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| To: | Kenneth V. Payne, General Manager El Dorado County Water Agency | From: | Yung-Hsin Sun, Maritza Flores Marquez Sacramento (C St) CA |
| File: | 184031088 | Date: | September 25, 2019 |

Reference: Technical Memorandum: West Slope Water Use Planning Zone Delineation Consistent with the County of El Dorado General Plan; Water Resources Development and Management Plan

Authorized by the 1959 El Dorado County Water Agency Act, the El Dorado County Water Agency's (Agency) mission is to ensure that El Dorado County has adequate water for today and in the future. The Agency is currently updating its Water Resources Development and Management Plan (WRDMP), presenting the Agency's progress toward long-term water security and a renewed focus on advancing countywide water management to realize the vision of the General Plan adopted by the County of El Dorado (County) for economic development, environmental protection, and quality of life for all residents.

The WRDMP identified water resource-related challenges in El Dorado County for realizing the vision of the County General Plan. One important challenge is the projected water supply-demand imbalance, which is an outcome of many factors including changes in climate, regulations, water management policies, and applied technology; socioeconomic conditions and market trends; and population growth and demographic changes.

This Technical Memorandum (TM) documents the water use eligibility criteria for having potential municipal and industrial (M&I) demands, agricultural demands, or both, on a specific parcel in the West Slope area (West Slope) allowed by the County General Plan. The consistency with the County General Plan was developed in close coordination with staff of the County's Planning and Agricultural Departments to ensure the criteria were established and applied properly. These staff also reviewed this TM for accuracy before its finalization.

Limitations. This eligibility criteria discussed in this TM apply to the West Slope only. For the Tahoe Basin area, the Tahoe Regional Planning Agency (TRPA) is the lead planning agency and adopted the latest Lake Tahoe Regional Plan in December 2012. The County General Plan recognizes the Lake Tahoe Regional Plan as the adopted plan for the Tahoe Basin area within El Dorado County and the County's land use database typically marks the land use designation for this area as Adopted Plan (AP). The Tahoe Basin water purveyors (South Tahoe Public Utility District and Tahoe City Public Utility District) are working with North Tahoe Public Utility District to revise estimates of future water need in order to secure the water rights under the Truckee River Operating Agreement authorized by the Public Law (PL) 101-618. The PL limits California's total gross diversions in the Lake Tahoe Basin to 23,000 acre-feet per year from all natural sources, including direct diversions from Lake Tahoe and extractions from groundwater.

FOCUS ON THE CAPACITY LEVEL OF THE COUNTY GENERAL PLAN

The County General Plan provides a composite of envisioned economic development and associated environmental conditions using land use designations, zoning ordinances, policies and other requirements. The County General Plan provides more resolution for near-future conditions, but it also provides a description of conditions when the land carrying capacity is reached.

The Agency does not currently provide retail services or own any water infrastructure. However, the Agency holds contracts and agreements related to water supply and credits for certain facility use. For long-term water supply planning purposes, the Agency focuses on the needs at the capacity level – a level of planning

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that is consistent with the Agency's mission to ensure that El Dorado County has adequate water for today and in the future, and its interest in assisting the County in realizing the General Plan. The resulting water supply planning effort will inform the Agency on the need of potential actions for improving countywide water supply reliability and resiliency; these actions may require a long lead time for development.

In order to formulate long-term strategies in managing the evolving water supply-demand imbalance, it is necessary to establish a basic representation of the envisioned capacity condition in the County General Plan that requires reliable and resilient water supply both in quantity and quality. With a consistent representation, the corresponding M&I and agricultural demands under the land carrying capacity defined in the County General Plan can be identified. Note that the environmental demands (including recreational needs) are currently represented in the requirements for instream flows and facility operations per applicable laws and regulations. There are no specific environmental water needs as outlined in the Integrated Natural Resources Management Plan, which is part of the County General Plan.

WATER USE ELIGIBILITY

The County General Plan encourages the rural-agricultural way of life and allows urbanization in areas near Sacramento County. Therefore, major types of water use in El Dorado County include urban residential water use, urban commercial and industrial water use, rural domestic water use, commercial agricultural water use, and rural agricultural water use that are for individual consumption but not for commercial purposes.

A two-step review process was used to determine if M&I demands, agricultural demands, or both could be realized on a particular parcel: (1) identified whether the land use requirements in the County General Plan allow a certain demand to occur on this parcel, and (2) identified whether physical properties or other factors of this parcel may reasonably preclude the owner's decision to incur a certain demand on this parcel. After the two-step review process, the potential demand may be estimated based on applicable standards and practices. The eligibility criteria discussed in this TM addresses only the first step of the two-step review process that is based mostly on land use designations and zoning ordinances. Additional factors including physical characterizations (e.g., slope, soil type, etc.), regulatory requirements (i.e., water use standards), and other applicable factors will be further incorporated in the demand estimate process. The eligibility criteria developed herein can be used to delineate water use planning zones that are consistent with the County General Plan for sequent demand estimates.

Eligibility Criteria

Table 1 presents a summary of water use eligibility by land use designation, with criteria that reflect the associated zoning ordinance limitations consistent with the County General Plan. The eligibility criteria were developed based on discussions with the County Planning Department staff, Agricultural Commissioner and staff, and other individuals familiar with the County General Plan. Where applicable, the County General Plan sections and its supporting information are referenced.

It is important to emphasize that the eligibility does not guarantee that a certain demand would be developed on the specified parcel. As previously mentioned, the realization of a certain demand requires applications of other considerations and applicable water use standards and practices.

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Primary and Adjoining Uses

Both M&I water use and agricultural water use may be eligible for certain land use designations, as shown in **Table 1**, reflecting the rural-agricultural setting in El Dorado County. However, it is important to differentiate between the primary use and the adjoining use for these land use designations. For example, parcels with the Low-Density Residential land use designation are for residential use, resulting in M&I water use (i.e., primary use). However, the County General Plan also permits agricultural practices on these parcels, resulting in agricultural water use (i.e., adjoining use). Similarly, a parcel designated as Agricultural Lands is dedicated to agricultural use, resulting in agricultural water use (i.e., primary use). However, a farmhouse with domestic water use could also be permitted for complementing the intended farming operation, resulting in M&I water use (i.e., adjoining use). The preferred rural-agricultural way of life means that permitted agricultural practices in El Dorado County include both commercial and noncommercial purposes where non-commercial practices are limited to personal consumption. The emphasis on the difference between the primary use and the adjoining use is because an adjoining use cannot be considered without the existence of the primary use, consistent with the intent of the County General Plan.

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Table 1. Summary of Potential Water Use Eligibility by Land Use Designation

| County General Plan Land Use Designation | Potential Water Use Eligibility Consistent with the County General Plan ¹ | |
|--|--|--|
| | Municipal and Industrial Water Use | Agricultural Water Use |
| Multifamily Residential (MFR) | Eligible ^{1,2,3,4} | Not eligible |
| High-Density Residential (HDR) | Eligible ^{1,2,3,4} | Not eligible |
| Medium-Density Residential (MDR) | Eligible ^{1,2,3,4} | Eligible (adjoining use** only) ^{1,2,6} |
| Low-Density Residential (LDR) | Eligible ^{1,2,3,4,5} | Eligible (adjoining use** only) ^{1,2,6,7} |
| Rural Residential (RR) | Eligible ^{1,2,3,4,5} | Eligible (adjoining use** only) ^{1,2,6,7,8} |
| Agricultural Lands (AL) | Eligible (adjoining use** only) ^{1,2,11} | Eligible ^{1,2} |
| Natural Resource (NR) | Eligible (adjoining use** only) ^{1,2,12} | Eligible ^{1,2,9} |
| Commercial (C) | Eligible ^{1,2} | Not eligible |
| Research & Development (R&D) | Eligible ^{1,2} | Not eligible |
| Industrial (I) | Eligible ^{1,2} | Not eligible |
| Open Space (OS) | Not eligible ¹³ | Not eligible |
| Adopted Plan (AP) | Per Adopted Plan ^{1,2,10} | Per Adopted Plan ^{1,2,10} |
| Public Facilities (PF) | Eligible ^{1,2} | Not eligible |
| Tourist Recreational (TR) | Eligible ^{1,2} | Not eligible |

* The eligible lands will be further evaluated for demand estimate depending on their other attributes (e.g., soil types, slope, etc.)

** An adjoining use on a parcel is not allowed unless the primary use is established on a specific parcel, while satisfying other criteria in this table.

Eligibility Criteria:

¹ Excluding non-jurisdictional areas with federal and state ownerships.

² Outside of Mitigation Area 0, per County Zoning Ordinance 130.71.030 to protect the Gabbro Soils Rare Plant Ecological Preserve area.

³ Residential parcels with Assessor Parcel Number Status Code 00 (i.e., taxable).

⁴ Residential parcels over 1,815 square feet (inclusive) based on the maximum density of 24 dwelling units per acre for MFR per Policy 2.2.1.2 of the County General Plan.

⁵ Residential parcels within the Agricultural Districts, which the Board of Supervisors has determined should be preserved primarily for agricultural uses, should have a lot size of 20 acres or the minimum lot size established by the underlying land use designation, whichever is greater, per Policy 2.2.2.2 of the County General Plan.

⁶ Residential parcels with zoning ordinance designations of Agricultural Grazing (AG), Limited Agricultural (LA), Planned Agricultural (PA), or Rural Lands (RL), per Table 2-4 of the County General Plan.

⁷ Residential parcels over 10 acres (inclusive) with Residential Estate (RE) zoning ordinance designation. The criterion is added for practical reasons to reflect general practices. LDR and RR are the only residential land use designations that allow RE per Table 2-4 of the County General Plan.

⁸ Residential parcels over 10 acres (inclusive) with Timber Production (TPZ) zoning ordinance designation. This criterion is added for practical reasons to reflect general practices. LDR and RR are the only residential land use designations that allow TPZ per Table 2-4 of the County General Plan.

⁹ Natural resources parcels with zoning ordinance designations of AG, LA, PA or RL, per Table 2-4 in the County General Plan.

¹⁰ The Adopted Plan (AP) Land Use Designation recognizes areas for which specific land use plans have been prepared and adopted. The specific parcel-level land use designation information is not available from the County's GIS database for land use; therefore, the primary assessed land use from the parcel data was used to refine the land use designation. This approach was applied to the City of Placerville as well. See **Table 2** for more details.

¹¹ Parcels with AL land use designation allow a maximum of 2 residential dwellings used to support agricultural use, per Policy 2.2.1.2 of the County General Plan.

¹² Parcels with NR land use designation may have one dwelling unit per 40 acres maximum density if not suitable for timber production, per Policy 2.2.1.2 of the County General Plan. Thus, the M&I water use eligibility would exclude the parcels with both NR land use designation and TPZ zoning ordinance designation.

¹³ Parcels with OS land use designation can be used to designate public lands under governmental title (County, State Parks, Bureau of Land Management, U.S. Bureau of Reclamation, U.S. Forest Service, etc.), where no development other than that specifically needed for government-related open space uses is desired, per Policy 2.2.1.2 of the County General Plan. Exceptions include Marshall State Park, Placerville Nursery, and the U.S. Forest Service Institute of Forest Genetics, where El Dorado Irrigation District has existing agreements to serve these water needs.

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WATER USE PLANNING ZONES

For the purposes of water use planning and demand estimates, two water use planning zones were established based on the eligibility criteria provided in **Table 1**.

- **Urban water use planning zone:** Lands for economic development where the County General Plan allows only M&I water use.
- **Rural-agricultural water use planning zone:** Lands for economic development where the County General Plan allows both M&I water use (including rural domestic water use) and agricultural water use (for commercial or non-commercial practices). As previously mentioned, M&I water use and agricultural water use can be the primary use or the adjoining use on a parcel depending on the parcel's land use designation.

Delineation of Water Use Planning Zones

The delineation of the water use planning zones is based on the land use information contained in GIS format provided by the County Surveyor's Office in March 2019. Note that the County Surveyor's Office updates its GIS database and land use information as needed, and the resulting delineation of the water use planning zones can be updated by applying the same water use eligibility criteria discussed in **Table 1**. The eligibility criteria should be reviewed for potential update to maintain consistency when the County revises its General Plan.

Treatment of the Adopted Plans

An additional treatment was required to determine land use designations within the AP land use designation because the land use information available for AP did not contain details on the adopted land use. The parcel data from the County Assessor's Office was used as a reference, specifically the Primary Accessed Land Use (USECDPRILI) field in the database which depicts the primary assessed land use information within AP. This additional treatment was completed in June of 2019. **Table 2** shows cross references between the parcel information and assigned land use designations for water use planning purposes.

Treatment of Remaining Parcels with no Land Use Designation

After the process mentioned above and additional inspection of the parcel information, 3,142 parcels had no information on primary land use designation or use. These parcels can be more than 500 acres, although more than half of them are small in size. Some of them are roads in developed areas. To the extent possible, these parcels were classified by using a combination of methods including the Primary Accessed Land Use (USECDPRILI) and the Secondary Accessed Land Use (USECDSECLI), visual inspection using Google Earth, land use designations of surrounding parcels, and in some cases verification with the County Assessor's Office. When applicable, **Table 2** was used to assign the corresponding land use designation to these parcels. The classification process stopped at parcels with 0.37 acres in size or less. A total of 495 parcels remained unclassified for water use planning purpose. The exclusion of these parcels from the water use demand calculation would result in a slightly conservative estimate. However, the total acreage of these 495 parcels is only 53 acres. The omission of the 53 acres will have only a limited impact on the overall demand estimate for the West Slope water use planning zones that cover an area of more than 388,000 acres.

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Table 2. Cross References of Parcel Primary Assessed Land Use information and Land Use Designations for the Areas with the Adopted Plan (AP) Land Use Designation in the West Slope

| Primary Assessed Land Use (USECDPRIL1') | County General Plan Land Use Designation |
|--|--|
| Community Oriented Facilities | Public Facilities (PF) |
| Hospitals & Convalescent Hospitals | Public Facilities (PF) |
| Misc. Improved Recreational | Public Facilities (PF) |
| Place of Worship | Public Facilities (PF) |
| School – Large (101 + Students) | Public Facilities (PF) |
| School – Medium (13 - 100 Students) | Public Facilities (PF) |
| Bar, Tavern | Commercial (C) |
| Cemeteries | Commercial (C) |
| Medical/Dental/Vet Offices | Commercial (C) |
| Mini-Warehouse (mini-storage) | Commercial (C) |
| Misc. Improved Commercial | Commercial (C) |
| Motel, Hotel | Commercial (C) |
| Non-Res. Improvements <=2.5AC. | Commercial (C) |
| Offices | Commercial (C) |
| Parking Lot | Commercial (C) |
| Restaurant | Commercial (C) |
| Retail Stores <=5,000 Sq. Ft. | Commercial (C) |
| Retail Stores 5,000-15,000 Sq. Ft. | Commercial (C) |
| Retail Stores >15,000 Sq. Ft. | Commercial (C) |
| Rural Non-Res. Improvement 2.51-20.0 AC. | Commercial (C) |
| Service Station | Commercial (C) |
| Supermarkets | Commercial (C) |
| Vacant Commercial Land | Commercial (C) |
| Warehouses | Industrial (I) |
| Heavy Manufacturing | Industrial (I) |
| Light Manufacturing | Industrial (I) |
| Misc. Improved Industrial Property | Industrial (I) |
| Vacant Industrial Land | Industrial (I) |
| Retirement Housing | Low-Density Residential (LDR) |
| Rural Mobile Home 2.5+ AC. | Low-Density Residential (LDR) |
| Rural Res. 2.51-20.0 AC. 1 SF Unit | Low-Density Residential (LDR) |
| Vac Rural Res Land 2.51-20.0 AC. 1 Unit | Low-Density Residential (LDR) |

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Table 2. Cross References of Parcel Primary Assessed Land Use information and Land Use Designations for the Areas with the Adopted Plan (AP) Land Use Designation in the West Slope (Cont'd)

| Primary Assessed Land Use (USECDPRIL ¹) | County General Plan Land Use Designation |
|---|--|
| Manuf. Homes <=2.5 AC. (Mobiles) | Medium-Density Residential (MDR) |
| Single Fam. Res. <=2.5 AC. (INC.MAN.HMS) | Medium-Density Residential (MDR) |
| Vacant Residential Land <=2.5 AC. 1-3 UNITS | High-Density Residential (HDR) |
| Condominiums & Townhouses | Multifamily Residential (MFR) |
| Mobile Home Parks | Multifamily Residential (MFR) |
| Multi-Residential 2-3 Units | Multifamily Residential (MFR) |
| Multi-Residential 4+ Units | Multifamily Residential (MFR) |
| Vacant Multi-Res. Land 4+ Units Allowed | Multifamily Residential (MFR) |
| (blank) ² | Open Space (OS) |
| Env. Sensitive Land – Restricted Use | Open Space (OS) |
| Unassigned | Open Space (OS) |
| Vacant Recreational Land | Open Space (OS) |
| Rural Res. 20+ AC. 1 Res. Unit | Rural Residential (RR) |
| Rural Res. Land 20+ Minor Non-Res Impr | Rural Residential (RR) |

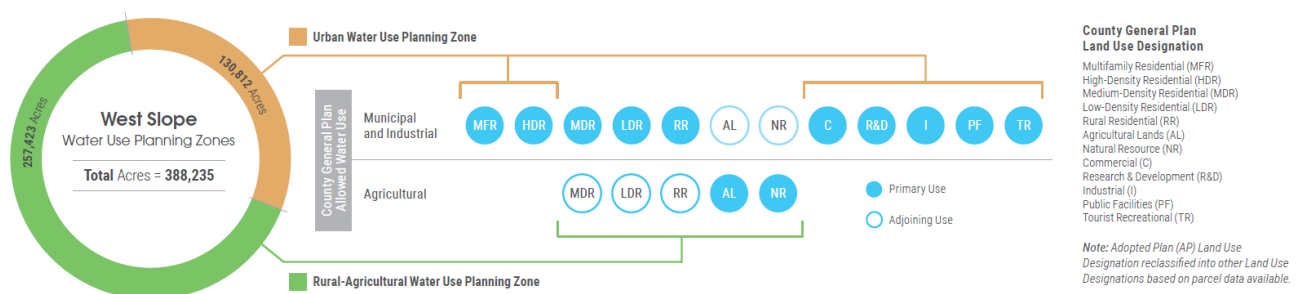
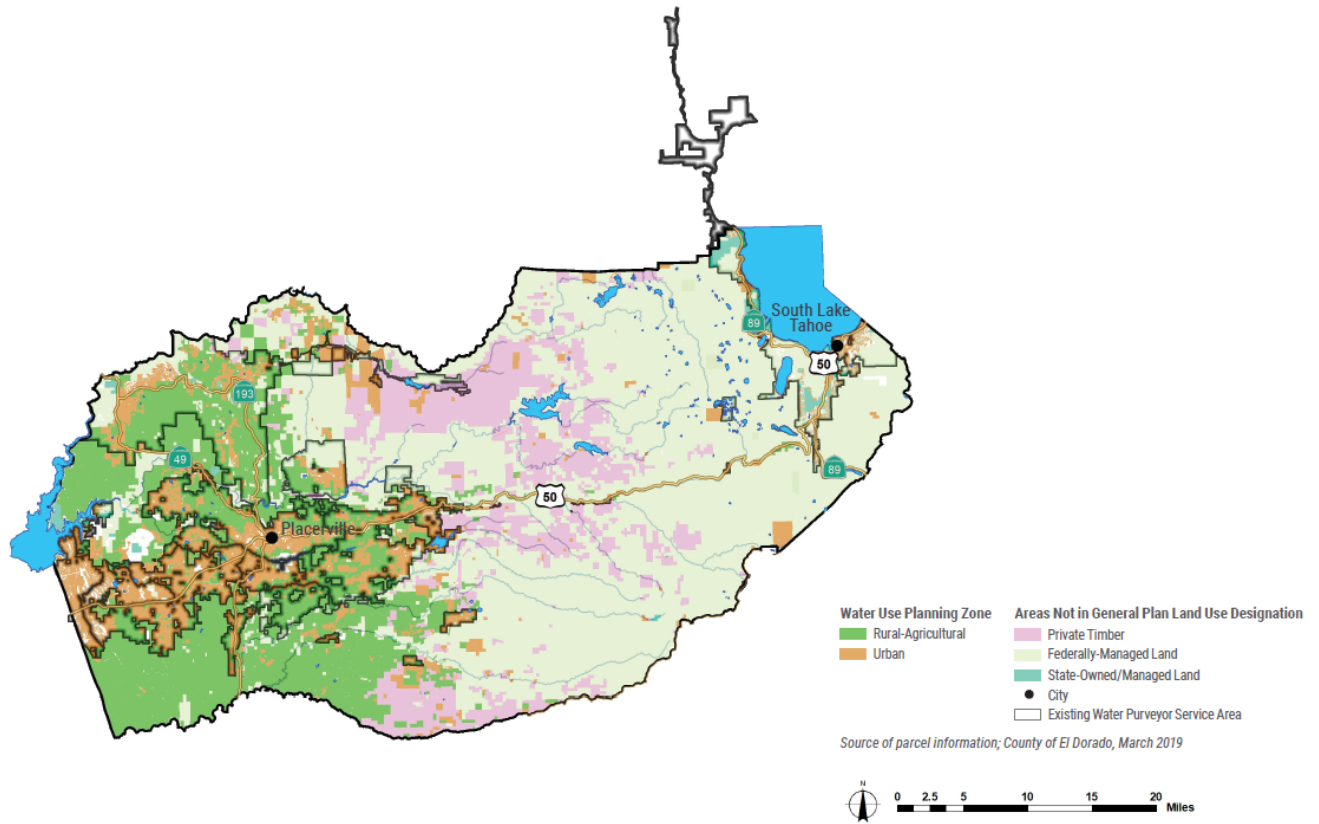
¹ Field Name in County Parcel Database; the entries are consistent with the database entries without changes in abbreviation or use.

² Parcels with no information are roads.

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Delineated Water Use Planning Zones

The figure below shows the resulting water use planning zone delineations derived from the County General Plan land use designations and zoning ordinance designations.



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