Chapter 12

The First Don Pedro

One of the basic concepts of California water law is that water appropriated must be put to beneficial use or it may be lost.

Water rights are within the jurisdiction of state law and, while the Raker Act guaranteed that the City of San Francisco would not interfere with minimum flows to the Modesto and Turlock Irrigation Districts, it specifically disclaimed any interference with state water-rights laws.

With the City of San Francisco firmly established on the Tuolumne River watershed, the irrigation districts had to put their water to work or risk defaulting it to the bay city.

While this consequence was present in the minds of some, the overriding demand for the development of new storage facilities on the Tuolumne came, however, from farmers whose water ran out in July and August. This left them at least one full irrigation short of the amount needed to mature tree crops fully. Extra irrigations also would insure additional cuttings of alfalfa.

Although the Modesto district looked briefly at high-mountain reservoir sites in Yosemite National Park, an ideal location existed a short distance upstream from La Grange Dam. About a mile below Don Pedro Bar, the Tuolumne River rushed through a deep, narrow gorge of solid rock. Just above the gorge, two canyons branched out to provide a large natural storage area.

Don Pedro Bar got its name from a don of Spanish descent. Some say he was from Mexico, others claim he was a Chilean. Long before the gold rush reached the area, he is said to have taken seven or more donkey loads – the number increases every time the story is told – of gold out of the area. Tales of a lost Spanish mine, presumed to be one of the richest in the state, go back to the days before the discovery at Coloma touched off the 1849 gold rush.

The gorges of the Tuolumne River, including Don Pedro Bar, Red Mountain Bar and Six Bit Gulch in the 1850s, proved to be one of the richest placer mining areas in the world, yielding uncounted millions for the hundreds who sought their fortunes there.

In a 1922 interview with *Stockton Record* reporter Shelden Davis, "Uncle Jimmy" Hammond, then a partner in Hammond & Bates Grocery in La Grange, recalled as a child "seeing them uncover the soil at a point just above where the dam is going up and seeing the gold – quantities of it – lying there in a crevice.

"The miners would let us run our fingers through it. Just as if it were so much sand."

The town of Don Pedro Bar quickly sprang up and in 1860 some 1,500 voters went to the polls there on the day that Abraham Lincoln was elected United States president. There were two streets, a pair of hotels, a "fandango" house, a restaurant, a bakery and even a brewery. There were no churches, but a temperance hall was located in a semi-isolated spot on top of a hill near the school.

The town was destroyed by fire in 1864. With the gold fever dying, the village never was restored. Most of the residents, including many pioneer families still prominent in Stanislaus County, resettled in La Grange. A few Chinese were left to rework the diggings.

By the time the Modesto and Turlock Irrigation Districts built Don Pedro Dam and Reservoir, the only remnants of the once-lively town were a few fire-blackened chimneys, a cemetery with about 30 graves, only seven of which were marked with headstones, and one resident, Lee Bung.

Some claimed Lee, generally called "Bung", was 110 to 120 years old, which would have made him the oldest man in California. More likely to be about 90, Lee reportedly had come to Don Pedro Bar in 1854 at about the age of 20. He was the last to leave before the waters covered the once gold-rich bars, for the cemetery had been relocated earlier.

The gold of Don Pedro Bar was gone by the mid 1860s, but half a century later other riches far more valuable than the gold were being recognized: water.

In August 1908 the two districts began to talk about the need for additional storage in that vicinity and two years later they joined in a study of water rights above La Grange Dam. First, they looked at the rights of the La Grange Ditch and Mining Company La Grange Water Power Company. Two years later, a couple of inconclusive meetings were held to consider a partnership proposal with the Yosemite Power Company.

On its own initiative the Turlock district investigated the ultimate Don Pedro site and bought the first land for the project. Preliminary studies were completed in 1913 – in which Modesto's rainfall totaled

only 4.30 inches. It also was the year the City of San Francisco cemented its hold on the upper reaches of the Tuolumne.

In December 1913 plans and specifications prepared by TID Engineer Roy V. Meikle were accepted by the TID board. The directors called for the construction of the reservoir and applied to the U. S. Department of the Interior for the right to use government lands for reservoir purposes above Don Pedro Bar.

While aware of the Turlock district's activities, the Modesto district was not yet willing to join in the venture. Relations between the two partners were strained due to Turlock's refusal earlier that month to support fully Modesto's last-ditch efforts to block the Raker Act in the U. S. Senate.

Although the late historian Paul Christian contended that the Raker Act provided an "adhesive bond" between the districts, the glue was not to stick for a few more years and at least one Modesto recall election.

Apparently acting on its own in 1915, the Modesto district appealed to the House of Representatives Committee on Appropriations for federal assistance to build a dam on the Tuolumne. MID Chief Engineer F. C. Herrmann sought federal funding from the committee at field hearings in Redding. The reception was most cool.

After that, Modesto somewhat reluctantly joined in a December 15, 1915, resolution by which the Modesto and Turlock districts agreed to build a reservoir at Don Pedro "at such future time as satisfactory arrangements could be made."

Modesto was hesitant to accept the engineering and economic feasibility findings of the TID engineers and wanted its own independent confirmation that it was a good project. Christian properly labeled this attitude as "partly caution, partly contrariness."

Matters came to a head in 1918.

While the TID continued preliminary work, Modesto stood on the sidelines watching. By the start of that year, the time had come to make substantial investments in test borings and other field work. Turlock invited Modesto to share the costs of the next phase of feasibility investigations.

With no positive response from its neighboring district, the Turlock board feared the Modesto district might back out then or at some future date. In accordance with an 1890 working agreement, the

Turlock board put Modesto on notice to get in or get out within 60 days. Turlock had purchased the land, applied for U. S. Department of Interior permits and was about to call a bond election.

Turlock not only wanted to know the MID's intentions, but also demanded reimbursement of $20,000 toward the cost of land which it already had purchased without Modesto's consent.

The Modesto board replied on February 27, 1918, with a formal resolution declaring that the MID had no part in the selection of the site, did not have $20,000 budgeted to pay for its share of the land bought by the TID, was not sure of the project's feasibility or whether the site selected was the best choice. Without further information, it was not in a position to become involved in investigations which would cost the MID upward of $100,000.

Again the Modesto board raised the five-year-old issue of the Turlock board's refusal to join Modesto in fighting the Raker Act, contending that the TID had assisted San Francisco "take away" from the Tuolumne River 400,000 gallons per day when it should have been fighting exportation of the water from the San Joaquin Valley. The MID board stated it would continue to "use every means possible" to prevent consummation of the Hetch Hetchy Project.

With that, the Modesto board said it might want into the project later, but not at that time.

And it took the matter one step further. Declaring that it "sympathized" with the Turlock district and its water users, the Modesto board, nevertheless, voted 3-2 – Directors C. A. Hilton and J. S. Tully dissenting – to abrogate that portion of the 1890 MID-TID working agreement which declared that whenever one district gave notice it was proceeding with a project, the other had 60 days in which to become a participant or for all time lose the right to join.

The reaction of both Modesto district farmers and city people was immediate and violent.

The Modesto Chamber of Commerce and Merchants Association petitioned the MID board to rescind its action. Director Allen Talbot, who had voted for the resolution, reported that a March 2nd meeting sponsored by the Farmers Union had attracted hundreds of people who were virtually unanimous in their demands that the MID board reconsider. Newspaper reports said MID directors who tried to explain their position were shouted down.

After a lengthy "informal" discussion between the two boards on March 11th, the Modesto board by a 4-0 vote changed its position on March 18th and agreed to cooperate, accepting completely the TID

proposal. Director Fred W. Way, who originally had opposed joining the TID, was absent. He resigned shortly thereafter. Thus, the 1890 agreement was reinstated with the understanding that in the future neither district would proceed on any aspect of the project without first conferring with the other.

In April 1918 the two boards met and finally agreed without dissent on one thing: The dam should be named Don Pedro.

Once the Department of Interior approved Turlock's application for the use of public lands, the districts joined to proceed with comprehensive feasibility studies.

Based on the strong recommendation of the U. S. Bureau of Reclamation, consulting engineer A. J. Wylie of Boise, Idaho, was hired. Wylie had just completed the federal agency's huge Arrowhead Dam in Idaho, then the largest in the world. In October, Wylie and his associate, Ross White, confirmed all of TID Engineer Meikle's earlier findings, reporting that conditions not only were excellent for the construction of a storage reservoir, but they also would be ideal for the generation of electricity.

According to then current irrigation laws, however, the districts were precluded from the developments of hydroelectric power for any purpose not directly related to irrigation.

Stanislaus County's two representatives in the California Legislature were good friends of irrigation. Modesto attorney Esto Broughton, whose father was to serve as an MID director, took office in January 1919 as one of the first women to serve in the state Assembly. L. L. Dennett had served as the MID's attorney for years before his election to the state Senate.

The districts turned to them for help.

On January 20, 1919, Senator Dennett introduced an act to provide for the development of power by irrigation districts. Six days later Assemblywoman Broughton introduced an identical bill. The districts lobbied hard for passage of the legislation.

The Broughton bill passed the Assembly March 31st. Senator Dennett deferred to the lady, withdrew his bill was approved by the Senate April 16th. Governor William D. Stephens signed the bill into law May 21, 1919.

Three days before the bill was to become effective July 22, 1919, the districts decided to proceed with construction of the dam and the powerhouse.

Once again the Modesto and Turlock Irrigation Districts were leading the field when, without a dissenting vote, a formal decision was made on July 24, 1919, to incorporate generating facilities as part of the project.

At the same time, it was agreed that the two districts would share future project expenses and water and power benefits in strict proportion to the number of acres in each district: 31.54 percent for Modesto and 68.46 percent for Turlock.

This was the first time the division of costs and benefits had been so specific. The cost of La Grange Dam was divided half-and-half. In 1909 when the two districts explored the upper Tuolumne River for storage potentials and two years later in meeting some joint legal costs, they split the costs generally on a one-third/two-thirds basis. When it came to the major expense of building Don Pedro, the Turlock district demanded a breakdown strictly in accordance with the acreage served: 81,183 acres in the MID and 176,210 acres in the TID. After holding out for the less precise split, the MID agreed reluctantly.

The division of costs and benefits was to be challenged in a 1932 lawsuit brought by Modesto attorney W. C. LeHane, but the case never was brought to trial.

The Modesto district agreed to reimburse Turlock for its share of earlier expenses and, in turn, Turlock transferred to Modesto the title to 31.54 percent of the reservoir and dam-site land and water rights it had acquired earlier. The districts subsequently filed for an additional 325,000 acre feet of storage rights for power and irrigation.

From that point on, things moved quickly.

Based on Wylie's recommendations, it was agreed that the structure would be a solid concrete gravity dam 283 feet high, 1,000 feet long and 16 feet wide at the crest and 170 feet wide at the base. A construction budge of $3,375,000 for the dam was adopted. Modesto would issue $1,182,700 in bonds to finance its share of the dam and reservoir and $192,000 for the generating facilities. Turlock's share would be $2,567,300 for the dam and $417,000 for the power plant.

On January 12, 1920, a petition containing the names of 1,315 MID residents called for an election on $2 million worth of bonds to finance the district's share of the Don Pedro Project cost.

Although an agreement provided that either district could construct the power plant independently if the other decided not to enter the energy field, there was no doubt in the minds of either board as to the

value of the generating potential. The Modesto board, in a conservative moment of caution, however, decided to leave the matter up to the voters. The bond election scheduled for February 17th actually had five separate bond issues on one ballot:

For construction of the dam and reservoir, $1,180,000; for construction of the power plant, $181,600; for an electrical transmission system, $298,400; for enlarging the upper main canal, $150,000, and for drainage works, $190,000.

Except for the drainage works, all phases were inter-related, for once the reservoir was in operation, the upper main canal and associated works had to be enlarged to handle the increased volumes of water made available to irrigators. Although drainage works were considered an independent issue, some argued that more irrigation would aggravate the water-table problem.

The results were overwhelming. The dam and reservoir bonds were voted 1,827-184. The power plant was approved, 1,715-190; the upper main canal works, 1,746-158; the drainage works, 1,608-269, and the electrical transmission system, 1,646-219.

The only dissent was in Salida's Division 4, represented by Director J. B. Trask, who had been at odds with the TID for some time. There, voters disapproved of the dam, reservoir and generating facilities. They approved, however, of increasing the capacity of the main canal and improving drainage facilities.

With that monumental vote of confidence, the Modesto board once again confirmed its intent to build Don Pedro as a joint project. But the harmony was to be short lived.

At a joint meeting on March 10th, the two boards agree to put TID Engineer Meikle in charge of the project with MID Engineer Percy Jones as his assistant. Wylie would continue as consulting engineer.

A few days later, the fight was on again.

The Modesto board balked, demanding that the three engineers have equal responsibilities. Still miffed that the TID had pushed ahead with the project and then put Modesto directors in the "take it or leave it" situation, the MID board refused to ratify the agreement. A majority of the Modesto directors argued the TID was trying to make them "rubber stamp dummies," which they refused to be.

Later that month a joint meeting which was designed to "consolidate" actions of the two districts was described in press reports as the stormiest encounter yet between the MID and TID Boards of Directors. After that, the MID board refused to attend any more joint meetings.

The voters had different ideas.

At a mass meeting held late in March, nearly 2,000 people demanded that the MID directors meet immediately with their Turlock counterparts and resolve their differences. When MID board members present tried to defend themselves, the reaction was described as "near violent." Still, the Modesto directors stonewalled.

As the project entered its second month of delay, MID Engineer Jones reported that enough water to fill Don Pedro one-and-a-half times had spilled over the top of La Grange Dam so far that spring.

With $2 million in bonds already voted and water going to waste, farmers and city residents alike saw no reason for further delay and promptly recalled the three directors who had refused to ratify the March 10th agreement, Trask Talbot and Axel W. Stratton.

Fifteen days after the June 1st recall election, in what the *Modesto Morning Herald* referred to as a "completely harmonious" meeting of the two boards, Meikle was confirmed as project engineer and Jones as assistant. Smooth working relations were established, with agreement that each board would ratify independently any decision reached in joint meetings.

"Harmony and a desire by the members of both boards to cooperate in the construction of Don Pedro Dam was the dominant feature of the meeting and of greatest importance to the residents of both districts," the Modesto paper declared.

It was time to get down to work.

Bids for construction of the dam were opened February 24, 1921. The engineer's estimate was $3,723,598, but the low bid of R. C. Storrie and Company was $4,098,530. Utah Construction, the only other bidder, had placed the figure at $4,127,780. Both were rejected as too high and bids were sought a second time.

This time 10 firms submitted 13 bids, all cost-plus proposals. The districts had three alternatives: accept an uncertain cost-plus contract, advertise again in the hope of better bids, or build the project under their own superintendency, be their own contractor in other words.

Although the 1921 water year was to be a normal one, the four preceding years had been substantially below normal. To readvertise probably would delay the project through one more irrigation season. Comments made in later years by Meikle indicated he pressed hard to proceed by "force account"

with expanded district staffs. This decision was made March 10th, with the Turlock board unanimous but the MID board divided. Directors J. W. Guyler, D. W. Morris and H. J. Coffee voted to proceed; E. L. Routh and C. A. Hilton dissented.

And so it was that the two Stanislaus County irrigation districts undertook on their own one of the largest dam-building projects in the world. Engineer D. H. Duncanson was employed at $1,000 a month as project superintendent and work was ordered to proceed.

The first task facing the districts was building their own railroad. Started in April 1921, a $209,913 standard-gauge line was built from the gravel bars in the Stanislaus Railway. The gravel trains would use this route to Hetch Hetchy Junction. A new line would carry trains an additional 8.5 miles from there to Don Pedro. This was a trip of 33 miles from gravel pits to the dam-site terminal. By October the railroad was delivering 20 carloads of gravel each day, plus heavy equipment and all other supplies needed for the project.

Workers were on the job in May and on June 25, 1921, Modesto Board Chairman Hilton and TID Director S. A. Hultman simultaneously pressed buttons to explode the first charge of dynamite to officially commence work on the dam proper. Two years later to the day, Hultman presided at the dedication of the completed project.

The summer of 1921 was filled with preliminary work, such as building barracks and family housing, a mess hall, a hospital – the *Herald* boasted that it was "complete with up-to-date Xray" – and a schoolhouse. About half the workers were married with families. When teacher Sophia C. Tucker opened school on November 17th, she had 22 pupils on the roll.

A small community quickly took shape. Don Pedro Bar in those days was a long way from anywhere and social and cultural activities were important. The latter did not include a pool hall, although an application was made by an enterprising businessman to provide one. The suggestion was ignored by the Modesto board.

Prohibition only recently had been voted and sobriety was the rule, but on at least one occasion the kitchen crew used some of the large mess hall pots to experiment with making whiskey. Informal reports indicated they were not too successful.

Modesto's papers carried daily news reports on the progress at Don Pedro, mostly filled with social events such as the report that 150 had turned out for the Halloween ball, with an added comment that, "Many parties help to keep up the interest in Stanislaus' great camp."

Also noteworthy were the days when "smiling, good-natured" stage driver Roy Alverson failed to show up on his regular run from Modesto to the camp. The arrival of the stage always was an occasion.

On October 27, 1921, when the first concrete was poured at the dam, the *Herald* account headlined this construction milestone. The story by the Don Pedro correspondent, however, first told about a surprise birthday party given Mrs. Dallas Duncan with a table "loaded with delicious cakes and the fragrant odor of Java filling the night air."

Actual construction work was under way now. The excavation work was minimal except for the spillway to be constructed on the north side of the dam. Test borings had revealed a riverbed of hard, blue flint rock 200 feet deep. No more than a foot of surface rock had to be cleared before reaching a base stable and solid enough to hold a structure towering more than 25 stories high.

The spillway posed problems, however, because the rock formation was rife with seams filled with clay. The deeper the excavation, the worse it became. A total of 130,000 cubic yards of rock and soil were excavated for the spillway alone, more than four-and-a-half times the amount of excavation required for the rest of the dam.

The problem was how to support a 45-foot deep spillway channel on an extremely steep ledge with poor rock. The solution was to make the spillway lip, which carries the gates, of massive concrete with only enough reinforcing steel to allow for temperature stresses. Grouting down to green rock, 50 or more feet below the surface, and a massive concrete slope wall proved economical and efficient, withstanding extreme flood runoffs over the years.

The dam began to take form by late October with the pouring of the first concrete, an event which the *Morning Herald* glowingly recorded. The results would "stand a noted mark of workmanship for time to come as the greatest efforts ever put forth by our worthy districts of both Turlock and Modesto Irrigation Districts to supply patrons the water that shall make Turlock and Modesto the garden spots of California."

Following a special tour of the project, Howard Bartlett of the *Morning Herald* made a special progress report December 4, 1921:

> That the construction of Don Pedro Dam is way ahead of schedule is due to the wonderful organization gathered together by D. H. Duncanson, who has built several of the largest dams in the country. Ross White, resident engineer, is also entitled to a great deal of credit for the fine support and assistance he has given Duncanson.
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> Those familiar with the sound of a 100-stamp quartz mill will only be able to understand what kind of a noise the concrete mixers, gasoline trains and air drills throw out into the Tuolumne River canyon. Like a town born of an oil boom, the little village and works at Don Pedro has sprung up like an army camp and everything in it, including the workers, carry an air of alertness.

Bartlett reported work was progressing on both sides of the canyon: "practically two dams were being erected," separated by a 15-foot waterway to allow for the rise of the river during high water. At the time, both sides were approximately 35 feet high. The diversion channel, which ultimately was 50 feet tall before it was topped off, was to be closed the summer of 1922 when minimum runoffs could be controlled.

At the time of Bartlett's October report, 500 yards of concrete was being poured each day, but Superintendent Duncanson predicted this soon would increase to at least 1,000 yards a day. By Christmas, another 20 feet would be added to the dam's height.

Excavation for the south wing of the dam had commenced. On the north wing, part of the excavation was completed and Bartlett told of grouting by ""powerful concrete guns with air pressure (provided by 300 horsepower compressors) used to shoot concrete down into the ground to fill up any crevices which may be in the foundation."

During Bartlett's tour, Duncanson, who served as superintendent of the La Grange Dam during the latter part of construction, commented on some of the differences between the two:

> We had only four men working in the dining room (at La Grange) and here we have 26. The La Grange Dam was built of stone and cement and few people know that only 25 per cent of the dam is stone and 75 cement. Construction was begun in 1889 and was completed in 1893. Small cables were used in those days and were called upon to lift rocks weighing 12 tons and now, with the same cable, we consider such a trick dangerous. Only one man was killed on the La Grange job, and I hope to complete the Don Pedro job without a fatality.

By December 18th, the *Herald* published what it labeled as the "First Airplane View Ever Published of the Don Pedro Dam Construction," reporting Duncanson had exceeded his estimates. The dam already was 60 feet high and work was 20 days ahead of schedule. Completion by the end of 1922 was possible, which would mean the filling of the reservoir during the winter of 1922-23.

The sluice gates were installed in the base of the dam and nearly 5,000 barrels of cement had been used so far, with orders for 50,000 to 200,000 more barrels to be placed within a week. From 200 to 275

men were employed on the Tuolumne River, with another 75-man camp maintained at the Stanislaus River gravel pits.

Immediately following the optimistic report, heavy rains set in, destroying the hopes of completion in 1922. Work was not to resume again until late January. The rains had caused the railroad tracks to settle and supply trains were stopped for two weeks during repairs. Plant equipment was damaged by the heavy downpour, which raised the level of water to within 5 feet of the lower portion of the dam. That it could "all but be observed."

By late February the *Stockton Record's* Davis reported work was progressing on schedule again with a realistic completion date set for the early spring of 1923. David described the work of placing 800 yards of concrete a day:

> Dropping into the canyon for a maximum distance of 600 feet, the steel concrete chutes are day by day building up the great Don Pedro Dam across the Tuolumne River. Suspended from two-inch cable ways, the larger conduit swings like a gigantic reptile and spits its concrete mixture just where it is required.

He forecast that as the dam got taller and wider, the pouring would increase to 1,200 yards per day. The work crew now was up to 400 men.

Cement was moved directly from boxcars to the mixers. Sacks were unloaded into a pair of two-yard concrete mixers and the empty sacks thrown into a shaker which shook every last particle of cement dust from it, thus saving much cement. Aggregate was hauled 600 feet from bunkers to the mixers by two gasoline-powered narrow gauge trains.

During spring and summer, work went well. By May 22, 1922, seven months after the first pour, a total of 101,000 cubic yards of concrete was in place. It was estimated that the job would take 280,000 cubic yards of concrete. By mid-November water was beginning to back up against the dam. The two irrigation districts stored enough water behind the still unfinished dam to extend the irrigation season until September 15th for the first time in history.

The last concrete was poured March 15, 1923, A total of 296,552 cubic yards of concrete had created a dam 284 feet high, 177 feet thick at the base and 16 feet thick at the crest, which extended 1,040 feet across the Tuolumne River canyon – the highest gravity dam in the world. Behind the dam was formed a reservoir 14 miles long and 3 miles wide with a total storage capacity of 290,400 acre feet, covering 3,180 acres at high water.

The total cost of the dam, not including the powerhouse, which cost an additional $1,140,340, was $3,724,000 and the job had been done by the two irrigation districts serving as their own contractors.

Although basically completed, it took until early June for the finishing touches. The official dedication was held on June 25, 1923, two years to the day from the official start of the monumental effort. Fifteen days earlier, the reservoir had filled to capacity. Approximately 1,000 people made the tortuous 40-mile trip to Don Pedro for the dedication and to view the now-filled lake.

Enough water was captured behind the reservoir that year to extend the irrigation season until October 12th. Nearly 62,000 acres were irrigated, nearly 10 times the area watered just a score of years earlier. In 1924 when the rainfall during the water year was less than five inches, the season still lasted until September 27th. After that, October 15th became the normal time to end irrigations.

Only twice since Don Pedro was constructed has irrigation water been cut off in August: 1931 and 1934, two years in the midst of the extended 1928-1934 drought when rainfall was well below Modesto's 95-year annual average of 12.05 inches.

Turlock Director Hultman, who presided at the dedication ceremonies, summed up the celebration by declaring: "We meet today to dedicate the Don Pedro Dam and Powerhouse, the highest dam and the first powerhouse to be constructed and operated by the people of an irrigation district or union of irrigation districts."

Once again the Modesto Irrigation District and the Turlock Irrigation District were leading the way for the rest of the state and nation.