OWTS may be added later with local permitting, provided the OWTS are adequately separated from the state permitted treatment system(s) and other OWTS, consistent with Water Quality Site Application Number Policy 6: Multiple On-site Wastewater Treatment Systems.

C. The Site Location Application and Design Review Processes

The site location application is a process that consists of the application, review, and decision. In cases where a design review is required, the design application for a lift station is a one-step process, whereas the design submittal for a treatment plant is a two-step process. Previously, for projects involving treatment plants, the applicant

had the choice of submitting the following: 1) a Process Design Report (PDR) and the final design for review and approval; or 2) a PDR for review and approval and a self-certification form where the applicant's engineer verifies conformance with the design criteria. Based on the June 14, 2020 revisions to Regulation 22, the applicant is now required to self-certify the final design, unless at the Division's discretion or when required otherwise by a funding agency. The Division has also removed the requirement for submittal of the Basis of Design Report (BDR) and final plans and specifications for interceptors, and now only requires the submittal of a self-certification form for this type of project. For more in depth information pertaining to the site location and design application processes, please refer to Section 22.13 of Regulation 22, the associated sections of this policy, and the flow charts found in Appendix A.

As is described in Section 22.13 of Regulation 22, in addition to obtaining site location approval, the applicant must obtain design approval from the Division prior to commencement of construction. Along the same lines, purchasing equipment without having first obtained site location and design approval is performed at the applicant's own risk. If the Division does not approve the site location and/or design application that is based upon the use of such equipment, the applicant will likely be required to replace the equipment.

Design-Build or Phased Construction

Phasing of projects refers to an applicant's request for separation of a project (for a single capacity request) into two or more construction phases. This will enable an applicant to get through the site location approval and a phased design approval process, such that construction on the approved phase can commence, while design review work may be ongoing on other phases. Alternatively, an applicant may go through a single phase design review process for the single design capacity and propose construction phases based on an operational plan. Please refer to section 22.13 in this policy for specific information. Note, the Division does not issue site location approvals for phased capacity increases.

Under unusual circumstances, an applicant may also request phased self-certification for interceptor pipelines that require extended property and easement negotiations with multiple parties. The site location application is intended to demonstrate control of the entire site prior to Division approval, but the Division will consider extenuating circumstances. An applicant should refer to Section 22.13 of this policy for additional requirements and conditions pertaining to the phased construction of interceptors.

Site Location Approval and Alternative Technologies

When a proposed project includes a new/alternative technology (or combination of technologies) that is not specifically covered by the design criteria, the applicant must submit information on the alternative treatment technology to the Division in accordance with Section 1.8.0 of the design criteria. Due to the potential impacts on

site location and design approvals, the alternative technology submittal must be presented to the Division either:

1. At the same time as the site application. This would be a separate submittal from the site location application, but would be submitted at the same time. This will likely result in a longer period to complete the site location application review process if the Division is not able to accept the alternative treatment technology as proposed, or if other issues with regard to the submittal are identified; or
2. Prior to submission of the site application. Submitting the alternative treatment technology for review prior to submitting the site location application is preferred by the Division, as it will reduce or eliminate delays in the site location application review process from potential issues that may arise during the review of the alternative technology submittal.

The specific requirements associated with alternative technology submittals can be found in Section 1.8.1 of the design criteria. Alternative technology submittals must be directed to the attention of the Engineering Section Unit Manager responsible for the county in which the proposed project will be located. Where the vendor/manufacturer is making the request and there is not yet a project location, the submittal shall be made to the attention of the Engineering Section Manager or the Section's Lead Wastewater Engineer. The contact information for these individuals can be found on the following Division web page under the *Additional information and contacts* heading: https://cdphe.colorado.gov/design.

The alternative technology review process is not required as part of the site location application process. However, if the Division receives an application and determines that a proposed treatment technology requires an alternative technology review, the Division will notify the applicant that an alternative technology submittal and review are required. The Division cannot issue site location approval for a technology for which it cannot be conclusively determined will meet the water quality planning targets (WQPTs). As such, site location approvals that are conditioned upon a technology receiving alternative technology acceptance will not be issued.

D. Fees Required for Site Location Applications and Design Reviews

The Division is authorized to assess fees for wastewater site applications and design reviews in accordance with the provisions of Section 25-8-702 of the *Colorado Water Quality Control Act*. The fees for site application and design reviews are set by statute and are based upon the type of project and the associated, proposed hydraulic capacity. All such fees are required to be paid in advance of any work performed by the Division concerning the review of site location applications and design submittals.

- Instructions for requesting fee and invoice information for site location application and design reviews, as well as the *Fee Information Request Form* is available on the following Division web page under the *Domestic wastewater submittal forms* heading: https://cdphe.colorado.gov/water-quality-facility-design-and-approval-forms.

  There are currently no fees associated with the following types of site location applications or requests:

  - In-kind replacements (Section 22.12);
  - Requests for determination regarding whether site location and design approvals are required (Section 22.10(2)(a)(v));
  - Demonstration projects (Section 22.11); and
  - Design reviews that are not required per statute (i.e., interceptor smaller than 24-inches in diameter, lift station with design capacity less than 2,000 gpd, etc.), but may be required to fulfill state and/or federal project funding requirements.

  Because the fees are set by statute, the Division cannot waive fees for site location application or design review work that is required and performed in accordance with the Statute and Regulation 22.

E. Ensuring a Consistent, Complete, and Adequate Submittal

Consistency in the Submittal

WQPT, site location and design approval, and discharge permit may be part of the process to construct and operate a treatment works project. As part of a sequential process, the applicant shall use a uniform design capacity rating throughout each individual step in the entire process that may include WQPT requests, site location approval, design approval, and the application for a discharge permit. The design capacity rating must be consistent on all forms, reports, applications, and miscellaneous correspondence.

Hydraulic capacities must be expressed as a rate (volume/time) in million gallons per day (MGD) or gallons per day (gpd). The rate must be provided as the maximum monthly (treatment plants), peak instantaneous (interceptor sewers), or firm pumping capacity (lift stations) loading rates expected at the proposed treatment works, unless a unique condition justifies using a different design loading rate (i.e., attenuation, equalization, and/or instantaneous loading considerations). In those instances where the calculated or constructed actual treatment works capacity is greater than the approved site location design capacity, the discharge permit capacity will reflect the design capacity approved in the site location approval, until such time as the site location approval has been amended or a facility expansion has been approved via the site location application process.

If, at the time of design review, it is found that the design application demonstrates a design capacity that is different than that contained in the site location approval, an amendment to the site location approval must be executed for those treatment works or the capacity indicated in the design application must be modified to match that of the site location approval before the Division can issue design approval. If the applicant chooses to pursue a site location application amendment to address the inconsistency in the design capacities, the applicant will be required to go back through the site location application process, and modify the discharge permit, as necessary. Where corrections to previously issued WQPTs, approvals, or permits are required, the applicant shall provide payment of applicable fees, any required signatures, and new applications to meet the regulatory requirements.

Requirements for a Complete and Adequate Submittal

- Include completed versions of all of the necessary forms and checklists.
- Ensure that all of the requirements of Regulation 22 are adequately addressed for site location applications and the design criteria for design applications.
- The review time(s) required for local and 208 planning and management agencies may differ greatly from that of the Division, especially where regulated nutrient allocations are involved. Be sure to contact these review agencies as early as possible so that this time can be accounted for in the overall project planning work. Also, for interceptor and lift station projects, where the treatment entity and any intermediary conveyance municipality is required to provide confirmation that they will accept, convey, and/or treat the domestic wastewater from the proposed treatment works, the applicant should allow adequate time for the treatment entity and municipality to review the project and provide the necessary certification for the site location application.
- Ensure that all of the necessary signatures for local and 208 planning and management agencies (where applicable) are included on the forms and that the original signatures are submitted to the Division.
- One (1) electronic copy (i.e., sealed and signed) should be submitted to the Division for review and approval to the following email address: CDPHE.WQEngReview@state.co.us.
- If the project will involve an alternative technology (not currently included in the design criteria), do not wait to submit the alternative technology submittal, because it could result in delays during the site location and/or design application processes.
- For in-kind replacements, if the applicant is unsure whether a replacement would be considered in-kind, it is suggested that the applicant submit the in-kind replacement written notification to the Engineering Section Unit Manager for the county in which the project is located prior to equipment installation.

If you have any questions about the application process, please contact the Engineering Section Unit Manager for the county in which the project is located. The contact information for these individuals can be found on the following Division web page under the *Additional information and contacts* heading: https://cdphe.colorado.gov/design.

SECTION-SPECIFIC IMPLEMENTATION

The Section Names and Numbers indicated below correspond exactly to those in Regulation 22 itself, for ease in reference.

22.1 SCOPE AND PURPOSE

Regulation 22 and this policy only apply to construction of treatment works, including treatment plants, OWTS, lift stations, and certain interceptor sewers with a design capacity to receive greater than 2,000 gpd of domestic wastewater, as well as certain facilities that produce reclaimed domestic wastewater.

22.2 DEFINITIONS

The June 2020 revisions included a number of changes to Section 22.2, *Definitions*. Many of these definitional updates relate closely to specific types of site location applications and are integral to the review of the application. At the risk of altering or detracting from the meaning of the term, this section repeats the exact definition from Regulation 22, and definitional interpretations and nuances are discussed within the section specific implementation, with the exception of "design capacity." A discussion of design capacity follows the list of definitions describing the implementation and relationship of design capacity, design flow, and tiers.

A list of new or modified definitions included in the current revision of Regulation 22 are provided below:

- "Approval" means the final action (decision) of the Water Quality Control Division approving a site location application, certification, or design. Except for in-kind replacements and demonstration projects, a site location approval shall specify the location and, in general, the type of domestic wastewater treatment works being approved and its design capacity. For in-kind replacements, a site location approval specifies the components that meet the definition of in-kind replacement. This action may take the form of an approval, acknowledgement of certification (for interceptors), or acknowledgement of in-kind replacement. In any case, the approval may include conditions of approval;
- "Construction" means entering into a contract for the erection or physical placement of materials, equipment, piping, earthwork, or buildings which are to be part of a domestic wastewater treatment works. Should an entity elect to build the improvements with in-house work forces, instead of contracted work forces, then construction shall be considered to begin when the entity initiates any action towards the erection or physical placement of materials, equipment, piping, earthwork, or buildings which are to be part of a domestic wastewater treatment works. When an entity enters into a contract for a non-traditional construction delivery approach, such as but not limited to, design-build or construction manager at risk, the portion of the contract covering preparation of the site application and/or design, including obtaining Division review and decision of the site location and design applications, is not "construction" and initiation of such activities by the entity is in conformance with this regulation;
- "Demonstration Project" means testing of an individual process, technology, or chemical, or combination(s) of processes, technologies, and/or chemicals at an existing facility that has previously obtained site location and design approval. Demonstration projects occur at a scale, location in the process, or configuration that may have the potential to affect water quality or treatment capabilities. Sufficient testing and data are needed to support an alternative technology application. Where that data does not already exist, is not applicable to, or cannot be correlated to accommodate Colorado-specific conditions, such as extreme temperatures and high-

altitude facility installations, Colorado-specific testing and data may be needed to support an alternative technology application and a demonstration project may be required. Demonstration projects require site location approval prior to commencement of construction, operation, and testing. Any Division determination regarding whether a project is a demonstration project is separate from a Division determination of permit compliance and whether a permit modification is required;

- "Design Capacity" means a domestic wastewater treatment works' capability to receive a specific domestic wastewater flow and/or pollutant load while meeting the water quality planning target(s), as applicable. The term 'design capacity' applies to domestic wastewater treatment plants, onsite wastewater treatment systems, lift stations, and interceptors as follows:
  (a) Domestic wastewater treatment plant - For a treatment plant, the design capacity is comprised of two components, the hydraulic capacity and the organic loading capacity. The hydraulic capacity shall be given in gallons per day (gpd) or million gallons per day (MGD). The organic loading capacity shall be given in pounds of 5-day biochemical oxygen demand (BOD) per day or carbonaceous biochemical oxygen demand (cBOD) per day. The design capacity for a treatment plant shall generally be expressed as a maximum monthly average. When equalization is present, the hydraulic component of design capacity shall be determined at a point prior to any flow equalization;
  (b) Onsite Wastewater Treatment System - For domestic wastewater treatment works also considered in accordance with the Regulation 43 - On-site Wastewater Treatment Systems, the proposed design capacity shall generally be expressed as the maximum month average daily flow, at full occupancy;
  (c) Lift station - For a lift station, the design capacity shall be is expressed as the firm pump capacity (i.e., capacity with largest unit out of service); and
  (d) Interceptor - For an interceptor, the design capacity shall be is expressed as the peak instantaneous hydraulic flow the interceptor is capable of conveying based on the limiting design conditions at a flow depth over internal diameter ratio of 0.8.

  For all domestic wastewater treatment works, the design capacity may be expressed using another capacity measure where deemed appropriate by the Division;
- "In-Kind Replacement" means replacement of any process treatment component or hydraulic conveyance component at an existing, approved domestic wastewater treatment works with a similar (i.e., not exactly alike or identical) component as part of normal or emergency replacements to assure continued compliance with applicable site location, design, and permit conditions, including effluent limitations. Replacement or technology upgrades that do not change the original intent of the equipment or structure being renovated, do not impact the design capacity, and do not require the application of alternate design criteria (e.g., change from chemical to ultraviolet light disinfection) qualify as in-kind replacement. In-kind replacement does not include operations and maintenance activities or identical replacements of any process treatment component or hydraulic conveyance component at an existing

approved domestic wastewater treatment works; these activities may proceed without Division notification or site location approval;

- "Lift Station" (pumping station) means a wastewater pumping station that pumps wastewater to a different point when the continuance of the gravity sewer at reasonable slopes would involve excessive depths of bury or that pumps wastewater from areas too low to drain into available sewers. This definition does not include wastewater pumping stations that are designed to receive 2,000 gpd or less of domestic wastewater. Lift stations are appurtenances to domestic wastewater treatment works. Force mains are equipment of lift stations;
- "Management Agency" means a local, regional, or state agency or political subdivision designated by the governor, in consultation with the designated planning agency and in accordance with section 208 of the Federal Clean Water Act and State Law, that is responsible for implementing all or part of an approved regional water quality management plan;
- "On-Site Wastewater Treatment System (OWTS)" means an absorption system of any size or flow, or a system or facility for treating, neutralizing, stabilizing, or dispersing sewage generated in the vicinity, which system is not part of or connected to a sewage treatment works. An OWTS with a design capacity greater than two thousand gallons per day is a domestic wastewater treatment works and subject to this regulation (Regulation 22);
- "Pilot Project" means testing of an individual process, technology, or chemical, or combination(s) of processes, technologies, and/or chemicals at an existing facility that has previously obtained site location and design approval. Pilot projects occur at a scale, configuration, and location in the process that does not qualify as a demonstration project. Examples of pilot projects include short-term equipment testing that does not impact the liquid stream directly or through recycle flows and process optimization to achieve more efficient treatment, reduction in pollutants discharged, or improved water quality and that occurs within the existing treatment configuration authorized under a previous site application. Pilot projects do not relieve permittees from complying with discharge permit requirements. The operation and configuration of pilot projects must be capable of being returned to approved site location and design conditions immediately and without capital construction. Pilot projects do not require site location approval prior to commencement. Any Division determination regarding whether a project is a pilot project is separate from a Division determination of permit compliance and whether a permit modification is required;
- "208 Designated Planning Agency" means an entity designated by the Governor, in accordance with section 208 of the Federal Clean Water Act and State Law, to produce and update a regional water quality management plan;
- "Preliminary Effluent Limitation (PELs)" means effluent limitations developed by the Division, or developed by the applicant for review and approval by the Division when the Division has not met its 180-day goal for certain kinds of PELs, that will serve as the effluent quality guidance for the alternative treatment facilities identified in the site location application and the selected alternative for the final design of the

domestic wastewater treatment plant. PELs are determined for the proposed design flow and are set at a level such that the proposed treatment facility will not cause an exceedance of applicable water quality standards for those state waters to which the proposed discharge would be made;

- "Regional Water Quality Management Plan" means a wastewater management and water quality plan produced in accordance with sections 208 and 303(e) of the Federal Clean Water Act and state law and approved updates to that plan. An areawide water quality management plan identifies a system of treatment plants necessary to meet the anticipated municipal and industrial waste treatment needs of the designated area over a 20-year period;
- "Sewage Treatment Works" means the same as "domestic wastewater treatment works" under section 25-8-103, C.R.S; and
- "Water Quality Planning Target" means planning limitations issued by the Division. These targets may be derived from the following: preliminary effluent limitation documents, individual or general permits, reclaimed water notices of authorization, and/or water quality assessments. Water quality planning targets are to be used to guide the treatment needs for the alternatives to be considered for evaluation as well as the selected alternative that is proposed in the site location application. Water quality planning targets consider the proposed hydraulic capacity, discharge location(s), reclaimed use(s), technology based limits, applicable water quality standards, and water quality management plan (if any).

Note, the above list is not inclusive of all the definitions provided in Regulation 22. Thus, applicants are strongly encouraged to review the definitions provided in Section 22.2 prior to submitting a site location application. For additional information regarding the Commission's intent with regard to definition changes, please refer to the associated Statement of Basis and Purpose language included at the end of Regulation 22.

Design Capacity

The term "design capacity" applies to all types of treatment works, including lift stations, interceptor sewers, and treatment plants. For lift stations and interceptors, design capacity represents a single value and may be derived per the definition without complications. For treatment plants, design capacity may be applied with more options and can become complicated, especially when overlapped with design flow and tiers.

To minimize any potential confusion, this discussion will first describe the following topics:

- Design Capacity, Design Flow, and Tiers;
- Limiting the Complexity of Multiple Design Capacities, Design Flows, and Tiers; and
- Inflow and Infiltration (I&I).

Design Capacity, Design Flow, and Tiers

Design capacity, design flow, and tiers are often confused due to their similar permitting outcomes, but the differences are important and distinct.

Design Capacity

Design capacity is a parameter established during the site location application process. Design capacity for treatment plants is defined in Section 22.2(8) of Regulation 22. Relevant excerpts from this section are provided as follows:

> *(8) "DESIGN CAPACITY" means a domestic wastewater treatment works' capability to receive a specific domestic wastewater flow and/or pollutant load while meeting the water quality planning target(s), as applicable.*
>
> *(a) Domestic wastewater treatment plant*
> *For a treatment plant, the design capacity is comprised of two components, the hydraulic capacity and the organic loading capacity. The hydraulic capacity shall be given in gallons per day (gpd) or million gallons per day (MGD). The organic loading capacity shall be given in pounds of 5-day biochemical oxygen demand (BOD) per day or carbonaceous biochemical oxygen demand (cBOD) per day. The design capacity for a treatment plant shall generally be expressed as a maximum monthly average. When equalization is present, the hydraulic component of design capacity shall be determined at a point prior to any flow equalization.*
>
> *For all domestic wastewater treatment works, the design capacity may be expressed using another capacity measure where deemed appropriate by the Division.*

The highlighted phrases within this language help pinpoint key aspects of how design capacity differs from design flow and tiers.

Design capacity has three purposes. First, design capacity is used for determining whether a facility is a treatment works (i.e., is designed to receive >2,000 gpd of domestic wastewater). Second, once the Division determines that the facility meets the definition of a treatment works, the design capacity serves another purpose. The design capacity defines the hydraulic and loading conditions for the technical design. Finally, the design capacity value must be coordinated with the WQPT and the design flow associated with the permit and effluent limits. The Engineering Section reviews the treatment plant according to item 22.3(1)(b) of Regulation 22. Relevant excerpts from this section are provided as follows:

> *(1) Based on section 25-8-702(2) C.R.S., in evaluating the suitability of a proposed site location for a domestic wastewater treatment works, the Division shall:*
>
> *(b) Determine that the proposed domestic wastewater treatment works will be managed to minimize the potential adverse impact on water quality and in accordance with the applicable water quality planning targets developed in accordance with subsection 22.6(1)(b)(iii); and*

Design capacity has both hydraulic and organic loading components. The organic loading is used as a surrogate of the wastewater's strength and can typically be used to estimate the strength of other domestic pollutants. As noted in the definition, the organic loading may be expressed as BOD or cBOD. These expressions of organic loading align with *Regulation No. 62 - Regulations for Effluent Limitations* (Regulation 62). The Division is aware that treatment entities may desire to use other expressions of organic loading, chemical oxygen demand (COD) or total organic carbon (TOC). Per Section 62.5(9) of Regulation 62, the applicant may develop a site-specific relationship between BOD or CBOD and COD, TOC, or total oxygen demand (TOD) for permitting purposes. The Division will work with applicants on a case by case basis to determine if the site-specific relationships have been developed and whether the site location decision will represent these alternate values. Design capacity for treatment plants is typically expressed as the maximum monthly average flow rate and organic loading capacity, but may be expressed using another capacity measure where deemed appropriate. When the treatment plant's service area is a single-use service area (i.e., not primarily from a municipality), the maximum month average hydraulic component is not always the most relevant component. For example, weekend event (e.g., wedding) venues may meet the definition of a treatment works, but unlike municipal service areas, the population, flow, and wastewater strengths may vary. For cases like this, the Division will require development of hydraulic and organic loading for design maximum month average daily flow and loading at full occupancy for functioning days, not including minimalist flow days.

Treatment plants may contain one or more equalization basins as part of the treatment process to help manage peak flows from the service area, optimize treatment processes, downsize equipment, or manage effluent discharges. Because equalization basins are integral to treatment process sizing, the design capacity definition includes the language "when equalization is present, the hydraulic component of design capacity shall be determined at a point prior to any flow equalization." As an example, an equalization basin at the head of a treatment plant may be used to reduce the peaks and allow all equipment to be downsized. In this case, the equalization is integral to the treatment process sizing, and without an equalization basin, the treatment processes would have to be upsized to accommodate the peak flows into the treatment plant.

A treatment plant typically receives a single design capacity based on a set of worst-case operating conditions that demonstrate the limiting aspects of treatment. The worst-case conditions may relate to seasonal or monthly effluent limits, operating temperatures, raw wastewater strength, hydraulic loading rates, unit process sizing, seasonal discharges, design population (e.g., build out), or other critical parameters. These parameters are defined on a case by case basis for each application. While a treatment plant typically receives a single design capacity based on the worst-case set of operating conditions, an applicant may request multiple design capacities for a single treatment plant based on the following drivers:

1. Lower winter population and flow versus higher summer population and flow:

A biological treatment system's performance changes with temperature. Better performance is possible in the summer months due to higher temperatures. If the service area's population and flow decreases during the winter, the summer design conditions may represent the worst-case conditions for sizing the treatment plant. In this case, the applicant may request that the Division consider assigning two design capacities, one for summer and one for winter. The design capacity for wintertime conditions would be established based on the lower population threshold.

2. Ability to shift flow between two (2) or more treatment plants:

   Some treatment entities own multiple, connected treatment plants. In this case, the treatment entity may optimize the use of the treatment plants by shifting flows between the treatment plants during specific times of the year. The applicant may request the Division consider two design capacities for any of the treatment plants. The request may be limited to a single treatment plant or multiple. This decision will be made on a case by case basis.

3. Ability to shift between outfalls:

   A treatment plant may have the ability to discharge from more than one outfall (e.g., groundwater, surface water, reclaimed, etc.). The treatment plant may have a design capacity assigned to each outfall based on the ability of the treatment process to meet the unique WQPTs at each outfall, as long as no design capacity exceeds the planned service area flow rate. In this case, the applicant may request the Division to consider a unique design capacity for each outfall.

Design Flow

Design flow is used in permitting. For reference, design flow is described in Section 61.2 of *Regulation No. 61 - Colorado Discharge Permit System Regulations* (Regulation 61).

> *(20) "DESIGN FLOW" means the hydraulic component of the design capacity as defined in Regulation 22. Design flow may be portioned among multiple outfalls.*

As stated in the definition, the hydraulic component of design capacity typically equals the design flow of the permit. While this relationship holds true for most treatment plants, the design capacity may not equal the design flow when:

1. The treatment plant has an equalization basin as part of the treatment process;
2. The treatment plant produces reclaimed water;
3. The treatment plant has multiple outfalls; or
4. A combination of the previous.

A treatment plant may have one element or a combination of these elements. This section discusses each of these items independently and then discusses the approach for dealing with

the overlapping complexities from multiple elements and configurations. Each of these elements are described in the definition of design flow, included previously, and Sections 61.8(2)(f)(i)(A) and 61.8(2)(f)(i)(B) of Regulation 61. The excerpts from this section are provided as follows:

> *(f) Production-based limitations.*
>
> *(i) In the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow with the following exceptions:*
>
> *(A) When a facility is a treater for reclaimed water, as defined in Regulation 84, the Division can establish permit effluent limitations, standards, or prohibitions by subtracting the reclaimed water flow capacity, the minimum reclaimed water treated, or a lower amount from the design flow of the plant.*
>
> *(B) When a domestic wastewater treatment works includes flow equalization that affects the maximum month average daily discharge (or other measure deemed appropriate by the Division), the Division may establish permit effluent limitations, standards, or prohibitions using the flow as measured after all flow equalization rather than the design flow.*

Equalization Basins:
Expanding on the weekend event venue example described previously, the design capacity of the treatment plant, including the equalization basin, is the treatment plant's capacity to receive and treat the wastewater. If the event venue is only open on Thursday through Sunday of each week, this flow may be equalized for and discharged over seven days. In this case, the design capacity is based on the maximum capacity daily flow for a series of events on any operating day, but the design flow for a single outfall from the treatment plant is tempered by a ratio of 4 operating days/7 total days of discharge.

Reclaimed water:
Reclaimed water produced in accordance with Regulation 84 is specifically excluded from the requirements of Regulation 61. Pertinent Sections of 61.14(1) state that "pursuant to this section a permit shall be required for all land application discharges and for all discharges from impoundments unless: (v) land application of reclaimed water is occurring under the provisions of a notice of authorization issued pursuant to Regulation 84, including any return flow." Because reclaimed water use is not considered a discharge to waters of the state if meeting the requirements of Regulation 84, a reclaimed outfall cannot be included as part of the design flow cited as part of a Colorado Discharge Permit System discharge permit (discharge permit). When a treatment plant includes a reclaimed water outfall, the design capacity will consider all wastewater treated by the treatment plant, including wastewater treated to reclaimed standards. Additionally, the design flow may exclude portions of the

wastewater treated specifically for reclaimed water uses. As an example, a 1 MGD treatment plant may portion 0.25 MGD of flow year round for reclaimed water uses. In this case, the design capacity of the treatment plant equals 1 MGD, but the design flow for discharges to waters of the state equals 0.75 MGD.

Multiple outfalls:
A treatment plant with multiple outfalls, such as groundwater, surface water, and reclaimed water, may have a design flow that differs from design capacity. Design capacity is independent from and not affected by the number of outfalls, as long as the total design flow of all outfalls is equal to or greater than the design capacity. With the exception of reclaimed water and equalization, if the total design flow of all outfalls proposed is less than the requested design capacity, the design capacity will be limited to the total design flow of all outfalls. Alternatively, the total design flow of all outfalls may exceed the total design capacity of the treatment plant. Having a total design flow greater than the design capacity of a treatment plant only indicates that the treatment plant has flexible discharge options. The flexibility might be driven by water rights, reuse, or seasonal needs. Any one outfall's design flow may not exceed the design capacity of the treatment plant, except when a facility stores wastewater (raw, partially treated, or treated) to treat and/or discharge at a higher rate and later time.

Whichever the case, the treatment plant will be reviewed during the site location and design application to ensure the treatment processes have the design capacity to meet the unique effluent limits and design flow at each outfall independently.

Tiers
Tiers are a permitting option that complement design flow. Tiers are described in Section 61.8(2)(f)(i)(C) of Regulation 61.

> *(f) Production-based limitations.*
>
> *(i) In the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow with the following exceptions:*
>
> *(C) Where the facility design flow and actual flow are significantly different, the Division may implement a tiered approach to setting water-quality-standard-based effluent limitations, provided that one of the sets of effluent limitations reflects the design flow and the permittee demonstrates the ability to meet effluent limitations at the design flow rate. Where such demonstration cannot be made, the permit shall contain a compliance schedule to allow such demonstration within a reasonable time not to exceed the life of the permit (i.e., five years).*

The two (2) underlined phrases within this production-based paragraph help pinpoint key aspects of how a tier differs from design capacity. The first underlined phrase "where the facility design flow and actual flow are significantly different" refers to the flow being received by the treatment plant when compared to the treatment plant's design flow (which as described above, is generally the design capacity). The second underlined phrase "one of the sets of effluent limitations reflects the design flow and the permittee demonstrates the ability to meet effluent limitations at the design flow rate" indirectly relates to the design capacity.

Tiers are a second set of effluent limits at a lower hydraulic flow than the design flow. A treatment plant may not be designed based on a tier since effluent limitations at the maximum design flow result in the most stringent WQPTs used for the site location and design applications. In other words, the treatment processes must have the ability to meet the WQPTs at the design capacity under all conditions at the maximum design flow.

The Permits Section decides whether a tier is available to an applicant. This Permits Section decision is independent from the site location and design application process and may occur before or after a site location and design approval have been issued by the Engineering Section. Treatment plants where the design flow and actual flow are significantly different because of seasonal population fluctuations are potential candidates for tiers, and treatment plants where the design flow and actual flow are significantly different because of seasonal I&I are not considered candidates for tiers.

Inflow and Infiltration

Stormwater, groundwater, roof drain connections, and sump pump discharges that enter the sewer collection system are known as I&I. Infiltration occurs as groundwater seeps into sewer pipes and manholes through cracks and joint failures. Inflow occurs through illicit connections and holes in manhole covers. Excessive I&I is often a sign of aging and failing infrastructure or a systematic problem that allows illicit discharges of groundwater or rainwater into the sewer system. Significant I&I may overwhelm the treatment plant, oversize the treatment plant, indicate that exfiltration of untreated sewage may also be occurring, or allow groundwater pollutants (e.g., selenium) to load the treatment plant. The Division does not support accommodating more than incidental I&I through engineering or permitting practices. An applicant may not request design capacity, design flow, or tiers due to I&I. Under discharge permits, permittees are generally required to maintain their collection system and minimize I&I through managerial and infrastructure programs.

Limiting the Complexity of Design Flows, Design Capacities, and Tiers

Applying multiple design flows, design capacities, and tiers together adds significant work and complexities to the WQPT development, site location application, design application, and permitting application processes. While a single treatment plant may find opportunities for overlapping dual design capacities, multiple design flows, and tiers, each additional layer multiplies the resources and complicates the complexity of associated decisions, conditions, permits, and authorizations. As an example, consider the following application request:

- Dual design capacity requested;
- A tier for each design capacity; and
- Treatment plant has 3 outfalls: 1 groundwater, 1 surface water, and 1 reclaimed water.

The following table demonstrates how this application compares to a typical application that includes 1 design capacity, 1 outfall, and no tiers.

Table 2-1 Application of Multiple Design Flows, Design Capacities, and Tiers Example

Application Request	Level of Effort: Treatment plant with 2 design capacities; 3 outfalls; 2 tiers	Level of Effort: Treatment plant with 1 design capacity; 1 outfall; 0 tiers
Water Quality Planning Targets	6 sets of WQPTs; 2 sets (one summer; one winter) for each outfall	1 set of WQPT
Site Location Application	Review of 6 limiting conditions (3 outfalls, each with two operating conditions)	Review of 1 limiting condition
Process Design Application	Review of 6 limiting conditions (3 outfalls, each with two operating conditions)	Review of 1 limiting condition
Final Plans and Specifications	Review of 1 final plans and specifications certification	Review of 1 final plans and specifications certification
Permitting	Development of 8 sets of effluent limits (2 outfalls each with 1 winter; 1 summer; 1 tier winter; 1 tier summer)	Development of 1 set of effluent limits
Notice of Authorization	Development of 2 sets of effluent limits (1 outfall with 1 winter; 1 summer)	Not applicable for this example

Both the number of individual requests and the layering of multiple design flows, design capacities, and tiers quickly increases the efforts and complexity of the regulatory processes. Regrettably, the Division has limited resources to accommodate layered requests for multiple design flows, design capacities, and tiers. Therefore, the Division has limited any single application to the following:

- An applicant may request no more than two non-overlapping seasonal design capacities based on the factors listed above;
- An applicant may request one set of tiered limits;
- An applicant may not layer requests for dual design capacities and tiers. An applicant may request either dual design capacities or tiers;
- If justified and accepted by the Division, an applicant may request WQPTs for all outfalls and dual design capacities;
- Tiers are requested in the permit application; and
- An applicant may request WQPTs and a permit for any number of outfalls.

Example

To further clarify, the Division developed a hypothetical treatment plant for discussion purposes only. This example does not cover every nuance possible, but attempts to address many of the more common requests made in applications. For a real application, the treatment entity in this example would have to limit the project's complexity, but these decisions are not highlighted. This discussion will use this single, overly complex example of a treatment plant to help explain the differences between design capacity, design flow, and tiers by following the conceptualization of the treatment plant to construction. The typical treatment entity and applicant might progress through the following steps at a high level:

Step 1: Determine the needed design capacity for the treatment plant for this development phase or build out target;
Step 2: Evaluate water rights requirements;
Step 3: Define the proposed operating conditions (e.g., flow rates, seasonality, etc.) for the service area and outfalls;
Step 4: Evaluate whether two design capacities should be considered. Discuss the possibility of two design capacities with the Division, if needed;
Step 5: Determine the design flow for the various outfalls;
Step 6: Obtain WQPTs at the desired design flow for each outfall including reclaimed water; and
Step 7: Design the treatment plant based on each requested design capacity to meet the WQPTs based on the desired design flow at each outfall including reclaimed water.

A diagram of the treatment plant example is shown in Figure 2-1.

Step 1: Determine the design capacity for the treatment plant based on the build out population of the service area.

This proposed treatment plant supports a year-round camp or retreat headquarters and a summer, weekend only, camp. The administrative building has a maximum build out flow of 0.005 MGD. The summer, weekend only (3 days), camp has a maximum build out flow of 0.0116 MGD. The total summer average daily flow from the administrative building and camp have a combined flow of 0.0166 MGD, but a cost analysis demonstrated that the treatment entity could downsize the biological treatment processes by installing an equalization at the

head of the treatment plant for summertime flows. This equalization basin is sized to accept the three weekend day flows from the camp and average that flow over a period of 7 days. The biological treatment components effectively experience a maximum average daily flow of 0.01 MGD (0.005 MGD from the administrative building and 0.0116 MGD*3 days/7 days from the summer, weekend only camp).

Per Section 22.2(8)(a) of Regulation 22, when equalization is present, the hydraulic component of design capacity shall be determined at a point prior to any flow equalization. The design capacity of the treatment plant at build out must be at least 0.005 MGD for the administrative building plus 0.0116 MGD for the summer camp.

The requested design capacity of the treatment plant is 0.0166 MGD. The maximum design flow from the treatment plant (all outfalls) is estimated to be 0.01 MGD.

Step 2**:** Evaluate water rights requirements.

The treatment entity has a unique water rights portfolio. A portion of the wastewater must be returned to groundwater; a portion must return to a nearby surface water; and the trans-basin portion may be used to extinction. In addition, the treatment entity has a goal of achieving a Gold or Platinum LEED certification for the administrative building. Water reuse plays a significant role in achieving this LEED certification. The treatment entity wants to use the trans-basin water to extinction within the building for indoor fixture flushing and outside of the building for irrigation. For additional coverage, the treatment entity has also elected to construct an evaporative pond for times when the treatment plant flows are low (e.g., winter). Evaporation appears to be more cost effective than to treat the wastewater through conventional means at very low flows.

Step 3**:** Define the proposed operating conditions (e.g., flow rates, seasonality, etc.) for the service area and outfalls.

The treatment plant plans included completely discharging the wastewater in case the reclaimed water option needed to be halted for maintenance purposes. In addition, the treatment entity finds that the biological treatment processes may be downsized by managing the use of the outfalls and by requesting two design capacities. Both the outfalls and design capacities would be managed according to the different seasons. The following table outlines the proposed outfalls and their corresponding design flows used to address the seasonal design capacity.

Table 2-2 Multiple Outfalls and Design Flows and Seasonal Design Capacity Example

Outfall	Winter Design Flow (0.005 MGD)	Summer Design Flow (0.01 MGD)
Indoor Fixture Flushing	0.001 MGD	0.001
Outdoor Irrigation (Cat 1)		0.0025
Groundwater Discharge		0.0025
Surface Water Discharge	0.0025 MGD	0.0075
Evaporation	0.0025 MGD	
Total Available	0.006 MGD	0.0135 MGD

Based on these decisions, the treatment entity will revise Step 1 and request the two following design capacities:

- Winter: 0.005 MGD; and
- Summer: 0.0166 MGD (please note: equalization reduces the summer time design flow to a maximum of 0.01 MGD).

Step 4: Evaluate whether two design capacities should be considered. Discuss the possibility of two design capacities with the Division, if needed.

Based on the operating plan developed in Step 3, the treatment entity considered whether two design capacities would benefit the design based on the significant seasonal wastewater flow differences to the treatment plant. Due to the seasonally high populations in the warmest months, the biological treatment system's summer sizing appears to provide sufficient winter treatment at the lower flow rate. The treatment entity discussed this decision with the Engineering Section and decided to pursue two seasonal design capacities.

Besides reducing the capital expenditures for constructing treatment processes sized for wintertime temperatures at a design capacity of 0.0166 MGD, the treatment entity expects to also benefit from more forgiving wintertime ammonia limits at the surface water discharge if dilution and assimilative capacity is available in the stream.

Step 5**:** Determine the design flow for the various outfalls.

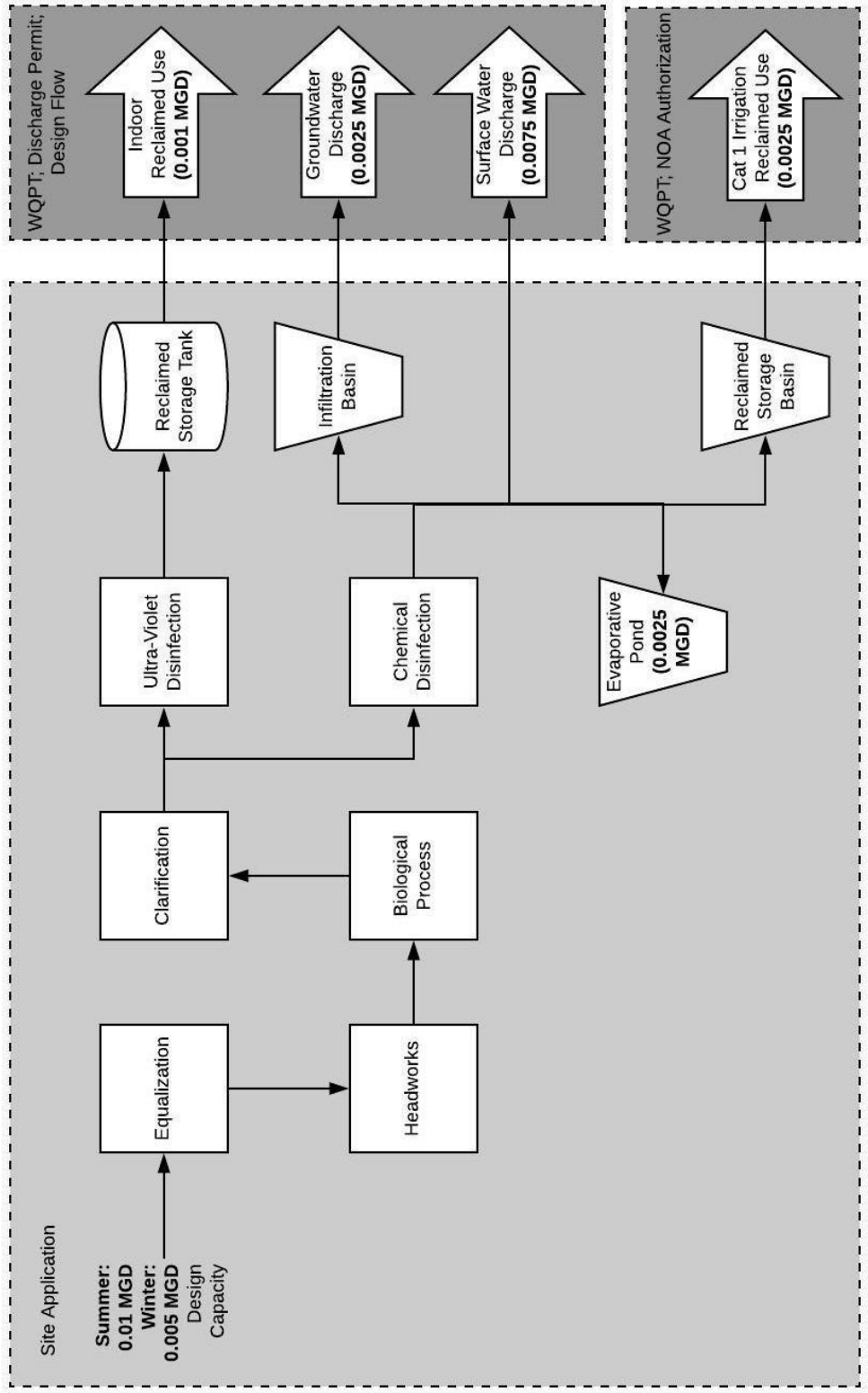
The treatment entity requested WQPTs for each outfall, except the evaporation pond, based on the design flows shown in the table above. Evaporative ponds require approval through the site location application process, but do not require WQPTs or a discharge permit. The surface water discharge requires seasonal WQPTs based on the flow rate. WQPTs for all other outfalls are not impacted by the request for a dual design capacity.

Step 6**:** Obtain WQPTs at the desired design flow for each outfall including reclaimed water.

The treatment entity must work with the Permits Section to develop WQPTs. The Permits Section's guidance for WQPTs is located on the following Division web page: https://cdphe.colorado.gov/WQ_Planning_Targets_and_PELs.

Step 7**:** Design the treatment plant based on each requested design capacity to meet the WQPTs based on the desired design flow at each outfall including reclaimed water.

Once these preliminary steps are complete, the treatment entity may develop and begin the process for the site location and design application process. The Engineering Section is available to discuss this process.



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955 **Figure 2-1. Hypothetical Example for Design Capacity, Design Flow, and Tier**

22.3 DECLARATION OF POLICY FOR THE SITE LOCATION DECISION PROCESS

Use of Local and Regional Water Quality Planning Information

Regulation 22 discusses how both local long-range comprehensive plans and 208 plans will be used in the site location decision process. The guiding principle in all cases is the intention of the Commission and the Division to have water quality planning issues resolved at the local and regional level, through a public process, prior to an applicant's submission of a site location application (to the Division).

Sections 22.3(1)(a) and 22.5(1)(k) of Regulation 22 discuss specific considerations for ensuring site location decisions are consistent with local long-range comprehensive and 208 plans. Please note that unless a specific question or issue is raised with regard to a particular aspect(s) of these plans, the Division does not perform a review of the plan as part of the routine site location application process. However, for all site location applications, the Division takes into consideration the factors identified in Sections 22.3 through 22.5 of the regulation.

Definitions

208 plan: a wastewater management and water quality plan produced in accordance with Sections 208 and 303(e) of the Federal Clean Water Act and state law and approved updates to that plan. An areawide water quality management plan identifies a system of treatment plants necessary to meet the anticipated municipal and industrial waste treatment needs of the designated area over a 20-year period.

Designated planning agency: an entity designated by the Governor, in accordance with section 208 of the Federal Clean Water Act and State Law, to produce and update a regional water quality management plan.

Local long-range comprehensive plan: the Master Plan adopted by a city, town or county or an amendment to such plan. However, in the event that comprehensive plans overlap the subject property, then the plan developed by the local government having land use jurisdiction over the site shall be given primary consideration.

Management agency: a local, regional, or state agency or political subdivision designated by the governor, in consultation with the designated planning agency and in accordance with section 208 of the Federal Clean Water Act and State Law, that is responsible for implementing all or part of an approved regional water quality management plan.

22.3(1)(a) Consideration of Local Long-Range Comprehensive Plans

In accordance with Section 25-8-702(2) C.R.S., Section 22.3(1)(a) of Regulation 22 requires that Division review of a site location application for a proposed treatment works consider the local long-range comprehensive plans for the area as they affect water quality. Site location approvals must be consistent with the relevant water quality elements of a local long-range

comprehensive plan. At a minimum, the site location application shall address consistency with the local long-range comprehensive plan in the following areas:

- Consideration for consolidation,
- Planning area boundaries,
- Population projections for planning area,
- Treatment works service areas,
- Treatment works location, sizing, and timing,
- Appropriate effluent limitations, waste load allocations, or total maximum daily loads (TMDLs), where identified,
- Agreements among persons to implement the plan, and
- Other water quality related Issues.

In order to ensure that local long-range comprehensive plans are adequately considered, it is suggested that the applicant contact the Division early in the site location application process to discuss approaches for demonstrating consistency with these plans.

Local agencies consisting of counties, cities and/or towns are asked to comment on all site location applications as they relate to water quality aspects of their long-range comprehensive plans. Consistency with applicable long-range comprehensive plan aspects is demonstrated through the local agency's signed recommendation for approval of the site location application.

For amendments, where notification only (not signatures) of the applicable agencies is required by Regulation 22, the Division takes into consideration any comments provided by local agencies and other water quality management agencies (e.g., reservoir Control Regulation management agencies).

If applicable local agencies do not review or comment and the water quality related planning questions remain unresolved, the review of the site location application may be delayed as the Division seeks additional information from the local planning authority and/or applicant's representative.

22.3(1)(b) Managed to Minimize the Potential Adverse Impact on Water Quality

In accordance with Section 22.3(1)(b), the Division is required to "determine that the proposed domestic wastewater treatment works will be managed to minimize the potential adverse impact on water quality and in accordance with the applicable water quality planning targets developed in accordance with subsection 22.6(1)(b)(iii)." As required under Section 22.6(1)(b)(iii) of Regulation 22, the applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section in order to determine the WQPTs needed for the proposed project. The WQPTs are based on the standards adopted by the Commission to minimize potential impacts from the proposed treatment works on water quality and health based impacts and providing a basis of design for the project. During the site location application process, the Division will evaluate the selected treatment alternative to ensure

the technology can reliably meet the limitations defined by the WQPTs or will consider that the WQPTs can be met through source control including pretreatment. In addition to relying on the WQPTs established for the proposed project, the Division will rely on the requirements of Section 22.6(1)(b)(iii) of Regulation 22 and the associated section of this policy to ensure that the proposed treatment works will minimize any potential adverse impact on water quality.

22.3(1)(c) Encourage the Consolidation of Wastewater Treatment Works

In accordance with Section 22.3(1)(c), the Division is required to "encourage the consolidation of wastewater treatment works whenever feasible with consideration for such issues as water conservation, water rights utilization, stream flow, water quality or economics." Consolidation potentially offers significant capital and operational cost savings through economies of scale, reduced points of failure that can lead to sanitary sewer overflows, and improves management and administration through shared resource availability.

All engineering reports provided with applications for the construction of treatment works, which includes treatment plants, lift stations, and interceptor sewers, must include a discussion of the feasibility of consolidation. The Division shall evaluate the feasibility analysis with the intent to encourage consolidation, but understands that the Commission previously revised the provision of Section 22.3(1)(c) to determine consolidation infeasible based on any one of the identified criteria. A consolidated project should have advantages over separate projects for water conservation, water rights utilization, stream flow, water quality, or economics. However, the Statement of Basis and Purpose language of Regulation 22 indicated that the results of any feasibility analysis are not intended to diminish the consideration that the Division must give to a 208 Plan that specifies a consolidated facility.

Factors precluding consolidation may include, but are not limited to: water rights issues that limit the applicant's ability to move the effluent to another location for discharge; reuse opportunities for the new facility; costs, management or operational limits at the existing facility; intervening public lands that cannot be crossed (i.e., national park, wilderness area, etc.); intervening lands that should not be crossed (i.e., wetlands, threatened and endangered species habitat, or such other categories as may be protected under local land use policies and/or regulations, etc.); water quality limitations for the receiving waters, TMDLs, or compliance schedules or advisories for the existing wastewater treatment works; or significant topographical or geological barriers such as mountain ranges or canyons.

If it is demonstrated to the satisfaction of the Division that any one of the following would make consolidation infeasible, no further analysis of consolidation is required.

1. *Water Conservation*
   If the consolidation of treatment works would preclude reuse opportunities for a new or existing treatment works or would otherwise impair water conservation efforts of

the new or other affected treatment works, no further analysis of consolidation is required, but the application must include supporting evidence.

2. *Water Rights Utilization*
If the consolidation of treatment works would alter the discharge of effluent in a manner that would impair the water rights of one of the parties to the consolidation and purchasing alternative water rights or returning the effluent to the original discharge location is not economically feasible (i.e., in accordance with the economics evaluation below), no further analysis of consolidation is required. The application must include supporting evidence.

3. *Stream Flow*
The applicant shall consider potential situations where another treatment works discharges to a higher flow stream/river, and consolidation would allow both treatment entities to take advantage of the associated assimilative capacity. On the other hand, if the consolidation of treatment works would alter flows in a stream or stream segment or transfer a sufficient amount of water to another stream or stream segment so as to result in (1) overwhelming adverse environmental effects on either stream, or (2) the lowering of the effluent limits of other treatment works so as to cause the need to install additional, advanced secondary or tertiary treatment processes, no further analysis of consolidation is required. The application must include supporting evidence.

4. *Water Quality*
When analyzing the factors associated with water quality, the applicant shall consider such things as the water quality-based designation and classification (i.e., recreation, agricultural, aquatic life, domestic water supply, and wetlands) of a stream segment along with any associated stream standard, whether the stream segment is an impaired water and the associated impairment, and the groundwater classification and associated standards. Based upon these factors, the applicant shall weigh any potential degradation and take into consideration the ability of the stream segment or state waters to assimilate the pollutants. Given the assimilative capacity of each receiving water source and where consolidation would result in an incrementally greater degradation to the surface water and/or groundwater quality, no further analysis of consolidation is required, but the application must include supporting evidence.

5. *Economics*
Unless another factor contained in the forgoing criteria results in a determination that consolidation is not feasible, an analysis comparing the cost of consolidating the treatment works versus the cost of constructing a separate treatment works must be prepared and included in the submittal. The analysis must include the following costs: land acquisition, capital construction (including unique expenses such as flood-proofing, water rights compliance, wetland mitigation, etc.), interceptors and lift stations, treatment plant expansion and/or upgrade, debt retirement expenses, and operation and maintenance (O&M) costs for a minimum period of 20 years for each alternative. Other unique costs that are specific to one or more of the alternatives under consideration may also be appropriate for inclusion (value of water reuse by the

applicant or through sales to another party, etc.). The applicant is not expected to include the costs associated with annexing to a municipality or extending other utilities or infrastructure (e.g., drinking water service, electrical service, roads) to the associated service area. Cost comparisons must be made on the basis of cost per 1,000 gallons of wastewater treated, as well as the present net worth. If the cost of consolidation exceeds the cost of separate plant construction by more than 30 percent, no further analysis of consolidation is required. However, along with the cost comparisons, the application must include correspondence or meeting minutes from the treatment entities acknowledging discussion of consolidation and the cost comparisons.

Although not specifically included in Regulation 22, the following items were identified in a previous policy and could significantly impact the need for or the associated benefits of consolidation. If after evaluating the previous factors (1-5) and consolidation must still be considered, the Division expects that the following factors (6-9) will also be considered as part of the consolidation analysis. As is the case with the previous factors, if it is demonstrated to the satisfaction of the Division that any one of the following factors would make consolidation infeasible, no further analysis of consolidation is required.

6. *Service Area*
   If the site location or service area of a proposed treatment works is within the service area (as defined in an adopted local comprehensive plan or approved 208 plan) of another municipality providing wastewater treatment service, the applicant (for site location of the proposed project) should be that municipality, and the application should provide for consolidation of either treatment works or management and operation of separate treatment works by the single municipality. If this is not the case for the proposed project, the application should clearly address the reason(s) for the departure from this expectation. If the local management agencies (in the case of an adopted local comprehensive plan) and/or the 208 designated planning agency are amenable to amendment of the adopted/approved plans to address the project as proposed, please include the associated documentation (indicating willingness to amend) from the associated agencies.
7. *Distance*
   If the distance to the closest existing/proposed treatment works, or from a sewer line capable of carrying the proposed flows to an existing treatment works, is less than five (5) miles, an analysis of the cost-effectiveness of consolidation with that treatment works must be included in the submittal. If the distance is five (5) miles or greater, no further analysis of consolidation is required.
8. *Threatened or Endangered Species*
   If threatened or endangered species inhabit or utilize the only site that could be utilized for a consolidated treatment works or a site through which interceptor lines would need to be installed to reach a consolidated treatment works, no further analysis of consolidation is required, but the application must include supporting evidence.

9. *Local Plans*

In the event that the approved 208 plan acknowledges the existence of, or a proposal for multiple treatment works and recommends that no consolidation of these treatment works occur, or if consolidation is in direct conflict with a specific recommendation of a local long-range comprehensive plan or an approved 208 plan, and the entity responsible for the development of the respective plan recommends against consolidation, the Division will waive the requirement for the analysis of consolidation. However, inclusion of multiple facilities in the water quality management plan does not constitute a recommendation of no consolidation. The engineering report needs to include a discussion of the approved 208 plan and/or long-range comprehensive plan.

Note, consolidation should not be limited to entire treatment works. Treatment entities may also benefit from consolidating portions of the overall treatment operations, such as solids treatment and handling or administrative duties. Partial consolidation of treatment works are viable alternatives and must be considered as part of the feasibility study in each application.

22.4 PROCEDURES FOR THE SITE LOCATION DECISION PROCESS

22.4(1) Facilitating a More Effective and Timely Review among the Review Agencies

The individual application sections of Regulation 22 (e.g., 22.6 through 22.10) require that the applicant submit all site location applications to local review agencies, including 208 designated planning and management agencies, for review and comment prior to submitting the application to the Division. Understanding that applicants seek a timely review, the Commission encourages review agencies to develop and implement coordinated review processes when possible to create efficient and timely reviews without sacrificing the quality of the review. Although not specifically mentioned in this section of Regulation 22, interceptor and lift station projects are required to provide confirmation from the treatment entity and any intermediary conveyance municipality that they will accept, convey, and/or treat the domestic wastewater from the proposed treatment works. Due to the potential impacts to the project schedule, the applicant is encouraged to contact the treatment entity and any municipality early in the process to allow adequate time for review of the project and to provide the necessary treatment certification(s).

22.4(2) Facilitating a More Effective and Timely Review among Planning Agencies

As stated previously, the individual application sections of Regulation 22 (e.g., 22.6 through 22.10) require that the applicant submit all site location applications to local review agencies, including 208 designated planning and management agencies, for review and comment prior to submitting the application to the Division. In lieu of this requirement, a 208 designated planning agency may work with the Division to develop an agreement that establishes a single, coordinated process that allows for a concurrent review of a site location application and amendment to the regional water quality management plan. Agreements may not change any of the Division's decision making authority and are to focus on process efficiencies that improve timeliness.

22.4(3) Adoption of Policies by the Commission and Division

Regulation 22 authorizes the Commission and Division to develop policies in support of the regulation that interpret regulatory language and clarify implementation practices. The documents will be used by the Division as a basis for its decisions. The Division has the primary supporting policies for this regulation:

- *Implementation Policy: Regulation No. 22 - Site Location and Design Regulations for Domestic Wastewater Treatment Works (5 CCR 1002-22)*;
- *Water Pollution Control Program Policy Number: WPC-DR-1 State of Colorado Design Criteria for Domestic Wastewater Treatment Works*; and
- *Water Quality Site Application Policy WQSA-6 Multiple Individual Sewage Disposal Systems.*

22.4(4) Burden of Applicant to Supply Information

The applicant must fill in the forms completely and accurately prior to submission to the Division, and should refer to the information provided in Section II.E of this policy to ensure a

consistent, complete, and adequate site location application. The applicant is responsible for ensuring that the proposed hydraulic and organic design capacities concur with the WQPTs and intended final design and permitted flow rates prior to submitting the application for site location approval. All information provided on the application must conform to the requirements set forth in this policy and other relevant policies and guidance documents.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures, if required, and providing all review agencies the allotted review times as indicated in Regulation 22, with exceptions for non-responsive review agencies.

The Division may issue a request for information to the applicant if additional information is needed to make a decision on the site location application. As with the initial application, the burden is on the applicant to supply the information necessary to make a decision.

22.4(5) Goal to Make a Decision on Complete Applications

Section 22.4(5) of Regulation 22 identifies two review goals specific to site location applications. For all applications, except in-kind replacements, the Division has a review goal of 60 days following receipt of a complete application. A complete application consists of an application form, notification and/or comments from all review agencies, an engineering report addressing all required elements for the specific site location application type, and fee payment. For in-kind replacement applications, the Division has a review goal of 30 days following receipt of a complete application. A complete application for in-kind replacement applications consists of an application form and an engineering report addressing all required elements.

While Section 22.4(5) of Regulation 22 indicates that the Division has a 60-day review process goal, Regulation 22 does not establish response timelines for the applicant. The Division finds that it cannot act expeditiously when an applicant does not provide an adequate site location application or adequate and timely responses to requests for information and/or review comments. The most efficient reviews occur when applicants continually make progress through the application process once initiated by providing adequate and timely responses. A quick response prevents the reviewer from having to become reacquainted with a project after significant stagnant periods.

For clarity, the Division only considers time within its review against the stated goal. The Division does not include the time that applicants take to respond to requests for information against the review goals.

22.4(6) Reasons for Denial of an Application

The Division attempts to work with applicants to identify ways to work through all site location application challenges in order to approve or conditionally approve applications. At times, the Division needs to issue a denial of an application in the form of a written denial letter to the applicant. The written denial will provide the reasons that the application was

denied and what details the applicant may take to resolve the issue(s), if possible. As an example, an in-kind replacement application may be denied, because the infrastructure was originally installed without site location and design approval. In this case, the Division would issue a denial, indicate that the application does not meet the definition of in-kind, and specify that the existing unapproved infrastructure and any proposed construction modifications requires the applicant to obtain site location and design approval.

22.4(7) Site Location Approval

Approvals, whether conditional or not, are issued when the site location application meets the requirements of Regulation 22 and all supporting, applicable policies. Conditions associated with any approval are binding requirements. The Division's approval shall not be deemed to be a determination that the proposed treatment works are or are not necessary, that the proposed site location is or is not the best or only site upon which to locate such a treatment works, or that the location of a treatment works on the site is or is not a reasonable public use justifying condemnation of the site.

22.4(8) Requirement of Other Approvals

The Division's decision is specific to the site location and design application requirements and is independent from all other federal, state, and local requirements. The applicant is responsible for investigating and seeking out all permits and approvals from all other federal, state, and local persons that have authority over work that may be included in the site location or design application.

22.4(9) Effective Date of Approval and Expiration

As identified in Regulation 22, all site location approvals become effective on the date of the approval and will expire if construction has not started by a specific date.

Expiration of Site Location Approval

Site location application approvals have an expiration date that is specifically included in the approval letter. The Division uses 18 months from the decision as the standard; however, the Division has the authority to issue an approval with an expiration date that differs from the default of 18 months, depending on the specific project and any associated issues or conditions.

Note, requests for extension of a site location application that has already expired may not be approved, depending on how long the approval has been expired and the type of domestic treatment works that is involved (treatment plant, lift station, interceptor, etc.) and the specific project for which site location approval was issued.

Site Location Approval Extension

The applicant is expected to submit a request for a site location application extension decision at least 60 calendar days prior to the expiration date of the approval, if the project is not expected to commence construction before such date. This expectation provides time for the Division to process the request and to issue a decision (i.e., either extension of the

site location approval or denial). The requirements for applying for extension of a site location approval are provided below:

1. The applicant must submit a fee request form to the Division for a site location extension. Information regarding fee requests is provided in Section II.D of this policy.
2. The applicant must submit the request in writing, on the proper form and all information on the form must be completed. The extension application form is available on the following Division web page under the *Domestic wastewater submittal forms* heading: https://cdphe.colorado.gov/water-quality-facility-design-and-approval-forms.
3. If the associated project required WQPTs, then new or revised WQPTs may be required. The applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section to obtain written confirmation that the previously-issued WQPTs are still valid. If the Permits Section determines that the previously-issued WQPTs are no longer valid and that new or modified WQPTs are required for the proposed project, the Division will not act on the extension request until the new or revised WQPTs are received by the applicant and submitted to the Engineering Section, and the Division has determined that the previously approved project can meet the new or revised WQPTs.
4. If the associated project is a lift station or interceptor, the Division may require that the receiving treatment entity and any intermediary conveyance municipality be notified of the extension, and that a new certification from the entity and municipality to receive, convey, and accept the domestic wastewater be submitted as part of the extension request prior to the Division's decision of the extension.

22.4(10) Public Notice of Site Location Decision

The Division publishes a monthly Water Quality Information Bulletin online through the Division's website, which is available on the following web page: https://cdphe.colorado.gov/water-quality-information-bulletin. All site location and design decisions that have occurred since the last published Water Quality Information Bulletin are published within the most recent publication.

22.4(11) Written Notice of Site Location Decision

Site location application and design decisions are issued in writing on Department letterhead (hard copy or electronic). Division decisions are not issued verbally or directly within the body of an email. Only delegated signatory authorities may sign site location decisions on behalf of the Division. Most commonly, the Engineering Section Manager signs and issues all site location application decisions (approvals and denials), based upon the recommendations made by the review engineer and his/her Unit Manager. The assigned review engineer, under the direction of his/her Unit Manager, issues and signs design decision letters (approvals and denials of process designs, basis of design, and final design submittals). Interim communications regarding site location and design applications are signed and issued by the review engineer. Interim communications, including requests for information inquiries may be issued on Department letterhead (hard copy or electronic) or within the body of an email.

Note, the Division does not issue concurrent site location and design approvals. However, if the design submittal will provide additional clarification or information to the site location application review process, the applicant may submit the design application prior to site location approval issuance. Formal review/comment/approval of the design application will not take place until the design review fee is remitted and site location approval has been issued. Site location and design approval letters are always made via separate letters.

22.4(12) Appeal of the Site Location Decision

Persons adversely affected or aggrieved by the Division's decision on site location or design applications may appeal the decision to the Commission. The person must submit their appeal in writing to the Commission's administrator within 30 calendar days from the date when the Division posts the project's decision in the Water Quality Information Bulletin. The appeal process will follow the requirements of *Regulation No. 21 – Procedural Rules* (Regulation 21), Regulation 22, the Colorado Revised Statutes, and the Administrative Procedures Act.

22.4(13) Local Agency Review Timelines in the Event of an Emergency

An accelerated review and evaluation process is available for certain emergency events related to natural disasters (e.g., floods) or certain unforeseen extreme events that may necessitate accelerated review, such as a fire or explosion at a treatment works that impacts the treatment works' ability to comply with effluent limits. For clarity, an unforeseen extreme event does not include perceived emergencies related to planning or implementation of compliance schedules, construction schedules, enforcement orders, or funding deadlines.

For qualified unforeseen extreme events, the Division will promptly review a site location application and determine, based on the case-specific facts, whether the circumstances warrant accelerated review for site location and design. If qualifying for an expedited review, the applicant will deliver the site location application to the review agencies. The review agencies have 15 days to provide comments or recommendations on the referral. The 15 day referral supersedes any other longer referral periods currently identified within the individual sections of Regulation 22. Any person adversely affected or aggrieved by the Division's final decision may still appeal that decision as provided in Sections 22.4 and 22.13 of Regulation 22.

22.4(14) Local Agency Review Requirements for Design Capacity Changes After Site Location Decision

Applicants may need to modify a treatment works' design capacity following the issuance of a site location approval, but prior to completion of the design approval process or completion of construction of the treatment works. Systems seeking to revise the design capacity of a recently approved site location approval must submit a request to the Division in writing detailing the following information:

1. The proposed change;
2. The requested design capacity; and

3. The impact of the request on the WQPTs, if applicable.

Based on the proposed change, the Division may make the applicant submit a new site location application. If a new application is not required, the applicant must notify all review agencies per the initial site location application. The notifications must include the treatment entity and any intermediary conveyance municipality that have previously agreed to accept, convey, and/or treat the wastewater from the project. The review agencies shall have 15 working days from receipt of the application to review and comment directly to the Division unless a brief (less than 15 working days) extension is requested in writing. The Division will not deem a lack of comments from such agencies within the specified comment period as a recommendation for denial during its consideration of the application.

22.5 FACTORS TO BE CONSIDERED FOR DIVISION OR COMMISSION DECISION MAKING ON SITE LOCATION APPLICATIONS

22.5(1)(a) Legally Responsible Person and Legal Description of the Site

The site application and any accompanying reports or documents shall be submitted to the Division under the control of a person legally responsible for the treatment works. The legally responsible person shall have decision-making authority (i.e., mayor, president of the council/board, public works director, owner, corporate officer, authorized official, etc.) with the business, organization, or municipality, and shall be responsible for signing the site location application form certifying that they are familiar with the requirements of Regulation 22.

During a site location application review, the Division will consider the legal description of the site as a means to define the extents of the site location approval. Depending on the mechanism used to demonstrate control of the site, the legal description may be included as part of the deed or title showing ownership of a site. In terms of an easement, the legal description may be included in the agreement between the property owner and the applicant defining the applicant's right to utilize specific portions of a property. For existing right of ways, the legal description may be demonstrated through the agreement with the local municipality. The legal description will be used for current and future projects to determine if construction activities fall within the boundary of ownership or control. Based on the type of site location application required for the project, documentation defining the legal description of the site may be required.

22.5(1)(b) Connecting New or Expanded Lift Stations or Interceptors

When reviewing a site location application for connecting new or expanded lift stations or interceptors subject to the application requirements identified in Sections 22.8 and 22.9 of Regulation 22, the Division shall consider and ensure that the receiving treatment works (i.e., treatment plant and any intermediary conveyance infrastructure) will not be overloaded by the additional hydraulic and/or organic load. Whether owned and operated by the applicant or another treatment entity or municipality, the applicant shall confirm the hydraulic capacity of any receiving collection system or infrastructure, which may include additional lift stations and interceptors. The applicant may indicate that the receiving collection system was designed with capacity allocated to the proposed project through master planning or other appropriate documents. Otherwise, the applicant shall be required to define the hydraulic capacity of the receiving collection system, through calculations or hydraulic modeling, and the current contributing flows. If during the evaluation of the receiving infrastructure the applicant discovers that historical infrastructure was constructed without site location and design approval, the applicant shall refer to Appendix C for the interim policy concerning the evaluation of historical lift stations and interceptors.

As far as the hydraulic and/or organic loading capacity of the receiving treatment plant, the applicant may rely on the treatment entity to verify available capacity through submittal of the Wastewater Receiving Entity Certification. This certification shall be submitted with the

site application in accordance with Sections 22.8 and 22.9 of Regulation 22. The capacity of the receiving treatment works must be confirmed regardless of whether or not the applicant is the owner of the infrastructure, and if it is determined that the receiving treatment works will be overloaded as a result of the proposed project, the owner of the infrastructure will be required to submit a site location and design application to install any necessary improvements.

22.5(1)(c) Consideration of Treating Wastes in an Area-Wide Facility

Based on Section 22.3(1)(a) of Regulation 22, the Division shall consider the local long-range comprehensive plans for the area as they affect water quality and any approved 208 plan. Additionally, Section 22.3(1)(c) of Regulation 22 identifies that the Division shall encourage the consolidation of wastewater treatment works whenever feasible with consideration for such issues as water conservation, water rights utilization, stream flow, water quality or economics. These previous sections of Regulation 22 fully consider any local long-range comprehensive plan, approved 208 plan, and other such issues as they relate to consolidation or treating wastes at an area-wide facility. Thus, the Division will rely on information provided for these previous sections to meet the requirements of Section 22.5(1)(c).

22.5(1)(d) Relationship to and Potential Impact on Any Water Supply Intake

Continued growth in Colorado has placed increasing pressure on available water resources. As a result, there are a number of potable water treatment plants that rely upon raw water diversions which are downstream from treatment plant discharges. The Commission's system of setting water quality standards includes a water supply classification to address this issue. The in-stream water quality standards based on the water supply classification are used in setting discharge permit limits. While protective WQPTs generally reduce the potential for problems at drinking water treatment processes, there are factors, such as treatment plant upsets, which should be considered in siting treatment works. The Division is required to consider water supply protection in accordance with Section 22.5(1)(d) of Regulation 22.

The following expectations are provided to protect the quality of Colorado's drinking water sources for their intended uses and to aid in the provision of safe potable water to the public. The expectations are applicable to proposed treatment works that discharge (or propose to discharge) upstream (within the same stream segment of an existing surface water, groundwater well under the direct influence of surface water, or infiltration gallery) of a diversion for a public water system supply.

1. WQPTs for the treatment works are developed to protect the stream standards adopted by the Commission. The engineering report submitted with the site location application must specify the treatment processes that will be used to meet the WQPTs. The engineering report shall include a discussion of and provide a map identifying all drinking water intakes used for domestic purposes within five (5) miles of the proposed discharge including surface water intakes, groundwater wells under the direct influence of surface water, and infiltration galleries.

2. The Division will evaluate the location of any type of drinking water intake in relation to the proposed treatment works when determining the appropriate WQPTs. The Division encourages discharges from treatment works to be located such that potential impacts to public drinking water sources are minimized, be they surface or groundwater under the direct influence of surface water. Where the volume of effluent to be discharged during low-flow conditions in the stream would make up a significant portion of the flow in the stream and the proposed treatment works discharge is near the water supply diversion, proposals for new treatment works must include, as part of the alternatives analysis, consideration of:

    a. Discharging the wastewater via land application, to an alternate drainage basin, or to a point downstream from the water supply intake;
    b. Collection and transmission of wastewater to an existing treatment plant, or alternate plant site, downstream from the water supply intake;
    c. The potential for an alternate drinking water source (e.g., groundwater or connection to another existing water system) for the water supply agency; and
    d. Relocation of the water supply intake to a point upstream from the treatment works discharge.

    The Division recognizes that water rights issues may limit the feasibility of implementing such alternatives. If no reasonable alternative to the discharge of treatment works effluent upstream of the drinking water sources can be found, then additional considerations to reduce risk of impact to the water supply must be made in the design and management of the treatment plant to minimize public health risks.

    The Division reviews such instances on a case-by-case basis. The Division suggests that entities involved with such potential circumstances contact the Division early in the planning process to arrange a meeting to set forth a detailed approach to treatment works siting and design. Where appropriate, the Division will participate in meetings between the persons involved.

3. Additionally, special design and operational issues may need to be considered to address emergency situations (such as an upset) at a treatment works. These may include, but are not limited to:

    a. Having the capability for flow equalization at the treatment works;
    b. Having the capability for emergency storage at the treatment works;
    c. Having the ability to temporarily divert the discharge to an alternate treatment works or other location during the emergency situation;
    d. Providing alarm systems to alert operator of upset conditions and/or equipment issues or failure; or
    e. Having adequate staffing at the treatment works to facilitate a timely response to emergency situations.

22.5(1)(e) Location of Proposed Project Relative to Flood Plains or Other Natural Hazard

In order for the Division to consider the location of a proposed project relative to floodplains or other natural hazards and ensure a proposed treatment works be so located that it is not unnecessarily endangered by natural hazards, the applicant is responsible for identifying natural hazards such as floodplains, avalanche chutes, soil or rock slide areas, faults, and expansive soils that may adversely affect the suitability of a site for a proposed treatment works. Sometimes these hazards can be mitigated through design and construction measures specifically intended to compensate for the risks presented by the hazard. Where natural hazards exist, the site location application shall describe the nature and extent of the hazard and identify how the treatment works will be designed and constructed to mitigate the potential effects of the hazard (i.e., damage or inaccessibility). In the event of an emergency caused by a natural hazard, the Division expects that an operator will have uninhibited access to the proposed treatment works, and lift stations and interceptors will remain capable of receiving and conveying wastewater from the service area, while treatment plants will remain capable of receiving, treating, and discharging wastewater. The Division understands that not every event can be foreseen, and certain events may occur beyond reasonable design expectations (e.g., flood events in excess of a 1 percent annual chance flood). Additionally, if a project is being completed as the result of a natural disaster or certain unforeseen extreme events, the applicant should refer to Section 22.4(13) of Regulation 22 for accelerated review agency notification requirements.

The site location application shall provide sufficient documentation indicating that the proposed site and/or treatment works is not encumbered by unmitigated natural hazards. As an example, the site application shall provide copies of the Federal Emergency Management Agency (FEMA) flood insurance rate maps showing the flood zone boundary for the 1 percent annual chance flood (100-year flood event) or other local stormwater comprehensive plans. For proposed sites and/or treatment works that are located within zones designated by FEMA as Undetermined Risk Areas, the applicant's engineer shall provide sufficient documentation to make a professional judgment regarding the likeliness of potential flooding. The application shall also confirm that other man-made structures in the vicinity of the project do not increase the risk of natural hazards, such as flooding. The application must include a discussion on the vertical datum used to compare the floodplain and project site elevations.

As for geological hazards, a professional geologist or a Colorado licensed professional engineer with an appropriate level of experience investigating geologic site conditions shall address specific geologic hazards at the proposed site location as part of the geotechnical engineering report required for new treatment works or new infrastructure associated with existing treatment works. The engineering report shall further provide sufficient documentation and discussion of natural hazards at the proposed site location to allow the professional geologist or a Colorado licensed professional engineer to make a professional judgment that the proposed design mitigates the potential impacts of any identified hazards.

22.5(1)(f) Foreseeable Potential Adverse Impacts on Public Health, Welfare, and Safety

Guidance Specific to Odor, Noise and Aerosol Mitigation from Treatment Works

Concerns regarding impacts from a treatment works have been expressed by potential neighbors in some cases, and it is necessary for the Division to implement a consistent approach while addressing those concerns and protecting public health and the environment.

Section 22.5(1)(f) of Regulation 22 requires that the Division review site location applications to ensure that the proposed treatment works can be operated and managed at the proposed site location to minimize foreseeable potential adverse impacts on the public health, welfare, and safety as related to wastewater treatment and/or water quality. This section provides information for reviewing those factors and to specifically:

1. Address potential concerns of neighboring property owners to proposed treatment works construction;
2. Reduce the likelihood of public nuisance complaints stemming from the O&M of treatment works (including odors, noise and aerosols);
3. Minimize the potential for the airborne transmission of pathogens from treatment works to the occupants of nearby habitable structures; and
4. Provide guidance if setback requirements provided below cannot be met and mitigating factors must be incorporated into the design to address potential concerns from odor, noise, and aerosols.

In considering the approval of new treatment works, existing treatment works where a change in capacity (expansion or reduction) is requested, or for existing treatment works where other facility modifications are proposed (i.e., those requiring site location approval per Regulation 22), the Division shall consider distances to habitable structures, which includes residences, schools, and commercial structures. If impacts to public health or the environment are projected (e.g., odors detected in accordance with the requirements of the Air Quality Control Commission *Regulation Number 2 Odor Emission*), the Division may deny approval of a site location application or, in its approval of a site location application, may impose reasonable conditions on the design of a treatment works to minimize public health impacts associated with odors and aerosols.

Incorporating certain design elements can prevent most potential odor, noise, or aerosol problems at a treatment works. Any mitigation techniques incorporated as a condition of a site location approval must be included in the design for that treatment works. The applicant is then required to operate and maintain those mitigation elements or other comparable equipment or mitigation methods. Applicants must consider potential odor, noise, and aerosol issues and the potential costs associated with mitigation elements in their site selection process. Should the responsible party for an existing treatment works allow mitigation elements required in a site approval to be operated incorrectly or deteriorate in their effectiveness, the Division may withhold approval of any request for future site location applications until the mitigation elements are improved to adequate operations.

Odors

Treatment works have the potential for odor generation simply based on the characteristics of wastewater and the processes used to treat wastewater. It has been demonstrated that odors generated in a treatment works can be contained and minimized by proper design, active odor control technologies, and maintaining the appropriate setback distances. Therefore, it is the applicant's responsibility to consider odor generation in choosing the location of the treatment works and selecting the processes to convey and treat the wastewater and mitigate odors. In consideration of setback distances and selection of the site location, the applicant should also take into account any master planning for the treatment works, and ensure the boundaries of the site will continue to minimize any potential odors associated with future projects.

It is difficult to predict where or under what conditions odors may travel; however, consideration of prevailing winds, localized inversion conditions and other physical characteristics of the proposed site location and the treatment processes should be assessed by the applicant.

New Treatment Works

Unless site-specific factors exist, which would tend to amplify odors, the Division will assume that the following setback distances from the treatment process location to habitable structures are adequate, and if utilized, then consideration of specific odor control requirements in the design is not necessary.

1. Non-aerated lagoons: 1,300 feet;
2. Aerated lagoons less than or equal to two (2) total surface acres (all basins combined) with no mechanical surface aeration (i.e., equipment that generates splashing, does not include diffused aeration): 250 feet;
3. Aerated lagoons greater than two (2) total surface acres (all basins combined) with no mechanical surface aeration: 500 feet;
4. Aerated lagoons less than or equal to two (2) total surface acres (all basins combined) with mechanical surface aeration: 500 feet;
5. Aerated lagoons greater than two (2) total surface acres (all basins combined) with mechanical surface aeration: 1,000 feet;
6. Mechanical plants 2,000 gpd maximum month capacity to less than 50,000 gpd capacity: 250 feet;
7. Mechanical plants 50,000 gpd capacity to less than 100,000 gpd capacity: 500 feet;
8. Mechanical plants 100,000 gpd or greater: 1,000 feet;
9. All OWTS and lift stations less than 120,000 gpd design capacity: 100 feet;
10. Lift stations 120,000 gpd capacity to less than 250,000 gpd capacity: 250 feet; and
11. Lift stations 250,000 gpd capacity or greater: 500 feet.

Note, people are highly variable in terms of sensitivity to odors. Odors are localized and often dependent on site-specific conditions. Meeting the above setback distances will help minimize

odors, but may not eliminate them completely.

If, after submittal of the application but prior to the site location application decision by the Division, habitable structures do exist within the setback distances listed above for a new treatment works, the applicant must commit to incorporating reasonable and appropriate odor mitigation elements into the treatment works design. In this case, incorporation of odor control processes into the design shall be a condition of the site location approval letter. Failure to construct the odor control processes would invalidate the site location approval, resulting in a violation of the Colorado Water Quality Control Act, pursuant to Section 25-8-702 C.R.S.

Mitigating elements can include system features designed to prevent odor problems from occurring such as, but not limited to:

1. Aeration system failure alarms with remote notification to an appropriate responsible party;
2. Covering certain portions of the treatment works; and
3. Enclosure and an appropriate air handling treatment system (e.g., air filters) for certain processes that generate odors, such as headworks and solids handling facilities.

The specific mitigating elements for a particular situation should be developed based on an analysis of the sequence of events that could lead to odor problems. Design features should then be developed to interrupt or control the generation of odors, which would negatively affect nearby habitable structures. Any mitigating elements must be consistent with state and local ordinances.

Increase or Decrease of Capacity or Amendment of Existing Treatment Works

Where the above setback distances to habitable structures are not met for projects requiring site location approval, the applicant also has the obligation to consider odors. In the site location application, reasonable odor mitigation facilities or strategies shall be proposed by the applicant to reduce the odor potential. Where a new habitable structure(s) has been built near the original, approved site location boundary after the construction of a treatment works, the Division and the applicant shall consider whether the proposed changes will increase the already existing odor levels at those new habitable structures, and whether the existing treatment works already impacts public health, welfare, and safety as related to wastewater treatment and/or water quality.

Noise

Noise is generated by large, powered equipment at treatment works including engine generators, blowers, fans, and mechanical aerators. The variation, pulse, and tone of the noise can affect the listener as much as or more than the decibel energy of the sound wave. Mitigation strategies must be employed and consistent with state and local ordinances, and should focus on equipment selection, acoustical architectural techniques, and the use of

barriers or other sound-wave attenuation measures within buildings, surrounding structures, and treatment works grounds.

Aerosols

A treatment works site shall be of sufficient size that, under normally expected operating and climate conditions for the proposed processes, aerosols would not be expected to cross the property line. Aerosols shall be considered water droplets generated by active treatment processes in the treatment works. Aerosols do not include fog caused by temperature differences or odors carried through the movement of air across the property. Where aerosol drift may be reasonably expected to leave the site, the Division may deny site location approval or may impose appropriate design requirements as a condition of approval. Where the treatment processes that generate aerosols are more than 250 feet away from the habitable structures, the Division will assume that aerosol drift is not an issue, unless the treatment process proposed would create significant aerosols or the aerosols may create public health concerns.

22.5(1)(g) Proper Public Notice and Any Public Comment

Per Sections 22.6(3) and 22.9(1)(xi) of Regulation 22, proper public notice is limited to new lift stations, new treatment plants, and changes in the site boundary of an existing site location approval for lift stations and treatment plants. The applicant is required to post a sign on the proposed site location to encourage public notification. The Division will rely on the posting requirements defined in the above-mentioned sections of Regulation 22 and the information provided as a result of the public notice to meet the requirements of Section 22.5(1)(g) of Regulation 22.

22.5(1)(h) Ability of Proposed Treatment Plant to Meet Effluent Limitations or Applicable Water Quality Planning Targets

As required under Section 22.6(1)(b)(iii) of Regulation 22, the applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section in order to determine the WQPTs needed for the proposed project. The WQPTs are based on the standards adopted by the Commission to minimize potential impacts from the proposed treatment works on water quality and health based impacts and providing a basis of design for the project. During the site location application process, the Division will evaluate the selected treatment alternative to ensure the technology can reliably meet the limitations defined by the WQPTs. The Division will rely on the requirements of Section 22.6(1)(b)(iii) of Regulation 22 and the associated section of this policy to ensure that the proposed treatment works will be able to meet the existing effluent limitations or applicable WQPTs.

22.5(1)(i) Review and Comment of All Required Local Government Agencies and 208 Designated Planning and Management Agencies

Regulation 22 requires the applicant to provide copies of the site location application and engineering report to review agencies prior to submission to the Division. The review agencies will evaluate the application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area should such a plan exist. The applicant must

perform all necessary coordination and supply all information to the review agencies. The applicant is responsible for obtaining all necessary signatures or documenting the date of notification on the site application form (depending on the type of site application submittal) before sending it to the Division. These agencies may include the county, city or town, local health authority, designated planning and/or management agency, and any other state or federal agency. These agencies shall review and recommend approval or denial of the site location application by the Division. The Division will review the signatures and comments provided by the review agencies in accordance with the type of site application and associated section of Regulation 22.

22.5(1)(j) Long-Range Comprehensive Planning as it Affects Water Quality

Under the previous Section 22.3(1)(a) of Regulation 22, the Division shall fully consider any local long-range comprehensive plan as it affects water quality when evaluating the suitability of a proposed site location application. Thus, the Division will rely on information provided for this previous section to meet the requirements of Section 22.5(1)(j) of Regulation 22.

22.5(1)(k) Regional Water Quality Management Plan

Section 22.5(1)(k) of Regulation 22 requires that the Division rely substantially upon the 208 plan for the area in deciding whether to grant site location approval where the plan is current and comprehensive with respect to its analysis of population growth and distribution as it relates to wastewater treatment. In addition, pursuant to Section 25-8-105(3) C.R.S, where portions of a 208 plan are adopted as regulation, the regulation shall be binding on the Division decision.

The majority of planning regions in the state have outdated 208 plans in place. The following sections provide guidance for both situations, those areas with current and comprehensive 208 plans, as well as those with outdated 208 plans.

Current and Comprehensive 208 Plans

Site location approvals must be consistent with 208 plans. In order to ensure this consistency, at a minimum, the site location application shall evaluate the proposal as it relates to the 208 plan in the following areas:

- Consideration for consolidation,
- Planning area boundaries,
- Population projections for planning area,
- Treatment works service areas,
- Treatment works location, sizing, and timing,
- Appropriate effluent limitations, waste load allocations, and TMDLs, where identified,
- Agreements among entities to implement the plan, and
- Other water quality related issues.

In order to ensure that 208 and wastewater utility planning are adequately considered, it is

suggested that the entities involved contact the Division early in the site location application process to discuss approaches for demonstrating consistency with these plans.

Designated planning and management agencies are asked to comment on all site location applications as they relate to 208 plans. In planning regions with designated planning agencies, consistency with the 208 plan is demonstrated through the planning agency's signed recommendation for approval of the site location application.

In regions without a designated planning agency, the Division may rely on review and comment provided by a management agency regarding all or part of the 208 plan. In cases where the management agency is only responsible for implementation of part of the 208 plan, the Division recommends that the management agency documents coordination of its comments and recommendation with the other potentially affected management agencies in the planning region. Consistency with applicable 208 plan aspects is demonstrated through the management agency's signed recommendation for approval of the site location application. In these types of cases, the Division is required to rely on the factors identified in Section 22.5(1)(a) through (i) and the information submitted in the site location application as additional determinants in making the site location application decision.

For amendments, where notification only (not signatures) of the applicable agencies is required by Regulation 22, the Division takes into consideration any comments provided by designated planning and management agencies.

If applicable designated planning and management agencies do not review or comment, the Division continues the review process and ensures consistency with the 208 plan as required by subsequent sections of Regulation 22. This may result in the Division seeking additional information and the site location application may be delayed.

Outdated 208 Plans

In planning regions with outdated 208 plans, the Division expects site location applications to demonstrate consistency with relevant aspects of other current water quality plans (e.g., local long-range comprehensive plans). Applicants should coordinate with local agencies consisting of counties, cities and/or towns; other water quality management entities (e.g., reservoir Control Regulation management agencies); and the Division early in the site location application process to discuss approaches for demonstrating consistency with these plans.

Local agencies and/or other water quality planning agencies are asked to comment on all site location applications as they relate to the water quality plan overseen by that agency. Consistency with the local long-range comprehensive plan or other water quality plan is demonstrated through the agency's signed recommendation for approval of the site location application. The Division is also required to rely on the factors identified in Section 22.5(1)(a) through (i) and the information submitted in the site location application as additional determinants in making the site location application decision.

For amendments, where notification only (not signatures) of the applicable agencies is required by Regulation 22, the Division takes into consideration any comments provided by local agencies and other water quality planning entities.

If applicable water quality entities do not review or comment and the water quality related planning questions remain unresolved, the review of the site location application may be delayed as the Division seeks additional information from the planning agency(ies) and/or applicant's representative.

22.6 APPLICATION PROCEDURES FOR CONSTRUCTION OF NEW DOMESTIC WASTEWATER TREATMENT PLANTS

A site location application for ***New Domestic Wastewater Treatment Plants*** is used for the following situations:

- Proposed treatment plants with a design capacity to receive greater than 2,000 gpd of domestic wastewater, including OWTS;
- Existing treatment plants intending to add or relocate the currently approved discharge point (outfall sewer) outside of the currently approved site location for the plant and/or to a different stream segment. Note, changing the location of the discharge point within a previously approved site location and within the same defined segment of the receiving surface water may not require site location approval, as determined by the Division;
- Changes to an existing treatment plant that occurs beyond the existing site location approval, such as expansion of the treatment plant onto an adjacent property not included as part of the original site location approval;
- Proposed treatment plants that will produce reclaimed domestic wastewater, if those treatment plants are to be constructed at a site location that has not been previously approved, or at a different site from the secondary treatment plant location;
- Multiple OWTSs each with a design capacity to receive 2,000 gpd or less of domestic wastewater, but satisfy the criteria of Policy 6; and
- Construction of a new vault. Note that vaults are allowed by the Division only under limited circumstances as described in the *Regulation No. 43 - On-site Wastewater Treatment System Regulation* (Regulation 43), and local county regulations/requirements may preclude vaults completely.

The Division shall review site location applications submitted for all new treatment plants in accordance with all applicable sections of Regulation 22.

22.6(1) Submittal Requirements/Expectations

The applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Domestic Water Quality Planning Target/PEL Application Form;
- Section 22.6 - New Domestic Wastewater Treatment Plant; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. The applicant is responsible for ensuring the proposed hydraulic and organic design capacities concur with

the WQPTs and intended final design and permitted flow rates prior to submitting the application for site location approval. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures and providing all review agencies the allotted review times as indicated in Regulation 22, with the exception of non-responsive review agencies. The site location application shall include dated correspondence to each review agency to demonstrate that 60 days was allowed for each review. The site location application must include original ink signatures, scanned copies of the original signatures, or electronic signatures from the applicant and review agencies, and comments if provided.

22.6(1)(a) Availability of Submittal Forms

As identified above, the forms required for the site location and design application process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.6(1)(b) Engineering Report

The applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by the Colorado Department of Regulatory Agencies (DORA). Regulation 22 specifically states that the engineering report shall describe the proposed treatment works and demonstrate the applicant's capability to manage and operate the treatment works over the life of the project. This report shall completely address the items as identified in each of the Sections 22.6(1)(b)(i) through 22.6(1)(b)(xiv) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within 22.6(1)(b). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.6(1)(b)(i) Service Area Definition

The engineering report shall define the boundaries of the service area for the design life of the proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate the proposed location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking

water treatment plant intakes and other treatment works aids with the review of the site location application, and must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with information provided in this policy.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population, land use, and unique customer information.

Population/Land Use Projections

The engineering report shall develop flow and loading estimates through population and/or land use projections.

- Population Projections: Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population shall be expressed as the number of each population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.
- Land Use Projections: Land use projections are appropriate for significant service areas with a variety of land uses. Typically, local planning documents use a combination of open space, floor area ratio, and zoning types to define development within a service area. The engineering report shall subdivide the service area into land use types, such as open space, commercial, residential (SFE, R2, MF, etc.), and

translate this information into residential populations, industrial/commercial land use areas, or building square footages to determine appropriate loading estimates.

Note, general land use estimates may not be considered adequate for special circumstances (food processing facilities or computer chip manufacturing) in a small community. These industries may exceed typical average waste loading values used for planning. The engineering report must deal with these unique circumstances on a case-by-case basis.

Flow/Loading Projections

Average Daily Flow: Following the development of population or land use projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population/land use and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population/land use. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population/land use. For single use service areas and OWTS, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow (Design Capacity): After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities and OWTS, the maximum month average daily flow is at full occupancy, and for OWTS, the flow values must follow Regulation 43 (or successor) requirements unless justified otherwise. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22 days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).
- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in

October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the proposed treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Hour Flow: The engineering report shall build from the average daily flow estimate to develop a peak hour design flow or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. For OWTS with a design capacity of 2,000 gpd or less, the design must follow Regulation 43 (or successor) requirements unless justified otherwise. An OWTS design may include a design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) may be larger to adequately cover some days with above-average flow, thereby allowing permitting by the local public health agency provided that daily flow monitoring is being periodically reported to the local agency to confirm the design capacity is not exceeded. Flow equalization is part of a treatment works. If an OWTS design has flow equalization and design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) are larger to adequately cover some days with above-average flow, the flow equalization can be used to smooth out peak day flows and still allow permitting by the local public health agency. However, flow equalization in a treatment works receiving flows greater than 2,000 gpd for a maximum month average daily flow at full occupancy will require site application and design review and approval. For all other treatment works, the engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population/land use. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the proposed treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall

evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the proposed treatment works through an analysis of individual user types and their anticipated organic loading. For single use facilities and OWTS, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

Staging or Phasing

Based on initial flows and loads, sometimes the proposed treatment works cannot function effectively especially when designed for the long-range planning associated with the service area. In this case, the applicant shall develop an operational plan, and this plan shall be included as part of the site location application rather than during the design review phase. The operational plan must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section 22.13 in this policy for specific information.

22.6(1)(b)(ii) Evaluation of Site and Treatment Alternatives

The engineering report shall identify the proposed site location, and the various site and treatment alternatives evaluated for the proposed treatment works.

Alternative Sites

The engineering report shall identify multiple sites that were evaluated as part of the process, and compare each of those sites with respect to real estate availability and cost, disposal options, geologic conditions, site access, proximity to habitable structures, proximity to drinking water intakes, geographic benefits (gravity flow), water quality impacts, water rights issues, life-cycle economics, setback requirements, and other pertinent site selection criteria. All potential sites must be specifically evaluated with respect to the setback requirements of this policy. The site location evaluation shall also discuss how the various sites may impact selection of a specific type of treatment alternative.

Treatment Alternatives

In addition to specific site characteristics, treatment options shall be discussed in detail with respect to meeting the required degree of treatment to satisfy the WQPTs, capital costs, projected O&M, ease of operation, operator flexibility, potential for expansion or modification, and applicability to each potential site.

22.6(1)(b)(iii) Water Quality Planning Targets

The applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section in order to determine the WQPTs needed for the proposed project. WQPTs can consist of existing permits, water quality assessments, a permit modification, a new permit, a PEL document, a limited-scope PEL, or a combination thereof. A copy of the determination from the Permits Section identifying the document to be used as the WQPTs shall be included with the engineering report. If the determination requires the applicant to perform a permit action or obtain PELs for the proposed project, then the applicant must apply for these documents prior to submitting a site location application for review. For

additional information concerning the WQPT determination process and how to obtain PELs, the applicant shall refer to the following Permits Section's *Water Quality Planning Targets and Preliminary Effluent Limitations (PELs)* web page: https://cdphe.colorado.gov/WQ_Planning_Targets_and_PELs.

In the case where PELs are required for the proposed project, the PELs will provide discharge criteria specific to the stream segment, or groundwater, receiving the discharge at the proposed design hydraulic capacity. The applicant shall include a copy of the PELs with the site location application. If there are questions regarding the validity of older PELs, the application should refer to the November 2020 Division guidance document, *Establishment of Water Quality Planning Targets and PELs*. When PELs are no longer valid, the applicant shall be required to obtain a new determination of WQPTs. Note, the request for new WQPTs by the applicant may inherently delay the site location application review by the Division.

When PELs are developed for the proposed project, the PEL document will establish limitations for three (3) sets of parameters.

1. The first set of parameters may contain the following: BOD, total suspended solids (TSS), E. coli, pH, nitrogen species (i.e., ammonia, nitrate, nitrite, total inorganic nitrogen (TIN), and total nitrogen (TN)), total residual chlorine (TRC), and total phosphorus (TP). The Division may also include other parameters in the first set of limitations, particularly where a current permit includes a limit for a given parameter. During the site location application process, the Division will evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the first set of parameters.
2. The second set of parameters may contain all of the metals, inorganic parameters, and whole effluent toxicity (WET) testing for which numeric standards have been adopted by the Commission for the receiving stream segment, or groundwater, and proximate downstream segments, except those included in the first set of parameters. During the site location application process, the Division may or may not evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the second set of parameters depending on how the applicant plans to address these limitations. The limitations contained in this second set may be able to be met by the development of a pretreatment program, the refinement of local limits under an existing pretreatment program, or other methods of source water control. In these instances, the ability of the treatment works to meet these limitations will not be reviewed under the site location application process and are the responsibility of the permittee. If treatment or other operational control methods are to be used specific to a parameter(s) in the second set, the ability of the treatment works to meet the limitation(s) will be reviewed under the site location application process.
3. The third set of parameters may contain a summary of potential *Regulation No. 31 - The Basic Standards And Methodologies For Surface Water* (Regulation 31) nutrient limitations that have been developed for the PEL. The water quality based effluent limits (WQBELs) expressed in the third set of parameters are based on standards that

have not yet been adopted by the Commission, but become effective December 31, 2027, as currently written. The values are provided for planning purposes in order to assist the applicant in long-term planning for nutrient removal. This may be especially beneficial for applicants using the state revolving fund (SRF) program or other federal funds to finance a proposed project, where the applicant is required to perform an alternatives analysis projecting current and future costs for specific treatment processes.

Where a Temporary Modification of a Standard for the Second Set Parameters or a Site-Specific Ambient-Based Standard Has Been Approved by the Commission

Where a temporary modification is in place (at the time the Division begins working on the PELs) for a parameter which is based on significant uncertainty regarding the water quality standard necessary to protect current and/or future uses, or which is based on significant uncertainty regarding the extent to which existing quality is the result of natural or irreversible human-induced conditions, the Division will determine the appropriate PEL based on Section 31.9(4) of Regulation 31. Where another type of temporary modification is in place (i.e., one based on significant uncertainty regarding the timing of implementing attainable source controls or treatment), the PEL will be set based on the underlying standard.

Where a site-specific, ambient-based standard has been approved by the Commission and is in place at the time the Division begins working on the PELs, the PEL for that parameter will be based on the site-specific standard.

22.6(1)(b)(iv) Analysis of Existing Facilities within the Applicant's Service Area

As part of the planning stage, the engineering report must document and discuss the loading, capacity, and performance of any relevant existing facilities within the applicant's proposed service area boundary. The Division interprets relevant existing facilities to be existing treatment works that are currently designed to receive greater than 2,000 gpd of domestic wastewater. While not all relevant existing facilities within the service area may intend to consolidate with the proposed treatment works during the design period, each should be given due consideration as part of the engineering report, because the facility may eventually need to consolidate due to environmental, economic, or political issues. The engineering report shall discuss the location, ownership, present flows, permitted capacity, type of treatment, condition of facilities, and discharge permit number for each existing relevant treatment works within the proposed service area.

Examples of existing relevant treatment works include the following:

- Existing treatment works to be replaced by the proposed treatment works on a new site;
- Consolidation of multiple existing treatment works with a single treatment works servicing the entire service area;
- Existing OWTSs within the proposed service area; and
- Replacement of failing decentralized OWTSs with a centralized treatment works.

22.6(1)(b)(v) Consolidation Analysis

The engineering report shall include an analysis of opportunities for consolidation of treatment works in accordance with the provisions of Section 22.3(1)(c), which identifies that the Division shall encourage the consolidation of treatment works whenever feasible. The applicant shall refer to Section 22.3(1)(c) of this policy for the specific factors to be considered in the consolidation analysis and discussed as part of the engineering report. These factors may either be used as a means to support consolidation or consider consolidation infeasible. The consolidation analysis shall also take into account any recommendations established in the local long-range comprehensive plan or 208 plan, as well as the input provided by the appropriate review agencies, and shall not be used as a means to diminish the consideration given to these plans.

22.6(1)(b)(vi) Natural Hazards Analysis

In order for the Division to consider that the proposed site and operation of proposed treatment works will not be adversely affected by floodplains or other natural hazards, the engineering report shall include evidence identifying any such hazards. This requirement is also addressed in Section 22.5(1)(e) of Regulation 22, and requires the Division to consider the location of a proposed project relative to floodplains or other natural hazards and ensure that the proposed treatment works be so located that it is not unnecessarily endangered by these hazards when making a determination as to whether or not to issue an approval of the site location application. In accordance with Section 22.5(1)(e) of Regulation 22 and the respective section of this policy, the engineering report shall establish the presence of any natural hazards, identify whether the proposed treatment works is unnecessarily endangered by the hazards, and describe any means necessary for mitigating the hazards.

22.6(1)(b)(vii) Geotechnical Conditions

Regulation 22 indicates that the engineering report must include the information used to evaluate geotechnical conditions at the proposed and alternative sites. Since geotechnical conditions of each alternative site may impact the selection of the site location, the engineering report shall only be required to discuss the general geotechnical conditions at each alternative site due to the potential cost implications, but shall be required to provide a site-specific geotechnical investigation for the proposed site location.

For the proposed site location, the applicant has two ways to address the site location application requirements within the engineering report, which include either providing preliminary geotechnical information or a formal geotechnical report.

Preliminary Geotechnical Information

First, the engineering report can include preliminary geotechnical information for the selected site comprised of reference materials available from the Natural Resource Conservation Service (i.e., Soil Surveys), Colorado Geological Survey, on-site or nearby geotechnical investigations, or other geotechnical data deemed representative of the site. The preliminary geotechnical information for all proposed groundwater discharges must

provide an indication of anticipated percolation rates or include soil profile test pit information from similar conditions completed in accordance with Regulation 43 (or successor) or overriding local requirements. In using the preliminary geotechnical information, Regulation 22 identifies that the information provided must be sufficient for "that person" to make a determination that the site can reasonably be expected to support the proposed treatment works. The Division interprets "that person" to be a professional geologist or a Colorado licensed professional engineer with an appropriate level of experience investigating geologic site conditions. The Division expects "that person" to either review or create the data provided within the engineering report, and provide a statement indicating that the selected site can reasonably be expected to support the proposed treatment works. The engineering report shall continue to build on the materials provided with the preliminary geotechnical information by discussing the impact of the findings at each alternative site on the design, construction, operation, and maintenance of the proposed treatment works.

Note that Section 22.6(1)(b)(vii) of Regulation 22 states that the Division may require that geotechnical evidence be presented in the form of a report. The Division interprets this to mean that the applicant must submit a geotechnical report for all proposed treatment works during the site location application or design review process, unless waived by the Division in writing.

Formal Geotechnical Report

Thus, the applicant may submit a formal geotechnical report instead of preliminary geotechnical information for the selected site location of the treatment works at the time of site location application. At a minimum, this geotechnical report shall include site-specific soil boring information that discusses seasonal and measured groundwater conditions, soil bearing capacity, excavation benching, shoring, and sloping, bedding and backfill, compaction and moisture conditioning, alternative foundation design, an analysis of geotechnical hazards, and design recommendations based on the findings. The geotechnical report for all proposed groundwater discharges must provide percolation test data at the proposed discharge elevation or must present soil profile test pit information completed in accordance with Regulation 43 (or successor). Per Regulation 22, the Division may require a geotechnical report stating that the site will support the proposed treatment works. When the minimum requirements of the geotechnical report are met, the Division considers the associated design recommendations contained within the report to indicate that the site will support the proposed treatment works. At this point, the submittal of the formal geotechnical report would fulfill the geotechnical submittal requirements for both the site location and design application submittal, and resubmittal of the geotechnical report during the design review process is not required.

Conditional Site Location Approval based on Preliminary Geotechnical Information

If the engineering report only includes preliminary geotechnical information as a means to determine that the site can reasonably be expected to support the proposed treatment works, then the site location approval will be issued conditionally upon the applicant providing a formal geotechnical report as part of the design review submittal. Additionally, if

the applicant receives a conditional site location approval based on only preliminary geotechnical information but the formal geotechnical report submitted during the design review phase indicates that the site will not support the proposed treatment works, the applicant shall provide a statement as such in writing to the Division. The Division may modify the original site location approval, which may require the applicant to reapply for a site location approval at an alternate site under Section 22.6 of Regulation 22.

22.6(1)(b)(viii) Selected Alternative Discussion

Regulation 22 indicates that the engineering report must include a detailed description of the selected alternatives for the proposed treatment works including a legal description of the proposed site, treatment system description, design capacities, and operational staffing needs.

Legal Description of Proposed Site Location

The engineering report shall include a legal description of the proposed site location. Acceptable legal descriptions include plat maps, title surveys, and surveyed property boundary drawings. All legal descriptions shall be signed and sealed by a professional land surveyor in accordance with the requirements of the DORA.

Treatment System Description and Design Capacities of Selected Alternative

The engineering report must describe the specific treatment processes and capacities proposed for both the liquid and solid streams at the proposed treatment works. The report shall address how the proposed treatment process will meet the WQPTs, unless specifically omitted through pretreatment, specific source controls, or other means discussed in Section 22.6(1)(b)(iii) of Regulation 22. The descriptions of each treatment process and capacity shall be thorough and discussed in order of flow through the proposed treatment works. This preliminary information must adequately demonstrate that the selected treatment processes are capable of complying with the requirements of the design criteria and have the ability to achieve continuous compliance with the WQPTs. Examples of such descriptions are as follows:

- Two (2) non-clog submersible pumps (1 duty, 1 standby) installed within a below-grade wet well will convey influent wastewater flows to the headworks. Each pump will be capable of conveying the peak hour flow, and be equipped with a motor controlled by a variable frequency drive. Level indication will be provided by a submersible pressure transducer, and the wastewater flow conveyed by the influent pump station will be measured using a magnetic flow meter;
- Two (2) mechanically cleaned, step type fine screens with a screen opening size of 1/4 inch will be installed in the headworks. Each fine screen will be hydraulically rated to treat the peak hour flow, and equipped with a washing and compacting unit, which washes, compacts, and discharges the screenings to a waste receptacle; and
- An in-channel type ultraviolet disinfection system will be utilized to disinfection effluent flows. The system will consist of two (2) channels with each channel containing three (3) modules installed in series. The low pressure, high intensity lamps will be arranged vertically in the channel and perpendicular to the direction of the

flow. Each channel of the UV disinfection system shall be designed to disinfect a peak hour flow by providing a minimum dose of 30 millijoules per square centimeter to wastewater effluent with a UV transmittance no greater than 65 percent. The water level through each UV channel shall be maintained by a fixed serpentine weir.

To aid with the review, the engineering report shall contain a preliminary process flow diagram (PFD) for both the liquid and solids processing streams.

Operational Staffing Needs for Selected Alternative

The engineering report must identify the operational staffing needs for the proposed treatment works. The engineering report shall indicate operator needs by identifying the number and certification level for all treatment staff, and justify the proposed staffing level based on the size, complexity, automation, financial burden, maintenance requirements, and management hierarchy developed for the proposed treatment works. The applicant shall further provide a well documented plan for providing properly certified and trained personnel to operate the proposed treatment works.

22.6(1)(b)(ix) Legal Arrangements Showing Control of the Site

The applicant shall provide sufficient information in the engineering report to demonstrate that all proposed components of the treatment works exist within the legal boundaries of the proposed site. The applicant has a number of options to demonstrate control of the site for the life of the project depending on the control mechanism.

Control of the Site through Ownership

The applicant may demonstrate control of the site through ownership by providing a copy of the deed or title to the property in the name of the applicant. The Division will accept a copy of the title insurance, but the applicant must ensure that the title insurance document does not contain errors regarding ownership, property description, or limitations or restrictions that would preclude using the property for its intended purpose prior to submitting the information to the Division. The site location application must disclose and address any limitations that potentially impact the applicant's ability to maintain, operate, or construct facilities within the proposed site location for the life of the project.

Control of the Site through Use of Public Right of Ways

In cases where the site location for the proposed treatment works utilizes public right of ways (ROWs) (e.g., municipal transportation or utility ROWs), the applicant is not required to demonstrate legal control of the site. However, the engineering report shall provide a map identifying the boundaries of the site location for the proposed treatment works in relationship to the public ROWs.

Control of the Site through Use of Right of Ways Across Private Property

Alternatively, the applicant may demonstrate legal control of the site through use of a ROW across private property. Specific expectations with regard to information for these types of

ROWs (e.g., easements via purchase, lease or condemnation, etc.) and the site location application are as follows:

1. To facilitate as timely a review process as possible, all ROWs that are necessary for the project shall be obtained prior to submittal of the site location application, and copies of the documentation for all ROWs shall be included in the submittal.
2. Where all ROWs could not be obtained by the time of site location application, at a minimum, the applicant must identify all ROWs that will be needed for the project, and an explanation of how they intend to obtain each of the ROWs.

    a. For ROWs that do not involve condemnation, signed copies of agreements concerning the intent to sell/lease between the applicant and land owners (for which easements are needed) may be submitted to fulfill the legal control requirement during the site location phase of the project. The copies of agreements must clearly indicate the terms and conditions of the lease or legal easement specific to the duration of the agreement in addition to access, construction, and maintenance of any treatment works located within the proposed site location for the duration of the agreement.

3. If prior to submittal and by the time that the site location application is submitted:

    a. The applicant, which does not require ROWs for the project that involve condemnation, cannot obtain a signed agreement between the applicant and each landowner regarding the intent to sell/lease the land; or
    b. The applicant, which requires ROWs for the project that involve condemnation, cannot demonstrate legal control of the site, because the condemnation process has not been completed.

    In such a situation where the applicant cannot demonstrate legal control of the site prior to site location approval (e.g., the situations described in items 2 and 3 above), the Division may issue a conditional site location approval that requires the applicant to obtain the ROWs and submit the associated documentation to the Division prior to the Division issuing design approval. In such a case, the Division will not issue design approval until all documentation (that demonstrates that the applicant currently has full legal control of the site) has been received and reviewed by the Division.

In the event that there is reason to anticipate that a specific ROW may not be obtained within a period of six (6) months or less (i.e., a ROW involves complex contractual or other issues or the condemnation process cannot be completed due to legal issues, etc.), the Division will not be able to issue a conditional site location approval, and the site location application may need to be returned to the applicant. The application would then need to be re-submitted to the Division once all ROWs have been obtained and are in place, and a new site location application fee will be required for the re-submittal.

For phased projects, the conditional site location approval would require that the ROWs (pertinent for the entire project) be obtained, and that the associated documentation be submitted to the Division prior to the Division issuing design approval for the first phase of the project. In such a case, the Division will not issue design approval until all documentation (that demonstrates that the applicant currently has full legal control of the site) for each phase has been received and reviewed by the Division.

22.6(1)(b)(x) Institutional Arrangements

The Division interprets Section 22.6(1)(b)(x) of Regulation 22 to apply to the treatment entity's overall ability to generate funds, set rates, and earmark funds for acceptable waste treatment through institutional arrangements such as contracts and covenants, conditions, and restrictions (CCRs). While this specific subsection refers directly to acceptable waste treatment, the Division interprets this to also include the construction, operation, and maintenance of all appurtenances to treatment works. The engineering report shall include copies of institutional arrangements that demonstrate the applicant's ability to pay for acceptable waste treatment. The institutional arrangements must clearly indicate how the applicant has the authority to control rates and set aside funds for capital, operational, and maintenance improvements/programs over the life of the project.

Under special conditions, multiple treatment entities may own and operate a single treatment works. While additional information must be submitted for this condition under Section 22.6(1)(d) of Regulation 22, the engineering report must discuss how the institutional agreements stipulate funding to provide adequate treatment and demonstrate institutional arrangements with individual users or other service areas through a legally enforceable mechanism.

22.6(1)(b)(xi) Management Capabilities

Management capabilities refer to the treatment entity's ability to control the waste constituent and hydraulic loading to the proposed treatment works.

Controlling Hydraulic Loading

Treatment entities need to have the capability to control influent hydraulic loading through a legally enforceable means. This management may be in the form of user contracts, ordinances, operating agreements, management capabilities to expand the facilities, etc. The engineering report must discuss the potential dischargers that may produce large volumes, high peak, or slug discharges that may impact the treatment works. The engineering report must further address the means to control hydraulic loading to the proposed treatment works or the alternate management strategy, and include copies of final user contracts, ordinances, operating agreements, etc. when required to limit the influent hydraulic flow to the treatment works.

Controlling Waste Constituent Loading

Similarly, the engineering report must discuss the applicant's capability to control influent waste constituent loading through a legally enforceable means. This management may also be

in the form of user contracts, ordinances, operating agreements, management capabilities to expand the facilities, etc. As stated in Section 22.6(1)(b)(iii) of Regulation 22, the applicant may indicate in the engineering report that effluent limits for metals, organic parameters, and/or inorganic parameters, other than for total residual chlorine, will be met through implementation of a pretreatment program or other legally enforceable means of limiting discharges of these parameters to the wastewater collection system. The applicant may also provide documentation in the form of effluent data or an analysis predicting effluent quality to demonstrate that the WQPTs will be met without specific source controls.

In addition to these specific instances, the applicant may expect to use management capabilities to control influent wastewater loadings not as a way to eliminate treatment for a specific parameter, but rather as a method to limit the capacity or size of a treatment works. For all cases where management capabilities are essential to meeting the required WQPTs and/or specific federal requirements for pretreatment, the engineering report shall include information demonstrating the management capabilities of the treatment entity responsible for the treatment works and/or appurtenance(s) thereto.

Identification of Industrial Users and Pretreatment Requirements

The engineering report shall discuss the known and potential significant industrial users, target pollutants and possible sources, and proposed management systems used to control influent waste to the proposed treatment works. In addition, the engineering report must include boilerplate contracts, agreements, pretreatment requirements, contracts, covenants, use ordinances, etc. for significant industrial users and other target waste generators that demonstrate specific control mechanisms and management capabilities of the treatment entity overseeing the treatment works. Although formal, EPA-approved Pretreatment Programs (per 40 CFR 403) are not required for all treatment works, the National Pretreatment Program has a great deal of technical and regulatory reference information that may be helpful for developing and implementing pollutant source control programs, and some of this information may be found in the following resources.

1. For an example of ordinance language that can be used to ensure that the proposed source control(s) are legally enforceable, please refer to the following web page: https://www3.epa.gov/npdes/pubs/pretreatment_model_suo.pdf.
2. For other information regarding control of pollutants into treatment works, please refer to the following web page: https://www3.epa.gov/npdes/pubs/owm021.pdf.
3. For specific questions regarding implementation of formal, approved Pretreatment Programs, please refer to the Colorado and EPA Region VIII contact information that is found at the following web page: https://www.epa.gov/npdes/contact-us-national-pretreatment-program.

22.6(1)(b)(xii) Financial System

The financial system associated with construction, operating, and maintaining the proposed treatment works must include evidence of sufficient financial resources to construct the

facility, as well as a financial plan to generate revenue sufficient to repay any indebtedness and cover ongoing operational expenses.

Funding for Privately Owned Treatment Works and Developers

If the applicant intends to finance the project independently, evidence of such financial capability in the form of written communication from a financial institution attesting to the applicant's possession of adequate capital to undertake the proposed project must be included with the engineering report. In the event that the applicant requires a loan to complete the project, the engineering report must include a letter from a financial institution, bond advisor, or other loan program indicating its intent to make such a loan for the purpose of constructing the proposed treatment works.

Funding for Municipal Treatment Works

For municipal or publicly financed treatment works, the applicant must address capital construction capabilities by demonstrating available cash resources through including copies of current budget documents with the engineering report. If the applicant intends to finance the project using loan and grant funds, the engineering report must include documentation from any provider agreeing to issue loans and/or grants for the proposed project including the state revolving fund (SRF) program. If the applicant intends to fund the project using bonds, the engineering report must include a copy of the report from a bond advisor or intended bond underwriter.

Applicants using Borrowed Funds to Finance the Treatment Works

All applicants relying on borrowed funds must develop and present a financial plan for repaying the borrowed funds, along with any fees and interest associated with the transaction. The plan must address the full term of the payback period and not just demonstrate a pattern of anticipated revenue generation. If applicable, the financial plan must also identify a fee structure for the retirement of capital costs associated with the proposed project, as well as any process expansions or equipment/structure replacements funds required within the planning period. The fee structure must include system development fees and monthly user fees. Public municipalities may satisfy these requirements by providing the current fee structure, rate studies, and fee ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

Ultimately, the engineering report must include a financial system that outlines how the applicant can provide the necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The financial system must provide sufficient information to show that the treatment entity that oversees the proposed treatment works has adequate financial capacity over a 20-year period or some other clearly defined future planning period. In addition to the long-range financial plan, the Division expects the engineering report to include a projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e., emergency replacements), and operating expenses. At a minimum, the financial system must include a discussion of the following items:

1. Itemization of projected expenses and revenues including such costs as equipment O&M and required sampling;
2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period or some other clearly defined future planning period;
3. Identification of reserve accounts for emergencies/replacement funding and O&M funds;
4. Access to public and private financial capital;
5. Revenues must be greater than costs including an operating ratio greater than 1.0 (operating revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt service);
6. Current outstanding debt and ability to borrow funds;
7. Periodic financial audits;
8. Annual development and utilization of budget;
9. Rate structure based on customer, flow, and/or waste type; and
10. Capital improvements plan.

22.6(1)(b)(xiii) Implementation Schedule

The engineering report must include an implementation schedule for the proposed treatment works. The schedule shall be presented in the form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a minimum, the schedule shall include the estimated time to construct the proposed treatment works from the commencement of construction to start-up, any staging or phasing discussed as part of Section 22.6(1)(b)(i) of Regulation 22, and the projected start-up date. Additional information, such as projected site location approval, design review submittal, design approval, and bid award dates can assist the Division in visualizing the applicant's overall schedule.

22.6(1)(b)(xiv) Operations and Maintenance

While Regulation 22 indicates that the applicant shall demonstrate the Owner's capability to operate and maintain the treatment works, the Division finds that Section 22.6(1)(b)(xiv) is meant to focus on emergency operations. The applicant shall address O&M requirements and manuals during the design review process, and not more than required by this section of the policy. The engineering report must include an emergency operations plan, and the plan shall be an overview of the proposed emergency management tools, facilities, programs, and equipment. While the design criteria addresses specific requirements for treatment works that must be incorporated into the design, the engineering report is meant to be a model for applying the required emergency systems to prevent potential sanitary sewer overflows of partially treated or raw wastewater or spills from unpermitted point sources. At a minimum, the engineering report must include an emergency operations plan that discusses the following issues:

- The requirements of design criteria for the proposed treatment works;
- Special practices and local requirements for sensitive site locations;

- Telemetry and alarms;
- Standby power source identification;
- Equipment powered by the standby power source;
- Portable emergency pumping equipment;
- Emergency overflow storage sizing; and
- An operator call-down list and emergency response time justification.

The discussion shall justify the ability of the proposed treatment works to mitigate the potential hazards of a sanitary sewer overflow through appropriate management, equipment, and operational programs.

Please note that site location approval that includes an emergency operations plan, does not constitute approval of the plan during the design review process. The Division shall evaluate the plan during the design approval phase with respect to any new information provided and the requirements of the design criteria. If the proposed plan presented with the site location application varies from the requirements of the design criteria, then the design review submittal (i.e., PDR or BDR) shall include an updated emergency operations plan to meet the design criteria requirements. If the proposed emergency operations plan can be shown to be equivalent benefit to the design criteria requirements, the design review submittal may include a site-specific deviation request in accordance with Section 1.7.0 of the design criteria.

22.6(1)(c) Notice of Intent to Construct

The applicant shall submit evidence to the Division as part of the site location application indicating that the applicant individually notified any person that owns private property directly impacted by the discharge of treated effluent from the proposed treatment works. The impact may be through the use of a ditch or other manmade conveyance structure (e.g., stormwater infrastructure) utilized to convey the effluent to the point of discharge or the need to install treatment works infrastructure across private property to effectuate the discharge. The evidence provided to address this section of Regulation 22 shall be coordinated with the requirements of Section 22.6(1)(b)(ix), because the applicant is required to provide the necessary legal information (e.g., easements, ROW agreements, intergovernmental agreements) allowing the discharge of the effluent to privately owned infrastructure or access to the privately owned property for installation and maintenance of the proposed treatment works infrastructure. This legal information must demonstrate use or control of the private property for the life of the project.

All private property owners impacted by the discharge from the proposed treatment works shall be notified in writing to the maximum extent practicable. The site location application shall include a copy of all information sent to each private property owner impacted. This evidence shall include the following information:

- Discussion of how the evidence ties to the information provided with the engineering report in accordance with Section 22.6(1)(b)(ix) of Regulation 22;

- Assessor's or plat map showing property boundaries of the proposed site location, the impacted private property, and property owner's names and addresses;
- Graphical representation of the exact portions of private property impacted by the proposed treatment works discharge;
- A narrative describing the proposed treatment works, construction and implementation schedule, effluent quantity and limits, and achieved setback requirements and/or proposed mitigation thereof;
- Certified mail receipts associated with the delivery of evidence package to each impacted private property owner;
- A discussion of any potential fees associated with the impacts; and
- Information regarding the inability to properly contact any impacted private property owner.

The evidence of notification shall include any correspondence received from the private land or property owners. These responses may be in the form of comments and acceptance or objection to the proposal. All notices shall be provided to the impacted private property owners at least 30 days prior to submittal of the site location application to the Division in order to allow sufficient time for response.

22.6(1)(d) Capacity Sharing Agreements

When the proposed treatment works serves two (2) or more separate and distinct service areas under the control of different entities (i.e., individual, corporation, municipality, etc.), the entities must enter into a capacity sharing agreement. This capacity sharing agreement must be provided as part of the site location application submitted to the Division for review. The agreement must outline the legal relationship established between the two (2) or more entities for control, funding, operation, management, capacities, and expansion of the proposed treatment works.

The capacity sharing agreement must be finalized prior to receiving design approval through the Division. At a minimum, the site location application must include a draft agreement between the multiple entities to reflect the comments, needs, and desires of every entity. The site location application must discuss the current state of the document, critical disputed issues in the draft agreement, and any particular entity requests not currently represented in the draft agreement that must be resolved. Additionally, proof that all entities have participated in the development of the agreement must be documented and provided as part of the site application.

Any specific item(s) identified in the associated engineering report, as defined by Sections 22.6(1)(b)(i) through 22.6(1)(b)(xiv) of Regulation 22, that directly impacts the capacity sharing agreement must be discussed within this part of the site location application. An example of a specific section that might need to be addressed by the agreement is Section 22.6(1)(b)(xi) of Regulation 22. Under this requirement, each entity with their associated service area must address the needs of controlling the overall wastewater loading individually and as part of a combined effort to meet the WQPTs. The agreement must specifically

address the following issues for each entity party to the agreement: control, funding, operation, management, specific capacities and loadings, and expansion of the proposed treatment works.

22.6(1)(e) Consistency with Regional Water Quality Management Plan

The site location application for a new treatment works is associated with a specific service area as required to be defined in the engineering report in accordance with Section 22.6(1)(b)(i) of Regulation 22. As part of the site location application, the applicant must demonstrate that the proposed service area conforms with the approved 208 plan and/or the local long-range comprehensive plan. In some cases, the applicant may need to request a revision of the 208 plan and/or the local long-range comprehensive plan prior to submitting a site location application to the Division.

The applicant must demonstrate that the proposed service area and population projections are consistent with an approved 208 plan for the planning region and/or the local long-range comprehensive plan. To demonstrate consistency with these approved plans, the site location application must address the information identified in Sections 22.3(1)(a), 22.5(1)(j), and 22.5(1)(k) of this policy and in accordance with the respective sections of Regulation 22.

For ease of review, the site location application engineering report must include applicable portions of approved plans that have been referenced.

22.6(2) Submittal of Application for Agency Reviews

Regulation 22 requires the applicant to provide copies of the site location application and engineering report to the review agencies prior to submission to the Division. The agencies will evaluate the site location application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area, should such a plan exist. The applicant must perform all necessary coordination and supply all information to the agencies. The applicant is responsible for obtaining all necessary signatures on the site location application before submitting it to the Division. These agencies may include the county, city or town, local health authority, designated planning and/or management agency, and any other state or federal agency (for a list of county health agencies and 208 planning and management agencies refer to Appendix B). These agencies shall review and recommend approval or denial of the site location application to the Division.

Each review agency may recommend approval by simply signing and dating the site location application on the provided signature line. The agencies are welcome to provide a letter of approval to accompany the site location application, and are encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For the agencies who are recommending denial of the site location application, in addition to signing the site location application and indicating that a denial is recommended, the agency must also provide a written statement explaining the reason(s) for recommending denial of the site location application.

The applicant shall provide each review agency at least 60 days to review the site location application and engineering report. The applicant may submit the site application to the Division prior to 60 days if all agencies provided comments, or after the 60 day period should any agency not provide a signature or comment letter. The Division shall contact non-responsive agencies, and provide seven (7) additional days to any agency that does not provide a signature or comment letter. Following the seven (7) days of additional time, the Division will proceed with its review of the site location application.

Any modification made to the site location application to address comments from any review agency shall be transmitted to each review agency. Any and all changes that are made to address comments shall be documented in the final submittal to the Division. The site location application shall further include any correspondence between the applicant and each agency.

Additionally, if the applicant finds that change impacting the design capacity is required following the issuance of the site location approval, the applicant must notify the review agencies in accordance with Section 22.4(14) of Regulation 22.

22.6(3) Public Notification

This section of Regulation 22 requires the applicant to post a sign at the proposed site location to encourage public notification. The sign must include specific information documented in the regulation and must be formatted as specified, unless local county or municipal sign codes overrule. The sign must be posted for a minimum of 15 days prior to the time the site location application is submitted to the Division. However, the Division should be notified of the project at the time of the posting so that necessary public information can be made available. A photograph of the sign or other documentation certifying that this posting requirement has been met must be included with the site location application.

The sign shall be posted at the proposed site location in a location expected to receive the largest visitation by local persons. This location may be along a roadway or at the outfall location if located along a heavily used pedestrian trail. The site location application must indicate the posting location and justify the placement. The included photograph of the sign shall provide sufficient landmark cues to field verify the location. The site location application must also indicate the initial day that the sign was posted onsite.

22.7 APPLICATION PROCEDURES FOR INCREASING OR DECREASING THE DESIGN CAPACITY OF AN EXISTING DOMESTIC WASTEWATER TREATMENT PLANT WHERE CONSTRUCTION HAS TAKEN PLACE OR WILL TAKE PLACE

A site location application for **Increasing or Decreasing the Design Capacity of an Existing Domestic Wastewater Treatment Plant Where Construction Has Taken Place or Will Take Place** is used for the following situations:

- Construction that increases or decreases the design capacity of an existing treatment plant that has received prior site location approval from the Division; or construction that increases or decreases the design capacity of an existing treatment plant that was constructed prior to November 1967 with adequate documentation/evidence of the construction date and there have been no modifications (that require site location and design approval) made to the treatment plant since the date of construction.
- Where an in-kind replacement has been made in accordance with Section 22.12 of Regulation 22 and where the applicant is requesting utilization and Division acknowledgement of modified capacity (increase or decrease) of an existing treatment plant. This is applicable only for treatment plants that have received prior site location approval from the Division; or treatment plants that were constructed prior to November 1967 with adequate documentation/evidence of the construction date and there have been no modifications (that require site location and design approval) made to the facility since the date of construction.
- Decreasing the design capacity of an existing treatment plant to 2,000 gpd or less, regardless of whether construction will take place or if the existing treatment plant has received prior site location approval. Note, consistent with the information provided in Section 22.13 of this policy, a separate design application and decision is not required for projects derating the design capacity to 2,000 gpd or less.

Note, this application type is not used for capacity changes of interceptors or lift stations; these are addressed separately in either Section 22.8, 22.9, or 22.10.

The Division shall review site location applications submitted for all capacity increases or decreases to treatment plants in accordance with all applicable sections of Regulation 22.

22.7(1) Submittal Requirements/Expectations

The applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Domestic Water Quality Planning Target/PEL Application Form;
- Section 22.7 - Decreasing the Design Capacity to 2,000 gpd or less;
- Section 22.7 - Increasing or Decreasing the Design Capacity of an Existing Domestic Wastewater Treatment Plant; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant is responsible for ensuring the proposed hydraulic and organic design capacities concur with the WQPTs and intended final design and permitted flow rates prior to submitting the application for site location approval.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures and providing all review agencies the allotted review times as indicated in Regulation 22, with the exceptions of non-responsive review agencies. The site location application shall include dated correspondence to each review agency to demonstrate that sixty (60) days was allowed for each review. The site location application shall include original ink signatures, scanned copies of the original signatures, or electronic signatures from the applicant and review agencies, and comments if provided.

22.7(1)(a) Availability of Submittal Forms

As identified above, the forms required for the site location and design application process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.7(1)(b) Engineering Report for Decrease in Design Capacity to 2,000 gpd or Less

For projects involving a decrease in the design capacity of an existing treatment works to 2,000 gpd or less, the applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by DORA. Regulation 22 specifically states that the engineering report shall document the basis for decreasing the hydraulic and/or organic capacity and address consistency with local wastewater facility plans and any approved 208 plans. This report shall completely address the items as identified in each of the Sections 22.7(1)(b)(i) through 22.7(1)(b)(v) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within Section 22.7(1)(b). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.7(1)(b)(i) Service Area, Population, and Loading Changes

The engineering report shall define the boundaries of the service area for the design life of the existing or proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be

supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate the location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other treatment works aids with the review of the site location application, and must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with information provided in this policy.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the existing or proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population and unique customer information. Since the majority of projects involving a decrease in the design capacity to 2,000 gpd or less consist of single use facilities and OWTS, the following requirements are largely focused on treatment works for these types of facilities.

Population Projections

Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population shall be expressed as the number of each population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.

Flow/Loading Projections

Average Daily Flow: Following the development of population projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population. For single use service areas and OWTS, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow (Design Capacity): After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities and OWTS, the maximum month average daily flow is at full occupancy, and for OWTS, the flow values must follow Regulation 43 (or successor) requirements unless justified otherwise. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22 days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).
- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the

proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Hour Flow: The engineering report shall build from the average daily flow estimate to develop a peak hour design flow or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. For OWTS with a design capacity of 2,000 gpd or less, the design must follow Regulation 43 (or successor) requirements unless justified otherwise. An OWTS design may include a design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) may be larger to adequately cover some days with above-average flow, thereby allowing permitting by the local public health agency provided that daily flow monitoring is being periodically reported to the local agency to confirm the design capacity is not exceeded. Flow equalization is part of a treatment works. If an OWTS design has flow equalization and design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) are larger to adequately cover some days with above-average flow, the flow equalization can be used to smooth out peak day flows and still allow permitting by the local public health agency. However, flow equalization in a treatment works receiving flows greater than 2,000 gpd for a maximum month average daily flow at full occupancy will require site application and design review and approval. For all other treatment works, the engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the treatment works through an analysis of individual user types and their anticipated organic loading. For single use facilities and OWTS, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

22.7(1)(b)(ii) Loading, Capacity, and Performance Analysis of Existing and Proposed Treatment Works

The engineering report must document and analyze the loading, capacity, and performance of the existing and proposed treatment works. All information provided in this section of the engineering report shall be developed from at least three (3) years of historical data, and the analysis shall include the following, at a minimum:

1. Percent of existing service area developed (developed area/all developable area) or facility utilized (average population served/maximum occupancy)
2. Percent loading at maximum month conditions to the treatment works
    a. Hydraulic loading to existing treatment works/site location approved hydraulic design capacity
    b. Percent organic loadings/site location approved organic design capacity
3. Existing influent capacity and loading evaluation
    a. Average, maximum month, and peak hour (or other pertinent peak) hydraulic loads
    b. I&I
    c. Organic and inorganic concentration and mass loadings
4. Existing and Proposed treatment works performance evaluation
    a. PFD
    b. Evaluation of major unit processes (OWTS: septic tank, pumping and dosing systems, soil treatment area; Mechanical: preliminary, primary, and secondary, and tertiary treatment, disinfection, solids handling and treatment; etc.)
        i. Average, maximum month, and peak hour hydraulic loading capacities
        ii. Average, maximum month, and peak hour organic/inorganic loading capacities
    c. Identify performance limiting factors or processes
5. Effluent discharge evaluation
    a. Compliance issues
    b. Causal analysis for any discharge limit exceedance
6. Managerial impacts on performance and emergency response plan
7. Financial impacts on performance

22.7(1)(b)(iii) Description of Proposed Modifications

The engineering report must describe the specific treatment processes and capacities planned for the proposed treatment works, unless the site location application is for an existing treatment works that does not require the construction of any modifications. The descriptions of each treatment process and capacity shall be thorough, and discussed in order of flow through the proposed treatment works. This information must adequately demonstrate that the selected treatment processes are capable of complying with the requirements of the design criteria, Regulation 43, or local county regulations, whichever are applicable.

22.7(1)(b)(iv) Management Capabilities

Management capabilities refers to the treatment entity's ability to control the waste constituent and hydraulic loading to the treatment works, and in this case, the applicant may use management capabilities as a method to limit the capacity or size of an existing or proposed treatment works. Treatment entities need to have the capability to control influent hydraulic and organic loading through a legally enforceable means. This management may be in the form of user contracts, ordinances, operating agreements, management capabilities to expand the facilities, etc. The engineering report must address the means to control hydraulic and organic loading to the treatment works or the alternate management strategy, and include copies of final user contracts, ordinances, operating agreements, etc. when required to limit the influent hydraulic flow to the treatment works.

22.7(1)(b)(v) Evidence of Coordination with the Local Public Health Agency

The engineering report shall include evidence from the local public health agency indicating that they have the capacity and are willing to require daily flow monitoring be conducted and periodically reported to their agency for review. This evidence shall be in the form of correspondence with the local public health agency, beyond that which is required for this site location application under Section 22.7(2) of Regulation 22, and shall include an acknowledgement of agreement with the methodology used to determine that the design capacity is 2,000 gpd or less and any requirements imposed by the local public health agency.

22.7(1)(c) Engineering Report for Increase or Decrease in Design Capacity

For projects involving an increase or decrease in the design capacity of an existing treatment works, the applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by DORA. Regulation 22 specifically states that the engineering report shall document the need for the increase or decrease in the design capacity and consistency with local wastewater facility plans and any approved 208 plans. This report shall completely address the items as identified in each of the Sections 22.7(1)(c)(i) through 22.7(1)(c)(vii) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within Section 22.7(1)(c). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.7(1)(c)(i) Service Area, Population, and Loading Changes

The engineering report shall define the boundaries of the service area for the design life of the proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual

descriptions of the service area. As part of the service area definition, the engineering report shall indicate the proposed location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other treatment works aids with the review of the site location application, and must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with information provided in this policy.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population, land use, and unique customer information.

Population/Land Use Projections

The engineering report shall develop flow and loading estimates through population and/or land use projections.

- Population Projections: Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population shall be expressed as the number of each population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.
- Land Use Projections: Land use projections are appropriate for significant service areas with a variety of land uses. Typically, local planning documents use a

combination of open space, floor area ratio, and zoning types to define development within a service area. The engineering report shall subdivide the service area into land use types, such as open space, commercial, residential (SFE, R2, MF, etc.), and translate this information into residential populations, industrial/commercial land use areas, or building square footages to determine appropriate loading estimates.

Note, general land use estimates may not be considered adequate for special circumstances (food processing facilities or computer chip manufacturing) in a small community. These industries may exceed typical average waste loading values used for planning. The engineering report must deal with these unique circumstances on a case-by-case basis.

Flow/Loading Projections

Average Daily Flow: Following the development of population or land use projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population/land use and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population/land use. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population/land use. For single use service areas and OWTS, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow (Design Capacity): After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities and OWTS, the maximum month average daily flow is at full occupancy, and for OWTS, the flow values must follow Regulation 43 (or successor) requirements unless justified otherwise. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22 days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).
- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or

showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the proposed treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Hour Flow: The engineering report shall build from the average daily flow estimate to develop a peak hour design flow or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. For OWTS with a design capacity of 2,000 gpd or less, the design must follow Regulation 43 (or successor) requirements unless justified otherwise. An OWTS design may include a design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) may be larger to adequately cover some days with above-average flow, thereby allowing permitting by the local public health agency provided that daily flow monitoring is being periodically reported to the local agency to confirm the design capacity is not exceeded. Flow equalization is part of a treatment works. If an OWTS design has flow equalization and design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) are larger to adequately cover some days with above-average flow, the flow equalization can be used to smooth out peak day flows and still allow permitting by the local public health agency. However, flow equalization in a treatment works receiving flows greater than 2,000 gpd for a maximum month average daily flow at full occupancy will require site application and design review and approval. For all other treatment works, the engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population/land use. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the proposed treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the proposed treatment works through an analysis of individual user types and their anticipated organic loading. For single use facilities and OWTS, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

Staging or Phasing

Based on initial flows and loads, sometimes the proposed treatment works cannot function effectively especially when designed for the long-range planning associated with the service area. In this case, the applicant shall develop an operational plan, and this plan shall be included as part of the site location application rather than during the design review phase. The operational plan must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section 22.13 in this policy for specific information.

22.7(1)(c)(ii) Water Quality Planning Targets

The applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section in order to determine the WQPTs needed for the proposed project. WQPTs can consist of existing permits, water quality assessments, a permit modification, a new permit, a PEL document, a limited-scope PEL, or a combination thereof. A copy of the determination from the Permits Section identifying the document to be used as the WQPTs shall be included with the engineering report. If the determination requires the applicant to perform a permit action or obtain PELs for the proposed project, then the applicant must apply for these documents prior to submitting a site location application for review. For additional information concerning the WQPT determination process and how to obtain PELs, the applicant shall refer to the following Permits Section's *Water Quality Planning Targets and Preliminary Effluent Limitations (PELs)* web page: https://cdphe.colorado.gov/WQ_Planning_Targets_and_PELs.

In the case where PELs are required for the proposed project, the PELs will provide discharge criteria specific to the stream segment, or groundwater, receiving the discharge at the proposed design hydraulic capacity. The applicant shall include a copy of the PELs with the site location application. If there are questions regarding the validity of older PELs, the application should refer to the November 2020 Division guidance document, *Establishment of Water Quality Planning Targets and PELs*. When PELs are no longer valid, the applicant shall be required to obtain a new determination of WQPTs. Note, the request for new WQPTs by the applicant may inherently delay the site location application review by the Division.

When PELs are developed for the proposed project, the PEL document will establish limitations for three (3) sets of parameters.

1. The first set of parameters may contain the following: BOD, TSS, E. coli, pH, nitrogen species (i.e., ammonia, nitrate, nitrite, TIN, and TN), TRC, and TP. The Division may also include other parameters in the first set of limitations, particularly where a current permit includes a limit for a given parameter. During the site location application process, the Division will evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the first set of parameters.
2. The second set of parameters may contain all of the metals, inorganic parameters, and WET testing for which numeric standards have been adopted by the Commission for the receiving stream segment, or groundwater, and proximate downstream segments, except those included in the first set of parameters. During the site location application process, the Division may or may not evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the second set of parameters depending on how the applicant plans to address these limitations. The limitations contained in this second set may be able to be met by the development of a pretreatment program, the refinement of local limits under an existing pretreatment program, or other methods of source water control. In these instances, the ability of the treatment works to meet these limitations will not be reviewed under the site location application process and are the responsibility of the permittee. If treatment or other operational control methods are to be used specific to a parameter(s) in the second set, the ability of the treatment works to meet the limitation(s) will be reviewed under the site location application process.
3. The third set of parameters may contain a summary of potential Regulation 31 nutrient limitations that have been developed for the PEL. The WQBELs expressed in the third set of parameters are based on standards that have not yet been adopted by the Commission, but become effective December 31, 2027, as currently written. The values are provided for planning purposes in order to assist the applicant in long-term planning for nutrient removal. This may be especially beneficial for applicants using the SRF program or other federal funds to finance a proposed project, where the applicant is required to perform an alternatives analysis projecting current and future costs for specific treatment processes.

Where a Temporary Modification of a Standard for the Second Set Parameters or a Site-Specific Ambient-Based Standard Has Been Approved by the Commission

Where a temporary modification is in place (at the time the Division begins working on the PELs) for a parameter which is based on significant uncertainty regarding the water quality standard necessary to protect current and/or future uses, or which is based on significant uncertainty regarding the extent to which existing quality is the result of natural or irreversible human-induced conditions, the Division will determine the appropriate PEL based on Section 31.9(4) of Regulation 31. Where another type of temporary modification is in place (i.e., one based on significant uncertainty regarding the timing of implementing attainable source controls or treatment), the PEL will be set based on the underlying standard.

Where a site-specific, ambient-based standard has been approved by the Commission and is in place at the time the Division begins working on the PELs, the PEL for that parameter will be based on the site-specific standard.

22.7(1)(c)(iii) Loading, Capacity, and Performance Analysis of Existing Treatment Plant

As part of the planning stage, the engineering report must document and analyze the loading, capacity, and performance of the existing treatment works. All information provided in this section of the engineering report shall be developed from at least three (3) years of historical data, and the analysis shall include the following, at a minimum:

1. Percent of existing service area developed (developed area/all developable area)
2. Percent loading at existing maximum month conditions to the treatment works
    a. Hydraulic loading to existing treatment works/site location approved hydraulic design capacity
    b. Percent organic loading/site location approved organic design capacity
3. Existing influent capacity and loading evaluation
    a. Average, maximum month, and peak hour (or other pertinent peak) hydraulic loads
    b. I&I
    c. Organic and inorganic concentration and mass loadings
4. Treatment works performance evaluation
    a. PFD
    b. Evaluation of major unit processes (preliminary, primary, secondary, and tertiary treatment, disinfection, solids handling and treatment, etc.)
        i. Average, maximum month, and peak hour hydraulic loading capacities
        ii. Average, maximum month, and peak hour organic/inorganic loading capacities
    c. Identify performance limiting factors or processes
5. Effluent discharge evaluation
    a. Compliance issues
    b. Causal analysis for any discharge limit exceedance
6. Managerial impacts on performance and emergency response plan
7. Financial impacts on performance

22.7(1)(c)(iv) Analysis of Treatment Alternatives

The engineering report must include an analysis of means to treat the increased or decreased hydraulic or regulated loadings to the treatment works, and include a detailed description of the "selected alternatives" for the proposed project.

Alternatives Analysis

The alternatives analysis shall evaluate each proposed alternative in accordance with Sections 22.3(1)(a) through 22.3(1)(c) of Regulation 22, and shall discuss each alternative in detail with respect to meeting the required degree of treatment to satisfy the WQPTs, capital costs,

projected O&M, ease of operation, operator flexibility, potential for expansion or modification, and applicability to each potential site.

Consolidation Analysis

The engineering report shall include an analysis of opportunities for consolidation of treatment works in accordance with the provisions of Section 22.3(1)(c), which identifies that the Division shall encourage the consolidation of treatment works whenever feasible. The applicant shall refer to Section 22.3(1)(c) of this policy for the specific factors to be considered in the consolidation analysis and discussed as part of the engineering report. These factors may either be used as a means to support consolidation or consider consolidation infeasible. The consolidation analysis shall also take into account any recommendations established in the local long-range comprehensive plan or 208 plan, as well as the input provided by the appropriate review agencies, and shall not be used as a means to diminish the consideration given to these plans.

Selected Alternative Discussion

Based on the results of the alternatives analysis, the engineering report must describe the specific treatment processes and capacities proposed for both the liquid and solid streams at the proposed treatment works. The report shall address how the proposed treatment process will meet the WQPTs unless specifically omitted through pretreatment, specific source controls, or other means discussed in Section 22.7(1)(c)(ii) of Regulation 22. The descriptions of each treatment process and capacity shall be thorough and discussed in order of flow through the proposed treatment works. This preliminary information must adequately demonstrate that the selected treatment processes are capable of complying with the requirements of the design criteria and have the ability to achieve continuous compliance with the WQPTs.

22.7(1)(c)(v) Financial System Changes

The Division interprets Section 22.7(1)(c)(v) of Regulation 22 to apply to the treatment entity's overall ability to generate funds, set rates, and earmark funds for acceptable waste treatment through institutional arrangements such as contracts and CCRs following any increase or decrease in the design capacity of the treatment works. Capacity changes may have an impact on institutional arrangements, the capacity to fund capital improvements, operations, and maintenance, and annual budgets. The engineering report shall discuss how the capacity changes impact all factions of the financial system.

Institutional Arrangements

The engineering report shall include copies of institutional arrangements that demonstrate the applicant's ability to pay for acceptable waste treatment. The institutional arrangements must clearly indicate how the applicant has the authority to control rates and set aside funds for capital, operational, and maintenance improvements/programs over the life of the project.

Under special conditions, multiple treatment entities may own and operate a single treatment works. The engineering report must discuss how the institutional agreements stipulate funding to provide adequate treatment and demonstrate institutional arrangements with individual users or other service areas through a legally enforceable mechanism.

Financial System

The financial system associated with construction, operating, and maintaining the proposed treatment works must include evidence of sufficient financial resources to construct the facility, as well as a financial plan to generate revenue sufficient to repay any indebtedness and cover ongoing operational expenses.

Funding for Privately Owned Treatment Works and Developers

If the applicant intends to finance the project independently, evidence of such financial capability in the form of written communication from a financial institution attesting to the applicant's possession of adequate capital to undertake the proposed project must be included with the engineering report. In the event that the applicant requires a loan to complete the project, the engineering report must include a letter from a financial institution, bond advisor, or other loan program indicating its intent to make such a loan for the purpose of constructing the proposed treatment works.

Funding for Municipal Treatment Works

For municipal or publicly financed treatment works, the applicant must address capital construction capabilities by demonstrating available cash resources through including copies of current budget documents with the engineering report. If the applicant intends to finance the project using loan and grant funds, the engineering report must include documentation from any provider agreeing to issue loans and/or grants for the proposed project including the SRF program. If the applicant intends to fund the project using bonds, the engineering report must include a copy of the report from a bond advisor or intended bond underwriter.

Applicants using Borrowed Funds to Finance the Treatment Works

All applicants relying on borrowed funds must develop and present a financial plan for repaying the borrowed funds, along with any fees and interest associated with the transaction. The plan must address the full term of the payback period and not just demonstrate a pattern of anticipated revenue generation. If applicable, the financial plan must also identify a fee structure for the retirement of capital costs associated with the proposed project, as well as any process expansions or equipment/structure replacements funds required within the planning period. The fee structure must include system development fees and monthly user fees. Public municipalities may satisfy these requirements by providing the current fee structure, rate studies, and fee ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

Ultimately, the engineering report must include a financial system that outlines how the applicant can provide the necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The financial system must provide sufficient

information to show that the treatment entity that oversees the proposed treatment works has adequate financial capacity over a 20-year period or some other clearly defined future planning period. In addition to the long-range financial plan, the Division expects the engineering report to include a projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e., emergency replacements), and operating expenses. At a minimum, the financial system must include a discussion of the following items:

1. Itemization of projected expenses and revenues including such costs as equipment O&M and required sampling;
2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period or some other clearly defined future planning period;
3. Identification of reserve accounts for emergencies/replacement funding and O&M funds;
4. Access to public and private financial capital;
5. Revenues must be greater than costs including an operating ratio greater than 1.0 (operating revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt service);
6. Current outstanding debt and ability to borrow funds;
7. Periodic financial audits;
8. Annual development and utilization of budget;
9. Rate structure based on customer, flow, and/or waste type; and
10. Capital improvements plan.

22.7(1)(c)(vi) Implementation Schedule

The engineering report must include an implementation schedule for the proposed treatment works. The schedule shall be presented in the form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a minimum, the schedule shall include the estimated time to construct the proposed treatment works from the commencement of construction to start-up, any staging or phasing discussed as part of Section 22.6(1)(b)(i) of Regulation 22, and the projected start-up date. Additional information, such as projected site location approval, design review submittal, design approval, and bid award dates can assist the Division in visualizing the applicant's overall schedule.

22.7(1)(c)(vii) Geotechnical Conditions

Regulation 22 indicates that the engineering report must include the information used to evaluate geotechnical conditions at the proposed and alternative sites. Since geotechnical conditions of each alternative site may impact the ultimate location of the proposed treatment works, the engineering report shall only be required to discuss the general geotechnical conditions at each alternative site due to the potential cost implications, but shall be required to provide a site-specific geotechnical investigation for the proposed site located within the boundaries of the existing site location approval.

For the proposed site, the applicant has two ways to address the site location application requirements within the engineering report, which include either providing preliminary geotechnical information or a formal geotechnical report.

Preliminary Geotechnical Information

First, the engineering report can include preliminary geotechnical information for the selected site comprised of reference materials available from the Natural Resource Conservation Service (i.e., Soil Surveys), Colorado Geological Survey, on-site or nearby geotechnical investigations, or other geotechnical data deemed representative of the site. The preliminary geotechnical information for all proposed groundwater discharges must provide an indication of anticipated percolation rates or include soil profile test pit information from similar conditions completed in accordance with Regulation 43 (or successor) or overriding local requirements. In using the preliminary geotechnical information, Regulation 22 identifies that the information provided must be sufficient for "that person" to make a determination that the site can reasonably be expected to support the proposed treatment works. The Division interprets "that person" to be a professional geologist or a Colorado licensed professional engineer with an appropriate level of experience investigating geologic site conditions. The Division expects "that person" to either review or create the data provided within the engineering report, and provide a statement indicating that the selected site can reasonably be expected to support the proposed treatment works. The engineering report shall continue to build on the materials provided with the preliminary geotechnical information by discussing the impact of the findings at each alternative site on the design, construction, operation, and maintenance of the proposed treatment works.

Note that Section 22.7(1)(c)(vii) of Regulation 22 states that the Division may require that geotechnical evidence be presented in the form of a report. The Division interprets this to mean that the applicant must submit a geotechnical report for all proposed treatment works during the site location application or design review process, unless waived by the Division in writing.

Formal Geotechnical Report

Thus, the applicant may submit a formal geotechnical report instead of preliminary geotechnical information for the selected site location of the treatment works at the time of site location application. The applicant may also use a formal geotechnical report prepared for previous work conducted at the existing treatment works to fulfill this requirement. At a minimum, this geotechnical report shall include site-specific soil boring information that discusses seasonal and measured groundwater conditions, soil bearing capacity, excavation benching, shoring, and sloping, bedding and backfill, compaction and moisture conditioning, alternative foundation design, an analysis of geotechnical hazards, and design recommendations based on the findings. The geotechnical report for all proposed groundwater discharges must provide percolation test data at the proposed discharge elevation or must present soil profile test pit information completed in accordance with Regulation 43 (or successor). Per Regulation 22, the Division may require a geotechnical report stating that the site will support the proposed treatment works. When the minimum

requirements of the geotechnical report are met, the Division considers the associated design recommendations contained within the report to indicate that the site will support the proposed treatment works. At this point, the submittal of the formal geotechnical report would fulfill the geotechnical submittal requirements for both the site location and design application submittal, and resubmittal of the geotechnical report during the design review process is not required.

Conditional Site Location Approval based on Preliminary Geotechnical Information

If the engineering report only includes preliminary geotechnical information as a means to determine that the site can reasonably be expected to support the proposed treatment works, then the site location approval will be issued conditionally upon the applicant providing a formal geotechnical report as part of the design review submittal. Additionally, if the applicant receives a conditional site location approval based on only preliminary geotechnical information but the formal geotechnical report submitted during the design review phase indicates that the site will not support the proposed treatment works, the applicant shall provide a statement as such in writing to the Division. The Division may modify the original site location approval, which may require the applicant to reapply for a site location approval at an alternate site under Section 22.6 of Regulation 22.

22.7(2) Submittal of Application for Agency Reviews

For projects submitted under Sections 22.7(1)(b) and 22.7(1)(c) of Regulation 22, the applicant is required to provide copies of the site location application and engineering report to the review agencies in accordance with the procedures specified in Section 22.6(2) prior to submission to the Division. The agencies will evaluate the site location application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area, should such a plan exist. The applicant must perform all necessary coordination and supply all information to the agencies. The applicant is responsible for obtaining all necessary signatures on the site location application before submitting it to the Division. These agencies may include the county, city or town, local health authority, designated planning and/or management agency, and any other state or federal agency (for a list of county health agencies and 208 planning and management agencies refer to Appendix B). These agencies shall review and recommend approval or denial of the site location application to the Division.

Each review agency may recommend approval by simply signing and dating the site location application on the provided signature line. The agencies are welcome to provide a letter of approval to accompany the site location application, and are encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For the agencies who are recommending denial of the site location application, in addition to signing the site location application and indicating that a denial is recommended, the agency must also provide a written statement explaining the reason(s) for recommending denial of the site location application.

The applicant shall provide each review agency at least 60 days to review the site location application and engineering report. The applicant may submit the site application to the Division prior to 60 days if all agencies provided comments, or after the 60 day period should any agency not provide a signature or comment letter. The Division shall contact non-responsive agencies, and provide seven (7) additional days to any agency that does not provide a signature or comment letter. Following the seven (7) days of additional time, the Division will proceed with its review of the site location application.

Any modification made to the site location application to address comments from any review agency shall be transmitted to each review agency. Any and all changes that are made to address comments shall be documented in the final submittal to the Division. The site location application shall further include any correspondence between the applicant and each agency.

Additionally, if the applicant finds that change impacting the design capacity is required following the issuance of the site location approval, the applicant must notify the review agencies in accordance with Section 22.4(14) of Regulation 22.

22.8 SITE LOCATION APPLICATION PROCEDURES FOR INTERCEPTORS AND CERTIFICATION PROCEDURES FOR ELIGIBLE INTERCEPTOR SEWERS

As defined by Regulation 22, an interceptor sewer is a sewer line with a nominal pipe diameter equal to or greater than 24 inches, that performs one or more of the following functions as its primary purpose:

1. Intercepts domestic wastewater from a final point in a collection system and conveys such waste directly to a treatment plant;
2. It is intended to replace an existing treatment plant or lift station and transports the collected domestic wastewater to an adjoining collection system or interceptor sewer for treatment;
3. It transports the domestic wastes from one or more municipal collection systems to a regional treatment plant; or
4. It is intended to intercept an existing major discharge of raw or inadequately treated wastewater for transport directly to another interceptor sewer, lift station, or treatment plant.

Note, for projects funded with SRF or federal funds obtained through the Division, design approval may be required for interceptors and collection sewers regardless of size. Additionally, construction of a parallel interceptor requires site location approval, whether or not the existing line will be abandoned.

Applicants submitting a site location application for existing interceptors without site location and design approval should refer to Appendix C (Historical Lift Station and Interceptor Interim Implementation) prior to submittal of the application.

22.8(1) Interceptors Eligible for Certification

The application process for interceptors has two possible pathways: (1) interceptors eligible for certification and (2) interceptors not eligible for certification. The two processes have similar application requirements, but in certain circumstances an interceptor eligible for certification may streamline some components of the site location application process. Interceptor sewers are eligible for certification only if the following:

- The treatment entity (that will be receiving the wastewater) has certified that the receiving treatment works has adequate treatment capacity, or currently has site location approval for sufficient additional capacity to treat the projected total flow and that the projected total flow would be under their current permit flow limitation after the interceptor sewer is completed. A written certification by the treatment entity receiving the wastewater is required to demonstrate compliance with this requirement. This certified capacity requirement also applies to the infrastructure associated with any intermediary wastewater collection system works;

- The interceptor sewer will be capable of carrying the projected total flows from the applicable service area at build out as certified by the designated planning agency (if relevant); and
- The project is consistent with the 208 Plan (if relevant). The applicable designated planning agency (if one exists) is willing to certify the interceptor. A written certification by the designated planning agency for the area is required to demonstrate compliance with this requirement. If no designated planning agency exists, a complete request for certification must be submitted to the Division.

The applicant must complete the steps in the following flowchart to determine whether the proposed interceptor site location application qualifies for the certification process. The data associated with this analysis must be submitted along with the application. If the flowchart leads the applicant to the oval titled "Application not eligible for certification", the applicant must pay fees for and apply for a site location decision using the not eligible for certification application process.

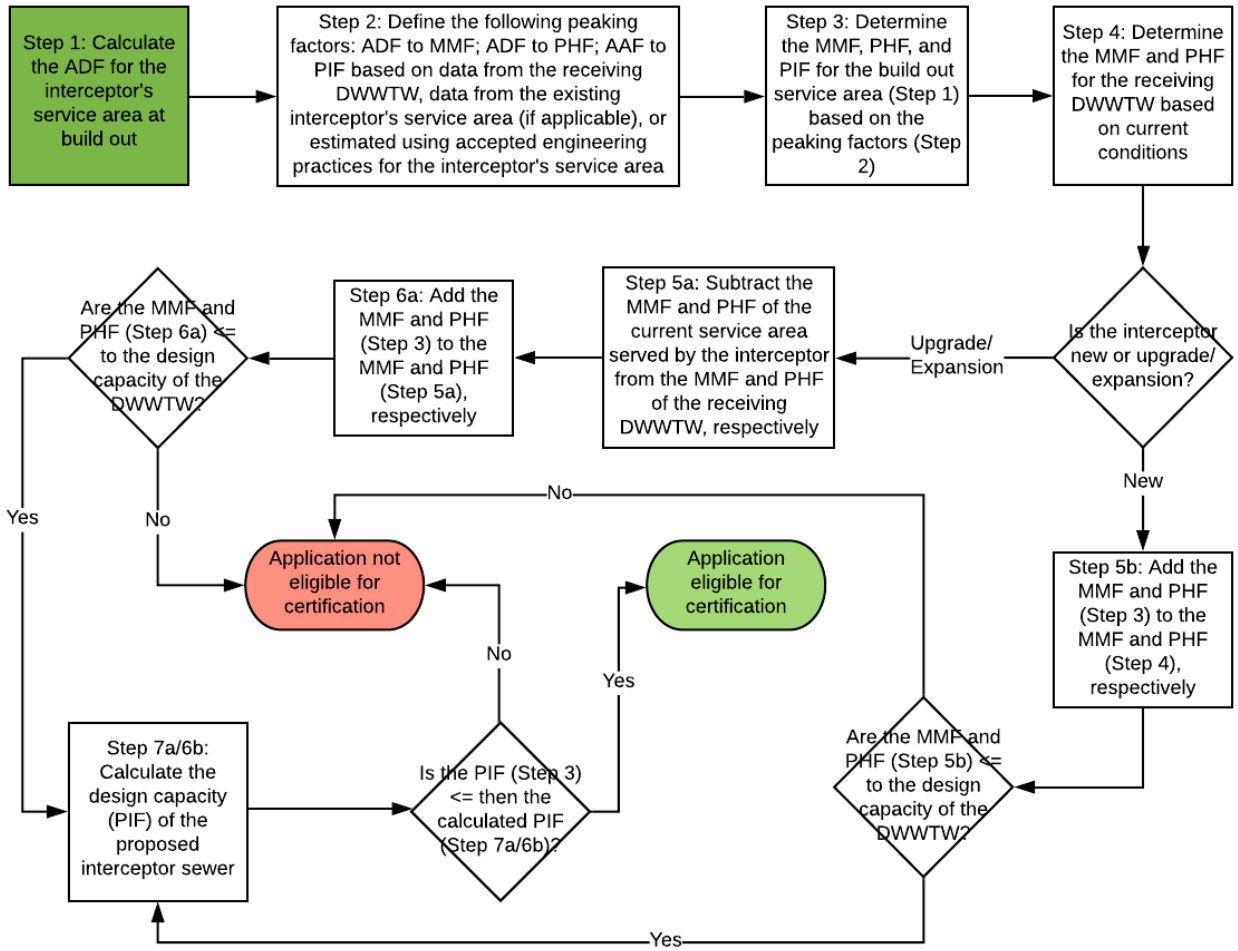


Figure 8-1 Data and Decisions Flowchart Used to Determine Eligibility for Certification

An interceptor project that qualifies for certification may apply in accordance with Section 22.8(2) of Regulation 22, and an interceptor project that does not qualify for the certification

process must apply in accordance with Section 22.8(3). These two processes are described in the following sections.

22.8(2) Interceptor Eligible for Certification Submittal Requirements/Expectations

The system shall prepare and include the following forms and information for submittal to the Division:

- Fee Information Request Form;
- Section 22.8 - Interceptor Sewer Eligible for Certification; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy. The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures and providing all review agencies the allotted review times as indicated in Regulation 22, with the exception for non-responsive review agencies.

The engineering report that accompanies the site location application must meet all requirements of Section 22.8 of Regulation 22, including containing all information the Division must consider pursuant to Sections 22.3 and 22.5.

The following sections describe the certification process depending on whether a designated planning agency for the area exists external to the Division.

If There is a Designated Planning Agency for the Area External to the Division:

1. Ninety (90) days prior to the commencement of construction of an interceptor sewer, the applicant responsible for that sewer shall notify the designated planning agency and the Division of the proposed interceptor sewer project. The notification must contain the following information:

    - The completed and signed form;
    - Name of the applicant constructing the interceptor sewer;
    - Name of the treatment entity certifying the treatment capacity of the receiving treatment works and the written capacity certification (letter);
        - The proposal must be discussed with the receiving treatment entity to determine if the treatment works (that will be receiving the wastewater) has adequate capacity, or currently has site location approval for sufficient additional capacity to treat the projected total

flow and load (interceptor capacity at service area build out) and that this flow value would be under their current permit flow limitation after the interceptor sewer is completed. Written certification by the treatment entity receiving the wastewater is required to demonstrate compliance with this requirement.

- Name of any intermediary wastewater collection system and a statement certifying the treatment capacity and the written capacity certification (letter) by the intermediate municipality receiving the wastewater;
    - The proposal must be discussed with all owners of intermediary sewerage conveyances to determine if the conveyance has adequate capacity, or currently has site location approval for sufficient additional capacity to convey the projected total flow and load (interceptor capacity at service area build out) from the proposed service area and that this flow value would be under their currently approved site location design capacity for each conveyance structure. The application must include written certifications by all intermediary municipalities that convey the wastewater are required to demonstrate compliance with this requirement.
- Information developed based on the data and decisions used to determine eligibility for certification must be submitted as part of the application. Preliminary planning for an interceptor sewer must involve delineation of the service area, calculations of population projections and calculations of expected wastewater loading and flows. Peak instantaneous flow, peak hour flow, maximum month average daily flow, and the annual average projected total flows from the applicable service area must be provided. These values must be evaluated against the carrying and treatment capacities of downstream, receiving treatment works. The information must clearly demonstrate that the interceptor is eligible for certification;
- Map of the interceptor alignment and documentation demonstrating legal control of the site;
- Summary of geotechnical issues (unsuitable soils, high groundwater level) and any special design considerations (separation of sewer lines and drinking water lines, etc.);
- Brief description of the service area or map; and
- Projected interceptor sewer organic loading.

2. Within 30 days of receipt of notification, the designated planning agency shall certify that the proposed interceptor sewer has the capacity to carry the projected flow and is consistent with the 208 Plan. This certification shall be sent to the Division and the applicant;
3. In the event the applicant responsible for an interceptor sewer does not have the required certifications from the treatment entity and the designated planning agency, the interceptor is not eligible for certification and the applicant responsible shall be required to obtain site location approval from the Division, prior to construction;

4. The Division will review the submittal to confirm that the interceptor is eligible for certification and acknowledge the designated planning agency certification in writing; and
5. The applicant self certifies the final design documents unless the Division requires the applicant to submit a basis of design report for review and approval.

If There is Not a Designated Planning Agency for the Area:

1. Ninety (90) days prior to the commencement of construction of an interceptor sewer, the applicant responsible for that sewer shall provide written notification to the Division and all local management agencies of the proposed interceptor sewer project. The notification must contain the following information:

    - The completed and signed form;
    - Name of the applicant constructing the interceptor sewer;
    - Name of the treatment entity certifying the treatment capacity of the receiving treatment work and the written capacity certification (letter);
        - The proposal must be discussed with the receiving treatment entity to determine if treatment works (that will be receiving the wastewater) has adequate capacity, or currently has site location approval for sufficient additional capacity to treat the projected total flow and load (interceptor capacity at service area build out) and that this flow value would be under their current permit flow limitation after the interceptor sewer is completed. Written certification by the treatment entity receiving the wastewater is required to demonstrate compliance with this requirement.
    - Name of any intermediary wastewater collection system and a statement certifying the treatment capacity and the written capacity certification (letter) by the intermediate municipality receiving the wastewater;
        - The proposal must be discussed with all owners of intermediary sewerage conveyances to determine if the conveyance has adequate capacity, or currently has site location approval for sufficient additional capacity to convey the projected total flow and load (interceptor capacity at service area build out) from the proposed service area and that this flow value would be under their currently approved site location design capacity for each conveyance structure. The application must include written certifications by all intermediary municipalities that convey the wastewater are required to demonstrate compliance with this requirement.
    - Information developed based on the data and decisions used to determine eligibility for certification must be submitted as part of the application. Preliminary planning for an interceptor sewer must involve delineation of the service area, calculations of population projections and calculations of expected wastewater loading and flows. Peak instantaneous flow, peak hour flow, maximum month average daily flow, and the annual average projected

total flows from the applicable service area must be provided. These values must be evaluated against the carrying and treatment capacities of downstream, receiving treatment works. The information must clearly demonstrate that the interceptor is eligible for certification;

- Map of the interceptor alignment and documentation demonstrating legal control of the site;
- Summary of geotechnical issues (unsuitable soils, high groundwater level) and any special design considerations (separation of sewer lines and drinking water lines, etc.);
- Brief description of the service area or map; and
- Projected interceptor sewer organic loading.

2. Within 30 days of receipt of a complete notification (which must include all of the information indicated in (1) above), the Division shall make a determination regarding whether the proposed interceptor sewer has the capacity to carry the projected flow and is consistent with the 208 plan, and will issue the written decision (either certification of the interceptor or denial of the certification request). If the interceptor is not eligible for certification, the Division will require a full site location application prior to construction; and
3. The applicant self certifies the final design documents unless the Division requires the applicant to submit a basis of design report for review and approval.

22.8(3) Interceptors Not Eligible for Certification Submittal Requirements/Expectations

The applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Section 22.8 - Interceptor Sewer Not Eligible for Certification; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application and may request a paper copy for all or part of the full application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures and providing all review agencies the allotted review times as indicated in Regulation 22, with the exception of non-responsive review agencies. The site location application must include dated correspondence to each review agency to demonstrate that 60 days was allowed for each review. The site location application must include original ink

signatures, scanned copies of the original signatures, or electronic signatures from the applicant and review agencies, and comments if provided.

22.8(3)(a) Availability of Submittal Forms

As identified above, the forms required for the site location and design application process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.8(3)(b) Engineering Report

The applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by the DORA. The engineering report shall describe the new or expanded interceptor sewer, which is not eligible for certification. This report shall completely address the items as identified in each of the Sections 22.8(3)(b)(i) through 22.8(3)(b)(vii) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within Section 22.8(3). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.8(3)(b)(i) Map Identifying the Site

The engineering report shall include map(s) identifying the site of the proposed treatment works, topography of the area, other interceptor connections, and neighboring land uses. To facilitate processing of the site location application, the map(s) shall also show the proposed treatment works in relation to boundaries of the service area for the design life of the treatment works. The map(s) must identify any local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment intakes, potable water lines, and treatment plants. The map(s) shall be to scale.

22.8(3)(b)(ii) Service Area, Population, and Loading Projections

The engineering report shall define the boundaries of the service area for the design life of the proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate the proposed location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other treatment works aids with the review of the site

location application, and must also be included on the service area map(s). The map(s) shall be to scale.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population, land use, and unique customer information. Once the contributing wastewater flows are established, the applicant must take into account that the design capacity for an interceptor sewer, as defined by Section 22.2(8)(d) of Regulation 22, is expressed as the peak instantaneous hydraulic flow the interceptor is capable of conveying based on the limiting design conditions (i.e., slope, roughness factor) at a flow depth over internal diameter ratio of 0.8. The Division may depart from the 0.8 flow depth over internal diameter ratio of 0.8, if the local jurisdiction has written design criteria that justifies a different depth to diameter ratio.

Population/Land Use Projections

The engineering report shall develop flow and loading estimates through population and/or land use projections.

- Population Projections: Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population shall be expressed as the number of each population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.

- Land Use Projections: Land use projections are appropriate for significant service areas with a variety of land uses. Typically, local planning documents use a combination of open space, floor area ratio, and zoning types to define development within a service area. The engineering report shall subdivide the service area into land use types, such as open space, commercial, residential (SFE, R2, MF, etc.), and translate this information into residential populations, industrial/commercial land use areas, or building square footages to determine appropriate loading estimates.

Note, general land use estimates may not be considered adequate for special circumstances (food processing facilities or computer chip manufacturing) in a small community. These industries may exceed typical average waste loading values used for planning. The engineering report must deal with these unique circumstances on a case-by-case basis.

Flow/Loading Projections

Average Daily Flow: Following the development of population or land use projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population/land use and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population/land use. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population/land use. For single use service areas, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow: After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities, the maximum month average daily flow is at full occupancy. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22 days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).

- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the proposed treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Flow: The engineering report shall build from the average daily flow estimate to develop a peak design flow (peak hour and peak instantaneous) or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. The engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population/land use. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the proposed treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the proposed treatment works through an analysis of individual user types and their anticipated organic loading. For single use facilities, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

Staging or Phasing

Based on initial flows and loads, sometimes the proposed treatment works cannot function effectively especially when designed for the long-range planning associated with the service area. In this case, the applicant shall develop an operational plan, and this plan shall be included as part of the site location application rather than during the design review phase. The operational plan must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section 22.13 in this policy for specific information.

22.8(3)(b)(iii) Final Legal Arrangements Demonstrating Control of the Site

The applicant shall provide sufficient information in the engineering report to demonstrate that all proposed components of the treatment works exist within the legal boundaries of the proposed site. The applicant has a number of options to demonstrate control of the site for the life of the project depending on the control mechanism.

Control of the Site through Ownership

The applicant may demonstrate control of the site through ownership by providing a copy of the deed or title to the property in the name of the applicant. The Division will accept a copy of the title insurance, but the applicant must ensure that the title insurance document does not contain errors regarding ownership, property description, or limitations or restrictions that would preclude using the property for its intended purpose prior to submitting the information to the Division. The site location application must disclose and address any limitations that potentially impact the applicant's ability to maintain, operate, or construct facilities within the proposed site location for the life of the project.

Control of the Site through Use of Public Right of Ways

In cases where the site location for the proposed treatment works utilizes public right of ways (ROWs) (e.g., municipal transportation or utility ROWs), the applicant is not required to demonstrate legal control of the site. However, the engineering report shall provide a map identifying the boundaries of the site location for the proposed treatment works in relationship to the public ROWs.

Control of the Site through Use of Right of Ways Across Private Property

Alternatively, the applicant may demonstrate legal control of the site through use of a ROW across private property. Specific expectations with regard to information for these types of ROWs (e.g., easements via purchase, lease or condemnation, etc.) and the site location application are as follows:

1. To facilitate as timely a review process as possible, all ROWs that are necessary for the project shall be obtained prior to submittal of the site location application, and copies of the documentation for all ROWs shall be included in the submittal.
2. Where all ROWs could not be obtained by the time of site location application, at a minimum, the applicant must identify all ROWs that will be needed for the project, and an explanation of how they intend to obtain each of the ROWs.

a. For ROWs that do not involve condemnation, signed copies of agreements concerning the intent to sell/lease between the applicant and land owners (for which easements are needed) may be submitted to fulfill the legal control requirement during the site location phase of the project. The copies of agreements must clearly indicate the terms and conditions of the lease or legal easement specific to the duration of the agreement in addition to access, construction, and maintenance of any treatment works located within the proposed site location for the duration of the agreement.

3. If prior to submittal and by the time that the site location application is submitted:

   a. The applicant, which does not require ROWs for the project that involve condemnation, cannot obtain a signed agreement between the applicant and each landowner regarding the intent to sell/lease the land; or
   b. The applicant, which requires ROWs for the project that involve condemnation, cannot demonstrate legal control of the site, because the condemnation process has not been completed.

   In such a situation where the applicant cannot demonstrate legal control of the site prior to site location approval (e.g., the situations described in items 2 and 3 above), the Division may issue a conditional site location approval that requires the applicant to obtain the ROWs and submit the associated documentation to the Division prior to the Division issuing design approval or acceptance of the certification. In such a case, the Division will not issue design approval acceptance of the certification until all documentation (that demonstrates that the applicant currently has full legal control of the site) has been received and reviewed by the Division.

For phased projects, the conditional site location approval would require that the ROWs (pertinent for the entire project) be obtained, and that the associated documentation be submitted to the Division prior to the Division issuing design approval or acceptance of the certification for the first phase of the project. In such a case, the Division will not issue design approval or acceptance of the certification until all documentation (that demonstrates that the applicant currently has full legal control of the site) for each phase has been received and reviewed by the Division. Under extenuating circumstances, where an interceptor sewer requires extended property and easement negotiations with multiple parties, the Division may consider a request for phased self-certifications. If allowed, the Division must condition the site location approval so that the applicant provides multiple, phased self-certification final plans and specification forms with proof of ownership prior to commencement of construction for that phase.

22.8(3)(b)(iv) Identification of the Treatment Entity

The treatment entity responsible for receiving and treating the wastewater from the interceptor sewer is the owner and operator of the treatment works to which the wastewater will be conveyed. The engineering report shall identify the treatment entity responsible for

receiving and treating the domestic wastewater, as well as identify any intermediary municipality that owns or operates infrastructure used to convey the wastewater to the final treatment works. Additionally, the engineering report shall include a confirmation, in writing, from the treatment entity that owns and operates the treatment works receiving the domestic wastewater and any intermediary conveyors that 100 percent of the wastewater from the interceptor will be accepted and treated. This confirmation must be in the form of written correspondence or the Wastewater Receiving Entity Certification form included as part of the site location application, and cannot be prepared or completed by another person on behalf of the treatment entity or intermediary conveyance municipality. The confirmation(s) shall include the following:

A. Statement from the treatment entity and any intermediary conveyance municipality that they will accept, convey, and/or treat the wastewater from the interceptor at the maximum month, peak hour, and peak instantaneous flow rates stated in the application;
B. Statement that the treatment entity and any intermediary conveyance municipality is not presently receiving wastes in excess of its design capacity as defined in its site location approval and/or discharge permit. Otherwise, the treatment entity and municipality must indicate they are under construction, or will be in a phased construction of new or expanded treatment works, and will have the necessary capacity to treat the projected discharge from the new or expanded interceptor. Projections of flow and loading to the treatment works over the period during which build out of the service area will occur or 20 years, whichever is less, as well as current and future treatment works capacity information must be provided to demonstrate the plan for maintaining adequate treatment and conveyance capacity. Any proposed treatment works phased construction must be shown in the 208 Plan, or by appropriate planning and engineering studies;
C. Statement that the treatment entity has not been in violation of any effluent limitations in its discharge permit for the last two (2) years and is not operating under a Notice of Violation and/or Cease and Desist Order from the Division resulting from discharge permit violations. Alternatively, if there have been effluent violations or if the treatment plant is operating under a Notice of Violation and/or Cease and Desist Order from the Division, then the Division will evaluate the situation and the treatment entity's proposed corrective measures to achieve consistent compliance and determine if approval should be granted, granted with conditions, or denied. To facilitate the review process, the Division expects the entity to provide an update of all corrective actions that have been completed, or are in process, to return to compliance.

If the applicant is aware of commercial or industrial (or other high-strength or difficult-to-treat) pollutants that may be discharged to the receiving entity via the interceptor, the applicant must notify the receiving treatment entity, in writing, prior to the receiving treatment entity issuing written certification to accept and treat the domestic wastewater. A copy of this notification must be included in the site location application submittal.

22.8(3)(b)(v) 208 Designated Planning and Management Agency(ies) Confirmation(s)

The site location application for a new treatment works is associated with a specific service area as required to be defined in the engineering report in accordance with Section 22.8(3)(b)(i) of Regulation 22. As part of the site location application, the applicant must demonstrate that the proposed service area conforms with the approved 208 plan and/or the local long-range comprehensive plan. In some cases, the applicant may need to request a revision of the 208 plan and/or the local long-range comprehensive plan prior to submitting a site location application to the Division. The 208 designated planning and management agency(ies) must confirm, in writing, that the proposed interceptor sewer has the capacity to carry the projected flow and is consistent with the regional water quality management plan.

The applicant must demonstrate that the proposed service area and population projections are consistent with an approved 208 plan for the planning region and/or the local long-range comprehensive plan. To demonstrate consistency with these approved plans, the site location application must address the information identified in Sections 22.3(1)(a), 22.5(1)(j), and 22.5(1)(k) of this policy and in accordance with the respective sections of Regulation 22.

For ease of review, the site location application engineering report must include applicable portions of approved plans that have been referenced.

22.8(3)(b)(vi) Implementation Schedule

The engineering report must include an implementation schedule for the proposed treatment works. The schedule shall be presented in the form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a minimum, the schedule shall include the estimated time to construct the proposed treatment works from the commencement of construction to start-up, any staging or phasing, and the projected start-up date. Additional information, such as projected site location approval, design review submittal, design approval, and bid award dates can assist the Division in visualizing the applicant's overall schedule.

22.8(3)(b)(vii) Financial Capacity

The financial system associated with construction, operating, and maintaining the proposed treatment works must include evidence of sufficient financial resources to construct the facility, as well as a financial plan to generate revenue sufficient to repay any indebtedness and cover ongoing operational expenses.

Funding for Privately Owned Treatment Works and Developers

If the applicant intends to finance the project independently, evidence of such financial capability in the form of written communication from a financial institution attesting to the applicant's possession of adequate capital to undertake the proposed project must be included with the engineering report. In the event that the applicant requires a loan to complete the project, the engineering report must include a letter from a financial

institution, bond advisor, or other loan program indicating its intent to make such a loan for the purpose of constructing the proposed treatment works.

Funding for Municipal Treatment Works

For municipal or publicly financed treatment works, the applicant must address capital construction capabilities by demonstrating available cash resources through including copies of current budget documents with the engineering report. If the applicant intends to finance the project using loan and grant funds, the engineering report must include documentation from any provider agreeing to issue loans and/or grants for the proposed project including the SRF program. If the applicant intends to fund the project using bonds, the engineering report must include a copy of the report from a bond advisor or intended bond underwriter.

Applicants using Borrowed Funds to Finance the Treatment Works

All applicants relying on borrowed funds must develop and present a financial plan for repaying the borrowed funds, along with any fees and interest associated with the transaction. The plan must address the full term of the payback period and not just demonstrate a pattern of anticipated revenue generation. If applicable, the financial plan must also identify a fee structure for the retirement of capital costs associated with the proposed project, as well as any process expansions or equipment/structure replacements funds required within the planning period. The fee structure must include system development fees and monthly user fees. Public municipalities may satisfy these requirements by providing the current fee structure, rate studies, and fee ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

Ultimately, the engineering report must include a financial system that outlines how the applicant can provide the necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The financial system must provide sufficient information to show that the treatment entity that oversees the proposed treatment works has adequate financial capacity over a 20-year period or some other clearly defined future planning period. In addition to the long-range financial plan, the Division expects the engineering report to include a projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e., emergency replacements), and operating expenses. At a minimum, the financial system must include a discussion of the following items:

1. Itemization of projected expenses and revenues including such costs as equipment O&M and required sampling;
2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period or some other clearly defined future planning period;
3. Identification of reserve accounts for emergencies/replacement funding and O&M funds;
4. Access to public and private financial capital;
5. Revenues must be greater than costs including an operating ratio greater than 1.0 (operating revenue/operating expense) and coverage ratio greater than 1.0 (total

revenue-operating expense/debt service);
6. Current outstanding debt and ability to borrow funds;
7. Periodic financial audits;
8. Annual development and utilization of budget;
9. Rate structure based on customer, flow, and/or waste type; and
10. Capital improvements plan.

22.8(3)(c) through 22.8(3)(e) Submittal of Application for Agency Reviews

Regulation 22 requires the applicant to provide copies of the site location application and engineering report to the review agencies prior to submission to the Division. The agencies will evaluate the site location application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area, should such a plan exist. The applicant must perform all necessary coordination and supply all information to the agencies. The applicant is responsible for obtaining all necessary signatures on the site location application before submitting it to the Division. These agencies may include the county, city or town, local health authority, designated planning and/or management agency, and any other state or federal agency (for a list of county health agencies and 208 planning and management agencies refer to Appendix B). These agencies shall review and recommend approval or denial of the site location application to the Division.

Each review agency may recommend approval by simply signing and dating the site location application on the provided signature line. The agencies are welcome to provide a letter of approval to accompany the site location application, and are encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For the agencies who are recommending denial of the site location application, in addition to signing the site location application and indicating that a denial is recommended, the agency must also provide a written statement explaining the reason(s) for recommending denial of the site location application.

The applicant shall provide each review agency at least 60 days to review the site location application and engineering report. The applicant may submit the site application to the Division prior to 60 days if all agencies provided comments, or after the 60 day period should any agency not provide a signature or comment letter. The Division shall contact non-responsive agencies, and provide seven (7) additional days to any agency that does not provide a signature or comment letter. Following the seven (7) days of additional time, the Division will proceed with its review of the site location application.

Any modification made to the site location application to address comments from any review agency shall be transmitted to each review agency. Any and all changes that are made to address comments shall be documented in the final submittal to the Division. The site location application shall further include any correspondence between the applicant and each agency.

22.8(4) and 22.8(5) Modifications to a Site Location Approval Prior to Completion of Construction

The Division realizes that the design capacity of the interceptor sewer is strongly reliant on the interceptor being installed as designed (e.g., slope, alignment). The Division recognizes that field changes may be required due to unforeseen circumstances and that these changes may impact the design capacity of the interceptor or a slight realignment. In the case of a field change that results in a change in the design capacity, the applicant must resubmit the site location application in accordance with the applicable requirements of Section 22.8 of Regulation 22. In the case of a minor realignment, the applicant may submit information demonstrating legal control of the site as part of the as-built certification process. Major realignments must resubmit a site location application in accordance with the applicable requirements of Section 22.8 of Regulation 22.

22.9 APPLICATION PROCEDURES FOR LIFT STATIONS

A site location application for ***Lift Stations*** is used for the following situations:

- Proposed lift stations and their associated appurtenances (e.g., valve vaults, emergency storage structures, force mains, etc.) with a design capacity to receive greater than 2,000 gpd of domestic wastewater;
- Existing lift stations without site location and design approval. The application should refer to Appendix C (Historical Lift Station and Interceptor Interim Implementation) prior to submitting a site location application;
- Changes to an existing lift station that occur beyond the existing site location approval, such as expansion of the lift station or associated appurtenances onto an adjacent property not included as part of the original site location approval; and
- Construction that increases or decreases the design capacity of an existing lift station that has received prior site location approval.

Other modifications or replacements to a lift station (e.g., replacement/relocation of the lift station and associated appurtenances on the same site, modifications to dry/wet well, or addition of emergency storage) are addressed separately in either Section 22.10 or 22.12 of Regulation 22.

The Division shall review site location applications submitted for all lift stations and their appurtenances in accordance with all applicable sections of Regulation 22.

22.9(1) Submittal Requirements/Expectations

The applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Section 22.9 - Lift Station; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. The applicant is responsible for ensuring the proposed hydraulic and organic design capacities concur with the intended final design and the flow rates designated for the lift station by the receiving treatment entity prior to submitting the application for site location approval. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy. Additionally, for lift station projects involving a change of the site boundary of a previously approved site location, the applicant must include the previously approved site location number with the application. For a lift station project involving the increase or decrease in the design capacity of a previously approved site location, the applicant shall

submit the original site location application, approval letter, and an updated site location application, and must address all the pertinent requirements of the engineering report, as defined in Section 22.9(1)(b) of Regulation 22, that will change as a result of the capacity change. If the original documents are not available, the applicant must address all the requirements of the engineering report.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to receiving all applicable signatures and providing all review agencies the allotted review times as indicated in Regulation 22, with the exception of non-responsive review agencies. The site location application shall include dated correspondence to each review agency to demonstrate that 60 days was allowed for each review. The site location application must include original ink signatures, scanned copies of the original signatures, or electronic signatures from the applicant and review agencies, and comments if provided.

22.9(1)(a) Availability of Submittal Forms

As identified above, the forms required for the site location and design application process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.9(1)(b) Engineering Report

The applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by DORA. Regulation 22 specifically states that the engineering report shall describe the proposed lift station. This report shall completely address the items as identified in each of the Sections 22.9(1)(b)(i) through 22.9(1)(b)(xi) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within 22.9(1)(b). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.9(1)(b)(i) Map Identifying the Site

The engineering report shall include map(s) identifying the site of the proposed treatment works, air release valve locations, topography of the area, and neighboring land uses. To facilitate processing of the site location application, the map(s) shall also show the proposed treatment works in relation to boundaries of the service area for the design life of the treatment works. The map(s) must identify any local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment intakes, potable water lines and other treatment plants. The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with this policy.

22.9(1)(b)(ii) Service Area, Population, and Loading Projections

The engineering report shall define the boundaries of the service area for the design life of the proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate the proposed location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other treatment works aids with the review of the site location application, and must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with information provided in this policy.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population, land use, and unique customer information. Once the contributing wastewater flows are established, the applicant must take into account that the design capacity for a lift station, as defined by Section 22.2(8)(c) of Regulation 22, is expressed as the firm pump capacity (i.e., capacity with the largest unit out of service).

Population/Land Use Projections

The engineering report shall develop flow and loading estimates through population and/or land use projections.

- Population Projections: Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population shall be expressed as the number of each

population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.

- Land Use Projections: Land use projections are appropriate for significant service areas with a variety of land uses. Typically, local planning documents use a combination of open space, floor area ratio, and zoning types to define development within a service area. The engineering report shall subdivide the service area into land use types, such as open space, commercial, residential (SFE, R2, MF, etc.), and translate this information into residential populations, industrial/commercial land use areas, or building square footages to determine appropriate loading estimates.

Note, general land use estimates may not be considered adequate for special circumstances (food processing facilities or computer chip manufacturing) in a small community. These industries may exceed typical average waste loading values used for planning. The engineering report must deal with these unique circumstances on a case-by-case basis.

Flow/Loading Projections

Average Daily Flow: Following the development of population or land use projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population/land use and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population/land use. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population/land use. For single use service areas, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow: After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities, the maximum month average daily flow is at full occupancy. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22 days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).
- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the proposed treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Hour Flow: The engineering report shall build from the average daily flow estimate to develop a peak hour design flow or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. The engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population/land use. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the proposed treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the proposed treatment works through an analysis of

individual user types and their anticipated organic loading. For single use facilities, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

Staging or Phasing

Based on initial flows and loads, sometimes the proposed treatment works cannot function effectively especially when designed for the long-range planning associated with the service area. In this case, the applicant shall develop an operational plan, and this plan shall be included as part of the site location application rather than during the design review phase. The operational plan must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section 22.13 in this policy for specific information.

22.9(1)(b)(iii) Identification of the Treatment Entity

The treatment entity responsible for receiving and treating the wastewater from the lift station is the owner and operator of the treatment works to which the wastewater will be conveyed. The engineering report shall identify the treatment entity responsible for receiving and treating the domestic wastewater, as well as identify any intermediary municipality that owns or operates infrastructure used to convey the wastewater to the final treatment works.

22.9(1)(b)(iv) Legal Arrangements Showing Control of the Site

The applicant shall provide sufficient information in the engineering report to demonstrate that all proposed components of the treatment works exist within the legal boundaries of the proposed site. The applicant has a number of options to demonstrate control of the site for the life of the project depending on the control mechanism.

Control of the Site through Ownership

The applicant may demonstrate control of the site through ownership by providing a copy of the deed or title to the property in the name of the applicant. The Division will accept a copy of the title insurance, but the applicant must ensure that the title insurance document does not contain errors regarding ownership, property description, or limitations or restrictions that would preclude using the property for its intended purpose prior to submitting the information to the Division. The site location application must disclose and address any limitations that potentially impact the applicant's ability to maintain, operate, or construct facilities within the proposed site location for the life of the project.

Control of the Site through Use of Public Right of Ways

In cases where the site location for the proposed treatment works utilizes public right of ways (ROWs) (e.g., municipal transportation or utility ROWs), the applicant is not required to demonstrate legal control of the site. However, the engineering report shall provide a map identifying the boundaries of the site location for the proposed treatment works in relationship to the public ROWs.

Control of the Site through Use of Right of Ways Across Private Property

Alternatively, the applicant may demonstrate legal control of the site through use of a ROW across private property. Specific expectations with regard to information for these types of ROWs (e.g., easements via purchase, lease or condemnation, etc.) and the site location application are as follows:

1. To facilitate as timely a review process as possible, all ROWs that are necessary for the project shall be obtained prior to submittal of the site location application, and copies of the documentation for all ROWs shall be included in the submittal.
2. Where all ROWs could not be obtained by the time of site location application, at a minimum, the applicant must identify all ROWs that will be needed for the project, and an explanation of how they intend to obtain each of the ROWs.

    a. For ROWs that do not involve condemnation, signed copies of agreements concerning the intent to sell/lease between the applicant and land owners (for which easements are needed) may be submitted to fulfill the legal control requirement during the site location phase of the project. The copies of agreements must clearly indicate the terms and conditions of the lease or legal easement specific to the duration of the agreement in addition to access, construction, and maintenance of any treatment works located within the proposed site location for the duration of the agreement.

3. If prior to submittal and by the time that the site location application is submitted:

    a. The applicant, which does not require ROWs for the project that involve condemnation, cannot obtain a signed agreement between the applicant and each landowner regarding the intent to sell/lease the land; or
    b. The applicant, which requires ROWs for the project that involve condemnation, cannot demonstrate legal control of the site, because the condemnation process has not been completed.

    In such a situation where the applicant cannot demonstrate legal control of the site prior to site location approval (e.g., the situations described in items 2 and 3 above), the Division may issue a conditional site location approval that requires the applicant to obtain the ROWs and submit the associated documentation to the Division prior to the Division issuing design approval. In such a case, the Division will not issue design approval until all documentation (that demonstrates that the applicant currently has full legal control of the site) has been received and reviewed by the Division.

For phased projects, the conditional site location approval would require that the ROWs (pertinent for the entire project) be obtained, and that the associated documentation be submitted to the Division prior to the Division issuing design approval for the first phase of the project. In such a case, the Division will not issue design approval until all documentation

(that demonstrates that the applicant currently has full legal control of the site) for each phase has been received and reviewed by the Division.

22.9(1)(b)(v) Wastewater Treatment Entity Statement

The engineering report shall include a confirmation, in writing, from the treatment entity that owns and operates the treatment works receiving the domestic wastewater and any intermediary conveyors (as identified in Section 22.9(1)(b)(iii) above) that 100 percent of the wastewater from the lift station will be accepted and treated. This confirmation must be in the form of written correspondence or the Wastewater Receiving Entity Certification form included as part of the site location application, and cannot be prepared or completed by another person on behalf of the treatment entity or intermediary conveyance municipality. The confirmation(s) shall include the following:

A. Statement from the treatment entity and any intermediary conveyance municipality that they will accept, convey, and/or treat the wastewater from the lift station at the maximum month, peak hour, and peak instantaneous flow rates stated in the site location application;
B. Statement that the treatment entity and any intermediary conveyance municipality is not presently receiving wastes in excess of its design capacity as defined in its site location approval and/or discharge permit. Otherwise, the treatment entity and municipality must indicate they are under construction, or will be in a phased construction of new or expanded treatment works, and will have the necessary capacity to treat the projected discharge from the new or expanded lift station. Projections of flow and loading to the treatment works over the period during which build out of the service area will occur or 20 years, whichever is less, as well as current and future treatment works capacity information must be provided to demonstrate the plan for maintaining adequate treatment and conveyance capacity. Any proposed treatment works phased construction must be shown in the 208 Plan, or by appropriate planning and engineering studies;
C. Statement that the treatment entity has not been in violation of any effluent limitations in its discharge permit for the last two (2) years and is not operating under a Notice of Violation and/or Cease and Desist Order from the Division resulting from discharge permit violations. Alternatively, if there have been effluent violations or if the treatment plant is operating under a Notice of Violation and/or Cease and Desist Order from the Division, then the Division will evaluate the situation and the treatment entity's proposed corrective measures to achieve consistent compliance, and determine if approval should be granted, granted with conditions, or denied. To facilitate the review process, the Division expects the treatment entity to provide an update of all corrective actions that have been completed, or are in process, to return to compliance.

If the applicant is aware of commercial or industrial (or other high-strength or difficult-to-treat) pollutants that may be discharged to the receiving treatment entity via the lift station, the applicant must notify the receiving treatment entity, in writing, prior to the receiving

treatment entity issuing written certification to accept and treat the domestic wastewater. A copy of this notification must be included in the site location application submittal.

22.9(1)(b)(vi) Operation and Maintenance

While Regulation 22 indicates that the applicant shall demonstrate the Owner's capability to operate and maintain the treatment works, the Division finds that Section 22.9(1)(b)(vi) in conjunction with Section (1)(b)(ix) is meant to focus on emergency operations. The applicant shall address O&M requirements and manuals during the design review process, and not more than required by this section of the policy. The engineering report must include an emergency operations plan, and the plan shall be an overview of the proposed emergency management tools, facilities, programs, and equipment. While the design criteria addresses specific requirements for treatment works that must be incorporated into the design, the engineering report is meant to be a model for applying the required emergency systems to prevent potential sanitary sewer overflows of partially treated or raw wastewater or spills from unpermitted point sources. At a minimum, the engineering report must include an emergency operations plan that discusses the following issues:

- The requirements of design criteria for the proposed treatment works;
- Special practices and local requirements for sensitive site locations;
- Telemetry and alarms;
- Standby power source identification;
- Equipment powered by the standby power source;
- Portable emergency pumping equipment;
- Emergency overflow storage sizing; and
- An operator call-down list and emergency response time justification.

The discussion shall justify the ability of the proposed treatment works to mitigate the potential hazards of a sanitary sewer overflow through appropriate management, equipment, and operational programs.

Please note that site location approval that includes an emergency operations plan, does not constitute approval of the plan during the design review process. The Division shall evaluate the plan during the design approval phase with respect to any new information provided and the requirements of the design criteria. If the proposed plan presented with the site location application varies from the requirements of the design criteria, then the design review submittal (i.e., PDR or BDR) shall include an updated emergency operations plan to meet the design criteria requirements. If the proposed emergency operations plan can be shown to be equivalent benefit to the design criteria requirements, the design review submittal may include a site-specific deviation request in accordance with Section 1.7.0 of the design criteria.

22.9(1)(b)(vii) Management Capabilities

Management capabilities refer to the applicant's ability to control the waste constituent and hydraulic loading to the proposed treatment works and ultimately to the associated

treatment plant. If the agreement between the applicant and the receiving treatment entity requires that the applicant or person responsible for operation of the treatment works control the waste through a legally enforceable means (i.e., user contracts, ordinances, operating agreements, pretreatment requirements, etc.), the engineering report shall specifically discuss these issues, and include copies of any contracts or agreements.

22.9(1)(b)(viii) Financial System

The financial system associated with construction, operating, and maintaining the proposed treatment works must include evidence of sufficient financial resources to construct the facility, as well as a financial plan to generate revenue sufficient to repay any indebtedness and cover ongoing operational expenses.

Funding for Privately Owned Treatment Works and Developers

If the applicant intends to finance the project independently, evidence of such financial capability in the form of written communication from a financial institution attesting to the applicant's possession of adequate capital to undertake the proposed project must be included with the engineering report. In the event that the applicant requires a loan to complete the project, the engineering report must include a letter from a financial institution, bond advisor, or other loan program indicating its intent to make such a loan for the purpose of constructing the proposed treatment works.

Funding for Municipal Treatment Works

For municipal or publicly financed treatment works, the applicant must address capital construction capabilities by demonstrating available cash resources through including copies of current budget documents with the engineering report. If the applicant intends to finance the project using loan and grant funds, the engineering report must include documentation from any provider agreeing to issue loans and/or grants for the proposed project including the SRF program. If the applicant intends to fund the project using bonds, the engineering report must include a copy of the report from a bond advisor or intended bond underwriter.

Applicants using Borrowed Funds to Finance the Treatment Works

All applicants relying on borrowed funds must develop and present a financial plan for repaying the borrowed funds, along with any fees and interest associated with the transaction. The plan must address the full term of the payback period and not just demonstrate a pattern of anticipated revenue generation. If applicable, the financial plan must also identify a fee structure for the retirement of capital costs associated with the proposed project, as well as any process expansions or equipment/structure replacements funds required within the planning period. The fee structure must include system development fees and monthly user fees. Public municipalities may satisfy these requirements by providing the current fee structure, rate studies, and fee ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

Ultimately, the engineering report must include a financial system that outlines how the applicant can provide the necessary funds for construction, operation, maintenance, and

capital projects for the life of the project. The financial system must provide sufficient information to show that the treatment entity that oversees the proposed treatment works has adequate financial capacity over a 20-year period or some other clearly defined future planning period. In addition to the long-range financial plan, the Division expects the engineering report to include a projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e., emergency replacements), and operating expenses. At a minimum, the financial system must include a discussion of the following items:

1. Itemization of projected expenses and revenues including such costs as equipment O&M and required sampling;
2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period or some other clearly defined future planning period;
3. Identification of reserve accounts for emergencies/replacement funding and O&M funds;
4. Access to public and private financial capital;
5. Revenues must be greater than costs including an operating ratio greater than 1.0 (operating revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt service);
6. Current outstanding debt and ability to borrow funds;
7. Periodic financial audits;
8. Annual development and utilization of budget;
9. Rate structure based on customer, flow, and/or waste type; and
10. Capital improvements plan.

22.9(1)(b)(ix) Emergency Operations Plan

With the Division finding that Section 22.9(1)(vi) of Regulation 22 focuses on emergency operations, the engineering report shall refer to the previous section in order to address this section of Regulation 22.

22.9(1)(b)(x) Implementation Schedule

The engineering report must include an implementation schedule for the proposed treatment works. The schedule shall be presented in the form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a minimum, the schedule shall include the estimated time to construct the proposed treatment works from the commencement of construction to start-up, any staging or phasing, and the projected start-up date. Additional information, such as projected site location approval, design review submittal, design approval, and bid award dates can assist the Division in visualizing the applicant's overall schedule.

22.9(1)(b)(xi) Public Notification

To notify the public, and provide additional opportunity for public input, the posting requirements given in section 22.6(3) shall also apply to all new lift stations, which the Division interprets to include lift station projects that change the site boundary of a

previously approved site location. This section of Regulation 22 requires the applicant to post a sign on the proposed site location to encourage public notification. The sign must include specific information documented in the regulation and must be formatted as specified unless local county or municipal sign codes overrule. The sign must be posted for a minimum of 15 days prior to the time the site application is submitted to the Division. However, the Division should be notified of the project at the time of the posting so that necessary public information can be made available.

A photograph of the sign or other documentation certifying that this posting requirement has been met must be included with the site location application. The sign shall be posted at the proposed site location in a location expected to receive the largest visitation by local persons. This location may be along a roadway or at the outfall location if located along a heavily used pedestrian trail. The site location application must indicate the posting location and justify the placement. The included photograph of the sign shall provide sufficient landmark cues to field verify the location. The site location application must also indicate the initial day that the sign was posted onsite.

22.9(1)(c) and 22.9(1)(d) Submittal of Application for Agency Reviews

Regulation 22 requires the applicant to provide copies of the site location application and engineering report to the review agencies prior to submission to the Division. The agencies will evaluate the site location application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area, should such a plan exist. The applicant must perform all necessary coordination and supply all information to the agencies. The applicant is responsible for obtaining all necessary signatures on the site location application before submitting it to the Division. These agencies may include the county, city or town, local health authority, designated planning and/or management agency, and any other state or federal agency (for a list of county health agencies and 208 planning and management agencies refer to Appendix B). These agencies shall review and recommend approval or denial of the site location application to the Division.

Each review agency may recommend approval by simply signing and dating the site location application on the provided signature line. The agencies are welcome to provide a letter of approval to accompany the site location application, and are encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For the agencies who are recommending denial of the site location application, in addition to signing the site location application and indicating that a denial is recommended, the agency must also provide a written statement explaining the reason(s) for recommending denial of the site location application.

The applicant shall provide each review agency at least 60 days to review the site location application and engineering report. The applicant may submit the site application to the Division prior to 60 days if all agencies provided comments, or after the 60 day period should any agency not provide a signature or comment letter. The Division shall contact non-responsive agencies, and provide seven (7) additional days to any agency that does not

provide a signature or comment letter. Following the seven (7) days of additional time, the Division will proceed with its review of the site location application.

Any modification made to the site location application to address comments from any review agency shall be transmitted to each review agency. Any and all changes that are made to address comments shall be documented in the final submittal to the Division. The site location application shall further include any correspondence between the applicant and each agency.

Additionally, if the applicant finds that change impacting the design capacity is required following the issuance of the site location approval, the applicant must notify the review agencies in accordance with Section 22.4(14) of Regulation 22.

22.9(1)(e) Consistency with Regional Water Quality Management Plan

The site location application for a new treatment works is associated with a specific service area as required to be defined in the engineering report in accordance with Section 22.9(1)(b)(ii) of Regulation 22. As part of the site location application, the applicant must demonstrate that the proposed service area conforms with the approved 208 plan and/or the local long-range comprehensive plan. In some cases, the applicant may need to request a revision of the 208 plan and/or the local long-range comprehensive plan prior to submitting a site location application to the Division.

The applicant must demonstrate that the proposed service area and population projections are consistent with an approved 208 plan for the planning region and/or the local long-range comprehensive plan. To demonstrate consistency with these approved plans, the site location application must address the information identified in Sections 22.3(1)(a), 22.5(1)(j), and 22.5(1)(k) of this policy and in accordance with the respective sections of Regulation 22.

For ease of review, the site location application engineering report must include applicable portions of approved plans that have been referenced.

22.10 APPLICATION PROCEDURES FOR AMENDMENT OF EXISTING SITE LOCATION APPROVAL

A site location application for ***Amendment of an Existing Site Location Approval*** is used for the following situations:

- Proposed physical changes to any of the following treatment processes as long as they are not associated with an increase or decrease in design capacity:
    - A change in type of disinfection to include chlorine gas or from other types of disinfection to chlorination;
    - A change in disinfection type (e.g., from gas chlorination to liquid chlorination, from any form of chlorination to ultraviolet light (UV) disinfection, bromine chloride, chlorine dioxide, peracetic acid, or other accepted disinfection chemicals);
    - Changes or additions to the liquid stream treatment processes (e.g., sizing, technology, configuration, or recycle stream associated with preliminary, primary, secondary, or tertiary treatment) that could impact hydraulic, pollutant(s), or solids loadings to the treatment process; and
    - Changes or additions to the unit processes in the solids stream treatment processes (e.g., aerobic or anaerobic digestion, dewatering, composting, etc.) that would change the characteristics of the recycle stream or biosolids.
- A requested decrease or increase in the approved rated hydraulic and/or organic capacity of the treatment works, as long as no construction takes place, or a change in the design flow portioning that does not change the design capacity. The Division refers to these types of projects as 'paper re-ratings'. Note, if construction is required to increase or decrease the design capacity of the treatment works or if the project is being performed to derate the capacity of the treatment works to 2,000 gpd or less regardless of whether construction will take place, the applicant must submit the project through Section 22.7 of Regulation 22;
- The addition or expansion of a treatment process to generate or store reclaimed domestic wastewater (or reclaimed water as defined in Regulation 84), where the treatment process will be added downstream of secondary treatment at an existing treatment plant. Also, this section covers changes to the type of reclaimed water discharge employed, which includes treatment changes to achieve more restrictive reclaimed water categories and standards (e.g., from a Category 1 use to a Category 2 use or from a localized system to a centralized system). Note, an amendment of an existing site location approval, or for that matter, site location approval in general is not required for adding reuse sites (or users) or approved uses, as long as they meet the same categorical requirements;
- Changes in the type of discharge employed, where there is no change in the treatment process:

- From surface water discharge to groundwater discharge or vice-versa at the same site location (i.e., within the site boundaries of the existing site location approval); and,
- A partial or complete change from a surface water or groundwater discharge to reclaimed water use subject to the requirements of Regulation 84. Note, site location and design approval is only required for the first instance when the reclaimed water use is implemented, and future site location approvals are not required for adding reuse sites (or users) or approved uses, as long as they meet the same categorical requirements. However, if there is a subsequent request to change reclaimed categories and standards (e.g., from a Category 1 use to a Category 2 use or from a localized system to a centralized system), then the treatment entity will be required to submit an application for amendment of an existing site location approval.

- Additions or modifications to the following lift station appurtenances, as long as they are not associated with an increase or decrease in design capacity:

  - Odor control treatment;
  - Emergency storage or wetwell capacity;
  - Grinding/screening equipment;
  - Back-up power (generator); and
  - Any rehabilitation or replacement not meeting the definition of in-kind replacement due to facility age, or for operational improvements including inlet piping or associated force main(s).

  Note, as a clarification to Section 22.10(3)(f) of Regulation 22, standard O&M activities are exempt from the requirement to submit a site location application, while projects considered to meet the definition of in-kind replacement shall submit an application in accordance with Section 22.12;
- Other types of projects or changes to treatment works that may (as determined by the Division) be handled by amendment (i.e., only applicable with prior site location approval or confirmed construction prior to November 1967 with no subsequent changes):

  - Requests for extension of a prior site location approval where no physical construction has taken place and the time elapsed since the original expiration date is greater than twelve (12) months, but does not exceed thirty-six (36) months for lift stations and interceptors or eighteen (18) months for treatment plants (where the Division has confirmed that the original WQPTs are still appropriate);
  - Temporary changes in service area or loadings to the treatment works; and
  - Certain requests for installation of temporary treatment processes (i.e., requests to install interim treatment processes for a limited period of time – rare circumstances).

- Projects that entail physical changes to the treatment works (including appurtenances) that are similar in scope to those specifically listed in 22.10(2)(b)(i) through 22.10(2)(b)(iv), but are not precisely covered:

    - The applicant must submit to the Division an analysis from a Colorado-licensed professional engineer, a description of the proposed changes, and an evaluation of how the changes would affect the performance of the other parts of the treatment works, downstream treatment works and effluent quality; and
    - The Division will evaluate the proposed process change and will provide a written decision to the applicant and engineer, stating that the changes may be made without amending the previous site location approval and without obtaining design approval, or requiring that the applicant obtain site location and design approval for the proposed change.

22.10(1) Submittal Requirements/Expectations

In general, amending an existing site location approval is a much simpler and abbreviated process as compared to obtaining site location approval for a new or capacity-modified treatment works. With that said, the applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Domestic Water Quality Planning Target/PEL Application Form;
- Section 22.10 – Amendment of Existing Treatment Plant Site Location Approval;
- Section 22.10 - Amendment of Existing Lift Station Site Location Approval; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. The applicant is responsible for ensuring the existing and/or proposed hydraulic and organic design capacities concur with the WQPTs and intended final design and permitted flow rates prior to submitting the application for site location approval. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy.

The Division will not initiate a site location review prior to receiving appropriate fees for the proposed treatment works, and will not complete a site location decision prior to providing all review agencies the allotted review times as indicated in Regulation 22. The site location application shall include dated correspondence to each review agency to demonstrate that 15 days was allowed for each review.

22.10(1)(a) Availability of Submittal Forms

As identified above, the forms required for the site location and design application process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.10(1)(b) Evaluated Need for Permit Modification or Request for Chemical Evaluation Form

Prior to submitting a site location application to the Division for review, the applicant shall submit the *Domestic Water Quality Planning Target/PEL Application Form* (also replaces the use of the Chemical Evaluation Form) to the Permits Section to determine whether the existing permit, permit modification, or new permit can serve as the WQPTs for the proposed project. The applicant shall include a copy of the determination from the Permits Section in the engineering report. There are cases where an applicant may not be required to obtain a determination of WQPTs (e.g., adding grit removal to a headworks building, adding a secondary clarifier for redundancy, installing a biosolids composting process). Therefore, the applicant should consult the Division during the planning stages of the project to determine the applicability of WQPTs.

22.10(1)(c) Engineering Report

The applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by DORA**.** Regulation 22 specifically states that the engineering report shall describe the proposed project. This report shall completely address the items as identified in each of the Sections 22.10(1)(c)(i) through 22.10(1)(c)(xv) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall address and allow the Division to consider the issues discussed in Sections 22.3 and 22.5. Many of the items required by Sections 22.3 and 22.5 are covered by the information described within Section 22.10(1)(c). To that extent, the applicant shall refer to Sections 22.3 and 22.5 to ensure all relevant material is addressed and included in the engineering report.

22.10(1)(c)(i) Description of Proposed Project

The engineering report must describe the specific treatment processes and capacities planned for the proposed treatment works, unless the site location application is for an existing treatment works that does not require the construction of any modifications. The descriptions of each treatment process and capacity shall be thorough, and discussed in order of flow through the proposed treatment works. This preliminary information must adequately demonstrate that the selected treatment processes are capable of complying with the requirements of the design criteria and have the ability to achieve continuous compliance with the WQPTs.

22.10(1)(c)(ii) Map Identifying the Site

The engineering report shall include map(s) identifying the site of the existing and proposed treatment works. To facilitate processing of the site location application, the Division also expects the map(s) to show the proposed treatment works in relation to boundaries of the existing site location approval. The map(s) must identify any local water bodies, streams, and rivers within the vicinity of the site location, and delineate the location of the proposed project relative to any floodplain or other natural hazard. The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with this policy.

22.10(1)(c)(iii) Existing and Proposed Site Plan or Process Flow Diagram

The engineering report shall contain a preliminary PFD for both the liquid and solids processing streams, and shall represent the order of flow through the existing and proposed treatment works. In cases where a PFD may not be practical (e.g lift station projects), a site plan shall be provided indicating the location of proposed treatment works or appurtenances in relation to the existing treatment works.

22.10(1)(c)(iv) Loading, Capacity, and Performance Analysis of Existing Treatment Works

As part of the planning stage, the engineering report must document and analyze the loading, capacity, and performance of the existing treatment works. All information provided in this section of the engineering report shall be developed from at least three (3) years of historical data, and the analysis shall include the following, at a minimum:

1. Percent of existing service area developed (developed area/all developable area)
2. Percent loading at existing maximum month conditions to the treatment works
    a. Hydraulic loading to existing treatment works/site location approved hydraulic design capacity
    b. Percent organic loading/site location approved organic design capacity
3. Existing influent capacity and loading evaluation
    a. Average, maximum month, and peak hour (or other pertinent peak) hydraulic loads
    b. I&I
    c. Organic and inorganic concentration and mass loadings
4. Treatment works performance evaluation
    a. PFD
    b. Evaluation of major unit processes (preliminary, primary, secondary, and tertiary treatment, disinfection, solids handling and treatment, etc.)
        i. Average, maximum month, and peak hour hydraulic loading capacities
        ii. Average, maximum month, and peak hour organic/inorganic loading capacities
    c. Identify performance limiting factors or processes
5. Effluent discharge evaluation
    a. Compliance issues
    b. Causal analysis for any discharge limit exceedance

6. Managerial impacts on performance and emergency response plan
7. Financial impacts on performance

22.10(1)(c)(v) Service Area, Population, and Loading Changes

When the project involves increasing or decreasing the rated design of an existing treatment works without construction, the engineering report shall address the requirements in this section of the policy. Thus, the engineering report shall define the boundaries of the service area for the design life of the proposed treatment works. The service area may be expressed in a variety of ways depending on the nature of the service area. The service area definition should be supported with adequate maps, legal property boundaries and descriptions, structures served, and/or specific land use descriptions. The engineering report shall provide both narrative and visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate the proposed location of the treatment works. Depicting topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other treatment works aids with the review of the site location application, and must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine set-back distances in accordance with information provided in this policy.

For all cases, the service area must represent the 20-year planning period, or some other clearly defined future planning period. This planning period must conform to the approved 208 plan and/or the local long-range comprehensive plan. The applicant shall demonstrate that the service area is consistent with the approved 208 plan and/or the local long-range comprehensive plan. For additional information pertaining to the use of local and regional water quality planning information, refer to the information presented in Sections 22.3(1)(a) and 22.5(1)(k) of this policy. To demonstrate consistency with these approved plans, the site location application must address the information identified in this policy. For ease of review, the engineering report shall include applicable portions of approved plans that have been referenced.

Based on the service area, the engineering report must clearly estimate the flow and loading projections to be conveyed to the proposed treatment works for the projected planning period. The flow and loading projections must include average daily flow, maximum month average daily flow, peak hour flow (or instantaneous flow value based on the service area), and the associated organic loads, and must be developed using the design service area population, land use, and unique customer information.

Population/Land Use Projections

The engineering report shall develop flow and loading estimates through population and/or land use projections.

- Population Projections: Population projections are appropriate for single use service areas and well-defined residential developments that do not have significant commercial/industrial waste loads. For single use service areas, such as schools,

churches, campgrounds, etc., the population shall be expressed as the number of each population type at build out or certified occupancy. Population types for a single use treatment works may include day staff, over-night staff, visitors, etc. For well-defined residential developments/communities, the engineering report may rely on historical census data extrapolations or typical household sizes (e.g., single family equivalent (SFE) = 3.2 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE, etc.) to estimate service area populations. All information used to develop population estimates must be well documented in the engineering report.

- Land Use Projections: Land use projections are appropriate for significant service areas with a variety of land uses. Typically, local planning documents use a combination of open space, floor area ratio, and zoning types to define development within a service area. The engineering report shall subdivide the service area into land use types, such as open space, commercial, residential (SFE, R2, MF, etc.), and translate this information into residential populations, industrial/commercial land use areas, or building square footages to determine appropriate loading estimates.

Note, general land use estimates may not be considered adequate for special circumstances (food processing facilities or computer chip manufacturing) in a small community. These industries may exceed typical average waste loading values used for planning. The engineering report must deal with these unique circumstances on a case-by-case basis.

Flow/Loading Projections

Average Daily Flow: Following the development of population or land use projections, the engineering report shall develop an average daily flow for the service area over the defined planning period. When using historical data as the basis, the applicant shall use at least three (3) relevant years of matched population/land use and flow data. Potable water use data may be representative of wastewater flow with appropriate adjustments such as subtraction of outside irrigation water use. If historical data is not available, the engineering report shall use locally approved planning values for developing wastewater flows for each type of population/land use. If an approved comprehensive or master plan is not available, the engineering report shall justify planning values for wastewater flows for each type of population/land use. For single use service areas and OWTS, the engineering report shall develop the average daily flow using: 1) at least three (3) years of representative, matched daily population and flow data, if available, 2) planning values for flow provided in Regulation 43 (or successor), or 3) other applicable and widely accepted planning or engineering reference manuals. The engineering report shall include documentation of all references.

Maximum Month Average Daily Flow (Design Capacity): After establishing the average daily flow, the engineering report shall develop the maximum month average daily flow. For single use facilities and OWTS, the maximum month average daily flow is at full occupancy, and for OWTS, the flow values must follow Regulation 43 (or successor) requirements unless justified otherwise. For sites with significant fluctuations in daily flow, maximum month average daily flow must consider days with reasonable flow and not minimalist days (e.g., school with 22

days attendance divides monthly flow by 22 days, not 30 days). Some small-scale examples of maximum month average daily flow at full occupancy include:

- A small motel with 24 rooms. Planning values in Regulation 43 would indicate flow of 2,400 gpd (24 rooms, 2 per room, 50 gpcd). Evaluation of existing data with matched population might show average daily flow is 33 gpcd in January and 38 gpcd in August. Using the maximum month average daily flow (i.e., 38 gpcd in August) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,824 gpd (48 people, 38 gpcd).
- A rural school with 100 students and 20 staff. Planning values in Regulation 43 would indicate flow of 2,300 gpd (100 students at 20 gpcd with cafeteria but no gym or showers, 20 staff at 15 gpcd). Evaluation of existing data with matched population might show average daily flow is 14 gpcd in February and 16 gpcd in October including students and staff. Using the maximum month average daily flow (i.e., 16 gpcd in October) and pairing with full occupancy, the maximum month average daily flow at full occupancy would be 1,920 gpd (120 people, 16 gpcd).

For all other treatment works, the maximum month average daily flow must be tied to a special event, I&I, commercial and industrial contributions, a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the potential variability, this estimate shall be made using at least three (3) years of historic records. If historic records are unavailable, the engineering report shall document the basis for the proposed maximum month peaking factor. When the maximum flow stems from I&I estimates, the engineering report shall estimate I&I based on a percentage of the average daily flow. This seasonal flow should be added to the average daily flow as a non-peaked base flow to the proposed treatment works influent. Unsupported I&I estimates should be a minimum of 10 percent of the average daily flow. The engineering report shall include documentation of all references.

Peak Hour Flow: The engineering report shall build from the average daily flow estimate to develop a peak hour design flow or other justified design peak, if deemed necessary based on the service area. For example, a treatment works providing service only to a sports stadium may need to accommodate the peak flow from all fixture units operating simultaneously. For OWTS with a design capacity of 2,000 gpd or less, the design must follow Regulation 43 (or successor) requirements unless justified otherwise. An OWTS design may include a design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) may be larger to adequately cover some days with above-average flow, thereby allowing permitting by the local public health agency provided that daily flow monitoring is being periodically reported to the local agency to confirm the design capacity is not exceeded. Flow equalization is part of a treatment works. If an OWTS design has flow equalization and design capacity (i.e., maximum month average daily flow at full occupancy) of 2,000 gpd or less while some system components (e.g., septic tank, soil treatment area) are larger to adequately cover some days with above-average flow, the flow equalization can be used to smooth out peak day flows and

still allow permitting by the local public health agency. However, flow equalization in a treatment works receiving flows greater than 2,000 gpd for a maximum month average daily flow at full occupancy will require site application and design review and approval. For all other treatment works, the engineering report shall develop either a single composite peaking factor for all types of population/land uses or individual peaking factors for each type of population/land use. The peaking factors should be developed from at least three (3) years of historical data. If historical data is not available, the design shall rely on locally approved peaking factors or industry accepted peaking factor formulas. The engineering report shall include documentation of all references.

Organic Loading: With the projected service area flows established, the engineering report shall estimate the organic loading to the proposed treatment works. The engineering report must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic loads, and local planning requirements. The engineering report shall evaluate at least three (3) years of historical data. If not available, the engineering report shall justify the organic loading to the proposed treatment works through an analysis of individual user types and their anticipated organic loading. For single use facilities and OWTS, where historical data is unavailable, the engineering report shall rely on the planning values provided in Regulation 43 (or successor) or other applicable and widely accepted planning or engineering references. The engineering report shall include documentation of all references.

Staging or Phasing

Based on initial flows and loads, sometimes the proposed treatment works cannot function effectively especially when designed for the long-range planning associated with the service area. In this case, the applicant shall develop an operational plan, and this plan shall be included as part of the site location application rather than during the design review phase. The operational plan must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section 22.13 in this policy for specific information.

22.10(1)(c)(vi) Impact to Performance of the Treatment Works

The engineering report shall address how the proposed project could impact other treatment processes at the existing treatment works. The impacts could be in the form of hydraulic, pollutant(s), or solids loadings caused by, for example, an increase in hydraulic losses, addition of chemicals to the process, or change in the characteristics of recycle streams. Information in the form of a hydraulic profile, solids balance, and/or process calculations or modeling shall be provided to ensure that the treatment works can maintain the rated design capacities defined in the existing site location approval while continuing to meet the existing discharge permit effluent limitations or WQPTs.

22.10(1)(c)(vii) Project Cost and Funding Source

Where construction is required for the project, the engineering report shall identify the total project costs (i.e., including administrative, engineering, and construction) associated with the proposed treatment works, and must include evidence of sufficient financial resources to construct the proposed treatment works.

Funding for Privately Owned Treatment Works and Developers

If the applicant intends to finance the project independently, evidence of such financial capability in the form of written communication from a financial institution attesting to the applicant's possession of adequate capital to undertake the proposed project must be included with the engineering report. In the event that the applicant requires a loan to complete the project, the engineering report must include a letter from a financial institution, bond advisor, or other loan program indicating its intent to make such a loan for the purpose of constructing the proposed treatment works.

Funding for Municipal Treatment Works

For municipal or publicly financed treatment works, the applicant must address capital construction capabilities by demonstrating available cash resources through including copies of current budget documents with the engineering report. If the applicant intends to finance the project using loan and grant funds, the engineering report must include documentation from any provider agreeing to issue loans and/or grants for the proposed project including the SRF program. If the applicant intends to fund the project using bonds, the engineering report must include a copy of the report from a bond advisor or intended bond underwriter.

22.10(1)(c)(viii) Impacts to Facility Operator Classification

The engineering report must identify the current certification level of the operator in responsible charge for the existing treatment works and the change, if any, in the facility classification as a result of the proposed project. If the proposed project results in a change of the facility classification, the engineering report must discuss how the applicant will meet the requirements of *Regulation No. 100 – Water and Wastewater Facility Operators Certification Requirements* (Regulation 100) (e.g., current certified operator in responsible charge maintains or will obtain the necessary certification level, or the applicant will hire a certified operator with the necessary certification level).

22.10(1)(c)(ix) Project Schedule

Where construction is required for the project, the engineering report must include a project or implementation schedule for the proposed treatment works. The schedule shall be presented in the form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a minimum, the schedule shall include the estimated time to construct the proposed treatment works from the commencement of construction to start-up, any required staging or phasing, and the projected start-up date. Additional information, such as projected site location approval, design review submittal, design approval, and bid award dates can assist the Division in visualizing the applicant's overall schedule. In cases where the project involves increasing or decreasing the rated design capacity of an existing treatment works without construction, the schedule shall include milestones for site location approval, design review submittal, and design approval.

22.10(1)(c)(x) Geotechnical Information for New Structures

For projects requiring new structures or foundations, Regulation 22 indicates that the engineering report must include the information used to evaluate geotechnical conditions at the proposed and alternative sites. Since geotechnical conditions of each alternative site may impact the ultimate location of the proposed treatment works, the engineering report shall only be required to discuss the general geotechnical conditions at each alternative site due to the potential cost implications, but shall be required to provide a site-specific geotechnical investigation for the proposed site located within the boundaries of the existing site location approval.

For the proposed site, the applicant has two ways to address the site location application requirements within the engineering report, which include either providing preliminary geotechnical information or a formal geotechnical report.

Preliminary Geotechnical Information

First, the engineering report can include preliminary geotechnical information for the selected site comprised of reference materials available from the Natural Resource Conservation Service (i.e., Soil Surveys), Colorado Geological Survey, on-site or nearby geotechnical investigations, or other geotechnical data deemed representative of the site. The preliminary geotechnical information for all proposed groundwater discharges must provide an indication of anticipated percolation rates or include soil profile test pit information from similar conditions completed in accordance with Regulation 43 (or successor) or overriding local requirements. In using the preliminary geotechnical information, Regulation 22 identifies that the information provided must be sufficient for "that person" to make a determination that the site can reasonably be expected to support the proposed treatment works. The Division interprets "that person" to be a professional geologist or a Colorado licensed professional engineer with an appropriate level of experience investigating geologic site conditions. The Division expects "that person" to either review or create the data provided within the engineering report, and provide a statement indicating that the selected site can reasonably be expected to support the proposed treatment works. The engineering report shall continue to build on the materials provided with the preliminary geotechnical information by discussing the impact of the findings at each alternative site on the design, construction, operation, and maintenance of the proposed treatment works.

Note that Section 22.7(1)(c)(vii) of Regulation 22 states that the Division may require that geotechnical evidence be presented in the form of a report. The Division interprets this to mean that the applicant must submit a geotechnical report for all proposed treatment works during the site location application or design review process, unless waived by the Division in writing.

Formal Geotechnical Report

Thus, the applicant may submit a formal geotechnical report instead of preliminary geotechnical information for the selected site location of the treatment works at the time of site location application. The applicant may also use a formal geotechnical report prepared

for previous work conducted at the existing treatment works to fulfill this requirement. At a minimum, this geotechnical report shall include site-specific soil boring information that discusses seasonal and measured groundwater conditions, soil bearing capacity, excavation benching, shoring, and sloping, bedding and backfill, compaction and moisture conditioning, alternative foundation design, an analysis of geotechnical hazards, and design recommendations based on the findings. The geotechnical report for all proposed groundwater discharges must provide percolation test data at the proposed discharge elevation or must present soil profile test pit information completed in accordance with Regulation 43 (or successor). Per Regulation 22, the Division may require a geotechnical report stating that the site will support the proposed treatment works. When the minimum requirements of the geotechnical report are met, the Division considers the associated design recommendations contained within the report to indicate that the site will support the proposed treatment works. At this point, the submittal of the formal geotechnical report would fulfill the geotechnical submittal requirements for both the site location and design application submittal, and resubmittal of the geotechnical report during the design review process is not required.

Conditional Site Location Approval based on Preliminary Geotechnical Information

If the engineering report only includes preliminary geotechnical information as a means to determine that the site can reasonably be expected to support the proposed treatment works, then the site location approval will be issued conditionally upon the applicant providing a formal geotechnical report as part of the design review submittal. Additionally, if the applicant receives a conditional site location approval based on only preliminary geotechnical information but the formal geotechnical report submitted during the design review phase indicates that the site will not support the proposed treatment works, the applicant shall provide a statement as such in writing to the Division. The Division may modify the original site location approval, which may require the applicant to reapply for a site location approval at an alternate site under Section 22.6 of Regulation 22.

22.10(1)(c)(xi) Request for Chemical Evaluation Form

In cases where the proposed project will introduce the use of a new chemical to the existing treatment works (e.g., a change from other types of disinfection to chlorination, the use of ferric chloride or aluminum sulfate as a coagulant to remove phosphorus or metals, etc.), the applicant shall be required to submit the *Domestic Water Quality Planning Target/PEL Application Form* (replaces the use of the Chemical Evaluation Form) to the Permits Section to determine whether the existing permit, permit modification, or new permit can serve as the WQPTs for the proposed project. The applicant shall include a copy of the determination from the Permits Section in the engineering report.

22.10(1)(c)(xii) Outfall Sewer Location

If the proposed project includes the construction of a new outfall sewer, the map required under Section 22.10(1)(c)(ii) of Regulation 22 shall include the location of the new outfall sewer in relation to the boundaries of the existing site location approval. The engineering report shall additionally identify the discharge location of the new outfall sewer and the

stream segment to receive the treated wastewater effluent. Note, if the new outfall sewer requires ownership of property or an easement outside the boundary of the existing site location approval, the applicant must submit the project through Section 22.6.

22.10(1)(c)(xiii) Review Agency Notification

Regulation 22 requires the applicant to provide copies of the site location application and engineering report to the review agencies prior to submission to the Division. The agencies will evaluate the site location application based on each agency's plans, policies, rules and regulations, which may include the 208 plan for the area, should such a plan exist. The applicant must perform all necessary coordination and supply all information to the agencies. These agencies may include the county, city or town, local health authority, designated planning and management agencies, and any other state or federal agencies (for a list of county health agencies and 208 planning and management agencies refer to Appendix B).

The applicant shall provide each review agency at least 15 days to review the site location application and engineering report. The site location application shall include dated correspondence to each review agency to demonstrate that 15 days was allowed for each review. The applicant may submit the site application to the Division prior to fifteen 15 days, but the Division will not complete a site location decision prior to providing all review agencies the allotted review times as indicated in Regulation 22. For amendments of existing site location approvals, the review agencies are encouraged to comment directly to the Division unless a brief (less than 15 working days) extension is requested in writing. Any correspondence or comments received by the applicant from a review agency after submittal of the site location application shall be forwarded to the Division.

Note, the applicant is not required to provide copies to the review agencies for the types of disinfection modifications described in section 22.10(2)(a)(ii).

22.10(1)(c)(xiv) Water Quality Planning Targets

The applicant must submit a *Domestic Water Quality Planning Target/PEL Application Form* to the Permits Section in order to determine the WQPTs needed for the proposed project. WQPTs can consist of existing permits, water quality assessments, a permit modification, a new permit, a PEL document, a limited-scope PEL, or a combination thereof. A copy of the determination from the Permits Section identifying the document to be used as the WQPTs shall be included with the engineering report. If the determination requires the applicant to perform a permit action or obtain PELs for the proposed project, then the applicant must apply for these documents prior to submitting a site location application for review. For additional information concerning the WQPT determination process and how to obtain PELs, the applicant shall refer to the following Permits Section's *Water Quality Planning Targets and Preliminary Effluent Limitations (PELs)* web page: https://cdphe.colorado.gov/WQ_Planning_Targets_and_PELs.

In the case where PELs are required for the proposed project, the PELs will provide discharge criteria specific to the stream segment, or groundwater, receiving the discharge at the

proposed design hydraulic capacity. The applicant shall include a copy of the PELs with the site location application. If there are questions regarding the validity of older PELs, the application should refer to the November 2020 Division guidance document, *Establishment of Water Quality Planning Targets and PELs*. When PELs are no longer valid, the applicant shall be required to obtain a new determination of WQPTs. Note, the request for new WQPTs by the applicant may inherently delay the site location application review by the Division.

When PELs are developed for the proposed project, the PEL document will establish limitations for three (3) sets of parameters.

1. The first set of parameters may contain the following: BOD, TSS, E. coli, pH, nitrogen species (i.e., ammonia, nitrate, nitrite, TIN, and TN), TRC, and TP. The Division may also include other parameters in the first set of limitations, particularly where a current permit includes a limit for a given parameter. During the site location application process, the Division will evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the first set of parameters.
2. The second set of parameters may contain all of the metals, inorganic parameters, and WET testing for which numeric standards have been adopted by the Commission for the receiving stream segment, or groundwater, and proximate downstream segments, except those included in the first set of parameters. During the site location application process, the Division may or may not evaluate the selected treatment alternative to ensure the technology can meet the limitations defined for the second set of parameters depending on how the applicant plans to address these limitations. The limitations contained in this second set may be able to be met by the development of a pretreatment program, the refinement of local limits under an existing pretreatment program, or other methods of source water control. In these instances, the ability of the treatment works to meet these limitations will not be reviewed under the site location application process and are the responsibility of the permittee. If treatment or other operational control methods are to be used specific to a parameter(s) in the second set, the ability of the treatment works to meet the limitation(s) will be reviewed under the site location application process.
3. The third set of parameters may contain a summary of potential Regulation 31 nutrient limitations that have been developed for the PEL. The WQBELs expressed in the third set of parameters are based on standards that have not yet been adopted by the Commission, but become effective December 31, 2027, as currently written. The values are provided for planning purposes in order to assist the applicant in long-term planning for nutrient removal. This may be especially beneficial for applicants using the SRF program or other federal funds to finance a proposed project, where the applicant is required to perform an alternatives analysis projecting current and future costs for specific treatment processes.

Where a Temporary Modification of a Standard for the Second Set Parameters or a Site-Specific Ambient-Based Standard Has Been Approved by the Commission

Where a temporary modification is in place (at the time the Division begins working on the PELs) for a parameter which is based on significant uncertainty regarding the water quality standard necessary to protect current and/or future uses, or which is based on significant uncertainty regarding the extent to which existing quality is the result of natural or irreversible human-induced conditions, the Division will determine the appropriate PEL based on Section 31.9(4) of Regulation 31. Where another type of temporary modification is in place (i.e., one based on significant uncertainty regarding the timing of implementing attainable source controls or treatment), the PEL will be set based on the underlying standard.

Where a site-specific, ambient-based standard has been approved by the Commission and is in place at the time the Division begins working on the PELs, the PEL for that parameter will be based on the site-specific standard.

22.10(1)(c)(xv) Anticipated Future Effluent Limits

The engineering report shall provide a high-level discussion concerning how the proposed project fits within the applicant's long range plan and how the changes will allow the treatment works to maintain compliance. The applicant may use the Regulation 31 planning limits provided as part of any WQPTs to aid in this discussion.

22.10(2) Amendment of an Existing Site Location Approval for a Treatment Plant

An amendment of an existing site location approval for a treatment plant shall be required for any of the projects described in Section 22.10(2) of Regulation 22, which are discussed in more detail at the beginning of this section of the policy. The amendment site location application process is only available for changes where the treatment plant has received prior site location approval or was constructed prior to November 1967 and has not been expanded or modified since that date. The Division wishes to clarify the in-kind replacement language provided under this section of Regulation 22. An amendment is not required if the project consists of changes that meet the definition of in-kind replacement or the provisions of O&M as described in Section 22.12. However, if the project does not include construction but involves an increase or decrease in design capacity, the project shall be submitted as an amendment to an existing site location approval. On the other hand, if the project is being used to derate the design capacity of an existing treatment works to 2,000 gpd or less, then the applicant must submit the project through Section 22.7 of Regulation 22.

22.10(3) Amendment of an Existing Site Location Approval for a Lift Station

An amendment of an existing site location approval for a lift station shall be required for any of the projects described in Section 22.10(3) of Regulation 22, which are discussed in more detail at the beginning of this section of the policy. The amendment site location application process is only available for changes where the lift station has received prior site location approval or was constructed prior to November 1967 and has not been expanded or modified since that date. Also, the amendment process is not available for increasing or decreasing the design capacity of a lift station regardless of whether construction will take place. The

Division wishes to clarify the review agency notification requirements under this section of Regulation 22. Per Section 22.10(1), the applicant is required to submit the site location application to the review agencies identified in Section 22.9, and the review agencies notification procedures shall be in accordance with Sections 22.10(1) and 22.10(1)(c)(xiii) of Regulation 22 and the associated sections of this policy. The applicant is not expected to gain signatures or comments from the review agencies, and the review agencies shall be given 15 working days to review and comment directly to the Division. If a proposed project involves the addition of biological treatment at a lift station site location, the project will not be eligible for submittal as an amendment of an existing site location approval, and will be handled on a case by case basis to be determined by the Division.

22.11 APPLICATION PROCEDURES FOR DEMONSTRATION PROJECTS

A treatment works with a site location approval may submit a site location demonstration project application to temporarily modify their site location approval or conditional site location approval for the evaluation of processes, chemicals, and technologies. Demonstration projects have a limited time period during which testing may be conducted and cannot extend beyond two (2) years without receiving an extension from the Division. During the duration of the demonstration project, the treatment works must comply with permit effluent limitations and other permit conditions. Demonstration projects require site location approval prior to commencement of construction, operation, and testing. The site location approval does not relieve the owner from compliance with all local, state, and federal requirements (e.g., local building permit).

As defined in Regulation 22, a "DEMONSTRATION PROJECT" means testing of an individual process, technology, or chemical, or combination(s) of processes, technologies, and/or chemicals at an existing facility that has previously obtained site location and design approval. Demonstration projects occur at a scale, location in the process, or configuration that may have the potential to affect water quality or treatment capabilities. Sufficient testing and data are needed to support an alternative technology application. Where that data does not already exist, is not applicable to, or cannot be correlated to accommodate Colorado-specific conditions, such as extreme temperatures and high-altitude facility installations, Colorado-specific testing and data may be needed to support an alternative technology application and a demonstration project may be required. Demonstration projects require site location approval prior to commencement of construction, operation, and testing. Any Division determination regarding whether a project is a demonstration project is separate from a Division determination of permit compliance and whether a permit modification is required.

Demonstration projects are intended for testing individual unit processes, technologies, chemicals, or combinations at existing facilities. Demonstration projects are larger-scale, longer term projects that have the potential to affect water quality or treatment capabilities.

Pilot projects do not require site location approval prior to commencement. Pilot projects are small-scale, temporary investigations such as bench top studies, vendor equipment proofs, or projects with a hydraulic throughput of less than 1.5 percent of the treatment works' current average daily flow. Process optimization activities of existing, approved infrastructure at a treatment works are considered pilots even if operated at full-scale.

As defined in Regulation 22, a "PILOT PROJECT" means testing of an individual process, technology, or chemical, or combination(s) of processes, technologies, and/or chemicals at an existing facility that has previously obtained site location and design approval. Pilot projects occur at a scale, configuration, and location in the process that does not qualify as a demonstration project. Examples of pilot projects include short-term equipment testing that does not impact the liquid stream directly or through recycle flows and process optimization

to achieve more efficient treatment, reduction in pollutants discharged, or improved water quality and that occurs within the existing treatment configuration authorized under a previous site application. Pilot projects do not relieve permittees from complying with discharge permit requirements. The operation and configuration of pilot projects must be capable of being returned to approved site location and design conditions immediately and without capital construction. Pilot projects do not require site location approval prior to commencement. Any Division determination regarding whether a project is a pilot project is separate from a Division determination of permit compliance and whether a permit modification is required.

Examples of pilot projects include:

1. Bench scale testing with or without chemicals. Bench Scale Testing means testing of materials, methods, technologies, equipment or processes at laboratory scale, such as on a laboratory worktable, disconnected from the full-scale treatment process;
2. Process optimization to achieve more efficient treatment or improved water quality and that occurs within the existing treatment configuration authorized under a previous site location approval unless it may impact data collected from samplers or flow meters used for discharge monitoring report (DMR) reporting. The operation and configuration can be returned to approved conditions immediately and without capital construction;
3. Short-term equipment trials (less than 6 months in duration) if testing does not impact the liquid stream directly or through recycle flows; and
4. Projects with hydraulic throughputs less than 1.5 percent of the treatment works' current daily average hydraulic flow where the project effluent routes upstream of secondary treatment.

General Site Location Application Procedures for Demonstration Projects

1. Once the Division receives the information indicated in Section 22.11, the Division will review the submittal and when all requirements are met, will issue written approval to proceed with the proposed demonstration project.
2. Throughout a demonstration project, the Division retains its enforcement authority as it relates to the Colorado Water Quality Control Act. The applicant will be responsible for ensuring that the demonstration project does not cause non-compliance with the discharge permit for the treatment works at which the demonstration project is being implemented.
3. Prior to permanent utilization of the process/technology involved in the demonstration project, site location and design approval must be obtained.
4. The demonstration project will be reviewed against the criteria in Table 11-1 to determine whether a demonstration approval is required based on the requirements of Regulation 22. Where a project may fall into various categories, the Division will consider the most stringent requirement for demonstration projects that meet the criteria of multiple testing environments. If a situation is unclear, the Division requires

the permittee to request a determination from the Division prior to initiation of the demonstration project.

5. Temporary construction (e.g., tanks, process piping, appurtenances) directly associated with the implementation of the demonstration project is acceptable and does not require Division notification or approval provided the testing configuration can be returned to prior operating conditions immediately and without capital construction.
6. Coordination with the Division early in the demonstration process is encouraged to determine if a technology falls into the "Alternative Technology" category. An alternative technology review process is for new or nonconforming technologies not represented in the current design criteria. Alternative technology refers to an established or innovative technology with a compliance record that is in use in other states or countries, but is alternative in the sense that Colorado design criteria have not been developed for the technology. Thus, the technology is not currently accepted for use in Colorado.
7. If the applicant foresees that demonstration project test results may be used in the future for a site location application, it is generally recommended to involve the Division early to assure data collected satisfies the needs of the Division for the review and approval process.
8. Demonstration projects have a limited time period during which testing may be conducted and cannot extend beyond two (2) years without receiving an extension from the Division. The Division may authorize the operation of demonstration equipment and processes beyond two (2) years upon written request. The written request shall specify the reason(s) for the extension request, set forth a proposed schedule for completion of the demonstration project, and identify a specific date by which the demonstration project will conclude. For example, extension requests may be made for the following: awaiting a Division decision of site location and design applications, alternative technology application, or permit modification; construction of the permanent installation; or other circumstance that could not reasonably be foreseen at the time of the initial demonstration project approval. Requests for extension of the demonstration project testing period must be made in writing no later than 45 calendar days prior to the end of the authorized testing period. For projects lasting two (2) years, it is recommended to submit intermediate findings and results to the Division after the first year of operation to coordinate and address any possible data gaps that may delay a later site location application approval or alternative technology acceptance.
9. Once the demonstration testing period ends, the tested equipment/process must be taken off-line.
10. Posting of the site and review agency notifications are not required for demonstration projects.

Table 11-1 Pilot and Demonstration Project Categories and Requirements

Project Type	Pilot Project	Demonstration Project	Site Location Approval Required
Equipment Trial for less than 6 months in duration	X		No
Equipment Trial for more than 6 months in duration		X	Yes
Temporary testing projects which discharge directly to the environment		X	Yes
Temporary testing projects with hydraulic throughputs less than 1.5 percent of the treatment works' current daily average hydraulic flow where the project effluent routes upstream of secondary treatment	X		No
Temporary testing projects with hydraulic throughputs greater than 1.5 percent of the treatment works' current average daily hydraulic flow		X	Yes

Submittal Expectations for Requesting Approval to Conduct the Demonstration Project

1. The applicant for a demonstration project at an approved site location shall prepare and submit the following form and information to the Division:

    - Domestic Water Quality Planning Target/PEL Application Form
    - Section 22.11 - Demonstration Project; and
    - Demonstration Project Testing Plan.

    The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the form completely and accurately prior to submission to the Division. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy.
2. Existing effluent limitations or communication from the Division explaining what document will be the project's WQPTs and the associated document. To have WQPTs evaluated for the demonstration project, submit a Domestic Water Quality Planning Target/PEL Application Form to the Permits Section. The evaluation will determine the limitations that can be used for the project or when PELs need to be obtained. For

chemical additions, planned injection rate(s) and safety data sheet (SDS) information for each chemical shall be included in the Demonstration Project Testing Plan.

3. Accompanying the application form shall be a Demonstration Project Testing Plan describing the proposed project. The Plan (i.e., engineering report) shall meet all the requirements of Section 22.4 and shall be signed and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors* issued by DORA. The Plan shall address/include the following at a minimum:

    a. Project goal and description of the demonstration test technology, process, or chemical;
    b. Relevant information the Division must consider pursuant to Sections 22.3 and 22.5 of Regulation 22;
    c. Description of the testing protocol including sampling plan with testing frequencies, locations, and methods. The planned sampling and analyses to be performed shall demonstrate unit-by-unit performance as a result of the demonstration project testing;
    d. Site plan or PFD (before and during proposed demonstration installation) that indicate how and where the demonstration project will be installed and incorporated into the existing treatment works. Show all equipment, tanks, treatment processes, chemical additions and waste streams;
    e. A description of the nature and extent of construction work that will be required to implement the demonstration project. Where construction will be required for the demonstration project, submission of sufficient information to demonstrate compliance with the requirements of the design criteria;
    f. Identification of any waste streams that will be generated by the demonstration project and a description of the disposal method for each waste stream;
    g. A description of how the proposed project will impact the performance of other parts of the treatment works and the impact on each unit treatment process's ability to meet effluent limitations (existing and proposed WQPTs); and
    h. Project schedule including proposed start and end dates.

4. The Division's approval may require submission of interim reporting, depending on the specifics of the demonstration project.
5. Upon completion of the demonstration project and in accordance with the requirements stated in the site location approval letter for the demonstration project, the applicant may need to submit a Demonstration Project Testing Report to the Division. If this report is required, it shall include a summary of the testing activities, sampling and analyses results, and a discussion of findings and conclusions.

Note, for the site location application submittal requirements for permanent utilization of demonstration tested technology/processes, refer to Section 22.7 or 22.10, as applicable, of Regulation 22.

22.12 IN-KIND REPLACEMENT

Purpose and Basis of the In-Kind Replacement

On September 30, 2009, the Commission added the "In-Kind Replacement" section to Regulation 22 as a means for a person to replace a piece of equipment with a similar piece of equipment that has a slightly higher rating without having to obtain site location approval. Section 22.23 of Regulation 22 further discusses the basis and purpose for the Commission's adoption of the "In-Kind Replacement" section, and the Division used the information provided in this section as a foundation to interpret the sections of Regulation 22 relating to in-kind replacements and set appropriate expectations.

Based on Section 22.23 of Regulation 22, the Commission intended to allow replacement or technology upgrades to qualify as in-kind replacement as long as the original intent of the unit process being renovated was not changed. Additionally, the Commission expected in-kind replacement requests to be generally limited to equipment/structural failures or where the expected design life had been reached and replacement was prudent to assure continued compliance. Originally, "continued compliance" appeared in a slightly different form under the definitions section of Regulation 22, which indicated that in-kind replacements must be part of normal or emergency maintenance to assure continued compliance with applicable permit conditions, including effluent limitations. Understanding that "continued compliance" could not be applied equally to treatment plants, lift stations, and interceptor sewers, the Commission included language in the June 14, 2020 revision of Regulation 22, per Section 22.2(16), that associated "continued compliance" with site location, design, and permit conditions. Thus, the Division shall evaluate the replacement of any process treatment component or hydraulic conveyance component at an existing, approved treatment works to assure continued compliance with the Division-issued site location and design approval(s), as well as any applicable excerpts from a treatment plant's discharge permit.

Projects That Do Not Require Division Notification

Projects considered O&M activities or identical replacements are exempt from Regulation 22 and this policy, and the project may be completed without Division notification or site location approval. This stance is first mentioned in Section 22.2(16) of Regulation 22, where the definition contains language disclosing that in-kind replacement does not include O&M activities or identical replacements of any process treatment component or hydraulic conveyance component at an existing approved treatment works. Additional language provided under Section 22.12(1) of Regulation 22 identifies that Division notification is not required for O&M activities or identical replacements of a process treatment component or hydraulic conveyance component including but not limited to, replacement with the same size and technology in the same location or for replacement of valves, non-wastewater lifting pumps, piping, pipe relining, yard structures, motors, splitter structures, manholes, vaults, samplers, monitoring equipment, and support systems. While generally in agreement that these types of activities are considered O&M, the Division feels that further clarification is needed for some of the activities identified.

Replacement with same size and technology in the same location is identified as an O&M activity, but the term "size" can be ambiguous to the component being replaced. Specifically in the case of aerators, blowers, mixers, and pumps, the Division is concerned with the rating (e.g., hydraulic, scfm, power imparted) of the equipment, rather than the impeller/rotor diameter, impeller/motor speed, motor horsepower, or outlet diameter. The Division understands that for a given rating, the latter items may vary between manufacturers. The term "size" refers to the rating of the equipment, and O&M activities applies to the replacement of the equipment where the rating is maintained. Under these conditions, the impeller/rotor diameter, impeller/motor speed, motor horsepower, or pump outlet diameter may vary.

Non-wastewater lifting pumps normally do not affect the hydraulic design capacity of a treatment plant, but they can directly affect process and/or overall treatment plant capabilities (i.e., organic design capacity). For instance, improperly sizing a return activated sludge (RAS) pump could lead to a failure in the clarification process allowing increased TSS to be discharged from the treatment plant, as well as affect the treatment capabilities of downstream treatment processes. However, improperly sizing pumps used to convey the grit slurry from a grit chamber could lead to increased pump run times and/or needing to perform additional O&M due to the deposition of grit solids in downstream treatment processes, but failure to properly size the pump would not limit the organic design capacity of the treatment plant. The Division therefore wishes to clarify that the replacement of non-wastewater lifting pumps that can affect the organic design capacity of a treatment plant (e.g., RAS pumps, waste activated sludge (WAS) pumps, etc.) is not considered an O&M activity.

Replacement of piping under most conditions is considered to be an O&M activity, but in some cases, the activity could directly affect the hydraulic design capacity of the treatment works. For example, replacing a force main with smaller diameter piping to increase velocities and reduce O&M could increase the head conditions placed on the pumps, therefore, reducing the hydraulic capacity of the pump. In cases where Regulation 22 applies to the treatment works (i.e., lift stations designed to receive greater than 2,000 gpd of domestic wastewater) and the Division has specific design criteria for the piping (i.e., force mains), the replacement of force main piping is not considered an O&M activity, unless the piping being replaced is an identical replacement. All other replacement piping, including those at a treatment plant, are considered O&M activities.

Monitoring equipment can consist of devices used to measure flow, level, and wastewater parameters; determine status and alarms conditions; and relay these conditions (i.e., PLC, SCADA, autodialer, etc.) to an operator. Some of these devices may be required to determine the applicability of the site location and design application processes (e.g., a flow meter used to measure the receiving wastewater flow) or for compliance with a treatment plant's discharge permit (e.g., influent/effluent flow measurement). The Division would like to further clarify that the replacement of monitoring equipment required to document continued compliance with applicable site location, design, and permit conditions is not considered an O&M activity. The replacement of all other monitoring equipment (e.g., that

which is used for process optimization and control and status observation) is considered an O&M activity.

These additional considerations do not apply if the component is an identical replacement, in which the project may be completed without Division notification or site location approval.

Projects Considered In-Kind Replacement

To provide some flexibility for equipment or structure replacements, Section 22.2(16) of Regulation 22 states that an in-kind replacement may be a similar component as long as the proposed replacement or technology upgrades do not change the original intent of the equipment or structure being renovated, do not impact the design capacity, and do not require the application of alternate design criteria (e.g., change from chemical to ultraviolet light disinfection). Section 22.23 of Regulation 22 indicates that the Commission originally recognized replacement of equipment and structures could not always be exact makes, models, and/or sizes (dimensions and/or power), and used the word "similar" to describe replacements that are not identical to the approved equipment or structure. The Commission specifically identified the following examples that meet the intent of "similar" and may qualify as in-kind replacement.

1. Replacement of older equipment with modern versions that may be more efficient;
2. Replacement of a single unit with a modern version at a higher rated capacity to provide a factor of safety when multiple existing units are in service; and
3. Replacement or technology upgrades as long as the original intent of the unit process being renovated is not changed (e.g., replacing a bar screen with a fine screen).

The Division finds that these examples may qualify for consideration as "similar" or in-kind replacements only under specific circumstances, but the examples, as stated, do not provide sufficient information to make that determination and cannot be used by applicants as a basis for identifying approvable in-kind replacements. For this reason and per Section 22.24 of Regulation 22, the Commission added language to the in-kind replacement definition to clarify the difference between projects that require amendment of an existing site location approval, acknowledgement of the project as an in-kind replacement, or no notification to the Division. The Commission provided additional clarification that in-kind replacements are intended for a structure or piece of equipment, and not a unit treatment process that has the potential to impact the solids or liquid stream design capacities or a technology change that requires substantially different design criteria. In order for an applicant to better understand how these conditions apply to proposed equipment and structure replacements, several examples have been provided below.

Example No. 1 - Replacing a manual coarse bar screen with a mechanical fine screen to reduce the impacts of debris and nuisance materials on downstream treatment processes at a treatment plant may seem to qualify as an in-kind replacement, because the proposed project appears to:

1. Meet the original intent of the process treatment component to remove debris and nuisance materials prior to entering the secondary treatment process;
2. Not increase the overall rated design capacity of the treatment works;
3. Qualify as a similar component; and
4. Be needed to assure continued compliance with the applicable site location, design, and permit conditions, including effluent limitations.

While these items may be true, the project could have impacts beyond the items identified above, which are as follows:

5. An increase in hydraulic loss through the screen possibly affecting the design capacity of the preliminary treatment process and accuracy of nearby equipment used for permit compliance (e.g., influent flume); and
6. May require substantially different design criteria, which could include establishing the inlet channel velocity, the design maximum velocity through the screen, and required ancillary equipment.

In this example, sufficient information is not provided to assess whether the proposed project meets the intent of in-kind replacement. The applicant needs to provide supplemental materials with the application proving that the mechanical fine screen would not impact the solids or liquid stream design capacities and that the change could meet the requirements of the design criteria with minimal supporting information. If neither of these conditions can be met by the proposed equipment, then the project does not meet the intent of in-kind replacement, and may need to be submitted and approved through another site location application process.

Example No. 2 - Replacing an in-channel ultraviolet (UV) disinfection system with another in-channel type system produced by a different manufacturer. In both cases, the UV disinfection systems consist of low pressure, high intensity lamps arranged horizontally in the channel and parallel to the direction of the flow. This project appears to meet the conditions required to qualify as an in-kind replacement, with the exception of a couple of design elements that could affect the hydraulic and treatment capabilities of the overall process. In order to justify the applicability of in-kind replacement, the applicant needs to provide supplemental information indicating that the replacement disinfection system will fit within the existing channel with minor modifications, maintain the device (i.e., modulating gate, serpentine weir, etc.) used to establish the effluent level in the channel, and prove through use of a bioassay that the proposed equipment can meet the dosing requirements of the design criteria. If the replacement UV disinfection equipment requires new construction (i.e., a new building or additional channels), replacement of components beyond the lamps and associated electrical equipment and instrumentation, or substantially changes the hydraulic grade through treatment process (e.g., installation in a prefabricated, stainless steel channel above the finish floor), then the project may need to be submitted and approved through another site location application process.

Example No. 3 - For a lift station, replacing self-priming centrifugal pumps installed above grade with submersible pumps installed in the wet well (or vice versa for that matter). The proposed pumps will be designed for the same flow and head conditions (i.e., hydraulic capacity), and will continue to utilize the existing well wet, force main, emergency overflow storage, and standby generator. Minor piping and wet well modifications will be required to install the pumps, and a new valve vault will be installed outside the existing wet well. With the submersible pumps meeting the intent of the original equipment and maintaining the hydraulic design capacity, the project appears to meet the conditions required to qualify as an in-kind replacement. If the hydraulic capacity of the pumps is substantially different than defined in the site location approval or existing equipment/infrastructure beyond the pumps is replaced (i.e., new wet well, emergency overflow storage, or generator) and not considered an identical replacement, then the project may need to be submitted and approved through another site application process.

Projects Not Considered In-Kind Replacement

As discussed previously, the Commission provided additional clarification through Section 22.24 of Regulation 22 that in-kind replacement is not available for the following:

1. A unit treatment process that has the potential to impact the solids or liquid stream design capacity;
2. Components that have not yet received site location and design approval; and
3. A technology change that requires substantially different design criteria.

With these additions, the Division still finds that Regulation 22 needs further clarification and is silent on specific instances that do not qualify for in-kind replacements. The Division considers that the following scenarios do not meet the definition of in-kind replacement for a proposed “similar” component, but may for a proposed identical replacement of a component.

1. Any portion of a treatment plant, lift station, or interceptor that received a variance, site-specific deviation, or alternative technology acceptance that has not yet been incorporated into the design criteria;
2. Projects that enable compliance with emerging/future applicable permit conditions, including effluent limitations that may be expressed as compliance schedules in the active discharge permit associated with the current site location approval;
3. Projects that increase the design capacity for lift stations and interceptor sewers whether or not the applicant intends to request an increase in the overall design capacity;
4. Projects, whether through a single component or multiple components, that enable the applicant to achieve a significant increase in the treatment plant, lift station, or interceptor design capacity that could be realized through a subsequent amendment of an existing site location application, as defined in Section 22.10 of Regulation 22; and
5. Projects where the equipment being replaced is to be maintained for redundancy.

22.12(1) In-Kind Replacement Submittal Requirements/Expectations

The applicant shall prepare and submit the following form and information to the Division:

- Section 22.12 - In-Kind Replacement; and
- Engineering Report.

The site location application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. All information provided on the application must conform to the requirements set forth in Regulation 22 and in this policy.

Submittal Timelines

Projects that meet the definition of in-kind replacement require the applicant to submit the site location application indicating the nature and extent of such replacement to the Division no later than 15 working days after the replacement work has been put into service. Considering the potentially complicated and abstract requests for in-kind replacement requests, the Division strongly recommends submitting the application for proposed in-kind replacements prior to construction even though Regulation 22 allows otherwise. This will help to avoid situations where the Division finds that the project does not meet the definition of in-kind replacement, and an after-the-fact site location and design application are required with no guarantee that approval can be granted.

As far as the Division's response to the site location application, Section 22.24 of Regulation 22 indicates that the Division's goal is to provide the owner notification within 30 working days acknowledging whether the project meets the definition of in-kind replacement. The Division interprets the 30 working days to begin once a complete application has been submitted, thus, enabling the Division to adequately assess the proposed project. If the original application does not provide sufficient information, the Division shall work expeditiously to correspond with the applicant.

22.12(1)(a) Availability of Submittal Form

As identified above, the form required for the site location application process is available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

22.12(1)(b) Engineering Report

The applicant shall prepare and submit an engineering report as part of the application process for site location approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws*,

Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors issued by DORA, and shall completely address the items as addressed in each of the Sections 22.12(1)(b)(i) through 22.12(1)(b)(ii) of Regulation 22 and as guided by this policy. Additionally, the engineering report shall include all the information the Division must consider in Sections 22.3 and 22.5.

22.12(1)(b)(i) Existing Domestic Wastewater Treatment Works Information

The engineering report shall include the following information pertaining to the existing treatment works where the in-kind replacement project will be performed:

(A) Identify all site location and amendment approval numbers and stipulated design approval capacities (flow and load);
(B) Identify the name of the treatment works, whether it is a treatment plant, lift station, or interceptor; and
(C) Provide a process description of the existing treatment works, including the original design intent of the existing equipment, structure, or component to be replaced.

22.12(1)(b)(ii) In-Kind Replacement Details

The engineering report shall address and/or include the following details specific to the in-kind replacement project:

(A) Provide a description of the project including a discussion of how the in-kind replacement is required to ensure continued compliance with applicable site location, design, and permit conditions;
(B) Date of installation of original equipment and installation date for in-kind replacement or anticipated date of construction or need;
(C) Description of the existing and proposed equipment, structure, or component to be replaced including physical sizes, power, capacities, compliance with the design criteria, etc. The applicant shall provide the information critical to demonstrating that the proposed change meets the definition of in-kind replacement, which may include the submittal of calculations and supporting data;
(D) Discuss the reason for the in-kind replacement, which could include such reasons as service life or equipment failure. For service life, the applicant should provide the original installation date and expected design life of the equipment;
(E) Discuss whether the existing equipment, structure, or component received a variance, site-specific deviation, or alternative technology acceptance as part the original site location or design approval process, and if so, describe the specifics of the conditional approval; and
(F) Identify the discharge permit number for the treatment plant or the treatment plant receiving the flow, if the application is for a lift station or interceptor sewer.

In cases where the above information is not adequate to determine whether the project meets the definition of in-kind replacement, the Division may require supplemental information be submitted to support the application.

Issuance of Site Location Decision

Approval of a site location application for an in-kind replacement is issued from the Division in the form of an acknowledgement letter agreeing that the project meets the definition of in-kind replacement. If the project does not meet the definition of in-kind replacement, either because the project is an identical replacement, considered O&M, or requires submittal through another site location application process, the Division will issue a written denial letter to the applicant. The written denial will provide the reasons that the application was denied and what details the applicant may take to resolve the issue(s), if possible.

22.12(3) Eligibility for In-Kind Replacement

All treatment plants, lift stations, and interceptor sewers that have previously received site location and design approval from the Division or were constructed prior to November 1967 have the availability to replace associated appurtenances or components through Section 22.12 of Regulation 22. If a treatment works or specifically the existing component being replaced does not have site location and design approval and was not constructed prior to November 1967, then the project is not eligible for in-kind replacement, and in order to obtain approval for replacement of the component, the applicant must submit the project through another site location application process.

22.12(4) Location of Project Relative to Existing Site Location Approval

The Division considers the legal boundaries established through ownership of property or ROW agreements as a means to define the extents of a site location approval, and this information shall be used for current and future projects to determine if construction activities fall within the approved boundaries of ownership or control. Projects meeting the intent of in-kind replacement may be installed at a different location on the approved site location, but in some cases, the Division may request the applicant provide the necessary information documenting the approved legal boundaries. If a project involves replacing components where the proposed equipment or structures are to be installed on property outside the boundaries of the approved site location, then the project is not considered in-kind replacement. This type of project requires a site location application for a new treatment works through either Section 22.6, 22.8, or 22.9 of Regulation 22 and design review submittal, unless waived by the Division. Since this property has never been formally approved through a site location application, the Division is required to review specific items (e.g., odor setbacks, natural hazards, geotechnical conditions) and ensure that proper public notice and agency reviews are obtained.

22.12(5) Requested Increase in Design Capacity Based on In-Kind Replacement

As previously discussed, the Commission added the “In-Kind Replacement” section to Regulation 22 as a means for a person to replace a piece of equipment with a similar piece of equipment that has a slightly higher rating without having to obtain site location approval, but the Commission did not intend for in-kind replacement to be used as a method of achieving a significant increase in the treatment works capacity, if that capacity can then be realized through an amendment of a site location application. With the June 14, 2020

revisions to Regulation 22, the in-kind replacement definition was further modified to clarify the intent of design capacity in relation to an in-kind replacement, which included language stating that replacement or technology upgrades that do not impact the design capacity qualify as in-kind replacement. To that extent, if one or more in-kind replacements are capable of increasing the hydraulic and/or organic capacities of a treatment plant, lift station, or interceptor sewer that can then be realized through a site location amendment, the project does not meet the definition of in-kind replacement and the applicant may be required to submit a site location application in accordance with Section 22.7 of Regulation 22. Since this document cannot foresee every potential in-kind replacement, the Division requests the applicant maintain open communications with the Division for assessing whether proposed in-kind replacements may be considered to provide a significant increase in capacity.

22.12(6) Conformance with Current Design Criteria

Where the project meets the definition of in-kind replacement, the applicant is not required to bring the components being replaced into conformance with the requirements of the current design criteria, but may do so at the originally approved design capacity for the equipment or structures. However, if an applicant chooses to not to meet the requirements of the current design criteria and the applicant plans to perform future projects involving the proposed components, the applicant shall be required at that time to bring the components into conformance with the design criteria in order to maintain the design capacity of the treatment works or to meet the conditions of a new discharge (e.g., reclaimed water for categorical uses). Similarly, if the applicant chooses to install a replacement component that does not meet the current design criteria and, through the application review, the Division finds that the component limits the effectiveness of that unit process based on current requirements, the Division will evaluate the entire unit process associated with the in-kind application. If the Division determines that the unit process cannot meet current requirements (e.g., effluent limits) at the design capacity, one of the following steps may be taken:

1. The Division may conditionally acknowledge the in-kind replacement. The condition would assign a rating to the treatment process based on current requirements at the design capacity. If the treatment process limited the design capacity of the treatment works, the applicant may be required to apply for a change in design capacity of the treatment works through the site location application process under Section 22.7.
2. The applicant may revise the in-kind application to bring the component into conformance with current design criteria if the change will allow the component to meet current requirements (e.g., permit conditions) at the design capacity.
3. The applicant may withdraw the in-kind application. The Division may still pursue an evaluation of the treatment component if that component appears to hinder the treatment works ability to comply with current requirements (e.g., permit conditions) at the design capacity.
4. The applicant may withdraw the in-kind application and propose modifications through another site location application, such as a site location amendment.

In a different circumstance, the Commission clarified through Section 22.24 of Regulation 22 that the replacement of components that do not require substantially different design criteria may be submitted as in-kind replacements. The statement reflects on the definitional phrase "Replacement or technology upgrades that do not change the original intent of the equipment or structure being renovated, do not impact the design capacity, and do not require the application of alternate design criteria (e.g., change from chemical to ultraviolet light disinfection) qualify as in-kind replacement." In-kind replacements are not intended to supplant the review requirements of a site location amendment or bypass the design review process. In-kind replacements are intended to be component replacements that do not require significant design review efforts. When an in-kind application component triggers the need for a significant review against the design criteria, this need indicates that the application may not qualify as an in-kind replacement.

22.12(7) Design Approval Not Required for In-Kind Replacements

Being that in-kind replacement is only available for treatment works that received site location and design approval from the Division or were constructed prior to November 1967, and that an in-kind replacement may be for a similar component as long as the proposed replacement or technology upgrade does not change the original intent of the equipment or structure being renovated, the Division expects the proposed components to meet the requirements of the original design approval. Thus, design approval pursuant to Section 22.13 of Regulation 22 is not required for the replacement of components that qualify as in-kind replacement.

22.13 THE DESIGN APPLICATION PROCESS

The information provided in this Section addresses the following:

- Two-Step Design Submittal, Review and Decision Process;
- One-Step Design Submittal, Review and Decision Process;
- Self-Certification Only Processes;
- Non-Traditional Construction Delivery Approaches; and
- Phased Applications.

As is described in Section 22.13 of Regulation 22, in addition to obtaining site location approval, in most cases, applicants must obtain design approval from the Division prior to commencement of construction. Design applications, including self-certifications of the design, are not required for projects submitted in accordance with the following:

- Projects that meet the definition of in-kind replacement;
- Demonstration projects; and
- Treatment works deratings to a design capacity of less than or equal to 2,000 gpd.

Note, once these types of projects receive site location approval, the applicant may commence construction with the exception of in-kind replacements, which may be submitted to the Division up to 15 days after placing the equipment into service.

For projects requiring design approval, the September 2009 revision of Regulation 22 included an exclusion (from the definition of construction) that is applicable only after site location approval has been issued allowing an applicant to perform initial site preparation work (that does not involve the treatment works components or structures), such as access roads, and site clearing and dewatering prior to approval of the design application. Construction work such as site excavation, installation of pipe galleries, etc. is not allowed under this exclusion.

For information regarding projects involving alternative technologies (technologies/processes not currently, specifically included in the design criteria for treatment works or through a Division issued specific technology acceptance letter), refer to the alternative technologies discussion at the beginning of this policy. All design applications must meet the requirements of the design criteria, unless a site-specific deviation is requested by the applicant and granted by the Division. Further information regarding site-specific deviations can be found in the design criteria, which is available on the following Division web page under the *Wastewater* heading: https://cdphe.colorado.gov/facility-design-approval-policies.

Two-Step Design Application, Review and Decision Process

In addition to the site location decision, the two-step design review process involves two (2) separate applications and individual Division decisions for each application. The two-step design application process applies to the following project types:

- New treatment plants;
- New or relocated outfalls;
- Vaults and other OWTS that meet the definition of a treatment works;
- Treatment plants proposing amendments to existing site location approvals; and
- Treatment plants seeking an increase or decrease in design capacity.

Submittal Requirements

For the above types of projects, the applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Wastewater Design Submittal Form;
- Process Design Report (PDR);
- Process Design Report Submittal Checklist; and
- Self-Certification Form.

The PDR application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. The applicant is responsible for ensuring that the proposed hydraulic and organic design capacities concur with the WQPTs and any site location approval prior to submitting the application for a PDR decision. All information provided on the application must conform to the requirements set forth in Regulation 22, the design criteria, and in this policy.

The Division will not initiate a PDR review prior to receiving appropriate fees for the proposed project, and will not complete a design decision prior to making a site location application decision.

Availability of Submittal Forms

As identified above, the forms required for the design review process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

Submittal Process

The process is as follows:

1. After receipt of a site location approval, the applicant must submit a PDR that includes plans and specifications representing a level of design of approximately 60 percent or more (i.e., based on the Statement of Basis and Purpose language provided in Section 22.23 of Regulation 22) and contains the required information as indicated in the applicable sections of the design criteria;

2. The Division reviews the application and issues written approval of the PDR once it is determined that the application meets all of the applicable requirements of the design criteria;
3. After the Division issues written approval of the PDR, the applicant must submit 1) a self-certification of the final design documents or 2) a final design application. In most cases, the applicant shall be required to submit a self-certification of the final plans and specifications.

    - The self-certification must be presented on the appropriate form provided by the Division and signed by the design engineer. The self-certification must certify that the final plans and specifications conform to all site location and process design report conditions and conform to the requirements of the design criteria, including any deviations authorized by the Division.
    - At the Division's discretion or when required by the funding agency, the applicant may be required to provide a final plans and specifications submittal to the Division for review and a Division decision. The submittal must contain the required information as indicated in design criteria. The application must include the plans and specifications stamped and signed by a Colorado registered professional engineer. The submittal must be completely consistent with the information contained in the approved site location and PDR.

4. Prior to commencement of construction, the Division must review and make a determination on the final design self-certification or final design application. For self-certifications, the Division will review the certification and respond with an acceptance of the certification. The project may commence construction following receipt of the Division's acceptance of the self-certification. For traditional final plans and specification reviews, the project may commence construction following the Division's written approval of the final plans and specifications. For alternative delivery approaches, individual final design approval or self-certification acceptance must be issued by the Division for each phase of the project prior to commencement of construction of that project phase; and
5. Per Regulation 22, the applicant's professional engineer, licensed to practice in the State of Colorado, must certify at the completion of construction that the treatment works was constructed according to plans, specifications and significant amendments as approved by the Division.

Please refer to Figure 13-1 found in Appendix A for a flow chart explaining the site location and design application process described above.

<u>One-Step Design Application, Review and Decision Process</u>

In addition to the site location decision, the one-step design review process involves a separate application and Division decision. The one-step design application process applies to the following project types:

- New lift stations; and
- Lift stations proposing amendments to existing site location approvals.

Submittal Requirements

For the above types of projects, the applicant shall prepare and submit the following forms and information to the Division:

- Fee Information Request Form;
- Wastewater Design Submittal Form;
- Basis of Design Report (BDR);
- Basis of Design Report Submittal Checklist; and
- Final Plans and Specifications.

The BDR application, including the necessary forms, shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic application, and may request a paper copy for all or part of the application, as required, to facilitate the review process. The applicant must fill in the forms completely and accurately prior to submission to the Division. All information provided on the application must conform to the requirements set forth in Regulation 22, the design criteria, and in this policy.

The Division will not initiate a BDR review prior to receiving appropriate fees for the proposed works, and will not complete a decision prior to making a site location application decision.

Availability of Submittal Forms

As identified above, the forms required for the design review process are available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

Submittal Process

The process is as follows:

1. After receipt of site location approval, the applicant must submit an application that includes a BDR, checklist, wastewater design submittal form, and final plans and specifications. The application must contain the required information as indicated in the applicable sections of the design criteria;
2. The Division reviews the application and issues written approval of the BDR once it is determined that the application meets all of the applicable requirements of the design criteria; and
3. Per Regulation 22, the applicant's professional engineer, registered to practice in the State of Colorado, must certify at the completion of construction that the treatment works was constructed according to plans, specifications and significant amendments as approved by the Division.

Self-Certification Only Processes

In addition to the site location decision, the self-certification only process acts in place of the final plans and specification application and Division design review process. The self-certification only process applies to the following project types:

- Interceptors (new, capacity changes or rehabilitation).

Submittal Requirements

For the above types of projects, the applicant shall prepare and submit the following forms and information to the Division:

- Self-certification Form.

The self-certification form shall be submitted electronically to the Division using the following email address: CDPHE.WQEngReview@state.co.us. The Division prefers one (1) complete electronic form and may request a paper copy, as required, to facilitate the process. The applicant must fill in the forms completely and accurately prior to submission to the Division.

The Division will not consider a self-certification form prior to making a site location application decision.

Availability of Submittal Forms

As identified above, the form required for the process is available on the Division's web page. For those applicants who do not have access to the forms electronically, paper copies can be obtained through the Division's office at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

Submittal Process

The process is as follows:

1. After receipt of site location approval, the applicant must submit a self-certification that states the basis of design and final plans and specifications conform to site location approval conditions and all applicable sections of the design criteria. Site-specific deviations may be allowed through the self-certification process, and shall be evaluated on a case by case basis. If the Division determines that the site-specific deviation represents significant deviation from the design criteria, the applicant may be required to submit the project through the One-Step Design Application, Review and Decision Process.
2. Prior to commencement of construction, the Division must review and make a determination on the final design self-certification or final design application. For self-certifications, the Division will review the certification and respond with an acceptance of the certification. The project may commence construction following receipt of the Division's acceptance of the self-certification. For traditional final plans

and specification reviews, the project may commence construction following the Division's written approval of the final plans and specifications. For alternative delivery approaches, individual final design approval or self-certification acceptance must be issued by the Division for each phase of the project prior to commencement of construction of that project phase.

3. Per Regulation 22, the applicant's professional engineer, registered to practice in the State of Colorado, must certify at the completion of construction that the treatment works was constructed according to plans, specifications and significant amendments as represented to the Division through the self-certification process.

Non-Traditional Construction Delivery Approaches

The 2003 revisions to Regulation 22 included a change to the definition of "construction" that addressed design-build projects. Per the associated Statement of Basis and Purpose language, the intent of the Commission in making this change was to specifically exclude the portions of alternative delivery, like design-build, contracts that cover site location application and design work from being included in the definition of "construction". It is further clarified that the Commission still intends that no actual erection or physical placement of materials, equipment, piping, earthwork or buildings (that are to be part of the treatment works) be commenced until the site location application, the respective portions of the design (to be constructed), and self-certification or final plans and specifications have been approved and/or acknowledged by the Division.

Phased Applications

At times, the Division receives projects requesting phased construction. The phasing requests typically come in three forms: bid packages, timed, and capacity. The Division does not offer phased site location applications or design capacities, but will consider accepting multiple, phased design and self-certification reviews and decisions.

- Bid packages: Applicants typically request bid package phasing for large projects where the applicant intends to issue/bid multiple complete design plans and specifications for various phases of a single project. For this type of project, the Division offers the option to make a decision on each final design application or self-certification for each bid package phase.
- Timed: Applicants typically request timed phasing when some external force (i.e., weather conditions or funding) requires the applicant to begin construction of specific facilities to meet a critical deadline. For this type of project, the Division offers the option to receive final design approvals for each project phase as long as the project can be clearly and definitively broken into phases.
- Capacity: Applicants often request the Division to provide the capacity phasing for projects expected to expand over the life of the construction process or within a few years of construction. The Division does not have the ability to track incremental capacity phasing of projects, ~~considers capacity phasing to sidestep the site location application process,~~ and expects a single project to provide the approved site location

capacity. The Division ~~does not provide~~ will consider construction ~~capacity~~ phasing of projects within the following guidelines.

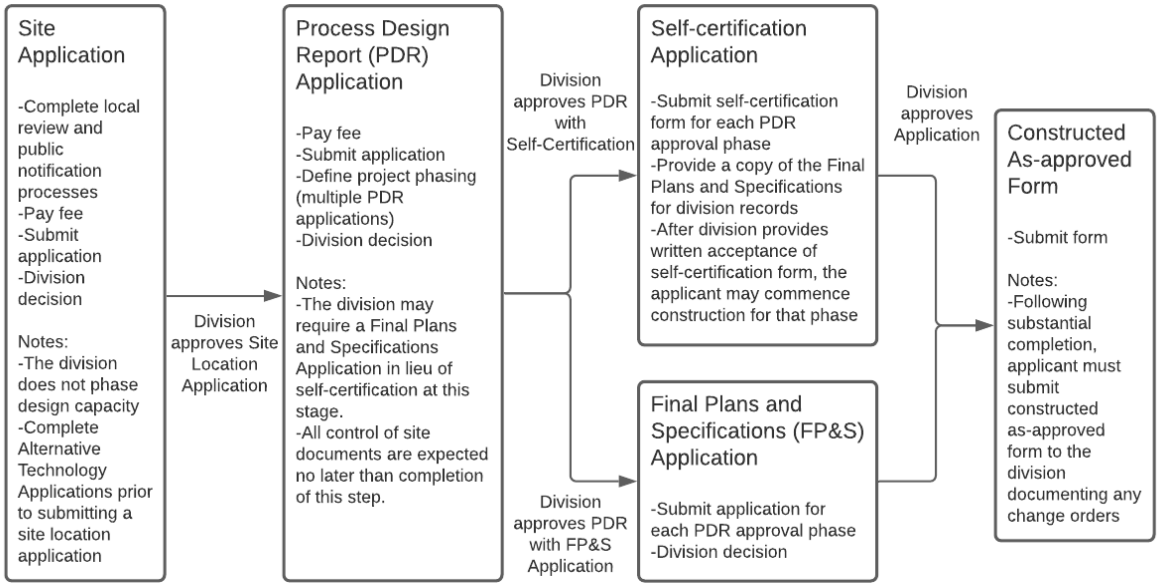
- All division reviews and actions are for the full system capacity (e.g., water quality planning targets, site location application, process design report, discharge permit).
- Site location application must demonstrate reasonable estimates for the identified planning capacity (e.g., planning period service area definition, regional planning authority area, existing capacity if a new process).
- Site location application must include an operational plan with adequate management plan for construction staging/phasing required with measurable and definitive guidelines for constraining conditions (e.g., critical milestones, funding plans, estimated time to implement additional phases).
- Process design must show capability to receive full flow and/or pollutant load while meeting the water quality planning target(s), as applicable.
- Process design must show redundancy and resiliency requirements will be met for each phase of constructed treatment capacity, including the initial phase.
- Final design documents (plans and specifications) or self-certification documents for full design capacity must be provided by the applicant, consistent with the two-step process above.
- Initial construction must commence before expiration of the site location approval. Completion of construction of adequate capacity must finish by required dates in a permit compliance schedule to meet permit effluent limits, if applicable.
- The applicant must notify the division when initiating a new construction phase, providing a proactive indication that the next phase is being constructed and including certification that the approved design is not changing.
- Another set of site location application and design review steps (i.e., SA amendment, process design, final design) will be required if the treatment process design changes at any phase.
- The applicant must provide to the division the required “construction completed as approved” notice for each construction phase, to provide confirmation of construction at that constructed treatment capacity.
- In all phases, owner of the domestic wastewater treatment works is responsible for proper process design, construction of capacity, and operation and maintenance of the facility to meet permit effluent requirements.

Under unusual circumstances, an applicant may also request phased self-certification for interceptor pipelines that require extended property and easement negotiations with multiple parties. The site location application is intended to demonstrate control of the entire site prior to Division approval, but the Division will consider extenuating circumstances. If allowed, the Division must condition the site location approval so that the applicant provides multiple, phased self-certification final plans and specification forms with proof of ownership prior to commencement of construction for that phase. The phasing plan and schedule must be proposed with the site location application.

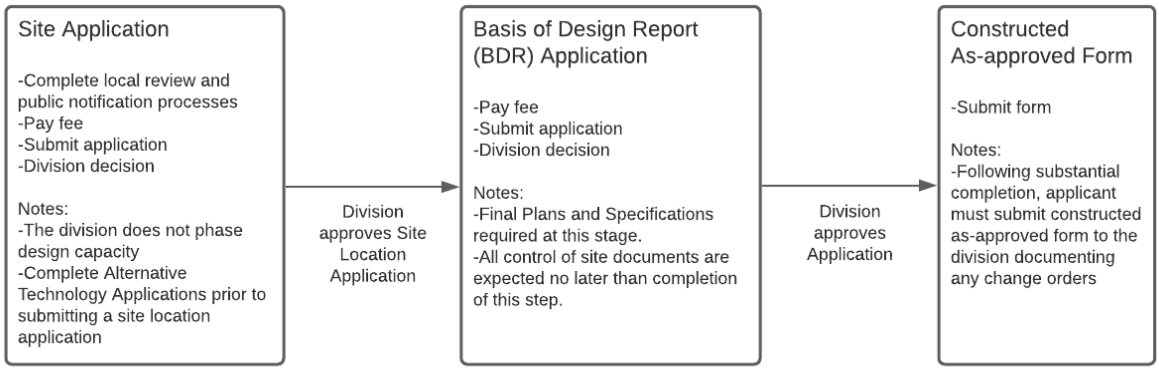
The Division handles site location applications for alternative delivery projects in the same way that site location applications for traditional delivery projects are handled – except for the requirement to notify the Division of the proposed phasing. However, the design submittal, review and approval processes are handled differently. For alternative delivery system projects that require phasing, the Division will issue phased approvals for both the two-step and one-step processes to enable the applicant to commence with construction as each phase receives design approval. In both cases, the applicant must include the proposed project phasing in the site location application and design submittals. Each design submittal must include all information for that phase. If a project falls under the two-step design process, PDR approval (for the entire project) is required; it is the final design submittals or self-certification and approvals/acknowledgment that can be done with the phased approach.

APPENDIX A
SITE LOCATION AND DESIGN APPLICATION FLOW CHART

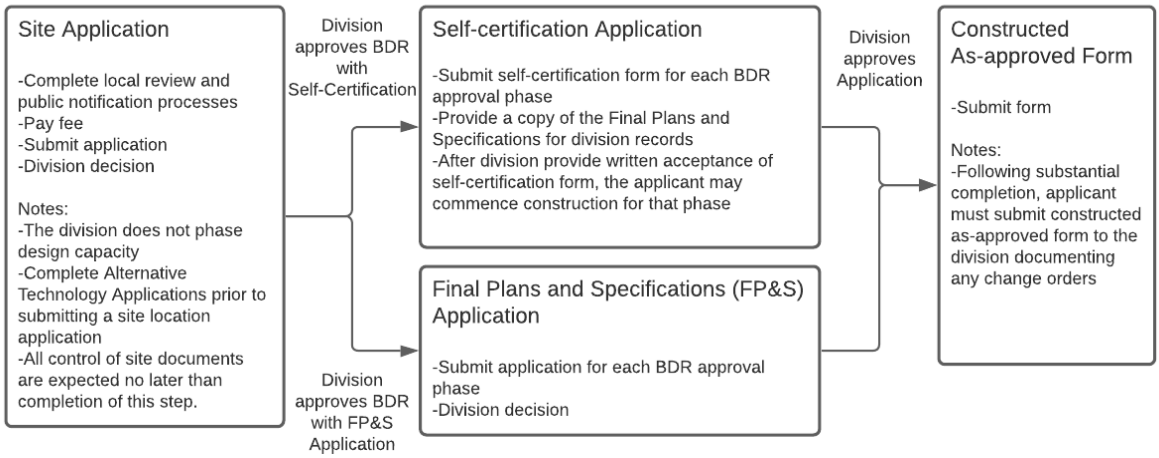
Two-step Design Submittal Process



One-step Design Submittal Process



Self-certification Only Submittal Process



APPENDIX B
COUNTY AND 208 AGENCY LIST

County	Local Public Health Agency	208 Designated Planning Agency
Adams	Tri-County Health Department	
Alamosa	Alamosa County Public Health Department	
Arapahoe	Tri-County Health Department	
Archuleta	San Juan Basin Public Health	
Baca	Baca County Public Health Agency	
Bent	Bent County Public Health	
Boulder	Boulder County Public Health	
Broomfield	Broomfield Public Health and Environment	
Chaffee	Chaffee County Environmental Health Department	
Cheyenne	Cheyenne County Public Health Agency	
Clear Creek	Clear Creek County Public and Environmental Health	
Conejos	Conejos County Public Health & Nursing Service	
Costilla	Costilla County Public Health Agency	
Crowley	Otero County Health Department	
Custer	Custer County Public Health Agency	
Delta	Delta County Department of Health and Human Services	
Denver	Denver Environmental Health	
Dolores	Dolores County Public Health Agency	
Douglas	Tri-County Health Department	
Eagle	Eagle County Environmental Health Department	Northwest Colorado Council of Governments
El Paso	El Paso County Public Health	Pikes Peak Area Council of Governments
Elbert	Elbert County Health and Environment	
Fremont	Fremont County Environmental Health Department	
Garfield	Garfield County Public Health Agency	
Gilpin	Gilpin County Public Health Agency	
Grand	Grand County Public Health	Northwest Colorado Council of Governments
Gunnison	Gunnison County Public Health	
Hinsdale	Hinsdale County Environmental Health Department	
Huerfano	Las Animas-Huerfano Counties District Health Department	
Jackson	Routt County Environmental Health	Northwest Colorado Council of Governments
Jefferson	Jefferson County Public Health	
Kiowa	Prowers County Public Health and Environment	
Kit Carson	Kit Carson County Environmental Health Department	
La Plata	San Juan Basin Health Department	
Lake	Lake County Public Health Agency	
Larimer	Larimer County Health Department	North Front Range Water Quality Planning Association
Las Animas	Las Animas-Huerfano Counties District Health Department	

County	Local Public Health Agency	208 Designated Planning Agency
Lincoln	Lincoln County Department of Public Health	
Logan	Northeast Colorado Health Department	
Mesa	Mesa County Health Department	
Mineral	Mineral County Public Health Agency	
Moffat	Northwest Colorado Health	
Montezuma	Montezuma County Environmental Health Department	
Montrose	Montrose County Environmental Health Department	
Morgan	Northeast Colorado Health Department	
Otero	Otero County Health Department	
Ouray	Ouray County Environmental Health Department	
Park	Park County Environmental Health Department	Pikes Peak Area Council of Governments
Phillips	Northeast Colorado Health Department	
Pitkin	Pitkin County Environmental Health Department	Northwest Colorado Council of Governments
Prowers	Prowers County Public Health and Environment	
Pueblo	Pueblo City-County Health Department	Pueblo Area Council of Governments
Rio Blanco	Rio Blanco County Department of Public Health and Environment	
Rio Grande	Rio Grande County Public Health Agency	
Routt	Routt County Environmental Health	
Saguache	Saguache County Public Health Agency	
San Juan	San Juan County Public Health Service	
San Miguel	San Miguel County Environmental Health Department	
Sedgwick	Northeast Colorado Health Department	
Summit	Summit County Environmental Health Department	Northwest Colorado Council of Governments
Teller	Teller County Environmental Health Department	Pikes Peak Area Council of Governments
Washington	Northeast Colorado Health Department	
Weld	Weld County Department of Public Health & Environment	North Front Range Water Quality Planning Association
Yuma	Northeast Colorado Health Department	

List of Management Agencies

- Bear Creek Watershed Association
- Chatfield Watershed Authority
- Cherry Creek Basin Water Quality Authority
- Upper Clear Creek Watershed Association
- Upper South Platte River Protection Association

Note, this list is not all inclusive, and the applicant should contact the Division to ensure that the appropriate review agencies have been identified for the proposed project.

APPENDIX C
HISTORICAL LIFT STATION AND INTERCEPTOR INTERIM IMPLEMENTATION

Introduction

The Division understands some number of lift stations and interceptor sewers exist throughout the state that have been constructed either without site location or design approval or where these documents cannot be found by the Division or the owner. At this time, there is not adequate information to determine how many lift stations and interceptors lack documentation of site location approval, how many of those were the result of lost documentation, or how many require upgrades or improvements. The Division also recognizes that in some cases the infrastructure was not built by the current owner. Nonetheless, where documentation cannot be found, the Division assumes site location application and design review did not occur. The Division also recognizes that although site location application and design review may not have occurred, the infrastructure may have been operated for years without failure. However, since a review may not have occurred to confirm appropriate local planning and reviews, appropriate site location, and appropriate construction standards, lift stations and interceptors constructed without site location and design approval may pose a risk to public health and the environment, and must be evaluated for the risk it may present.

The Division attempted to include a pathway to addressing historical infrastructure that cannot demonstrate site location and design approval during the stakeholder process leading up to the 2020 Regulation 22 rulemaking hearing. Despite efforts during the stakeholder process, full consensus was not reached amongst the stakeholders on the proposed path forward. Some stakeholders objected to the retroactive application of the site location application requirements for existing infrastructure that has been safely operated for a long period of time where no construction or expansion is planned. During the 2020 Regulation 22 rulemaking, the parties abandoned the regulatory pathway and instead opted to provide additional time to collect more information that would inform a permanent approach for addressing historical infrastructure in the next Regulation 22 triennial hearing. While parties work together to develop a permanent approach, the Division and stakeholders also committed to developing an interim policy for use between the effective date of this policy and when the permanent solution can be implemented.

In developing this interim policy, the Division emphasizes that this is not a permanent deferral of the site location and design approval requirements. The Division finds the site location and design application process is imperative to support and encourage local review processes, to support and encourage the 208 planning process, to ensure proper control of site location, and to protect public health and the environment. Under this interim policy, owners are not relieved from the requirement to submit for site location and design approval. However, under this interim policy and due to resource limitations for both the Division and owners of historical infrastructure, the Division will not actively pursue site location and design application submittal requirements where owners can demonstrate the historical infrastructure adequately meets minimum requirements. The Division finds that minimum requirements means the infrastructure protects public health and the environment, is in good

operating condition and is properly designed and constructed including proper alarms and redundancies.

Under this interim policy, the Division will not actively pursue site location and design application submittal requirements for all historical infrastructure. Instead, the Division will prioritize infrastructure based on the level of risk it poses to public health and the environment. For the purposes of this interim policy, the Division is defining historical infrastructure as existing lift stations and interceptor sewers that were constructed prior to September 30, 2009. This date is selected based on the effective date of the previous version of Regulation 22.

The Division anticipates that historical infrastructure will be discovered primarily through three (3) pathways:

1. When new infrastructure is connecting to existing, historical infrastructure (e.g., newly proposed lift station that discharges to an existing, unapproved lift station);
2. When a sanitary sewer overflow (SSO) discharge is reported to the Division that resulted from historical infrastructure; and
3. When the Division conducts a compliance evaluation inspection (CEI).

This interim policy outlines these three (3) anticipated pathways under which the Division may learn of historical infrastructure. These three (3) pathways and conditions that may result in a referral to the site location and design application process are discussed in more detail below. The Division will use this interim policy to evaluate historical infrastructure when deciding to require site location and design approval. Once discovered and referred to the site location and design application process, the Division expects the owner to complete the review process and install and properly operate any improvement projects. Failure to make progress or complete any of these requirements may result in a referral to enforcement. The Division will use its existing escalation practices to determine if or when to refer to enforcement. This interim policy does not limit or preclude the Division from pursuing possible enforcement options concerning any violations of Regulation 22 or of the *Colorado Water Quality Control Act*. If referred to enforcement, the Division will evaluate the facts associated with any alleged violation(s) and if a formal enforcement action is deemed necessary, the Division may issue a Notice of Violation or Cease and Desist Order that may include the assessment of penalties. The Division will utilize the existing *Clean Water Program Enforcement Management System* dated May 2016 or most recent version when developing an enforcement action.

Historical Infrastructure Referral Based On Connecting New Infrastructure

During this interim period, the Division may become aware of historical infrastructure when newly proposed or expanding infrastructure will be connecting to historical infrastructure. This scenario can occur frequently. For example, when an applicant proposes a new lift station that requires site location and design approval, and the new lift station discharges to an existing lift station or interceptor that cannot demonstrate site location approval. When

these situations arise, the Division's practice has required the owner of the receiving infrastructure to obtain site location and design approval concurrent with making a decision on the newly proposed infrastructure. The Division recognizes that this past practice may not be necessary in every case. If an applicant wishes to postpone the site location and design application process for historical infrastructure under this interim process, the applicant must provide information demonstrating the historical infrastructure is adequately designed and operated to protect public health and the environment. This may put additional onus upon the applicant and/or the owner of the historical receiving infrastructure to demonstrate the historical receiving infrastructure has adequate capacity. To be adequate, capacity must include proper emergency infrastructure and adequate redundancy sized to convey both the existing and future flows from the existing service area and the newly proposed/expanding service area. If information is not provided or if information provided identifies design deficiencies, then the historical infrastructure will be referred to the site location and design application process to implement corrections or improvements.

When new or expanding infrastructure comes in for site location application review, the Division will evaluate receiving historical infrastructure for referral to the site location and design application process based on the following criteria:

1. Reliability. When evaluating infrastructure, Division staff will consider the condition of the infrastructure, maintenance records, associated SSO records and overall design of the historical infrastructure. The Division will also consider the items below when referring historical infrastructure to the site location and design application process.

    - Degree of hydraulic loading as compared to hydraulic capacity. A critical parameter considered for the reliability of an existing lift station and interceptor is the degree of hydraulic loading as it relates to the infrastructure's design capacity (i.e., firm pumping capacity for a lift station or pipe diameter and slope for an interceptor). Section 22.5(1)(b) of Regulation 22 specifies the Division must consider and ensure that the receiving treatment works will not be overloaded when connecting new or expanding lift stations or interceptors. As a result, the Division expects applicants to provide an analysis with the site location application demonstrating that the receiving treatment works, including any historical lift stations or interceptors, will not be overloaded or cause overloading when connecting the new or expanding infrastructure. In the event the analysis finds downstream historical infrastructure can accept the additional flow (and meets other criteria in this interim policy), then the historical infrastructure's site location and design application process may be deferred to a later date. However, the Division recognizes there are different planning periods for different infrastructure (e.g., interceptors may be constructed for a 50-year build out versus a lift station may be phased and only constructed for an initial 10-year planning period). In addition, the service area growth does not occur immediately upon putting new or expanding infrastructure into service. In cases such as these,

the Division expects the applicant to provide a monitoring plan to track infrastructure hydraulic loading compared to capacity and a plan for expanding and/or improving the historical infrastructure when it becomes required. Any historical infrastructure that is found to be overloaded due to the addition of the new or expanding infrastructure cannot delay submitting a site location and design application. The historical infrastructure must be expanded and/or improved in order to safely convey the additional wastewater. As a result of the impending improvement project, the historical lift station or interceptor will be required to submit a site location and design application and obtain approval. The Division expects the improvements project will be installed and properly operated prior to accepting additional wastewater from new or expanding infrastructure.

In addition to reviewing receiving collection system infrastructure, the Division will also review the capacity of the receiving treatment plant. While the receiving treatment plant loadings (organic and hydraulic relative to site approved capacities) are a key consideration when reviewing site location applications for new or expanding infrastructure, the Division does not anticipate that the receiving treatment plant loadings will be a key consideration when evaluating historical lift stations and interceptors since they are already constructed and connected. However, in the event the receiving treatment plant is overloaded or experiencing effluent violations, the Division may require site location and design approval for historical infrastructure. The Division anticipates a permittee may be required to obtain site location and design approval for historical infrastructure in the event the Division were to issue an enforcement order to the permittee. The Division will utilize existing enforcement policies, procedures and enforcement discretion (if needed) when prioritizing enforcement cases and issuing enforcement actions.

- Condition of infrastructure. To help the Division determine if the condition of the infrastructure is a possible issue, the Division expects owners will provide pictures, maintenance records and replacement history to Division staff, if requested. The Division expects owners to perform maintenance according to the treatment works' O&M schedule. Infrastructure that is in good condition and has maintenance records demonstrating regular and proactive maintenance history may be simply documented by Division staff and allowed to continue in status quo mode under this interim practice.

  However, infrastructure where maintenance has been deferred or is in poor condition and requires construction to remedy may represent an unacceptable risk for failure and risk to public health and the environment. In cases such as these, the Division will require historical infrastructure to complete the site location and design application process to implement necessary corrections.

Constructing and implementing improvements for historical infrastructure may be required prior to completing construction that connects newly proposed or expanding infrastructure.

- Record of SSOs. In the event the Division finds the historical infrastructure has a record of SSOs at the treatment works, the Division will consider the cause, frequency, and severity of the spills.

  Historical infrastructure that has a record(s) of associated SSOs will be evaluated carefully for the conditions causing the SSO. In some cases, an SSO may occur despite regular maintenance and sound design. Conditions leading to an SSO will be evaluated with the understanding that some causes of SSOs are outside of the owner's control (e.g., contractor drilling into a force main or a person illegally disposing of debris to the sewer). Lift stations that are well maintained and designed and have suitable emergency facilities and operational plans might continue in status quo under this interim policy despite an SSO. However, when reasonable design conditions could have prevented the SSO, the lift station or interceptor will be required to obtain approval through the site location and design application process. Following approvals, the owner is expected to complete the process by installing and properly operating any improvements projects. As the severity of SSOs increase (e.g., frequency, volume of spill), the Division will be more likely to require corrections or upgrades to the treatment works through the site location and design application process.

2. Location of the infrastructure relative to habitable structures or waterways that may endanger public health and the environment. Due to the immediate risk to public health and the environment, if a spill were to enter a waterway or come close to a habitable structure, all historical infrastructure will be reviewed considering its distance to waterways and habitable structures. The Division will consider the location of historical infrastructure relative to floodways, 100-year flood plains, and storm drains for possible referral to the site location and design application process. Historical infrastructure located near these features will trigger a review of the site topography and any emergency facilities to evaluate the likelihood of a spill entering a waterway or storm drain.

   As the design capacity (i.e., pump sizing/pumping capacity or pipeline diameter) of infrastructure increases, the potential level of risk to public health increases proportionally; therefore, the size of infrastructure will be evaluated when considering the location of the historical infrastructure relative to the waterway. For example, as the design capacity of the lift station or interceptor increases, the (1) distance from waterways and habitable structures or (2) design features that mitigate against possible spills must increase proportionally.

Infrastructure may be referred to the site location and design application process under conditions where infrastructure does not have adequate protections against flooding, including accessibility and where adequate onsite emergency overflow prevention strategies have not been provided.

3. Adequacy of emergency facilities and the emergency response plan. Historical lift station infrastructure will be evaluated based on the emergency provisions at the station as well as the treatment works' emergency operations plan for responding to emergency situations at the station. The Division expects that emergency infrastructure include redundant pumps, backup power, adequate overflow storage capacity (evaluated at peak hour flow) and emergency alarms/notification.

   Redundancy is a key component to successfully dealing with emergency situations and avoiding a potential SSO. The Division expects lift stations to have adequate redundancy in order to provide reliable operation and prevent spills. Lift stations are expected to have redundant pumps, redundant power and controls (auto/hands/off) and alarms. Pumping redundancy means full redundancy is provided when the largest pump is out of service. Power redundancy means a backup electrical feed from an independent grid, or the station has an onsite generator. Where adequate emergency storage and emergency plans are in place, the Division may consider portable generators or portable pumping for redundant power supply.

   Emergency storage is another key component for avoiding potential spills during an emergency at a lift station. The Division expects lift stations to have emergency storage in the form of storage in the wetwell, storage in an onsite basin, and/or storage within the sewer piping upstream of the wetwell. Storage within the pipeline will be evaluated on a case by case basis based on upstream buildings and infrastructure. Evaluation of emergency storage may be based on one or all of these components and will be evaluated against the owner's emergency response plan, including the response time needed for an operator to receive the alarm, arrive on site, troubleshoot the situation and install a permanent or temporary solution prior to an overflow occurring.

   Infrastructure may be referred to the site location and design application process under conditions where infrastructure does not have adequate redundancy or emergency infrastructure.

4. Odor complaints. Infrastructure with odor complaints may be evaluated for referral to the site location and design application process. The Division will utilize Air Quality Control Commission *Regulation Number 2 Odor Emission* when evaluating odor complaints and when considering if the addition of odor control is required. When construction is required to address odor emission issues, the Division may refer the infrastructure to the site location and design application process.

As discussed previously, the Division's priority is the protection of public health and the environment. When applicants submit a site location and design application for new or expanding infrastructure, the Division will evaluate all treatment works receiving the new or increased flow and loads. During this evaluation, historical infrastructure will be evaluated for its ability to protect public health and the environment utilizing the above criteria. Where infrastructure is determined deficient in any of these areas, the Division may require the owner complete the site location and design application process, obtain approval and install and operate necessary improvements. Failure to obtain approvals or construct necessary improvements may result in formal enforcement action from the Division.

Historical Infrastructure Referral Based On Sanitary Sewer Overflow

During this interim period, the Division may become aware of historical infrastructure through a SSO reported to the Department's 24-hour Environmental Release/Incident Reporting call line (1-877-518-5608) or other reporting mechanisms. The Division will utilize its existing policies and procedures when responding to spill reports and this interim policy is not intended to interfere with spill response policies or practices in any way. When the Division finds that the SSO has occurred from infrastructure that requires site location and design approval but approval cannot be demonstrated, the Division may require the owner to obtain the required approvals. When evaluating historical infrastructure for referral to the site location and design application process, the Division will consider the cause for the SSO, whether a natural hazard contributed to the spill, the severity of the spill (number/frequency of spills and quantity of sewage spilled) and the proximity of the spill to surface water.

1. Cause of spill. When evaluating historical infrastructure for referral to the site location and design application process, the Division will carefully evaluate the conditions causing the SSO. In some cases, an SSO may occur despite regular maintenance and sound design. Conditions leading to an SSO will be evaluated understanding that some causes of SSOs are outside of the owner's control. Some examples include a contractor drilling into a force main or a person illegally disposing of debris to the sewer.

   Lift stations that are well maintained and designed and have suitable emergency facilities and operational plans might continue in status quo under this interim policy despite an SSO. However, when reasonable design could have prevented the SSO, the lift station or interceptor will be required to obtain approval through the site location and design application process. Following approvals, the owner is expected to install and properly operate any improvements projects. As the severity of SSOs increase (e.g., frequency, volume of spill), the Division will be more likely to require corrections or upgrades to the treatment works through the site location and design application process.

   Another potential cause of spills could include a severe natural disaster such as the floods of 2013 where widespread damage to infrastructure was sustained due to a flood event greater than the 100-year flood design standard. In cases such as these,

the Division may consider the conditions of the natural disaster when determining whether the infrastructure must be reviewed through the site location and design application process.

Historical Infrastructure Referral Based On Compliance Evaluation Inspection

During this interim period, the Division may become aware of historical infrastructure through the CEI process. The CEI process is a critical component of the Division's purpose to protect public health and the environment. During the CEI process, the Division will evaluate lift station and interceptor infrastructure based on the risk this infrastructure presents for causing a sanitary sewer overflow (SSO) and creating a possible danger for public health and the environment. When the Division's evaluation determines the risk is too high, the Division will require corrections or upgrades to infrastructure and may require the owner to complete the site location and design application process for the deficient infrastructure. Division staff will evaluate infrastructure for deficiencies and referral to the site location and design application process based on the following criteria:

1. Reliability. When evaluating infrastructure, Division staff will consider the condition of the infrastructure, maintenance records, associated SSO records and design of the historical infrastructure. The Division will consider the items below when referring infrastructure to the site location and design application process. Generally, the infrastructure will be referred when the infrastructure requires construction to correct a deficiency identified during the CEI evaluation process.

    - Condition of infrastructure. To help the Division determine if the condition of the infrastructure is a possible issue, the Division expects owners will provide maintenance and replacement history available to the inspector, if requested. The Division expects owners to perform maintenance according to the treatment works' O&M schedule. Infrastructure that is in good condition and has maintenance records demonstrating regular and proactive maintenance history may be simply documented by Division staff and allowed to continue in status quo mode under this interim practice.

      However, infrastructure where maintenance has been deferred or is in poor condition and requires construction to remedy may represent an unacceptable risk for failure and risk to public health and the environment. In cases such as these, the CEI process may refer the historical infrastructure to the site location and design application process to implement necessary corrections.

    - Record of SSOs. In the event the Division finds the infrastructure has a record of SSOs at the treatment works, the Division will consider the cause, frequency and severity of the spills. For example, a lift station with only one (1) spill that resulted in a small quantity of sewage spilled to a dry, contained area will not prioritize as highly as a lift station that has record of multiple spills, a lift

station that reported a significant volume of sewage spilled, and any event that impacted waters of the state.

Historical infrastructure that have record(s) of associated SSOs will be evaluated carefully for the conditions causing the SSOs. In some cases, an SSO may occur despite regular maintenance and sound design. Conditions leading to an SSO will be evaluated understanding that some causes of SSOs are outside of the owner's control (e.g., contractor drilling into a force main or a person illegally disposing of debris to the sewer). Lift stations that are well maintained and designed and have suitable emergency facilities and operational plans might continue in status quo under this interim policy despite an SSO. However, when reasonable design conditions could have prevented the SSO, the lift station or interceptor will be required to obtain approval through the site location and design application process. Following approvals, the owner will be expected to complete the process by installing and properly operating any improvements. The Division will review historical infrastructure on a case by case basis. As the severity of SSOs increase (e.g., frequency, volume of spill), the Division will be more likely to require corrections or upgrades to the treatment works through the site location and design application process.

- Degree of hydraulic loading as compared to hydraulic capacity. A critical parameter considered for the reliability of an existing lift station and interceptor is the degree of hydraulic loading as it relates to the infrastructure's design capacity (i.e., firm pumping capacity for a lift station or pipe diameter and slope for an interceptor). When reviewing hydraulic loading of the historical lift station or interceptor, the Division may use multiple tools including an evaluation of the pump runtime, an evaluation of the electricity draw, and an evaluation of the service area (e.g., number of vacant lots relative to occupied lots). Any lift stations that are running at or near 100 percent of the time may be overloaded and require expansion. In these situations, the CEI findings may require improvements through site location and design application process.

  Staff may also consider the frequency of alarm conditions at a lift station. Highly frequent and consistent alarms over several months of time may indicate a significant issue that must be addressed. Alarms such as pump overload or high level alarm (above normal high level) may be indicative of necessary capital improvements to the treatment works through the site location and design application process.

  The Division does not anticipate that the receiving treatment plant loadings will be a key consideration when evaluating historical lift stations and interceptors to the site location and design application process. The Division expects the infrastructure would have other deficiencies to be referred to the

site location and design application process. However, in the event the receiving treatment plant is overloaded or experiencing significant effluent violations, the Division may require site location and design approval for historical infrastructure. The Division anticipates a permittee may be required to obtain site location and design approval for historical infrastructure in the event an enforcement order were issued to the permittee. The Division will utilize existing enforcement policies, procedures and enforcement discretion (if needed) when prioritizing enforcement cases and issuing enforcement actions.

2. Location of the infrastructure relative to habitable structures or waterways that may endanger public health and the environment. Due to the immediate risk to public health and the environment, if a spill were to enter a waterway or come close to a habitable structure, all historical infrastructure will be reviewed considering its distance to waterways and habitable structures. The Division will consider the location of historical infrastructure relative to floodways, 100-year flood plains, and storm drains for possible referral to the site location and design application process. Historical infrastructure located near these features will trigger a review of the site topography and any emergency facilities to evaluate the likelihood of a spill entering a waterway or storm drain.

   As the design capacity (i.e., pump sizing/pumping capacity or pipeline diameter) of infrastructure increases, the potential level of risk to public health increases proportionally; therefore, the size of infrastructure will be evaluated when considering the location of the historical infrastructure relative to the waterway. For example, as the design capacity of the lift station or interceptor increases, the (1) distance from waterways and habitable structures or (2) design features that mitigate against possible spill must increase proportionally.

   Infrastructure may be referred to the site location and design application process under conditions where infrastructure does not have adequate protections against flooding, including accessibility and where adequate onsite emergency overflow prevention strategies have not been provided.

3. Adequacy of the emergency facilities and the emergency response plan. Historical lift station infrastructure will be evaluated based on the emergency provisions at the station as well as the treatment works' emergency operations plan for responding to emergency situations at the station. The Division expects that emergency infrastructure include redundant pumps, backup power, overflow storage capacity (evaluated at peak hour flow) and emergency alarms/notification.

   Redundancy is a key component to successfully dealing with emergency situations and avoiding a potential SSO. The Division expects lift stations to have adequate redundancy in order to provide reliable operation and prevent spills. Lift stations are

expected to have redundant pumps, redundant power and controls (auto/hands/off) or alarms. Pumping redundancy means full redundancy is provided when the largest pump is out of service. Power redundancy means a backup electrical feed from an independent grid, or the station has an onsite generator. Where adequate emergency storage and emergency plans are in place, the Division may consider portable generators or portable pumping for redundant power supply.

Emergency storage is another key component for avoiding potential spills during an emergency at a lift station. The Division expects lift stations to have emergency storage in the form of storage in the wetwell, storage in an onsite basin, and/or storage within the sewer piping upstream of the wetwell. Storage within the pipeline will be evaluated on a case by case basis based on upstream buildings and infrastructure. Evaluation of emergency storage may be based on one or all of these components and will be evaluated against the owner's emergency response plan, including the response time needed for an operator to receive the alarm, arrive on site, troubleshoot the situation and install a permanent or temporary solution prior to an overflow occurring.

Infrastructure may be referred to the site location and design application process under conditions where infrastructure does not have adequate redundancy, emergency related infrastructure.

4. Odor complaints. Infrastructure with odor complaints may be evaluated for referral to the site location and design review process. The Division staff will reference the Air Pollution Control Division records and the treatment works' records regarding odor complaints.

   Lift stations and interceptors with odor complaints may be referred to the site location and design application process. The Division will utilize Air Quality Control Commission *Regulation Number 2 Odor Emission* when evaluating odor complaints and when considering if addition of odor control is required. When construction is required to address odor emissions, the Division may refer the infrastructure to the site location and design application process.

As discussed previously, the Division's priority is the protection of public health and the environment and uses the CEI process as one tool to satisfy that purpose. During the CEI process, the Division will evaluate lift station and interceptor infrastructure based on the criteria described above. A significant portion of this evaluation may take place in the form of a desktop evaluation performed before and, at times, after the physical in-person inspection to see the treatment works' infrastructure. Field staff will try to visit as much infrastructure as possible, however time or resource constraints may not allow for staff to visit all regulated infrastructure in the collection system. Generally, the Division is not expecting to conduct site visits to interceptors since that infrastructure is buried. Where staff resources also limit

the number of lift station site visits, staff will prioritize lift station visits based on the criteria above and when the results of the desktop evaluation indicate a potential issue or issues.

Infrastructure that poses a risk to public health and the environment will be referred to the site location and design application process to implement improvement. Permittees will be expected to work with the Division to obtain site location and design approval for referred infrastructure. Failure to obtain approvals or construct necessary improvements may result in formal enforcement action from the Division. The flow chart below demonstrates the CEI process for how historical infrastructure will be evaluated and either referred to the site location and design application process or simply documented.

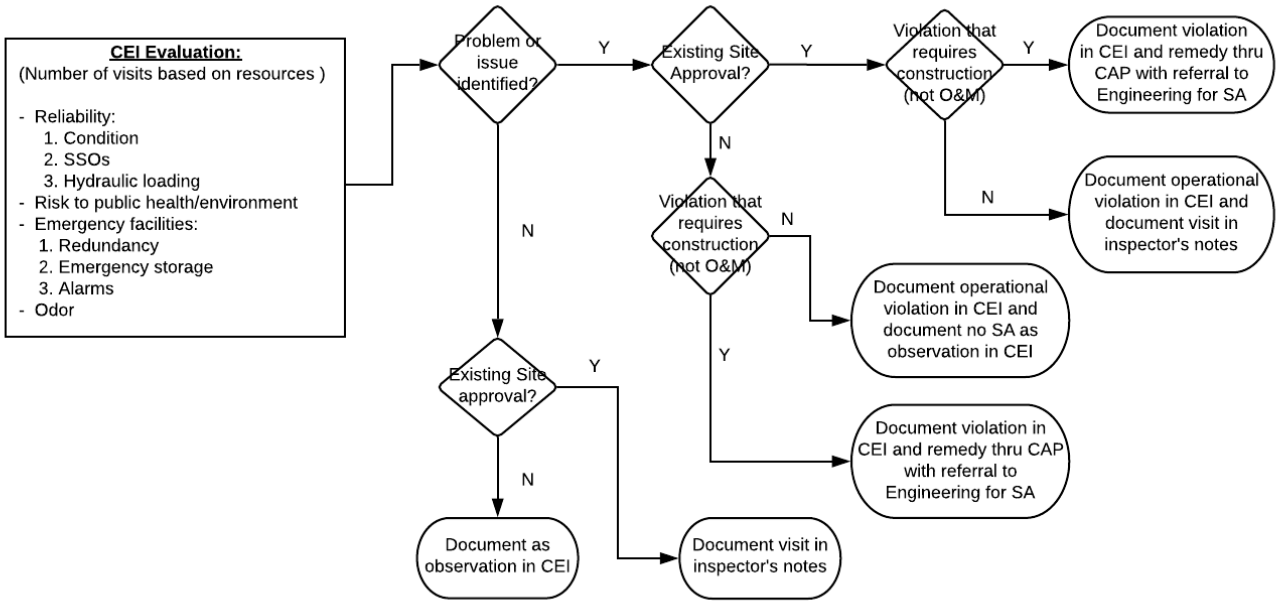


Figure C-1 CEI Process for the Evaluation of Historical Infrastructure