THE
EARLY DAYS OF THE
ENGINEERING ORGANIZATION
of
WHITMAN & HOWARD, INC.

This history of Whitman & Howard, Inc. was written in 1950 by the late Channing Howard. It has been published by the Board of Directors, believing it will be read with interest by those who have known him.

NOVEMBER 1, 1959
CHANNING HOWARD
1867-1958

Employed by Whitman & Breck, April 1884
Partner, Whitman & Howard, 1896
President, Whitman & Howard, Inc., 1924 to 1958

Actively engaged in rendering engineering services in this organization 1884 to 1956, a period of 72 years
Where Whitman & Breck, Civil Engineers
Commenced in 1869

JOY BUILDING
209 Washington Street, Boston
EACH semi-century the history of the old Whitman & Howard EN-
gineering office is to be written—but such history was omitted in the
year 1900: we will now have to go back a full hundred years.

In 1850, Luther Briggs, Jr., Architect and Engineer, was doing a
good, usual business in those lines in Dorchester, Mass. He was already
well known and deemed successful in his calling. Dorchester was then
a Town—not annexed to Boston until 1870—and he acted for the Town
as Town Engineer and also conducted a private business as both Engineer
and Architect. He laid out streets, made good and proper plans of
bridges and wharves, and did much surveying. He had his wife for a
helper, and it is said that on occasion she said if the matter of the specifi-
cation was left to her, it would be O.K.—“leave it to me.” Mr. Briggs
had no family (as I have been told) except his good wife. He saved his
money (“had toast and tea for supper”), invested wisely and fortunately,
and in their old age he and his wife made a trip abroad, and when he was
through at a good old age, left (some said) $80,000 to relatives (a large
amount for those days—about 1900).

His principal assistants were young men that he took in their teens
until they should be 21; he to furnish training in Engineering and Archi-
tecture and bed and board in return for their work and assistance. We may
guess he turned out good men. (There was practically no schooling in
these lines in our colleges 100 years ago.)

Herbert T. Whitman and Samuel D. Kelly were two of these students,
both later to become well known. Mr. Kelly told the writer that he took
up Architecture as he could evade working outside in bad weather and get
in his full time at drafting. Mr. Whitman had become an excellent drafts-
man but saw fit to take up Engineering, and while he did not practice
drafting after a few years and not much active personal Engineering after
middle life, he, as a young man certainly made more than usual accom-
plishments in planning and executing construction. Good wharf and
bridge plans, the B.R.B. & L. R.R. tunnel at E. Boston, the Saugus River
Bridge and other R.R. and a variety of miscellaneous work will so testify.

We ought to say a word about Mr. Briggs as a citizen of Neponset
where he was a “personality.” The writer once called on him at his office
on Federal Street where he as an old man—about 1890—had an
office. Having learned that I was from Whitman & Breck’s office treated
me properly but rather coldly—we were, of course, competitors of size
by that time, and there were no brotherly engineering dealings. But once,
in these late days, Mr. Briggs called at the office (85 Devonshire St.)
when I was in, but Mr. Whitman was out to lunch. I said Mr. Whitman would be in soon, and Mr. Briggs sat down to wait. Soon Mr. Whitman came in the door smoking a cigar, as was his wont, and glancing at Mr. Briggs whose back was turned, with great agility dropped his cigar by the door and then greeted Mr. Briggs—I thought probably the first meeting since January, 1869. (Mr. Whitman, Mr. Kelly, and our other Briggs students were not brought up to waste time, money, and health in smoking.)

One of the Briggs stories is worth recording: it is said that on one occasion when Mr. Briggs was in Court, the opposing counsel asked him about Engineering—whether he called it "a profession or a trade," Briggs replying that he "called it an Art."

We understand that Cedar Grove Cemetery in Dorchester was laid out by Briggs in 1868, and as it was to be built the coming year when Whitman would be free from his apprenticeship with Mr. Briggs, what more natural than that the young man, having declined the usual Briggs offer of $10. per week, should seek and obtain as his first job the building of Cedar Grove Cemetery. He secured an agreement for a year's employment in building the Cemetery. We think he did his job well, and for a half century we have done this cemetery record and extension work.

One hundred years ago Charles Breck was Town Treasurer of Milton as he was for 50 years until he was over 90 years of age. He was also the local Surveyor, doing survey work in Milton and adjoining towns. His son, Charles E. C. Breck, started out as a farmer and Surveyor. The West Quincy granite quarry business was a growing matter; gentlemen of note were coming to Milton Hill; there were surveys to make in the growing Hyde Park, in the "600 Acre Lot," and in the whole Blue Hill Area—choosing a time when the leaves were off the trees and the rattle-snakes were quiescent.

What more natural than that the young Whitman, already somewhat worldly wise, should propose a partnership with young Breck, somewhat older and of a less aggressive makeup but of one of the old families of some means. Such a partnership as Civil Engineers and Surveyors to do business in and around Boston was duly formed, and they opened an office about 1870 in the Joy Building, 209 Washington Street, Boston. They must have had some means at hand to buy equipment and for immediate expense. Mr. Charles Breck probably conveniently stood in the gap for several years.

The new concern soon got a job to make a survey of the entire Town of Revere, getting therefor, as we have been told, $1,500. Mr. Whitman "took the uplands, and Mr. Breck took the marshes," making actual surveys and plans of each parcel of land. This work led to acquaintance and a continuously great amount of engineering work along the North Shore for many years.

Miscellaneous work, as attested by old plans, in the growing city
and suburbs kept our young concern going in the early seventies. While these were "bad times," Whitman & Breck did much land company layout work under the sponsorship of Geo. F. Pinkham at Arlington Heights, at Wollaston, at Chelsea, and otherwise and considerable development work at the new Hyde Park sponsored by A. P. Blake.

Alpheus P. Blake, a New Hampshire boy coming to Boston and Hyde Park, was a large factor in suburban developments in these times, and Whitman & Breck did extensive engineering and surveying work for his enterprises. Blake was an indomitable character, a great promoter of enterprises, and a tireless worker. Whitman & Breck were employed by Blake to lay out and supervise the building of the Boston, Revere Beach & Lynn Railroad, and the layout of the great areas of Orient Heights, Beachmont, Revere Beach, Point of Pines, and Winthrop and various engineering work connecting therewith soon followed. The building of the railroad tunnel at East Boston, the Saugus River Bridge, and the building of the Great Ocean Pier below Beachmont were real engineering matters. Miscellaneous work at the growing East Boston, Winthrop, Revere, Dorchester, Hyde Park, Milton and Quincy and some summer colony work (gotten perhaps mostly through Mr. Breck’s acquaintance) at Boothbay, at Magnolia, and at Martha’s Vineyard and some brought in by Joseph H. Curtis (now arrived on the scene) kept the new concern busy for these first dozen years—and times, as we came into the 1880’s were improving.

John T. Whitman, a cousin of H. T. Whitman, now came to the office to the great benefit of the young concern. The Whitmans were born in Pembroke, Mass., of good old New England stock but did not run to professional lines. John T. (as he was called in contrast to H. T.) had, like other young men of the time, been to California, had worked at carpentering, etc., but had not “hit luck” and settled; so coming to Boston, Whitman & Breck gave him a job. He soon “caught on,” learning surveying, ordinary calculating, and drafting in a short time—and he soon became an adept at the usual doings of the office which was now growing. Some of his work is evidenced by his most excellent survey notes and his plans which may be seen in the files. How J. T. accumulated these abilities we cannot answer at this late day. He was such an able, splendid, and good (though modest) man that we must note him further. He was the head of the office until 1886 (and had become a limited partner) when by an unfortunate accident, one eye was “put out,” and he became Superintendent of the Boston Land Company, serving them well (for about $1,500 per year) until they sold out to the East Boston Company about 1915. He then pursued the insurance business with old acquaintances of the Boston Insurance people who knew of his abilities and trustworthiness.

In these times the Back Bay was fast building up, and Engineers and Surveyors in both public and private employ had their part in it. Whitman and Breck did not seem to have had much part in this work, but they had made a Town of Brookline Street Map and made the acquaint-
ance of the famous Lawrence Family there (Amos A. and Wm. B. Lawrence). This led to having to do with the last of the great Back Bay fillings which gave Whitman & Breck some related work going on more or less until 1890—of which we will make further note.

As early as 1881 and 1882, Channing Howard worked at surveying a bit—Saturdays and vacations—with his neighbor, Edward B. Hayward, a young engineer recently graduated from M.I.T. This was the beginning of the Hayward Engineering office in Brockton, carried on with proper credit in all the years to Mr. Hayward’s recent death. He paid young Howard 10 cents an hour when working—10 hours being a day’s work. When we got through before night, we might finish out the day on his father’s farm. Young Howard graduated from High School in 1883 and tried in a boy’s bashful way to get a job in Taunton, in Brockton, and Providence and so failed that he had no recourse in the winter of 1883-84 but to cut and saw wood for the neighbors—earning some $30. His mother proposed that he start for the Institute of Technology but his good old School Master, Mr. Lamprey, through some acquaintance introduced him to Mr. Breck, resulting in his getting a job with Whitman & Breck in April, 1884—at $6.00 per week. (It may be remarked here, as well as later, that in the intervening 66 years he has not “loafed” a day or an hour when he wanted to work and has worked many days and hours when he preferred not to.)

In the early eighties, Whitman & Breck had designed and laid out the Great Ocean Pier, the Eastern Junction, Broad Sound pier, and Point Shirley Railroad and in 1883, 1884, and 1885 had laid out Great Head, Winthrop Highlands, and Point Shirley, in two of which enterprises Mr. Whitman had taken a leading part in which he spent much of his time as agent and with profit as a real estate man—he from this time pursuing real estate matters.

At this time we laid out the Harwich & Chatham Railroad and Cape Cod was starting its summer town and real estate developments.

About 1886, there was a break, and the Whitman & Breck partnership terminated; Mr. Whitman buying out Mr. Breck—Mr. Breck retiring unwillingly.

So by 1887, the young Howard had chief charge of the office with varied and considerable work. He made surveys with two assistants of all the streets of Quincy, preparatory to the coming sewerage layout, the same at Winthrop, layouts of many new areas in Dorchester and other suburbs, and surveys at Calf Pasture and the new Gas Works at Calf Pasture Point. He well remembers the so-called “mile road” (Mt. Vernon St.) and can testify that at 7:45 in the morning and 5:15 at night it was not a bit less than that in length. Besides there were house lots to survey at Arlington, Revere, Dorchester, Quincy, Hyde Park, East Boston, Winthrop, Chelsea, etc., and other miscellaneous work. There was the
usual office work that went with it. Howard could now make all usual plans and mathematical calculations.

The last of the Back Bay Fillings now going on under the survey and direction of the young Howard kept him busy and his mind occupied. After the regulation 10 hours, he went to evening drawing school, to Lowell Lectures, and Boston University special courses. Now he got $100 per month, which was probably about right for the times.

One can hardly recall at this late day even the “top men” who helped do all this work in these times — 60 years ago. Herbert Wilcox came to us from the Institute of Technology; and Ernest W. Branch, from Boston University. Mr. Branch was a real man, was a great help in our work, and later went to Quincy and into business there. Fred Tupper and Ham. Flood were Quincy men and were good and proper assistants in these years. (Miss Tupper was our first bookkeeper.) Leslie Woodfall, Wilbur Goodrich, Robert Eager, Henry McKay, John Adams, David Badger, Harry and Edw. Foster, Harry Hawkesworth, Edw. Moulton and George F. Haskell are names of well remembered men of these days — and George Devlin, but he did not last long.

In 1886 and 1887, the B.R.B. & L. R.R. built the Winthrop branch narrow gauge railroad from Orient Heights and around the Town of Winthrop. This involved track surveys, trestles, overhead bridges, frogs, switches, etc. The writer was rather “green” to some of this work, but it was duly accomplished.

The Winthrop, Revere, and Quincy town work was growing; Quincy becoming a City in 1888. We built in Winthrop the first section, about 5 miles, of sewers with a considerable storage tank in 1889, which interested Mr. Howard much. “Fatty” Chase was chief inspector of field work — he told us how. Quincy sewerage work was now being planned — by different plans. We soon built the main sewers with the Merrymount Park pumping station as it now is — a considerable matter. The North and South Metropolitan sewers were being talked of but did not arrive until well into the nineties.

In the late eighties, as mentioned above, the last of the Back Bay Fillings were being made along Beacon Street to the Brookline line at St. Mary’s Street and Commonwealth Avenue was being filled and built to 160 feet in width along beyond the “Fork of the Roads,” (Kenmore). The former fills, like most of the Back Bay, were made from and by the Railroads but the latter and adjoining lands, from the adjoining Charles River. The young Howard had charge in the field of this work, and it afforded pleasure and experience as well as work. The fills at Commonwealth Avenue were made by pumping from the Charles River — the first hydraulic pump that ever came to Boston. We made surveys of the marsh ditches which were the property lines, of the whole area to St. Mary’s Street and across the Brookline Branch Railroad where is now Sears & Roebuck and beyond. We graded the land to elevation 13 and the
streets to 16 — sub-grade. We built the seawall along the River (a limited way) and suffered much when a section of it fell over. But the cause, finally admitted, was the filling of liquid mud in back — the greatest of pressures. (The Dredging Contractor paid for replacement.)

One exceedingly stormy night in February, 1892, the writer made, with the help of three horses, the Revere Town Hall and secured the contract for laying out and executing the first section of the sewage system in Revere — to cost a bit over $100,000. This had two gravity outlets and a storage tank. This work was greatly extended from time to time until 1904 when connection was made to the North Metropolitan System.

Mr. Howard got his first experience in building hard surfaced roads in these days — in Quincy, Revere, and Winthrop. We built Telford roads in Quincy as we had the Quincy granite adapted to that method. We built the first macadam road in Winthrop in 1892 — waterbound macadam. Asphalt binder and its application were not “invented” until after 1900. We planned and supervised much permanent roadbuilding with edgestones and with properly planned drainage in these days.

The Massachusetts Highway Commission work was commenced in the 1890's and this brought us business. We were installing the Waring system of sewage disposal for schools and estates and were much interested in all matters of sewerage and drainage, standard specifications and contracts for construction, etc. Cement and concrete work was fast coming into use in foundations, walls, etc., and we had to learn, specify, and use mortar and concrete in many ways. In these days “American Cement” (cheaper and difficult to use) was common. There being only two brands of “Portland cement” — one English and one German — in use here.

In 1887 the first overhead electric trolley in Massachusetts was built at Revere Beach, being laid out by the writer. The electricity and then the inter-urban trolley came along fast, and Whitman & Howard had their full share in planning and construction of these railways. Mr. Howard has seen this great transportation system begun and now disappear.

In 1896 Herbert T. Whitman and Channing Howard became legal partners, Howard paying Whitman $1,500. Whitman had now separated the business, selling E. W. Branch one half the Quincy end for $1,500.

In 1896, Walter A. Janvrin of Revere came from the Institute of Technology to work for us, and he continued to be a principal man in the office for 50 years, working assiduously with great industry and ability all that time. About this time Randolph Bainbridge of Wollaston came to work for us and remained some ten years. These two men were of inestimable value to Mr. Howard in the everyday execution of the work of the office, which was extensive in these years.
In these days we made numberless surveys and laid out street-railways, streets, sewers, drains, tide-gates, seawalls, etc. We built sewers in Revere in all sorts of conditions, in one case in a tunnel 80 feet in depth. In planning sewers, size and pitch are important, and the construction is no less so. They seem to have worked and lasted.

In water works a good and permanent supply and an adequate distribution system for domestic and fire purpose is the right of the community.

In these days we had built a small water works system with standpipe at Sagamore and had made examinations and report on revising, extending and the operation of the Lincoln Water Works and the same in Revere and in Winthrop. The Winthrop improvements included building a very large standpipe, which was accomplished in 1910. This standpipe was unusual as to its location and capacity, involving the thickest lower plates and fastenings that had ever been used in such work — so we were told. Mr. Bainbridge and Mr. Howard exhausted what they could find in books and customs in this relation, and the standpipe is in good shape now.

In these times the Municipalities around Boston and Massachusetts, in general, were getting dissatisfied with the water supply and maintenance of their water works and they were being taken over by the Towns and Cities. These water systems had been largely built and were being administered by companies. Now Metropolitan water was available, and knowledge of building and operation had increased so that all but two of our nearby towns and cities now own their own waterworks. We had a proper part in these doings, which were extensive, involving large finances and using the services of many lawyers and engineers. M. M. Tidd, Howland, Bowditch, Freeman, Coffin, Edward A. Buss, Percy Blake, Wm. Wheeler and George A. Kimball were among our well known water works engineers. It was usual for certain lawyers and certain engineers to be employed in these cases as a group, one on the Town side (the low side as to valuations) and the other on the Company side (the high side). We were employed by Quincy, Revere, Winthrop, Watertown, and Hyde Park in these water works inventory and valuation cases. It was a good time for lawyers and engineers.

We moved in 1905 from 85 Devonshire Street where we had been since about 1880, to 220 Devonshire Street. Joseph H. Curtis went with us to the new location, as soon did Frederick H. Kennard and Wm. H. Punchard, all Landscape Architects. Mr. Curtis had an office next to ours at 85 Devonshire Street since the early eighties, and we had discovered Mr. Kennard and Mr. Punchard as young men, helped them along, and they brought us survey work. In these times and for upward of 25 years we made preliminary surveys and layouts of landscape work under the direction and with these men, Olmsted & Eliot, and Little & Browne, Architects. This work was extensive but largely on the North Shore, but it sometimes led to Cape Cod, Rhode Island, and Connecticut. We worked in
building up the Frick place at Beverly for 3 years and worked for 7 years for the Moores, the Swifts, and others at Beverly Farms in building avenues, gardens, walls, wharves, tracks, etc. We assisted in these years in building and beautifying fifty such places, but it seems to have disappeared in these parts by the time of the First World War. Harvard College established its department of Landscape Architecture in these days.

Joseph H. Curtis attended Tufts College, going from there to the Civil War. After the War he tried engineering in the new oil business in the Middle West but soon came back to Boston and worked with Shedd, Edson, and Sawyer for a time, but soon started in business as a "Landscape Gardener." He had a special entree with Col. Henry Lee, in whose regiment he had been in the War, and the Lee Family at Chestnut Hill. This gave him, and our office, considerable work for many years in the development of this fine locality at Chestnut Hill along the line between Newton and Brookline. In the late eighties the McLean Hospital was moved from Somerville to Waverley, and Mr. Curtis was right-handman in all matters of the new layout. The writer surveyed the old Hospital grounds at Somerville and did such work and the installing of the new utilities at the extensive Waverley tract — this work extending for some 20 years. The writer learned much from Mr. Curtis about trees, shrubs, and plantings, which has been of much use and pleasure as well as profit. Mr. Curtis did good work and left evidences of it behind him, but he was not personally popular, was self-contained, and self-sufficient, but we answered the telephone for him (he would not use such an instrument — might hurt the ears), kept office for him, and assisted him for 40 years, not without pleasure and benefit in return.

As we pass along, we may refer with benefit to the times and methods of work and business. We employed in these years about six to ten men the year around and twice as many for say 9 months "summer season." We usually had a good draftsman steadily employed and turned out good practical plans. We had a "girl" bookkeeper and general clerk and type-writist from about 1890.

The Land Court, which we favored, was just coming into existence, and our office furnished the first engineer, Edward S. Footer.

We apparently did not mind the bad times of 1893 very much, having good work, but in the bad times of 1907, we seem to have not done so well. Probably it was considerably a mental state, as Mr. Whitman was not doing so well in real-estate. We always had work.

Along these times the writer, always busy himself with studying, with planning and construction work, and sometimes with court cases, was faced with the consideration of methods, costs, and profits of doing an Engineering business in Boston, which had grown to where it was a matter of financial consideration: practically whether he should do as Mr. Buss and Mr. Kimball and Mr. Curtis were doing — employing no, or practically no, assistants or the reverse, as we had always done, paying out our good receipts to a dozen or twenty men. The men named above and
some others had adopted the modus-operandi indicated, and the writer sometimes threatened to do the same. But Town work, offers of work from Cape Cod to Cape Ann, and work coming in consequence of much previous work and acquaintance seemed to indicate that we must have men. And we had many good men, older and younger, that we had trained and who should have consideration.

We had laid out Sagamore Beach village in the early 1900's, built the Wellfleet Dike in 1907, and had previously laid out an Artificial Harbor plan for the Town of Falmouth and made substantial surveys and layouts at Tobey Island, built an Artificial Harbor at Pocasset and done miscellaneous survey work on the Cape — and in 1910 to 1914 laid out and nursed along the unfortunate Plymouth & Sandwich Street Railway.

Mr. Howard planned rebuilding the Weymouth Back River Bridge, and in 1910, we had the deepening of River and the rebuilding of the Weymouth Fore River Bridge on account of the growing shipyard. This was an interesting and important job, and Mr. Whitman supervised it — perhaps the last engineering job in which he interested himself.

In these days we had good men, mostly men brought up in our office, and in this way we have succeeded through the years in getting good men. We had Mr. Bainbridge (although he was soon to leave us to become Commissioner of Public Works in Quincy); Mr. Janvin; Edwin Colby; Mr. Whitman's son, J. Gilbert Whitman; Reginald Wells; Ralph Wheeler; and several others. The Northeastern University system of loaning men for periods of work while students was now in vogue, and we had early joined in and profited by that plan.

We designed and had charge of building bridges for the Norfolk County Commissioners until they got a salaried engineer of their own. This was along the time that reinforced concrete bridges were replacing the old wood or iron and was interesting work.

Then came the World War in 1914. It interrupted ordinary work, but while we had no very ready access to Uncle Sam's plans, we soon got an opportunity to help. We made detailed surveys for the coming Army Base at South Boston, work at East Boston, and did considerable work at several plants in Connecticut, and miscellaneous work. We were soon delegated with Monks & Johnson to work at Squantum in the matter of hastily making that whole area into a great shipyard. We had the layout of the new bridge over the Neponset River and charge of the dredging and water-front work and the layout and building of roads, yards, drainage, etc. As a "side light" we may here mention that we worked nights considerably, employed Louis Chase and William Fairclough (then Land Court employees) at 60 cts. to $1.00 per hour, and paid Mr. Pillsbury, State Highway designing engineer, $10. per day as road engineer at Squan- tum. After the War was over and in the matter of settlement of values and damage at Squantum in Court, this office played some part, and Mr. Howard was on the witness stand seven days. (He formed the impression
that the three Washington lawyers liked their stay in Boston.) Mr. Howard received $700 for the seven days. This leads us to remark that testimony in Court has furnished Whitman & Howard quite a bit of business first and last—sometimes agreeably and profitably and sometimes the reverse.

After the War the real-estate business tried to catch up, but business seemed to go somewhat slow until about 1922. Quincy had long since had a City Engineer, as Revere had since 1912, but Winthrop had serious and considerable work in these times. After 1922, and until the financial crash in 1929, we had a considerable part in real-estate developments in the way of surveys and layout and building streets and utilities in many localities, particularly in Boston suburbs, in Belmont, Watertown, Quincy, West Roxbury, Winthrop, etc. Affairs in these lines were so pressing that at the solicitation of the Edward T. Harrington Co., Mr. Howard consented to take charge of the construction of streets and utilities, furnishing men and tools at cost plus 15%. Three or four good foremen were secured, and the method seemed successful and with hard and close work was a bit profitable. This saved time in preparing and letting contracts and dealing with contractors and allowed sales and development to proceed with such rapidity as to please the owners and real-estate men.

C. Roger Pearson, a Winthrop boy, came to us after graduating from high school in 1918. He was then entering Northeastern University, and he pursued the part time school-work plan until his graduation and then he came with us a regular until he became a partner in the formation of the Corporation in 1924. He was an invaluable assistant in all kinds of our miscellaneous engineering work from the beginning, and the writer cannot express his appreciation of him and his work in but the highest terms from then to now. He left us for a time in the recent War—went in as a Captain but is now Major Pearson.

Paul F. Howard worked for the concern as a growing boy between times until 1918 when he entered Tufts College and then a bit at times until he graduated. He tried teaching for a time but came to our regular employ here in 1923 but left again later to take the famous Harvard Public Health Engineering Course, which he accomplished with a degree of Master of Science in 1930, and then came back to the old concern to put in his many and much efforts, which he has now done these twenty years—and is still going strong.

By 1924, the writer, wishing to give to Mr. Janvrin, Paul F. Howard, and Mr. Pearson fair recognition and a "fair chance for the future," as well as having an eye to the permanence of Whitman & Howard and Mr. Whitman "getting along," proposed with some misgiving forming a corporation and taking in the three assistants just named. Mr. Whitman (to the surprise of some of us) agreed, and we proceeded to form a Corporation, Whitman & Howard, Inc. Mr. Whitman sold part of his interest to Mr. Howard, and the new Corporation was formed.