

An Interview With
Duane D. Buchholz
Retired Engineer of Water Engineering Design Division
Los Angeles Department of Water and Power
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at
Overlooking Crowley Lake, Mono County, California

The Interviewer is Dick Nelson

NELSON: Duane, why don't you give us a brief recap, where you were born, schooling, etc.

BUCHHOLZ: I was born on a farm in Iowa and left there when I was three years old when my folks moved to Greeley, Colorado. My early schooling was completed there and in 1959 I graduated from Greeley High School. I entered the University of Colorado at Boulder and graduated in 1964 with a bachelor's degree in Civil Engineering. I was offered a job with the Department of Water and Power in Los Angeles. At that time the Department was doing a lot of recruiting at the Mid-West schools, the then "Big Eight". I felt flattered coming from a small town and having a big organization wanting me.

The draft board must have been keeping good records on graduates because I received a notice inviting me to take a physical the day before I was to leave for Los Angeles and the Department job. I drove into Denver early that morning, took the physical, finished about four

in the afternoon and drove on west to L.A.

NELSON: When was that?

BUCHHOLZ: February 1964. My start date with the Department was February 10, 1964.

At that time being new to the engineering field and not having worked in any engineering fields, I wondered what I was supposed to accomplish the first day of work. I had done summer labor work during college. Well, I went through the Department physical examination and completed a bunch of paperwork and it was noon and I thought, "Gee, I've earned four hours pay and I haven't really accomplished anything." I felt bad about that.

NELSON: What were your first duties?

BUCHHOLZ: I was a Civil Engineering Assistant. We were given two weeks of orientation where we worked out of the drafting squad and learned how to plot services and do computations, and things like that.

Then, I was assigned to the North (San Fernando) Valley Squad which was headed by Bill Rice at that time. North Valley was interesting because we had a lot of residential and commercial development going on. Porter Ranch was one of the big developments.

It was about the time when the Department was about to raise the rates from the old eighty cents a front foot to the actual costs of mains and fire hydrants, so I think every developer in the valley started filing their tentative tract maps so they could qualify for the old rates. We had reams and reams of tract maps coming in. It really pushed us during the day and we even had to put in some overtime to handle the volume.

NELSON: What would you do with the maps?

BUCHHOLZ: We would review the maps and decide what water mains, fire hydrants, and services were required. There was a special Area of Supply Charge District (ASC) whereby hillside residents had to pay a portion of the facility cost of pumping and storing water for use in the area. Our job was to analyze all requirements and advise the City Planning and Building department's of what would be required of the developer before he could get his tract map approved.

NELSON: Did you estimate costs at that time?

BUCHHOLZ: Yes, either the book cost that we applied the cost for services, or for foot of main, or if it were a special case we would actually do an estimate.

NELSON: Do you remember who else was in the squad?

BUCHHOLZ: Bob Carr and Gene Braxton were Assistants. Howard SooHoo was a draftsman. I think all of these people have retired now.

NELSON: Who was the Engineer?

BUCHHOLZ: Wells O. "Bud" Abbott Jr. The first day I was there and before I was introduced to him I was told, "Here's one of the movers and shakers in the Department. He's going all the way to the top, so come over and meet him." I think George Adrian was the Senior Engineer at that time. Emil Mamrelli was the division head. It was quite an infamous group.

I would credit Bill Rice with the fact that I stayed with the Department. When I first arrived, like a lot of young engineers, I

thought I would stay a couple of years and see how I liked it, then look elsewhere. I looked elsewhere, but Bill was right and I never found anything as challenging.

NELSON: What was your next assignment?

BUCHHOLZ: The new General Office Building (GOB) was completed in 1965. Everyone was all set to move in, then we had the big fire on the 13th floor. The 13th floor was, of course, the Design Division's floor. So, we remained in the old building an additional six to eight months. I was in Distribution Design for about two years, then I applied for a job in the Planning Section and was accepted. I worked in Planning for Don Trestick about five months, and we covered the planning for Western District.

NELSON: Did your work area pretty much collate with Water Operating Division's Western District?

BUCHHOLZ: Yes, I think it did. What was interesting to me in Planning was that you needed a lot of alternatives when you were studying a project. I remember one time I submitted three alternatives for a job. I was told, something like, "Well, you really ought to go back and develop two more alternatives." I replied that they weren't feasible, but was told to develop them anyway. I was thinking, "Why am I wasting my time doing this. I have three valid alternatives, one of which is probably the one we will recommend." But, we always had to have plenty of choices.

The reason I wasn't in Planning very long was that I was interested in going to work on the Second Los Angeles Aqueduct which was moving into the construction phase. Bill Simon had taken over the division from

Emil Mamrelli, who had retired.

NELSON: I understand Mamrelli was sort of a unique person.

BUCHHOLZ: He was. I played bridge with him at noon with, Bill Rice and Bob Jarmon. I had never played bridge before coming to the Department. Coming from a German background I had played a lot of cards, but, never bridge. So, I watched them play bridge for several months until I learned the game and when there was a vacancy, I slid in. Playing with the division head had its plus's and minus's. If he was your partner, and got mad at you at some play you had made during the game, you sat and took it.

I thought Emil was a good engineer. A lot of his peers had that same good sense and practical abilities. Bill Rice could never pass the Civil Service examinations to rise above Associate Engineer level and could never pass the Professional Engineer registration examination, yet, I had the greatest respect for him as an engineer, writer and problem solver. He knew what was needed and he got it accomplished. That was fascinating to me.

Going back to Mamrelli, I remember when I arrived in the 1960s he was still wearing his 1940s suits. Then he married one of the young secretaries and pretty soon Emil started dressing really spiffy. I believe he had a child with his new wife.

He always had a half of a cigar between his fingers or in his teeth. Those were the days of smoking. You couldn't go into a meeting room without waving your hand in front of your face to see who all was in the room.

Going back to the Second Aqueduct I talked to Bill Simon and he said he would take me on in Inspection. It was a little unusual and not

allowed in those days for a person to stay in a unit less than two years. I had only been in Planning for five months and several people spoke to me saying, "If you leave here, all you'll be doing is counting roller passes out in the field," or, "You'll never amount to anything here in the Department if you keep skipping around." It was real arm twisting trying to keep me in the Planning Section, but I was determined to get outside in the field.

Since they weren't quite ready for the full Second Aqueduct construction, I was assigned to the Santa Ynez Reservoir. I went out there in 1966 and was there two full years basically helping to inspect the building of the whole dam and reservoir, beginning with the first brush removal until we started paving the slopes and bringing the water in. That was real good experience and I worked for Gene Boyd.

I had gotten somewhat used to dealing with contractors because during college summers I had worked in a couple of sub-divisions building houses. I had also worked in a sandstone rock quarry a couple of summers.

NELSON: Were those student engineer-type jobs?

BUCHHOLZ: No. I just had to go out and earn enough money to get me through school the next year.

I sort of became the tunnel "expert" at Santa Ynez. We had a 700 foot long tunnel that went from the tower to the outlet works. I was placed in charge of that during construction.

Tunnel people always interested me because they were the type of people who got things done. I remember that after the tunnel had been blasted through, there were two pipes that had to be installed, a 12-inch drain pipe in the bottom, and the outlet line, which I think was 60-inches in

diameter. Because we had encountered quite a bit of fractured rock during blasting, the invert (floor) of the tunnel was very rough and irregular. The pipe contractor scratched his head for several days wondering how he was going to get the 12-inch pipe layed from one end to the other. Finally, the tunnel crew couldn't stand it anymore and said they would do it for him. So, they took over that part of the job and put the pipe in within the week using heavy timbers and a front-end loader. That really impressed me because they weren't going to sit around and wait, they were going to get the job done.

NELSON: Was that hardrock?

BUCHHOLZ: Yes, they blasted all the way. They drilled to five-foot depths, 10-12 explosive rounds on each, then blast it out, muck it, and drill the next one.

The tunnel itself was horse-shoe shaped, about eight feet in diameter. The tunnel carried the pipe from the outlet tower inside the reservoir outside to where the inlet-outlet line was buried in the canyon. As I said Gene Boyd was the Resident Engineer. He had been in Inspection most of his career. He was well respected and had a number of big jobs on his resume. His last job before he retired was the \$26 million construction of Los Angeles Dam and Reservoir which replaced the old Van Norman Dam and Reservoir that had been damaged in the February 1971 Sylmar/San Fernando earthquake.

After we excavated the tunnel at Santa Ynez, and before the concrete line was installed, we located possible areas where the concrete might not fill all of the voids. We marked them station-wise and location-wise in the tunnel. After lining drilled holes right through the concrete and installed tubes to inject a mixture of grout

to fill the voids. I recall we got on this grout hole one day and started pumping about 1 p.m. Usually, we would pump for a half hour and the void was filled. This hole took grout all afternoon and I'm thinking, "What in the world is going on here?" We shut down in the afternoon and came back the next morning to put some more grout in. It wouldn't take a drop more! We couldn't figure out what had happened. I decided to scout around up on the top of the mountain where I saw a geology tube sticking out of the ground filled with hardened grout. The grout was trailing halfway down the mountainside. I realized it was one of the original geological investigation core shafts used when the tunnel location was being determined. All the grout was being forced up the pipe. We solved the mystery and got a good laugh out of it.

Bob Olson, was the Senior Engineer in Inspection out at Santa Ynez and Fraser Crofts was the Waterworks Engineer. Fraser was quite a character too. He was sure of himself, that's for sure!

After I had been at Santa Ynez and almost saw its completion, Bob told me that I was going to move on to the Freeman and Bishop Claim Conduit, Second Aqueduct, in a few months when the job was awarded. In the meantime I was sent to Mojave for four weeks of some tunnel work. There were a series of tunnels that had to be constructed. One went under Highway 58; two under a double-set of Southern Pacific Railroad tracks, and one under the First Los Angeles Owens River Aqueduct that would serve as a drain for the Second Aqueduct. So, because of my tunnel experience at Santa Ynez I was selected to go to Mojave to inspect the work of the tunnel contractor.

Four months later - I'm scratching my head, saying, "What am I still doing in Mojave on this four-week job?" Then I realized there was no way those four tunnels were going to be completed in four weeks. It wasn't a four week job. I guess that if you're sending someone to

Mojave, you say it's only a four-week stay.

NELSON: Did you "motel" out there or stay at the Department's Mojave Headquarters?

BUCHHOLZ: We stayed at the Antelope Valley Inn at Lancaster. Coincidentally, I was married shortly before I left the Santa Ynez job. I also took and passed the state professional engineer registration examination. I was also getting my Civil Engineering Masters degree at U.S.C. I had signed up for a review class prior to taking the registration examination. I think I attended two classes, got married, went on a honeymoon, and came back with the examination date looming. I debated whether I should even bother going in and taking it or not.

NELSON: You hadn't taken your study materials with you on your honeymoon?

BUCHHOLZ: No. I hadn't been studying as much as I thought I should have been. Anyway, I was very pleased when I got the results and passed it on the first attempt. I guess it was correct to go in that Saturday and take the examination.

NELSON: Did it take the four months to get the four tunnels completed?

BUCHHOLZ: Yes. I was there for four tunnels. The one under the First Aqueduct was like a jack-casing. That's where you take a big hydraulic jack and push the casing through and excavate the material out. The others were all liner-plate where you only excavate maybe a foot ahead of the supported tunnel, then bolt in the liner-plate and move forward another foot or so. The tricky part is to make sure you stay on grade.

CALTRANS and the Southern Pacific railroad people were adamant about the tunnels being right. They checked all the time to make sure everything was being done correctly.

Fortunately, we had sub-contractors who were good tunnel people. They kept very tight excavations so that by the time we put the liner-plate in, we didn't have to use much grout.

After the Mojave stint, the Freeman and Bishop Claim job was about to open up so we were provided trailers in Ridgecrest. You couldn't rent an apartment there so Bob Olson negotiated the rental of a bunch of trailers for us.

We were running three different jobs out of there: the Little Lake Pipeline, Freeman and Bishop Claim Conduit, and the Rose Valley Conduit. At one point the Department probably had upwards of 80 people, including families, living there.

NELSON: Were you able to take your wife with you?

BUCHHOLZ: Yes, we gave up our L.A. apartment and stopped driving back and forth from Lancaster on weekends as we had done for four months. We pulled a trailer with all of our belongings in it to Ridgecrest. I remember the first day when I got stuck out in the street because everything was so sandy, plus about 101 degrees. The winds came up later and the trailer began to rock. Concerned, I asked the manager about the fact that the trailer wasn't tied down and wasn't he worried? Nope! He said that once we got our furniture in we'd have enough weight to hold it down.

That was quite an experience. We lived there for two years. Our oldest two sons were born at the Ridgecrest Hospital.

When I first started, I worked on the Little Lake Pipeline for Joe

Howard for just a few weeks until my job opened up. So, I got a little pipeline experience also.

NELSON: Who was the contractor?

BUCHHOLZ: The Griffith Company who had built the Mojave Conduit obviously had an advantage because they had developed equipment, techniques and experience that made them the low bidder on the Freeman job. As a matter of fact they were a million dollars lower than the next bidder. They tended to remind me on this time and again when making other requests, until one day I said I didn't really want to hear about that anymore. "You bid the job and you're probably going to make money at \$10 million, so let's just drop it."

Griffith had their procedures down to a science and had to move a lot faster on the Freeman Conduit than on the Mojave job. First the floor, or invert, of the concrete box was constructed, followed within two weeks by the walls and top. On the Mojave Conduit Griffith was constructing 400 to 500 feet of box a day, whereas on Freeman we were doing 900 to 1,000 feet per day.

NELSON: How many people did you have out there?

BUCHHOLZ: On the Freeman job, because we were moving so fast, I supervised two survey parties, which numbered about sixteen, and eleven inspectors.

NELSON: Had you been promoted?

BUCHHOLZ: Yes, I forgot to mention that I was appointed Civil Engineering Associate just before I left the Santa Ynez job.

NELSON: Can you remember those inspectors who worked for you on the Freeman and Bishop Claim Conduit?

BUCHHOLZ: I think so. The inspectors were Manual Aceves, Henry Venegas, Jerry Kanter, Jerry Overlock, Ed Havins, Don Bluck, Steve Buchman, and Al Beingesser, Bob Connella, Bob Imp and Jim Tomasula. They were a good group of guys. Some of them later left the Department for better paying inspection jobs at Public Works.

I remember Bob Olson saying to me "We've got experienced inspectors we can send you on this job, or I can send you guys you're going to have to train. Which would you rather have?" I told him to send me the new guys that I could train because I knew I could mold them a bit. It worked out fine.

One thing on that job that was real interesting was that the contractor had to strip forms each day in order to keep moving ahead. So, we required that the concrete had to be up to about 700psi compressive strength before the forms could be removed. That didn't cause a problem during the warm summer months. We'd have a guy up at 4 a.m. getting cylinders off a job site, taking them back to the laboratory, breaking them and telling the contractor by 6:30 a.m. whether he could proceed with stripping out his forms.

In the winter it gets cold out in the desert so the contractor would have to put blankets over the freshly poured concrete and place heaters inside the conduit. We set the test cylinders on top of the boxes, but the contractor didn't think that was fair because the heat of hydration from the concrete curing would give him a little better break if the cylinders were set directly in the concrete. So I let him form out a little box on top of the concrete top and he placed the test

cylinders in there. I thought this was fair and reflected more of the heat of the concrete too.

During the second winter, the compressive strength of the cylinders began to be higher than normal. I took one of the inspectors and we made a "midnight" run out to see what was going on at the job site when we weren't expected. We drove without lights and didn't use flashlights because a light could be seen for miles around and I didn't want the contractor or his troops to spot us.

When we got up to the box and were about to go from the trench side to the box by way of some planks, I tripped over a cord - and almost fell into the ditch. Puzzled, we followed the cord and found an operating electric blanket draped over our concrete cylinders. Someone was trying to get the heat up so they would test higher in the morning.

I shut the whole job down the next day, which cost the contractor a lot of money. The contractor Superintendent was unhappy, claiming he didn't know anything about it. Later, the night watchman was fired for using the electric blanket. He told me he did it to get the job done quicker. We were never quite sure who all was in on it. Anyway, we put a stop to that very quickly.

As we closed on completion of the Freeman Conduit I was under the gun because our job was holding up initial operation of the entire Second Aqueduct. But, Bob Carr and the Jawbone Pipeline bailed us out because they had a major break in Cemetery Canyon and all of a sudden I wasn't the last one to get finished.

When the water first came through the aqueduct every Resident Engineer was carefully watching his section. You would watch the water pass under one manhole, then drive down a mile and watch it in the next manhole. That was a big day when we got the water turned on.

NELSON: After the Freeman job, you came back to L.A.?

BUCHHOLZ: My mentor, Bill Rice, was retiring about that time. He was the Contract Administrator for the Water System. He put in a pitch to me that he would like to see me back in L.A. and take his job. I had mixed emotions. I really liked the field work. But, I understood that there wasn't another big job out there and if I wanted to keep on promoting, I better get back to the GOB. I accepted the Contract Administrator job and enjoyed it. It was interesting because we had several pending claims and lawsuits on Second Aqueduct issues. We had finished the field work, now we were into court work.

The Jawbone problems were interesting because everybody was pointing fingers. It's the designer's fault. No, it's the steel fabricator's fault. No, it's the installer's fault. We finally resolved that through a joint meeting between Bob Phillips and everyone involved.

I stayed in contracts for a couple of years and then was promoted to the Water Works Engineer level. I was promoted to a job in the Specifications Section that was being disbanded. So, my job was to eliminate my section. Actually, what we were doing was combining both Water and Power spec sections into one that would end up in the Power System. That took about six to eight months to wind down. I was still over Contract Administration at that time, although there was an Associate appointed, Wayne Kruse, to handle Contract Administration.

When our Specifications Section was combined with the Power System's section, I was also put in charge of Trunkline Design, which included pipeline sizes from 16 inches to 120 inches in diameter.

NELSON: Where were you on February 9, 1971?

BUCHHOLZ: When the Sylmar earthquake hit I was in Contract Administration. We had a lot of emergency contracts that we put out to get work done during that time. But, what impressed me was the many contractors and others who called to offer their time and equipment free wherever we could use it. At that time I was assigned to the LAPD command post out near the Van Norman Reservoirs. Ultimately, 80,000 people were evacuated from below the dam because we weren't sure what would happen in the event of a major aftershock.

I remember starting work at 11 p.m. one night at the command post. The first night as I was driving out there, I drove below the dam. I began to wonder why I am driving below the dam when the major concern was about the dam in the event of an aftershock. So, I thought I had better find a new route the next night.

We were in the command center to answer any questions that the police commanders might have, go over the inundation maps with them, and give them the worst case scenario's if this or that might happen. I was involved in that as well as the emergency contracts that we awarded.

NELSON: Were, or are you familiar with the inundation maps?

BUCHHOLZ: I'm quite familiar with them because even in my last job as the Engineer of Design, I was responsible for all of the dams in the Water System.

The inundation maps were a requirement of the state and they had to be prepared by any agency who owned dams over a certain size. The worst case scenario was always considered, whereby the reservoir would be full and there would be an immediate collapse of the dam. Now where was that water going to go and how deep was it going to be? and what would be the timeline? While I was in trunkline, we revisited a lot of

the maps and updated all of them. We also had to take into account what our "blowoff" capacity would be, or how fast we could safely release water into a storm drain or our system.

At Van Norman, the quickest method of lowering the water level was to drink it down. The Army Corps of Engineers had set up ten pumps along the shore and were pumping into a storm drain. Their impact was not noticeable to most. Bob Philips knew that we had to get the water through our outlet works and that was the way to get it out of the reservoir in the fastest way.

I probably vividly remember Sylmar too. Because being in the GOB it was hard to get a picture of what was going on at Van Norman until we tuned on the live TV coverage. We could see those Water Operating crews trying to jam a few sandbags into the crevice in the dam which looked like it could open up at any time.

Most people didn't realize that just a trickle of water coming over that forward face, would start erosion and it would be all over. We would have lost the whole thing.

My family and I were living in Arcadia at the time and I didn't initially realize the extent of the earthquake. We got a pretty good jolt. It was like a soundwave. I could hear it coming and soon our windows started shaking and it went rolling on through. As in most disasters, it was hard to get the facts early on. So, we got in our carpool and went to work like we usually did. It impacted me when we arrived at the GOB and all of the elevators were shut down and we had to walk up to the 13th floor. I remember all the cracks in the stairwell too. Upon reaching my office I found all my file drawers opened up. The GOB must have taken quite a bit of shaking too.

NELSON: You were Contract Administrator then. Did you get involved in the contracts for the repair work?

BUCHHOLZ: Once I got past the first few days at the command center at Knollwood and we reached a safer mode, my job was to assist in the emergency contracts by contacting suppliers and contractors and getting bids.

NELSON: I imagine getting bids under those circumstances was a lot less formal than normal?

BUCHHOLZ: You're not kidding! What was so amazing to me is that I don't think we were really gouged much. As I said earlier, contractors were calling in with free help, like water trucks, whatever we needed to provide drinking water. We had many offers of heavy duty construction equipment. I remember one contractor saying, "Hey, I'm out here working on a highway and there isn't any highway anymore. I've got the equipment sitting here now. If you can use it, I'll bring it over."

The emergency contracts went very smoothly because the City Council told our (City of Los Angeles) Board of Water and Power Commissioners that it could award contracts without competitive bidding, which we did.

A lot of the contracts were simply "time and material". We didn't know the extent of the damage and secondly, we didn't have the time to sit down and design everything to the nearest nut and bolt. So we got the contractor out there and start cleaning up the site and we began to see what we had and what was needed and we all went from there.

The designers had to work along with the contractors as some of the things were rebuilt. A lot of the repairs were temporary until several

years later when we could finally replace them with the permanent facilities.

Because we had no lower reservoir we had no way of moving water from the aqueduct or upper reservoir back around to the City so, we had to fabricate an emergency 10-foot diameter pipeline. We called American Bridge and they started rolling pipe sections that day on the authority of one telephone call. There was nothing in writing. There were no dollars discussed - nothing!

NELSON: What jobs did you handle while you were in Trunkline Design?

BUCHHOLZ: The first one was the Franklin By-Pass Line. One of the things the earthquake taught us was that when you lose your reservoir and you don't have a pipeline going around it, you've got no way to move water from one end to the other. So, we immediately began to think that we should have a by-pass on every one of our reservoirs.

Franklin Reservoir was in a very narrow canyon and there was no place where we could build a by-pass on either side of the reservoir so we decided to place it right down the middle of the reservoir along its bottom. Several things were considered when we decided to do that. One is that if the pipeline is ever empty, and this was a 76" diameter, pipe, it will pop right to the surface of the reservoir. So, we designed thick wall, pre-stressed concrete pipe. Even if the pipe were empty, there would be enough weight in the pipeline itself, to hold it on the bottom of the reservoir.

That was a major project. We had to drain the reservoir and we got into a lot of mud. We did it with force-account labor (Department employees), General Services Division people. We finally completed a roadbed and got the pipe in and covered up.

NELSON: You didn't find Hollis Mullray in there did you?

BUCHHOLZ: No, nor Jimmy Hoffa.

That was such an unusual project that I was even asked to write a paper for the American Society of Civil Engineers magazine. Roger Menlove was our Project Engineer and we jointly wrote the paper. Later, I transferred to the Inspection Section at the the Engineer level.

In that capacity, I was now Gene Boyd's boss. Gene had been my boss when I was at the Santa Ynez project and he was now overseeing construction of the Los Angeles Reservoir, which would replace the damaged Van Norman reservoirs. Having worked under and now over Gene reminded me of the adage about treating everyone you came in contact with fairly, because you never knew who your next boss might be.

I also had the rebuilding of Silverlake Reservoir project. When rebuilding reservoirs in the city where there are neighbors around, you have a lot more public relations activities to deal with in those cases.

NELSON: What would you do in terms of public relations in the neighborhood? flyers, briefings?

BUCHHOLZ: A lot of the public relations involved informing people, not surprising them. We let them know if there was going to be some noisy, dusty, paving operation with trucks on the road. They appreciate not being surprised. I think that was the key. A lot of informational flyers were distributed. A Resident Engineer is key. He has to be available to talk to anybody who has a issue to discuss.

Anyway, I remained there a short time then I moved to Projects Design where I headed Civil, Architectural, Contract Administration, and Trunkline Design. I enjoyed working with that group again.

In 1980 there was an Engineer level opening in the Northern District, Aqueduct Division. I remember going home and talking to my family. By that time we had four sons. We lived in Arcadia and were happy with the school system. But, I guess the small town part of me came out and I thought it would be nice to get back to a smaller community. The family talked it over at dinner one night and we decided, "No, the kids were all happy in school let's not make any moves at this time". So, that passed, and the position wasn't filled because, I guess, nobody interviewed for it.

About three or four months later Jim Wickser, then Northern District Engineer, put the position out again. This time the family decided to drive up to Bishop for a few days and see how it looked. So we did and liked it and I applied for the job. I got hired and we moved up to Bishop in July 1980.

No one made any promises to me. I remember talking to Paul Lane. I asked him that if Jim left after a while and I was reachable on a civil service list would I be considered for the job. Paul said yes, I would be considered.

We didn't know exactly what to expect in the Owens Valley. This job was my first outside Design Division, although I knew a little about the aqueduct from my time on the Second Aqueduct and I had been on a Water Engineers Club informational tour to the Owens Valley some years before.

I worked for Jim Wickser. Duane Georgeson was the head of Aqueduct. Paul Lane was the Water System head. I was pleased to make the transition. I headed the engineering and survey group, and the hydrographers in the Northern District. Things went along real good. But, Jim was getting vibes every once in awhile that he was going to have to go back to Los Angeles. His five years were up (which turned

into ten) but he knew he would have go back down pretty soon.

It came a little bit quicker than I anticipated. I think within two years I knew he was leaving and I had managed to come out high on the Senior Water Works Engineer list and knew I had a good shot at Jim's position.

NELSON: Was it in the back of your mind that the Northern District Engineer position, at least in recent times, was the stepping stone to heading the Water System?

BUCHHOLZ: Northern District Engineers move up and I can see why. With the responsibilities and being 300 miles from Los Angeles you begin to realize that it's an important position. The person who becomes Northern District Engineer gains a lot of valuable experience very quickly. Things move rapidly in the Owens Valley.

You know how civil service seems to run at its own pace with a multitude of rules and procedures to follow. I think the biggest eye-opener for me after leaving an office in Los Angeles where I tried to follow those rules and procedures as best I could, was that Northern District ran a heck of a lot faster than I had been used to.

When issues presented themselves they were taken care of and we moved on. We didn't always worry about those rules and proper procedures when time was of the essence. We couldn't.

The Northern District Engineer has always had a lot of leeway in what he could do to get things accomplished without, when necessary, having to dot all the i's and cross all the t's.

You had a bunch of telephone calls coming in from the community on a daily basis which had to be dealt with on the spot. You're on a first name basis with a whole lot of people. Days of the week don't mean

much. Hours don't mean anything. You receive calls at 10 p.m.. You get calls on a Sunday. You're expected to be there, answer the telephone and deal with the situation.

Jim left a little sooner than I would have liked because I was still getting my feet wet and learning the activities. I had taken over the construction and shops groups before he left. But, the one thing I had no experience in was the real estate section.

The real estate operation encompasses over 300,000 acres of Department-owned land, and with most of that under lease, including 52 ranch leases. If you were to count all the leases, use permits and yard extension permits, the total would be over 700, which means a lot of paperwork. That was undoubtedly the area where I had the least experience. So, I really had to get "up to speed" on that phase of our operations. The reason I had the least experience was that I just wasn't involved with it up to that time. Construction had kept me pretty busy elsewhere.

If you recall in the early '80s we had some heavy storms that caused a lot of flooding up and down the Owens Valley. Then we had the earthquake-volcano scare in Mammoth. I was trying to get radio repeater equipment installed on towers on the mountain tops so we could make sure we had communications from the Mono Basin all the way down to Haiwee. There were just a lot of things going on. Although nothing happened, volcano-wise, we had to be prepared for just about anything.

NELSON: One thing that has always impressed me is the speed with which the Mammoth Scenic Road was conceived and built.

BUCHHOLZ: Wasn't that amazing.

NELSON: Was there an Environmental Impact Report (EIR) written on that?

BUCHHOLZ: Somehow they did that under an emergency measure. As you may be aware, it cut right through a virgin forest. That showed how serious the agencies were here in the fact that if they had to evacuate 10,000 people up at the ski area, there was no way to get them out of town with the epicenter being about where highways 203 and 395 meet. That epicenter is still right there and it's still active.

We sat in on a lot of emergency meetings with the State, and the Forest Service. When you think about it there was some ground that rose as much as 15 inches. That starts to get a little scary. CALTRANS was out measuring their highway north of Mammoth, saw the rise and initially thought it was a mistaken reading. They did the measurements again and found that, no, the highway had risen 9 inches at that initial time.

I think it was a real scare. I don't know that everybody was thinking it was going to happen. Volcano's normally occur every 10,000 or so years and this one supposedly hadn't erupted in 700,000 years.

NELSON: How were you interviewed for the Northern District job?

BUCHHOLZ: I drove down to the GOB in Los Angeles and was interviewed by Duane Georgeson and Jim Wickser. I don't remember at the moment who the third person was. It might have been Raul Sosa or Ron McCoy. It was an official interview and I don't think I knew or remembered who else might have been interviewed for the job. I was 270 miles away from the normal Department "scuttlebutt" channels.

I think the interview was over about 2 in the afternoon and I drove the five hours back to Bishop. I think, although I wouldn't bet on it, that I got a call the next morning. I think Duane Georgeson called and told me I had the job.

NELSON: Was there an overlap so you could work with Jim Wickser a bit before he returned to Los Angeles?

BUCHHOLZ: We had a little, but I think Jim was spending a week in L.A., then a week at Bishop with me. It didn't last very long. It was "Call me if you need me." I think Jim got a half-day transition when he came up to replace Ron McCoy.

It wasn't a total surprise for me. I could see the handwriting on the wall. I knew that I had done well on the Senior Engineer civil service examination and came out in the top three.

When you think about it you may have Senior's downtown who have twenty people working for them as compared to the Senior in Owens Valley who is the Northern District Engineer and who has 180 people working for him. That's a little bit of a difference.

NELSON: If you hadn't been selected for the Northern District job would you have a Senior job back to Los Angeles?

BUCHHOLZ: That's a good question. Actually I had interviewed for one or two jobs that had come up in Los Angeles. I recall one interview that was a little strange because it was over the telephone. I never left my office in Bishop to interview for that one. That's a little hard. I knew who the interviewers were, but I couldn't see them or see their reactions to my "brilliant" responses.

You can always recover if you're giving an answer and look and see the questioner looking strangely at you. At that point you say, "But, on the other hand here's what I would really do ..." But, it was one of those things. I made the move and brought my family to the Owens Valley so I was not really ready to turn around and move back to Los Angeles.

But, when I got the Northern District Engineer job, the clock started and I knew that like those before me the day would come when it was time to move back to Los Angeles. And to keep you on your toes you would get that annual telephone call, "Hi Duane, how many years have you been up there? Maybe we ought to see about bringing you back." This went on every year, but I did manage to stay in the Owens Valley for 11 years, or until 1991. That was about as much as I could expect.

NELSON: Was that longer than Jim?

BUCHHOLZ: A little, but he was Northern District Engineer longer because I didn't serve in that position for the first two years I was there.

NELSON: Who was on Northern District office staff when you took over?

BUCHHOLZ: I had five managers: Cy Jeter handled real estate; Russ Rawson did ranch leases; Bob Wilson headed engineering, survey and hydrographers; Chuck McCauley handled construction, and Jim Snead oversaw the shops operation.

Jim was a relative of Mulholland's in some way. Jim had a brother in the Power System who called himself "Sneed", but Jim went with Snead. Jim was a career employee who left after 30-some years after coming up through the craft ranks.

My managers were unique because they were all headstrong and they had to be to run their individual operations like they did. But they were also very efficient and very good at what they did.

The Department's educational tours were an important part of our operation. We would conduct about a dozen major bus tours each year, plus a lot more personalized van tours for lawmakers, their staff

people and other VIPs. Duane Georgeson loved to do that sort of thing so with just a few day's notice they would be flying in to Lee Vining, Mammoth or somewhere else and I would have to go pick them up and tour them around for a couple of days.

NELSON: How did the Department rank with other employers in Inyo County?

BUCHHOLZ: Probably No. 1, unless the school district counted all their employees in all the towns, all the schools. The Department probably had the biggest payroll in the county.

You have to remember that with others working up here their pay scale was more associated with the area. The Department pay scale however, was set to Los Angeles.

We were not only an economic factor, but our people served and volunteered for almost any community activity that came along. They were always involved in sports, fundraising and the various service clubs in the area.

NELSON: The Department had 180 employees, counting spouses, etc., in the Owens Valley. We're probably talking 350 or more adults. Some, maybe many of them, were very active in their communities. We've seen and heard of the good works they have accomplished over the years. But, to me, they don't seem to have stuck up for the Department when all the mud was being slung. What is your view on that?

BUCHHOLZ: I don't know if you can say that or not. One of the things we tried to do was to keep our people out of the politics as much as possible. A lot of the people, maybe had strong feelings about certain things the Department did, because a lot of the people grew up and were

hired out of the Owens Valley. A lot of the equipment operators and laborers didn't necessarily come from Los Angeles. They may have taken civil service examinations in the valley and been hired here and worked their way up in the valley. Some may have been born in the valley and never left the valley. I always respected everyone's view on the various issues. There is no right or wrong on any of the issues.

We were accused by certain of the news media of telling our employees how to vote on issues. That's baloney! We never once, to my knowledge, told our employees that they should vote in a certain way. We did not place any pressure on anybody.

I think most of our managers and supervisors were very dedicated to the Department and agreed with what the Department was doing.

On more than one occasion people would say to me, something like, "Oh, well, those policies are being set down in Los Angeles. You didn't have anything to do with that." I sort of smiled because they obviously didn't know how the Department worked. A lot of input was received and analyzed before a policy was promogated. As a matter of fact, I provided a lot of input into what the policies might be. I guess local people said that because they wanted to like you a little better without thinking that you had anything to do with the new policy.

In the years I was in the valley as head of the Northern District, I never really ran into anyone who was hostile. Neither did my family. It's a thing you're always concerned about, "What happens when my kids go to school and other students find out your dad works for the Department."

I think the most vocal people against the Department were people who had lived in L.A. for 20 years and had moved to, and lived in the Valley for a couple of years. This qualified them as experts in the Owens

Valley controversy. I wondered what those people knew about the history. In most of the stories about Owens Valley, the ranchers were always the one's who had been kicked off their land by Los Angeles. Do you know that the biggest supporters the Department has in the valley are the ranchers, with second and third generation families still running those same ranches they sold to the Department back in the 1920s and '30s. They're not bitter. I imagine most of them were happy to get a check in their hands and nothing much else has changed. They're still ranching on the same property.

NELSON: When you took over where was the Department in regard to EIR's on the increased groundwater pumping project?

BUCHHOLZ: I really wasn't familiar with the EIRs. We had already gone through two and both had been declared deficient by the Court. When I got involved we were having sort of a series of informal meetings with Inyo County. Duane Georgeson would come up and we would meet with the ranchers. We would also meet with the county people and some of the Supervisors. We were still trying to work out some sort of an agreement or lay it out anyway.

Being new, I was impressed with the meetings and thought we might get something worked out. But, it wasn't meant to be, at that point anyway. It didn't begin to happen until we sat down very formally with all the players, including a L.A. City Council representative, at least one Board of Water and Power Commissioner, plus the head of the Water System and staff. Inyo County was represented by a Supervisor, a water Commissioner, staff, etc., so that the sides balanced.

That's when things started to jell. A Standing Committee and Technical Committee were formed. I was a Technical Committee member from the

beginning.

NELSON: How did it all get started?

BUCHHOLZ: Inyo County was adamant that there had to be a City Council person on the Standing Committee or it wasn't going to negotiate. They were trying to equate representatives on both sides. A City Councilperson equated to a Supervisor. In the past the County Supervisors had always had to deal with Department officials. Now they wanted elected officials to deal with elected officials.

I think the thing that really brought this all to a head was after we had written two EIRs that the County had gleefully attacked, the County produced and placed Measure A, their Groundwater Ordinance, on the ballot, which would establish control over all pumping in the valley. Basically they were after the Department's pumping wells. Measure A would control use and export, plus generate fee's for exported water.

Measure A was approved overwhelmingly by the voters, which was not unexpected. However, some people said, "That's fine, you go check the Department's wells, but don't you come looking at ours."

So, Inyo County proceeded to write an EIR as required. At that time our negotiations fell off again. The County had their mandate and they were writing an EIR on the Groundwater Ordinance and the Department was headed back into direct conflict with them.

I think the most enjoyable thing the Department did was after the County released their EIR. We got a chance to write Department comments and criticism concerning their document. The reverse role all of a sudden. It was great! We had written two EIR's which they slashed to pieces, now the shoe was on the other foot. We made assignments so that

many of us in the Owens Valley and Los Angeles were happily analyzing and writing away. When we finished, we concluded that it was a lot easier to comment on someone else's EIR, then to write one yourself and have it non-controversial.

I delivered our comments a minute or two before 5 p.m. on the last day of the comment period to Greg James at the County Water Department. I said, "Here you are." He said something like, "My gosh, our EIR is only this thick, how can your comments be so much thicker?"

Since we had also challenged their EIR in the Courts the whole process came to a stop. The Court subsequently ruled that their EIR was not valid and that the County could not step in and take jurisdiction over DWP pumping wells.

NELSON: Did Inyo County know we were going to comment on their EIR?

BUCHHOLZ: Oh yes, They knew we were going to write some very serious comments in reviewing their document.

The County never really went any further than that. When the Court ruled it invalid, I think that brought the parties back to the table.

NELSON: The County was beginning to have to spend some real money. Was this a factor?

BUCHHOLZ: It was, but not only cost. They had been successful in challenging our two EIRs! we were still required to write one that would satisfy the Court. They tried to outflank the Department with their Measure A and EIR which the Court had stopped. I think they began to realize they were in for a long, drawn-out process too. Even if they appealed and moved to a higher court and got it reversed, they would still have to sit down and respond to all the comments that were

directed at their EIR. If not costly, it would have been a lengthy effort. So, I think that since they had received a setback from the Court, authored an EIR that's no good and we had authored two EIRs that were invalid, we finally put our heads together and said, "What is it the Court really wants us to do here?" What we decided was that the Court really wanted us to sit down together, hash it all out and jointly write an EIR. That's what was decided and that led to the formation of the joint Standing and Technical committees.

NELSON: I'm still curious to know how that first meeting of the two sides came about. Did the Department make an overture to Inyo. Did a L.A. City Councilperson call an Inyo Supervisor and say, "Let's get together and work this out?" Did Inyo initiate the calls? Do you know?

BUCHHOLZ: Well, as much as I know or tried to observe I guess we have all asked ourselves "How did we get together?" Maybe there were some behind-the-scenes things going on that I didn't know about. But, like I've said, there were on-going discussions every once in a while where we would try to lay out issues that we thought the resolution of which would solve problems and bring about a tentative agreement. That was going on when I arrived in the Owens Valley and it continued.

I think the failure of Inyo County's Groundwater Ordinance was a definite factor. Where could Inyo County go next? I think we told them on one occasion that we could keep on writing EIR's and the Court could keep telling us they're no good. How long should we keep doing this?

NELSON: Did Inyo County expect their EIR to be accepted?

BUCHHOLZ: No. I think they were beginning to have some second thoughts on the process. Since the first Court threw it out their next option

would be to appeal the decision. I don't think they felt that confident in their chances for a successful appeal.

They might have thought that Measure A was a way to get around the Department. After they wrote an EIR, the Court did not buy the Groundwater Ordinance. Their next step would be to appeal. At that point maybe they decided to step back and take a look at the whole issue. If there were some behind-the-scenes players in Inyo County, obviously Supervisor's Johnny Johnson and Bob Bremmer would have been instrumental in moving things forward. Unfortunately, both of those gentlemen have passed away. Johnny had some contacts with the L.A. City Council. I think he was on a first-name, pick-up-the-telephone basis, with Councilman John Ferraro and Mayor Tom Bradley.

A little later, Department Board members Rick Caruso and Jack Leeney picked up the ball and decided they wanted to have an agreement done. I think it was the intent of those four people that there should be an agreement. I think they had that goal and they achieved it.

NELSON: I wouldn't imagine that L.A. politicians would suffer from entering into an agreement with Inyo County. I imagine it was a different matter with the Inyo politicians.

BUCHHOLZ: Yes, they took heat right up to the point of signing the agreement. There was a recall movement against several of them which was unsuccessful, which turned out to be quite a vote of confidence. But, there were people running around blasting their Supervisors. It was an emotional time, but fortunately, cooler heads prevailed.

I think finally both sides decided to keep going despite the darts and occasional spears being thrown their way. But, so what, the darts are always going to be thrown. Hopefully, the majority of the people would

see that an agreement and peace was better than fighting all the time.

NELSON: As the agreement came together did the County staff support it?

BUCHHOLZ: As the technical issues came up the County hired some consultants who wanted to conduct a lot of research projects on the vegetation. I've often said that if our Standing Committee members ever had to sit through a Technical Committee meeting they would probably have never reached an agreement.

In the Technical Committee we were at the nuts and bolts level where the infighting took place. In some ways it was a lot harder on us at the technical level than it was at the Standing Committee level.

NELSON: Those meetings were not always smooth?

BUCHHOLZ: Oh, by no means, because somebody always had some neat idea on how to spend the Department's money, which as employees of the Department, we didn't always accept those proposals.

As times it didn't seem to us that we were being presented with true scientific studies. They already had the result in mind, so it was necessary to have us provide the funds to prove their conclusions. We suggested that they should begin with an hypothesis, but using that approach they would not know what the result would be until the study was completed.

A lot of it was a lack of trust to begin with. I think we did develop trust between us as we worked together more and more.

NELSON: Did you have an agenda for each Technical Committee meeting, or was it ad hoc?

BUCHHOLZ: We always had an agenda to work from and minutes from the

previous meeting.

NELSON: How did the items get on the agenda to be discussed?

BUCHHOLZ: Items were submitted by both sides.

A lot of times we went in knowing we were not going to support whatever neat new study the County was promoting. That's the thing that annoyed us. We were always trying to get things done, but somebody would always come in with this neat, new thing they just had to do and spend all the Department's money doing it. We'd say, "Wait a minute. Do we really want to do this at this point in time?"

NELSON: But things improved over time?

BUCHHOLZ: Yes, it was either a wearing down process or the two sides finally decided they had to work together. You should remember that at that point there was still no agreement between the Department and Inyo County so why was the Department spending all that money when there was uncertainty if the sides would ever come together?

Inyo County wasn't spending much money. The Department was funding their Water Department. There were also a number of "perks" that would go into effect once the agreement was signed.

NELSON: The Department was mandated to fund the Inyo County Water Department?

BUCHHOLZ: That was the offer of the Standing Committee. Of course Inyo County had insisted on that arrangement. Their position was that they shouldn't have to fund a Water Department to level the playing field when it was the Department who was Court mandated to write a valid EIR.

I think that as far as Commissioners Jack Lenney and Rick Caruso were

concerned money was not the big issue. They were willing to spend the money if we were able to come to a mutual agreement.

NELSON: That turned out to be a significant amount of money.

BUCHHOLZ: That's right and it continues to grow. Some of those County functions the Department funds have inflationary factors. I think the tradeoff was that with the management plan in place the Department could pump more groundwater in dry years. But, to this day we haven't pumped more groundwater, either because there have been a string of wet years when additional pumping is not needed, or because the moisture requirement for vegetation has not been met.

The Department's intent was to be able to pump water in dry years to supplement the normal surface and stream water that went into our aqueducts. That hasn't happened, as I just mentioned, because the moisture in the soil profile has not been sufficient to sustain the vegetation. I'm not sure that's ever going to occur.

At the present we're getting some peace out of the agreement and some cooperative projects going, but are we ever going to get to the point where we can pump the water that we may need in drier years?

NELSON: Is there a time certain when the Department's financial obligation to Inyo County ends?

BUCHHOLZ: No, not really. It will always finance some things. The way the agreement was set up, I think there was a limit as to how much we would pay to their Water Department with the intent being that it would decrease at some future point in time as more issues were resolved. But, to date, it seems to keep going the other way. It's growing instead of getting smaller.

NELSON: Owens Lake may need some water too some day.

BUCHHOLZ: Owens Lake was purposely written out of the agreement. Inyo County didn't want to deal with it. The Department certainly didn't want to deal with it. The County, I think, realized that Owens Lake could be a can of worms as far as our agreement was concerned. I think that if anything on Owens Lake would have been in the agreement, we would still be talking.

NELSON: Let's talk about Mono Lake. When did you become involved in that issue?

BUCHHOLZ: Shortly after I arrived in the Northern District, Jim Wickser sent Dave Babb and me to speak before a little group up at Crestview. We gave the Department's side of the issue and it was well received. Jim patted me on the back a few days later and said, "Duane, why don't you and Dave go talk to a reporter from the Sacramento Bee. He's up talking to the Mono Lake Committee people and he wants to talk to us. Show him around and give him the Department's side of the story." We thought it would be great because it would be an opportunity to get our point across in print, particularly our state capital media.

Dave and I spent three or four hours with the reporter, took him all around the lake and explained all the issues to him. He seemed real receptive and took copious notes. We came back, or at least I did, feeling good about the whole thing. I don't know how Dave felt, maybe I was too "green" at the time.

The next morning the story ran in the Sacramento Bee under the headline, "The Rape of Mono Lake." I looked at it and said, "What!" Of the whole long front page article Dave and I had a couple of inches.

I thought, "They've got to be kidding. We spent all that time out there with the reporter, told him our whole story and we get this and the Mono Lake Committee gets the rest, plus the headline."

I guess I was too new. I went to Jim and said, "We spent all that time with him and this is all we get. I feel like calling him up." Jim encouraged me to do it so I called up the reporter and told him that his story did not seem anything like the balanced approach he had lead us to believe he was doing yesterday - and the headline! All I could get out of him was that he hadn't written the headline, it was his boss.

So, I learned right away that we weren't going to get our side of the story in the press. The guy obviously came up prepared to write a slanted story and he went away with a slanted story. He already knew what he was going to write before he talked to us. That was my initiation into the Mono Lake issue.

I dealt with Mono Lake on a lot of tours and with a lot of politicians and participated in a lot of "on camera" interviews. You could have all the facts and it really didn't make any difference. It was an emotional issue. If they attacked us about the seagulls, and we showed them that the seagulls were doing better than ever, that was fine, they just moved on to another issue, such as air quality, or something else. It didn't take long to realize that they just wanted the lake higher and would use any emotional means available to get their way.

Later, I was appointed by Mayor Bradley to the Mono Lake Scenic Advisory Committee. The first Forest Supervisor on the committee was real good because he was determined he was not going to get involved with the lake level issues. His replacement's tact was different, something like, "We're not dealing with lake level issues, but we're

just showing all the bad things that have happened or might happen as the lake level goes down."

I said, "What do you mean you're not dealing with lake level issues, you're obviously dealing with them. Besides that, how do you put water back into the lake unless you stop the Department's diversions?"

He wouldn't respond to that directly. We finally lost the battle there.

It's taken a while, but I can drive by Mono Lake now and think the lake is beautiful. As a matter of fact, we had dinner there the other night at the Mono Inn. Looking at the lake I said, "Isn't this great." In my mind it might have looked just as good a little smaller.

I guess another way I look at the entire project is that the Department is still going to get some water out of the Mono Basin after the lake level reaches a certain point and during wet years. If we were starting from scratch and looking at the Mono Basin today and knew we were only going to get 40,000 acre/feet a year rather than 100,000 acre/feet, it would still be a viable project. We've got the facilities there to collect the water. It's a good project.

NELSON: Did you get to know David Gaines?

BUCHHOLZ: Yes, he was on the advisory committee that I was on. It wasn't too long after that when he was involved in the fatal car accident.

It was somewhat ironic. We were having a Standing Committee meeting in downtown Los Angeles when someone came in and told us about the accident. Naturally, everyone felt bad, but for some reason someone from the Inyo County side went back and told the local news media that the L.A. people were smirking when they heard the news.

NELSON: What did you think of David?

BUCHHOLZ: You could read him like an open book. He was a true environmentalist and he truly loved Mono Lake and wanted to "save" it. I think his organization, the Mono Lake Committee, outgrew him and began looking to others to present their cause and bring more followers in from around the state. In some ways other people took the issue away from David and were out doing their own thing around the state, and they were very successful in drumming up support.

NELSON: What about Martha Davis?

BUCHHOLZ: She was one who was very good at what she did. I got along fine with her. I remember one time we were both invited to a Forest Service conference in Sacramento to present our positions on Mono Lake. It stayed very friendly. We didn't get into throwing spears back and forth. A few small darts, maybe. I think Martha could be tough when she had to be.

NELSON: Did that advisory committee you and David served on have a big wish list it wanted filled by the Department?

BUCHHOLZ: No, not at that time, but later, as directed by the Courts. I think the committee had more impact on private property within the scenic area, such as determining what color people could use to repaint their houses and things like that. There were a few residents who were upset about that. "We thought you were out to get the City of L.A. What are you doing coming after us?" The Forest Service had a big job trying to administer the scenic area act with all the guidelines they had received from Congress regarding what types of recreation would be

allowed and so forth. They eliminated a lot of recreation near the lakeshore.

NELSON: Was Greg James a benefit to Inyo County and the process?

BUCHHOLZ: Oh definitely. Probably the County would never have had an agreement without Greg or someone very much like him. He was the right person at the right time. He was the most knowledgeable in regard to what had gone on, the law suits and the agreement, and all the other issues.

At the technical level we got along well with him. Sometimes I think he played both sides against the middle. One thing that used to irk me is that we would have technical meetings and have some disagreements. So, we would come to the Standing Committee and the County's technical people would blind side us with something they had pushed up to the Standing Committee saying the Department technical people wouldn't deal with them.

Duane Georgeson was very good in that respect because most of the time he would end up saying, "Let's send that back to the Technical Committee instead of us dealing with that here." He could see what was going on. I thought the "blind siding" was a bit dirty.

NELSON: What about Tony Rossman. He may not have been so much the major player by the time you got to the Owens Valley.

BUCHHOLZ: Tony was out there doing his own thing. He was hired by Inyo County for awhile, but, after his contract was not renewed he became sort of a loose cannon. I think the County realized that they needed to have him back on their payroll, on a retainer basis, so they could control what he was saying. So, he was brought back to work for the County, mostly advisory to Greg James.

I think he helped in getting the agreement done.

When I was Northern District Engineer the Mono Lake Committee would have their annual bike-athon where they would fill vials with water from the Department's GOB reflecting pool and bike it north to symbolically return the water to Mono Lake. Tony Rossman called me late one night before the bikers were to arrive at the lake "Duane, why don't you come jog down to the lake with us? "You've got to be kidding." "No I'm not kidding. I like you, come on down." "No thanks, Tony, I'm afraid I'll have to take a pass this time."

Another unusual occurrence. Some people have wondered how the Court came up with the 19cfs interim flow ordered for Rush Creek. I know exactly how it happened. In 1982 or '83 we were hit by a huge tropical storm and had a lot of flooding. We shut off the Mono Basin diversions because we had more water than we knew what to do with. That was the beginning of never turning it back on again.

We went on for a couple of years with excess water. Then, we decided we were going to turn water back into the Mono Tunnel again out of Rush Creek. But, the environmentalists had already hinted that a fishery had been established downstream from Grant Lake Dam. Department of Fish and Game employees and convict labor crews from Round Valley helped rescue fish and carry them back up to Grant Lake Reservoir. as the water was slowly reduced below the dam. I received a call from Judge Denton who asked how much flow we had in Lower Rush Creek at the time. I told him I would find out and call him right back. I called and got one of our hydrographers to measure the flow, which was 19 cfs, so, I called the Judge after checking with our attorney's and gave him the figure and he told me to "hold it right there". So, that's where the 19cfs figure came from and it stayed there through most of the Court

hearings on Rush Creek. Some wiseguy later said I should have told him it was 5 cfs.

NELSON: What do you think about the agreement. Did L.A. give up too much?

BUCHHOLZ: In some ways I don't think we gave up too much, but that we didn't get as much as we could have gotten. At the beginning I didn't know much about the vegetation issue, but I become educated after sitting in the technical meetings and listening to results of vegetation studies. As this went on and before we had entered into the agreement, I had concluded that maybe we should have just gone for enough pumped water to supply the Owens Valley needs and not asked for pumped water for the aqueduct. That's really what its come down to so far. We barely pump enough now for the in-valley uses. There has been nothing extra to go into the aqueduct. Pumping just enough water for valley uses might have simplified studies and the environmental issues that the Department will continue to deal with.

NELSON: Wouldn't that approach give up about one-third of the Department's water supply that was earmarked for the Second Aqueduct?

BUCHHOLZ: That's true, but the well pumping capacity isn't there anyway. The only value the capacity has now is to allow rotational pumping if you have a well field where the vegetation is hurting, you don't pump that well field, but you go someplace else and pump. So, the capacity just gives you the ability of rotating your pumping around the valley. Total well capacity sort of lost its meaning as soon as we got into the environmental issues associated with the vegetation.

NELSON: There was a task force set up to plan the restoration of the Mono Lake streams. Were you involved?

BUCHHOLZ: No, I was not directly involved with the task force. I really thought there was a lot of wasted time and effort expended there. In fact, a lot of expensive "improvements" the task force had done washed out when the first large flows came down those streams. You had people who thought each rock had to be placed by hand back where they thought it had been in 1941. They wanted little sand deposits here and there and trees planted. But, if you start the water the trees will start growing pretty quickly without anyone's help.

I think the issue that probably hit me the hardest was Walker and Parker creeks, the two smaller creeks that came into the aqueduct. Not only did the Court require the Department to keep the historical flows in those creeks, but, when they got low, we were required to supplement the flows to even higher levels than what they would have been with natural variations. So, at certain times of the year we actually had to turn water out of the aqueduct to put more water into those creeks.

NELSON: I understand that the Court of Appeal had taken the Mono Lake case on as original jurisdiction, but who was providing their expertise?

BUCHHOLZ: There were several Judges assigned to various aspects of the Mono Basin case. One event I vividly recall occurred a few days before we were scheduled to release Parker Creek back into its creek bed below the aqueduct. The Judge was at the diversion structure and asked me if I was in charge. I replied that I was. He said something like, "I'd like that water turned back on at 1 p.m. today while there are a lot of

people here." I told him I would see what I could do. It wasn't a question, "could you," it was "I want to see...". I got on the telephone with our attorneys to see if it was O.K. They said that if the Judge wanted it, we'd better do it. I then instructed our people to start the flow at 1 p.m. When the flow began there were quite a few people gathered, mostly Mono Lake Committee members and the Judge. When I saw the Judge start skipping down the stream with the Mono Lake people, I said to myself, "I don't think we're going to win this case."

NELSON: Skipping?

BUCHHOLZ: Skipping, following the water down the dry creek - bed.

NELSON: What about the so-called dust problems at Mono Lake, and I guess, Owens Lake?

BUCHHOLZ: Dust gets bad. It's bad to breathe. It has alkalai in it.

NELSON: Is the Mono Lake dust the same as the Owens Lake dust?

BUCHHOLZ: It's been said that the Owens Lake dust contains minute particles of arsenic.

Dust at Owens Lake wasn't illegal until new laws were passed, and the dust now violates higher federal standards. It is bad on occasion. We were down that way a while back and drove through it and it was the worst I had ever seen it. It seemed to follow us all the way to Lancaster. I can see why people don't like it. I don't know how much of the time this dust gets to where people live. Now, if you live in Keeler, and have the right wind conditions, obviously you will get dust off the lake and it's going to be bad and you're not going to want to breathe it.

I guess the other way of looking at it, is that the Owens Lake has been that way for a long time, longer than anyone has lived at Keeler or some other places.

NELSON: Has the Great Basin Unified Air Pollution Control District (Great Basin) taken advantage of the Department regarding Owens Lake.

BUCHHOLZ: They have taken advantage of the laws that were on the books to require us to do things. I remember one of the first meetings that Duane Georgeson and I attended with Paul Johnson, who was then a Mono County Supervisor and Chairman of the Great Basin Board. Paul found a sentence in the law that said that if the source of dust was a result of our water-gathering activities they could require us to mitigate. That turned out to be the warning and later Great Basin started coming at us.

One of the other issues that I became quite involved with was the Owens Gorge. The former streambed below the Upper Gorge Power Plant had been dry since the 1950s when the three hydro power plants went into service. On a Monday evening about 8 p.m., I was having dinner at the Firehouse Grill in Bishop with a tour group when my assistant, Bob Wilson, came in the door. He informed me that he had just received word there had been a loud boom heard at the Control Gorge Power Plant, rupturing the penstock and sending water everywhere.

I arrived the next morning to survey the situation. Apparently, a malfunction had caused a shockwave to over-pressurize the penstock rupturing it. Once that had happened, there was no place to put the 16-20 cfs of water from below Long Valley Dam, except back into the dry Owens Gorge again. A certain amount of that water could be stored in the tunnels and forebays at each power plant. But, once the

bays and tunnels were full the building water had to be released somewhere.

Fish and Game and Mono County decided they were in a position to force the Department to release this water into the dry gorge. Once the water was released it would be similar to Rush Creek and they would obtain an Injunction prohibiting us from stopping the release.

Of course, our goal and the goal of the Power System was to quickly repair the penstock so we could put the water back through the power plants and resume normal operations. In fact, the Power System salvaged damaged pipe and constructed a flume from half-pipes to carry water to the Control Gorge Power Plant.

California Department of Fish and Game wasn't exactly aware of how our system worked but they sent their warden's to the site and insisted on entering our facilities. I escorted them because from a safety standpoint we didn't want people wandering around the construction site with all the activity going on. They were just sure they were going to catch us releasing water down the Owens Gorge. They didn't realize we could store water for about 17 hours. At night we did release water into the Gorge to empty the tunnels. The next morning they would check the streambed and wonder why there were pools of water here and there and why it looked wet. They were looking for trout to force us to maintain the fishery.

I realized this wasn't going to go on for many more days before they figured out what was going on. Our power people were having difficulty assembling the flume fast enough to solve our problem. One night I instructed our people to cut a hole in the side of the penstock above the damaged section. We had found a little ditch that ran easterly from the penstock across Highway 395 into Little Round Valley where water

could be diverted into Birchim Canyon and on into Pleasant Valley Reservoir. We installed a valve on the penstock and periodically released the water.

When Fish and Game figured out what had happened, they were not happy. The newspaper headlines read, "DWP Wastes Water Into Desert", or something like that. Round Valley is not a desert. We had found the second fastest way of getting water into Pleasant Valley Reservoir.

Fish and Game wanted us to put water down the Gorge. Our problem was that we had to get water into Pleasant Valley Reservoir or they were going to attack us from the standpoint that we were hurting the fish in the reservoir because the water level was getting too low.

Finally, the half-pipe was completed and we were able to run water to the power plants and Pleasant Valley Reservoir. Then Fish and Game tried to say that the flume was not a penstock and didn't comply with the power plant licensing requirements. The Power System had assured me that they could generate a little electricity even though the water supply had little pressure entering the power plants.

The bottom line, so to speak, is that this delay allowed the Power System to negotiate things out. If they had simply put the water down the Gorge and received an Injunction against stopping it again, I don't think there would have ever been any negotiation. It would have all been in the courts. This way the Mono County District Attorney elected to work with the Power System on flow releases into the Gorge, and they're still negotiating flows today.

That all happened shortly before I went back to Los Angeles. Some people thought I was nuts in what I did, but I thought it probably gave us the edge we needed in the negotiations. The alternative water channel was later dubbed "Duane's Ditch."

NELSON: When did you leave Northern District and return to Los Angeles?

BUCHHOLZ: I had taken civil service examinations for a number of years placed up within the top three scores on a couple of Principal Water Works Engineer lists. I remember calling Jim Wickser once and suggesting to him I was tired of taking civil service examinations and why didn't he just appoint me off the present one so I wouldn't have to take anymore.

In 1988, I was appointed off the Principal Engineer list as the Assistant Aqueduct Engineer, but working out of Bishop. I never sat in my L.A. office. In April 1991, I was appointed division head and I commuted from Bishop to L. A. for several months. I think the reason it is good to commute is that you realize you can't keep that up too long, back and forth, living out of a motel.

We finally set a date for the permanent move to be made after school ended for the summer. Our third son graduated from high school in Bishop and our youngest was entering high school. We had three sons graduate from Bishop High before we moved back to L.A.

I first worked as Jim's assistant in the Water Executive Office. He wanted me to work there for a few months so I would have a chance to become familiar with the current L.A. issues the Water System was working on. I stayed in the executive office for about six months altogether. Then Walter Hoyer retired from Water Engineering Design Division and I was offered the division head job. I stayed there for about three years and then retired May 1, 1996.

I look at my move to L.A. as being good because I had been spoiled living in the valley with the scenery and being able to do things my own way, to a certain extent. In L.A., I went back into a Water System

team concept in approaching various tasks.

I enjoyed the last three years of my career because I was able to utilize all the good management skills I had learned and practiced in the valley. I was blessed with a good management team and great employees in Design Division.

NELSON: They're all gone now.

BUCHHOLZ: I know. We had such a good team under Jim Wickser; Joe Heganbart, Norm Buehring and the division heads, Larry McReynolds, Dennis Williams, Bruce Kuebler, and myself. We knit together nicely. If there was something to do we just got it done. That was a good feeling.

NELSON: You mentioned Bill Rice a couple of times earlier. Were there others who you considered mentors or believed them to be good role models for an aspiring young engineer?

BUCHHOLZ: I was always impressed with the Bob Phillips' and the Paul Lane's. Not from direct contact, but from a distance. I would say Bill Rice was a real mentor as was Jim Wickser. Dennis Williams and I developed a friendship when he was the head of Aqueduct Division and I was his assistant. Val Lund will always be a Department loyalist.

NELSON: Were there Board members who stood out in your opinion?

BUCHHOLZ: Rick Caruso and Jack Leeney, were impressive in the way they handled themselves. They were the two I saw the most. I remember Duane Georgeson asking me once why we always seemed to get Board members who were more interested in water than electricity. Maybe they understood water better because they could see it. Councilman John Ferraro had been up to the Owens Valley quite a few times. He's not what

you would think of as your typical politician.

NELSON: Do you think the Department got good support from City Hall?

BUCHHOLZ: Councilwomen Joan Flores and Ruth Galanter were involved in negotiations in the Owens Valley. I think we got good support from the council people when they took enough interest to visit the area and see what it was all about. Otherwise, talking to them on the telephone wasn't enough, I thought. They had to come up and see for themselves, or they couldn't get the whole picture.

NELSON: You mentioned tours. Were minds changed as a result of the tours the Department arranged over the years?

BUCHHOLZ: I guess I asked myself that question more than once. We spent a lot of money on tours, a lot of time and effort. I always wondered if those people went back to L.A. or Sacramento with some real insights, or was it just an unusual, fun, free weekend trip? I guess I'm leaning towards the latter because when it came down to crunch time in L.A. or Sacramento, I don't think we heard from many of them. Nobody said, "Hey, wait a minute. This is our water you're taking away." I heard more, "It's only costing you a few cents a month to take away Mono Basin water."

NELSON: What about support from the water industry?

BUCHHOLZ: It wasn't hard to get sympathy from people in water agencies, such as the Kern County Water Agency or the Imperial County Irrigation District. But, they also had their own problems to deal with.

I remember one day I picked up the telephone and it was Mayor Bradley calling. This was about the time we were getting close on the L.A.-

Inyo County Agreement. You know how the mayor was, very low-key and soft spoken. "Duane? you're in charge up there." "Yes," I've been getting some calls from people concerned about this agreement, what do you think about it?" I said, "Well, there are people who support it and there are people who are against it. But, two Inyo Supervisors have just survived a recall election, so I would say there's more support than non-support for it." "Ok, that's all I wanted to know, Goodby."

NELSON: How did things go in the Design Division?

BUCHHOLZ: It wasn't all smooth sailing. There was the Northridge Earthquake which took a big toll on all of us to get that straightened out. We had a 30 second shake that resulted in \$40 million worth of damage that you can see, just in the Water System.

I woke up with that one and I knew what it was and I knew it wasn't any small event. We lived about 10 miles from the epicenter in Agoura Hills and suffered minor cosmetic damage. What was so unusual was that nearby houses that were turned a little differently or were of a little different material, were all damaged.

The other memorable event was the Department's nine-day strike. Strikes are never fun and this was particularly hard lasting that long.

NELSON: That wasn't so bad was it. The management-turned-workers ate lobster didn't they?

BUCHHOLZ: That may have been the Power System. Water System ate hotdogs! One thing that irked me was that in past strikes the Department had saved money because it didn't pay the employees for days not worked, but in this strike it seems we spent a lot of money on other things.

The difficulty is in crossing picket lines. Strikes are hard because

you see traits in people you think you know and you're not sure those are the same people on the picket line.

I was proud of our Division because two-thirds of our people reported for work while Department-wide, about that same amount stayed home.

NELSON: Thank you for your time, Duane.

BUCHHOLZ: You're welcome