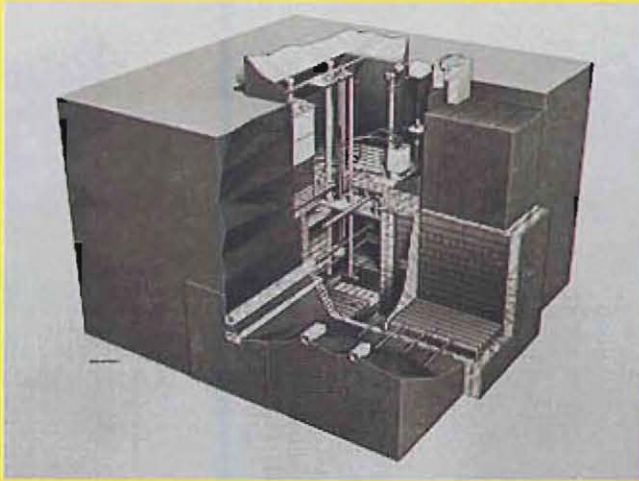


Historical Context of the Omega Reactor Facility, Technical Area 2

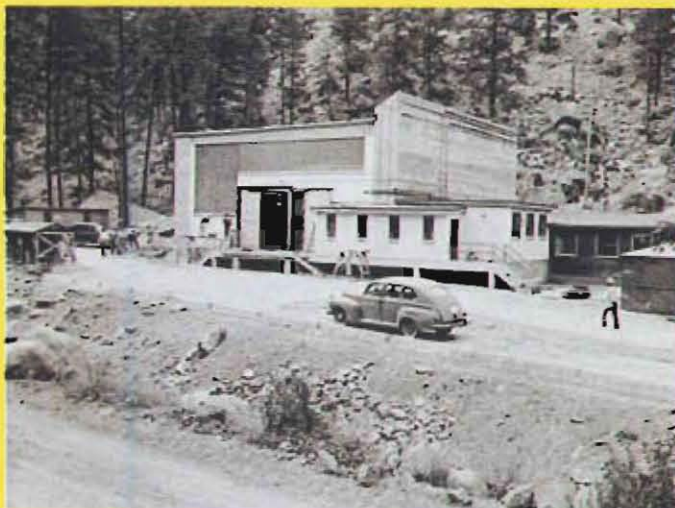
Volume 1



“Water Boiler” Reactor (SUPO) Schematic



Omega West Reactor



Clementine Reactor Building

LA-UR-04-6681

**Historical Context of the Omega Reactor Facility,
Technical Area 2**

Historic Building Report No. 234

Los Alamos National Laboratory

**September 17, 2004
Survey Nos. 647 and 814**

Prepared for the
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Los Alamos Site Office

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LOS ALAMOS NATIONAL LABORATORY

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Volume 2

Archival Photographs with Index

ACRONYMS

AEC – Atomic Energy Commission

HYPO – High-Power

INEEL – Idaho National Engineering and Environmental Laboratory

kW – Kilowatt

LANL – Los Alamos National Laboratory

LASO – Department of Energy, National Nuclear Security Administration,
Los Alamos Site Office

LMFBR – Liquid Metal Fast Breeder Reactor

LOPO – Low-Power

MOA – Memorandum of Agreement

MTR – Materials Testing Reactor

MW – Megawatt

NAA – North American Aviation

NRTS – National Reactor Testing Station

NTS – Nevada Test Site

OWR – Omega West Reactor

SHPO – State Historic Preservation Officer

SUPO – Super-Power

TA – Technical Area

TNT – Trinitrotolulene

WAC – Women's Army Corps

INTRODUCTION

The following documentation fulfills the terms set forth in a memorandum of agreement (MOA) between the Department of Energy, National Nuclear Security Administration, Los Alamos Site Office (LASO) and the New Mexico Historic Preservation Division regarding the demolition of the Omega Reactor Facility (building TA-2-1) at Technical Area (TA) 2, Los Alamos National Laboratory (LANL). As per the terms of the MOA, finalized on April 10, 2002, this report includes a history and description of TA-2.

Appendices to Volume 1 include a historic building inventory form with representative photographs and building drawings (Appendix A), maps showing TA-2's construction history and the location of eligible and non-eligible properties (Appendix B), oral interview information (Appendix C), and a complete listing of TA-2-1 drawings on file at LANL (Appendix D). A set of indexed archival photographs is included in Volume 2.

TA-2-1 housed five nuclear reactors between 1944 and 1994. The first "Water Boiler" reactors at TA-2-1 provided critical mass data in support of Manhattan Project nuclear weapons development. All three Water Boiler reactors and the Clementine Reactor were prototype nuclear reactors and represent important stages in the development of modern reactor technology. In 1990, the American Nuclear Society declared the Los Alamos Water Boiler Reactor (1944–1974) a Nuclear Historic Landmark.

The Omega Reactor Facility (TA-2-1) was determined eligible for the National Register of Historic Places under Criterion A in correspondence between the New Mexico State Historic Preservation Officer (SHPO) and LASO on October 13, 2000. The initial recommendations for eligibility are contained in a report written by LANL heritage resource managers (*The Omega West Reactor and Water Boiler Building, TA-2-1; A Preliminary Report*, Report No. 186, LA-UR-00-3854).

Literature and archival research pertaining to the historical development of the Omega Reactor Facility was conducted at several repositories, including the LANL Archives, Los Alamos Historical Society, and the files of LANL's Ecology Group (RRES-ECO).

Material reviewed included journals, books, published and unpublished manuscripts, photographs, and construction drawings and site plans.

This study documents the three different reactor designs that were housed at Omega Site from 1943–2002: the Water Boiler Reactors, Los Alamos Fast Reactor (Clementine), and the Omega West Reactor. A comparison of Omega Facility reactors with similar reactors at other Department of Energy sites and other locations in the United States is also included. Pertinent photographs and construction drawings of the Omega Reactor Facility and the individual reactors are included as well.

HISTORICAL OVERVIEW

Manhattan Project (1942–1946)

In 1939, Albert Einstein wrote a letter to President Franklin Roosevelt warning him of a possible German atomic bomb threat (Rothman 1992). President Roosevelt, acting on Einstein's concerns, gave approval to develop the world's first atomic bomb and appointed Brigadier General Leslie Groves to head the "Manhattan Project." Groves, in turn, chose Robert Oppenheimer to coordinate the design of the bomb.

A single isolated and secret research facility was proposed. General Groves had several criteria: security, isolation, a good water supply, an adequate transportation network, a suitable climate, an available labor force, and a locale west of the Mississippi located "at least 200 miles from any international border or the West Coast" (Rothman 1992). In 1942, Oppenheimer, who had visited the Pajarito Plateau on a horseback trip, suggested the Los Alamos Ranch School.

Oppenheimer and his staff moved to Los Alamos in early 1943 to begin work. The recruitment of the country's "best scientific talent" and the construction of technical buildings were top priorities (LANL 1995:8). The University of California agreed to operate the site, code name "Project Y," under contract with the government (an

arrangement that has continued to this day). Although the fission bomb was conceptually attainable, many difficulties stood in the way of producing a usable weapon. Technical problems included timing the release of energy from fissionable material and overcoming engineering challenges related to producing a deliverable weapon. Nuclear material and high explosive studies were of immediate importance (LANL 1995).

Two bomb designs appeared to be the most promising: a uranium “gun” device and a plutonium “implosion” device. The gun device involved shooting one subcritical mass of uranium-235 into another at sufficient speed to avoid pre-detonation. Together, the two subcritical masses would form a supercritical mass, which would release a tremendous amount of nuclear energy (Hoddeson *et al.* 1998). This method led to the development of the “Little Boy” device. Because it was conceptually simple, “Little Boy” was never tested before its use at Hiroshima. Scientists were less confident about the implosion design, which used shaped high explosives to compress a subcritical mass of plutonium-239. The symmetrical compression would increase the density of the fissionable material and cause a critical reaction.

In 1944, the uncertainties surrounding the plutonium device necessitated a search for an appropriate test site for the implosion design, later used in the “Fat Man” device. Manhattan Project personnel chose the Alamogordo Bombing Range in south-central New Mexico for the location of the test. A trial run involving 100 tons of trinitrotolulene (TNT) was conducted at the test site (“Trinity Site”) on May 7, 1945. This dress rehearsal provided measurement data and simulated the dispersal of radioactive products (LANL 1995). The Trinity test was planned for July and its objectives were “to characterize the nature of the implosion, measure the release of nuclear energy, and assess the damage” (LANL 1995:11). The world’s first atomic device was successfully detonated in the early morning of July 16, 1945. Little Boy, the untested uranium gun device, was exploded over the Japanese city of Hiroshima on August 6, 1945. On August 9, 1945, Fat Man was exploded over Nagasaki, essentially ending the war with Japan.

Early Cold War Era (1946–1956)

The future of the early Laboratory was in question after the end of WWII. Many scientists and site workers left Los Alamos and went back to their pre-war existences. Norris Bradbury had been appointed director of the Laboratory following Oppenheimer's return to his pre-WWII duties (LANL 1993). Bradbury felt that the nation needed "a laboratory for research into military applications of nuclear energy" (LANL 1993:62). In late 1945, General Groves directed Los Alamos to begin stockpiling and developing additional atomic weapons (Gosling 2001). Post-war weapon assembly work was now tasked to Los Alamos's Z Division, which had been relocated to an airbase (now Sandia) in nearby Albuquerque, New Mexico (Gosling 2001).

In 1946, Los Alamos became involved in the atmospheric testing program in the Pacific, dubbed "Operation Crossroads." Later, also in 1946, the U.S. Atomic Energy Commission (AEC) was established to act as a civilian steward for the new atomic technology born of WWII. The AEC formally took over the Laboratory in 1947, making a commitment to retain Los Alamos as a permanent weapons facility.

With the beginning of the Cold War—the term "Cold War" was first coined in 1947—weapons research once again became a national priority. Weapons research at Los Alamos, spearheaded by Edward Teller and Stanislaw Ulam, focused on the development of the hydrogen bomb, the feasibility of which had been discussed seriously at Los Alamos as early as 1946. The simmering Cold War came to a full boil in late 1949 with the successful test of "Joe I," the Soviet Union's first atomic bomb. In January of 1950, President Truman approved the development of the hydrogen bomb; Truman's decision led to the remobilization of the country's weapons laboratories and production plants. The year 1950 also marked the first meeting of Los Alamos's "Family Committee"—a committee tasked with developing the first two thermonuclear devices (LANL 2001). In 1951, the Nevada Proving Ground (now the Nevada Test Site [NTS]) was established and the first Nevada atmospheric test, "Able," was conducted. In the same year, Los Alamos directed "Operation Greenhouse" in the Pacific and successfully conducted both the first thermonuclear test, "George," and the first thermonuclear "boosted" test, "Item." In

1952, the first thermonuclear bomb, known as “Mike,” was detonated at Enewetak¹ Atoll in the Pacific (LANL 1993). In short order, the Soviet Union responded with a successful demonstration of the use of fusion in August 1953, followed by a test of a hydrogen bomb in 1955. The arms race was on. By 1956, Los Alamos had successfully tested a new generation of high explosives (plastic-bonded explosives) and had begun to make improvements to the primary stage of a nuclear weapon (LANL 2001).

Although weapons research and development has always played a major role in the history of LANL, other key themes for the years 1942–1956 include supercomputing advancements, fundamental biomedical and health physics research, high explosives research and development, reactor research and development, pioneering physics research, and the development of the field of high-speed photography (McGehee and Garcia 1999). The Early Cold War era at Los Alamos ended in 1956, a date that marks the completion of all basic nuclear weapons design at LANL; later research at Los Alamos focused on the engineering of nuclear weapons to fit specific delivery systems. The year 1956 was also the last year that Los Alamos was a closed facility—the gates into the Los Alamos townsite came down in 1957.

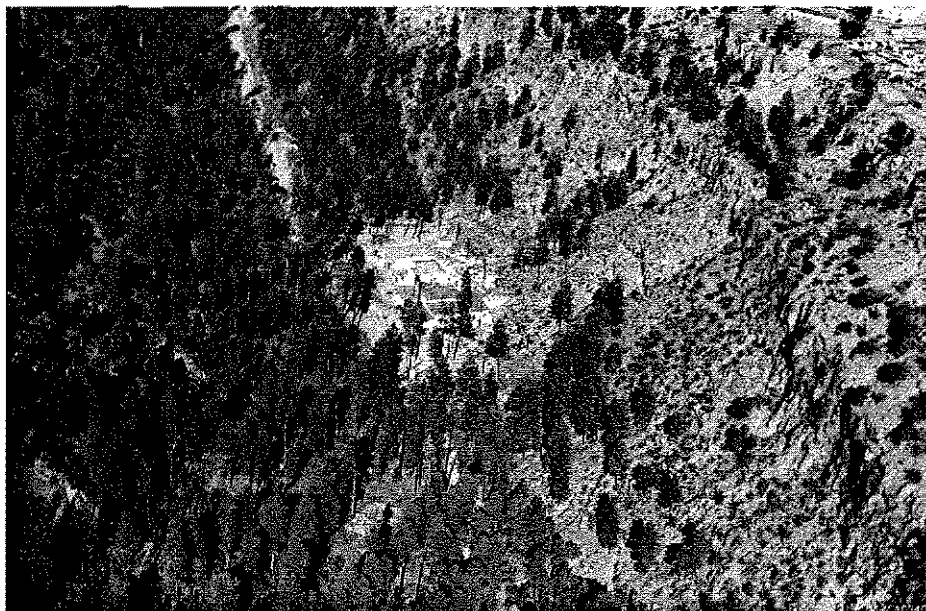
Late Cold War Era (1956–1990)

The Late Cold War era saw Los Alamos’s continued support of the atmospheric testing programs in the Pacific and at NTS. In 1957, the first of many underground tests at NTS was conducted. Other defense mission undertakings during this time included treaty and test ban verification programs (such as using satellite sensors to detect nuclear explosions), research and development of space-based weapons, and continued involvement with stockpile stewardship issues. Non-weapons undertakings supported nuclear medicine, genetic studies, NASA collaborations, superconducting research, contained fusion reaction research, and other types of energy research (McGehee and Garcia 1999).

¹ A better understanding of the Marshall Islands language has permitted a more accurate transliteration of Marshall Island names into English. Enewetak is now the preferred spelling (formerly Eniwetok).

TA-2, Omega Site (1944–2003)

TA-2, located in the bottom of Los Alamos Canyon, was the site of the world's first enriched uranium reactor, the "Water Boiler" Reactor (Figures 1a and 1b) (Maps 1 and 2). On May 9, 1944, the Water Boiler produced its first "divergent chain reaction." An adjacent facility, built in 1946, housed one of the earliest plutonium-fuel reactors (the Clementine Reactor). The main reactor building housed the low-power or "LOPO" Water Boiler Reactor, associated laboratories, and, later, critical assemblies. Perhaps the most important contribution of this early reactor was its role in providing a "general check of theory" during the Manhattan Project—the first Water Boiler was used to investigate a chain-reacting system and to test basic theories of WWII bomb design (Olinger 1986, LANL 1983).



(LANL, IM-9 Photography, #16340)

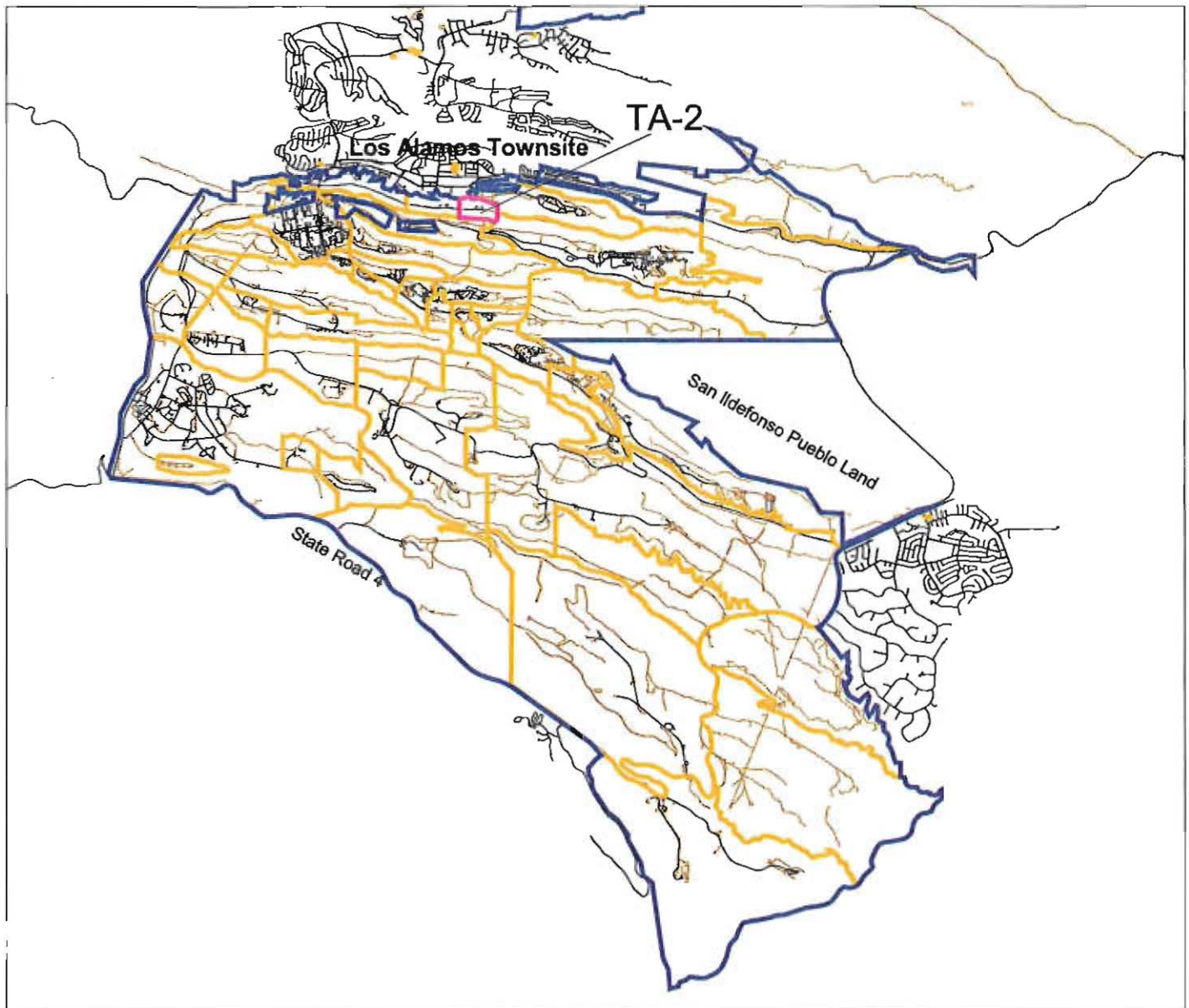
Figure 1a. TA-2, Omega Site, 1950

TA-2 was isolated from other laboratory and housing areas for safety reasons. Safety concerns centered on the risk to unprotected people from the possibility of radioactive dispersion into the atmosphere—accident scenarios ranged from a mild explosion to an uncontrolled chain reaction.



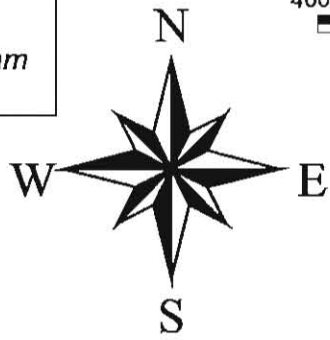
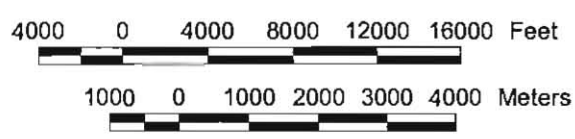
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





Figure 1b. TA-2, Omega Site, 1991



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National Laboratory
*Heritage Resources and
Environmental Policy Compliance Team
RRES-ECO Ecology Group*

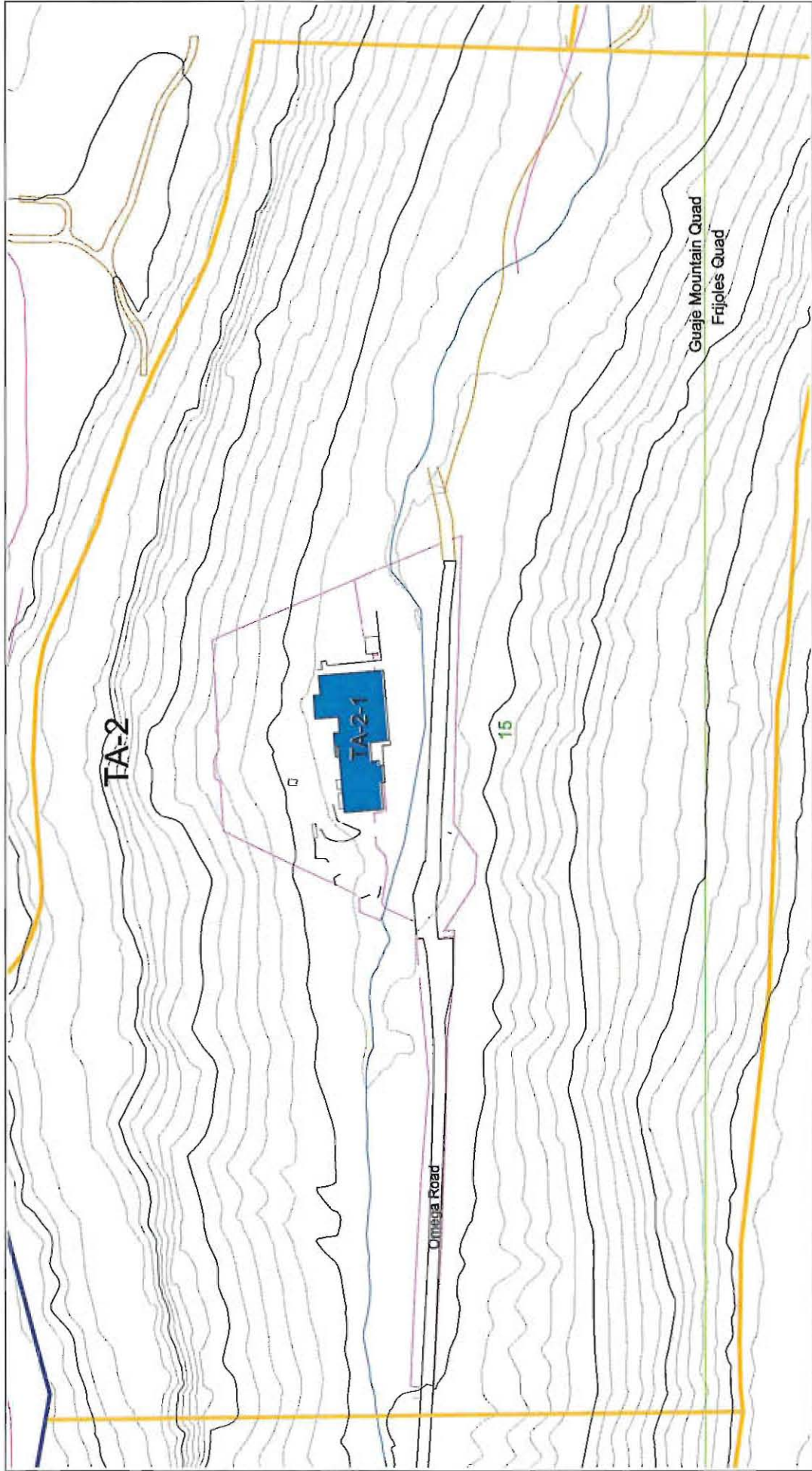
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-  Tech Area 2
-  LANL Boundary
-  LANL Tech Area Boundary
-  Roads
-  Roaddirt
-  Parkpave
-  Parkdirt

TA-2

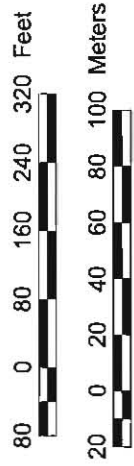
Map 1



- Buildings/Structures
- 20 Foot Contours
- 100 Foot Contours
- LANL Boundary
- LANL Tech Area Boundary
- Drainage
- Township, Section, Range
- USGS 7.5 Minute Quad
- Trails
- Roads
- Road/dirt
- Pavement
- Park/dirt
- Fences



1:2700



Los Alamos
National Laboratory
Heritage Resources and
Environmental Policy Compliance Team
RRES-ECO (Ecology Group)

TA-2

Map 2

The Critical Assemblies Group joined the Water Boiler Group at Omega Site in mid-1944, and experiments with critical amounts of active materials were conducted at the TA-2 facility. These experiments explored the design of the implosion device's "pit assembly" (Hawkins *et al.* 1983:198). Preliminary investigations also led to the development of safe handling and fabricating procedures so that uncontrolled nuclear chain reactions could be prevented. An important experiment conducted at TA-2 was known as "tickling the dragon's tail"; the "dragon" experiment created a controlled supercritical reaction using prompt neutrons alone (Hawkins *et al.* 1983:198). Critical assembly research continued at TA-2 until August 21, 1945, when staff member Harry Daghlian accidentally received a lethal radiation dose from a brief supercritical arrangement of his critical assembly experiment. Daghlian was creating a critical assembly by hand stacking tungsten-carbide bricks around a plutonium core. When he moved the final brick over the assembly, Daghlian noticed that the addition of this last brick would make the assembly supercritical. The brick slipped and fell onto the assembly and the system became super-prompt critical. Daghlian removed the brick and unstacked the assembly. The power excursion gave him an exposure of approximately 510 rem and he died 28 days later (Stratton rev. Smith 1989). As a result of this accident, critical assembly work was transferred to Pajarito Site (TA-18) (Hawkins *et al.* 1983).

In later years, reactor research continued at Omega Site and a fifth reactor, the Omega West Reactor, was built in the mid 1950s. The Omega West Reactor was designed primarily to facilitate experimentation in nuclear physics and other sciences. This reactor was shut down in 1992 when a leak was discovered. The Omega Reactor Facility (TA-2-1) was eventually demolished in 2003.

OMEGA REACTOR FACILITY, TA-2-1

Development of the Water Boiler Reactor

In early 1943, scientists, engineers, and researchers from all over the country came to Los Alamos to begin the task of designing a nuclear weapon. One of the primary goals of the

Manhattan Project was to produce the fissile material—uranium-235 and plutonium—needed for the weapons designed in Los Alamos.² While most of this fissile material was intended for atomic bombs, small amounts could be used in experiments relating to the design of the first atomic weapons. To this end, Enrico Fermi and other scientists advocated construction of the Los Alamos Water Boiler Reactor. This reactor, essentially a critical assembly experiment, was the world's third reactor and the first reactor to produce a nuclear chain reaction using uranium-235 (the first two reactors were Fermi's "pile" at Chicago's Stagg Field and the X-10 graphite reactor at Oak Ridge). The Los Alamos Water Boiler was also the first reactor to deviate from the original design of Fermi *et al.* at Chicago and at Oak Ridge; these first two designs used natural uranium and graphite reacting systems as opposed to the Water Boiler's use of enriched uranium.

A direct continuation of Fermi's fission research at the Metallurgical Laboratory in Chicago, the wartime reactor experiments were of great importance to Project Y physicists. One of the first goals of the Los Alamos reactor program was to identify the exact amount of uranium-235 needed to make a bomb (its critical mass). The new Los Alamos reactor was an integral experiment to test atomic theory because a water boiler-type reactor provided the best means to calculate the critical mass of homogeneous solutions of uranium-235. The project at Los Alamos used enriched uranium sulfate in a water solution as the fuel for a simple critical assembly. Essentially, the Water Boiler consisted of a container filled with an enriched uranium and water solution that was surrounded by a neutron reflector. This early reactor design included a set of control rods to adjust the critical reaction. Code named "Water Boiler" for security purposes, the fuel solution in the Water Boiler's higher power versions did appear to "boil" as hydrogen and oxygen bubbles were formed through the decomposition of the water solvent by energetic fission products.

² Fissile or fissionable material, such as uranium-235 and plutonium, is heavy radioactive material that can be split or fissioned by fast neutrons. The fission of heavy elements is accompanied by a relatively large amount of energy; this fission process is fundamental to the design of the atom bomb.

In addition to its important role in the investigation of critical reactions, the Water Boiler Reactor also provided neutron sources for experiments and served as a trial run in the art of designing, building, and operating similar reactors.

Aptly named the 'Water Boiler' to disguise its true purpose, it was an experimental test of theoretical calculations of uranium critical assemblies; however, subsequent higher-power versions of the Water Boiler were true research reactors. The Water Boiler was the first critical assembly to be built using enriched uranium....It worked well from the start, and its three versions...provided valuable scientific information for 30 years ("The Water Boiler Reactor 1944-1974" n.d.:1).

In the early summer of 1943, Donald Kerst, a University of Illinois physicist, was appointed head of the Water Boiler Reactor project. He was the first scientist at Los Alamos to sketch out a design for the world's first chain-reacting system using enriched material. But Kerst and other scientists at Los Alamos had no direct experience in building a chain-reacting pile, and received little assistance from the University of Chicago group. They were basically on their own.

Fermi was able to give advice only intermediately...the only people with experience in critical assemblies were at Oak Ridge and the University of Chicago and they were not available to Los Alamos on a full time basis in 1943. Los Alamos had to grow its own critical assembly experts, and the Water Boiler provided the experience and training ("The Water Boiler - The Beginning of Critical Mass Studies" n.d.:246).

Groves, in a letter to Oppenheimer, expressed support for the development of the Water Boiler program if the effort would make a significant contribution to the development of an atomic bomb (Groves 1944). Oppenheimer, in response, agreed, but with caution:

It is obvious that the operation of the boiler as contemplated will not directly contribute to actual construction of our weapon. It is possible that the information on which the operation of the boiler will provide will not turn out to be the decisive point in this successful construction. However, that we shall learn by the operation of the boiler things of which we should otherwise either remain ignorant or learn only at a much greater expenditure of effort and facilities, and that this knowledge will help us to do our job, and has a reasonable chance of being decisive....I regard it as sound to take advantage of any powerful method of investigation which we have available, and which will not interfere with other obviously vital parts of the work (Oppenheimer 1944:1).

Water Boiler Reactor and Construction of the Omega Reactor Facility

Experiments to develop the Water Boiler Reactor at Los Alamos began in December 1943, and construction of the Omega Facility that housed the Water Boiler Reactor was completed in February 1944 (Figure 2).



(LANL, IM-9 Photography, #3752)

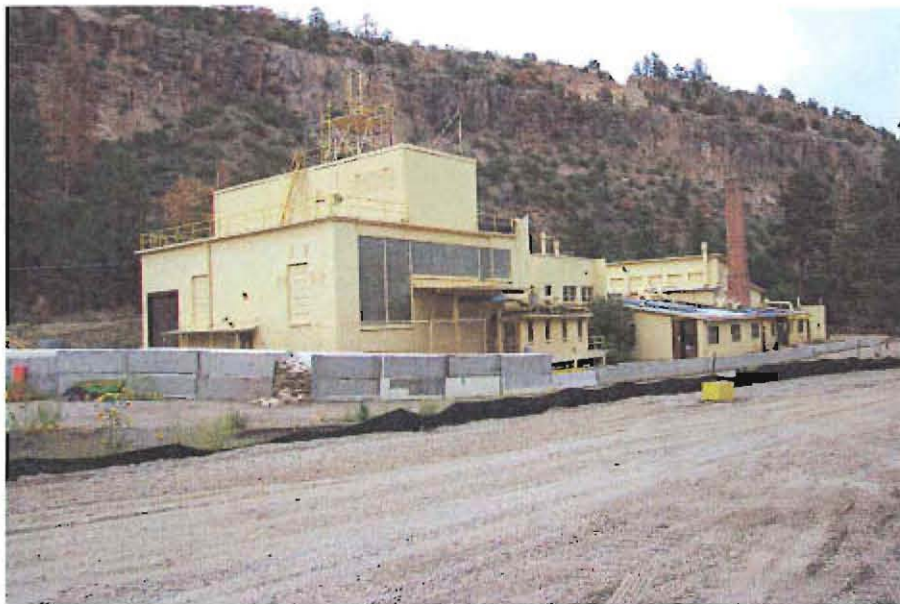
Figure 2. Water Boiler, circa May 1946

Over the years, several additions were constructed at Omega Site (TA-2) to accommodate expansion of the Water Boiler program and construction of the Clementine Fast Reactor and Omega West Reactor (Figures 3 and 4).



(LANL, RRES-ECO/HREPC, #DCP_0086)

Figure 3. TA-2-1, August 2002, Direction Northwest



(LANL, RRES-ECO/HREPC, #DCP_0088)

Figure 4. TA-2-1, August 2002, Direction Northeast

Physical Characteristics of the Water Boiler Building

When initially constructed, the Water Boiler building was a one-story rectangular facility that measured 59 ft by 92 ft by 26 ft high. The building was constructed of wood framing and concrete block with cladding that consisted of a combination of asbestos shingles,

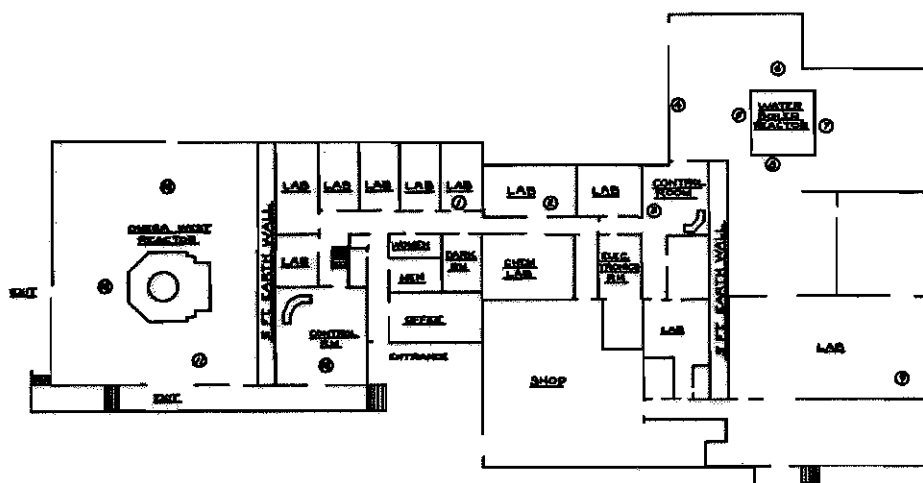
horizontal wood, and gypsum siding. On the west end of the building a two-story high bay addition was constructed in 1946-1947 to accommodate the Clementine Reactor (Figure 5).



(LANL, IM-9 Photography, #3926)

Figure 5. Clementine Facility Construction, circa 1946-1947

The high bay (Room 101) had concrete walls, a flat roof, glass block windows, and measured 58 ft by 45 ft by 24 ft high. The walls, except for the east one, were made of 8-in. concrete blocks. The east elevation consisted of a 5-ft thick earth fill, contained in concrete. This fill served to shield occupants of the control room and other parts of the building from sources of radiation inside the reactor room. Other later additions included a two-story, 45 ft by 50 ft concrete and steel office building, and a 54 ft by 72 ft, one-story section, built mainly of wood, that housed small labs, a lunch room (Room 116), an equipment room (Room 116A), and a large machine shop (Room 117). After the Water Boiler Reactor was deactivated and removed, that section of the building (Room 122) was expanded to 48 ft by 105 ft to accommodate additional labs and offices (Otway *et al.* 1970) (Figure 6).



(LANL, IM-9 Photography, #56326)

Figure 6. Building TA-2-1, Floor Plan, circa 1956

LOPO and HYPO

The first Water Boiler nuclear reactor was a low-power model; thus, the acronym LOPO. A critical assembly experiment, LOPO was designed to use the minimum amount of enriched uranium. LOPO consisted of a 1-ft diameter, hollow stainless steel sphere filled with an active uranium (uranyl sulfate) solution in water. The sphere was surrounded by a graphite neutron reflector and moderator and a set of five neutron-absorbing control rods. (Concrete, lead, paraffin, and steel were used to construct the reactor shielding for the HYPO and SUPO Reactors; shielding that was designed to protect personnel from radiation caused by the nuclear fission.) LOPO first went critical on May 9, 1944.

The reactor is brought up to power by slowly removing the control rods from the vicinity of the sphere. When the rods have been withdrawn sufficiently, they no longer suppress the neutron chain reaction and the pile becomes “critical”....When the desired power level is reached, an electronic automatic control is switched on which holds the power at constant value by continually making tiny adjustments in the position of one of the control rods. To make sure the chain reaction does not get out of control, an intricate system of safety devices and electric interlocks are built into the control system (“Omega Site Research Reactors” n.d.).

In all, three water boiler versions were built, all using the same basic concept. The LOPO version was low-powered because it operated at virtually zero power. This allowed design and construction simplicity and eliminated the need for shielding. (Because of its lack of shielding and the absence of a heat-removing system, the original assembly was not designed to operate at any appreciable power level.)

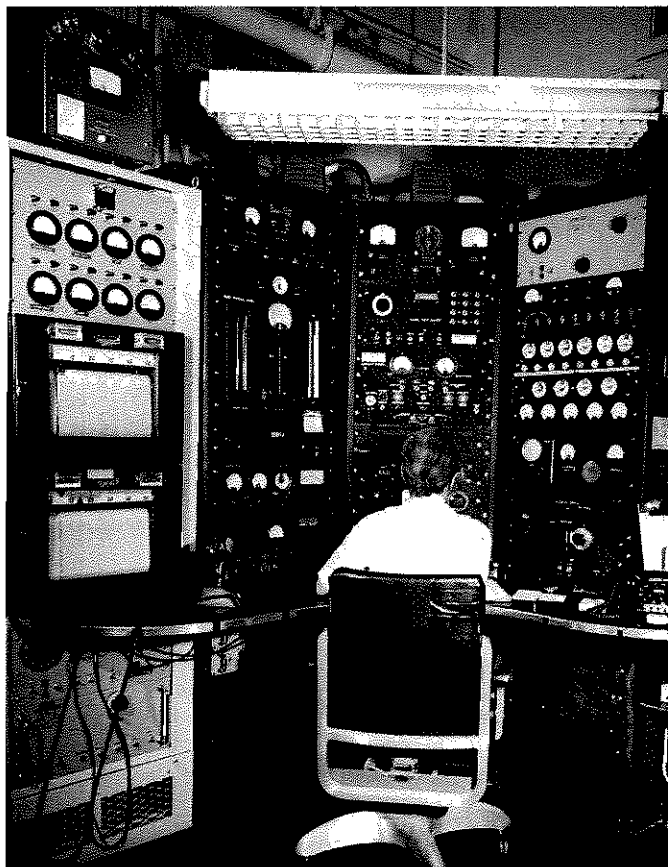
The zero power operating level was chosen after considering a power model in order to eliminate shielding requirements and minimize possible troubles, which might arise in connection with radiation effects on the solution. These potential difficulties were concerned with holding uranium in solution...and the contamination of the solution by fission products themselves (King n.d.:2).

Many notable American scientists were involved in the design, construction, and early operation of LOPO, including Enrico Fermi. On the day LOPO achieved criticality, Fermi was at the reactor controls. Twenty other scientists, including several Nobel Prize winners, were in attendance at Omega Site. Important Manhattan Project scientists working at Omega during the war years included Hebert Anderson, Richard Feynman, Gerhardt Friedlander, David and Jane Hall, Frederic de Hoffman, Marshall Holloway, Joan Engst Hinton, and Bruno Rossi (LANL 1983, McGehee 2004) (Figure 7). Five of the scientists who helped design, build, and operate the first water boiler reactor stayed with the program until its discontinuation in 1974: Donald Kerst, Raemer Schreiber, L. D. P. King, John Starmer, and James Bridge. Merle Bunker, who joined the Water Boiler project in 1950, played a major role in directing and developing the Water Boiler program until the reactor was deactivated in 1974. Reactor operators also played an important role at the Omega Facility by supporting the Clementine, Water Boiler, and Omega West reactor operations. Clementine and Water Boiler reactor operators included former Los Alamos WACs Jane Heydorn and Elsie Pierce, and OWR operators included Sarah Mann, Glenn Neely, and Jack Dembs (LASL Community News 1960a) (Figure 8).



(LANL, IM-9 Photography)

Figure 7. Jane and David Hall, Former P-5 Group Leaders



(LANL, IM-9 Photography, #625086)

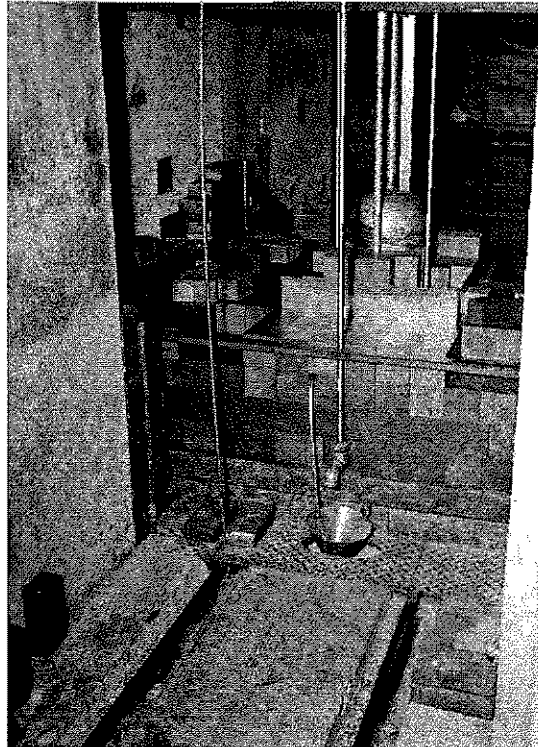
Figure 8. Reactor Operator Jane Heydorn at the Water Boiler Control Panel, circa 1962

LOPO allowed Los Alamos scientists to verify critical mass calculations and gave them practice in constructing a critical assembly. Soon after LOPO went critical, scientists Enrico Fermi and Robert Bacher advocated the construction of a higher power water boiler to operate at one kilowatt. They claimed that the reactor could be built with parts from the original water boiler. In addition, it would provide a new more powerful neutron source for neutron multiplication experiments at moderate power. They also proposed that the reactor could be used to model weapon conditions, a program that would be particularly important if large scale tests later brought to light unexpected problems.

Fermi and Bacher wrote directly to Groves on the need for the construction of a more powerful water boiler reactor. They stated that the reactor

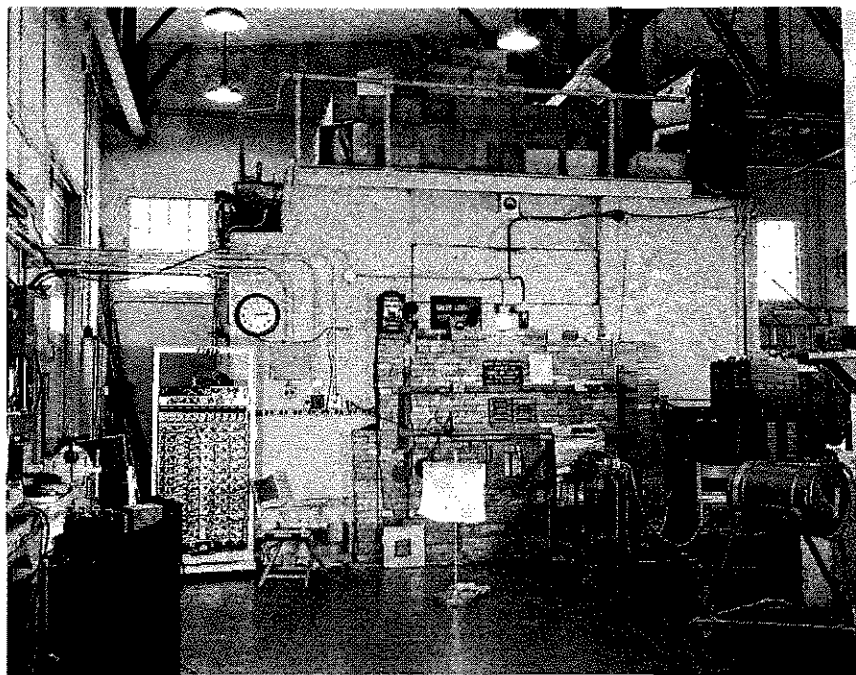
would provide a neutron source of strength...that would greatly expand the possibilities for obtaining nuclear information and would also save considerable time on experiments that are now performed with weaker sources (Fermi and Bacher 1944a:1).

Fermi and Bacher also claimed that a more powerful water boiler reactor would “widen the scope of nuclear experiments which are necessary to understand and predict gadget [atomic bomb] behavior” (Fermi and Bacher 1944b:1). In 1944, LOPO was dismantled and a heavily shielded version, known as HYPO (high-power), was designed and built (Figures 9 and 10).



(LANL, IM-9 Photography, #1549)

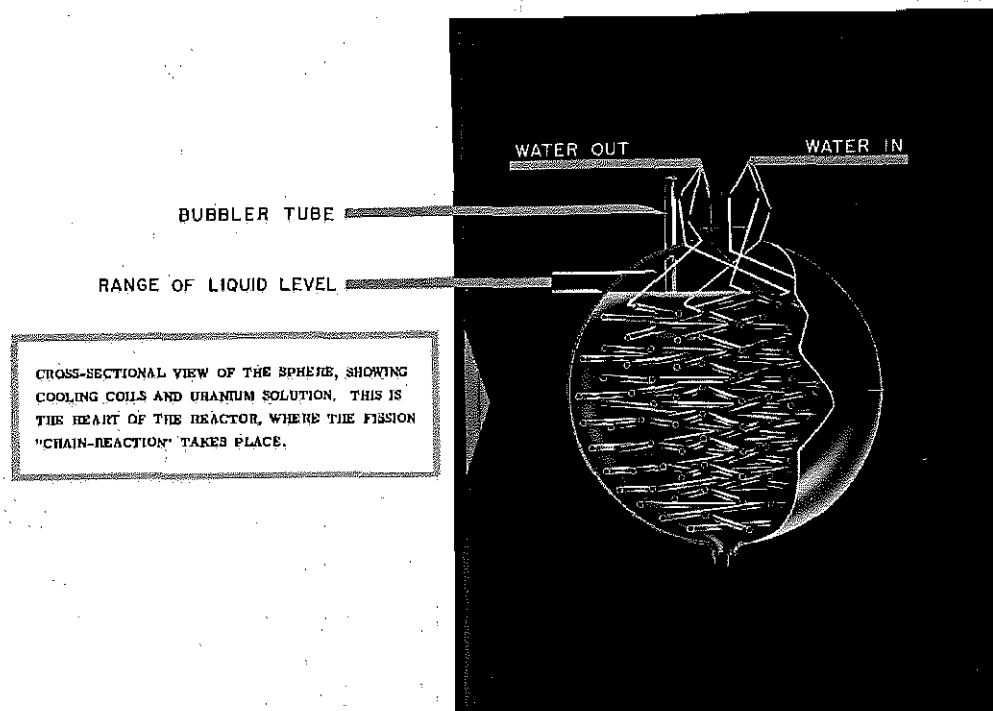
Figure 9. HYPO, pre 1948



(LANL, IM-9 Photography, #10659)

Figure 10. South Face of HYPO, circa 1948

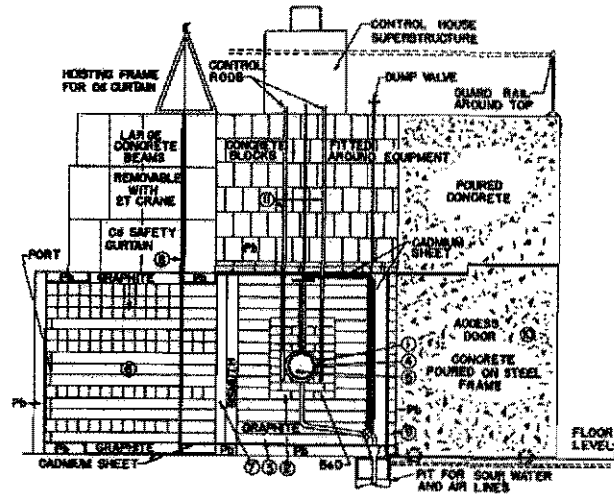
An operating level of one kilowatt was chosen for the new reactor because “the cooling requirements were simple, bubbling or frothing due to gas evolution...was not expected to be serious, and not much additional enriched material was required” (King n.d.:9). The sphere's thickness was doubled, a cooling coil was added inside the sphere, a tube was placed through the sphere to give access to the highest flux region, and the fuel solution was changed from sulfate to nitrate (Figure 11).



(LANL, IM-9 Photography, #33300)

Figure 11. HYPO Schematic, circa 1955

The completed reactor provided a copious source of neutrons, but it did not operate at such a high power that contamination from the fission gasses and cooling was a serious problem. HYPO went critical in early December 1944, and worked well for the duration of the war (LANL 1983) (Figure 12).

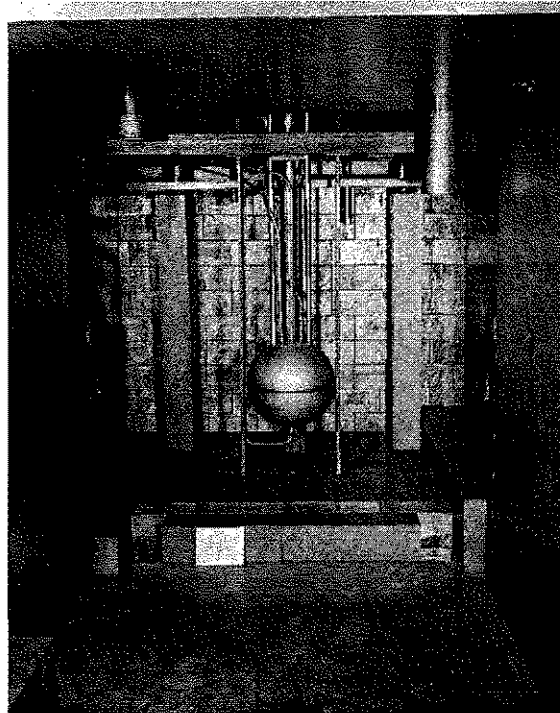


(LANL, IM-9 Photography, #15680)

Figure 12. HYPO Water Boiler Schematic, circa 1950

SUPO

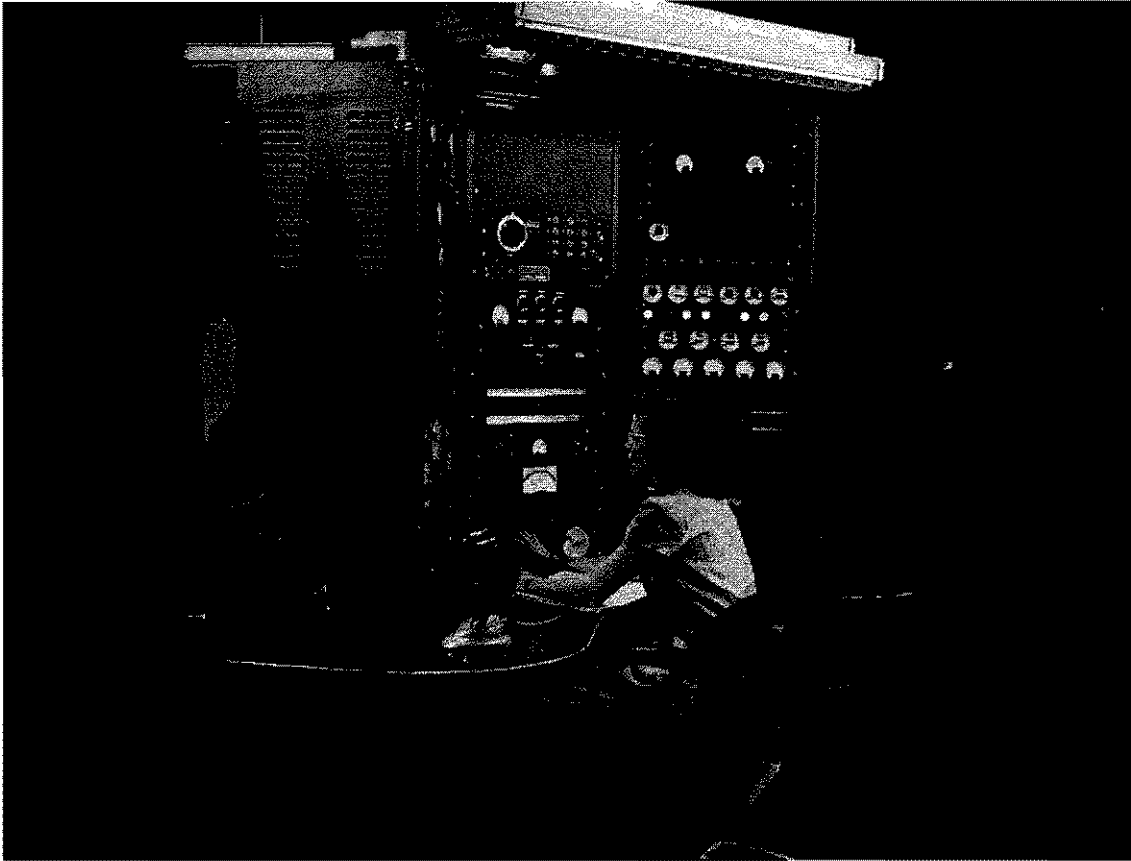
By 1950, the progression to higher operating powers continued with the conversion of the HYPO model to the SUPO (super-power) model (Figure 13).



(LANL, IM-9 Photography, #12785)

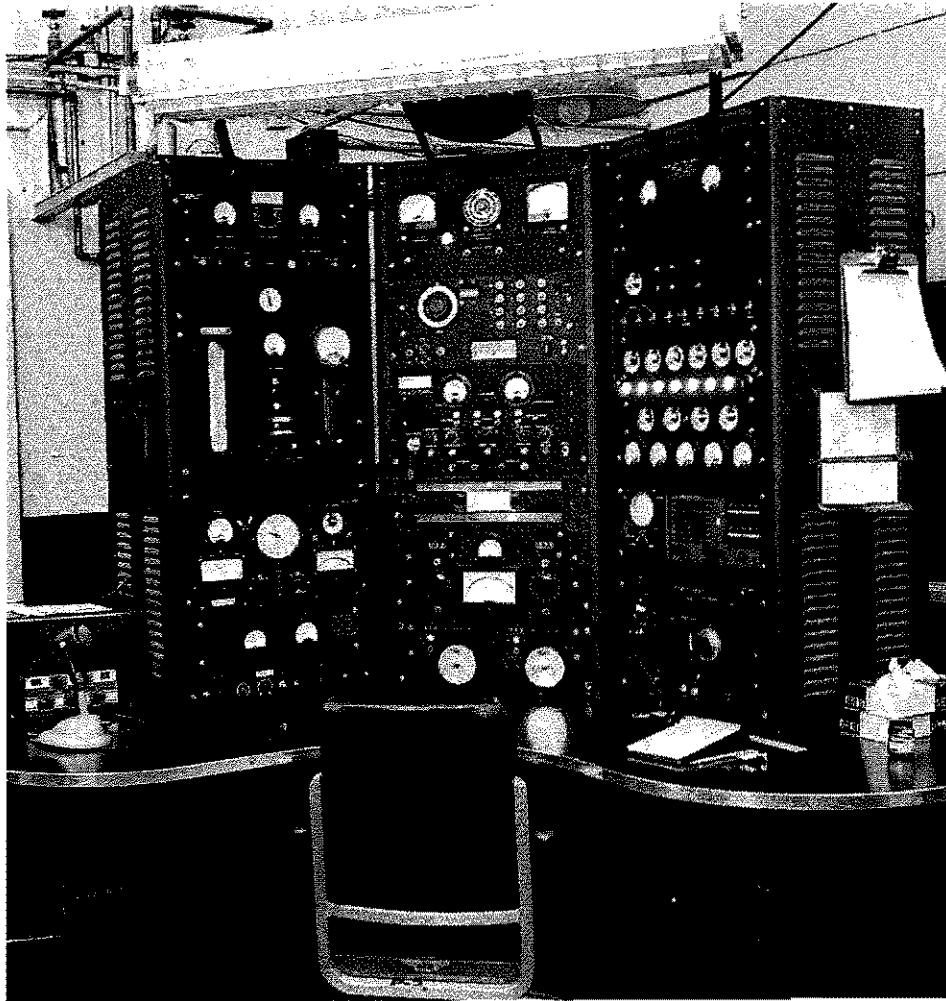
Figure 13. SUPO, circa 1949

The desire for higher neutron fluxes, as well as more research facilities and modifications to the control room panels, prompted the conversion (Figures 14 and 15).



(LANL, IM-9 Photography, #19328)

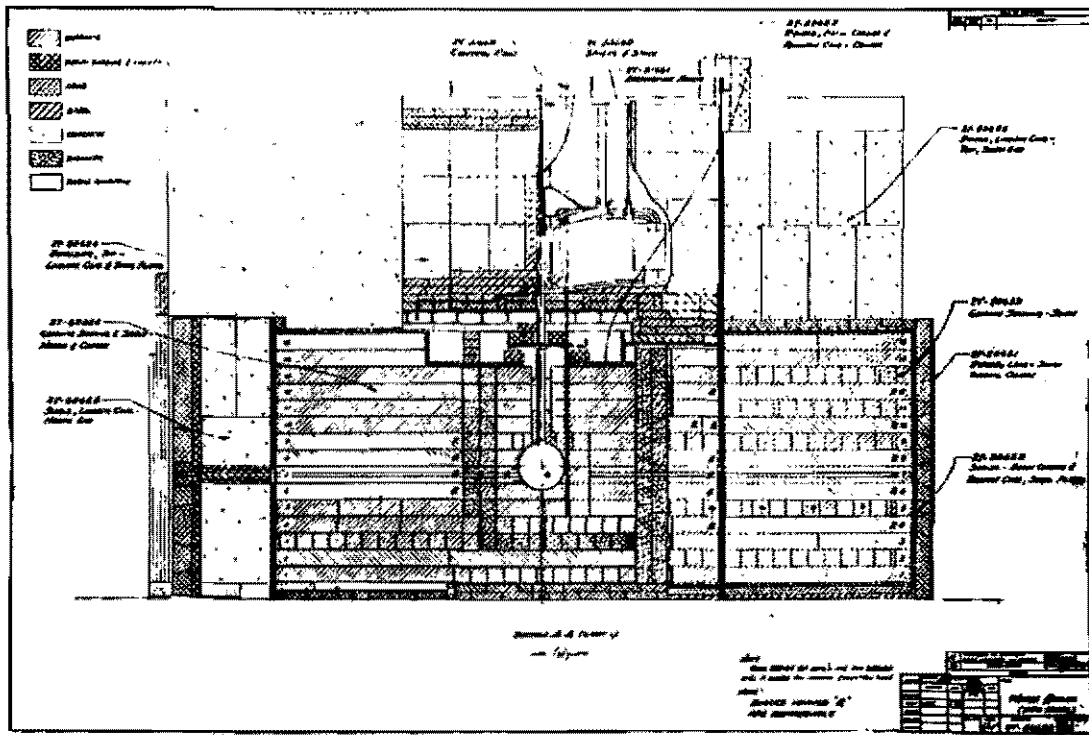
Figure 14. SUPO Control Room, circa 1951



(LANL, IM-9 Photography, #24494)

Figure 15. SUPO Control Panel, circa 1952

While extensive modifications were incurred to enable operation at power levels up to 35 kW, the basic design of the reactor was retained. Completed in March 1951, the conversion included an increase in the enrichment of the uranyl nitrate “soup,” from 14 to 88.7 percent uranium-235. Additionally, the beryllium oxide portion of the reflector was replaced with graphite to permit a more rapid and complete shutdown of the reactor (Figure 16).



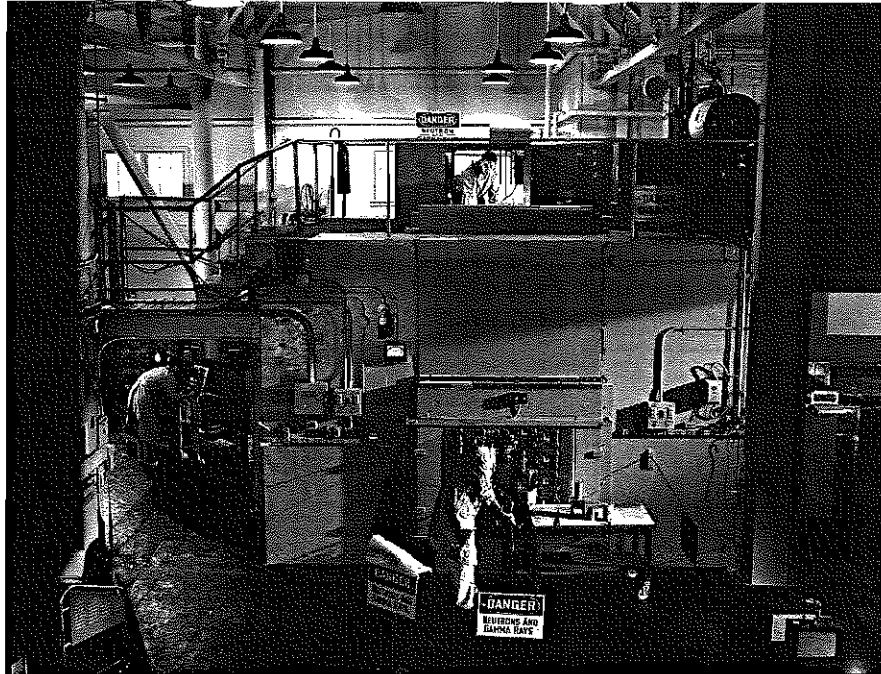
(LANL, IM-9 Photography, #19420)

Figure 16. SUPO, circa 1951

Modifications to the HYPO water boiler were made in two phases:

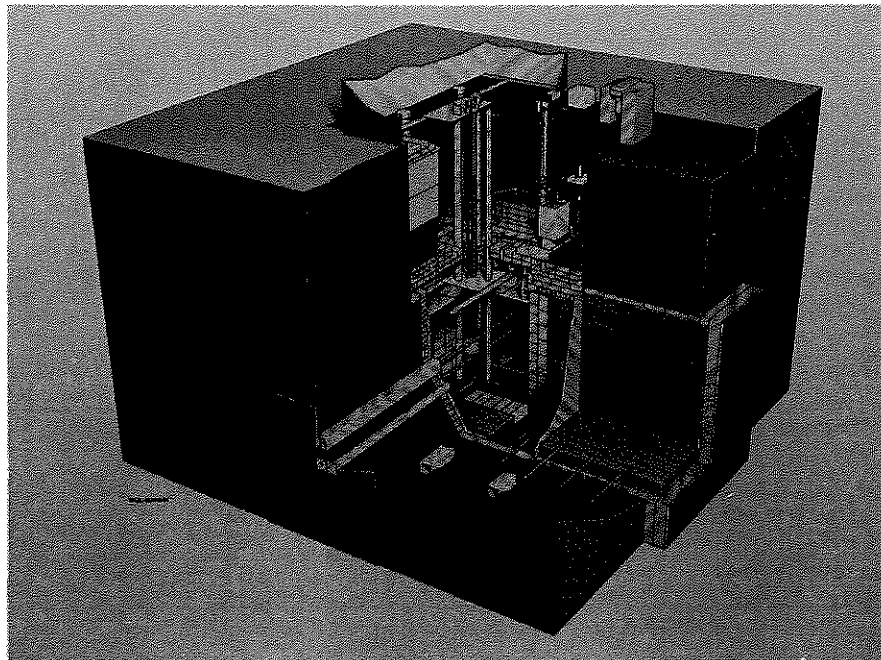
The first phase ...improved the experimental facilities and increased the neutron flux. The second phase... increased the thermal neutron irradiation facilities, improved the reactor operation, and removed the explosive hazard in the exhaust gases....The space around the reactor was increased by enlarging the building so that experiments could be carried out on all four sides instead of only two (King n.d.:14).

The SUPO version of the Water Boiler had the longest life span, operating almost continuously until 1974 (Figures 17, 18, and 19).



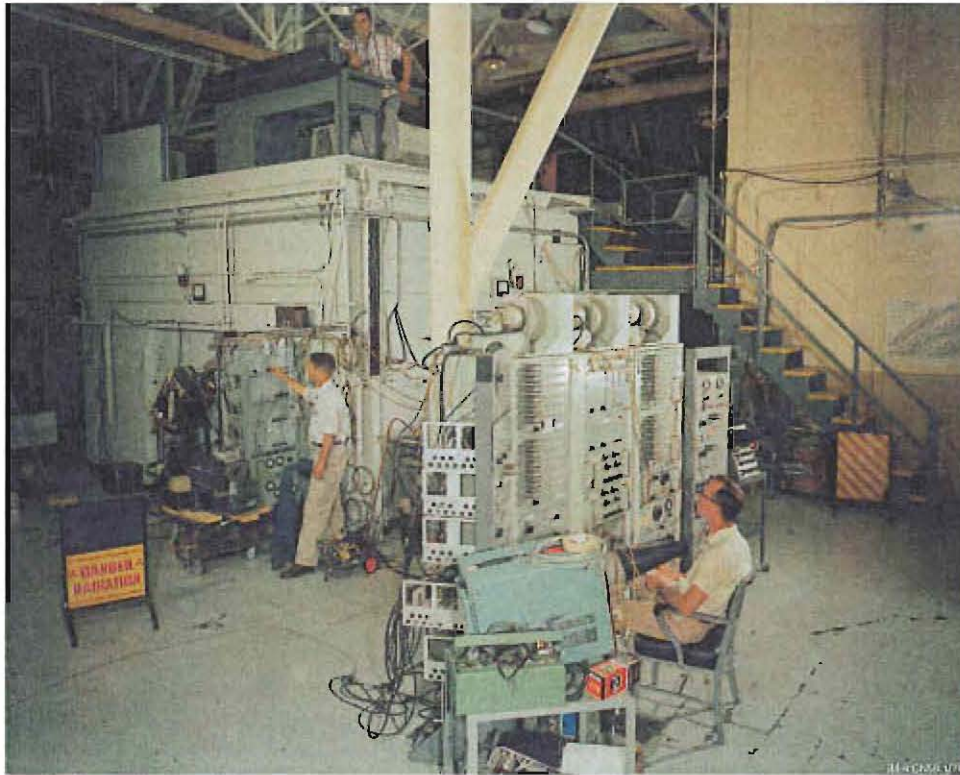
(LANL, IM-9 Photography, #19329)

Figure 17. SUPO, circa 1951



(LANL, IM-9 Photography, #59372)

Figure 18. SUPO Cutaway View, circa 1959



(LANL, IM-9 Photography, #CN59169)

Figure 19. SUPO, circa 1959

The neutrons generated by SUPO were used for many measurements important to the national weapons program. During the 1950s, the Water Boiler Reactor was used by the Laboratory's Health Division in pioneering research on the effects of neutron, beta, and gamma radiation on live animals. Aside from basic scientific value, this data provided major guidance in setting radiation-exposure limits for humans. The SUPO Reactor was dismantled and removed in 1989.

Water Boiler Reactors at Other Locations

The impact of the Water Boiler was not confined to Los Alamos. Spin offs from it included a solution-type reactor constructed by and for North American Aviation (NAA) and a 500-watt reactor, constructed by NAA for Lawrence Livermore Laboratory. The Los Alamos Water Boiler was also the prototype for the first reactor not owned and operated by the federal government: a 10-kW research reactor for North Carolina State

College. By the mid-1950s, other aqueous homogeneous research reactors went into operation. The L-8 Reactor was designed and built for the Armour Research Foundation, Chicago and was operational by 1956. The L-54 Reactor, designed for the Japanese Atomic Energy Research Institute, was operational the following year. A similar water boiler reactor was also completed in Frankfurt, Germany, and two others were sited in Berlin, Germany, and Milan, Italy. Other reactors included the L-55 and the L-6 Reactors—the former located in Santa Susana, California, and operated by Atomics International, the latter located in Denmark and built for the Danish Atomic Energy Commission.

The water boiler research reactors had longer operational lives than other research reactors using enriched fuel. Water boilers were capable of operating at power levels of at least 50 kW, were relatively inexpensive to install, and had minimal staffing requirements for operation. Expensive fuel replenishments were not often needed; the reactor's very low burn-up rate meant that the initial fuel charge usually lasted the life of the reactor.

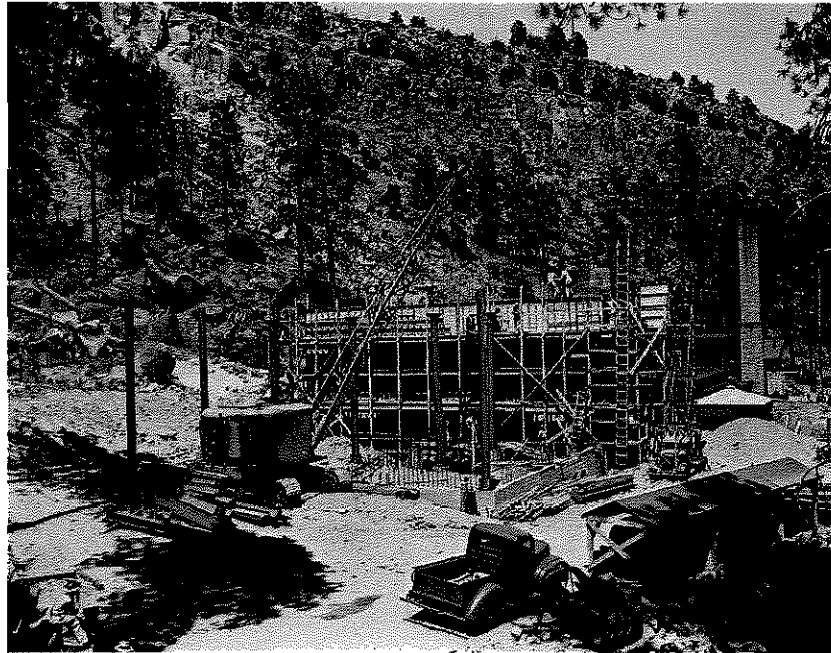
The homogeneous solution type research reactor has been experimentally demonstrated to be among the safest of all the various types of research reactors now in use. This permits the installation of these...with a minimum of expense at locations in densely populated areas (Wilson *et al.* n.d.:418).

LOS ALAMOS FAST REACTOR (CLEMENTINE)

Concurrent with the development of water boiler reactors at Los Alamos was the development of the fast reactor. The construction of a fast plutonium reactor at Los Alamos was first proposed in 1945.

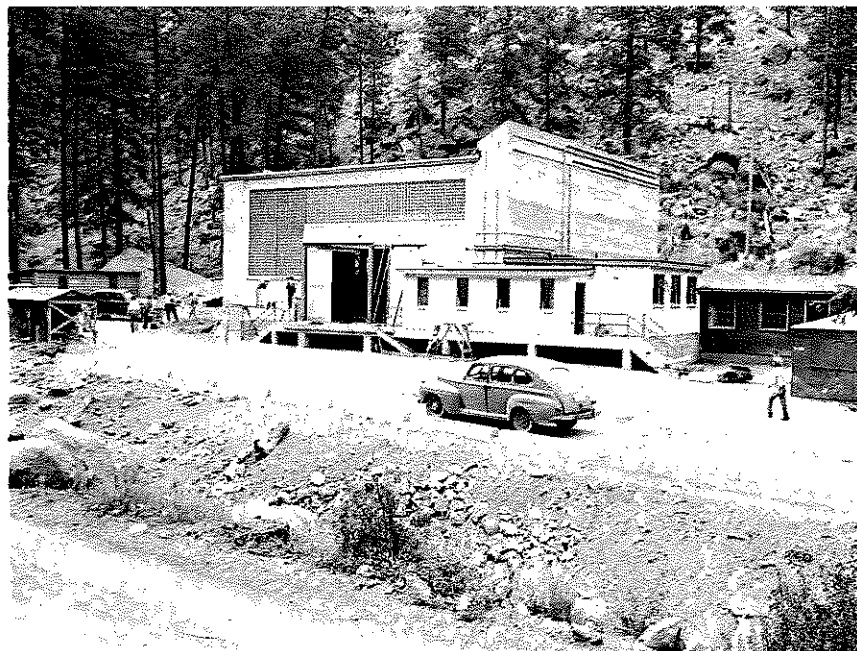
It was felt...that it would be worthwhile to explore the use of plutonium with respect to adaptability for small reactors, breeding purposes, and future power reactor studies. The fact that sufficient plutonium existed solely at Los Alamos also influenced the original thinking as to the selection of fissionable material (Jurney *et al.* 1954:9).

A two-story, high bay addition was constructed in 1946 to house the Los Alamos Fast Reactor (Figures 20 and 21).



(LANL, IM-9 Photography, #95-215)

Figure 20. Clementine Construction

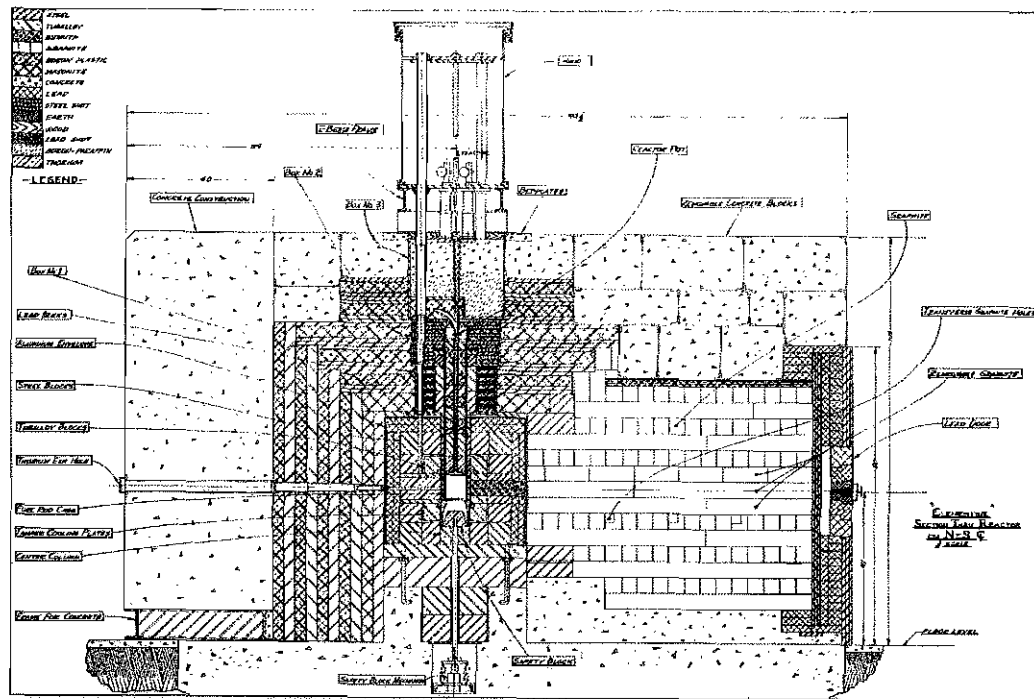


(LANL, IM-9 Photography, #4070)

Figure 21. The Completed Clementine Facility, circa 1949

Also known as "Clementine," the fast reactor was a 25 kW fast neutron research reactor that used plutonium fuel surrounded by a mercury coolant (Figure 22). Los Alamos's Phillip Morrison was responsible for the naming of the reactor:

Morrison dubbed the reactor "Clementine," a name borrowed from the song "My Darling Clementine," which starts out "In a cavern, in a canyon," and is about the legendary forty-niners. Morrison's inspiration was that the reactor personnel were modern-day forty-niners inasmuch as 49 was the code name for plutonium (LANL 1983:127).



(LANL, IM-9 Photography, #600212)

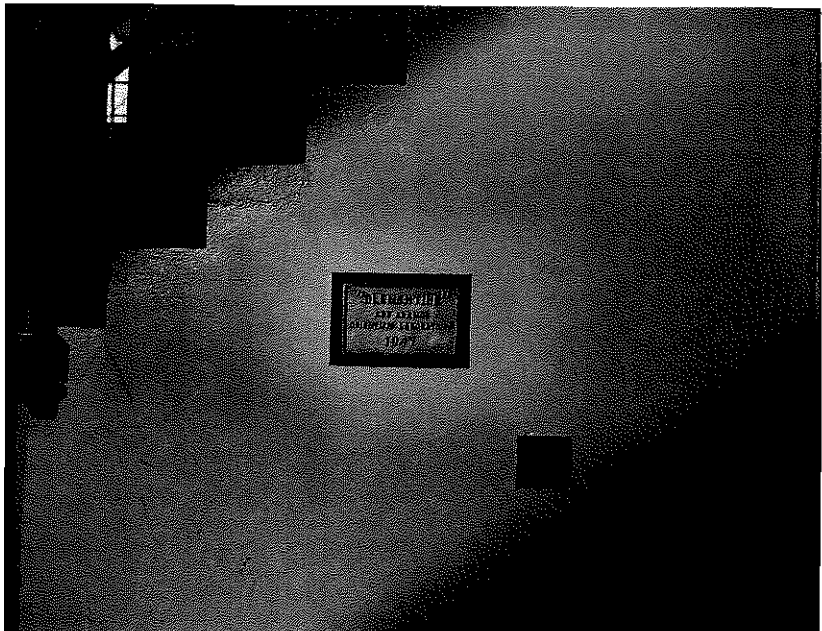
Figure 22. Clementine, circa 1960

The new building was built adjacent to the original Omega Building so that the Water Boiler and fast reactor groups could share facilities. A separate new facility also meant that construction activities would not interfere with Water Boiler work and, when the reactor was completed, both reactors could operate simultaneously. The building was completed in 1946, but the reactor was not completed and brought to full power until March 1949 (Figures 23 and 24).



(LANL, IM-9 Photography, #10561)

Figure 23. Clementine, circa 1949



(LANL, IM-9 Photography, #19327)

Figure 24. Clementine, circa 1951

Scientists at Los Alamos wanted the reactor to be “fast,” where the controlled fission would occur by high energy or fast neutrons. This meant that the reactor could be small

in size since no moderating material would be used. The reactor would also be cooled by circulating mercury because an unmoderating coolant was indicated for fast fission. The benefits of a fast reactor over the water boiler reactor were a

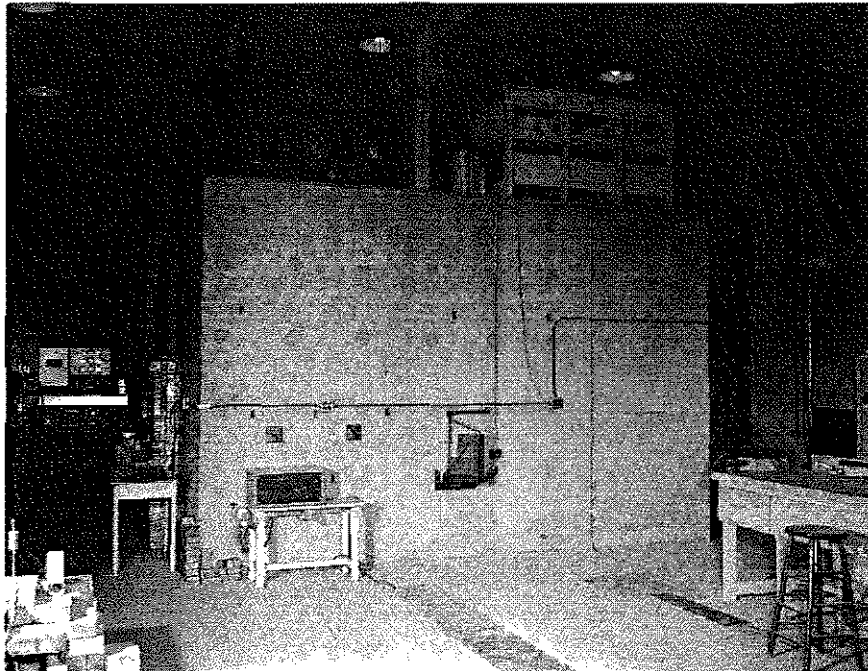
high intensity source of fast neutrons for nuclear research, high density source of fission spectrum neutrons for examining principles of the bomb, device for studying methods and ease of control of a fast reactor, device for studying principles of breeding for future production of fissionable material, [and] device for studying principles of power production from fast reactors with a view for future large scale power plants (Jurney *et al.* 1954:9).

The establishment of a fast plutonium reactor at Los Alamos contributed to the development of the breeder reactor industry. Work on a breeder reactor for the United States dated back to the early days of the Manhattan Project, when the theory was conceptualized. Active research began in 1945 but varied in intensity over the years due to funding availability and national priorities. Several experimental models were developed, including the mercury-cooled Clementine Reactor, which demonstrated the use of a fast neutron flux, plutonium fuel, and liquid metal for a coolant. The first reactor to prove the feasibility of breeding was Argonne National Laboratory's Experimental Breeder Reactor No. 1 in Idaho, which started up in 1951. The Liquid Metal Fast Breeder Reactor (LMFBR) program became a national priority by the mid-1960s when the AEC recognized the growing scarcity of worldwide uranium supplies due to increasing numbers of nuclear reactors for electrical production. The AEC's LMFBR program eventually led to the development of a breeder reactor prototype, the Fast Flux Test Facility at Hanford.

Clementine Description and Operation

Clementine was a new type of neutron reactor, the world's first reactor that operated on the fission of plutonium by high-energy neutrons (Figure 25). The fact that the fission process was proceeded by use of high-energy neutrons led to the name "fast reactor." In a fast reactor controlled fission was achieved with high-energy neutrons. The reactor was approved for Los Alamos on the basis that it would provide a much-needed high-density, fission-neutron source and would be a means of exploring the adaptability of plutonium

as a reactor fuel. Clementine was a prototype in the field of atomic energy development; it was a source of high-energy neutrons for nuclear physics investigations and was a pilot plant to investigate the possibilities of future high power atomic energy installations (Lawson 1947). Clementine also differed from reactors that used uranium as the active material and thermal or slow neutrons for producing fission.



(LANL, IM-9 Photography, #2388)

Figure 25. Clementine

After the design power of 25 kW was reached in 1949, Clementine maintained a full schedule for nearly a year during which several important weapon experiments were conducted. The reactor was shut down (after operating for less than four years) with the discovery that a fuel element failure had led to plutonium contamination of the mercury coolant. The decision was made to dismantle the reactor and researchers operated the Los Alamos Fast Reactor for the final time on December 24, 1952. Removal of the reactor was completed in June of 1953 (Figure 26).



(LANL, IM-9 Photography, # 26446)

Figure 26. Removal of Reactor, circa 1953

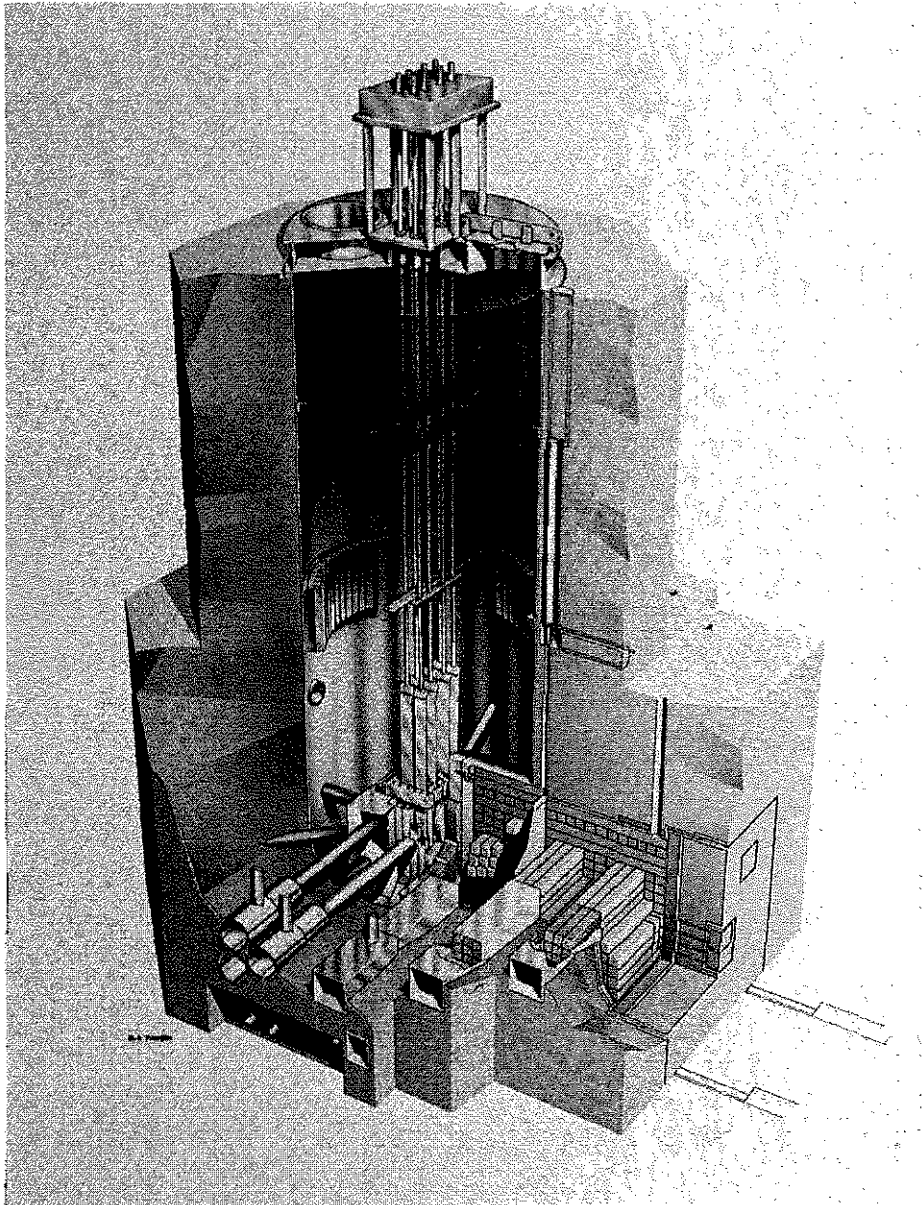
In spite of Clementine's early demise, most of the original objectives of the project were realized. Important weapons data had been acquired, and invaluable experience had been gained in the design and control of fast reactors. Another lesson learned was that mercury was an unacceptable choice of coolant, largely due to its poor heat-transfer properties. Planning for Clementine's replacement began almost immediately. The Water Boiler was still available, but higher neutron fluxes were needed to provide adequate support for the weapons program and to take advantage of new avenues of research that were rapidly developing around the world.

OMEGA WEST REACTOR (OWR)

The Materials Testing Reactor (MTR) – A Prototype

After Clementine was dismantled, Los Alamos scientists proposed to replace the fast reactor with a general-purpose research reactor patterned after the Materials Testing Reactor (MTR) at the National Reactor Testing Station (NRTS) (known today as the

Idaho National Engineering and Environmental Laboratory [INEEL]). This replacement design was favored because the MTR's uranium-aluminum plate-type fuel elements had already undergone extensive testing; thus, little time would be lost in core design. Built on the foundations of Clementine at Los Alamos, the new reactor was named the Omega West Reactor (OWR) (Figures 27 and 28).



(LANL, IM-9 Photography, #584427)

Figure 27. OWR Schematic, circa 1958



(LANL, RRES-ECO.HREPC, #DCP_0092)

Figure 28. OWR, August 2002

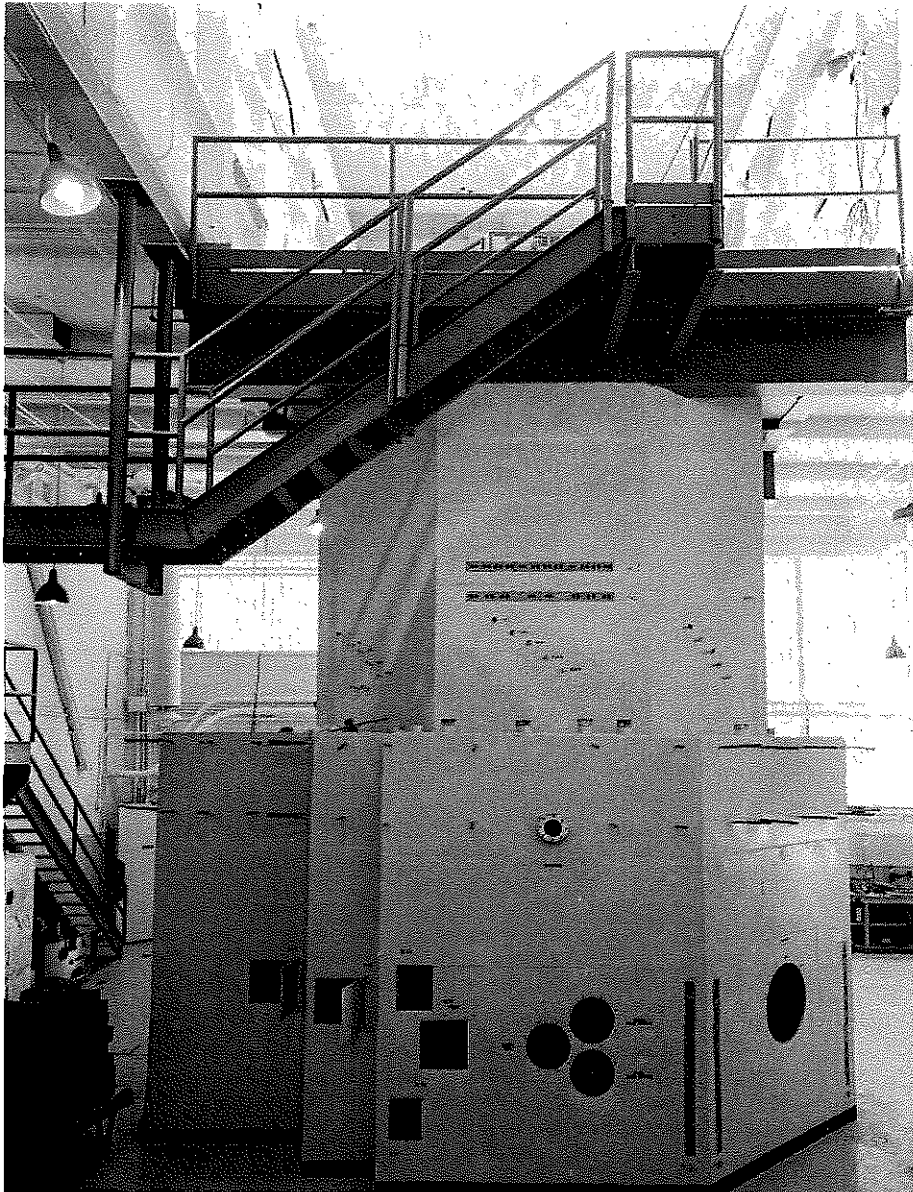
The MTR was the primary prototype for the design of the OWR. The concepts, design, and technology developed in the planning, construction, and operation of the MTR at INEEL provided the foundation on which most of the second generation of test and

research reactors in the United States were based. The MTR concept grew out of research in the late 1940s for a reactor facility that could provide high, fast, and thermal neutron fluxes and high gamma ray intensities.

The MTR was one of the first large-scale research reactors. Development of the MTR began in 1945 at the Clinton Laboratories at Oak Ridge and the MTR research program was transferred to Argonne National Laboratory in 1948. The MTR was built and began operating at NRTS in 1952 and provided a much-needed facility for performing tests to aid in the development of reactor designs. Fueled with enriched uranium, the reactor played a key role in the AEC's post-war reactor development program. In support of the AEC's program, the MTR was used by scientists to subject potential reactor fuels and structural materials to irradiation. In 1958, it became the first reactor to operate using plutonium-239 as fuel at power levels up to 30 MW, and demonstrations showed that a plutonium fueled reactor could be controlled satisfactorily. The operation of the fuel elements in the MTR (and the Bulk-Shielding Reactor at the Oak Ridge National Laboratory) was the direct basis for the OWR fuel element design. The MTR continued to operate as a valuable research reactor and contributed to the development of the OWR until it was shut down in 1970.

OWR – Location and Operation

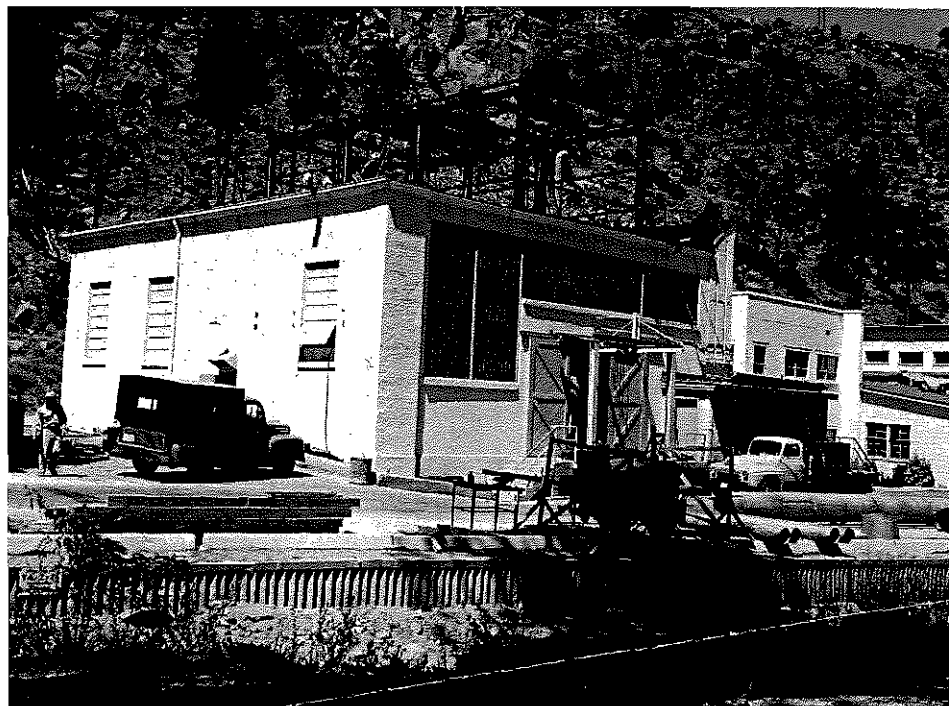
Since the necessary auxiliary facilities existed at the Omega Facility in the form of laboratory rooms, office space, and reactor control room, it was convenient and expeditious to locate the new reactor in the same building and room that had housed Clementine (Figure 29).



(LANL, IM-9 Photography, #36206)

Figure 29. OWR, circa 1956

Located in a two-story high bay that had housed the Clementine Reactor, the OWR, the final reactor at the Omega Facility, was designed by Los Alamos scientist John Yarnell and his staff and built by personnel of Group P-2 with the help of craftsmen from the Laboratory's Engineering and Shops Departments and the Zia Company. Los Alamos's Isotope and Nuclear Chemistry Division originally operated the OWR. Construction of the reactor vessel and the entire facility was completed in 1956, and went critical later that year (Figures 30, 31, 32, and 33).



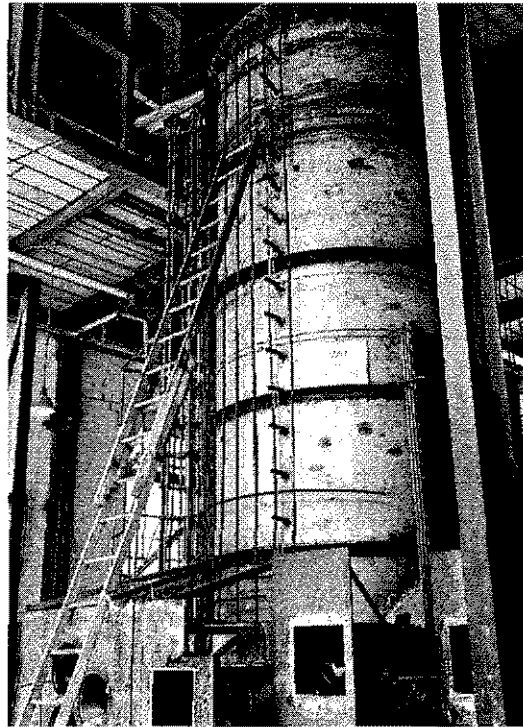
(LANL, IM-9 Photography, OWR Files #33)

Figure 30. OWR Remodel After Clementine Removal, Post 1953



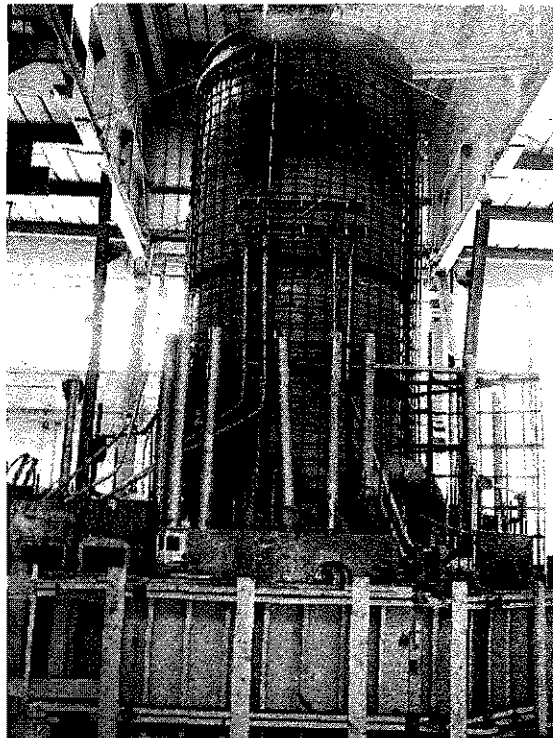
(LANL, IM-9 Photography, #95-243)

Figure 31. OWR Installation



(LANL, IM-9 Photography, OWR Files #192)

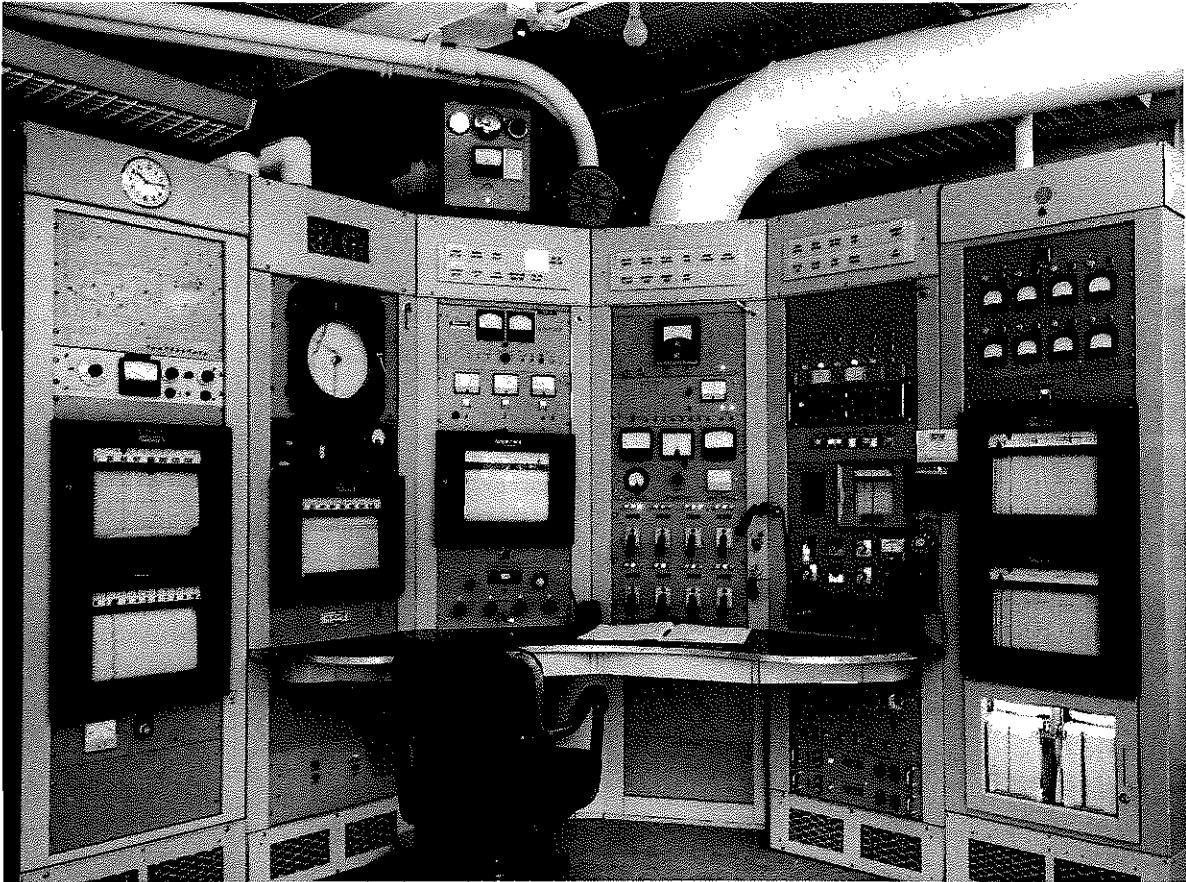
Figure 32. OWR Construction, Post 1953



(LANL, IM-9 Photography, OWR Files #219)

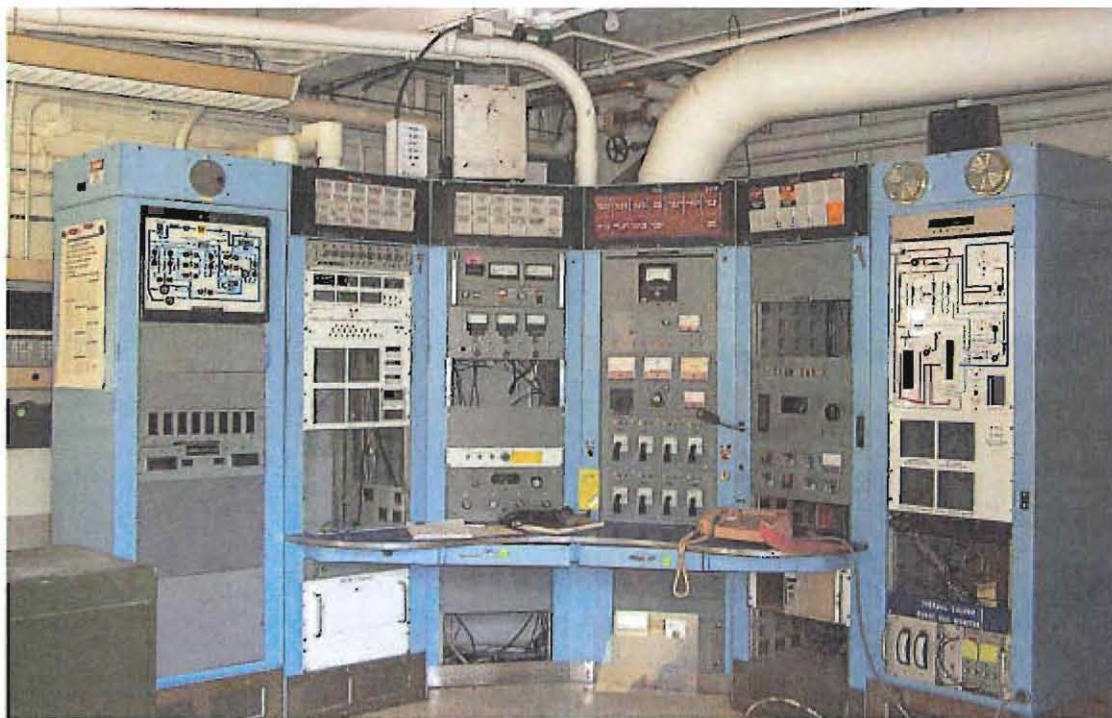
Figure 33. OWR Construction

The full-power operation of the OWR at 5 MW was achieved in January 1959. During its period of operation the OWR was the highest power research reactor in the western United States. Following modifications to increase the cooling system capacity, operation power of the OWR was raised to 8 MW in 1967 (Figures 34 and 35).



(LANL, IM-9 Photography, #644080)

Figure 34. OWR Console as of June 1964

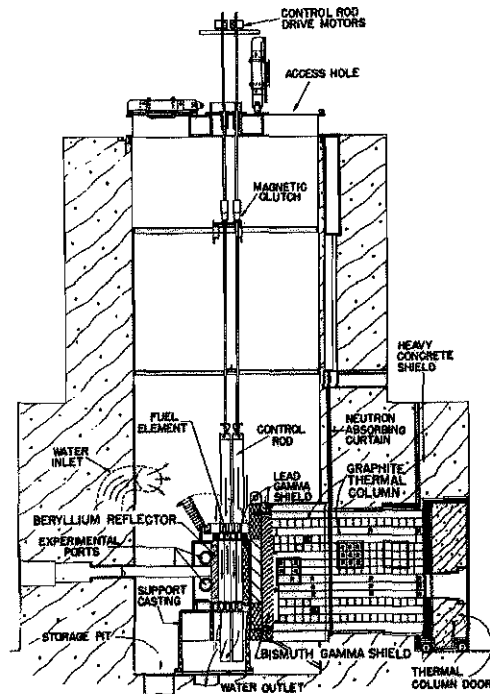


(LANL, RRES-ECO/HREPC, #OWRCON1)

Figure 35. OWR Console, February 1999

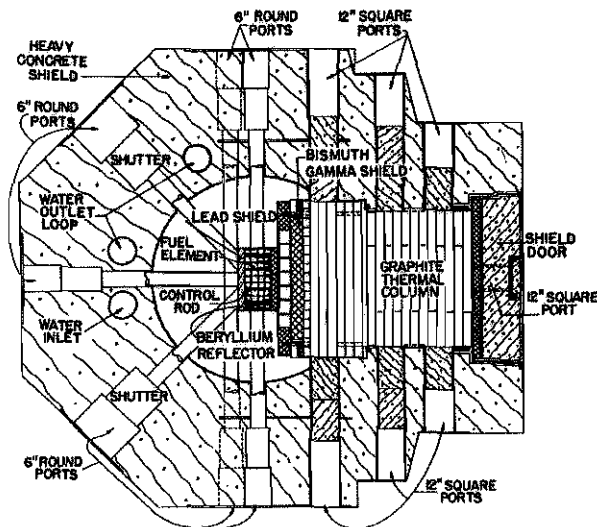
Scientists at Los Alamos felt that the OWR was a preferable research reactor to the water boiler versions because of its versatility and ability to perform a wide array of experiments. The OWR irradiated samples in one-fifteenth of the time required by the Water Boiler. In addition, the OWR produced beams of neutrons about 100 times stronger than the Water Boiler.

The OWR was a thermal, water-cooled, 8-MW nuclear research reactor fueled by highly enriched uranium, contained in an 8-in. diameter closed vessel. The reactor had an array of fuel elements supported vertically in an aluminum grid plate, each of which was made of eighteen curved fuel plates containing uranium-235. The OWR had solid fuel and utilized an assembly of aluminum-clad, MTR-plate-type fuel elements, supported inside a stainless steel cylinder-shape tank that was 24-ft high with 1/4-in. thick walls and a 3/8-in. thick bottom plate. Eight blade type poison rods controlled the reactor. The reactor tank was covered with a stainless steel lid that supported the control-rod drive mechanisms (ICF Kaiser Engineers 1995) (Figures 36 and 37).



(LANL, IM-9 Photography, #56370)

Figure 36. OWR Schematic, September 1956



(LANL, IM-9 Photography, #56369)

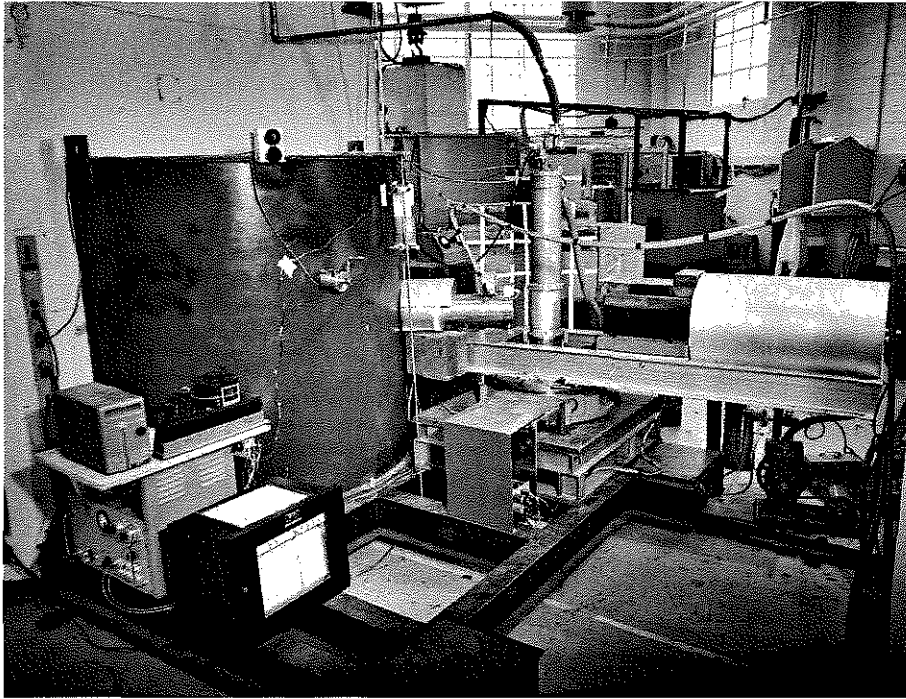
Figure 37. OWR Schematic, September 1956

A biological shield of heavy concrete in an irregular octagonal shape surrounded the tank and thermal column. The shield was 5-ft thick to a height of 11-ft above the reactor room floor and was at least 3-ft thick above that. The 17 feet of water above the fuel provided biological shielding above the reactor.

The OWR was cooled by dematerialized light water that circulated downward through the core at 3500 gal/min. After it left the core, the cooling water passed through a delay line, a surge tank, a pump, and a cooling tower before being returned to the reactor tank.

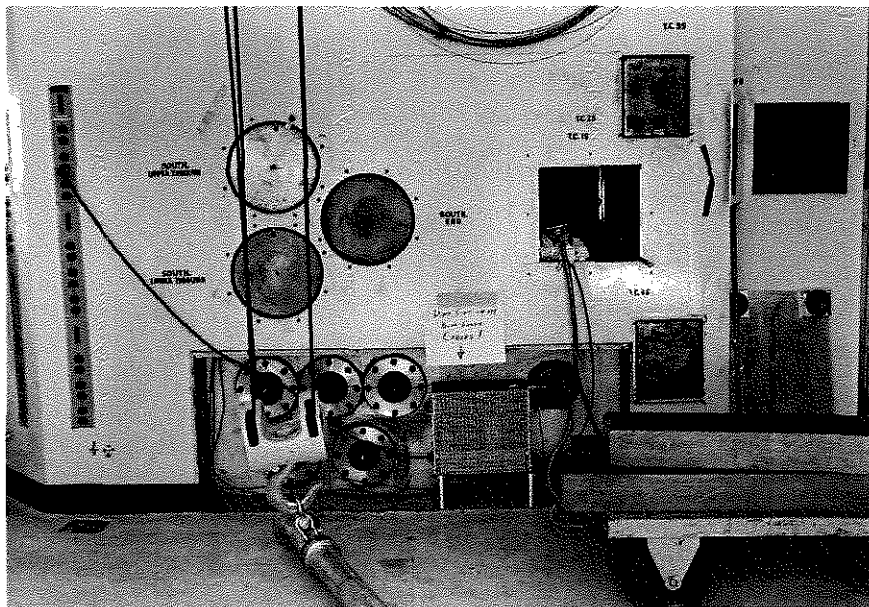
Water purity was maintained by bypassing a small stream through a deioner and filter system. Two auxiliary pumps provided emergency flows to prevent freezing in case of loss of the main pump in winter and for cleanup in case of radioactive contamination of the water system (ICF Kaiser Engineers 1995).

The OWR was designed primarily to facilitate research experimentation in nuclear physics and other sciences. The OWR provided Los Alamos scientists with an intense, steady source of neutrons. The reactor provided sample irradiations, a source of external neutron and gamma-ray beam experiments, and facilities for irradiation of instrumented capsules. The reactor was also used for radioisotope production and for external neutron-beam experiments, neutron cross-section measurements, neutron-capture gamma-ray studies, and neutron radiography. The design emphasized facilities for bringing beams of fast and thermal neutrons through the reactor shield, for providing high thermal fluxes, and for having the capability of accepting flexible experimental arrangements (Williams *et al.* 1969) (Figures 38 and 39).



(LANL, IM-9 Photography, #611506)

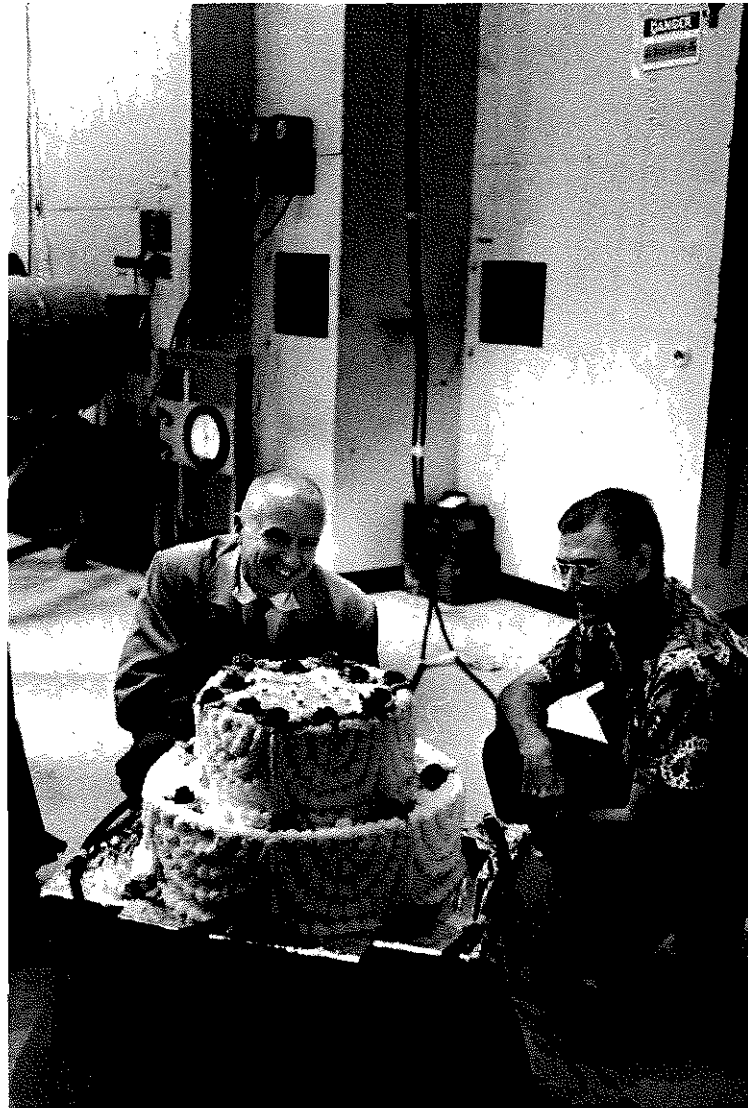
Figure 38. OWR Experiments (Two Axis Spectrometer – Direction North), circa 1961



(LANL, IM-9 Photography)

Figure 39. OWR Sample Ports

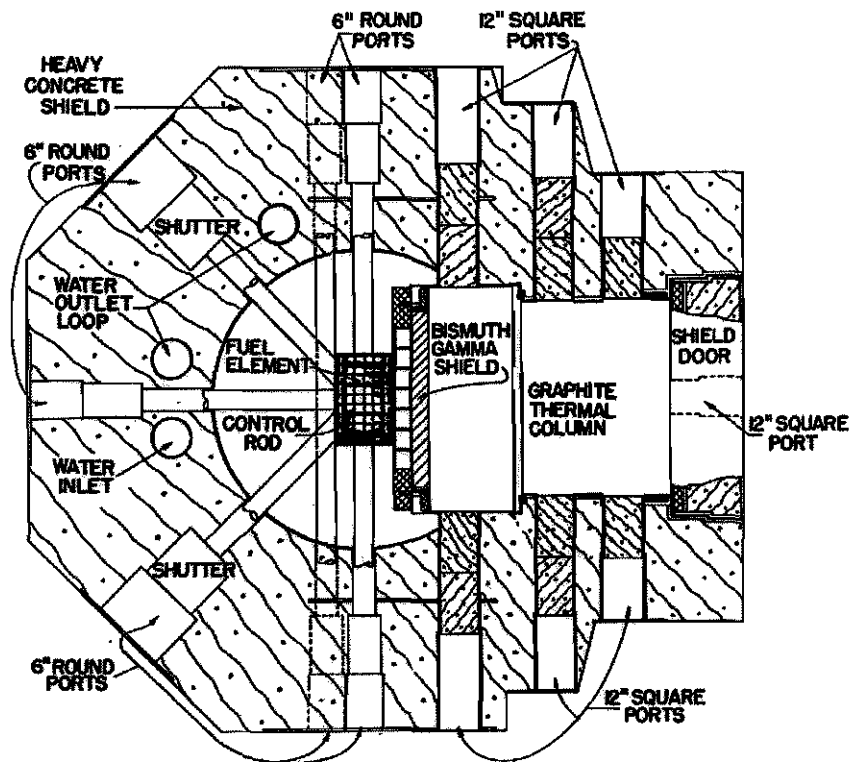
The OWR was also designed to produce fast and thermal neutrons for fundamental research in nuclear physics, solid-state physics, and related fields. The addition of a versatile arrangement of in-core irradiation positions in 1960 allowed the reactor to be used as a test facility in support of Laboratory efforts such as the direct energy conversion studies (Fig. 40) and fast reactor development (LASL Community News 1960b).



(LANL, IM-9 Photography)

Figure 40. Laboratory Director Bradbury (L) and Energy Conversion Demonstration, circa 1960

The air-filled vertical ports were used extensively for radiation damage studies, investigations of the effects of radiation on solid-state devices and the testing of instrumentation for use in radiation environments (Williams *et al.* 1969) (Figure 41).



(LANL, IM-9 Photography, #34543)

Figure 41. OWR Schematic, November 1955

The largest single use of the reactor was neutron activation analysis. The automated neutron activation analysis system at OWR performed the analysis of up to 400 samples per day. On average, 12,000 to 15,000 samples per year were irradiated and numerous experiments were conducted by various groups, including other laboratories that did not have a research reactor (Figure 42) (ICF Kaisers Engineers 1995).

As noted, the primary function of the reactor was to create large amounts of neutrons for research purposes. The neutrons, which are produced by the fission of uranium-235, were used for radiography. The OWR was also used as a research tool to study soil and sediment samples from one-third of the U.S. to find uranium deposits. The fuel itself was enriched uranium-235 and the core contained about 13 pounds of the material.



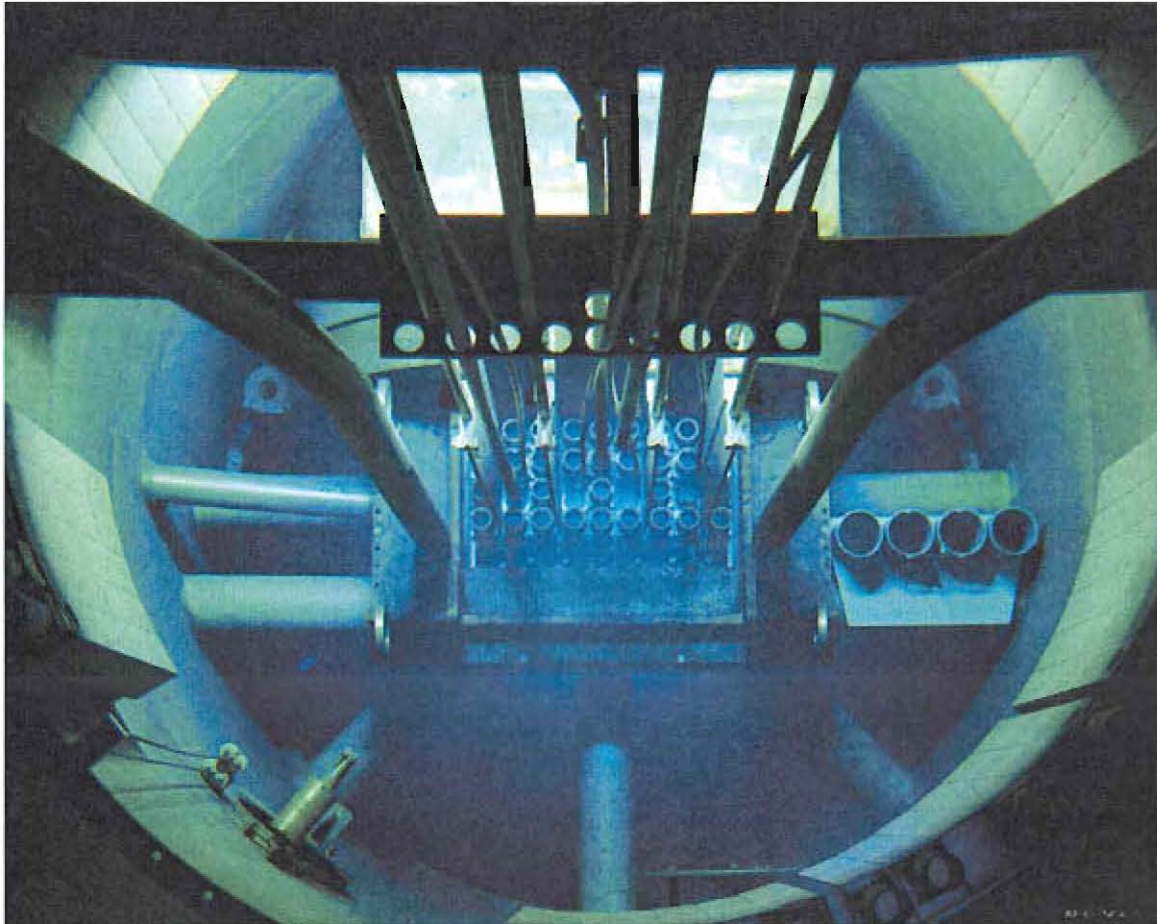
(LANL, IM-9 Photography, #CN59170)

Figure 42. OWR, circa 1959

In summary, the reactive assembly or “core” of the OWR

was immersed in water contained in a stainless steel tank 8 feet in diameter and 25 feet high. The tank, in turn, is surrounded by concrete five feet thick....The concrete is made from magnetite...during operation, the solid fuel elements containing uranium 235 are cooled by water which also serves as a reflector and moderator...Control of this heterogeneous reactor is achieved by means of moveable poison rods situated in the fuel

assembly...[and] particles move through the water at speeds greater than the speed of light in water. As a result, a glow is produced (Otway *et al.* 1970:15) (Figure 43).



(LANL, IM-9 Photography, #64-291)

Figure 43. OWR's "Blue Glow" or "Cherenkov Radiation," circa 1964

Facility Shutdown

The discovery in November 1992 of a coolant leak in a 30-in. pipe between building TA-2-44 and the reactor building permanently shutdown the reactor. During 1994 the reactor was de-fueled and all control blades were removed, placing the reactor in a safe shutdown mode. Soon thereafter the reactor vessel was drained of all of its coolant. Demolition of the Omega Facility began in 2002.

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**Appendix A: Historic Building Inventory Form with
Representative Photographs and Building Drawings**

LANL TA- Building # 02-0001

Camera 949791, 984242, and 984243

Frame #s P0000807 through P0000854, DCP_1126 through DCP_1147, and DCP_0083 through DCP_0096 respectively

Surveyor(s) K.Towery/J.Ronquillo

Date 03/05/2002

Los Alamos National Laboratory HREPCT Historic Building Survey Form

Building Name Omega West Reactor UTM's easting 383515 northing 3970816 zone 13

Legal Description: Map Guaje Mountain 1984 tnspl 19N range 6E sec 15

Current Use/ Function Building has been demolished Original Use/ Function Reactor Building

Date (estimated) 1944 Date (actual) 1944 Property Type Laboratory/Processing

Type of Construction

Pre-Fabricated Metal [checked] Steel Frame [checked] Wood Frame [] CMU [checked] Reinforced Concrete [checked]

Other Type of Construction # of Stories 3

Foundation Reinforced Concrete

Exterior CMU-Exterior [checked] Reinforced Concrete-Exterior [] Steel (galvanized) [] Steel (corrugated) []

Wood Siding [checked] Asbestos Shingles-Exterior [checked] In-Fill Panels [] Other-Exterior

Exterior Treatment (painted, stuccoed, etc) It varies and includes painted concrete, CMU, asbestos containing material, and glass block.

Exterior Features (docks, speakers, lights, signs, etc) A few concrete docks at west, south, and east elevations; speakers, lighting and security signage around building.

Addition CMU-Addition [] Reinforced Concrete-Addition [checked] Steel (galvanized)- Addition [checked] Wood []

Steel (corrugated)-Addition [checked] Asbestos Shingles-Addition [] Other- Addition

Exterior Treatment-Addition Painted concrete, CMU and corrugated steel siding, and asbestos containing material - 1946 addition. Circa 1949 the western portion of the original building was removed and rebuilt (circa 1949 addition/rebuild). The exterior facade is painted CMUs.

Exterior Features-Addition Some concrete docks and glass block design elements.

Roof Form Slanted/Shed [checked] Gable [] Other Roof Type

Degree of Pitch/ Slope Moderate

Roof Materials Corrugated Metal [checked] Rolled Asphalt [] Asbestos Shingles [] 4-Ply Built Up [checked]

Other Roof Materials

Window Type Casement [] Single Hung Sash [] Double Hung Sash [checked] Fixed Window [checked]

Other Window Type Glass block

of Each Window Type/ Comments There are a number of various window types around the building ranging from glass block, fixed, operable hopper, to double hung.

Glass Type Clear Wire Glass Opaque Painted Glass Glass Block

Light Pattern Varies

Door Type Personnel Door Types Exterior Fire Door Single Double Roll-up Sliding
Hollow Metal Solid Wood 1/2 Glazed Paneled
Louvered Painted
Interior Fire Door Single Double Roll-up Sliding
Hollow Metal Solid Wood 1/2 Glazed Paneled
Louvered Painted
Equipment Door Types Exterior Fire Door Single Double Roll-up Sliding
Hollow Metal Solid Wood 1/2 Glazed Paneled
Louvered Painted
Interior Fire Door Single Double Roll-up Sliding
Hollow Metal Solid Metal 1/2 Glazed Paneled
Louvered Painted

of Each Door Type/Comments: There is one vault door inside building.

Interior Wall Gypsum Board Reinforced Concrete- Interior
CMU- Interior Plywood Other- Interior CMU
In-Wall Electrical Wiring On-Wall Electrical Wiring

Ceiling Drop Ceiling

Interior Comments (Equipment, etc) Overhead cranes of various sizes (a 10,000 lb and a 3,000 lb) and a large supporting structure of (steel and concrete) for the reactor. There is a freight elevator and a vault storage room within the building. Several areas have old fume hoods, laboratory work benches, exposed utility piping including steam, metal dropped ceilings, acoustical lay-in ceilings, acoustical tile on the walls and suspended fluorescent light fixtures, and space heaters. There is a steel stair and railing structure around the reactor. Floor materials consist of exposed concrete, vinyl asbestos tile, and carpet. A large control panel/station was in place at time of evaluation which originally supported reactor diagnosis.

Degree of Remodeling Moderate

Condition Excellent Good Fair Deteriorating Contaminated Burned

Associated Building

If yes, list building names and #s: TA-2-90, (Storage Bldg.) TA-2-89, (Storage Bldg.) TA-2-21, (Waterline valve house) TA-2-63 (Boiler House).

Integrity Excellent

Significance Eligible

Eligible Under Criterion A B C D Not Eligible

DOE Themes

Nuclear Weapon Components and Assembly Nuclear Weapon Design and Testing Nuclear Propulsion

Peaceful Uses: Plowshare, Nuclear Medicine, Nuclear Energy, Nuclear Science Energy and Environment: Research Design Projects

LANL Themes

Weapons Research and Design, Testing, and Stockpile Support Super Computing
Reactor Technology Biomedical/Health Physics Strategic and Supporting Research
Environment/Waste Management Administration and Social History Architectural History

Recommendations/ Additional Comments

Architectural Features (elevations)

South elevation: Consists of wood siding on a portion, painted concrete, CMU with glass block window openings, operable window openings, metal siding, a brick stack, asbestos containing material, overhead canopy loading dock with equipment doors and personnel doors, and safety railing at reactor roof/platform. West elevation: Consists of wood siding, painted concrete and CMU, corrugated metal siding, covered bottle storage area, painted over windows, an overhead door, and a hollow metal double door. North elevation: Consists of wood siding, painted concrete and CMU, corrugated metal siding, asbestos containing material, some window openings and glass block. East elevation: Consists of asbestos containing material, wooden and metal operable windows, and hollow metal doors.

The room that the Omega West Reactor was housed in (Room 101) is a 2-story highbay.

Total sq ft 21,337 Gross

Architect/ Builder

Original structure was built in 1944 by the Post Engineers. The structure was later modified in 1946 and circa 1949 by R.E. McKee.

Alterations

The original structure (built 1944) was expanded (1946 addition) and modified (1949 removal and rebuild) throughout its history and the exterior building materials consisted of a combination of concrete, wood, CMU, asbestos containing material, and metal. There are various level changes and various wall finishes in each elevation, yet no one material that unifies the visual facade of the facility.

List of Drawings (Cntrl + Enter for para break)

The following drawings depict the major modifications made to the building.

ENG-C 1670

TA-2-1

Bldg. Omega -1-TA-2

Elevations

October 18, 1943

ENG-C 1675

TA-2-1

Bldg. Omega-1-TA-2

First Floor Plan

Room Window & Door Schedules

November 1, 1943

ENG-C 1687

Sheet 1

TA-2-1

Omega Building Annex

Plan & Foundation Details

September 20, 1944

ENG-C 1688

Sheet 2

TA-2-1

Omega Building Annex

Elevations & Details

September 20, 1944

Drawing list is continued on next page.

ENG-C 1700
Sheet 2 of 16
TA-2-1
Omega Site Building #1
Fast Reactor Building
Floor Plan & Details
May 20, 1946

ENG-C 1701
Sheet 3 of 16
TA-2-1
Omega Site
Fast Reactor Building
Elevations & Details
May 20, 1946

ENG-C 401
TA-2-1
Alterations & Additions to Omega #1
Floor Plans and Elevations
August 5, 1949

ENG-C 1723
Sheet 2 of 34
TA-2-1
Alterations & Additions to Bldg. No. 1
Architectural Plan of Existing Building
October 11, 1949

ENG-C 1724
Sheet 3 of 34
TA-2-1
Alterations & Additions to Bldg. No. 1
Architectural First Floor Plan
October 11, 1949

ENG-C 1725
Sheet 4 of 34
TA-2-1
Alterations & Additions to Bldg. No. 1
Architectural Second Floor Plan
October 11, 1949

ENG-C 1728
Sheet 7 of 34
TA-2-1
Alterations & Additions to Bldg. No. 1
Architectural Elevations
October 11, 1949

ENG-AB 119
Sheet 1 of 3
TA-2-1
As-Built Record Floor Plan
Arch: Basement Floor Plan
October 27, 1993

ENG-AB 119
Sheet 2 of 3
TA-2-1
As-Built Record Floor Plan
Arch: First Floor Plan
October 27, 1993

ENG-AB 119
Sheet 3 of 3
TA-2-1 As-Built Record Floor Plan
Arch: Second and Mezzanine Floor Plan
October 27, 1993

Drawing list is continued from previous page

LA-UR-03-0200

A-1, Sheet 1 of 2

TA-2-1

Omega West Reactor

Historic Context

January 2003

LA-UR-03-0200

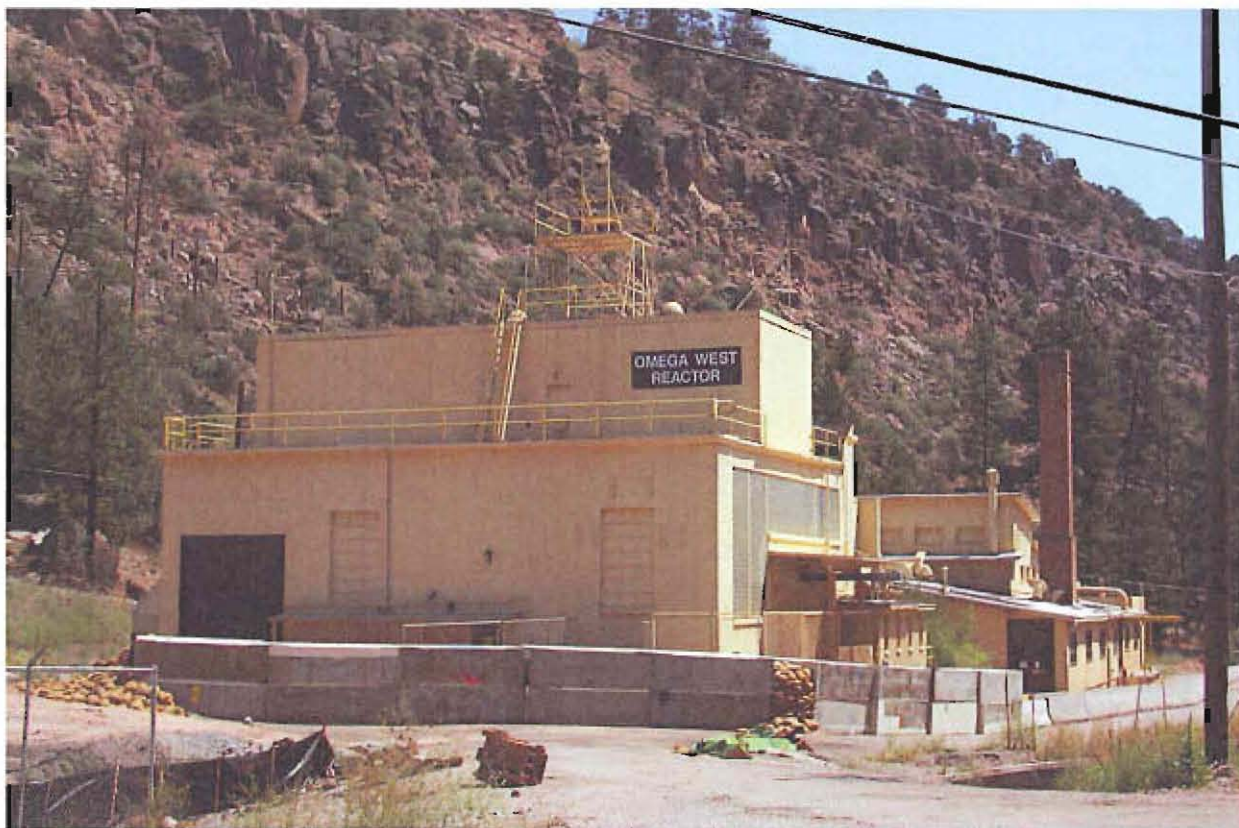
A-2, Sheet 2 of 2

TA-2-1

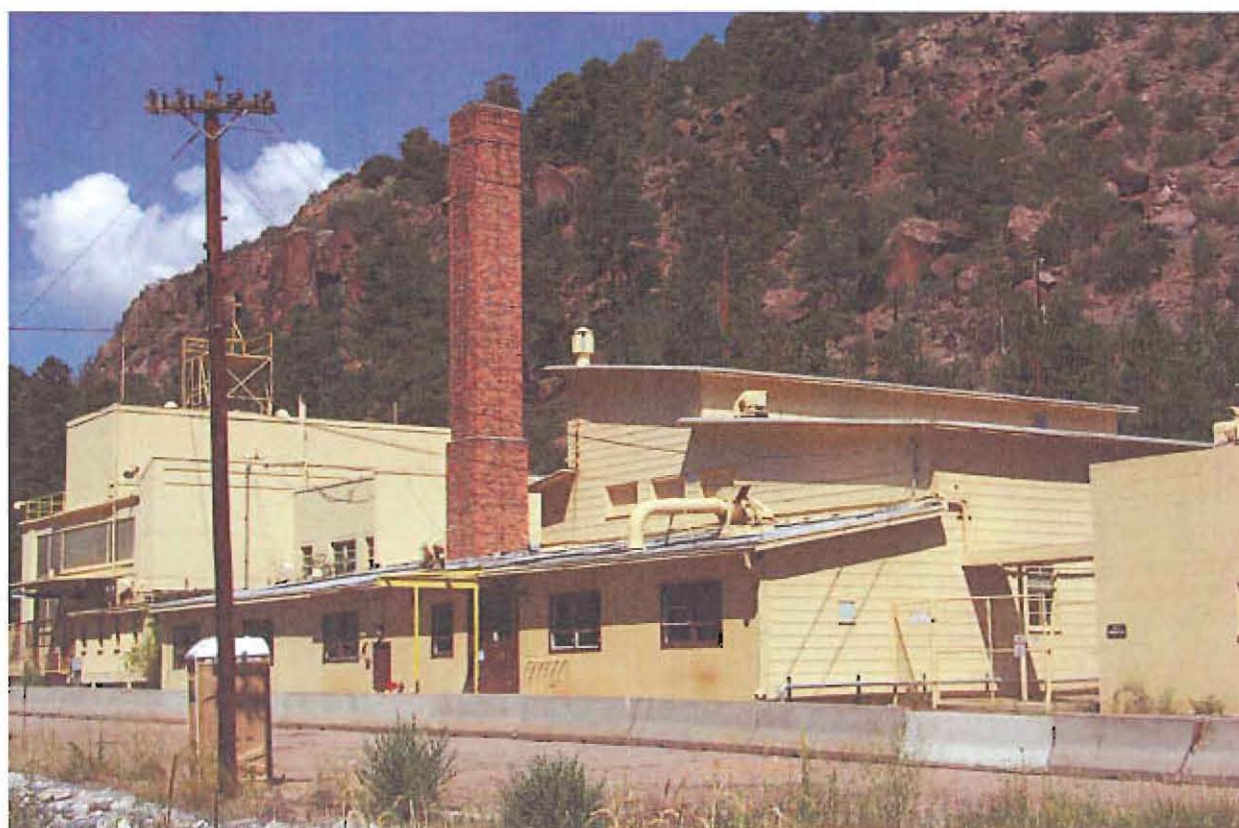
Omega West Reactor

Historic Context

January 2003



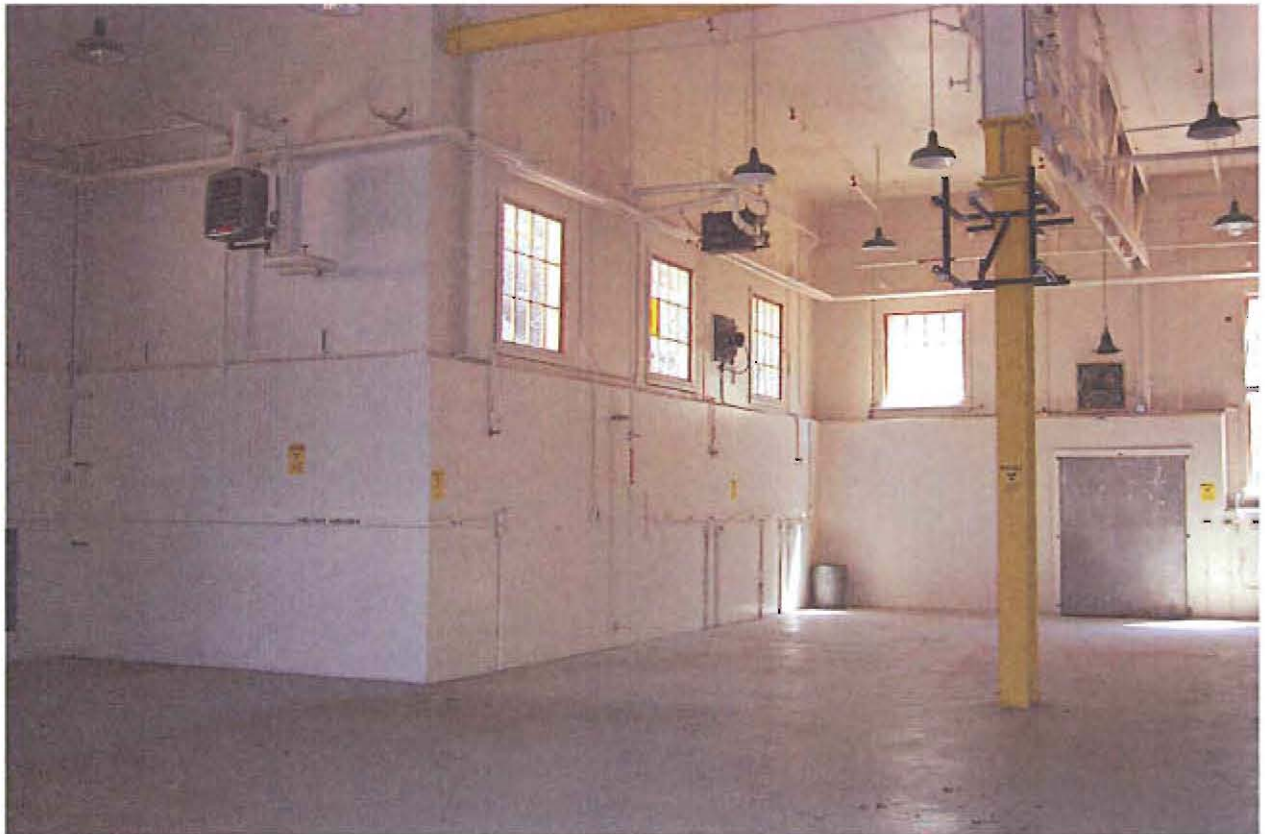
Omega Site TA-2-1, direction northeast



Omega Site TA-2-1, direction northwest



TA-2-1, Room 122



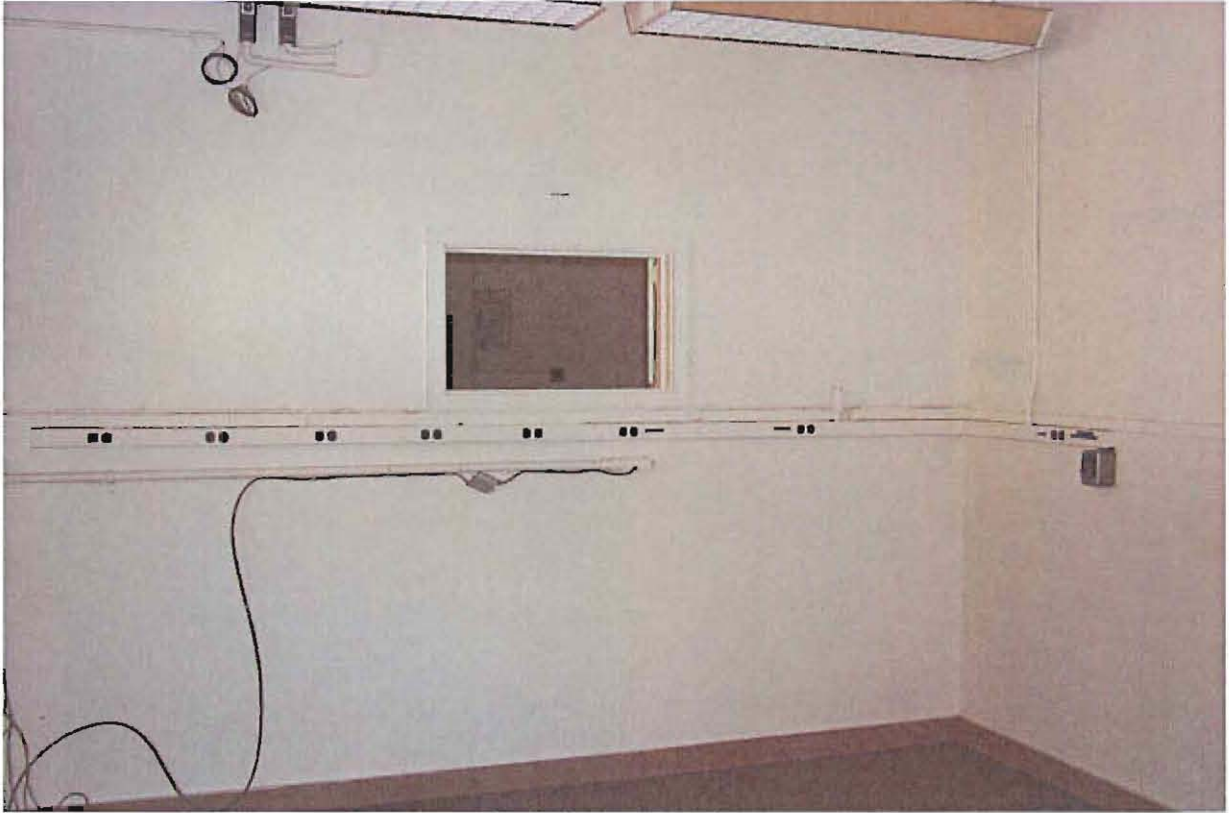
TA-2-1, Room 122



TA-2-1, Room 122



TA-2-1, Rooms 116 & 116A



TA-2-1, Room 119



TA-2-1, Room 121



TA-2-1, Room 123



TA-2-1, Room 123



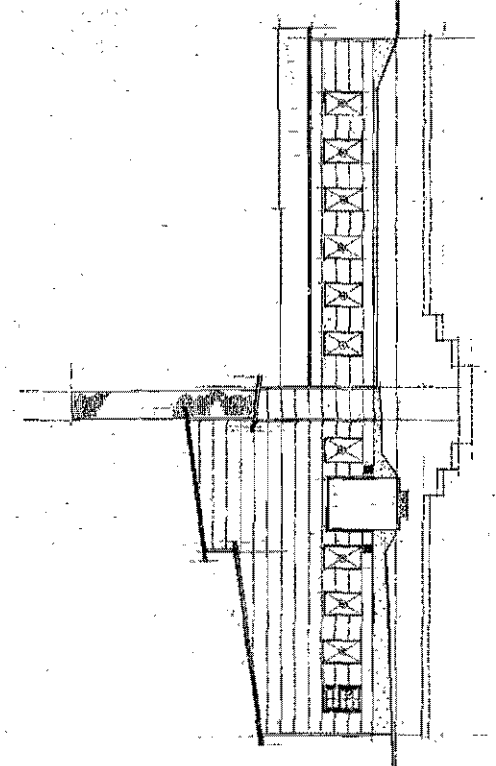
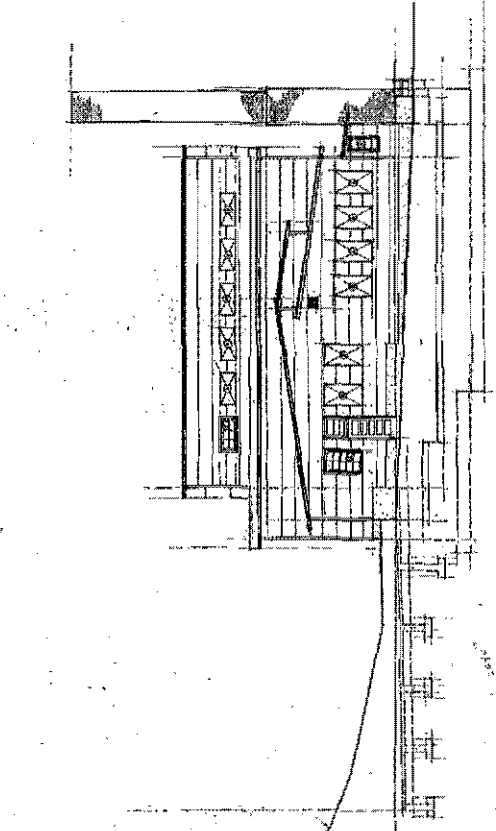
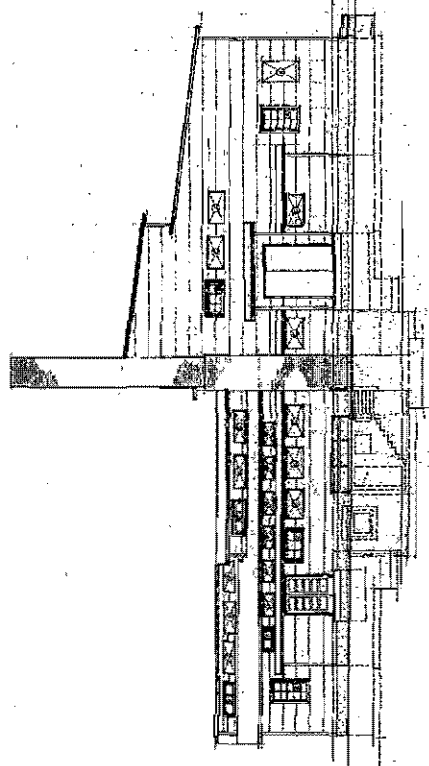
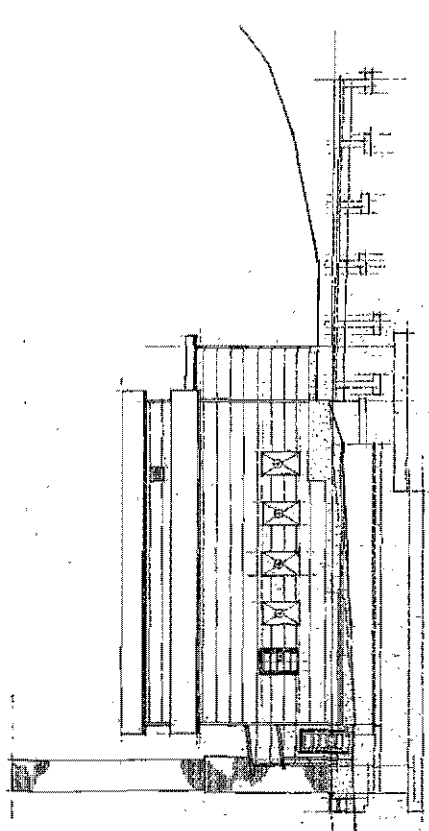
TA-2-1, Room 124-V



TA-2-1, Omega West Reactor, room 101, north and northwest sides



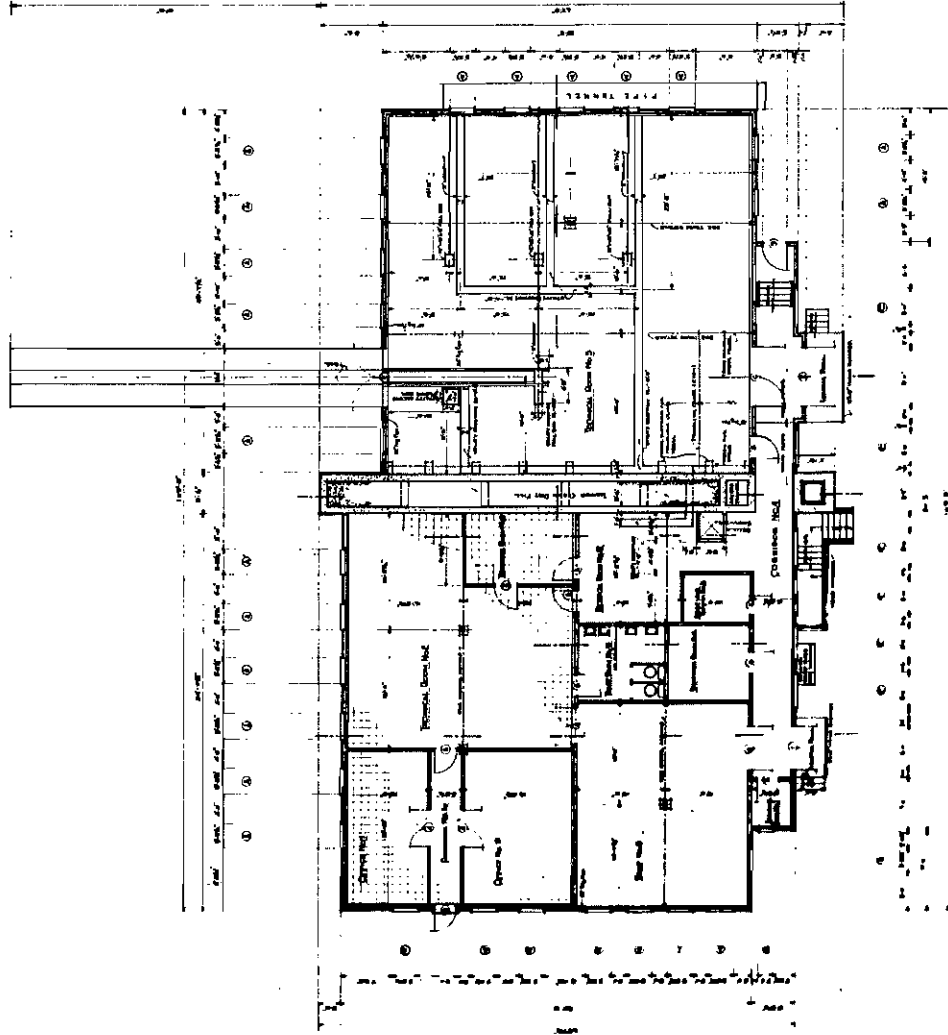
TA-2-1, Omega West Reactor, room 101, south side



BLDG. OMEGA-1-TA-2
ELEVATIONS

10018792

*See page 10018792 for
Grid 11, 12, 13 and 14 - 1970*



FIRST FLOOR PLAN
 SCALE: 1/8" = 1'-0"

BLOOM SCHEDULE

Item	Quantity	Unit	Description	Notes	Remarks
1	1	sq. ft.	Paint - Interior	1000	1000
2	1	sq. ft.	Paint - Exterior	1000	1000
3	1	sq. ft.	Paint - Ceiling	1000	1000
4	1	sq. ft.	Paint - Trim	1000	1000
5	1	sq. ft.	Paint - Stairs	1000	1000
6	1	sq. ft.	Paint - Balcony	1000	1000
7	1	sq. ft.	Paint - Garage	1000	1000
8	1	sq. ft.	Paint - Driveway	1000	1000
9	1	sq. ft.	Paint - Foundation	1000	1000
10	1	sq. ft.	Paint - Siding	1000	1000

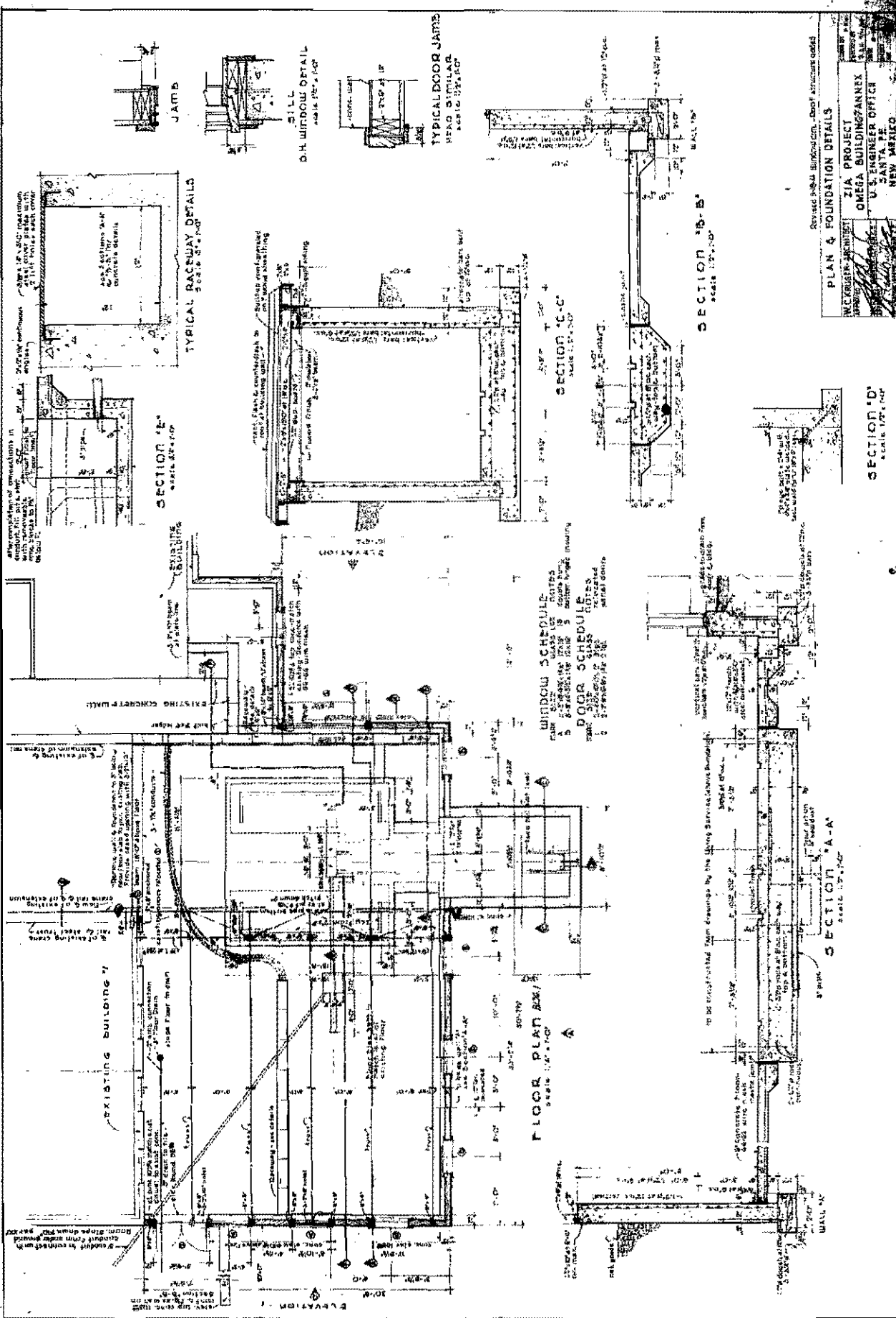
WINDOW SCHEDULE

Item	Quantity	Unit	Description	Notes	Remarks
1	1	sq. ft.	Window - 36" x 48"	1000	1000
2	1	sq. ft.	Window - 48" x 60"	1000	1000
3	1	sq. ft.	Window - 60" x 72"	1000	1000
4	1	sq. ft.	Window - 72" x 84"	1000	1000
5	1	sq. ft.	Window - 84" x 96"	1000	1000

ROOF SCHEDULE

Item	Quantity	Unit	Description	Notes	Remarks
1	1	sq. ft.	Roof - Asphalt/Flt.	1000	1000
2	1	sq. ft.	Roof - Gypsum	1000	1000
3	1	sq. ft.	Roof - Insulation	1000	1000
4	1	sq. ft.	Roof - Decking	1000	1000
5	1	sq. ft.	Roof - Membrane	1000	1000

BUILDING OMEGA-17A-2
 FIRST FLOOR PLAN
 REVISED 11/1/43



after completion of connections in amount of 100% of the amount of steel to be used in the connection.

SECTION 'E'
SCALE 1/2" = 1'-0"

TYPICAL RAYWAY DETAILS
SCALE 3/4" = 1'-0"

SECTION 'C-C'
SCALE 1/2" = 1'-0"

SECTION 'B-B'
SCALE 1/2" = 1'-0"

SECTION 'D-D'
SCALE 1/2" = 1'-0"

- WINDOW SCHEDULE**
- 1. 3'-0" x 6'-0" Double Hung
 - 2. 3'-0" x 6'-0" Double Hung
 - 3. 3'-0" x 6'-0" Double Hung
 - 4. 3'-0" x 6'-0" Double Hung
 - 5. 3'-0" x 6'-0" Double Hung
- DOOR SCHEDULE**
- 1. 3'-0" x 6'-0" Double Hung
 - 2. 3'-0" x 6'-0" Double Hung
 - 3. 3'-0" x 6'-0" Double Hung
 - 4. 3'-0" x 6'-0" Double Hung
 - 5. 3'-0" x 6'-0" Double Hung

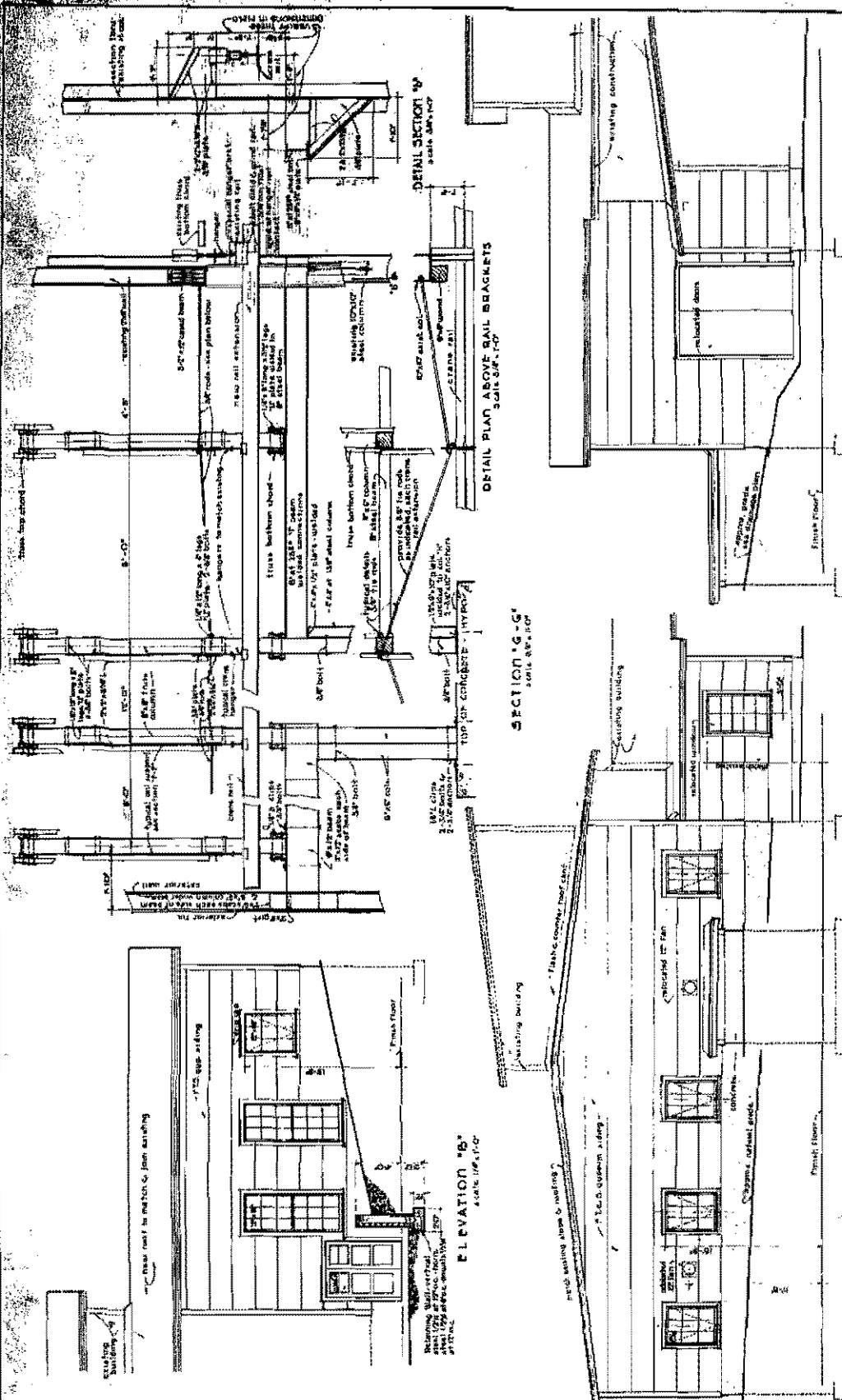
FLOOR PLAN (A-A)
SCALE 1/4" = 1'-0"

PLAN & FOUNDATION DETAILS

W.C. CRISLER - ARCHITECT
 ZIA PROJECT
 OMEGA BUILDING/FARNEX
 U.S. ENGINEER OFFICE
 SANTA FE
 NEW MEXICO

Revised from Working Drawing No. 10001 structure omitted

LA 10001-1000 1687



ELEVATION "A" 6/28/7
Scale 1/8" = 1'-0"

ELEVATION "C"
Scale 1/8" = 1'-0"

SECTION "G-G"
Scale 1/8" = 1'-0"

ELEVATION "B"
Scale 1/8" = 1'-0"

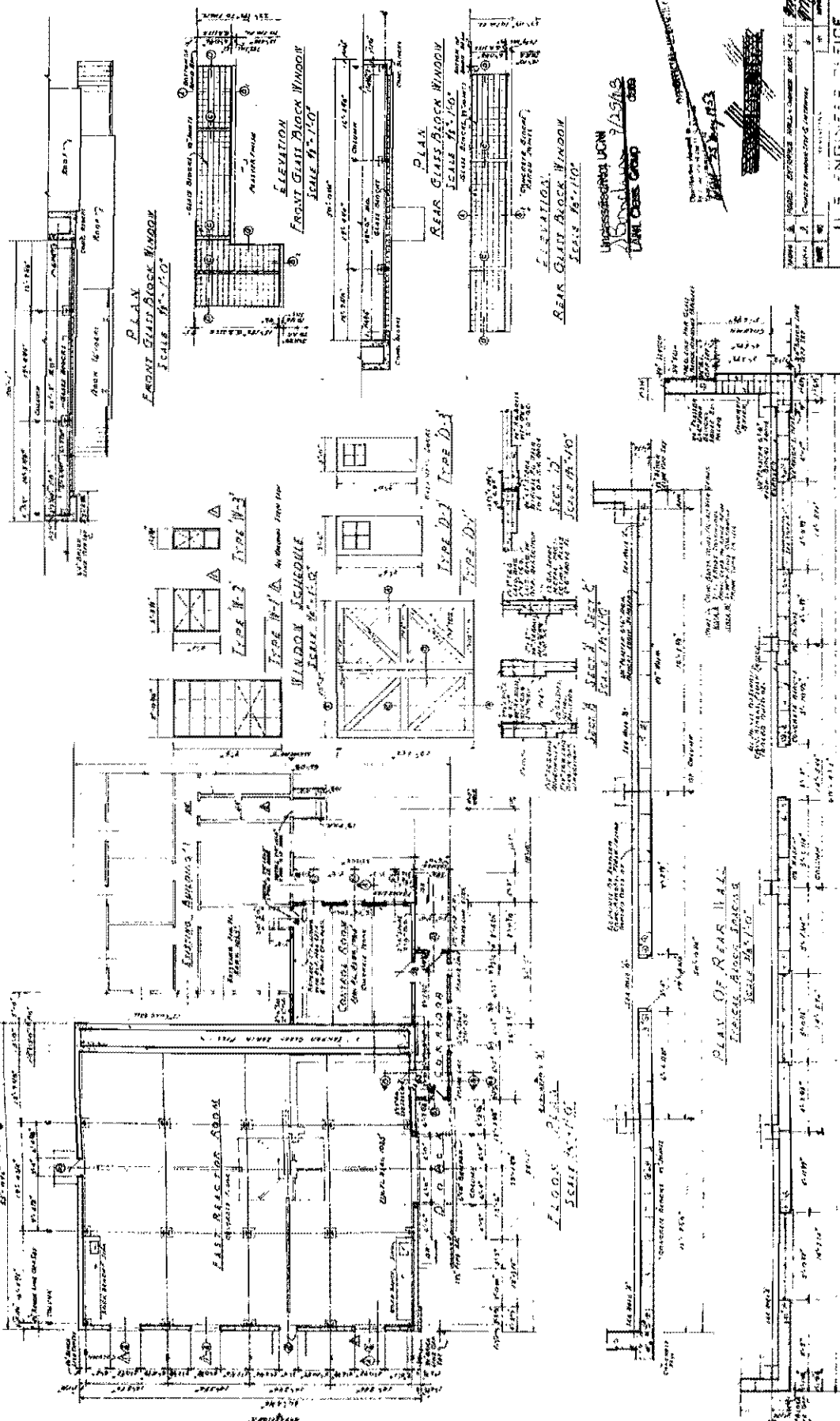
DETAIL PLAN ABOVE SAIL BRACKETS
Scale 1/8" = 1'-0"

REVISED 2/24/44 - see elevation connections

ELEVATIONS & DETAILS, F

WICKREED-BROWN ENGINEERS ARCHITECTS
 7 VIA PROJECTO
 OMECA BLDG. 6010
 U.S. ENGINEERING OFFICE
 1500 AVENUE P
 NEW MEXICO

LALINE 100-1888



PLAN OF SIDE WALL
EAST REACTOR ROOM
SCALE 1/4" = 1'-0"

U.S. ENGINEERING OFFICE
SANITARY ENGINEERING
1000 PEARL & DETMERS
NEW YORK, N.Y.

NO. 10	NO. 11	NO. 12	NO. 13
1	1	1	1
1	1	1	1
1	1	1	1

LAST REVISED 1700

FILE NO. PE 451

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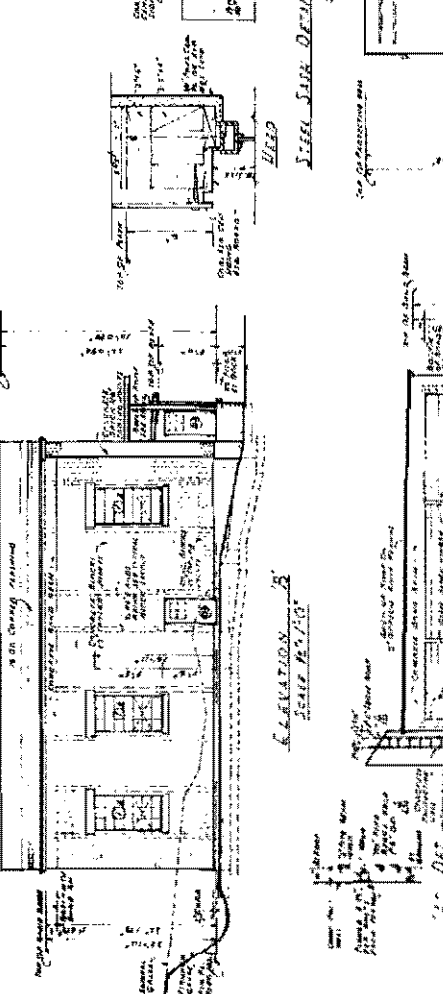
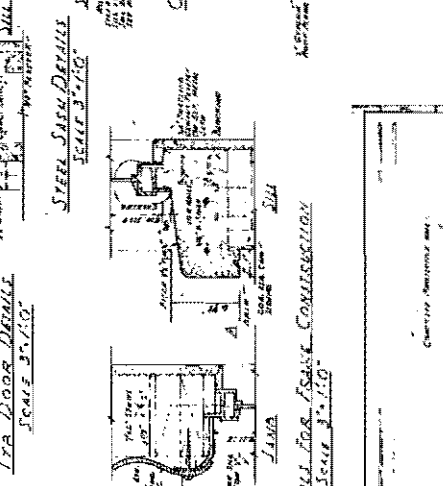
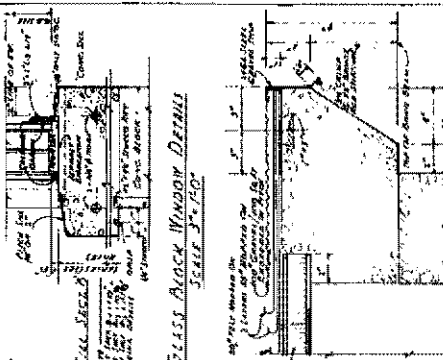
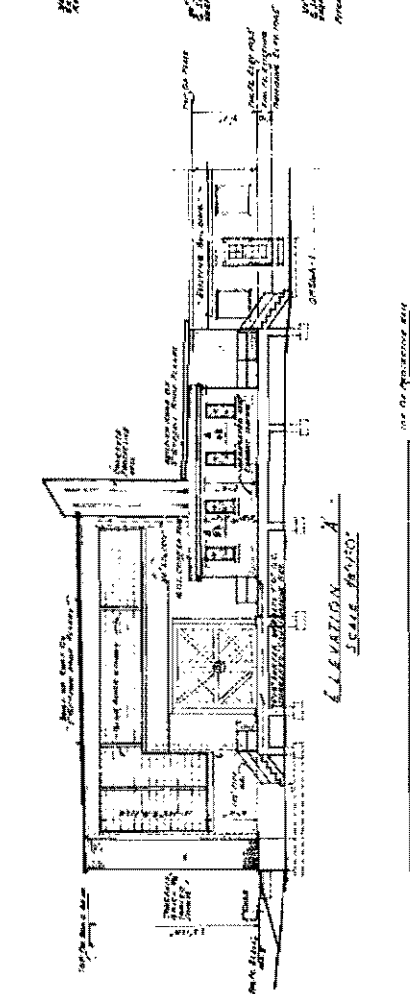
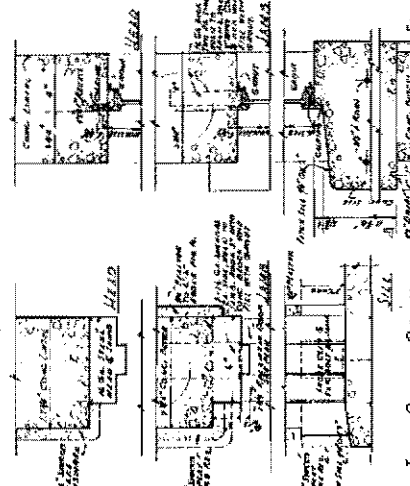
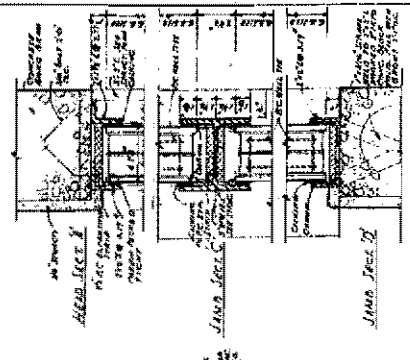
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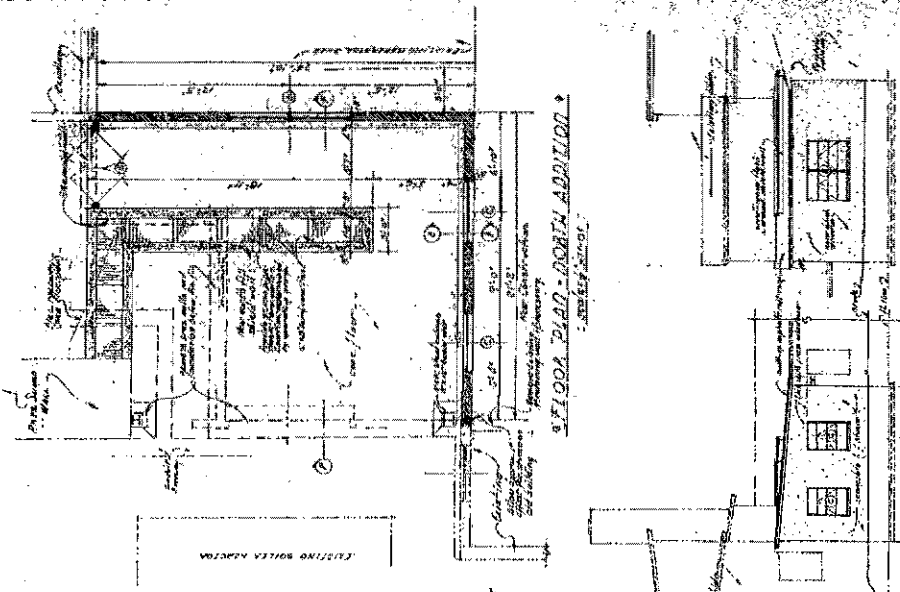
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U. S. ENGINEER OFFICE SANTA FE, NEW MEXICO	
FAST REACTOR BUILDING SANTA FE, N.M.	
SHEET NO. 3	DATE 7/27/46
DRAWN BY J. S. [Signature]	CHECKED BY J. S. [Signature]
PROJECT NO. 1701	FILE NO. PE 151

UNDERSTANDING UCHN
 CONSULTING ENGINEERS
 915/103
 UCHN GROUP

FOR OFFICIAL USE ONLY
 APPROVED FOR OFFICIAL USE
 DATE 10/15/70



SOUTH ELEVATION
ARCHITECTURE

WEST ELEVATION
ARCHITECTURE

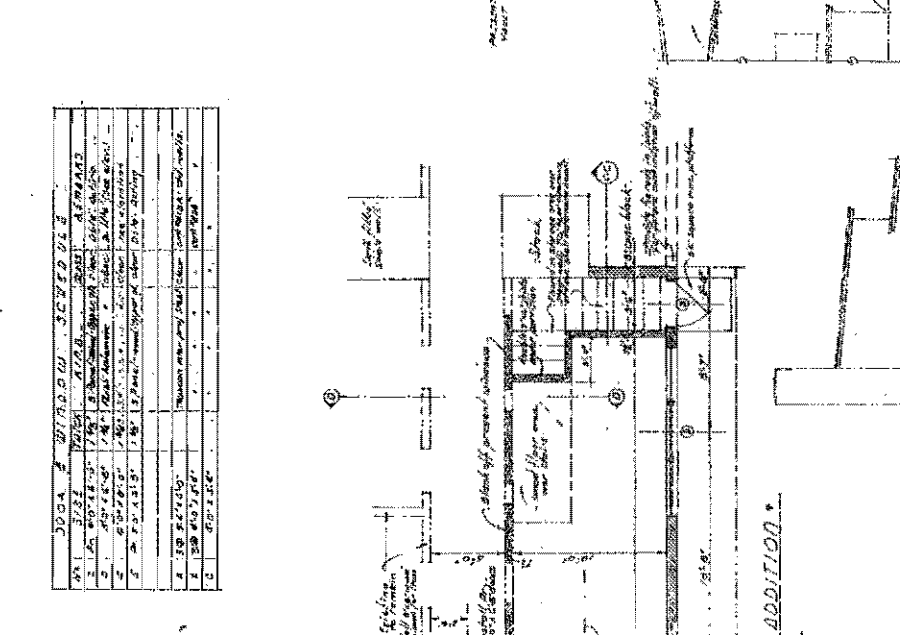
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FLOOR PLAN - SOUTH ADDITION
ARCHITECTURE

SOUTH ELEVATION
ARCHITECTURE

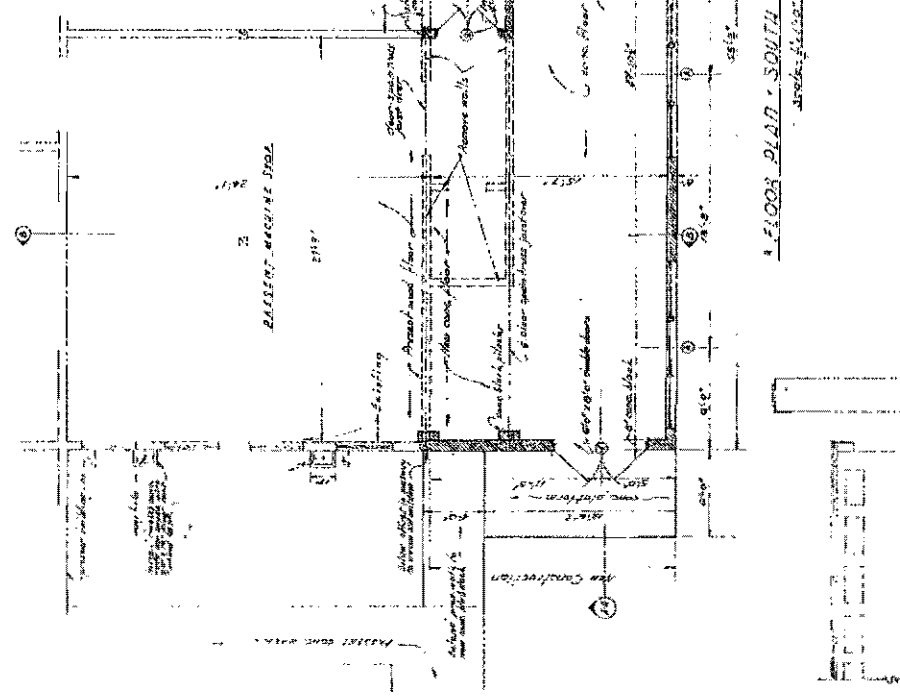
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FLOOR PLAN - NORTH ADDITION
ARCHITECTURE

NORTH ELEVATION
ARCHITECTURE

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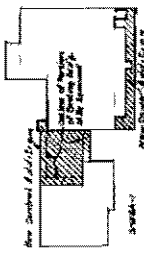
DOOR SCHEDULE

NO.	SIZE	TYPE	FINISH	HANDLE	SWITCH
1	3'0" x 7'0"	SWING	WOOD	BRASS	NO
2	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
3	3'0" x 7'0"	SWING	WOOD	BRASS	NO
4	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
5	3'0" x 7'0"	SWING	WOOD	BRASS	NO
6	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
7	3'0" x 7'0"	SWING	WOOD	BRASS	NO
8	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
9	3'0" x 7'0"	SWING	WOOD	BRASS	NO
10	3'0" x 7'0"	GLASS	WOOD	BRASS	NO

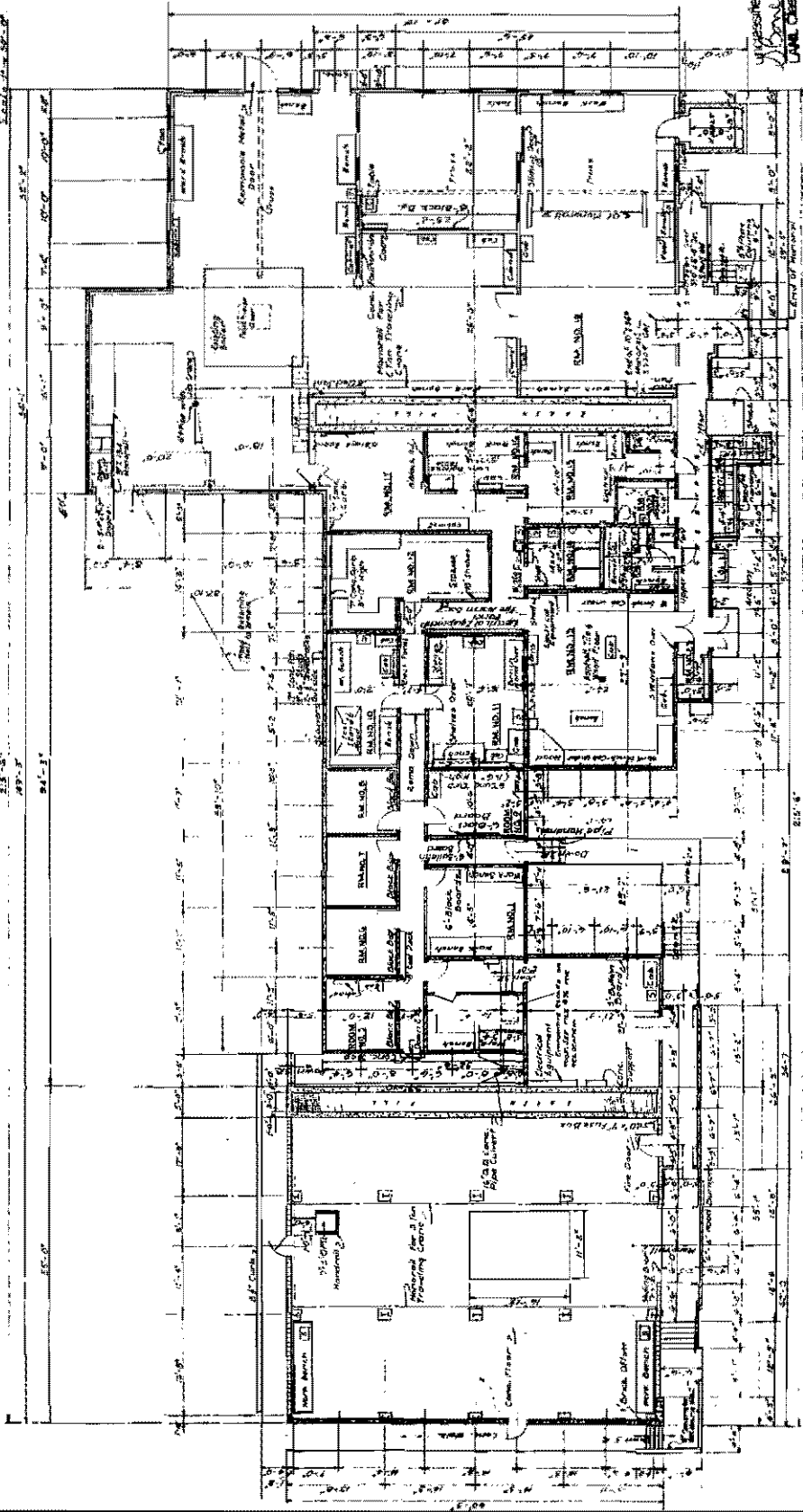
WINDOW SCHEDULE

NO.	SIZE	TYPE	FINISH	HANDLE	SWITCH
1	3'0" x 7'0"	SWING	WOOD	BRASS	NO
2	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
3	3'0" x 7'0"	SWING	WOOD	BRASS	NO
4	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
5	3'0" x 7'0"	SWING	WOOD	BRASS	NO
6	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
7	3'0" x 7'0"	SWING	WOOD	BRASS	NO
8	3'0" x 7'0"	GLASS	WOOD	BRASS	NO
9	3'0" x 7'0"	SWING	WOOD	BRASS	NO
10	3'0" x 7'0"	GLASS	WOOD	BRASS	NO

Notes:
1. All dimensions are to center of wall unless otherwise noted.
2. All door and window openings are to be finished with 1/2" thick solid wood.
3. All window openings are to be finished with 1/2" thick solid wood.
4. All door and window openings are to be finished with 1/2" thick solid wood.
5. All window openings are to be finished with 1/2" thick solid wood.



PILOT PLAN
Showing location of this drawing



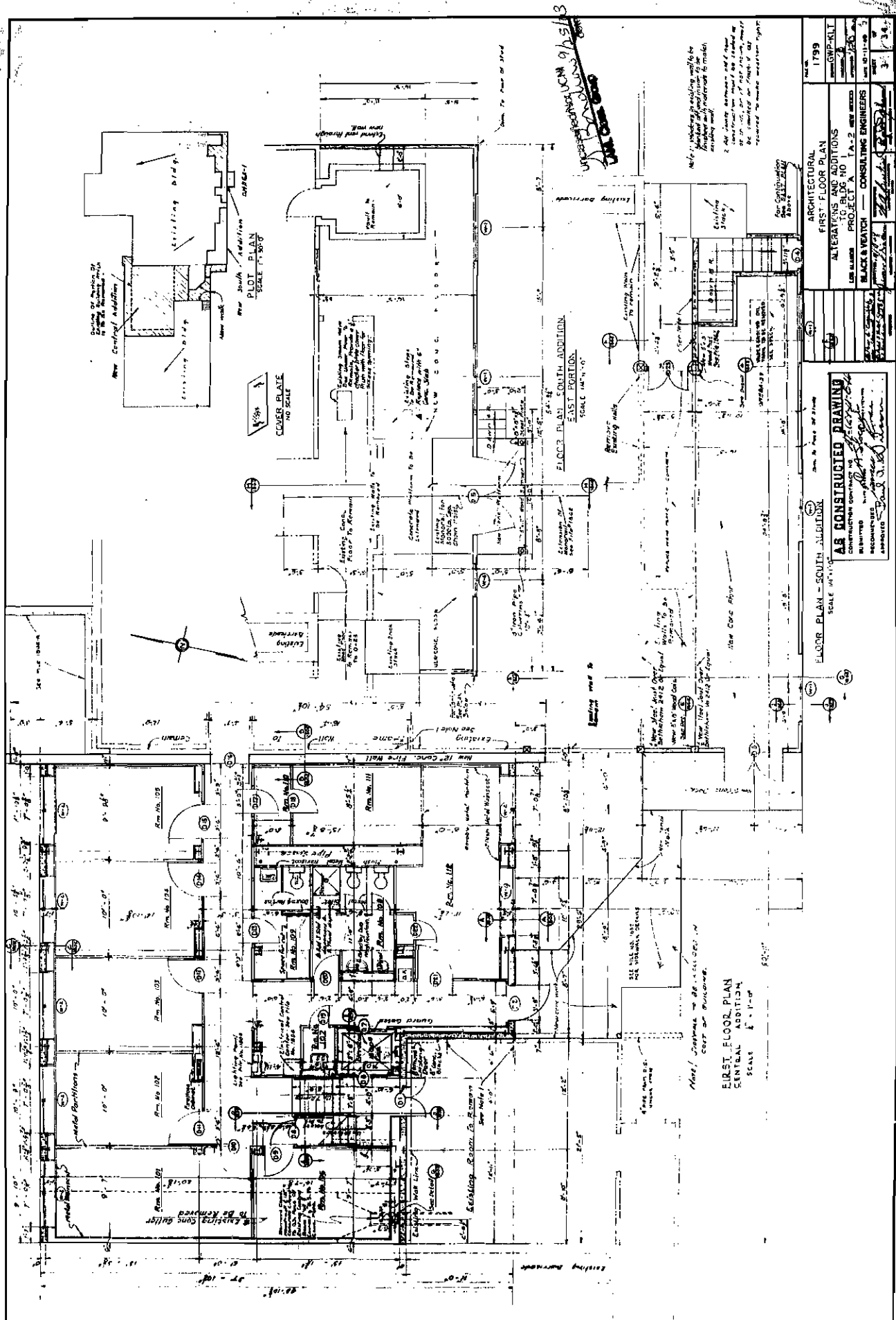
EXISTING FIFTH FLOOR PLAN
L.A. 1723

Notes: Section 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

ARCHITECTURAL	DATE	1798
PLAN OF EXISTING BUILDING	SCALE	AS SHOWN
ALTERATIONS & ADDITIONS TO BLDG. NO. 1723	PROJECT	PROJECT A TA-2
DESIGNED BY	CONSULTING ENGINEERS	
DRAWN BY		
CHECKED BY		
APPROVED BY		

AS REGISTERED DRAWING
CONSTRUCTION CONTRACT NO. 1723-1798
DRAWN BY: J.A. [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

L.A. 1723 FOR OFFICIAL USE ONLY



UNRECORDED UCM 9/15/13
 DATE 10/1/13

Note: Existing walls to be removed and replaced with new masonry walls.
 2. All change between old and new construction must be indicated by a dashed line.
 3. All work to be done must be indicated by a solid line.

PROJECT NO.	1799
DATE	10/1/13
PROJECT NAME	BLACK & VEATCH CONSULTING ENGINEERS
PROJECT NO.	TA-2 WEST WOOD
DATE	10/1/13
PROJECT NAME	BLACK & VEATCH CONSULTING ENGINEERS
PROJECT NO.	TA-2 WEST WOOD
DATE	10/1/13
PROJECT NAME	BLACK & VEATCH CONSULTING ENGINEERS
PROJECT NO.	TA-2 WEST WOOD
DATE	10/1/13

ARCHITECTURAL
 FIRST FLOOR PLAN
 ALTERATIONS AND ADDITIONS
 TO BLDG NO. 1
 PROJECT A
 TA-2 WEST WOOD

DATE: 10/1/13

SCALE: 1/4" = 1'-0"

AS CONSTRUCTED DRAWING

CONSTRUCTION CONTRACTING

REVISIONS:

DATE: 10/1/13

BY: [Signature]

FOR: [Signature]

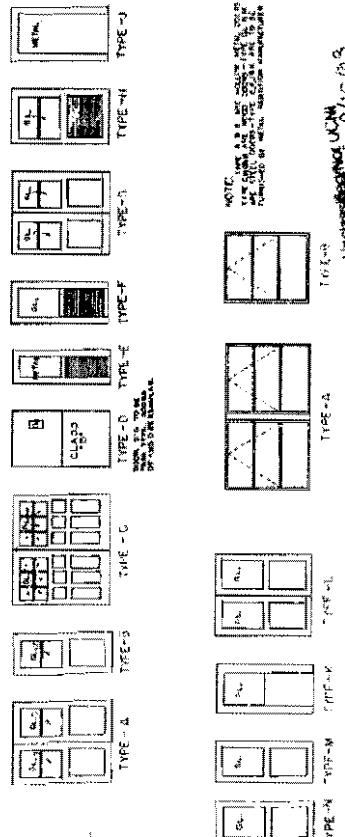
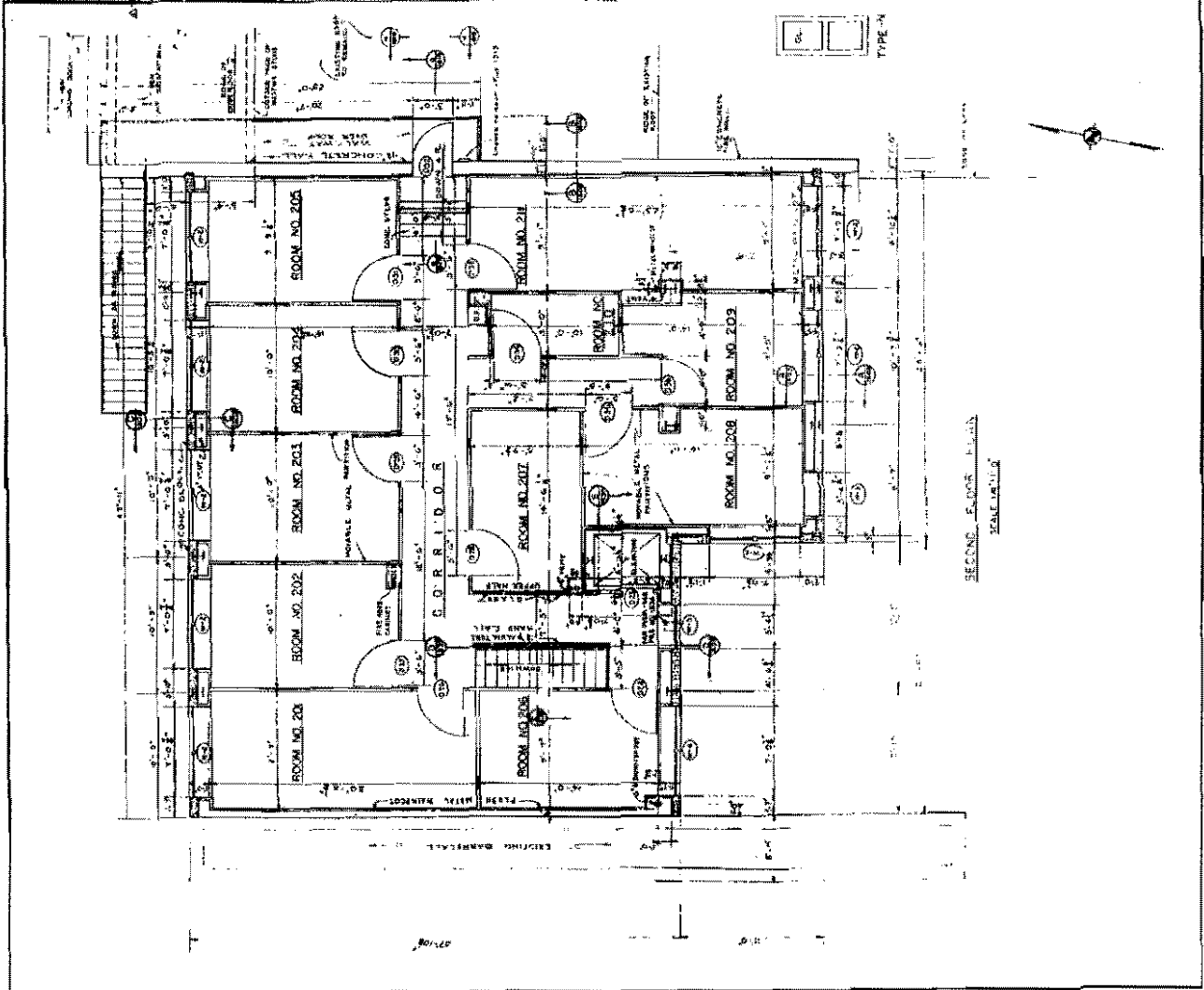
FLOOR PLAN - SOUTH ADDITION
 SCALE 1/4" = 1'-0"

FIRST FLOOR PLAN
 CENTRAL ADDITION
 SCALE 1/4" = 1'-0"

LAB. 100 - 101

DOOR SCHEDULE										FINISH SCHEDULE									
NO.	TYPE	W	H	GLASS	REMARKS	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
101	1	3'-0"	7'-0"	0	WOOD	101	WOOD	101	WOOD	101	WOOD	101	WOOD	101	WOOD	101	WOOD	101	WOOD
102	2	3'-0"	7'-0"	0	WOOD	102	WOOD	102	WOOD	102	WOOD	102	WOOD	102	WOOD	102	WOOD	102	WOOD
103	3	3'-0"	7'-0"	0	WOOD	103	WOOD	103	WOOD	103	WOOD	103	WOOD	103	WOOD	103	WOOD	103	WOOD
104	4	3'-0"	7'-0"	0	WOOD	104	WOOD	104	WOOD	104	WOOD	104	WOOD	104	WOOD	104	WOOD	104	WOOD
105	5	3'-0"	7'-0"	0	WOOD	105	WOOD	105	WOOD	105	WOOD	105	WOOD	105	WOOD	105	WOOD	105	WOOD
106	6	3'-0"	7'-0"	0	WOOD	106	WOOD	106	WOOD	106	WOOD	106	WOOD	106	WOOD	106	WOOD	106	WOOD
107	7	3'-0"	7'-0"	0	WOOD	107	WOOD	107	WOOD	107	WOOD	107	WOOD	107	WOOD	107	WOOD	107	WOOD
108	8	3'-0"	7'-0"	0	WOOD	108	WOOD	108	WOOD	108	WOOD	108	WOOD	108	WOOD	108	WOOD	108	WOOD
109	9	3'-0"	7'-0"	0	WOOD	109	WOOD	109	WOOD	109	WOOD	109	WOOD	109	WOOD	109	WOOD	109	WOOD
110	10	3'-0"	7'-0"	0	WOOD	110	WOOD	110	WOOD	110	WOOD	110	WOOD	110	WOOD	110	WOOD	110	WOOD
111	11	3'-0"	7'-0"	0	WOOD	111	WOOD	111	WOOD	111	WOOD	111	WOOD	111	WOOD	111	WOOD	111	WOOD
112	12	3'-0"	7'-0"	0	WOOD	112	WOOD	112	WOOD	112	WOOD	112	WOOD	112	WOOD	112	WOOD	112	WOOD
113	13	3'-0"	7'-0"	0	WOOD	113	WOOD	113	WOOD	113	WOOD	113	WOOD	113	WOOD	113	WOOD	113	WOOD
114	14	3'-0"	7'-0"	0	WOOD	114	WOOD	114	WOOD	114	WOOD	114	WOOD	114	WOOD	114	WOOD	114	WOOD
115	15	3'-0"	7'-0"	0	WOOD	115	WOOD	115	WOOD	115	WOOD	115	WOOD	115	WOOD	115	WOOD	115	WOOD
116	16	3'-0"	7'-0"	0	WOOD	116	WOOD	116	WOOD	116	WOOD	116	WOOD	116	WOOD	116	WOOD	116	WOOD
117	17	3'-0"	7'-0"	0	WOOD	117	WOOD	117	WOOD	117	WOOD	117	WOOD	117	WOOD	117	WOOD	117	WOOD
118	18	3'-0"	7'-0"	0	WOOD	118	WOOD	118	WOOD	118	WOOD	118	WOOD	118	WOOD	118	WOOD	118	WOOD
119	19	3'-0"	7'-0"	0	WOOD	119	WOOD	119	WOOD	119	WOOD	119	WOOD	119	WOOD	119	WOOD	119	WOOD
120	20	3'-0"	7'-0"	0	WOOD	120	WOOD	120	WOOD	120	WOOD	120	WOOD	120	WOOD	120	WOOD	120	WOOD

WINDOW SCHEDULE									
NO.	TYPE	W	H	GLASS	REMARKS				
101	1	3'-0"	7'-0"	0	WOOD				
102	2	3'-0"	7'-0"	0	WOOD				
103	3	3'-0"	7'-0"	0	WOOD				
104	4	3'-0"	7'-0"	0	WOOD				
105	5	3'-0"	7'-0"	0	WOOD				
106	6	3'-0"	7'-0"	0	WOOD				
107	7	3'-0"	7'-0"	0	WOOD				
108	8	3'-0"	7'-0"	0	WOOD				
109	9	3'-0"	7'-0"	0	WOOD				
110	10	3'-0"	7'-0"	0	WOOD				
111	11	3'-0"	7'-0"	0	WOOD				
112	12	3'-0"	7'-0"	0	WOOD				
113	13	3'-0"	7'-0"	0	WOOD				
114	14	3'-0"	7'-0"	0	WOOD				
115	15	3'-0"	7'-0"	0	WOOD				
116	16	3'-0"	7'-0"	0	WOOD				
117	17	3'-0"	7'-0"	0	WOOD				
118	18	3'-0"	7'-0"	0	WOOD				
119	19	3'-0"	7'-0"	0	WOOD				
120	20	3'-0"	7'-0"	0	WOOD				






AS CONSTRUCTED DRAWING
 CONTRACT NO. 1725 FOR OFFICIAL USE ONLY
 PROJECT A
 ARCHITECTURAL
 SECOND FLOOR PLAN & SCHEDULES
 ALTERATIONS & ADDITIONS TO BLDG. NO. 1
 PROJECT A
 TA-2
 CONSULTING ENGINEERS
 DATE: 10-11-84
 SHEET NO. 4 OF 4

ROOM INFORMATION CHART	
ROOM NUMBER	NET SQUARE FOOTAGE
100	804
ELEV/ST	24
B-STW2	27

TOTAL ROOM NET SQUARE FOOTAGE = 846

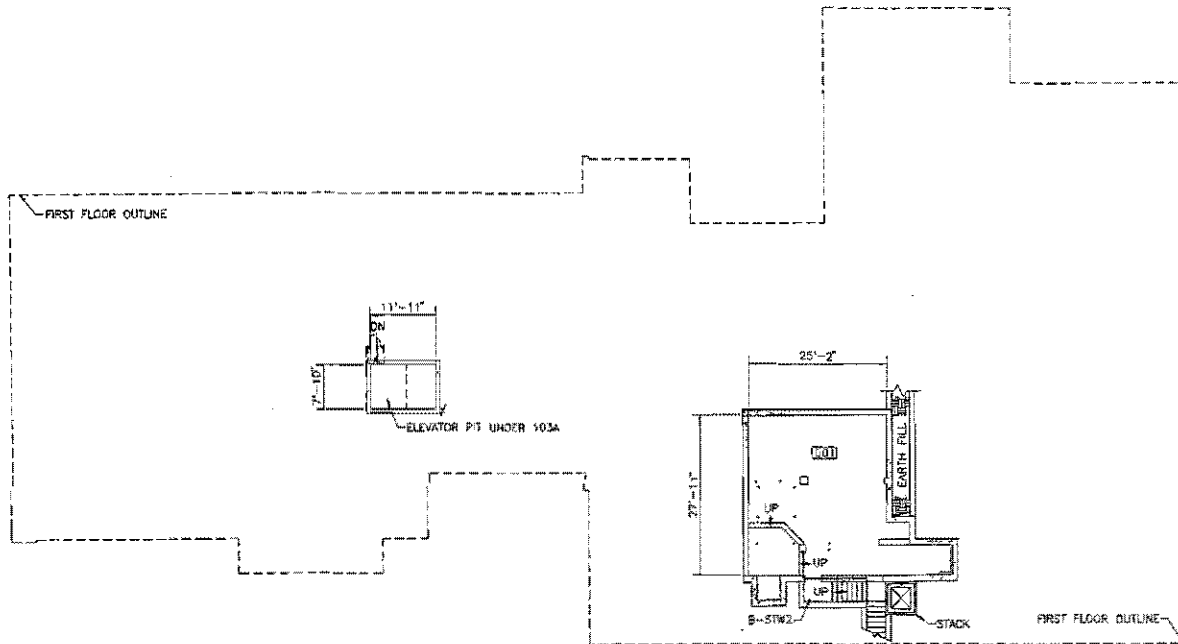
GROSS SQUARE FOOTAGE = 1,123

LEGEND

	CONCRETE
	COLUMNS
	BRICK

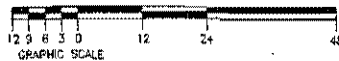
NOTES

1. ROOM NET SQUARE FOOTAGE IS COMPUTED BY MEASURING FROM THE INSIDE FACE OF EXTERIOR WALLS TO THE CENTERLINE OF ALL OTHER WALLS.
2. GROSS SQUARE FOOTAGE IS EQUAL TO ALL FLOOR AREA (INCLUDING ALL OPENINGS IN FLOOR SLABS) MEASURED TO THE OUTER SURFACES OF EXTERIOR OR ENCLOSING WALLS, AND INCLUDES ALL FLOORS, MEZZANINES, HALLS, VESTIBULES, STAIRWELLS, SERVICE AND EQUIPMENT ROOMS, PENTHOUSES, ENCLOSED PASSAGES AND WALKS, FINISHED USABLE SPACE WITH SLOPING CEILINGS (SUCH AS ATTIC SPACES) HAVING 3 FEET OR MORE HEADROOM, AND APPENDED COVERED SHIPPING OR RECEIVING PLATFORMS AT TRUCK OR RAILROAD CAR HEIGHT, ALSO INCLUDED IN GROSS FLOOR AREA, BUT CALCULATED ON ONE-HALF OF ACTUAL FLOOR AREA. ARE COVERED OPEN PORCHES, PASSAGES AND WALKS, WITH APPENDED UNCOVERED RECEIVING AND SHIPPING PLATFORMS AT TRUCK AND RAILROAD HEIGHT.



BASEMENT FLOOR PLAN

SCALE: 3/32" = 1'-0"

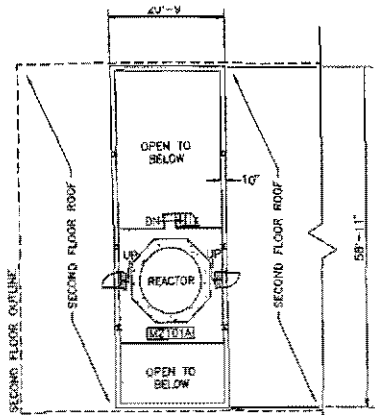


NO	DATE	REVISION	DESCRIPTION	DESIGNED	CHECKED	REL.	DATE	APP.
JOHNSON CONTROLS WORLD SERVICES INC.								
AS-BUILT RECORD FLOOR PLAN LABORATORY AND OFFICE BUILDING ARCH-BASEMENT FLOOR PLAN								DRAWN VERIFIED CHECKED RELEASED
BLDG 01 SHEETED JERRY FORTE PREP. BY H. GALAZAR								TA-02 DATE 10-27-63
Los Alamos National Laboratory Los Alamos, New Mexico 87545								SHEET 1 OF 3
CLASSIFICATION U REVISION H. GALAZAR PROJECT ID 7556 DRAWING NO. AB119								DATE 12-11-63 REV

FIELD VERIFIED 08-27-83

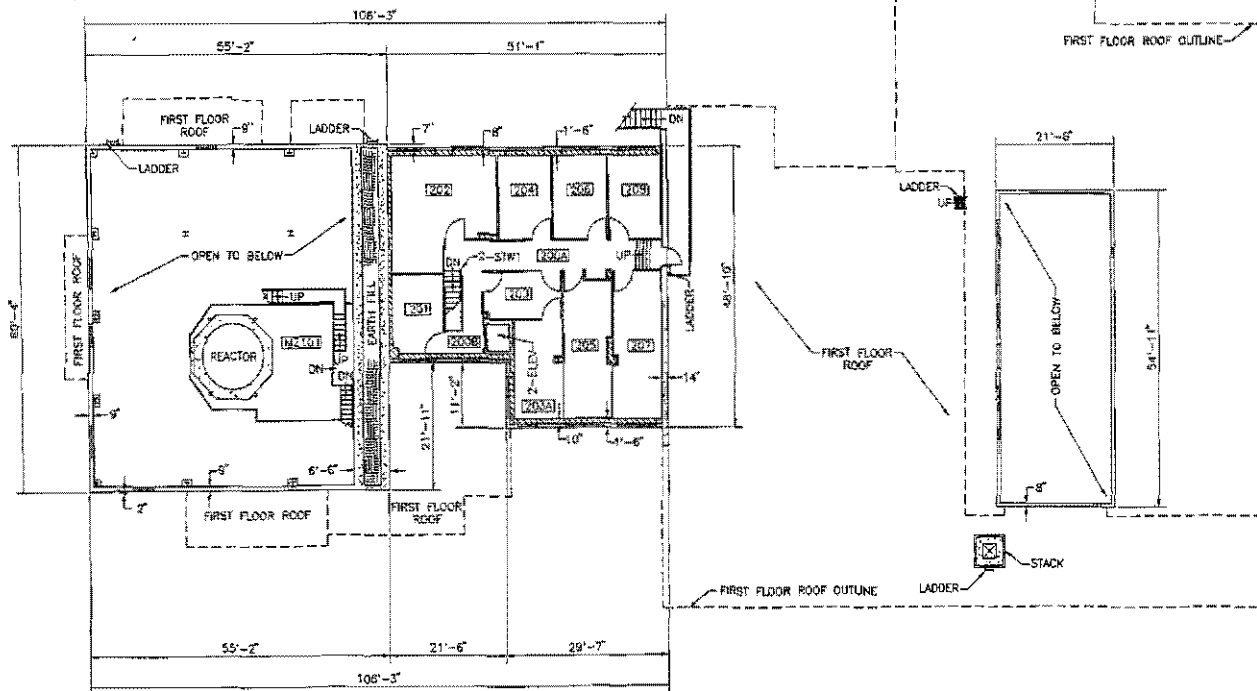
3444

32 NO 91-1011



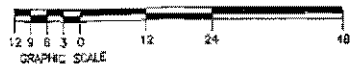
MEZZANINE 101A ABOVE MZ101

SCALE: 3/32" = 1'-0"



SECOND FLOOR PLAN

SCALE: 3/32" = 1'-0"



ROOM INFORMATION CHART			
RM NO	NET SQUARE FOOTAGE	RM NO	NET SQUARE FOOTAGE
202A	170	206	128
202B	170	207	128
202C	170	208	128
202D	170	209	128
202E	170	210	128
202F	170	211	128
202G	170	212	128
202H	170	213	128
202I	170	214	128
202J	170	215	128
202K	170	216	128
202L	170	217	128
202M	170	218	128
202N	170	219	128
202O	170	220	128
202P	170	221	128
202Q	170	222	128
202R	170	223	128
202S	170	224	128
202T	170	225	128
202U	170	226	128
202V	170	227	128
202W	170	228	128
202X	170	229	128
202Y	170	230	128
202Z	170	231	128

TOTAL ROOM NET SQUARE FOOTAGE = 2,927

GROSS SQUARE FOOTAGE = 7,868

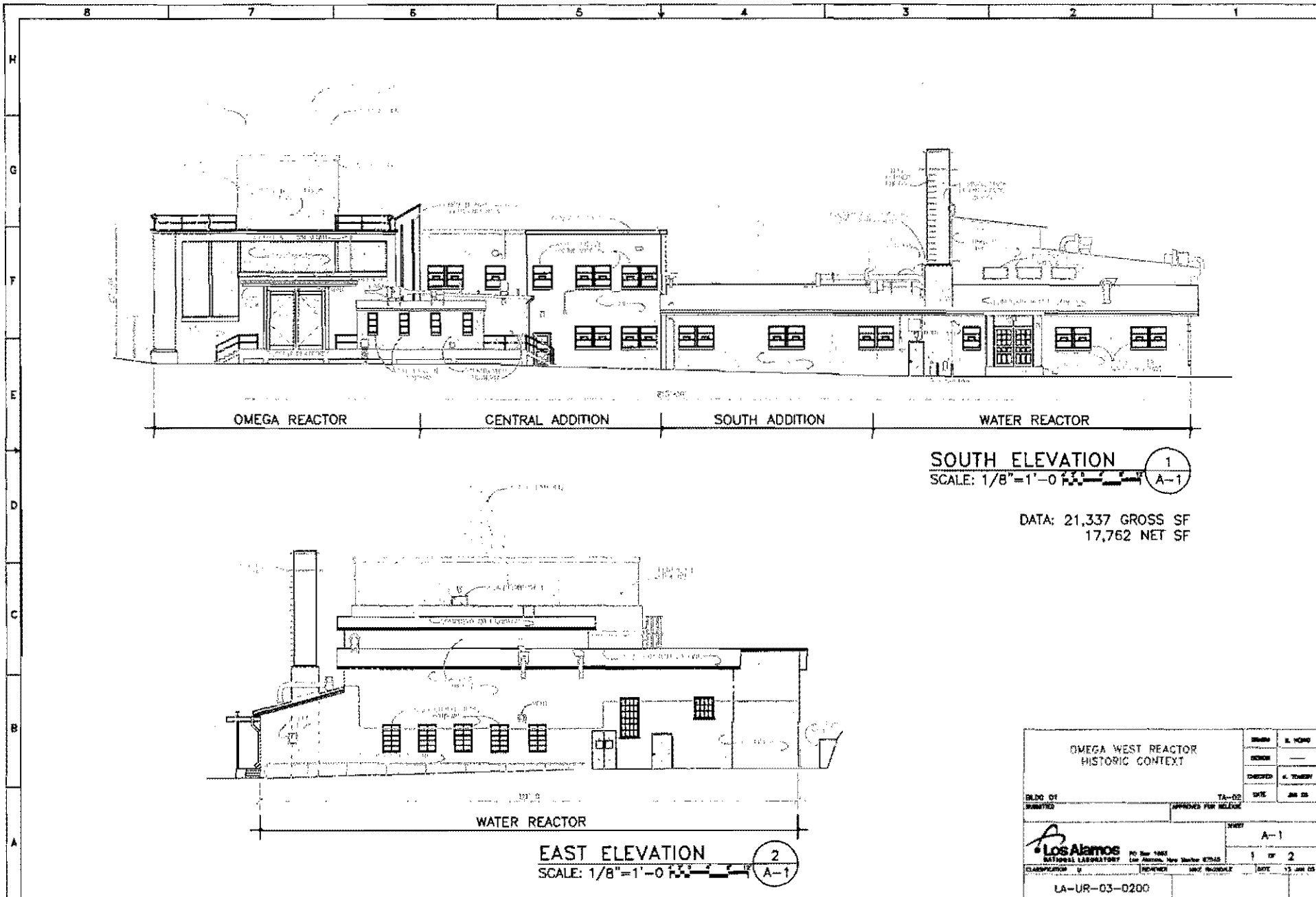
LEGEND

- ===== CONCRETE
- ===== CONCRETE BLOCK
- ===== WINDOW
- • COLUMNS
- I I BEAM
- ===== BRICK
- ===== 3" METAL PARTITION
- ===== WOOD AND METAL PARTITION
- ===== UTILITY
- ===== LOUVER

NOTES

1. ALL INTERIOR WALLS ARE 3" THICK UNLESS OTHERWISE NOTED.
2. REFERENCE DRAWINGS ENG-R3334 AND ENG-C1725.
3. ROOM NET SQUARE FOOTAGE IS COMPUTED BY MEASURING FROM THE INSIDE FACE OF EXTERIOR WALLS TO THE CENTERLINE OF ALL OTHER WALLS.
4. GROSS SQUARE FOOTAGE IS EQUAL TO ALL FLOOR AREA (INCLUDING ALL OPENINGS IN FLOOR SLABS) MEASURED TO THE OUTER SURFACES OF EXTERIOR OR ENCLOSING WALLS, AND INCLUDES ALL FLOORS, MEZZANINES, HALLS, VESTIBULES, STAIRWELLS, SERVICE AND EQUIPMENT ROOMS, PENHOUSES, ENCLOSED PASSAGES AND WALKS, FINISHED USABLE SPACE WITH SLOPING CEILINGS (SUCH AS ATTIC SPACES) HAVING 5 FEET OR MORE HEADROOM, AND APPENDED COVERED SHIPPING OR RECEIVING PLATFORMS AT TRUCK OR RAILROAD CAR HEIGHT, ALSO INCLUDED IN GROSS FLOOR AREA, BUT CALCULATED ON ONE-HALF OF ACTUAL FLOOR AREA, ARE COVERED OPEN PORCHES, PASSAGES AND WALKS, WITH APPENDED UNCOVERED RECEIVING AND SHIPPING PLATFORMS AT TRUCK AND RAILROAD HEIGHT.

NO	DATE	CLASS	DESCRIPTION	OWN	VER	CHKD	REL	REV	REC	APP
AS-BUILT RECORD FLOOR PLAN LABORATORY AND OFFICE BUILDING ARCH: SECOND AND MEZZANINE FLOOR PLAN										
DRAWN: [Signature] CHECKED: [Signature] RELEASED: [Signature]										DATE: 10-27-93
BLDG 01 SUBMITTED: [Signature] JERRY POOLE: [Signature] RECOMMENDED: [Signature] PRES. TO: [Signature]										
Los Alamos National Laboratory Los Alamos, New Mexico 87545										
CLASSIFICATION: [Signature] PROJECT ID: 7556 REVIEWER: H. SALAZAR DRAWING NO: AB119										
SHEET 3 OF 3 DATE: 12-18-93										



OMEGA REACTOR

CENTRAL ADDITION

SOUTH ADDITION

WATER REACTOR

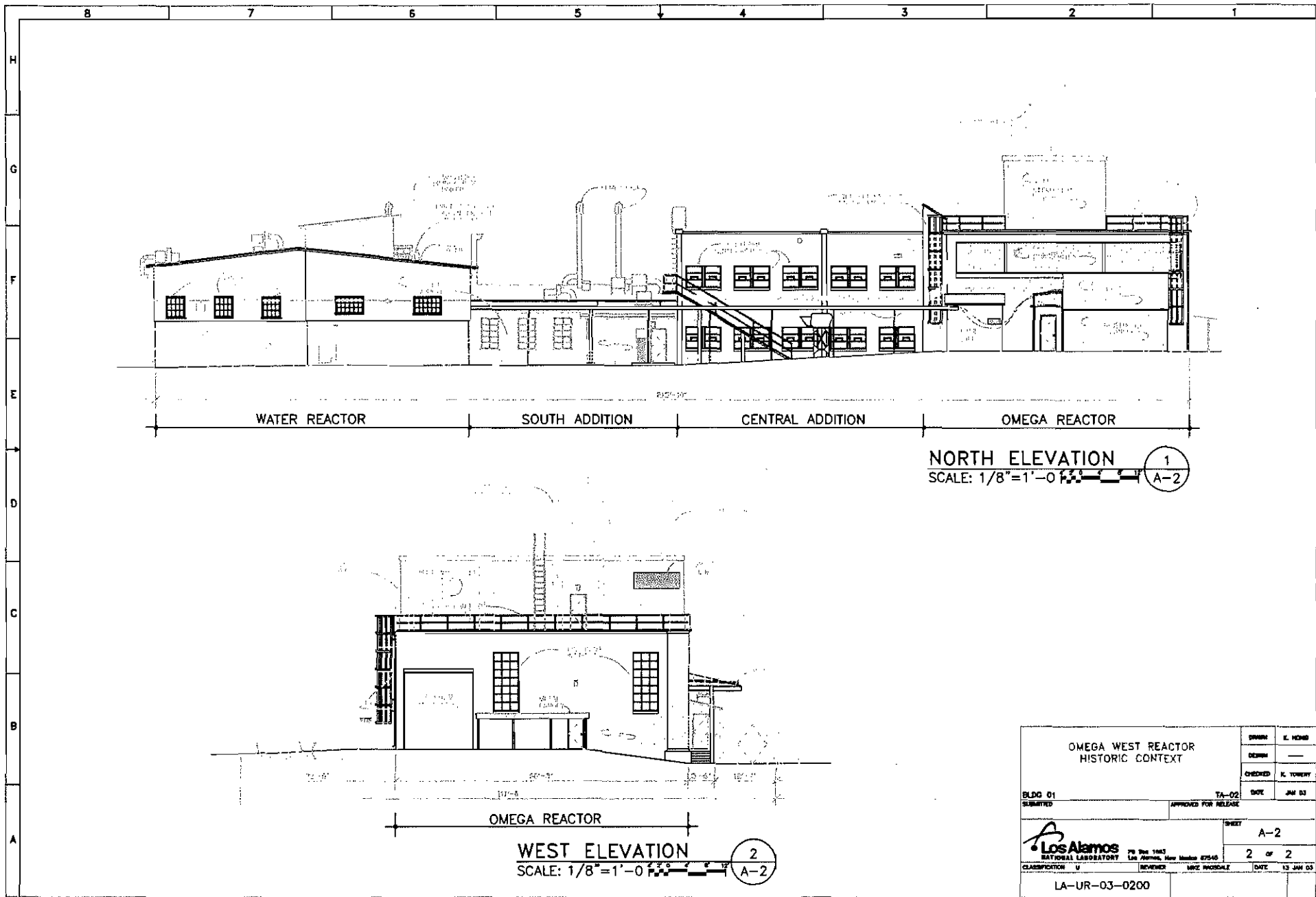
SOUTH ELEVATION (1)
 SCALE: 1/8" = 1'-0" A-1

DATA: 21,337 GROSS SF
 17,762 NET SF

WATER REACTOR

EAST ELEVATION (2)
 SCALE: 1/8" = 1'-0" A-1

OMEGA WEST REACTOR HISTORIC CONTEXT		DESIGN	E. HORN
		DRAWN	—
DATED BY 4. TOWERY		CHECKED	A. TOWERY
		DATE	2015 05 25
DENO OF SUBMITTED	TA-02 APPROVED FOR RELEASE	SHEET A-1	
Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545		1 OF 2	DATE 15 JAN 15
LA-UR-03-0200			



NORTH ELEVATION 1
 SCALE: 1/8" = 1'-0" A-2

WEST ELEVATION 2
 SCALE: 1/8" = 1'-0" A-2

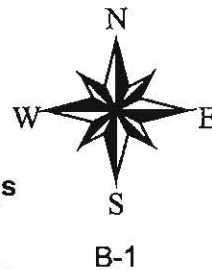
OMEGA WEST REACTOR HISTORIC CONTEXT		DRAWN	E. HONG
		DESIGN	—
BLDG 01 SUBMITTED		CHECKED	K. TORREY
		DATE	JAN 03
APPROVED FOR RELEASE		TA-02	
 Los Alamos NATIONAL LABORATORY		SHEET A-2	
		2 of 2	
CLASSIFICATION	U	REVISION	DATE
LA-UR-03-0200			

**Appendix B: Maps Showing TA-2's Construction History and
Location of Eligible and Non-Eligible Properties**



Los Alamos National Laboratory
 Heritage Resources and Environmental Policy Compliance Team
 RRES-ECO (Ecology Group)

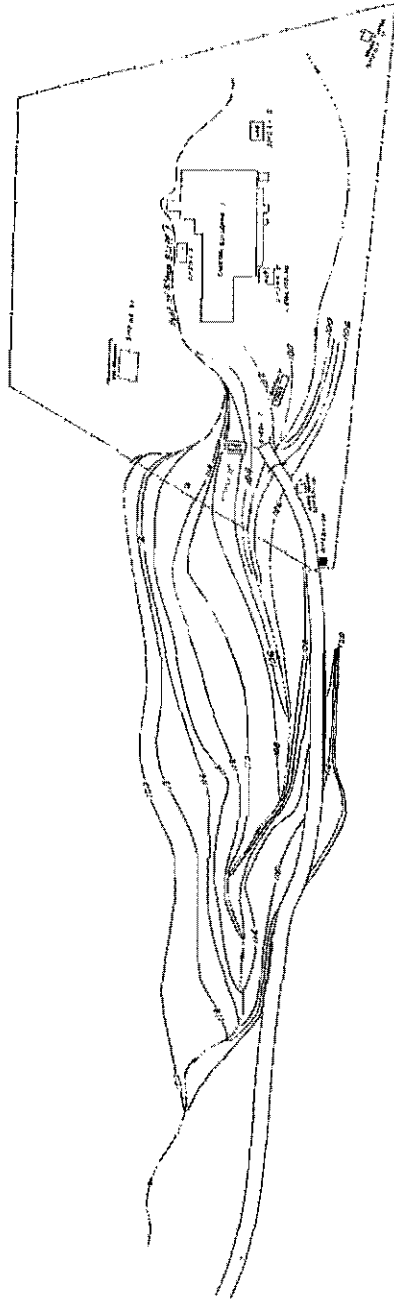
TA-2
 Eligible and Not Eligible Buildings



- Eligible Buildings/Structures
- Eligible Building - Previously Removed
- Not Eligible Buildings/Structures - Previously Removed
- Exempt Buildings/Structures - Previously Removed
- 20 Foot Contours
- 100 Foot Contours
- LANL Boundary
- LANL Tech Area Boundary
- Drainage
- Township, Section, Range
- Roads
- Road/dirt
- Perkpave
- Fences

1:1200

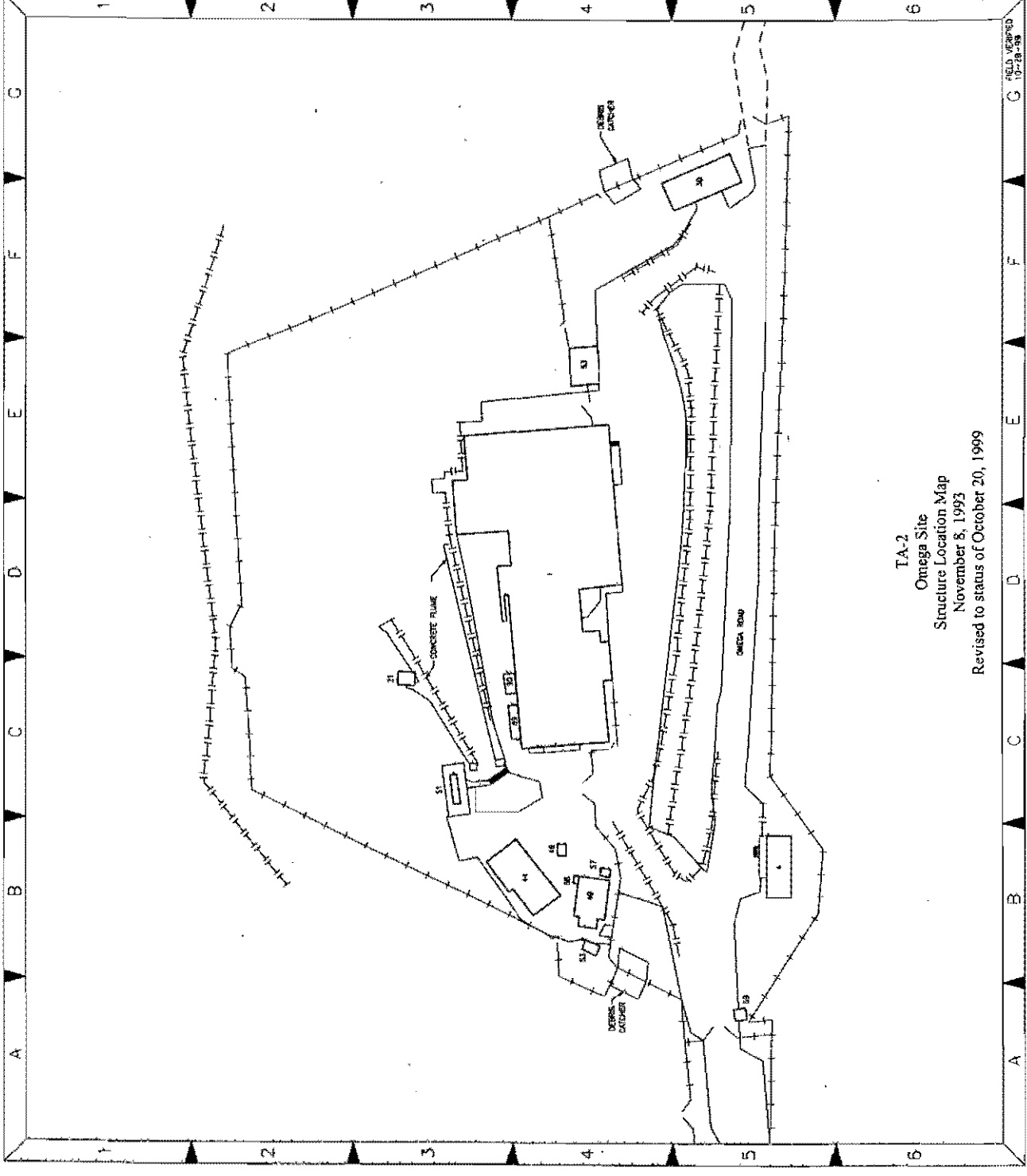




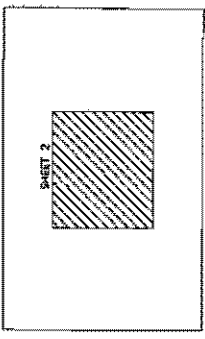
CONTRACT NO. 11-1-2

DATE	NO.	REVISED	BY	OFFICE
U. S. ENGINEER OFFICE SANTA FE, NEW MEXICO				
TOPOGRAPHY OMEGA AREA - T.A. 2				
NO.	DATE	BY	REVISION	
1	10/1/44			
OFFICE OF POST ENGINEER				
DRAWN BY				
CHECKED BY				
FILE NO. PE O-				

Omega Area
T.A. 2
October 1, 1944



KEY MAP



STRUCTURE LOCATION INDEX

STRUCTURE	DESCRIPTION	STRUCTURE NOMENCLATURE	MAP SHEET	MAP KEY
02-01	OMEGA-1	OMEGA WEST BRIDGE	2	1
02-02	OMEGA-2	STORAGE BUILDING	2	1
02-03	OMEGA-3	WATER LINE VALVE HOUSE	2	1
02-04	OMEGA-4	WATER TOWER	2	1
02-05	OMEGA-5	COOLING SYSTEM BUILDING	2	1
02-06	OMEGA-6	COOLING TOWER	2	1
02-07	OMEGA-7	STORAGE BUILDING	2	1
02-08	OMEGA-8	STORAGE BUILDING	2	1
02-09	OMEGA-9	TRANSFER PIT	2	1
02-10	OMEGA-10	WATER HOUSE	2	1
02-11	OMEGA-11	WATER HOUSE	2	1
02-12	OMEGA-12	WATER HOUSE	2	1
02-13	OMEGA-13	WATER HOUSE	2	1
02-14	OMEGA-14	WATER HOUSE	2	1
02-15	OMEGA-15	WATER HOUSE	2	1
02-16	OMEGA-16	WATER HOUSE	2	1
02-17	OMEGA-17	WATER HOUSE	2	1
02-18	OMEGA-18	WATER HOUSE	2	1
02-19	OMEGA-19	WATER HOUSE	2	1
02-20	OMEGA-20	WATER HOUSE	2	1
02-21	OMEGA-21	WATER HOUSE	2	1
02-22	OMEGA-22	WATER HOUSE	2	1
02-23	OMEGA-23	WATER HOUSE	2	1
02-24	OMEGA-24	WATER HOUSE	2	1
02-25	OMEGA-25	WATER HOUSE	2	1
02-26	OMEGA-26	WATER HOUSE	2	1
02-27	OMEGA-27	WATER HOUSE	2	1
02-28	OMEGA-28	WATER HOUSE	2	1
02-29	OMEGA-29	WATER HOUSE	2	1
02-30	OMEGA-30	WATER HOUSE	2	1
02-31	OMEGA-31	WATER HOUSE	2	1
02-32	OMEGA-32	WATER HOUSE	2	1
02-33	OMEGA-33	WATER HOUSE	2	1
02-34	OMEGA-34	WATER HOUSE	2	1
02-35	OMEGA-35	WATER HOUSE	2	1
02-36	OMEGA-36	WATER HOUSE	2	1
02-37	OMEGA-37	WATER HOUSE	2	1
02-38	OMEGA-38	WATER HOUSE	2	1
02-39	OMEGA-39	WATER HOUSE	2	1
02-40	OMEGA-40	WATER HOUSE	2	1
02-41	OMEGA-41	WATER HOUSE	2	1
02-42	OMEGA-42	WATER HOUSE	2	1
02-43	OMEGA-43	WATER HOUSE	2	1
02-44	OMEGA-44	WATER HOUSE	2	1
02-45	OMEGA-45	WATER HOUSE	2	1
02-46	OMEGA-46	WATER HOUSE	2	1
02-47	OMEGA-47	WATER HOUSE	2	1
02-48	OMEGA-48	WATER HOUSE	2	1
02-49	OMEGA-49	WATER HOUSE	2	1
02-50	OMEGA-50	WATER HOUSE	2	1
02-51	OMEGA-51	WATER HOUSE	2	1
02-52	OMEGA-52	WATER HOUSE	2	1
02-53	OMEGA-53	WATER HOUSE	2	1
02-54	OMEGA-54	WATER HOUSE	2	1
02-55	OMEGA-55	WATER HOUSE	2	1
02-56	OMEGA-56	WATER HOUSE	2	1
02-57	OMEGA-57	WATER HOUSE	2	1
02-58	OMEGA-58	WATER HOUSE	2	1
02-59	OMEGA-59	WATER HOUSE	2	1
02-60	OMEGA-60	WATER HOUSE	2	1



NO.	DATE	BY	DESCRIPTION
1	12-28-88	...	REVISED TO STATUS OF 12-28-88
2	12-28-88	...	REVISED TO STATUS OF 12-28-88

Johnson Controls
Building Location Maps

AS-BUILT STRUCTURE LOCATION MAPS

TA-02
 OMEGA SITE

APPROVED FOR RECORD
 JAMES BRYCE

DESIGNED BY	DATE	11-08-83
CHECKED BY	DATE	
IN CHARGE	DATE	

Los Alamos
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO 87545

PROJECT 9
 SHEET 2
 OF 2

11952
 AB12
 2

TA-2
 Omega Site
 Structure Location Map
 November 8, 1993
 Revised to status of October 20, 1999

A B C D E F G
 1 2 3 4 5 6
 FIELD VERIFIED
 10-18-99

Appendix C: Interview Information

Oral Histories

Neely, Glenn

2002 Interview with Ken Towery and Ellen McGehee. Notes of August 15, 2002 interview with Glenn Neely on file at RRES-ECO, Los Alamos National Laboratory, Los Alamos, New Mexico.

Yarnell, John

2002 Interview with John Ronquillo and Ken Towery. Recording of September 2002 interview with John Yarnell on file at RRES-ECO, Los Alamos National Laboratory, Los Alamos, New Mexico.

**Appendix D: Listing of Drawings on File at LANL for
TA-2-1**

REPORT FOR: DRAWINGS

TA	BLDG	PREFIX	DRAWNUM	PAGE	REV	DSHEET	LOG_DATE	DOC_DATE	PROJID	DISC	TITLE
2	1	AB	66	3	0		03-NOV-92	30-SEP-92	12135	M	AS-BUILT FACILITY STACK OMEGA 1, STACK; TA-2-1, FE-18
2	1	AB	66	4	0		03-NOV-92	30-SEP-92	12135	M	AS-BUILT FACILITY STACK OMEGA 1, STACK; TA-2-1, FE-21
2	1	AB	66	2	0		03-NOV-92	30-SEP-92	12135	M	AS-BUILT FACILITY STACK OMEGA 1, STACK; TA-2-1, FE-1
2	1	AB	66	1	0		03-NOV-92	30-SEP-92	12135	M	AS-BUILT FACILITY STACK, OMEGA 1, TA-2 & TA-61, STACK; TA-2-1, FE-1
2	1	AB	119	1	0		18-JAN-94	27-OCT-93	7556	A	AS-BUILT RECORD FLOOR PLAN LABORATORY AND OFFICE BUILDING, BASEMENT FLOOR PLAN
2	1	AB	119	2	0		18-JAN-94	27-OCT-93	7556	A	AS-BUILT RECORD FLOOR PLAN LABORATORY AND OFFICE BLDG., FIRST FLOOR PLAN
2	1	AB	119	3	0		18-JAN-94	27-OCT-93	7556	A	AS-BUILT RECORD FLOOR PLAN LABORATORY AND OFFICE BLDG., SECOND AND MEZZANINE FLOOR PLAN
2	1	C	32	1	0		21-OCT-46	23-SEP-46	0	S	REVISED TROLLEY HOIST FOR FAST REACTOR, BLDG. OMEGA-1
2	1	C	56	1	0		20-JUN-47	18-JUN-47	39	A	FAST REACTOR BLDG. 1, OMEGA SITE, RAILINGS, FITTINGS & SOCKET DETAILS
2	1	C	57	1	3		21-JUL-47	17-JUL-47	39	S	CONCRETE SHIELD FAST REACTOR BLDG. #1 OMEGA SITE, PLAN & SECTIONS
2	1	C	58	1	3		07-JUL-47	03-JUL-47	39	S	CONCRETE SHIELD FAST REACTOR BLDG. 1 OMEGA SITE, STEEL DETAILS
2	1	C	250	1	0		21-MAR-49	02-JAN-49	189	C	ADDITION TO BLDG. 1, OMEGA SITE. PLOT PLAN & SECTIONS
2	1	C	251	2	0		21-MAR-49	17-NOV-48	189	A	ADDITION TO BLDG. #1, OMEGA SITE. FOUNDATION PLAN & DETAILS
2	1	C	252	3	0		21-MAR-49	18-NOV-48	189	A	ADDITION TO BLDG. #1, OMEGA SITE. PLAN & ELEVATION
2	1	C	253	4	0		21-MAR-49	18-NOV-48	189	S	ADDITION TO BLDG. #1, OMEGA SITE. STRUCTURAL SECTIONS
2	1	C	254	5	0		21-MAR-49	15-JAN-49	189	A	ADDITION TO BLDG. #1, OMEGA SITE. STAIR & DOOR DETAILS
2	1	C	255	6	0		21-MAR-49	15-DEC-48	189	A	ADDITION TO BLDG. #1, OMEGA SITE. STEEL DETAILS
2	1	C	256	7	0		21-MAR-49	27-JAN-49	189	S	ADDITION TO BLDG. #1, OMEGA SITE. MONORAIL & JIB CRANE DETAILS
2	1	C	257	8	0		21-MAR-49	21-JAN-49	189	M	ADDITION TO BLDG. #1, OMEGA SITE. HEATING
2	1	C	258	9	0		21-MAR-49	21-DEC-48	189	E	ADDITION TO BLDG. #1, OMEGA SITE. ELECTRICAL
2	1	C	400	1	0		05-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. PLOT PLAN, FOUNDATION PLAN & SECT.
2	1	C	401	2	0		05-AUG-49	05-AUG-49	64	A	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRE-PRELIM) FLOOR PLAN & ELEVATION
2	1	C	402	3	0		05-AUG-49	04-AUG-49	64	A	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRE-PRELIM) SECTIONS & DETAILS

2	1	C	403	4	0
2	1	C	404	5	0
2	1	C	405	6	0
2	1	C	406	7	0
2	1	C	407	8	0
2	1	C	408	9	0
2	1	C	409	10	0
2	1	C	410	11	0
2	1	C	411	12	0
2	1	C	412	13	0
2	1	C	714	1	2
2	1	C	715	2	2
2	1	C	716	3	2
2	1	C	806	1	1
2	1	C	907	1	1
2	1	C	908	2	1
2	1	C	926	1	1
2	1	C	979	1	1
2	1	C	1262	1	0
2	1	C	1328	1	1

05-AUG-49	05-AUG-49	64	M	MECH.- ALTERATIONS & ADDITIONS TO OMEGA-1 HEATING & ELECTRICAL PLAN
05-AUG-49	05-AUG-49	64	A	ALTER. & ADD. TO OMEGA 1 (PRE-PRELIM) SOUTH ELEVATION
05-AUG-49	05-AUG-49	64	A	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRELIM) 1ST FLOOR PLAN
05-AUG-49	05-AUG-49	64	A	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRELIM) 2ND FLOOR PLAN
05-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. STRUCTURAL 1ST FLOOR FRAMING PLAN
04-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. STRUCTURAL 2ND FLOOR FRAMING PLAN
05-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. STRUCTURAL, ROOF FRAMING PLAN
05-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRELIM) STRUCTURAL SECTIONS
05-AUG-49	05-AUG-49	64	S	ALTERATIONS & ADDITIONS TO OMEGA 1. (PRELIM) STRUCTURAL ELEVATIONS
05-AUG-49	05-AUG-49	64	S	STRUCT.- ALTERATIONS & ADDITIONS TO OMEGA 1. STRUCTURAL, BRACING DETAILS
12-APR-50	12-APR-50	517	M	RENOVATIONS TO ROOM 11, BLDG. OMEGA 1. LOCATION, FLOOR, HEATING & PIPING PLANS
12-APR-50	12-APR-50	517	M	RENOVATIONS TO ROOM 11, BLDG. OMEGA 1. ROOM SECTION & DUCT DETAILS
15-APR-50	15-APR-50	517	E	RENOVATIONS TO ROOM 11, BLDG. OMEGA 1. ELECTRIC PLAN & COUNTERTOP DETAILS
13-MAY-50	29-JAN-51	263	G	WATER COOLER & FILTER, BLDG. OMEGA 1
26-JUL-50	19-APR-51	590	A	INTERIOR ALTERATIONS., BLDG OMEGA-1. LOCATION PLAN, FLOOR PLAN & SECTION
26-JUL-50	14-APR-51	590	S	INTERIOR ALTERATIONS, BLDG. OMEGA-1. ROOF PLAN AND DETS.
12-APR-51	19-JAN-56	845	A	JIB CRANE INSTALLATION, BLDG. OMEGA-1. FLOOR PLAN & CRANE DETAILS
06-SEP-50	06-SEP-50	639	A	BENCH INSTALLATION & ALTERATION, RM. 101, BLDG. OMEGA-1
12-MAY-53	06-MAR-51	791	M	METAL HOOD & REVISIONS TO UTILITY SYSTEM, RM. 124, PLUMBING & ELECTRICAL DETAILS, BLOWER & HOOD DETAILS
12-MAY-53	09-MAY-51	847	AC	ALTERATIONS TO AIR EXHAUST SYSTEM, OMEGA-1, PARTIAL FIRST FLOOR PLAN, CONCRETE FAN BASE,

2	1	C	1329	1	0
2	1	C	1664	1	0
2	1	C	1665	1	0
2	1	C	1666	1	0
2	1	C	1668	1	0
2	1	C	1669	1	0
2	1	C	1670	1	0
2	1	C	1671	1	0
2	1	C	1672	1	0
2	1	C	1673	1	0
2	1	C	1674	1	0
2	1	C	1675	1	0
2	1	C	1676	1	0
2	1	C	1679	1	0
2	1	C	1685	1	0
2	1	C	1686	1	1
2	1	C	1687	1	1
2	1	C	1688	2	1
2	1	C	1689	3	1
2	1	C	1690	4	0
2	1	C	1691	5	0
2	1	C	1692	6	0
2	1	C	1693	7	0
2	1	C	1694	1	1

12-MAY-53	17-APR-51	822	E	POWER DRIVE FOR CRANE IN REACTOR ROOM, OMEGA BLDG.. SINGLE LINE DIAGRAM, FLOOR PLAN
12-MAY-53	01-AUG-43	0	C	BLDG. OMEGA 1, TA-2. TOPOGRAPHY & GAS CYLINDER
12-MAY-53	01-AUG-43	0	M	BLDG. OMEGA 1, TA-2. TRAVELING CRANE, GUSSETT, PLATE, HANGERS, TRUSS ELEVATIONS
12-MAY-53	01-AUG-43	0	A	BLDG. OMEGA 1, TA-2. TIMBER TRUSS, PLAN BOT CHORD
12-MAY-53	16-OCT-43	0	S	BLDG. OMEGA 1, TA-2. TRUSS & COLUMN DETAILS
12-MAY-53	18-OCT-43	0	E	BLDG. OMEGA 1, TA-2. ELECTRIC SYSTEM, BASEMENT & 1ST FLOOR PLAN
12-MAY-53	18-OCT-43	0	A	BLDG. OMEGA 1, TA-2. ELEVATIONS
12-MAY-53	18-OCT-43	0	E	BLDG. 1, TA-2. ELECTRIC SYSTEM LAYOUT, BASEMENT & FIRST FLOOR PLAN
12-MAY-53	18-OCT-43	0	S	BLDG. OMEGA 1, TA-2. FOOTING & BASEMENT PLAN
12-MAY-53	18-OCT-43	0	A	BLDG. OMEGA 1, TA-2. GAS & AIR SYSTEMS, BASEMENT & FIRST FLOOR PLAN
12-MAY-53	18-OCT-43	0	S	BLDG. OMEGA 1, TA-2. FOOTINGS & BASEMENT PLAN
12-MAY-53	01-NOV-43	0	A	BLDG. OMEGA 1, TA-2. FIRST FLOOR PLAN, ROOM, WINDOW & DOOR SCHEDULES
12-MAY-53	08-JAN-44	0	S	BLDG. OMEGA 1, TA-2. TRACK & RAIL SECTIONS
12-MAY-53	10-AUG-44	0	S	BLDG. 1, OMEGA 1, TA-2. ONE TON MONORAIL
12-MAY-53	13-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1. STORAGE VAULT
12-MAY-53	22-SEP-44	0	C	ZIA PROJECT, OMEGA SITE, TA-2, BLDG 1 ANNEX. PLOT PLAN, PIPING & DETAILS
12-MAY-53	18-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. PLAN & FOUNDATION DETAILS
12-MAY-53	20-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. ELEVATION & DETAILS
12-MAY-53	20-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. SECTIONS & DETAILS
12-MAY-53	16-SEP-44	0	M	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. HEATING & PLUMBING
12-MAY-53	22-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. BENCH & CABINET DETAILS
12-MAY-53	23-SEP-44	0	A	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. TRUSS REVISION DETAILS
12-MAY-53	28-SEP-44	0	E	ZIA PROJECT, OMEGA SITE, TA-2, BLDG. 1 ANNEX. ELECTRICAL
12-MAY-53	07-SEP-44	0	A	REVISIONS, OMEGA SITE, BLDG. 1 ANNEX
				ADDITION TO BLDG. 1, OMEGA SITE, FLOOR PLAN,

2	1	C	1695	1	0
2	1	C	1696	1	0
2	1	C	1698	1	0
2	1	C	1699	1	4
2	1	C	1700	2	2
2	1	C	1701	3	2
2	1	C	1702	4	1
2	1	C	1703	5	5
2	1	C	1704	6	0
2	1	C	1705	7	1
2	1	C	1706	8	2
2	1	C	1707	9	2
2	1	C	1708	10	0
2	1	C	1709	11	0
2	1	C	1710	12	2
2	1	C	1711	13	0
2	1	C	1712	14	4
2	1	C	1713	15	0
2	1	C	1714	16	1
2	1	C	1715	1	0
2	1	C	1715	1	0
2	1	C	1721	1	0

12-MAY-53	09-NOV-44	0	A	FOUNDATION PLAN, ELEVATION, SECTION, ELECTRICAL WIRING PLAN
12-MAY-53	14-NOV-44	0	M	ADDITION TO BLDG. 1, OMEGA SITE. HEATING
12-MAY-53	12-MAY-53	0	E	OMEGA SITE, ELECTRICAL DIST. & FLOODLIGHTING
12-MAY-53	04-SEP-46	0	C	FAST REACTOR BLDG. 1, OMEGA SITE. PLOT PLAN, CONCRETE HEADWALL, CLEANOUT BOX, CURB AND DRAINS
12-MAY-53	15-JUL-46	0	A	FAST REACTOR BLDG. 1, OMEGA SITE. FLOOR PLAN & DETAILS
12-MAY-53	04-SEP-46	0	A	FAST REACTOR BLDG. 1, OMEGA SITE. ELEVATIONS & DETAILS
12-MAY-53	18-JUN-46	0	A	FAST REACTOR BLDG. 1, OMEGA SITE. CROSS SECTIONS & DETAILS
12-MAY-53	15-JUL-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL, FOUNDATION PLAN
12-MAY-53	13-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL, FOUNDATION, SECTIONS & DETAILS
12-MAY-53	20-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL FOUNDATION, SECTIONS & DETAILS
12-MAY-53	15-JUL-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL, FOUNDATION, PLANS, SECTIONS & DET
12-MAY-53	27-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL PROTECTIVE WALL. PLAN, SECTION, DETAILS
12-MAY-53	22-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STRUCTURAL STEEL FRAMING, PLANS, ELEVATIONS
12-MAY-53	20-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STEEL & CONCRETE DETAILS
12-MAY-53	24-MAY-46	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. STEEL FABRICATION SCHEDULE
12-MAY-53	10-MAY-46	0	M	FAST REACTOR BLDG. 1, OMEGA SITE. MECHANICAL
12-MAY-53	26-AUG-46	0	E	FAST REACTOR BLDG. 1, OMEGA SITE. ELECTRICAL DIST. DIESEL-ELECT., STAND-BY GENERATOR
12-MAY-53	20-MAY-46	0	E	FAST REACTOR BLDG. 1, OMEGA SITE. ELECTRIC POWER WIRING, SERVICE ENTRANCE & SWI
12-MAY-53	28-AUG-46	0	E	FAST REACTOR BLDG. 1, OMEGA SITE. ELECTRIC LIGHTING PLANS & DETAILS
12-MAY-53	18-OCT-43	0	S	FAST REACTOR BLDG. 1, OMEGA SITE. WALLS & SECTIONS
12-MAY-53		0	UN	FAST REACTOR BLDG. 1, OMEGA SITE. WALLS & SECTIONS
12-MAY-53	29-SEP-47	64	S	OMEGA SITE, MAIN LAB, NEW DOOR & DITCH, PLAN, SECTIONS AND DETAILS, HEAD & SILL SECTION NEW DOOR, NEW CONCRETE LINTEL
				OMEGA SITE, BLDG. 1. INDEX & TITLE SHEET, ADDITIONS &

2	1	C	1722	1	0
2	1	C	1723	2	0
2	1	C	1724	3	2
2	1	C	1725	4	1
2	1	C	1726	5	4
2	1	C	1727	6	0
2	1	C	1728	7	0
2	1	C	1729	8	0
2	1	C	1730	9	1
2	1	C	1731	10	0
2	1	C	1732	11	0
2	1	C	1733	12	0
2	1	C	1734	13	1
2	1	C	1735	14	1
2	1	C	1736	15	0
2	1	C	1737	16	0
2	1	C	1738	17	0
2	1	C	1739	18	0
2	1	C	1740	19	0
2	1	C	1741	20	1

12-MAY-53	12-OCT-44	64	T	ALTERATIONS
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL PLAN OF EXISTING BLDG., ALTERATIONS & ADDITIONS, FIRST FLOOR PLAN
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL 1ST FLOOR PLAN, ALTERATIONS & ADDITIONS
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL 2ND FLOOR PLAN & SCHDEULES, ALTERATIONS & ADDITIONS
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, INTERIOR ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, ROOF PLAN, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, ELEVATIONS, ALTERATIONS & ADDITION, PROJECT
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, SECTIONS, ALTERATIONS & ADDITIONS, PROJECT
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, SECTIONS & DETAILS, SOUTH ADDITION
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL. DOOR & WINDOW DETAILS, ALT. & ADD., PROJECT
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, FIRST FLOOR CEILING PLAN, ALT. & ADD., PROJECT
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, SECOND FLOOR CEILING PLAN, ALT. & ADD., PROJECT A
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, MISCELLANEOUS DETAILS, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	11-OCT-49	64	A	OMEGA SITE, ARCHITECTURAL, EQUIPMENT LAYOUT, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, FOUNDATION PLAN & DETAILS, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, FIRST FLOOR PLAN & DETAILS, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, SECOND FLOOR PLAN & DETAILS, ALTERATIONS. & ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, ROOF FRAMING PLAN, ALTERATIONS AND ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, SOUTH ADDITION FOUNDATION PLAN & DETAILS, ALTERATIONS AND ADDITIONS, PROJECT A
12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, FRAMING SECTION & EXTERIOR STAIRWAY. ALTERATIONS & ADDITIONS, PROJECT A

2	1	C	1742	21	0
2	1	C	1743	22	1
2	1	C	1744	23	1
2	1	C	1745	24	0
2	1	C	1746	25	0
2	1	C	1746	26	0
2	1	C	1747	27	0
2	1	C	1748	28	0
2	1	C	1749	29	0
2	1	C	1750	30	1
2	1	C	1751	31	2
2	1	C	1752	32	1
2	1	C	1753	33	0
2	1	C	1754	34	0
2	1	C	1755	34	0
2	1	C	1756	1	0
2	1	C	1770	1	2
2	1	C	1771	2	1
2	1	C	2649	1	1
2	1	C	2650	2	1
2	1	C	2651	3	1

12-MAY-53	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, FOUNDATION DETAILS. ALTERATIONS & ADDITIONS, PROJECT A
09-NOV-00	03-OCT-49	64	S	OMEGA SITE, STRUCTURAL LAYOUT, MISCELLANEOUS DETAILS. ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	E	OMEGA SITE, ELECTRICAL LAYOUT, PARTIAL FIRST FLOOR ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	E	OMEGA SITE, ELECTRICAL LAYOUT, SECOND FLOOR, ALTERATIONS & ADDITION, PROJECT "A"
12-MAY-53	10-OCT-49	64	E	OMEGA SITE, ELECTRICAL LAYOUT, SOUTH ADDITION. ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	E	OMEGA SITE, ELECTRICAL DETAILS, PARTIAL FIRST FLOOR. ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	E	OMEGA SITE, ELECTRICAL PLAN, OUTSIDE WORK & UNIT SUB-STATION. ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	15-NOV-49	64	E	OMEGA SITE, ELECTRICAL LAYOUT, POLE LINE & DETAILS, ALTERATIONS & ADDITION, PROJECT A
12-MAY-53	10-OCT-49	64	M	OMEGA SITE, HEATING LAYOUT, FIRST AND SECOND FLOORS. ALTERATIONS & ADDITIONS, PROJECT "A"
12-MAY-53	10-OCT-49	64	M	OMEGA SITE, PLUMBING LAYOUT, WASTE & DRAIN PIPING, ALTERATIONS & ADDITION, PROJECT A
12-MAY-53	10-OCT-49	64	M	OMEGA SITE, PLUMBING LAYOUT, AIR, GAS & WATER PIPING, ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	M	OMEGA SITE, PLUMBING & HEATING, SOUTH ADDITION, ALTERATIONS & ADDITION, PROJECT "A"
12-MAY-53	10-OCT-49	64	AC	OMEGA SITE, VENTILATION LAYOUT, FIRST AND SECOND FLOORS. ALTERATIONS & ADDITIONS, PROJECT A
12-MAY-53	10-OCT-49	64	M	OMEGA SITE, PLAN & PROFILE, GAS MAIN TO BLDG. 1, DRAIN LINE TO CREEK, ALTERATIONS AND ADDITIONS, PROJECT A
12-MAY-53	17-NOV-49	64	A	OMEGA SITE, UNIT SUB-STATION DETAILS, ALTERATIONS & ADDITIONS, PROJECT "A"
12-MAY-53	18-OCT-43	64	A	BLDG. OMEGA 1. FIRST FLOOR PLAN
01-AUG-52	18-JUN-53	1191	S	BRIDGE CRANE REINFORCING, STRUCT. PLAN & DETAILS,
01-AUG-52	18-JUN-53	1191	S	BRIDGE CRANE REINFORCING. STRUCTURAL DETAILS, BRIDGE CRANE PLAN, SPLICING DETAIL
10-APR-52	10-MAR-52	999	C	REGRADE AREA NORTH OF BLDG. 1, OMEGA SITE, PLOT PLAN & DETAILS
10-APR-52	10-MAR-52	999	C	REGRADE AREA NORTH BLDG. #1, OMEGA SITE, PROFILES
10-APR-52	10-MAR-52	999	C	REGRADE AREA NORTH BLDG. #1, OMEGA SITE, CROSS SECTIONS

2	1	C	2652	4	1
2	1	C	2653	5	1
2	1	C	2705	1	1
2	1	C	7098	1	2
2	1	C	7099	2	2
2	1	C	10473	1	1
2	1	C	10787	1	0
2	1	C	10788	2	0
2	1	C	10789	3	0
2	1	C	10790	4	0
2	1	C	10791	5	0
2	1	C	10792	6	0
2	1	C	10793	7	1
2	1	C	12793	1	0
2	1	C	12794	2	0
2	1	C	14930	1	1
2	1	C	14931	2	1
2	1	C	14935	6	2
2	1	C	14936	7	2
2	1	C	14937	8	2
2	1	C	14938	9	0
2	1	C	14939	10	1
2	1	C	14940	11	1
2	1	C	14941	12	1

10-APR-52	10-MAR-52	999	C	REGRADE AREA NORTH BLDG. #1, OMEGA SITE, CROSS SECTIONS
10-APR-52	10-MAR-52	999	C	REGRADE AREA NORTH BLDG. #1, OMEGA SITE, CROSS SECTIONS
07-JUN-52	07-MAY-52	1215	A	WINCH INSTALLATION, BLDG. #1, PLAN & DETAILS
09-JUN-53	09-JUN-53	1452	AC	RACK VENTILATION, RMS. 112 AND 121-MECH. AND ELECT. PLANS AND SECTIONS
09-JUN-53	09-JUN-53	1452	AC	RACK VENTILATION RMS. 112 AND 121 -MECH. AND ELECT. NOTES AND DETAILS
18-JUL-57	24-APR-58	2038	C	OWR EXHAUST LINE BLDG. OMEGA 1, PLAN, PROFILES, DETAILS
05-NOV-54	03-NOV-54	1596	F	FIRE PROTECTION & SPRINKLER SYS. INSTALL., BLDG. OMEGA-Q WATER & GAS LINE PLAN & PROFILE
05-NOV-54	03-NOV-54	1596	F	FIRE PROTECTION AND SPRINKLER SYS. INSTALLATION, WATER LINE DETAILS
05-NOV-54	03-NOV-54	1596	F	FIRE PROTECTION AND SPRINKLER SYS. INSTALLATION, SPRINKLER PLANS
05-NOV-54	03-NOV-54	1596	F	FIRE PROTECTION AND SPRINKLER SYS. INSTALLATION , HAD PLANS
05-NOV-54	03-NOV-54	1596	F	FIRE PROTECTION AND SPRINKLER SYS. INSTALLATION, SECTIONS
05-NOV-54	03-NOV-54	1596	F	SPRINKLER SYS. INSTALLATION, SECTIONS
05-NOV-54	03-NOV-54	1596	F	SPRINKLER SYS. INSTALLATION, DETAILS
22-MAR-61	16-MAR-61	2512	A	OWR SAFETY PLATFORM INSTALL. & MONORAIL MODS., BLDG. OMEGA-1-LOCATION PLAN - PLATFORM DETAILS
22-MAR-61	16-MAR-61	2512	E	OWR SAFETY PLATFORM INSTALLATION AND MONORAIL MODIFICATIONS & SAFETY RAIL, ELECTRICAL PLAN, ROOF SCUTTLE GUARD RAIL
01-DEC-54	01-OCT-54	1449	C	WEST REACTOR INSTALLATION BLDG. 1 & 44, OMEGA 1 CIVIL PLOT PLAN
01-DEC-54		1449	C	CIVIL - 12" & 30" CIRCULATING WATER PIPE PLAN & PROFILE
01-DEC-54		1449	S	STRUCTURAL - FOUNDATION PLAN & SECTIONS OMEGA 1
01-DEC-54		1449	S	STRUCTURAL - FLOOR SLAB & SECTIONS - OMEGA 1
01-DEC-54		1449	A	OMEGA 1 - ARCH. PLAN
01-DEC-54		1449	S	OMEGA 1 - PENTHOUSE - STRUC. SECTIONS
01-DEC-54		1449	S	PENTHOUSE - STRUC. DETAILS - OMEGA 1
01-DEC-54		1449	UN	PENTHOUSE - MISCELLANEOUS DETAILS - OMEGA 1
29-JUL-54		1449	A	PENTHOUSE ARCH; ELEVATION & DETAILS

2	1	C	14942	13	1
2	1	C	14943	14	1
2	1	C	14944	15	1
2	1	C	14945	16	2
2	1	C	14946	17	3
2	1	C	14947	18	2
2	1	C	14948	19	2
2	1	C	14949	20	1
2	1	C	14952	23	2
2	1	C	14953	24	3
2	1	C	14954	25	2
2	1	C	14955	26	1
2	1	C	14956	27	2
2	1	C	14959	30	3
2	1	C	14960	31	1
2	1	C	14961	32	1
2	1	C	14962	33	1
2	1	C	15230	1	0
2	1	C	15441	1	0
2	1	C	18257	1	0
2	1	C	18642	1	0
2	1	C	18643	2	0
2	1	C	18644	3	0
2	1	C	18645	4	0
2	1	C	18987	1	0
2	1	C	18988	2	0
2	1	C	20929	1	0
2	1	C	21425	1	1

29-JUL-54
29-JUL-54
29-JUL-54
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29-JUL-54
29-JUL-54
29-JUL-54
29-JUL-54
29-JUL-54
01-DEC-54
01-DEC-54
01-DEC-54
29-JUL-54
29-JUL-54
29-JUL-54
29-JUL-54
29-JUL-54
29-JUL-54
07-JUN-57
24-JUL-56
04-SEP-58
28-FEB-58
28-FEB-58
28-FEB-58
28-FEB-58
22-AUG-57
22-AUG-57
17-JUL-64
27-FEB-58

1449	UN	BLDG. I - PENTHOUSE; DOOR DETAILS
1449	UN	REACTOR ELEVATIONS, BLDG. I
1449	UN	REACTOR SECTIONS, BLDG. I
1449	UN	REACTOR BAR INDEX & PLAN AT 42" ABOVE FINISHED FLOOR, BLDG. I
1449	A	ARCH. PLAN AT 42" ABOVE FINISHED FLOOR, BLDG. I
1449	UN	PLAN AT 110" ABOVE F/F & MISCELLANEOUS DETAILS
1449	UN	PLAN AT 22 93/4" ABOVE F/F DECK PLATE & STEPS TO PERSONNEL DOOR
1449	UN	REACTOR STAIR DETAILS
1449	UN	NEW & REVISED PIPING IN EXISTING BUILDING, OMEGA 1
1449	M	MECHANICAL - PLANS & DETAILS, OMEGA 1 & 44
1449	M	MECHANICAL EQUIPMENT LIST, OMEGA 1 & 44
1449	UN	DISTRIBUTION SINGLE LINE DIAGRAM & NOTES
1449	E	ELECTRICAL 480V 30 SUBSTATION
1449	E	ELECTRICAL REACTOR RM. POWER PLAN & DETAILS
1449	E	ELECTRICAL - REACTOR RM. LIGHTING PLAN - MATERIALS
1449	E	ELECTRICAL - CONTROL RM. PLAN, SECTIONS & DETAILS
1449	E	ELECTRICAL CONTROL CIRCUIT DIAGRAMS
0	UN	TRUSS DETAILS, BLDG. 1, OMEGA (VOID)
1882	S	MONORAIL INSTALL. WEST REACTOR RM., BLDG. 1, STRUCTURAL DETAILS
1985	S	REACTOR CATWALK INSTALLATION BUILD. OMEGA-1 - STRUCTURAL PLAN AND DETAILS
2084	AC	AIR CONDITIONING, ROOM 121, BLDG. 1 - MECHANICAL - PLAN
2084	M	MECHANICAL - DETAILS
2084	E	ELECTRICAL - PLANS & SCOPE
2084	E	ELECTRICAL - SCOPE, WIRING DIAGRAM, DETAILS
1985	S	REACTOR SAFETY RAILING & CAT WALK, BLDG. 1 - PLANS AND ELEVATIONS
1985	S	REACTOR SAFETY RAILING AND CAT- WALK, SECTIONS AND DETAILS
2976	C	SPECTROMETER TRACK INSTALLATION, BLDG. OMEGA-1 - CIVIL - FLOOR PLAN & SECTIONS
1995	C	HANDLING & STORAGE FACILITY, BLDG. 1 - CIVIL - PLAN & DETAILS

2	1	C	21426	2	1
2	1	C	21427	3	1
2	1	C	21428	4	1
2	1	C	21429	5	1
2	1	C	21430	6	1
2	1	C	21431	7	1
2	1	C	21432	1	1
2	1	C	21433	2	1
2	1	C	21434	3	1
2	1	C	23380	1	0
2	1	C	23467	5	1
2	1	C	23468	6	1
2	1	C	23473	1	0
2	1	C	23752	1	0
2	1	C	23753	2	0
2	1	C	25473	1	0
2	1	C	25474	2	0
2	1	C	26279	1	0
2	1	C	26364	1	0
2	1	C	27152	1	0
2	1	C	27309	1	0
2	1	C	27310	2	0
2	1	C	30364	1	1
2	1	C	30365	2	1
2	1	C	30366	3	1
2	1	C	30367	4	1
2	1	C	30368	5	1

27-FEB-58
27-FEB-58
27-FEB-58
27-FEB-58
27-FEB-58
27-FEB-58
03-JUL-58
03-JUL-58
03-JUL-58
28-SEP-61
20-JUN-60
20-JUN-60
13-FEB-63
14-SEP-64
14-SEP-64
27-SEP-65
27-SEP-65
23-JAN-63
02-MAR-65
10-MAY-62
10-JUN-65
10-JUN-65
08-FEB-63
08-FEB-63
08-FEB-63
08-FEB-63
08-FEB-63

1995	S	STRUCTURAL FLOOR PLAN
1995	UN	BUILDING MODIFICATION & STORAGE PIT
1995	S	STRUCTURAL SECTIONS & DETAILS
1995	M	OMEGA - MECHANICAL PLAN, SECTION & NOTES
1995	M	MECHANICAL DETAILS
1995	E	BLDG. 1 - ELECTRICAL - PLAN - DETAILS - NOTES
1995	S	OMEGA-1 - PLAN & STRUCTURAL DETAILS
1995	S	STRUCTURAL DETAILS
1995	E	ELECTRICAL - PLAN - DETAILS AND NOTES
2654	S	GUARD RAILS & ESCAPE LADDER, BLDG. OMEGA-1 - STRUCTURAL - DETAILS
2077	UN	CONDUIT LAYOUT, OMEGA 1
2077	UN	EQUIPMENT ROOM PLAN & DETAILS
2827	UN	ALTERATIONS, RMS. 108, 114, BLDG. OMEGA-1 - PLAN, NOTES, EQUIPMENT LIST
3131	S	ROOF HANDRAILS & DOCK MODIFICATIONS, OMEGA-1 - STRUCTURAL - PLANS & DETAILS
3131	S	STRUCTURAL - PLANS, DETAILS, SECTIONS
3298	A	ADDITIONAL OFFICE & LABORATORY SPACE, BLDG. OMEGA-1 - ARCHITECTURAL - PLAN & DET
3298	E	ELECTRICAL - PLANS & DETAILS
2790	AC	VENTILATION IMPROVEMENTS, ROOMS 116 & 118, BLDG. OMEGA-1, PLAN, SECTIONS, DETAIL
3173	AC	AIR CONDITIONING MODIFICATIONS, ROOM 121, BLDG. OMEGA-1, PLAN, SECTIONS, EQUIPME
2651	E	OWR CRANE CONTROL MODIFICATION, BLDG. OMEGA-1, ELECTRICAL - SECTION, DIAGRAM & D
3134	M	HEATING MODIFICATIONS, ROOM 101, BLDG. OMEGA-1, MECHANICAL- PLAN & SECTIONS
3134	M	HEATING MODIFICATIONS, ROOM 101, BLDG. OMEGA-1, MECHANICAL - ELEV. DETAILS & NOT
2783	S	SHOP & DOCK MODIFICATIONS, BLDG. OMEGA-1 - STRUCTURAL - FLOOR PLANS & DETAILS
2783	S	STRUCTURAL - DRAIN PLAN, REINFORCING SCHEDULE
2783	M	MECHANICAL - PLAN, SECTION, NOTES
2783	M	MECHANICAL - SECTIONS & DETAILS
2783	UN	POWER DISTRIBUTION LAYOUT

2	1	C	30369	6	1
2	1	C	34328	1	0
2	1	C	34329	2	0
2	1	C	34426	1	0
2	1	C	34639	1	0
2	1	C	35725	1	0
2	1	C	35843	1	0
2	1	C	36618	1	0
2	1	C	36619	2	0
2	1	C	36620	3	0
2	1	C	41713	1	0
2	1	C	41713	3	0
2	1	C	41713	2	0
2	1	C	41727	1	0
2	1	C	41727	2	0
2	1	C	41727	3	0
2	1	C	42977	1	0
2	1	C	42977	2	0
2	1	C	42977	3	0
2	1	C	42989	2	0
2	1	C	42989	1	0
2	1	C	43015	1	0
2	1	C	43015	12	0
2	1	C	43015	1	2
2	1	C	43015	5	0

08-FEB-63
26-JUL-66
26-JUL-66
29-JUL-66
28-OCT-66
25-OCT-68
25-SEP-67
26-JUN-68
26-JUN-68
26-JUN-68
19-NOV-87
19-NOV-87
19-NOV-87

10-MAY-76
10-MAY-76
10-MAY-76
10-MAY-76
10-MAY-76
10-MAY-76
13-JUL-76
10-MAY-77
10-MAY-77
10-MAY-77

10-MAY-76
10-MAY-76

2783	E	SHOP LIGHTING MODIFICATIONS
3359	M	O.W.R. COOLING SYSTEM IMPROVEMENTS, BLDGS. OMEGA-1, 44 & 49 - MECHANICAL - PLANS
3359	M	MECHANICAL - EQUIPMENT LIST, NOTES, PLAN & DETAIL
3478	S	O.W.R. STRUCTURAL MODIFICATIONS, BLDG. OMEGA 1 - STRUCTURAL; PLAN, ELEVATIONS &
3364	S	OWR PLATFORM ENCLOSURE, BLDG. OMEGA-1 - STRUCTURAL, PLANS, ELEVATIONS, SECTIONS
0	UN	INSTALLATION OF NITROGEN DEWAR, OMEGA 1
0	UN	DOOR REPLACEMENT, BLDG. OMEGA-1
3872	M	CHEMICAL HOOD INSTAL., RM. 101, BLDG. OMEGA-1, MECH; FL. PL., ELEV., DETS. MECH
3872	M	MECH; ELEVATIONS & DETAILS
3872	E	ELECTRICAL
0	UN	STEAM & CONDENSATE PIPING REPLACEMENT PLAN VIEWS, BLDG. OMEGA 1
0	UN	STEAM & CONDENSATE PIPING REPLACEMENT DETAILS
0	UN	STEAM & CONDENSATE PIPING REPLACEMENT PIPING SCHEMATIC
6896	G	OMEGA SITE DIESEL GEN. & FUEL TANK INST. STRUCTURAL MECH. PLOT PLAN, SECTION, DE
6896	G	OMEGA SITE DIESEL GEN. & FUEL TANK INST. MECH. PLAN, SECTIONS, EQUIP. LIST BLDG.
6896	G	OMEGA SITE DIESEL GENERATOR AND FUEL TANK INST. ELECTRICAL BLDG. OMEGA-1
5533	T	CLEAN ROOM INSTALLATION, ROOM 125, BLDG. 1. TITLE SHEET
5533	UN	PLANS, SECTION. AND SCHEDULE
5533	F	MECH; CLEAN AIR LOCATIONS AND FIRE PROTECTION, ELEC; LIGHTING
5573	E	CLEAN ROOM SITE PREPARATION ELEC
5573	C	CLEAN ROOM SITE PREPARATION
5086	M	STEAM AND CONDENSATE PIPING SYSTEM REPLACEMENT, BLDG. OMEGA 1, MECH; FLOOR PLA
5086	E	ELEC - PLAN, SCOPE, NOTES, AND NAMEPLATES
5086	M	HEATING SYSTEM REPLACEMENT, BLDG. OMEGA-1, TA-2. MECH; PLAN, DETAIL AND SCHEMAT
5086	M	MECH; FLOOR PLAN AND DETAILS

2	1	C	43015	11	0
2	1	C	43015	10	1
2	1	C	43015	9	2
2	1	C	43015	8	2
2	1	C	43015	7	0
2	1	C	43015	6	0
2	1	C	43015	4	1
2	1	C	43015	3	1
2	1	C	43015	3	0
2	1	C	43015	2	2
2	1	C	43015	2	0
2	1	C	43095	2	1
2	1	C	43095	3	0
2	1	C	43095	4	1
2	1	C	43095	1	1
2	1	C	43095	5	0
2	1	C	43421	1	0
2	1	C	43421	2	0
2	1	C	43568	9	0
2	1	C	43568	8	1
2	1	C	43568	1	1
2	1	C	43568	3	0
2	1	C	43568	4	1
2	1	C	43568	4	0
2	1	C	43568	6	1
2	1	C	43568	2	0
2	1	C	43568	3	0
2	1	C	43568	11	1

10-MAY-77		5086	E	ELEC - DIAGRAM, PLAN, BILL OF MATERIAL
10-MAY-77		5086	M	MECH; CODE LIST
10-MAY-77		5086	M	MECH; NOTES
10-MAY-77		5086	M	MECH; EQUIPMENT LIST
10-MAY-77		5086	M	MECH; SECTION AND DETAILS
10-MAY-77		5086	M	MECH; PLAN AND SECTION
10-MAY-77		5086	M	MECH; PARTIAL PLAN
10-MAY-77		5086	M	MECH; PARTIAL PLAN
13-JUL-76		5086	M	MECH; DETAILS, NOTES AND PARTS LIST
10-MAY-77		5086	M	MECH; PLAN
13-JUL-76		5086	M	MECH; PIPING SCHEMATIC
22-APR-77		5666	C	CIVIL; PLAN, SECTION, SECTION, SCHEDULE, AND ELEVATION
22-APR-77		5666	M	MECH; PLANS AND SECTIONS
22-APR-77		5666	M	MECH; SECTIONS
22-APR-77		5666	T	CLEAN CHAMBER INSTALLATION, BLDG. 1, TA-2. TITLE SHEET AND INDEX TO DRAWINGS
22-APR-77		5666	E	ELECTRICAL
23-MAR-78		5771	M	SANITARY SEWER IMPROVEMENTS, BLDG. 1 MECH; PLAN, EQUIP. LIST, NOTES AND SECTIO
23-MAR-78		5771	E	ELEC; PLAN, BILL OF MATERIAL, NOTES AND NAMEPLATE
08-JUL-80	20-MAR-80	6030	E	FIRE PROTECTION IMPROVEMENTS, ELEC. PLOT PLAN
08-JUL-80	20-MAR-80	6030	E	FIRE PROTECTION IMPROVEMENTS, ELEC. BLOCK DIAGRAM
08-JUL-80	20-MAR-80	6030	T	FIRE PROTECTION IMPROVEMENTS , TITLE SHEET AND INDEX TO DRAWINGS
13-OCT-78	13-SEP-78	6030	M	FIRE PROTECTION IMPROVEMENTS, FIRST FLOOR PLAN
08-JUL-80	20-MAR-80	6030	M	FIRE PROTECTION IMPROVEMENTS, MECH. SECOND FLOOR PLAN
08-JUL-80	20-MAR-80	6030	M	FIRE PROTECTION IMPROVEMENTS, SECOND FLOOR PLAN
08-JUL-80	20-MAR-80	6030	M	FIRE PROTECTION IMPROVEMENTS, MECH. SECTIONS AND DETAILS
08-JUL-80	13-SEP-78	6030	M	FIRE PROTECTION IMPROVEMENTS PLOT PLAN BLDG. OMEGA-1 TA-2
08-JUL-80	20-MAR-80	6030	M	FIRE PROTECTION, FIRST FLOOR PLAN AND BASEMENT FLOOR PLAN AND DETAILS
08-JUL-80	20-MAR-80	6030	E	FIRE PROTECTION IMPROVEMENTS, ELECT. SECOND FLOOR PLAN

2	1	C	43568	7	1
2	1	C	43568	10	1
2	1	C	43568	2	0
2	1	C	43568	5	0
2	1	C	43746	3	0
2	1	C	43746	2	0
2	1	C	43746	5	0
2	1	C	43746	6	0
2	1	C	43746	1	0
2	1	C	43746	4	0
2	1	C	44090	1	1
2	1	C	44415	1	0
2	1	C	44415	4	0
2	1	C	44415	3	0
2	1	C	44415	2	0
2	1	C	44415	5	0
2	1	C	44796	10	1
2	1	C	44796	4	2
2	1	C	44796	7	2
2	1	C	44796	9	2
2	1	C	44796	5	2
2	1	C	44796	8	2
2	1	C	44796	6	2

08-JUL-80	20-MAR-80	6030	E	FIRE PROTECTION IMPROVEMENTS, ELEC. NAMEPLATES, BILL OF MATERIAL, AND NOTES
08-JUL-80	20-MAR-80	6030	E	FIRE PROTECTION IMPROVEMENTS, ELEC. BASEMENT AND FIRST FLOOR
08-JUL-80	20-MAR-80	6030	C	FIRE PROTECTION IMPROVEMENTS, PLOT PLAN, CIVIL AND MECHANICAL LEGENDS
08-JUL-80	20-MAR-80	6030	M	FIRE PROTECTION IMPROVEMENTS, MECH. PARITAL PLANS AND DETAILS
10-MAR-80		6153	M	MECH; SECTION AND DETAILS
10-MAR-80		6153	M	MECH; FLOOR PLAN
10-MAR-80		6153	E	ELEC; PLAN AND ELEVATIONS
10-MAR-80		6153	E	ELEC; NOTES AND NAMEPLATES
10-MAR-80		6153	M	HEATING SYSTEM EXPANSION MECH; REMOVAL PLAN BLDG. OMEGA-1 TA-2
10-MAR-80		6153	M	MECH; NOTES AND EQUIPMENT LIST
23-JUN-82	01-JUN-82	5664	F	FIRE PROTECTION IMPROVEMENTS, FP; PLOT PLAN, FLOOR PLAN & PIPE RISER DETAILS
03-JUL-89	26-JUN-84	7566	T	HEATING SYSTEM UPGRADE, TITLE SHEET, INDEX TO DRAWINGS & LOCATION PLAN
03-JUL-89	26-JUN-84	7566	M	HEATING SYSTEM UPGRADE, MECH; EQUIPMENT LIST & NOTES
03-JUL-89	26-JUN-84	7566	M	HEATING SYSTEM UPGRADE, MECH; FLOOR PLAN, SECTION & DETAILS, LEGEND
03-JUL-89	26-JUN-84	7566	G	HEATING SYSTEM UPGRADE, GEN; SUBMITTALS
03-JUL-89	26-JUN-84	7566	E	HEATING SYSTEM UPGRADE, ELEC; FLOOR PLAN, BILL OF MATERIAL, NAMEPLATE SCHEDULE AND NOTES
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GENERATOR INSTALLATION, ELEC; PANEL SCHEDULE "PP-A"
20-SEP-85	17-SEP-85	7789	M	BACK UP POWER GEN. INSTALL., MECHANICAL NOTES AND EQUIPMENT LIST
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GEN. INSTALLATION, PARTIAL FLOOR PLAN OF EQUIPMENT RM.
20-SEP-85	17-SEP-85	7789	E	BACK UP, PARTIAL SINGLE LINE DIAGRAM OF DIESEL GENERATOR CONNECTION SCHEME
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GEN. INSTALL., ELEC; SCOPE OF WORK, NOTES & LEGEND
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GENERATION INSTALL., PARTIAL FLOOR PLAN & BLDG. ELEVATION
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GEN. INSTALL., SINGLE LINE DIAGRAM OF EXISTING EQUIPMENT

2	1	C	44796	3	2
2	1	C	44796	12	2
2	1	C	44796	1	2
2	1	C	44796	2	2
2	1	C	44796	11	2
2	1	C	45491	5	1
2	1	C	45491	1	1
2	1	C	45491	2	1
2	1	C	45491	4	1
2	1	C	45491	3	1
2	1	C	45721	1	0
2	1	C	45721	2	0
2	1	C	45732	2	0
2	1	C	45732	10	0
2	1	C	45732	13	0
2	1	C	45732	16	0
2	1	C	45732	9	0
2	1	C	45732	9	0
2	1	C	45732	4	0
2	1	C	45732	3	0
2	1	C	45732	17	0
2	1	C	45732	14	0
2	1	C	45732	12	0

20-SEP-85	17-SEP-85	7789	M	MECH; DIESEL FUEL PIPING SCHEMATIC, DETAILS, MUFFLER SUPPORT AND THIMBLE DETAILS
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GENERATOR INSTALL., BILL OF MATERIALS & NAMEPLATE SCHEDULE
20-SEP-85	17-SEP-85	7789	T	BACKUP POWER GENERATOR INSTALL. OMEGA-1, TITLE SHEET INDEX OF DWGS & LOCATION
20-SEP-85	17-SEP-85	7789	M	BACK UP POWER GEN. INSTALL., REMOVAL FLOOR PLAN, FLOOR PLAN, AND SECTIONS
20-SEP-85	17-SEP-85	7789	E	BACK UP POWER GEN. INSTALL, PARTIAL FLOOR PLAN OF REMOTE ANNUNCIATOR CIRCUIT
01-NOV-88		9470	C	CIVIL; SUBMITTAL LIST
01-NOV-88		9470	C	LIFT STATION REPLACEMENT, BLDG. 1, CIVIL; PLAN, SECTIONS (AS-BUILTS)
01-NOV-88		9470	C	CIVIL; NOTES
01-NOV-88		9470	E	ELEC; SEQUENCER, CABLE SUPPORT DETAIL
01-NOV-88		9470	E	ELEC; PLANS, NOTES, LEGEND B/M & NP. SCHEDULE
03-MAY-89	02-MAY-89	10099	S	WATER BOILER REACTOR DECONT./DECOM., STRUCT; FLOOR PLAN, SECTIONS & DETAILS
03-MAY-89	02-MAY-89	10099	S	WATER BOILER REACTOR DECONT./DECOM., STRUCT; SECTIONS & DETAILS
30-AUG-89	30-AUG-89	10231	G	DESIGN DECON ROOM, GEN; SUBMITTAL LIST
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; PIPING ISOMETRICS, STORAGE TANK CONTROL & SEQUENCE
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; GENERAL PROVISIONS
30-AUG-89	30-AUG-89	10231	E	DESIGN DECON ROOM, ELEC; CONTROL SCHEMATIC, SEQUENCE OF OPERATION
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; SITE PLAN, NEW WORK PLAN, SECTIONS AND LEGEND
30-AUG-89	30-AUG-89	10231	C	DESIGN DECON ROOM, MECH; SITE PLAN, NEW WORK PLAN, SECTIONS AND LEGEND
30-AUG-89	30-AUG-89	10231	A	DESIGN DECON ROOM, ARCH; SECTIONS & DETAILS
30-AUG-89	30-AUG-89	10231	A	DESIGN DECON ROOM, ARCH; DEMOLITION & NEW WORK PLANS, SECTION, DOOR SCHEDULE & ELEVATIONS
30-AUG-89	30-AUG-89	10231	E	DESIGN DECON ROOM, ELEC; GENERAL NOTES, EQUIPMENT LIST, NAMEPLATE SCHEDULE
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; GENERAL NOTES, CLASS "A" REMOVAL EQUIPMENT CODE, WATER LINE CROSSING DETAIL
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; EQUIPMENT LIST

2	1	C	45732	1	0
2	1	C	45732	5	0
2	1	C	45732	6	0
2	1	C	45732	8	0
2	1	C	45732	7	0
2	1	C	45732	15	0
2	1	C	45732	11	0
2	1	C	45924	6	0
2	1	C	45924	7	0
2	1	C	45924	1	0
2	1	C	45924	4	0
2	1	C	45924	5	0
2	1	C	45924	8	0
2	1	C	45924	3	0
2	1	C	45924	2	0
2	1	C	45946	1	1
2	1	C	45946	2	2
2	1	C	46064	8	0
2	1	C	46187	1	0
2	1	C	46187	9	0

30-AUG-89	30-AUG-89	10231	T	DESIGN DECON ROOM, TITLE SHEET, INDEX TO DRAWINGS & LOCATION PLAN, SCOPE OF WORK
30-AUG-89	30-AUG-89	10231	A	DESIGN DECON ROOM, ARCH; NOTES & SECTIONS
30-AUG-89	30-AUG-89	10231	S	DESIGN DECON ROOM, STRUCT; MANHOLE DETAILS, ISOMETRIC, SECTIONS
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; REMOVAL FLOOR PLAN, SECTION, LEGEND AND NOTES
30-AUG-89	30-AUG-89	10231	S	DESIGN DECON ROOM, STRUCT; GENERAL NOTES
30-AUG-89	30-AUG-89	10231	E	DESIGN DECON ROOM, ELEC; NEW INSTALLATION, DEMOLITION AND DETAILS, WATER LEVEL ALARM SCHEMATIC DIAGRAM, PLAN VIEW
30-AUG-89	30-AUG-89	10231	M	DESIGN DECON ROOM, MECH; PUMP PIPING DETAILS, EQUIPMENT LIST
10-SEP-90	31-AUG-90	10786	M	DESIGN WASTE WATER COLLECTION SYSTEM, MECH; GENERAL NOTES AND SUBMITTAL
10-SEP-90	31-AUG-90	10786	E	DESIGN WASTE WATER COLLECTION SYSTEM, ELEC; POWER PLAN, SECTION AND KEYED NOTES
10-SEP-90	31-AUG-90	10786	C	DESIGN WASTE WATER COLLECTION SYSTEM, CIVIL; SITE PLAN
10-SEP-90	31-AUG-90	10786	C	DESIGN WASTE WATER COLLECTION SYSTEM, CIVIL, GENERAL NOTES
10-SEP-90	31-AUG-90	10786	M	DESIGN WASTE WATER COLLECTION SYSTEM, MECH; FLOOR PLAN, LEGEND, NOTES AND DETAIL
10-SEP-90	31-AUG-90	10786	E	DESIGN WASTE WATER COLLECTION SYSTEM, ELEC; CONNECTION DIAGRAM & NOTES
10-SEP-90	31-AUG-90	10786	C	DESIGN WASTE WATER COLLECTION SYSTEM, CIVIL; PIPING TRENCH DETAILS
10-SEP-90	31-AUG-90	10786	C	DESIGN WASTE WATER COLLECTION SYSTEM, CIVIL; PLAN, SECTIONS AND DETAILS
04-FEB-91	18-JAN-91	10415	S	REWORK CRANE STRUCTURE, STRUCT; STEEL FRAMING CRANE GIRDER REINFORCING DETAIL
04-FEB-91	18-JAN-91	10415	S	REWORK CRANE STRUCTURE, STRUCT; STEEL FRAMING GENERAL NOTES
12-AUG-91	24-APR-91	11694	E	REPLACE PCB TRANSFORMERS, ELEC; BLDG. 1 PARTIAL POWER PLAN, ROOM 116-A PLAN, ELEVATIONS AND BLDG. 4 POWER PLAN
07-OCT-92	16-SEP-92	12461	T	INSTALL ABOVE GROUND STORAGE TANK, TITLE SHEET, SCOPE OF WORK AND NOTES
07-OCT-92	16-SEP-92	12461	E	INSTALL ABOVE GROUND STORAGE TANK, ELEC; PLAN, EQUIPMENT LIST, NOTES SCHEMATIC AND LEGEND

2	1	C	46187	7	0
2	1	C	46187	5	1
2	1	C	46187	3	0
2	1	C	46187	4	0
2	1	C	46187	2	0
2	1	C	46187	8	0
2	1	C	46187	6	0
2	1	C	47124	2	0
2	1	C	47124	7	0
2	1	C	47124	5	0
2	1	C	47124	6	0
2	1	C	47124	1	1
2	1	C	47124	4	0
2	1	C	47124	3	0
2	1	C	47175	1	0
2	1	C	47175	6	0
2	1	C	47175	5	0
2	1	C	47175	4	0
2	1	C	47175	2	0
2	1	C	47175	3	0
2	1	C	47184	1	0
2	1	C	47999	1	0
2	1	C	47999	2	0

07-OCT-92	16-SEP-92	12461	M	INSTALL ABOVE GROUND STORAGE TANK, MECH; GENERAL NOTES
07-OCT-92	14-OCT-92	12461	C	INSTALL ABOVE GROUND STORAGE TANK, CIVIL; CONTAINMENT TANK AND SECTIONS
07-OCT-92	16-SEP-92	12461	C	INSTALL ABOVE GROUND STORAGE TANK, CIVIL; GENERAL NOTES
07-OCT-92	16-SEP-92	12461	C	INSTALL ABOVE GROUND STORAGE TANK, CIVIL; SITE PLAN AND LEGEND
07-OCT-92	16-SEP-92	12461	G	INSTALL ABOVE GROUND STORAGE TANK, GEN., SUBMITTALS, TEST AND INSPECTION PLAN
07-OCT-92	16-SEP-92	12461	M	INSTALL ABOVE GROUND STORAGE TANK, MECH; PARTIAL FLOOR PLAN, DETAIL, EQUIPMENT LIST & LEGEND, ISOMETRIC DETAIL
07-OCT-92	16-SEP-92	12461	C	INSTALL ABOVE GROUND STORAGE TANK, CIVIL; DETAILS AND SECTIONS
03-SEP-92		5086	UN	HEATING SYSTEM REPLACEMENT ELEVATIONS & DETAILS, SYSTEM "A"
03-SEP-92		5086	UN	ADDITIONS & DELETIONS PER ENG-4 REVN 1
03-SEP-92		5086	UN	BASEMENT EQUIPMENT ROOM ONLY
03-SEP-92		5086	UN	SYSTEMS "A" & "B" STM. CD & HHW CONNECTIONS
03-SEP-92		5086	UN	HEATING SYSTEM REPLACEMENT NEW EXCHANGER PIPING PLAN, OMEGA-1
03-SEP-92		5086	UN	HEATING SYSTEM REPLACEMENT EQUIPMENT RACK-CUT LIST-DETAILS
03-SEP-92		5086	UN	HEATING SYSTEM REPLACEMENT ELEVATIONS & DETAILS, SYTEM "B"
09-SEP-92		0	UN	METAL STORM SHELTER FOR DRY ACCESS TO SAMPLE STORAGE AT WA-1, TA-2
09-SEP-92		0	UN	CUTTING DETAILS
09-SEP-92		0	UN	CUTTING DETAILS
09-SEP-92		0	UN	ROOF FRAMING ASSY DETAILS
09-SEP-92		0	UN	EAST & WEST BENTS "A" & "B" FRAMING DET.
09-SEP-92		0	UN	NORTH & SOUTH BRACED FRAME ASSY DETS
09-SEP-92		0	F	CLEAN ROOM SPRINKLER SYSTEM MODIFICATION, BLDG. 1, TA-2
14-NOV-92		0	M	SPRINKLER ADDITION OVER REACTOR AREA PARTIAL PIPING PLAN ROOM 122
14-NOV-92		0	M	SPRINKLER ADDITION OVER REACTOR AREA SECTION AND ISOMETRIC ROOM 122

2	1	C	49433	5	0
2	1	C	49433	5	0
2	1	C	49861	37	0
2	1	C	49861	6	0
2	1	C	49861	4	0
2	1	C	49861	1	0
2	1	C	49861	3	0
2	1	C	49861	5	0
2	1	C	49861	7	0
2	1	C	49861	2	0
2	1	C	49861	8	0
2	1	C	49861	3	1
2	1	C	49861	4	1
2	1	C	49861	38	1
2	1	C	49861	38	0
2	1	C	52821	1	0
2	1	C	69615	1	0
2	1	C	69616	2	0
2	1	PL	3727	8	0
2	1	PL	3727	9	0
2	1	R	34	1	1
2	1	R	58	1	0
2	1	R	1717	1	0

23-SEP-93	27-AUG-93	14764	F	ES&H FIRE PROTECTION DEFICIENCIES, MECH; FIRE PROTECTION PLAN, DETAIL, NOTES AND LEGEND
23-SEP-93	27-AUG-93	14764	M	ES&H FIRE PROTECTION DEFICIENCIES, MECH; FIRE PROTECTION PLAN, DETAIL, NOTES AND LEGEND
16-JUN-99	30-SEP-96	16854	M	WASTE STREAM CORRECTIONS FMU #66, MECH., CORRECTIVE ACTIONS SUMMARY
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., INSPECTION PLAN
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., NOTES AND SCOPE OF WORK
17-JUN-99	27-SEP-96	16854	T	WASTE STREAM CORRECTIONS FMU #66, TITLE SHEET AND LIST OF DRAWINGS, SEVERAL TEC AREAS
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., NOTES AND SCOPE OF WORK
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., INSPECTION PLAN
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., TEST PLAN
17-JUN-99	27-SEP-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., LEGEND AND GENERAL NOTES
17-JUN-99	27-SEP-96	16854	P	WASTE STREAM CORRECTIONS FMU #66, MECH., PARTIAL FIRST FLOOR PLUMBING PLAN AND ELEV
08-NOV-02	20-NOV-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., NOTES AND SCOPE OF WORK
08-NOV-02	09-DEC-96	16854	G	WASTE STREAM CORRECTIONS FMU #66, GEN., NOTES AND SCOPE OF WORK
08-NOV-02	09-DEC-96	16854	M	WASTE STREAM CORRECTIONS FMU #66, MECH., CORRECTIVE ACTIONS SUMMARY
16-JUN-99	30-SEP-96	16854	M	WASTE STREAM CORRECTIONS FMU #66, MECH., CORRECTIVE ACTIONS SUMMARY
13-JUN-01	23-SEP-81		F	FWO-FIRE, OMEGA 1, MECH., PLOT PLAN AND PIPE RISER DETAIL
15-NOV-71	15-NOV-71	4766	M	HOOD FILTER, BLDG. OMEGA-1 RM-115, MECH; ELEC-STRUC
		4766	E	HOOD FILTER, ELECTRICAL BLDG. OMEGA-1, RM. 115
25-APR-77		5664	A	MAIN REACTOR BLDG. OMEGA-1, TA-2
25-APR-77		5664	UN	MIAN REACTOR BLDG. BLDG. OMEGA-1, TA-2
25-MAY-56	23-APR-47	0	C	AREA AFFECTED BY EXHAUST GAS FROM TA-2 WATER BOILER
25-MAY-56	09-AUG-49	0	A	FLOOR PLAN, BLDG. #1, OMEGA SITE
11-JAN-63		0	F	FIRE ALARM EQUIPMENT, BUILDING OMEGA-1, FIRST FLOOR PLAN

2	1	R	2360	1	0	06-APR-62	26-MAR-62	0	A	FALLOUT SHELTER SURVEY, FIRST FLOOR PLAN, OMEGA SITE
2	1	R	3333	1	4	05-SEP-63	21-MAR-84	0	A	BASEMENT & FIRST FLOOR PLAN, LABORATORY & OFFICE BUILDING
2	1	R	3334	2	3	05-SEP-63	21-MAR-84	0	A	SECOND FLOOR PLAN, MAIN BLDG.
2	1	R	3665	1	1	27-SEP-66	15-SEP-66	3546	A	EQUIPMENT SURVEILLANCE SYSTEMS, BASEMENT & FIRST FLOOR PLAN
2	1	R	3904	1	0	18-JAN-68	06-SEP-67	3586	A	AUDIO SYSTEM EQUIP. LOCATION, INTERCOM, BASEMENT & FIRST FLOOR PLAN
2	1	R	3908	1	1	18-JAN-68	05-SEP-67	3586	A	AUDIO SYSTEM EQUIP. LOCATION, BASEMENT & FIRST FLOOR PLAN
2	1	R	3909	2	0	18-JAN-68	05-SEP-67	3586	A	AUDIO SYSTEM EQUIP. LOC., SECOND FLOOR PLAN
2	1	R	3911	1	1	28-DEC-67	06-SEP-67	3586	A	AUDIO SYSTEM BLOCK DIAGRAM
2	1	R	3912	2	0	28-DEC-67	07-SEP-67	3586	A	AUDIO SYSTEM BLOCK DIAGRAM
2	1	SK	53	1	1	24-MAY-56	06-JUN-47	50	M	VENTILATION FOR REACTOR CONTROL ROOM IN BLDG. #1, OMEGA - SITE
2	1	SK	148	1	0	01-JUN-53	01-FEB-49	189	A	PROPOSED ADDITION TO BLDG. #1
2	1	SK	409	1	2	01-JUN-53		0	UN	INSTALL ONE 4 X 4 AIR COOLER IN CONTROL RM. OMEGA SITE
2	1	SK	424	1	1	01-JUN-53	24-SEP-47	0	A	DOOR IN EAST WALL OF BLDG. #1, OMEGA-SITE
2	1	SK	456	1	1	01-JUN-53	06-NOV-47	0	A	REMOVE PARTITIONS & INSTALL SHELVING IN RM. #12, BLDG. 1, OMEGA SITE
2	1	SK	486	1	2	26-NOV-58	29-JUL-53	0	C	WIRING FOR PIT MOTOR, OMEGA SITE
2	1	SK	528	1	2	01-JUN-53		0	A	CONST. & INSTALL SERVICE PLATFORM TO HOIST, TA-2
2	1	SK	552	1	2	01-JUN-53		0	UN	CONST. PARTITION, BENCH & SHELVES ROOM 2, OMEGA WEST, TA-2
2	1	SK	1242	1	0	21-AUG-97	22-JUN-51	874	C	Proposed Retaining Walls, Bldg. Omega-1
2	1	SK	1364	1	0	22-AUG-97	20-AUG-51	942	S	BARREL RACK FOR BLDG. 1, OMEGA SITE, PLOT PLAN AND DETAILS
2	1	SK	1446	1	0	22-AUG-97	21-NOV-51	999	C	Regrade Area North of Bldg. #1, Omega Site, Plot Plan and Details
2	1	SK	2567	1	0	10-SEP-97	09-NOV-55	1786	A	LABORATORY MODIFICATIONS, RMS. 120, 121, 122, FLOOR PLAN & SECTION
2	1	SK	7664	1	0	30-MAR-89		10144	F	SPRINKLER MODS CORRIDOR 101C & D, BLDG. 1
2	1	SK	7843	1	0	20-AUG-94	10-OCT-91	7789	M	BACK-UP POWER GENERATOR INSTALLATION, GEN; REMOTE RADIATOR INSTALLATION
2	1	c	49861	1	1	26-JUN-99	09-DEC-96	16854	T	WASTE STREAM CORRECTIONS FMU #66, TITLE SHEET AND LIST OF DRAWINGS, SEVERAL TA AREAS

Historical Context of the Omega Reactor Facility, Technical Area 2

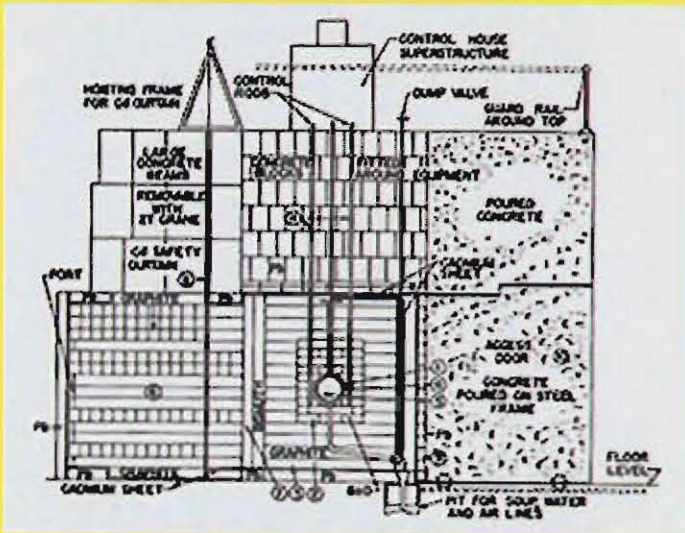
Volume 2a – Archival Photographs and Index



OWR Control Panel



Omega West Reactor (OWR)



HYPO "Water Boiler" Schematic



SUPO "Water Boiler" Control Panel

Historical Context of the Omega Reactor Facility, Technical Area 2

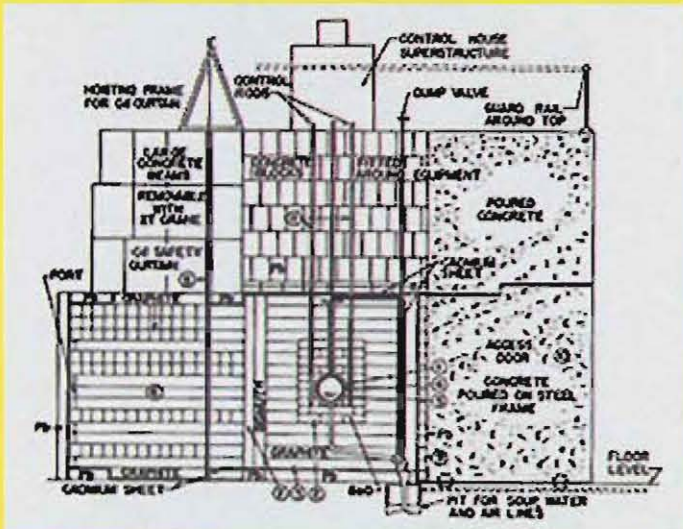
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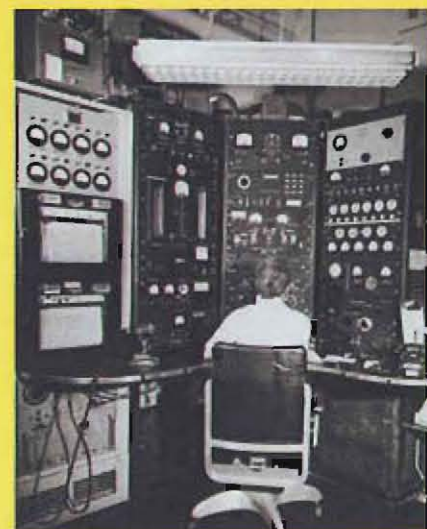
OWR Control Panel



Omega West Reactor (OWR)



HYPO "Water Boiler" Schematic



SUPO "Water Boiler" Control Panel

Los Alamos National Laboratory Historic Building Survey
Index to Photographs

Technical Area 2 Water Boiler Reactors, Clementine Reactor, and Omega West Reactor
Technical Area 2, Buildings (1)
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Notes: The Laboratory is divided into different geographic areas called technical areas (TAs) that are designated by numbers. The properties at TA-2 Omega Site are identified using the current LANL system of placing the "TA" prefix and TA number before each building and structure number, creating a unique property identifier (ie. TA-2-1).

TA-2-1 has housed five nuclear reactors between 1944 and 1994. The Water Boiler Reactors provided critical mass data in support of Manhattan Project nuclear weapons development. The three Water Boiler Reactors and the later "Clementine" Reactor were prototype nuclear reactors and represent important stages in the development of modern reactor technology. In 1990, the American Nuclear Society declared the Los Alamos Water Boiler Reactor (1944-1974) a Nuclear Historic Landmark.

The eastern half of TA-2-1, a wooden building with a high bay, was constructed in 1944. The Water Boiler Reactors "LOPO" (in room 123), "HYPO," and "SUPO" (in room 122) were housed in this portion of the building. The western half is a two-story addition that was built in 1946 out of concrete block. The Reactors "Clementine" and "Omega West" (in room 101) were located in this portion of the building.

The Omega Reactor Facility (TA-2-1) was declared eligible for the National Register of Historic Places (Register) on October 13, 2000. This building was excess LANL property and scheduled for clean up and eventual demolition. This action is in accordance with LANL's commitment to clean up inactive sites and facilities "so that no unacceptable risk to the public or environment remains" (U.S. Department of Energy 1994). The removal of this property was carried out by LANL's Decontamination and Decommissioning (D&D) Program. (For additional information see related project documentation: *The Omega West Reactor and Water Boiler Building, TA-2-1; A Preliminary Report*, LA-UR-00-3854, Historic Building Survey Report No. 186, Los Alamos National Laboratory, and *Historical Context of the Omega Reactor Facility, Technical Area 2*, LA-UR-04-6681, Historic Building Survey Report No. 234, Los Alamos National Laboratory.)

References

U.S. Department of Energy
1994 Environmental Restoration and Waste Management Five-Year Plan Fiscal Years 1994-1998. DOE/S-00097P, U.S. Department of Energy, Washington, D.C.

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Technical Area 2 Omega Site, TA-2-1
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Presley Salazar, Photographer, IM-9, LANL February 13 and 26, 2002
(RB02-001-001 through RB02-001-184)

Mike O'Keefe, Photographer, IM-9, LANL February 27, 2002
(RB02-003-001 through RB02-003-051)

John Flower, Photographer, IM-9, LANL March 2002
(RB02-001-185 through RB02-001-208)

Photograph

Number

Description

RB02-001-207	TA-2-1, west side and south side (front), facing northeast.
RB02-001-208	TA-2-1, west side and south side (front) of the western half of the 1946 addition, facing northeast.
RB02-001-205	TA-2-1, west side and south side (front) of the original portion of the buildings, facing northeast.
RB02-001-203	TA-2-1, south side (front) of the original portion of the building, facing northeast.
RB02-001-199	TA-2-1, east side and south side (front) of the western half of the 1946 addition, facing northwest.
RB02-001-020	TA-2-1, south side (front) of the western half of the 1946 addition, facing northwest.
RB02-001-198	TA-2-1, south side (front) of the eastern half of the 1946 addition (central portion of the building), facing north.
RB02-001-194	TA-2-1 south side (front) of the eastern half of the 1946 addition and west side and south side (front) of original portion of building, facing northeast.

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<u>Photograph Number</u>	<u>Description</u>
RB02-001-195	TA-2-1, west side and south side (front) of original portion of the building, facing northeast.
RB02-001-185	TA-2-1, south side (front) of original portion of the building, facing northeast.
RB02-001-189	TA-2-1, south side (front) and east side of original portion of building, facing northeast.
RB02-001-008	TA-2-1, east side, facing northwest.
RB02-001-047	TA-2-1, east side, northern portion, facing northeast.
RB02-001-041	TA-2-1, east side, facing south southwest.
RB02-001-042	TA-2-1, north side (back) and east side of eastern portion of building, facing southwest.
RB02-001-035	TA-2-1, north side (back) of eastern portion of building, facing south.
RB02-001-039	TA-2-1, north side (back) and east side of eastern portion of building, facing southwest.
RB02-001-034	TA-2-1, north side (back) and west side of eastern portion of building, facing southeast.
RB02-001-032	TA-2-1, north side (back) of central portion of building (west half of original portion of building), facing south.
RB02-001-030	TA-2-1, north side (back) of east half of 1946 addition, facing southwest.
RB02-001-028	TA-2-1, north side (back) of 1946 addition, facing southeast.
RB02-001-025	TA-2-1, north side (back) of 1946 addition, facing southeast.
RB02-001-023	TA-2-1, west side of 1946 addition, facing east.
RB02-001-128	TA-2-1, room 122, south and west walls (south wall with door), facing southwest. Note one wall "vault" in west wall on right side and debris from ceiling fall.

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<u>Photograph Number</u>	<u>Description</u>
RB02-001-125	TA-2-1, room 122, west and north walls, facing northwest. Note two wall "vaults" in west wall on left side and double doors.
RB02-001-122	TA-2-1, room 122, west and north walls, facing northwest.
RB02-001-131	TA-2-1, room 122, northwest corner, close up of ceiling fall, facing northwest and up.
RB02-001-119	TA-2-1, room 122, east wall with an equipment loading door and a double pedestrian door, facing east.
RB02-001-110	TA-2-1, room 122, looking into room 123, facing south.
RB02-001-114	TA-2-1, room 123, chain link "caged" area along west wall, facing southwest.
RB02-001-116	TA-2-1, room 123-A, facing south.
RB02-001-082	TA-2-1, room 124, facing northwest. Note room 124-A at left.
RB02-001-084	TA-2-1, room 124, facing northeast. Note room 124-B center, and doorways into rooms 124-C and 123-D at right.
RB02-001-087	TA-2-1, room 124, facing south southwest. Note doors into room 126.
RB02-001-062	TA-2-1, room 124-D, facing southeast. Note vault door on east wall.
RB02-001-058	TA-2-1, room 124-D, facing southwest. Note doorway into room 124.
RB02-001-063	TA-2-1, room 124-D, facing northeast. Note doorway into room 124-C.
RB02-001-054	TA-2-1, room 124-D, facing south. Note closed vault door to vault room 124-V.
RB02-001-053	TA-2-1, room 124-V, double vault doors partially open, facing south.
RB02-001-050	TA-2-1, room 124-V, inside of vault, facing south.
RB02-001-073	TA-2-1, room 124-C, facing southwest. Note doorway into room 124.
RB02-001-071	TA-2-1, room 124-C, facing northeast. Note doorway into room 125-A.

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<u>Photograph Number</u>	<u>Description</u>
RB02-001-066	TA-2-1, room 124-C, facing northwest. Note doorway into room 125-A.
RB02-001-076	TA-2-1, room 125-A, facing north northwest.
RB02-001-079	TA-2-1, room 125-A, facing south southeast.
RB02-001-090	TA-2-1, room 126, facing northwest.
RB02-001-093	TA-2-1, room 126, facing southeast.
RB02-001-101	TA-2-1, room 117, facing northwest.
RB02-001-095	TA-2-1, room 117, facing northeast.
RB02-001-098	TA-2-1, room 117, facing southeast.
RB02-001-107	TA-2-1, room 117, facing east southeast.
RB02-001-104	TA-2-1, room 117, chalkboard, facing east.
RB02-001-134	TA-2-1, room 120, facing north northeast.
RB02-001-137	TA-2-1, room 120, facing southwest.
RB02-001-140	TA-2-1, room 121, facing south.
RB02-001-142	TA-2-1, room 118, facing south.
RB02-001-145	TA-2-1, room 119, pass through window into room 120 on east wall, facing southeast.
RB02-001-149	TA-2-1, room 115, facing southeast.
RB02-001-152	TA-2-1, room 115, facing southwest.
RB02-001-155	TA-2-1, room 116, looking into room 116-A, facing northwest.
RB02-001-158	TA-2-1, room 116, facing northeast.
RB02-001-163	TA-2-1, corridor 100-C, facing east.

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<u>Photograph Number</u>	<u>Description</u>
RB02-001-161	TA-2-1, room 112, typical office/lab, facing northwest.
RB02-001-177	TA-2-1, room 108A, office, facing south.
RB02-001-179	TA-2-1, room 108 office, facing west.
RB02-001-166	TA-2-1, room 104/106, facing north.
RB02-001-168	TA-2-1, room 106, west wall, facing west southwest.
RB02-001-171	TA-2-1, room 106, facing southeast.
RB02-001-182	TA-2-1, corridor 100-B and freight elevator, facing northwest.
RB02-001-174	TA-2-1, looking up steps to room 102 – the control room for Omega West Reactor, facing south.
RB02-003-050	TA-2-1, room 102, Omega West Reactor control room, facing south.
RB02-003-001	TA-2-1, room 102, Omega West Reactor control room, facing west.
RB02-003-003	TA-2-1, room 102, Omega West Reactor control room, facing north northeast.
RB02-003-051	TA-2-1, room 102, Omega West Reactor control room – eastern portion of control panel, facing north.
RB02-003-004	TA-2-1, room 102, Omega West Reactor control panel, facing northwest.
RB02-003-005	TA-2-1, room 101, Omega West Reactor, facing northwest.
RB02-003-007	TA-2-1, room 101, Omega West Reactor, facing northwest and up.
RB02-003-038	TA-2-1, room 101, Omega West Reactor, facing northwest.
RB02-003-008	TA-2-1, room 101, Omega West Reactor, facing northeast.
RB02-003-009	TA-2-1, room 101, Omega West Reactor, facing northeast and up.
RB02-003-042	TA-2-1, room 101, Omega West Reactor, facing northeast.

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<u>Photograph Number</u>	<u>Description</u>
RB02-003-025	TA-2-1, room 101, Omega West Reactor, facing southeast.
RB02-003-027	TA-2-1, room 101, Omega West Reactor, facing southeast and up.
RB02-003-011	TA-2-1, room 101, Omega West Reactor, facing southeast.
RB02-003-014	TA-2-1, room 101, Omega West Reactor, facing southeast.
RB02-003-022	TA-2-1, room 101, Omega West Reactor, facing southeast.
RB02-003-028	TA-2-1, room 101, Omega West Reactor, facing south southeast.
RB02-003-031	TA-2-1, room 101, Omega West Reactor, facing south southwest and up.
RB02-003-020	TA-2-1, room 101, Omega West Reactor, facing south southwest.
RB02-003-037	TA-2-1, room 101, Omega West Reactor, ceiling hatch, facing south and up.
RB02-003-044	TA-2-1, room 202, (Library), facing southwest.
RB02-003-045	TA-2-1, room 202, (Library), facing northwest.
RB02-003-046	TA-2-1, room 202, (Library), facing southeast.
RB02-003-048	TA-2-1, room 206, typical office, facing north.
RB02-003-049	TA-2-1, room 207, typical office, facing south.