

THE HISTORY OF CH2M HILL



PREPARED BY
ARLEN BORGEN

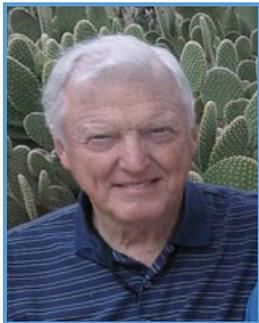
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[Editor's Note: The original booklet was written by Arlen Borgen, the then HR Manager for the firm, and edited by Gus Pantazi, the then Portland Office Administrator. It was written as Arlen's personal memoir to his daughters of his career with the firm.

The booklet presented here has been enhanced to include photos of the principal players, activities, and sites noted in the booklet. To review a more detailed version of the CH2M story, please visit <http://www.history.ch2m.com/>]

INTRODUCTION



Arlen Borgen

My perspectives regarding CH2M HILL are gained from the memories I have about my experiences with that remarkable consulting engineering firm that employed me over most of my professional career. In reality, it is about the many people who were responsible for the success of a company that started with four engineers and grew to be one of the largest and most respected engineering firms in the United States in the span of a single generation.

An engineering firm requires that groups of people work as a team to produce the engineered product that commences as a mental concept and results in the constructed facilities that we see and utilize in our daily lives. The partners who started the firm well understood that need for teamwork and put it into practice... it seems to me, partly because that was their collective outlook on life and partly because of their war-time experiences where they had learned to depend heavily on the people around and behind them.

My remembrances start from when I was a Civil Engineering student at Oregon State College in Corvallis, and subsequently an undergraduate teaching assistant, and then continue through my years with CH2M HILL, first as a design engineer, then as Staff Manager, Manager of Employee Relations, and finally with IDC, the industrial design company within the CH2M HILL family of companies. Even though the company experienced some periodic dips in total revenues from time to time due to a variety of circumstances, my life with CH2M HILL was an escalator ride up in almost every respect.

There are many people and incidents not mentioned herein that are recorded elsewhere by others, particularly in a number of documents written by the senior partners. All the people and all the happenings mentioned in those records are also as an important part of the firm's dynamic history as those that I have dredged up from my memory banks and included in this record. The

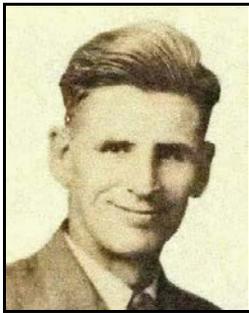
broader scope of a detailed history is well beyond the intent and purpose for creating this summary of my reflections and recollections and must be garnered from those other sources.

Arlen Borgen

July, 2001

CHAPTER 1 – THE EARLY YEARS

Civil engineering students at Oregon State in the early 1950s all knew where the Cornell, Howland, Hayes and Merryfield office was located in Corvallis. Just to the south and west of their building on Western Boulevard lay a large swampy area- an ideal place for practical training in surveying techniques. So much so that the college-surveying instructors had delighted in siting various surveying benchmarks in the area to provide challenges to the students. Standing water and mud were everywhere. To get out of the muck and warm up on cold, wintry days, the survey class would occasionally gather in the company parking lot behind the low one-story gray building to have a cup of coffee. The building itself wasn't large because the owners felt it did not need to be. A local realtor, Clarence White, once told me that in his conversations with the partners they had said the small building site was fine as they did not expect to have a large number of employees.



Fred Merryfield

The fact that the firm name included the "Merryfield" on the nameplate near the front door also had special meaning. Fred Merryfield was a civil engineering professor whose name we all knew whether or not we had him for an instructor. Inevitably, all Civil engineering students would end up having one or more courses from him; and it was common knowledge that those courses would be unforgettable. Seniors who were in Fred's class for the first time had the fear of coming back another year. Fred believed in checking assignments closely. A paper prepared for his class never escaped close scrutiny. Red marks on a returned paper were a standard practice in his grading. Red marks often covered the page denoting misspellings, grammatical errors, poor English, mistakes, misjudgments, and heaven forbid, sometimes even a "well done." Having a good grade from Fred was like getting a medal.

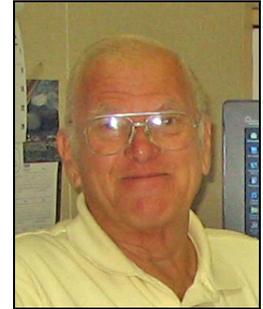
In 1952 when the firm first came to my attention, the lights in the firm's building were constantly on. The general perception was that the employees worked night and day. The windows to the street were large, and it was easy to see the people working at their drafting boards and desks at all times of the day. As a student with classes during the day and homework to do at night, the change from student to consulting engineer did not appear to be that different.



Harry Mejdell

By the time our class graduated in 1956, one classmate, Harry Mejdell, had already found work at the Western Avenue office as a drafter. He went to work for the firm as an engineer following the June graduation ceremony, and it was 3 years later that I ran into him again. Enrolled at Oregon State as a graduate student after a 3-year tour with the Navy Seabees, I was now teaching surveying as a graduate teaching

assistant. In making the rounds by going out to see how students were progressing in the swamp, I met up with Harry and George Dotson in the parking lot. They were both working for CH2M doing mainly structural design and were greatly enthused about the work they were assigned.



George Dotson

By 1959, Cornell, Howland, Hayes and Merryfield had grown from the small size we first knew in 1952 to a prominent Oregon firm of over 50 employees and a growing office in Boise. White Ford cars with the company logo were commonly seen in town and on the highway. Engineering society meetings usually had several Company engineers present; and, on many occasions, they made up a majority. The encouragement to be active in professional and community activities was very apparent.

A couple of years later as my graduate work was coming to a finish, I again saw George on campus. He asked if I was looking for a job. That conversation led to an interview with members of the firm and an evening session with Harry and Dean Parsons at a pub on Second Street. Upon accepting the firm's offer, I started to work in the Corvallis office that June in 1961.

My training was on-the-job, doing billable project work. The red marks were back! Review comments in red pencil decorated those early drawings as a result of oversights or impractical design for construction. Engineers made pencil sketches and preliminary drafts at that time with final drawings completed by skilled drafters. Reviews by experienced engineers were always a learning experience, as the practical side of engineering could not really be covered in the time constraints of the academic classroom. My reviewers were often my classmates, Harry and George, and Bob Adams, a junior partner whose civil engineering specialty was structural engineering. As is well known, reviews can expose sensitive feelings. One of Harry's remarks particularly stuck with me over the years. He said, "There is never a mistake on a design until it has gone out the door." That thought gave disarming encouragement to getting a thorough review. Even after these careful technical reviews, many projects

were saved from change orders by the careful estimating practices of specialists like Charlie Bayles, spec editing by Ed Greey, and the practical observations of Elmer Seegmueller. Their thoroughness, as well as the close scrutiny of those helping them like Pat Bidwell and Buck Messman, raised the confidence level on the part of the design staff that the project was as ready as possible to go out for bids.

Control of expenses on out-of-town project sites was emphasized to keep down client costs. Sometimes that meant more than just doubling up. An example is the airfield runway and parking apron expansion project in Klamath Falls under a U.S. Navy contract. One motel unit



Elmer Seegmueller

with three bedrooms provided living quarters for the six people doing the resident inspection at the airbase. No one expressed any concern as that style of austerity was commonly practiced in the early 1960s. When traveling alone on a 2-month assignment on a Boise project, arrangements were made for a room at the local YMCA until family members arrived. The firm expected traveling employees to have presentable and comfortable facilities but with a strong encouragement for cost sharing. Expectations kept rising with the passage of years, however; and the day soon arrived when single rooms became the norm for those away from home on work assignment.

Cornell, Howland, Hayes and Merryfield had become CH2M to most people with the "2" being subscripted as in a chemical formula, like H₂O for water. The typical question when people first saw the logo was "what chemical is that?". As a partnership, there were the six senior partners-Holly Cornell, Jim Howland, Burke Hayes, Fred Merryfield (CH2M), Archie Rice, and Ralph Roderick. The next level, the junior partners, consisted of Earl Reynolds, Bob Adams, Wayne Phillips, Sid Lasswell, Bill Watters, and Fred Harem.

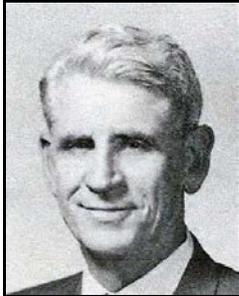
In 1964, Engineering News Record (ENR) started its annual survey of the 500 largest engineering design firms in the United States. CH2M was listed in the first survey as the 102nd largest, with a business volume of \$2.5 to \$4 million. In 1966, CH2M, now ranked by ENR as #79 based on a 1965 revenue volume of about \$4 million, changed from a partnership to a corporation. The first stockholders, known as Key Employees (KE), were the 12 partners and another 15 employees who had been with the company for many years. A key employee count of 15 to 20 percent of the company population became the established goal that was adhered to thereafter.

I can recall that many years later, the issue of the growing number of Key Employees arose as matter of concern at a corporate board meeting. Some board members voiced their opinion that a number of the "key employees"

were not really “key” to the success of the firm in many peoples’ eyes. Holly Cornell emphatically stated that “being a Key Employee of CH2M” was not going to become tantamount to “being in an exclusive club.” Criteria were then established and published in the CH2M Policy and Procedure Manual that set forth the requirements for consideration as a KE. Once a year, the Board of Directors first reviewed the names submitted of those who had allegedly met the established requirements. The names of those who successfully passed their initial screening were then forwarded to the Key Employees for their required vote of approval. Over the years, only one person recommended by the board has failed to be voted in by the Key Employees.

CHAPTER 2 – FRED MERRYFIELD

Fred Merryfield retired from his professorship at Oregon State University in 1965 when he reached the university's retirement age of 65. He had been a faculty member in the civil engineering department since the 1930s and a partner of CH2M since its inception in 1946. The employment agreement signed by all Key Employees provided for giving up at age 65 both any senior positions held at the time and all stock ownership in the company. As the senior partner in age, agreement had been reached, however, that Fred would be excepted from this requirement. Instead, a special provision was established, allowing for Fred's year of retirement to be extended to the age of 70. With that date approaching, someone was needed



Fred Merryfield

to assume the duties of the Staff Manager position that Fred had assumed since the position had been created, following the recommendation of a management firm. Fred talked to me about returning to the firm from the community college where I had been teaching for 3 years. The idea of being Fred's assistant for 2 years was appealing; and in mid-1968, my full-time employment with CH2M resumed. My friendship with Fred for the next 10 years was quite extraordinary for me, as Fred was a truly fascinating individual.

An Englishman by birth, Fred spent his youth in England. His father was a metallurgist who gained his knowledge of metals and their alloys through the English system of apprenticeship and craftsmanship in the guilds. When Fred was in his 20s, his father came to America to see Fred and to try to convince Fred to return to England to take over his metallurgy business. Fred told him "No"; he wanted to stay in America. His father wrote him from England that on the return voyage home he had taken all his papers with the formulas for making special alloys to the fantail of the ship and had thrown them overboard. He had obviously accepted the fact that Fred was definitely not coming back.

While I have no idea what Fred was actually like as a boy growing up, he was very likely a bit of a maverick. Bright, athletic, mentally tough, he was undoubtedly a challenge to his parents and teachers. Somewhere in the process of growing up, whether in his early teens or even younger, he decided to strike out on his own. Being abundantly independent, at the young age of 16 or 17, he traveled to America, landing in New York. Not having a job, he looked for one and found that the Union Pacific Railroad was looking for young men to help in the expansion of the rail lines in the West.

The Union Pacific had its East-West route into Portland, but the North-South line from Oregon to California was not yet completed. The mountainous section from the middle of Oregon, south through Klamath Falls, required climbing grades and traversing over difficult terrain. Fred traveled west to work in the woods and mountains for the railroad. He met and liked the vigorous, rough-tough men who were surveying and building the rail line going south. Years later, Fred could recall the names of people, places he had visited, and experiences that he had undergone, along with a running commentary during that period of his life. Fred's ability to recall long-past events was renowned, and it was not surprising that he could relate experiences that had taken place many years prior as though they had happened just last week.



Fred Merryfield

World War I took him back to England where he became an aviator, flying bi-winged fighter planes. His career in the British Air Force came to an abrupt end when he crashed his plane and was rushed to a hospital with a severe head injury. While he was recuperating, his squadron commander would come to visit to check on his recovery. One thing he told Fred was not to let the shrinks get hold of him. He would be all right with time to heal. The message was one Fred did not forget in the intervening 60 years.

With his WWI accident behind him, he returned to Oregon to enroll at Oregon Agricultural College, now known as Oregon State University. Stories are told of Fred setting up a tent in Corvallis close to the Willamette River to live in. How long he lived in the tent is unknown. What is known is that he received his civil engineering degree from OAC in 1923; and being interested in the water sciences, he eventually went on to the University of North Carolina to obtain, in 1930, a Master's Degree in water resources.

Prohibition was in effect when he was in North Carolina, and he was advised to be careful when collecting water samples from the rivers in the backwoods. Moonshiners were very suspicious of strangers in their territory. Fred's English accent proved helpful in allaying any fears of him being a revenueur looking for their still.

Returning to Oregon after receiving his degree at UNC, he rejoined the civil engineering faculty at Oregon State. With a specialty in water, Fred taught many of the courses related to water supply, water and wastewater treatment, water distribution systems, and sewerage systems. Upon their graduation, many of his students became prominent sanitary or environmental engineers in Oregon and around the country.

Fred also worked with consulting engineering firms during summers and as a consultant. Time spent with consultants like John Cunningham gave him the design experience and first-hand knowledge of the issues facing the practitioner. The interest and technical preparedness were there when the opportunity came later on to be one of the founding partners in a new engineering design firm.

There are hundreds of stories floating about to be told about Fred. He was a global man, an upstanding American with roots to England that never vanished, interested in people, and had friends in every part of the world. He was an intellectual student/teacher, endowed with an excellent mind that served him well, and a personality that could both charm and scare the daylights out of people. I can recall a few examples.

Fred was in his office in Apperson Hall, the old and still standing (2015) civil engineering building on the Oregon State campus, when he beckoned me in as I passed his office on the first floor near the building entrance. He wanted to know how my graduate studies were going. As we were talking, he glanced occasionally out the window when students walked by on the sidewalk on their way to class. In mid-sentence, Fred jumped from his chair and strode to the two-part window, yanked up the lower half, leaned out over the sill and said in a very loud voice, "Young man, you come in here right now." I looked out the adjoining window to see a young fellow standing on the sidewalk perhaps 40 feet away. The fellow, looking surprised and taken aback, asked "Do you mean me?" with obvious distress in his voice. Fred replied "Yes, I mean you. Come in that front door and into my office."

Naturally, I could not bring myself to leave after seeing the episode this far. The next part of the show had to be fascinating. Here was a novice coming in to see this unknown, irate figure with recognizable authority, and a shock of white hair that meant he was a professor.

The student appeared at Fred's door with an obvious look of fear and trepidation. The ensuing dialog as I recall went something like this:

Fred: "Young man, I just saw you throw a candy wrapper down on the grass. You left it there for someone else to pick up. Don't you realize this is your campus as well as mine and everyone else's? How do think this campus would look if we all did the same thing you just did?"

Student: "Yes sir, I did throw away that wrapper, but I just didn't think about it that way. I'll go pick it up, and I assure you that I'll remember not to do it again."

Fred: "Fine. And by the way, I'm Fred Merryfield; and what is your name?"

Student: (he gave his name-like) "John Jones."

Fred: "And where are you from and what are you studying, John?"

John told him, and the conversation ended with Fred knowing all about the student and with the student being encouraged to study and do well in school. Fred also asked John to come in, as a fellow Oregon Stater, and see him again sometime to let Fred know how he was doing. I could see that Fred had a new, but tidier, friend.

In Fred's later years, he became president of the International Water Supply Association (IWSA), following his many years as an active member of AWWA. In his capacity as IWSA president, he was sitting in a large international conference in Europe that was convened to discuss water issues around the world. A controversial topic came up, and the moderator stopped the discussion by saying that since the conference had a representative of America present, let's ask him 'What does America think?'. To his surprise, Fred saw everyone turn their eyes to look at him. Fred said that it was difficult for him to believe that this group of people was looking to him to speak for the United States of America.

At another time, I was talking to Fred and mentioned that Sam Graf, a mechanical engineering professor of Fred's vintage, had briefly addressed the engineers at a Professional Engineers of Oregon (PEO) Society meeting. Fred said, "Sam and I haven't gotten along ever since the time we were standing outside on the steps of the Mechanical Engineering building on Monroe Street having a cigarette. There was this woman on the sidewalk across the street walking toward them. Sam commented about the ridiculous hat the woman was wearing and how silly she looked. He carried on about the woman until she got opposite them across Monroe, and Fred called out "Hi, Mildred" and her response was "Hi, Fred; I hadn't noticed you. What time are you coming home?"

That had been years before, and they had both become legends on the campus by the time they died, Fred in 1977 and Sam earlier. In honoring them, they each have campus engineering buildings with their names on them. Fred Burgess, who was then the Dean of Engineering and a long-time faculty associate of Fred, put things back in the right perspective when he noted that while the two of them could not get together when they were living, the university finally got them back together again. Their names are on adjoining buildings.

CHAPTER 3 – THE PARTNERSHIP

Two of Fred Merryfield's students in the mid- to late 1930s were Holly Cornell and Jim Howland. Upon finishing their bachelor degree studies at Oregon State, they went on to graduate school—Holly to Yale and Jim to MIT. Following graduate school, they had their work interrupted with military duty. Both of them were officers in the U.S. Army Corps of Engineers during World War II while their fellow Oregon State engineering friend, Burke Hayes, served as a naval officer. They had all kept track of one another since college days at Oregon State and maintained contact through correspondence during the war. Fred, Jim, and Holly agreed by mail that after their release from Service, they would start an engineering consulting business in Corvallis. Burke, although an electrical engineer, also expressed a keen interest to join them.

In late 1945, the partnership opened its doors on the second floor of a downtown building in Corvallis. Being engineers, floor plan layouts were drawn up and records of their plans methodically retained. Looking at the old drawings and records has been an enjoyment over the years to many employees who joined the firm long after the company had relocated. Steady growth in business forced the firm to move to Western Boulevard and was the building that I first saw as a student.



Western Blvd Office, 1950

The partners were the keys to the success of the firm. They were all well-educated, matured from their military officer experiences during the war, respectful of one another, business oriented, and resourceful in getting help when required. They were well liked by their clients, forward thinking in their professional outlook, and very quality conscious. In the business and social environment, they understood the value of maintaining good public relations, and were generous to employees and to the community. They had a great mix of talent, and they stuck together when a decision had been made. In their internal meetings, many differing opinions might be argued; but the outcome was considered unanimous with a united front outside the meeting room.

While the work of CH2M was primarily centered on civil projects, the firm always emphasized its full-service capabilities. On projects requiring multiple disciplines, i.e., mechanical, electrical, chemical, civil, etc., the firm made known its ability to provide all those functions in-house. The fact that these various disciplines were available also meant each discipline could and would

generate business that was unique to its specialty. The electrical engineers designed the electrical systems for the water and wastewater treatment plants but at the same time were pursuing the design of electric power substations and transmission lines.

CH2M was not allowed under state law to offer architectural services except as part of their projects such as the treatment plant buildings. However, the firm's civil, structural, electrical, and mechanical engineers routinely provided subconsultant support to architectural firms in the design of buildings to supplement their other project work where CH2M was not the prime consultant. The latitude the staff had in seeking new work broadened the firm geographically and technically. New qualifications further expanded the opportunities available; and, with new territory to explore, the firm just kept growing.

Along with growth, CH2M's engineers often demonstrated that the firm was also capable of being innovative.

Two notable patents developed into separate companies that were eventually sold. Microfloc produced systems that were marketed for the purification of water using mixed media filters and slant tube settling basins.

The other company, Flomatcher, manufactured electric motor control systems for variable-speed motors. The early Flomatchers were very basic models used to control the pumps in sewage wet wells where the flows cycled up and down during the day and the seasons. Burke Hayes, Vic Bredehoeft, and other electrical staff continued to make significant improvements until the business was sold to remove any conflict of interest in CH2M engineers specifying Flomatchers in their designs.

Microfloc was similarly sold to Neptune to eliminate the appearance of conflict of interest.

Jim Howland was managing CH2M through a continuation of the consensus of the partners, the senior stockholders, that Jim was the best person for the job.

By agreement, he was also to receive 10 percent more pay than the other senior partners for assuming the role of president. Their collective wisdom had proved them right as the firm continued to grow and prosper. Jim's office was very modest in decor and just large enough to convene a small group to confer as needed. The open-door policy was definitely in effect as there was often someone stopping in on the spur of the moment, an employee, a client, or a member of the community who wanted to see him. Access to Jim was always easy and welcome, which contributed to employees feeling personally attached to the company.

An example of the way Jim approached his job was how he reminded everyone to come to work on time. The creeping habit of getting to work later each day would set in, increasing the frustration of anyone waiting. Jim bought a few pocket watches, attached a cord to each, and hung them over the entrance doorknobs at 8:00. It wasn't hard to get the idea.

Jim collected his thoughts based on his basic premise of how a consulting engineering firm should operate and published it in a small booklet. His original booklet had a red cover with Chairman Jim on the front. The cover was later changed from red to yellow to avoid references to a Chinese Chairman named Mao, and a caricature of Jim drawn by Bill Shrader, one of the firm's electrical engineers, was added to the cover.



Bill was known for his ability to draw a cartoon to catch the light-hearted essence of an idea, and his rendition of Jim Howland on the cover of Jim's "Little Yellow Book" has withstood the test of time with its continuing popularity and aptness. The thoughts Jim had gathered together represented his observations from many years of managing a growing engineering firm; timeless beliefs such as, "Rules are for everyone" and "Avoid position perks...." Along with the booklet, Jim developed a presentation on consulting that was popular throughout the firm as well as to outside audiences.

To get everyone acquainted, coffee was available in the boiler room in the early days. Each individual had a cup hung on a wall hook behind the coffeepot. At mid-morning and mid-afternoon a gathering of coffee drinkers convened in the boiler room to talk and greet any newcomers. Eventually, company growth required the dispersal of the coffee stations around the office. Coffee and tea were always free—a company tradition that stuck as the company grew.

And speaking of traditions, the annual Christmas party was a big annual event. The senior members of the firm and their spouses carved the turkeys and hosted the party. Later in the evening, Santa appeared to pass out presents that usually represented an occurrence that had happened in the year that the individual receiving the gift had hoped would be forgotten. All was done in good spirit to sustain the feeling that everyone in the company and their families were on the same team.



1952 Corvallis Christmas Party

In Corvallis, Archie Rice, Bob Adams, and Ken Stuart were known for bringing to Santa their spirit and keen sense of humor. Jim Howland or Holly Cornell always delivered a state of the union message; and, except for 1 year, the success of the firm meant there would be a bonus later on. The idea of providing some of the bonus before Christmas became the normal practice...distributing bonus cash for spending on Christmas presents or holiday travel.

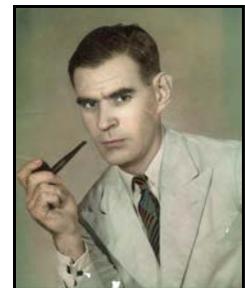
The employees of CH2M were used to sharing in the company's success through participation. In the early years, the company set up an Employee Advisory Committee to get the thoughts and suggestions from a broader viewpoint. The committee passed on suggestions to the president only after due consideration. Scrutiny of ideas and suggestions by employees was intense. Frivolous thoughts did not get far. One suggestion that came to pass was the result of the death of a young employee who had a wife and children. The family had



Swede Nordquist

economized by not buying life insurance, and the family suddenly had no source of income. CH2M ended up helping the family although the cause of death was not company related. The Advisory Committee's advocacy eventually resulted in the firm increasing its benefit package to include life insurance for all full-time employees.

Interesting characters were not hard to find in the firm. Swede Nordquist, the most senior drafter/technician in the firm, was known to take everyone under his wing if the person needed help. Swede had joined the firm very early on, almost from day 1 and could get the support of all the employees. Sometimes, he tested that support by hiring staff with diverse backgrounds. As one example, he arranged to bring a younger man directly from the state prison to be a drafter. The man was in prison for murder, but that did not deter Swede. To keep him from going back to prison took considerable attention, however, as ex-prison friends kept showing up to create parole violations. Eventually, the continual help he obtained under Swede's watchful eye paid off; and the man became a stable and capable engineering technician.



Austin Evanson

Then, there were the two Englishmen known as Austin and B-J. Austin Evanson was a very bright mechanical engineer with a bit of a shake in his hand and speech. A pipe in his mouth that was constantly in need of relighting was his trademark. Austin had plied his skills for many years in India and the Far East. B-J, really Howard Byers-Jones, was more the tall, slim, debonair gentleman with a cravat, moustache, and sleeked

back hairstyle. B-J had his pilot's license for small planes and could often be found in early morning hours sleeping on the office cot in the women's restroom where he had crashed after a late night of work rather than drive home to Eugene.

On one occasion, Austin and I stopped in Eugene to pick up B-J on our way to Klamath Falls. B-J was not quite ready and his wife commenced questioning us to find out if B-J was really sleeping overnight on the restroom cot. That he would do that was as amazing to his wife as it was to us.

We departed Eugene on the freeway going south with Austin at the wheel of the firm car. After a few miles, Austin turned to us and complained that the company Fords just did not have the power they once had. Being the ultimate mechanical engineer, Austin had been monitoring the engine rpm and the speedometer. The engine was nearly floor-boarded, and we were only doing 55 miles per hour. B-J looked at Austin and suggested he shift the transmission out of low gear. Austin was a bit absent-minded at times; and when he put the car in Drive, it took off like a shot as he had neglected to ease up on the gas pedal. Traveling with the two of them was always an experience!

CHAPTER 4 – THE BOISE, SEATTLE, AND PORTLAND OFFICES



Earl Reynolds

By 1969, the offices in Boise (staff of 22), Seattle (staff of 84), and Portland (staff of 27) had grown considerably and each had its own personality. The staff in each office valued its own unique atmosphere, and the image of each office was well known to the people in the other offices. Earl Reynolds had started up the Boise office in 1950 and typically received the hand-me-downs from Corvallis, or so it seemed because Earl ran what was considered a “tight ship.”

Projects were well monitored, and expenditures were kept largely to the necessities.

When Holly opened the Seattle office in 1960 and located the office in the downtown business district, the purported plushness became its tongue-in-cheek image almost from the start. After all, it was argued, it was common knowledge that deep carpets, metropolitan ideas, economic consulting, and upscale surroundings were just ordinary requirements intended to impress the clients who were accustomed to doing business in the traditionally styled atmosphere of uptown offices.



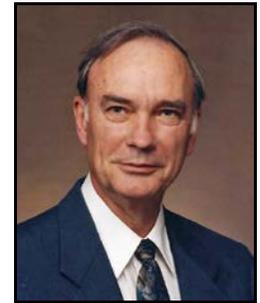
Holly Cornell

Seattle (SEA) was to initiate one of the firm’s first foreign ventures. It all came about from the hiring of a young engineer by the name of Farid Ahsan-ud-Din, who had just graduated from the University of Washington in 1967. He wanted to get American design experience before returning to his home in Pakistan, and the Seattle office hired him to give him the opportunity he was seeking. In a few years, Farid did return home and contacted CH2M when a large grain silo project developed in Pakistan. The firm participated in the project design that went well until it came time to pay our fee. It turned out that Pakistan would not allow currency to be sent out of the country. Rugs OK, money, no! Holly went to Pakistan and returned with a load of hand woven Pakistani rugs as payment for CH2M’s bill. The rugs, except for a couple that were kept for wall hangings, were then sold to Portland rug merchants. Les Wierson retained one of the rugs to keep on the wall of the CH2M HILL International office in Portland as a reminder of what one could encounter when doing business in foreign locations.

The Seattle office also initiated the move to bring Economists into the firm through the acquisition of the West Coast Seattle office of H. Zinder and Associates, an economic consulting firm. The entire Seattle office operation was

acquired from Zinder in 1968, resulting in CH2M then being able to offer consulting services for Planning and Economics in addition to Engineering. Herschel Jones managed the economics group that specialized in electric power economics that traced back to Herschel's pre-Zinder employment with the Bonneville Power Administration. With the passage of time, the economic consulting services were expanded to cover utilities in general...power, water, wastewater, and transportation.

Portland with its large population base was a logical location for another office; and, in 1964, an office managed by Lloyd Anderson was established in the Boise Cascade Building across the street from the fountain in front of the Civic Auditorium. Lloyd's focus was city planning; and he put together an aggressive, "Young Turk" office with a planning twist... a bit maverick, colorful, and full of ideas. Lloyd soon succumbed to the lure of local politics, left the firm, and the PDX office was turned over to Les Wierson, a true visionary who led the Portland office to the greatest heights it has ever achieved.



Les Wierson

Many of the staff members in these offices had started in Corvallis, and they relished their new opportunities in a smaller office. The Corvallis office with its 180 people and experienced design capability tended to dominate the firm's direction and major decisions. Seattle and Portland were not shy about actively working at influencing firm policies and philosophy. Holly's presence in Seattle made it much easier for that office to be heard, but Portland was closer to the influence of the Corvallis headquarters and had to be a great deal noisier with the new ideas that they threshed out during their "Chicken Thursday" after-work meetings.

In reality, the offices and even individuals were given a great deal of latitude in pursuing projects and new areas of endeavor. There was plenty of territory both geographically and technically in which to expand; so with the reins held loose under watchful eyes, each office continued to grow. Work close to home on a prominent water basin was an important part of firm's success.

The Willamette River provided a show case opportunity for CH2M considering its interest and strength in water treatment. With the river's headwaters in the mountains surrounding Eugene and its mouth at the juncture with the Columbia River in Portland, the Willamette lies entirely in Oregon within the Willamette Valley. Most of the population of Oregon resides in this valley, which is rich in history with marvelous vistas of agricultural lands and dense fir forests. Pollution of the Willamette River had greatly reduced its salmon and steelhead runs. Communities in the valley were channeling nutrient-rich sewage effluent

into the river that mingled with the chemical-loaded discharges from pulp and paper plants. Algae feasted on the nutrients and starved the river of the oxygen necessary for the fish and aquatic life. The river desperately needed help in the 1950 and 1960's era. The State of Oregon with its capital near the middle of the valley began studying the problems and legislating anti-pollution requirements. New laws were passed, and wastewater treatment became mandatory. The design and construction of these treatment plants took the firm into nearly all the communities in the Willamette Valley. The plants designed by CH2M started in mountain towns like Oakridge and ended in the suburbs of Portland. Fish eventually returned to the Willamette River, and the river cleanup continues to this day as water purity requirements become increasingly stricter.

Care prevailed in the addition of new staff. The firm adhered to the belief that hiring should be done only after gathering adequate background information. For the large part, this was fairly easy as most of the technical staff were hired at the entry level with advance degrees in a specialty field. An exception was the electrical engineering discipline. General Electric hired many young engineers and trained them well. CH2M recognized a good thing when they saw it and hired young electrical engineers, such as Bill Toole, away from GE whenever possible. Bill and his wife Connie were both Oregon State graduates who liked the idea of returning to Corvallis.

The predomination of creating staff growth from the bottom and providing training for the graduate rise to middle and upper levels meant that many, if not most, of the new hires were coming in based upon recommendations from OSU faculty members well known to the firm. Experienced staff additions were often people known by others in the firm. As further verification, receiving academic transcripts and making reference checks were standard procedure. Having multiple interviewers providing input covered the personal aspect. Peers were commonly included in the selection process for entry level staff. Three or four young engineers lunching with a new graduate prospect became a routine practice.

With careful checking having been done prior to an interview trip, interviewer comments were seldom unfavorable; but they did occur, especially when the reason for the interview was based on a response to a special request...family ties, potential client, etc. The selection process made it easier for the new hires to start working after having already talked to a number of the people around them. And it wasn't just the people working in the next cubicle. Fred Merryfield made it a point to always try to introduce an interviewee to Jim Howland. In addition to the fact Jim was excellent in recruiting, Fred felt it was important

that each person should meet the company president and thus could feel comfortable when greeting him as they passed in the hallway.

Hiring new graduates meant there was a great deal of on-the-job training. Formal training programs were essentially nonexistent; but brown bag lunch sessions, generally scheduled each day, were used to speed the learning process. Tasks on projects were assigned, and the senior technical project lead for the discipline was available for advice and served as the reviewer. By the end of a year, a person had often worked on many jobs and for several project managers in a number of offices.

To get an assessment of the performance of each staff member, year-end evaluations went to at least three evaluators who had substantial contact with the person being evaluated. The office manager and discipline director made separate reviews after that. The final outcome of the process was formulated from these collective inputs. Success or failure being determined by any one individual's evaluation or location was thwarted, although each evaluation had its influence. This broad-based assessment of each person received criticism from some who were frustrated by the independent nature of some firm employees or in the event an interviewer wanted to reward what was perceived as exceptional merit though not supported by other interviewers. The fairness of the concept evidently worked, as the turnover of talented technical staff was seldom more than 5 percent in any year. Considering that hiring was selective to begin with, there were not many discharges for nonperformance; and the retention of employees was rather extraordinary considering the efforts by other companies to hire away key technical staff.

CHAPTER 5 – THE MERGER WITH CLAIR A. HILL & ASSOC.

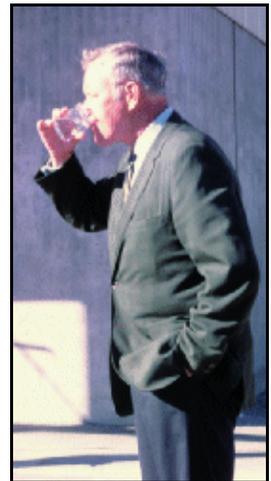


Clair Hill

CH2M joint-ventured on some projects with other consulting firms. One of those was the Redding, California, firm, Clair A. Hill and Associates (CAHA). The president and principal owner was Clair Hill who started his firm just after the end of WWII. The firm's principal design office was in the Redding headquarters building. Water resources engineering and mapping/surveying, their two largest specialties, meshed well with CH2M that was minimally staffed in those two fields.

Combining the two firms' capabilities led to joint efforts on several California projects. Two particularly significant ones were the American River Dams project with associated tunnels and structures and the Lake Tahoe wastewater collection and treatment system.

The Tahoe project's tertiary wastewater treatment plant brought attention and recognition to both firms, but more so to CH2M as the treatment plant designer. On one occasion, Gene Suhr and others took the popular governor of Oregon, Tom McCall, on a tour of the treatment plant and explained to the governor's satisfaction that the quality of the water at the end of the tertiary treatment was drinkable by humans. The governor, being a hale and hearty sort, took a drink of the end product and toasted to its quality.



Governor Tom McCall

It seems the governor took a liking to touring these new modern treatment plants and, of course, wanted to drink to the quality of the clean water issuing forth from each plant. Fortunately, the engineers present at the various plants were able to dissuade him from drinking the water from those that had just secondary processing. The water looked good, and the governor certainly was willing to give the taste test if the tour guide had said the water was okay to drink. Tahoe had convinced him there was no problem with the drinkability of water after modern treatment.

Interestingly, the Tahoe tertiary plant's water output is piped out of the Lake Tahoe basin to a Nevada lake that is used for recreation. Even with all its purification processes designed to bring the wastewater to drinking water quality, the water was not put back into Lake Tahoe.

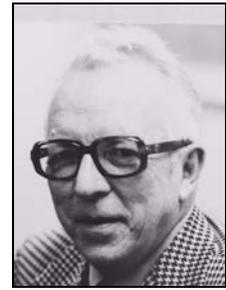
Burke Hayes was particularly perceptive of the leading position CH2M had put itself in the purification of wastewater. He thought it would be timely and well

worth the expenditure to prepare a film on the construction and operation of the Tahoe plant that could be used by the firm to publicize the latest technology in the tertiary treatment of wastewater. The idea became a reality, and the color film that was produced had showings in many places throughout the world. [Tahoe](#) and clean



Gene Suhr

water...well, while not quite like Coca-Cola...helped put CH2M on the map in the world's search for clean water. Russ Culp and Gene Suhr gained a great amount of personal recognition for the system design.



Russ Culp

By the time the Tahoe plant was operational, CH2M and CAHA were seriously talking of merging. Synergism was the term that popped up often, the belief that the combination of the two firms would enable them to accomplish more than the efforts of each of them going alone. The talks led to the actual merger in 1971, at a time when ENR ranked CH2M at #45 and Clair Hill and Associates at #187. CH2M incorporated the CAHA staff into its system in the manner of an acquisition, with the CAHA stockholders receiving CH2M stock albeit on an agreed-upon delayed bonus basis. The delay was probably not a good idea as it soon became a sore point in the transition.

It was evident that bringing CAHA into CH2M would result in a loss of name recognition in California. In an attempt to take advantage of the established reputation of Clair A. Hill and Associates, numerous possibilities were proposed such as CH3M, CH2M/CA.HILL. The final decision was to revamp the logo and present the combined firm as CH2M/Hill, with CH2M above Hill in the logo. Naturally, the banter of the competition was that CH2M was "over the hill." The slash mark in the logo had disappeared by the time the 1993 annual report came out.

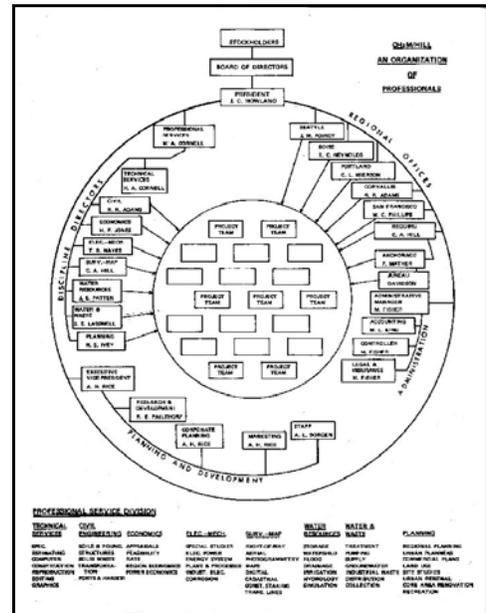
All in all, the merger went remarkably well even though CH2M, being twice as large as CAHA and being the acquiring firm, had its established policies imposed on the combined firm. Clair was instrumental in keeping the old CAHA staff settled down when differences in old versus new policies cropped up.

Clair's love of flying led to its introduction to the firm as a practical and useful mode of transportation. Before long, he had everyone flying in company airplanes. Climbing into a company aircraft after dark on a cold, rainy night in Corvallis to fly to California without seeing the ground again until landing was a new experience for the old CH2M staff. The comforting factor was the insistence on Clair's part that only full-time professional pilots would fly airplanes carrying

passengers. John Shackelford was the chief pilot; and, as a WWII pilot, he had flown the U.S. President and other dignitaries to conferences. That was proof enough, and anyone who flew with John came away with the feeling that John was a pilot's pilot. One of his personal pleasures was flying pylon planes in air shows (Reno Air Races, as an example) for the fun of it.

Over the years and several millions of flying miles on firm business with many different firm pilots, there was never an accident. Many riders had experiences to relate that were great in bull sessions; but they all had happy endings, thanks to the skill of the firm's pilots and mechanics and the safety-first policies of the company.

Along with airplanes came the need for an organizational structure that would provide quick and ready access on a firmwide basis to the talent and experience scattered throughout the company. A number of solutions were bandied about, and Holly Cornell with Archie Rice's input produced a memo in October 1971 that sketched out a bull's eye format with the disciplines and regions on the perimeter focusing their efforts to service the project manager at the center. It was not long before Archie Rice's concept of the matrix organization was adopted with the offices on one axis of the matrix and the technical disciplines on the other. Everyone had two bosses...the local office manager and a technical discipline manager. All 10 office managers reported to the company president, and the discipline directors reported to the Professional Services Director (later changed to Technology Director), who then reported to the president.



The introduction of the matrix organization to manage the integrated firms was successful, and CH2M HILL continued to grow at a rate of about 25 percent annually through 1974. There were rumblings of concern about company growth; and to get an outside opinion of how the firm was doing, The Design Professionals Insurance Company (DPIC), as the firm's insurer, was invited in to interview staff, evaluate their findings, and make recommendations. The DPIC report of November 1974 proved insightful and was constructive in that it motivated CH2M HILL to be more proactive on quality reviews, control growth better, and consider an Employee Stock Ownership Plan (ESOP) for better

funding. The control of company growth was soon to occur; and the hiring of new staff diminished, but not just because of DPIC's recommendation.

1975 was a year of change. CH2M HILL had an ENR ranking of #17, and the total staff count of 1,059 full-time people as of January 1975 would not be exceeded for several years. Holly became the company president that year and Jim the chairman. The business economy of the U.S. had slowed; and for 2 years, the dollar volume of business remained nearly constant at about \$30 million per year.

CHAPTER 6 – 1977, A YEAR OF CHANGE

The 1977 calendar year was a special year in that a number of significant events took place that deeply affected CH2M HILL. Fred Merryfield died that year, creating an unfillable void in the CH2M HILL family. Holly Cornell completed his final year as president to become chairman when Jim Howland took on the project manager role in San Diego. The Florida consulting firm of Black, Crow and Eidsness (BC&E) was purchased, taking CH2M HILL to the East Coast. The multi-billion dollar Milwaukee, Wisconsin, pollution abatement project started; and ownership of the firm was extended to all employees through the establishment of the Employee Stock Ownership Plan (ESOP). The acquisition of 200 BC&E staff members along with a resumption of business growth resulted in a full-time staff of almost 1,400 in January 1978. ENR ranked CH2M HILL at 9th largest for design firms in the United States with a gross business volume of \$50 million.

These changes were to have an enormous impact on the firm. Any one of them would have created challenging circumstances; collectively, they resulted in a change from a close-knit operating environment to a general dispersal of those who had been accustomed to working in close contact with each other. In addition, the firm found itself trying to assimilate a rapid increase in the number of new people totally unfamiliar with the past history of the firm, its policies, and its business as well as its organizational environment.

Hercules had bought BC&E with the intention of expanding their organization into a prominent, national environmental firm. With the green light to expand shining brightly, people were hired; and a number of contracts were signed to execute the survey and design of many complex projects. Fees and contractual commitments did not match, however; and overruns were causing substantial losses. Hercules became disenchanted with their original environmental design aspirations and wanted out. With contracts unfulfilled, the sale of the losing company seemed to be the only solution in sight for their dilemma.

Hercules suggested to key BC&E managers that they attempt to identify a potential buyer. Fred Eidsness, one of the partners with his name on the door, and who had stayed with the company after it was bought out by Hercules, called his AWWA friends in CH2M HILL to see if there was any interest in leapfrogging to the East Coast. The management staff in BC&E wanted to return to the folds of a consulting firm after their experience with an industrial



Fred Eidsness

corporation and were confident a satisfactory purchase package could be put together with Hercules.



Mike Fisher

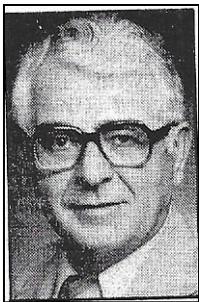
Jim, Holly, and Mike Fisher finally were able to put a purchase package together that would be attractive to the CH2M HILL stockholders. Losses not yet incurred had to be anticipated, and terms for determining future adjustments were negotiated with Hercules. An example was the contract to establish surveying benchmarks around

the Florida coastline was a particularly poor contract for BC&E. To get the project under control, Ken Wengler, a senior surveyor from the Redding office, eventually had to be relocated to Florida to resolve the daunting technical issues, and even then the overrun was huge.



Ken Wengler

The purchase of BC&E from the Hercules Corporation required the commitment of sufficient experienced CH2M HILL staff to the Eastern operations to complete other ongoing problem contracts and stop the flow of red ink. The management of the new expansion, which included offices in Florida, Alabama, Georgia, and Pennsylvania, went to Joe Worth. Joe at the time of his transfer was the assistant manager of the Portland office where he was teamed with Les Wierson, the office manager who had succeeded Lloyd Anderson. Joe and Les were highly motivated, energetic young engineers who had proven



Joe Worth

successful in melding together a resourceful, innovative staff in the Portland office. As a team, they matched well. Les had a calm demeanor that offset the more direct, meet-it-head-on style of Joe who loved to keep things stirred up with his Chicken Thursday sessions. Invitees to a monthly Thursday meeting after work seldom forgot the hot seat questions that came from the floor. The proven success of the Portland office, with capable people in backup positions and the seasoned maturity of Joe with extensive knowledge of CH2M HILL, resulted in the decision to relocate him to Gainesville to assume the leadership position at the headquarters of the old BC&E firm.

Joe jumped into the management of the East Coast offices with an energy that was like a new sun. Things happened...good and bad. Projects got expert technical attention and were gradually brought under control. The style of leadership used by Joe was unorthodox and flamboyant at times...a dynamo that occasionally revved too high, but with great verve. Issues were confronted, not avoided; and this open, get-on-with-it style caused anguish to those used

to a more diplomatic southern way of dealing with people and policies. The ride in the East was fast forward, but bumpy.

Joe was fortunate to have Bunny Whiteman, a long-term employee of BC&E, as his personnel administrator. Bunny

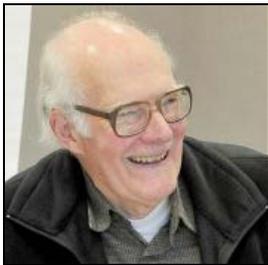


Ed Worth

was a supportive calmer-down for everyone. Respected by all, she was usually able to mollify those who became upset by what was happening around them. Her stability was particularly valuable as Joe's trusted advisor, his brother Ed who managed the firm's geotechnical discipline in an outstanding manner, died from cancer that first year. Joe suffered a great loss and so did the firm, as the geotechnical discipline. *[Editor's note: Ed's outstanding work was ably picked up by John Ramage and Roger Lindquist who went on to lead the firm's geotechnical discipline while serving the firm for more than 50 years.]*



Bunny Whiteman Scott



Roger Lindquist



John Ramage

At the end of 1977, management of the CH2M HILL day-to-day operations passed to the next generation. Through 1977, the firm had always been headed by one of the original founding partners, either as the general manager or the president. When the decision had been made to turn over the reins to a new president, a selection process narrowed the prospects to about five engineers from within the company, as one of the criteria for candidacy was possession of a good knowledge of the firm. The top candidates were interviewed by Bob Crisera, an industrial psychologist in San Francisco, and then pondered by the selection committee. Candidates were well known by employees and preferences were commonly voiced at coffee or personal conversations. When Harlan Moyer, formerly a CAHA manager, was chosen, the old CH2M members of the firm were surprised as there were several well-liked engineers amongst the candidates who had spent essentially all their engineering careers on the CH2M side of the firm.



Sid Lasswell

One of the old junior partners was an especially popular candidate. Sid Lasswell had joined the firm right out of college in 1949 and had held nearly every position in the company at one time or another except president or chairman.

Sid had grown up in the old school of getting things done. Cut and paste specs were often seen on his desk. And it wasn't hard to get Sid's attention. Being very approachable, he often had engineers or clients stopping by to see what he thought about their issue. Sid was not big physically, but he was big in everyone's eyes. If the going got rough on a project, Sid was a good person to talk to. It so happened, however, that events taking place in Sid's personal life



Harlan Moyer

prevented him from accepting the top executive role, although he continued to serve as a role model and mentor to all of the staff, even after his retirement a few years later.

While corporate headquarters remained in Corvallis, Harlan did not move from Redding when he became president, as the company planes routinely flew from California to Oregon on daily roundtrips. The ease of travel allowed Harlan's wife to continue her professional work in Northern California and remain living in their family home. She had her work and Harlan had his, so we seldom saw or met her.

As Harlan stated in the 1977 annual report, he was not a Holly Cornell nor a Jim Howland nor a Burke Hayes. "I'm Harlan Moyer. We are different people and we have somewhat different ideas...". One of the first differences to be noted was the reduction in routine communications. The previous presidents had their staffs assembled weekly to talk about issues or to make plans for whatever was coming up. Harlan in short order handled most company business through individual conversations, by phone, or through his own analysis. When assembling input, ideas or opinions were offered up; and Harlan then made his decisions. The previous, open style of meeting with corporate staff gradually phased into the selection of opinions from his cabinet of district managers with minimal solicitation of input from corporate staff regarding firm direction.

CHAPTER 7 – THE 80s, A DECADE OF GROWTH

The upward growth in the firm's business volume and staff that had resumed in 1977 continued unabated for several years, and more offices were opened around the U.S. The district concept was being lauded as a means of decentralizing the company to "bring top management decisions closer to the areas we serve." District growth brought with it a service structure for each district that mirrored the corporate matrix structure, including district discipline directors (DDD's). The central corporate staff and the firmwide technical discipline and discipline group directors became one step further removed from their regional office counterparts. District staffs, in attempting to do their jobs, concentrated on and became more oriented to their district. This became even more pronounced as more weight was shifted to the district evaluations and promotional recommendations. The hiring of entry level technical staff became more of a local office responsibility that further isolated the discipline leaders from their junior staff. The firm was slowly drifting towards a conglomeration of internal companies with advice on the direction of the firm coming more and more often from the districts. The discipline concept that tied the firm together as a single entity became increasingly moribund. With the growing strength of the regional district operations, it became increasingly evident that there was minimal enthusiasm to restore an effective firmwide discipline structure.

The matrix organization acted as a unifier to the company by crossing geographical boundaries and matching the best available technical skill with project needs. The discipline side of the matrix also gave the individual technical person the personal satisfaction of knowing that one of the two concurrent managers knew and monitored them technically. Keeping the matrix balanced was not easy, and the tendency arose to allocate more strength and authority to the Regional office side or the Discipline side of the matrix. This is not surprising as the Regional office managers had support staff to perform all kinds of nontechnical services for them during the delivery of the project. In the interest of reducing overhead, however, the disciplines with several discipline groups under their direction, often had minimal or no direct supporting staff, particularly at the individual discipline group level, which had a specific technical expertise such as Corrosion Engineering.

With the growth in numbers of staff in a discipline group and an increase in geographically distant offices, it was almost natural for the disciplines to take a back seat. The hiring process was left more to the offices, especially at the entry level where the future of the company would be decided. Salary

administration by the discipline digressed from equal input to only a final review by the discipline when most of the dollars available had been allocated.

The technical growth of an employee as the result of experience gained through project assignments required a good knowledge of forthcoming projects on a firmwide basis, and the capabilities of each person in the discipline. The disciplines were often not pressured to manage their discipline firmwide and strategize on the growth and placement of each and every member of their discipline group. After all, the discipline managers were not necessarily chosen for their management skills or a keen interest in the management and development of people. Rather, they had probably always exhibited a desire to master their "trade" and were recognized for past leadership in getting things done.

Office managers, on the other hand, had often given up their expectation to remain current and knowledgeable in their technical field and wanted to put into practice the management of the people in their office, similar to what might be done by any independent local firm manager.

The retirement of the original CH2M partners was beginning to take place...Burke in 1978, Archie in 1979, Holly in 1980, and Jim in 1982. Holly's departure resulted in Earl Reynolds becoming chairman until his retirement in 1983. Their retirement meant the relinquishment of their position in the firm and the return of their CH2M HILL voting stock shares in return for promissory notes. The key employee agreement that had been created under their direction included the requirement that retirement as a key employee/voting shareholder would take place automatically at the end of the year following their 65th birthday.

The founding partners all adhered to this commitment even though new federal law makes enforcement of these criteria questionable. Their belief that the leadership and ownership of the firm should be turned over to the younger members of the staff did not change. This is not surprising as they formulated policies that supported the continuity of the firm long after their departure. Widespread ownership with upper limits on shares owned, share acquisition through profit dispersal, bonuses from profits to essentially all the staff, ESOP funding, pension plan...All these and other firm policies fostered Archie Rice's statement that "CH2M HILL was like a large commune."

At the time of these partner retirements, the firm's widely dispersed ownership was in the hands of over 400 key employees with voting stock. Holly's belief that firm owners should not be a "private club" certainly came true as owners came from many occupational descriptions within the firm. Longevity and dedicated effort combined with progressively increasing capability resulted in

key employee eligibility that was carefully spelled out in the Policy and Procedure Manual. Each office had "P & P" manuals in their library, and they were made available to all employees.

The amount of voting stock held by each of the senior ex-partners was substantially more than the next level of key employees, which meant that a much larger block of key employees would be required to decide any issues involving a stockholder vote. With the passage of time and further retirements, the number of voters required for changes will continue to increase as long as the ceiling on the number of shares permitted to be held by a single stockholder is retained. One distinct advantage of keeping the ownership in many hands is the reduced enticement to sell the firm or change from private ownership to a publicly-traded company. If individuals held large blocks of stock, future leaders might perceive there would be substantial gain in share value by selling or going public. The broad ownership with limited shares to appreciate would not see a great windfall from either selling or going public, but the stockholders would also suffer a lessening of their individual authority on how the firm should operate and the historical distribution of profits.

The startup in 1982 of the Foothills Water Treatment Plant in Denver marked the success of a major design effort. The project team had spent many hours of air travel between Oregon and Colorado in order to complete the massive design effort. Another project that heralded things to come was the contract to design of a 50,000-square-foot clean room addition to Digital's semiconductor plant in Hudson, Massachusetts.

Following Earl Reynolds' retirement in early 1983, Jim Poirot became chairman of the Board of Directors. Jim, although an Oregon State grad, had lived most of his professional career first in Seattle and then Atlanta. He decided to relocate to Denver, as he did not have the same personal attachment to Corvallis held by the original partners. Harlan looked at Denver as a more central location for his office also. The move of corporate headquarters from Corvallis was thus underway and would culminate in the move of all corporate functions to Denver within a few years. The ease of transportation to the eastern seaboard and some parts of the world were an attraction and a large city gave closer proximity to other corporations. On the other side of the ledger, community interaction lessened with staff scattered in many of the communities making up the metropolitan area. CH2M HILL as a business in a large city did not merit much recognition with a staff of only a few hundred people.

During the year the umbrella holding company, CH2M HILL, Ltd., was established to enable the formation of subsidiary companies. The subsidiary

companies formed in the next few years would confirm the wisdom of that creation. The gross volume of business continued to increase without much change in staff size. There were only 16 more employees in January 1983 than in January 1981, but business volume had increased by nearly 30 percent. Engineering News Record for May 1983 showed CH2M HILL as the 6th largest U.S. design firm with gross business revenues of \$144 million.

EPA's Superfund program was well underway with CH2M HILL receiving hazardous waste contracts that portended the rapid expansion of the firm into the study of hazardous waste sites and the design of remedial action to clean up waste sites.

The Alexandria, Egypt, wastewater collection and treatment project under USAID sponsorship turned into a long-term project that provided a base for further Middle East marketing under Les Wierson's direction. Les was able to muster the support and onsite presence of some of the most experienced staff in the firm. Fred Harem and Dale King spent years in Egypt; and Sid Lasswell, Gene Suhr, John Filbert, Roger Lindquist, and others were in and out frequently. International work was profitable, but it did take the skill of some the best talent in the firm to make this happen. Motivating and keeping a capable staff, which retains a keen interest for the well-being of the firm, was driven by the desire for the completion of a successful project; and ensuring a happy client at the end will challenge any project manager, especially at a distant location in a foreign country.



Les Wierson

During 1983 and 1984, the employee count increased 20 percent to nearly 2,500 people. Preparatory work was completed in 1984 to spin off in 1985 a group of 37 employees from CH2M HILL, Inc. to form the subsidiary company, IDC, or Industrial Design Corporation headquartered in Portland. These initial IDC'ers had been the principal design team for the Wacker Siltronic plant that had been built in Portland in the late 1970s.

CHAPTER 8 – HAZARDOUS WASTES, IOTECH, OMI, AND IDC



Ralph Peterson

The Reston, Virginia office started to expand rapidly as the result of the staffing requirements for the EPA contracts that the firm had won. Ralph Peterson's leadership guided CH2M HILL into prominence in the hazardous waste field. He had convinced Holly and Harlan that CH2M HILL was in an excellent position to be at the point of the relatively new field of hazardous waste cleanup. With their blessing, he proceeded to assemble a talented crew of people who had a similar ambition to gain prominence as a premiere cleanup firm. And they were exceedingly successful. Contracts, large and small, many with various levels of government as well as for industrial clients soon followed. The business volume for cleaning up old pollution sites grew at a fast pace and brought new specialty occupations to the firm. Studies identifying polluted areas revealed the widespread need for earth-related remedial work in numerous spots about the U.S., and it soon became evident that the pressure was mounting for similar action to be taken internationally. Once the firm became established for its expertise in this field, it became obvious that the hazardous waste business could grow into a major part of firm's business just as Ralph had predicted.

By the start of 1987, revenues had increased to \$330 million per year with a staff of 3,400 in all the companies and an ENR ranking of #3. Don Evans had moved from San Francisco where he had been serving as the Regional Office Manager to become the manager of OMI following the departure of Mike Stump.

IOTECH, the firm's irradiation company with a facility in Denver, was still sanitizing medical supplies; but profits were elusive. It would not be long before the U.S. government barred the use of Cesium-137 that was central to IOTECH's operations. Canisters holding the cesium had been found leaking in other user facilities, and the government stepped in to stop all cesium operations.

In the meantime, IDC was increasing its business volume and staff size at a fast pace. Revenues reached the \$15 million level, and the original staff of 37 had increased to 220 by the end of 1988.

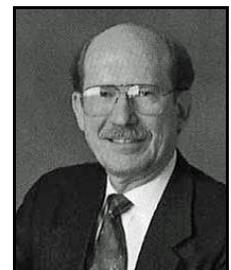
The last ENR survey had ranked CH2M HILL as #3; but with the inclusion of design/build firms in future surveys, this turned out to be the highest ranking attained to date even though revenues continued to climb.

Along with the firm's growth was a lessening of participation in the various engineering societies by the engineering staff. The shifting of people to new assignments away from old ties and a growing lack of involvement on the part of most senior engineering managers de-emphasized the need to become an active member. Membership fee payment remained a firm-paid benefit; and company policies encouraged active membership, so those who desired to be active at local meetings continued membership. The trend was for company staff to become increasingly internally focused on how to do better within the firm. Outside professional involvement was not perceived to contribute materially to acquiring or doing business. There were exceptions, of course; Jim Poirot became the president of American Consulting Engineers Council and followed that by becoming president of the American Society of Civil Engineers. Both are prestigious national offices with worldwide recognition.

The international design operations were reconstructed into a subsidiary company, CH2M HILL INTERNATIONAL, LTD under the direction of Howard Schirmer. Les Wierson had managed the international activity prior to that time having shepherded the International operations into a very promising field of activity. Howard came from the consulting firm, Dames and Moore, and brought with him a background of experience in International work. His agenda was to expand the international business both geographically and in dollar volume.

Expansion was successful in terms of gross volume of revenues and new offices globally, but the bottom line was being written in red ink. CH2M HILL pumped millions of dollars into the INTERNATIONAL subsidiary without being able to achieve a profit. The rationale that CH2M HILL needed global involvement to sustain itself in the future insured a continuance of the funding. The deficit became more acute as time went on when the domestic groups experienced substantial profit declines.

Through the 1980s, Harlan's presidential years, the size and breadth of the firm continued its steady upward movement. The year 1990 brought a change for CH2M HILL, Inc. when Lyle Hassebroek became the president of CH2M HILL, Inc. with Harlan Moyer retaining the presidency of the holding company, CH2M HILL, LTD. It was not long before more top-level changes would take place following Harlan's retirement in mid-1991; and Ralph Peterson assumed the leadership role of president of CH2M HILL, LTD.



Lyle Hassebroek

Ralph's ascendancy moved the leadership to the next generation. Ralph had his entire working career with the firm, starting with the Boise office while in college and transferring to Corvallis to finish his civil engineering degree at

Oregon State. He knew and had worked with all the founding partners; and though just in his mid-40s when selected as the firm's president, he was the consummate example of the individual who starts with a company as a young man and becomes the top leader later in life. There is very little in the history of CH2M HILL that he would not know from first-hand sources or his own experience.

The combined companies topped one-half billion dollars in gross income in 1991 with a total staff of 5,300 people. The total companies' growth had continued; but by year-end, it was apparent that the environmental business of Inc. was experiencing a weakening market. The Inc. staff count was staying nearly constant. However, IDC and OMI were having banner years; and the signs were good for the coming year. OMI was aggressively adding to its stable of communities under contract for the operation and maintenance of their water and wastewater treatment plants. Foreign companies in the U.S. were tough competition, especially the French firm that had hired Mike Stump away from OMI.



Ken Durant

IDC under the leadership of Ken Durant and Wayne Hanson was about to begin a remarkable expansion in business volume, in staff size, in office locations, in worldwide project activity, and in the bottom line profits. Past clients like Hewlett Packard, Digital, Motorola, and IBM began expansions by building new factories or modernizing

existing facilities around the world. New clients needing clean room design on fast track or design/build facilities appeared on IDC's assignment charts. Names like Heraeus, MEMC, OHKA, Sony, Takata, TI, VLSI, and Komatsu began showing up...premiere manufacturers of microelectronic products. Project sizes ran from small to large, from a few thousand dollars for small changes to plants costing clients a billion dollars or more.



Wayne Hanson

The calendar year 1992 was a soft year for CH2M HILL Inc. Business income was nearly flat as was the staff count for the second year in a row. OMI and IDC each had banner years, resulting in a total company increase in gross income and in the number of employees.

Three other member companies under the CH2M HILL Companies, Ltd banner were not doing well in terms of profits in 1992. The international arm, CHIL, continued bringing in more work, but at a net cost to the firm. CHEL, the Canadian offices, had rough sledding along with the Canadian economy and could not quite finish in the black. IOTECH, the irradiation company, was no

longer operational after the U.S. government had ordered a stop to the usage of the cesium. Holding the cesium and securing the premises without any income created a continuing deficit.

Jim Poirot was finishing up his final year as Chairman, completing 37 years as a member of the firm. As a member of the Oregon State University alumni board, he was aware of the alumni plans to erect an alumni center. Seizing on the opportunity to have a building dedicated to the founders of CH2M, all of them OSU alumnus, Jim and Ralph Peterson proposed to the key employees that CH2M HILL make a major alumni fund donation that would be used to build the center, which would then be named as the CH2M HILL Alumni Center. There was some voiced opposition to dedicating the money, but any reservations were squelched when Ken Durant committed IDC to do the building's architectural and engineering design without a fee. It also gave the IDC architects a chance to add a significant institutional building to their credits for the pursuit of future design work.



CH2M HILL Alumni Center

CHAPTER 9 - REORGANIZATION

The projections for 1993 showed both worrisome and favorable prospects. Of greatest concern to CH2M HILL Inc. was the increasing competition for environmental and water projects in those nonexpanding markets. Capital requirements to pay for the upgrade/operate/maintain projects being sought by more and more communities created the need to find funding solutions, a task that did not exist in the consulting business of the past. OMI faced this issue ever more frequently and looked at a reduced growth rate as a potential result. On the other hand, the industrial marketplace indicated capital expenditures would increase, offering more opportunity for IDC and some of the other companies serving industry.

Those forecasts came close to being on target. CH2M HILL Inc.'s business volume was flat, and staff count dropped a few percentage points. A number of the employees departing the company were long-term staff with key employee stock ownership. On the other hand, IDC had its biggest year ever, increasing its staff by 60 percent, opening and staffing an office in Ireland, and acquiring the prominent Phoenix structural engineering firm of Robin E. Parke and Associates. In addition, IDC also took another giant step forward by joining Hoffman Construction of Portland in forming a new company called TDC (Technology Design and Construction) and taking on a huge increase in workload in microelectronics plant expansions. The new jointly-owned company had a 50/50 split ownership and provided single point responsibility for design and CM or CM at risk projects. TDC would look at IDC for design and at Hoffman for construction.

The first project for TDC was a big one, a 120,000 square feet of Class 1 cleanroom space. Construction cost for the fab building ran in the hundreds of millions of dollars without including the manufacturing equipment expenditures. The role of senior manager of TDC was set up to rotate between IDC and Hoffman with Don Daly being the first manager.

The relatively poor performance of CH2M HILL Inc. in 1993 provided the opportunity to re-engineer its operational structure. A number of the decision-makers in the firm had attended Harvard in recent years as part of an executive business program and had come away with new ideas on how the firm could be organized.

The first reorganization action resulted in the dissolution of the district concept. The districts had evolved over the last 10 years more and more into semi-autonomous entities with mini-discipline and district staffs. The districts

finally became identified as splitting Inc. rather than unifying it to bring all the best strengths of the firm to bear on a project or issue.

Another step was the creation of a Federal Group (FGL) to better focus on work for the U.S. federal government. This group's early results were the startup of the Hanford cleanup project in the Bechtel alliance and submitting the winning Kaiser-Hill proposal along with ICF Kaiser on the Rocky Flats management contract to clean up the nuclear waste resulting from nuclear weapons production. Both of these projects brought out the country's top competitors and demonstrated CH2M HILL's ability to compete in the hotly-contested hazardous waste field. The expected long duration of the contracts made them attractive in providing a steady base load of work.

While CH2M HILL Inc. was stalled in its growth, IDC kept increasing its staff to meet workload commitment that had not stopped moving upward. The 1994 year marked a staff complement that exceeded 1,000 employees to accomplish the \$100 million of business. Two sister companies, CHIL (international) and CHEL (Canada) were still struggling. CHIL, in particular, experienced a downward slide in business and ended the year sizably in the red. Canada's laggardly economy still was not turning around, and both design and construction remained in a slump.

Collectively, the CH2M HILL companies still grew and prospered. The 1994 revenues easily topped the previous year's gross income although the dropping bottom line net income had been exceeded four times in the previous 5 years. Profits were not keeping up with the growth in business that now surpassed \$100 million per year.

The CH2M HILL Inc. employees found it exceedingly difficult to get adjusted and become comfortable with the new look that had been put in place in 1994. The decision was made in 1995 to further re-engineer the entire corporation. The principal changes would be to eliminate CH2M HILL Companies, LTD and to revamp the companies identified as CH2M HILL Inc., CHIL, and CHEL. CH2M HILL Inc. with its matrix, discipline/regional office structure was dissolved to be replaced by combining Inc., CHIL, and CHEL into multiple business lines similar to that commonly seen in other large firms throughout the country. The business line groups were created as entities much like OMI and IDC. The designated major design centers located in Corvallis, Gainesville, and Redding had the responsibility to support the business line groups on large project efforts.

In prior years, the responsibility for food industry services had been split between Inc. and IDC. Under the new alignment, the Food industry activities were consolidated in the newly created Industrial Business Group (IBG) with

Ken Durant as the group president. The initial companies within the group were just IDC and Food, but additional companies are expected in the near future to serve industrial clients.

The new organization provides for the president of each group reporting directly to the overall CH2M HILL Company president, Ralph Peterson. Extensive reorganization taking place for 2 years in a row was confusing to some employees and welcomed by others. The dissolution of the disciplines in the old matrix system eliminated the dual manager overview of each person. The discipline responsibility for technical development of individuals shifted more to a self-responsibility.

The desired end result of the restructuring was to give better direction to firm efforts in meeting client needs faster and more efficiently. It will take time to digest the changes that better position the firm for its future worldwide business.

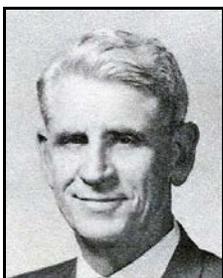
THE SENIOR PARTNERS

The original partners, the ones with their name on the door, were all Oregon Staters who had served in the U.S. armed forces during WWII, and returned to Corvallis to pick up the threads of their lives. Their friendship had been established from their days at Oregon State...Fred Merryfield was the professor of Civil Engineering and had served as an instructor to Jim Howland and Holly Cornell in his classes. Burke Hayes, being an electrical engineer, may have had Fred as his surveying instructor at a different period of time.

As the war wound down, they wrote one another about their plans for the future. The idea of putting together an engineering consulting practice in Corvallis was generated through correspondence. And when peace was declared in the Pacific, Holly and Jim soon found office space in downtown Corvallis to house the newly-formed partnership, which so far was comprised only of themselves and Fred. The two of them worked full time on the new venture while Fred remained teaching on the campus. Burke was working on the East Coast; but they knew he wanted to get back to Oregon, so they persuaded him to join the three of them as a fourth partner. Burke brought electrical engineering to go with the civil engineering expertise of the other three, immediately expanding the potential clients list, and providing in-house electrical design capability for treatment plant work.

All of these men were remarkable individuals, each in his own way and collectively as a team. It is difficult to reduce to print the instincts that guided them to become leaders in their chosen fields, and to serve as the principal architects of what was to become the leading Engineering Consulting firm in the country. The thumbnail sketches shown below may define the known facts concerning these men, but one would have to know them as human beings to fully fathom the richness of their spirits and the high quality of their character to appreciate them.

FRED MERRYFIELD



Fred Merryfield

Fred already had the gray hair and an extensive background in water and wastewater engineering to bring to bear on environmental studies and designs. Born in January 1900 and having lived in Oregon most of his adult life, he knew a great deal about the Northwest and had spent considerable time assisting other consulting engineers on projects. His wife, Mildred, was raised in Pendleton as was Burke, and Fred always held a keen interest in the eastern part of Oregon and

Washington to go with his thorough knowledge of their western halves. He was most aware of the rapidly growing need to do something about the pollution in the rivers and streams created by the growth of population and industry. The Willamette Valley was a prime case of a river system being overwhelmed by pollutants. The lack of oxygen and chemicals had decimated the fish population in the valley floor, and people were advised not to swim in the Willamette River...a river that had been renowned in the Oregon Trail emigrant days for its clarity and abundant fish population. Fred was very aware of the vast amount of engineering work that would be needed to collect and treat community-generated sewage and remove the discharges from the industrial plants scattered about the western half of Oregon and Washington. A knowledgeable and reliable consulting firm made up of good partners appeared to be just the ticket for addressing the problem he was viewing.

Fred was one of those individuals who people did not forget once they had met him. In fact, many people spoke about Fred as though they knew him even though they had never had the occasion to meet him. A good-looking man with a shock of white hair in his later years, he was both friendly and intimidating. Being extremely well schooled in English and an avid reader, lack of clarity or misuse of the language was unacceptable to him. His corrections were not easily forgotten as any student who ever turned in a report to him can attest. He could be brutally expansive in his corrections to make sure the person knew his English needed improvement. This same directness exhibited itself in many other situations such as responding to oafish manners or inappropriate expectations. On the other hand, he could not resist calling in someone walking by his office door to hear about how things were going and if the family was fine. Many individuals benefited from Fred 's intervention...like calling a university contact to encourage a scholarship consideration, arranging a meeting so people could meet one another, seeing that the family of a traveler was kept informed ... often they were not very noticeable except to those involved.

All the partners held the view that it would be good to have graduates from across the nation and to some extent the world. Fred, in particular, had university faculty contacts who referred students interested in consulting. When a professor recommended a student contact CH2M about employment, particular attention was paid to that applicant. Fred had felt assured that a faculty member would not give that advice unless confident the student would be successful with the firm. Most of the new college hires held advance degrees, and the staff came from many parts of the world.

And Fred could be both generous and possessive. An Air Force general called the office on one occasion and asked for Fred. In those days, there was a requirement for able-bodied males to serve time in the armed services. The general called Fred to object to what he saw as CH2M's recruitment of one of his officers. Fred's response to the general was very courteous, but as he told the general, "David Evans was an employee of CH2M before going into the Air Force to fulfill his duty. He was on loan to the Air Force because our military needed good people, but David had completed his requirement and it was time for him to return to CH2M." David returned a short time later and has enjoyed a long and successful 35-year career with the firm. *[Editor's note: According to Dave, he was, in fact, a former student of Fred's who wanted to become an employee of CH2M. At the time of the phone call from the General, Dave did not know he was even a prospective employee, much less an employee! Subsequently, Fred did offer Dave a position at the famous South Lake Tahoe project while he was on a interview trip to visit a different NW consulting firm who was a rival of CH2M as he had a family to feed!]*

Hosting a gathering was an activity that Fred enjoyed immensely. The four partners had purchased lots at the top of the hill just south of the university. The hill was undeveloped at the time; but by extending the road that bordered the West Side of the cemetery, the lots were easily accessible.

Fred built his home with a wide veranda having a view to the east towards the valley and the Cascade Mountains. A brass arrow embedded in the concrete slab of the terrace pointed out each prominent Cascade mountain. The living and dining rooms looked out on the veranda, which allowed a sizable group of people to meet and mix both indoors, and outside in all types of weather. Whenever Fred had a special visitor, and he liked to have his friends visit, an invitation was extended to those members of CH2M in the Corvallis office who he thought would mix well with the guests and participate in the social aspects of the visit. Through his involvement in the waterworks associations, particularly the International Waterworks Association where he was the president for 1 year, world experts were often the distinguished visitors. By the late 1960s and early 1970s, CH2M had attained a well-known reputation of excellence in the cleaning and purification of water; and Fred enjoyed introducing the CH2M staff to his visiting professional friends. While it did not seem to have directly produced work for the firm, the results of the interchange of ideas probably were realized years later when international work became a common part of CH2M's focus.

JIM HOWLAND



Jim Howland

Jim Howland was an Oregon State cheerleader when in college. His gregarious, open personality carried over into his engineering career. He believed in a modest, but attractive, work environment for everyone ... personal cubicles or offices for the design staff and white Ford sedans for travel or fieldwork. The door to Jim's office was seldom closed; and when it was, everyone knew it was for good reason. It was very easy to get in to see Jim whether you were an employee, a client, or a citizen in the

community.

The fact that the firm had modest accommodations was verified when Senator Mark Hatfield made a mid-1970s award presentation to CH2M HILL in the Corvallis office to commemorate the outstanding success of the tertiary wastewater treatment plant at Lake Tahoe. Having just come from Washington, D.C. and its imposing monumental, marble buildings, he remarked that it seemed strange that such innovative work would come from people in such an unimposing wooden structure in a small town in western Oregon. No thick carpets covered the office floors or halls of the firm. Plush facilities would not have been in keeping with the concept that the client should see in the firm, a source for quality engineering service at a competitive fee. Ostentatious quarters were for other companies if they wanted them; it was just not CH2M HILL's style.

In the early years, the partners alternated as the general manager. With the growth of the firm and the need to commit more time to managing the operations and support functions, the partners eventually agreed that Jim should be the company and president. To compensate him for this added burden of keeping the firm running, he was to receive 10 percent more in his salary than the other partners. That was the story anyway, and the added 10 percent held throughout the tenure of a partner as the president.

HOLLY CORNELL



Holly Cornell

Holly usually kept a cool, calm demeanor with a deceptive twinkle in his eye. People, whether a firm employee, a client, an engineering society associate, or a member of the community, respected Holly's leadership and intellect. When he was in college, he was a fraternity president. His manner was to listen, ask questions, and get the input of those around him, especially those in whom he had confidence. His

decisions were well founded, and he was adept in answering clearly the questions others might have as a result of his decision. When Holly was representing the firm, the prevailing conviction was that the firm's well-being was in the best possible hands.

Despite being a disciplined structural design engineer who had studied under the legendary Hardy Cross at Yale, Holly and his wife, Cleo, kept a personal, artistic style of life as well. They built a handsome home on a Puget Sound island when Holly was the Seattle office manager. The home was built at water's edge with an excellent view across the Sound. A wonderful place to live, but it had only one bedroom. Needless to say, finding a buyer was a bit of a problem when it came time to move back to Corvallis.

The home they built in Corvallis had a dramatic artistic touch. A vertical home, they solved the problem of stairs by installing an elevator. Close to the tree-covered hillside, the home was architecturally designed in a unique style to blend into the surroundings. Needless to say, their new residence was not typical for Corvallis, the home of Oregon State University with its major orientation to agriculture and the sciences.

Holly always kept strong ties to engineering. Although president, general manager, and chairman of the firm over the years with the requisite demands taking much of his time, he continued his ASCE committee activities whenever there was an evident need to participate. The lifeline Committee with its focus on continuity of water and underground services in the event of a catastrophe, such as an earthquake, retained Holly as an active member for many years.

Going to lunch with Holly, Sid Lasswell, and others was a pleasure enjoyed by many of the younger engineers just starting a career in consulting engineering. Issues and projects were discussed in casual conversation. A cocktail or glass of wine over lunch was not uncommon in the 1960s and 1970s. These sessions at noon or after hours at the restaurant gave the less experienced engineers the opportunity to get to know the senior staff and expand the nontechnical understanding of consulting. Holly was very generous in his invitations to tag along.

BURKE HAYES

A stately guy, tall, glamorous in his old Navy pictures at home and possessed with an "insatiable curiosity." He was also fun loving, with a penchant for being inventive. Burke had ideas galore and was a catalyst in the development and patenting of the Flomatcher control system. After establishing the marketability of the system, it was sold; but by that time,



Burke Hayes

Burke had moved on to the other projects.

He encouraged the firm to be inventive and was sensitive to the need for letting others become aware of the firm's accomplishments and capabilities. He was a big advocate of producing the film on the Lake Tahoe project when its tertiary treatment of sewage wastewater was new to America.

It was not unusual to see strange goings-on in the electrical engineering area of the office. Burke had convinced the Bonneville Power Administration staff that CH2M HILL should be selected to study the corrosion effects of high-voltage direct current on buried pipes and structures. The test apparatus with its simulation table wired to measure the effects of using the earth as the current return from the terminal end in California was a mysterious contraption to most people. The study results were confirmed when the high-voltage DC line from Celilo, Oregon, to Sylmar, California, became operational.

The furnace room coffee station at the old Western Avenue building served as a discussion catalyst. One of the recurring debates was the fastest way to Portland. The best way according to some was the river route that crossed the Willamette River in Albany. Others were convinced it was faster by crossing the Willamette in Corvallis and then go east to the Interstate...longer, but faster. Burke reported in one day that he had solved the issue. Driving each route on different trips to Portland, he had driven at the posted speeds to the same point on the freeway just north of Albany. The winners were those who preferred crossing the river in Corvallis and going to the interstate highway...longer, but shorter.

Engineers around the state had a great respect for Burke, and he was a natural choice by the Governor of Oregon to be appointed to the State Board of Engineering Examiners. Before completing his 10 years on the Board, Burke was selected to serve as the Board's president, evidence of the Board's confidence in him.

THE TWO SENIOR PARTNERS WITHOUT THEIR NAME ON THE DOOR

Archie Rice



Archie Rice

A civil and water engineer with a great flair, a marvelous wit, a keen business mind, an excitable motivator, an innovator, plus many other qualities—all of these could describe Archie Rice. A super Santa Claus at the Christmas parties as he would hand out funny little gifts with a humorous comment that was appreciated by all. Archie was sought after as a master of ceremonies in recognition of his powers of organization, peppered with his quick, clever impromptu thoughts that he freely shared with his audience.

Archie took over the development and management of Microfloc, a subsidiary company of CH2M that commercially produced package water treatment plants to purify water using mixed-media filters. Several other developments were also marketed, one of them being slant tube settlers. The tubes shortened the distance the flocculent needed to fall in the water, speeding up the clarification process. The office and manufacturing plant that had been built at the Corvallis airport to house Microfloc was later sold to Neptune Meter Company. A condition of the sale was that Archie devote at least 5 years to presiding over the enterprise and manage the overall operation. At the conclusion of this period, Archie returned to CH2M HILL where he assumed the management of some of the firm's most significant projects.

The American Water Works Association (AWWA) was Archie's favorite society, and he achieved added prominence in the water field through his active involvement in the society's national pursuits. Clients, suppliers, water district managers, other water engineers... they all knew and enjoyed Archie. With his thick glasses and quick mind, he had a special place in people's hearts. As things would have it, during his later years he even managed to get rid of the thick glasses by undergoing eye surgery that corrected his vision...after all those years of coping with poor eyesight.

Archie was on the Board of Directors for many years and knew the thinking of the other senior members inside and out. He liked to kid Jim and Holly and Burke by making the comparison that "CH2M was just like a big commune." He was protective of the interests of the staff, and equitable, whether merited or not in the eyes of outside advisors who always seemed to advocate a much more selective group of recipients, with the benefits to be derived from employment with CH2M. But within the firm, there was little disagreement;

and, in fact, there was pride in the fact the firm was supportive and generous to all the staff.

In many instances, the firm members had not personally experienced any vocation except time in the armed services. Many had joined the firm at an early age and had not left. They were developed through assignments, association with senior employees, encouraged to be supportive, pushed to do well, supported in outside activities, and everyone received a fair share of whatever was left at the end of the year. Those who did not live up to their commitments were counseled and that occasionally led to some turnover, but very few departed by industry standards. By the same token, it was not easy to be hired. A person being hired was expected to have the credentials to become successful and the personal qualities to gain the respect and acceptance of his coworkers.

For an engineering company to be thought of as a “commune” was novel, but Archie’s “commune” comparison probably hit the target close to the mark; and he was as much a part of that environment as anyone else.

Ralph Roderick

A relaxed manner and kind heart were trademarks of Ralph. He brought his Kansas background with him to Oregon where he could practice his engineering and enjoy building good relationships with city managers, city engineers, and the client engineering staffs in the small cities of the Northwest. He had an easy way with people that brought trust and friendship. For several years, just prior to his retirement, he served as manager of the Corvallis office.



Ralph Roderick

One of his last assignments in the late 1960s was to go to Southern California and assess the need for recycling water to meet public water needs. After a period of time searching sources of information and traveling about California, he came back with the determination that there was not a great need. The principal water user was agriculture; and until municipalities could no longer tap into the potential irrigation water, there would not be sufficient public pressure to treat wastewater to the extent it could be recycled. His prediction proved true, and it was not until the late 1970s that CH2M HILL established an office in Los Angeles.

CLAIR A. HILL



Clair Hill

Clair ran his firm mainly as a solo entrepreneur with a small portion of the ownership allocated to selected senior staff. Confident and business-like yet still projecting a casual manner, he was recognized in his later years as “the engineer” in consulting in Northern California. Clair had strong convictions; and with his energy and intelligence, he was sought after or selected for prominent positions especially in resources-oriented activities such as water resources and land usage. His extensive experience in water-related matters, his interests as a sportsman, and his great like for agriculture combined well with his personal skills in presenting ideas and information to make him a favorite choice for those needing engineering help.

Clair could get up out of his chair at the drop of a hat and participate in a presentation in an easy, relaxed manner. One of his qualities that all listeners appreciated was his belief that a person should not have to sit too long...he was a firm advocate of the concept that the mind can only absorb what the posterior can tolerate.

Airplanes were a necessity in Clair’s concept of surveying and engineering in the West. The CH2M staff had had minimal experience in flying in small planes, but it was not long before small-plane travel with professional pilots at the stick became popular. Aerial mapping, which Clair brought to and used extensively throughout Northern California, required crews to set ground control points. As a consequence, the large survey crews were stationed in Redding along with most of the aircraft.



The Clair Hill Air Force

Clair’s savvy and determination to make the merger of his firm, Clair A. Hill and Associates with CH2M work smoothly contributed greatly to the successful melding of the two firms into one organization that grew to be the largest consulting engineering firm in the United States.

AFTER THE PARTNERS

One of the great features of being an employee of CH2M in those earlier years was the opportunity to work with and get to know most of the staff. Part of this was due to the largest office, the Corvallis office, being located in a small university town. Commuting for everyone was a matter of only a few minutes of travel time. Working late hours on a project, returning in the evening to finish a task, or going to a meeting was quite common; and with the proximity of the CH2M office to just about everything, this was not a huge problem.

Getting to know everyone just happened without much effort. The 10 percent average overtime also served as a cushion for retaining staff when work slacked off when projects came to an end. People tended to stay with the firm because they liked the company policies, they enjoyed the people they worked with, and they were pleased with pleasant surroundings. With the continual growth in work volume, termination because of reduced workload seldom occurred. Multiple years of longevity with the firm became usual along with the resulting familiarity with one another.

Right after the change from a partnership to a corporation in 1966, 15 members of the staff were selected for Key Employee status, joining the ranks of the original 12 partners. Lloyd Anderson, Ken Bielman, Russ Culp, Austin Evanson, Dale King, LaMont Matthews, Harry Mejdell, Dick Nichols, Bob Pailthorp, Jim Poirot, Joe Purviance, Carl Ryden, Vaughn Sterling, Roy Taylor, Les Wierson were voted in the exclusive Key Employee group—a singularly great honor in those years. All except Anderson and Culp continued with the firm until retirement.

The number of Key Employee-owners of the firm continued to increase even with retirements; and in the mid-1990s, the count had risen to about 1,000. Ownership of the firm essentially extended to all employees through the Employee Stock Ownership Plan (ESOP). The ESOP would have a considerable degree of influence on the firm, leading to the possibility of the “tail wagging the dog” syndrome.