

<p>COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT WATER QUALITY CONTROL DIVISION</p> <p>Water Pollution Control Program Implementation Policy</p>	<p>Water Pollution Control Program Policy Number: WPC-SA-1</p>			
<p>TITLE:</p> <p>GUIDANCE DOCUMENT FOR THE SITE LOCATION AND DESIGN APPROVAL REGULATIONS FOR DOMESTIC WASTEWATER TREATMENT WORKS 5 CCR 1002-22</p>	<p>EFFECTIVE DATE: 8/31/2010</p>	<p>REVISION: 2.0 REVISION DATE: August 2010</p>		
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**GUIDANCE DOCUMENT
FOR THE
SITE LOCATION AND DESIGN APPROVAL
REGULATIONS FOR DOMESTIC WASTEWATER
TREATMENT WORKS
5 CCR 1002-22**

August 31, 2010

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Abbreviation List

1		
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3	208 Plan	Water quality management plans
4	BOD	Biochemical oxygen demand
5	CCRs	Covenants, Conditions, and Restrictions
6	CDPHE	Colorado Department of Public Health and Environment
7	CDPS	Colorado Discharge Permit System
8	Commission	Water Quality Control Commission
9	Committee	New Technology and Design Criteria Variance Committee
10	CFR	Code of Federal Regulations
11	C.R.S.	Colorado Revised Statutes
12	Department	Colorado Department of Public Health and Environment
13	Division	Water Quality Control Division of the Colorado Department of Public Health and Environment
14	DORA	Colorado Department of Regulatory Agencies
15	FEMA	Federal Emergency Management Agency
16	gpd	Gallons per day
17	ISDS	Individual sewage disposal systems
18	L/S	Lift Station
19	MFE	Multi-family equivalent
20	MGD	Million Gallons per Day
21	OWS	Onsite Wastewater System
22	PELs	Preliminary Effluent Limits or Preliminary Effluent Limitations
23	PFD	Process flow diagram
24	<i>Policy 96-1</i>	<i>Design Criteria Considered in the Review of Wastewater Treatment Facilities Policy 96-1</i>
25	Regulation 22	Regulation No. 22 <i>Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works</i> (5 CCR 1002-22)
26		
27	Regulation 84	Regulation No. 84 <i>Reclaimed Water Control Regulation</i> (5 CCR 1002-84)
28	SA	Site Location Application
29	SFE	Single family equivalent
30	SRF	State Revolving Fund
31	TMDL	Total Maximum Daily Loads
32	WQCC	Water Quality Control Commission
33	WWTF	Wastewater treatment facility
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48 **General Information Regarding Regulation 22**

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50 This section of the document provides general background information regarding Regulation 22 and the
51 associated requirements.

52
53 **I. BACKGROUND INFORMATION**

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55 **I.A Regulatory Framework**

56 The Colorado Water Quality Control Act establishes the statutory framework for Regulation No. 22
57 (Regulation 22) by requiring site location and design approval by the Division. The statute, C.R.S. 25-8-
58 702, states “no person shall commence construction of any domestic wastewater treatment works or the
59 enlargement of the capacity of an existing domestic wastewater treatment works, unless the site location
60 and the design for the construction or expansion have been approved by the Division.” Prior to 1981, all
61 approval decisions were made by the Water Quality Control Commission, with the Division making
62 recommendations. Regulation 22 was initially adopted by the Commission in November of 1981 to
63 define for applicants the proper procedures to obtain site location approval and established the
64 information necessary for the Division to determine if a site application should be approved. Thus,
65 Regulation 22 provides the specific provisions to implement the statutory requirements regarding site
66 location and design approvals. The technical criteria used to review domestic treatment works designs are
67 provided in a separate Commission policy entitled, “*Design Criteria Considered in the Review of*
68 *Wastewater Treatment Facilities Policy 96-1. (Policy 96-1)*”

69
70 **I.B General Information about this Document**

71 **This document is not intended to be an alternative or substitute for Regulation 22; it is intended to**
72 **supplement the Regulation.** The primary goal of the Division in preparing and issuing this document
73 is to facilitate a better understanding of Regulation 22 and the Division’s expectations with regard to site
74 location application submittals. This will help to ensure that applicants submit complete and adequate
75 submittals and that the Division’s review efforts are as consistent as possible. This guidance document is
76 not a regulation; however, it is intended to provide information and direction to applicants, consulting
77 engineers, and Division staff with regard to the Site Location and Design Review application and review
78 processes and requirements that are delineated in Regulation 22.

79
80 This guidance document has been updated by the Water Quality Control Division (Division) through a
81 Water Quality Forum Stakeholder group, following the revisions to the “*Site Location and Design*
82 *Approval Regulations for Domestic Wastewater Treatment Works*” Regulation 22 that were adopted by
83 the Water Quality Control Commission (Commission) on August 10, 2009. The revisions became
84 effective on September 30, 2009.

85
86 It is noted that while Regulation 22 specifically addresses the requirements for design submittal, review
87 and approval, the specific requirements pertaining to design submittals are not addressed in this
88 document. Policy 96-1 includes specific requirements for design submittals. It is available for reference
89 online at: <http://www.cdphe.state.co.us/wq/engineering/techhom.html>.

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I.C Forms, Flow Charts, Website Links, Reference Name Changes and Contact Lists

Forms, flow charts, website links and contact lists referenced in this guidance document 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 document as current as possible. These minor revisions will be made by the Division and interested parties will be notified that the Guidance has been revised via the monthly Water Quality Bulletin.

I.D Organization of this Document

In general, the organization of Regulation 22 is based upon the specific site location application type (i.e. New Domestic Treatment Works, Expanded Lift Station, etc.). Subsequent to this Section, this document is organized and numbered to be consistent with the specific sections in Regulation 22.

II. General Information and Frequently Asked Questions

II.A When Are Site Location Application and Design Approvals Required?

Site location and design approvals for domestic wastewater treatment works are necessary for:

- Proposed construction of new wastewater treatment plants, including onsite wastewater systems (individual sewage disposal systems) that have a designed capacity to receive an average flow of 2,000 gallons or more of domestic wastewater per day.
 - Note that vaults are defined as individual sewage disposal systems (ISDS) (also called on-site wastewater treatment systems (OWS)) and require site location and design approval prior to commencement of construction.
- Proposed construction related to modifications to existing wastewater treatment plants that have a designed capacity to receive an average flow of 2,000 gallons or more of domestic wastewater per day. Modifications are considered to include, but are not limited to capacity changes, process changes, new or modified chemical additions, etc. This also includes modifications to ISDS (also called on-site wastewater treatment systems (OWS)).
- Proposed construction of new or modified lift stations that have a designed capacity to receive a peak hourly flow of 2,000 gallons or more of domestic wastewater per day. This includes changes in the rated hydraulic capacity of a lift station, of critical components of the lift station (pumps, wet/dry wells, emergency overflow capacity, etc.), and changes to the location of an existing lift station.
- Proposed construction of interceptor sewers with an internal diameter of 24-inches or greater.
- Site location and design approval are also required for proposed capacity re-ratings (increases or decreases) where no construction has taken or will take place; these are generally called ‘paper re-ratings’. **Note that this requirement also applies to those requests for re-ratings from a capacity that is at or above 2,000 gpd to a capacity that is below the 2,000 gpd threshold. Note that this does not intend to supersede the local county/city approvals that may be required for systems that have a designed capacity to receive less than 2,000 gpd.**
- 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 reclaimed domestic wastewater (reclaimed water as defined in Regulation 84) regardless of the location of the added

134 or expanded treatment process (i.e. upstream or downstream of the point of compliance as
135 defined in Regulation 84).

- 136 ▪ Proposed construction related to a partial or full change in the type of discharge employed with
137 regard to domestic wastewater re-use (reclaimed water as defined in Regulation 84) facilities.
 - 138 ▪ Proposed construction related to changes in the type of discharge from a wastewater treatment
139 plant (surface water to ground water or vice-versa; a partial or complete change from a surface
140 water or ground water discharge to re-use (reclaimed water as defined in Regulation 84)).
 - 141 ▪ Proposed construction of lift stations for reclaimed wastewater (reclaimed water as defined in
142 Regulation 84) where the proposed lift station is located upstream of the point of compliance (as
143 defined in Regulation 84).
 - 144 ▪ Prior to permanent utilization of Division-authorized pilot or full-scale demonstration project
145 facilities/equipment (after completion of the approved pilot/demonstration project).
- 146
- 147 ☞ **Please note that the ‘2,000 gallons per day,’ as referenced in C.R.S. 25-8-103(5) and**
148 **Regulation 22, Sections 22.1(2), 22.2(10 and 11), is considered by the Division to be the daily**
149 **volume of domestic wastewater for which a system or facility is designed to receive (as**
150 **defined in Regulation 22, Section 22.2(7)).**
- 151 ☞ **Due to the compliance implications with regard to State Statute and Regulation 22,**
152 **applicants are strongly encouraged to review the revised definitions of Construction, Design**
153 **Capacity, In-kind Replacement and Preliminary Effluent Limitations in Regulation 22,**
154 **Section 22.2.**
- 155

156 **II.B What Are the Site Location Application and Design Submittal and Review Processes?**

157 Please refer the flow charts found in [Appendix I](#).

158

159 **II.C What is the relationship between the Preliminary Effluent Limits (PELs), site location** 160 **application, design approval process, and the discharge permit issued under the Colorado** 161 **Discharge Permit System (CDPS) [Previously part of WQSA-2, Policy 2]?**

162 These steps are all part of the process to obtain construction approval and/or a facility discharge permit.
163 As parts of a sequential process, the Division expects that the applicant will use a uniform facility
164 capacity rating throughout each individual step in the entire process that may include PEL requests, site
165 location approval, design approval, and the application for a permit. The capacity rating must be
166 consistent on all forms, reports, applications, and miscellaneous correspondence.

167

168 Hydraulic capacities must be expressed as a rate (volume/time) in million gallons per day (MGD) or
169 gallons per day (gpd). The rate must be provided as the maximum monthly (treatment facilities) and peak
170 hourly (lift stations) loading rates expected at the proposed facility unless a unique condition justifies
171 using a different design loading rate (i.e. attenuation, equalization, and/or instantaneous loading
172 considerations).

173

- 174
- 175 ☞ **When a facility seeks approval for a phased construction or expansion, the discharge permit**
176 **must reflect the hydraulic and organic capacities of that phase of the facility constructed**
177 **and in use at that point in time. Similarly, the effluent limits must be consistent with the**
178 **design capacity of that phase.**

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- ☞ **It is noted that the Division does not issue site location approvals for phased capacity increases. Phasing of projects refers to an entity’s request for separation of a project (for a single capacity request) into two or more phases to enable an entity to get through the site location approval and a phased design approval process such that construction on the approved (site location and design) phase can commence while design review work may be ongoing on other phases.**

In those instances where the calculated actual facility capacity is greater than the approved site location capacity, the discharge permit capacity will reflect the capacity approved in the site location process until such time as the site location approval has been amended or a facility expansion has been approved via the site approval process.

If, at the time of design review, it is found that the design submittal demonstrates a capacity that is different than that contained in the site location approval, an amendment to the site location approval must be executed for those facilities or the capacity indicated in the design submittal must be modified to match that of the site location approval before the Division can issue approval of a PDR or final design. If the applicant chooses to pursue a site application amendment (instead of modifying the proposed design) to address the inconsistency in the capacities, the applicant will be required to go through the site location application process. Where phased construction is approved, this element will apply only when design or construction is inconsistent with an approved phase. The discharge permit will also reflect such modified capacity.

In certain cases the ability of the proposed facility to remove a specific pollutant may limit the overall hydraulic or organic capacity of the treatment works. In these instances, all forms, reports, applications, and miscellaneous correspondence must specify the hydraulic and organic design capacities based on the design of the treatment works for conventional treatment parameters, e.g. flow and biochemical oxygen demand, and based on the treatment limitations with respect to the specific limiting pollutant (such as nitrogen and phosphorus).

- ☞ **The Division requires applicants to note inconsistent capacities found during the PEL, site location application, design approval, and permitting processes. Where corrections to previously issued PELs, approvals, or permits are required, the applicant shall provide payment of applicable fees, any required signatures, and new applications that meet the regulatory requirements. The timing of any such submittals shall be in accordance with any regulatory requirements.**

II.D Fees Required for Site Location and Design Review Submittals

The Division is authorized to assess fees for the review of wastewater site applications and wastewater design reviews in accordance with the provisions of Section 25-8-702 of the 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 in the review of site location applications and design submittals.**

- 225 ☞ **Instructions for requesting fee and invoice information for site location and design reviews**
226 **is available online at:**
227 <http://www.cdph.state.co.us/wq/engineering/pdf/SiteAppFeesUMSheet.pdf>
228 ☞ **The fee request form can also be accessed [here](#).**
229

230 There are currently no fees associated with the following:

- 231 ▪ In-Kind Replacement Notifications (Section 22.10)
- 232 ▪ Requests for Determination Regarding whether Site Location and Design Approvals are
233 required (Section 22.8(2)(b)(vii))
- 234 ▪ Pilot/Demonstration Project Authorization Requests (Section 22.8(2)(b)(vii))
- 235 ▪ Design Reviews that are not required per statute (i.e. interceptor smaller than 24-inches in
236 diameter, lift station with design capacity less than 2,000 gpd, etc.), but are required to
237 fulfill State and/or Federal project funding requirements.

- 238
- 239 ☞ **Because the fees are set by statute, the Division cannot waive fees for site location or design**
240 **review work that is required and performed in accordance with the statute and Regulation**
241 **22.**
242

243 **II.E How Does the Division Handle Non-Responsive Site Location Applications?**

244 While Regulation 22, subsection 22.3(8) indicates that the Division has a 60-day review process goal,
245 Regulation 22 does not establish response timelines for the Applicant. The Division finds that it cannot
246 act expeditiously when Applicants do not provide adequate and timely responses to requests for
247 information and/or review comments. As such, the Division has established a procedure for working with
248 non-responsive Applicants to:

- 249 ▪ Encourage Applicants to continually make progress through the site application process
250 once initiated by providing adequate and timely responses, and
- 251 ▪ Minimize inefficient reviews resulting from the time invested by a Division reviewer to
252 reacquaint with a project after significant stagnant periods.

253 Since Regulation 22 only grants the Division authority to approve, conditionally approve, or deny Site
254 Applications, this basis of action does not include returning non-responsive Site Applications to
255 Applicants without a decision.

256 The process for handling non-responsive site applications is described as follows:

257 General Site Application Review Timeline

- 258 1. If during review of the site location application submittal, the Division identifies issues with
259 the submittal, the District Engineer (or other assigned staff engineer) will issue an issues
260 comment letter to the applicant and the applicant's engineer.
- 261 2. If a written response that substantially addresses all issues raised (in the comment letter) is
262 not received from the applicant within 120 calendar days from the date of the original
263 comment letter, the Division intends that the District Engineer will issue a non-response
264 letter to the Applicant indicating that the Applicant has two available options in lieu of the
265 Division denying approval of the site location application:

- 266 a. Submit a written response to the Division’s comment and/or request for information
267 letter that substantially addresses the outstanding issues within 30 calendar days to
268 continue with the Site Application process, or
- 269 b. Withdraw the site application in writing.
- 270 Please be aware that if the Division fails to meet its goal of contacting the applicant at 120
271 days, it in no way absolves the applicant from meeting its responsibility of responding to a
272 formal request for information within 120 days.
- 273 3. If the Applicant does not respond in writing within 30 calendar days from the date of the
274 non-response letter (a maximum of 150 calendar days from the original Division comment
275 and/or request for information letter), the Division will issue a site location application
276 denial letter and the Applicant forfeits their site application review fee. Thereafter, the
277 Applicant must submit a new site application, receive a new Site Application number, and
278 pay new fees to reinitiate the Site Application process.
- 279 4. If the Applicant responds by substantially addressing the Division’s comments and/or
280 requests for information within 30 calendar days of the date of the non-response letter, the
281 District Engineer will continue with the site application review process. Where the
282 Applicant’s response does not substantially address the comments and/or request for
283 information, the Division may continue working with the Applicant or deny the site
284 application. The Division will make this decision on a case by case basis. If the approval of
285 the application is denied, the Applicant forfeits their site application review fee.

286

287 A decision tree for this process is provided as shown in [Appendix I, Figure 2](#).

288

289 **II.F What Are “New Technologies” and How Are They Handled?**

290 When a proposed project includes a new technology (or combination of technologies) that is not
291 specifically covered by the criteria identified in Policy 96-1 the applicant must submit a *New Technology*
292 *Review Request* to the Division for review by the New Technology and Design Criteria Variance
293 Committee (Committee). It is recognized that, at times, it may not be clear if a substantial reconfiguration
294 of existing treatment technologies constitutes a “new technology” and the Committee will make such
295 determinations.

296

297 Due to the potential impacts on site location and design review and approvals (i.e. The Committee may
298 not be able to approve the proposed New Technology, which would result in changes to the site location
299 and design submittals, etc.), the *New Technology Review Request* must be submitted to the Division
300 either:

301

- 302 (1) At the same time as the Site Location Application Submittal. This would be a
303 separate submittal from the Site Location Application, but would be submitted at the
304 same time. [This will likely result in a longer period to complete the site location
305 review process if the Division is not able to approve the New Technology as
306 proposed or if other issues with regard to the New Technology submittal are
307 identified.]

308

OR

(2) **Prior to** submission of the Site Location Application Submittal. **It is noted that submitting the *New Technology Review Request* 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 that may arise that are related to the Committee’s review of the proposed new technology.

☞ The specific requirements associated with *New Technology Review Request* submittals are found in Section 1.6.1 of Policy 96-1, which can be accessed at the following website:

http://www.cdphe.state.co.us/op/wqcc/StatutesRegsPolicies/Policies/96-1_07.pdf

☞ *New Technology Review Request* 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. In the case of a *New Technology Review Request* where the vendor 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. Contact information for these people is found at the following website:

http://www.cdphe.state.co.us/wq/engineering/pdf/County_List.pdf

☞ Note that the New Technology review process is not, as a requirement, part of the site location application process. However, if the Division receives a Site Location Application and determines that a proposed treatment technology requires a new technology review and this was not identified as such by the Applicant, the Division will notify the Applicant that a New 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 PELs. As such, site location approvals that are conditioned upon a technology receiving New Technology approval will not be issued. Submission of a New Technology request that is simultaneous with or after the submittal of a site location application may result in significant delays in the site location approval process.

☞ The Division’s target goal for completion of New Technology Review request is 60 days from the date of the Division’s receipt of a complete submittal that meets the requirements of Policy 96-1. As is the case with all other review target goals, periods of time where the Division’s review work is placed on hold (while awaiting a response to an issues letter from the Division) do not count toward the 60 days. The ‘clock’ is stopped during those on-hold periods.

II.G How Does the Division Handle Design-Build Projects?

Refer to Section 22.11 of the Regulation and of this document for additional information on design-build project submittal requirements.

351 **II.H Site Location Application Types and Other Topics Addressed in Regulation 22**

- 352
- 353 ▪ New Domestic Wastewater Treatment Works
 - 354 ▪ Capacity Changes of Existing Treatment Works
 - 355 ▪ Certification Procedures for Eligible Interceptor Sewers
 - 356 ▪ Interceptor Sewers not Eligible for Certification
 - 357 ▪ Lift Stations (New, Change in Capacity, Modification)
 - 358 ▪ Amendments
 - 359 ▪ Pilot/Full-Scale Demonstrations
 - 360 ▪ In-Kind Replacement
 - 361 ▪ Design Approval
- 362

363 **II.I How are Site Location Application and Design Approvals Issued by the Division?**

364 Site location application and design approvals are issued in writing on Department letterhead. Approvals
365 are not issued verbally. The Engineering Section Manager or the Program Manager signs and issues all
366 site location application decisions (approvals and denials), based upon the recommendations made by the
367 review engineer and his/her Unit Manager. The assigned review engineer, under the direction of his/her
368 Unit Manager, issue and sign design decision letters (approvals and denials of PDR and final design
369 submittals). Interim communications regarding site location application and design submittals are signed
370 and issued by the review engineer.

371

372 ☞ **Note that the Division does not issue concurrent site location application and design approvals.**
373 However, if the design submittal will provide additional clarification to inform the site location
374 application review process, it can be submitted prior to site location approval issuance. However,
375 formal review/comment/approval will not take place until the design review fee is remitted and site
376 location approval has been issued. Site location application and design approval letters are always
377 made via separate letters.

378

379 **II.J Procurement of Equipment Prior to Receiving Site Location and Design Approval**

380

381 ☞ **Purchasing equipment without having first obtained site location and design approvals is done**
382 **at the owner’s risk. If the Division does not approve the site location application and/or design**
383 **that is based upon the use of such equipment, the owner will likely be required to replace the**
384 **equipment.**

385

386 **II.K What Happened to the Site Application Policies?**

387 WQSA-1 – Pertinent information was incorporated into this document in the specific guidance for
388 Regulation 22, Section 22.3. WQSA-1 will be abolished.

389

390 WQSA-2 – Pertinent information was incorporated into this Guidance document in the General
391 Information and Tips Section entitled, *What is the relationship between the Preliminary Effluent Limits*

392 (PELs), site location application, design approval process, and the discharge permit issued under the
393 Colorado Discharge Permit System (CDPS)? WQSA-2 will be abolished.

394
395 WQSA-3 – Pertinent information was incorporated into this document in the specific guidance for
396 Regulation 22, Sections 22.3(2)(c) and 22.3(2)(h). WQSA-3 will be abolished.

397
398 WQSA-4 – Regulation 22, Section 22.8 and the associated guidance included in this document
399 specifically addresses site application amendment considerations. Therefore, no information from
400 WQSA-4 was incorporated into this document and WQSA-4 will be abolished.

401
402 WQSA-5 – Pertinent information was incorporated into this document in the specific guidance for
403 Regulation 22, Sections 22.4 and 22.5 and WQSA-5 will be abolished.

404
405 WQSA – 6 – This policy is not limited to Regulation 22 as it spans multiple regulations. Incorporation of
406 the policy into this document was therefore not appropriate and WQSA-6 will remain as a stand-alone
407 policy.

408
409 WQSA-7 - Pertinent information was incorporated into this document in the specific guidance provided
410 for Regulation 22, Section 22.3(2)(e). WQSA-7 will be abolished.

411

412 **II.L Expiration of Site Location Approvals**

413 Site location application approvals have an expiration date that is specifically included in the approval
414 letter. The September 2009 revision to Regulation 22 changed the default expiration period from 12
415 months to 18 months. However, the Division retains the authority to issue an approval with an expiration
416 date that differs from the default of 18 months, depending on the specific project and any associated
417 issues or conditions.

418

419 **II.M Applying for a Site Location Approval Extension**

420

421 It is the Division’s expectation that an applicant will submit a request for site location application
422 approval extension at **least sixty (60) calendar days prior to the expiration date of the approval**. This
423 will facilitate sufficient time for the Division to process the request and to issue decision on the request
424 (either extension of the approval or denial).

425

426 The Requirements for Applying for Extension of a Site Location Approval are provided below:

- 427
- 428 1. The applicant must submit a request for the associate site location application fee to the
429 WQCD Engineering Section Unit Manager for the county in which the project is located.
Information regarding fee requests is provided in section II.D of this document.
 - 430 2. The applicant must submit the request in writing, on the proper form and all information on
431 the form must be completed. The extension application form is available at:
432 [Site Location Approval Extension Application](#)
 - 433 3. If the associated project involved PELs and the issuance date of the PELs is older than 18
434 months (from the date of extension request), new PELs may be required. If the PEL ‘age’

435 exceeds 18 months and the applicant has not obtained new PELs at the time of extension
436 request, the applicant must contact the WQCD Permits Section to obtain written confirmation
437 that the previously-issued PELs are still valid and the confirmation must include the
438 'expiration date' of the previously-issued PELs. If the Permits Section determines that the
439 previously-issued PELs are no longer valid and that new PELs are required for the proposed
440 project, the extension request will not be granted by the Division until the new PELs are
441 received and submitted and it is determined that the proposed project can meet the new PELs.

- 442 4. If the associated project is a lift station or interceptor and depending on the period of time
443 since the expiration date, the Division may require that the receiving treatment entity(ies) be
444 notified of the extension and that a new certification from the entity(ies) to receive and accept
445 the waste be submitted prior to issuance of the extension.
446

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

451 ☞ Unless there are issues with PEL 'expiration' as determined by the Permits Section, the
452 standard period of extension is one (1) year from the expiration date of the original site
453 location approval – not from the date of the extension request. If there are no PEL
454 'expiration' issues and the applicant includes a specific request and explanation, the period of
455 extension may be lengthened to eighteen (18) months from the date of the original site
456 location approval.

457
458 **II.N Introduction of Septage to a Domestic Wastewater Treatment Works**
459

- 460 ☞ Septage may include waste from portable toilets, vaults, septic tanks, RV dump stations, etc.
461

462 The Hazardous Waste Exclusions Guidance Document, CDPHE, April 2009, Section 2.3.1
463 addresses domestic sewage and mixtures of domestic sewage as they relate to hazardous waste
464 regulations. This document can be found at <http://www.cdphe.state.co.us/hm/hwexcl.pdf>. Please
465 contact the Hazardous Materials and Waste Management Division at 303.692.3300 with any
466 questions.
467

468 **II.O General Tips to Ensuring Complete and Adequate Submittals and Timely Review Processes**

- 469 ✓ Always include completed versions of all of the necessary forms and checklists.
470 ✓ Ensure that all of the requirements of Regulation 22 are adequately addressed in the
471 submittal for site location applications and Policy 96-1 for design submittals.
472 ✓ The time period(s) for local management agencies and 208 agencies may differ greatly
473 from that of the Division. Be sure to contact these agencies as early as possible so that
474 you can account for this time in the overall project planning work.
475 ✓ Ensure that all of the necessary signatures for local management agencies and 208
476 agencies (where they exist) are included on the forms and that the original signatures
477 (where signatures are required) are submitted to the Division.

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- ✓ Please include two (2) complete copies of the site location application submittal. Only one (1) needs to have original signatures.
If you have any questions, contact the district engineer or the Engineering Section Unit Manager for the county in which the project is located. Contact information for these people can be accessed at the following web link:
http://www.cdphe.state.co.us/wq/engineering/pdf/County_List.pdf
- ✓ If your project will involve a New Technology (not currently included in Policy 96-1), do not wait to submit the New Technology request. Get the New Technology submittal in to the Division as early as possible as it could result in delays during the site location and/or design review processes.
- ✓ For in-kind replacements, if the entity is unsure whether a replacement would be considered in-kind, it is suggested that the entity 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.
- ✓ Contact information for the Unit Managers can be accessed at the following web link:
http://www.cdphe.state.co.us/wq/engineering/pdf/County_List.pdf

494
495 *Section-Specific Guidance Information*
496

497 *The Section Names and Numbers indicated below correspond exactly to those in the regulation itself (Regulation*
498 *22) for ease in reference.*

499
500 **22.1 SCOPE AND PURPOSE**
501

502 This Section of the Regulation is brief and clear; therefore, specific guidance on this Section is not included in
503 this document.

504
505 **22.2 DEFINITIONS**
506

507 The September 2009 revisions included numerous changes to Section 22.2, *Definitions*. All applicants are
508 strongly encouraged to refer to Section 22.2 prior to submitting a site location application. For additional
509 information regarding the Water Quality Control Commission’s intent with regard to definition changes, please
510 refer to the associated Statement of Basis and Purpose language that is included at the end of Regulation 22.

511
512 **22.3 DECLARATION OF POLICY FOR THE SITE LOCATION APPROVAL PROCESS**
513

514 **22.3(1)(a), 22.3(2)(b), 22.3(3) and 22.9(1)(j)**

515 In accordance with Section 25-8-702(2) C.R.S., the Division is required to “Consider the local long-range
516 comprehensive plans for the area as they affect water quality and any approved water quality management plans
517 for the area”. Additionally, Section 22.3(2)(b) requires that the site location application be reviewed to ensure
518 “That the proposed treatment works is developed considering the local long-range comprehensive plans for the
519 area as it affects water quality and the approved water quality management plans for the area.”; and Section
520 22.9(1)(j) requires that that Division rely substantially upon the water quality management plan for the area in
521 deciding whether to grant site location application approval where the plan is current and comprehensive with
522 respect to its analysis of population growth and distribution as it relates to wastewater treatment. **In all cases, it is**
523 **the intention of the Commission and the Division to have local water quality planning issues resolved at the**
524 **local level, through a public process, prior to an applicant’s submission of site location application (to the**
525 **Division).**
526

527 Site location approvals must be consistent with the relevant water quality elements of a local long-range
528 comprehensive plan. Municipalities and counties are requested to comment on all site application proposals as
529 they relate to water quality aspects of their long-range comprehensive plans. If any of the applicable review and
530 commenting agencies does not comment and the Division believes that water quality related planning questions
531 remain to be resolved, the review of the site application may be delayed as the Division seeks additional
532 information from the local planning authority and/or applicant’s representative. The Division expects, at a
533 minimum, that the site location application address consistency with the 208 plan and with the local long-range
534 comprehensive plan in the following areas:

- 535 ▪ Planning area boundaries,
536 ▪ Population projections for planning area,
537 ▪ Facility service areas,

- 538 ▪ Facility location, sizing, and timing,
- 539 ▪ Appropriate effluent limitations or waste load allocations where identified,
- 540 ▪ Agreements among entities to implement the plan, and
- 541 ▪ Other water quality related Issues.

542

543 In order to ensure that water quality management and wastewater utility planning meets Division requirements, it
544 is suggested that the entities involved meet with the Division to discuss planning requirements early in the site
545 application planning process.

546

547 A 208 Agency Exists

548 Where a 208 Planning Agency exists, the Division considers that consistency with the water quality management
549 plan (for the area) is demonstrated through the signature and associated recommendation for approval of the site
550 location application by the 208 Planning Agency. In the cases of amendments where no signatures are required
551 on Division forms, the Division takes into consideration any comments provided by the 208 Agency that are
552 received after applicant notification per the Regulation. Unless a specific question or issue is raised with regard to
553 a particular aspect(s) of a 208 Plan, the Division does not perform a review of the 208 Plans as part of routine site
554 location application reviews. However, for all site location applications, the Division takes into consideration the
555 factors identified in Regulation 22, Sections 22.3 and 22.9(1)(a-i).

556

557 There is No 208 Agency

558 In areas of the state where a 208 Planning Agency does not exist, the Division considers that consistency with any
559 approved water quality management plans for the area is demonstrated through the signature and associated
560 recommendation for approval of the site location application by the local management agencies, such as the
561 involved county, city or town. In the cases of amendments where no signatures are required on Division forms,
562 the Division takes into consideration any comments provided by the agencies that are received after applicant
563 notification per the Regulation. Unless a specific question or issue is raised with regard to a particular aspect(s)
564 of a local Plan, the Division does not perform a review of the Plans as part of routine site location application
565 reviews. However, for all site location applications, the Division takes into consideration the factors identified in
566 Regulation 22, Sections 22.3 and 22.9(1)(a-i).

567

568 Outdated, Limited or Lack of Water Quality Management Planning

569 Section 22.9(1)(j) of the Regulation indicates that in areas where water quality management planning has not been
570 conducted or where such planning is not current or comprehensive with respect to population growth and
571 distribution as it relates to wastewater treatment, the Division is required to rely upon the factors identified in
572 factors 22.9(1)(a-i) and upon the information submitted in the site location application as the primary
573 determinants in making the site location application decision. It is further indicated that in cases where portions
574 of a water quality management plan are adopted as regulation, pursuant to 28-8-105(3), those (portions) are
575 binding on the Division action. Additionally, per 22.9(1)(h), the Division also takes into consideration other local
576 water quality management plans, such as a county or city-specific plan. The Division takes into consideration
577 input from these other agencies through signatures and written comments received.

578

579

580

☞ **It is noted that the requirements (or associated authority to dictate the requirements) regarding the frequency of updating state and/or area-wide water quality management (WQM) plans does not reside in Regulation 22. Federal regulation, 40 CFR 130.6(e) indicates that the State's**

581 **Continuing Planning Processes (CPP) shall specify the process and schedule used to review**
582 **WQMs. Colorado’s CPP is found in WQCC Policy 98-2, Appendix D. Colorado’s CPP does**
583 **not include specific update frequencies for WQMs, but indicates, in part, that WQMs**
584 **“...should be updated regularly...” and updates “...should be done at regular intervals...”.**
585

586 22.3(2)(c) and 22.3(2)(h)

587 Continued growth In Colorado has placed increasing pressure on available water resources. As a result, there are a
588 number of potable water treatment plants that rely upon raw water diversions which are downstream from
589 wastewater treatment plant discharges. The Water Quality Control Commission's (WQCC) system of setting
590 water quality standards includes a water supply classification to address this issue. The in-stream water quality
591 standards based on the water supply classification are used in setting discharge permit limits. While protective
592 PEL limits generally reduce the potential for problems at drinking water treatment processes, there are factors,
593 such as wastewater treatment plant upsets, which should be considered in siting domestic wastewater treatment
594 works. The Division is required to consider water supply protection in accordance with sections 22.3(2)(c) and
595 22.9(1)(c) in Regulation No. 22.

596
597 The following expectations are provided to protect the quality of Colorado's drinking water sources for their
598 intended uses and to aid in the provision of safe potable water to the public. The expectations are applicable to
599 proposed new domestic wastewater treatment facilities that discharge (or propose to discharge) upstream (within
600 the same stream segment or within 3 miles (if the stream segment ends within three miles of the proposed
601 discharge) of an existing surface water, groundwater well under the direct influence of surface water, or
602 infiltration gallery) of a diversion for a public water system supply. If more than one public water system
603 diversion exists within the designated distance, the approach taken for the first downstream diversion generally
604 applies to latter diversions.

- 605
- 606 1. Preliminary Effluent limitations for the domestic wastewater treatment works are developed to protect the
607 stream standards adopted by the WQCC. The engineering report submitted with the site application
608 package must specify the treatment processes that will be used to meet the preliminary effluent
609 limitations. The engineering report must provide a discussion of all drinking water intakes used for
610 domestic purposes within three miles of the proposed discharge including surface water intakes,
611 groundwater wells under the direct influence of surface water, and infiltration galleries.

 - 612 2. When applying for PELs, the applicant must include (in the PEL application) specific information
613 regarding all proposed (and existing) outfalls that are located within three (3) miles of a drinking water
614 intake of any type. If the Division becomes aware of proposed outfalls that are located within three (3)
615 miles of any type of drinking water intake and it does not appear that the intakes were considered in the
616 development of the PELs, the Division will require the applicant to obtain new PELs. The Division
617 encourages wastewater treatment plant discharges to be located such that potential impacts to public
618 drinking water sources are minimized, be they surface or groundwater under the direct influence of
619 surface water. Where the volume of effluent to be discharged during low-flow conditions in the stream
620 would make up a significant portion of the flow in the stream and the proposed wastewater treatment
621 plant discharge is near the water supply diversion, proposals for new domestic wastewater treatment
622 works must include, as part of the alternatives analysis, consideration of:
 - 623 a. Discharging the wastewater via land application, to an alternate drainage basin, or to a point
624 downstream from the water supply intake;

- 625 b. Collection and transmission of wastewater to an existing treatment plant, or alternate plant site,
626 downstream from the water supply intake;
- 627 c. The potential for an alternate drinking water source (e.g. groundwater or connection to another
628 existing water system) for the water supply agency; and,
- 629 d. Relocation of the water supply intake to a point upstream from the wastewater treatment works
630 discharge.

631
632 The Division recognizes that water rights issues may limit the feasibility of implementing such
633 alternatives.

634 If no reasonable alternative to the discharge of wastewater treatment works effluent upstream and
635 proximate to drinking water sources can be found, then additional considerations to reduce risk of
636 impact to the water supply must be made in the design and management of the wastewater treatment
637 plant to minimize public health risks.

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

- 642 3. Additionally, special design and operational issues may need to be considered to address emergency
643 situations (such as an upset) at a wastewater treatment plant. These may include, but are not limited to:
- 644 a. Having the capability for flow equalization at the wastewater treatment plant
- 645 b. Having the capability for emergency storage at the wastewater treatment plant at a point prior to
646 discharge.
- 647 c. Having the ability to temporarily divert the discharge to an alternate treatment facility or other
648 location during the emergency situation.
- 649 d. Providing alarm systems to alert operator of upset conditions and/or equipment issues or failure.
- 650 e. Having adequate staffing at the wastewater treatment plan to facilitate a timely response to
651 emergency situations.

652
653
654 **22.3(2)(e) – Guidance Specific to Odor, Noise and Aerosol Mitigation from Domestic Wastewater Treatment**
655 **Works (previously included in WOSA-7)**

656
657 Concerns regarding impacts from a proposed domestic wastewater treatment works have been expressed by
658 potential neighbors in some cases and it is necessary for the Division to implement a consistent approach to
659 addressing those concerns while protecting public health and the environment.

660
661 Regulation No. 22 sections 22.3(2)(e) and 22.9(1)(e) requires that the Division review site applications to ensure
662 that the proposed treatment works can be operated and managed at the proposed site location to minimize
663 foreseeable potential adverse impacts on the public health, welfare, and safety as related to wastewater treatment
664 and/or water quality. This policy provides guidance for reviewing those factors and to specifically:

- 665
666 1. Address potential concerns of neighboring property owners to proposed domestic wastewater treatment
667 facility construction;

- 668 2. Reduce the likelihood of public nuisance complaints stemming from the operation and maintenance of
669 domestic wastewater treatment facilities (including odors, noise and aerosols);
- 670 3. Minimize the potential for the airborne transmission of pathogens from wastewater treatment facilities to
671 the occupants of nearby habitable structures; and
- 672 4. Provide guidance if setback requirements cannot be met and mitigating factors must be incorporated into
673 the design to address potential concerns from odor, noise, and aerosols.
674

675 In considering the approval of new and expanded domestic wastewater treatment works, domestic wastewater
676 treatment works where a change in capacity (expansion or reduction) is requested, or for domestic wastewater
677 treatment works where other facility modifications are proposed (i.e. those requiring site location approval per
678 Regulation 22), the Division shall consider distances to habitable structures and, if impacts to public health or the
679 environment are projected, may deny approval of a site location application or, in its approval of a site location
680 application, may impose reasonable conditions on the design of a facility to minimize public health impacts
681 associated with odors and aerosols. Habitable structures include residences, schools, and commercial structures.
682

683 Incorporating certain design elements can prevent most potential odor, noise, or aerosol problems at a treatment
684 works. Any mitigation techniques incorporated as a condition of a site location application approval must be
685 included in the design for that facility. In order to obtain design approval, the applicant is then required to operate
686 and maintain those mitigation elements or other comparable equipment or mitigation method. Applicants must
687 consider potential odor, noise, and aerosol issues and the potential costs associated with mitigation elements in
688 their site selection process. Should the responsible party for an existing domestic wastewater treatment works,
689 allow mitigation elements required in a previous site approval to be operated incorrectly or deteriorate in their
690 effectiveness, the Division may withhold approval of any request for plant expansion until the mitigation elements
691 are improved to adequate operations.
692

693 Odors

694 Wastewater treatment works have the potential for odor generation simply based on the characteristics of
695 wastewater and the processes used to treat wastewater. It has been demonstrated that odors generated in a
696 wastewater treatment works can be contained and minimized by proper design and by active odor control
697 technologies. Therefore, it is the applicant's responsibility to consider odor generation in choosing the location of
698 the facility and selecting the processes to treat the wastewater and mitigate odors.

699 Odor emissions are addressed by Air Quality Control Commission, Regulation Number 2, *Odor Emission*
700 (<http://www.cdphe.state.co.us/regulations/airregs/100104aqccodoremision.pdf>) Projected odor levels exceeding
701 Air Quality Regulation Number 2 will not be approved.
702

703 It is difficult to predict where or under what conditions odors may travel; however, consideration of prevailing
704 winds, localized inversion conditions and other physical characteristics of the proposed site and the treatment
705 processes should be assessed by the applicant.
706

707 New Domestic Wastewater Treatment Works

708 Unless site specific factors exist which would tend to amplify odors, the Division will assume that the following
709 setback distances from the treatment process location to habitable structures are adequate and that consideration
710 of specific odor control requirements in the design is not necessary.
711

- 712 1. Non-aerated lagoons: ¼ mile
- 713 2. Aerated lagoons less than two (2) total surface acres (all basins combined) with no surface aeration: 250

- 714 feet
- 715 3. Aerated lagoons greater than two (2) total surface acres (all basins combined) with no surface aeration:
716 500 feet
- 717 4. Aerated lagoons less than or equal to two (2) total surface acres (all basins combined) with surface
718 aeration: 500 feet
- 719 5. Aerated lagoons greater than or equal to two (2) total surface acres (all basins combined) with surface
720 aeration: 1,000 feet
- 721 6. Mechanical plants 2,000 gpd maximum month capacity to less than 50,000 gpd capacity: 250 feet
- 722 7. Mechanical plants 50,000 gpd capacity to less than 100,000 gpd capacity: 500 feet
- 723 8. Mechanical plants 100,000 gpd or greater: 1,000 feet
- 724 9. All enclosed mechanical plants and lift stations: 100 feet
- 725 10. Lift stations 150,000 gpd capacity to less than 215,000 gpd capacity: 250 feet
- 726 11. Lift stations greater than 215,000 gpd capacity: 500 feet
727

728 For determining the appropriate setback distance above, surface aeration means aeration accomplished with
729 equipment that generates splashing, i.e. throws the water into the air, not diffused aeration.

730
731 Absent site specific factors, if the proposed treatment works are far enough from habitable structures (as defined
732 by the setback distances given above) then odor mitigating design features would not be required. However, if at
733 the time of site location application action by the Division, habitable structures do exist within the setback
734 distances listed above for a new domestic wastewater treatment works, the applicant must commit to
735 incorporating reasonable and appropriate odor mitigation elements into the domestic wastewater treatment works
736 design.

737
738 Incorporation of the odor control processes into the design, when appropriate, shall be a condition of the site
739 location approval letter. Failure to construct the odor control processes would invalidate the site location
740 approval, resulting in a violation to the Water Quality Control Act, 25-8-702 C.R.S.

741
742 Mitigating elements can include system features designed to prevent odor problems from occurring such as, but
743 not limited to

- 744 1. Aeration system failure alarms with 24-hour autodialing to an appropriate responsible party;
- 745 2. Covering certain portions of the plant; and,
- 746 3. Enclosure and appropriate air handling treatment system (e.g. air filters) for certain processes that
747 generate odors such as headworks and solids handling facilities.
748

749 The specific mitigating elements for a particular situation should be developed based on an analysis of the
750 sequence of events that could lead to odor problems, Design features should then be developed to interrupt or
751 control the generation of odors which would negatively affect nearby habitable structures.
752

753 Increase or Decrease of Capacity or Amendment of Existing Domestic Wastewater Treatment Works

754 Where the distances to habitable structures cited above in the New Domestic Wastewater Treatment Works
755 section are not met for facilities being modified and required site location application approval, the applicant also
756 has the obligation to consider odors. In the site location application, the applicant shall address the need for
757 mitigation design elements to reduce the potential for odor from processes being added or modified. Reasonable
758 odor mitigation facilities or strategies shall be proposed by the applicant to reduce the odor potential. Where a

759 new habitable structure(s) has been built near the original, approved site location boundary after the construction
760 of the original domestic wastewater treatment works, the Division and the applicant shall consider whether the
761 proposed changes will increase the already existing odor levels at those new habitable structures and whether the
762 existing facility already impact public health, welfare, and safety as related to wastewater treatment and/or water
763 quality.

764 Noise

765 Noise is generated by large, powered equipment at domestic wastewater treatment works including engine
766 generators, blowers, fans, and mechanical aerators. The variation, pulse, and tone of the noise can affect the
767 listener as much as or more than the decibel energy of the sound wave. Mitigation strategies must be employed
768 consistent with State and Local Ordinances and should focus on equipment selection, acoustical architectural
769 techniques, and the use of barriers or other sound-wave attenuation measures within buildings, surrounding
770 structures, and plant grounds.

771 Aerosols

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

780 Expectations Regarding Existing Domestic Wastewater Treatment Works and Appurtenances

781 For **existing** domestic wastewater treatment works and appurtenances where –

- 782 1. No facility modifications (requiring site location and design approval per Regulation 22) are requested or
783 have been made without first obtaining site location and design approval and
- 784 2. Where the Division is not aware of any odor, noise or other related complaints or non-compliance with
785 regard to Colorado statute or discharge permit requirements,

786 As long as conditions 1. and 2. above are applicable, the Division does not expect that these existing facilities will
787 comply with the ***Odor, Noise and Aerosol Mitigation*** requirements that are described in this Section.

788 **22.4 APPLICATION PROCEDURES FOR CONSTRUCTION OF NEW DOMESTIC WASTEWATER 789 TREATMENT WORKS (ALSO INCLUDES NEW OR RELOCATED OUTFALL SEWERS AND 790 VAULTS)**

791 An application for ***New Domestic Wastewater Treatment Works*** is required for the following situations:

- 792 ▪ Proposed domestic wastewater treatment works with a design capacity to received greater than 2,000
793 gallons of domestic wastewater per day including onsite wastewater systems;
- 794 ▪ Addition of a new discharge location (outfall sewer) at a domestic wastewater treatment works;

- 802 ▪ Existing wastewater treatment works intending to relocate the currently approved discharge location
803 (outfall sewer) outside of the currently approved site location for the works and/or to a different stream
804 segment;
- 805 ▪ Changes to an existing domestic wastewater treatment works that occur beyond the existing site location
806 approval such as expansion of the treatment works onto an adjacent property not included as part of the
807 original site location approval;
- 808 ▪ Multiple onsite wastewater systems each with a design capacity to receive less than 2,000 gallons of
809 wastewater per day, but satisfy the common ownership, proximity, and loading criteria of *Water Quality*
810 *Site Application Policy 6 (WQSA-6) Multiple Onsite Wastewater Systems*; and
- 811 ▪ Construction of a new vault. Note that vaults are allowed by the Division only under very limited
812 circumstances as described in the *Guidelines on Individual Sewage Disposal Systems*, 5 CCR 1003-6 (or
813 successor), and local county regulations/requirements may preclude vaults completely.

814 The Division shall review site location applications submitted for all new domestic wastewater treatment works in
815 accordance with all applicable sections of Regulation 22 including but not limited to subsections 22.1, 22.2, 22.3,
816 22.4, 22.9, and 22.11.

817 **22.4 Submittal Requirements/Expectations**

818

819 Requirements

820 The system shall complete the following forms for submittal to the Division:

- 821 ▪ [Fee Information Request Form](#)
- 822 ▪ [Site Location Application Form 22.4](#)

823 The site location application, including these forms, shall be submitted to the Unit Manager for the County in
824 which the proposed project resides.

825 Expectations

826 The Division expects the applicant to complete the forms entirely and accurately prior to submission to the
827 Division. The applicant is responsible for ensuring that the proposed organic, maximum month loading, and peak
828 hourly loadings concur with the preliminary effluent limits and intended final design and permitted flow rates
829 prior to submitting the application for site location approval. All information provided on the application is
830 expected to conform to the requirements set forth in this guidance document.

831 The Division will not initiate a site location review prior to receiving appropriate fees for the proposed facility,
832 and will not complete a site location decision prior to receiving all applicable signatures and providing all entities
833 the allotted review times as indicated in Regulation 22 with exceptions for non-responsive review entities.

834 **22.4 (1)(b) Engineering Report**

835

836 Requirements

837 The applicant shall prepare and submit an engineering report as part of the application process for site location
838 approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed
839 professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for*

840 *Architects, Professional Engineers, and Professional Land Surveyors* issued by the Colorado Department of
841 Regulatory Agencies. Regulation 22 specifically states that the engineering report shall describe the proposed
842 domestic wastewater treatment works and demonstrate the applicant’s capability to manage and operate the
843 facility over the life of the project. This report shall include information identified in each of the sections 22.4
844 (1)(b)(i) through 22.4(1)(b)(xiv) as described by Regulation 22, and as guided by this document.

845 Division Expectations

846 The Division expects this report to completely address each of the items as described in Regulation 22 and as
847 guided by this document.

848 **22.4 (1)(b)(i) Service Area Definition**

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

860 For all cases, the service area must represent the 20-year planning projection, or some other clearly defined future
861 planning period. This planning projection must conform to the approved water quality management plan and/or
862 the local long-range comprehensive plan. The Division expects the applicant to demonstrate that the proposed
863 service area is consistent with an approved water quality management plans (208 Plans) in designated 208
864 planning areas and/or the local long-range comprehensive plan. Refer to the information presented in this
865 guidance document on section 22.3(1)(a) for additional information. To demonstrate consistency with these
866 approved plans, the site location application must address the information identified in this guidance document.
867 For ease of review, the Division expects the site location application engineering report to include applicable
868 portions of approved plans that have been referenced. In some cases, the applicant may need to request a revision
869 of the water quality management plan and/or the local long-range comprehensive plan prior to submitting an
870 application for site location approval to the Division.

871 Within the proposed service area, the engineering report must clearly estimate the flow and loading projections
872 served by the proposed domestic wastewater treatment works for the existing and projected planning period. The
873 engineering report must develop the average daily, maximum month average daily flow, and peak hour flow (or
874 instantaneous flow value based on the service area) and organic loads from at least three years of historical data or
875 through accepted engineering practices. The Division expects the engineer to develop flow and loading by
876 considering the design service area population, land use, and unique customers.

877 The Division expects that the engineering report should develop average daily loading estimates through
878 population projections and/or land use projections.

- 879 ▪ Population Projections: The Division finds that population projections are appropriate for single use
880 service areas and well defined residential developments that do not have significant commercial/industrial
881 waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population
882 should be expressed as the number of each population type at build-out or certified occupancy.
883 Population types for a single use facility may include day staff, over-night staff, over-night visitors, day
884 visitors, etc. For well defined residential developments/communities, the engineering report may rely on
885 historical census data extrapolations or typical household sizes (e.g. single family equivalent (SFE) = 3.2
886 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE,
887 etc.) to estimate service area populations. All information used to develop population estimates must be
888 well documented in the engineering report.
- 889 ▪ Land Use Projections: The Division finds that land use projections are appropriate for significant service
890 areas with a variety of land uses. Typically, local planning documents use a combination of open space,
891 floor area ratio, and zoning types to define development within a well defined service area. The
892 engineering report should subdivide the service area into land use types such as open space, commercial,
893 residential (SFE, R2, MF, etc.) and translate this information into residential populations and
894 industrial/commercial land use areas or building square footages to determine appropriate loading
895 estimates.

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

900 Following the development of population or land use projections, the engineering report shall develop an average
901 daily flow for the service area over the defined planning period. When using historical data as the basis, the
902 Division expects the applicant to use at least three years of matched population/land use and flow data. If
903 historical data is not available, the Division expects the engineering report to use locally approved planning values
904 for developing wastewater flows for each type of population/land use. If an approved comprehensive or master
905 plan is not available, the Division expects the engineering report to justify planning values for wastewater flows
906 for each type of population/land use. For single use service areas, the Division expects the engineering report to
907 use at least three years of representative, matched daily population and flow data if available or planning values
908 for flow provided in the *State Board of Health Guidelines on Individual Sewage Disposal Systems* (or successor),
909 or other applicable and widely accepted planning or engineering reference manuals. The engineering report shall
910 include documentation of all references.

911 After establishing the average daily flow, the engineering report must develop the maximum month average daily
912 flow rate. For onsite wastewater systems, the design must follow the *State Board of Health Guidelines on*
913 *Individual Sewage Disposal Systems* (or successor) requirements unless justified otherwise. For all other
914 treatment systems, the maximum month average daily flow must be tied to a special event, inflow and infiltration,
915 a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the
916 potential variability, the Division expects this estimate to be made using at least three years of historic records. If
917 historic records are unavailable, the Division expects the engineering report to include a well thought out and
918 documented explanation of the proposed maximum month peaking factor. When the maximum flow stems from
919 inflow and infiltration estimates, the Division expects the engineering report to estimate inflow and infiltration

920 based on a percentage of the average daily design flow. This seasonal flow should be added to the average daily
921 flow as a non-peaked base flow to the proposed domestic wastewater treatment works influent. The Division
922 expects that unsupported inflow and infiltration estimates should be a minimum of 10 percent of the average daily
923 design flow. The engineering report shall include documentation of all references.

924 The engineering report should build from the average daily flow estimate for the service area to develop a peak
925 hour design flow rate or other justified design peak if deemed necessary based on the service area. For example, a
926 wastewater treatment facility providing service only to a sports stadium may need to accommodate the peak flow
927 from all fixture units operating simultaneously. For onsite wastewater systems, the design must follow the *State*
928 *Board of Health Guidelines on Individual Sewage Disposal Systems* (or successor) requirements unless justified
929 otherwise. For all other treatment systems, the Division expects the engineering report to develop either a single
930 composite peaking factor for all types of population/land uses or individual peaking factors for each type of
931 population/land use. The peaking factors should be developed from at least three years of historical data. If
932 historical data is not available, the Division expects the design to rely on locally approved peaking factors or
933 technically accepted peaking factor formulas. If an approved design manual, master plan or comprehensive
934 planning manual is not available for the project area, the Division expects the engineering report to define and
935 calculate peaking factors using accepted peaking formulas found in widely used and accepted engineering design
936 references. The engineering report shall include documentation of all references.

937 With the proposed service area flows established, the Division expects the engineering report to estimate the
938 organic loading to the proposed domestic wastewater treatment works for the service area. The engineering report
939 must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic
940 loads, and local planning requirements. Where available, the Division expects the engineering report to evaluate
941 at least three years of historical data for the existing service area. If not available, the Division expects the
942 engineering report to justify the organic loading to the proposed domestic wastewater treatment works through an
943 analysis of individual user types and their anticipated organic loadings. For single use facilities where historical
944 data is unavailable and for onsite wastewater systems, the Division expects the engineering report to rely on the
945 planning values provided in the *Guidelines on Individual Sewage Disposal Systems* (or successor) or other
946 applicable and widely accepted planning or engineering references. The engineering report shall include
947 documentation of all references.

948 Engineering reports often indicate that the proposed domestic wastewater treatment works cannot function
949 effectively based on initial flows and loads when designed for the long range planning service area. For this case,
950 the Division expects the engineering report to justify an operational plan. The Division expects operational plans
951 to be developed during the site location application rather than the design review phase. The engineering report
952 must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section
953 22.11 in this guidance document for specific information.

954 **22.4 (1)(b)(ii) Alternatives Analysis**

955 The engineering report shall provide an evaluation of the proposed site location application with respect to
956 various sites and treatment alternatives. The evaluation should discuss how the various sites may impact
957 treatment alternatives based on physical limitations, such as site size or geologic conditions, land acquisition
958 costs, proximity to drinking water intakes, or the proximity to habitable structures. The Division expects the
959 engineering report to identify multiple sites that were evaluated as part of the process and compare each of those
960 sites with respect to real estate availability and cost, disposal options, geologic conditions, site access, proximity

961 to habitable structures, proximity to drinking water intakes, geographic benefits (gravity flow), treatment options,
962 water quality impacts, water rights issues, life-cycle economics, setback requirements, and other pertinent site
963 selection criteria. Specific to setback requirements, all potential sites must be specifically evaluated with respect
964 to this guidance document.

965 In addition to specific site characteristics, treatment options should be discussed in detail with respect to meeting
966 the required degree of treatment to satisfy the PELs, capital costs, projected operation and maintenance, ease of
967 operation, operator flexibility, potential for expansion or modification, and applicability to each potential site.

968 The engineering report must provide a discussion on the feasibility of consolidation as a whole, or in part, in
969 accordance with the requirements of 22.4 (1)(b)(v).

970 While the Division recognizes that facilities with a design capacity less than or equal to 50,000 gallons per day
971 may have more limited choices, the engineering report must still provide adequate information as described
972 previously for site selection.

973 **22.4 (1)(b)(iii) Preliminary Effluent Limits**

974 The applicant for site location approval must apply for Preliminary Effluent Limits (PELs) prior to submitting a
975 site location for review. PELs provide discharge criteria specific to the stream segment, or groundwater,
976 receiving the discharge at the proposed design hydraulic capacity. The Division expects applicants to include
977 PELs with a site location application that were issued no more than eighteen months prior to the Division's
978 receipt of the application unless the applicant provides written confirmation from the CDPHE Permits Section that
979 includes a statement that the PELs are still valid and which specifies an 'expiration date' for the PELs. The
980 Division may require facilities to obtain new PELs if, in the Division's judgment, the PELs may no longer be
981 applicable. The request for new PELs by the entity inherently delays the site location application review by the
982 Division.

983 The Division will develop PELs for two sets of parameters. The first set of parameters includes: BOD, TSS, E.
984 coli, pH, Nitrogen species (ammonia, nitrate, nitrite, total nitrogen), TRC, and total phosphorus. The Division
985 may also include other parameters in the first set of PELs, particularly where a current permit includes a limit for
986 that parameter. The second set of parameters includes all of the metals and inorganic parameters for which
987 numeric standards have been adopted by the Commission for the receiving stream segment, or groundwater, and
988 proximate downstream segments, except those included in the first set of parameters.

989 **Where a Temporary Modification of a Standard for a Second Set Parameter or a Site-Specific Ambient-Based**
990 **Standard Has Been Approved by the WQCC**

991 Where a temporary modification is in place (at the time the applicant applies for PELs), for a parameter which is
992 based on significant uncertainty regarding the water quality standard necessary to protect current and/or future
993 uses, or which is based on significant uncertainty regarding the extent to which existing quality is the result of
994 natural or irreversible human-induced conditions (formerly known as a "type iii temporary modification"), the
995 Division will determine the appropriate PEL based on Section 31.14(15) of the Basic Standards and
996 Methodologies for Surface Water. Where another type of temporary modification is in place (i.e., one based on
997 significant uncertainty regarding the timing of implementing attainable source controls or treatment), the PEL will
998 be set based on the underlying standard. [Note that in June 2010 the temporary modifications provisions in
999 Regulation 31 at sections 31.7 and 31.14(15) were significantly changed, and therefore the current cross-

1000 references in section 22.4(1)(b)(iii) to sections 31.7(3)(a)(i) and (iii) and to section 31.14(15)(b) are no longer
1001 applicable. Please refer to the instructions contained in this guidance document until such time as Regulation 22
1002 can be updated to reflect the correct subsections of Regulation 31.]

1003 Where a site-specific, ambient-based standard has been approved by the WQCC and is in place at the time the
1004 applicant applies for PELs, the PEL for that parameter will be based on the site-specific standard.

1005 ☞ **Note that if the site location application is submitted with PELs that were issued prior to the**
1006 **WQCC approving the temporary modification or site-specific, ambient-based standard for a**
1007 **second-set parameter, the site location application will be reviewed in accordance with the**
1008 **issued (current) PELs. If the applicant wishes to have the PELs revised to reflect the**
1009 **temporary modification or site-specific, ambient-based standard, the site location application**
1010 **will be placed on hold (if the period of time until PEL issuance is 6 months or less) or will be**
1011 **returned to the applicant (if the period of time until PEL issuance is longer than 6 months) with**
1012 **no action taken by the Division. The site location application would need to be re-submitted**
1013 **when the revised PELs are issued. Depending on the amount of review work that had been**
1014 **done by the Division at the time that the site application is returned and the time until the re-**
1015 **submittal, a new site location application fee may be required at the time of re-submittal.**

1016
1017 The letter from the Division transmitting the PELs will indicate that the Division will evaluate the selected
1018 treatment alternative to ensure the technology will attain the PELs for the first set of parameters. For the second
1019 set of parameters in order to address all issues prior to a decision on the site location application, the applicant has
1020 the following options:

- 1021 1. Complete an analysis of existing influent and effluent quality to demonstrate that all PELs can be met
1022 without source water controls or additional treatment;
- 1023 2. Identify legally enforceable source controls that will be implemented to reduce the influent concentration
1024 of any parameters for which the PEL would be exceeded; or
- 1025 3. Provide specific treatment to reduce the influent concentration of any parameters for which the PEL
1026 would be exceeded.

1027 Where the applicant does not meet one of the above options, the Division will assign a condition of approval of
1028 the site location application requiring the applicant to:

- 1029 1. Provide, with the permit application, analytical results for the influent and effluent for each parameter
1030 identified in the second set; and

1031 For Existing Facilities:

- 1032 2. For any parameter for which the PEL will not be met, provide, with the permit application, a plan to
1033 reduce the influent concentration of such parameter through source control, treatment, or other
1034 appropriate means.

1035 For New Facilities:

- 1036 2. For any parameter for which the PEL will not be met, provide, with the permit application, the method by
1037 which the applicant will reduce the influent concentration of such parameter through source control,
1038 treatment, or other appropriate means *prior to facility start up*. Failure to meet this condition would
1039 result in denial of the permit and the treatment facilities would not be viable.

1040

1041 **22.4 (1)(b)(iv) Analysis of Existing Facilities**

1042 As part of the planning stage, the engineering report must document and discuss the loading, capacity, and
1043 performance of any relevant existing facilities within the proposed service area boundary. The Division interprets
1044 relevant existing facilities to be existing domestic wastewater treatment works that are currently designed to
1045 receive greater than 2,000 gallons per day of domestic wastewater within the service area. While not all relevant
1046 existing facilities within the proposed service area may intend to consolidate with the proposed domestic
1047 wastewater treatment works during the design period, each should be given due consideration as part of the
1048 engineering report. Each relevant existing facility may eventually need to consolidate due to environmental,
1049 economic, or political issues. The Division expects that the engineering report discuss the location, ownership,
1050 present flows, permitted capacity, type of treatment, condition of facilities, and CDPS Number for each existing
1051 relevant facility within the proposed service area.

1052 Examples of existing relevant facilities include the following:

- 1053 ▪ Existing domestic wastewater treatment works to be replaced by the proposed facility on a new site,
- 1054 ▪ Consolidation of multiple existing domestic wastewater treatment works with a single domestic
1055 wastewater treatment works servicing the entire service area,
- 1056 ▪ Existing onsite wastewater systems within the proposed service area, and
- 1057 ▪ Replacement of failing decentralized onsite wastewater systems with a centralized domestic wastewater
1058 treatment works.

1059
1060 **22.4 (1)(b)(v) Consolidation Analysis**

1061 In accordance with Regulation 22, Section 22.3(1), the Division is required to “Encourage the consolidation of
1062 wastewater treatment works whenever feasible with consideration for such issues as water conservation, water
1063 rights utilization, stream flow, water quality or economics.” Consolidation potentially offers significant capital
1064 and operational cost savings through economies of scale, reduced points of failure that can lead to sanitary sewer
1065 overflows, and improve management and administration through shared resource availability.

1066 All engineering reports provided with applications for the construction of new domestic wastewater treatment
1067 works must include a discussion of the feasibility of consolidation. The Division shall evaluate the feasibility
1068 analysis with the intent to encourage consolidation, but understands that the Water Quality Control Commission
1069 revised the provision of Regulation 22 subsection 22.3(1)(c) to determine consolidation infeasible based on any
1070 one of the identified criteria. A consolidated project should have advantages over separate projects for water
1071 conservation, water rights utilization, stream flow, water quality, or economics. However, as is indicated in the
1072 Statement of Basis and Purpose language of the Regulation, it is noted that this revision was not intended to
1073 diminish the consideration that the Division must give to a 208 Plan that specifies a consolidated facility.

1074 Factors precluding consolidation may include, but are not limited to: water rights issues that limit the applicant’s
1075 ability to move the effluent to another location for discharge; reuse opportunities for the new facility, costs,
1076 management or operational limits at the existing facility, intervening public lands that cannot be crossed (i.e.
1077 national park, wilderness area, etc.); intervening lands that should not be crossed (i.e. wetlands, threatened and
1078 endangered species habitat, or such other categories as may be protected under local land use policies and/or
1079 regulations, etc.); water quality limitations for the receiving waters, TMDLs, or compliance schedules or

1080 advisories for the existing wastewater treatment works, or significant topographical or geological barriers such as
1081 mountain ranges or canyons.

1082 If it is demonstrated to the satisfaction of the Division that any one of the following would make consolidation
1083 infeasible, no further analysis of consolidation is required.

1084 i. Water Conservation

1085 If the consolidation of treatment works would preclude reuse opportunities for the new facility or for an
1086 existing facility or would otherwise impair water conservation efforts of the new or other affected
1087 treatment works, the submittal must include evidence of this, but no further analysis of consolidation is
1088 required.

1089 ii. Water Rights Utilization

1090 If the consolidation of treatment works would alter the discharge of effluent in a manner that would
1091 impair the water rights of one of the parties to the consolidation, the submittal must include evidence of
1092 this, but no further analysis of consolidation is required.

1093 iii. Stream Flow

1094 If the consolidation of treatment works would alter flows in a stream or stream segment or transfer a
1095 sufficient amount of water to another stream or stream segment so as to result in (1) overwhelming
1096 adverse environmental effects on either stream, or (2) the lowering of the effluent limits of other
1097 treatment works so as to cause the need to install additional, advanced secondary or tertiary treatment
1098 processes, no further analysis of consolidation is required.

1099 iv. Water Quality

1100 Where consolidation has the potential to degrade the surface and/or groundwater quality, analysis of
1101 consolidation must be included in the submittal.

1102 v. Economics

1103 Unless another factor contained in these criteria results in a determination that consolidation is NOT
1104 feasible, an analysis comparing the cost of consolidating the treatment works versus the cost of
1105 constructing separate facilities must be prepared and included in the submittal. The analysis must
1106 include the following costs: land acquisition, capital construction (including unique expenses such as
1107 flood-proofing, water rights compliance, wetland mitigation, etc.), interceptors and lift stations,
1108 treatment plan expansion and/or upgrade, debt retirement expenses and operation and maintenance
1109 costs for a minimum period of twenty (20) years for each alternative. Other unique costs that are
1110 specific to one or more of the alternatives under consideration may also be appropriate for inclusion
1111 (value of water reuse by the applicant or through sales to another party, etc.). Cost comparisons must
1112 be made on the basis of cost per 1,000 gallons of wastewater treated, as well as the present net worth.
1113 If the cost of consolidation exceeds the cost of separate plant construction by more than 30%, no further
1114 analysis of consolidation is required.

1115

1116 Although not specifically included in Regulation 22, the following items could significantly impact the need for
1117 or the associated benefits of a consolidation. If after evaluating factors i-v and consolidation must still be

1118 considered, the Division expects that items vi-ix will also be considered as part of the consolidation analysis. As
1119 is the case with items i-v, if it is demonstrated to the satisfaction of the Division that any one of factors vi-ix
1120 would make consolidation infeasible, no further analysis of consolidation is required.

1121 vi. Service Area

1122 If the site or wastewater treatment service area of a proposed facility is within the wastewater treatment
1123 service area (as defined in an adopted local comprehensive plan or approved 208 Water Quality
1124 Management Plan) of a district or municipality providing wastewater treatment service, the applicant
1125 (for site location of the proposed project) should be that district or municipality and the application
1126 should provide for consolidation of either treatment facilities or management and operation of separate
1127 facilities. If this is not the case for the proposed project, the application should clearly address the
1128 reason(s) for the departure from this expectation. If the local management agencies (in the case of an
1129 adopted local comprehensive plan) and/or the 208 Planning Management Agency are amenable to
1130 amendment of the adopted/approved plans to address the project as proposed, please include the
1131 associated documentation (indicating willingness to amend) from the associated agencies.

1132 vii. Distance

1133 If the distance to the closest existing/proposed wastewater treatment works, or from a sewer line
1134 capable of carrying the proposed flows to an existing treatment works, is less than five (5) miles, an
1135 analysis of the cost-effectiveness of consolidation with that treatment works must be included in the
1136 submittal. If the distance is five (5) miles or greater, no further analysis of consolidation is required.

1137 viii. Threatened or Endangered Species

1138 If threatened or endangered species inhabit or utilize the only site that could serve as a consolidated
1139 treatment works or a site through which interceptor lines would have to pass to reach a consolidated
1140 treatment works site, the submittal must include evidence of this, but no further analysis of
1141 consolidation is required.

1142 ix. Local Plans

1143 In the event that the approved water quality management plan acknowledges the existence of, or a
1144 proposal for multiple domestic wastewater treatment works and recommends that no consolidation of
1145 these facilities occur, or if consolidation is in direct conflict with a specific recommendation of the
1146 county's or city's Comprehensive Plan or an approved 208 Water Quality Management Plan, and the
1147 entity responsible for the development of the respective plan recommends against consolidation, the
1148 Division will waive the requirement for the analysis of consolidation. However, inclusion of multiple
1149 facilities in the water quality management plan does not constitute a recommendation of no
1150 consolidation. The engineering report needs to include a discussion of the approved water quality
1151 management plan and/or long-range comprehensive plan.

1152 Note that consolidation should not be limited to entire domestic treatment works. Treatment service providers
1153 may also benefit from consolidating portions of the overall treatment operations, such as solids treatment and
1154 handling or administrative duties. Partial consolidation of domestic wastewater treatment works are viable
1155 alternatives and must be considered as part of the feasibility study in each engineering report.

1156

1157

1158 **22.4 (1)(b)(vi) Natural Hazards Analysis**

1159 The applicant is responsible for identifying natural hazards such as floodplains, avalanche chutes, soil or rockslide
1160 areas, faults, and expansive soils that may adversely affect the suitability of the proposed site. Sometimes these
1161 hazards can be mitigated through design and construction measures specifically intended to compensate for the
1162 risks presented by that hazard. Where natural hazards exist, the engineering report shall describe the nature and
1163 extent of the hazard and identify how the facility will be designed and constructed to mitigate the potential effects
1164 of the hazard on the facility and its ability to function. In the event of a natural disaster, the Division expects that
1165 operators will have uninhibited access to the proposed domestic wastewater treatment works and that the facility
1166 remain capable of receiving, treating, and discharging wastewater from its service area.

1167 The engineering report shall provide sufficient documentation indicating that the proposed site is not encumbered
1168 by unmitigated natural hazards. As an example, the report shall provide copies of the Federal Emergency
1169 Management Agency (FEMA) FIRMette maps showing the flood zone designation for the 100-year flood event or
1170 other local stormwater comprehensive plan for the selected site. For proposed sites that are located within
1171 designated by FEMA as Undetermined Risk Areas, the Division expects the engineer to provide sufficient
1172 documentation to make a professional judgment regarding the likeliness of flooding potential at the site. The
1173 Division expects the engineering report to further confirm that other man-made structures in the vicinity of the
1174 proposed site do not increase the risk of natural hazards such as flooding. The engineering report must include a
1175 discussion on the vertical datum used to establish the flood plain elevation compared to topographic information,
1176 such as a field survey.

1177 The Division expects that a professional geologist or a Colorado licensed professional engineer with an
1178 appropriate level of experience investigating geologic site conditions address specific geologic hazards at the
1179 proposed site as part of the required geotechnical engineering report discussed in Regulation 22 subsection
1180 22.4(1)(b)(vii). The Division further expects the engineering report to provide sufficient documentation and
1181 discussion of natural hazards at the proposed site to allow the professional geologist or a Colorado licensed
1182 professional engineer with an appropriate level of experience investigating geologic hazards to make a
1183 professional judgment that the proposed design mitigates the potential impacts of the identified hazards.

1184 **22.4 (1)(b)(vii) Geotechnical Conditions**

1185 This regulation indicates that the engineering report must evaluate geotechnical conditions at the “proposed and
1186 alternative sites”. Since geotechnical conditions of each alternative site may impact the selection of the proposed
1187 site location, the Division expects the engineering report to generally discuss the geotechnical conditions at each
1188 alternative site, and provide a site specific geotechnical investigation of the proposed site location.

1189 For the proposed site location, the applicant has two ways to address this requirement within the engineering
1190 report. First, the engineering report can include a preliminary geotechnical investigation for the selected site
1191 comprised of reference materials available from the Natural Resource Conservation Service, Colorado Geological
1192 Survey, on-site or nearby geotechnical investigations or other geotechnical data deemed representative of the site.
1193 All references shall be noted and provided with the engineering report. The second option is to perform a site
1194 specific preliminary geotechnical investigation for the selected site location. For either option, the Division
1195 expects that the preliminary geotechnical site investigation include the following information: site-specific soil
1196 borings, a discussion of the soil profile(s), seasonal and measured groundwater conditions, an analysis of
1197 geotechnical hazards, and a statement indicating that the alternative site can reasonably be expected to support the

1198 proposed treatment works. The preliminary geotechnical investigation for all proposed groundwater discharges
1199 must provide percolation test data at the proposed discharge elevation. For onsite wastewater disposal systems,
1200 the percolation tests and soil profile(s) must be completed in accordance with the *Guidelines on Individual*
1201 *Sewage Disposal Systems* (or successor) or overriding local requirements. The engineering report shall build on
1202 the information provided with the preliminary geotechnical investigation by discussing the impact of the
1203 preliminary geotechnical investigation findings at each alternative site on the design, construction, operation, and
1204 maintenance of the proposed facilities.

1205 Regulation 22 requires that the preliminary geotechnical information provided must be sufficient for “that person”
1206 to make a determination that the site can reasonably be expected to support the proposed treatment works. The
1207 Division interprets “that person” to be a professional geologist or a Colorado licensed professional engineer with
1208 an appropriate level of experience investigating geologic site conditions. The Division expects “that person” to
1209 either review or create the data provided within the engineering report, and provide a statement indicating that the
1210 selected site can reasonably be expected to support the proposed treatment works.

1211 Regulation 22 subsection 22.4(1)(b)(vii) states that the Division may require that geotechnical evidence be
1212 presented in the form of a report. The Division interprets this to mean that the applicant must submit a
1213 geotechnical report for all proposed domestic wastewater treatment works during the site location application or
1214 design approval process unless waived by the Division in writing.

1215 Alternatively, the applicant may submit a formal geotechnical report instead of a preliminary geotechnical
1216 investigation for the selected site location of the domestic wastewater treatment works at the time of site
1217 application. Submittal of the formal geotechnical report at this stage would fulfill the geotechnical submittal
1218 requirements for both site location application and design submittals. At a minimum, this geotechnical report
1219 shall include site specific soil boring information that discusses seasonal and measured groundwater conditions,
1220 soil bearing capacity, excavation benching, shoring, and sloping, bedding and backfill, compaction and moisture
1221 conditioning, alternative foundation design, an analysis of geotechnical hazards, and design recommendations
1222 based on the findings. The geotechnical report for all proposed groundwater discharges must provide percolation
1223 test data at the proposed discharge elevation. For onsite wastewater disposal systems, the percolation tests and
1224 soil profile(s) must be completed in accordance with the *Guidelines on Individual Sewage Disposal Systems* (or
1225 successor). The geotechnical report shall include a statement that the proposed site will support the proposed
1226 facility.

1227 If the applicant receives site location approval based on an application that included only preliminary geotechnical
1228 information and the formal geotechnical report submitted during the design review phase indicates that the site
1229 will not support the proposed treatment works, the applicant shall provide a statement in writing to the Division.
1230 The Division may modify the original site location approval which may require the applicant to reapply for a site
1231 location approval of an alternate site under Regulation 22 subsection 22.4.

1232 **22.4 (1)(b)(viii) Selected Alternative Discussion**

1233 Regulation 22 indicates that the engineering report must include a detailed description of the “selected
1234 alternatives” including a legal description of the proposed site, a treatment system description, design capacities,
1235 and operational staffing needs. Considering that Regulation 22 subsection 22.4(1)(b)(ii) requires the engineering
1236 report to include an evaluation of treatment alternatives, the Division interprets Regulation 22 subsection
1237 22.4(1)(b)(viii) to be only for the selected alternative.

1238 The engineering report shall provide a detailed description of the selected alternative. The description shall
1239 include a legal description of the proposed site. Acceptable legal descriptions include plat maps, title surveys, and
1240 surveyed property boundary drawings. All legal descriptions shall be signed and sealed by a professional land
1241 surveyor in accordance with the requirements of the Colorado Department of Regulatory Agencies (DORA).

1242 The engineering report must describe the specific treatment processes and capacities proposed for both the liquid
1243 and solid streams within the proposed domestic wastewater treatment facility. The report shall specifically
1244 address how the proposed treatment process satisfies each PEL or alternative (e.g. reuse or land application)
1245 discharge limit unless specifically omitted through pretreatment, specific source controls, or other means discussed
1246 as part of the engineering report section specifically addressing Regulation 22 subsection 22.4(1)(b)(iii). The
1247 descriptions of each treatment process and capacity shall be thorough, and discussed in sequential order. The
1248 preliminary treatment process and capacity descriptions must adequately demonstrates that the selected treatment
1249 processes will comply with the requirements of 96-1 and be able to achieve continuous compliance with PELs
1250 must be provided. For onsite wastewater disposal systems, a peak daily flow figure is required as well as the
1251 average daily design flow. Examples of such descriptions are as follows:

- 1252 ▪ Influent duplex submersible recessed impeller centrifugal pump lift station with each pump capable of
1253 passing a three-inch solid and transferring peak hour design flow
- 1254 ▪ Duplex vortex grit classification system with each unit capable of handling peak hour design flows
- 1255 ▪ Dual secondary treatment technology sized for the maximum month average daily flow employing fixed
1256 film and activated sludge processes to provide nitrification and denitrification within a chamber mixed
1257 and aerated by coarse bubble diffusers

1258 To aid with the review, the Division expects that the engineering report contain a preliminary process flow
1259 diagram for both the liquid and solids processing streams.

1260 The engineering report must identify the operational staffing needs for the proposed facility. The Division
1261 expects the engineering report to indicate operator needs by identifying the number and certification level for all
1262 treatment staff and justify the proposed staffing level based on the size, complexity, automation, financial burden,
1263 maintenance requirements, and management hierarchy developed for the proposed domestic wastewater treatment
1264 works. The Division further expects the applicant to provide a well documented plan for providing properly
1265 certified and trained personnel to operate the proposed wastewater treatment works.

1266 **22.4 (1)(b)(ix) Legal Arrangements**

1267 The Division expects the applicant to provide sufficient information in the engineering report to demonstrate that
1268 all proposed facilities exist within the legal boundaries of the proposed site. The applicant has a number of
1269 options to demonstrate control of the site for the life of the project depending on the control mechanism. The
1270 Division expects the applicant to demonstrate control by ownership by providing a copy of the deed or title to the
1271 property in the name of the applicant. The Division will accept a copy of the title insurance, but the applicant
1272 must ensure that the title insurance document does not contain errors regarding ownership, property description,
1273 or limitations or restrictions that would preclude using the property for its intended purpose prior to submitting the
1274 information to the Division. The application must disclose and address any limitations that potentially impact the
1275 applicant's ability to maintain, operate, or construct facilities within the proposed site location for the life of the

1276 project. Specific expectations with regard to Right of Ways (ROWs) (easements via purchase, lease or
1277 condemnation, etc.) information and the site location application submittal are as follows:

- 1278 1. To facilitate as timely a review process as possible, it is the Division’s expectation that all ROWs that are
1279 necessary for the project be obtained prior to submittal of the site location application submittal and that
1280 copies of the documentation for all ROWs be included in the submittal.
- 1281 2. However, where all ROWs could not be obtained by the time of site application, at a minimum, the applicant
1282 must identify all ROWs that will be needed for the project and an explanation of how they intend to
1283 obtain each of the ROWs.
- 1284 a. For ROWs that do not involve condemnation, copies of agreements of the intention to sell/lease
1285 between the applicant and land owners (from which easements are needed) that are signed by the
1286 applicant and land owner may be submitted to fulfill the legal control demonstration requirement.
1287 The copies of agreements must clearly indicate the terms and conditions of the lease or legal
1288 easement specific to the duration of the agreement in addition to access, construction, and
1289 maintenance of any facilities located within the proposed site location for the duration of the
1290 agreement.
- 1291 b. For ROWs that involve condemnation, refer to item 3.below.
- 1292 3. If prior to submittal and by the time that the site location application is submitted:
- 1293 a. The project does not require ROWs that involve condemnation and a signed agreement between
1294 the applicant and each land owner regarding the intention to sell/lease the land for the project
1295 cannot be obtained.
- 1296 b. The project requires ROWs that involve condemnation and the condemnation process has not
1297 been completed.

1298 For either of the situations described in 2a and b above, the Division may issue a conditional site approval
1299 that requires the applicant to obtain the ROWs and submit the associated documentation to the Division
1300 prior to the Division issuing final design approval. In such a case, the Division will not issue final design
1301 approval until all documentation (that demonstrates that the applicant currently has full legal control of
1302 the site) has been received and reviewed by the Division.

1303 ☞ **In the event that there is reason to anticipate that a specific ROW may not be obtained**
1304 **within a period of six (6) months or less (i.e. a ROW involves complex contractual or**
1305 **other issues or the condemnation process cannot be completed due to legal issues, etc.),**
1306 **the Division will not be able to issue a conditional site location approval and the**
1307 **application may need to be returned to the applicant. The application would then need**
1308 **to be re-submitted to the Division once all ROWs have been obtained and are in place.**
1309 **A new site location application fee will be required for the re-submittal.**

1310 ☞ **For design-build projects or normal projects that utilize the streamlined design review**
1311 **process, the conditional site location approval would require that the ROWs be**

1312 **obtained and that the associated documentation be submitted to the Division with the**
1313 **Process Design Report submittal. In such a case, the Division will not issue PDR**
1314 **approval until all documentation (that demonstrates that the applicant currently has**
1315 **full legal control of the site) has been received and reviewed by the Division.**

1316 ☞ **For phased projects, the conditional site location approval would require that the**
1317 **ROWs (pertinent for the entire project) be obtained and that the associated**
1318 **documentation be submitted to the Division prior to the Division issuing final design**
1319 **approval for the first phase of the project. In such a case, the Division will not issue**
1320 **final design approval until all documentation (that demonstrates that the applicant**
1321 **currently has full legal control of the site) for each phase has been received and**
1322 **reviewed by the Division.**

1323 **22.4 (1)(b)(x) Institutional Arrangements**

1324 The Division interprets Regulation 22 subsection 22.4(1)(b)(x) to apply to the wastewater provider’s overall
1325 ability to generate funds, set rates, and earmark funds for acceptable waste treatment through institutional
1326 arrangements such as contracts and covenants, conditions, and restrictions (CCRs). While this specific subsection
1327 refers directly to acceptable waste treatment, the Division interprets this to include the construction, operation,
1328 and maintenance of all appurtenances to domestic wastewater treatment works as well. The Division expects the
1329 applicant to provide copies of institutional arrangements that demonstrate the applicant’s ability to pay for
1330 acceptable waste treatment in the engineering report. The institutional arrangements must clearly indicate how
1331 the organization responsible for the wastewater treatment has the authority to control rates and set aside funds for
1332 capital, operational, and maintenance improvements/programs over the life of the project.

1333 Under special conditions, multiple entities may own and operate a single domestic wastewater treatment works.
1334 While additional information must be submitted for this condition under Regulation 22 subsection 22.4(d), the
1335 engineering report must discuss how the institutional agreements stipulate funding adequate treatment. The
1336 application must demonstrate institutional arrangements with individual users or other service areas through a
1337 legally enforceable mechanism.

1338 **22.4 (1)(b)(xi) Management Capabilities**

1339 Management capabilities refer to the application’s ability to control the waste constituent and hydraulic loading to
1340 the proposed domestic wastewater treatment works. Domestic wastewater treatment works need to have the
1341 capability to control influent hydraulic loading through a legally enforceable means. This management may be in
1342 the form of user contracts, ordinances, operating agreements, management capabilities to expand the facilities,
1343 etc. The engineering report must discuss the potential discharges that may produce large volumes, high peak, or
1344 slug discharges that may impact the treatment works. The engineering report must further address the ability to
1345 control hydraulic loading to the proposed works or alternate management strategy. The engineering report must
1346 include copies of final user contracts, ordinances, operating agreements, etc. when required to limit the influent
1347 hydraulic flow to the works.

1348 Similarly, the engineering report must discuss the domestic wastewater treatment works’ capability to control
1349 influent waste constituent loading through a legally enforceable means. This management may also be in the
1350 form of user contracts, ordinances, operating agreements, management capabilities to expand the facilities, etc.

1351 As stated in Regulation 22 subsection 22.4(1)(b)(iii), the applicant may indicate in the engineering report that
1352 effluent limits for metals, organic parameters, and/or inorganic parameters, other than for total residual chlorine,
1353 will be met through implementation of a pretreatment program or other legally enforceable means of limiting
1354 discharges of these parameters to the wastewater collection system. The applicant may also provide
1355 documentation in the form of effluent data or an analysis predicting effluent quality to demonstrate that the limits
1356 will be met without specific source controls.

1357 In addition to these specific instances, the applicant may expect to use management capabilities to control influent
1358 wastewater loadings, but not as a way to eliminate specific treatment at the proposed domestic wastewater
1359 treatment works. For all cases where management capabilities are essential to meeting the required PELs and/or
1360 specific federal requirements for pretreatment, the Division expects the applicant to provide information
1361 demonstrating the management capabilities of the entity responsible for the domestic wastewater treatment works
1362 and/or appurtenance(s) thereto.

1363 The Division expects the engineering report to discuss the known and potential significant industrial users, target
1364 pollutants and possible sources, and proposed management systems used to control influent waste to the proposed
1365 domestic wastewater treatment works. In addition, the site location application must include boiler plate
1366 contracts, agreements, pretreatment requirements, contracts, covenants, use ordinances, etc. for significant
1367 industrial users and other target waste generators that demonstrate specific control mechanisms and management
1368 capabilities of the management agency overseeing the domestic wastewater treatment works. Although formal,
1369 EPA-approved Pretreatment Programs (per 40 CFR 403) are not required for all domestic wastewater treatment
1370 works, the National Pretreatment Program has a great deal of technical and regulatory reference information that
1371 may be helpful for developing and implementing pollutant source control programs.

- 1372 1. For an example of ordinance language that can be used to ensure that the proposed source control(s) are
1373 legally enforceable, please refer to the following site:
1374 http://www.epa.gov/npdes/pubs/pretreatment_model_suo.pdf
- 1375 2. For other information regarding control of pollutants into domestic treatment works, please refer to the
1376 following site: http://cfpub.epa.gov/npdes/docs.cfm?program_id=3&view=allprog&sort=name
- 1377 3. For specific questions regarding implementation of formal, approved Pretreatment Programs, please refer
1378 to the Colorado and EPA Region VIII contact information that is found at the following site:
1379 <http://www.epa.gov/region8/water/pretreatment/contacts.html>

1380
1381 **22.4 (1)(b)(xii) Financial System**

1382 The financial system associated with construction, operating, and maintaining the proposed facilities must include
1383 evidence of sufficient financial resources to construct the facility as well as a financial plan to generate revenue
1384 sufficient to repay any indebtedness and cover ongoing operational expenses. If the applicant intends to finance
1385 the project independently, evidence of such financial capability in the form of written communication from a
1386 financial institution attesting to the entity's possession of adequate capital to undertake the proposed project must
1387 be included with the engineering report. In the event that the entity requires a loan to complete the project, the
1388 applicant must submit a letter from a financial institution, bond advisor, or other loan program with the
1389 engineering report indicating its intent to make such a loan for the purpose of constructing the proposed
1390 wastewater treatment facilities.

1391 Publicly financed facilities must address capital construction capabilities by demonstrating available cash
1392 resources by including copies of current budget documents with the engineering report. For loan and grant
1393 funded projects, the applicant must submit documentation from any provider agreeing to issue loans and/or grants
1394 for the proposed project including the state revolving fund. For projects funded by bonds, the applicant must
1395 provide a copy of the report from a bond advisor or intended bond underwriter.

1396 All applicants relying on borrowed funds must develop and present a financial plan for repaying borrowed funds
1397 in addition to any fees and interest associated with the transaction. The plan must address the full term of the
1398 payback period and not just demonstrate a pattern of anticipated revenue generation. The financial plan must
1399 identify a fee structure as is applicable to the retirement of capital costs associated with the infrastructure as well
1400 and expansions or replacements funds. The fee structure must include system development fees and monthly user
1401 fees. Public entities may satisfy these requirements by providing the current fee structure, rate studies, and fee
1402 ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

1403 The engineering report must include a financial system that outlines how the management agency can provide the
1404 necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The site
1405 location application must provide sufficient information to show that the proposed management agency that
1406 oversees the proposed domestic wastewater treatment works has adequate financial capacity over a 20-year
1407 period. In addition to the long-range financial plan, the Division expects the site application to include a
1408 projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e.
1409 emergency replacements), and operating expenses. The financial analysis must include a discussion of the
1410 following items:

- 1411 1. Itemization of projected expenses and revenues including such costs as equipment maintenance and
1412 replacement and required sampling,
- 1413 2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period,
- 1414 3. Identification of reserve accounts for emergencies/replacement funding and operations and maintenance
1415 funds,
- 1416 4. Access to public and private financial capital,
- 1417 5. Revenues must be greater than costs including operating ratio greater than 1.0 (operating
1418 revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt
1419 service),
- 1420 6. Current outstanding debt and ability to borrow funds,
- 1421 7. Periodic financial audits,
- 1422 8. Annual development and utilization of budget,
- 1423 9. Rate structure based on customer, flow, and/or waste type, and
- 1424 10. Capital improvements plan.

1425
1426 **22.4 (1)(b)(xiii) Implementation Plan**

1427 The engineering report must include an implementation schedule for the proposed domestic wastewater treatment
1428 works. The schedule must represent any staging or phasing discussed as part of Regulation 22 subsection
1429 22.4(1)(b)(i). The Division expects the schedule to be presented in the form of a timeline or Gantt chart with a

1430 written narrative discussing critical milestones to meet the proposed start-up date (month and year). At a
1431 minimum, the estimated time to construct the proposed facility from the commencement of construction to
1432 start-up, and the projected start-up date. Additional information, such as projected site approval, design
1433 submittal, design approval, and bid award dates can assist the Division in visualizing the applicant’s overall
1434 schedule. The graphic schedule must provide a well defined standard of time measurement which enables the
1435 user to easily determine month and year of identified milestones.

1436 **22.4 (1)(b)(xiv) Operations and Maintenance**

1437 While Regulation 22 indicates that the applicant shall demonstrate the Owner’s capability to operate and maintain
1438 the facility, the Division finds that this section focuses on the emergency operations. The Division expects the
1439 applicant to address operations and maintenance requirements and manuals during the design review phases and
1440 not more than required by Regulation 22 during the site location application review. The engineering report must
1441 provide an emergency operations plan with the site location application. The plan shall be an overview of the
1442 proposed emergency management tools, facilities, programs, and equipment. While the *Design Criteria*
1443 *considered in the Review of Wastewater Treatment Facilities Policy 96-1* (Policy 96-1) addresses specific
1444 requirements for domestic wastewater treatment works that must be incorporated into the design of the proposed
1445 facilities, the engineering report included with the site location application provides a model for applying the
1446 required emergency systems to prevent potential sanitary sewer overflows of partially treated or raw wastewater
1447 or spills from unpermitted point sources. The engineering report must discuss the following issues at a minimum:

- 1448 ▪ The requirements of Policy 96-1 for the proposed domestic wastewater treatment works,
- 1449 ▪ Special practices and local requirements for sensitive site locations,
- 1450 ▪ Telemetry and alarms,
- 1451 ▪ Backup power supply identification,
- 1452 ▪ Equipment powered by the backup power supply,
- 1453 ▪ Portable emergency pumping equipment,
- 1454 ▪ Emergency storage/overflow protection sizing, and
- 1455 ▪ An operator call-down list and emergency response time justification.

1456 The discussion shall justify the ability of the proposed system to mitigate the potential hazards of a sanitary sewer
1457 overflow through appropriate management, equipment, and operational programs.

1458 Please note that site location approval that includes an emergency plan does not constitute approval of the plan
1459 during the design approval process. The Division shall evaluate the plan during the design approval phase with
1460 respect to any new information provided and the requirements of Policy 96-1. The Division expects that if the
1461 proposed plan presented with the site application varies from the requirements of Policy 96-1, the design approval
1462 process submission (Process Design Report or Basis of Design) include a variance request in accordance with
1463 1.6.2 of Policy 96-1.

1464

1465 **22.4 (1)(c) Notice of Intent to Construct**

1466

1467 **Division Requirements**

1468 The applicant shall submit evidence to the Division as part of the site location application indicating that the
1469 applicant individually notified any person that owns private property directly impacted by the proposed domestic
1470 wastewater treatment works' discharge of the intent to construct the new domestic wastewater treatment works.

1471 **Division Expectations**

1472 The Division expects the notification to all private parties impacted by the proposed discharge from the domestic
1473 wastewater treatment works be notified in writing, to the maximum extent practicable. The site application shall
1474 include a copy of all information sent to each private party impacted. This evidence shall include the following
1475 information:

- 1476 ▪ Discussion of how the evidence ties to information provided with the engineering report in accordance
1477 with Regulation 22 subsection 22.4 (1)(b)(ix),
- 1478 ▪ Assessor's or plat map showing property boundaries of the proposed site location, the impacted private
1479 property, and property owner's names and addresses
- 1480 ▪ Graphical representation of the exact portions of private property impacted by the proposed domestic
1481 wastewater treatment works discharge,
- 1482 ▪ A narrative describing the proposed domestic wastewater treatment works, construction and
1483 implementation schedule, effluent quantity and limits, and achieved setback requirements and/or
1484 proposed mitigation thereof,
- 1485 ▪ Certified mail receipts associated with the delivery of evidence package to each impacted private property
1486 owner,
- 1487 ▪ A discussion of any potential fees associated with the impacts, and
- 1488 ▪ Information regarding the inability to properly contact any impacted private property owner.

1489 The Division expects the evidence to include any correspondence received from the private land owner's in
1490 response to the notifications. These responses may be in the form of comments, acceptance, or objection to the
1491 proposal. The Division expects that all notices will be provided to the impacted private property owners at least
1492 30 days prior to submittal of the site location application to the Division to allow sufficient time for response.

1493 **22.4 (1)(d) Capacity Sharing Agreements**

1494

1495 **Division Requirements**

1496 When the proposed domestic wastewater treatment works serves two or more separate and distinct service areas
1497 under the control of different legal entities, the entities must enter into a capacity sharing agreement. This
1498 capacity sharing agreement must be provided as part of the site location application to the Division for review.
1499 The agreement must outline the legal relationship established between the two or more entities for control,
1500 funding, operation, management, capacities, and expansion of the proposed domestic wastewater treatment works.

1501

1502 Division Expectations

1503 The capacity sharing agreement must be final prior to design approval. At a minimum for the site application, the
1504 Division expects the draft agreement between multiple entities to reflect the comments, needs, and desires of
1505 every party prior to submission of the site location application. The site location application must discuss the
1506 current state of the document, critical disputed issues in the draft agreement, and any particular entity requests not
1507 currently represented in the draft agreement that must be resolved. Proof that all parties have participated in the
1508 development of the agreement must be provided as part of the site application.

1509 The Division expects that any specific item identified in the engineering report, as defined by Regulation 22
1510 subsections 22.4(1)(b)(i) through 22.4(1)(b)(xiv), that directly impact the capacity sharing agreement be discussed
1511 within this part of the application. An example of a specific section that might be addressed by the agreement is
1512 Regulation 22 subsection 22.4(1)(b)(xi). Under this requirement, each service area may address the needs of
1513 controlling the overall wastewater loading individually as part of a combined effort to meet the PELs. The
1514 agreement must specifically address each of the following issues for each entity party to the agreement: control,
1515 funding, operation, management, specific capacities and loadings, and expansion of the proposed domestic
1516 wastewater treatment works.

1517 **22.4 (1)(e) Consistency with Water Quality Management Plan**

1518

1519 Division Requirements

1520 The site location application for a new domestic wastewater treatment works is associated with a specific service
1521 area as defined in the engineering report as required by Regulation 22 subsection 22.4(1)(b)(i). The proposed
1522 service area must conform to the approved water quality management plan and the local long range
1523 comprehensive plan, when applicable. As part of the site location application, the applicant must demonstrate that
1524 the proposed service area conforms with the approved water quality management plan and/or the local long-range
1525 comprehensive plan. In some cases, the applicant may need to request a revision of the water quality management
1526 plan and/or the local long-range comprehensive plan prior to submitting an application for site location approval
1527 to the Division.

1528 Division Expectations

1529 The Division expects the applicant to demonstrate that the proposed service area and population projections are
1530 consistent with an approved water quality management plans (208 plans) in designated 208 planning areas and/or
1531 the local long-range comprehensive plan. To demonstrate consistency with these approved plans, the site
1532 application must address the information identified in the guidance for Regulation 22 Sections 22.3(1)(a),
1533 22.3(2)(b), 22.3(3) and 22.9(1)(j) that is provided in this document.

1534 For ease of review, the Division expects the site location application engineering report to include applicable
1535 portions of approved plans that have been referenced.

1536 **22.4 (2)(a) through 22.4(2)(f) Agency Reviews**

1537 Regulation 22 requires the applicant to provide copies of the site location application and engineering report to
1538 commenting agencies prior to submission to the Division. The review agencies will evaluate the site application
1539 based on each agency's plans, policies, rules and regulations, which may include the areawide water quality

1540 management plan for the area should such a plan exist. The applicant must perform all necessary coordination
1541 and supply all information to the review agencies. The applicant is responsible for obtaining all necessary
1542 signatures on the site application form before sending it to the Division. These agencies may include the
1543 Management Agency (if different from other entities in the list), County, City or Town, Local Health Authority,
1544 208 Planning Agency, and any other State or Federal Agency. These agencies shall review and recommend
1545 approval or denial of the site location application by the Division.

1546 Each entity may recommend approval by simply signing and dating the site application on the provided signature
1547 line. Entities are welcome to provide a letter of approval to accompany the site location application and are
1548 encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For
1549 entities who are recommending denial of the site location application, in addition to signing the site location
1550 application form and indicating that a denial is recommended, the entity must also provide a written statement
1551 explaining the reason(s) for recommending denial of the site location application.

1552 The applicant shall provide each review entity at least sixty days to review the site location application and
1553 engineering report. The applicant may submit the site application to the Division prior to sixty days if all entities
1554 provided comments or after the sixtieth day should any entity not provide a signature or comment letter. The
1555 Division shall contact non-responsive entities and provide seven additional days to any entity that does not
1556 provide a signature or comment letter. Following the seven days of additional time, the Division will proceed
1557 with its review of the site location application.

1558 Submittal Requirements

1559 The submittal to each review entity must include all information required by Regulation 22 subsection 22.4
1560 including a site location application, an engineering report, and a photograph of the public notification. Each
1561 entity shall receive the same package to be submitted to the Division.

1562 Submittal Expectations

1563 The Division expects that the application will be complete at the time of submittal. The Division considers a
1564 complete application as one that has all signatures, addresses all pertinent sections and subsections of Regulation
1565 22, and allows for the required number of review days for all reviewing agencies. The site location application
1566 must include dated transmittal letters to each review agency as part of the site location application to demonstrate
1567 that sixty days was allowed for each review. The Division expects the applicant to provide two copies of the final
1568 site location application to the Division for review, comment, and recommendation. The Division further expects
1569 that the site location application include original ink signatures from the applicant (and commenting agencies, if
1570 comments are provided).

1571 The Division expects that any modification made to the site application submittal to address comments from any
1572 review agency be transmitted to each review agency. Any and all changes that are made to address comments
1573 shall be documented in the final submittal to the Division. The Division further expects that site location
1574 application include any correspondence between the applicant and each commenting agency.

1575 **22.4 (3)(a) through 22.4(3)(b) Public Notification**

1576 This regulation subsection requires the applicant to post a sign on the proposed site location to encourage public
1577 notification. The sign must include specific information in the regulation and must be formatted as specified

1578 unless local county or municipal sign codes overrule. The sign must be posted for a minimum of fifteen days
1579 prior to the time the site location application is submitted to the Division. However, the Division should be
1580 notified of the project at the time of the posting so that necessary public information can be made available.

1581 Requirements

1582

1583 A photograph of the sign or other documentation certifying that this posting requirement has been met must be
1584 included in the site location application submittal.

1585 Expectations

1586 The Division expects the sign to be posted on the proposed site in a location expected to receive the largest
1587 visitation by locals. This location may be along a roadway or at the outfall location if located along a heavily
1588 used pedestrian trail. The site location application must indicate the posting location and justify the placement.
1589 The Division expects the site location application to include a photograph of the sign that provides sufficient
1590 landmark cues to field verify the location. The site location application must also indicate the initial day that the
1591 sign was posted onsite.

1592 **22.5 APPLICATION PROCEDURES FOR INCREASING OR DECREASING THE DESIGN**
1593 **CAPACITY OF AN EXISTING DOMESTIC WASTEWATER TREATMENT WORKS WHERE**
1594 **CONSTRUCTION HAS TAKEN PLACE OR WILL TAKE PLACE (NOT FOR ‘PAPER RE-**
1595 **RATINGS’)**
1596

1597 An application for Increasing or Decreasing the Design Capacity of an Existing Domestic Wastewater Treatment
1598 Works Where Construction Has Taken Place or Will Take Place is required for the following situations:

- 1599 ▪ Construction that increases or decreases the design capacity of an existing wastewater treatment facility
1600 that has received prior site location approval from the Division; or construction that increases or decreases
1601 the design capacity of an existing wastewater treatment facility that was constructed prior to November
1602 1967 with adequate documentation/evidence of the construction date and there have been no
1603 modifications (that require site location and design approval) made to the facility since the date of
1604 construction.
- 1605 ▪ Where a in-kind replacement has been made in accordance with Regulation 22 Section 22.10 and where
1606 the applicant is requesting utilization and Division acknowledgement of modified capacity (increase or
1607 decrease) of an existing wastewater treatment facility. This is applicable only for facilities that have
1608 received prior site location approval from the Division; or facilities that were constructed prior to
1609 November 1967 with adequate documentation/evidence of the construction date and there have been no
1610 modifications (that require site location and design approval) made to the facility since the date of
1611 construction.

1612

1613 ☞ **This application type does include requests for decreasing capacity from 2,000 gpd or**
1614 **greater to a value less than 2,000 gpd.**

1615 ☞ **This application type is not used for capacity changes of lift stations; these are**
1616 **addressed separately in Section 22.7.**

1617 The Division shall review site location applications submitted for all capacity increases or decreases to domestic
1618 wastewater treatment works in accordance with all applicable sections of Regulation 22 including but not limited
1619 to subsections 22.1, 22.2, 22.3, 22.5, 22.9, and 22.11.

1620 Submittal Requirements

1621 The system shall prepare the following forms for submittal to the Division:

- 1622 ▪ [Fee Information Request Form](#)
- 1623 ▪ [Site Location Application Form 22.5](#)

1624 The site location application, including these forms, shall be submitted to the Unit Manager supervising District
1625 Engineer identified as the primary contact for the County where the proposed project resides.

1626 Submittal Expectations

1627 The Division expects the applicant to complete the forms entirely and accurately prior to submission to the
1628 Division. The applicant is responsible for ensuring the proposed organic, maximum month loading, and peak
1629 hourly loadings concur with the preliminary effluent limits and intended final design and permitted flow rates
1630 prior to submitting the application for site location approval. All information provided on the application must
1631 conform with the requirements set forth in this guidance document.

1632 The Division will not initiate a site location review prior to receiving appropriate fees for the proposed facility,
1633 and will not complete a site location decision prior to receiving all applicable signatures and providing all entities
1634 the allotted review times as indicated in Regulation 22.

1635 **22.5 (2) Engineering Report**

1636

1637 Division Requirements

1638 The applicant shall prepare and submit an engineering report as part of the application process for site location
1639 approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed
1640 professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for*
1641 *Architects, Professional Engineers, and Professional Land Surveyors* issued by the Colorado Department of
1642 Regulatory Agencies. Regulation 22 specifically states that the engineering report shall describe the proposed
1643 domestic wastewater treatment plant and demonstrate the applicant’s capability to manage and operate the facility
1644 over the life of the project. This report shall include information identified in each of the Regulation 22
1645 subsections 22.5 (2)(a) through 22.5(2)(f) and 22.5(3) as described by Regulation 22 and as guided by this
1646 document.

1647 Division Expectations

1648 The Division expects this report to completely address each of the items as described in Regulation 22 and as
1649 guided by this document. The engineering report shall document the:

- 1650 ▪ Need for the increase or decrease in the design capacity, and
- 1651 ▪ Consistency with local wastewater facility plans and any approved water quality management plans.

1652 At a minimum, the engineering report shall document these issues by providing the specific information required
1653 by Regulation 22 subsections 22.5 (2)(a) through 22.5(2)(f) and 22.5(3)

1654 **22.5 (2)(a) Service Area and Loading Changes**

1655 The engineering report shall define the changes to the boundaries of the service area for the domestic wastewater
1656 treatment plant for the design life of the facility. The service area changes may be expressed in a variety of ways
1657 depending on the nature of the service area. The service area changes should be supported with adequate maps,
1658 legal property boundaries and descriptions, structures served, and/or specific land use descriptions and areas to
1659 completely identify the proposed service area. The Division expects the engineering report to provide both
1660 narrative and visual descriptions of the service area changes. As part of the service area change description, the
1661 engineering report shall indicate the proposed location of the domestic wastewater treatment works. Depicting
1662 topography, local water bodies, streams, rivers, wetlands, endangered species habitat, domestic wells, water
1663 treatment intakes and other wastewater treatment works aids with the review of the site location application and
1664 must also be included on the service area map(s). The map(s) shall be to scale to allow the Division to determine
1665 set-back distance in accordance with information provided in this guidance document.

1666 For all cases, the service area must represent the 20-year planning projection, or some other clearly defined future
1667 planning period. This planning projection must conform to the approved water quality management plan and/or
1668 the local long-range comprehensive plan. The Division expects the applicant to demonstrate that the proposed
1669 service area is consistent with an approved water quality management plans (208 Plans) in designated 208
1670 planning areas and/or the local long-range comprehensive plan. Refer to the information presented in this
1671 guidance document on section 22.3(1)(a) for additional information. To demonstrate consistency with these
1672 approved plans, the site location application must address the information identified in this guidance document.
1673 For ease of review, the Division expects the site location application engineering report to include applicable
1674 portions of approved plans that have been referenced. In some cases, the applicant may need to request a revision
1675 of the water quality management plan and/or the local long-range comprehensive plan prior to submitting an
1676 application for site location approval to the Division.

1677 Within the proposed service area, the engineering report must clearly estimate the flow and loading projections
1678 served by the proposed domestic wastewater treatment works for the existing and projected planning period. The
1679 engineering report must develop the average daily, maximum month average daily flow, and peak hour flow (or
1680 instantaneous flow value based on the service area) and organic loads from at least three years of historical data or
1681 through accepted engineering practices. The Division expects the engineer to develop flow and loading by
1682 considering the design service area population, land use, and unique customers.

1683 The Division expects that the engineering report should develop average daily loading estimates through
1684 population projections or land use projections.

- 1685 ▪ Population Projections: The Division finds that population projections are appropriate for single use
1686 service areas and well defined residential developments that do not have significant commercial/industrial
1687 waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population
1688 should be expressed as the number of each population type at build-out or certified occupancy.
1689 Population types for a single use facility may include day staff, over-night staff, over-night visitors, day
1690 visitors, etc. For well defined residential developments/communities, the engineering report may rely on
1691 historical census data extrapolations or typical household sizes (e.g. single family equivalent (SFE) = 3.2

1692 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE,
1693 etc.) to estimate service area populations. All information used to develop population estimates must be
1694 well documented in the engineering report.

- 1695 ■ Land Use Projections: The Division finds that land use projections are appropriate for significant service
1696 areas with a variety of land uses. Typically, local planning documents use a combination of open space,
1697 floor area ratio, and zoning types to define development within a well defined service area. The
1698 engineering report should subdivide the service area into land use types such as open space, commercial,
1699 residential (SFE, R2, MF, etc.) and translate this information into residential populations and
1700 industrial/commercial land use areas or building square footages to determine appropriate loading
1701 estimates.

1702 ☞ **Please note that general land use estimates may not be considered adequate for special**
1703 **circumstances (a food processing facility or computer chip manufacturing) in a small community.**
1704 **These industries may exceed typical average waste loading values used for planning. The**
1705 **engineering report must deal with these unique circumstances on a case by case basis.**

1706 Following the development of population or land use projections, the engineering report shall develop an average
1707 daily flow for the service area over the defined planning period. When using historical data as the basis, the
1708 Division expects the applicant to use at least three years of matched population/land use and flow data. If
1709 historical data is not available, the Division expects the engineering report to use locally approved planning values
1710 for developing wastewater flows for each type of population/land use. If an approved comprehensive or master
1711 plan is not available, the Division expects the engineering report to justify planning values for wastewater flows
1712 for each type of population/land use. For single use service areas, the Division expects the engineering report to
1713 use at least three years of representative, matched daily population and flow data if available or planning values
1714 for flow provided in the *State Board of Health Guidelines on Individual Sewage Disposal Systems* (or successor),
1715 or other applicable and widely accepted planning or engineering reference manuals. The engineering report shall
1716 include documentation of all references.

1717 After establishing the average daily flow, the engineering report must develop the maximum month average daily
1718 flow rate. For onsite wastewater systems, the design must follow the *State Board of Health Guidelines on*
1719 *Individual Sewage Disposal Systems* (or successor) requirements unless justified otherwise. For all other
1720 treatment systems, the maximum month average daily flow must be tied to a special event, inflow and infiltration,
1721 a seasonal change in water use for a specific service area, or other justifiable and documented event. Due to the
1722 potential variability, the Division expects this estimate to be made using at least three years of historic records. If
1723 historic records are unavailable, the Division expects the engineering report to include a well thought out and
1724 documented explanation of the proposed maximum month peaking factor. When the maximum flow stems from
1725 inflow and infiltration estimates, the Division expects the engineering report to estimate inflow and infiltration
1726 based on a percentage of the average daily design flow. This seasonal flow should be added to the average daily
1727 flow as a non-peaked base flow to the proposed domestic wastewater treatment works influent. The Division
1728 expects that unsupported inflow and infiltration estimates should be a minimum of 10 percent of the average daily
1729 design flow. The engineering report shall include documentation of all references.

1730 The engineering report should build from the average daily flow estimate for the service area to develop a peak
1731 hour design flow rate or other justified design peak if deemed necessary based on the service area. For example, a
1732 wastewater treatment facility providing service only to a sports stadium may need to accommodate the peak flow

1733 from all fixture units operating simultaneously. For onsite wastewater systems, the design must follow the *State*
1734 *Board of Health Guidelines on Individual Sewage Disposal Systems* (or successor) requirements unless justified
1735 otherwise. For all other treatment systems, the Division expects the engineering report to develop either a single
1736 composite peaking factor for all types of population/land uses or individual peaking factors for each type of
1737 population/land use. The peaking factors should be developed from at least three years of historical data. If
1738 historical data is not available, the Division expects the design to rely on locally approved peaking factors or
1739 technically accepted peaking factor formulas. If an approved design manual, master plan or comprehensive
1740 planning manual is not available for the project area, the Division expects the engineering report to define and
1741 calculate peaking factors using accepted peaking formulas found in widely used and accepted engineering design
1742 references. The engineering report shall include documentation of all references.

1743 With the proposed service area flows established, the Division expects the engineering report to estimate the
1744 organic loading to the proposed domestic wastewater treatment works for the service area. The engineering report
1745 must consider historical organic loading, special users (commercial, industrial, etc.), typical domestic organic
1746 loads, and local planning requirements. Where available, the Division expects the engineering report to evaluate
1747 at least three years of historical data for the existing service area. If not available, the Division expects the
1748 engineering report to justify the organic loading to the proposed domestic wastewater treatment works through an
1749 analysis of individual user types and their anticipated organic loadings. For single use facilities where historical
1750 data is unavailable and for onsite wastewater systems, the Division expects the engineering report to rely on the
1751 planning values provided in the *Guidelines on Individual Sewage Disposal Systems* (or successor) or other
1752 applicable and widely accepted planning or engineering references. The engineering report shall include
1753 documentation of all references.

1754 Engineering reports often indicate that the proposed domestic wastewater treatment works cannot function
1755 effectively based on initial flows and loads when designed for the long range planning service area. For this case,
1756 the Division expects the engineering report to justify an operational plan. The Division expects operational plans
1757 to be developed during the site location application rather than the design review phase. The engineering report
1758 must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section
1759 22.11 in this guidance document for specific information.

1760 **22.5 (2)(b) Preliminary Effluent Limits**

1761 The applicant for site location approval must apply for Preliminary Effluent Limits (PELs) prior to submitting for
1762 a site location approval. PELs provide discharge criteria specific to the receiving waters (e.g., groundwater or
1763 surface water) for the stream segment receiving the discharge at the proposed design hydraulic capacity. The
1764 Division expects applicants to provide PELs for a site location application that were issued no more than eighteen
1765 months prior to the Division's receipt of the application unless the applicant provides written confirmation from
1766 the CDPHE Permits Section that includes a statement that the PELs are still valid and specifies an 'expiration
1767 date' for the PELs. The Division may require facilities to obtain new PELs if, in the Division's judgment, the
1768 PELs may no longer be applicable. The request for new PELs by the entity inherently delays the site location
1769 application review by the Division.

1770 The Division will develop PELs for two sets of parameters. The first set of parameters includes: BOD, TSS, E.
1771 coli, pH, Nitrogen species (ammonia, nitrate, nitrite, total nitrogen), TRC, and total phosphorus. The Division
1772 may also include other parameters in the first set of PELs, particularly where a current permit includes a limit for
1773 that parameter. The second set of parameters includes all of the metals and inorganic parameters for which

1774 numeric standards have been adopted by the Commission for the receiving stream segment and proximate
1775 downstream segments, except those included in the first set of parameters.

1776 Where a Temporary Modification of a Standard for a Second Set Parameter or a Site-Specific Ambient-Based
1777 Standard Has Been Approved by the WQCC

1778
1779 Where a temporary modification is in place (at the time the applicant applies for PELs), for a parameter which is
1780 based on significant uncertainty regarding the water quality standard necessary to protect current and/or future
1781 uses, or which is based on significant uncertainty regarding the extent to which existing quality is the result of
1782 natural or irreversible human-induced conditions (formerly known as a "type iii temporary modification), the
1783 Division will determine the appropriate PEL based on Section 31.14(15) of the Basic Standards and
1784 Methodologies for Surface Water. Where another type of temporary modification is in place (i.e., one based on
1785 significant uncertainty regarding the timing of implementing attainable source controls or treatment), the PEL will
1786 be set based on the underlying standard. [Note that in June 2010 the temporary modifications provisions in
1787 Regulation 31 at sections 31.7 and 31.14(15) were significantly changed, and therefore the current cross-
1788 references in section 22.5(2)(b) to sections 31.7(3)(a)(i) and (iii) and to section 31.14(15)(a) are no longer
1789 applicable. Please refer to the instructions contained in this guidance document until such time as Regulation 22
1790 can be updated to reflect the correct subsections of Regulation 31.]

1791 Where a site-specific, ambient-based standard has been approved by the WQCC and is in place at the time the
1792 applicant applies for PELs, the PEL for that parameter will be based on the site-specific standard.

1793 **☞ Note that if the site location application is submitted with PELs that were issued prior to the**
1794 **WQCC approving the temporary modification or site-specific, ambient-based standard for a**
1795 **second-set parameter, the site location application will be reviewed in accordance with the**
1796 **issued (current) PELs. If the applicant wishes to have the PELs revised to include the**
1797 **temporary modification or site-specific, ambient-based standard, the site location application**
1798 **will be placed on hold (if the period of time until PEL issuance is 6 months or less) or will be**
1799 **returned to the applicant (if the period of time until PEL issuance is longer than 6 months) with**
1800 **no action taken by the Division. The site location application would need to be re-submitted**
1801 **when the revised PELs are issued. Depending on the amount of review work that had been**
1802 **done by the Division at the time that the site application is returned and the time until the re-**
1803 **submittal, a new site location application fee may be required at the time of re-submittal.**

1804
1805 The letter from the Division transmitting the PELs will indicate that the Division will evaluate the selected
1806 treatment alternative to ensure the technology will attain the PELs for the first set of parameters. For the second
1807 set of parameters in order to address all issues prior to a decision on the site location application, the applicant has
1808 the following options:

- 1809 1. Complete an analysis of existing influent and effluent quality to demonstrate that all PELs can be met
1810 without source water controls or additional treatment;
- 1811 2. Identify legally enforceable source controls that will be implemented to reduce the influent concentration
1812 of any parameters for which the PEL would be exceeded; or
- 1813 3. Provide specific treatment to reduce the influent concentration of any parameters for which the PEL
1814 would be exceeded.

1815 Where the applicant does not meet one of the above options, the Division will assign a condition of approval of
1816 the site location application requiring the applicant to:

- 1817 1. Provide, with the permit application, analytical results for the influent and effluent for each parameter
1818 identified in the second set; and

1819
1820 For Existing Facilities:

- 1821 2. For any parameter for which the PEL will not be met, provide, with the permit application, a plan to
1822 reduce the influent concentration of such parameter through source control, treatment, or other
1823 appropriate means.

1824 For New Facilities:

- 1825 2. For any parameter for which the PEL will not be met, provide, with the permit application, the method by
1826 which the applicant will reduce the influent concentration of such parameter through source control,
1827 treatment, or other appropriate means *prior to facility start up*.

1828
1829 **22.5 (2)(c) Capacity and Performance Evaluation**

1830 As part of the planning stage, the engineering report must document and analyze the loading, capacity, and
1831 performance of the existing domestic wastewater treatment works. The Division expects all information in this
1832 section of the engineering report be developed from at least three years of historical data and analyze the
1833 following items at a minimum:

- 1834 1. Percent of service area developed (developed area/all developable area)
1835 2. Percent Loading at Maximum Month to the Domestic Wastewater Treatment Works
1836 a. Hydraulic Loading to Existing Facility/Permitted Hydraulic Loading Limit
1837 b. Percent Organic and Inorganic Loadings/Individual Corresponding Effluent Limits
1838 3. Influent Capacity and Loading Evaluation
1839 a. Average Month, Maximum Month, and Peak Hour (or other pertinent peak) hydraulic
1840 loads
1841 b. Inflow and Infiltration
1842 c. Organic and Inorganic Concentration or Mass Loadings
1843 4. Domestic Wastewater Treatment Works Performance Evaluation
1844 a. Process flow diagram
1845 b. Evaluation of Major Unit Processes (preliminary, primary, and secondary treatment, solids
1846 handling and treatment, etc.)
1847 i. Average and peak hydraulic loading capacities
1848 ii. Average and peak organic/inorganic loading capacities
1849 c. Identify Performance Limiting Factors
1850 5. Effluent Discharge Evaluation
1851 a. Compliance Issues
1852 b. Causal analysis for any discharge limit exceedance
1853 6. Managerial impacts on performance
1854 7. Financial impacts on performance
1855

1856 **22.5 (2)(d) Alternative Treatment Analysis**

1857 The engineering report must include an analysis of alternative means to treat the addition or reduced hydraulic or
1858 regulated loadings to the domestic wastewater treatment works. The alternatives analysis shall evaluate each
1859 proposed alternative in accordance with Regulation 22 subsection 22.3(1)(a) through 22.3(1)(c). While the
1860 Division expects the engineering report to analyze multiple alternatives, including the option of “no action”, the

1861 engineering report must analyze each consolidation alternative recommended in the approved water quality
1862 management plan and/or local long-range comprehensive plan.

1863 As required by Regulation 22 subsection 22.3(1)(a), the engineering report must evaluate how each alternative
1864 satisfies the approved local long-range comprehensive plan or water quality management plan. The analysis must
1865 make direct references to and include copies of any referenced excerpts from the approved plans local long-range
1866 comprehensive plan or water quality management plan.

1867 In addition, the engineering report must ascertain whether each alternative can be managed to satisfy the
1868 preliminary effluent limits as required by Regulation 22 subsection 22.3(1)(b). In this instance, the Division
1869 interprets management to mean overall ability to treat the wastewater based on the ability to control influent
1870 loadings and discharges through pretreatment, treatment, or some other well defined legally enforceable control
1871 mechanism.

1872 In accordance with Regulation 22, Section 22.3(1), the Division is required to “Encourage the consolidation of
1873 wastewater treatment works whenever feasible with consideration for such issues as water conservation, water
1874 rights utilization, stream flow, water quality or economics.” Consolidation potentially offers significant capital
1875 and operational cost savings through economies of scale, reduced points of failure that can lead to sanitary sewer
1876 overflows, and improve management and administration through shared resource availability.

1877 All engineering reports provided with applications for the construction of increasing or decreasing the design
1878 capacity of an existing domestic wastewater treatment works must include a discussion of the feasibility of
1879 consolidation. The Division shall evaluate the feasibility analysis with the intent to encourage consolidation, but
1880 understands that the Water Quality Control Commission revised the provision of Regulation 22 subsection
1881 22.3(1)(c) to determine consolidation infeasible based on any one of the identified criteria. A consolidated project
1882 should have advantages over separate projects for water conservation, water rights utilization, stream flow, water
1883 quality, or economics. However, as is indicated in the Statement of Basis and Purpose language of the
1884 Regulation, it is noted that this revision was not intended to diminish the consideration that the Division must give
1885 to a 208 Plan that specifies a consolidated facility.

1886 Factors precluding consolidation may include, but are not limited to: water rights issues that limit the applicant’s
1887 ability to move the effluent to another location for discharge; reuse opportunities for the new facility, costs,
1888 management or operational limits at the existing facility, intervening public lands that cannot be crossed (i.e.
1889 national park, wilderness area, etc.); intervening lands that should not be crossed (i.e. wetlands, threatened and
1890 endangered species habitat, or such other categories as may be protected under local land use policies and/or
1891 regulations, etc.); water quality limitations for the receiving waters, TMDLs, or compliance schedules or
1892 advisories for the existing wastewater treatment works, or significant topographical or geological barriers such as
1893 mountain ranges or canyons.

1894 If it is demonstrated to the satisfaction of the Division that any one of the following would make consolidation
1895 infeasible, no further analysis of consolidation is required.

1896 i. Water Conservation

1897 If the consolidation of treatment works would preclude reuse opportunities for the new facility or for an
1898 existing facility or would otherwise impair water conservation efforts of the new or other affected

1899 treatment works, the submittal must include evidence of this, but no further analysis of consolidation is
1900 required.

1901 ii. Water Rights Utilization

1902 If the consolidation of treatment works would alter the discharge of effluent in a manner that would
1903 impair the water rights of one of the parties to the consolidation, the submittal must include evidence of
1904 this, but no further analysis of consolidation is required.

1905 iii. Stream Flow

1906 If the consolidation of treatment works would alter flows in a stream or stream segment or transfer a
1907 sufficient amount of water to another stream or stream segment so as to result in (1) overwhelming
1908 adverse environmental effects on either stream, or (2) the lowering of the effluent limits of other
1909 treatment works so as to cause the need to install additional, advanced secondary or tertiary treatment
1910 processes, no further analysis of consolidation is required.

1911 iv. Water Quality

1912 Where consolidation has the potential to degrade the surface and/or groundwater quality, analysis of
1913 consolidation must be included in the submittal.

1914 v. Economics

1915 Unless another factor contained in these criteria results in a determination that consolidation is NOT
1916 feasible, an analysis comparing the cost of consolidating the treatment works versus the cost of
1917 constructing separate facilities must be prepared and included in the submittal. The analysis must
1918 include the following costs: land acquisition, capital construction (including unique expenses such as
1919 flood-proofing, water rights compliance, wetland mitigation, etc.), interceptors and lift stations,
1920 treatment plan expansion and/or upgrade, debt retirement expenses and operation and maintenance
1921 costs for a minimum period of twenty (20) years for each alternative. Other unique costs that are
1922 specific to one or more of the alternatives under consideration may also be appropriate for inclusion
1923 (value of water reuse by the applicant or through sales to another party, etc.). Cost comparisons must
1924 be made on the basis of cost per 1,000 gallons of wastewater treated, as well as the present net worth.
1925 If the cost of consolidation exceeds the cost of separate plant construction by more than 30%, no further
1926 analysis of consolidation is required.

1927

1928 Although not specifically included in Regulation 22, the following items could significantly impact the need for
1929 or the associated benefits of a consolidation. As such, the Division expects that these items will also be
1930 considered as part of the consolidation analysis:

1931 vi. Service Area

1932 If the site or wastewater treatment service area of a proposed facility is within the wastewater treatment
1933 service area (as defined in an adopted local comprehensive plan or approved 208 Water Quality
1934 Management Plan) of a district or municipality providing wastewater treatment service, the applicant
1935 (for site location of the proposed project) should be that district or municipality and the application
1936 should provide for consolidation of either treatment facilities or management and operation of separate
1937 facilities. If this is not the case for the proposed project, the application should clearly address the

1938 reason(s) for the departure from this expectation. If the local management agencies (in the case of an
1939 adopted local comprehensive plan) and/or the 208 Planning Management Agency are amenable to
1940 amendment of the adopted/approved plans to address the project as proposed, please include the
1941 associated documentation (indicating willingness to amend) from the associated agencies.

1942 vii. Distance

1943 If the distance to the closest existing/proposed wastewater treatment works, or from a sewer line
1944 capable of carrying the proposed flows to an existing treatment works, is less than five (5) miles, an
1945 analysis of the cost-effectiveness of consolidation with that treatment works must be included in the
1946 submittal. If the distance is five (5) miles or greater, no further analysis of consolidation is required.

1947 viii. Threatened or Endangered Species

1948 If threatened or endangered species inhabit or utilize the only site that could serve as a consolidated
1949 treatment works or a site through which interceptor lines would have to pass to reach a consolidated
1950 treatment works site, the submittal must include evidence of this, but no further analysis of
1951 consolidation is required.

1952 ix. Local Plans

1953 In the event that the approved water quality management plan acknowledges the existence of, or a
1954 proposal for multiple domestic wastewater treatment works and recommends that no consolidation of
1955 these facilities occur, or if consolidation is in direct conflict with a specific recommendation of the
1956 county's or city's Comprehensive Plan or an approved 208 Water Quality Management Plan, and the
1957 entity responsible for the development of the respective plan recommends against consolidation, the
1958 Division will waive the requirement for the analysis of consolidation. However, inclusion of multiple
1959 facilities in the water quality management plan does not constitute a recommendation of no
1960 consolidation. The engineering report needs to include a discussion of the approved water quality
1961 management plan and/or long-range comprehensive plan.

1962 Note that consolidation should not be limited to entire domestic treatment works. Treatment service providers
1963 may also benefit from consolidating portions of the overall treatment operations, such as solids treatment and
1964 handling or administrative duties. Partial consolidation of domestic wastewater treatment works are viable
1965 alternatives and must be considered as part of the feasibility study in each engineering report.

1966 **22.5 (2)(e) Financial System Changes**

1967 The Division interprets Regulation 22 subsection 22.5(1)(e) to apply to the wastewater provider's overall ability
1968 to generate funds, set rates, and earmark funds for acceptable waste treatment through institutional arrangements
1969 such as contracts and Covenants, Conditions, and Restrictions (CCRs) following any increase or decrease in the
1970 design capacity of the domestic wastewater treatment facility. Capacity changes may have an impact on
1971 institutional arrangements, the capacity to fund capital improvements, operations, and maintenance, and annual
1972 budgets. The Division expects the engineering report to discuss how the capacity changes impact all factions of
1973 the financial system.

1974 The Division expects the applicant to provide copies of institutional arrangements that demonstrate the applicant's
1975 ability to pay for acceptable waste treatment in the engineering report. The institutional arrangements must

- 1976 clearly indicate how the organization responsible for the wastewater treatment has the authority to control rates
1977 and set aside funds for capital, operational, and maintenance improvements/programs over the life of the project.
- 1978 Under special conditions, multiple entities may own or proposed to own and operate a single domestic wastewater
1979 treatment plant and rely on institutional agreements to fund adequate treatment. The engineering report must
1980 discuss how the proposed capacity changes impact existing or proposed institutional agreements. The application
1981 must demonstrate institutional arrangements with individual users or other service areas through a legally
1982 enforceable mechanism.
- 1983 The financial system associated with construction, operating, and maintaining any proposed facilities must
1984 include evidence of sufficient financial resources to construct the facility modifications, if proposed, as well as a
1985 financial plan to generate revenue sufficient to repay any indebtedness and cover ongoing operational expenses.
1986 If the applicant intends to finance the project independently, evidence of such financial capability in the form of
1987 written communication from a financial institution attesting to the entity's possession of adequate capital to
1988 undertake the proposed project must be included with the engineering report. In the event that the entity requires
1989 a loan to complete the project, the applicant must submit a letter from a financial institution, bond advisor, or
1990 other loan program with the engineering report indicating its intent to make such a loan for the purpose of
1991 constructing the proposed wastewater treatment facilities.
- 1992 Publicly financed facilities must address capital construction capabilities by demonstrating available cash
1993 resources by including copies of current budget documents with the engineering report. For loan and grant
1994 funded projects, the application must show submit documentation from any provider agreeing to issue loans
1995 and/or grants for the proposed project including the state revolving fund. For projects funded by bonds, the
1996 applicant must provide a copy of the report from a bond advisor or intended bond underwriter.
- 1997 All applicants relying on borrowed funds must develop and present a financial plan for repaying borrowed funds
1998 in addition to any fees and interest associated with the transaction. The plan must address the full term of the
1999 payback period and not just demonstrate a pattern of anticipated revenue generation. The financial plan must
2000 identify a fee structure as is applicable to the retirement of capital costs associated with the infrastructure as well
2001 and expansions or replacements funds. The fee structure must include system development fees and monthly user
2002 fees. Public entities may satisfy these requirements by providing the current fee structure, rate studies, and fee
2003 ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.
- 2004 The engineering report must include a financial system that outlines how the management agency can provide the
2005 necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The site
2006 location application must provide sufficient information to show that the proposed management agency that
2007 oversees the proposed domestic wastewater treatment works has adequate financial capacity over a 20-year
2008 period. In addition to the long-range financial plan, the Division expects the site application to include a
2009 projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e.
2010 emergency replacements), and operating expenses. The financial analysis must include a discussion of the
2011 following items:
- 2012 ▪ Itemization of projected expenses and revenues including such costs as equipment maintenance and
2013 replacement and required sampling,
 - 2014 ▪ Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period,

- 2015 ▪ Identification of reserve accounts for emergencies/replacement funding and operations and maintenance
- 2016 funds,
- 2017 ▪ Access to public and private financial capital,
- 2018 ▪ Revenues must be greater than costs including operating ratio greater than 1.0 (operating
- 2019 revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt
- 2020 service),
- 2021 ▪ Periodic financial audits,
- 2022 ▪ Annual development and utilization of budget,
- 2023 ▪ Rate structure based on customer, flow, and/or waste type, and
- 2024 ▪ Capital improvements plan.

2025

2026 **22.5 (2)(f) Implementation Schedule**

2027 The engineering report must include an implementation schedule for the proposed domestic wastewater treatment
 2028 plant. The schedule must represent any staging or phasing discussed as part of Regulation 22 subsection
 2029 22.5(1)(f). The Division expects the schedule to be presented in the form of a timeline or Gantt chart with a
 2030 written narrative discussing critical milestones to meet the proposed start-up date (month and year). The graphic
 2031 schedule must provide a well defined standard of time measurement which enables the user to easily determine
 2032 day, month, and year of identified milestones.

2033 **22.5 (3) Geotechnical Conditions**

2034 This regulation indicates that the engineering report must evaluate geotechnical conditions at the “proposed and
 2035 alternative sites”. Since geotechnical conditions of each alternative site may impact the selection of the proposed
 2036 site location, the Division expects the engineering report to generally discuss the geotechnical conditions at each
 2037 alternative site, and provide a site specific geotechnical investigation of the proposed site location.

2038 For the proposed site location, the applicant has two ways to address this requirement within the engineering
 2039 report. First, the engineering report can include a preliminary geotechnical investigation for the selected site
 2040 comprised of reference materials available from the Natural Resource Conservation Service, Colorado Geological
 2041 Survey, on-site or nearby geotechnical investigations or other geotechnical data deemed representative of the site.
 2042 All references shall be noted and provided with the engineering report. The second option is to perform a site
 2043 specific preliminary geotechnical investigation for the selected site location. For either option, the Division
 2044 expects that the preliminary geotechnical site investigation include the following information: site-specific soil
 2045 borings, a discussion of the soil profile(s), seasonal and measured groundwater conditions, an analysis of
 2046 geotechnical hazards, and a statement indicating that the alternative site can reasonably be expected to support the
 2047 proposed treatment works. The preliminary geotechnical investigation for all proposed groundwater discharges
 2048 must provide percolation test data at the proposed discharge elevation. For onsite wastewater disposal systems,
 2049 the percolation tests and soil profile(s) must be completed in accordance with the *Guidelines on Individual*
 2050 *Sewage Disposal Systems* (or successor). The engineering report shall build on the information provided with the
 2051 preliminary geotechnical investigation by discussing the impact of the preliminary geotechnical investigation
 2052 findings at each alternative site on the design, construction, operation, and maintenance of the proposed facilities.

2053 Regulation 22 requires that the preliminary geotechnical information provided must be sufficient for “that person”
2054 to make a determination that the site can reasonably be expected to support the proposed treatment works. The
2055 Division interprets “that person” to be a professional geologist or a Colorado licensed professional engineer with
2056 an appropriate level of experience investigating geologic site conditions. The Division expects ”that person” to
2057 either review or create the data provided within the engineering report, and provide a statement indicating that the
2058 selected site can reasonably be expected to support the proposed treatment works.

2059 Regulation 22 subsection 22.5(3) states that the Division may require that geotechnical evidence be presented in
2060 the form of a report. The Division interprets this to mean that the applicant must submit a geotechnical report for
2061 all proposed domestic wastewater treatment works during the site location application or design approval process
2062 unless waived by the Division in writing.

2063 Alternatively, the applicant may submit a formal geotechnical report instead of a preliminary geotechnical
2064 investigation for the selected site location of the domestic wastewater treatment works at the time of site
2065 application. Submittal of the formal geotechnical report at this stage would fulfill the geotechnical submittal
2066 requirements for both site location application and design submittals. At a minimum, this geotechnical report
2067 shall include site specific soil boring information that discusses seasonal and measured groundwater conditions,
2068 soil bearing capacity, excavation benching, shoring, and sloping, bedding and backfill, compaction and moisture
2069 conditioning, alternative foundation design, an analysis of geotechnical hazards, and design recommendations
2070 based on the findings. The geotechnical report for all proposed groundwater discharges must provide percolation
2071 test data at the proposed discharge elevation. For onsite wastewater disposal systems, the percolation tests and
2072 soil profile(s) must be completed in accordance with the *Guidelines on Individual Sewage Disposal Systems* (or
2073 successor). The geotechnical report shall include a statement that the proposed site will support the proposed
2074 facility.

2075 If the applicant receives site location approval based on an application that included only preliminary geotechnical
2076 information and the formal geotechnical report submitted during the design review phase indicates that the site
2077 will not support the proposed treatment works, the applicant shall provide a statement in writing to the Division.
2078 The Division may modify the original site location approval which may require the applicant to reapply for a site
2079 location approval of an alternate site under Regulation 22 subsection 22.5.

2080
2081 **22.5 (4) Agency Reviews**

2082 Regulation 22 requires the applicant to provide copies of the site location application and engineering report to
2083 commenting agencies prior to submission to the Division. The review agencies will evaluate the site application
2084 based on each agency’s plans, policies, rules and regulations, which may include the areawide water quality
2085 management plan for the area should such a plan exist. The applicant must perform all necessary coordination
2086 and supply all information to the review agencies. The applicant is responsible for obtaining all necessary
2087 signatures on the site application form before sending it to the Division. These agencies may include the
2088 Management Agency (if different from other entities in the list), County, City or Town, Local Health Authority,
2089 208 Planning Agency, and any other State or Federal Agency. These agencies shall review and recommend
2090 approval or denial of the site location application by the Division.

2091 Each entity may recommend approval by simply signing and dating the site application on the provided signature
2092 line. Entities are welcome to provide a letter of approval to accompany the site location application and are

2093 encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For
2094 entities who are recommending denial of the site location application, in addition to signing the site location
2095 application form and indicating that a denial is recommended, the entity must also provide a written statement
2096 explaining the reason(s) for recommending denial of the site location application.

2097 The applicant shall provide each review entity at least sixty days to review the site location application and
2098 engineering report. The applicant may submit the site application to the Division prior to sixty days if all entities
2099 provided comments or after the sixtieth day should any entity not provide a signature or comment letter. The
2100 Division shall contact non-responsive entities and provide seven additional days to any entity that does not
2101 provide a signature or comment letter. Following the seven days of additional time, the Division will proceed
2102 with its review of the site location application.

2103 Submittal Requirements

2104 The submittal to each review entity must include all information required by Regulation 22 subsection 22.5
2105 including a site location application, a completeness checklist, and an engineering report. Each review entity shall
2106 receive the same package to be submitted to the Division.

2107 Submittal Expectations

2108 The Division expects that the site location application will be complete at the time of submittal. The Division
2109 considers a complete site location application as one that has all signatures, addresses all pertinent Sections and
2110 subsections of Regulation 22, and allows for the required number of review days for all reviewing agencies. The
2111 site location application must include dated transmittal letters to each review agency as part of the site location
2112 application to demonstrate that sixty days was allowed for each review. The Division expects the applicant to
2113 provide two copies of the final site location application to the Division for review, comment, and
2114 recommendation. The Division further expects that the site location application include original ink signatures
2115 from the applicant (and commenting agencies, if comments are provided).

2116 The Division expects that any modification made to the site application submittal to address comments from any
2117 review agency be transmitted to each review agency. Any and all changes that are made to address comments
2118 shall be documented in the final submittal to the Division. The Division further expects that site location
2119 application include any correspondence between the applicant and each reviewing agency.

2120 **22.6 CERTIFICATION PROCEDURES FOR ELIGIBLE INTERCEPTOR SEWERS**

2121 Interceptor Sewers are appurtenances to domestic wastewater treatment works. As defined by Regulation 22, an
2122 interceptor sewer is a sewer line with an internal pipe diameter equal to or greater than 24 inches, that performs
2123 one or more of the following functions as its primary purpose:

- 2124 1. Intercepts domestic wastewater from a final point in a collection system and conveys such waste directly
2125 to a treatment plant;
- 2126 2. Is intended to replace an existing treatment plant and transports the collected domestic wastewater to an
2127 adjoining collection system or interceptor sewer for treatment;
- 2128 3. Transports the domestic wastes from one or more municipal collection systems to a regional treatment
2129 plant;
- 2130 4. Is intended to intercept an existing major discharge of raw or inadequately treated wastewater for

2131 transport directly to another interceptor sewer or to a treatment plant.

- 2132 5. A sewer with a minor number of building or lateral connections may be considered an interceptor sewer if
2133 it performs one or more of the functions listed above.

2134 Requirements:

2136 The approval process is divided into two paths for interceptors: (1) interceptors eligible for certification and (2)
2137 interceptors not eligible for certification. In certain circumstances an interceptor sewer may be eligible for
2138 certification in lieu of obtaining site approval. Interceptor sewers are eligible for certification only if:

- 2139 ▪ The treatment entity (that will be receiving the wastewater) has certified it has adequate capacity, or
2140 currently has site location approval and final design approval for sufficient additional capacity to treat the
2141 projected total flow (interceptor capacity at service area buildout) and that this flow value would be under
2142 their current permit flow limitation after the interceptor sewer is completed. Written certifications by the
2143 treatment entity receiving the wastewater and any intermediary entities are required to demonstrate
2144 compliance with this requirement;
- 2145 ▪ The interceptor sewer will be capable of carrying the projected flows from the applicable service area as
2146 certified by the water quality management planning agency; and,
- 2147 ▪ The project is consistent with the Water Quality Management Plan.
- 2148 ▪ The applicable 208 planning agency (if one exists) is willing to certify the interceptor. A written
2149 certification by the 208 planning agency for the area is required to demonstrate compliance with this
2150 requirement. If no 208 planning agency exists, a complete request for certification must be submitted to
2151 the Division.

2152 ☞ **Note that Regulation 22 is applicable to those interceptor sewers with an internal diameter of 24-**
2153 **inches or greater. However, for projects funded with State Revolving Fund (SRF) or federal funds**
2154 **obtained through the Division, design approval is required for ALL interceptors/collection sewers**
2155 **regardless of size.**

2156
2157
2158 ☞ **Note that Certification does not remove the requirement for design approval. Design approval is**
2159 **required for interceptors that are eligible for certification.**

2160 ☞ **Any maintenance, minor improvements, and rehabilitation of an existing interceptor including**
2161 **adding manholes, connections and diversion structures do not require site location or design**
2162 **approval. Enlargement of short localized sections of sewer (less than 100 feet) to remove flow**
2163 **constraints or improve flow characteristics does not require site location or design approval unless**
2164 **the interceptor capacity at its downstream terminus is significantly increased (i.e. increased by 5%**
2165 **or greater).**

2166 ☞ **Construction of a parallel interceptor requires site location and design approval, even if the existing**
2167 **line will be abandoned. Construction of a parallel interceptor sewer line requires site location**
2168 **approval or certification even if the existing interceptor is to remain in place.**

2171 The system shall prepare the following forms for submittal to the Division:

- 2172 ▪ [Fee Information Request Form](#)
- 2173 ▪ [Site Location Application Form 22.6](#)

2174 The site location application, including these forms, shall be submitted to the Unit Manager for the County in
2175 which the proposed project resides.

2176
2177 Interceptor Eligible for Certification Submittal Process:

- 2178 1. Preliminary planning for an interceptor sewer must involve delineation of the service area, calculations of
2179 population projections and calculations of expected wastewater loading and flows. Peak flow and the
2180 projected total flows from the applicable service area must be determined. Design capacity, as defined by
2181 part 22.2 (7) of Regulation 22, for an interceptor sewer means the peak hourly flow (including Infiltration
2182 and Inflow) that the interceptor is capable of conveying.
- 2183 2. A Professional Engineer licensed to practice in the State of Colorado must determine the size of the
2184 interceptor sewer line. To be eligible for certification, the proposed interceptor sewer must be capable of
2185 carrying the peak flow and projected total flows from the applicable service area. The Division expects
2186 the Professional Engineer to stamp and sign the sizing calculations and the associated drawings.
- 2187 3. Treatment Entity Certification. The proposal must be discussed with the treatment entity to determine if
2188 treatment entity (that will be receiving the wastewater) has adequate capacity, or currently has site
2189 location approval and final design approval for sufficient additional capacity to treat the projected total
2190 flow and load (interceptor capacity at service area buildout) and that this flow value would be under their
2191 current permit flow limitation after the interceptor sewer is completed. Written certifications by the
2192 treatment entity receiving the wastewater and any intermediary entities are required to demonstrate
2193 compliance with this requirement (see page 4 of the Site Location Application Form 22.6).
- 2194 4. The system and their engineer must check to ensure that the project is consistent with the Water Quality
2195 Management Plan or the local long-range comprehensive plans for the area. This is necessary for
2196 certification.

2197 If There is a 208 Planning Agency for the Area:

- 2198 1. Ninety (90) days prior to the commencement of construction of an interceptor sewer, the person
2199 responsible for that sewer shall notify the 208 planning agency and the Division of the proposed
2200 interceptor sewer project. The notification must contain the following information:
 - 2201 ▪ The completed and signed form - [Section 22.6 of Regulation 22: Construction or Expansion of](#)
2202 [Interceptor Sewer Eligible for Certification](#);
 - 2203 ▪ Name of the entity constructing the interceptor sewer;
 - 2204 ▪ Name of the treatment entity certifying the treatment capacity and the written capacity certification
2205 (letter) by the treatment entity receiving the wastewater;
 - 2206 ▪ Name of any intermediary wastewater collection system and a statement certifying the treatment
2207 capacity and the written capacity certification (letter) by the intermediate entity receiving the
2208 wastewater;
 - 2209 ▪ General location of the interceptor;

- 2210 ▪ Summary of geotechnical issues (unsuitable soils, high groundwater level) and any special design
- 2211 considerations (separation of sewer lines and drinking water lines, etc.);
- 2212 ▪ Documentation demonstrating legal control of the site;
- 2213 ▪ Brief description of the service area or map; and
- 2214 ▪ Projected interceptor sewer flow and BOD loading.
- 2215 2. Within thirty (30) days of receipt of notification, the 208 planning agency shall certify that the proposed
- 2216 interceptor sewer has the capacity to carry the projected flow and is consistent with the Water Quality
- 2217 Management Plan.
- 2218 3. In the event the person responsible for an interceptor sewer does not have the required certifications from
- 2219 the treatment entity and the 208 planning agency, the interceptor is not eligible for certification and the
- 2220 person responsible shall be required to obtain site location approval and final design approval from the
- 2221 Division, prior to construction.
- 2222 4. The Division will review the submittal to confirm that the interceptor is eligible for certification and
- 2223 acknowledge the 208 planning agency certification in writing.
- 2224 5. The entity submits the final design documents for Division review and approval.

2225 If There is Not a 208 Planning Agency for the Area:

- 2226 1. Ninety (90) days prior to the commencement of construction of an interceptor sewer, the entity
- 2227 responsible for that sewer shall provide written notification to the Division and all local management
- 2228 agencies of the proposed interceptor sewer project. The notification must contain the following
- 2229 information:
- 2230 ▪ The completed and signed form - Section 22.6 of Regulation 22: Construction or Expansion of
- 2231 Interceptor Sewer Eligible for Certification;
- 2232 ▪ Name of the entity constructing the interceptor sewer;
- 2233 ▪ Name of the treatment entity certifying the treatment capacity and the written capacity certification
- 2234 letter by the treatment entity receiving the wastewater;

2235 ☞ **In the event the person responsible for an interceptor sewer does not have the required**

2236 **certifications from the treatment entity, the interceptor is not eligible for certification and the**

2237 **person responsible shall be required to obtain site location approval and final design approval**

2238 **from the Division, prior to construction.**

- 2239 ▪ Name of any intermediary wastewater collection system and a statement certifying the treatment
- 2240 capacity and the written capacity certification (letter) by the intermediate entity receiving the
- 2241 wastewater (see page 4 of the Site Location Application Form 22.6);
- 2242 ▪ Drawings, stamped and signed by a Professional Engineer licensed in Colorado, indicating the
- 2243 location of the interceptor and the service area;
- 2244 ▪ Design calculations for the interceptor sewer flow rate and BOD loading including population
- 2245 projections, expected wastewater loading, peak flow and sizing of the sewer line. To be eligible for
- 2246 certification, the proposed interceptor sewer must be capable of carrying the peak flow and projected
- 2247 total flows from the applicable service area. If the peak hour design flow rate is reduced by the
- 2248 design engineer to account for flow attenuation in the sewer collection system, the magnitude of the

dampening effect must be justified through a calibrated model or flow study and the methods and assumptions used to develop the proposed attenuation must be clearly defined in the submittal. The maximum depth of flow to pipe diameter (d/D) ratio for the limiting pipe segment(s) of the system must be consistent with local planning requirements. For areas where a maximum d/D ratio is not defined by local planning requirements, the Division expects a maximum d/D ratio of 0.8 under peak flow conditions in the limiting pipe segments of the system. The design calculations must specify limiting pipe segments. The Division expects that interceptor sewers will increase in diameter from upstream to downstream.

- Summary of geotechnical issues (unsuitable soils, high groundwater level) and any special design considerations (separation of sewer lines and drinking water lines, etc.).
- Documentation demonstrating legal control of the site.

2. Within thirty (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 Water Quality Management 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 and Design Review submittal prior to construction.

3. The entity submits the final design documents for Division review and approval.

22.7 APPLICATION PROCEDURES FOR INTERCEPTOR SEWERS NOT ELIGIBLE FOR CERTIFICATION AND LIFT STATIONS

General Information for Interceptors Not Eligible for Certification:

An application for *Interceptor Sewers not Eligible for Certification* is required in the following situations:

- Constructing or changing the rated capacity (increase or decrease) of an interceptor sewer not eligible for certification.

☞ **Note that Regulation 22 is applicable only to interceptor sewers with an internal diameter of 24-inches or greater. However, for projects funded with State Revolving Fund (SRF) or federal funds obtained through the Division, design approval is required for ALL interceptors regardless of size.**

☞ **Any maintenance, minor improvements, and rehabilitation of an existing interceptor including adding manholes, connections and diversion structures do not require site location or design approval. Enlargement of short localized sections of sewer (less than 100 feet) to remove flow constraints or improve flow characteristics does not require site location or design approval unless the interceptor capacity at its downstream terminus is significantly increased (i.e. increased by 5% or greater).**

☞ **Construction of a parallel interceptor requires site location and design approval, even if the existing line will be abandoned. Construction of a parallel interceptor sewer line requires site location approval even if the existing interceptor is to remain in place.**

2290 If the interceptor sewer does not have the required capacity certification from the treatment entity and the
2291 certification of the local 208 planning agency (if available for the given area or the Division if there is no 208
2292 planning agency), then the interceptor is not eligible for certification and the entity responsible for the interceptor
2293 shall be required to obtain site location approval and final design approval from the Division, prior to
2294 construction. Interceptor sewers are appurtenances to domestic wastewater treatment works. As defined by
2295 Regulation 22, an interceptor sewer is a sewer line with an internal pipe diameter equal to or greater than 24
2296 inches, that performs one or more of the following functions as its primary purpose:

- 2297 1. Intercepts domestic wastewater from a final point in a collection system and conveys such waste directly
2298 to a treatment plant;
- 2299 2. Is intended to replace an existing treatment plant and transports the collected domestic wastewater to an
2300 adjoining collection system or interceptor sewer for treatment;
- 2301 3. Transports the domestic wastes from one or more municipal collection systems to a regional treatment
2302 plant;
- 2303 4. Is intended to intercept an existing major discharge of raw or inadequately treated wastewater for
2304 transport directly to another interceptor sewer or to a treatment plant.
- 2305 5. A sewer with a minor number of building or lateral connections may be considered an interceptor sewer if
2306 it performs one or more of the functions listed above.
2307

2308 **Submittal Requirements:**

2309 The system shall prepare the following forms for submittal to the Division:

- 2310 ▪ [Fee Information Request Form](#)
- 2311 ▪ [Site Location Application Form 22.7](#)

2312 **Expectations**

2313 The Division expects the applicant to complete the forms entirely and accurately prior to submission to the
2314 Division. The applicant is responsible for ensuring the proposed peak hourly loadings concur with the intended
2315 final design and the flow rates designated for the receiving entity prior to submitting the application for site
2316 location approval. All information provided on the application must conform to the requirements set forth in this
2317 guidance document.

2318 The Division will not initiate a site location review prior to receiving appropriate fees for the proposed facility,
2319 and will not complete a site location decision prior to receiving all applicable signatures and providing all entities
2320 the allotted review times as indicated in Regulation 22 with exceptions for non-responsive review entities.

2321 **General Information for Lift Stations:**

2322 An application for *Lift Stations* is required in the following situations:

- 2323 ▪ Constructing or changing (increase or decrease) the capacity of a lift station.

2324 Other modifications to a lift station (replacement/relocation on the same site, modifications to dry/wet well and/or
2325 emergency storage capacity) are handled with the *Amendment of Existing Site Location Approval* application,
2326 which is addressed in Section 22.8 of Regulation 22 and of this document.
2327
2328

2329 ☞ **Note that Regulation 22 is applicable only to lift stations designed to receive 2,000 gpd or**
2330 **greater. However, for projects that are funded with State Revolving Fund (SRF) or federal**
2331 **funds obtained through the Division, design approval is required for ALL lift stations,**
2332 **regardless of size.**

2333
2334 Please note that the Streamlined Design Review Process is not applicable for Lift Stations per Regulation 22.

2335
2336 Submittal Requirements:

2337 The system shall prepare the following forms for submittal to the Division:

- 2338 ▪ [Fee Information Request Form](#)
- 2339 ▪ [Site Location Application Form 22.7](#)

2340 Expectations

2341 The Division expects the applicant to complete the forms entirely and accurately prior to submission to the
2342 Division. The applicant is responsible for ensuring the proposed maximum month loading, and peak hourly
2343 loadings concur with the intended final design and the flow rates designated for the lift station by the receiving
2344 entity prior to submitting the application for site location approval. All information provided on the application
2345 must conform to the requirements set forth in this guidance document.

2346 The Division will not initiate a site location review prior to receiving appropriate fees for the proposed facility,
2347 and will not complete a site location decision prior to receiving all applicable signatures and providing all entities
2348 the allotted review times as indicated in Regulation 22 with exceptions for non-responsive review entities.

2349 **22.7 (1) Engineering Report:**
2350 **Requirements**

2351 The applicant shall prepare and submit an engineering report as part of the application process for site location
2352 approval. The engineering report shall be prepared, signed, and sealed by a State of Colorado licensed
2353 professional engineer in accordance with the *Bylaws, Rules and Policies of the State Board of Licensure for*
2354 *Architects, Professional Engineers, and Professional Land Surveyors* issued by the Colorado Department of
2355 Regulatory Agencies. Regulation 22 specifically states that the engineering report shall describe the proposed
2356 domestic wastewater treatment works and demonstrate the applicant's capability to manage and operate the
2357 facility over the life of the project. This report shall include information identified in each of the sections 22.7
2358 (1)(a) through 22.7(1)(l) as described by Regulation 22, and as guided by this document.

2359 Division Expectations

2360 The Division expects this report to completely address each of the items as described in Regulation 22 and as
2361 guided by this document.

2362 **22.7(1)(a) Name and address of the applicant.**

2363 The applicant is considered to be the person who is able to demonstrate control of the site for the life of the
2364 project and will assume the financial, management and operational responsibilities associated with the project. In
2365 some cases, a development company may be responsible for constructing the lift station and possibly even
2366 operating it for a period of time before the treatment entity takes possession of it and then operates it thereafter.
2367 In such cases, the applicant will be the person constructing the lift station or interceptor. The finalized legal

2368 arrangements regarding future ownership and operations should be included in the Site Location Application
2369 submittal package.

2370 **22.7(1)(b) Map**

2371 The engineering report shall include map(s) identifying the site of the proposed facilities, topography of the area
2372 and neighboring land uses. To facilitate processing of the application, the Division also expects the map(s) to
2373 show the proposed facility in relation to boundaries of the service area for the design life of the facility. The
2374 map(s) must identify any local water bodies, streams, rivers, wetlands, endangered species habitat, domestic
2375 wells, drinking water treatment intakes, potable water lines and other wastewater treatment plants. The map(s)
2376 shall be to scale to allow the Division to determine set-back distances in accordance with this document.

2377 **22.7 (1)(c) Service Area Definition and Loading Calculations**

2378 The engineering report shall define the boundaries of the service area for the proposed domestic wastewater
2379 facility for the design life of the facility. The service area may be expressed in a variety of ways depending on the
2380 nature of the service area. The service area definition should be supported with adequate maps, legal property
2381 boundaries and descriptions, structures served, and/or specific land use descriptions and areas to completely
2382 identify the proposed service area. The Division expects the engineering report to provide both narrative and
2383 visual descriptions of the service area. As part of the service area definition, the engineering report shall indicate
2384 the proposed location of the domestic wastewater facility. Depicting topography, local water bodies, streams,
2385 rivers, wetlands, endangered species habitat, domestic wells, drinking water treatment plant intakes and other
2386 wastewater treatment works aids with the review of the site location application and must also be included on the
2387 service area maps. The maps shall be to scale to allow the Division to determine set-back distances in accordance
2388 with information provided in this guidance document.

2389 For all cases, the service area must represent the 20-year planning projection, or some other clearly defined future
2390 planning period. This planning projection must conform to the approved water quality management plan and/or
2391 the local long-range comprehensive plan. The Division expects the applicant to demonstrate that the proposed
2392 service area is consistent with an approved water quality management plans (208 Plans) in designated 208
2393 planning areas and/or the local long-range comprehensive plan. Refer to the information presented in this
2394 guidance document on section 22.3(1)(a) for additional information. To demonstrate consistency with these
2395 approved plans, the site location application must address the information identified in this guidance document.
2396 For ease of review, the Division expects the site location application engineering report to include applicable
2397 portions of approved plans that have been referenced. In some cases, the applicant may need to request a revision
2398 of the water quality management plan and/or the local long-range comprehensive plan prior to submitting an
2399 application for site location approval to the Division.

2400 Within the proposed service area, the engineering report must clearly estimate the flow and loading projections
2401 served by the proposed domestic wastewater facility for the existing and projected planning period. Design
2402 capacity for a lift station or interceptor, as defined by Regulation 22 - 22.2(7), is the peak hourly flow that the
2403 facility is capable of conveying. The engineering report must develop the average daily, maximum month
2404 average daily flow, and peak hour flow (or instantaneous flow value based on the service area) and organic loads
2405 from at least three years of historical data or through accepted engineering practices. The Division expects the
2406 engineer to develop flow and loading by considering the design service area population, land use, and unique
2407 customers.

2408 The Division expects that the engineering report should develop average daily loading estimates through
2409 population projections or land use projections.

2410 ▪ Population Projections: The Division finds that population projections are appropriate for single use
2411 service areas and well defined residential developments that do not have significant commercial/industrial
2412 waste loads. For single use service areas, such as schools, churches, campgrounds, etc., the population
2413 should be expressed as the number of each population type at build-out or certified occupancy.
2414 Population types for a single use facility may include day staff, over-night staff, over-night visitors, day
2415 visitors, etc. For well defined residential developments/communities, the engineering report may rely on
2416 historical census data extrapolations or typical household sizes (e.g. single family equivalent (SFE) = 3.2
2417 persons, multi-family equivalent (MFE) = 2.1 person, etc.) and household types (zoned R-1, R-2, MFE,
2418 etc.) to estimate service area populations. All information used to develop population estimates must be
2419 well documented in the engineering report.

2420 ▪ Land Use Projections: The Division finds that land use projections are appropriate for significant service
2421 areas with a variety of land uses. Typically, local planning documents use a combination of open space,
2422 floor area ratio, and zoning types to define development within a well defined service area. The
2423 engineering report should subdivide the service area into land use types such as open space, commercial,
2424 residential (SFE, R2, MF, etc.) and translate this information into residential populations and
2425 industrial/commercial land use areas or building square footages to determine appropriate loading
2426 estimates.

2427 ☞ **Please note that general land use estimates may not be considered adequate for special**
2428 **circumstances (a food processing facility or computer chip manufacturing) in a small**
2429 **community. These industries may exceed typical average waste loading values used for planning.**
2430 **The engineering report must deal with these unique circumstances on a case by case basis.**

2431 Following the development of population or land use projections, the engineering report shall develop an average
2432 daily flow for the service area over the defined planning period. When using historical data as the basis, the
2433 Division expects the applicant to use at least three years of matched population/land use and flow data. If
2434 historical data is not available, the Division expects the engineering report to use locally approved planning values
2435 for developing wastewater flows for each type of population/land use. If an approved comprehensive or master
2436 plan is not available, the Division expects the engineering report to justify planning values for wastewater flows
2437 for each type of population/land use. For single use service areas, the Division expects the engineering report to
2438 use at least three years of representative, matched daily population and flow data if available or planning values
2439 for flow provided in the *State Board of Health Guidelines on Individual Sewage Disposal Systems* (or successor),
2440 or other applicable and widely accepted planning or engineering reference manuals. The engineering report shall
2441 include documentation of all references.

2442 After establishing the average daily flow, the engineering report must develop the maximum month average daily
2443 flow rate and the impact to the receiving entity. The maximum month average daily flow must be tied to a special
2444 event, inflow and infiltration, a seasonal change in water use for a specific service area, or other justifiable and
2445 documented event. Due to the potential variability, the Division expects this estimate to be made using at least
2446 three years of historic records. If historic records are unavailable, the Division expects the engineering report to
2447 include a well thought out and documented explanation of the proposed maximum month peaking factor. When
2448 the maximum flow stems from inflow and infiltration estimates, the Division expects the engineering report to

2449 estimate inflow and infiltration based on a percentage of the average daily design flow. This seasonal flow should
2450 be added to the average daily flow as a non-peaked base flow to the proposed domestic wastewater facility
2451 influent. The Division expects that unsupported inflow and infiltration estimates should be a minimum of 10
2452 percent of the average daily design flow. The engineering report shall include documentation of all references.

2453 The engineering report should build from the average daily flow estimate for the service area to develop a peak
2454 hour design flow rate or other justified design peak if deemed necessary based on the service area. For example, a
2455 wastewater facility providing service only to a sports stadium may need to accommodate the peak flow from all
2456 fixture units operating simultaneously. The Division expects the engineering report to develop either a single
2457 composite peaking factor for all types of population/land uses or individual peaking factors for each type of
2458 population/land use. The peaking factors should be developed from at least three years of historical data. If
2459 historical data is not available, the Division expects the design to rely on locally approved peaking factors or
2460 technically accepted peaking factor formulas. If an approved design manual, master plan or comprehensive
2461 planning manual is not available for the project area, the Division expects the engineering report to define and
2462 calculate peaking factors using accepted peaking formulas found in widely used and accepted engineering design
2463 references. The engineering report shall include documentation of all references.

2464 With the proposed service area flows established, the Division expects the engineering report to estimate the
2465 organic loading to the proposed domestic wastewater facility for the service area and the impact to the final
2466 receiving entity. The engineering report must consider historical organic loading, special users (commercial,
2467 industrial, etc.), typical domestic organic loads, and local planning requirements. Where available, the Division
2468 expects the engineering report to evaluate at least three years of historical data for the existing service area. If not
2469 available, the Division expects the engineering report to justify the organic loading to the proposed domestic
2470 wastewater facility through an analysis of individual user types and their anticipated organic loadings. For single
2471 use facilities where historical data is unavailable and for onsite wastewater systems, the Division expects the
2472 engineering report to rely on the planning values provided in the *Guidelines on Individual Sewage Disposal*
2473 *Systems* (or successor) or other applicable and widely accepted planning or engineering references. The
2474 engineering report shall include documentation of all references.

2475 Engineering reports often indicate that the proposed domestic wastewater treatment works cannot function
2476 effectively based on initial flows and loads when designed for the long range planning service area. For this case,
2477 the Division expects the engineering report to justify an operational plan. The Division expects operational plans
2478 to be developed during the site location application rather than the design review phase. The engineering report
2479 must clearly identify measurable and definitive guidelines for constraining conditions. Please refer to section
2480 22.11 in this guidance document for specific information.

2481 **22.7(1)(d) Identification of the Treatment Entity**

2482 The treatment entity responsible for receiving and treating the wastewater from the lift station or interceptor sewer
2483 is the owner and operator of the domestic wastewater treatment works to which the wastewater will be conveyed.
2484 Any intermediary entities that convey the wastewater to the final wastewater treatment facility must be identified
2485 as well.

2486

2487 22.7(1)(e) Legal Control of Site

2488 The Division expects the applicant to provide sufficient information in the engineering report to demonstrate that
2489 all proposed facilities, including force mains, exist within the legal boundaries of the proposed site. The applicant
2490 has a number of options to demonstrate control of the site for the life of the project depending on the control
2491 mechanism. The Division expects the applicant to demonstrate control by ownership by providing a copy of the
2492 deed or title to the property in the name of the applicant. The Division will accept a copy of the title insurance,
2493 but the applicant must ensure that the title insurance document does not contain errors regarding ownership,
2494 property description, or limitations or restrictions that would preclude using the property for its intended purpose
2495 prior to submitting the information to the Division. The application must disclose and address any limitations that
2496 potentially impact the applicant's ability to maintain, operate, or construct facilities within the proposed site
2497 location for the life of the project. Specific expectations with regard to Right of Ways (ROWs) (easements via
2498 purchase, lease or condemnation, etc.) information and the site location application submittal are as follows:

- 2499 1. To facilitate as timely a review process as possible, it is the Division's expectation that all ROWs that are
2500 necessary for the project be obtained prior to submittal of the site location application submittal and that
2501 copies of the documentation for all ROWs be included in the submittal.

- 2502 2. However, where all ROWs could not be obtained by the time of site application, at a minimum, the applicant
2503 must identify all ROWs that will be needed for the project and an explanation of how they intend to
2504 obtain each of the ROWs.
 - 2505 a. For ROWs that do not involve condemnation, copies of agreements of the intention to sell/lease
2506 between the applicant and land owners (from which easements are needed) that are signed by the
2507 applicant and land owner may be submitted to fulfill the legal control demonstration requirement.
2508 The copies of agreements must clearly indicate the terms and conditions of the lease or legal
2509 easement specific to the duration of the agreement in addition to access, construction, and
2510 maintenance of any facilities located within the proposed site location for the duration of the
2511 agreement.
 - 2512 b. For ROWs that involve condemnation, refer to item 3 below.

- 2513 3. If prior to submittal and by the time that the site location application is submitted:
 - 2514 a. The project does not require ROWs that involve condemnation and a signed agreement between
2515 the applicant and each land owner regarding the intention to sell/lease the land for the project
2516 cannot be obtained.
 - 2517 b. The project requires ROWs that involve condemnation and the condemnation process has not
2518 been completed.

2519 For either of the situations described in 2a and b above, the Division may issue a conditional site approval
2520 that requires the applicant to obtain the ROWs and submit the associated documentation to the Division
2521 prior to the Division issuing final design approval. In such a case, the Division will not issue final design
2522 approval until all documentation (that demonstrates that the applicant currently has full legal control of
2523 the site) has been received and reviewed by the Division.

2524 ☞ **In the event that there is reason to anticipate that a specific ROW may not be obtained**
2525 **within a period of six (6) months or less (i.e. a ROW involves complex contractual or**
2526 **other issues or the condemnation process cannot be completed due to legal issues, etc.),**
2527 **the Division will not be able to issue a conditional site location approval and the**
2528 **application may need to be returned to the applicant. The application would then need**
2529 **to be re-submitted to the Division once all ROWs have been obtained and are in place.**
2530 **A new site location application fee will be required for the re-submittal.**

2531 ☞ **For phased projects, the conditional site location approval would require that the**
2532 **ROWs (pertinent for the entire project) be obtained and that the associated**
2533 **documentation be submitted to the Division prior to the Division issuing final design**
2534 **approval for the first phase of the project. In such a case, the Division will not issue**
2535 **final design approval until all documentation (that demonstrates that the applicant**
2536 **currently has full legal control of the site) for each phase has been received and**
2537 **reviewed by the Division.**

2538 **22.7(1)(f) Wastewater Treatment Entity Statement**

2539 The Engineering Report shall include a confirmation, in writing, from the entity that owns and operates the
2540 wastewater treatment entity receiving the waste and any intermediary conveyors that 100% of the waste from the
2541 lift station will be accepted and treated (i.e., page 6 of Form 22.7). This certification cannot be done by another
2542 person or entity on behalf of the treatment or intermediary conveyance entity. The confirmation(s) shall include
2543 the following statements:

- 2544 ■ Statement from the treatment entity, and any intermediary conveyance entities, that they will accept
2545 and treat the wastewater from the lift station at the peak flow rate stated in the application;
- 2546 ■ Statement that the entity is not presently receiving wastes in excess of its design capacity as defined
2547 in its site location approval and/or discharge permit, or is under construction, or will be in a phased
2548 construction of new or expanded facilities, and will have the necessary capacity to treat the projected
2549 discharge from the new or expanded lift station. Projections of flow and loading to the treatment
2550 plant over the period during which build out of the service area will occur or twenty years, whichever
2551 is less as well as current and future plant capacity information must be provided to demonstrate the
2552 plan for maintaining adequate treatment capacity. Any proposed treatment plant phased construction
2553 must be shown in the Water Quality Management Plan, or by appropriate planning and engineering
2554 studies;
- 2555 ■ Statement that the entity has not been in violation of any effluent limitations in its discharge permit
2556 for the last two years and is or not operating under a Notice of Violation and/or Cease and Desist
2557 Order from the Division resulting from discharge permit violations. Alternatively, if there have been
2558 effluent violations or if the treatment plant is operating under a Notice of Violation and/or Cease and
2559 Desist Order from the Division, then the Division will evaluate the situation and the treatment
2560 entities' proposed corrective measures to achieve consistent compliance and determine if approval
2561 should be granted, granted with conditions, or denied. To facilitate the review process, the Division
2562 expects the entity to provide an update of all corrective actions that have been completed or are in
2563 process to return to compliance.

2564

2565 If the applicant is aware of commercial or industrial (or other high-strength or difficult-to-treat) pollutants that
2566 may be discharged to the receiving entity via the lift station or interceptor, the applicant must notify the receiving
2567 entity, in writing, prior to the receiving entity issuing written certification to accept and treat the waste. A copy of
2568 this notification must be included in the site location application submittal.

2569 **22.7(1)(g) and 22.7(1)(j) Emergency Operations and Maintenance**

2570 While Regulation 22 indicates that the applicant shall demonstrate the Owner’s capability to operate and maintain
2571 the facility, the Division finds that this section focuses on the emergency operations. The Division expects the
2572 applicant to address operations and maintenance requirements and manuals during the design review phases and
2573 not more than required by Regulation 22 during the site location application review. The engineering report must
2574 provide an emergency operations plan with the site location application. The plan shall be an overview of the
2575 proposed emergency management tools, facilities, programs, and equipment. While the *Design Criteria*
2576 *considered in the Review of Wastewater Treatment Facilities Policy 96-1* (Policy 96-1) addresses specific
2577 requirements for domestic wastewater treatment works that must be incorporated into the design of the proposed
2578 facilities, the engineering report included with the site location application provides a model for applying the
2579 required emergency systems to prevent potential sanitary sewer overflows of partially treated or raw wastewater
2580 or spills from unpermitted point sources. The engineering report must discuss the following issues at a minimum:

- 2581 ▪ The requirements of Policy 96-1 for the proposed domestic wastewater treatment works,
- 2582 ▪ Special practices and local requirements for sensitive site locations,
- 2583 ▪ Telemetry and alarms,
- 2584 ▪ Backup power supply identification,
- 2585 ▪ Equipment powered by the backup power supply,
- 2586 ▪ Portable emergency pumping equipment,
- 2587 ▪ Emergency storage/overflow protection sizing, and
- 2588 ▪ An operator call-down list and emergency response time justification.

2589 The discussion shall justify the ability of the proposed system to mitigate the potential hazards of a sanitary sewer
2590 overflow through appropriate management, equipment, and operational programs.

2591 Please note that site location approval that includes an emergency plan does not constitute approval of the plan
2592 during the design approval process. The Division shall evaluate the plan during the design approval phase with
2593 respect to any new information provided and the requirements of Policy 96-1. The Division expects that if the
2594 proposed plan presented with the site application varies from the requirements of Policy 96-1, the design approval
2595 process submission (Basis of Design) include a variance request in accordance with 1.6.2 of Policy 96-1.

2596 **22.7(1)(h) Management Capacity**

2597 Management capabilities refer to the applicant’s ability to control the waste constituent and hydraulic loading to
2598 the proposed domestic wastewater treatment works. If the agreement between the applicant and the receiving
2599 entity require that the applicant control the waste via user contracts, operating agreements, pretreatment
2600 requirements, etc., the Division expects the engineering report to specifically discuss these issues.

2601 22.7(1)(i) Financial Capacity

2602 The financial system associated with construction, operating, and maintaining the proposed facilities must include
2603 evidence of sufficient financial resources to construct the facility as well as a financial plan to generate revenue
2604 sufficient to repay any indebtedness and cover ongoing operational expenses. If the applicant intends to finance
2605 the project independently, evidence of such financial capability in the form of written communication from a
2606 financial institution attesting to the entity's possession of adequate capital to undertake the proposed project must
2607 be included with the engineering report. In the event that the entity requires a loan to complete the project, the
2608 applicant must submit a letter from a financial institution, bond advisor, or other loan program with the
2609 engineering report indicating its intent to make such a loan for the purpose of constructing the proposed
2610 wastewater treatment facilities.

2611 Publicly financed facilities must address capital construction capabilities by demonstrating available cash
2612 resources by including copies of current budget documents with the engineering report. For loan and grant
2613 funded projects, the applicant must submit documentation from any provider agreeing to issue loans and/or grants
2614 for the proposed project including the state revolving fund. For projects funded by bonds, the applicant must
2615 provide a copy of the report from a bond advisor or intended bond underwriter.

2616 All applicants relying on borrowed funds must develop and present a financial plan for repaying borrowed funds
2617 in addition to any fees and interest associated with the transaction. The plan must address the full term of the
2618 payback period and not just demonstrate a pattern of anticipated revenue generation. The financial plan must
2619 identify a fee structure as is applicable to the retirement of capital costs associated with the infrastructure as well
2620 and expansions or replacements funds. The fee structure must include system development fees and monthly user
2621 fees. Public entities may satisfy these requirements by providing the current fee structure, rate studies, and fee
2622 ordinance that demonstrates procedures for rate and fee adjustments and relevant budget documents.

2623 The engineering report must include a financial system that outlines how the management agency can provide the
2624 necessary funds for construction, operation, maintenance, and capital projects for the life of the project. The site
2625 location application must provide sufficient information to show that the proposed management agency that
2626 oversees the proposed domestic wastewater treatment works has adequate financial capacity over a 20-year
2627 period. In addition to the long-range financial plan, the Division expects the site application to include a
2628 projected 5-year budget, including annual costs and revenues, rate and fee structures, reserve funds (i.e.
2629 emergency replacements), and operating expenses. The financial analysis must include a discussion of the
2630 following items:

- 2631 1. Itemization of projected expenses and revenues including such costs as equipment maintenance and
2632 replacement and required sampling,
- 2633 2. Comparison of all anticipated wastewater revenues and planned expenditures for a 20-year period,
- 2634 3. Identification of reserve accounts for emergencies/replacement funding and operations and maintenance
2635 funds,
- 2636 4. Access to public and private financial capital,
- 2637 5. Revenues must be greater than costs including operating ratio greater than 1.0 (operating
2638 revenue/operating expense) and coverage ratio greater than 1.0 (total revenue-operating expense/debt
2639 service),
- 2640 6. Current outstanding debt and ability to borrow funds,

- 2641 7. Periodic financial audits,
- 2642 8. Annual development and utilization of budget,
- 2643 9. Rate structure based on customer, flow, and/or waste type, and
- 2644 10. Capital improvements plan.

2645
2646 **22.7(1)(k) Implementation Schedule**

2647 The engineering report must include an implementation schedule for the proposed domestic wastewater facility.
2648 The schedule must represent any staging or phasing. The Division expects the schedule to be presented in the
2649 form of a timeline or Gantt chart with a written narrative discussing critical milestones to meet the proposed start-
2650 up date (month and year). At a minimum, the estimated time to construct the proposed facility from the
2651 commencement of construction to start-up, and the projected start-up date. Additional information, such as
2652 projected site approval, design submittal, design approval, and bid award dates can assist the Division in
2653 visualizing the applicant’s overall schedule. The graphic schedule must provide a well defined standard of time
2654 measurement which enables the user to easily determine day, month, and year of identified milestones.

2655 **22.7(1)(l) Posting the Site (Lift Stations ONLY)**

2656 To notify the public, and provide additional opportunity for public input, the posting requirements given in
2657 section 22.4(3) shall also apply to all new lift stations. This regulation subsection requires the applicant to post a
2658 sign on the proposed site location to encourage public notification. The sign must include specific information in
2659 the regulation and must be formatted as specified unless local county or municipal sign codes overrule. The sign
2660 must be posted for a minimum of fifteen days prior to the time the site application is submitted to the Division.
2661 However, the Division should be notified of the project at the time of the posting so that necessary public
2662 information can be made available.

2663 A photograph of the sign or other documentation certifying that this posting requirement has been met must be
2664 included in the site location application submittal. The Division expects the sign to be posted on the proposed site
2665 location in a location expected to receive the largest visitation by locals. This location may be along a roadway or
2666 at the outfall location if located along a heavily used pedestrian trail. The site location application must indicate
2667 the posting location and justify the placement. The Division expects the site location application to include a
2668 photograph of the sign that provides sufficient landmark cues to field verify the location. The site location
2669 application must also indicate the initial day that the sign was posted onsite.

2670 **22.7 (2) and 22.7 (3) Consistency with Water Quality Management Plan**

2671 **Division Requirements**

2672 The site location application for a new domestic wastewater treatment works is associated with a specific service
2673 area as defined in the engineering report as required by Regulation 22 subsection 22.7(1)(c). The proposed
2674 service area must conform to the approved water quality management plan and the local long range
2675 comprehensive plan, when applicable. As part of the site location application, the applicant must demonstrate that
2676 the proposed service area conforms with the approved water quality management plan and/or the local long-range
2677 comprehensive plan. In some cases, the applicant may need to request a revision of the water quality management
2678 plan and/or the local long-range comprehensive plan prior to submitting an application for site location approval
2679 to the Division.

2680 Division Expectations

2681 The Division expects the applicant to demonstrate that the proposed service area and population projections are
2682 consistent with an approved water quality management plans (208 plans) in designated 208 planning areas and/or
2683 the local long-range comprehensive plan. To demonstrate consistency with these approved plans, the site
2684 application must address the information identified in the guidance for Regulation 22 Sections 22.3(1)(a),
2685 22.3(2)(b), 22.3(3) and 22.9(1)(j) that is provided in this document.

2686 For ease of review, the Division expects the site location application engineering report to include applicable
2687 portions of approved plans that have been referenced.

2688 22.7 (2) Agency Reviews

2689 Regulation 22 requires the applicant to provide copies of the site location application and engineering report to
2690 commenting agencies prior to submission to the Division. The review agencies will evaluate the site application
2691 based on each agency's plans, policies, rules and regulations, which may include the areawide water quality
2692 management plan for the area should such a plan exist. The applicant must perform all necessary coordination
2693 and supply all information to the review agencies. The applicant is responsible for obtaining all necessary
2694 signatures on the site application form before sending it to the Division. These agencies may include the
2695 Management Agency (if different from other entities in the list), County, City or Town, Local Health Authority,
2696 208 Planning Agency, and any other State or Federal Agency. These agencies shall review and recommend
2697 approval or denial of the site location application by the Division.

2698 Each entity may recommend approval by simply signing and dating the site application on the provided signature
2699 line. Entities are welcome to provide a letter of approval to accompany the site location application and are
2700 encouraged to include a letter citing specific concerns or if their approval hinges on specific conditions. For
2701 entities who are recommending denial of the site location application, in addition to signing the site location
2702 application form and indicating that a denial is recommended, the entity must also provide a written statement
2703 explaining the reason(s) for recommending denial of the site location application.

2704 The applicant shall provide each review entity at least sixty days to review the site location application and
2705 engineering report. The applicant may submit the site application to the Division prior to sixty days if all entities
2706 provided comments or after the sixtieth day should any entity not provide a signature or comment letter. The
2707 Division shall contact non-responsive entities and provide seven additional days to any entity that does not
2708 provide a signature or comment letter. Following the seven days of additional time, the Division will proceed
2709 with its review of the site location application.

2710 Submittal Requirements

2711 The submittal to each review entity must include all information required by Regulation 22 subsection 22.7
2712 including a site location application, an engineering report, and a photograph of the public notification. Each
2713 entity shall receive the same package to be submitted to the Division.

2714 Submittal Expectations

2715 The Division expects that the application will be complete at the time of submittal. The Division considers a
2716 complete application as one that has all signatures, addresses all pertinent sections and subsections of Regulation
2717 22, and allows for the required number of review days for all reviewing agencies. The site location application

2718 must include dated transmittal letters to each review agency as part of the site location application to demonstrate
2719 that sixty days was allowed for each review. The Division expects the applicant to provide two copies of the final
2720 site location application to the Division for review, comment, and recommendation. The Division further expects
2721 that the site location application include original ink signatures from the applicant (and commenting agencies, if
2722 comments are provided).

2723 The Division expects that any modification made to the site application submittal to address comments from any
2724 review agency be transmitted to each review agency. Any and all changes that are made to address comments
2725 shall be documented in the final submittal to the Division. The Division further expects that site location
2726 application include any correspondence between the applicant and each commenting agency.

2727 **22.8 APPLICATION PROCEDURES FOR AMENDMENT OF EXISTING SITE LOCATION**
2728 **APPROVAL**
2729

2730 In general, amending an existing site location approval is a much simpler and abbreviated process as compared to
2731 obtaining site location approval for a new or capacity-modified wastewater treatment works, including lift stations
2732 and interceptors.

2733 Submittal Requirements:

2734 The system shall prepare the following forms for submittal to the Division:

- 2735 ▪ [Fee Information Request Form](#)
- 2736 ▪ [Site Location Application Form 22.8 – Amendment of Existing Site Location Approval](#) OR
- 2737 ▪ [Site Location Application Form 22.8 - Amendment of Existing Site Location Approval Disinfection](#)
2738 [Changes Only](#)

2739 Submittal Expectations:

2740 The Division expects the applicant to complete the forms entirely and accurately prior to submission to the
2741 Division. The applicant is responsible for ensuring that the proposed organic, maximum month loading, and peak
2742 hourly loadings concur with the preliminary effluent limits and intended final design and permitted flow rates
2743 prior to submitting the application for site location approval. All information provided on the application is
2744 expected to conform to the requirements set forth in this guidance document.

2745 The Division will not initiate a site location review prior to receiving appropriate fees for the proposed facility,
2746 and will not complete a site location decision prior to receiving all applicable signatures and providing all entities
2747 the allotted review times as indicated in Regulation 22.

2748 ☞ **All engineering reports that are submitted as part of a site location application shall be prepared,**
2749 **signed, and sealed by a State of Colorado licensed professional engineer in accordance with the**
2750 ***Bylaws, Rules and Policies of the State Board of Licensure for Architects, Professional Engineers, and***
2751 ***Professional Land Surveyors issued by the Colorado Department of Regulatory Agencies.***

2752

2753 An application for *Amendment of an Existing Site Location Approval* is required under the following
2754 circumstances:

- 2755 ▪ The proposed addition of new treatment processes or modifications to existing treatment processes (i.e.
2756 change in chemicals that is not limited to a change in the specific vendor or manufacturer for a specific
2757 chemical, addition of a new chemical, etc.) that **do not** increase capacity;
- 2758 ▪ Proposed Physical changes to the any of the following treatment processes:
 - 2759 • a change in type of disinfection to include chlorine gas or from other types of disinfection
2760 to chlorination;
 - 2761 • a change from gas chlorination to liquid chlorination or from any form of chlorination to
2762 ultraviolet light (UV) disinfection;
 - 2763 • Proposed changes to the secondary treatment system;
 - 2764 • Proposed changes to the primary treatment system that could affect primary treatment
2765 capacity and/or increase the flow, organic or solids loadings to the secondary treatment
2766 process.
 - 2767 • Proposed changes to the aerobic or anaerobic digestion process including changing from
2768 one process to the other or changes that would increase the recycle loadings to the plant
2769 above the approved design level or change the characteristics of the biosolids;
- 2770 ▪ The proposed addition of a new treatment process that has the potential to negatively affect effluent
2771 quality.
- 2772 ▪ A requested decrease or increase in the approved rated hydraulic and/or organic capacity of the treatment
2773 works (**as long as no construction takes place**) – a ‘paper re-rating’. This includes requests for formal
2774 facility de-ratings below 2,000 gpd;
- 2775 ▪ The addition or expansion of a treatment process to generate reclaimed domestic wastewater (reclaimed
2776 water as defined in Regulation 84) where the treatment process will be added upstream (prior to) the point
2777 of compliance as defined in Regulation 84;
- 2778 ▪ A change from surface water discharge to ground water discharge or vice-versa at the same location with
2779 no change in the treatment processes; and,
- 2780 ▪ A partial or complete change from surface water or ground water discharge to treated wastewater reuse.
2781 Future site approval amendments are not required for adding reuse sites in accordance with the Reclaimed
2782 Water Control Regulation (5 CCR 1002-84).
 - 2783 ☞ **Note that site location amendment and design approval are only required for the**
2784 **first (1st) instance when re-use is implemented; once site location and design**
2785 **approval are issued, the addition of re-use sites in accordance with Regulation 84**
2786 **does not require additional site location and design approval as long as there are no**
2787 **changes in the reclaimed-wastewater (reclaimed water as defined in Regulation 84)**
2788 **treatment processes.**
- 2790 ▪ Proposed Pilot Projects and Full-Scale Demonstration Projects
- 2791 ▪ The September 2009 revision to Regulation 22 specifically addresses pilot projects and full-scale
2792 demonstration projects. The intent of this addition to the Regulation was to allow testing for confirmation
2793 of the expected performance of a technology (including chemicals) to be conducted under the amendment

2794 process, which has quicker agency coordination and review processes (than other site location application
2795 types). Prior to this revision, the Regulation was silent on this topic and the Division struggled with
2796 addressing the associated requests.

- 2797 ■ Other types of Projects or Facility Changes that **may** (as determined by the Division) be Handled by
2798 Amendment [only applicable where Amendments are allowable - i.e. prior site location approval or
2799 confirmed construction prior to November 1967 with no subsequent changes]:

- 2800 ■ Requests for Extension of a prior Site Location Approval where no physical construction has taken
2801 place and the time elapsed since the original expiration date is greater than twelve (12) months, but
2802 does not exceed thirty-six (36) months for lift stations and interceptors or eighteen (18) months for
2803 treatment plants (where the Division has confirmed that the original PELs are still appropriate).
- 2804 ■ Temporary changes in service area or loadings to the treatment works.
- 2805 ■ Certain requests for installation of temporary treatment processes. (i.e. requests to install interim
2806 treatment processes for a limited period of time – rare circumstances).

2807
2808 **Projects that fall under Sections 22.8(2)(a,b)(i-vi):**

- 2809 ■ The addition of a treatment process dealing with the liquid stream that does not involve a change in
2810 the design capacity.
- 2811 ■ Physical changes to any of the following treatment processes:
 - 2812 ○ Any change in type of disinfection (to include chlorine gas or from other types of disinfection
2813 to chlorination).
 - 2814 ○ A change from gas chlorination to liquid chlorination or from any form of chlorination to
2815 ultraviolet light disinfection.
 - 2816 ○ Changes to the secondary treatment system (including, but not limited to aeration basins,
2817 recycle streams, clarifiers, etc.)
 - 2818 ○ Changes to the primary treatment system that could reduce primary treatment capacity and/or
2819 increase the flow, organic or solids loadings to the secondary treatment process.
 - 2820 ○ Changes to the digestion process that would increase the recycle loadings to the plant above
2821 the approved design level or change the characteristics of the biosolids.
 - 2822 ○ Addition of a new treatment process that could negatively affect effluent quality by
2823 increasing recycle flow to the plant or would directly have a negative impact on effluent
2824 quality.

2825
2826 **Submittal Expectations:**

- 2827
- 2828 1. Copies of the written transmittal letters of the proposed project that were provided to the review agencies.
- 2829 2. An engineering report stamped and signed by a professional engineer licensed to practice in Colorado. At
2830 a minimum, the engineering report must contain the following:
 - 2831 a. A description of the project.
 - 2832 b. A description of the facility.
 - 2833 c. A process flow diagram for the facility, showing new/modified processes.
 - 2834 d. Analysis of the loading, capacity and performance of each process unit in the existing
2835 treatment works.
 - 2836 e. A description of how the proposed project will affect the performance of other parts of the
2837 treatment works, downstream treatment works and effluent quality (including potential
2838 impacts on the ability to meet current permit limitations). Specific evaluation of impacts on
2839 the capacity of downstream process units must be included.

- 2840 f. A copy of current PELs (that were developed in accordance with section 22.4(1)(b)(iii)) for
2841 projects that fall under 22.8(2)(b)(i) or changing to ultra-violet light disinfection,
2842 22.8(2)(b)(ii).
2843 g. Implementation plan and schedule including estimated construction time, application for
2844 new/amended discharge permit (if required) and ultimate start-up date.
2845

2846 **Projects that fall under Section 22.8(2)(c):**

- 2847 ■ A change (increase or decrease) in the approved, rated design capacity of the treatment plant
2848 (hydraulic and/or organic rated capacities) as long as no construction has taken or will be taking
2849 place.
2850 ☞ **This item is not for lift stations. Lift station capacity changes are addressed under**
2851 **Regulation 22, Section 22.7.**
2852

2853 **Submittal Expectations:**

- 2854
2855 1. Copies of the written transmittal letters of the proposed project that were provided to the review agencies.
2856 2. An engineering report, stamped and signed by a professional engineer licensed to practice in Colorado.
2857 At a minimum, the engineering report must contain the following:
2858 a. A copy of current PELs developed in accordance with section 22.4(1)(b)(iii).
2859 b. A process flow diagram for the facility showing new/expanded/reduced processes.
2860 c. Analysis of the loading, capacity and performance of each process unit in the existing
2861 treatment works.
2862 d. In the case of a capacity reduction, a specific description of how the **permanent** reduction in
2863 treatment capacity will be achieved. For situations where an entity plans to reduce capacity
2864 through limiting or reducing occupancy, the submittal must include a written statement from
2865 the associated county and/or city confirming the new, reduced occupancy for the facility (i.e.
2866 revised certificate of occupancy).
2867 ☞ **For situations where the capacity reduction requires any type of**
2868 **construction (i.e. downsizing or removal of equipment), the amendment process**
2869 **is not applicable. Follow the procedures outlined in Regulation 22 subsection**
2870 **22.5.**
2871 e. A description of how the proposed capacity change will impact the existing service area,
2872 population and loading projections.
2873 f. Implementation plan addressing schedule for application for new/amended discharge permit.
2874 g. Although not specifically identified in the Regulation, the engineering report must also
2875 include calculations and the associated technical analysis that supports the proposed capacity
2876 change(s). Note that the proposed design capacity must be determined and presented such
2877 that it is consistent with the definition of design capacity as found in Regulation 22, Section
2878 22.2(7).
2879

2880 **Projects that fall under Section 22.8(2)(d):**

- 2881 ■ The addition of or expansion of a treatment process to generate reclaimed domestic wastewater
2882 (reclaimed water as defined in Regulation 84) following secondary treatment at an existing treatment
2883 plant that has previously received site location and design approval.
2884 ☞ **Site location and design approvals are required for all additions or expansions of**
2885 **treatment processes to generate reclaimed domestic wastewater (reclaimed water)**
2886 **regardless of the location of the treatment process (upstream or downstream of the**
2887 **point of compliance).**

- 2888 ▪ A change in the type of discharge employed with regard to reclaimed wastewater (reclaimed water)
- 2889 where there is also a change in the treatment process.

2890
2891 Submittal Expectations:

- 2892
- 2893 1. Copies of the written transmittal letters of the proposed project that were provided to the review agencies.
- 2894 2. An engineering report, stamped and signed by a professional engineer licensed to practice in Colorado.
- 2895 At a minimum, the engineering report must contain the following:
- 2896 a. A description of the project.
- 2897 b. A copy of current PELs issued in accordance with section 22.4(1)(b)(iii) (if there is a change
- 2898 or partial change in the type of discharge from re-use to surface water or groundwater).
- 2899 c. A process flow diagram for the entire facility,
- 2900 d. Loading and capacity information for the entire facility.
- 2901 e. Analysis of the loading, capacity and performance of each process unit in the existing
- 2902 reclaimed-domestic wastewater (reclaimed water as defined in Regulation 84) portion
- 2903 (following secondary treatment) of the treatment works.
- 2904 f. A description of how the proposed capacity change will impact the existing service area,
- 2905 population and loading projections.
- 2906 g. Implementation plan and schedule including estimated construction time, application for
- 2907 new/amended discharge permit (if required) and ultimate start-up date.

2908
2909 Projects that fall under Section 22.8(2)(e):

- 2910 ▪ The following changes in the type of discharge employed, where there is no change in the treatment
- 2911 process:
- 2912 ○ From a surface water discharge to a ground water discharge or vice-versa, at the same
- 2913 approved site location, subject to appropriate PELs.
- 2914 ○ A partial or complete change from a surface water or ground water discharge to a wastewater
- 2915 re-use (reclaimed water as defined in Regulation 84).
- 2916 ☞ **For situations where the change in discharge was complete (i.e. surface or**
- 2917 **ground water to 100% re-use), an amendment is only required for the first**
- 2918 **instance when re-use is implemented.**
- 2919 ☞ **Where the change in discharge was not complete, a phased implementation of**
- 2920 **re-use (reclaimed water) may be included in the application and approved in**
- 2921 **accordance with section 22.3(12) and an amendment is only required for the**
- 2922 **first instance when re-use is implemented.**

2923
2924 Submittal Expectations:

- 2925 1. Copies of the written notifications of the proposed project that were provided to the review agencies.
- 2926 2. An engineering report, stamped and signed by a professional engineer licensed to practice in Colorado.
- 2927 At a minimum, the engineering report must contain the following:
- 2928 a. A description of the project.
- 2929 b. A copy of current PELs issued in accordance with section 22.4(1)(b)(iii).
- 2930 c. A process flow diagram for the facility.
- 2931 d. A description of the reason for the change in discharge type.
- 2932 e. Analysis of the loading, capacity and performance of each process unit in the existing
- 2933 treatment works.

- 2934 f. Where the project involves a change from surface water or ground water discharge to
2935 wastewater re-use, detailed information regarding the proposed re-use site(s).
2936 g. Implementation plan and schedule including estimated construction time, application for
2937 new/amended discharge permit and ultimate start-up date.
2938
2939

2940 **Projects that fall under Section 22.8(2)(b)(vii) (not including pilot or full-scale demonstration requests)**

2941 For proposed projects that entail physical changes to the treatment works (including appurtenances) that are
2942 similar in scope to those specifically listed in 22.8 (2)(i-vi), but are not precisely covered:

- 2943 ■ The entity must submit to the Division an analysis from a Colorado-licensed professional engineer, a
2944 description of the proposed changes and an evaluation of how the changes would affect the performance
2945 of the other parts of the treatment works, downstream treatment works and effluent quality. Please direct
2946 this submittal to the attention of the Engineering Section Unit Manager for the county in which the project
2947 is located.
- 2948 ■ The Division will evaluate the proposed process change and will provide a written response to the entity
2949 and engineer, stating that the changes may be made without amending the previous site location approval
2950 and without obtaining design approval, OR requiring that the entity must obtain site location and design
2951 approval for the proposed change.

2952
2953
2954 **Pilot or Full-Scale Demonstration Project Requests (Section 22.8(2)(b)(vii))**

- 2955 ☞ NOTE: This is not available to new facilities. This is intended for testing individual process
2956 unit technologies for existing facilities that obtained site location and design approval for the
2957 original facility.
- 2958 ☞ Once the Division receives the information indicated below, the Division will review the
2959 submittal and, if/when all requirements are met, will issue written authorization to proceed
2960 with the proposed pilot/demonstration project.
- 2961 ☞ Throughout a pilot/demonstration project, the Division retains its enforcement authority as it
2962 relates to the Colorado Water Quality Control Act. The applicant will be responsible for
2963 ensuring that the pilot/demonstration program does not impact proper operation,
2964 maintenance, and permit compliance of the affected wastewater treatment facilities, nor does
2965 it relieve the applicant from compliance with all other local, state and federal regulations.
- 2966 ☞ Prior to permanent utilization of the process/technology involved in the pilot/demonstration
2967 study, site location and design approval must be obtained.
2968
2969

2970 **Submittal Expectations for requesting approval to **conduct** the pilot/demonstration project:**

- 2971 1. Copies of the written notifications of the requested pilot/demonstration project that were provided to the
2972 review agencies.
- 2973 ☞ It is strongly recommended that a copy of the entire submittal that is made to the
2974 Division be included with the notifications to the review agencies as well.
- 2975 2. A written request for implementation of the pilot/demonstration project that includes the following
2976 information, stamped and signed by a professional engineer who is licensed to practice in Colorado:
2977 (a) A description of the proposed pilot/demonstration project.

- 2978 (b) Process schematics, process flow diagrams (PFDs) that indicate how and where the
 2979 pilot/demonstration project will be installed and incorporated into the existing
 2980 facility. Show all equipment, tanks, treatment processes, chemical additions and
 2981 waste streams.
- 2982 (c) A detailed description of the nature and extent of construction work that will be
 2983 required to implement the pilot/demonstration project.
- 2984 (d) A Pilot Testing Plan that includes the following:
- 2985 ■ The planned schedule for the pilot testing program, including proposed start
 2986 and end dates.
 - 2987 ■ If chemical additions will be involved, planned injection rate(s) and MSDS
 2988 information for each chemical.
 - 2989 ■ Identification of any waste streams that will be generated by the
 2990 pilot/demonstration process(es) and a description of the disposal method for
 2991 each waste stream.
 - 2992 ■ A description of the planned sampling and analyses, including location and
 2993 procedures that will be performed to demonstrate unit-by-unit performance
 2994 as a result of the pilot/demonstration testing.
- 2995 (e) Where construction will be required for the pilot/demonstration project, submission
 2996 of engineering information that includes sufficient information to demonstrate
 2997 compliance with the requirements of Policy 96-1.
- 2998 3. The Division's authorization may require submission of interim reporting, depending on the specifics of
 2999 the pilot/demonstration project.
- 3000 4. Upon completion of the pilot/demonstration testing work, the applicant must submit a Pilot Testing
 3001 Report to the Division. The report must include a summary of the testing activities, sampling and
 3002 analyses results, and a discussion of findings and conclusions.
- 3003 5. If the applicant plans to utilize the tested process/technology after the end date of the testing period, site
 3004 location and design approval must be obtained prior to the continued utilization. **Once the**
 3005 **pilot/demonstration testing period ends, the tested equipment/process must be taken off-line until**
 3006 **site location and design approval are obtained. The normal site location application for**
 3007 **amendment and the associated design submittal and review process are required at this point.** The
 3008 site location application for permanent utilization of the technology/process should be completion as soon
 3009 as possible after testing period ends to minimize the amount of time that the tested technology/process
 3010 must be off-line..
- 3011 6. Requests for extension of the pilot/demonstration testing period must be made in writing no later than 45
 3012 calendar days prior to the end of the authorized testing period, to the attention of the appropriate Unit
 3013 Manager. In accordance with the Regulation, no pilot/demonstration testing will be approved for a
 3014 duration longer than two (2) years.

3016 Submittal Expectations [for Site Location Application for **permanent utilization** of tested technology/process]:

- 3017 1. Copies of the written transmittal letters of the proposed project that were provided to the review agencies.
- 3018 2. An engineering report stamped and signed by a professional engineer licensed to practice in Colorado. At
 3019 a minimum, the engineering report must contain the following:
- 3020 a. A description of the project.
 - 3021 b. A description of the facility.
 - 3022 c. A process flow diagram for the facility, showing new/modified processes.
 - 3023 d. A copy of the Pilot Testing Report.
 - 3024 e. Analysis of the loading, capacity and performance of each process unit in the existing
 3025 treatment works (if affected by the new technology/process). Capacity and performance

3026 information for any new process units/equipment that will be added for the new technology
3027 need to be included.

- 3028 f. A description of how the proposed project will affect the performance of other parts of the
3029 treatment works, downstream treatment works and effluent quality (including potential
3030 impacts on the ability to meet current permit limitations). Specific evaluation of impacts on
3031 the capacity of downstream process units must be included.
- 3032 g. A copy of current PELs (that were developed in accordance with section 22.4(1)(b)(iii))
3033 where PELs are required. The requirement for PELs will be dependent on the project.
3034 Contact the district engineer and/or Engineering Section Unit Manager for the county in
3035 which the project is located to resolve any questions.
- 3036 h. Implementation plan and schedule including estimated construction time, application for
3037 new/amended discharge permit (if required) and ultimate start-up date.
3038

3039 **22.9 FACTORS TO BE CONSIDERED FOR DIVISION OR COMMISSION DECISION MAKING**

3040 No specific guidance on this Section is provided as it is adequately covered in other areas of this document.
3041

3042 **22.10 IN-KIND REPLACEMENT**

3043 This regulation subsection pertains directly to all domestic wastewater treatment works, lift stations, and
3044 interceptors having a designed capacity to receive 2,000 gpd or greater of domestic wastewater that have
3045 previously received site location and design approval from the Division or were constructed prior to November
3046 1967. These qualifying domestic wastewater treatment works may also have subsequent site location
3047 amendments approved by the Division.
3048

3049 The Division finds that in-kind replacement is not limited to Regulation 22 subsection 22.10(1). Other sections
3050 pertinent to in-kind replacement include Regulation 22 subsections 22.2(15), 22.3(5), and 22.23 “In-Kind
3051 Replacement”. The Division has relied on information provided in each of the sections to provide a full
3052 interpretation on Regulation 22 subsection 22.10(1).

3053 Regulation 22 subsection 22.23 “In-Kind Replacement” discusses the basis and purpose for the Commission’s
3054 adoption of Regulation 22 subsection 22.10. As this section outlines the Commission’s intent, the Division used
3055 the information provided in Regulation 22 subsection 22.23 “In-Kind Replacement” to interpret the sections of
3056 Regulation 22 relating to in-kind replacements and set appropriate expectations.

3057 Based on the information presented in Regulation 22 subsection 22.23 “In-Kind Replacement”, the Commission
3058 expects in-kind replacement requests to be generally limited to equipment/structural failures or where the
3059 expected design life has been reached and replacement is prudent to assure continued compliance. While the
3060 Division fully agrees with this statement, the Division is compelled to provide further interpretation of “continued
3061 compliance.” “Continued compliance” appears in a slightly different form under Regulation 22 subsection
3062 22.2(15) which indicates that in-kind replacements must be part of normal or emergency maintenance to assure
3063 continued compliance with applicable permit conditions, including effluent limitations. Due to this more
3064 restrictive definition, “continued compliance” cannot be applied equally to domestic wastewater treatment plants,
3065 lift stations, and interceptor sewers. Please note that normal routine operations and maintenance (not performed
3066 under emergency situations) may include replacement of non-treatment related process equipment or structures.
3067 The Division finds that this type of operations and maintenance does not qualify as in-kind replacement.

3068 The Division issues and determines compliance for domestic wastewater treatment plants based on Colorado
3069 Discharge Permit System permits. In accordance with Regulation 22 subsection 22.23 “In-Kind Replacement”,
3070 the Division finds that in-kind replacement requests for domestic wastewater treatment plants shall be limited to
3071 equipment/structural failures and design life replacements necessary to ensure continued compliance with
3072 applicable permit conditions, including effluent limitations, but will consider replacements driven by technology
3073 upgrades or equipment replacements should an existing piece of equipment/structure impact a plant’s ability to
3074 ensure continued compliance with applicable permit conditions, including effluent limitations.

3075 Since individual lift stations and interceptors do not receive Colorado Discharge Permit System (CDPS) permits,
3076 the Division cannot directly assure permit compliance with applicable permit conditions, including effluent
3077 limitations as stated in Regulation 22 subsection 22.2(15). Of specific concern, the CDPS permits do not specify
3078 the individual design capacities of lift stations and interceptors. To overcome this apparent limitation, the
3079 Division shall evaluate continued compliance with applicable conditions based on the Division-issued site
3080 location application and final design document approval(s) for the appurtenances to domestic wastewater
3081 treatment works as well as any applicable excerpts from the receiving domestic wastewater treatment facility’s
3082 Colorado Discharge Permit System permit. The Division determines this approach to be warranted considering
3083 that lift station and interceptor modifications can impact the continued compliance of the downstream facilities
3084 and the permitted wastewater treatment plant resulting from changes to materials, size, functionality,
3085 configuration, and capacity (hydraulic and loading).

3086 To provide some flexibility for equipment/structure changes, Regulation 22 subsection 22.2 (15) states that an in-
3087 kind replacement may be an identical or similar component as long as the proposed replacement or technology
3088 upgrades do not change the original intent of the unit process being renovated. Regulation 22 subsection 22.23
3089 “In-Kind Replacement” further indicates that the Commission recognizes that replacement of equipment and
3090 structures cannot always be exact makes, models, and/or sizes (dimensions and/or power), and used the word
3091 “similar” to describe in-kind replacements that are not identical to the originally approved equipment or structure.
3092 The Commission specifically identifies the following examples that may qualify as a “similar” in-kind
3093 replacement:

- 3094 1. Replacement of older equipment with modern versions that may be more efficient,
- 3095 2. Replacement of a single unit with a modern version at a higher rated capacity to provide a factor of safety
3096 when multiple existing units are in service, and
- 3097 3. Replacement or technology upgrades as long as the original intent of the unit process being renovated is
3098 not changed (e.g. replacing a bar screen with a fine screen).

3099
3100 The Division finds that these examples may qualify for consideration as “similar” in-kind replacements only
3101 under very specific circumstances, but the examples, as stated, do not provide sufficient information to make that
3102 determination and cannot be used by existing systems as a basis for identifying approvable “similar” in-kind
3103 replacements.

3104 For example, replacing a manual coarse bar screen with a fine screen to reduce solids impacts to the membrane
3105 clarification system at a domestic wastewater treatment plant may seem to qualify as an in-kind replacement
3106 because the proposed change appears to:

- 3107 1. Meet the original intent to remove oversized solids prior to entering the secondary treatment system,
3108 2. Not increase the overall rated capacity of the domestic wastewater treatment works,
3109 3. Qualify as a similar component, and
3110 4. Be needed as part of normal maintenance to assure continued compliance with the applicable permit
3111 conditions, including effluent limitations.

3112

3113 While these items may be true, the proposal does not establish whether the planned modification:

- 3114 1. Impacts the hydraulics and accuracy of nearby equipment used for permit compliance (e.g. influent
3115 flume)
- 3116 2. Satisfies the original intent for design characteristics including:
3117 ▪ Meeting all the requirements of the Design Criteria Considered in the Review of Wastewater
3118 Treatment Facilities Policy 96-1 (Policy 96-1) section 5.1.0, and
3119 ▪ Providing preliminary treatment for the peak hour design flow to the domestic wastewater treatment
3120 plant without causing a bypass or sanitary sewer overflow.

3121 In this example, sufficient information is not provided to assess whether the proposed improvements meet the
3122 definition of in-kind replacement.

3123 Regulation 22 subsection 22.3(5) refers to in-kind replacements for all or a portion of a domestic wastewater
3124 treatment works. The Division finds that the reference to “all” does not agree with the definition presented in
3125 Regulation 22 subsection 22.2(15) or the basis and purpose of the subsection as stated in Regulation 22 subsection
3126 22.23 “In-Kind Replacement”. Both Regulation 22.2(15) and the statement of basis and purpose refer to a
3127 qualifying in-kind replacement as “component”, “unit process”, “equipment”, or “a structure”. The Division finds
3128 that in-kind replacement does not apply to entire domestic wastewater treatment works, process units, lift station,
3129 or interceptor sewers. Since this document cannot foresee every potential emergency change, the Division
3130 requests entities maintain open communications with the Division for assessing whether proposed in-kind
3131 replacements qualify as a component, unit process, equipment, or structure.

3132 The Division finds that Regulation 22 is silent on specific instances that do not qualify for in-kind replacements.
3133 The Division considers that the following scenarios do not meet the definition of in-kind replacement for a
3134 proposed “similar” unit or component, but may for a proposed identical unit or component:

- 3135 1. Any portion of a domestic wastewater treatment plant, lift station, or interceptor that received a variance,
3136 new technology variance, or new technology approval that have not yet been incorporated into the
3137 Division’s design criteria;
- 3138 2. Proposed improvements that enable compliance with emerging/future applicable permit conditions,
3139 including effluent limitations that may be expressed as permit compliance schedules in the active
3140 Colorado Discharge Permit System permit associated with the current site location approval;
- 3141 3. As a method to phase the expansion of an entire facility domestic wastewater treatment plants, lift station,
3142 or interceptor by upgrading various components or treatment units one at a time or several
3143 components/units at a time;
- 3144 4. Proposed improvements that do not meet the current requirements of Policy 96-1;
- 3145 5. Proposed improvements that increase the rated capacity for lift stations and interceptor sewers whether or

3146 not the facility intends to request for an increase in the overall rated capacity;

- 3147 6. Proposed improvements that enable the facility to achieve a significant increase in the domestic
3148 wastewater treatment plant, lift station, or interceptor capacity that could be realized through the
3149 amendment process defined in Regulation 22 subsection 22.8

3150
3151 Any modification that increases the capacity of a L/S or interceptor does not qualify for In-Kind Replacement as
3152 this change impacts the capacity of downstream facilities and must be evaluated by the Division through the SA
3153 process. This includes improving an existing interceptor's capacity by replacing the existing sewer with a pipe of
3154 the same nominal diameter that exhibits lower frictional loss characteristics (e.g. replacing concrete with PVC).

3155 To expand on item 6, Regulation 22.23 "In-Kind Replacement" states that the Commission does not intend for in-
3156 kind replacement to be used as a means of achieving a significant increase in the domestic wastewater treatment
3157 works capacity if that capacity can then be realized through the amendment process. The Regulation subsection
3158 22.23 further states that the entity should be required to seek such increases through Regulation 22 subsection
3159 22.5. The Division interprets significant increase as any increase beyond the currently approved site location,
3160 design review, and/or permitted discharge capacity. The Division further considers that any proposed in-kind
3161 replacement capable of increasing the capacity of a domestic wastewater treatment works, lift station, or
3162 interceptor that can then be realized through a site location amendment does not meet the definition of in-kind
3163 replacement and must submit for site application approval in accordance with Regulation 22 subsection 22.5.
3164 This position allows all review agencies to properly assess the proposed changes. Since this document cannot
3165 foresee every potential in-kind replacement request, the Division requests entities maintain open communications
3166 with the Division for assessing whether proposed in-kind replacements may be considered to provide a significant
3167 increase in capacity.

3168 Regulation 22 subsection 22.10(1) discusses the submittal requirements for in-kind replacements. Identical in-
3169 kind replacements (same manufacturer, model, make, capacity, power, location, intent, number of units etc. as
3170 original site location and design approvals) do not require Division notification. All other in-kind replacements
3171 require the owner (or its designee) to submit written notice of the nature and extent of such replacement to the
3172 Division no later than 15 working days after placing the replacement work is put into service. Considering the
3173 potentially complicated and abstract requests for in-kind replacement requests, the Division considers an adequate
3174 written notice to require some basic information to determine if the proposed replacement meets the definition of
3175 in-kind replacement. The Division expects the written notification to discuss the nature and extent of the in-kind
3176 replacement including the following information at a minimum:

- 3177 1. Installation Date of Original and In-Kind Replacement Equipment: date of installation of original
3178 equipment and installation date for in-kind replacement or anticipated date of construction or need;
- 3179 2. Description of Existing and Proposed Equipment: description of the existing and proposed equipment,
3180 process unit, structure, or component to be replaced including physical sizes, power, capacities,
3181 compliance with Policy 96-1, etc.;
- 3182 3. Discuss the original design intent of the existing equipment, process unit, structure, or component to be
3183 replaced and how the new equipment, process unit, structure, or component meets the original intent
3184 (include comprehensive discussion based on each applicable Policy 96-1 requirement, hydraulic capacity
3185 (average and peak), loading capacity, general design intent such as primary settling, velocities, etc.);
3186 provide calculations and supporting data as required;

- 3187 4. Discuss whether service life or failure triggered the in-kind replacement; if service life, please provide
3188 the original installation date and expected design life of the equipment;
- 3189 5. Discuss how the in-kind replacement is required to ensure continued compliance with applicable permit
3190 conditions, including effluent limitations;
- 3191 6. Describe whether the existing equipment, process unit, structure, or component received a variance or
3192 new technology approval as part the original site location or design approval process and if so, describe
3193 the specifics of the variance or new technology approval;
- 3194 7. Identify the Colorado Discharge Permit System permit number for the facility or the facility receiving the
3195 flow if a lift station or interceptor;
- 3196 8. Identify all site location application and site location application amendment approval numbers and
3197 stipulated design approval capacities (flow and load).
3198

3199 The Division may require additional information on a case by case basis.

3200 The Division strongly recommends submitting the written notice for proposed in-kind replacements to the
3201 Division prior to construction even though Regulation 22 subsection 22.10(1) allows the owner to notify the
3202 Division not later than fifteen working days after the replacement work has been put into service. This will help
3203 to avoid situations where the Division finds that the replacement does not meet the “in kind” requirements and an
3204 after-the-fact site application and design review is required with no guarantee that approval can be granted.

3205 Regulation 22 subsection 22.10(1) states that the Division shall provide the owner notification within 15 working
3206 days whether replacement meets the definition of in-kind replacement. The Division interprets the 15 working
3207 days to begin once a complete written notification and In-Kind Replacement site application form has been
3208 submitted that enables the Division to adequately assess the proposed in-kind replacement. The Division shall
3209 work expeditiously to correspond with the owner if the original written notification does not provide sufficient
3210 information.

3211 Submittal Requirements

3212 The system shall prepare the following forms for submittal to the Division:

- 3213 ▪ [Site Application Form - In-Kind Replacement](#)

3214 The written notice and site application form shall be submitted to the Unit Manager supervising District Engineer
3215 identified as the primary contact for the County where the proposed project resides.

3216 Submittal Expectations

3217 The Division expects the applicant to complete the written notification, as required, and the Site Application
3218 Replacement in Kind Form entirely and accurately prior to submission to the Division. The written notification
3219 shall discuss, at a minimum, the information outlined in the guidance document. The written notification shall be
3220 received by the Division no later than 15 working days after the placing the replacement work into service. The
3221 Division will not initiate their 15 working day response clock prior to receiving a complete Site Application
3222 Replacement in Kind Form and written notification.

3223 If the written notification is provided in the form of an engineering report, the written notification shall be signed
3224 and sealed by a State of Colorado licensed professional engineer in accordance with the *Bylaws, Rules and*
3225 *policies of the State Board of Licensure for Architects, Professional Engineers, and Professional Land Surveyors*
3226 issued by the Colorado Department of Regulatory Agencies.
3227

3228 **22.11 THE DESIGN APPROVAL PROCESS**

3229 The guidance provided in this Section addresses the following:

- 3230 ▪ Two-Step Design Submittal, Review and Approval Process (applicable to specific project types as
3231 described in this guidance)
- 3232 ▪ The Single-Step Design Submittal, Review and Approval Process (applicable to specific project types as
3233 described in this guidance)
- 3234 ▪ Non-Traditional Construction Delivery Approaches
- 3235 ▪ Streamlined Design Review

3236

3237 As is described in Section 22.11 of the Regulation, in addition to obtaining site location approval, prior to
3238 commencement of construction, applicants must obtain design approval from the Division.

3239

3240 ☞ **The September 2009 revision to the Regulation included an exclusion (from the definition of**
3241 **construction) that is applicable only after site location approval has been issued that allows an**
3242 **entity to perform initial site preparation work (that does not involve the treatment works**
3243 **components or structures), such as access roads, and site clearing and dewatering prior to approval**
3244 **of the design. Construction work such as site excavation, installation of pipe galleries, etc. are not**
3245 **allowed under this exclusion.**
3246

3247 For information regarding projects involving new technologies (technologies/processes not currently, specifically
3248 included in Policy 96-1), refer to the New Technologies discussion at the beginning of this document. All design
3249 submittals must meet the design criteria identified in Policy 96-1, unless specific variances are requested by the
3250 applicant and granted by the Division. Information regarding design variance requests is found in Policy 96-1,
3251 Section 1.6.2.

3252 ☞ **Applicants can access Policy 96-1 at the following website:**
3253 http://www.cdphe.state.co.us/op/wqcc/StatutesRegsPolicies/Policies/96-1_07.pdf

3254

3255 **Two-Step Design Submittal, Review and Approval Process**

3256 The design review process involves two (2) separate submittals and a separate Division approval for each
3257 submittal for the following project types:

- 3258 ▪ New Treatment Plants,
- 3259 ▪ Vaults; Onsite Wastewater Systems

- 3260 ▪ Treatment Plants with Significant Modifications (Including Replacement of The Secondary Treatment
- 3261 Process, replacement of lagoons, etc.),
- 3262 ▪ Treatment Plants With Capacity Changes (except for paper re-rating, 22.8(2)(c) – see note below),
- 3263 ▪ Projects That Fall Under Site Location Application Amendments In Sections 22.8(2)(a) and (b)(iii, iv, v,
- 3264 vi, and vii), Sections 22.8(2)(d)

3265 Submittal Requirements

3266 The system shall prepare the following forms for submittal to the Division:

- 3267 ▪ [Fee Request Form](#)
- 3268 ▪ [Process Design Report Form and Checklist](#)

3269 The application, including this form, shall be submitted to the Unit Manager supervising District Engineer
 3270 identified as the primary contact for the County where the proposed project resides.

3271 The process is as follows:

- 3272 1. After receipt of site location approval, the applicant must submit a Process Design Report (PDR) that
 3273 contains the required information as indicated in Policy 96-1, Sections 1.3.0 through 1.3.4.
 3274 ☞ **For applicants that are interested in the streamlined design review process, there are**
 3275 **additional items that must be included with the PDR submittal. Additionally, steps 3**
 3276 **and 4 below are different for the streamlined design review process. Please refer to the**
 3277 **streamlined design review guidance provided below for specific information.**
- 3278 2. The Division reviews the PDR submittal and issues written approval of the PDR once it is determined that
 3279 the PDR meets all of the requirements of Policy 96-1 (all applicable design criteria indicated in the
 3280 Policy, not just the PDR-specific sections).
 3281 ☞ **Note that for paper re-ratings (no construction to be done), Section 22.8(2)(c), only the**
 3282 **PDR submittal and approval is required.**
- 3283 3. After receipt of PDR approval, the applicant must submit the Final Design – Plans and Specifications.
 3284 The submittal must contain the required information as indicated in Policy 96-1, Sections 1.4.0, 1.4.1,
 3285 1.4.3 and 1.44. The submittal must be completely consistent with the information contained in the
 3286 approved PDR.
 3287 ☞ **For design-build projects (not utilizing streamlined design), the Final Design for the**
 3288 **first phase of the project can sometimes (depending on the project) be submitted with**
 3289 **the PDR. However, PDR approval will be issued separately from Final Design approval**
 3290 **for that first phase and for each subsequent phase. Under the majority of**
 3291 **circumstances, PDR approval will likely need to be issued prior to submittal of the Final**
 3292 **Design for the first phase of the design-build project.**
- 3293 4. The Division reviews the Final Design submittal and issues written approval of the Final Design once it is
 3294 determined that the submittal meets all requirements of Policy 96-1 and that the Final Design is consistent
 3295 with the approved PDR. **The Final Design approval is approval for commencement of construction.**

3296 ☞ **For design-build projects (not using streamlined design), individual Final Design**
3297 **approval must be issued for each phase of the project prior to commencement of**
3298 **construction of that project phase.**

3299 ☞ **For design-build projects using streamlined design, self-certification submittals (and**
3300 **Division acceptance) will be required to address each phase of the project.**

3301 5. Per the Regulation, the applicant's professional engineer, licensed to practice in the State of Colorado,
3302 must certify at the completion of construction that the treatment works was constructed according to
3303 plans, specifications and significant amendments as approved by the Division.

3304 ☞ **For design-build projects, certifications for each phase of the project must be**
3305 **submitted.**
3306

3307 Please refer to Figure 3 found in [Appendix I](#).
3308

3309 **Single-Step Submittal and Single-Step Division Approval**

3310 The design review process involves a single submittal and a single Division approval of the submittal for the
3311 following project types:

- 3312 ▪ For Lift Stations (new, capacity changes or other modifications)
- 3313 ▪ Interceptors (new, capacity changes or rehabilitation)
- 3314 ▪ New or Relocated Outfall Sewers
- 3315 ▪ Projects that Fall Under Site Location Application Amendments in Sections 22.8(2)(b)(i, ii) and
3316 22.8(2)(e)

3317 The process is as follows:

- 3318 1. After receipt of site location approval, the applicant must submit the Final Design that includes a basis of
3319 design report and final plans and specifications.
 - 3320 ▪ For lift stations, interceptors, relocated or new outfall sewers or projects that fall under Regulation
3321 22.9(2)(e) information required for the Final Design submittal is delineated in Policy 96-1 Sections
3322 1.4.1, 1.4.2 and 1.4.4.
 - 3323 ▪ For projects that fall under Regulation 22 Sections 22.8(b)(i, ii), use the requirements for PDR and
3324 Final Design – Plans and Specifications as delineated in Policy 96-1, Sections 1.3.0 through 1.3.4.
3325 and Sections 1.4.0, 1.4.1, 1.4.3 and 1.44 in developing the Final Design submittal.
- 3326 2. The Division reviews the Final Design submittal and issues written approval of the Final Design once it is
3327 determined that the submittal meets all requirements of Policy 96-1. **The Final Design approval is**
3328 **approval for commencement of construction.**
- 3329 3. Per the Regulation, the applicant's professional engineer, registered to practice in the State of Colorado,
3330 must certify at the completion of construction that the treatment works was constructed according to
3331 plans, specifications and significant amendments as approved by the Division.

3332 ☞ **For design-build projects, certifications for each phase of the project must be**
3333 **submitted.**
3334

3335 **Non-Traditional Construction Delivery Approaches**

3336 The 2003 revisions to Regulation 22 included a change to the definition of “construction” that addressed design-
3337 build projects. Per the associated Statement of Basis and Purpose language, the intent of the Commission in
3338 making this change was to specifically exclude the portions of a design-build contract that cover site location
3339 application and design work from being included in the definition of “construction”. It is further clarified that the
3340 Commission still intends that no actual erection or physical placement of materials, equipment, piping, earthwork
3341 or buildings (that are to be part of the treatment works) be commenced until full site location application approval
3342 has been issued and the respective portions of the design (to be constructed) have been approved by the Division.

3343

3344 ☞ **Site location approval and design approval are required for design-build projects.**

3345

3346 ☞ **If an applicant is intending on utilization of a design-build contract for the proposed project, this**
3347 **intention must be clearly indicated in the site location application submittal and the implementation**
3348 **schedule that is included in the application must include the planned phasing for the project.**

3349 At times, the Division receives projects requesting phased construction. The phasing requests typically come in
3350 three forms, bid packages, time necessity, and capacity. Applicants typically request bid package phasing for
3351 large projects where the applicant intends to issue /bid multiple complete design plans and specifications for
3352 various phases of a single project. For this type of project, the Division offers the option to receive final design
3353 approvals for each bid package phase. Applicants typically request time necessity phasing when some external
3354 force (i.e. weather conditions or funding) requires the applicant to begin construction of specific facilities to meet
3355 a critical deadline. For this type of project, the Division offers the option to receive final design approvals for
3356 each project phase as long as the project can be clearly and definitively broken into phases. Finally, applicants
3357 typically request the Division to provide capacity phasing for projects expected to expand over the life of the
3358 construction process or within a few years of construction. The Division does not have the ability to track
3359 incremental capacity phasing of projects, considers capacity phasing to sidestep the site location application
3360 process, and expects a single project to provide the approved site location capacity. The Division does not
3361 provide capacity phasing of projects.

3362 The Division handles site location applications for design-build projects in the same way that site location
3363 applications for non-design-build projects are handled – except for the requirement to notify the Division of the
3364 design-build status and the proposed phasing. However, the design submittal, review and approval processes are
3365 handled differently. For design-build projects, the Division will issue phased approvals for both the two-step and
3366 single-step processes to enable the applicant to commence with construction as each phase receives design
3367 approval. In both cases, the applicant **MUST** include the proposed project phasing in the site location application
3368 **AND** design submittals. Each design submittal must include all information for that phase. If a project falls
3369 under the two-step design process, PDR approval (for the entire project) is required; it is the Final Design
3370 submittals and approvals that can be done with the phased approach. For projects that fall under the single-step
3371 process, design-builds will be handled on a case-by-case basis, depending on the project and the proposed
3372 phasing.

3373

3374 ☞ **The applicant is not authorized to commence construction for a specific phase until site location**
3375 **and process design report approvals (when applicable) (for the entire project) are issued and final**
3376 **design approval is issued for that phase.**

3377 **Streamlined Design Review Process**

3378 The September 2009 revision to the Regulation added an option for a streamlined design review process for
3379 domestic wastewater treatment plants.

3380 ☞ **Specifically excluded from the Streamlined Design Review Process are projects involving new**
3381 **technologies, lift stations, interceptors and projects where the conditions of receipt of funding**
3382 **require that final design documents be reviewed and approved by the Division (i.e. SRF, Stag, etc.).**
3383 **Additionally, the Division has the option to deny an applicant the ability to use the streamlined**
3384 **design review process for projects where variances from the design criteria are requested.**

3385 ☞ **Design review fees are required for projects where the Streamlined Design Review Process is**
3386 **requested and utilized.**

3387 ☞ **If the Division discovers discrepancies between the facilities as described in the PDR (and as**
3388 **approved in the PDR approval letter) and those finally constructed, the applicant will either make**
3389 **modifications to resolve the inconsistency(ies) to the Division’s satisfaction OR the approval of the**
3390 **design will be null and void, which will be equivalent to the applicant having constructed without**
3391 **approval, which is a violation of State statute and Regulation 22.**

3392 The addition of the streamlined design review option is intended to provide an applicant with the flexibility to
3393 save time within its overall project schedule by self-certifying the Final Design, rather than undergoing a
3394 complete Division review.

3395 **Submittal Requirements**

3396 The system shall prepare the following forms for submittal to the Division:

- 3397 ▪ [Fee Request Form](#)
- 3398 ▪ [Process Design Report Form and Checklist](#)
- 3399 ▪ [Streamline Design Review Certification Form](#)

3400 The application, including this form, shall be submitted to the Unit Manager supervising District Engineer
3401 identified as the primary contact for the County where the proposed project resides.

3402 **The Process**

3403 1. With the PDR submittal, the applicant must submit a completed PDR Checklist Form, any variance
3404 requests and a letter of intent to self-certify the design.

3405 ☞ **For design-build projects, the PDR must address the entire project; the PDR cannot be**
3406 **phased. Additionally, the PDR submittal must have clearly identified each project phase**
3407 **and the projected time frames associated with each.**

3408 2. Once the Division determines that the PDR submittal meets the requirements of Policy 96-1, written PDR

3409 approval is issued by the Division. If variances are requested and are deemed to be approvable by the
3410 Division, the approved variances will also be included in the PDR approval. **This is not approval for**
3411 **construction.**

3412 3. Once PDR approval is issued, the applicant can complete work on the Final Design documents (final
3413 plans and specifications).

3414 4. Upon completion of the Final Design documents, a stamped, dated and signed certification must be
3415 submitted (by a professional engineer who is licensed to practice in Colorado) to the Division affirming
3416 that that final design is consistent with the approved site location application and PDR and the most
3417 recent published version of Policy 96-1, noting any approved variances from the Policy.

3418 ☞ **The certification submittal must be directed to the attention of the Engineering Section Unit**
3419 **Manager for the county in which the project is located.**

3420 ☞ **For design-build projects, a separate certification submittal must be made for each project**
3421 **phase.**

3422 5. Upon receipt of the complete Final Design certification, the Division will issue written acceptance of the
3423 self-certification. The target time frame for the Division's issuance of the acceptance is 10 calendar days.
3424 **Upon receipt of the Division's written acceptance, the proposed project can move forward into the**
3425 **construction stage.**

3426 ☞ **For design-build projects, a separate Division acceptance must be issued for each project**
3427 **phase.**

APPENDIX I
SITE LOCATION APPLICATION FLOW CHARTS

Figure 1 – Site Location Application and Design Submittal and Review Processes

Figure 2 - Site Location Application Decision Tree

Figure 3 – Two Stage Process

Figure 4 – One Stage Process

Figure 1 – Site Location Application and Design Submittal and Review Processes

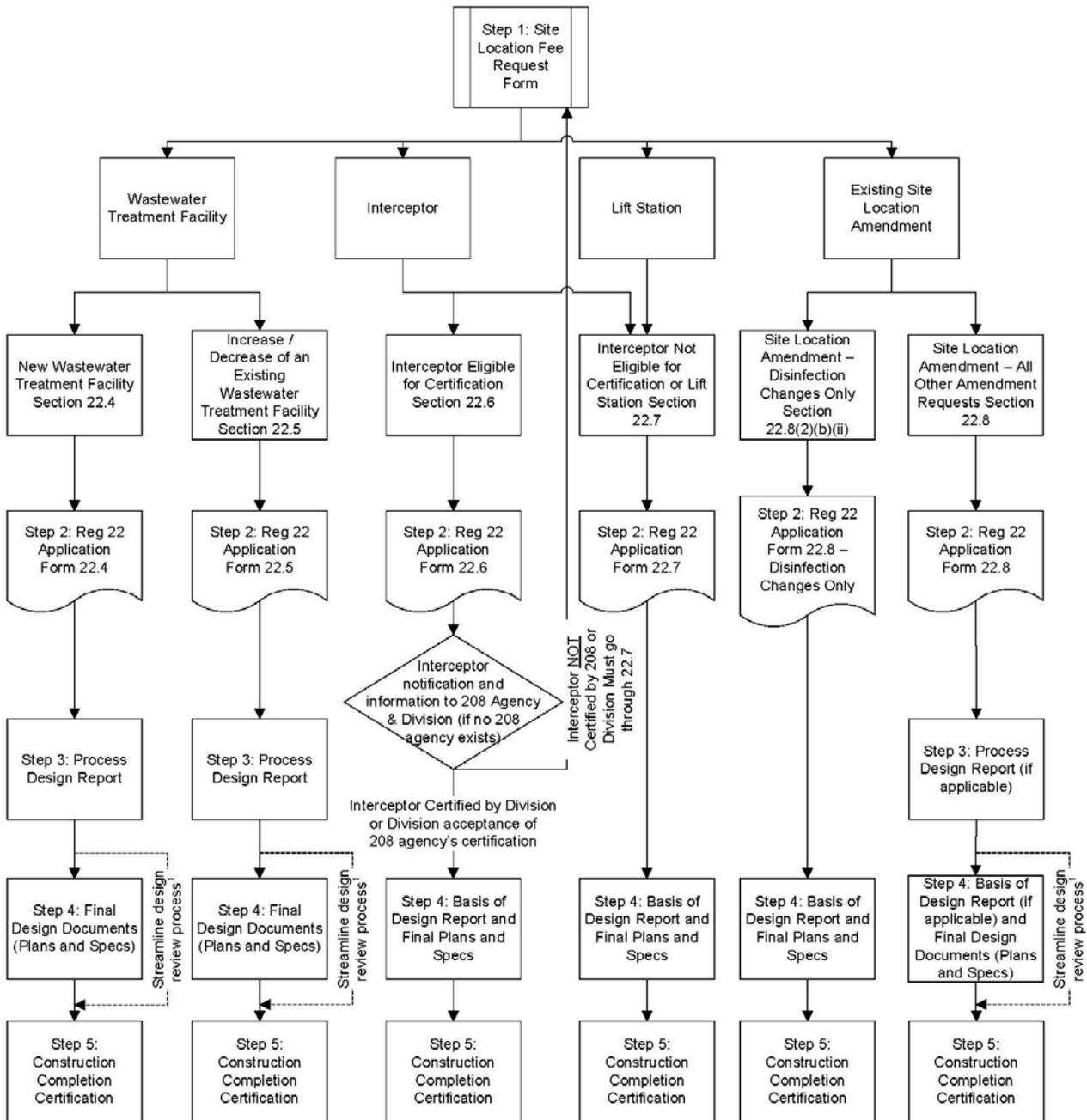


Figure 2 - Site Location Application Decision Tree

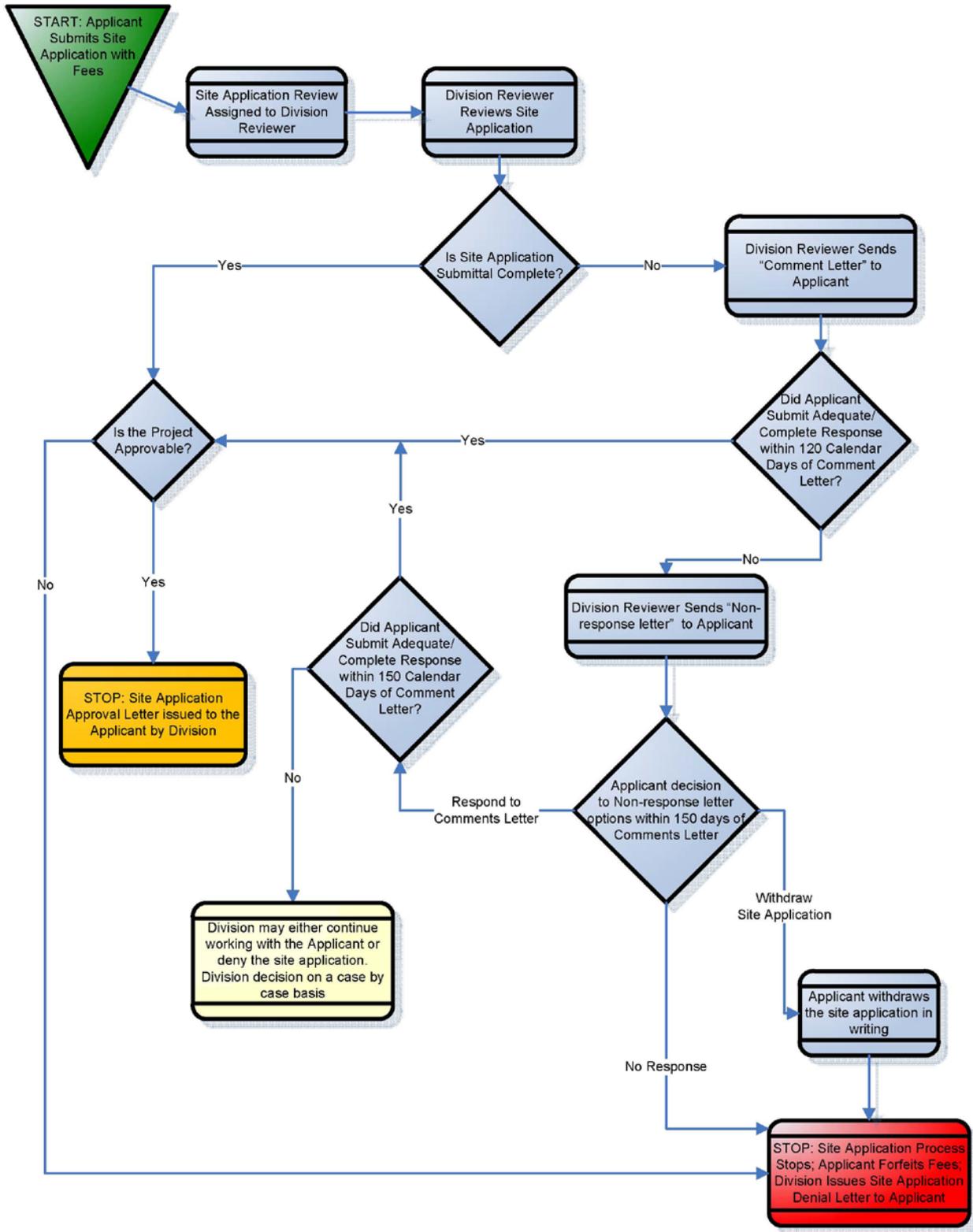


Figure 3 – Two Stage Process (Wastewater Treatment Facilities)

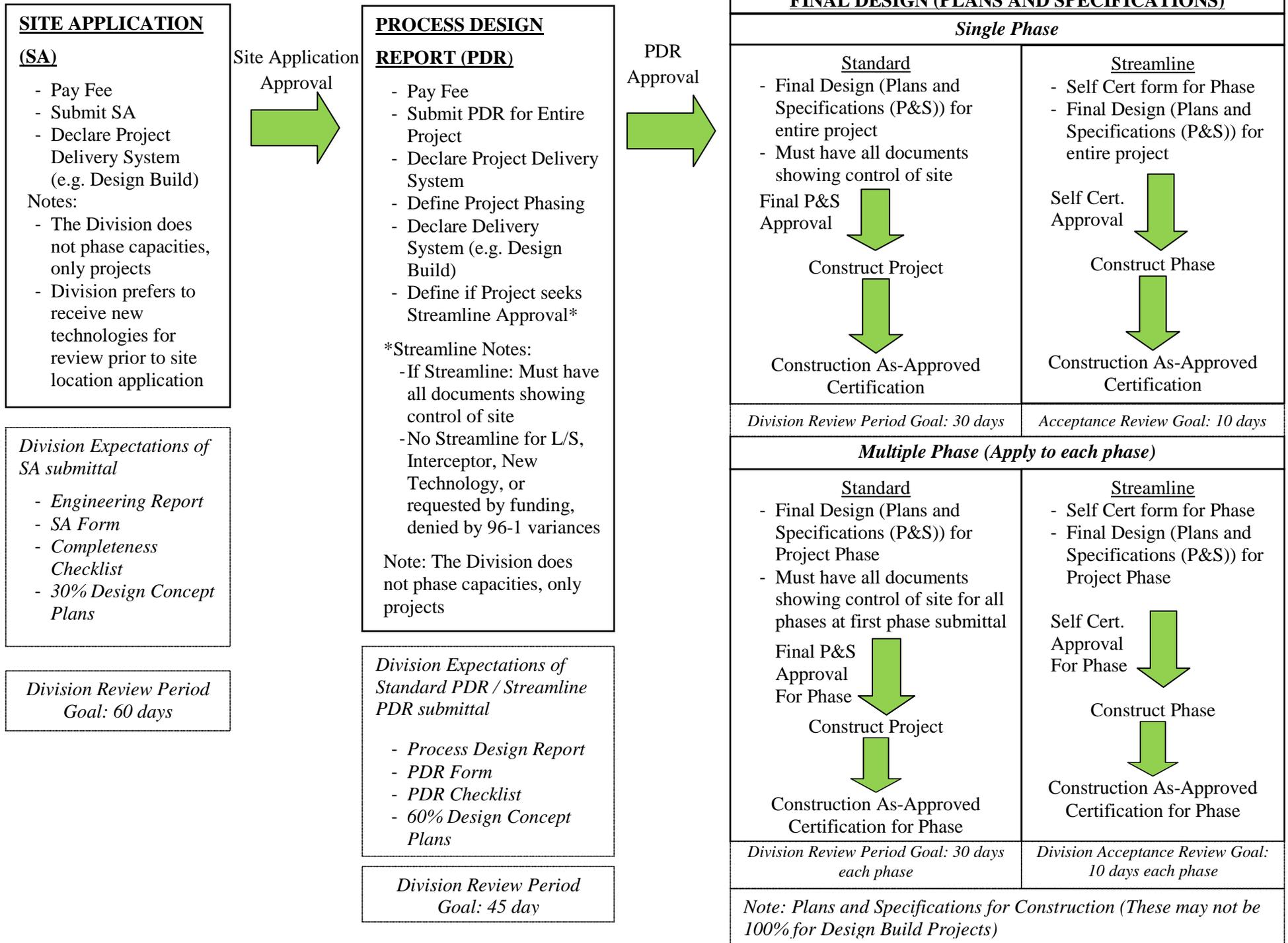
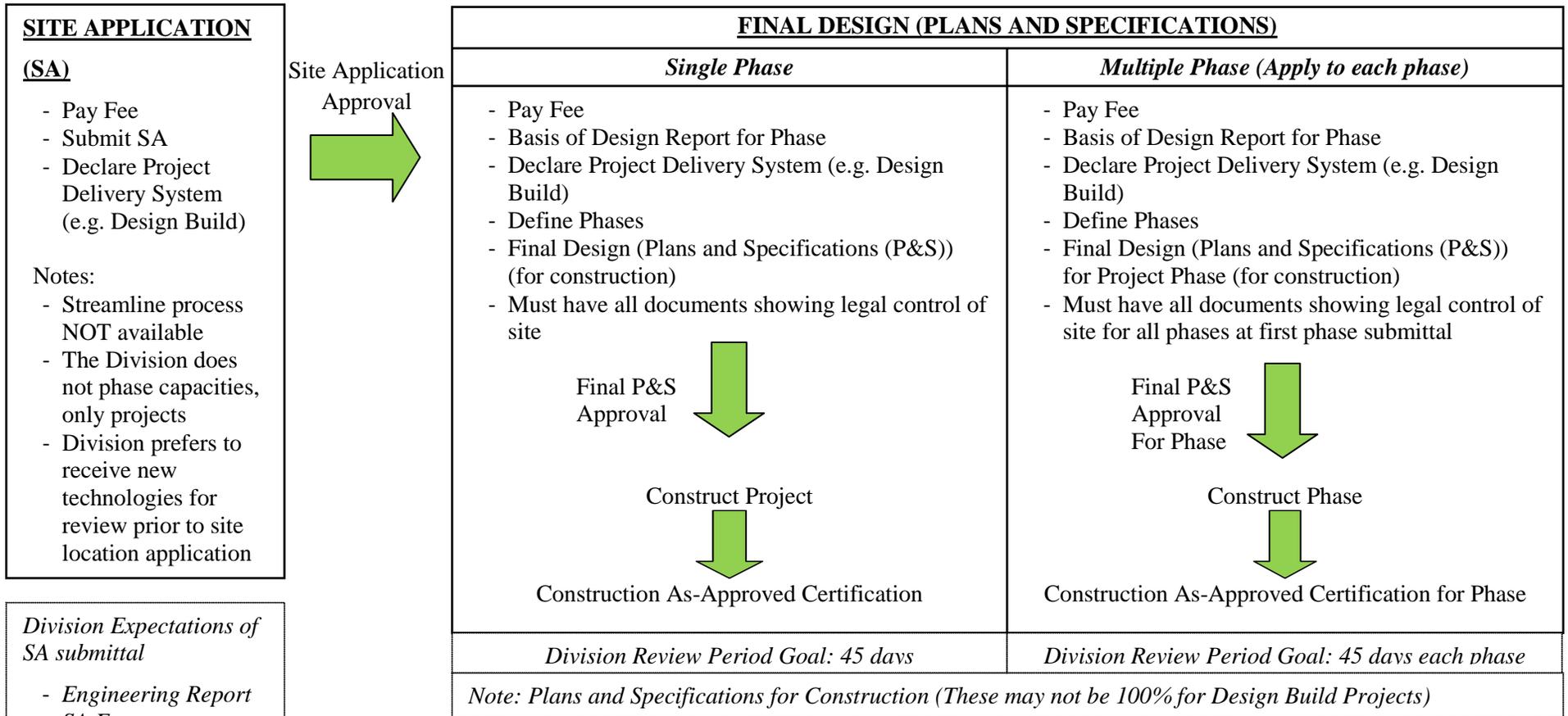


Figure 4 – One Stage Process (Lift Stations and Interceptors)



Division Expectations of SA submittal

- Engineering Report
- SA Form
- Completeness Checklist
- 30% Design Concept Plans

Division Review Period Goal: 60 days

APPENDIX II

SITE LOCATION APPLICATION FORMS AND COMPLETION CHECKLISTS

Fee Request Form:

[Fee Request Form](#)

Site Location Application Forms:

[Reg 22.4 New WWTF Application](#)

[Reg 22.5 Existing WWTF Increasing or Decreasing Application](#)

[Reg 22.6 Eligible Interceptor Certification Application](#)

[Reg 22.7 New or Expanded Lift Station or Interceptor Application](#)

[Reg 22.8 Site Location Amendment of Existing Site Location Approval Application](#)

[Reg 22.8 Site Location Amendment of Existing Site Location Approval Disinfection Changes Only Application](#)

Process Design Report Form (required for PDRs and Streamline Review Process):

[PDR Checklist](#)

Construction Completion Form:

[Construction Completion Form](#)

Special Situation Forms:

[Streamlined Self Certification Form](#)

[In Kind Replacement Form](#)

[Existence Prior to 1967 Form](#)

[Site Location Approval Extension Application](#)

Please visit the Engineering Section Website at:

<http://www.cdphe.state.co.us/wq/engineering/techhom.html>

WQCD District Engineer List

http://www.cdphe.state.co.us/wq/engineering/pdf/County_List.pdf

APPENDIX III
COUNTY AND 208 AGENCY LIST

County	Health Department Office	208/COG, RCOG
Adams	Tri-County Health Department	Denver Regional Council of Governments
Alamosa	Alamosa County Public Health Agency	
Arapahoe	Tri-County Health Department	Denver Regional Council of Governments
Archuleta	San Juan Basin Health Department	Archuleta County Planning Commission
Baca	Baca County Public Health Agency	Southeast Council of Governments
Bent	Bent County Public Health	Southeast Council of Governments
Boulder	Boulder County Public Health	Denver Regional Council of Governments
Broomfield	Broomfield Health and Human Services Department	Denver Regional Council of Governments
Chaffee	Chaffee County Public Health and Human Services	Upper Arkansas Area Council of Governments
Cheyenne	Cheyenne County Public Health Agency	East Central Council of Local Governments
Clear Creek	Clear Creek County Environmental Health Department	Denver Regional Council of Governments
Conejos	Conejos County Nursing Service	
Costilla	Costilla County Nursing Service	
Crowley	Crowley County Public Health Nursing Service	Southeast Council of Governments
Custer	Custer County Public Health Agency	Upper Arkansas Area Council of Governments
Delta	Delta County Health and Human Services Department	Region 10 League for Economic Assistance & Plng
Denver	Denver Health and Hospital Authority	Denver Regional Council of Governments
Dolores	Dolores County Public Health	
Douglas	Tri-County Health Department	Denver Regional Council of Governments
Eagle	Eagle County Environmental Health	Northwest Colorado Council of Governments
Elbert	Elbert County Public Health	East Central Council of Local Governments
El Paso	El Paso County Department of Health & Environment	Pikes Peak Area Council of Governments
Fremont	Fremont County Public Health	Upper Arkansas Area Council of Governments
Garfield	Garfield County Public Health Nursing Service	Associated Governments of Northwest Colorado
Gilpin	Gilpin County Public Health Agency c/o Craig Sanders, Jefferson CHD	Denver Regional Council of Governments
Grand	Grand County Manager Grand County Building and Sanitation Dept.	Northwest Colorado Council of Governments
Gunnison	Gunnison County Public Health	Region 10 League for Economic Assistance & Plng
Hinsdale	Hinsdale County Public Health Agency	Region 10 League for Economic Assistance & Plng
Huerfano	Las Animas-Huerfano Counties District Health Dept.	South Central Council of Governments
Jackson	Jackson County Administrator - Kent Crowder	Northwest Colorado Council of Governments
Jefferson	Jefferson County Dept of Health and Environment	Denver Regional Council of Governments
Kiowa	Kiowa County Public Health Agency	Southeast Council of Governments
Kit Carson	Kit Carson County Public Health Agency	East Central Council of Local Governments

County	Health Department Office	208/COG, RCOG
Lake	Lake County Public Health Nursing Service	Upper Arkansas Area Council of Governments
La Plata	San Juan Basin Health Department	
Larimer	Larimer County Department of Health & Environment	North Front Range Water Quality Planning Association
Las Animas	Las Animas-Huerfano Counties District Health Dept.	South Central Council of Governments
Lincoln	Lincoln County Public Health Agency	East Central Council of Local Governments
Logan	Northeast Colorado Health Department	Northeastern Colo Assn of Local Governments
Mesa	Mesa County Health Department	Associated Governments of Northwest Colorado
Mineral	Mineral County Public Health	
Moffat	Moffat County Board of County Commissioners	Associated Governments of Northwest Colorado
Montezuma	Montezuma County Public Health Agency	
Montrose	Montrose Health and Human Services	Region 10 League for Economic Assistance & Plng
Morgan	Northeast Colorado Health Department	Northeastern Colo Assn of Local Governments
Otero	Otero County Department of Health	
Ouray	Ouray County Public Health Department	Region 10 League for Economic Assistance & Plng
Park	Park County Public Health Nursing Service	Pikes Peak Area Council of Governments
Phillips	Northeast Colorado Health Department	Northeastern Colo Assn of Local Governments
Pitkin	Community Health Services, Inc. (Pitkin Co.)	Northwest Colorado Council of Governments
Prowers	Prowers County Public Health	Southeast Council of Governments
Pueblo	Pueblo City-County Health Department	Pueblo Area Council of Governments
Rio Blanco	Rio Blanco County Nursing Service	Associated Governments of Northwest Colorado
Rio Grande	Rio Grande County Public Health	
Routt	Routt County Environmental Health Dept	Associated Governments of Northwest Colorado
Saguache	Saguache County Public Health	Associated Governments of Northwest Colorado
San Juan	San Juan County Nursing Service	
San Miguel	San Miguel County Public Health Nursing Service	Region 10 League for Economic Assistance & Plng
Sedgwick	Northeast Colorado Health Department	Northeastern Colorado Association of Local Governments
Summit	Summit County Environmental Health Dept.	Northwest Colorado Council of Governments
Teller	Teller County Public Health	Pikes Peak Area Council of Governments
Washington	Northeast Colorado Health Department	Northeastern Colo Assn of Local Governments
Weld	Weld County Dept of Public Health & Environment	North Front Range Water Quality Planning Association
Yuma	Northeast Colorado Health Department	Northeastern Colo Assn of Local Governments