

WATER USER MANAGEMENT AND FINANCING OF IRRIGATION FACILITIES THROUGH USE OF IMPROVEMENT DISTRICTS

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ABSTRACT

The Turlock Irrigation District (TID), California's first irrigation district, was established in 1887. The TID owns only the main canals and laterals, which bring irrigation water to large geographical portions of the TID. Improvement districts are organized by local landowners to convey the irrigation water to individual parcels. These local organizations provide essential irrigation service including water conveyance, drainage, and supplemental water from wells and pumps. The cost for these services is paid by assessments levied against the member properties.

BACKGROUND AND HISTORY

The Irrigation System

The Turlock Irrigation District was established as California's first irrigation district on June 6, 1887, under provisions of the Wright Act, a law enacted in the state of California providing for the establishment of irrigation districts. After building the diversion and distribution facilities, the TID made its first delivery of irrigation water from the canal system on March 9, 1900. Today the TID irrigates 150,000 acres of land that consist of 7,500 parcels of property and approximately 5,000 individual irrigators. A location map showing the District is shown in Figure 1. The District extends from the foothills of the Sierra Nevada on the east to the San Joaquin River on the west. The Tuolumne River forms the TID's northern boundary, while the Merced River forms the southern boundary. The TID canal system stretches from La Grange in the foothills of the Sierra Nevada Mountains where water is diverted from the Tuolumne River, to Lateral 8 which ends 2 miles from the confluence of the Merced and San Joaquin Rivers.

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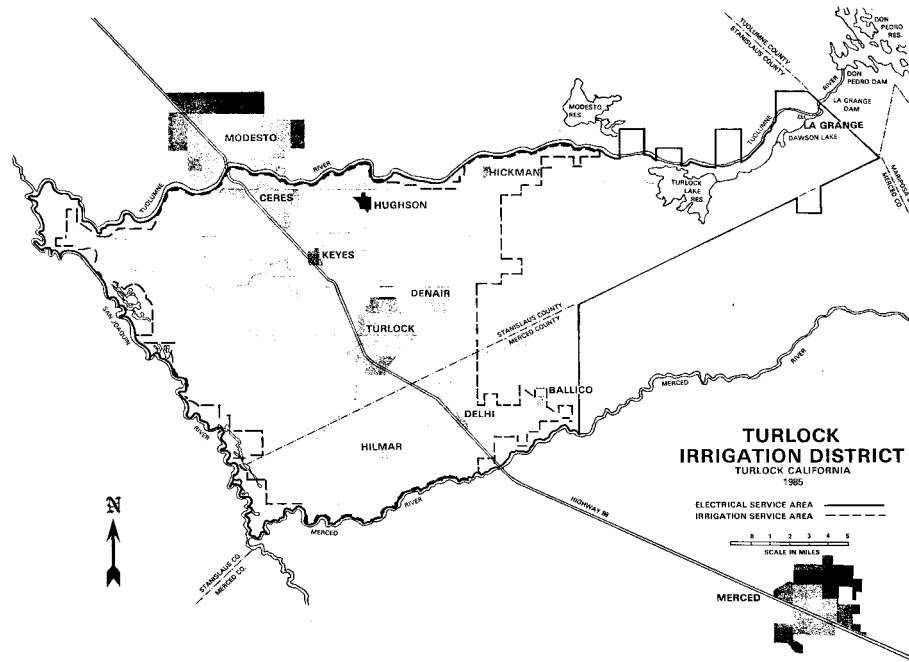


Figure 1. Map of TID

As the TID developed its irrigation system, it also developed a philosophy of determining what facilities would be owned, operated and maintained by the TID, and what facilities would be owned operated and maintained by the users of those facilities. The TID owns and operates the canal system, which consists of 250 miles of concrete-lined and unlined canals and laterals that provide irrigation water to large geographical areas of the TID. The TID also owns, operates and maintains spills from the canal system and provides drainage facilities in the western portion of the TID. District water charges and revenue streams pay the cost for these TID facilities.

The TID established that delivery of water to individual fields is the responsibility of the property owner. Such deliveries are accomplished through improvement district pipelines or ditches, or privately owned pipelines or ditches.

The concept of organizing improvement districts to own local water delivery facilities was developed to provide a mechanism for orderly construction and operation of local irrigation facilities. These districts also apportion the costs of constructing and maintaining these facilities to the users of the facility. Figure 2 shows the layout of a typical improvement district with a pipeline irrigation facility.

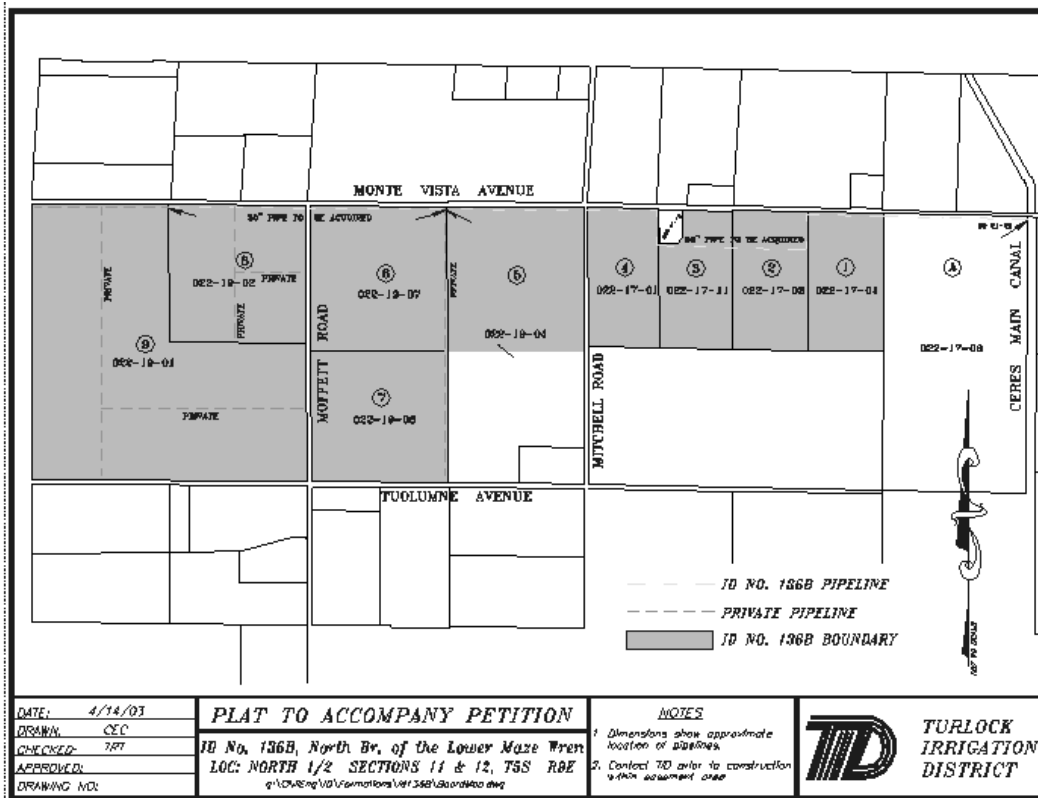


Figure 2. Map of Typical Improvement District



Types of Improvement Districts within the Turlock Irrigation District

Improvement districts (ID's) are special governmental organizations organized under provisions of the California Water Code and consist of the particular properties that utilize a specific irrigation facility. They are organized to own and operate various irrigation facilities apart from those owned by the Turlock Irrigation District. The property within the improvement district pays the costs of constructing and maintaining the irrigation facility. The Turlock Irrigation District Board of Directors governs the Turlock Irrigation District and is trustee for the improvement district. As such, the Board holds title to the assets of the improvement district for the benefit of the property within the improvement district. The five members of the Board are elected from geographic divisions of the District for staggered four-year terms.

The California Water Code provides that improvement districts may be formed for various purposes related to constructing and maintaining irrigation and drainage facilities. Table 1 details the types of improvement districts organized with the Turlock Irrigation District, the number of each type of ID and the total

acreage of those improvement districts. A photograph of a typical improvement district facility is included for each type of ID.

Table 1. Improvement District Facilities

	
Type of Facility:	Irrigation Ditch
No. of ID's:	28
Total Acres:	13,824
	
Type of Facility:	Irrigation Pipeline
No. of ID's:	751
Total Acres:	114,607



Type of Facility: Irrigation Pump
No. of ID's: 238
Total Acres: 89,911



Type of Facility: Drainage Pump
No. of ID's: 23
Total Acres: 5,829



Type of Facility: Surface Drain
No. of ID's: 28
Total Acres: 18,338



Type of Facility: Urban Storm Drain
 No. of ID's: 1
 Total Acres: 10



Type of Facility: Pump and Micro Irrigation System
 No. of ID's: 1
 Total Acres: 56

IMPROVEMENT DISTRICTS WITHIN THE TURLOCK IRRIGATION DISTRICT

Formation of Improvement Districts

Improvement districts are formed under provisions of California Water Code Sections 23600 to 24103 and conforming rules adopted by the Turlock Irrigation District. Landowners interested in forming an improvement district discuss their plans with TID staff assigned to administer improvement districts. Details of formation procedures, costs, and timeframes are explained upfront with the interested parties. In general, formations of improvement districts follow the following steps:

- TID staff prepares a legal document called a petition for the interested parties.
- The interested parties sign the petition and return the document to the TID
- The TID Board of Directors receives the petition and requests that TID staff prepare a map and preliminary study of the proposed improvement district formation.
- The preliminary study and map of the proposed improvement district is presented to the TID Board of Directors. The Board then requests TID staff to prepare a detailed feasibility study that includes the following
 - Plans and Specifications for the facilities of the proposed improvement district
 - Estimate of construction costs for the facilities of the proposed improvement district
 - Estimate of the annual costs to maintain the facilities of the improvement district.
- The feasibility study is presented to the TID Board of Directors who then schedules a formal hearing to consider the proposal to form the improvement district. The proposed improvement district members are notified of the hearing, and notices of the hearing are posted in the local newspaper and physically posted in the neighborhood of the proposed improvement district.
- The Board of Directors conducts the hearing and listens to any problems or objections of the proposed landowners or neighbors of the proposed improvement district. If the Board finds that formation of the improvement district is in the best interests of the proposed improvement district and the Turlock Irrigation District, the improvement district is formed. Legal notice is filed in the county recorder's office so that the ID membership condition will appear on the property's chain of title.

The California Water Code provides a mechanism that has been implemented by the Turlock Irrigation District for property to include into an existing improvement district. For example, a property owner may acquire a neighboring parcel and change the source of irrigation water from one improvement district to another. TID procedures follow the outline of the Water Code sections to allow the new parcel to join the other ID. Inclusion of property into an improvement district follows a similar sequence of events as forming a new ID. The including

parcel is required to “buy” into the new ID by paying an amount based on the original construction costs of the ID facility.

Owners of property that no longer requires the services of the improvement district facilities may request the TID Board to allow the property to “abandon” the ID. Such abandonments are allowed in limited circumstances, such as when property develops from agricultural to urban uses. In these cases, all assessments the property owes the improvement district must be paid, and the developer may be required to improve the irrigation facility to urban development standards. This work to improve the facility is required so that the remaining landowners in the improvement district are not adversely affected by the property leaving the improvement district.

Operational Considerations

Turlock Irrigation District rules establish the TID Board of Directors as the governing board of the improvement district. In order to establish common operating procedures, the TID Board has adopted rules and regulations pertaining to all improvement districts. The rules provide that each improvement district may appoint a committee of landowners within the ID to handle day to day operation of the improvement district. For example, the committee may request repair work to be done on an improvement district pipeline, or establish operating procedures for an improvement district pump. All procedures followed by improvement district members must conform to TID rules for irrigation of property, and the general rules for the operation of improvement districts.

Maintenance Considerations

Maintenance of the irrigation facilities of the ID is one of the primary functions of improvement districts. Members of the committee of the ID are charged with keeping the facilities in good operating condition. When maintenance is required, the committee follows procedures set up by the TID to schedule appropriate TID maintenance staff to attend to the needs of the ID facilities. In order to foster accountability and openness in ID procedures, two members of the ID committee must approve the work being planned.

The ID committee members may also request that private contractors perform the maintenance activities, subject to TID contracting rules and procedures. The TID may also recommend that private contractors provide the maintenance service, if TID forces are backlogged or that specialized work is required.

Capital Construction Considerations

Financing the construction of capital improvements is another of the primary functions of improvement districts within the Turlock Irrigation District. Typical capital projects include replacing a dirt or concrete lined ditch with a concrete

pipeline, or constructing a well and pump for supplemental irrigation water. When the need or desire arises for these capital improvements to irrigation facilities separate from the canals owned by the Turlock Irrigation District, the proponents discuss the plans with staff members of the TID who develop the necessary preliminary engineering and cost estimates. This information is used during the formation process, which was previously illustrated. Final construction costs are paid by assessments against the ID property for ten years. The assessments include principal and interest at the current interest rate.

Financial Considerations

Improvement districts are financed by assessments against the property that are calculated and billed on a yearly basis by the Turlock Irrigation District. The assessments are calculated on a per acre basis, with the total costs of the improvement district divided by the number of assessed acres within the improvement district. The assessed acreage of a parcel is normally the parcel's gross acreage. The assessment bills are mailed to property owners in November of each year, with half of the assessment due in the month of December, and the remaining half due in June of the following year. Unpaid assessments can become a lien against the property and therefore have a high priority against other liabilities of the property owner. In addition to any improvement district assessments, property that receives irrigation water must pay a yearly charge for irrigation water service.

Operation and Maintenance (O&M) costs of the improvement district are accumulated from September of the previous year through August of the year the assessment is calculated.

Capital costs are accumulated during the construction period and summed to provide a construction assessment for the following ten years. Construction assessments commence when the work is completed and the facilities are in operation. In addition to this principal, an interest payment is added. The current interest rate charged improvement districts is 6-1/2%.

During the calendar year of 2003, improvement districts paid \$939,255 in O&M assessments to operate and maintain their irrigation facilities. During that same year, improvement districts with recently constructed irrigation facilities paid \$365,312 in construction assessments to pay off the construction cost of the ID facilities.

ID Member Considerations

As a result of their direct financial stake in the ID facility, the users of those facilities generally operate them in a prudent manner. As a result of operating their ID facility, the users can have a great influence on the cost of O&M for those facilities. The user's expectations of service levels and maintenance

services are tempered by their direct financial participation in those activities.

TID Considerations

One benefit of forming improvement districts is the TID is able to direct the costs of constructing and maintaining user irrigation facilities to the owners of the particular facility. Another major benefit of the formation of improvement districts is that it provides a governance structure to the users of the improvement district facility. This structure consists of a committee of users that can be consulted and can provide coordination services between the TID and members of the ID.

The TID provides administrative and engineering services to the improvement districts. These services include design of the facilities, construction management, operation and maintenance consultation and accounting services. These service levels are not inconsistent with the service levels that would be needed if the TID directly owned, operated and maintained the irrigation facility. In addition, fees and overhead recovery charges paid by the improvement districts offset the costs for TID to provide these services.

CONCLUSIONS

General TID revenues pay for irrigation facilities that serve the District as a whole thus ensuring that TID irrigation rates remain competitive. The innovative use of improvement districts within the Turlock Irrigation District assures that customers receiving irrigation water from the TID have the opportunity to construct and maintain irrigation facilities appropriate for their needs. Through improvement district assessments, the users of those facilities pay the costs for those facilities serving individual irrigated properties.