LARIMER COUNTY
COMMITTED TO EXCELLENCE
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Fort Collins, CO 80521
(970) 498-7683 /
larimer.org/planning

PRELIMINARY PLAT SUBMITTAL REQUIREMENTS
for Conservation Developments, Planned Land Divisions, & Subdivisions

The submittal requirements listed in this packet are intended to collect all of the information required for Larimer County staff, review agencies, the Planning Commission, and the Board of County Commissioners to fully evaluate the land division proposal. Additional information may be requested from the applicant during the review process if necessary to address specific issues that arise.

Please Note: All surrounding property owners within a minimum of 500 feet of the property boundary lines will be notified of this request. Once submitted to the County, all application materials become a matter of public record.

SUBMITTAL REQUIREMENTS

The following items are required for all Land Division applications.				
Item #	**Description:**	**Information Provided for:**	**Copies Required**	✓
One Electronic Set Of All Submittal Materials (Flash/Jump Drive or CD)				
1.	**Application Form** – must be signed by **all** property owners and the applicant *For Conservation Development applications – the CD Calculation Worksheet must also be filled out	File	1	
2.	**Application Fee –** current fee at the time of submittal	File	**$**	
3.	**Other Associated Fees -** See current Development Review Fees for more information. ***(SEPARATE CHECKS FOR EACH FEE)*** *Colorado Geological Survey Fee* *Fire District Fee* *Wildfire Review Fee*	File	**$** **$** **$**	
4.	**Project Description** – detailed description of the proposed project (with updated information based upon the comments from Sketch Plan Review, if applicable), include review criteria from Section 5 of the Land Use Code **Please see page 4 for Project Description requirements**	File, All Referral Agencies		
5.	**Written Appeal Request** – include review criteria from Section 22 of the Land Use Code	File, All Referral Agencies		
6.	**Site Inventory Map–** size 24” x 36” **Please see page 5 for Site Inventory Map requirements**	File, All Referral Agencies		
7.	**Preliminary Plat** – size 24” x 36” **Please see pages 6-7 for Preliminary Plat requirements**	File, All Referral Agencies		
8.	**Reduced Preliminary Plat** – size should be 8 ½” x 11”	File, All Referral Agencies		
9.	**Vicinity Map** – illustrate roads and significant natural features near the project site. County and local roads must be labeled so that the site can be easily found (size should be 8 ½” x 11”)	File, All Referral Agencies		

SUBMITTAL REQUIREMENTS CONTINUED

The following items are required for all Land Division applications.				
Item #	**Description:**	**Information Provided for:**	**Copies Required**	✓
10.	**Legal Description** – include for each parcel (should be on a separate page)	File, Newspaper Notification		
11.	**Neighborhood Meeting Report** – see Neighborhood Meeting packet	File		
12.	**Ownership and Encumbrance** – contact a Title Company for this information	File		
Item #	**Reports and Plans:** (as applicable) See page 9 for Descriptions	**Information Provided for:**	**Copies Required**	✓
13.	**Preliminary Stormwater Drainage Plan and Report** – see attached handout	File, Eng., Health, NRCS, CDOT, Soil Conservation		
14.	**Preliminary Geological Hazard Mitigation Plan**	File, Engineering, Health		
15.	**Preliminary Landscape Plan**	File, Eng, Health, City		
16.	**Preliminary Use Plan**	File, Engineering, Health		
17.	**Sewage Disposal Report** –see additional information on Page 3 if your request includes an appeal for On-Site Sewage Treatment Systems in the Growth Management Area	File, Eng., Health, Sewage District (if applicable)		
18.	**Traffic Impact Report**	File, Engineering, CDOT, Municipality		
19.	**Water Supply Report for Domestic Use and Fire Protection**	File, Eng., Health, Fire Depart., Water District		
20.	**Soils Report**	File, Engineering, Health, NRCS, Corps. of Engs., Colo. Geological Survey, Local Municipality		
21.	**Preliminary Wetland Mitigation Report**	File, Eng., Health, Planning, Corps. of Eng., NRCS,		
22.	**Preliminary Wildfire Mitigation Report**	File		
23.	**Preliminary Wildlife Conservation Plan**	File, Eng., Health, Planning, DOW		

ADDITIONAL INFORMATION

	Homeowners Association – brief description of the roles and responsibilities if applicable
	GMA Form 1 Annexation Eligibility – completed and signed by the applicant and City Planning Staff if the project is located within a Growth Management Area (see attached form)
	Other – information as deemed necessary by the project planner
	Appeal for On-Site Sewage Treatment Systems in the Growth Management Areas – A development in a Growth Management Area that includes a proposal to use On-Site Sewage Treatment Systems must submit an appeal as part of their application. The appeal must include the following items: • A technical/economic analysis demonstrating that public sewer is not feasible; • A letter from the applicable city utility or sanitation district indicating their concurrence that it is not feasible to connect to public sewer; • A letter from the applicable municipality indicating their concurrence that the development as proposed will achieve the land use pattern envisioned for this part of the Growth Management Area; • A letter from the applicable municipality that indicates their willingness to annex the property when it becomes eligible for annexation; and • Information demonstrating that On-Site Sewage Treatment Systems can be safely provided as anticipated in Subsections 8.1.1.B.2.d and e of the Land Use Code.
	Lien Holder Signature – If there is a lien on the property(s), please be aware that that the lienholder will be required to sign the final plat before it can be recorded. Please check with the mortgage company to determine if they approve of the proposed land division, and who at the company will be responsible for signing the plat.

REQUIRED PRIOR TO HEARING

	Mineral Interest Notification – Certification Regarding Notification of Mineral Interest Owners and Lessees (**please note: this notification does not apply to applications for platting of an additional single lot) – Thirty (30) days prior to the Planning Commission hearing, notification must be provided to Mineral Interest Owners and Lessees as required by State Statute 24-65.5 notifying them of the proposed development. A signed certification must be received by the Larimer County Planning Department prior to the hearing that such notification was provided (see attached certification form). **Failure to receive this certification will result in the hearing being rescheduled to a later date.** (see attached form)

ADDITIONAL RESOURCES

For additional process information and handouts referenced in this guide, please refer to the following:

1. Development Review Calendar & Fee Schedule
2. Applicable Process Guides (Conservation Development, Planned Land Division, Subdivision)
3. Neighborhood Meeting Packet
4. Transportation Capital Expansion Fee (TCEF) Informational Handout or view it online at http://www.larimer.org/engineering/Transportation/TCEFs/TCEFs.htm
5. Larimer County Land Use Code or view it online at http://www.larimer.org/planning/planning/land_use_code/land_use_code.htm

ITEM# 4 DETAILS – PROJECT DESCRIPTION

The purpose of a Preliminary Plat is to provide enough information to allow for the assessment of the project to determine if it will conform to the Land Use Code and the requirements contained within. While final design is not necessary at this point, enough information must be provided to show that final design will indeed work.

Element	Description	Include (but not limited to):
Summary	The project description is the applicant's opportunity to explain what is being proposed. The project description should be a narrative.	How the proposal meets the development standards, existing conditions, and to explain any unusual or unique circumstances about the property or proposal.
Review Criteria	How the proposal meets the applicable review criteria	Refer to Section 5 of the Land Use Code or applicable land division process guide handout.
Existing Conditions	A written detailed description of the existing conditions.	• Zoning • Current use of the property • Size of the property • Size (outer dimensions and area in square feet) of all existing buildings • Existing uses of all buildings • Use of surrounding properties • Off-site conditions • Recent and present uses of the site (ie: pasture, irrigated or dry land crops, etc.)
Proposed Changes and Improvements	List any proposed changes or improvements.	• Total area of the project • Total developable land in the project (list the area of residential use, non-residential use, residual land) • Number of lots/number of dwelling units • Lot sizes • Proposed use (residential, commercial, etc.) and the total area of each use • Landscaping
Infrastructure (Utilities)	A written detailed description of the current and proposed infrastructure.	• Sewage disposal /water supply (include the name of district if applicable and a description of any utility extensions needed to serve the project) (see Section 8.1.1 & 8.1.2 of the Land Use Code) • Fire protection (see Section 8.1.4 of the Land Use Code) • Roads (include surface type) • Existing and proposed utilities, easements, irrigation facilities, etc.
Traffic & Access	A written detailed description of traffic and access information.	• Sight distance at proposed access location • Legal Access – **Please Note:** If the property does not gain direct access to a public right-of-way, please describe any existing easements that grant access to the property. (The applicant may be asked to demonstrate that they have the legal ability to use the existing access points and easements for the proposed use) • Surface of access (gravel, asphalt, concrete, etc.)
Other Information	Any other pertinent information about the proposed project	• List land dedications, if any • Any previous applications on the site • Other
Appeals	If the applicant would like to request a deviation from a Land Use Code standard, a written request must be incorporated into the project description.	How the appeal will comply with the applicable review criteria (see Section 22 of the Land Use Code).

ITEM# 6 DETAILS – SITE INVENTORY MAP

Site Plans should be legible and large enough to see the scope of the project.
If an aerial photo is being used, indicate the date of photography
ALL PLANS MUST BE FOLDED

The following information should be included if applicable.		
1.	**Project Name and File Number**	Example: **Joe's Subdivision 11-S0000**
2.	**Applicant Information**	Name, Address, Phone Number
3.	**Owner Information**	Name, Address, Phone Number
4.	**North Arrow and Scale**	
5.	**Existing Location of:**	• Buildings, structures (i.e. retaining walls, drainage structures, etc.), irrigation facilities, well sites, etc. • Easements and roads • Natural features such as vegetation, soil types, and water bodies • Geological hazards including areas with expansive soils and other moderate hazards (See Section 8.3) • Wetlands (See Section 8.2) • Floodways and/or floodplains • Utilities (gas, electric, water, sewer, well and/or septic system, etc.) • Landscape areas (without landscaping detail), fences • Drainage patterns and general direction of flows on and through the site • Topography with a contour interval sufficient to evaluate the proposal but no greater than 40-foot intervals. Areas of 20% or greater slope must be clearly shown by shading or other means • Wildlife habitat and migration corridors with a description of the ways wildlife use the site and the species involved, with proposed setbacks or other potential mitigation measures (See Section 8.4) • Habitat for rare and endangered plants with species clearly indicated; • Wildfire Hazards with location and classification shown (See Section 8.3); • Special Places of Larimer County - sites and structures listed on the State and National Register of Historic Places. • Commercial Mineral Deposits (See Section 8.13).

ITEM# 7 DETAILS – PRELIMINARY PLAT

Preliminary Plats should be at a size of 24" x 36" and the scale should be 1"=100' unless lots are greater than 5 acres for which 1"=200' will be accepted.

ALL PLANS MUST BE FOLDED

The following information should be included if applicable.		
1.	**Project Name and File Number**	Example: **Joe's Subdivision #11-S0000** **Note:** The name cannot be a duplicate and cannot be changed during the course of the project. Visit www.larimer.org/planning/planning for a list of current subdivision names
2.	**Applicant Information**	Name, Address, Phone Number
3.	**Owner Information**	Name, Address, Phone Number
4.	**North Arrow and Scale**	
5.	**Vicinity Map**	One mile radius of the surrounding area
6.	**Site Data**	• Boundaries of the total development area with dimensions • Section-Township-Range • Zoning, existing and proposed • Acreage of total development • Acreage of developable land • Type and number of lots proposed for each type of use (residential, residual land, etc.) and resulting acreages (Refer to Page 7 for details on naming lots) • Density (dwelling units per acre of developable land) and intensity of proposed development • Amount of gross building area for all non-residential uses • Water supply/ sewage disposal proposed, irrigation water available • Landscape screening (without landscaping detail)/buffer areas, fences
7.	**Existing and Proposed Location of:** (if applicable)	• Lots, open space, residual land, streets, parks, etc. • Buildings • Structures (i.e. retaining walls, drainage structures, etc.) • Utilities (gas, elec., water, sewer, well and/or septic system, etc.) • Roads • Easements • Natural or manmade features • Hazard Areas - such as floodways and/or floodplains, slopes greater than 20%, geologic and wildfire hazards • Adjacent development – (ie: subdivisions, exemptions, MRDs, metes and bounds property)

ITEM# 7 DETAILS – PRELIMINARY PLAT CONTINUED

The following information should be included if applicable.		
8.	**Engineering Items**	Access (existing, proposed, and emergency) • Vehicular access • Emergency vehicular access • Proposed road right-of-way dedications- See Section 9.7.3. Proposed right-of-way must meet currently adopted roadway classifications. • Current and proposed width, name, type, and location of adjacent rights-of-way and easements
9.	**Other**	• Legal Description – typed in paragraph form and indicated along the site boundaries, including perimeter ties and monuments. • Vicinity Map • Naming of Lots – See below for details • Naming of Streets – See Page 8 for details

DETAILS FOR NAMING LOTS

NAMING OF LOTS

Outlots: All parcels that are to be used only for drainage easements, rights of way or other uses that do not need any buildings must be labeled "Outlot" followed by consecutive letter designations beginning with "A".

Residual Lots: All parcels in Conservation Developments and Rural Land Plans that are considered to be Residual Land must be labeled "Residual Lot" followed by consecutive letter designations beginning with "A". Residual lots must be further identified by one of the following applicable designations that must be placed in parentheses after the residual lot label:

1. Buildable/Residence(s) for those residual lots that may be occupied by a single family dwelling;
2. Buildable/Support Buildings Only for those residual lots that may be occupied by buildings that are accessory to the use of the residual lot; or
3. Non-Buildable for those residual lots that are not intended to be occupied by any buildings.

Common Area Lots: All parcels in Subdivisions, Conservation Developments, Rural Land Plans, Planned Land Divisions and Minor Land Divisions that are common open space for the development must be labeled "Common Area Lot" followed by a letter designation beginning with "A". Common Area Lots must be further identified by one of the following applicable designations that must be placed in parentheses after the common area lot label:

1. Buildable/Support Buildings Only for those common area lots that may be occupied by buildings or structures that are intended for use by the lot owners in the development; or
2. Non-Buildable for those common area lots that are not intended to be occupied by any buildings or structures.

Residential, Commercial, Industrial or Multi-Family Lots: All parcels in Subdivisions, Conservation Developments, Planned Land Divisions and Minor Land Divisions that are for residential, commercial, industrial or multi-family purposes must be labeled "Lot" followed by a number designation beginning with 1. Lots labeled as "Tracts" or "Parcels" will not be accepted.

DETAILS FOR NAMING STREETS

NAMING OF STREETS

Standards for naming roads and streets are intended to standardize terminology and avoid duplications to improve emergency service response to all parts of the County. All streets, walkways, and alleys shall be designated as such, and streets shall be named as follows with bearings and distances given:

- Directions can not be part of any street or road name (for example, Westover Road or Fossil Creek Drive North are not acceptable). North, South, East and West are intended to be directional features of the addressing system and lead to confusing addresses if included as part of the name. Directions must be placed ahead of the name (for example, East Smith Street).
- Names that are numbers must be expressed numerically (for example, 2nd Street, not Second Street).
- Road names must be unique and not repeated in the County. Alternate spelling, homonyms (dear and deer) and corporate or trade names are not acceptable. All road names must use the common spelling as found in a standard dictionary. Road names must not contain any punctuation or symbols. Only letters of the alphabet, numbers from 0 to 9 and blank spaces may be included in road names.
- County Roads that are numbered: North-South County roads are given odd numbers starting at the east County line. East-West County roads are given even numbers starting with '2' at the south County line. County road numbers followed by a letter indicate a County road is not on a section line. For each tenth of a mile west or north of a section line, the letter designation increases (for example, County Road 38E indicates a County road that is five-tenths of a mile north of County Road 38). Numbered County roads outside designated Growth Management Areas must not be named. Inside Growth Management Areas, County roads will be named using the applicable city's street names.
- State and federal highways are numbered. These highways are not named.
- The following road name suffixes must be used in the naming of new roads and streets: Boulevard or Parkway for a collector or arterial street with a raised median; Court or Place for a permanently dead-end street ending in a cul-de-sac; Lane or Way for a curving, minor street; Avenue or Road for a continuous thoroughfare; Drive for a curving, continuous street; and Street as the common or default suffix. Any roads or streets that make a directional change of approximately 90 degrees must have a unique name after each directional change.
- Abbreviations of the main title of the street or road name can not be used (for example, Mount Shasta Drive, not Mt. Shasta Drive). Street or road designations such as drive or lane may be abbreviated according to a list of standard abbreviations available from the County Building Department.
- Street and road names can not change at intersections. Continuations of existing streets or roads must use the existing name.
- All addresses will be assigned by the County Building Department. Lots in new developments will be assigned addresses when the Final Plat is approved. Addresses for unplatted lots or parcels will be assigned when a building permit is issued on that lot or parcel.
- Visit www.larimer.org/streets for a list of current street names.

REPORTS AND PLANS
(As described in Section 8 of the Land Use Code)

Stormwater Drainage and Erosion Report and Plan	See Section 8.1.3 and 8.12.3 of the Land Use Code. A report prepared by a professional engineer that gauges increased storm water and water quality impacts associated with new development. Include a hydrologic analysis for peak flow rates of storm water entering, passing through, and leaving the site for the minor and major storm events (refer to the Larimer County storm water Design Standards pages 3-7 for submittal requirements). If approved by the Larimer County Engineering Department, a simplified drainage narrative may be submitted as an alternative to the drainage and erosion control report and plan. (See memorandum from the State of Colorado)
Geological Hazard Mitigation Plan	See Section 8.3 of the Land Use Code
Landscape Plan	See Section 8.5 of the Land Use Code and refer to the Landscaping Guide
Use Plan	See Section 8.10 of the Land Use Code
Traffic Impact Study	See Section 8.1.5 of the Land Use Code. A report prepared by a professional engineer to analyze the short and long term impacts of vehicular traffic associated with new development and identification of any improvements necessary to mitigate the impacts. • If property is within an established Growth Management Area (GMA), refer to Urban Area Street Standards, Chapter 4. • If property is not within an established Growth Management Area (GMA), refer to the Larimer Rural Area Road Standards, Appendix F.
Sewage Disposal Report	• If public sewer: A letter from the Sanitation District committing to provide such service consistent with Section 8.1.1 of the Land Use Code shall be provide • If on-site sewage disposal: A description on how sewage treatment will be provided including a narrative and site drawing. See section 8.1.1.B.2
Water Supply Report for Domestic Use and Fire Protection	A letter from the Water District committing to provide such service consistent with Section 8.1.2 of the Land Use Code shall be provided. A written description addressing Section 8.1.4.a, b and c and water supply for proposed fire protection and a letter from the water district indicating water system flows and pressures.
Soils Report	A report prepared by a professional engineer to analyze soils and groundwater conditions for the design of individual on-site sewage disposal and pavement design for on-site and off-site improvements. • If property is within an established GMA, refer to Chapters 5 and 10 of the Urban Area Street Standards. • If property is not within an established GMA, Refer to Chapter 5 of the Larimer County Rural Area Road Standards.
Wetland Mitigation Report	See Section 8.2 of the Land Use Code
Wildfire Mitigation Report	See Section 8.3 of the Land Use Code
Wildlife Conservation Plan	See Section 8.4 of the Land Use Code

GMA FORM 1 - Annexation Eligibility

ANNEXATION ELIGIBILITY FOR PROPOSED NEW DEVELOPMENTS IN GROWTH MANAGEMENT AREAS (BERTHOUD, FORT COLLINS, LOVELAND)

1. Prior to submittal to Larimer County of any development review application in a growth management area, this form must be completed and signed by the applicant and a member of the Planning Staff at the appropriate municipality/town.

2. Application Name: _____

   Property Address: _____

   Property Owners Name: _____

   Applicant's Name/Address/Phone Number: _____

   _____

   _____

3. This section is to be completed by the appropriate municipality

	Yes	**No**
A. Is the property eligible for annexation?	_____	_____

ADDITIONAL COMMENTS:

_____

_____

_____

_____

_____

_____ _____

Signature of Applicant/Date Signature of City Planning Staff/Date

CERTIFICATION RE: NOTIFICATION OF
MINERAL INTEREST OWNERS AND LESSEES

The undersigned applicant certifies that he/she has complied with the requirements of §24-65.5-103(1) C.R.S. by providing to the surface owner(s), mineral estate owner(s), and lessee(s) of mineral estate owner(s) listed on Exhibit "A" attached hereto, and to the Larimer County Planning Commission thirty days prior written notice of the Larimer County Planning Commission hearing scheduled for _____ (*date*) for the _____ (*name of project*). Applicant further certifies that notice was provided by first class mail and that the notice contained the time and place of the hearing, the nature of the hearing, the location of the property that is the subject of the hearing, the name of the applicant, and, as to the notice provided to the Larimer County Planning Commission, the name and address of the mineral estate owner(s) and lessee(s) of the mineral estate owner(s).

APPLICANT:

_____

_____

STATE OF _____
COUNTY OF _____

Subscribed and sworn to before me this _____ day of _____, 200 by _____.

_____
Notary Public

Note: This Certification must be **received** by the Larimer County Planning Department prior to the hearing. Failure to receive this notice will result in the hearing being rescheduled to a later date.

March 16, 2005

MEMORANDUM

TO: ALL COUNTY LAND USE PLANNING DIRECTORS

FROM: DICK WOLFE, ASSISTANT STATE ENGINEER

SUBJECT: UPDATED MEMORANDUM REGARDING SUBDIVISIONS

Attached is a memorandum from Hal Simpson, State Engineer, that provides important information regarding actions that will be taken by the State Engineer's Office ("SEO") when reviewing subdivision water supply plans. This memorandum replaces the one that was previously sent to County Planning Directors, dated August 7, 1995.

I ask you and your staff to read this memorandum and become familiar with the actions that will be taken by the SEO. The information in this memorandum is a valuable guide that will save time for your staff, SEO staff, and especially the developers that we all serve. For ease of reading, the memorandum is organized as follows:

- **Memorandum** from Hal Simpson regarding subdivision review performed by the SEO (2 pages)
- **Attachment A** – Information requirements of the SEO for the four different "types" of water sources (5 pages)
- **Attachment B** – Guidelines for the county to evaluate a water supply for a land use action that does not involve a subdivision (3 pages)
- **Attachment C** – *WATER SUPPLY INFORMATION SUMMARY FORM* (1 page)
- **Attachment D** – State map showing the Denver Basin and the Designated Ground Water Basins

We recommend that a copy of the memorandum and the Attachments A, C and D be provided to all parties that plan to subdivide property in your county. This letter will be placed on our website. If you have further questions, please call the SEO in Denver and ask to talk to me or the Team Leader for your water division.

March 4, 2005

MEMORANDUM

TO: ALL COUNTY LAND USE PLANNING DIRECTORS

FROM: HAL SIMPSON, STATE ENGINEER

SUBJECT: STATE ENGINEER'S ACTIONS ON PROPOSED WATER SUPPLIES FOR LAND USE ACTIONS

On August 7, 1995, I sent a memorandum to the Land Use Planning Directors for each county in the state. The memorandum addressed the State Engineer's responsibilities in providing "an opinion regarding material injury likely to occur to decreed water rights by virtue of diversion of water necessary or proposed to be used to supply the proposed subdivision and adequacy of proposed water supply to meet requirements of the proposed subdivision" as required under Section 30-28-136(h)(I) C.R.S. The primary objective of that memo was to inform the Land Use Planning Directors and their staff ("County") that effective August 31, 1995, the State Engineer's Office ("SEO") would no longer respond to comments regarding county land use actions that do not involve the subdivision of land as defined in Section 30-28-101(10)(a) C.R.S. ("Subdivision"). The reason I adopted that approach in 1995 was to ensure that my staff would be able to satisfy the statutory requirement of responding to those land use actions that do meet the definition of a Subdivision.

In addition to explaining that approach, the memorandum provided a *Water Supply Information Summary* form and Guidelines for the County's use in determining exempt well permit availability in situations that did not involve a Subdivision.

I find it is appropriate to update the information provided in that memorandum. This memorandum supercedes the memorandum dated August 7, 1995. County land use planning directors and their staff should read this memorandum and become familiar with the content. **A copy of this memorandum should be provided to all developers that are submitting a water supply plan to the county. This memorandum provides valuable information that will guide the developer when creating a water supply plan for a subdivision and reviewing this memorandum will save the developer valuable time and resources in many cases.**

SUBDIVISION WATER SUPPLY PLAN REVIEW

The SEO will continue to provide timely review and an opinion regarding material injury and adequacy for water supply plans for Subdivisions as those water supply plans are submitted to the SEO by referral from the County. The opinion will be completed within the statutory 21-day requirement. The SEO'S Water Supply Plan Review Requirements For Subdivisions are found in Attachment A on Page 3.

The SEO will not respond to water supply plans that are submitted by parties other than the County. This includes amended water supply plans that address concerns raised by the SEO in a previous response. Those amended plans must also be submitted through the County.

The SEO has no statutory responsibility to review land use actions that do not involve the subdivision of land as defined in Section 30-28-101(10)(a). These actions include, but are not limited to lot line adjustments, zone change requests, special use of land, division by exemption, and cluster developments. To assist the County in evaluating the water supply for these 'non-Subdivision' land use actions, this memorandum includes water supply evaluation guidelines in Attachment B, Page 8. If the County finds it is appropriate to submit a written request concerning a specific 'non-Subdivision' land use action, the SEO will perform a cursory review and provide only informal comments regarding the proposed water supply. Those comments will identify any concerns or issues that the SEO identifies through cursory review that may present themselves at such time that the developer of the subject land implements the water supply. The comments will not state an opinion on the adequacy of the water supply or the ability of the water supply plan to satisfy any County regulations or requirements. The comments cannot be used to guarantee a viable water supply plan or infrastructure, the issuance of a well permit, or physical availability of water. If the SEO does not identify concerns or issues related to the proposed water supply, the SEO will respond with no comment regarding the water supply. The response will also state that the SEO does not necessarily take the position that the water supply plan is valid.

Therefore, each referral submitted to the SEO must clearly identify whether the proposed action is a Subdivision or does not qualify as a Subdivision according to the definition in C.R.S. 30-28-101(10)(a).

WATER SUPPLY PLAN INFORMATION FOR SUBDIVISIONS

The water supply plan must be included in all Subdivision referrals from the County. That plan must identify the Subdivision's estimated water supply requirements and demonstrate the adequacy of the proposed water supply. The *WATER SUPPLY INFORMATION SUMMARY* form that is included with this memo as Attachment C on Page 11 may be used as a guide and in many cases will be sufficient. However, for many subdivisions the water supply plan must include a water supply report. The Water Supply Information Summary or the report should identify, at a minimum: the number of lots; the type of use and the demand, by lot; and the total water requirement. The SEO will review the Water Supply Information Summary or water supply report to ensure the water use values are reasonable for the described uses and are consistent with SEO accepted demand/consumptive use values unless specific information is supplied to support different use values or the values are indicated in a court approved augmentation plan or, for a subdivision located in a Designated Basin, a Ground Water Commission approved replacement plan. The SEO may consider, but is not obligated to follow County Land Development Codes or Rules.

The maps in Attachment D on Page 12 show the boundaries of the Designated Basins and the approximate locations of the Denver Basin bedrock aquifers.

ATTACHMENT A

The SEO will apply specific review criteria to water supply plans that rely on sources of water as listed below:

SEO'S WATER SUPPLY PLAN REVIEW REQUIREMENTS FOR SUBDIVISIONS

1. Source is a Municipality or Quasi-Municipality

If the water supply is to be provided by a municipality or quasi-municipality (i.e. a Water District, a Water and Sanitation District, etc.), the SEO will review the submittal to ensure that it includes:

a. A letter of commitment from the municipality or quasi-municipality referencing the subdivision name (as submitted to the county) and a level of commitment in terms of uses to be served.

b. As required by C.R.S. 30-28-136(1)(h)(II), a report from the municipality or quasi-municipality documenting the amount of water that can be supplied to the subdivision, containing the following:

i. A summary of the water rights owned and controlled by the municipality.
ii. The anticipated yield of these rights in both an average and dry year.
iii. The present demand on the municipality, and the anticipated demand due to commitments for service entered into by the municipality that are not yet supplied.
iv. The amount of uncommitted firm supply the municipality has available for future commitment and development.
v. A map of the municipality's service area.

The above information should be provided in a manner that demonstrates that the municipality has sufficient water resources to meet its commitments in terms of an overall annual water supply and daily availability. Note that, for many of these providers, the SEO maintains files that document the firm water supplies and the amount of water that has been committed to subdivisions. If that information is on file, this statement may not be necessary.

The SEO may request updated information from the municipality or quasi-municipality if it appears the information has not been updated within three calendar years, or when the commitments reach a total that is close to the firm yield (approximately 90 percent)

c. Proposed uses that correspond to the uses of the municipality or quasi-municipality's water rights.

d. For a Subdivision located in a Designated Basin, proposed place of use (the Subdivision) that corresponds with the place of use listed on Permit or Determination of Water Right.

2. Source is Wells Withdrawing Tributary Ground Water or any Designated Ground Water from a Non-Denver Basin Aquifer

If the water supply is to be provided by wells withdrawing tributary ground water or designated ground water from any non-Denver Basin aquifer:

a. The SEO will review the submittal to ensure that all uses are consistent with the uses in a court-decreed augmentation plan or, if in a designated basin, the uses in a commission approved replacement plan.

   (Note: For areas outside of the Designated Basins, a source of water that is approved through a substitute water supply plan is not an acceptable water supply for inside domestic uses; a court decreed augmentation plan is required. However, if the water supply plan includes lawn and garden irrigation from a source that is not yet subject of a court-decreed augmentation plan, the SEO will evaluate that component of the water supply plan for adequacy and potential injury independently, however, the source of water to be used for lawn and garden irrigation may be subject to curtailment until the developer acquires a court-approved augmentation plan for that source. The SEO will not comment unfavorably on the entire plan due to failure of that one aspect.)

b. If in a Designated Basin, the SEO will review the submittal to ensure that the proposed place of use (the subdivision) corresponds with the place of use listed on the well permit.

c. State statute requires that the SEO provide an opinion regarding the water supply's adequacy to meet the requirements of a proposed subdivision [C.R.S. 30-28-136(h)(I)]. Therefore, the SEO will review the submittal to ensure that there is evidence that a water supply is physically adequate. This evidence should be in the form of a hydrologist's or geologist's report that may include information from a test well or wells.

3. Source is Individual, On-lot, Exempt/Small Capacity Wells Withdrawing Denver Basin Ground Water Considered to be Nontributary, or Other Ground Water Determined to be Nontributary. The Water that has not been adjudicated or is not Subject of a Determination of Water Right**

If the water supply is to be provided by individual on-lot wells from a Denver Basin aquifer and is considered nontributary**, or a formation that is determined to be nontributary by statutory definition [C.R.S. 37-90-103(10.5)], and the ground water has not been adjudicated or is subject of a Determination of Water Right, the SEO will review the water supply plan to ensure that:

(** note: for a subdivision located in a Designated Basin, the subdivision may also use a source that is not-nontributary with a 4 percent replacement requirement, without the need for a replacement plan)

a. The developer has identified a specific source (for example, Dawson, Denver, Arapahoe, Laramie-Fox Hills),

b. The developer has properly quantified the amount of water using aquifer characteristics that are consistent with the Denver Basin Rules or site-specific information that has been validated by the SEO geotechnical staff.

c. The subdivision's proposed water supply has not been previously allocated through existing decrees, well permits, pre-Senate Bill 213 type wells, Determinations of Water Rights, or other claims to the water.

d. The amount of water available annually, on the basis of an aquifer life of 100 years, is greater than or equal to the amount of water required.

(Note: The amount of water available annually should be quantified as described in Rule 8 of the Statewide Nontributary Ground Water Rules. **The water supply plan must ensure that the smallest parcel in the subdivision has adequate land area such that the calculation of the water available underlying that land area is sufficient to satisfy its needs.** Small parcels may not 'borrow' land area from larger parcels to increase the amount of water available to the small parcel since the well permit will ultimately be issued pursuant to C.R.S. 37-92-602(3)(b)(I) or 37-90-105(3)(c), which requires a land area evaluation. If the developer cannot provide a water supply to the smaller parcels because of this, the developer may pursue a water court decree or Determination of Water Right that will "separate" the water from the land and allow it to be deeded to individual landowners in the amounts necessary to provide a water supply.

Additionally, to satisfy a county's "300-year water supply approach", the developer may state that each lot will use one aquifer for a portion of the 300-year period (the first 100 years), then, a deeper aquifer for subsequent portions of the 300-year period (the remaining 200 years). This approach is acceptable, however, it is entirely the developer's responsibility to identify, by lot number, the aquifer that will be used for each lot and for which period of time. In no case will the SEO approve a plan where the engineer makes that determination in the response to the County or where that determination is left to the well permit applicant or permit evaluator in the future. In this situation, the SEO response will state that the lot owners should be notified through plat notes or other means of the specific restrictions.)

e. The amount of water available considers any 300-year water supply approach or similar approach that is currently used by the referring county.

f. The proposal meets all applicable Ground Water Management District rules, if located within a Designated Basin.

4. Source is from a Denver Basin Aquifer that has been Decreed or, for the Designated Basins, is Subject of a Determination of Water Right

If the ground water is from a Denver Basin aquifer and is considered to be nontributary or not-nontributary and has been adjudicated by Water Court or has a Determination of Water Right/Permit issued by the Ground Water Commission, the SEO will review the water right to ensure that:

a. The developer has identified a specific source (for example, Dawson, Denver, Arapahoe, or Laramie-Fox Hills aquifer),

b. The amount of water available annually, according to the court-approved decree or Commission-approved Determination of Water Right/Permit, is

greater than or equal to the amount of water required for the entire subdivision.

(Note: The adjudication/quantification of nontributary or not nontributary ground water "separates" the ownership of the water from the land. Therefore, individual lot owners that apply for well permits will require a 'special warranty deed' or other document by which ownership of an amount of water is transferred to the lot owner from the original landowner. Such a deed will not be necessary if a Homeowner's Association ("HOA") will be created to take ownership of the water rights and the HOA will have the necessary mechanism to convey the water rights to members of the HOA. The water supply plan must identify whether water will be deeded to individual lot owners or owned by a HOA. In comments to the County, the SEO will add a note that indicates whether there will be a "HOA" that will take ownership of the water rights and to which each homeowner must belong. If so, well permit applicants will not require a "special warranty deed" granting them the rights to use the amount of water identified in the water supply plan. If water will be deeded to individual lot owners, well permit applicants will be required to provide to this office a copy of the 'special warranty deed' or other document conveying the water right to the lot owner.)

c. The proposed uses correspond to the uses of the vested water rights to be used.

d. If in a Designated Basin, the proposed place of use (the Subdivision) corresponds with the place of use listed on the well permit or Determination of Water Right.

e. The water supply plan is consistent with the specific terms and conditions of a court-approved augmentation plan or Ground Water Commission-approved replacement plan, if one was developed.

f. The amount of water available considers any 300-year water supply approach or similar approach that is currently used by the referring county.

(Note: To satisfy a county's "300-year water supply approach", the developer may state that each lot will use one aquifer for a portion of the 300-year period (the first 100 years), then, a deeper aquifer for subsequent portions of the 300-year period (the remaining 200 years). Or, a developer may state that a predetermined number of lots will use a shallower aquifer while other lots will use a deeper aquifer. These approaches are acceptable, however, it is entirely the developer's responsibility to identify, by lot number, the aquifer that will be used for each lot and for which period of time. In no case will the SEO approve a plan where the engineer makes that determination in the response to the County or where that determination is left to the well permit applicant or permit evaluator in the future. In these situations, the SEO response will state that the lot owners should be notified through plat notes or other means of the specific restrictions.)

Additionally, the following comments apply to the four SOURCE OF WATER SUPPLY categories listed above.

1. If the water supply plan relies on an adjudicated water right, and the decree for that water right is not yet final, the SEO will not include consideration of the water that is subject of that water right. Similarly, if the water supply plan relies on water rights, changes to water rights, or replacement plans that are pending review by the Ground Water Commission but have not been approved, the SEO will not include consideration of the water that is subject of that water right.
2. The SEO's determination that a water supply is "adequate" requires evidence that volume and flow rate required is physically and legally available, but does not necessarily include infrastructure beyond the wellhead, storage vessel, diversion or release point. For example, the SEO does not comment on the design of the piping and pump stations needed to deliver water throughout the system at required pressures.
3. The adequacy of a water supply plan in the Denver Basin aquifers is evaluated using estimates of legally available water based on information available at the SEO and may not necessarily reflect the physical availability of water. Water in the Denver Basin aquifers is allocated based on a 100-year aquifer life under the provisions of C.R.S. 37-90-137(4)(b)(I). For planning purposes the county should be aware that the economic life of a water supply based on wells in a given Denver Basin aquifer may be less than the 100 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non-renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.

Attachment C

FORM NO.
GWS-76
02/2005

WATER SUPPLY INFORMATION SUMMARY

STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 818, Denver, CO 80203
Phone – Info (303) 866-3587 Main (303) 866-3581 Fax (303) 866-3589 http://www.water.state.co.us

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence that a water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adequate supply of water."

1. NAME OF DEVELOPMENT AS PROPOSED**:**

2. LAND USE ACTION:

3. NAME OF EXISTING PARCEL AS RECORDED:
SUBDIVISION: , FILING (UNIT) , BLOCK , LOT

4. TOTAL ACREAGE:

5. NUMBER OF LOTS PROPOSED PLAT MAP ENCLOSED? ☐ YES or ☐ NO

6. PARCEL HISTORY – Please attach copies of deeds, plats, or other evidence or documentation.

A. Was parcel recorded with county prior to June 1, 1972? ☐ YES or ☐ NO

B. Has the parcel ever been part of a division of land action since June 1, 1972? ☐ YES or ☐ NO

If yes, describe the previous action:

7. LOCATION OF PARCEL – Include a map delineating the project area and tie to a section corner.

_____1/4 of the _____1/4, Section _____, Township _____ ☐ N or ☐ S, Range _____ ☐ E or ☐ W

Principal Meridian: ☐Sixth ☐New Mexico ☐Ute ☐Costilla

Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true N**, ☐ Zone 12 or ☐ Zone 13

Easting: _____

Northing:

8. PLAT – Location of all wells on property must be plotted and permit numbers provided.

Surveyor's Plat: ☐ YES or ☐ NO If not, scaled hand drawn sketch: ☐ YES or ☐ NO

9. ESTIMATED WATER REQUIREMENTS

USE	WATER REQUIREMENTS Gallons per Day	Acre-Feet per Year
HOUSEHOLD USE # _____ of units		
COMMERCIAL USE # _____ of S. F		
IRRIGATION # _____ of acres		
STOCK WATERING # _____ of head		
OTHER: _____		
TOTAL		

10. WATER SUPPLY SOURCE

☐ EXISTING WELL ☐ DEVELOPED SPRING

WELL PERMIT NUMBERS

_____

_____

_____

☐ NEW WELLS -

PROPOSED AQUIFERS – (CHECK ONE)

☐ ALLUVIAL ☐ UPPER ARAPAHOE
☐ UPPER DAWSON ☐ LOWER ARAPAHOE
☐ LOWER DAWSON ☐ LARAMIE FOX HILLS
☐ DENVER ☐ DAKOTA
☐ OTHER: _____

☐ MUNICPAL
☐ ASSOCIATION
☐ COMPANY
☐ DISTRICT

NAME _____

LETTER OF COMMITMENT FOR SERVICE ☐ YES or ☐ NO

WATER COURT DECREE CASE NUMBERS:

_____

_____

_____

11. WAS AN ENGINEER'S WATER SUPPLY REPORTDEVELOPED? ☐ YES or ☐ NO IF YES, PLEASE FORWARD WITH THIS FORM.
(This may be required before our review is completed.)

12. TYPE OF SEWAGE DISPOSAL SYSTEM

☐ SEPTIC TANK/LEACH FIELD

☐ LAGOON

☐ ENGINEERED SYSTEM (Attach a copy of engineering design.)

☐ CENTRAL SYSTEM
DISTRICT NAME: _____

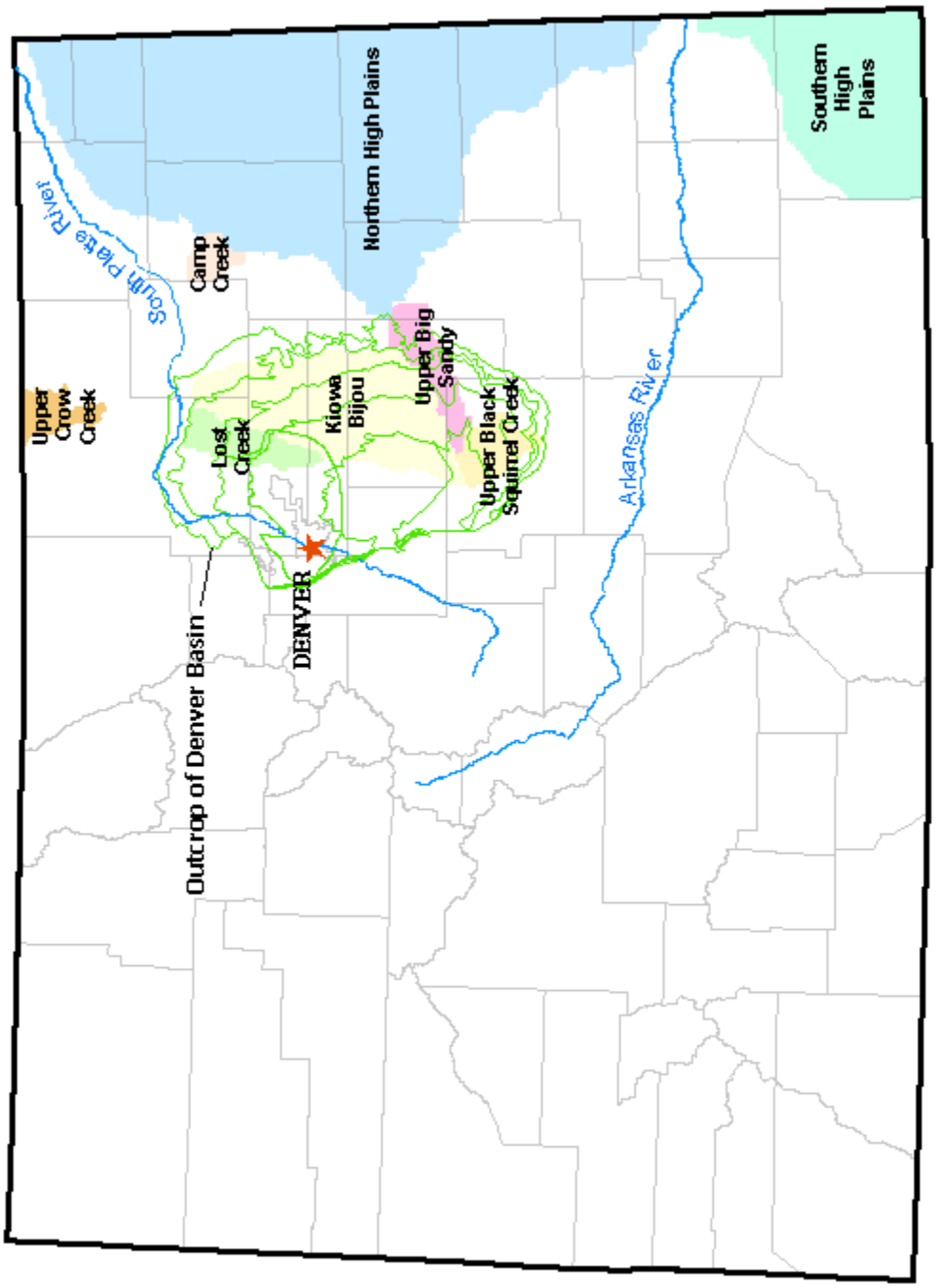
☐ VAULT
LOCATION SEWAGE HAULED TO: _____

☐ OTHER:

ATTACHMENT D

COLORADO STATE MAP SHOWING

THE DENVER BASIN AND THE DESIGNATED BASINS



Preliminary Stormwater Plan and Report

The submittal requirements for projects at the preliminary stage shall include a **Preliminary Stormwater Plan and Report.** The Preliminary Stormwater Plan and Report should present a solution to provision of adequate stormwater facilities with sufficient detail to show that the solution can be made to work.

This report shall be submitted to the Larimer County Planning Department as required by the Larimer County Land Use Code. The preliminary stormwater report shall identify deficiencies in existing facilities available to serve the project. It must also present a plan for correction of the deficiencies. The plan for correction of deficiencies must be sufficiently detailed to:

- serve as a basis for final design,
- show that the drainage design will work
- determine the right-of-way and easements that will be needed to construct the necessary improvements, and which must be acquired before the project can be constructed.

For example, where stormwater detention is necessary, the report must demonstrate that sufficient dedicated land area will be set aside in the development plan to provide the necessary volume of detention storage of stormwater. The Preliminary Stormwater Plan and Report shall include but not be limited to the following items:

1. **Basin and Development Map.** A map of the stormwater basin in which the development is located showing the location of the project within the basin, and the watershed boundaries for the basin. The map must identify the path of flow of any stormwater **entering** the development from upstream areas and it must identify the path of flow of stormwater **through** the development and **progressing downstream** as far as a natural creek or river; for example, the Cache la Poudre River or the Little Thompson River. The map shall locate and identify any constriction along the path of flow as the flow enters the development, passes through the development and as it progresses downstream to an acceptable point of discharge. The map must show any designated floodplains for which detailed studies exist, and it must show any floodplains identified on Federal Emergency Management Agency FIRM maps as "Flood Prone".

2. **Vicinity Map.** A map at a generalized scale identifying all water features and roads within the area to be developed and the surrounding area within one quarter mile of the perimeter of the proposed development. Such features will include nearby irrigation ditches, natural channels, lakes, reservoirs, emergency spillways, or other irrigation facilities.

3. **Project Watershed and Existing Facility Map.** The Project Watershed and Existing Facility Map will consist of a drawing of the project displaying existing and proposed subbasins generating stormwater, and existing facilities that have historically conveyed stormwater **downstream to an acceptable point of discharge.** The drawings shall be submitted in two separate phases showing the path of flow for both the minor storm runoff and the major storm runoff. Each such drawing shall show at least the following information:

- Topographic contours (2-ft. contour interval proposed and existing) on USGS Datwn.
- Location and elevations of USGS Bench Marks.
- Existing and proposed property boundaries.
- Minor drainage basin and subbasin watershed boundaries identified with letters or numbers to relate to the accompanying narrative and computations.
- Streets, street names, spot elevations, and approximate longitudinal slopes and slope divides.
- Existing water facilities and structures, including irrigation ditches, roadside ditches, drainage ways, gutter flow directions, culverts, etc. All pertinent information, such as size, shape, slope, location, etc., needed to fully portray and **document the adequacy of existing facilities.**
- FEMA designated flood hazard areas.
- Existing outfall point(s) for runoff from the development.
- Routing and cumulative peak flows at various critical points for the minor and major storm runoff.
- Areas inundated by offsite runoff due to a 100 year developed storm flow passing along any path identified in the basin and development map.

4. **Hydrologic Report.** A narrative describing a hydrologic analysis for peak flow rates of stormwater entering, passing through, generated within, and leaving the development for both the minor and major storms. Where available, an existing adopted master drainage plan for the affected basin shall serve as a basis for the design of facilities proposed for the proposed development. Where existing adopted master drainage plans are not available, the hydrologic analysis must include analysis of flows generated in the tributary areas. If the particular property triggers any of the requirements for a modeling report, the guidelines in the attached *Requirements for Submitting Hydraulic and Hydrologic Modeling Reports to Larimer County* must be adhered to. The assumptions used in the hydrologic analysis must be clearly stated in the narrative and justifications for the assumptions must be presented. Assumptions must take into account planned development upstream and be based on information and discussions with adjacent property owners and Larimer County Engineering Department staff members. Any deviations from the proposed master plan shall be explained in detail. Peak flow rates shall be computed for the existing and fully developed conditions of the site and upstream tributary areas. Determinations of upstream development must take into account areas master planned for development or areas zoned for development and be based on information and discussions with adjacent property owners and Larimer County Engineering Department staff members. Data, assumptions, and procedures utilized in determining peak flows shall be included to enable verification of the results. Details of the relationship of the proposed drainage facilities to existing or planned drainage facilities in surrounding properties or developments shall be included in the report. A statement shall be included indicating the relationship of the proposed drainage facilities to the master drainage plan for the affected basin.

5. **Hydraulic Report.** A narrative describing a hydraulic analysis for peak flow rates of stormwater entering, passing through, and leaving the development for the minor and major storms. The report shall define sizing and geometry of all conveyance elements needed to accommodate the peak flows anticipated for the major and minor storms. If the project triggers any of the requirements for a **modeling report,** the guidelines in the attached

Requirements for Submitting Hydraulic and Hydrologic Modeling Reports to Larimer County must be adhered to. Peak flow rates used in the hydraulic analysis must be those which take into account master planned development areas or areas zoned for development upstream, based on information and discussions with adjacent property owners and Larimer County Engineering Department staff members.

6. **Street Drainage Plan.** The purpose of the Street Drainage Plan is to present a general plan for the grading and drainage of the streets. The Plan shall, at a minimum, show the proposed typical geometric street cross section(s) for the project, and the routing of minor storm peak flow in the gutter or roadside ditch will not exceed the capacity of the conveyance system. The plan shall also show stormwater crossings of streets. In subdivisions proposing a roadside ditch cross section, the plan shall provide information on driveway culvert construction, in terms of structural stability, materials to be used, and geometry.

7. **Drawing of Proposed Stormwater Facilities.** A drawing of the project showing proposed facilities needed to adequately convey stormwater **downstream to an acceptable point of discharge.** The drawing shall present a preliminary design for the minor and major drainage systems within the developments. The drawing must be presented in sufficient detail with key elevations to demonstrate that it will effectively convey stormwater in accord with Larimer County requirements and standards. The drawings shall be submitted in two separate phases showing facilities needed to accommodate the minor storm runoff and the major storm runoff. Each such drawing shall contain at least the following information:

   - Topographic contours (2-ft. contour interval proposed and existing) on USGS Datum. Contours must show existing and proposed contours and contours must show how proposed contours will tie back into existing.
   - Location and elevations of USGS Bench Marks and project bench marks.
   - Existing and proposed proP,erty boundaries.
   - Minor drainage basin and subbasin boundaries identified with letters or numbers to relate to the accompanying narrative and computations.
   - Streets and street names, with approximate longitudinal slopes in percent and slope divides.
   - Proposed stormwater storage and conveyance facilities and structures, including roadside ditches, drainage ways, gutters, culverts, and so forth. All pertinent information, such as size, shape, slope, location, etc., needed to fully portray and **document the adequacy of proposed facilities to convey or store stormwater runoff.**
   - Proposed street drainage system. If curb and gutter, define whether vertical, rollover, or combination, show with arrows the directions of flow, longitudinal slopes and the location of cross pans.
   - Proposed storm sewer piping and open drainageways, including proposed inlets, manholes, culverts, and other appurtenances.
   - Proposed outfall point(s) for runoff from the development.
   - Minimum lowest floor elevations for protection from major storm runoff.
   - Documentation and data utilized in the preliminary sizing of the drainage facilities. All pertinent information needed to fully portray and **document the adequacy of the proposed facilities.**
   - Spot elevations of high points, low points, spot grades at storm sewer inlets, pipe inverts in and out, pipe grades and approximate sizing of culverts.

- Proposed stormwater easements and no-build areas due to inundation.
- Permanent and temporary erosion control provisions in accord with requirements of Chapter 10 of the Stormwater Management Manual.

8. **Downstream Acceptance.** In cases where the point of outfall will be changed, or where the peak rate of stormwater flow leaving the developing property is in excess of the historic volume, binding legal documents from downstream property owners permitting such discharge shall be submitted. If such binding legal documents are not yet available, evidence of the availability of such legal acceptance such as an option to purchase easements or real property may be submitted.

9. **Soil and Groundwater Reports.** The results of an onsite geotechnical evaluation of the subsurface conditions and materials must be presented. A soil classification report, giving an estimate of the relative rate at which stormwater can be expected to infiltrate into the ground. The geotechnical evaluation should show the depth and fluctuations of the groundwater table through the development, based on sufficient length of record to constitute an accurate evaluation of seasonal fluctuations. A plan for management of groundwater may be required at the discretion of the County Engineer if groundwater table depth is sufficiently shallow to be detrimental to the facilities and uses proposed for the site, or if measures taken to address groundwater may be detrimental to neighboring wells and property.

10. **Flood Hazard Area Report.** In cases where all or any part of a development falls within a designated flood hazard area, the flood hazard area and the computed floodwater surface elevations must be shown on the development plan. In cases where the development falls within a FEMA "Flood Prone" area, the boundaries of the flood prone area must be shown on the development plan.

11. **Reservoir Hazard Rating.** A statement as to the effect of the development on hazard rating of any reservoirs in the area (refer to Policy 1.3.2-2).

12. **Computations.** Each preliminary engineering report shall be accompanied by an appendix showing all of the computations utilized in preparation of the report.

Requirements for Submitting Hydraulic and Hydrologic Modeling Reports to Larimer County

These guidelines are to be used to assist in the design and review of hydraulic and hydrologic modeling reports. The County wishes to streamline the review process and give consultants a framework of expectations to be met to gain approval of a drainage plan.

An initial meeting between the consultant anq development review staff of the Larimer County Engineering Department **is mandatory** prior to beginning either a hydrologic or hydraulic modeling effort. This provides an opportunity for the consultant and County staff members to discuss the project and the planned modeling effort. It also provides an opportunity for the consultant and staff members to agree on assumptions and parameters that are appropriate for the particular modeling effort .

Hydraulic Modeline; Reports

Hydraulic Modeling.Re po rts will be required in the following circumstances:

- There is a need to document no-rise conditions in a **designated floodway**
- A development falls within a floodplain that has a **no-rise criteria**
- A development falls within a known hazard area that has **not** been **previously mapped.**
- There is a **CLOMR or LOMR** submittal.
- Other **unique special hazard projects** in flood prone areas such as channel restoration following a flood, at the direction of the County Engineer

Hydraulic Modeling Report Submittal Requirements:

1. **Narrative Report.** The following information must be included in a narrative report to accompany a hydraulic modeling report:

    - Summary of previous studies
    - Project Area Description (may be deleted if submitted with or as part of a preliminary drainage report)
    - Floodplain - name, description, FIS Panel No., date of FIRM map
    - A summary of methods and approach
    - Name of adopted basin master plan
    - Location - nearby intersecting streets
    - Characteristics of Study Area
    - Summary of modeling results including a narrative discussion and unedited computer printouts.

2. **A Summary of Previous Hydraulic Studies**

   - Previous adopted master plans, master plan updates, flood insurance studies
   - Map Revisions
   - Other pertinent reports

3. **A Project Description** (may be deleted if submitted with or as part of a preliminary drainage report)

   .- Describe the purpose of the hydraulic study
   - Describe the intended land use for the area of the study
   - Describe any changes which may have occurred since earlier studies such as gravel mining, or road construction

4. **Compensatory Storage** - In non-conveyance zones and storage areas for floodplains, compensatory storage must be computed. Modelers will be expected to demonstrate that floodwater displaced by the project is offset by storage at another location so as to not impact neighboring properties.

5. **Discharges and Modeled Frequencies** - Provide a table showing the discharges used for the computations and the frequencies represented by the discharges.

6. **A Summary of Methods and Approach** - The following information must be included in a narrative report to accompany a hydraulic modeling report:

   - Describe what model was used - state the model version, date of model, developed flow or existing flow model
   - Duplicate effective - describe and use the exact parameters that are included in the existing model
   - Document any changes in the floodplain or basin hydraulic conditions since the previous study. Changes in hydraulic conditions might be the result of street or bridge construction, channel improvements or changes in land use. Documentation might consist of -built plans, surveyed cross sections, or pictures of new land uses
   - Corrected effective - describe how the documented changes in the floodplain were modeled to effectively represent the changed conditions
   - Describe any changes in the proposed project that came about as a result of the modeling
   - Describe how changes in the floodplain represented by the proposed project were incorporated into the corrected effective model, and any changes in the proposed activity proposed to accommodate
   - Discuss any changes in modeling parameters and explain why they were changed. Parameters to be addressed include n-values, expansion - contraction coefficients, and encroachments.
   - If the proposed project is between cross sections, then cross sections will need to be added to accurately reflect the propose-d project (i.e., new buildings or bridge, etc). New cross sections must be added to the corrected effective model if a corrected effective m0del is created for other reasons, such as better topographic mapping or correcting

errors in original modeling. If a corrected effective model is not done, then the (water surface elevation) WSEL for the new cross section for the effective condition can be interpolated. There should be a WSEL for all cross sections for both the effective or corrected effective condition and proposed project condition unless the project prohibits determining a WSEL at a particular cross section. Discuss methods and include all WSELs (modeled or interpolated) in the results.

7. **Modeling Results** - Submit unedited computer input and output forms for the modeling effort, including the duplicate effective and corrected effective models. For HEC-2 or HEC-RAS modeling, the submittal must also include the data input and output files on PC-compatible 3.5-inch disk.

Hydrologic Modeling Reports

A hydrologic modeling report will be required in the following circumstances:

- The area of the tributary basin or any subbasin **exceeds 70 acres.** In this case, the engineering concern is the complexity of the basin being modeled, and the validity of assumptions implicit in rational formula computations. The rational formula assumes a uniform velocity of flow of runoff through the basin, and it does not differentiate between different basin shapes or varying slopes or varying infiltration rates.

- A development falls within a basin for which **no master plan** or accepted hydrologic modeling report exists

- There is a **diversion of stormwater** from one subbasin to another which might affect downstream properties or which was not modeled in the original basin study.

1. **Narrative Report.** The following information must be included in a narrative report to accompany a hydraulic modeling report:

    - **Summary** of previous hydrologic studies
    - **Project Area Description** - Location - nearby intersecting streets- hydrologic basin - name, description, FIS Panel No., date of FIS and documentation of changes in hydrologic conditions
    - **Changes in modeling parameters** proposed to reflect changed conditions
    - **A summary of methods and approach** to hydrologic modeling
    - **Summary of Frequencies and Discharges** and narrative report on modeling results

2. **Summary of Previous Hydrologic Studies**

    - Previous adopted master plans, master plan updates, flood insurance studies
    - Map Revisions
    - Other pertinent reports

3. **Project Area Description**

   - Describe the purpose of the hydrauli study
   - Describe the intended land use for the area of the study
   - Describe and document any changes in the basin since earlier studies such as basin development, road construction, or stormwater diversions which would affect basin hydrology.

4. **Changes in Mqdeling Parameters** - The modeling report must include a discussion of any changes in hydrologic parameters and- an expl anation of why they were changed. Parameters to be addressed shall at least include initial storage and abstraction, antecedent moisture conditions, infiltration rate, channel n-values and conditions, rainfall durations and intensities

5. **Methods and approach** to hydrolo ic modeling

   The following information must be included in a narrative report to accompany the hydraulic modeling report:

   - Describe what hydrologic model was used - state the model version, date of model, developed flow or existing flow model
   - Duplicate effective - describe and use the exact parameters that are included in the existing model
   - Incorporate any changes in basin hydrologic conditions since the previous study
   - Corrected effective - describe how the documented changes in the floodplain were modeled to accurately reflect the changed conditions
   - Describe any changes in the proposed project that were made.as a result of the modeling

6. **Discharges and Modeled Frequencies** - Provide a table showing the discharges used for the computations and the frequencies represented by the discharges. Provide a narrative discussion of the results as they apply to property in the basin. Provide unedited computer printouts of both input data and output data as well as

<u>Groundwater Modeling reports</u>

Groundwater Modeling Reports will be required in the following circumstances:

- There is a need to document no influence on surrounding groundwater conditions

- A development proposes to incorporate subsurface facilities either to drain away groundwater or to inhibit the natural flow of groundwater

- At the direction of the County Engineer when other **unique, special groundwater conditions** such as unique wetlands habitat are thought or known to exist.

Groundwater Modeling Report Submittal Requirements

1. **Narrative Report.** The following information must be included in a narrative report to accompany a hydraulic modeling report:

    - **Summary** of any previous groundwater studies or summary of baseline studies
    - **Project Area Description** - Location - nearby intersecting streets- hydrologic basin - name, description of project area, existing geohydrologic conditions, and proposed changes in geohydrologic conditions
    - **Changes in modeling parameters** proposed to reflect changed geohydrologic conditions
    - **A summary of methods and approach** to groundwater modeling
    - **Summary of existing and predicted** groundwater conditions

2. **Summary of previous groundwater studies and baseline conditions.** A narrative report on baseline conditions existing at the time of the modeling study. The baseline condition study must contain sufficient data points to enable contour mapping of the piezometric surface. It must be conducted over a sufficient duration as to reflect seasonal variation of the groundwater surface.

LARIMER COUNTY
COMMITTED TO EXCELLENCE

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larimer.org/planning

Land Use Application

All applications must be complete. To be complete, the application must include all items identified on the submittal requirement checklist. Any application which is not complete will not be accepted, processed, or scheduled for review.

Development Review Process

- ☐ General Development Plan
- ☐ Conservation Development
- ☐ Planned Land Division
- ☐ Subdivision

Application Phase

- ☐ Sketch Plan Review
- ☐ Public Hearing
- ☐ Final Plat

REQUIRED INFORMATION

Property Owner
Name:_____
Mailing Address:_____
City/State/Zip:_____
Phone:_____
Email *(required)*:_____

Property Owner
Name:_____
Mailing Address:_____
City/State/Zip:_____
Phone:_____
Email *(required)*:_____

Applicant Company *(if applicable)*
Name:_____
General Company Email *(required)*:_____

Applicant Contact Info
Name:_____
Mailing Address:_____
City/State/Zip:_____
Phone:_____
Email *(required)*:_____

Engineer/Surveyor
Name:_____
Mailing Address:_____
City/State/Zip:_____
Phone:_____
Email *(required)*:_____

PROJECT IDENTIFICATION (list all parcel #'s that pertain to the project)

Signatures required by **ALL** Property Owners and the Applicant

I hereby certify that I am the lawful owner of the parcel(s) of land that this application concerns and consent to the action. I hereby permit county officials to enter upon the property for the purposes of inspection relating to the application. Building Permits **will not be accepted** while this application is in process.

_____ Date: _____
Property Owner(s) Printed Name

_____ Date: _____
Property Owner(s) Signature

_____ Date: _____
Property Owner(s) Printed Name

_____ Date: _____
Property Owner(s) Signature

In submitting the application materials and signing this application agreement, I acknowledge and agree that the application is subject to the applicable processing and public hearing requirements set forth in the Larimer County Land Use Code (which can be viewed at larimer.org)

_____ Date: _____
Applicant Signature

THIS SECTION IS TO BE <u>COMPLETED</u> BY THE <u>APPLICANT</u>

PROJECT INFORMATION FOR PLANNED LAND DIVISIONS AND SUBDIVISIONS

Total Project Area (Acres):	Number of Outlots:
Number of Residential Lots:	Total Outlot Acres:
Number of Residential Units:	
Total Residential Acres:	Number of Common Area Lots:
Number of Commercial/Industrial Lots:	Total of Common Area Acres:
Total Commercial/Industrial Acres:	

PROJECT INFORMATION FOR CONSERVATION DEVELOPMENTS

TO DETERMINE THE INFORMATION BELOW REFER TO ATTACHED CONSERVATION DEVELOPMENT CALCULATION WORKSHEET

Total Project Area:	Enter Item #1 from Worksheet:	
Total acres of developed land:	Enter Item #10 from Worksheet:	
Total % of developable area that is developed:	Enter Item #11 from Worksheet:	
Total residual land acres:	Enter Item #12 from Worksheet:	
Total % of developable area in residual land:	Enter Item #13 from Worksheet:	
Number of residential lots (including existing):	Enter Item #C from Worksheet:	
Number of residential units:	Enter Item #D from Worksheet:	

Is the land protected by a Conservation Easement? If so, number of years protected?	Is the land protected by a Covenant? Perpetuity (yes or no)?

THIS SECTION IS FOR PLANNING STAFF TO COMPLETE AT THE PRE-APPLICATION CONFERENCE

PROJECT SITE INFORMATION

Project Case Number:_____

Project Address (if available):

Assessor's Parcel Numbers (list all parcels that pertain to the project):

Pre-Application Conference Date:_____ Planner: _____

Pre-Application Conference attended by: _____

Proposed Request:

Plan Area (if applicable): _____

Lot Size(s): _____

Related Files: _____

Setback Information:

Zoning Setbacks: _____

Highway or County Road Setback(s): _____

Streams, Creeks or Rivers Setback(s): _____

Other Setbacks: _____

Building Envelope? _____

Utilities: Water: _____ Sewer: _____ Fire: _____

Current Zoning: _____

Any Additional Information:

Received By:_____ Date:_____ Sign Given:_____ Paid $:_____ Check #: _____

Conservation Development Calculation Worksheet

STEP (ITEM)	DATA ENTRY OR CALCULATION METHOD	RESULT OF CALCULATION
SECTION I – BASIC DATA		
A (Total lots - #)	Enter total # of lots shown on plat. Exclude outlots.	
B (Residual lots - #)	Enter # of residual lots shown on plat.	
C (Residential lots - #)	Subtract B from A. Enter total.	
D (Residential units – total #)	If duplexes, apartments or condos are allowed in the zoning district, add additional units to Item C. Enter total (include existing).	
E (Intended % residual land)	Enter 80% or 50%.	
1 (Project size - # ac.)	Enter total # project ac.	
2 (Non-developable land – # ac.)[1]	Enter # of ac. (if any) in Floodway Zoning District or below the high water mark of existing bodies of water.	
3 (Developable land - # ac.)	Subtract item #2 from item #1.	
4 (Residual land - intended # of ac.)	Enter # ac. of residual land as shown on submitted plat.	
SECTION II – DEVELOPED AREA		
5 (Internal streets - # ac.)	If proposing a 50:50 CD, enter # ac. of internal street right-of-way. If 80:20 CD, enter zero.	
6 (Outlots and drainage areas[2] - # ac.)	Enter # ac. of outlots or areas required to handle drainage due to the increase in developed area.	
7 (Residual lot building envelopes - # ac.)	Enter # ac. in building envelope(s) located in residual lot(s).	
8 (SUBTOTAL) (# ac. excluded from residual land)	Add #5, #6 and #7. Enter result.	
9 (Single-family dwelling lots - # ac.)	Enter # ac. in residential lots (exclude acres shown in #8)	

[1] Include rivers, streams, ponds, lakes & reservoirs. Do not include irrigation ditches.

[2] Detention & retention ponds required to meet Section 8.1.3 of LCLUC can not be counted as residual land unless those areas also serve another purpose. Exclude drainage swales along internal street rights-of-way in an 80:20 CD.

SECTION III – DEVELOPED AREA COMPUTATIONS		
10 (Total developed land - total # acres)	Add #8 and #9. Enter result.	
11 (% acres of developable acres that would be developed)	Divide #10 by #3 and multiply the result by 100. Enter result.	
SECTION IV – RESIDUAL LAND CALCULATIONS		
12 (actual # ac. residual land)	Subtract #10 from #3. Enter result.	
13 (actual % residual land)	Divide # 12 by #3 and multiply the result by 100.	
SECTION IV – CROSS CHECKS: The following mathematical relationships must be true or some of Items A-E or #1-13 are incorrect. These kinds of errors may have major implications and result in major plan revisions or project redesign.		
E = Item #13.[3]		
Item #10 + Item #12 = Item #3.		
Item #11 + Item #13 = 100%.		

[3] Depending on type of CD, a **minimum** of either 80% or 50% residual land is required. See Section 5.3.6.A.3 & 4 for rules concerning 50% allocation CDs. If applying for a bonus under Sections 5.3.6.A.5 or 5.3.6.A.6, provide an explanation in the Project Description, **not on this form.** Note: residual land allocations greater than the minimum are encouraged.