

State Water Resources Control Board

Division of Water Rights

THIS BOOKLET CONTAINS DETAILED INSTRUCTIONS FOR COMPLETING FORMS TO FILE AN APPLICATION TO APPROPRIATE WATER.

For general information about water rights in California, including the appropriative water right process, please refer to State Water Resources Control Board publications, "A Guide to California Water Right Appropriations," and "Information Pertaining to Water Rights in California." These free publications are available from the Division of Water Rights' office located at 1001 I Street, 14th Floor, Sacramento, California. If you wish to obtain these publications by mail, please address your request to the Division of Water Rights, Post Office Box 2000, Sacramento, CA 95812-2000 or telephone (916) 341-5300.

If you are unable to find the answer to your question in this booklet or in the above publications, the staff of the Division of Water Rights is available at the above number to assist you.

*Additional copies of this booklet, forms, and water right information can be found at the Division of Water Rights' website: **www.waterrights.ca.gov**.*

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Introduction

Since December 19, 1914, appropriation of surface water and water flowing in subterranean streams through known and definite channels has been governed by the California Water Commission Act (Statutes 1913, Ch. 586), which is contained in the provisions of the California Water Code. On January 1, 1989, provisions were added to the Water Code for registering appropriations for domestic use that do not exceed 4,500 gallons per day by direct diversion or ten acre-feet per annum by storage. On January 1, 2001, provisions were added to the law for registering appropriations for stockponds that store no more than ten acre-feet. All small domestic use and livestock stockpond use filed with the State Water Resources Control Board (SWRCB) must be by the registration procedure. (For further information on this process, see the booklet, "How to File Small Domestic Use/Livestock Stockpond Use Registrations.")

Instructions for Filing an Application to Appropriate Water

Following is a summary of general information pertaining to applications to appropriate water.

- The priority date of an application is the date the filing is accepted by the SWRCB and given an application number. This date determines the priority of the appropriative right as it relates to all other appropriative rights. To be accepted for filing, the application must be filled out in a bona fide attempt to conform to the rules and regulations of the SWRCB.
- Upon providing all required information to complete the application, the SWRCB will issue a public notice of the application. This notice begins a period during which other parties may protest the application. The SWRCB will approve or deny the application after mutual resolution of any protests, or by formal decision after a field investigation or public hearing, all subject to satisfactory demonstration of water availability and compliance with the California Environmental Quality Act (CEQA). If the application is approved, the SWRCB will issue a permit containing general and project-specific conditions with which the permittee must comply.
- If a permit is issued on an application, a specific period for project development and for putting water to use will be allowed. Subsequently, staff of the Division of Water Rights (Division) will inspect the project for licensing purposes.
- Changes in points of diversion, purposes of use, or places of use for applications which have been noticed, permitted, or licensed may be requested by filing petitions for change. A fee is required (see enclosed Water Right Fee Summary).

- A permitted or licensed right may be revoked for any of the following reasons:
 1. Failure to commence, prosecute with due diligence, or complete work on the project, or to apply the water to beneficial use;
 2. Failure to use the water beneficially for five consecutive years; or
 3. Failure to comply with the permit or license conditions.

Before You Begin

We suggest you read "A Guide to California Water Right Appropriations" (included in your water right application packet) before you prepare your forms to appropriate water. We also recommend you complete your project map first, as you will find a visual reference for your proposed project useful while you complete the remainder of your forms (Section B, Item 7 - Map).

Remember, filing complete and accurate application forms is the first step toward obtaining your water right permit. If you are uncertain whether you need to file for an appropriation, refer to "A Guide to California Water Right Appropriations" or call the Division of Water Rights at (916) 341-5300. Do not take any steps to construct your water project until the SWRCB has issued a water right permit.

An Application to Appropriate Water consists of:

1. Application Form APP.
2. Water Availability Analysis or sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation.
3. Project map or engineering drawing by a registered civil engineer or licensed land surveyor when:
 - a. Appropriating more than three cubic feet per second;
 - b. Constructing a dam which will be under the jurisdiction of the Department of Water Resources for safety;
 - c. Creating a reservoir with a surface area in excess of 10 acres; or
 - d. Appropriating more than 1,000 acre-feet per annum by underground storage.

4. Three complete sets of color photographs of the project site (Section C, Item 6).
5. All applicable fees (see enclosed Water Right Fee Summary). Once an application is accepted for filing, fees will not be refunded.

Your application must be typed or clearly printed in black ink.

Please keep a copy of all forms and maps for your records.

You may hand-deliver your original application and one copy to:

SWRCB
Division of Water Rights
Records Unit
1001 I Street, 2nd Floor
Sacramento, California

or mail your original application and one copy to:

SWRCB
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Form App - Application to Appropriate Water



California Environmental Protection Agency

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
www.waterrights.ca.gov

APPLICATION TO APPROPRIATE WATER

If you have questions or need assistance, the Division can help you. You may reach Division staff by calling (916) 341-5300.

The information contained in these instructions is provided for guidance to persons filing applications to appropriate water but is not a complete statement of the law. Statutory information is contained in the California Water Code. Rules and regulations of the SWRCB are contained in the California Code of Regulations, Title 23 - Waters.

The following items may not be increased after an application is accepted; therefore, you should especially consider whether or not the information you submit is adequate for your project needs:

- For Direct Diversion: Quantity, including rate and annual amount, and diversion season.
- For Storage: Amount and collection season.

After an application is accepted by the SWRCB, the quantity and season listed in the application can only be increased by one of the following actions:

1. Cancel the existing application, thus forfeiting the priority date, and file a new one for the complete revised project, or
2. Keep the old filing and file a new application for the additional amount/season required.

This limitation holds true throughout the permitting and licensing process. Once your application is accepted for filing, the Division will assign a number to your application. The application number determines priority of the appropriative right as it relates to all other appropriative water rights.

The numbered instructions below correspond to the numbered items on the application form.

Section A: NOTICE INFORMATION

A1 APPLICANT/AGENT

	APPLICANT	ASSIGNED AGENT (if any)
Name		
Mailing Address		
City, State & Zip		
Telephone		
Fax		
E-mail		

APPLICANT means the legal entity applying for a water right appropriation. Include information for all parties who will hold the water right. An AGENT is the person designated by the applicant to act on the applicant's behalf in matters pertaining to the water right application. Having an agent is optional. The applicant may change agents at any time by submitting to the Division a written notification of the change.

A2 OWNERSHIP INFORMATION

2. OWNERSHIP INFORMATION (Please check type of ownership.)		
<input type="checkbox"/> Sole Owner	<input type="checkbox"/> Limited Liability Company (LLC)	<input type="checkbox"/> General Partnership*
<input type="checkbox"/> Limited Partnership*	<input type="checkbox"/> Business Trust	<input type="checkbox"/> Husband/Wife Co-Ownership
<input type="checkbox"/> Corporation	<input type="checkbox"/> Joint Venture	<input type="checkbox"/> Other _____
<small>*Please provide a copy of your partnership agreement.</small>		

Please provide the applicant's legal description. If the application will be held by a partnership, attach a copy of the partnership agreement to the application.

A3 PROJECT DESCRIPTION

3. PROJECT DESCRIPTION (Provide a detailed description of your project, including, but not limited to, type of construction activity, area to be graded or excavated, and how the water will be used.)

Please supply as much information as possible regarding your project site, facilities, and operation. The information should describe the route of the water beginning with the point where it is diverted from the natural watercourse until it is put to its final use, including diversion works, delivery and return pipelines, reservoirs, etc., and whether facilities are existing. Include in your description anticipated construction activity and area to be graded or excavated.

A4 PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

a. PURPOSE OF USE (irrigation, domestic, etc.)	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
	Rate (cfs or gpd)*	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)
	Total afa =			Total afa =			

See Attachment No. ____ * If rate is less than 0.025 cubic feet per second (cfs), use gallons per day (gpd).

b. Total combined amount taken by direct diversion and storage during any one year will be _____ acre-feet.

c. Reservoir storage is: onstream offstream underground (If underground storage, attach Form APP-UGSTOR.)

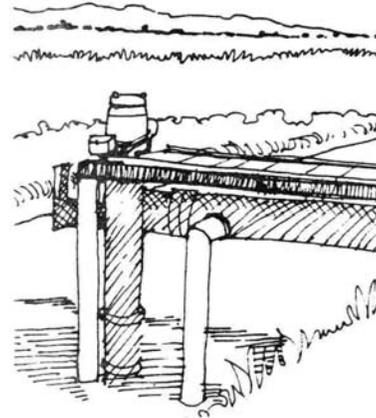
d. County in which diversion is located: _____ County in which water will be used: _____

Unless indicated otherwise, the following periods should be used to compute average maximum use:

Type of Use	Period of Maximum Use Consecutive days
Domestic	7
Power	14
All other uses	30

In the following example for domestic use, the consecutive 7-day period of maximum daily use was selected from pump records. The average rate during the 7-day period was calculated by totaling the daily rates during the 7-day period and dividing by 7 days, resulting in 614 gallons per day (gpd) average rate during the maximum consecutive 7-day period of use.

Day	GPD
1	800
2	550
3	500
4	400
5	450
6	700
7	900
Total	4,300



$$\frac{4,300 \text{ TOTAL GPD}}{7 \text{ TOTAL DAYS}} = 614 \text{ GPD}$$

- a. PURPOSE OF USE describes how water will be used. Beneficial uses include, but are not limited to, domestic, irrigation, frost protection, heat control, power, municipal, mining, industrial, recreational, fish and wildlife preservation and/or enhancement, aquaculture, stockwatering, and water quality.

If you intend to use water for several purposes, show the amount you plan to use for each purpose. If you are unable to identify specific amounts for specific purposes, bracket the uses together and list one amount.

DIRECT DIVERSION is (1) diversion of water for immediate use or (2) diversion into a sump, holding reservoir, or tank from which it will be used at a more convenient rate. The holding period may not exceed 30 days.

Amount of direct diversion should be shown both as a rate of diversion and as a total annual amount. Rate is considered to be an average continuous diversion per unit of time (cubic feet per second or gallons per day) during the period of maximum use. However, for frost protection, the rate of direct diversion should be the capacity of the river pumps.

Normal rates of use for domestic, irrigation, and stockwatering purposes can be estimated by using the suggested water duties in Appendices I, II, and III, respectively. The suggested water duties give maximum rates that the SWRCB considers acceptable in the absence of unusual circumstances. If you apply for a greater rate, you must justify your request. Do not apply for a rate that exceeds the capacity of your proposed pumping, diversion, or conveyance works.

Annual amounts for direct diversion can be estimated by converting daily diversion rates to acre-feet (see Table of Equivalents in Appendix IV) and then multiplying by the number of days of use. Refer to the headings for individual uses under Section B, Item 1- Justification of Amounts Requested, for more specific information.

Equivalent factors given in Appendix IV will be useful in converting between various waterflow rates (such as cubic feet per second, gallons per day, or acre-feet per day) or between various volume amounts (such as gallons or acre-feet).

Season of Diversion means the period of time during which you plan to divert water from the source for immediate use and/or short-term collection to storage for regulation (less than 30 days). Indicate the season of diversion with a beginning and ending month and day in the appropriate columns.



STORAGE means that you plan to collect water in your reservoir when there is surplus flow in the stream source and keep it for use during a time of deficient streamflow (generally, more than 30 days). Indicate the amount of storage in acre-feet. The amount should not exceed the capacity of your reservoir unless you plan to fill the reservoir more than once during a single storage season. If your request exceeds the capacity of your reservoir by more than 20 percent, the SWRCB may require the submittal of a supporting operational plan.

Amount of storage generally is based on the capacity of your reservoir. Absent a site survey and design capacity calculations, the capacity of small reservoirs may be estimated by using the following general formula:

$$\begin{aligned} \text{Capacity (in acre-feet)} &= (0.7)^* \\ &\times (\text{Maximum depth of water in feet}) \\ &\times (\text{Surface area in acres when full}) \end{aligned}$$

* Statistical factor found generally to be applicable to small water supply-type reservoirs.

Season of Collection is the period when water actually is collected for storage in the reservoir. It is generally the period of surplus streamflow in the source, such as the winter and spring months. Indicate the collection season with a beginning and ending month and day in the appropriate columns. Note that the time when water is withdrawn from your reservoir for the irrigation of crops is not the collection season but is listed in Section B, Item 1a as the season of water use.

- b. TOTAL COMBINED AMOUNT means the total annual amount of water (in acre-feet) that you will appropriate by direct diversion or storage or both. Where both direct diversion and storage amounts are included in the same application, the total combined amount may be, but is not necessarily, the sum of the individual amounts, depending on how you propose to operate your project.

Your application should not request more water than will be required for the proposed uses under your project.

- c./d. Please provide the requested information regarding the proposed diversion of water.

A5 SOURCES AND POINTS OF DIVERSION/REDIVERSION

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

POD / PORD # _____ tributary to _____
 thence _____

POD / PORD # _____ tributary to _____
 thence _____

POD / PORD # _____ tributary to _____
 thence _____

POD / PORD # _____ tributary to _____
 thence _____

See Attachment No. _____

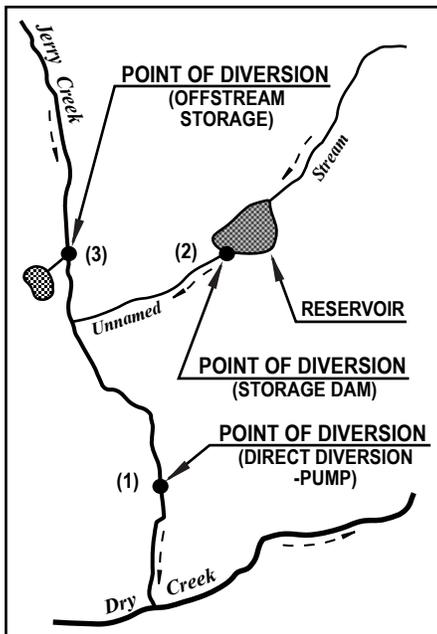
b. State Planar and Public Land Survey Coordinate Description:

POD/ PORD #	CALIFORNIA COORDINATES (NAD 27)	ZONE	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWN- SHIP	RANGE	BASE AND MERIDIAN
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				
			¼ of ¼				

See Attachment No. _____

c. Name of the post office most often used by those living near the proposed point(s) of diversion: _____

FIGURE 1



EXPLANATION

- (1) Jerry Creek tributary to Dry Creek.
- (2) Unnamed Stream tributary to Jerry Creek thence Dry Creek.
- (3) Jerry Creek tributary to Dry Creek.

The point of diversion is the place along the stream channel (source) where you intend to take control of the water, either by direct diversion or by means of storage in a reservoir. The point of diversion for an onstream reservoir is the point where the stream thread meets the center line of the dam (See Figure 1). In some projects, water from one source is delivered to a second stream system for storage or for conveyance down the second stream to a point of removal for direct use. (See Figure 2 on page 11.) The point of storage and the point of removal on the second stream are points of rediversion with respect to the water from the first stream. The points of rediversion on the second stream also may be points of direct diversion or storage with respect to natural streamflow in the second stream. Note that a point of rediversion must be located on a natural stream and, normally, not on a ditch, canal, or pipeline.

You will find accurate completion of this section easier if your project map has already been prepared (Section B, Item 7 - Map Requirements).

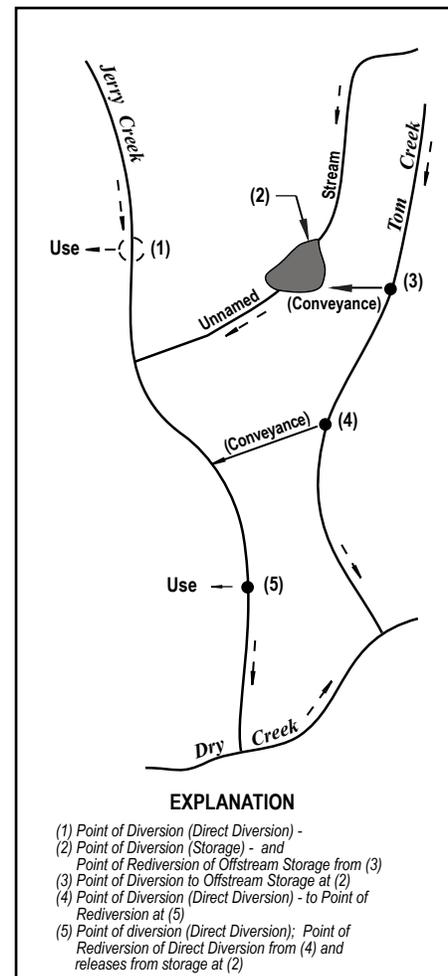
- a. Indicate whether the point you are describing is an initial diversion point or a point of rediversion. Give the name of the stream or spring from which you propose to take water. Enter "Unnamed Spring" or "Unnamed Stream" if the source of water has no name. Also name the stream to which the source is tributary (See Figure 1 on page 10).

If water will be pumped from below the surface of a stream, such as by an offset well (See Section B, Item 2b - Diversion and Distribution Method), the source should be described as the "subterranean streamflow" of the specific stream. Subterranean streamflow, for this purpose, is defined as water flowing through known and definite underground channels; that is, having identifiable beds and banks. Subterranean streamflow does not include groundwater, which is all subsurface percolating water not flowing in a known and definite channel.

- b. You may show your point of original diversion and any rediversion points in one of the following ways:
 - Identify the point's relative position from a corner of a surveyed section of the Public Land Survey as shown on a U.S. Geological Survey topographic (quadrangle) map, provided the corner is within two miles of your point of diversion or rediversion.
 - Identify the point by giving the north and east coordinates and zone of the California Coordinate System (CCS). The zone number is identified in the lower left-hand corner of the U.S. Geological Survey topographic map under "Polyconic Projection" or "Projection."

In each case, give either (1) coordinate distances and direction, or (2) bearing and distance from the point of reference, such as a section corner, to your point of diversion or rediversion. (For example, 200 feet North and 580 feet East of SW corner of Section 10; or South 25° 45' 644 feet from the NE corner of Section 26; or by CCS, Zone 1, N846,300 feet and E2,003,950 feet.)

FIGURE 2



A6 WATER AVAILABILITY

6. WATER AVAILABILITY

a. Have you attached a water availability analysis for this project? YES NO
 If NO, provide sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation:

See Attachment No. ____

b. Is your project located on a stream system declared to be fully appropriated by the State Water Resources Control Board during your proposed season of diversion? YES NO

c. In an average year, does the stream dry up at any point downstream of your project? YES NO
 If YES, during which months? Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

d. What alternate sources of water are available if a portion of your requested diversion season must be excluded because water is not available for appropriation? (e.g., percolating groundwater, purchased water, etc.)

See Attachment No. ____

- a. The California Water Code requires that every application for a water right permit set forth sufficient information to demonstrate a reasonable likelihood that unappropriated water is available for the proposed appropriation. Indicate if you have had a water availability analysis performed for the proposed project, or if not, what information you have that would indicate sufficient surplus water is available in the source to supply your project needs.
- b. The SWRCB maintains a list of fully appropriated streams. Streams are listed if (1) the SWRCB has found through evidence presented at a SWRCB hearing that water is not available at times during the year and issued a decision to that effect; or (2) a statutory or court referenced adjudication has determined that water is not available. Such streams are included in the Declaration of Fully Appropriated Stream Systems, which is periodically updated. (The list can be found on the Division’s website at waterrights.ca.gov under “Information Resources”; then click on “Water Rights Information”; then “Fully Appropriated Streams List.”)



Following the adoption of a Declaration that a stream system is fully appropriated, the SWRCB cannot accept for filing any application for a permit to appropriate water from that stream or stream system during the season the SWRCB has declared it fully appropriated.

If you have evidence that hydrologic circumstances have changed since the time the stream was listed and believe unappropriated water is now available for appropriation, you may file an application, accompanied by a petition requesting the SWRCB to review the matter. An additional fee is required (see enclosed Water Right Fee Summary).

If you believe your application is entitled to the benefit of California's area-of-origin principles, you may file an application, accompanied by a statement to that effect.

- c. It is useful for the SWRCB to know if the water source downstream from your project dries up, and if so, when and for how long.
- d. If a certain period must be excluded from your season because unappropriated water does not exist, you will be required to identify an alternate source of supply (purchased, well water, etc.) for the excluded season. For storage projects, the season of collection to storage may be shortened because unappropriated water does not exist, but generally, an alternate source is not required

A7 PLACE OF USE

7. PLACE OF USE

a.

USE IS WITHIN (40-acre subdivision)	SECTION*	TOWNSHIP	RANGE	BASE & MERIDIAN	IF IRRIGATED	
					Acres	Presently cultivated?
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
¼ of ¼						<input type="checkbox"/> YES <input type="checkbox"/> NO
Total						

*Please indicate if section is projected with a "(P)" following the section number.
 See Attachment No. _____

b. Please provide the Assessor's Parcel Number(s) for the place of use: _____

- a. Show where water will be used in each 40-acre portion (1/16 section) of the Public Land Survey. If water will be used for irrigation, include the acreage and indicate if it is currently cultivated. You may find it useful to consult a U.S. Geological Survey topographic map and a County Assessor's plat. If there are no section lines on the topographic map, create a projected section by extending lines from nearby sections. Describe your property as

though the area is completely surveyed and the lines are shown on the topographic map.

List all acreage to be irrigated under your requested appropriation (and show the area on the project map) even though only a portion may be irrigated in any one year. For irrigation within public districts, mutual water companies, or other extremely large areas, identify the exterior boundaries of the general service area.

Example: Data for a 21-acre irrigation project having acreage in each of two 40-acre portions (1/16 section) follows (see Appendix V, Example Map).

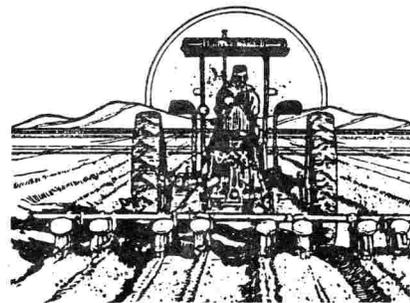
Use is within	Section	Township	Range	Base and Meridian	Acres of Irrigation
NW ¼ of SW ¼	23	4N	6W	MD	5
NE ¼ of SW ¼	23	4N	6W	MD	16

The place of use for nonconsumptive purposes at a reservoir (recreational, fish and wildlife enhancement, stockwatering, etc.) is the reservoir itself. The location of the maximum reservoir surface area (at spillway level) therefore should be identified in relation to ¼ - ¼ sections.

- b. Please provide all of the Assessor's Parcel Numbers (APNs) that correspond to your place of use.

A8 PROJECT SCHEDULE

- a./b. Please supply the information regarding whether your project is proposed, existing, or in some stage of construction or completion, and when complete use of the project water is anticipated. The SWRCB generally allows up to ten years after a permit is issued to complete the project and beneficially use the full amount of water authorized.



Section B: MISCELLANEOUS DIVERSION INFORMATION

B₁ JUSTIFICATION OF AMOUNTS REQUESTED

The subsections below explain what information is necessary to justify the quantities of water requested. They also include a definition of the particular purpose and explain the method for computing direct diversion rates and a reasonable annual amount of diversion for several uses. Equivalent factors given in Appendix IV will be useful in converting between various waterflow rates (such as cubic feet per second, gallons per day, or acre-feet per day) or between various volume amounts (such as gallons or acre-feet).

a. IRRIGATION: Maximum area to be irrigated in any one year: _____ acres.

CROP	ACRES	METHOD OF IRRIGATION (sprinklers, flooding, etc.)	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date (month & day)	Ending date (month & day)

See Attachment No. _____

- a. **IRRIGATION** means the use of water for agricultural crops, commercial nurseries, or for maintenance of large areas (greater than one-half acre per establishment) of lawns, shrubbery, or gardens.

Acreage to be irrigated during any one year may be less than the total acreage to be irrigated as listed under Section B, Item 1a if different lands are irrigated from time to time on a rotational basis.

List each crop that will be irrigated under the requested appropriation. For each crop, give the acreage to be irrigated, the method of irrigation (e.g., flood, sprinklers, drip, etc.), the total annual amount of water to be used (not necessarily all covered by the requested appropriation), and the month and day of the beginning and ending of the normal irrigation season. The total acreage to be irrigated as given in Section B, Item 1a should be reflected in the information given in Section A, Item 7 - Place of Use and as shown on the project sketch or map. The suggested water duties for irrigation given in Appendix II may be used to estimate the total annual amount of water to be used (acre-feet per year) by converting the given rates to annual amounts (volume) for the indicated normal irrigation season if more specific information per crop type is not available. (Department of Water Resources Bulletin No. 113 series also may be consulted.)

The direct diversion rate in cubic feet per second or gallons per day to be used for irrigation purposes in Section A, Item 4a is an average rate needed for the maximum 30-day period. The annual amount of water (in acre-feet) needed for irrigation in most parts of California is five times the amount for the maximum 30-day period.

If you plan to use water to irrigate a garden or lawn (up to one-half acre per establishment) under a water right appropriation for domestic use, and irrigation is not listed as a separate use, details should be included under domestic use.

<p>b. <input type="checkbox"/> DOMESTIC: Number of residences to be served: _____ Separately owned? <input type="checkbox"/> YES <input type="checkbox"/> NO Number of people to be served: _____ Estimated daily use per person is: _____ gallons per day Area of domestic lawns and gardens: _____ square feet Incidental domestic uses: _____ <small>(dust control area, number and kind of domestic animals, etc.)</small></p>
--

- b. **DOMESTIC** means the use of water in homes, resorts, motels, organization camps, and campgrounds, including incidental watering of domestic stock for family use and the irrigation of up to one-half acre of lawn, ornamental shrubbery, or garden at any single establishment.

If irrigation is one of the uses being applied for, include garden and lawns as a crop and complete the remainder of the information, including acreage, under Irrigation in Section B, Item 1a.

The annual amount of water (in acre-feet) for inside domestic use, plus domestic stock use, can be calculated as:

$$\begin{aligned} &\text{Acre-feet per day} \times 365 \text{ days} \\ &= \text{Acre-feet per year} \end{aligned}$$

In most parts of California, the annual amount of water (in acre-feet) for outside domestic use can be calculated as:

$$\begin{aligned} &\text{Acre-feet per day} \times 150 \\ &= \text{Acre-feet per year} \\ &\text{(assuming normal demands)} \end{aligned}$$

The information you provide under this item should justify the quantity of water you request for domestic use. Give the maximum number of residences and people to be served. If separate ownership is involved, please explain. Estimate your daily use per person. The suggested water duties for domestic use given in Appendix I may be used as a guide for the estimated daily use. Under "Incidental Domestic Uses," list the approximate areas to which water will be applied for dust control, as well as the kind and number of any domestic animals to be served.

The direct diversion rate in cubic feet per second or gallons per day to be used for domestic purposes in Section A, Item 4a is an average rate needed for the maximum 7-day period. The total annual amount by direct diversion is the sum of the amounts estimated for inside use, outside use, and any domestic stock use.

<p>c. <input type="checkbox"/> STOCKWATERING: Kind of stock: _____ Maximum number: _____ Describe type of operation: _____ <small>(feedlot, dairy, range, etc.)</small></p> <p>d. <input type="checkbox"/> RECREATIONAL: Type of recreation: <input type="checkbox"/> Fishing <input type="checkbox"/> Swimming <input type="checkbox"/> Boating <input type="checkbox"/> Other _____</p>

c. STOCKWATERING means the use of water for commercial livestock, including hosing out dairy barns. Water for domestic stock (not for commercial sale) is a domestic use.

The amount of storage requested for stockwatering purposes normally should be the capacity of the reservoir. A stockwatering reservoir should be of reasonable size for the purpose and physical location. Shallow reservoirs with relatively large surface areas and correspondingly high evaporation rates are discouraged.

You may use the suggested water duties in Appendix III to estimate the direct diversion rate, generally in gallons per day, to be used in Section A, Item 4a for stockwatering purposes. The duty multiplied by the maximum number of stock as given in Section B, Item 1c will give the direct diversion rate (converted to cubic feet per second for large diversions). The annual amount (in acre-feet) can be calculated as:

$$\begin{aligned} &\text{Acre-feet per day} \times 365^* \\ &= \text{Acre-feet per year} \end{aligned}$$

*Or the number of days for less than a year-round season.

- d. **RECREATIONAL** means the use of water for boating, swimming, or fishing. This use includes water collected to storage and either kept in the reservoir or released downstream for these purposes. Reservoirs containing water to be used solely for recreational purposes at the reservoir should not be unreasonably large.

Water used at a campground or resort for human consumption, cooking, or sanitary purposes is domestic use. Watering of golf courses and other large grass areas is irrigation use.

e. **MUNICIPAL:**

POPULATION List for 5-year periods until use is completed		MAXIMUM MONTH		ANNUAL USE		
Period	Population	Average daily use (gallons per capita)	Rate of diversion (gallons per capita)	Average daily use (gallons per capita)	Acre-foot (per capita)	Total (acre-feet)
Present						

See Attachment No. ____

- e. **MUNICIPAL** means all uses common to the municipal water supply of a city, town, or other similar population group, whether or not the area is incorporated, plus incidental uses for any beneficial purpose. Projected population and water use data should be included in Section B, Item 1e when municipal use is requested.

If you apply for amounts in excess of the above-described calculated amount, the data provided in Section B, Item 1e should show how the requested amount was determined. In such cases, you may be requested to provide additional data showing that reasonable water conservation efforts were incorporated into estimates of future per capita use.

The direct diversion rate, generally in cubic feet per second, to be used for municipal purposes in Section A, Item 4a, is an average rate needed for the maximum 30-day period. In most parts of California, the annual amount (in acre-feet) can be calculated as:

**Acre-feet per day x 210
= Acre-feet per year
(assuming normal demands)**

<p>f. <input type="checkbox"/> HEAT CONTROL: Area to be heat controlled: _____ net acres Type of crops protected: _____ Rate at which water is applied to use: _____ gpm per acre Heat protection season will begin _____ (month & day) and end _____ (month & day).</p> <p>g. <input type="checkbox"/> FROST PROTECTION: Area to be frost protected: _____ net acres Type of crops protected: _____ Rate at which water is applied to use: _____ gpm per acre The frost protection season will begin _____ (month & day) and end _____ (month & day).</p>
--

f. **HEAT CONTROL** means any application of water for the prevention of heat damage to crops.

For vineyards, an estimated maximum rate of direct diversion is 30 gallons per minute per acre. The annual amount (in acre-feet) generally is unique to particular locations and expected frequency of operation (see Frost Protection below).

g. **FROST PROTECTION** means the use of water for the protection of crops from frost damage.

Direct diversion for frost protection must be filed on a separate application for that sole purpose. Storage for frost protection should not be included in the same application as the frost protection direct diversion but can be combined on another application with other storage uses.

For vineyards, an estimated maximum rate of direct diversion is 55 gallons per minute per acre. For citrus crops, an estimated maximum rate of direct diversion is 100 gallons per minute per acre.

In the Napa Valley, the normal annual combined requirement for frost protection, heat control, and irrigation is 2.0 acre-feet per acre of vineyard; and the normal requirement for only frost protection is 1.0 acre-foot per acre of vineyard. These requirements may vary in other parts of California.

In the Napa Valley, an application for frost protection direct diversion will not be accepted unless the project also includes an appropriation for a reasonable amount of reservoir storage for frost protection. An application for such frost protection storage should not exceed the capacity of the reservoir(s). Water withdrawn from a reservoir for frost protection in the Napa Valley, which generally occurs between March 15 and May 15, may be replenished under a frost protection direct diversion appropriation or under a valid riparian diversion.

<p>h. <input type="checkbox"/> INDUSTRIAL: Type of industry: _____ Basis for determination of amount of water needed: _____</p> <p>i. <input type="checkbox"/> MINING: Name of the claim: _____ <input type="checkbox"/> Patented <input type="checkbox"/> Unpatented</p> <p>Nature of the mine: _____ Mineral(s) to be mined: _____ Type of milling or processing: _____ After use, the water will be discharged into _____ (watercourse) in _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____ B. & M.</p>
--

h. **INDUSTRIAL** includes the many uses, which serve the needs of commerce, trade, or industry not covered by municipal use.

The direct diversion rate in cubic feet per second or gallons per day to be used for industrial purposes in Section A, Item 4a is an average rate needed for the maximum 30-day period. The annual amount (in acre-feet) is computed by converting the direct diversion rate to acre-feet per day, then multiplying by the expected number of days of operation per year. The basis for determining the rate and amount of water requested for industrial purposes in Section A, Item 4a should be explained in Section B, Item 1h.

i. **MINING** includes the use of water in mining processes, such as placer mining, drilling, and milling, or concentration of ore.

Details of the mining operation should be explained in Section B, Item 1i. If diverted water will be returned directly to a stream, the location of discharge also should be identified in Section B, Item 1i. (Note: contact the appropriate Regional Water Quality Control Board concerning waste discharge requirements. A list of Regional Water Quality Control Boards is provided in Appendix VII).

The direct diversion rate in cubic feet per second or gallons per day to be used for mining purposes in Section A, Item 4a is an average rate needed for the maximum 30-day period. The annual amount (in acre-feet) is computed by converting the direct diversion rate to acre-feet per day, then multiplying by the expected number of days of operation per year. If all of the water diverted will be returned immediately to the source stream after use (nonconsumptive use), an annual amount is not required.

If water will be stored in a reservoir for more than 30 days before first use, a storage appropriation may be required. Settling or recycling ponds require an appropriation for storage only if natural runoff also is intercepted in the ponds.

<p>j. <input type="checkbox"/> POWER: Total head to be utilized: _____ feet Maximum flow through the penstock: _____ cfs Maximum theoretical horsepower capable of being generated by the works (cfs x fall ÷ 8.8): _____ Electrical capacity (hp x 0.746 x efficiency): _____ kilowatts at: _____ % efficiency After use, the water will be discharged into _____ (watercourse) in _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____ B. & M. FERC No.: _____</p> <p>k. <input type="checkbox"/> FISH AND WILDLIFE PRESERVATION AND/OR ENHANCEMENT: List specific species and habitat type that will be preserved or enhanced: _____</p> <p>l. <input type="checkbox"/> OTHER: Describe use: _____ Basis for determination of amount of water needed: _____</p>

j. **POWER** includes the generation of hydroelectric and hydromechanical power. Power use does not apply unless water is used to drive a device such as a turbine.

The direct diversion rate, generally in cubic feet per second, to be used for power purposes in Section A - Item 4a is an average rate needed for the maximum 14-day period. In many cases, this rate will be the capacity of the penstock given in Section B, Item 1j. The location of the return discharge to the stream system also should be given in Section B, Item 1j. If the return discharge is to the source stream given in Section A, Item 5, an annual amount for direct diversion is not required (nonconsumptive use).

For hydroelectric power generating facilities with a nameplate capacity between 100 kilowatts and 80 megawatts, which will be owned by a person not primarily engaged in the generation or sale of electric power, and for which a filing with the Federal Energy Regulatory Commission is required, the applicant must provide economic feasibility information. This information will be required subsequent to the State Water Resources Control Board's issuance of a public notice on the application and must demonstrate that project revenues will exceed project costs, including the cost of mitigation measures, over the life of the project.

k. **FISH AND WILDLIFE PRESERVATION AND/OR ENHANCEMENT** is use of water, generally collected to storage and retained in the reservoir or later released downstream, to protect or support habitat or other benefits for fish and wildlife. The use of water for raising fish or other organisms for scientific purposes or for planting in a stream system is included under this use.

l. **OTHER USES** of water are those not included in Section B, Item 1a through 1k above. Describe these uses and explain how quantities of water requested in Section A, Item 4a for such purposes of use were determined.

Aquaculture is the use of water for the raising of fish or other organisms for commercial purposes where the fish or organisms will not be released into a stream system.

Water Quality includes collection of water to storage for later release or otherwise diverted to protect or enhance the quality of other waters for beneficial uses.

Fire Protection should be included only when facilities will be constructed expressly for firefighting. Normally, direct diversions for immediate fire protection use can be made without a water right permit.

B2 DIVERSION AND DISTRIBUTION METHOD

2. DIVERSION AND DISTRIBUTION METHOD

a. Diversion will be by gravity by means of: _____
(dam, pipe in unobstructed channel, pipe through dam, siphon, weir, gate, etc.)

b. Diversion will be by pumping from: _____
(sump, offset well, channel, reservoir, etc)
 Pump discharge rate: _____ cfs or gpd Horsepower: _____ Pump Efficiency: _____

c. Conduit from diversion point to first lateral or to offstream storage reservoir:

CONDUIT (pipe or channel)	MATERIAL (type of pipe or channel lining; indicate if pipe is buried or not)	CROSS SECTION (pipe diameter, or ditch depth and top and bottom width) (inches or feet)	LENGTH (feet)	TOTAL LIFT OR FALL		CAPACITY (cfs, gpd or gpm)
				feet	+ or -	

See Attachment No. ____

- a. If diversion will be by gravity flow, describe the type of diversion facility. Examples include a pipe in an unobstructed channel, small diversion dam (diverting water into a ditch, channel, or pipe), pipe through a storage dam, siphon, or gate.
- b. If diversion will be by pumping, describe the type of structure from which water will be drawn. Examples include a sump, offset well, reservoir, or unobstructed channel. Note that, if an offset well is used, the source of water being pumped may be a subterranean stream, rather than the surface flow. If a subterranean stream is the source, Section A, Item 5 should so indicate.
- c. Provide information describing the pipe, channel, or other conduit conveying diverted water from your point(s) of diversion to the first main lateral. If diversion is to offstream storage (either to a reservoir on another stream or to a pit and/or berm-type reservoir not on a natural stream), provide information on the conduit carrying diverted water from the point of diversion to the reservoir site.

d. STORAGE RESERVOIRS:V(FOR UNDERGROUND STORAGE, COMPLETE AND ATTACH FORM APP-UGSTOR)

RESERVOIR NAME OR NUMBER	DAM				RESERVOIR		
	Vertical height from downstream toe of slope to spillway level (feet)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)

See Attachment No. ____

- d. Provide information describing each reservoir that will be used for the storage amount(s) included in Section A, Item 4a. If you intend to divert water for placement into underground storage, Form UGSTOR must be completed in lieu of Section B, Item 2d. Form UGSTOR is available from the Division of Water Rights upon request. It should be attached to Form APP when filing your application packet.

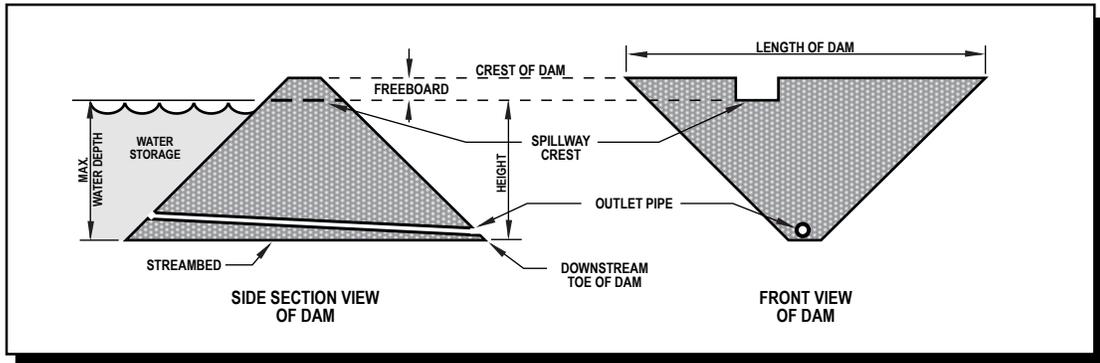
The location of each reservoir should be shown on the project map. If there is more than one reservoir, each one should be given a name or number and also so identified in Section A, Item 2b and on the map.

Give the dimensions of the dam for each storage reservoir, using the illustration on page 24. With the water level at the spillway crest, the capacity or volume is stated in acre-feet. Surface area is the number of acres flooded by the reservoir with the water level at the spillway crest. The approximate reservoir capacity should be consistent with amounts shown for storage in Section A, Item 4a unless refill of the reservoir is included in the quantity in Item 4a. Please note, however, that no refill is allowed in the Napa Valley.

If your reservoir site has not been surveyed and design capacity calculations have not been made, the reservoir capacity for a small reservoir may be estimated by using the following general formula:

$$\text{Capacity (in acre-feet)} = (0.7)^* \times (\text{Maximum depth of water in feet}) \times (\text{Surface area in acres when full})$$

* Statistical factor found generally to be applicable to small water supply-type reservoirs.



If the size of your dam comes within the following limits, it must be approved for safety by the Department of Water Resources, Division of Safety of Dams:

1. Dams 25 feet or more in vertical height from downstream toe to spillway crest, provided more than 15 acre-feet of water is impounded; or
2. Dams that impound 50 acre-feet or more of water, provided they are more than six feet in vertical height from downstream toe to spillway crest.

For further information about construction or enlargement of such dams, write or call:

Department of Water Resources
 Division of Safety of Dams
 2200 "X" Street, Suite 200
 P.O. Box 942836
 Sacramento, CA 94236-0001
 (916) 227-4800

e. Outlet pipe: Complete for storage reservoirs having a capacity of 10 acre-feet or more.

RESERVOIR NAME OR NUMBER	OUTLET PIPE				
	Diameter (inches)	Length (feet)	Fall: vertical distance between entrance and exit of outlet pipe (feet)	Head: vertical distance from spillway to entrance of outlet pipe (feet)	Dead Storage: storage below entrance of outlet pipe (acre-feet)

See Attachment No. ____

- e. For reservoirs having a capacity of ten acre-feet or more, also complete Section B, Item 2e, giving information for the outlet pipe through the dam. An outlet pipe is defined to be a facility, usually placed through the base of a dam at the streambed, by which downstream releases can be made from the reservoir. A pipe or culvert placed through the

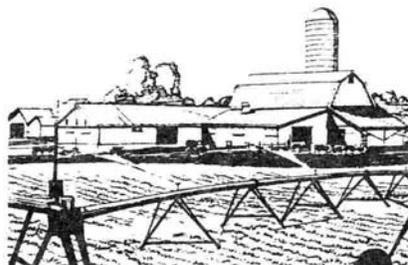
dam at a higher elevation to control the amount of water stored in the reservoir acts as a spillway, not an outlet pipe. If the reservoir plan does not have an outlet pipe, indicate "None" on the form.

- f. If water will be collected to storage in a reservoir located on another stream or in a pit and/or berm-type reservoir not located on a natural stream, the maximum rate that water will be conveyed to the reservoir should be indicated. This rate should be consistent with the capacity of the conveyance facility indicated in Section B, Item 2c for that particular point of diversion.

B3 CONSERVATION AND MONITORING

<p>3. CONSERVATION AND MONITORING</p> <p>a. What methods will you use to conserve water? Explain. _____ _____ _____</p> <p>b. How will you monitor your diversion to be sure you are within the limits of your water right and you are not wasting water? <input type="checkbox"/> Weir <input type="checkbox"/> Meter <input type="checkbox"/> Periodic sampling <input type="checkbox"/> Other (describe) _____ _____ _____</p>

- a. Please explain what methods you will employ to prevent waste and/or unreasonable use of water. These methods may include lining delivery ditches, modifying irrigation methods, conjunctive use of groundwater and surface diversions, etc.
- b. Indicate what monitoring method you propose to incorporate into your project to ensure you will not divert more water than your water rights allow.



B4 RIGHT OF ACCESS

4. RIGHT OF ACCESS

a. Does the applicant own all the land where the water will be diverted, transported and used? YES NO
If NO, I do do not have a recorded easement or written authorization allowing me access.

b. List the names and mailing addresses of all affected landowners and state what steps are being taken to obtain access: _____

See Attachment No. ____

- a. Indicate if you own all of the land where water will be diverted, transported, and used.
- b. List the names and mailing addresses of all affected owners and state what steps are being taken to obtain access. A copy of the public notice for your application will be sent to the owner(s). If the federal government owns the land, submit a copy of any Special Use Permit you may have obtained.

B5 EXISTING WATER RIGHTS AND RELATED FILINGS

5. EXISTING WATER RIGHTS AND RELATED FILINGS

a. Do you claim an existing right for the use of all or part of the water sought by this application? YES NO
If YES, please specify: Riparian Pre-1914 Registration Permit License
 Percolating groundwater Adjudicated Other (specify) _____

b. For each existing right claimed, state the source, year of first use, purpose, season and location of the point of diversion (to within quarter-quarter section). Include number of registration, permit, license, or statement of water diversion and use, if applicable. _____

c. List any related applications, registrations, permits, or licenses located in the proposed place of use or that utilize the same point(s) of diversion. _____

See Attachment No. ____

- a./b. Indicate whether you claim an existing right, such as riparian, pre-1914, or overlying (pumping from a well), for all or a portion of the water being requested in the application form. If so, provide the requested information for each such existing right.
- c. Please provide the identifying numbers of any filings you own that are within the place of use or will utilize the same point of diversion(s) listed in this application. Also list any active petitions that are related to your proposed project's place of use or point(s) of diversion. This information will aid staff in evaluating your proposed project.

B6 OTHER SOURCES OF WATER

Please list any other sources of water for your project that are not included in B5.

B7 MAP REQUIREMENTS

A project map must be filed before the application form will be considered complete. Two copies of the map should accompany the form. A copy of a U.S.G.S. quadrangle/topographic map of your project area is preferred and can be obtained from sporting good stores or through the Internet at www.topomaps.usgs.gov. However, any map or sketch which provides a clear understanding of the point(s) of diversion, boundary of the place(s) of use, and features of the project will be acceptable, except as noted below, if it is prepared in accordance with SWRCB requirements (see Appendix V, Example Map).

The project map must be prepared by a registered civil engineer or licensed land surveyor if you are:

- Appropriating more than three cubic feet per second;
- Constructing a dam 25 feet or more in vertical height from downstream toe to spillway level which will impound more than 15 acre-feet of water;
- Constructing a dam more than six feet in vertical height from downstream toe to spillway level which will impound 50 acre-feet or more of water;
- Creating a reservoir with a surface area of more than 10 acres (for good cause shown, may be waived by the Chief, Division of Water Rights); or
- Appropriating more than 1,000 acre-feet per annum by underground storage.

Section c: ENVIRONMENTAL INFORMATION FORM

Before a water right permit can be issued for your project, the SWRCB must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). If a CEQA document has not yet been prepared for your project, a determination must be made of who is responsible for its preparation. Please contact Division staff if you need assistance with this determination. If the SWRCB is determined to be responsible for preparing the CEQA document, you, as the applicant, will be required to pay all associated costs. If any studies have been conducted regarding the environmental evaluation of your project, please submit them with your application.

C1 COUNTY PERMITS

C2 STATE/FEDERAL PERMITS AND REQUIREMENTS

C3 ENVIRONMENTAL DOCUMENTS

As part of your project planning, you will need to contact county, state, and federal agencies that have jurisdiction over aspects of your project. Submit any environmental documents or studies that have been prepared for any portion of your project. The information that you supply in C1, C2, and C3, will assist the SWRCB in determining what type of environmental document is required and who is responsible for its preparation. If it is determined that a public agency other than the SWRCB is lead agency, you should advise such agency that the SWRCB will be acting as a responsible agency.

C4 WASTE/WASTEWATER

4. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?
 YES NO

If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):

See Attachment No. ____

b. Will a waste discharge permit be required for your project? YES NO

Person contacted: _____ Date of contact: _____

c. What method of treatment and disposal will be used? _____

See Attachment No. ____

If your project will result in waste discharge or erosion, turbidity or sedimentation to the receiving waters, you must contact the local California Regional Water Quality Control Board (see Appendix VII for listing of California Regional Water Quality Control Board offices). Please supply the requested information regarding any waste/wastewater generated by your project.

C5 ARCHEOLOGY

5. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? YES NO

b. Will you be preparing an archeological report to satisfy another public agency? YES NO

c. Do you know of any archeological or historic sites located within the general project area? YES NO

If YES, explain: _____

See Attachment No. ____

Impacts from your project on cultural resources will be evaluated before a permit can be issued. Please submit any information you have gathered on this subject or advise of any archeology studies you plan to have prepared.

C6 ENVIRONMENTAL SETTING

<p>6. ENVIRONMENTAL SETTING</p> <p>Attach three complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:</p> <ul style="list-style-type: none"><input type="checkbox"/> Along the stream channel immediately downstream from the proposed point(s) of diversion.<input type="checkbox"/> Along the stream channel immediately upstream from the proposed point(s) of diversion.<input type="checkbox"/> At the place(s) where the water is to be used.<input type="checkbox"/> See Attachment No. ____

A clear understanding of your project is essential for our evaluation. Please provide photographs of the specific locations listed in C6 and any other locations that you believe will help give Division staff a clear representation of your proposed project.

Section D: SUBMITTAL FEES

Your application will be returned to you if it is not accompanied by all required fees.

To calculate your application fee, see enclosed Water Right Fee Schedule Summary. The check for the application filing fee should be made payable to the “Division of Water Rights.” Please note in Water Right Fee Schedule Summary that annual permit and license fees, and under some circumstances, annual pending application fees, will be required.

The Division is also responsible for collecting at the time you submit your application an \$850 fee for the Streamflow Protection Standards review [Pub. Resources Code, § 10005(a)]. This fee helps fund the Department of Fish and Game’s (DFG) establishment and maintenance of a list of streams for which minimum flow levels are needed to assure the viability of stream-related resources. Please make this check payable to the “Department of Fish and Game.” The Division will forward the check to the DFG for processing.

Additional DFG fees, assessed to defray the costs of managing and protecting fish and wildlife trust resources, may be required at the time of permit issuance, depending on the type of environmental document prepared for your project [Fish & G. Code, § 711.4].

Section E: DECLARATION AND SIGNATURE

The perjury clause and the signature of the applicant must be complete before an application can be accepted. If there is more than one owner of your project, indicate the relationship; e.g., legal partner, spouse, etc. If signing for an organization, indicate your title or position. The form containing the original signature(s) must be filed with the SWRCB.

I

APPENDIX

SUGGESTED WATER DUTY FOR DOMESTIC USE

Domestic use includes year-round water for people and domestic animals and water for up to one-half acre of lawn and garden area per establishment.

The annual amount of water for domestic lawn and garden areas usually is limited to 150 multiplied by the daily duty. The annual amount for personal use generally is the daily duty multiplied by the number of days in the requested diversion season, usually 365.

Personal Use:	GPD* Per Person
Homes, Motels, Resorts, and Camping Areas equipped with:	
Full plumbing.....	55-75
Sink and flush toilet only.....	40
Sink and shower only	35
Sink only	25
Outside supply only.....	15
Cafeteria, dining facility, etc	2.5
Campgrounds equipped with:	GPD* Per Person
Faucets only.....	5
Washbowls, showers, flush toilets, and laundry trays	30
Domestic Livestock:	GPD* Per Head
Milch cows	30
Horses.....	15
Goats and hogs	2.5
Rabbits, poultry, and other small animals	0.25
Outside of Dwelling:	GPD* Per 100 sq.ft.
Lawn, Garden, Orchard, and Grounds	
Irrigation of lawn, shrubbery, gardens.....	18.5
Sprinkling to allay dust	7.5-10

* Gallons per day

II APPENDIX

SUGGESTED WATER DUTY FOR IRRIGATION

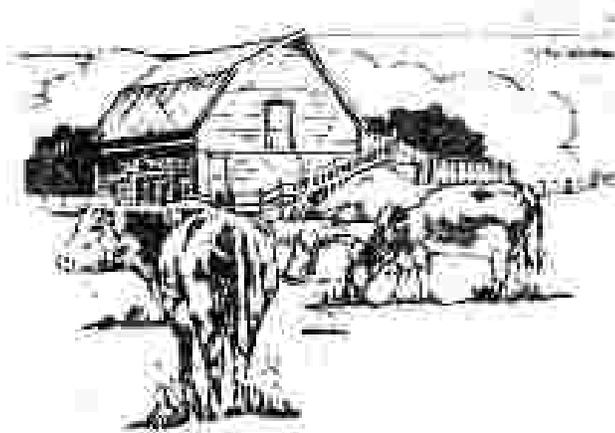
Irrigation use includes water for croplands and lawn areas of more than one-half acre.

The annual amount of water (in acre-feet) for irrigation in most parts of California is five times the amount for the maximum 30-day period.

Irrigation Condition	Continuous Flow Rates Considered Reasonably Necessary for Most Crops
Irrigation of land in the Central Valley or in areas having similar conditions	1 cfs* per 80 acres
Irrigation on porous, sandy, or gravel-like soils	1 cfs per 50 acres
Irrigation incurring heavy transportation losses in water abundant areas.....	1 cfs per 50 acres
Irrigation of land in water-short areas.....	1 cfs per 150 acres
Irrigation of rice crops	1 cfs per 40 acres

Equivalent noncontinuous flow rates may be averaged over a 30-day period upon approval by the SWRCB.

*Cubic feet per second



III APPENDIX

SUGGESTED WATER DUTY FOR STOCKWATERING BY DIRECT DIVERSION

Stockwatering use includes year-round water for commercial livestock.

The annual amount generally is the daily duty multiplied by the number of days in the diversion season, usually 365.

Type of Stock	GPD* per Head
Range cattle and horses	15
Hogs and goats	2.5
Sheep	1.5
Milch cows	30
Hosing out dairy barn	35

*Gallons per day

IV APPENDIX

TABLE OF EQUIVALENTS

ONE CUBIC FOOT PER SECOND (csfs) is a rate of flow passing any point equal to a volume of one cubic foot of water every second (sometimes referred to as second-foot) and is equivalent to:

- = 7.48 U.S. gallons per second (gps)
- = 448.8 U.S. gallons per minute (gpm)
- = 646,317 U.S. gallons per day (gpd)
- = 1.9835 acre-feet per day
- = 40 standard (statute) miners' inches
- = 28.32 liters per second

ONE ACRE-FOOT (af) is the amount (volume) of water which will cover one acre to a depth of one foot, and is equivalent to:

- = 43,560 cubic feet
- = 325,851 U.S. gallons
- = 1,233.45 cubic meters

1,000,000 U.S. GALLONS PER DAY is equivalent to:

- = 1.55 cubic feet per second
- = 43.81 liters per second
- = 3.07 acre-feet per day
- = 3,786 cubic meters per day

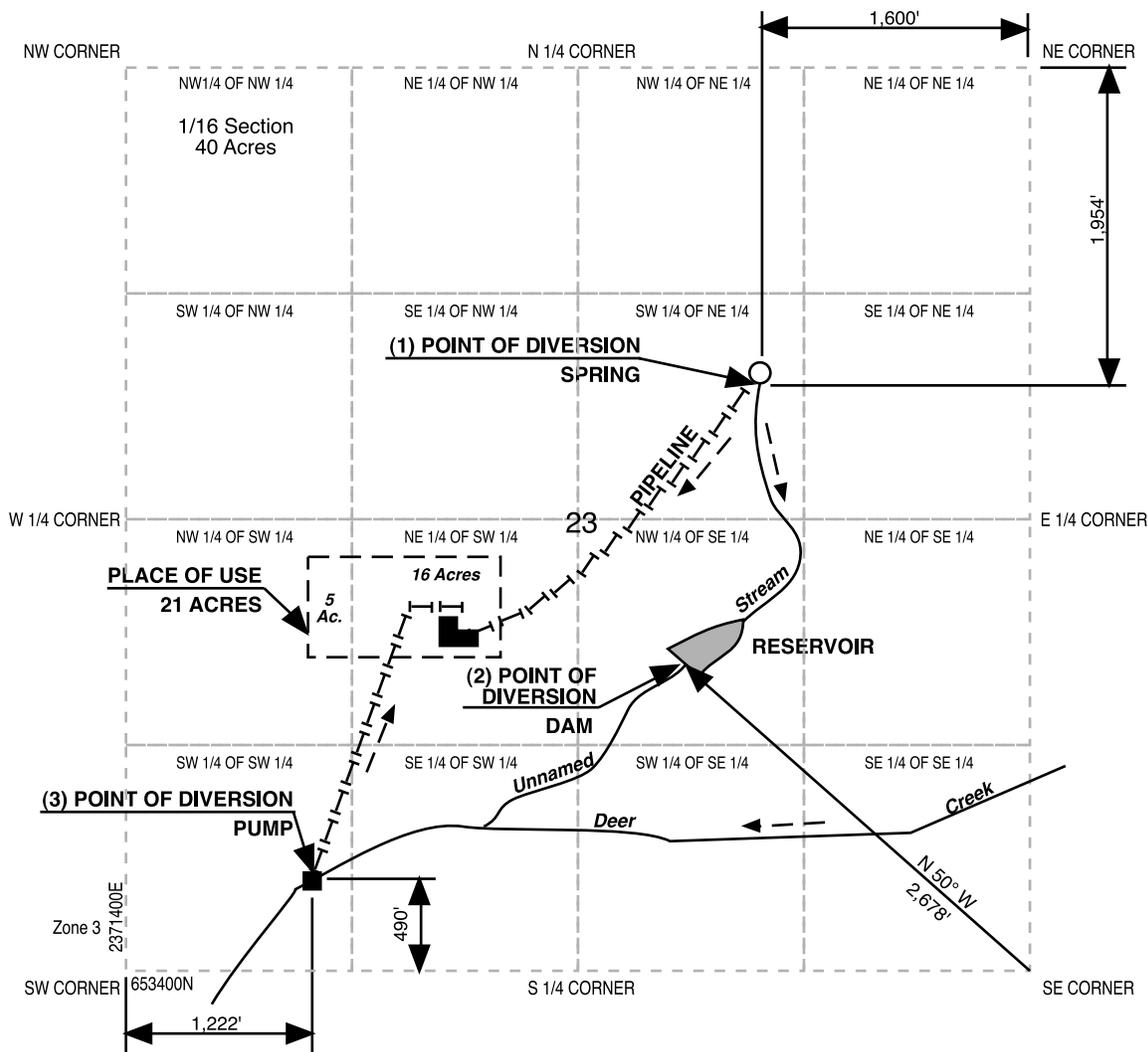
ONE THEORETICAL HORSEPOWER is calculated by multiplying the vertical fall of water in feet by the rate of waterflow in cubic feet per second and dividing the product by 8.8. It is equivalent to:

- = 550 foot-pounds per second
- = 746 watts

V APPENDIX

EXAMPLE MAP

Typical 640 Acre Section (Section 23, T4N, R6W, MD B&M)



This illustration is a composite of three diversions.
Ties to each point of diversion are:

- (1) – S 1,954' and W 1,600' from NE corner Section 23
- (2) – N 50° W 2,678' from SE corner Section 23
- (3) – N 490' and E 1,222' from SW corner Section 23

California Coordinates may be used as an alternative to locate the points of diversion.

The ties are:

- (1) – Zone 3, 656726N., 2375080E.
- (2) – Zone 3, 655121N., 2374629E.
- (3) – Zone 3, 653890N., 2372622E.



VI APPENDIX

CALIFORNIA DEPARTMENT OF FISH AND GAME WATER RIGHT COORDINATORS

**Department of Fish and Game
Water Rights Directory**
(Updated January 2004)

Region/ Branch	Name/Title	Phone/Fax/Email
R1	Jane Vorpagel Environmental Scientist Water Quality & Water Rights Coordinator	(530) 225-2124 (530) 225-2381 jvorpage@dfg.ca.gov
R2	Gary Hobgood Environmental Scientist Water Rights Coordinator	(916) 983-6920 (916) 983-6920 ghobgood@dfg.ca.gov
R3	Linda Hanson Staff Environmental Scientist Water Rights Coordinator	(707) 944-5562 (707) 944-5563 lhanson@dfg.ca.gov
R4	Julie Means Environmental Scientist Hydropower & Water Rights Coordinator	(559) 243-4014 x 240 (559) 243-4020 jmeans@dfg.ca.gov
R5	Terri Dickerson Environmental Scientist Acting Hydropower & Water Rights Coordinator	(949) 363-7538 (949) 363-7538 tdickerson@dfg.ca.gov
R6	Scott Dawson Senior Environmental Scientist Hydropower & Water Rights Coordinator (Chino- south region)	(909) 606-2404 (909) 597-0067 sdawson@dfg.ca.gov
	Adrienne Disbrow Environmental Scientist Hydropower & Water rights as assigned (Bishop – north region)	(760) 873-4412 (760) 872-1284 adisbrow@dfg.ca.gov
NAFWB	Cathie Vouchilas Staff Environmental Scientist Water Rights Program Coordinator	(916) 445-3108 (916) 445-1595 cvouchilas@dfg.ca.gov

NAFWB: Native Anadromous Fish and Watershed Branch

VII APPENDIX

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

State Water Resources Control Board

P.O. Box 100, Sacramento, CA 95812-0100 • www.waterboards.ca.gov

info@exec.swrcb.ca.gov

Office of Public Affairs: (916) 341-5254
Office of Legislative Affairs: (916) 341-5251

Financial Assistance information: (916) 341-5700
Water Quality information: (916) 341-5455
Water Rights information: (916) 341-5300

California Regional Water Quality Control Boards

North Coast Region (1)

www.waterboards.ca.gov/northcoast
5550 Skyline Blvd., Suite A
Santa Rosa, CA 95403
mailb@rb1.swrcb.ca.gov
(707) 576-2220 TEL • (707) 523-0135 FAX

San Francisco Bay Region (2)

www.waterboards.ca.gov/sanfranciscobay
1515 Clay Street, Suite 1400
Oakland, CA 94612
wkb@rb2.swrcb.ca.gov
(510) 622-2300 TEL • (510) 622-2460 FAX

Central Coast Region (3)

www.waterboards.ca.gov/centralcoast
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401
bhageman@rb3.swrcb.ca.gov
(805) 549-3147 TEL • (805) 543-0397 FAX

Los Angeles Region (4)

www.waterboards.ca.gov/losangeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
R4-Contact@rb4.swrcb.ca.gov
(213) 576-6600 TEL • (213) 576-6640 FAX

Central Valley Region (5)

www.waterboards.ca.gov/centralvalley
11020 Sun Center Drive
Rancho Cordova, CA 95670
WebMaster5@rb5.swrcb.ca.gov
(916) 464-3291 TEL • (916) 464-4645 FAX

Fresno branch office

www.waterboards.ca.gov/centralvalley
1685 E Street, Suite 200
Fresno, CA 93706
(559) 445-5116 TEL • (559) 445-5910 FAX

Redding branch office

www.waterboards.ca.gov/centralvalley
415 Knollcrest Drive
Redding, CA 96002
(530) 224-4845 TEL • (530) 224-4857 FAX

Lahontan Region (6)

www.waterboards.ca.gov/lahontan
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
rdodds@rb6s.swrcb.ca.gov
(530) 542-5400 TEL • (530) 544-2271 FAX

Victorville branch office

www.waterboards.ca.gov/lahontan
15428 Civic Drive, Suite 100
Victorville, CA 92392-2383
(760) 241-6583 TEL • (760) 241-7308 FAX

Colorado River Basin Region (7)

www.waterboards.ca.gov/coloradoriver
73-720 Fred Waring Dr., Suite 100
Palm Desert, CA 92260
info@rb7.swrcb.ca.gov
(760) 346-7491 TEL • (760) 341-6820 FAX

Santa Ana Region (8)

www.waterboards.ca.gov/santaana
California Tower
3737 Main Street, Suite 500
Riverside, CA 92501-3339
region8info@rb8.swrcb.ca.gov
(909) 782-4130 TEL • (909) 781-6288 FAX

San Diego Region (9)

www.waterboards.ca.gov/sandiego
9174 Skypark Court, Suite 100
San Diego, CA 92123
questions@rb9.swrcb.ca.gov
(858) 467-2952 TEL • (858) 571-6972 FAX



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