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Author(s):	Garcia, Kari L. M Holtkamp, David M. McGehee, Ellen D. McCarthy, Sheila Towery, Kenneth R. Honig, Kristen Ann
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Pressing Matters: An Evaluation of the Cold War Era Buildings at the Sigma Complex

Los Alamos National Laboratory

LANL Fiscal Year 2016 Footprint Reduction

Historic Building Survey Report No. 337

Survey Nos. 1155 and 1169

Los Alamos
NATIONAL LABORATORY
EST. 1943

Prepared for: the U.S. Department of Energy/National Nuclear Security Administration, Los Alamos Field Office

Prepared by: **Kari L. M. Garcia**, Cultural Resources Manager, LANS Environmental Stewardship Services (ENV-ES)

David M. Holtkamp, Consulting Cultural Resources Manager, Compa Industries, Inc.

Ellen D. McGehee, Historian and Historic Buildings Manager, LANS Environmental Stewardship Services (ENV-ES)

Sheila McCarthy, Historical Architect, Benchmark Consulting Group

Ken Towery, Architect, LANS Infrastructure Planning (OI-IP)

Kristen Honig, LANS Infrastructure Planning (OI-IP)

EXECUTIVE SUMMARY

The United States Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (Field Office) requests the State Historic Preservation Officer (SHPO) to concur with the eligibility determinations contained in this report for a group of properties in Technical Area (TA-3) at Los Alamos National Laboratory (LANL or the Laboratory).

In compliance with Section 106 and 110 of the *National Historic Preservation Act*, Los Alamos National Security, LLC cultural resource staff completed the evaluation of five buildings, called the Sigma Complex, for inclusion in the National Register of Historic Places (Register). This set of properties includes one building proposed for demolition, TA-3-35, and four additional buildings not scheduled for demolition, TA-3-66, TA-3-141, TA-3-159, and TA-3-169. Of the five evaluated properties, buildings TA-3-35, TA-3-66, TA-3-141, and TA-3-159 were determined Register-eligible based on the findings in this assessment report. These four buildings are integral to the history of nuclear weapons and reactor technology at the Laboratory during the Cold War. Building TA-3-169 was determined not eligible. In addition to Register evaluations, historic properties at Sigma Complex were assessed for preservation, adaptive reuse, and interpretive potential. None of the Register-eligible properties evaluated in this report were identified for permanent retention.

Building TA-3-35 has been identified as excess property and the Field Office proposes to decontaminate, decommission, and ultimately demolish this Cold War-era property. Its demolition is being planned as part of LANL's Footprint Reduction Program activities during fiscal year 2016.

The SHPO is requested to concur with the eligibility determinations contained in this report for the five properties at the Sigma Complex in TA-3. Additionally, this report serves as notification that one property described in this report, TA-3-35, will be demolished. Adverse effects to this Register-eligible building will be resolved using standard documentation and reporting measures outlined in Section 9 of the LANL Cultural Resources Management Plan and implemented by the 2015 Programmatic Agreement between the Field Office, the New Mexico SHPO, and the Advisory Council on Historic Preservation. Standard measures include a written history of the technical area and a use history of the affected properties as well as detailed architectural documentation of the properties, such as archival quality photographs and updated as-built drawings. In addition, archival records along with historically significant equipment and "artifacts" associated with the historic properties will be identified prior to any demolition action and stored at appropriate LANL repositories. As supplemental documentation to the standard documentation measures, HAER documentation (Lidar scanning) will also be conducted on the 5000-ton press machine.

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INTRODUCTION

The United States (U.S.) Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (Field Office) requests the State Historic Preservation Officer (SHPO) to concur with the eligibility determinations contained in this report for a group of properties in an area known as the Sigma Complex, in Technical Area (TA-3) at Los Alamos National Laboratory. Also the Field Office proposes to demolish a Cold War-era property during fiscal year (FY) 2016 as part of the Footprint Reduction Program activities at Los Alamos National Laboratory (LANL or the Laboratory).

Historic Property Eligibility Assessment

In compliance with Section 106 and Section 110 of the National Historic Preservation Act, this report contains documentation regarding the National Register of Historic Places (Register) eligibility status of a group of five buildings associated with Cold War activities located at Technical Area (TA) 3. This set of properties includes one building proposed for demolition, TA-3-35, and four buildings not slated for demolition, TA-3-66, TA-3-141, TA-3-159, and TA-3-169. One additional building (TA-3-147) is mentioned briefly in this report, but is considered a property exempt from review. Work processes carried out in this area of TA-3 known as the Sigma Complex supported nuclear weapons research, reactor technology, and strategic and supporting science programs, including nuclear rocket research (Project Rover). Historical context information about activities at the Sigma Complex, property descriptions, and recommendations for Register eligibility are included in this report. A discussion of the multiple property method used to evaluate these properties is also included. Appendix A contains historic building inventory forms for the five buildings.

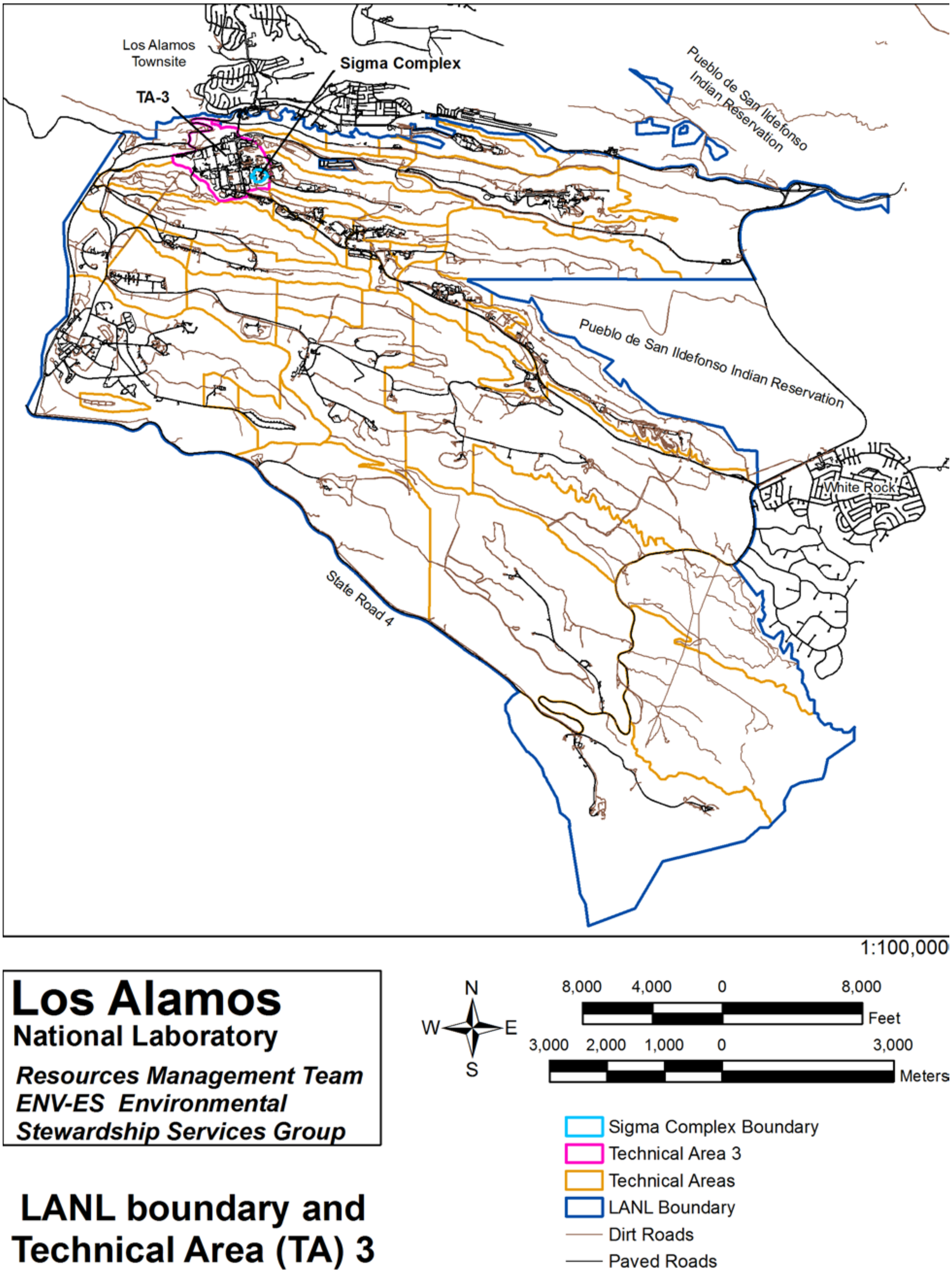
Survey Methods

Some of the initial surveys of properties located at the Sigma Complex were conducted in 2006 by Sheila A. McCarthy, Historical Architect, Benchmark Consulting Group. Follow-up survey and documentation work was conducted in 2015 by Ken Towery, Architect, and Kristen Honig, LANL Infrastructure Planning Group, Kari Garcia and Ellen McGehee, LANL Environmental Stewardship Services Group, and David M. Holtkamp, Compa Industries, Inc. The building surveys were accomplished by conducting field visits to the buildings at the Sigma Complex (Maps 1 and 2). Architectural and engineering features of the properties were documented and photographs were taken. LANL records research was also conducted.

HISTORICAL OVERVIEW

Early Cold War Era (1946–1956)

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


Los Alamos Townsite
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TA-3
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Pueblo de San Ildefonso Indian Reservation
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Los Alamos
National Laboratory
Resources Management Team
ENV-ES Environmental
Stewardship Services Group
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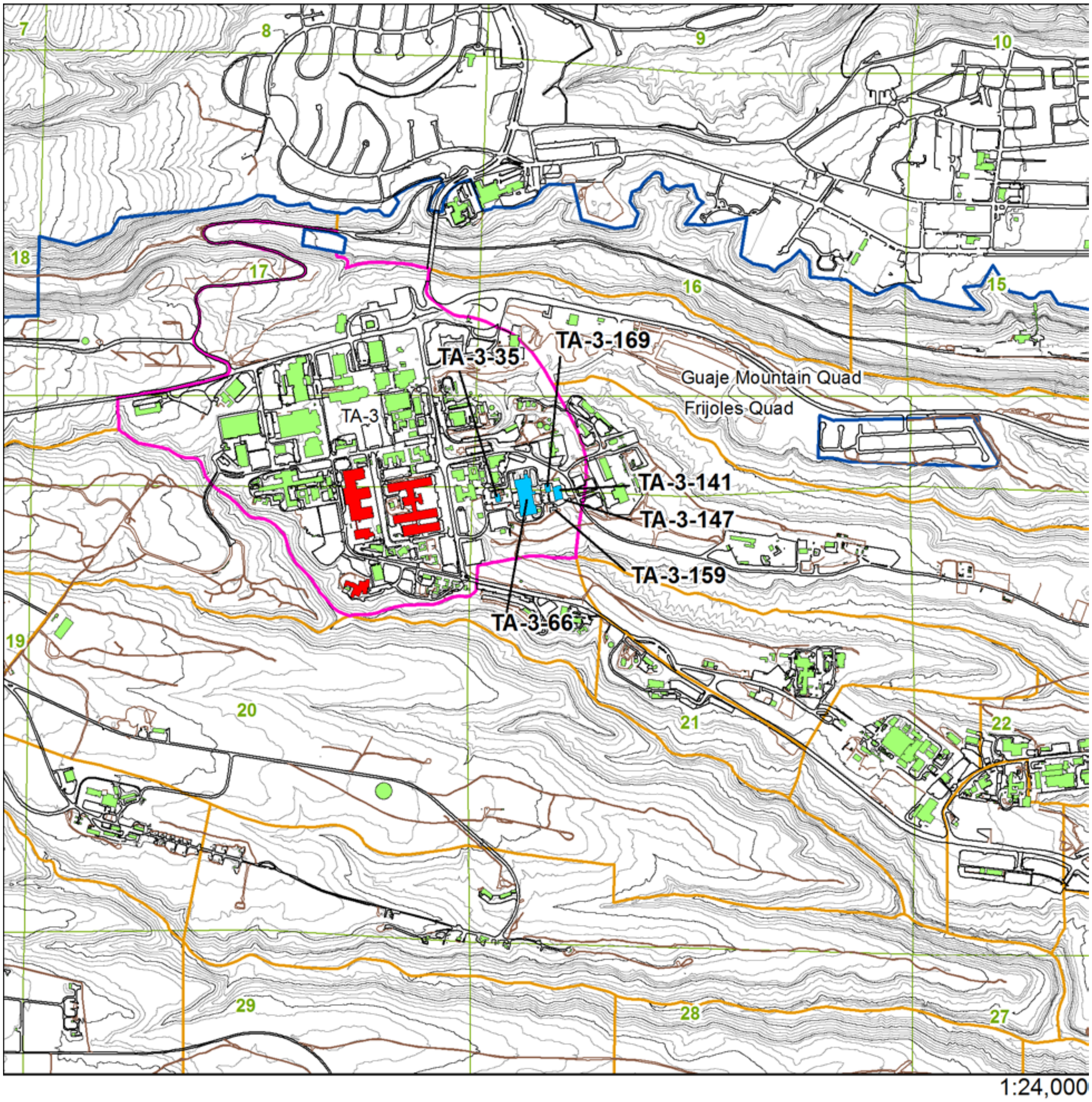
Sigma Complex Boundary
Technical Area 3
Technical Areas
LANL Boundary
Dirt Roads
Paved Roads

Map 1



Los Alamos
National Laboratory

Resources Management Team
ENV-ES Environmental Stewardship Services Group

Sigma Complex: TA-3-35, TA-3-66, TA-3-141, TA-3-159, & TA-3-169

N W E S

2,000 1,000 0 2,000 Feet

800 400 0 800 Meters

- Buildings Declared Eligible
- Buildings Being Evaluated
- Exempt Buildings
- Building/Structures
- Technical Area 3
- Technical Areas
- LANL Boundary
- Dirt Roads
- Paved Roads
- 20 Foot Contours
- 100 Foot Contours
- Township, Range, Section
- USGS 7.5" Quads

Map 2

In 1946, Los Alamos became involved in Operation Crossroads, the first of many atmospheric tests in the Pacific. 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 the Laboratory 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 was spearheaded by Edward Teller and Stanislaw Ulam and 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 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 initial meeting of Los Alamos's Family Committee, a committee tasked with developing the first two thermonuclear devices (LANL 2001a). In 1951, the Nevada Proving Ground was established and the first Nevada atmospheric test, known as Able, was conducted. In the same year, Laboratory scientists directed Operation Greenhouse in the Pacific and successfully conducted both the first thermonuclear test, known as George, and the first thermonuclear boosted test, Item. In 1952, the first thermonuclear bomb, known as Mike, was detonated at Enewetak Atoll in the Pacific (LANL 1993).[1] The Soviet Union responded with a successful fusion demonstration 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 2001a).

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 the Laboratory's continued support of the atmospheric testing programs in the Pacific and at the Nevada Test Site. In 1957, the first of many underground tests in Nevada was conducted, and in 1963, the Limited Test Ban Treaty was signed, which banned atmospheric testing and also nuclear weapons tests in the oceans and space (U.S. DOE 2000). Defense mission undertakings during this time included treaty and test ban verification programs, such as the satellite detection of nuclear explosions, research and development of space-based weapons, and continued involvement with stockpile stewardship issues. Non-weapons undertakings supported nuclear medicine, genetic studies, National Aeronautics and Space

[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).

Administration collaborations, superconducting research, contained fusion reaction research, and other types of energy research (McGehee and Garcia 1999).

The Cold War Ends

The Cold War ended in the early 1990s. Its demise was marked by START, the Strategic Arms Reduction Treaty which was signed by President George H. W. Bush, and Soviet President, Mikhail Gorbachev, and by President Bush's announcement in September 1991 of a unilateral decision to decrease significantly the U.S. nuclear weapon stockpile. That announcement was followed in June 1992 by an agreement between President Bush and Russian president Boris Yeltsin to reduce each country's nuclear arsenal gradually over the next decade. The arms race that had lasted nearly half a century was over (Machen et al. 2010).

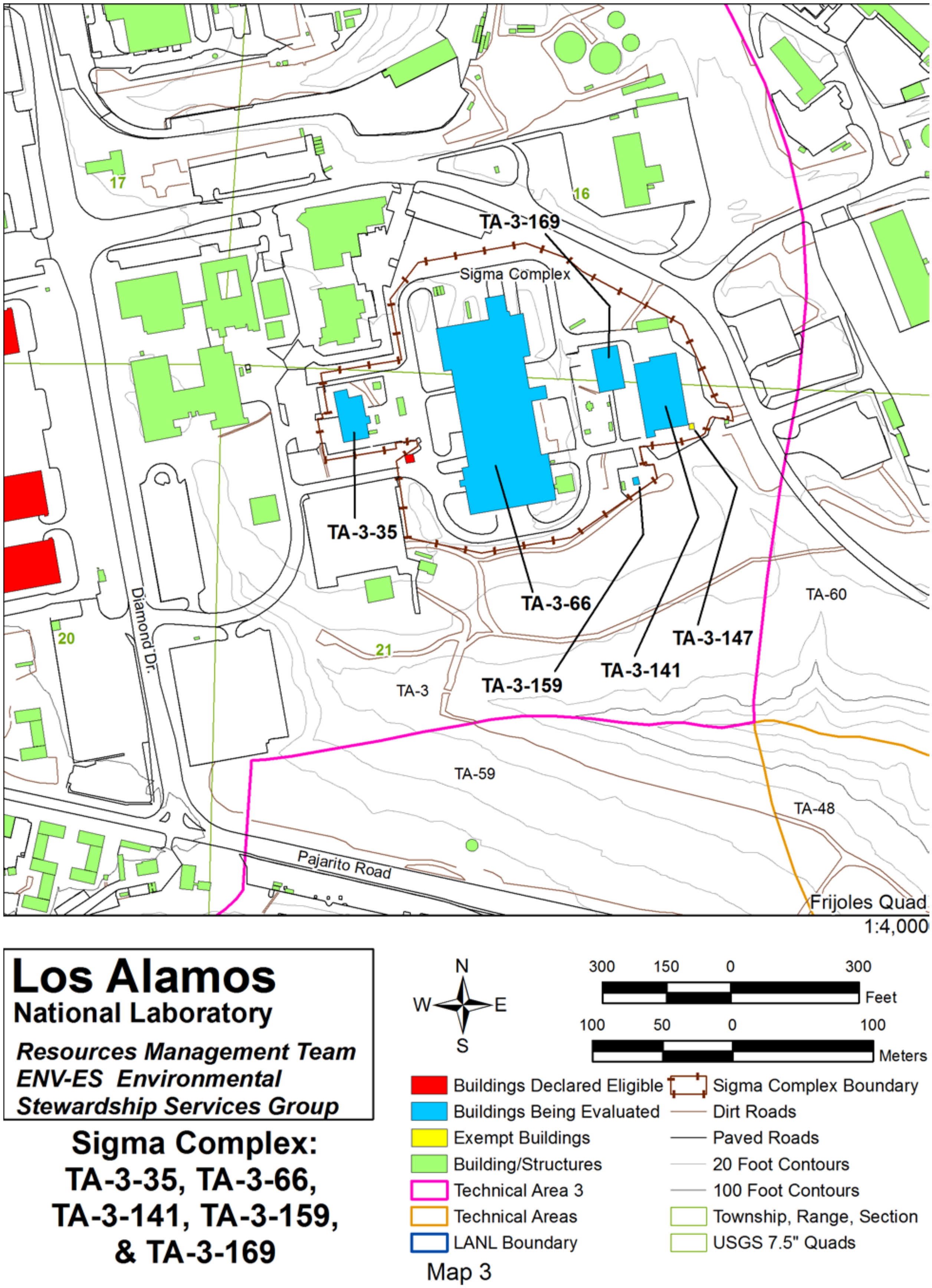
TECHNICAL AREA DESCRIPTION

TA-3 Historical Background

TA-3, South Mesa Site, is located on South Mesa across Los Alamos Canyon from the Los Alamos townsite. TA-3 functions as LANL's administrative center. The Laboratory's administrative functions were relocated from downtown Los Alamos to TA-3 after the end of WWII. In 1950, construction began on the main buildings at TA-3 that were to replace the operations facilities in the townsite. A second stage of construction at TA-3 occurred during the mid- to late-1950s. Several major buildings were completed during these years (Garcia and McLain 1999; McGehee et al. 2001). Currently, TA-3 supports many activities including experimental sciences, special nuclear materials, administrative, public and corporate access, theoretical/computations, and physical support operations (LANL 2002).

Sigma Complex Historic Background

The Sigma Complex is located at the southeast portion of TA-3 north of Pajarito Road and east of Diamond Drive (Map 3). It was constructed between 1953 and 1964, and was operated by the Chemistry and Metallurgy-Baker (CMB) Division. In 1955 CMB Division was designated as a continuation of the Manhattan Project's Chemistry (C) Division (LANL 2013). The Sigma Complex consists of five buildings described in this report: the Press Building (TA-3-35), the main Sigma Building (TA-3-66), the Rolling Mill Building currently named the Beryllium Technology Facility (TA-3-141), the Forming Building (TA-3-159), and the raw materials warehouse (TA-3-169). There is also an Air Plenum and Fan structure (TA-3-147) that is exempt from review in this report and a small number of other structures exempt from review (i.e., portable trailers and transportainers) within the fenced Sigma Complex area. These buildings were designed to support early Cold War weapons research and design, reactor technology, particularly with nuclear rockets including the Dumbo project and Project Rover, and strategic supporting research in chemistry and metallurgy (LANL 2001b). In 1972, while still operating in the Sigma Complex, CMB Division was combined with Chemistry and Metallurgy-Fowler (CMF) Division to create Chemistry and Laser Sciences (CLS) Division. In 1983 CMB Division was separated again into Material Science and Technology (MST) Division (LANL 2013).


17
16
TA-3-169
Sigma Complex
TA-3-35
TA-3-66
TA-3-147
TA-3-141
TA-3-159
TA-60
20
Diamond Dr.
21
TA-3
TA-59
TA-48
Pajarito Road
Frijoles Quad
1:4,000
Los Alamos
National Laboratory
Resources Management Team
ENV-ES Environmental
Stewardship Services Group
Sigma Complex:
TA-3-35, TA-3-66,
TA-3-141, TA-3-159,
& TA-3-169
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Buildings Declared Eligible
Buildings Being Evaluated
Exempt Buildings
Building/Structures
Technical Area 3
Technical Areas
LANL Boundary
Sigma Complex Boundary
Dirt Roads
Paved Roads
20 Foot Contours
100 Foot Contours
Township, Range, Section
USGS 7.5" Quads
Map 3

Currently, the Sigma Complex is operated by MST Division and supports a large, multi-disciplinary technology base in materials fabrications science, which includes synthesis and processing, characterization, fabrication, joining, and coating of metallic and ceramic items. Activities conducted throughout the Sigma Complex's history have applied to a variety of materials, including uranium (depleted and enriched), lithium, and beryllium (LANL 1995).

LANL Cold War Context and Themes at the Sigma Complex

Key historical themes were identified in a LANL Cold War context report produced as part of the documentation of the former Laboratory Administration Building (SM-43) (Machen et al. 2010). The scientific work at the Sigma Complex has contributed significantly towards three important LANL-wide Cold War historical themes: Weapons Research and Design, Testing, and Stockpile Support; Reactor Technology, which includes the subtheme on nuclear rocket research; and Strategic and Supporting Research.

Weapons Research and Design, Testing, and Stockpile Support

> The central mission of the Laboratory throughout the Cold War was the design and testing of weapons for the nation's nuclear arsenal. From the fourth floor of the Laboratory's Admin Building, directors from Norris Bradbury to Robert Kuckuck oversaw the development of nuclear weapons—fission weapons, at first, based on the Manhattan Project implosion (Fat Man) design, and then fusion, or hydrogen (thermonuclear) weapons (Machen et al. 2010:91).

Since its beginning in the 1950s, the Sigma Complex has supported the nuclear weapons program at the Laboratory. The Press Building (TA-3-35) was first used by the Zia Company in the mid-1950s to fabricate cable assemblies for weapons testing (LANL n.d. [a]). The Sigma Building (TA-3-66) has been used since its construction to fabricate parts for the weapons program at the Laboratory (LANL n.d.[b]). The Forming Building (TA-3-159) was used for high explosives fabrication and was accompanied by a firing control point and a storage magazine (LANL n.d.[c]). To the present day, these buildings have housed a variety of activities related to the weapons program including prototype fabrication, synergistic blending of metallurgy and ceramics, and research with hazardous materials including beryllium, uranium, and thallium (LANL 1995; LANL 2007; Valentine 1975).

Reactor Technology

> Reactors have been developed and used at LANL ever since Manhattan Project days. They have served such diverse purposes as providing measurements essential to the World War II atomic bomb project, producing radioisotopes for research projects, conducting criticality experiments (to determine when a chain reaction would occur in fissionable materials), and powering rockets in space (Machen et al. 2010:100).

Project Rover

> From 1955 to 1972, the Laboratory developed fission reactors for Project Rover, a program designed to meet the needs of an interplanetary mission—in particular, a manned mission to Mars. Chemically powered rockets were already being developed elsewhere for the Intercontinental Ballistic Missile Program, but it was not certain that a rocket powered by

chemicals could travel as far as desired. To provide a backup, scientists working on the Rover Program studied and built test reactors that could be used in a nuclear-powered rocket. A cool gas would be passed through a hot reactor powered by atomic energy; as the superheated gas shot out of a nozzle, the resulting propulsion would far exceed that provided by chemically powered rockets. Los Alamos scientists developed a series of four reactors to understand the underlying principles of nuclear- rocket reactor technology. They designed the Kiwi reactor to develop the basic technology of nuclear thermal

The Project Rover nuclear reactor (photo at left) was designed to power rockets. Compressed hydrogen in the spheres at the top flowed through the reactor core (center) and formed a jet as it exited the nozzle at the bottom (LANL 1983). The Laboratory's Kiwi B-4D reactor (photo at right) being readied for a "hot run" in May 1964 (LASL 1964).

Dumbo reactor was designed as an alternative to the Rover reactor (LANL Photography LAT-2351).

> rockets; the Phoebus reactor to test designs for interplanetary voyages; a reactor they called Peewee-1 to test smaller, more compact reactor designs; and Nuclear Furnace-1 to test advanced fuels and designs for reducing emissions of radioactive material into the atmosphere. These reactors were tested at the Nevada Test Site. Project Rover successfully demonstrated that a nuclear reactor could be used to heat liquid hydrogen for spacecraft propulsion. But in 1969 the nation's plans for human exploration of Mars were abandoned, and Project Rover was canceled in the early 1970s (Machen et al. 2010:103–104).

Dumbo Reactor Project

Nuclear rocket research with the Dumbo reactor project began in 1955 alongside Project Rover as an alternative to the Kiwi reactor design (Kirk 1991). The Kiwi reactors were a graphite-moderated design, while the Dumbo reactor was designed with a hexagonal design and honeycomb assembly for nuclear fuel columns. "The concept [of the Dumbo reactor] was intended to take advantage of the high-temperature characteristics of refractory metals, most notably tungsten, with tantalum and molybdenum also in consideration" (Paxton 1983:27). Like with Kiwi reactors in the Rover project, liquid gas would be passed through the reactor powered by atomic energy and the resulting gas shot out of a nozzle. However, during initial tests of Dumbo-A it was determined that the Dumbo reactor design offered no considerable advantages to the Kiwi reactor design. The Dumbo reactor project was canceled in 1959 while the Kiwi reactor development continued until 1972 (Kirk 1991 and Paxton 1983).

Sigma Complex and Nuclear Rocket Research (Project Rover and Dumbo)

The Sigma Complex contributed to advancements in the Laboratory's nuclear rocket program during the late 1950s and 1960s through a combination of chemistry and metallurgy. The Press Building was used to fabricate uranium fuels for the Rover rocket program until 1972 (LANL n.d.[a]). The southern portion of the Rolling Mill Building (TA-3-141), the original portion of the building, was designed to fabricate fuel for the Dumbo reactor. But because the Dumbo project was cancelled in 1959, the building was never used for the intended purpose (LANL n.d.[d]) and Paxton 1983). Instead, the Rolling Mill Building was later expanded upon by constructing its northern portion in 1962 to fabricate graphite-enriched uranium dioxide fuel for the Kiwi reactor until 1972 (LANL n.d.[d]; Valentine 1975).

Strategic and Supporting Research

Throughout the Cold War, "the Laboratory's strategic and supporting research provided critical capabilities in support of the Laboratory's core responsibilities to the nation's nuclear weapons complex. Besides augmenting the areas of weapon physics, weapon engineering, and threat reduction, it consisted of a broad spectrum of high-quality, basic research that added to the national and international scientific knowledge base. … Four arbitrarily grouped examples [are]: nuclear science, pioneering physics [including materials science research], electronics development, and energy research" (Machen et al. 2010).

Materials Science

> Materials science covers an extraordinarily wide variety of work, all based on developing an understanding of, and controlling, the complexity of materials. From the beginning years of the Laboratory, scientists were in the business of processing new materials for technological needs because the very nature of building an atomic weapon required new

> materials and new technologies. To deal with the unique materials used in nuclear weapons, such as actinides, special ceramics, polymers, and so forth, Los Alamos scientists not only had to develop significant expertise in materials research but also needed to develop expertise on how materials behave. … Of special note is the work that Laboratory metallurgists did in developing a new class of ceramics materials for high-temperature environments, such as those involved in fuel processing and power generation (Machen et al. 2010:137–138).

The Chemistry and Metallurgy-Baker Division Group 6 (CMB-6) conducted work with ceramics, powder and physical metallurgy, metal fabrication, plastics, electrochemistry, and graphite studies at the Sigma Complex (Ahlquist 1965). These contributions by CMB Division were successful not only for the Laboratory's nuclear weapons program, but also for nonmilitary projects and fundamental research. Chemical and metallurgical research with materials such as uranium has contributed significantly towards understanding the applicability of such materials for a variety of purposes (LASL 1963).

Aerial view of the Sigma Complex with the Sigma Building (TA-3-66) in center, the Press Building (TA-3-35) in upper center left, and Rolling Mill Building (TA-3-141) in lower right (LANL 1995).

Post Cold War Research at Sigma Complex

Since the end of the Cold War, the Sigma Complex has supported MST Division with a large, multidisciplinary materials technology base. This includes research and development in metallurgy and ceramics focused on the integration of synthesis and processing, characterization, and fabrication of components combined with computer modeling and process simulation. The scientific capabilities at the Sigma Complex reflect significant investments in metal casting; thermomechanical processing; electrochemistry; powder processing; sol gel synthesis and colloidal processing; laser and microwave processing; process modeling; and microstructural, mechanical, and thermophysical properties characterization (LANL 2007). These activities support the Laboratory's Stockpile Stewardship and Management Program (LANL 2002).

MULTIPLE PROPERTY METHOD OF EVALUATION

All five buildings at the Sigma Complex in TA-3 were evaluated using a multiple property documentation approach. This systematic approach serves as a useful evaluation tool to determine the historical significance of a group of thematically-related properties, such as buildings that support Weapons Research and Design, Testing, and Stockpile Support; Reactor Technology; and Strategic and Supporting Research at the Sigma Complex. A key element of the multiple property documentation approach is context. Contexts provide information about historical patterns and trends and have clearly defined themes, geographical areas, and chronological periods (U.S. NPS 1999).

The historic buildings at the Sigma Complex in TA-3 evaluated in this report are technologically related and date to the Cold War era at Los Alamos (1953–1990). As discussed in the historical background section above, properties at the Sigma Complex are linked to subthemes underlying three of the LANL-wide Cold War historical themes identified in a LANL Cold War context document: Weapons Research and Design, Testing, and Stockpile Support; Reactor Technology; and Strategic and Supporting Research (Machen et al. 2010). Decisions relating to final eligibility recommendations were based on the type of property, the level of physical integrity, and associations with this significant theme.

Associated Property Types

The multiple property documentation approach requires the identification of property types that are associated with historical contexts. This identification facilitates the evaluation of individual properties within the broader complex of properties being reviewed. Properties are compared with other historical resources that have similar histories and similar physical characteristics (Hanford Site 1999a).

There are four general property types associated with the Sigma Complex’s historical themes.

1. **Laboratory-Processing-Testing Buildings or Structures** such as facilities for steel, brass, lead, and uranium fabrication; materials synthesis and research; and experimental facilities.

2. **Administration Buildings** such as office buildings and facilities housing facility management and health and safety personnel.

3. **Security Buildings and Structures** such as guard stations, security lights, and fencing.

4. **Support Buildings and Structures** such as press buildings, warehouses, storage buildings, water tanks, utilities, and waste treatment facilities.

Laboratory-processing-testing facilities located at the Sigma Complex are associated with the technical functions underlying the main Cold War themes: Weapons Research and Stockpile Support; Reactor Technology; and Strategic and Supporting Research. Specific significant activities carried out in this type of property supported Cold War Rover rocket engine development and later chemistry, metallurgy, and materials research supporting the nuclear weapons program. Some minor test support facilities, identified in this report as second tier properties, are considered an essential but secondary type of laboratory-processing-testing building. These properties do not usually house key operations.

Laboratory-Processing facilities are representative of the industrial vernacular architectural style prevalent at Los Alamos. Like LANL's other research facilities, the design of Sigma Complex properties is primarily determined by the nature of the technical area's specific operations. For example, reinforced concrete and concrete post and beam construction is used when designing a facility for chemicals and radioactive materials research because concrete is inherently secure, durable, and cleanable. The type of activities carried out in each building or structure also determines the configuration of interior space.

Administration buildings located at the Sigma Complex are closely associated with the operation of nearby laboratory/processing facilities. Administration buildings typically house support and research operations such as administrative and staff offices, monitoring and facility management staff offices, light laboratory space, showers, and change rooms. Administration buildings are typically located away from the experimental areas. This practice allows personnel and material from the administration facilities to remain separate from chemical, radioactive, or other hazards and maximizes the distance from experiments.

Security buildings and structures at the Sigma Complex are associated with the general operation at the facility and support the main overarching themes of Weapons Research and Design, Testing, and Stockpile Support; Reactor Technology; and Strategic and Supporting Research. The guard station at the Sigma Complex (TA-3-67) was recently evaluated in *Standing Guard: An Evaluation of Early Cold War Guard Stations at LANL, 1948–1959* (Garcia et al. 2015) and was declared eligible for inclusion on the Register in consultation with the State Historic Preservation Office (May 14, 2015) due to its significance for the Sigma Complex and security at the Laboratory. This guard station (TA-3-67) is not discussed within the current evaluation report for the Sigma Complex.

Support buildings and structures were originally built to support Cold War research and development. Like laboratory-testing facilities, support facilities are divided into two subcategories. First tier support properties are primarily buildings and include machine shops, warehouses, power plants, and significant water tanks. Second tier support properties are primarily structures; examples include pump houses and electrical substations.

Core properties within each associated property type have also been identified. These buildings or structures are key representatives of their associated theme(s) and are often eligible for the Register.

Integrity

Although properties may be significant or exceptionally significant and may be eligible for the Register based on association with historical events and contexts, integrity must be determined for all buildings that, on first-cut, are considered eligible. Los Alamos National Security, LLC (LANS) historic buildings staff developed four integrity codes to better assess potentially eligible properties. The integrity requirements for properties eligible under Criterion A are less stringent than for those properties eligible under Criterion C. A historically significant property with Level 3 integrity could still be eligible, especially if an element of historical uniqueness is involved. Properties eligible under Criterion C should have no lower than Level 2 integrity. Level 4 integrity properties are not eligible for the Register.

1. Excellent Integrity—the property is still closely associated with its primary context and retains integrity of location, design, setting, workmanship, materials, feeling, and association. Little or no remodeling has occurred to the property and all remodeling is in keeping with its associated historic context and significant use period.

2. Good Integrity—the property's interior and exterior retain historic feeling and character but most of the original equipment may be gone. The property may have had minor remodeling.

3. Fair Integrity—a property in this category should retain original location, setting, association, and exterior design. All associated interior machinery and equipment may be absent but the key question is "Is this property still recognizable to a contemporary of the building's historic period?"

4. Poor Integrity—the property has no connection with the historically significant setting, feeling, and context. Major changes to the property have occurred. The property would be unrecognizable to a contemporary.

Themes

Activities within the Sigma Complex can be grouped into a variety of Cold War-era themes at the Laboratory. These are Weapons Research and Design, Testing, and Stockpile Support; Reactor Technology; and Strategic and Supporting Research. Specific subthemes related to these are Project Rover and the Dumbo reactor under Reactor Technology and Materials Science under Strategic and Supporting Research.

Weapons Research and Design, Testing, and Stockpile Support: TA-3-35, TA-3-66, TA-3-141, TA-3-159, and TA-3-169

Reactor Technology (Project Rover and Dumbo Reactor Project): TA-3-35 and TA-3-141

Strategic and Supporting Research (Materials Research): TA-3-35, TA-3-66, and TA-3-141

Eligibility Criteria

Laboratory-testing facilities do not need to possess an integrity of both exterior and interior features in order to be eligible for the Register under Criterion A. In cases where original equipment has been removed, a property can still be considered significant for its historical associations. Laboratory-testing properties need only retain original location, setting, association, feeling, and exterior design to maintain significant historical integrity under Criterion A. Properties eligible under Criterion C have to meet a more stringent standard of physical integrity. However, additions and remodeling that reflect changing scientific missions are acceptable under Criterion C (Hanford Site 1999b).

In order to be eligible under Criterion A, support buildings and structures must have functioned as significant support facilities within an associated historical context (Hanford Site 1999b). First tier support properties, if linked to a historically significant context and 50 years old or older, may be eligible for the Register. If less than 50 years old, support properties must be exceptionally significant.

Historic Properties Exempt from Review

Buildings or structures that lack qualities to be considered significant historic properties based on initial reviews are exempt from further review due to the type, function, and construction date of the property. Exempt property types played a minor support role in the history of the Laboratory (LANL 2006). These types of buildings and structures include various metal sheds, tanks, electrical and telephone substations, containment vessels, portable sheds and trailers, transportainers, and small buildings housing facility equipment.

One property at the Sigma Complex, an Air Plenum and Fan structure (TA-3-147), is an exempt property type for evaluation in this report. The structure was constructed in 1960 as a support structure to TA-3-141 by housing the fan system for the Rolling Mill Building/Beryllium Technology Facility; it is not considered to be significant and has been out of operation since 2011.

<u>Air Plenum and Fan Structure</u>

TA-3-147 east side

TA-3-147 west and south sides

DESCRIPTIONS OF EVALUATED BUILDINGS

Technical Area: 3
Building Number: 35

Associated Theme: Weapons Research & Design, Testing, & Stockpile Support; Reactor Technology; Strategic & Supporting Research
Property Type: Support Building (1st Tier)

Original Function: Press Building
Current Function: None
Date Constructed: 1954

Integrity: Excellent
Core: Yes
Eligibility: Yes (Criteria A & C)

Buildings with same floorplan within TA: none


View of east side


View of west and south sides


View of north and west sides


View of east and south sides

Architectural Description:
TA-3-35 is a large building predominately rectangular-in-plan and measures 103 ft long by 62 ft 6 in. wide. The building is divided into two main sections, the press room and the casting room/machine shop area. The press room dominates the south end of the building and houses a 5,000-ton press machine. This section is open to the roof deck 67 ft 6 in. above the floor. This section also has a partial basement that houses a portion of the press apparatus. The Casting room/machine shop area is located on the north side of the building and is approximately two stories in height. A partial basement is located under this section as well.

The entire building is constructed with a reinforced concrete foundation, basement walls and concrete floor slab. The walls are constructed with steel frame sheathed with insulated metal panels. Both the press room and the casting room/machine shop area have low-pitched shed roofs enclosed with parapets and are constructed with steel I beams, steel deck plates and are finished with gravel and composition roofing material.

The building is equipped with numerous painted flush-panel hollow-metal and insulated-metal doors with and without louvers, and with and without wire glass vision panels. The first floor of both the east and west sides of the press room contain insulated alloy sliding panel doors and concrete ramps. To provide natural lighting into the large space, the press room is equipped with three bands of fixed-aluminum window sashes installed on each of the room’s four sides. The casting room/machine shop is also equipped with one band of fixed-aluminum window sashes on three sides.

A small addition was constructed on the north side of the building in 1971. This one-story addition measures 30 ft 11 in. by 19 ft 9 in. The addition is constructed with a 6-in. concrete floor slab, steel framed walls sheathed with sheet metal siding, and a low-pitched shed roof constructed of steel I beams, rigid fiberglass insulation, and a 4-ply built-up tar and gravel roofing system. An oversized ventilator is located at the northern edge of the roof.

Additional building equipment includes surface mounted lights, signage, exterior conduit, a gas bottle storage area, and lightning rods on the roof.

Historical Background:
The Press Building (TA-3-35) was built in 1954. It houses a 5,000-ton hydraulic press located in a high bay as well as other smaller presses, a casting room, and a machine shop (LANL 2001b:4). It was initially used by the Zia Company in the mid-1950s for fabricating cable assemblies in support of the nuclear weapons program. Research was later redirected during the late 1950s to support the Rover rocket program by developing, fabricating, and assembling uranium fuels for nuclear rocket research. A high-temperature furnace located in the casting area was used for working with uranium containing materials. After the Rover program ended in 1972, the Press Building continued supporting various projects in materials science including work with uranium. This work ceased in 1987 (LANL n.d.[a]; Valentine 1975).

Determination of Eligibility:
This building meets National Register of Historic Places criteria for significance in that it possesses integrity of design, setting, materials, workmanship, feeling, and association. The building is eligible for inclusion on the Register as a significant property at the Sigma Complex in TA-3. The building is significant under Criterion A because of its association with Cold War science in support of the Laboratory’s nuclear weapons program, Project Rover, and materials science. It is also significant under Criterion C for its design to specifically house the 5,000-ton hydraulic press. It is constructed of a steel frame sheathed with insulated metal panels and is equipped with three bands of fixed-aluminum windows on all four sides of the high bay room housing the press. The building’s exterior and interior are relatively unchanged from when it was constructed and its overall physical integrity is good. Overall, the Press Building does represent its role as a key machine shop and support building for the Sigma Complex during the Cold War.

Technical Area: 3
Building Number: 66

Original Function: Sigma Building
Current Function: Sigma Building
Date Constructed: 1959

Associated Theme: Weapons Research & Design, Testing, & Stockpile Support; Strategic & Supporting Research
Property Type: Laboratory/Processing; Administration (1st Tier)
Integrity: Good
Core: Yes
Eligibility: Yes (Criteria A)

Buildings with same floorplan within TA: none


View of west and south sides


View of north and west sides


View of north side


View of east and north sides

Architectural Description:
TA-3-66 is a large building constructed with a partial basement, two upper floors, and a partial mezzanine. The building is predominately rectangular-in-plan and measures 443 ft 6 in. by 204 ft 8 in. It is constructed with a concrete foundation. The basement is constructed with a concrete floor slab, concrete walls, and supporting columns. The upper floors are constructed with concrete floor slabs, concrete post and beam structural system with concrete block infill panels, and a flat roof with interior roof drains. The roof is constructed with steel joists, rigid insulation, and built-up roofing system.

The building contains numerous doors in varying sizes and configurations. The main entrance is on the west side and consists of a pair of aluminum-storefront doors. The west side also contains four additional pairs of painted hollow-metal doors with vision panels. The north elevation has an oversized pair of painted hollow-metal doors with vision panels, two overhead doors, and a single painted hollow-metal door with ½-glass. The east elevation has two pairs of painted hollow-metal doors with vision panels, two single painted hollow-metal doors with ½-glass, and an overhead door. The south side is equipped with an overhead door. The building is also equipped with translucent glass-block window panels.

In 1988, a 50 ft by 44 ft shop was constructed on the northeast side of the building. The addition is one story in height and constructed with a raised concrete foundation and floor slab, concrete post and beam structural system with concrete block infill panels, and a low-pitched shed roof enclosed with low parapet walls. The roof is constructed with steel joists, decking, rigid insulation, and finished with a membrane roofing system. The addition is equipped with an overhead door on the east side and a single painted hollow-metal door with ½-glass on the north side. This entry door is also equipped with an exterior steel staircase. The addition is also equipped with translucent glass-block panels matching the original building.

Partial view of east side

Partial view of south side

Additional building equipment includes lights, signage, badge reader, warning lights, alarm system, exterior conduit and piping. The roof is equipped with lightning rods, vent stacks, and air handling equipment. The building also is equipped with four large exhaust stacks.

Historical Background:
The Sigma Building (TA-3-66) is the central laboratory and administration building for the Sigma Complex. It was constructed in 1959 with an addition constructed in 1988. The Sigma Building was built for fabricating a variety of structural materials including steel, brass, lead, and uranium in support of the weapons program (LANL n.d.[b]). Today, the Sigma Building is used for materials synthesis and for processing, characterizing, and fabricating metallic and ceramic items, including depleted uranium items, used in the Stockpile Stewardship and Management Program. Current activities in the Sigma Building focus primarily on test hardware, prototype fabrication, and materials research for the nuclear weapons program, but also include activities related to energy, environment, industrial competitiveness, and strategic research (LANL 2002). Hazardous materials such as concentrated acids and caustic solutions are used and stored at the Sigma Building (LANL 2001b:4) as well as uranium and tritium (Valentine 1975).

Determination of Eligibility:
This building meets National Register of Historic Places criteria for significance in that it possesses integrity of design, setting, materials, workmanship, feeling, and association. The building is eligible for inclusion on the Register as a significant property at the Sigma Complex in TA-3. The building is significant under Criterion A because of its association with Cold War science in support of the Laboratory's nuclear weapons program and advancements in materials

science. The building's exterior is relatively unchanged from when it was constructed with the exception of the 1988 addition, and its overall physical integrity is good. The building's interior has changed over its period of use to support the Laboratory's ongoing missions. The Sigma Building represents the administration and scientific roles supporting the Laboratory's weapons stockpile support and stewardship program along with various material science programs during the Cold War at the Sigma Complex.

Technical Area: 3
Building Number: 141

Associated Theme: Weapons Research & Design, Testing, & Stockpile Support; Reactor Technology; Strategic & Supporting Research
Property Type: Laboratory/Processing (1st Tier)

Original Function: Rolling Mill Building
Current Function: Beryllium Technology Facility
Date Constructed: 1960

Integrity: Good
Core: Yes
Eligibility: Yes (Criteria A)

Buildings with same floorplan within TA: none


View of west side


View of west and south sides


View of east and north sides


View of north side

Architectural Description:
TA-3-141 is a two-story highbay building with a mezzanine on the west and north sides. Prior to a 1961 addition, the building measured 65 ft 4 in. by 102 ft. The building was constructed with a concrete perimeter foundation and 6-in. floor slab, a concrete post and beam structural frame with concrete masonry unit infill. The flat roof was constructed with steel joists covered with a steel deck, rigid insulation, and a built-up roofing system.

In 1961, an addition was constructed on the north side of the original building more than doubling its size. The new addition measured 100 ft by 102 ft. As in the original building, the addition was constructed with a concrete perimeter foundation and concrete slab floor, a concrete post and beam structural frame with concrete masonry unit infill. The flat roof was constructed with steel joists covered with a steel deck, rigid insulation, and a built-up roofing system.

Windows and doors are included on all sides of the building. The original building included single and pairs of painted hollow-metal with ½-glazing doors as well as single painted hollow-metal flush-panel doors. The south elevation originally contained a pair of oversized doors with eight lights each set within a removable wall panel. This combination has since been replaced with an overhead door. Exterior steel stairs, located on the west side, access the pair of painted hollow-metal doors with vision panels. The addition contains single and pairs of painted hollow-metal doors with vision panels. The second floor on the north elevation contains a pair of large painted hollow-metal doors. Both the north and west elevations contain oversize air intake louvers as well. The original building was not outfitted with windows when it was constructed. However, the addition contains 16 light glass-block windows at the mezzanine level.

Additional building equipment includes signage, wall-mounted lights, and surface-mounted conduit. The roof is equipped with lightning rods, vent stacks, and ventilators.

Historical Background:
The Rolling Mill Building (TA-3-141), currently designated as the Beryllium Technology Facility, was originally built in 1960 with an addition/expansion built in 1962. The original south section was built to fabricate parts for the Dumbo reactor project, a reactor program being developed in parallel with the Rover rocket program. However, instabilities in the Dumbo project were discovered before construction began (Kirk 1991; Paxton 1983), and as such this building was never used for its intended purpose. The north section was built in 1962 to fabricate graphite-enriched uranium dioxide fuel for the Rover rocket program until 1972 (LANL n.d.[d]). Currently, the building houses powder metallurgy activities, filament welding, ceramics research and development, and rapid solidification research. Fabrication work using beryllium and uranium/graphite fuel is also performed here (LANL 2001b:4; Valentine 1975).

Determination of Eligibility:
This building meets National Register of Historic Places criteria for significance in that it possesses integrity of design, setting, materials, workmanship, feeling, and association. The building is eligible for inclusion on the Register as a significant property at the Sigma Complex in TA-3. The building is significant under Criterion A because of its association with Cold War science in support of the Laboratory's nuclear weapons and stockpile support and stewardship program, reactor technology and nuclear rocket research, and advancements in material science. The building's exterior is relatively unchanged from when it was constructed and its overall physical integrity is good. Several mechanical additions are present on all sides of the building which support ongoing work conducted at the building. These additions do not affect the integrity of the building as a Cold War-era laboratory facility. Overall, the Rolling Mill building conveys its significance as a laboratory building that supported Cold War-era work in weapons development, nuclear rocket research, and ongoing material science research at the Sigma Complex.

Technical Area: 3
Building Number: 159

Original Function: Forming Building
Current Function: Thorium Storage Building
Date Constructed: 1964

Associated Theme: Weapons Research & Design, Testing, & Stockpile Support
Property Type: Laboratory/Processing
Integrity: Good
Core: Yes
Eligibility: Yes (Criteria A)

Buildings with same floorplan within TA: none

Oblique view of west and south sides

View of north side

Architectural Description:
TA-3-159 is a one-story rectangular-in-plan building measuring 18 ft by 14 ft. The building is constructed with a concrete slab foundation and 8-in.-thick preformed concrete wall panels trimmed with steel edges, and a flat roof constructed with steel joists and covered with fiberglass corrugated roof panels. The building is constructed four panels wide by three panels deep. A door was installed on the west side to enclose the original entry hall. Additional building equipment includes signage, exterior junction box, and lightning rods.

View of east side

Historical Background:
The Forming Building (TA-3-159), currently designated as the Thorium Storage Building, was constructed in 1964. It was built for fabricating high explosives in support of the weapons program. It was accompanied by a firing control point and a storage magazine (LANL n.d.[c]). Currently, the building is used for storing thorium, in both ingot and oxide form (LANL 2001b:4).

Determination of Eligibility:
This building meets National Register of Historic Places criteria for significance in that it possesses integrity of design, setting, materials, workmanship, feeling, and association. The building is eligible for inclusion on the Register as a significant property at the Sigma Complex in TA-3. The building is significant under Criterion A because of its association with Cold War science in support of the Laboratory’s nuclear weapons program. Although it is a single-room building, it is constructed of concrete and metal, and was designed specifically for supporting the

Sigma Complex's mission for high explosives fabrication. The building's exterior is relatively unchanged from when it was constructed and its overall physical integrity is good. Overall, the Forming Building conveys its significance as a laboratory building that supported the Laboratory's nuclear weapons program during the Cold War at the Sigma Complex.

Technical Area: 3
Building Number: 169

Associated Theme: Weapons Research & Design, Testing, & Stockpile Support
Property Type: Support Building (1st Tier)

Original Function: Raw materials warehouse
Current Function: Warehouse
Date Constructed: 1964

Integrity: Good
Core: Yes
Eligibility: Not Eligible

Buildings with same floorplan within TA: none

View of south side

View of south and east sides

View of north side

View of north and west sides

Architectural Description:

TA-3-169 is a one-story rectangular-in-plan building measuring 60 ft by 102 ft. The prefabricated MESCO-brand building is constructed with a concrete perimeter foundation and floor slab, steel framed walls sheathed with insulated corrugated steel panels, and a low-pitched front gable roof. The roof is constructed with steel joists and finished with corrugated steel roofing panels. Daylight is directed into the building through translucent roofing panels. Both the north and south elevations contain an 8 ft by 20 ft concrete apron, a 12-ft-wide insulated roll-up overhead door, and a single painted hollow-metal door.

Additional building equipment includes wall-mounted light fixtures, alarm system, and signage. The roof is equipped with lightning rods and two large ventilators.

Historical Background:
The Raw Materials Warehouse (TA-3-169) at the Sigma Complex was built in 1964. It was initially used to store materials needed for the Rover rocket program. Currently, it is used to store oil, acids, and equipment used for research and development activities (LANL n.d.[c]).

Determination of Eligibility:
This building does not meet National Register of Historic Places criteria for significance. It is not eligible for inclusion on the Register as a significant property at the Sigma Complex. The building is a prefabricated type building built to house materials and equipment used at other Sigma Complex buildings during the Cold War. It is considered of secondary importance to the identified LANL Cold War historical theme Weapons Research and Design, Testing, and Stockpile Support.

National Register Eligibility Recommendations

Properties Determined Eligible for the National Register of Historic Places

Of the five Cold War-era buildings evaluated for Register eligibility in this report, four (TA-3-35, TA-3-66, TA-3-141, and TA-3-159) are determined eligible under Criterion A, properties associated with events that have made a significant contribution to the broad patterns of laboratory history. Building TA-3-35 is also determined eligible under Criterion C, properties that represent a significant and distinguishable entity. Historically, these properties supported the Laboratory's nuclear weapons program and nuclear rocket research during the 1950s and 1960s. They have also hosted advancements in materials science that continues to this day.

The Press Building (TA-3-35) is significant under criterion A because it supported early research and development of nuclear weapons during the Cold War. The building is also significant under criterion C for its contributions to the Laboratory's nuclear weapons program by fabricating cable assemblies and various mechanical components. The building was designed to specifically house the 5,000-ton press hydraulic press used in the fabrication process.

The Sigma Building (TA-3-66) is significant through its role as the administrative and laboratory center of the Sigma Complex hosting work in materials science related to the nuclear weapons program of the Cold War. The Rolling Mill Building (TA-3-141) is significant through its contributions to the nuclear rocket program (Rover and Dumbo) as well as the weapons program and materials science. Finally, the Forming Building (TA-3-159) is significant for its use as a high explosives fabrication building for the weapons program.

Table 1 lists buildings evaluated in this report that are considered eligible for listing in the Register.

Table 1. Register Eligible TA-3 Sigma Complex Properties

Property Number	Use	Date	Associated Themes	Property Type	Integrity	Core
3-35	*Original: Press Building* *Current: Press Building*	*1954*	*Weapons Research and Design, Testing, & Stockpile Support/* *Reactor Technology/* *Strategic & Supporting Science*	*Support Building (1st Tier)*	*Good*	*Yes*
3-66	*Original: Sigma Building* *Current: Sigma Building*	*1959*	*Weapons Research and Design, Testing, & Stockpile Support/* *Strategic & Supporting Science*	*Laboratory/Processing* *Administration*	*Good*	*Yes*
3-141	*Original: Rolling Mill Building* *Current: Beryllium Technology Facility*	*1960*	*Weapons Research and Design, Testing, & Stockpile Support/* *Reactor Technology/* *Strategic & Supporting Science*	*Laboratory/Processing*	*Good*	*Yes*

Property Number	Use	Date	Associated Themes	Property Type	Integrity	Core
3-159	*Original: Forming Building* *Current: Thorium Storage Building*	*1964*	*Weapons Research and Design, Testing, & Stockpile Support*	*Laboratory/Processing*	*Good*	*Yes*
Total Number of Eligible Properties: 4						

Properties Determined Not Eligible for the National Register of Historic Places

Not all LANL properties constructed within the Laboratory's Cold War period of significance[2] are historically important. In some cases, a property is of secondary or minor importance and does not contribute to the understanding of the key historical events or scientific developments that have taken place at the Laboratory. For example, some properties have served a purely support function and do not adequately illustrate the historical themes shaping the history of the Laboratory. In other cases, properties associated with significant Laboratory events have been modified to such an extent that the loss of physical integrity has impacted their status as Register-eligible properties.

The raw materials warehouse (TA-3-169) is a prefabricated type support building. It is not considered eligible for the National Register because it did not house key activities but functioned solely as a minor secondary support building only housing materials and equipment used at other Sigma Complex buildings.

Table 2 lists properties evaluated in this report that are not eligible for listing on the Register.

Table 2. Non-Register Eligible TA-3 Sigma Complex Properties

Property Number	Use	Date	Associated Themes	Property Type	Integrity	Core
3-169	*Original: Raw Materials Warehouse* *Current: Raw Materials Warehouse*	*1964*	*Weapons Research and Design, Testing, & Stockpile Support*	*Support Building (1st Tier)*	*Good*	*Yes*
Total number of non-eligible properties: 1						

CONCLUSION

In compliance with Section 106 and Section 110 of the *National Historic Preservation Act*, LANS cultural resources staff completed the evaluation of a group of five buildings associated with Cold War activities at the Sigma Complex for inclusion in the Register. Of the evaluated properties, four buildings (TA-3-35, TA-3-66, TA-3-141, and TA-3-159) are determined Register-eligible, while one building (TA-3-169) is determined not eligible. In addition to Register evaluations, historic properties at the Sigma Complex were assessed for their preservation and public

[2] See LANL Cultural Resources Management Plan (LANL 2006).

interpretation potential. None of the Register-eligible properties evaluated in this report were identified for permanent retention. However, four are currently active buildings.

One of the five evaluated buildings (TA-3-35) described in this report has been identified as excess property and is scheduled for demolition during FY 2016 as part of LANL's Footprint Reduction Program activities.

The State Historic Preservation Officer (SHPO) is requested to concur with the eligibility determinations contained in this report for the five Cold War-era properties at the Sigma Complex in TA-3. In addition, this report serves as notification that the Register-eligible property, TA-3-35, described in this report will be demolished. Adverse effects to Register-eligible building TA-3-35 will be resolved using standard documentation and reporting measures outlined in Section 9 of the LANL Cultural Resources Management Plan (LANL 2006) and implemented by the 2015 Programmatic Agreement between the Field Office, the New Mexico SHPO, and the Advisory Council on Historic Preservation. Standard measures include a written history of the technical area and a use history of the affected properties as well as detailed architectural documentation of the properties, such as archival quality photographs and updated as-built drawings. In addition, archival records along with historically significant equipment and "artifacts" associated with the historic properties will be identified prior to any demolition action and stored at appropriate LANL repositories. However, TA-3-35 houses a 5,000-ton hydraulic press that was first used by the Zia Company in the mid-1950's to fabricate cable assemblies for weapons testing and it later supported the Rover rocket program fabricating and assembling uranium fuels for nuclear rocket research. After the Rover program ended in 1972 the building and press continued to support various material science projects including work with uranium. Therefore, as supplemental documentation to the standard documentation measures, HAER documentation (Lidar scanning) will also be conducted on the 5000-ton press machine.

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APPENDIX A. Historic Building Inventory Forms with Selected Photographs and Building Drawings for TA-3-35, -66, -141, -159, and -169.

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LANL TA- Building # 03-0035

Camera 984244

Frame #s DCP_4948 through DCP_4951 & DCP_4976 through DCP_-4977

Surveyor(s) S. McCarthy, J. Ronquillo, K. Garcia

Date 9/7/2006

Los Alamos National Laboratory
RMT Historic Building Survey Form

Building Name: Press Building | UTMs easting: 380930 | northing: 3970522 | zone: 13

Legal Description: Map: Friioles Ouad 2002 | tnsp: 19N | range: 6E | sec: 21

Current Use/ Function: Not in Use | Original Use/ Function: Fabrication Facility

Date (estimated): | Date (actual): 1954 | Property Type: Support

Type of Construction

Pre-Fabricated Metal ☐ Steel Frame ☑ Wood Frame ☐ CMU ☐ Reinforced Concrete ☐

Other Type of Construction: Multi-story building with partial basement. | # of Stories: 6

Foundation: Reinforced Concrete

Exterior CMU-Exterior ☐ Reinforced Concrete-Exterior ☐ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior: Steel frame sheathed with insulated metal panels

Exterior Treatment (painted, stuccoed, etc):

Exterior Features (docks, speakers, lights, signs, etc): Building equipment includes surface mounted lights, signage, exterior conduit, a gas bottle storage area, and lightning rods on the roof.

Addition CMU-Addition ☐ Reinforced Concrete-Addition ☐ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition: Sheet metal siding

Exterior Treatment-Addition:

Exterior Features-Addition: Oversized ventilator on roof

Roof Form Slanted/Shed ☑ Gable ☐ Other Roof Type:

Degree of Pitch/ Slope: Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☑

Other Roof Materials: Tar and gravel anc composition roofing material over steel I beams, steel decking and fiberglass insulation

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☑

Other Window Type:

of Each Window Type/ Comments: Bands of aluminum sash windows on all sides and all levels

Glass Type Clear [ ] Wire Glass [x] Opaque [ ] Painted Glass [ ] Glass Block [ ]

Light Pattern: Wire glass and mirrored glass

Door Type

Personnel Door Types

Exterior: Fire Door [ ] Single [x] Double [ ] Roll-up [ ] Sliding [ ]
Hollow Metal [x] Solid Wood [ ] 1/2 Glazed [x] Paneled [ ]
Louvered [ ] Painted [x]

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 [x] Double [x] Roll-up [ ] Sliding [x]
Hollow Metal [x] Solid Wood [ ] 1/2 Glazed [ ] Paneled [ ]
Louvered [x] Painted [x]

Interior: Fire Door [ ] Single [ ] Double [ ] Roll-up [ ] Sliding [ ]
Hollow Metal [ ] Solid Metal [ ] 1/2 Glazed [ ] Paneled [ ]
Louvered [ ] Painted [ ]

of Each Door Type/Comments: Numerous painted flush panel hollow metal doors with and without louvers, painted flush panel insulated metal doors with and without wire glass vision panels, aluminum alloy doors on east and west sides of press room.

Interior Wall Gypsum Board [ ] Reinforced Concrete- Interior [ ]

CMU- Interior [ ] Plywood [ ] Other- Interior:

In-Wall Electrical Wiring [ ] On-Wall Electrical Wiring [ ]

Ceiling Drop Ceiling [ ]

Interior Comments (Equipment, etc):

Degree of Remodeling: Unknown/None

Condition Excellent [ ] Good [x] Fair [ ] Deteriorating [ ] Contaminated [ ] Burned [ ]

Associated Buildings [x]

If yes, list building names and #s: Sigma Complex buildings: TA-3-66, -141, -159, -169, -451,

Integrity: Excellent

Significance: Eligible

Eligible Under Criterion A [x] B [ ] C [x] D [ ] Not Eligible [ ]

DOE Themes

Nuclear Weapon Components and Assembly [ ] Nuclear Weapon Design and Testing [x] Nuclear Propulsion [x]

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

LANL Themes

Weapons Research and Design, Testing, and Stockpile Support [x] Super Computing [ ]

Reactor Technology [x] Biomedical/Health Physics [ ] Strategic and Supporting Research [x]

Environment/Waste Management ☐ Administration and Social History ☐ Architectural History ☐

Recommendations/ Additional Comments

Architectural Features (elevations)

TA-3-35 is a large building that is predominately rectangular-in-plan and measures 103 ft long by 62 ft 6 in. wide. The building is divided into two main sections – the press room and the casting room / machine shop area. The press room dominates the south end of the building and houses a 5,000 ton press machine. This section is open to the roof deck 67 ft 6 in. above the floor. This section also has a partial basement that houses a portion of the press apparatus. The Casting room / machine shop area is located on the north side of the building and is approximately two-stories in height. A partial basement is located under this section as well.

The entire building is constructed with a reinforced concrete foundation, basement walls and concrete floor slab. The walls are constructed with steel frame sheathed with insulated metal panels. Both, the press room and the casting room / machine shop area have low pitched shed roofs, enclosed with parapets, and are constructed with steel I beams with steel deck plates, and are finished with gravel and composition roofing material.

The building is equipped with numerous painted flush-panel hollow-metal and insulated-metal doors with and without louvers, and with and without wire glass vision panels. The first floor of both the east and west sides of the press room contain insulated alloy sliding panel doors and concrete ramps. To provide natural lighting into the large space, the press room is equipped with three bands of fixed-aluminum window sashes installed on each of the room's four sides. The casting room / machine shop is also equipped with one band of fixed-aluminum window sashes on three sides.

Additional building equipment includes surface mounted lights, signage, exterior conduit, a gas bottle storage area, and lightning rods on the roof.

Total sq ft 10,120

Architect/ Builder Ralph M. Parsons Company, Architects-Engineers, Los Angeles-California

Alterations

A small addition was constructed on the north side of the building in 1971. This one-story addition measures 30 ft 11 in. by 19 ft 9 in. The addition is constructed with a 6 in. concrete floor slab, steel framed walls sheathed with sheet metal siding, and a low-pitched shed roof constructed of steel I beams, rigid fiberglass insulation, and a 4-ply built-up tar and gravel roofing system. An oversized ventilator is located at the northern edge of the roof.

List of Drawings (Cntrl + Enter for para break)

ENG-C 17148
Sheet 4 of 27
TA-3, Bldg. SM-35 (TA-3-35)
Fabrication Facility
Architectural: Floor, Basement, Roof and Mezzanine Plans
March 31, 1953

ENG-C 17149
Sheet 5 of 27
TA-3, Bldg. SM-35 (TA-3-35)
Fabrication Facility
Architectural: Exterior Elevations
March 31, 1953

ENG-C 17150
Sheet 6 of 27
TA-3, Bldg. SM-35 (TA-3-35)
Fabrication Facility
Architectural: Sections
March 31, 1953

ENG-C 36711
Sheet 1 of 9
TA-3, Bldg. SM-35 (TA-3-35)
Architectural: 350 KW MG Relocation
December 15, 1970

ENG-C 36712
Sheet 2 of 9
TA-3, Bldg. SM-35 (TA-3-35)
Architectural: 350 KW MG Relocation
December 15, 1970

ENG-R 2556
TA-3, Bldg. SM-35 (TA-3-35)
Press Building
Basement & First Floor Plan
Noverber 28, 1983


TA-3-35 East side

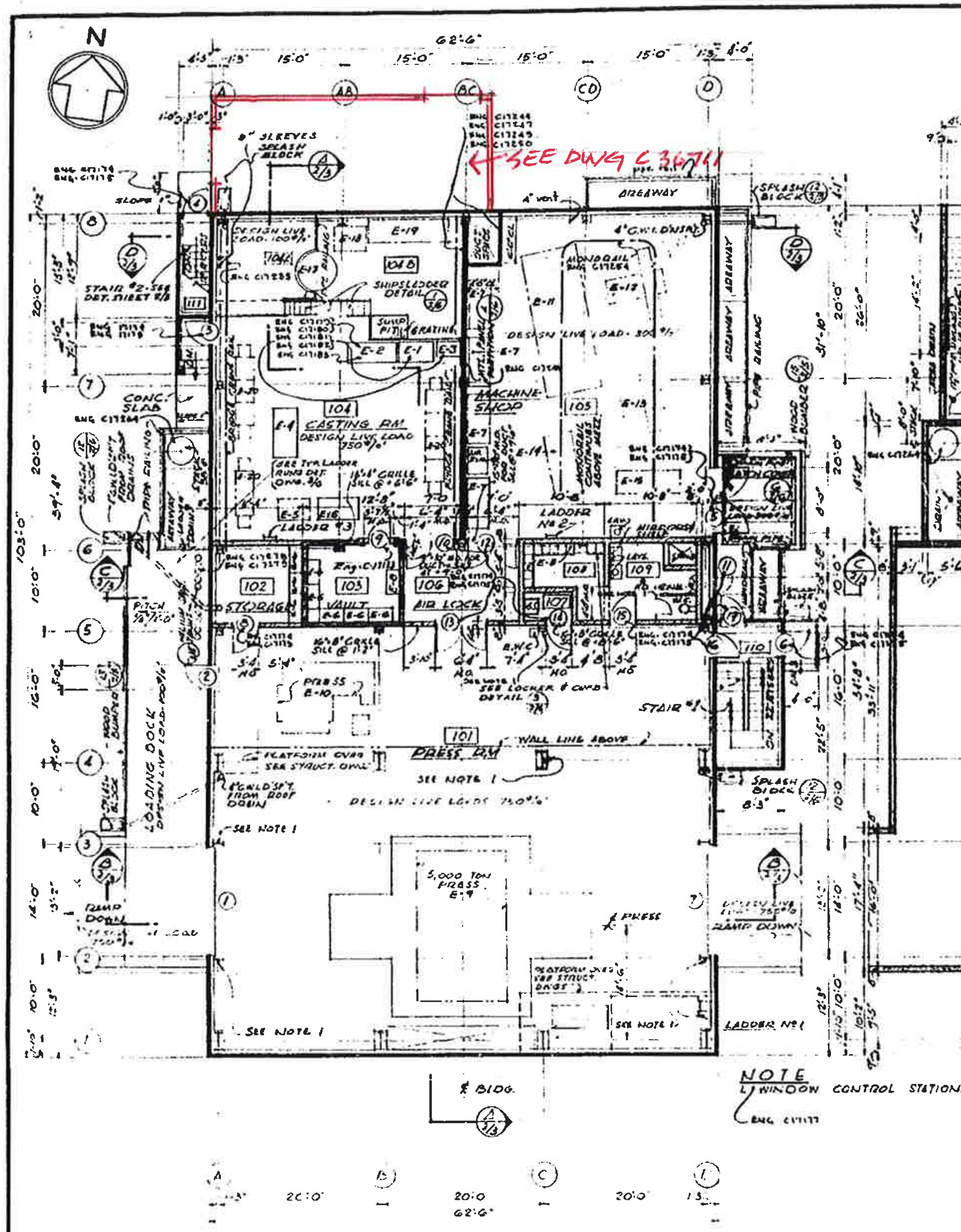

TA-3-35 West and south sides


TA-3-35 North and west sides

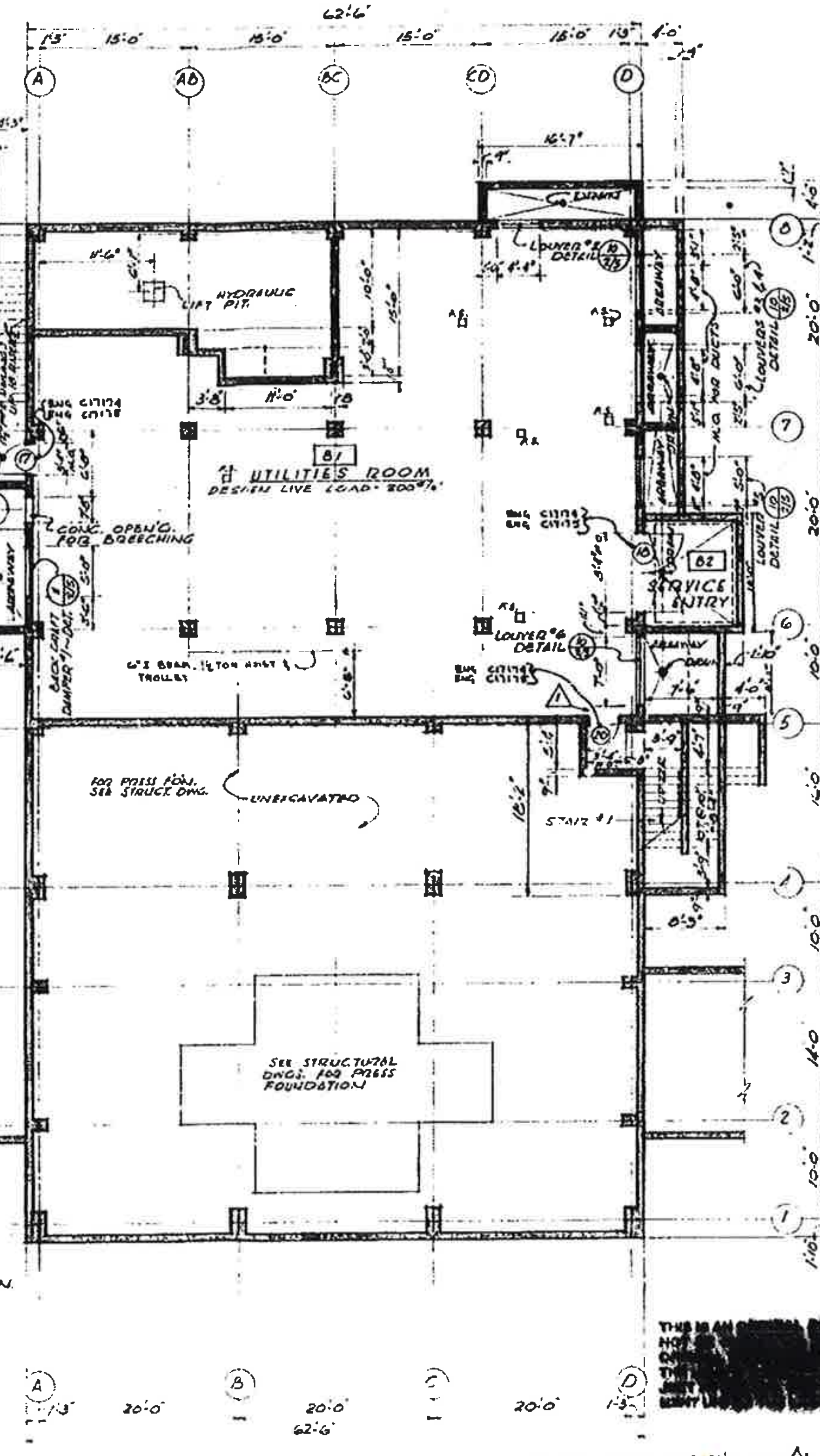

TA-3-35 East and south sides

RECORD DRAWING
THIS DRAWING REPRESENTS
THE CONSTRUCTION AS BUILT.
SUBMITTED
RECOMMENDED
APPROVED

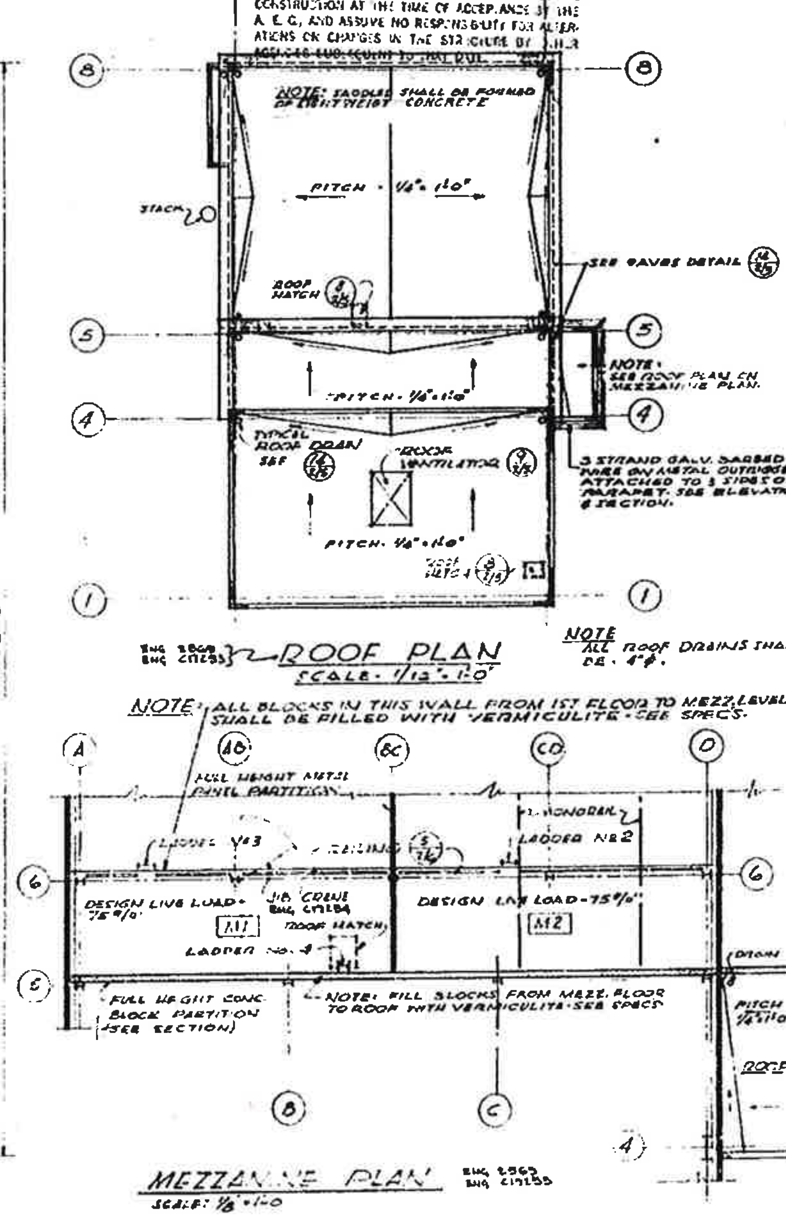
THE RALPH M. PARSONS COMPANY ARCHITECTS-ENGINEERS, INC., SUBMIT THIS DRAWING AS A RECORD OF THE CONSTRUCTION AT THE TIME OF ACCEPTANCE BY THE A. E. C. AND ASSUME NO RESPONSIBILITY FOR ALTERATIONS OR CHANGES IN THE STRUCTURE BY OTHER AGENCIES SUBSEQUENT TO THAT DATE.



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



BASEMENT PLAN
SCALE: 1/8"=1'-0"

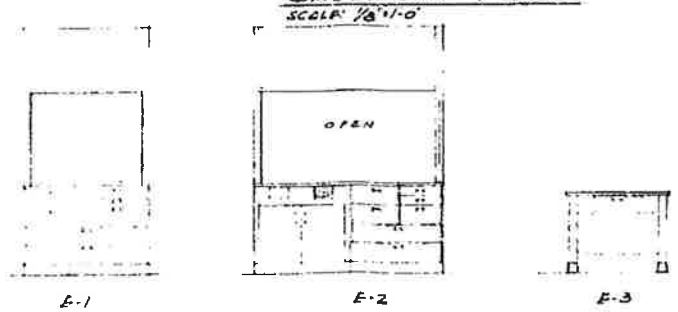


ROOF PLAN
SCALE: 1/12"=1'-0"

MEZZANINE PLAN
SCALE: 1/8"=1'-0"

ENG. NOS. REFER TO SHOP DWGS NOS. 5

[redacted]



EQUIPMENT SCHEDULE (FOR EQUIPMENT INSTALLED UNDER THIS CONTRACT)

EQUIP. NO.	ITEM	DESCRIPTION	SIZE	REMARKS	FURNISHED BY	INSTALLED BY
E-1	FUME HOOD	KEWAUNEE #2781 #56 BASE CABINET	49 x 31 x 76	STAINLESS STEEL TOP ON BASE CAB	CONTR.	CONTR.
E-2	FUME HOOD OPEN FRONT	KEWAUNEE #2722 #58 BASE CABINET #51 BASE CABINET STAINLESS STEEL SINK 18"x18"x11 DEEP	72 x 31 x 76	STAINLESS STEEL TOP ON BASE CAB	CONTR.	CONTR.
E-3	BALANCE TABLE	KEWAUNEE #5355	37 x 30 x 24	SOAPSTONE TOP	CONTR.	CONTR.
E-4	WORK TABLE	LYONS #2505 TO SUPPORT LOAD OF APPROX. 100#/□'	34 x 72 x 34	STAINLESS STEEL TOP	CONTR.	CONTR.
E-5	WORK TABLE	LYONS SIMILAR TO #2505 - TO SUPPORT LOAD OF APPROX. 100#/□'	34 x 48 x 34	STAINLESS STEEL TOP	CONTR.	CONTR.
E-6	ADJ. STABLE SHELVING	LYONS - # 4034	3' x 1½' x 7'	SEE FLOOR PLAN FOR EXTENT	CONTR.	CONTR.
E-7	WORK BENCH	LYONS - # 2551	34 x 72 x 34	MAPLE OR OAK TOP	CONTR.	CONTR.
E-8	LOCKERS	STANDARD STEEL SINGLE TIER-NO LEGS	12 x 15 x 72	SLOPING TOPS	CONTR.	CONTR.
E-9	PRESS [illegible]				GOVERN'T	CONTR.
E-10	[illegible]				GOVERN'T	CONTR.

EQUIPMENT FURNISHED & INSTALLED BY GOVERNMENT

EQUIP. NO.	ITEM
E-11	36" LATHE
E-12	MILLING MACHINE
E-13	MILLING MACHINE
E-14	16" LATHE
E-15	RADIAL DRILL PRESS
E-16	MATERIALS LOADING OVN
E-17	FURNACE
E-18	CRUCIBLE CLEANING HOOD
E-19	WORK BENCH
E-20	DRY BOXES

VERIFIED UNCLASSIFIED
LANL Classification Group
Dana [illegible] 11/1[illegible]

[redacted]

NO.	DATE	REVISIONS	BY
4	[illegible]	AS BUILT MODIFICATIONS	
3	[illegible]	Shop Dwg. Ref. Nos. Added	S
2	[illegible]	AS BUILT MODIFICATIONS	JJW
1	[illegible]	DOOR ADDED TO BASEMENT AT STAIR #1	
0	5/3/55	ISSUED FOR APPROVAL	

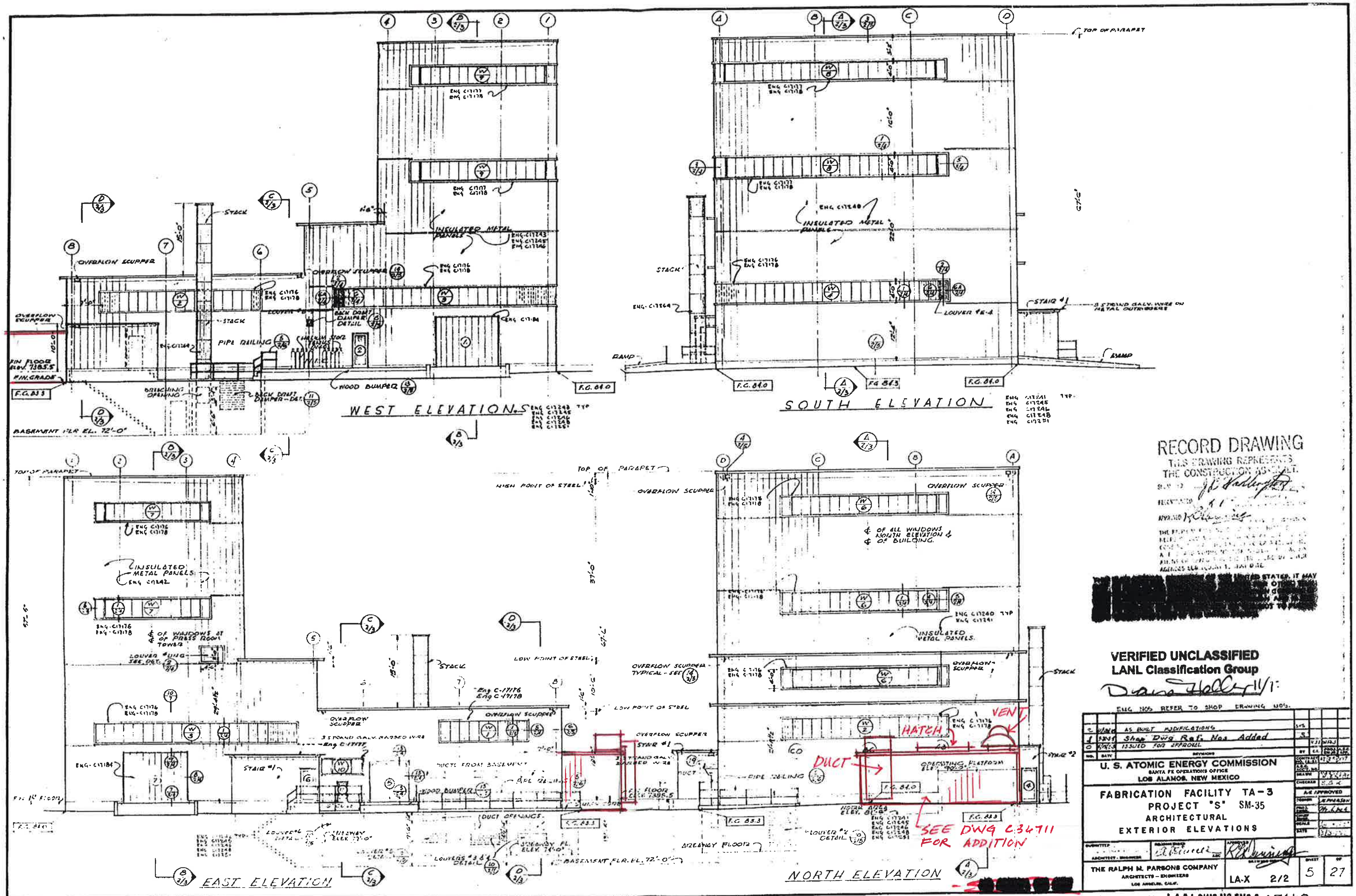
U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

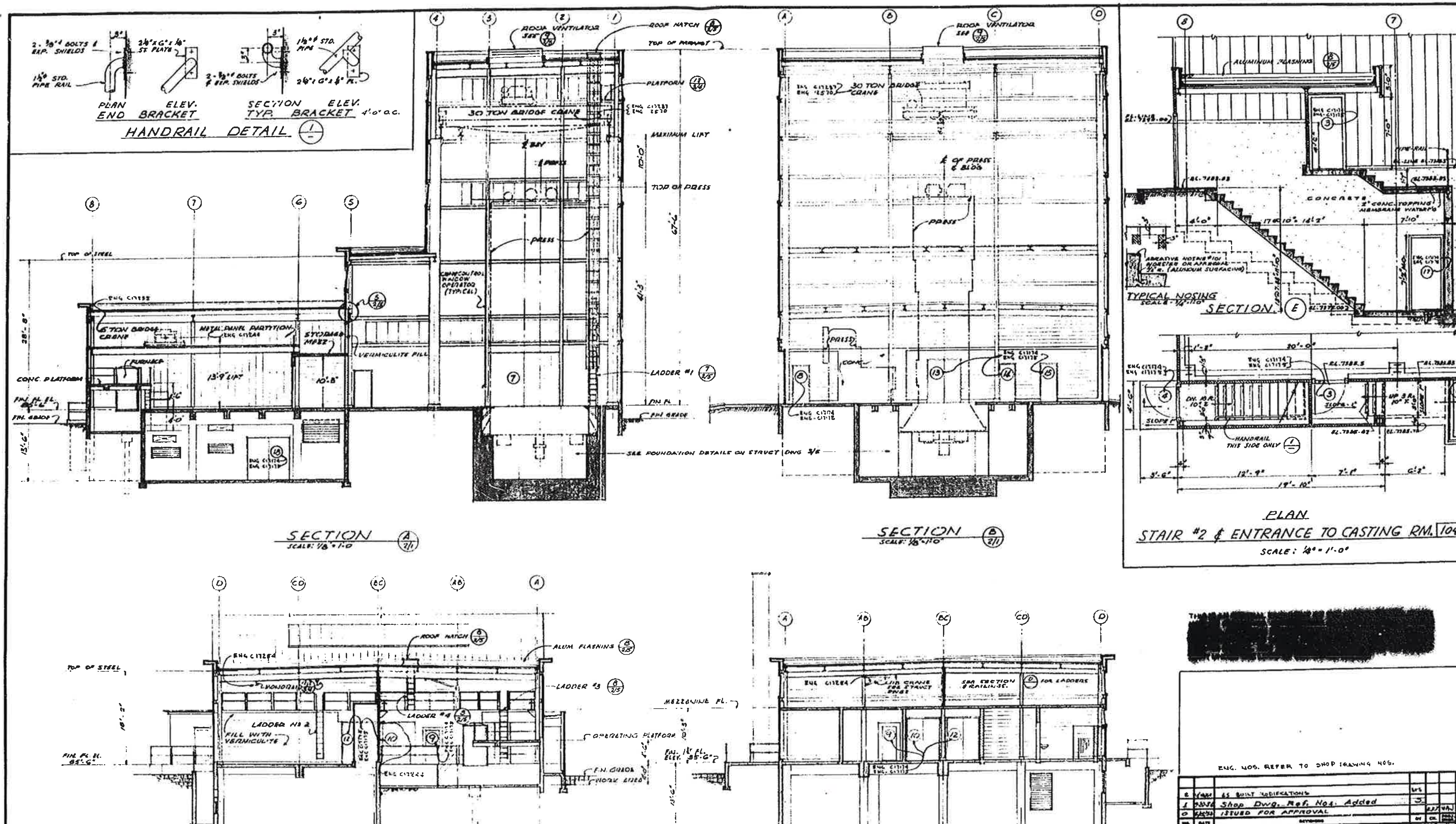
FABRICATION FACILITY TA-3
PROJECT "S" SM-35
ARCHITECTURAL
FLOOR, BASEMENT, ROOF AND MEZZANINE PLANS

THE RALPH M. PARSONS COMPANY
ARCHITECTS - ENGINEERS
LOS ANGELES, CALIF.

LA-X 2/1
SHEET 4 OF 27

LAB JOB 1297 L.A.S.L. DWG. NO. ENG-C 17148


WEST ELEVATION
SOUTH ELEVATION
EAST ELEVATION
NORTH ELEVATION
TOP OF PARAPET
STACK
INSULATED METAL PANELS
OVERFLOW SCUPPER
PIPE RAILING
WOOD BUMPER
FIN. GRADE
BASEMENT FLR EL. 72'-0"
LOW POINT OF STEEL
HIGH POINT OF STEEL
STAIR #1
STAIR #2
RAMP
LOUVER
OPERATING PLATFORM
DUCTS FROM BASEMENT
DUCT OPENINGS
HATCH
VENT
DUCT
SEE DWG C34711 FOR ADDITION
RECORD DRAWING
VERIFIED UNCLASSIFIED
LANL Classification Group
[redacted]
ENG. NOS. REFER TO SHOP DRAWING NOS.
AS BUILT MODIFICATIONS
Shop Dwg Ref. Nos. Added
ISSUED FOR APPROVAL
U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO
FABRICATION FACILITY TA-3
PROJECT "S" SM-35
ARCHITECTURAL
EXTERIOR ELEVATIONS
THE RALPH M. PARSONS COMPANY
ARCHITECTS - ENGINEERS
LOS ANGELES, CALIF.
LA-X 2/2
5 27
[redacted]
LAB JOB 1297 L.A.S.L. DWG. NO. ENG-C 17149



[redacted]

RECORD DRAWING

VERIFIED UNCLASSIFIED
LANL Classification Group

ENG. NOS. REFER TO SHOP DRAWING NOS.

No.	Date	Revisions
2		AS BUILT MODIFICATIONS
1		Shop Dwg. Ref. Nos. Added
0		ISSUED FOR APPROVAL

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

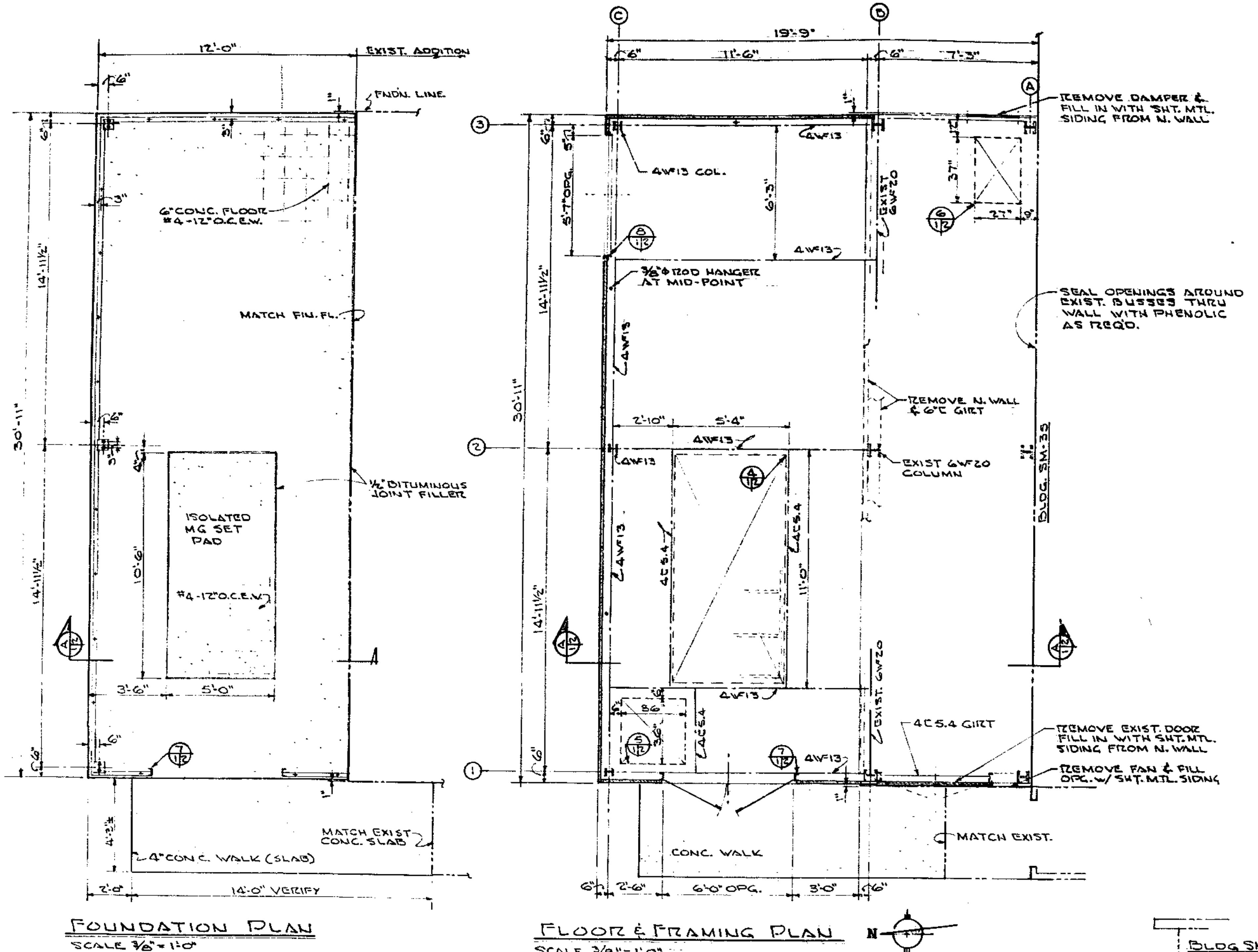
FABRICATION FACILITY TA-3
PROJECT "S" SM-35
ARCHITECTURAL
SECTIONS

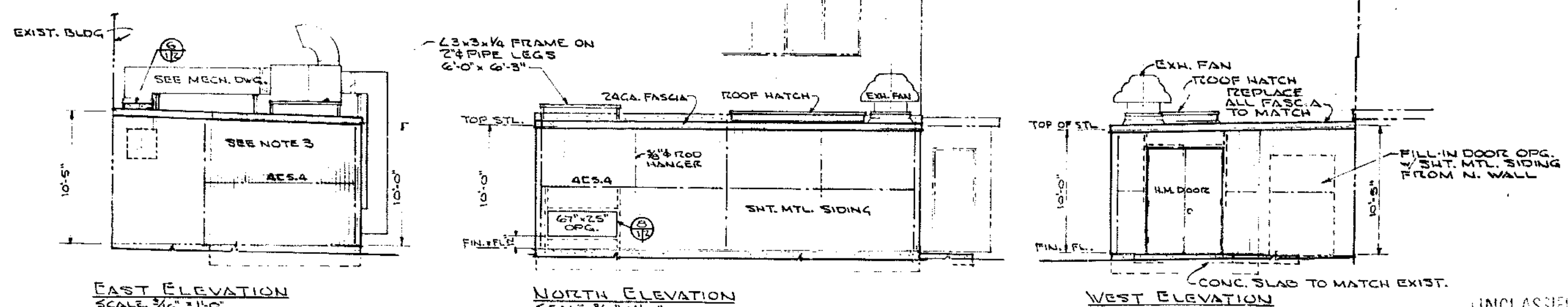
THE RALPH M. PARSONS COMPANY
ARCHITECTS – ENGINEERS
LOS ANGELES, CALIF.

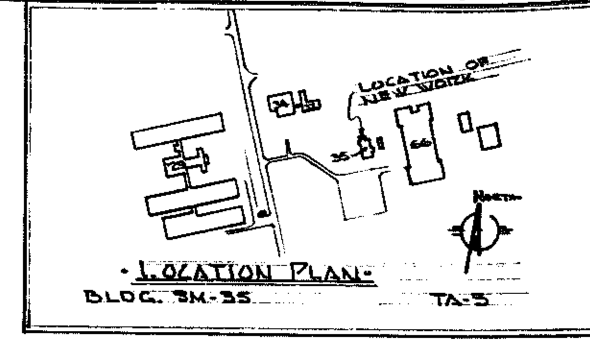
LA-X 2/3 | SHEET 6 OF 27

[redacted]

LAB JOB 1297 L.A.S.L. DWG. NO. ENG-C 17150







GENERAL ARCHITECTURAL NOTES:

1. WHERE BRAND NAMES OR PROPRIETARY ITEMS ARE SPECIFIED, ITEMS OF EQUAL QUALITY, FUNCTION, SIMILAR APPEARANCE AND SIZE MAY BE SUBSTITUTED IN LIEU THEREOF PROVIDED SUCH SUBSTITUTION IS APPROVED BY AUTHORIZED ENG. DEPT. PERSONNEL PRIOR TO INSTALLATION.
2. ROOF DECK TO BE, AS MFG'D. BY ROBERTSON "Q-DECK" 1 1/2" THICK, UKX-12-12, ATTACH PER MFGR'S SPECS.
3. SIDING TO BE AN INSULATED WALL SYSTEM AS MFGD. BY "BINKLEY CO., WARRENTON, MISSOURI." PAN-L-RIB EXPOSED FASTENERS ON A SUB-GIRT SYSTEM. EXTERIOR PANEL TO BE CORR. ALUM. GALV., 26GA. INTERIOR LINER PANEL TO BE BLL-24, 22GA. GALV. WITH 1 1/2" RIGID FIBERGLASS INSULATION GIVING WALL A "U.11" VALUE.
4. APPLY 1" RIGID FIBERGLASS ROOF INSUL. ON METAL DECK w/ SUITABLE MTL. CLIPS OR NON-FLAMMABLE "LUXSUCO" CEMENT.
5. ALL CONCRETE FOR THIS PROJECT TO TEST 3000 P.S.I. AT 28 DAYS (MAX. SLUMP 3")
6. PAINT ALL EXPOSED STEEL, H.M. DOOR & FRAMED OPENINGS (2) TWO COATS "DULUX" LIGHT GRAY #517.
7. CAULKING TO BE GE SILICONE CONSTRUCTION SEALANT TRANSLUCENT TYPE.
8. PAINT CONCRETE FLOOR WITH "HORNSTONE" CONCRETE SEALER.

DOOR SCHEDULE:

3'-0" x 8'-6" x 1 3/4" H.M. DOOR w/ STL. CHANNEL FRAME, DBL. DOOR w/ ASTRAGAL

HARDWARE (RUSSWIN):

1 LOCKSET	N2 A2025 w/ ANTI-FRICTION LATCH BOLT BKS, FLANDER w/ BEST CORE.
3 PRS HINGES	Nº 85 1/4, 4 1/2 x 4 1/2, BRONZE
HEADBOLT	#1055, 6", CHAIN BOLT (STANLEY)
FOOTBOLT	#1057, 6", w/CONC. STRIKE (STANLEY)

PROVIDE "ZERO" WEATHER STRIPPING #39-A & #50

NO.	DATE	REVISIONS	BY	CHKD.	GRP	D.O.	GRP LDR.	ENGR. D.O.
0		NO REVISION THIS SHEET	RL	LP				

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY WILDE ENG-4 PHONE 4265

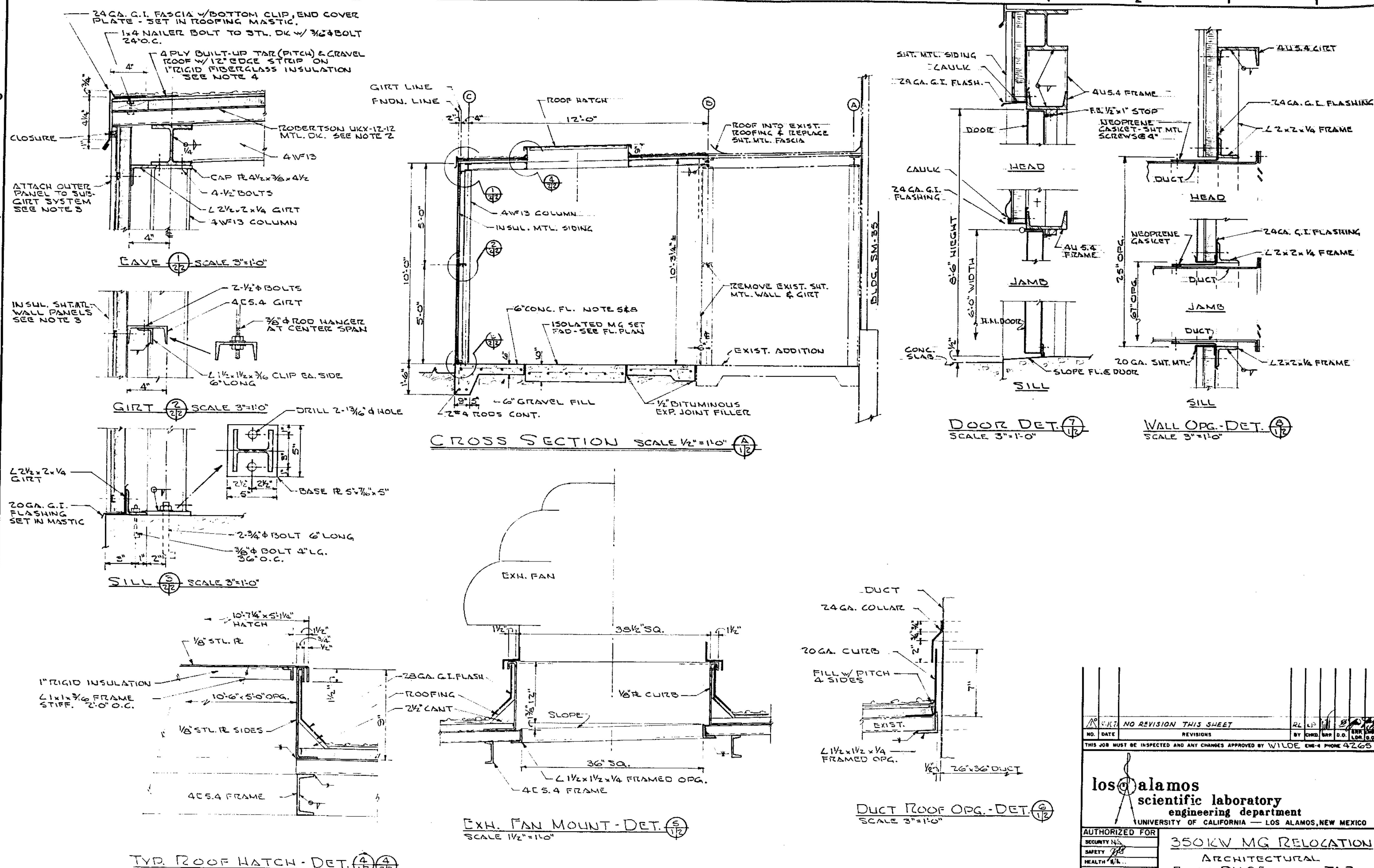
los alamos scientific laboratory
engineering department
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

AUTHORIZED FOR
SECURITY N.A.
SAFETY
HEALTH N.A.

350KW MG RELOCATION
ARCHITECTURAL
BLDG. SM-35 TA-3

DIVISION CMB-DO	SUBMITTED PROJ. ENGR.	APPROVED ENGR. GROUP LEADER	APPROVED ENGR. DEPT. OFFICE
GROUP CMB-6	CHECKED JFZ	CA / BA	DATE 12/15/70 · SHEET 1A 1 OF 9
	DESIGNED RICHARDSON	LAB JOB NUMBER	DRAWING NO.
ENG-5 WRA	DRAWN RWR	4484-3	ENG-C 36711

UNCLASSIFIED



NO.	DATE	REVISIONS	BY	CHKD.	DR.	D.O.	ENGR.
		NO REVISION THIS SHEET					

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY WILDE ENG-4 PHONE 4265

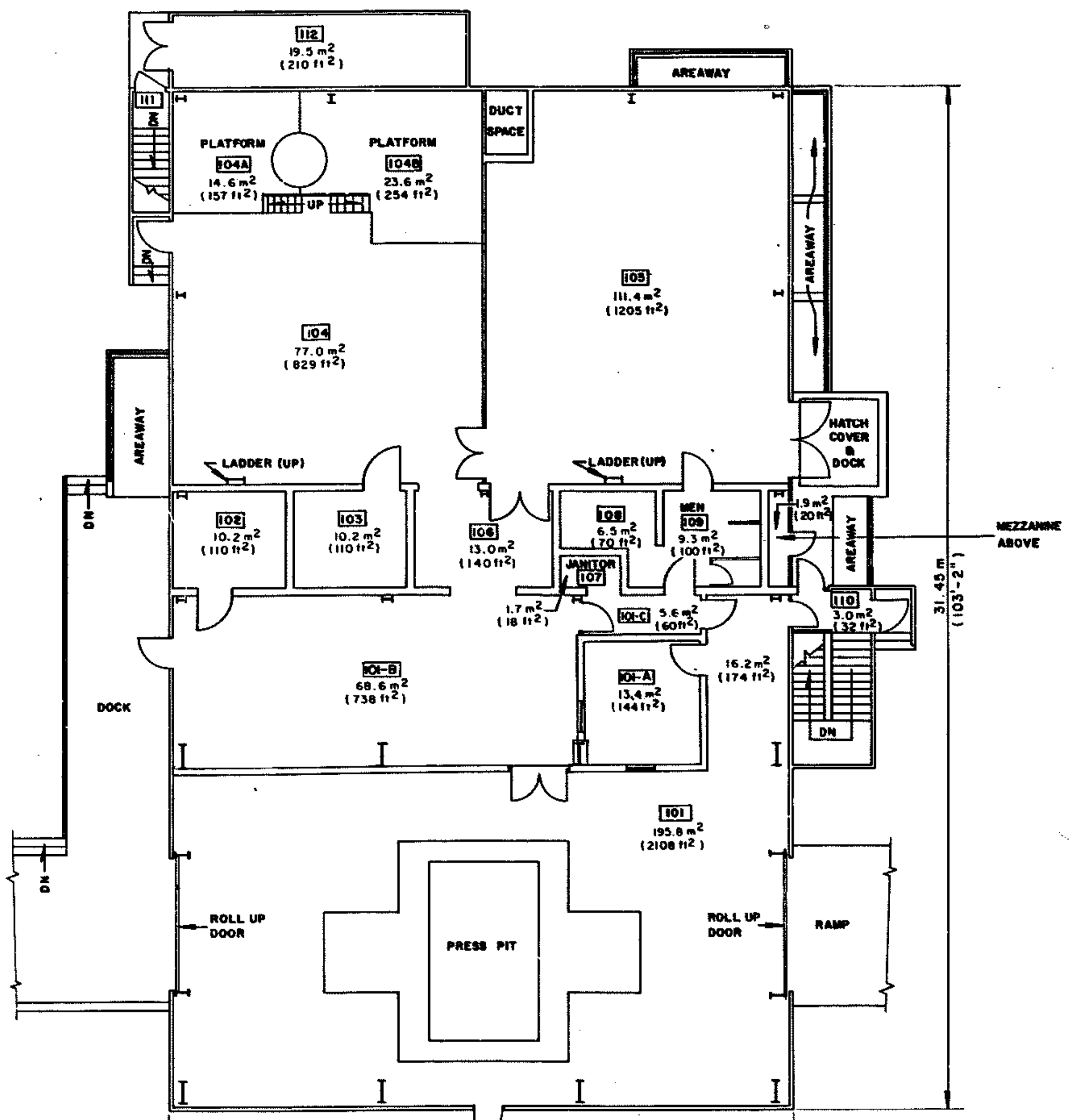
los alamos scientific laboratory
engineering department
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

AUTHORIZED FOR: SECURITY NS; SAFETY; HEALTH N/A

350KW MG RELOCATION
ARCHITECTURAL
BLDG. SM-35 TA-3

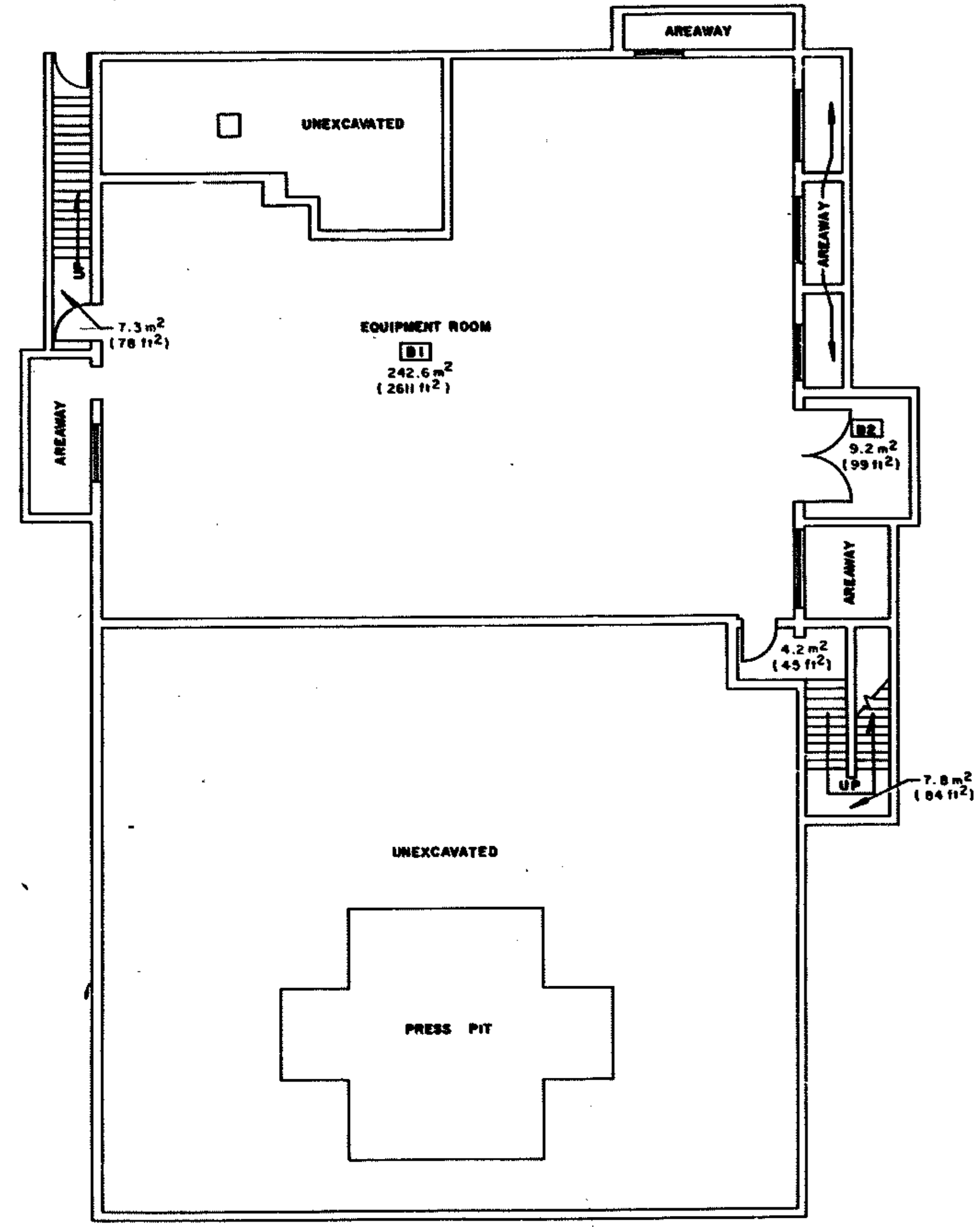
DIVISION CMB-DO; GROUP CMB-6
SUBMITTED: PROJ. ENGR.; APPROVED: ENGR. GROUP LEADER; APPROVED: ENGR. DEPT. OFFICE
CHECKED JFZ; DESIGNED RR; DRAWN RR; ENG-5
SHEET 2A 2 OF 9
LAB JOB NUMBER 4484-3
DRAWING NO. ENG-C36712

UNCLASSIFIED

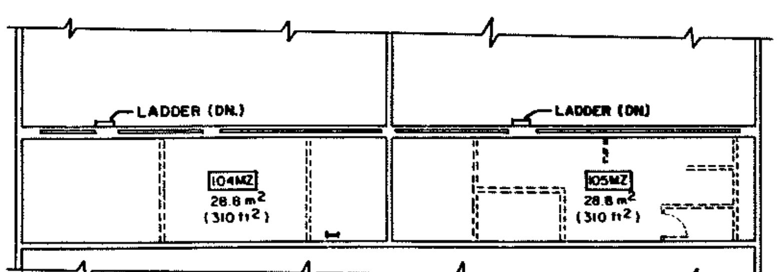


FIRST FLOOR

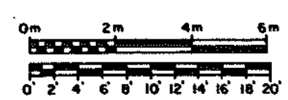
19.05 m
(62'-6")



BASEMENT



MEZZANINE



3.2mm = .30m
(1/8" = 1'-0")
GRAPHIC SCALE

REVIEWER *Andrick*
CLASS *U* DATE *11-28-83*

	m²	ft²
BASEMENT FLOOR TOTALS	271.0	2917
FIRST FLOOR TOTALS	611.6	6583
MEZZANINE FLOOR TOTALS	57.6	620
BUILDING TOTALS	940.2	10120

REV.	DATE	REVISION	BY	CKD.	APR.
3	8-1-83	REVISED TO STATUS OF 8-1-83	H&N		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

PRESS BUILDING
BSM'T. & FIRST FLOOR PLAN

BLDG. SM-35 TA-3

SEC. CLASSIFICATION
CLASS. *U*
REVIEWER *Andrick*
DATE *11-28-83*

SUBMITTED *E. [illegible]*
RECOMMENDED [illegible]
APPROVED [illegible]
DRAWN LEMON
CHECKED [illegible] H4N
DATE 2-15-63
SHEET NO. 1 OF 1
DRAWING NO. ENG-R2556

INFO. SHOWN CURRENT AS OF ______ B. A. NO. ______ LAB JOB NO. ______

LANL TA- Building #: 03-0066

Camera: 984244

Frame #s: DCP_4952 through DCP_4959

Surveyor(s): S. McCarthy, J. Ronquillo, N. Naranjo

Date: 9/7/2006

Los Alamos National Laboratory
RMT Historic Building Survey Form

Building Name: Sigma Building | UTMs easting: 381032 | northing: 3970525 | zone: 13

Legal Description: Map: Frijoles Quad 2002 | tnsp: 19N | range: 6E | sec: 16 & 21

Current Use/ Function: Sigma Building | Original Use/ Function: Sigma Building

Date (estimated): | Date (actual): 1959 | Property Type: Laboratory/Processing

Type of Construction

Pre-Fabricated Metal ☐ Steel Frame ☐ Wood Frame ☐ CMU ☐ Reinforced Concrete ☐

Other Type of Construction: Concrete post and beam structural system with concrete block infill panels. Partial basement with two-stories and a partial mezzanine. | # of Stories: 3

Foundation: Reinforced Concrete

Exterior CMU-Exterior ☑ Reinforced Concrete-Exterior ☑ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☑ Other-Exterior:

Exterior Treatment (painted, stuccoed, etc): Painted

Exterior Features (docks, speakers, lights, signs, etc): Lights, signage, badge reader, warning lights, alarm system, exterior conduit and piping. The roof is equipped with lightning rods, vent stacks and air handling equipment. The building also is equipped with four large exhaust stacks.

Addition CMU-Addition ☑ Reinforced Concrete-Addition ☑ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition:

Exterior Treatment-Addition:

Exterior Features-Addition: Shop addition on northeast side.

Roof Form Slanted/Shed ☐ Gable ☐ Other Roof Type: flat

Degree of Pitch/ Slope: Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☐

Other Roof Materials: Built-up tar and gravel and membrane

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☑

Other Window Type:

of Each Window Type/ Comments: Panels of glass block windows on all sides and the mezzanine

Glass Type Clear [ ] Wire Glass [ ] Opaque [ ] Painted Glass [ ] Glass Block [x]

Light Pattern: Panels of transclucent glass block; The mezzanine area is equipped with panels of 7 over 3-light windows.

Door Type

Personnel Door Types

Exterior: Fire Door [ ] Single [x] Double [x] Roll-up [ ] Sliding [ ] Hollow Metal [x] Solid Wood [ ] 1/2 Glazed [x] Paneled [ ] Louvered [ ] Painted [x]

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 [x] Double [x] Roll-up [x] Sliding [ ] Hollow Metal [x] Solid Wood [ ] 1/2 Glazed [ ] Paneled [ ] Louvered [ ] Painted [x]

Interior: Fire Door [ ] Single [ ] Double [ ] Roll-up [ ] Sliding [ ] Hollow Metal [ ] Solid Metal [ ] 1/2 Glazed [ ] Paneled [ ] Louvered [ ] Painted [ ]

of Each Door Type/Comments: Numerous doors and windows in varying sizes and configurations

Interior Wall Gypsum Board [ ] Reinforced Concrete- Interior [ ]

CMU- Interior [ ] Plywood [ ] Other- Interior

In-Wall Electrical Wiring [ ] On-Wall Electrical Wiring [ ]

Ceiling Drop Ceiling [ ]

Interior Comments (Equipment, etc)

Degree of Remodeling Minor

Condition Excellent [x] Good [ ] Fair [ ] Deteriorating [ ] Contaminated [ ] Burned [ ]

Associated Buildings [ ]

If yes, list building names and #s: Sigma Complex buildings: TA-3-35, -141, -159, & -169

Integrity Excellent

Significance Eligible

Eligible Under Criterion A [x] B [ ] C [ ] D [ ] Not Eligible [ ]

DOE Themes

Nuclear Weapon Components and Assembly [ ] Nuclear Weapon Design and Testing [x] Nuclear Propulsion [x]

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

LANL Themes

Weapons Research and Design, Testing, and Stockpile Support [x] Super Computing [ ]

Reactor Technology [ ] Biomedical/Health Physics [ ] Strategic and Supporting Research [x]

Environment/Waste Management ☐ Administration and Social History ☐ Architectural History ☐

Recommendations/ Additional Comments

Architectural Features (elevations)

TA-3-66 is a large building constructed with a partial basement, two upper floors, and a partial mezzanine. The building is predominately rectangular in plan and measures 443 ft 6 in. by 204 ft 8 in. It is constructed with a concrete foundation. The basement is constructed with a concrete floor slab, concrete walls and supporting columns. The upper floors are constructed with concrete floor slabs, concrete post and beam structural system with concrete block infill panels, and a flat roof with interior roof drains. The roof is constructed with steel joists, rigid insulation and built-up roofing system.

The building contains numerous doors in varying sizes and configurations. The main entrance is on the west side and consists of a pair of aluminum-storefront doors. The west side also contains four additional pairs of painted hollow-metal doors with vision panels. The north elevation has an oversized pair of painted hollow-metal doors with vision panels, two overhead doors and a single painted hollow-metal door with ½-glass. The east elevation has two pairs of painted hollow-metal doors with vision panels, two single painted hollow-metal doors with ½-glass, and an overhead door. The south side is equipped with an overhead door. The building is also equipped with translucent glass-block window panels.

Total sq ft 181,920 **Architect/ Builder** Black & Veatch Consulting Engineers

Alterations

In 1988, a 50 ft by 44 ft shop was constructed on the northeast side of the building. The addition is one story in height and constructed with a raised concrete foundation and floor slab, concrete post and beam structural system with concrete block infill panels, and a low pitched shed roof enclosed with low parapet walls. The roof is constructed with steel joists, decking, rigid insulation and finished with a membrane roofing system. The addition is equipped with an overhead door on the east side and a single painted hollow-metal door with ½-glass on the north side. This entry door is also equipped with an exterior steel staircase. The addition is also equipped with translucent glass-block panels matching the original building.

List of Drawings (Cntrl + Enter for para break)

ENG-C 24177
Sheet 17 of 376
Sigma Building
TA-3, Bldg. 66
Architectural: Elevations
January 15, 1957

ENG-C 45428
Sheet 4 of 21
TA-3, Bldg. 66
Shop Addition
Floor Plan/Schedules
April 20, 1988

ENG-C 45428
Sheet 7 of 21
TA-3, Bldg. 66
Shop Addition
Elevations/Sections
April 20, 1988

AB-6
Sheet 2 of 4
Sigma Building
TA-3, Bldg. 66
Architectural: Basement Floor Plan
March 28, 1995

AB-6
Sheet 3 of 4
Sigma Building
TA-3, Bldg. 66
Architectural: First Floor Plan
March 28, 1995

AB-6
Sheet 4 of 4
Sigma Building
TA-3, Bldg. 66
Architectural: Second Floor and Mezzannie Plan
March 28, 1995

TA-3-66 West side

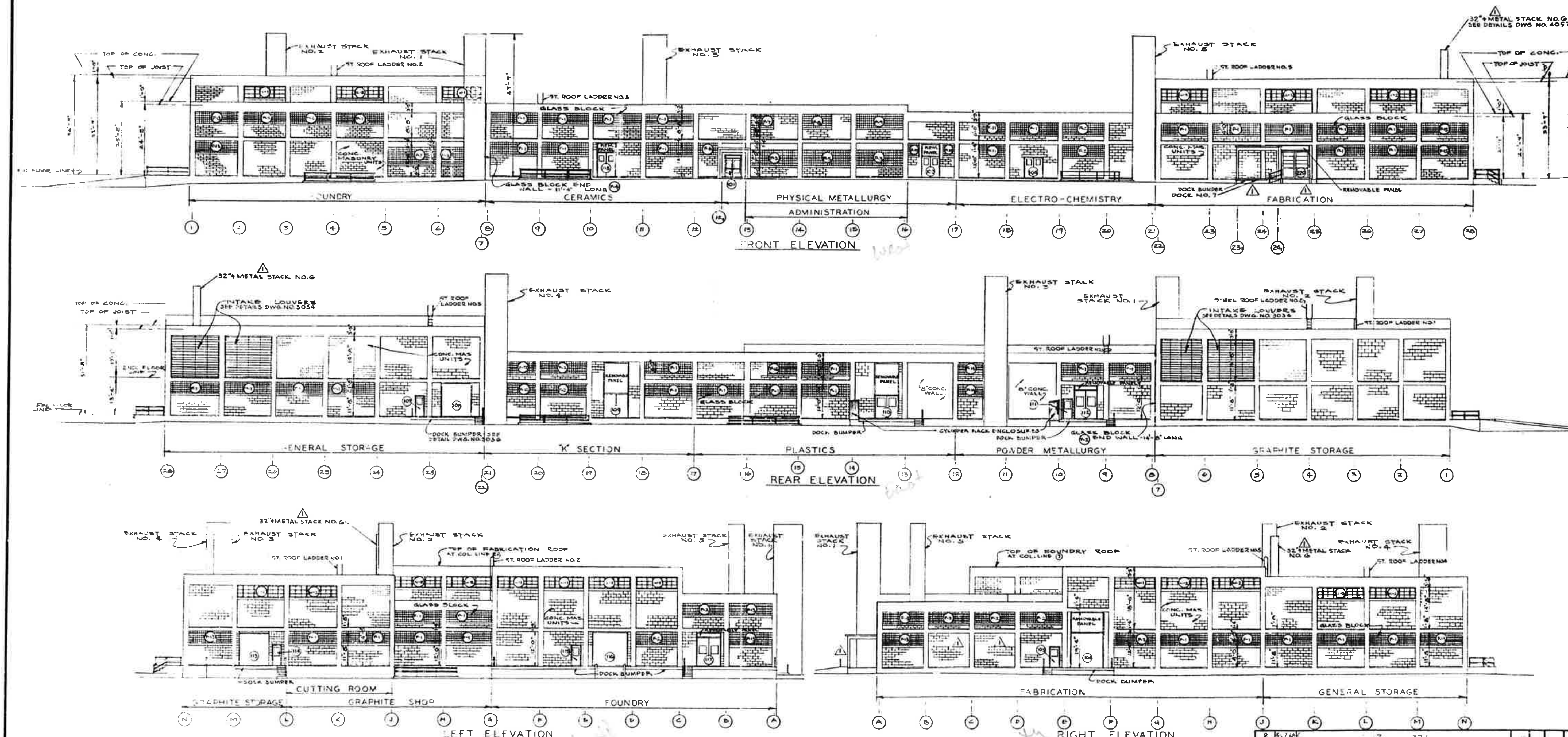
TA-3-66 North and west sides

TA-3-66 North side (eastern portion)

TA-3-66 East and north sides

TA-3-66 East side


TA-3-66 South side



AS CONSTRUCTED DRAWING

VERIFIED UNCLASSIFIED
LANL Classification Group
Diana Holly 11/17/15

NO.	DATE	REVISIONS		CK.	PROJ. ENGR.	A.E.C. APP.
2	5-27-68	17 376				
1	5-2-58	ADDED DOCK NO. 7, DOOR 220 & METAL STACK NO. 6 & DELETED WINDOWS	CFF	WRC	CAS	

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

SIGMA BUILDING TA-3

ARCHITECTURAL ELEVATIONS

CONTRACT NO. (AT)	1465
A.E.C. ACCT. NO.	
DRAWN	HLM CFR
CHECKED	WRC
A-E APPROVED	
DESIGN	ALC
PROJ. ENGR.	
CHIEF ENGR.	CAS
SCALE	1/16" = 1'-0"
DATE	1-15-57

SUBMITTED: ARCHITECT-ENGINEER — RECOMMENDED: A.E.C. — APPROVED

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. 3004.1 — SHEET 17 OF 376

LAB. JOB. - 1486

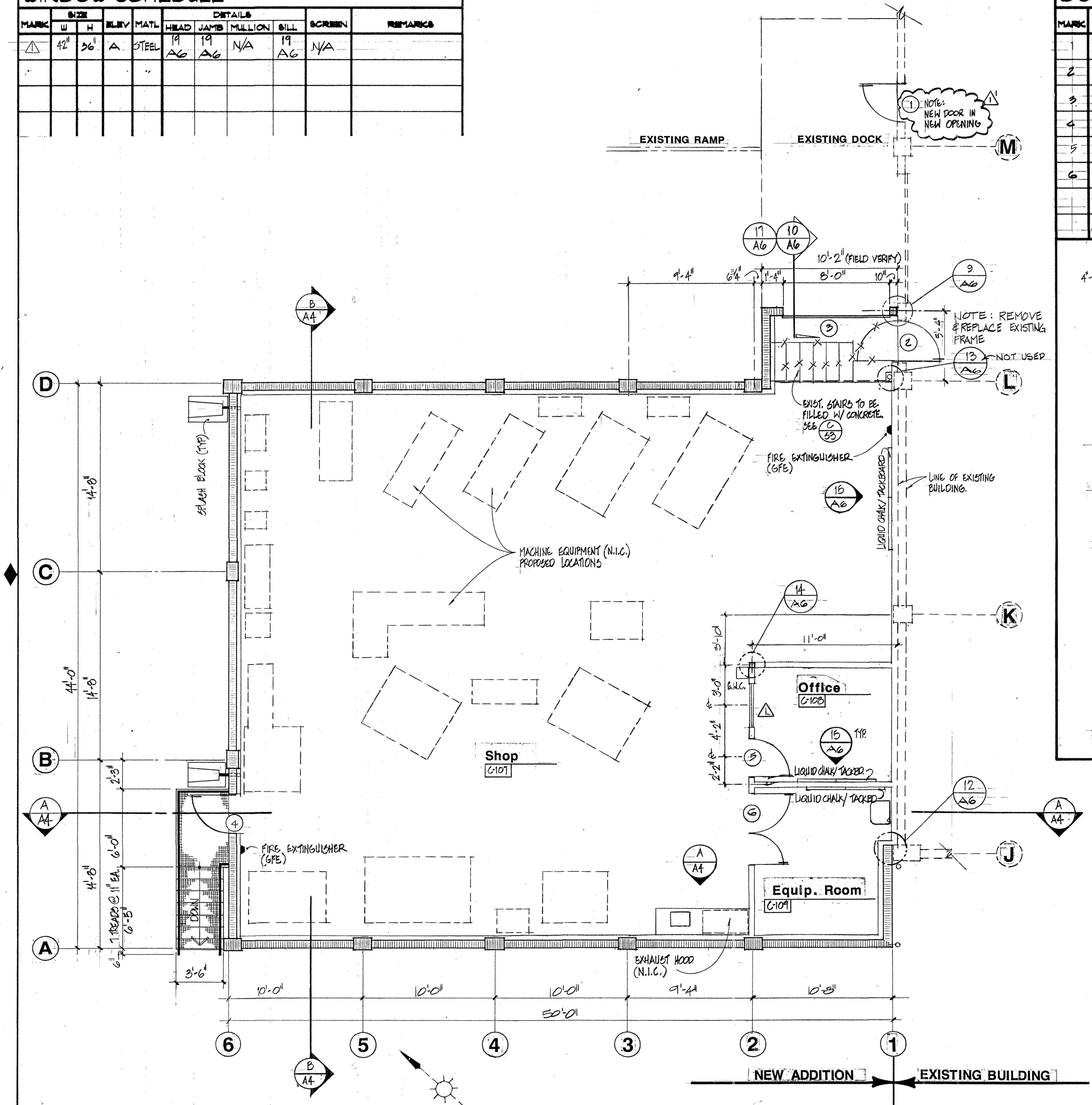
DWG. NO. ENG-C 24177

WINDOW SCHEDULE

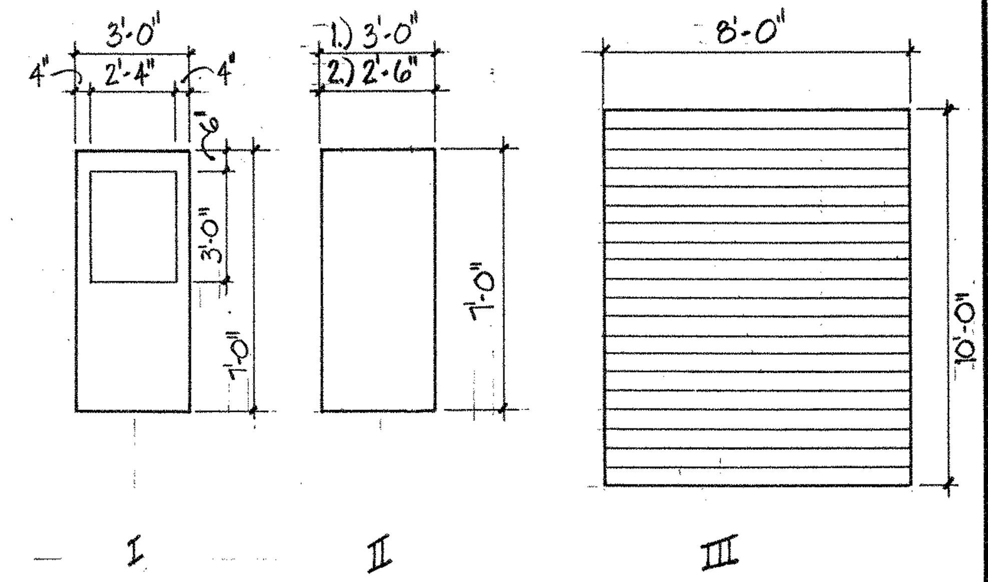
MARK	SIZE W	SIZE H	ELEV	MATL	DETAILS HEAD	DETAILS JAMB	DETAILS MULLION	DETAILS SILL	SCREEN	REMARKS
1	42"	36"	A	STEEL	19 A6	19 A6	N/A	19 A6	N/A	

DOOR SCHEDULE

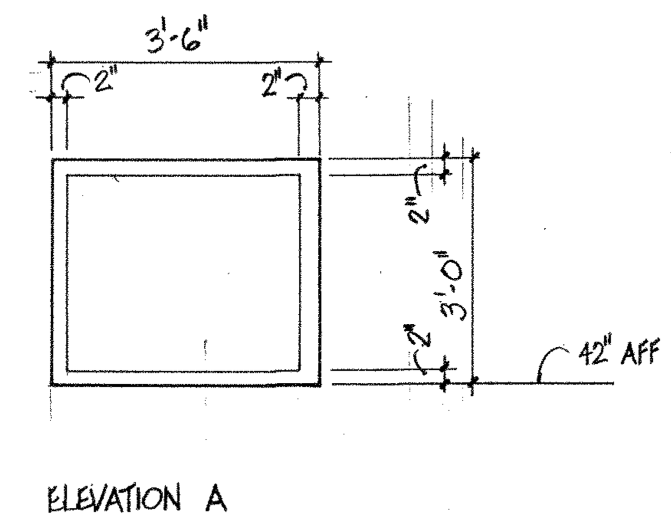
MARK	SIZE	MATERIAL	ELEVATION	GLASS	HARDWARE	FRAME TYPE	UL LABEL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
1	3⁰ x 7⁰ x 1¾"	METAL INSUL.	I	TEMP.	1	METAL	N/A	3 SIM. A6	20 SIM. A6	6 SIM. A6	RELOCATED DOOR/NEW FRAME W/ CLOSER
2	3⁰ x 7⁰ x 1¾"	METAL.	II	-	2	METAL	N/A	3 SIM. A6	20 SIM. A6	6 SIM. A6	W/ CLOSER
3	8⁰ x 10⁰	ALUM. INSUL.	III	-	—	—	N/A	10 A6	9 A6	17 A6	OVERHEAD COILING DOOR
4	3⁰ x 7⁰ x 1¾	METAL INSUL	I	TEMP.	1	METAL	N/A	3 A6	20 A6	6 A6	W/ CLOSER
5	3⁰ x 7⁰ x 1¾"	METAL	II	-	2	METAL	N/A	18 A6	18 A6	16 A6	
6	PAIR DOORS: 1.) 3⁰ x 7⁰ x 1¾" 2.) 2⁶ x 7⁰ x 1¾"	METAL	II	-	2	METAL	N/A	18 A6	18 A6	16 A6	W/ CLOSER



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



Door Types – Elevations
SCALE: 1/4"=1'-0"



Window Types – Elevations
SCALE: 1/2"=1'-0"

SCALE: 1/2"=1'-0"

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

NO.	DATE	CLASS REV.	REVISIONS	DWN	DES	CHKD	REQ GRP	REQ D.O.	ENG GRP	ENG D.O.
1	1/9/90		AS-BUILTS							LE

Holmes & Narver–Albuquerque, N.M.

SHOP ADDITION
Floor Plan / Schedules

DRAWN	T.L./T.B.
DESIGN	T.L.
CHECKED	JA
RELEASED	
DATE	4-20-88

BLDG. SM-66 TA-3

SUBMITTED 4/14/88 RECOMMENDED APPROVED 9/12/88

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

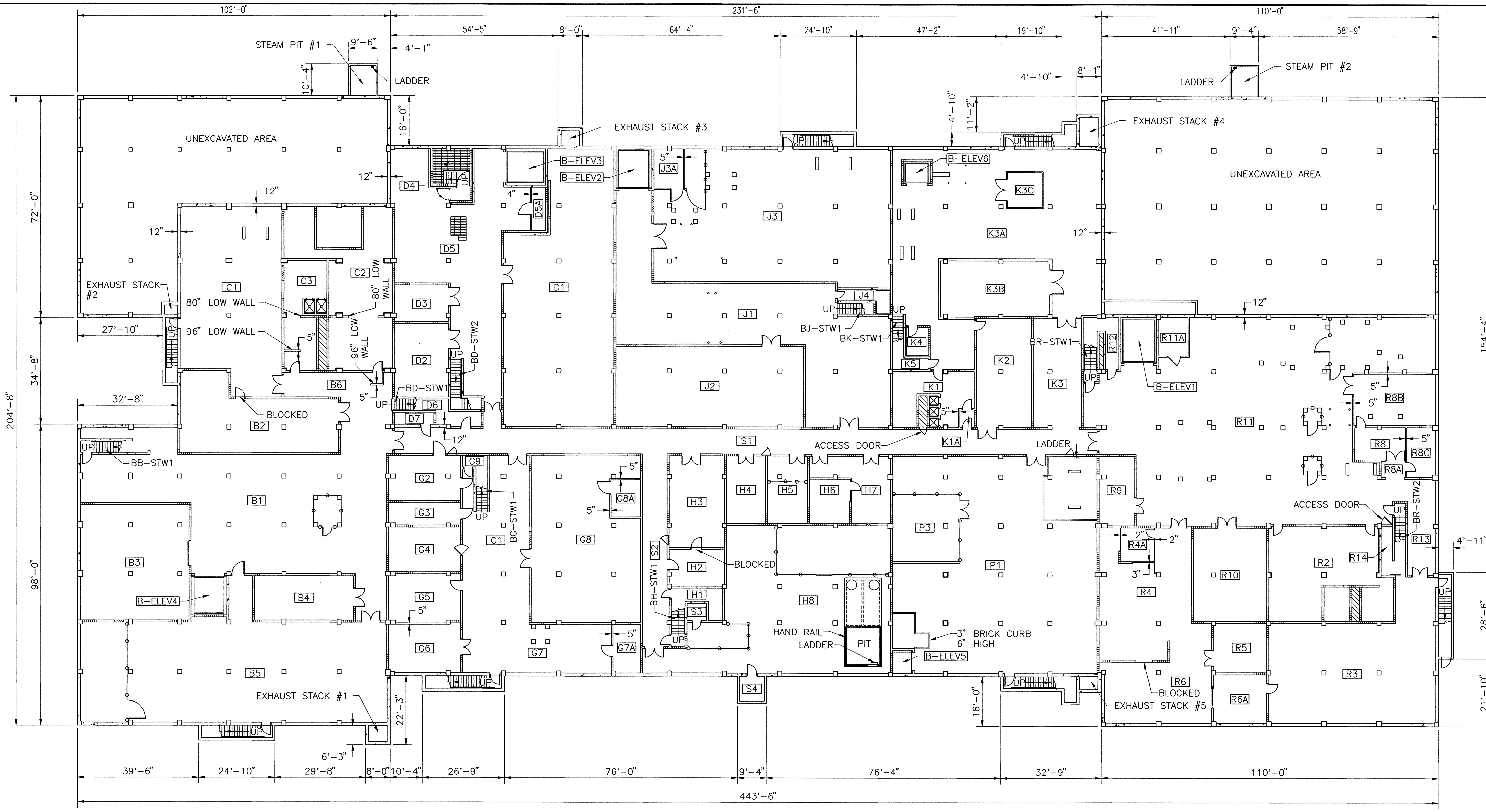
SHEET A1.1 4 OF 21

CLASSIFICATION UNCL. REVIEWER DATE 6/17/88

REQUESTING DIVISION	LAB JOB NO.	DRAWING NO.	REV.
MEC	7910-03	ENG-C-45428	
REQUESTING GROUP MEC-5			

STATE OF NEW MEXICO — MORGAN L. KRAMM II — NO. 1911 — REGISTERED ARCHITECT


East Elevation
SCALE: 1/4" = 1'-0"
10"Ø STACK
CMU WALL
OVERHEAD DOOR
GLASS BLOCK (TYP) -MATCH EXIST. BUILDING.
1½"Ø PIPE GUARDRAIL & HANDRAIL
EXIST'G BLDG. NEW ADDITION
West Elevation
SCALE: 1/4" = 1'-0"
EXIST'G BLDG. BEYOND
T.O.P. 7398.75
TOP OF GLASS BLOCK 7393.75
FIN. FLR. 7384.08
GLASS BLOCK (TYP)
TYP. 7 A6
21 A6 TYP.
TYP. 4 A6
North Elevation
SCALE: 1/4" = 1'-0"
10"Ø STACK
EXISTING BLDG. BEYOND
RELOCATED DOOR IN A NEW FRAME (CLEAN AS REQUIRED TO RECEIVE NEW PAINT)
EXISTING OVERHEAD DOOR (CLEAN AS REQUIRED TO RECEIVE NEW PAINT)
EXISTING DOCK
GLASS BLOCK (TYP)
1½" O.D. PIPE RAIL (TYPICAL)
STEEL GRATING STAIR TREADS & LANDING (TYP)
DOWNSPOUT NOZZLE (TYP)
SPLASH BLOCK, TYP.
3"Ø COLUMN (TYP)
10" CHANNEL (TYP)
8 RISERS @ 6½" EA. = 4'-4"
B Section A1
SCALE: 1/4" = 1'-0"
MEMBRANE ROOFING SYSTEM ON RIGID INSULATION ON METAL ROOF DECK
GLASS BLOCK (MATCH EXIST)
STEEL JOISTS
FLOURESCENT LIGHT FIXTURE (TYP)
2x4 ROOM I.D. SIGNS, TYP.
EXHAUST HOOD (N.I.C.)
LIQUID CHALK/TACKBD
SHOP C-107
ELECTRICAL EQUIP.
ELECT. WATER COOLER
PRE-PAINTED BASE CABINET W/ STAINLESS STEEL COUNTER TOP
CONCRETE GRADE BEAM
CONCRETE PIER
T.O.P. 7398.75
FIN. FLR. 7384.08
TOP OF G.D. BM. 7380.7467
A Section A1
SCALE: 1/4" = 1'-0"
SEISMIC BRACING
STEEL JOISTS
SLOPE: 1/8"/FT.
SUSPENDED ACOUSTICAL CLNG.
OFFICE C-108
EXHAUST HOOD (NIC)
SHOP C-107
PRE-PAINTED STEEL BASE CABINET W/ STAINLESS STEEL TOP
7'-2"
T.O.P. 7398.75
JOIST BRNG. 7396.20
FINISH FLR. 7384.08
TOP OF GRADE BEAM 7380.7467
TOP OF PIER 7377.7467
SCALE: 1/4"=1'-0"
1 1/9/90 AS-BUILTS
NO. DATE CLASS REV. REVISIONS DWN DES CHKD REQ GRP REQ D.O. ENG GRP ENG D.O.
Holmes & Narver–Albuquerque, N.M.
SHOP ADDITION
Elevations / Sections
DRAWN T.L.
DESIGN T.L.
CHECKED JA
DATE 4-20-88
BLDG. SM-66
TA-3
SUBMITTED
RECOMMENDED
APPROVED 9/12/88
STATE OF NEW MEXICO MORGAN KRONK II NO. 1911 REGISTERED ARCHITECT
Los Alamos
Los Alamos National Laboratory Los Alamos, New Mexico 87545
SHEET A4.1 7 OF 21
CLASSIFICATION Uncl. REVIEWER
DATE 6/17/88
REQUESTING DIVISION MEC
REQUESTING GROUP MEC-5
LAB JOB NO. 7910-03
DRAWING NO. ENG-C-45428
REV.
REC'D LOGGED TO VAULT



NOTES

1. ALL EXTERIOR WALLS ARE 12" THICK UNLESS OTHERWISE NOTED.
2. ALL INTERIOR WALLS ARE 8" THICK UNLESS OTHERWISE NOTED.
3. REFERENCE DRAWING ENG-4001 TO 4090.
4. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.

BASEMENT FLOOR PLAN

SCALE: 1/16" = 1'-0"

16 12 8 4 0 16 32 64
GRAPHIC SCALE

N

LEGEND

CONCRETE
CONCRETE BLOCK
LOUVER
UTILITY SPACE
WINDOW
WOOD OR METAL STUD
CHAIN LINK FENCE
COLUMNS
SHOWER

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	REL	SUB	REC	APP
3	4-8-97	U TAG	UPDATE STAIRWELL NUMBERS	AM	AM	CDS	CDS	DV	LB	LB
2	2-18-97	U TAG	UPDATE BASEMENT FLOOR PLAN	AM	AM	CDS	CDS	DV	LB	LB

JOHNSON CONTROLS WORLD SERVICES INC.

AS-BUILT RECORD FLOOR PLAN
SIGMA BUILDING
ARCH: BASEMENT FLOOR PLAN

DRAWN	D. THEOBALD
VERIFIED	DRT/RR
CHECKED	R. ROYBAL
RELEASED	C. SANDOVAL
DATE	03-28-95

BLDG 66 TA-3

SUBMITTED	RECOMMENDED	APPROVED
JERRY FORTE	FRED THOMPSON	FRED THOMPSON

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 2 — 2 OF 4

CLASSIFICATION U REVIEWER T. GUSDORF DATE 5-13-97

PROJECT ID 7556 DRAWING NO AB6 REV 3

FIELD VERIFIED 03-23-95

JCI NO 91-011

NOTES

1. ALL EXTERIOR WALLS ARE 12" THICK UNLESS OTHERWISE NOTED.
2. ALL INTERIOR WALLS ARE 8" THICK UNLESS OTHERWISE NOTED.
3. REFERENCE DRAWING ENG-4001 TO 4090.
4. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.

FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

16 12 8 4 0 16 32 64
GRAPHIC SCALE

N

LEGEND

CONCRETE
CONCRETE BLOCK
LOUVER
UTILITY SPACE
WINDOW
WOOD OR METAL STUD
CHAIN LINK FENCE
COLUMNS

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	REL	SUB	REC	APP
3	4-8-97	TAG	UPDATE STAIRWELL NUMBERS	AM	AM	CDS	CDS	DV	LB	LB
2	2-18-97	U TAG	UPDATE FIRST FLOOR PLAN	AM	AM	CDS	CDS	DV	LB	LB

JOHNSON CONTROLS WORLD SERVICES INC.

AS-BUILT RECORD FLOOR PLAN
SIGMA BUILDING
ARCH: FIRST FLOOR PLAN

DRAWN	D. THEOBALD
VERIFIED	DRT/RR
CHECKED	R. ROYBAL
RELEASED	C. SANDOVAL
DATE	03-28-95

BLDG-66 TA-3

SUBMITTED	RECOMMENDED	APPROVED
JERRY FORTE	FRED THOMPSON	FRED THOMPSON

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

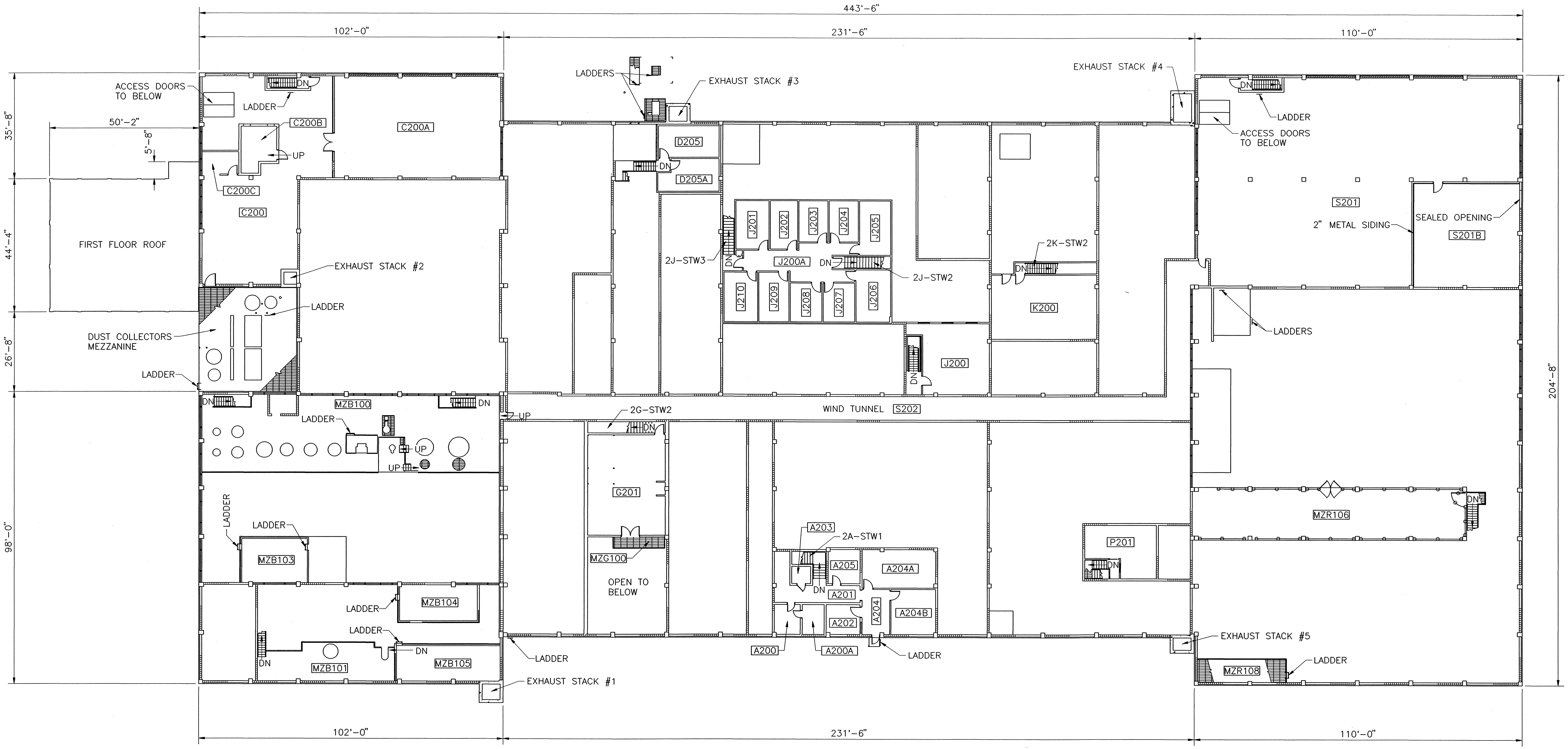
SHEET 3 — 3 OF 4

CLASSIFICATION U REVIEWER T. GUSDORF DATE 5-13-97

PROJECT ID	DRAWING NO	REV
7556	AB6	3

JCI NO 91-011

FIELD VERIFIED 03-23-95



NOTES

1. ALL EXTERIOR WALLS ARE 12" THICK UNLESS OTHERWISE NOTED.
2. ALL INTERIOR WALLS ARE 8" THICK UNLESS OTHERWISE NOTED.
3. REFERENCE DRAWING ENG-4001 TO 4090.
4. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.

SECOND FLOOR AND MEZZANINE PLAN

SCALE: 1/16" = 1'-0"

16 12 8 4 0 16 32 64
GRAPHIC SCALE

N

LEGEND

CONCRETE
CONCRETE BLOCK
LOUVER
UTILITY SPACE
WINDOW
WOOD OR METAL STUD
CHAIN LINK FENCE
COLUMNS

FIELD VERIFIED 03-24-95

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	REL	SUB	REC	APP
MF 3	4-8-97	U TAG	UPDATE STAIRWELL NUMBERS	AM	AM	CDS	CDS	DV	LB	LB
2	2-18-97	U TAG	UPDATE SECOND FLOOR PLAN	AM	AM	CDS	CDS	DV	LB	LB

JOHNSON CONTROLS WORLD SERVICES INC.

AS-BUILT RECORD FLOOR PLAN
SIGMA BUILDING
ARCH: SECOND FLOOR AND MEZZANINE PLAN

BLDG 66 TA-3

DRAWN	D. THEOBALD
VERIFIED	DRT/RR
CHECKED	R. ROYBAL
RELEASED	C. SANDOVAL
DATE	03-28-95

SUBMITTED	RECOMMENDED	APPROVED
JERRY FORTE	FRED THOMPSON	FRED THOMPSON

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 4 — 4 OF 4

CLASSIFICATION U REVIEWER T. GUSDORF DATE 5-13-97

PROJECT ID	DRAWING NO	REV
7556	AB6	3

JCI NO 91-011

LANL TA- Building # 03-0141

Camera 984244

Frame #s DCP_4965 through DCP_4969

Surveyor(s) S. McCarthy, J. Ronquillo

Date 9/7/2006

Los Alamos National Laboratory
RMT Historic Building Survey Form

Building Name: Rolling Press Building | UTMs easting: 381151 | northing: 3970536 | zone: 13

Legal Description: Map: Friioles Ouad 2002 | tnsp: 19N | range: 6E | sec: 16 & 21

Current Use/ Function: Beryllium Technology Facility | Original Use/ Function: Rolling Mill Building

Date (estimated): | Date (actual): 1959 | Property Type: Laboratory/Processing

Type of Construction

Pre-Fabricated Metal ☐ Steel Frame ☐ Wood Frame ☐ CMU ☑ Reinforced Concrete ☑

Other Type of Construction: Concrete post and beam with CMU infill. | # of Stories: 2

Foundation Reinforced Concrete

Exterior CMU-Exterior ☑ Reinforced Concrete-Exterior ☑ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior: Concrete post and beam with CMU infill.

Exterior Treatment (painted, stuccoed, etc): Portions are painted and other parts of the building have been stuccoed.

Exterior Features (docks, speakers, lights, signs, etc): Building equipment includes signage, wall-mounted lights, and surface mounted conduit. The roof is equipped with lightening rods, vent stacks and ventilators.

Addition CMU-Addition ☑ Reinforced Concrete-Addition ☑ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition: Concrete post and beam with CMU infill.

Exterior Treatment-Addition: Painted

Exterior Features-Addition:

Roof Form Slanted/Shed ☐ Gable ☐ Other Roof Type: Flat

Degree of Pitch/ Slope: Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☐

Other Roof Materials: Flat roof is constructed with steel joists covered with a steel deck, rigid insulation and a built-up roofing system.

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☑

Other Window Type:

of Each Window Type/ Comments: Original building was not outfitted with windows. Addition

constructed 16-light glass block windows on the mezzanine level on the north side, and portions of the east and west sides.

Glass Type Clear ☐ Wire Glass ☐ Opaque ☐ Painted Glass ☐ Glass Block ☑

Light Pattern: 16-light glass block panels.

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: Numerous doors on all sides of the building, combination of single and pairs with and without 1/2-glass and louvers.

Interior Wall Gypsum Board ☐ Reinforced Concrete- Interior ☐

CMU- Interior ☐ Plywood ☐ Other- Interior

In-Wall Electrical Wiring ☐ On-Wall Electrical Wiring ☐

Ceiling Drop Ceiling ☐

Interior Comments (Equipment, etc)

Degree of Remodeling Major

Condition Excellent ☑ Good ☐ Fair ☐ Deteriorating ☐ Contaminated ☐ Burned ☐

Associated Buildings ☑

If yes, list building names and #s: Sigma Complex buildings: TA-3-35, -66, 159, -169

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 and 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)

TA-3-141 is a two-story highbay building with a mezzanine on the west and north sides. Prior to a 1961 addition, the building measured 65 ft 4 in. by 102 ft. The building was constructed with a concrete perimeter foundation and 6 in. floor slab, a concrete post and beam structural frame with concrete masonry unit infill. The flat roof was constructed with steel joists covered with a steel deck, rigid insulation and a built-up roofing system. Security fencing was installed at the roof line on the west side to prevent admittance to the roof deck from the exterior stairs.

In 1961, an addition was constructed on the north side of the original building more than doubling its size. The new addition measured 100 ft by 102 ft. As in the original building, the addition was constructed with a concrete perimeter foundation and concrete slab floor, a concrete post and beam structural frame with concrete masonry unit infill. The flat roof was constructed with steel joists covered with a steel deck, rigid insulation and a built-up roofing system.

Windows and doors are included on all sides of the building – both old and new. The original building included single and pairs of painted hollow-metal with ½-glazing doors as well as single of painted hollow-metal flush panel doors. The south elevation originally contained a pair of oversized doors with 8-lights each set within a removable wall panel. This combination has since been replaced with an overhead door. Exterior steel stairs, located on the west side, access the pair of painted hollow-metal with ½-glazing doors and louvers. The addition contains single and pairs of painted hollow-metal with ½-glazing doors. The second floor on the north elevation contains a pair of large painted hollow-metal doors. Both the north and west elevations contain oversize air intake louvers as well. The original building was note outfitted with windows when it was constructed. The addition however contains 16-light glass block windows at the mezzanine level.

Total sq ft Approx. 20,185 sq.

Architect/ Builder Original building - Black & Veatch Consulting Engineers, 1961 Addition - Neuner & Cabaniss Architects/Engineers

Alterations

In 1961, an addition was constructed on the north side of the original building more than doubling its size. The new addition measured 100 ft by 102 ft. As in the original building, the addition was constructed with a concrete perimeter foundation and concrete slab floor, a concrete post and beam structural frame with concrete masonry unit infill. The flat roof was constructed with steel joists covered with a steel deck, rigid insulation and a built-up roofing system.

List of Drawings (Cntrl + Enter for para break)

ENG-C 23535
Sheet 2 of 35
Rolling Mill Building
TA-3, Bldg. 141
Civil - Plot Plan - General Layout
January 21, 1959

ENG-C 23540
Sheet 7 of 35
Rolling Mill Building
TA-3, Bldg. 141
Architectural - Elevations
January 21, 1959

ENG-C 23541
Sheet 8 of 35
Rolling Mill Building
TA-3, Bldg. 141
Architectural - Elevations
January 21, 1959

ENG-C 27325
Sheet 2 of 39
Rolling Mill Building
TA-3, Bldg. 141
Architectural - Elevations
August 1961

ENG-C 27325
Sheet 2 of 39
Addition to Rolling Mill Building
TA-3, Bldg. 141
Building Layout & Utilities
August 1961

ENG-C 27328
Sheet 5 of 39
Addition to Rolling Mill Building
TA-3, Bldg. 141
Architectural
First Floor & Mezzanine Plans & Schedules
August 1961

ENG-C 27329
Sheet 6 of 39
Addition to Rolling Mill Building
TA-3, Bldg. 141
Architectural
Roof plan, elevations & Details
August 1961

ENG-R 2587
Sheet 1 of 2
Rolling Mill Building
TA-3, Bldg. 141
First Floor Plam
May 25, 1988

ENG-R 2588
Sheet 2 of 2
Rolling Mill Building
TA-3, Bldg. 141
Mezzanine & Second Floor
May 25, 1988

TA-3-141 West side

TA-3-141 West and south sides

TA-3-141 East and north sides

TA-3-141 North side

TA-3-141 East side

NOTES:

— Extreme care must be taken by this contractor not to disturb or break the existing mechanical and electrical services to the cooling tower when excavating and installing the following services:—Protective alarm system, Fire alarm, Acid drain, Water, Cooling tower supply and return. The contractor shall hand excavate in this area to positively locate the existing services and also obtain the approval of the contracting officer before proceeding with machine excavation.

— 2. Borrow material, previously excavated from the new Sigma Building, and located south of the building may be used for fill and compacted embankment. If this material is insufficient, additional borrow areas will be located on this mesa.

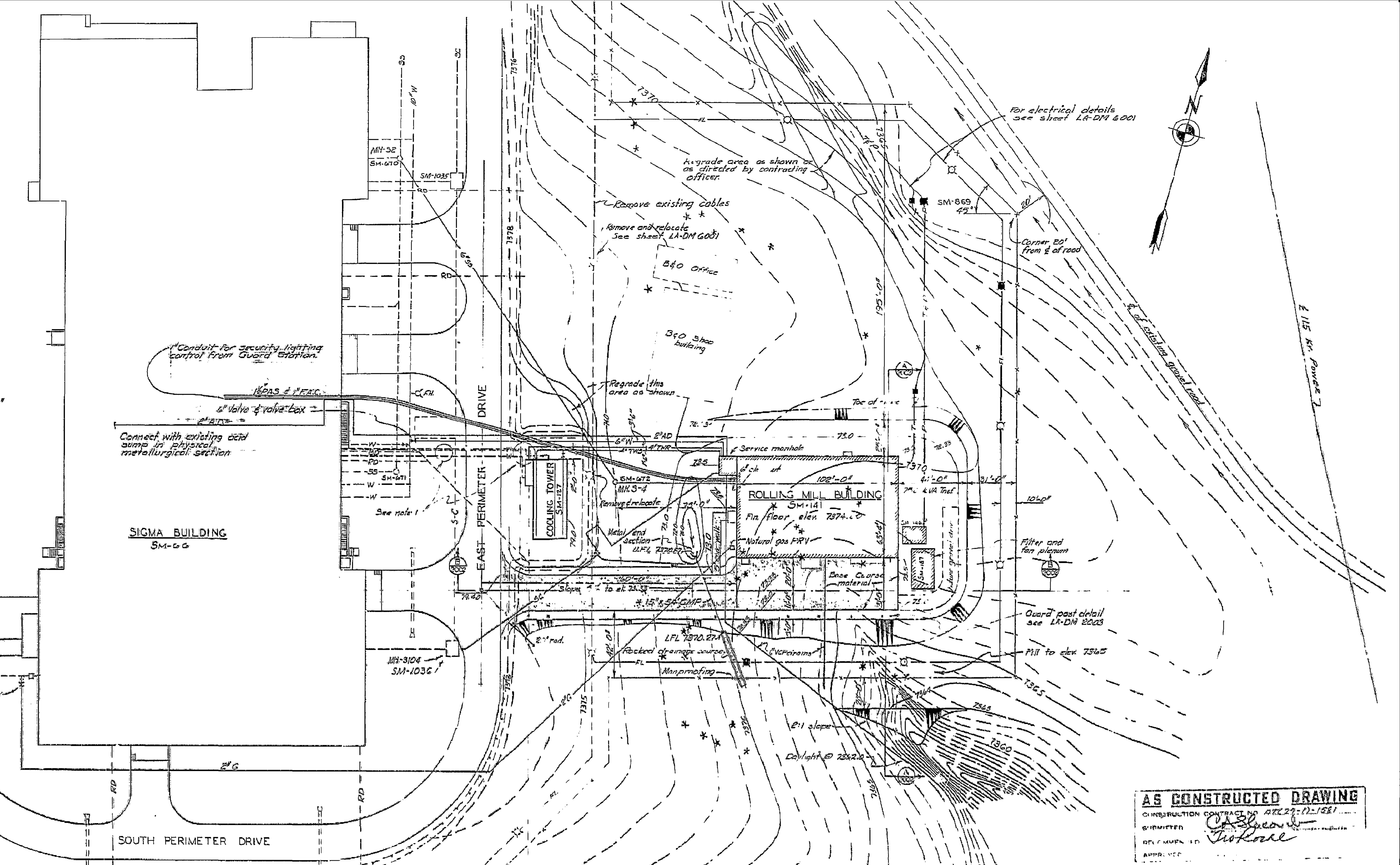
— 3. The contractor shall be required to remove and stockpile, as directed by the contracting officer, approximately 12" of soil from the area which will require compacted embankment under this project before proceeding with fill and and embankment operations. In addition, any frozen areas or other undesireable materials in this area must be removed as directed by the contracting officer.

— 4. Attention is called to the security measures in regard to work on this project — See specifications

— 5. Where new utilities cross existing roads, there will be no requirement for pavement replacement. The trenches shall be backfilled and compacted in accordance with the specifications and kept level with existing pavement until final acceptance of this project.

— 6. All the area bounded by a line 10'-0" outside new chain link fence to be cleared and grubbed. Existing buildings to remain thruout duration of Sigma construction and then to be removed by Others.

— 7. Three (3) existing guard post to be removed and relocated as shown.



LEGEND

	EXISTING BUILDINGS	—FAC— FA	FIRE ALARM CIRCUIT & BOX
	NEW BUILDINGS	—X—	NEW CHAIN LINK FENCE
--SS--O MH	NEW SANITARY SEWER & MANHOLE	- - X - -	EXISTING CHAIN LINK FENCE
--SS-- O MH	EXISTING SANITARY SEWER & MANHOL		NEW FENCE LIGHTING FIXTURE
—W—	NEW WATER LINE		EXISTING FENCE LIGHTING FIXTURE
- - W - -	EXISTING WATER LINE	—FL—	NEW FENCE LIGHTING CABLE
—G—	NEW GAS LINE	- - FL - -	EXISTING FENCE LIGHTING CABLE
- - G - -	EXISTING GAS LINE		RELOCATED FENCE LIGHTING FIXTURE
—SC—	NEW STEAM & CONDENSATE LINE	—RD—	ROOF DRAIN LINE
- - SC - -	EXISTING STEAM & CONDENSATE LINE	—BD—	BUILDING DRAIN LINE
	BASE COURSE PAVING	• • • •	GUARD POST
	CONCRETE WALKS	—AD—	ACID DRAIN
—P—	NEW POWER CIRCUIT & DUCT	—TWS—	TOWER WATER SUPPLY
—T—	NEW TELEPHONE CIRCUIT & DUCT	—TWR—	TOWER WATER RETURN
—PAS—	PROTECTIVE ALARM SYSTEM	*	EXISTING TREES (PONDEROSA)
—W—O	FIRE HYDRANT		

LAB. JOB NO. 2214

L.A.S.L. DWG. NO. ENG-C 23535

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO AT(29-1)-1581
SUBMITTED CABlecoul
RECOMMENDED TroKocke
APPROVED

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

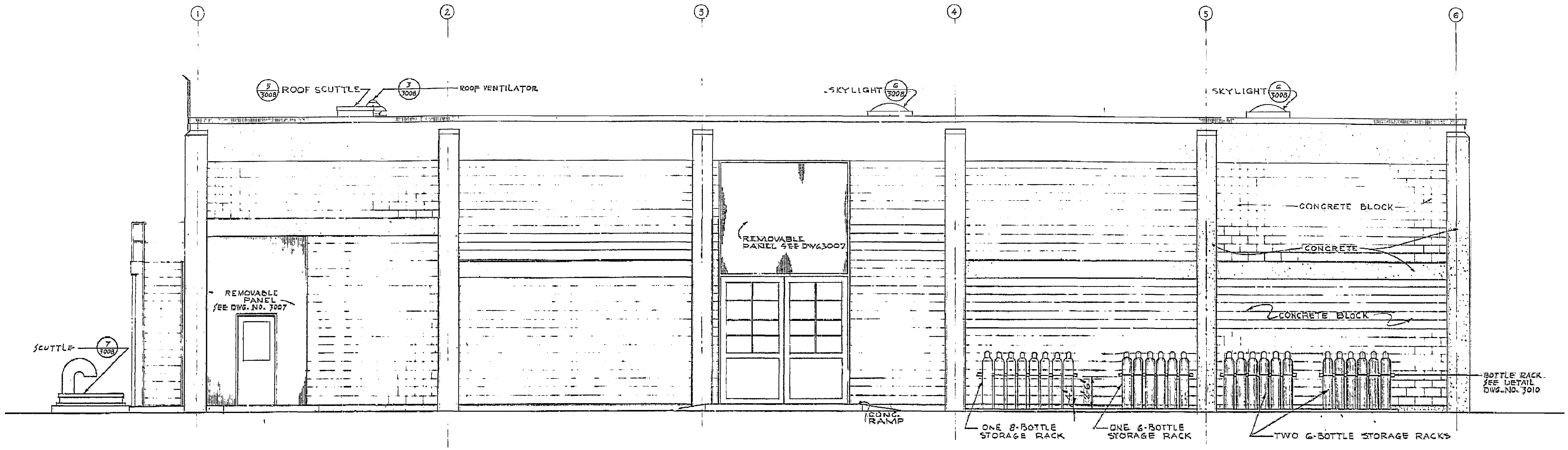
SM-141
ROLLING MILL BUILDING, TA-3
CIVIL
PLOT PLAN - GENERAL LAYOUT

CONTRACT NO. (A-E) 1562
A.E.C. ACCT. NO.
DRAWN JGD
CHECKED CAS
A-E APPROVED
DESIGN E.D.
PROJ. ENGR.
CHIEF ENGR. CAS
SCALE 1"=30'
DATE 1-21 59

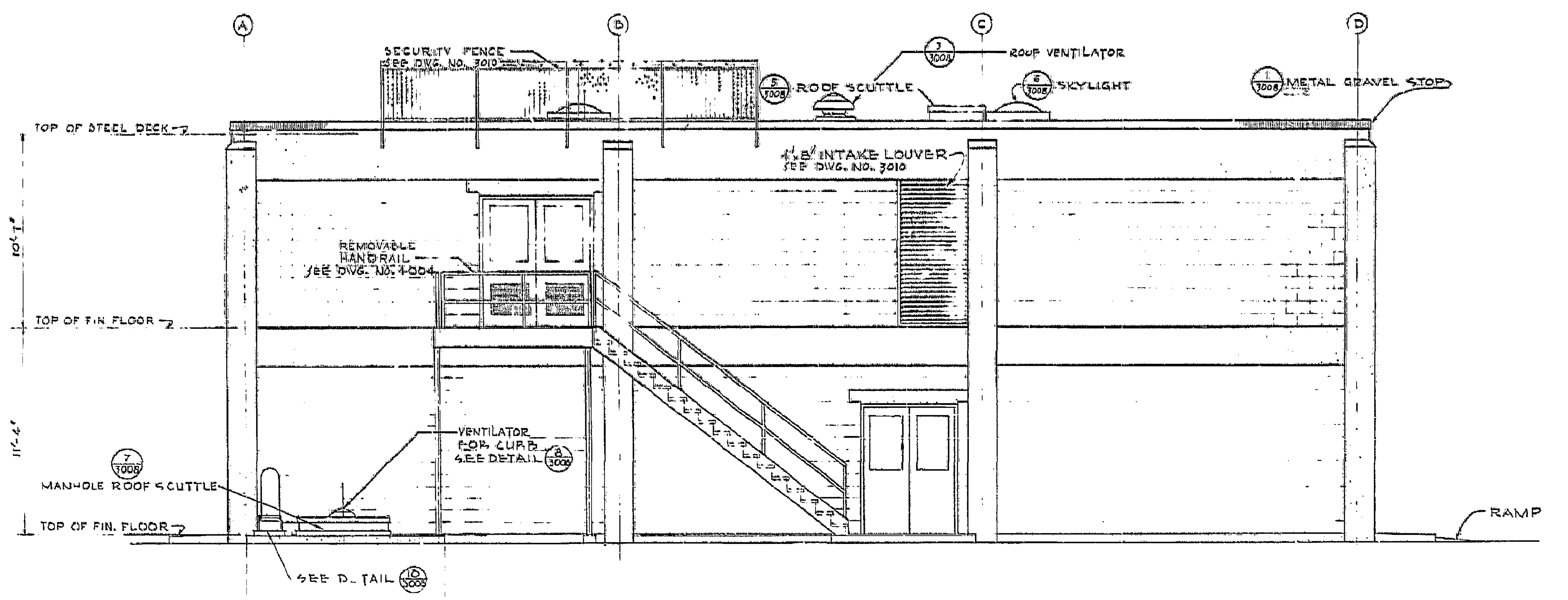
SUBMITTED CABlecoul ARCHITECT-ENGINEER
RECOMMENDED TroKocke A.E.C.
APPROVED

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. LA-DM-2001 SHEET 2 OF 35



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



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

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. ATC22-(1)-1581
SUBMITTED *C.A. Slocum* ARCHITECT-ENGINEER
RECOMMENDED *Ivo Roehl*
APPROVED

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.

U.S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

SM-141
ROLLING MILL BUILDING, TA-3
ARCHITECTURAL
ELEVATIONS

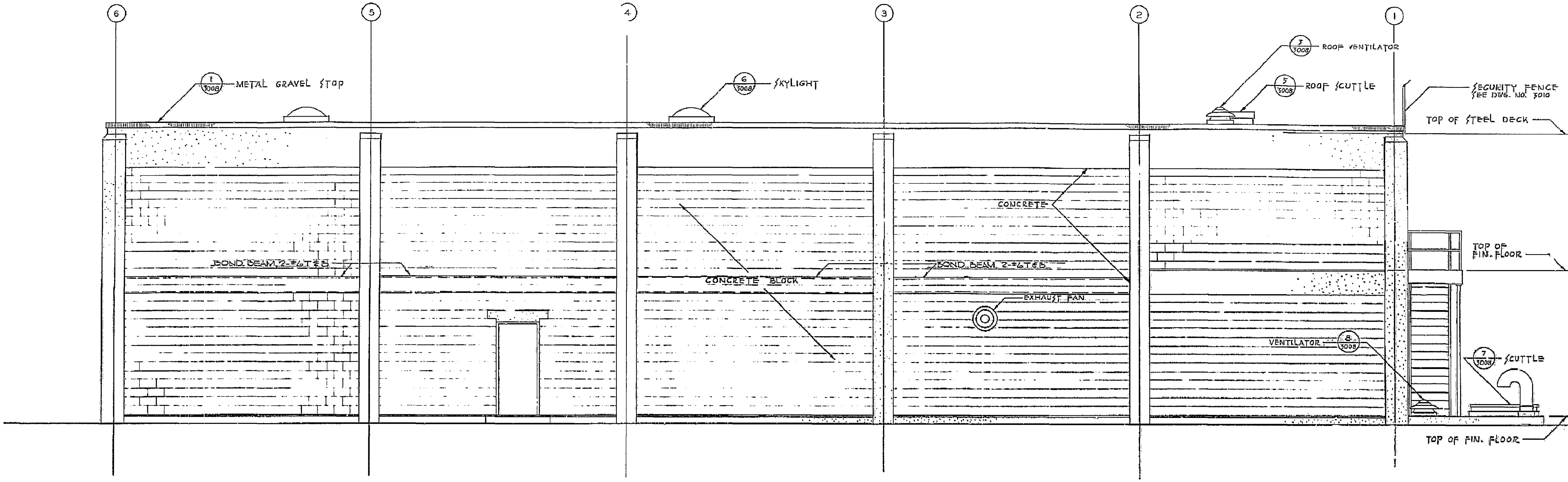
CONTRACT NO. (A.E.)	1762
DRAWN	DHM
CHECKED	WHM
A-E APPROVED	
DESIGN	WHM
PROJ. ENGR.	
CHIEF ENGR.	
SCALE	1/4"=1'-0"
DATE	7-21-59

SUBMITTED *C.A. Slocum* ARCHITECT-ENGINEER — RECOMMENDED *Ivo Roehl* A.E.C. — APPROVED *R.G. Deninger*

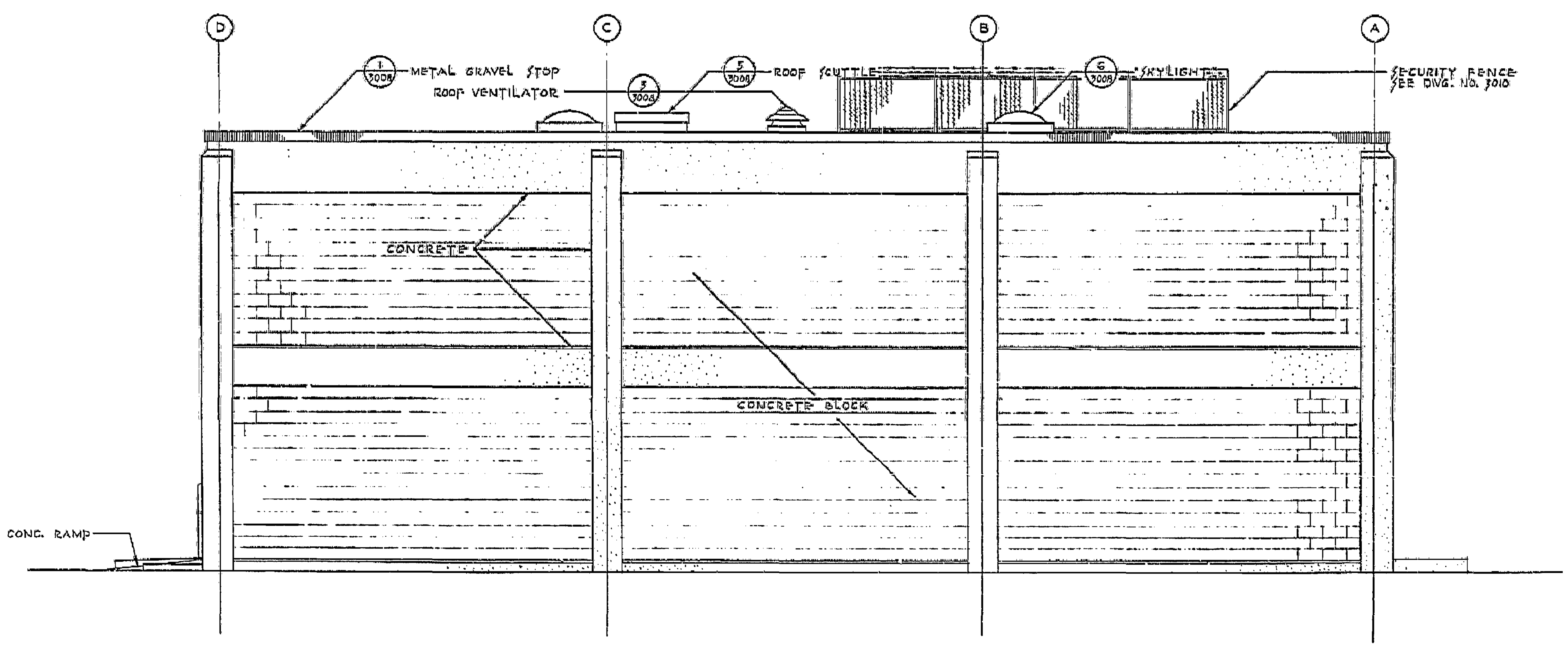
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO.	SHEET	OF
LA-DM-3003	7	35

LAB. JOB NO. 2214 L.A.S.L. DWG. NO. ENG-C 23540



NORTH ELEVATION
SCALE 1/4" = 1'-0"



EAST ELEVATION
SCALE 1/4" = 1'-0"

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1)-1581
SUBMITTED C.A. Sheomel
RECOMMENDED Tw Koehl

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

SM-141
ROLLING MILL BUILDING, TA-3
ARCHITECTURAL
ELEVATIONS

CONTRACT NO. (A-E) 1362
DRAWN R.W.
CHECKED WHM
A-E APPROVED
DESIGN WHM
CHIEF ENGR. CAS
SCALE 1/4" = 1'-0"
DATE 1-21-59

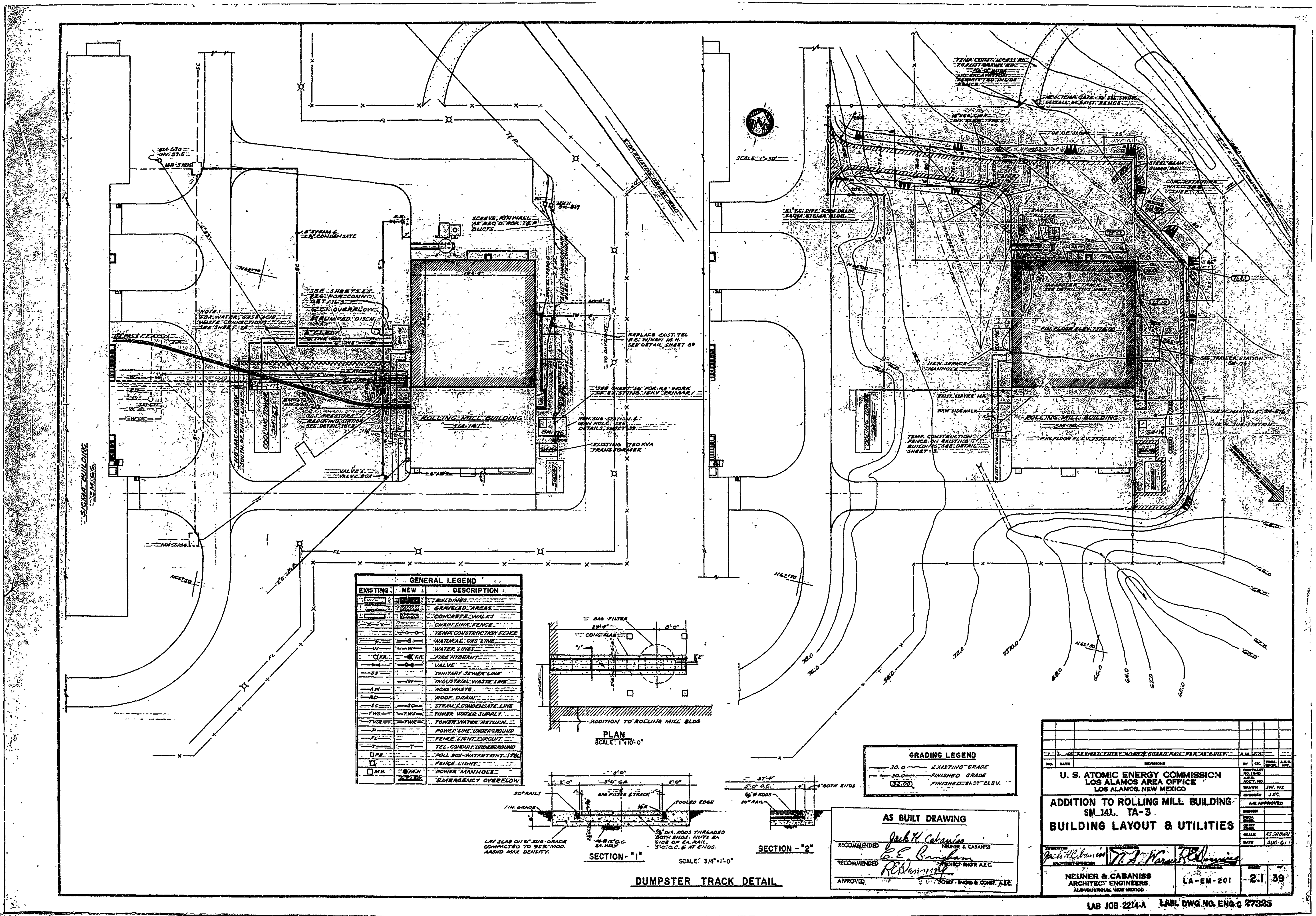
SUBMITTED C.A. Sheomel ARCHITECT-ENGINEER
RECOMMENDED Tw Koehl A.E.C.
APPROVED

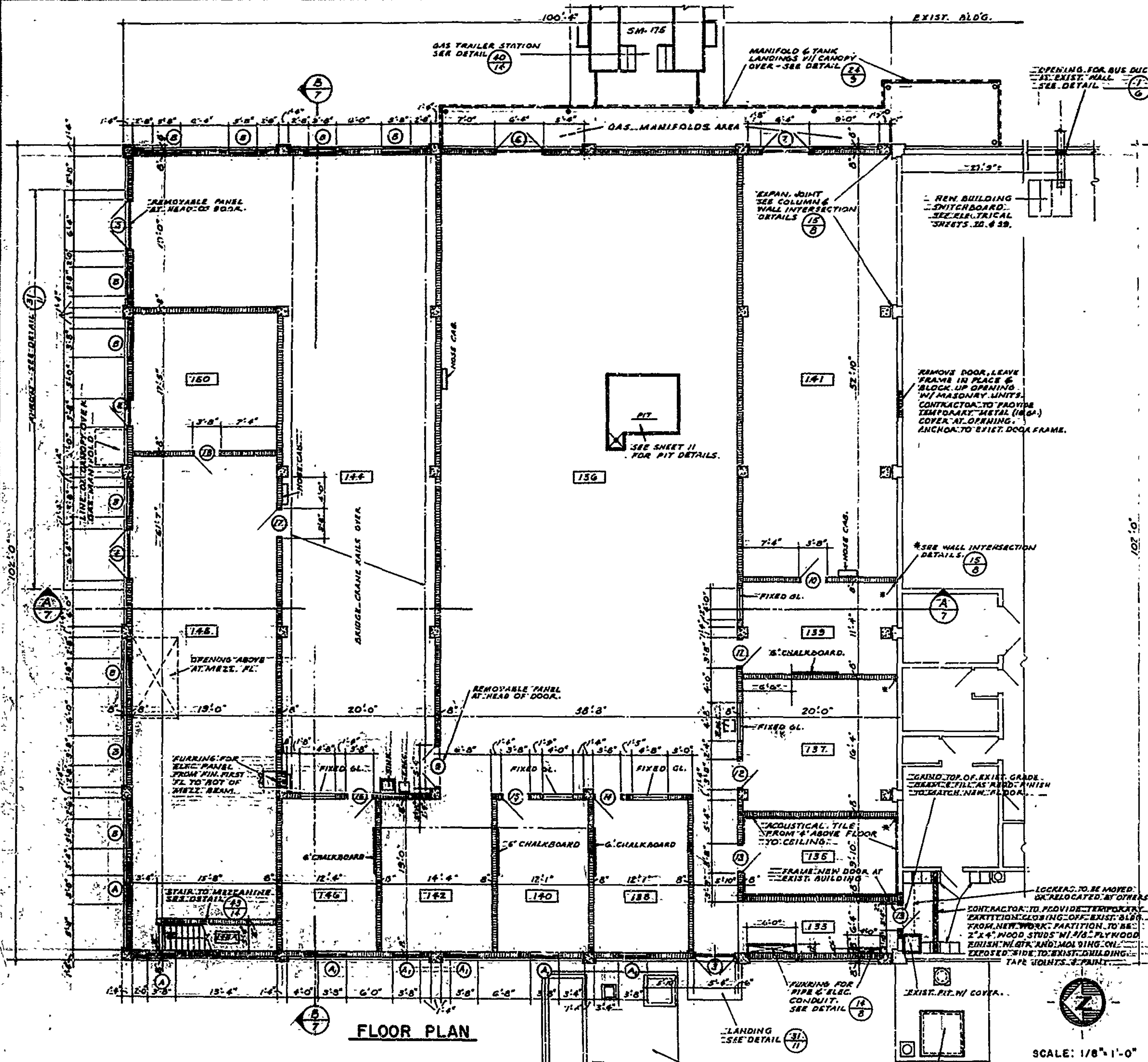
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. LA-DM-3004
SHEET 8 OF 35

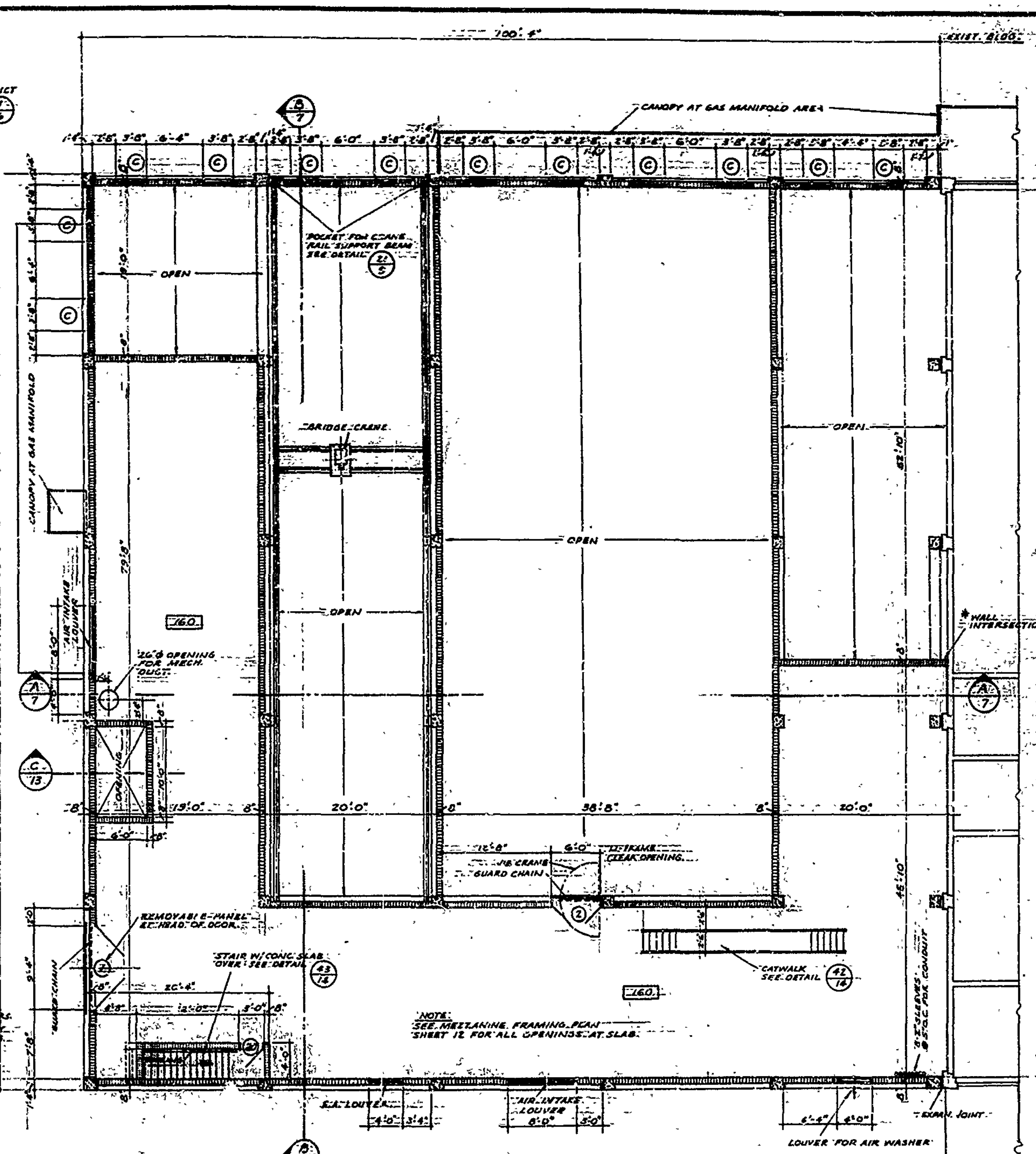
LAB. JOB NO. 2214

L.A.S.L. DWG. NO. ENG-C 23541


GENERAL LEGEND
EXISTING
NEW
DESCRIPTION
BUILDINGS
GRAVELED AREAS
CONCRETE WALKS
CHAIN LINK FENCE
TEMP. CONSTRUCTION FENCE
NATURAL GAS LINE
WATER LINES
FIRE HYDRANT
VALVE
SANITARY SEWER LINE
INDUSTRIAL WASTE LINE
ACID WASTE
ROOF DRAIN
STEAM & CONDENSATE LINE
TOWER WATER SUPPLY
TOWER WATER RETURN
POWER LINE UNDERGROUND
FENCE LIGHT CIRCUIT
TEL. CONDUIT UNDERGROUND
PULL BOX-WATERTIGHT (TEL
FENCE LIGHT
POWER MANHOLE
EMERGENCY OVERFLOW
ROLLING MILL BUILDING
SM-141
SIGMA BUILDING
SM-66
COOLING TOWER
SM-143
SCALE: 1"=30'
PLAN
SCALE: 1"=10'-0"
ADDITION TO ROLLING MILL BLDG
SECTION - "1"
SECTION - "2"
SCALE: 3/4"=1'-0"
DUMPSTER TRACK DETAIL
GRADING LEGEND
EXISTING GRADE
FINISHED GRADE
FINISHED SPOT ELEV.
AS BUILT DRAWING
RECOMMENDED
NEUNER & CABANISS
RECOMMENDED
PROJECT ENGR. A.E.C.
APPROVED
CHIEF - ENGR. & CONST. A.E.C.
REVISED ENTRY ROAD & GUARD RAIL PER AS BUILT
NO.
DATE
REVISIONS
BY
CK.
PROJ. ENGR.
A.E.C. APP.
U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO
CONTRACT NO. (A-E)
A.E.C. ACCT. NO.
DRAWN SW. WS
CHECKED JKC.
A-E APPROVED
DESIGN
PROJ. ENGR.
CHIEF ENGR.
SCALE AS SHOWN
DATE AUG.-61
ADDITION TO ROLLING MILL BUILDING
SM 141, TA-3
BUILDING LAYOUT & UTILITIES
ARCHITECT-ENGINEER
NEUNER & CABANISS
ARCHITECT ENGINEERS
ALBUQUERQUE, NEW MEXICO
DRAWING NO.
LA-EM-201
SHEET 2.1
OF 39
LAB JOB 2214-A
LABL DWG NO. ENG-C 27325



FLOOR PLAN



MEZZANINE PLAN

ROOM FINISH SCHEDULE

NO.	ROOM	FLOOR: CONCRETE	FLOOR: ASPHALT TILE	BASE: RUBBER TILE	BASE: 6" PAINTED BASE	WAINS.	WALL: MASONRY UNITS	WALL: ACOUSTICAL TILE	CEILING: EXPOSED	CEILING: CONCRETE	CEILING: ACOUSTICAL TILE	REMARKS
133	ENTRY HALL	●			●		●			●		
135	NOISE LAB.		●	●			●	●			●	SEE NOTES
136	CARBIDE & METAL FAB.	●			●		●		●			
137	EVALUATION LAB.		●	●			●				●	
138	METAL OFFICE		●	●			●				●	
139	HIGH VACUUM OFFICE		●	●			●				●	
140	CARBIDE OFFICE		●	●			●				●	
141	HIGH VACUUM EQUIP.	●			●		●		●			
142	SHOP AREA	●			●		●			●		
144	GRAPHITE FABRICATIONS	●			●		●		●			
146	GRAPHITE OFFICE		●	●			●				●	
148	MATERIAL STG & BLENDING	●			●		●			●		
148A	STAIRS	●			●		●			●		CONC. CEILING 8' UP AT MEZZ.
150	LOADED COKE PREPARATION	●			●		●			●		
160	MEZZANINE	●					●		●			

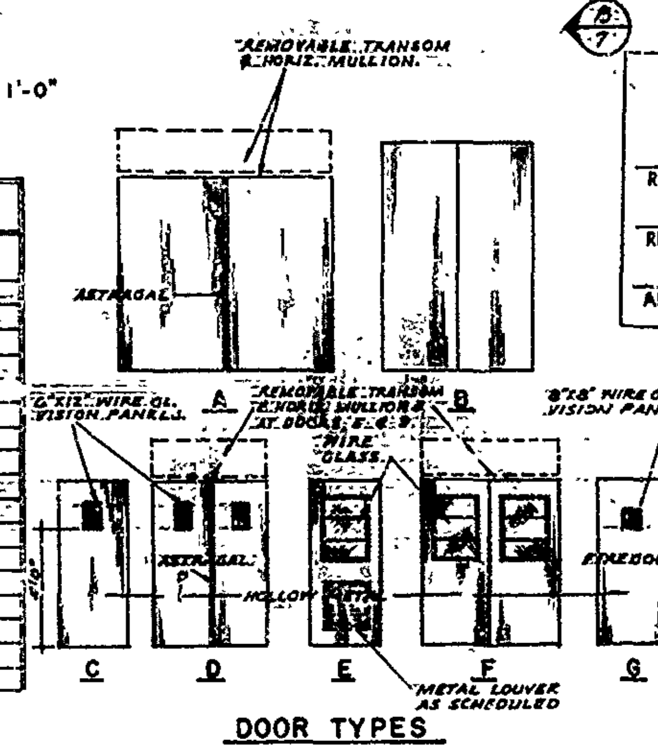
ACOUSTICAL TILE AT BOT. OF CONC. SLAB TO BUTT UP TO WALL & BEAM INTERSECTIONS EXCEPT TO FIT AROUND BEAMS AT CENTER OF ROOMS 137 & 139

NOTES:
ACCOUSTICAL TILE ON WALLS FROM 4' ABOVE FLOOR TO CEILING.
ROOM NUMBERS SHALL BE BLACK BLOCK TYPE LETTERS, EITHER HAND PAINTED OR DECALCOMANIA, LOCATED ABOVE DOORS.
SEE SHEET 10 FOR EQUIPMENT LAYOUT & SCHEDULE.

DOOR SCHEDULE

NO.	DOOR SIZE	TYPE	KIND	GLASS	HARDWARE	DETAIL REFERENCE: HEAD	JAMB	JAMB	SILL	REMARKS
1	PR. 4'-8" X 8'-0" X 1 3/4"	A	HOLLOW METAL	—	HW-1	H-1	J-1	J-1	S-1	SEE NOTES
2	PR. 3'-0" X 10'-0" X 1 3/4"	B	METAL	—	HW-2	H-2	J-2	J-2A	S-2	FIREDOOR W/ GUARD CHAIN
3	PR. 2'-6" X 7'-0" X 1 3/4"	D	HOLLOW METAL	WIRE GLASS	HW-4	H-3	J-3	J-3A	S-3	
4, 6, 7	PR. 3'-0" X 7'-0" X	D			HW-3	H-5	J-4	J-4	S-3 / S-3A	S-3A @ DOORS (4)
8	3'-4" X 7'-0" X	C			HW-5	H-5	J-4	J-4	S-3	
9	PR. 2'-6" X 7'-0 X	F			HW-6	H-4	J-5	J-4A		SEE NOTES.
10	3'-4" X 7'-0" X	E			HW-7	H-5	J-5	J-5		
11, 12 & 14	3'-4" X 7'-0" X	E			HW-8	H-6	J-5	J-4A		24"x24" LOUVER @ DOORS 11 & 14
13, 15, 16, 17	3'-4" X 7'-0" X	F			HW-8	H-6	J-6	J-6		24"x24" LOUVER @ DOORS 13, 15, & 16
18	3'-4" X 7'-0" X	E			HW-9	H-5	J-6	J-5		
19	3'-0" X 7'-0" X	G			HW-10	H-5	J-5	J-5		FIREDOOR
20	2'-8" X 7'-0" X	G	HOLLOW METAL	WIRE GLASS	HW-10	H-5	J-8	J-5		FIREDOOR
5	PR. 3'-0" X 7'-0" X 1 3/4"	D	HOLLOW METAL	WIRE GLASS	HW-3	H-4	J-4	J-4	S-3A	SEE NOTES

NOTES:
ALL LOUVERS TO BE METAL INVERTED V-TYPE
ALL EXTERIOR DOORS AT FIRST FLOOR TO HAVE SECURITY SEAL EYELETS AT EXTERIOR. EXTERIOR DOOR AT MEZZANINE TO HAVE SECURITY SEAL EYELETS AT INTERIOR. } SEE DETAIL 10/8
DOOR Nº 1 - 10'-0" HIGH MASONRY OPENING W/ REMOVABLE STEEL PLATE TRANSOM & HORIZ. MULLION. PROVIDE GUARD CHAIN AT EXTERIOR - SEE ELEVATION.
DOOR Nº 5 & 9 - 9'-0" HIGH MASONRY OPENING W/ REMOVABLE STEEL PLATE TRANSOM & HORIZ. MULLION.
SEE DOOR DETAILS 9/8



DOOR TYPES

MATERIAL LEGEND

▨ EARTH
▨ CONCRETE
▨ MASONRY UNITS.
▨ INSULATION
▨ WOOD
▨ METAL

DETAIL REFERENCE

ITEM	DETAIL
CHALKBOARD	13/8
FIXED GLASS	11/8
LOUVERS	12/8
COLUMN & WALL INTERSECTIONS	15/8
WINDOWS MK. A B C	6/6

AS BUILT DRAWING

RECOMMENDED Jack K Cabaniss NEUNER & CABANISS
RECOMMENDED C. E. Bingham PROJECT ENG'R A.E.C.
APPROVED [illegible] CHIEF - ENG'R & CONST. A.E.C.

SUBTITLE FOR SECTION OR DETAIL DRAWINGS
A/3 SECTION IDENTIFICATION LETTER OR DETAIL IDENTIFICATION NUMBER — SHEET NO. WHERE SECTION OR DETAIL IS DRAWN.

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
1	[illegible]	REVISED FOR AS-BUILT	R.M.	J.C.		

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

ADDITION TO ROLLING MILL BUILDING
SM 141, TA-3
ARCHITECTURAL
FIRST FLOOR & MEZZANINE PLANS & SCHEDULES

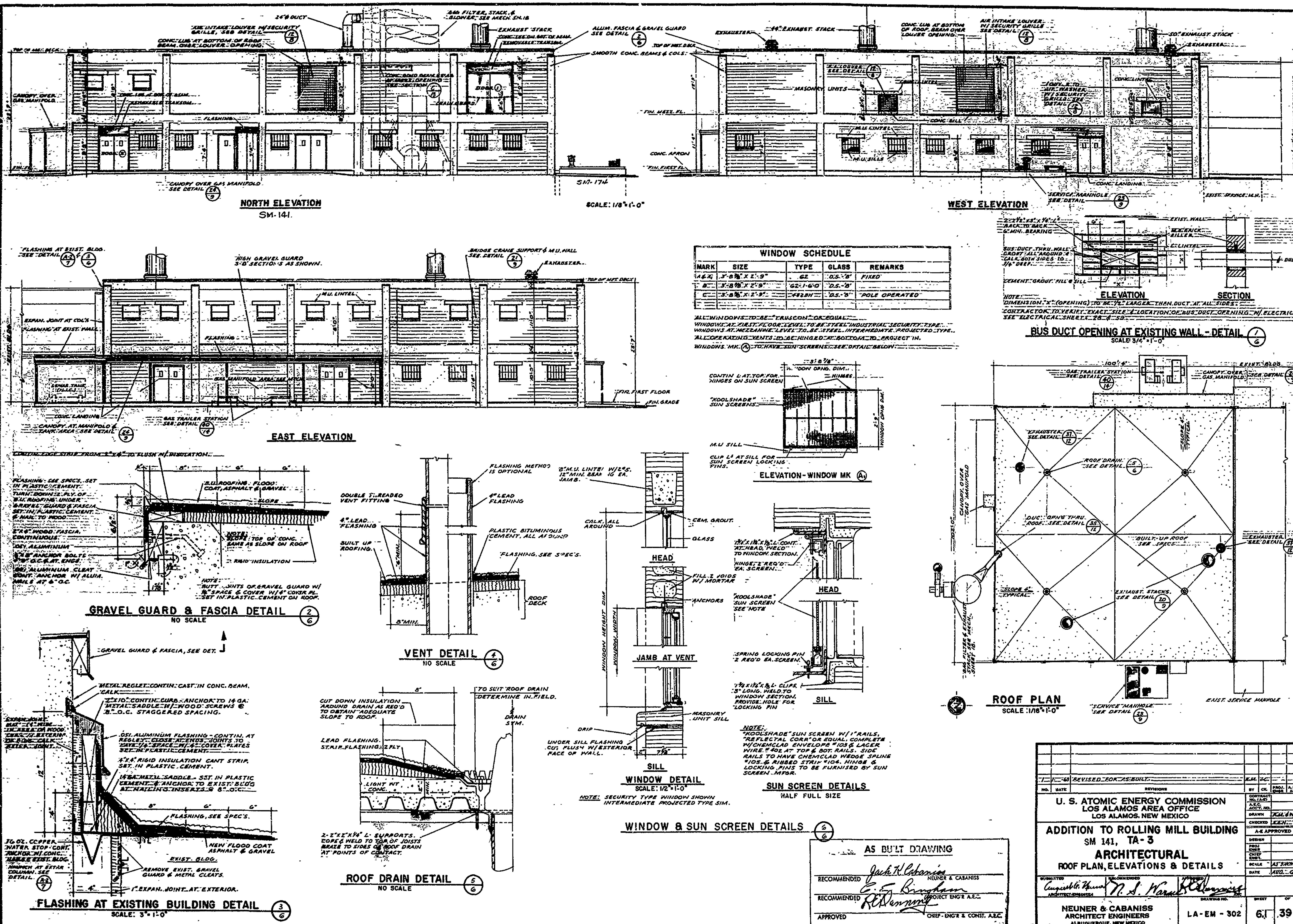
SUBMITTED [illegible] ARCHITECT-ENGINEER
RECOMMENDED [illegible]
APPROVED [illegible]

DRAWN R.M.C.F.N.
CHECKED [illegible]
SCALE AS SHOWN
DATE [illegible]

NEUNER & CABANISS
ARCHITECT ENGINEERS
ALBUQUERQUE, NEW MEXICO

DRAWING NO. LA-EM-301
SHEET 5.1 OF 39

LAB JOB 2214-A LASL DWG NO. ENG-C 27328



MARK	SIZE	TYPE	GLASS	REMARKS
A & A1	3'-8 7/8" X 2'-9"	62	D.S.-'B'	FIXED
B	3'-8 7/8" X 2'-9"	62-1-6-0	D.S.-'B'	
C	3'-8 7/8" X 2'-9"	4828H	D.S.-'B'	"POLE OPERATED"

WINDOW SCHEDULE

ALL WINDOWS TO BE "TRUSCON" OR EQUAL.
WINDOWS AT FIRST FLOOR LEVEL TO BE STEEL INDUSTRIAL SECURITY TYPE.
WINDOWS AT MEZZANINE LEVEL TO BE STEEL INTERMEDIATE PROJECTED TYPE.
ALL OPERATING VENTS TO BE HINGED AT BOTTOM TO PROJECT IN.
WINDOWS MK. (A) TO HAVE SUN SCREENS. SEE DETAIL BELOW.

AS BUILT DRAWING

RECOMMENDED Jack K. Cabaniss — NEUNER & CABANISS
RECOMMENDED E. E. Bingham — PROJECT ENG'R A.E.C.
APPROVED R. E. Denning — CHIEF-ENG'R & CONST. A.E.C.

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR	A.E.C. APP.
1	1-63	REVISED FOR AS BUILT	K.M.	J.C.		

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

ADDITION TO ROLLING MILL BUILDING
SM 141, TA-3
ARCHITECTURAL
ROOF PLAN, ELEVATIONS & DETAILS

DRAWN K.M. & W.S.
CHECKED K.E.H.
A-E APPROVED
SCALE AS SHOWN
DATE AUG. 61

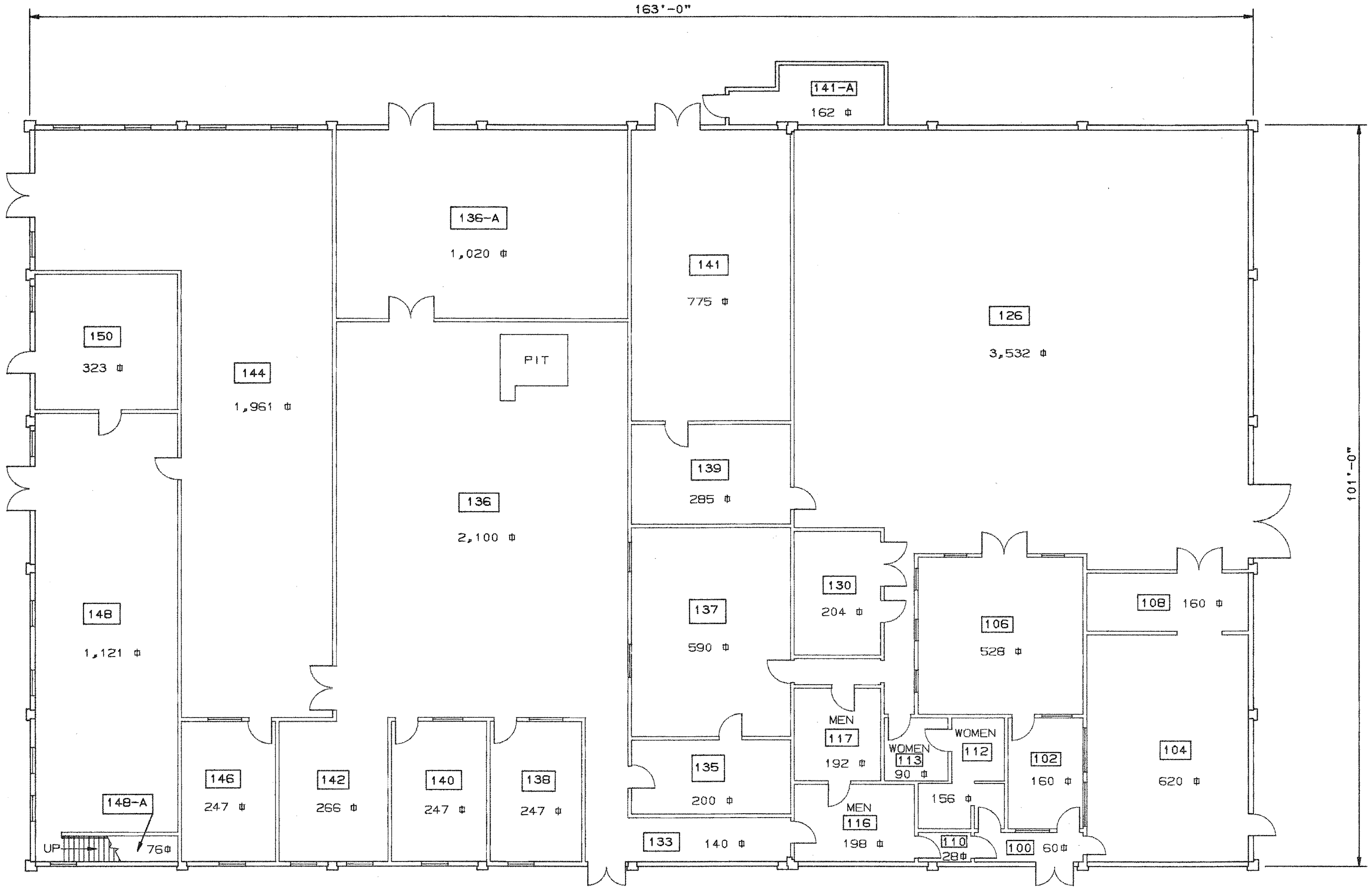
SUBMITTED Augustus W. Neuner — ARCHITECT-ENGINEER
RECOMMENDED N. S. Warner
APPROVED R. E. Denning

NEUNER & CABANISS
ARCHITECT ENGINEERS
ALBUQUERQUE, NEW MEXICO

DRAWING NO. LA-EM-302
SHEET 6.1 OF 39

RECD 1/63 LOGGED 1/63 TO VAULT 1/63

LAB JOB 2214-A LASL DWG NO. ENG-C 27329



SCALE: 1/8" = 1'-0"

0 2 4 6 8 10 14 20

GRAPHIC SCALE

FIRST FLOOR TOTAL SQ. FT.	=	15,688
SECOND FLOOR TOTAL SQ. FT.	=	4,497
BUILDING TOTAL SQ. FT.	=	20,185

REV.	DATE	REVISION	BY	CKD.	APP
5	5·25·88	REDRAWN ON CAD AND REVISED TO STATUS OF	KE	JR	HS

UNIVERSITY OF CALIFORNIA

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

ROLLING MILL BUILDING

FIRST FLOOR PLAN

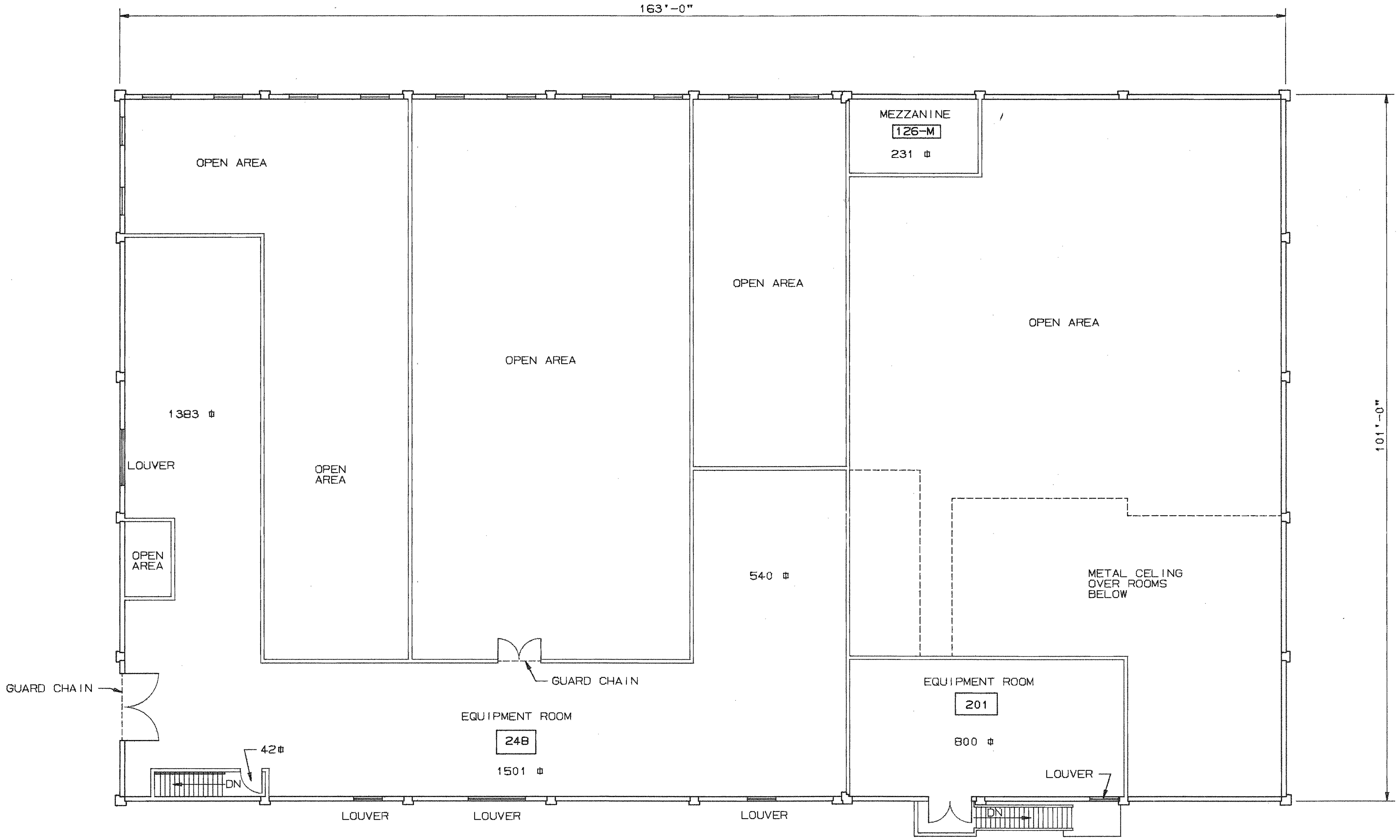
BLDG. SM-141 TA-3

SEC. CLASSIFICATION — CLASS: U — REVIEWER: HB Slaute — DATE: 5/25/88

SUBMITTED: M Sena — RECOMMENDED: HB Slaute — APPROVED: HB Slaute

DRAWN: M. SENA — CHECKED: J. RONQUILLO — DATE: 5-25-88 — SHEET NO. 1 OF 2 — DRAWING NO. ENG-R2587

REC'D ... TO VAULT 9/9/88



SCALE: 1/8" = 1'-0" 0 2 4 6 8 10 14 20 GRAPHIC SCALE

FIRST FLOOR TOTAL SQ FT. = 15,688
SECOND FLOOR TOTAL SQ. FT. = 4,497

BUILDING TOTAL SQ. FT. = 20,185

REV.	DATE	REVISION	BY	CKD.	APP
MF 3	5-25-88	REDRAWN ON CAD AND REVISED TO STATUS OF	KE	JR	HS

UNIVERSITY OF CALIFORNIA
Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

ROLLING MILL BUILDING
MEZZANINE & SECOND FLOOR
BLDG. SM-141 TA-3

SEC. CLASSIFICATION — CLASS: U — REVIEWER: HB Shute — DATE: 5/25/88

SUBMITTED: M. Sena — RECOMMENDED: HB Shute — APPROVED: HB Shute

DRAWN: M. SENA — CHECKED: J. RONQUILLO — DATE: 5-25-88 — SHEET NO. 2 OF 2 — DRAWING NO. ENG-R2588

REC'D ___ LOGGED ✓ TO VAULT 6/9/88

LANL TA- Building # 03-0159

Camera 984244

Frame #s DCP_4960 through DCP_4962

Surveyor(s) S. McCarthy, J. Ronquillo

Date 9/7/2006

Los Alamos National Laboratory
RMT Historic Building Survey Form

Building Name: Storage Building | UTMs easting: 381132 | northing: 3970474 | zone: 13

Legal Description: Map: Friioles Ouad 2002 | tnsp: 19N | range: 6E | sec: 21

Current Use/ Function: Thorium Storage Building | Original Use/ Function: Forming Building

Date (estimated): | Date (actual): 1964 | Property Type: Laboratory/Processing

Type of Construction

Pre-Fabricated Metal ☐ Steel Frame ☐ Wood Frame ☐ CMU ☐ Reinforced Concrete ☑

Other Type of Construction: 8-inch thick preformed concrete wall panels trimmed with steel edges. | # of Stories: 1

Foundation: Concrete Slab

Exterior CMU-Exterior ☐ Reinforced Concrete-Exterior ☐ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior: Preformed cocnrete wall panels

Exterior Treatment (painted, stuccoed, etc):

Exterior Features (docks, speakers, lights, signs, etc): Building equipment includes signage, exterior junction box and lightening rods.

Addition CMU-Addition ☐ Reinforced Concrete-Addition ☐ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition:

Exterior Treatment-Addition:

Exterior Features-Addition:

Roof Form Slanted/Shed ☐ Gable ☐ Other Roof Type: flat

Degree of Pitch/ Slope: Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☐

Other Roof Materials: Steel joists covered with fiberglass corrugated roof panels.

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☐

Other Window Type: None

of Each Window Type/ Comments:

Glass Type Clear ☐ Wire Glass ☐ Opaque ☐ Painted Glass ☐ Glass Block ☐

Light Pattern:

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: Single painted hollow metal door installed on west side.

Interior Wall Gypsum Board ☐ Reinforced Concrete- Interior ☐

CMU- Interior ☐ Plywood ☐ Other- Interior

In-Wall Electrical Wiring ☐ On-Wall Electrical Wiring ☐

Ceiling Drop Ceiling ☐

Interior Comments (Equipment, etc)

Degree of Remodeling Minor

Condition Excellent ☐ Good ☐ Fair ☑ Deteriorating ☐ Contaminated ☐ Burned ☐

Associated Buildings ☑

If yes, list building names and #s: Sigma Complex buildings: TA-3-35, -66, -141, 7 -169

Integrity Good

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 and 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)

TA-3-159 is a one-story rectangular-in-plan building measuring 18 ft by 14 ft. The building is constructed with a concrete slab foundation and 8 in. thick preformed concrete wall panels trimmed with steel edges, and a flat roof constructed with steel joists and covered with fiberglass corrugated roof panels. The building is constructed four panels wide by three panels deep. A door was installed on the west side to enclose the original entry hall.

Total sq ft 252

Architect/ Builder Los Alamos Scientific Laboratory

Alterations Installation of exterior door to enclose entrance to access hall.

List of Drawings (Cntrl + Enter for para break)

ENG-C 27179
Sheet 1 of 2
Explosive Forming Installations
TA-3, SM-159, SM-160, SM-161 (TA-3, Bldgs 159, 160, 161)
Location & Plot Plan
July 16, 1962

ENG-C 27180
Sheet 2 of 2
Explosive Forming Installations
TA-3, SM-159, SM-160, SM-161 (TA-3, Bldgs 159, 160, 161)
Structural Details
July 16, 1962

ENG-C 44475
Sheet 3 of 5
TA-3, SM-159, (TA-3, Bldg 159)
Structural Framing & Details
August 7, 1984

ENG-C 44475
Sheet 4 of 5
TA-3, SM-159, (TA-3, Bldg 159)
Mech., Details, Sections & Equip. List
August 7, 1984

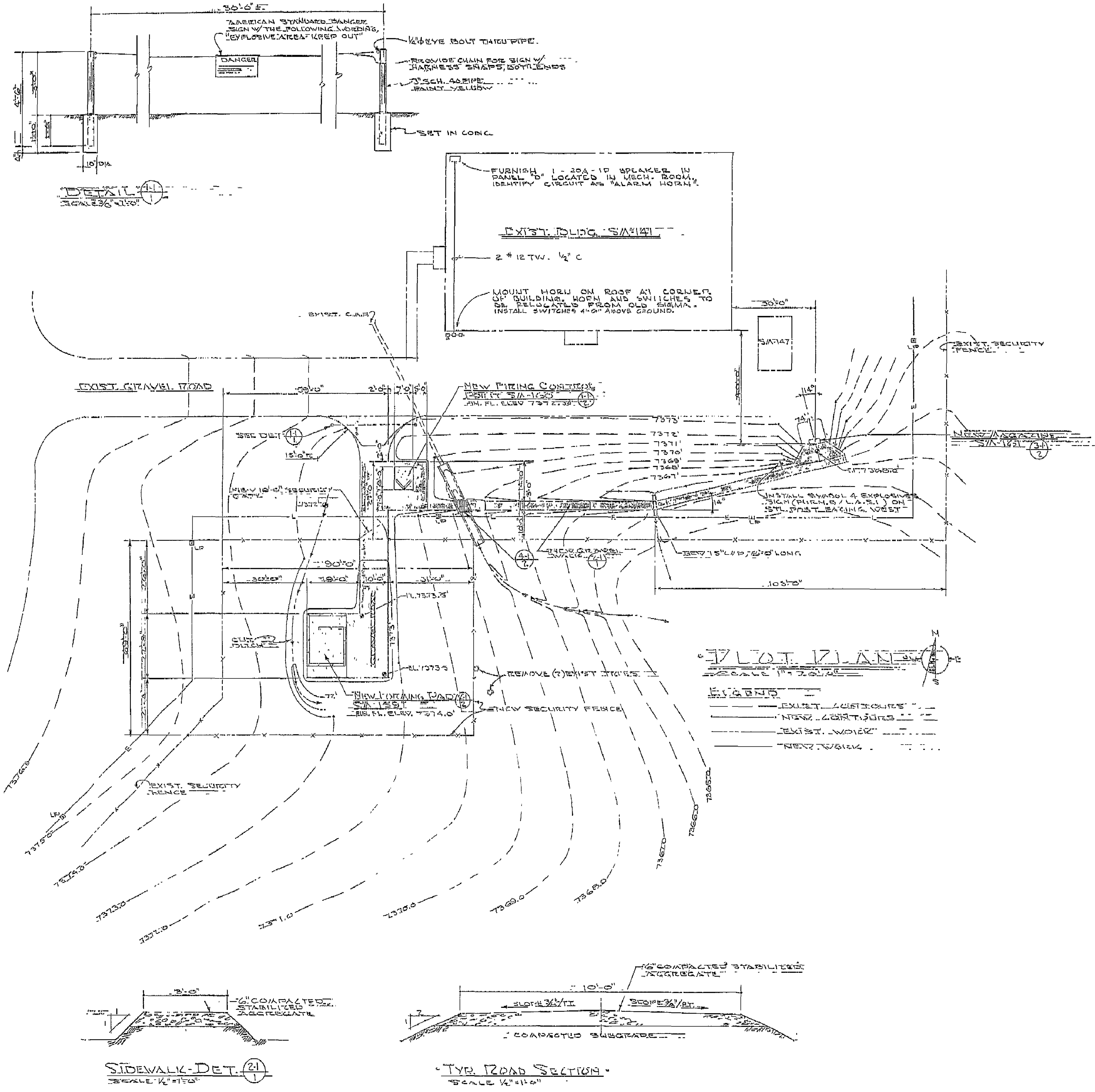
TA-3-159 West and south sides

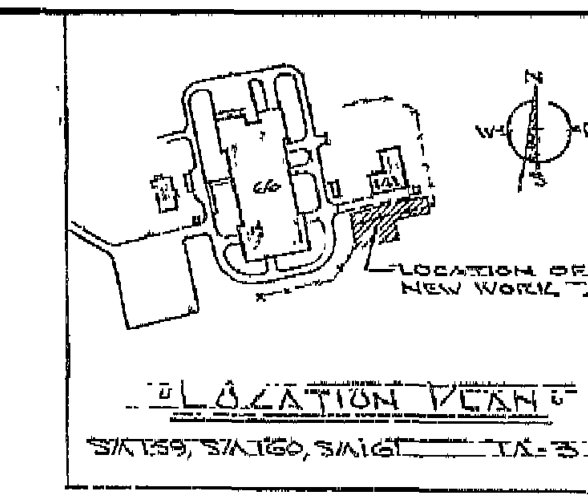
TA-3-159 north side

TA-3-159 East side

TA-3-141 North side

TA-3-141 East side





GENERAL NOTES:

1. ALL CONCRETE FOR THIS PROJECT IS TO TEST 3000 P.S.I. @ 28 DAYS.
2. PROVIDE & INSTALL STRUCTURE NUMBER SIGNS IN ACCORDANCE WITH L.A.S.L. STRUCT. NUMBERING POLICY.
3. COMPACT ALL EARTH FILL TO 90% MAX. DENSITY AT OPTIMUM MOISTURE CONTENT.
4. ROADS & WALKWAYS:
   SUBGRADE: TO BE COMPACTED TO 90% MAX. DENSITY AT OPTIMUM MOISTURE CONTENT.
   BASE COURSE & FIN. COURSE: TO BE 6" COMPACTED STABILIZED AGGREGATE.
5. COVER EARTH BERM ON MAGAZINE (BLDG. SA-161) WITH ONE (1) INCH OF ASPHALTIC CONCRETE.
6. COAT EARTH SIDE OF MAGAZINE STL. BOX & EARTH SIDE OF PILINGS WITH ASPHALT FOR RUST & WATERPROOFING.
7. PAINT ALL EXPOSED STL. W/ TWO (2) COATS OF GRAY "TOTRUST" NO 31
8. EXCAVATE WITH CAUTION TO AVOID DAMAGE TO EXIST. POSSIBLE UTILITIES.
9. PRECAST CONC. WALLS FOR SA-159 & SA-160 FURNISHED BY L.A.S.L., ERECTED BY CONTRACTOR. SLABS ARE PRESENTLY AT OLD SIGMA BLDG. TA-3
10. PILING TO BE "INLAND" INTERLOCKING STEEL A-285 OR APPROVED EQUAL, OF LENGTHS SHOWN ON DWGS.
11. FASTEN LIGHTNING GROUND CABLES TO STRUCTURE AT 4' O.C. GROUND CONNECTIONS SHALL BE MADE WITH "TWO BOLT" PARALLEL CLAMPS. ALL BENDS SHALL BE A MINIMUM OF 90° AND SHALL HAVE AN 8" MINIMUM RADIUS.

THIS JOB MUST BE INSPECTED, AND ANY CHANGES APPROVED BY ENG-4
FANCHER PHONE 7-4656

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG D.O.

AUTHORIZED FOR: CMB-6, CMB-DO; HEALTH; SAFETY; FIRE PROT.; SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

EXPLOSIVE FORMING INSTALLATIONS
LOCATION & PLOT PLAN
SA159, SA160, SA161 TA-3

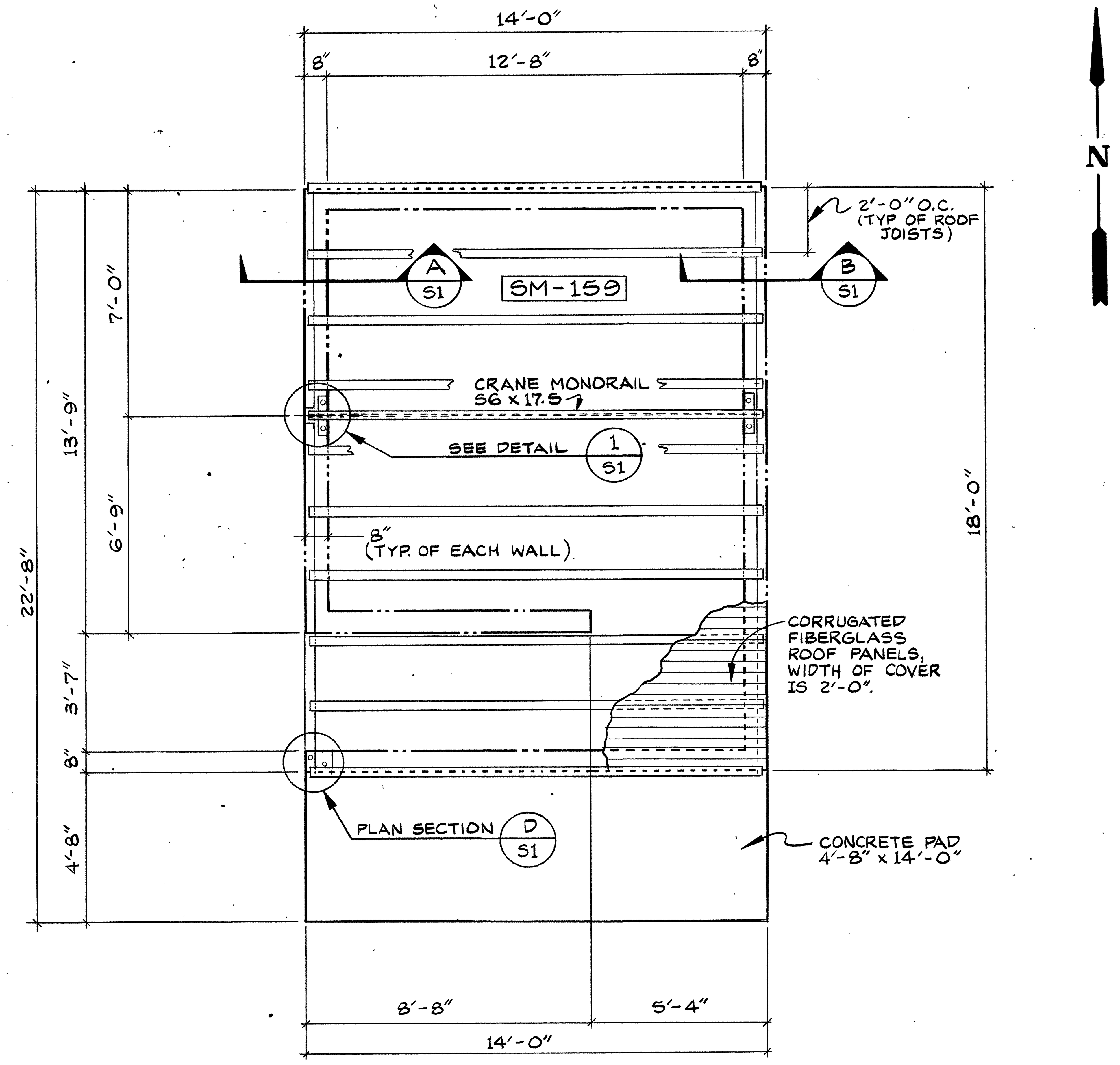
CHECKED — PROJ. ENG. JFZ
RECOMMENDED R. N. McDonald — GROUP LEADER
APPROVED — ENG. DEPT OFFICE
DESIGNER RL TURNER
DRAWN RICHARDSON
SCALE AS SHOWN
DATE JULY 16, 1962
SHEET 1 OF 2
DRAWING NO. ENG-C 27179

B. A. NO.______ LAB. JOB NO. 2672-3

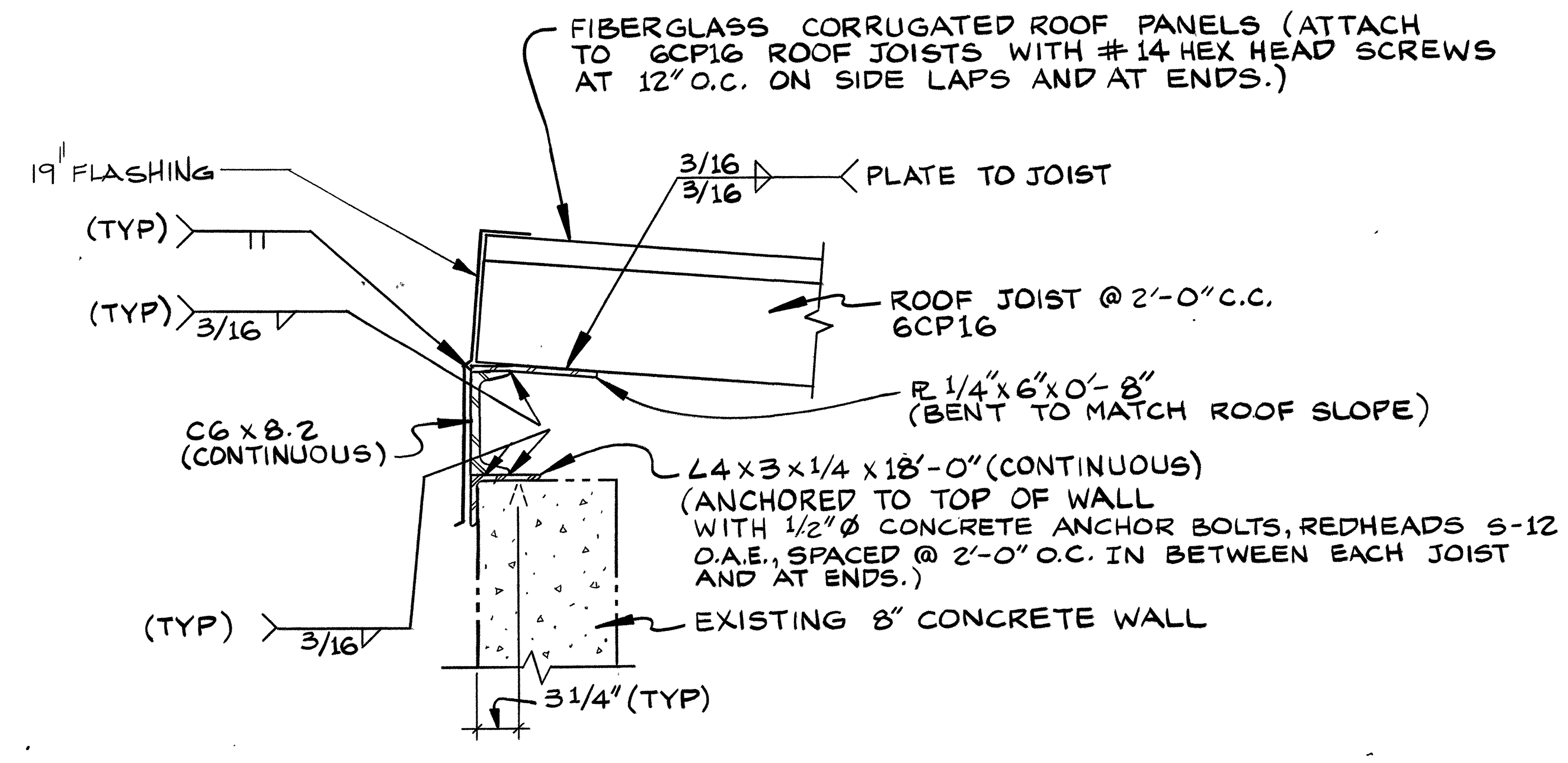
Prefix	Drawing number	Sheet number	Sheet suffix	Number of sheets	Revision number
C	27179	1	_	2	0

Prefix	Drawing number	Sheet number	Sheet suffix	Number of sheets	Revision number
C	27180	2	_	2	0

AP 25077



ROOF FRAMING PLAN
SCALE: 3/8" = 1'-0"

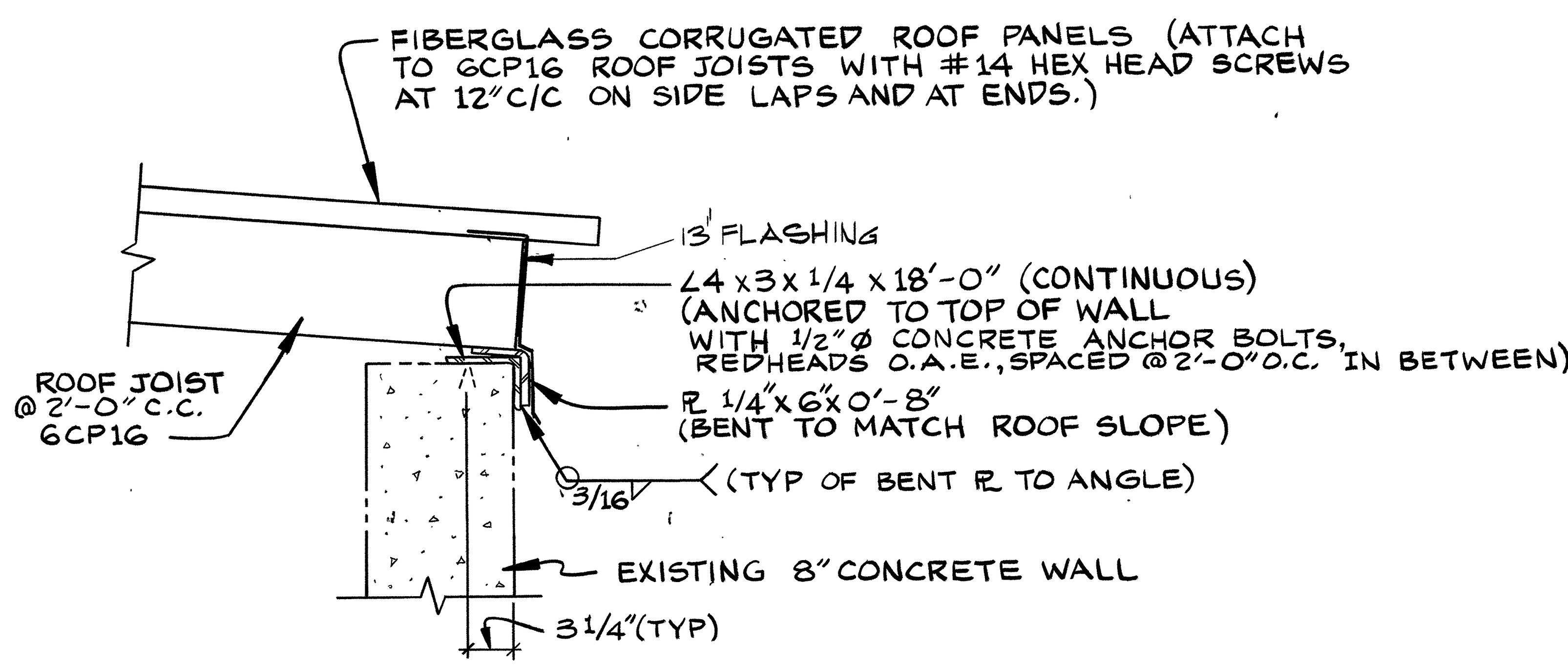


ROOF ASSEMBLY - SECTION A S1
SCALE: 1 1/2" = 1'-0"

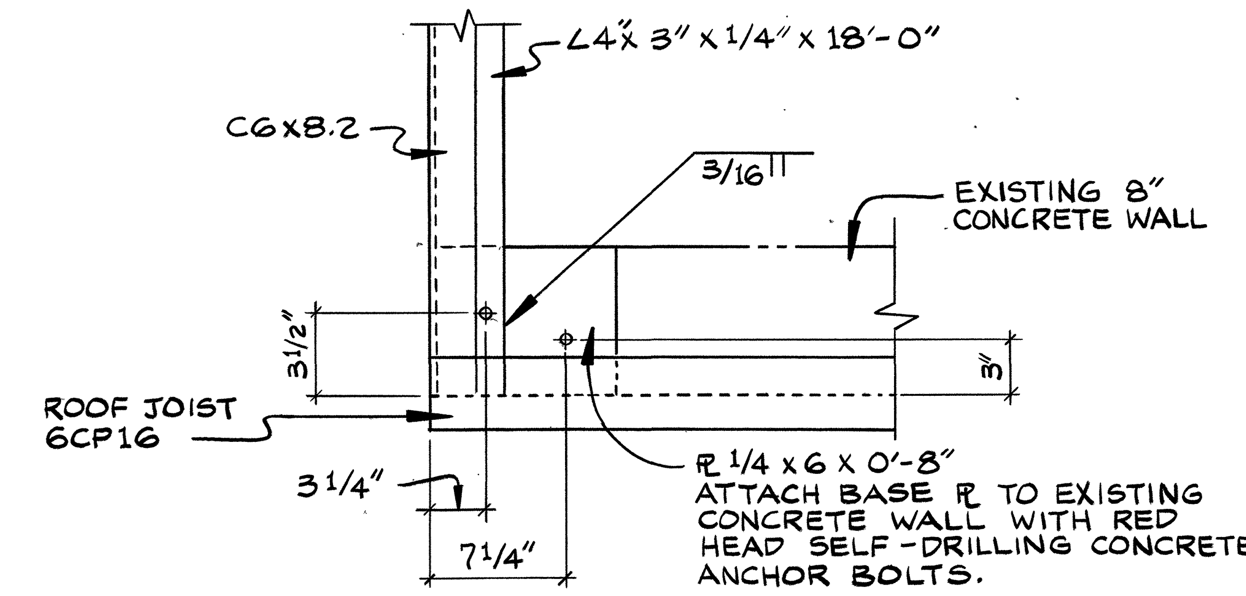
MATERAILS LIST

SUGGESTED MANUFACTURERS ONLY

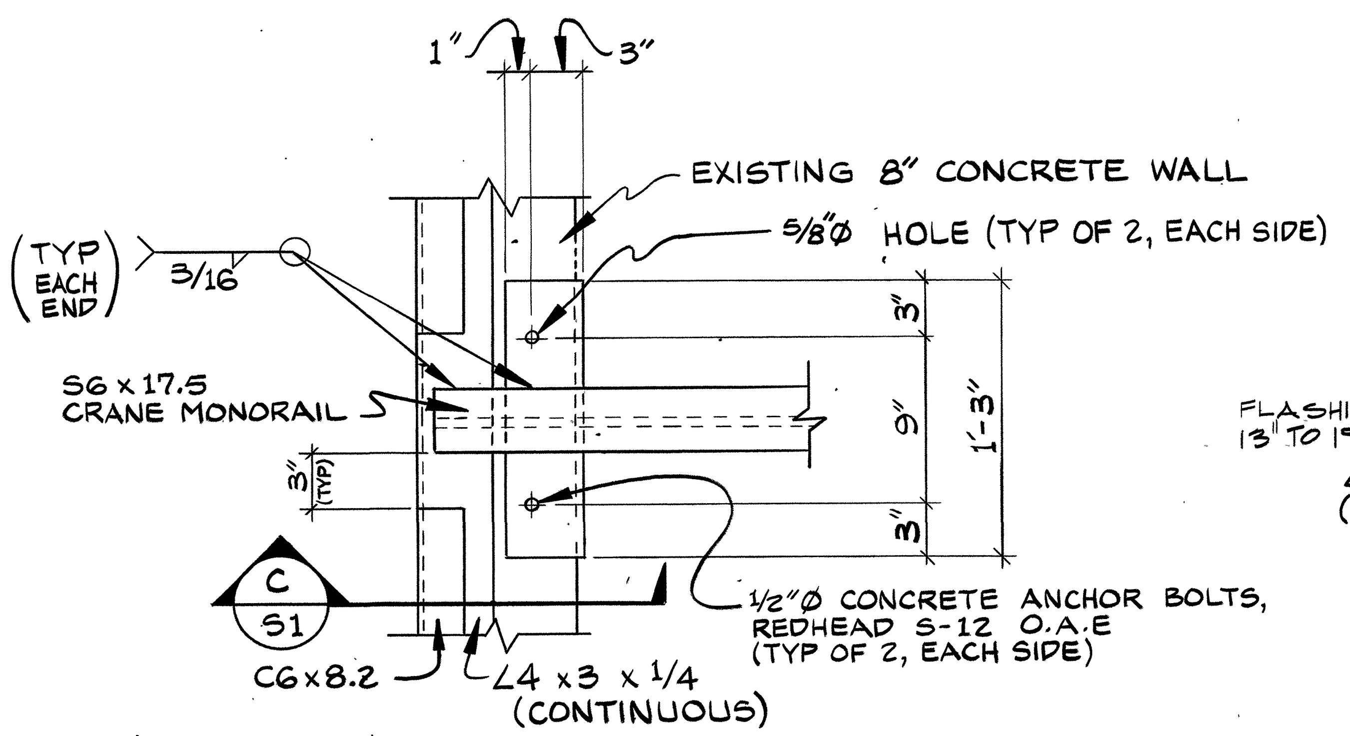
1. 252 SQ. FT. OF CORRUGATED FIBERGLASS ROOF PANELS. RESOLITE TYPE 1230, PROFILE 2 1/2" O.A.E.
2. 140 LINEAR FEET OF ROOF JOISTS, WHEELING STEEL FRAMING CO., TYPE 6CP16 JOISTS, O.A.E.
3. 1/2"Ø RED HEAD SELF-DRILLING CONCRETE ANCHOR BOLTS.
4. CHAIN OPERATED HOIST: (FURNISHED BY USER)
   a.) CAPACITY - 1 TON CAPACITY
   b.) HOIST TYPE - STANDARD HEADROOM, CHAIN TYPE
   c.) LIFT - 8 FEET
   d.) CHAIN PULL TO LIFT FULL LOAD - 69 lbs.
5. CRANE STOP AT OTHER END TO BE BOLTED 3/4"Ø A325 BOLT.
6. INSTALL FLASHING ALL AROUND ROOF, REQUESTED BY USER GROUP



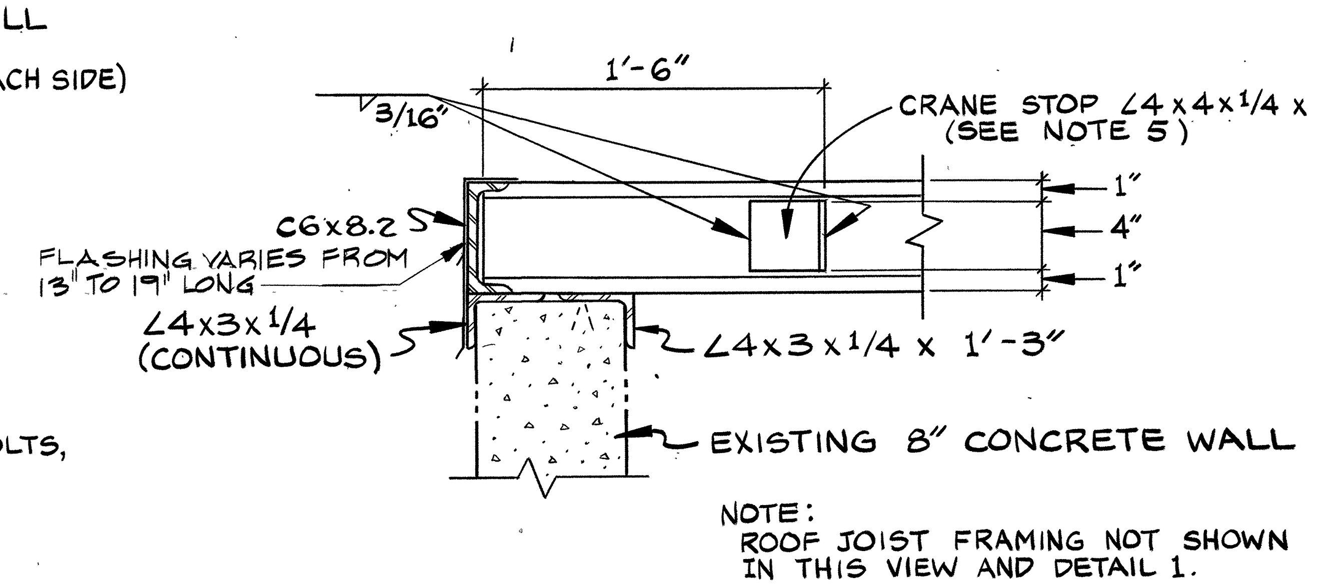
ROOF ASSEMBLY - SECTION B S1
SCALE: 1 1/2" = 1'-0"



PLAN SECTION D S1
SCALE: 1 1/2" = 1'-0"



CRANE MONORAIL DETAIL 1 S1
SCALE: 1 1/2" = 1'-0"



NOTE:
ROOF JOIST FRAMING NOT SHOWN IN THIS VIEW AND DETAIL 1.

CRANE MONORAIL - SECTION C S1
SCALE: 1 1/2" = 1'-0"

NO.	DATE	CLASS REVIEW	REVIEWER	REVISIONS	REV. BY	CHKD	REQ. GRP	REQ. D.O.	ENG GRP	ENG. D.O.	DOE APP.
1	8-5-86			ADDITION OF FLASHING AS REQUESTED BY USER GROUP					EL		

AUTHORIZED BY D.R.R. FOR:
H-DO
ENG-1
ENG-4
ENG-4
ENG-4 LP JRJ
HE-3 P. Schmidt

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

LABORATORY CONSTRUCTION, PHASE B
BUILDING SM-159

STRUCTURAL FRAMING & DETAILS

BLDG. SM-159 TA-3

DRAWN	SISNEROS
DRAFT CHECK	SKT
DESIGN	R.W. Kom
DESIGN CHECK	Sh. Eule
SM CHECK	M. Smith
RELEASED	M. Smith
DATE	8-7-84

SUBMITTED: W. Mattei — RECOMMENDED: S.D. Rhodes JCDitz — APPROVED: W.T.E. 8-20-84

UNITED STATES
DEPARTMENT OF ENERGY
LOS ALAMOS AREA OFFICE-LOS ALAMOS, NEW MEXICO

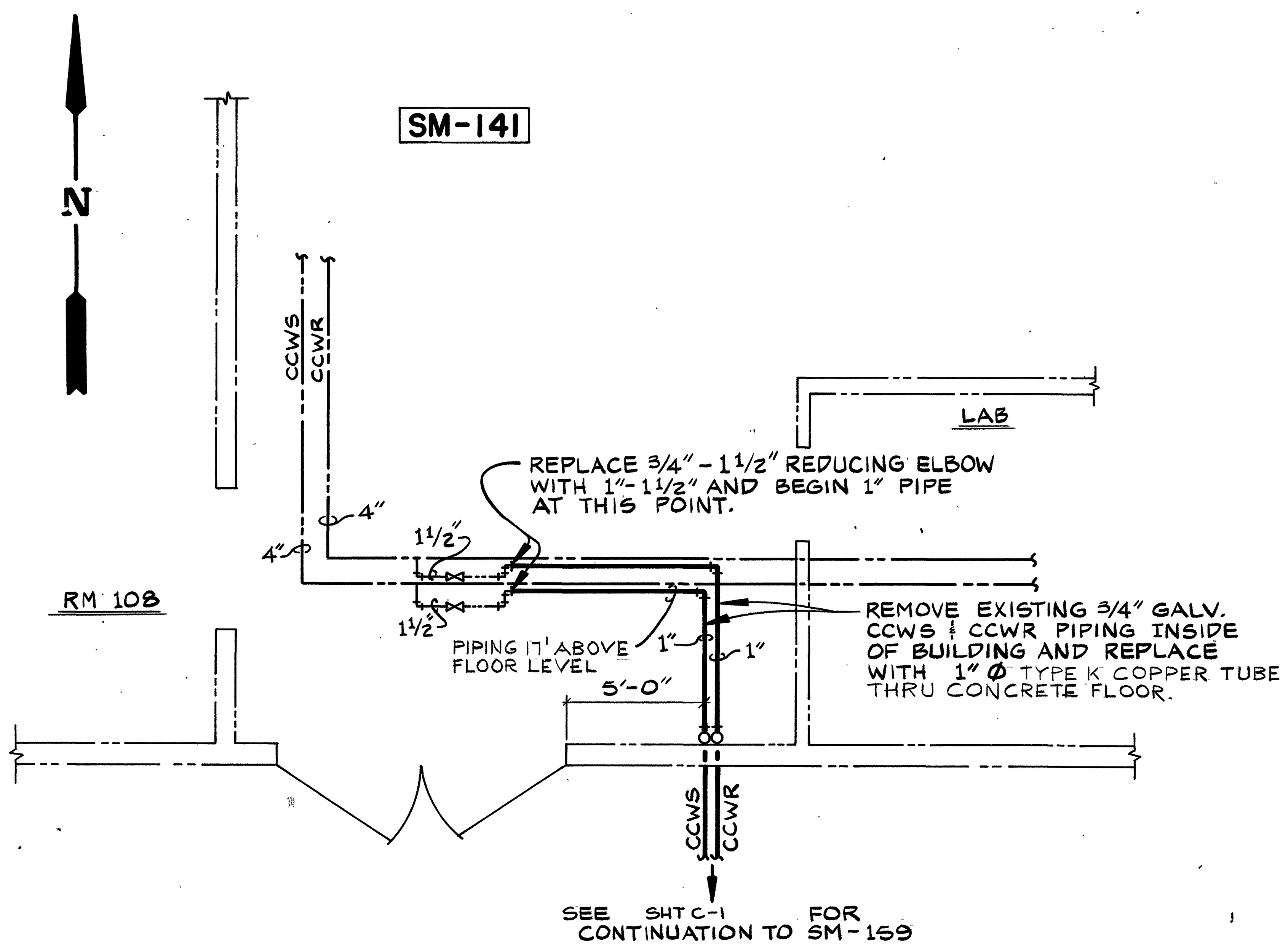
DOE DRAWING NO. — SHEET S1 — 3 OF 5

CLASSIFICATION U — REVIEWER S.D. Rhodes — DATE 8-7-84

REQUESTING DIVISION: EM Wewerka
REQUESTING GROUP
LAB JOB NO. 7551-3
DRAWING NO. ENG-C44475
REV.

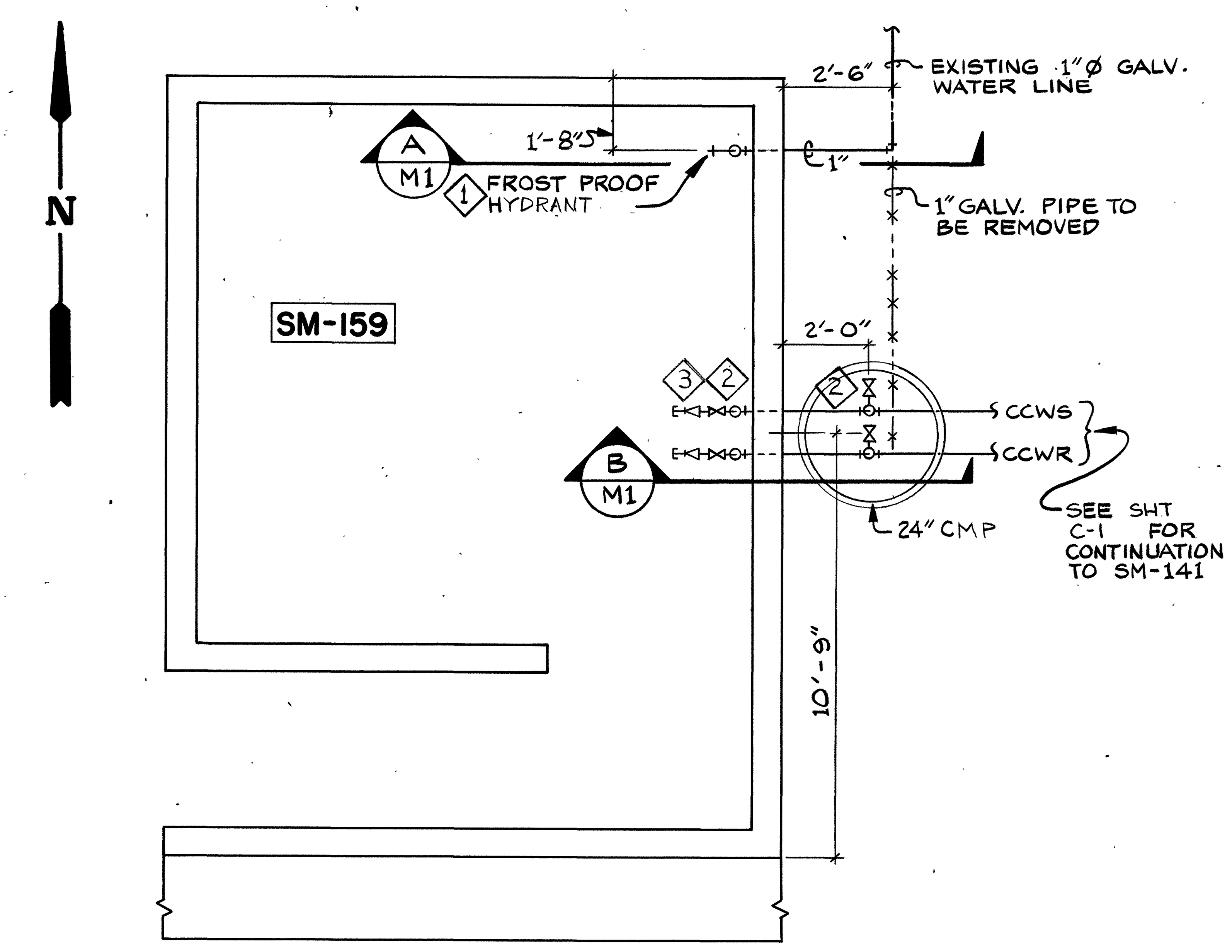
THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY TOM MIRABAL
ENG-4 PHONE: 7-2718

REC'D ___ LOGGED ✓ TO VAULT



SM-141 CCWS & CCWR PIPING LAYOUT DETAIL (1/C1)

N.T.S.



SM-159 CCWS & CCWR and POTABLE WATER SERVICE PIPING

SCALE: 3/8" = 1'-0"

MECHANICAL EQUIPMENT LIST

ITEM NO.	NO. REQ'D.	DESCRIPTION, MANUFACTURER, OR APPROVED EQUAL	FURNISHED BY
1	1 EA.	STANDARD HYDRANT, FROST-PROOF, 1" GALVANIZED STEEL CASING, 4' BURY.	ZIA STOCK 3300300033
2	4 EA.	GATE VALVE, SOLDER JOINT, NON-RISING STEM, SOLID WEDGE, 125 PSI, 1" SIZE.	ZIA STOCK 3610250443
3	2 EA.	ADAPTOR, MALE REDUCING, COPPER TO MALE PIPE THREAD, 1" X 3/4".	ZIA STOCK 3255170094

NOTES:

1. WATER PIPING BELOW AND ABOVE GRADE, 2-1/2" AND SMALLER, SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE CONFORMING TO ASTM A120 WITH 150 PSI GALVANIZED MALLEABLE IRON SCREWED FITTINGS.
2. CHILLED WATER SUPPLY AND RETURN PIPING, 2" AND SMALLER, SHALL BE TYPE K HARD COPPER WATER TUBE CONFORMING TO ASTM B 88 WITH WROUGHT COPPER SOLDER JOINT FITTINGS AND 95-5 SOLDER.
3. BURIED PIPING SHALL BE LAID ON A FIRM BED FOR ITS ENTIRE LENGTH.
4. EPCO, OR EQUAL, DIELECTRIC UNIONS SHALL BE INSTALLED IN ALL PIPING WHERE DISSIMILAR METALS COME IN CONTACT.
5. ALL NEW PIPING SHALL BE LABELED IN ACCORDANCE WITH THE LABORATORY STANDARD COLOR CODE FOR PIPING.
6. ESCUTCHEON PLATES SHALL BE PROVIDED FOR ALL EXPOSED UNINSULATED PIPES PASSING THROUGH WALLS, FLOORS, AND CEILINGS. PLATES SHALL BE NICKEL OR CHROME PLATED, SPLIT RING TYPE, OF SIZE TO MATCH THE PIPE.
7. PIPING SHALL BE INSTALLED AT THE PROPER ELEVATIONS AND SLOPES WITH READILY ACCESSIBLE DRAINAGE CONNECTIONS AT LOW POINTS SO THE ENTIRE SYSTEM CAN BE DRAINED.
8. ALL COOLING WATER AND HEATING WATER SYSTEM SHALL HAVE MANUAL AIR VENTS INSTALLED AT ALL HIGH POINTS IN THE SYSTEM.
9. PIPE HANGERS, SUPPORTS AND BRACES AS MANUFACTURED BY GRINNELL, OR EQUAL, SHALL BE INSTALLED TO PREVENT ANY UNDUE STRAIN, STRESSES, NOISE OR VIBRATION IN THE PIPING SYSTEM. PERFORATED METAL STRAP, WIRE, STRING OR SIMILARLY INADEQUATE MATERIAL WILL NOT BE PERMITTED.

   HANGERS SHALL BE SPLIT RING TYPE FOR PIPE 2-1/2" OR SMALLER AND CLEVIS TYPE FOR PIPE 3" OR LARGER, UNLESS OTHERWISE SPECIFIED.

   ROUND RODS FOR SUPPORTING PIPE HANGERS SHALL BE OF THE FOLLOWING DIMENSIONS:

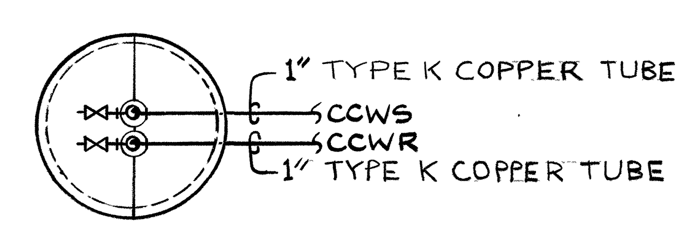
   PIPE SIZE (IN.): 1/2 THROUGH 2 — ROD SIZE (IN.): 3/8
10. ALL PIPING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. HANGING PIPES FROM OTHER PIPES WILL NOT BE PERMITTED.

    VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR LINE WITH STEEL PIPE CLAMPS UNLESS OTHERWISE SPECIFIED.

    SPACING OF HORIZONTAL PIPE SUPPORTS, UNLESS OTHERWISE SPECIFIED SHALL BE AS FOLLOWS:

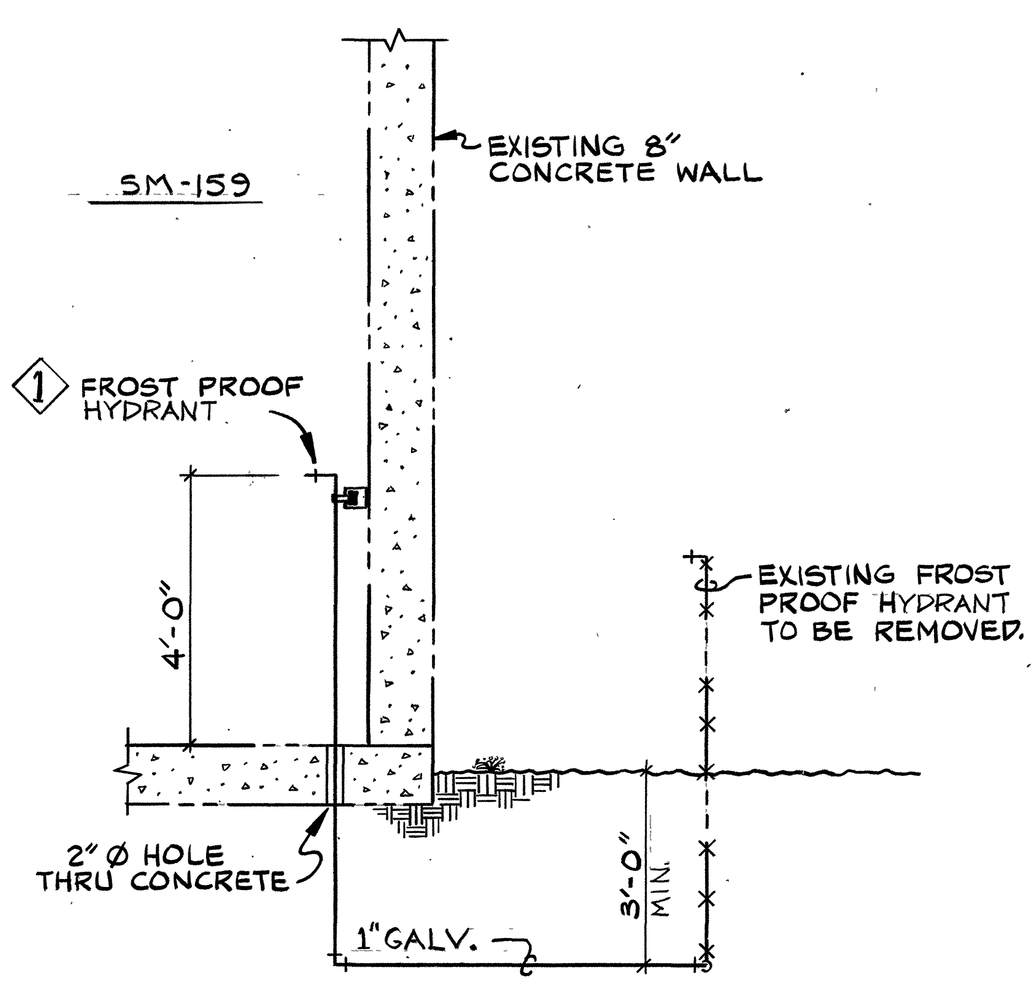
    PIPE SIZE (IN.): 1 THROUGH 2 — MAX. INTERVALS (FT.): 10

    COPPER TUBING SHALL BE SUPPORTED AT INTERVALS 2 FT. LESS THAN THE ABOVE SPACING.
11. WATER PIPING SHALL BE STERILIZED IN ACCORDANCE WITH ENG-4 POLICY NO. 3010.2.
12. WEATHER PROOF ALL EXPOSED PIPING. ON INSULATED PIPING, THE HANGERS SHALL PASS AROUND THE INSULATION AND AN 18-GAGE GALVANIZED STEEL PROTECTIVE BAND, 12" LONG, SHALL BE INSERTED BETWEEN THE HANGERS AND THE INSULATION.



CCWS & CCWR INSTALLATION- SECTION (C/M1)

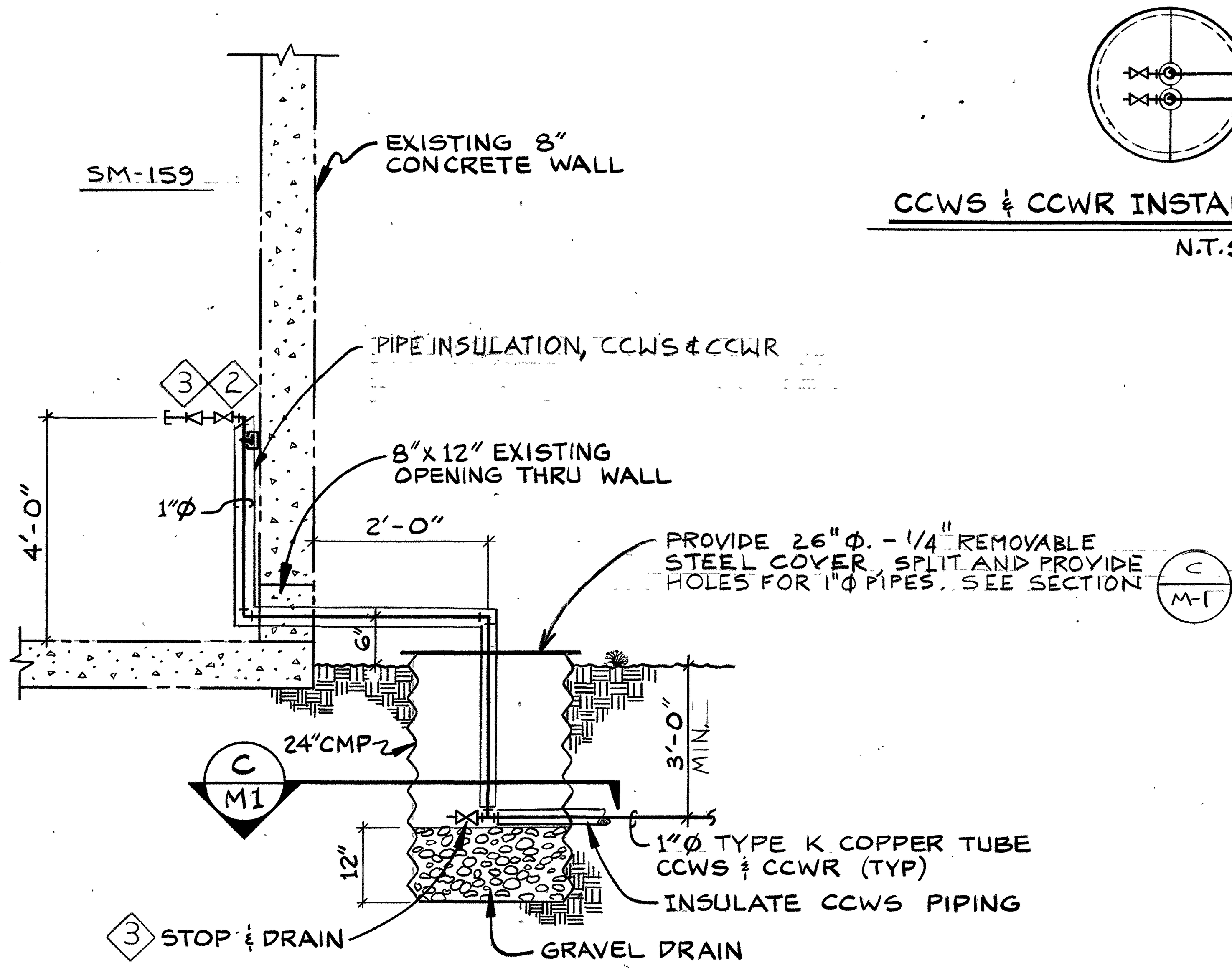
N.T.S.



SM-159

POTABLE WATER INSTALLATION- SECTION (A/M1)

N.T.S.



SM-159 CCWS & CCWR INSTALLATION-SECTION (B/M1)

N.T.S.

LEGEND

- CCWS — CIRCULATING COLD WATER SUPPLY
- CCWR — CIRCULATING COLD WATER RETURN
- NEW CONSTRUCTION
- EXISTING CONSTRUCTION
- EXISTING CONSTRUCTION TO BE REMOVED

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY TOM MIRABAL

ENG-4 PHONE: 7-2718

NO.	DATE	CLASS REVIEW	REVIEWER	REVISIONS	REV. BY	CHKD	REQ. GRP	REQ. D.O.	ENG. GRP	ENG. D.O.	DOE APP.
1	8/5/86			AS-BUILT NO CHANGE						EL	

MF MF

AUTHORIZED BY D.R.R. FOR: H-DO, ENG-1, ENG-4, ENG-4, ENG-4 LP JRL, HSE-3 P. Schmid

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

LABORATORY CONSTRUCTION, PHASE B
BUILDING SM-159

MECH. DETAILS, SECTIONS & EQUIP. LIST

BLDG. SM-159 — TA-3

DRAWN	SISNEROS
DRAFT CHECK	SRT
DESIGN	D. VIGIL
DESIGN CHECK	D Vigil
SM CHECK	A. Powell
RELEASED	M Smith
DATE	8-7-84

SUBMITTED: W. Smith — RECOMMENDED: S.D. Rhodes — APPROVED: J. Cole

UNITED STATES DEPARTMENT OF ENERGY
LOS ALAMOS AREA OFFICE-LOS ALAMOS, NEW MEXICO

DOE DRAWING NO. — SHEET M1 — 4 OF 5

CLASSIFICATION U — REVIEWER S.D. Rhodes — DATE 8-9-84

REQUESTING DIVISION — REQUESTING GROUP

LAB JOB NO. 7551-3

DRAWING NO. ENG-C44475

REV.

REC'D. LOGGED TO VAULT

LANL TA- Building # 03-0169

Camera 984244

Frame #s DCP_4970 through DCP_4973

Surveyor(s) S. McCarthy, J. Ronquillo

Date 9/7/2006

Los Alamos National Laboratory
RMT Historic Building Survey Form

Building Name: Warehouse | UTMs easting: 381113 | northing: 3970555 | zone: 13

Legal Description: Map: Friioles Ouad 2002 | tnsp: 19N | range: 6E | sec: 16

Current Use/ Function: Warehouse | Original Use/ Function: Raw Materials Warehouse

Date (estimated): | Date (actual): 1964 | Property Type: Support

Type of Construction

Pre-Fabricated Metal ☐ Steel Frame ☑ Wood Frame ☐ CMU ☐ Reinforced Concrete ☐

Other Type of Construction: Prefabricated MESCO building. | # of Stories: 1

Foundation Concrete Slab

Exterior CMU-Exterior ☐ Reinforced Concrete-Exterior ☐ Steel (galvanized) ☐ Steel (corrugated) ☑

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior:

Exterior Treatment (painted, stuccoed, etc):

Exterior Features (docks, speakers, lights, signs, etc): Building equipment includes wall mounted light fixtures, alarm system, and signage. The roof is equipped with lightning rods and two large ventilators.

Addition CMU-Addition ☐ Reinforced Concrete-Addition ☐ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition:

Exterior Treatment-Addition:

Exterior Features-Addition:

Roof Form Slanted/Shed ☐ Gable ☑ Other Roof Type:

Degree of Pitch/ Slope: Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☐

Other Roof Materials: Steel joists and finished with corrugated steel roofing panels and translucent roofing panels.

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☐

Other Window Type: None

of Each Window Type/ Comments:

Glass Type Clear ☐ Wire Glass ☐ Opaque ☐ Painted Glass ☐ Glass Block ☐

Light Pattern:

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: Both the north and south elevations each contain a large insulated roll-up overhead door as well as a single painted hollow metal door.

Interior Wall Gypsum Board ☐ Reinforced Concrete- Interior ☐

CMU- Interior ☐ Plywood ☐ Other- Interior

In-Wall Electrical Wiring ☐ On-Wall Electrical Wiring ☐

Ceiling Drop Ceiling ☐

Interior Comments (Equipment, etc)

Degree of Remodeling Unknown/None

Condition Excellent ☐ Good ☑ Fair ☐ Deteriorating ☐ Contaminated ☐ Burned ☐

Associated Buildings ☐

If yes, list building names and #s

Integrity Good

Significance

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 and 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)

TA-3-169 is a one-story rectangular in plan building measuring 60 ft wide by 102 ft long. The prefabricated MESCO building is constructed with a concrete perimeter foundation and floor slab, steel framed walls sheathed with insulated corrugated steel panels and a low-pitched front gable roof. The roof is constructed with steel joists and finished with corrugated steel roofing panels as well. Daylight is directed into the building through translucent roofing panels. Both the north and south elevations each contain a 12 ft wide insulated roll-up overhead door and a single painted hollow metal pedestrian door.

Total sq ft 6066 sq. ft.

Architect/ Builder Neuner & Cabaniss Architect Engineers

Alterations

List of Drawings (Cntrl + Enter for para break)

ENG-C 30941
Sheet 19 of 23
Raw Materials Warehouse
TA-3, SM-169 (TA-3, Bldgs 169)
Plot Plan & Utilities Layout
November 1962

ENG-C 30942
Sheet 20 of 23
Raw Materials Warehouse
TA-3, SM-169 (TA-3, Bldgs 169)
Architectural - Floor Plan, Elevations & Sections
November 1962

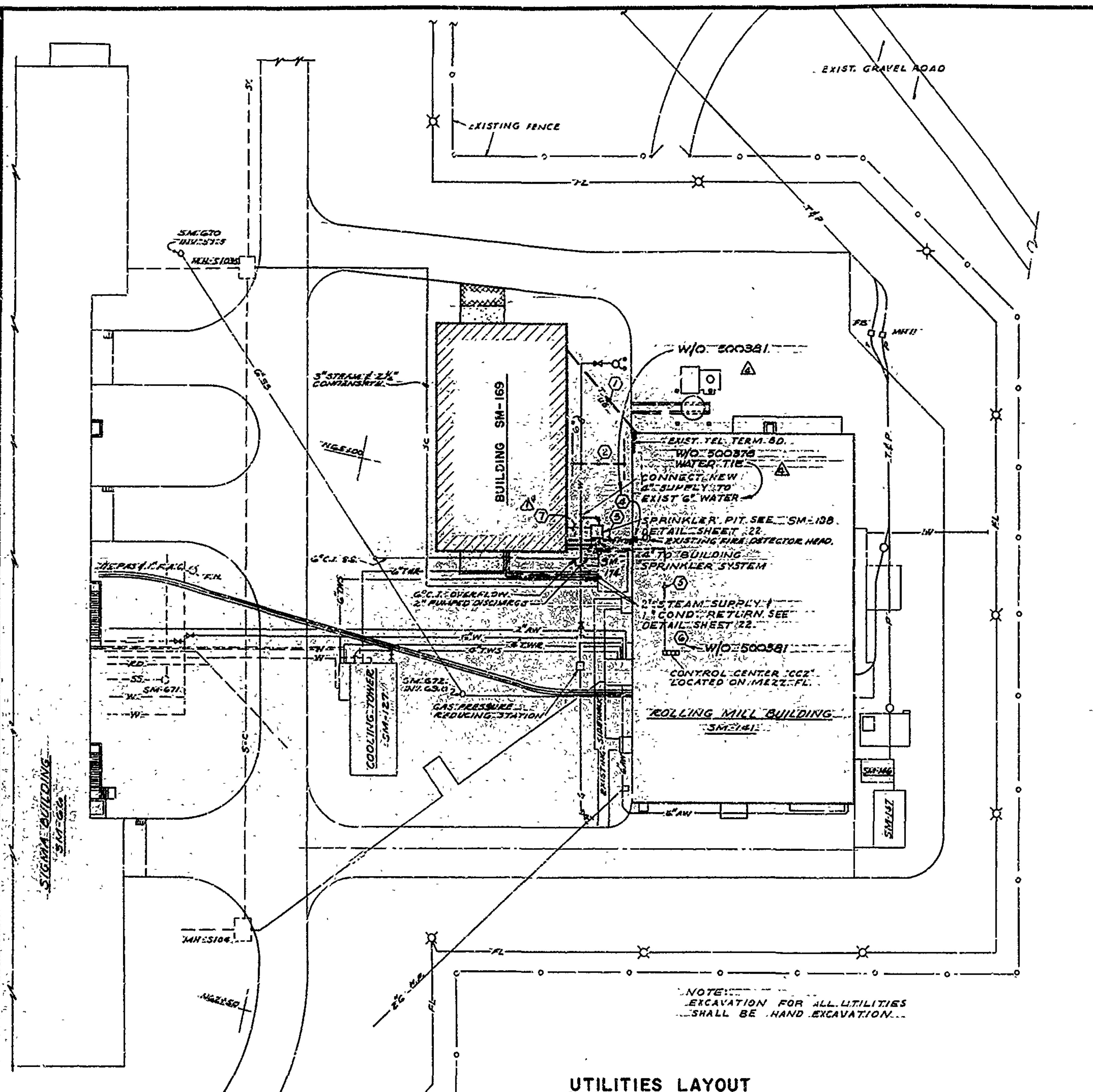
ENG-R 3277
Sheet 1 of 5
Warehouse
TA-3, SM-169, (TA-3, Bldg 169)
Floor Plan
July 22, 1983

TA-3-169 South side


TA-3-169 South and east sides

TA-3-169 North side

TA-3-169 West side



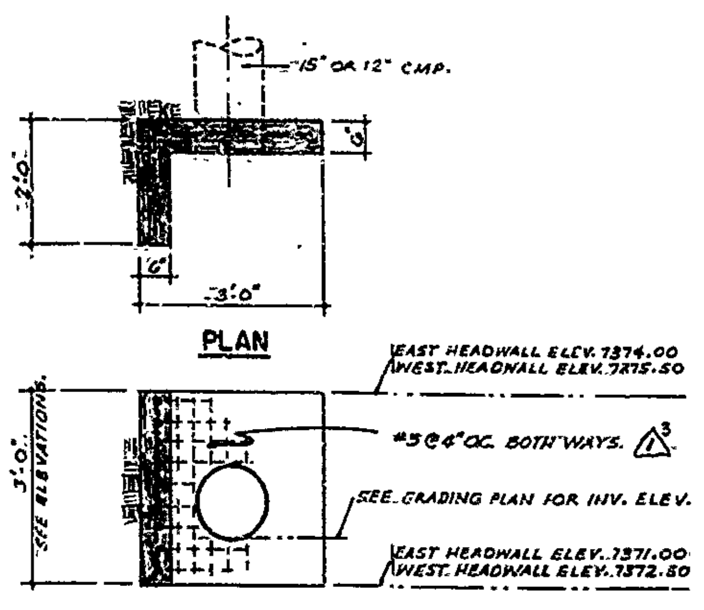
UTILITIES LAYOUT

SCALE 1" = 30'

KEYED ELECTRICAL NOTES:

1. 1" TEL. CONDUIT W/ PULL WIRE. RUN UNDERGROUND BETWEEN BLDG'S. 3' MIN. BURY. RUN UP EXTERIOR WALL @ BLDG. SM-141 TO LB CONDULET, THRU WALL AND INTO TEL. TERM BOARD.
2. #1/0 B.C. GROUNDING CONDUCTOR. 3'-0" MIN. BURY. BOND SM-169 & SM-141 COUNTERPOISE'S TOGETHER.
3. (5) FIRE ALARM CIRCUIT. 2#10 T.W. IN 3/4" C. 3'-0" MIN. BURY. RUN UNDERGROUND BETWEEN BLDGS. RUN UP EXTERIOR WALL @ BLDG SM-141 TO "LB" CONDULET THRU WALL & INTO BACK OF TERMINAL BOX. RUN FROM TERMINAL BOX EXPOSED UP WALL & ACROSS BOTT. OF BAR JOISTS TO F.A. DETECTOR HEAD. CONNECT IN SERIES W/ EXISTING F.A. SYSTEM.
4. INSTALL ALWALT 6"x8"x4" DEEP ALWALT TYPE "A" TERMINAL CABINET W/ 3/4" PLYWOOD BACKBOARD. INSTALL BRACH. TERMINAL STRIP FOR TERMINATION OF CONDUCTORS. INSTALL TO CLEAR EXISTING EQUIPMENT. MOUNT 5'-0" UP TO BOTTOM. NAMEPLATE: F.A. TERM. CAB.
5. 4#2 THW IN 2" C. SECONDARY FEEDER. 3'-0" MIN. BURY BETWEEN BLDGS. RUN UP EXTERIOR WALL TO ALWALT NO. CPB4038 WEATHERPROOF PULL BOX @ 2ND FLOOR CEILING LINE, THRU WALL @ BOTTOM OF BAR JOISTS AND ON BOTTOM OF BAR JOISTS INTO CONTROL CENTER "CC2".
6. INSTALL 3 POLE, 100 AMP TRIP, G.E., "E" FRAME BREAKER IN COMPARTMENT "CC2-4" TO FEED BLDG SM-169. INSTALL MICARTA NAMEPLATE "PANEL 'A' IN BLDG. SM-169."
7. 2#10 TW - 3/4" CONDUIT. 3'-0" MIN. BURY. FEEDER TO SPRINKLER PIT ELECTRIC HEATER.

NOTE: SEE SHEET 18 FOR STD DETAILS ON BURIAL OF CONDUITS & CABLE.



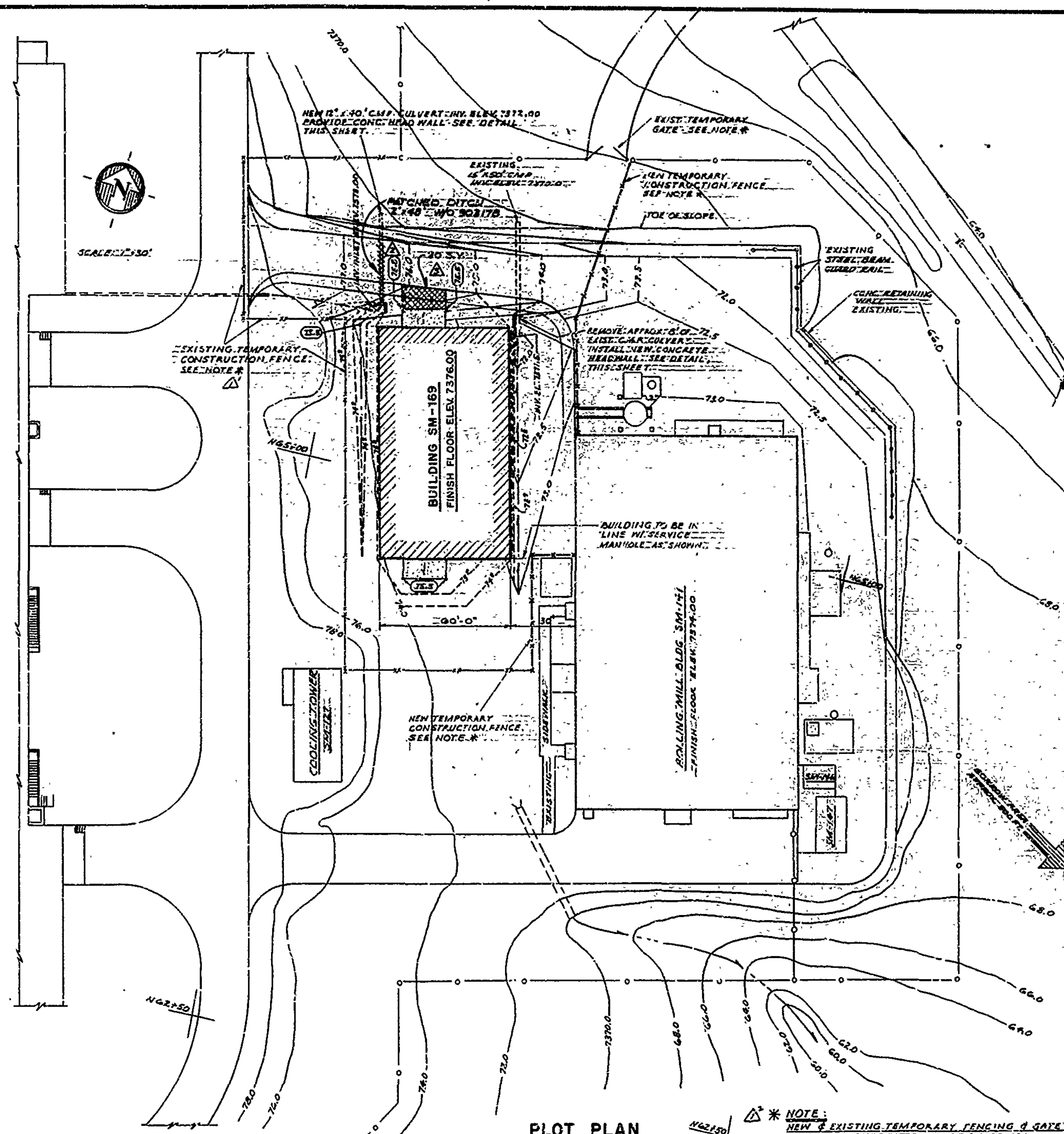
CONCRETE HEADWALL DETAIL

SCALE: 1/2" = 1'-0"

EAST HEADWALL SHOWN - WEST HEADWALL OPPOSITE

[redacted]

Jack K. Cabaniss
9-1-65
R.E. Dunning



PLOT PLAN

SCALE 1" = 30'

NOTE: NEW & EXISTING TEMPORARY FENCING & GATE TO BE REMOVED AT COMPLETION OF JOB. REPAIR CHAIN LINK FENCING AT GATE LOCATION.

GRADING LEGEND

30.0	EXISTING GRADE
70.0	FINISHED GRADE
32.00	FINISHED SPOT ELEV.

NO.	DATE	REVISIONS	BY	CK.	PROJ ENGR	A.E.C. APP
4	5-19-64	POWER & F.A. TIES, WATER TIE		JRJ		
3	5-12-64	NOTED ASPHALT QUANTITY	R.V.	JRJ		
2	5-18-64	NOTED STATUS OF DITCH		JRJ		
5	5-11-65	REVISED AS BUILT. ADDENDUM NO. 1 (MISC. CHANGES)	J.T.			

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO

RAW MATERIALS WAREHOUSE
TA-3
BUILDING SM-169, TA-3
PLOT PLAN & UTILITIES LAYOUT

CONTRACT NO. (A-E)	
A.E.C. ACCT. NO.	
DRAWN	R.M. C.T.
CHECKED	J.C.
A-E APPROVED	
DESIGN	
PROJ. ENGR.	
CHIEF ENGR.	
SCALE	AS SHOWN
DATE	NOV. '62

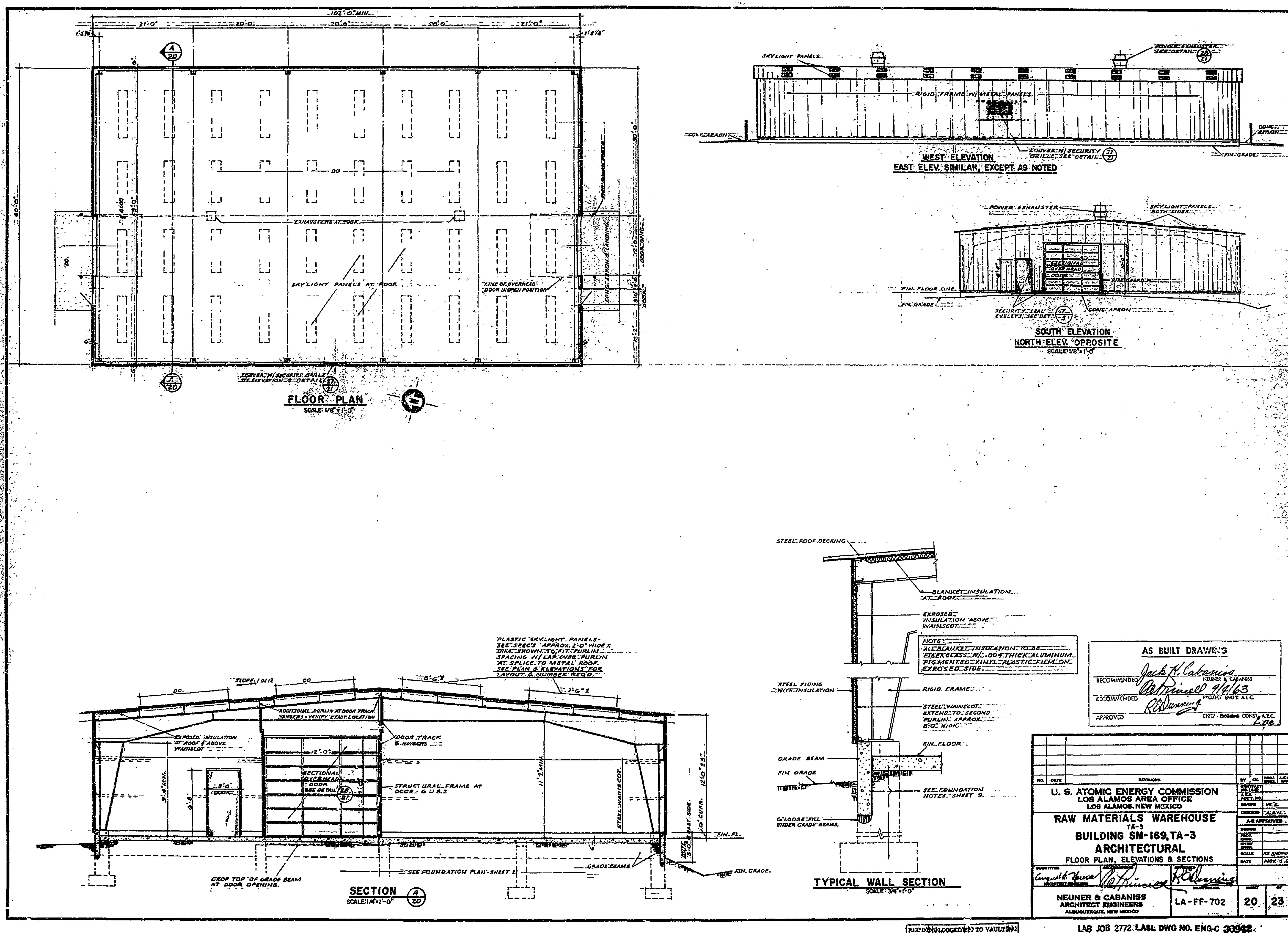
SUBMITTED: ARCHITECT-ENGINEER
RECOMMENDED
APPROVED: R.E. Dunning

NEUNER & CABANISS
ARCHITECT ENGINEERS
ALBUQUERQUE, NEW MEXICO

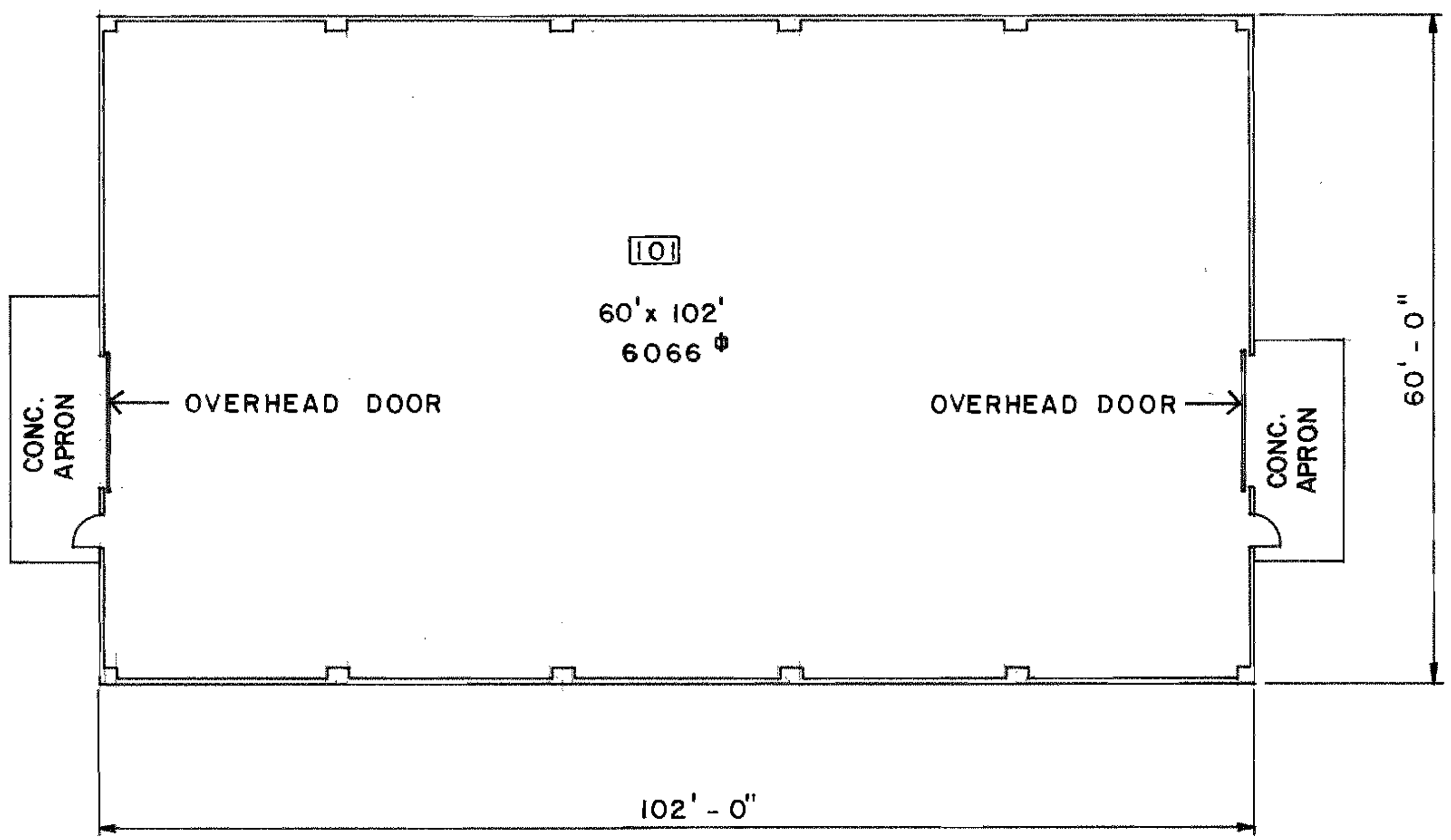
DRAWING NO. LA-FF-701 | SHEET 19 OF 23

RECD & LOGGED TO VAULT

LAB JOB 2772 LASL DWG NO. ENG-C 30041



FLOOR PLAN
SCALE: 1/8" = 1'-0"
102'-0" MIN.
SKYLIGHT PANELS AT ROOF
EXHAUSTERS AT ROOF
LINE OF OVERHEAD DOOR IN OPEN POSITION
WEST ELEVATION
EAST ELEV. SIMILAR, EXCEPT AS NOTED
SKYLIGHT PANELS
RIGID FRAME W/ METAL PANELS
CONC. APRON
FIN. GRADE
POWER EXHAUSTER
SKYLIGHT PANELS BOTH SIDES
SOUTH ELEVATION
NORTH ELEV. OPPOSITE
SCALE: 1/8" = 1'-0"
FIN. FLOOR LINE
SECTION
SCALE: 1/4" = 1'-0"
SEE FOUNDATION PLAN-SHEET 2
GRADE BEAMS
FIN. GRADE
FIN. FL.
TYPICAL WALL SECTION
SCALE: 3/4" = 1'-0"
STEEL ROOF DECKING
BLANKET INSULATION AT ROOF
RIGID FRAME
GRADE BEAM
FIN. GRADE
FIN. FLOOR
AS BUILT DRAWING
RECOMMENDED
APPROVED
U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS AREA OFFICE
LOS ALAMOS, NEW MEXICO
RAW MATERIALS WAREHOUSE
TA-3
BUILDING SM-169, TA-3
ARCHITECTURAL
FLOOR PLAN, ELEVATIONS & SECTIONS
NEUNER & CABANISS
ARCHITECT ENGINEERS
ALBUQUERQUE, NEW MEXICO
LA-FF-702
20
23
LAB JOB 2772 LASL DWG NO. ENG-C 30912



TOTAL $\frac{ft^2}{6066}$

(1/16" = 1'-0")

0 5 10 20 40
GRAPHIC SCALE

MF

REV.	DATE	REVISION	BY	CKD.	APP.
1	7-22-83	REDRAWN & REVISED TO STATUS OF 7-22-83	H&N	EJ	[illegible]

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

WAREHOUSE
FLOOR PLAN

BLDG. SM-169 TA-3

SEC. CLASSIFICATION	
CLASS.	U
REVIEWER	Andrews
DATE	10-7-83

SUBMITTED	RECOMMENDED	APPROVED
E. Trujillo	Dennis Kopp	W. T. Eastwood

DRAWN	H & N	DATE	SHEET NO.	DRAWING NO.
CHECKED	Humble H&N	7-22-83	1 OF 1	ENG-R 3277

REC'D ... TO VAULT 11-23-83