In addition, electricity would have been a problem. The air conditioning system would have taken two-thirds of the power available in Orange. The solution was to build a power source just for the church.

Carrier built a powerhouse which was built behind the main church building. Crews installed a 200 horsepower engine which ran on crude oil.

A newer air conditioning system was installed in the church in the late 1920s. As the years rolled by, another unit was installed in the 1950s. Eventually, a 50 ton unit was implemented and still keeps the church cool and visitors comfortable.

Some of the original duct work and piping are still used in the church as part of the current Carrier system. However, some things have changed. The powerhouse where the chief engineer once lived on the top floor now serves another purpose. The remainder of the powerhouse such as the top three floors was removed many years ago.

Through out the entire project, Frances Ann Lutcher kept costs a secret which also remains in effect to this day. To make sure the building was maintained properly and church members would not be burdened with upkeep, she set up an endowment, according to Record archives.

Few records are left of how the structure came to be. Only a few drawings remain. But, the church still stands as one woman's plan to leave a memorial for future generations while enjoying a little comfort as they gather during the long hot summers of Orange.

[*Prepared for* ICE AND REFRIGERATION.]

CHURCH COOLING.

DESCRIPTION OF AIR COOLING PLANT IN LUTCHER MEMORIAL CHURCH, ORANGE, TEX.—SUBSTANTIAL EVIDENCE OF THE SUCCESS OF REFRIGERATION FOR CHURCHES.

THE first church organization to adopt modern methods of cooling, such as have been successfully applied in a number of hotels and some theatres, was the Lutcher Memorial Church at Orange, Tex., a brief account of which was given in the March issue of ICE AND REFRIGERATION. As the success of this innovation promises to open a new field for the further use of mechanical refrigeration, a description of this air cooling apparatus, and its effect as described by the pastor of the church, will be of interest. The "Lutcher Memorial," First Presbyterian church of Orange, is a handsome structure, as is apparent from the exterior view herewith, reproduced from a photograph. It is built of stone, classic style, beautifully ornamented and decorated in the interior.

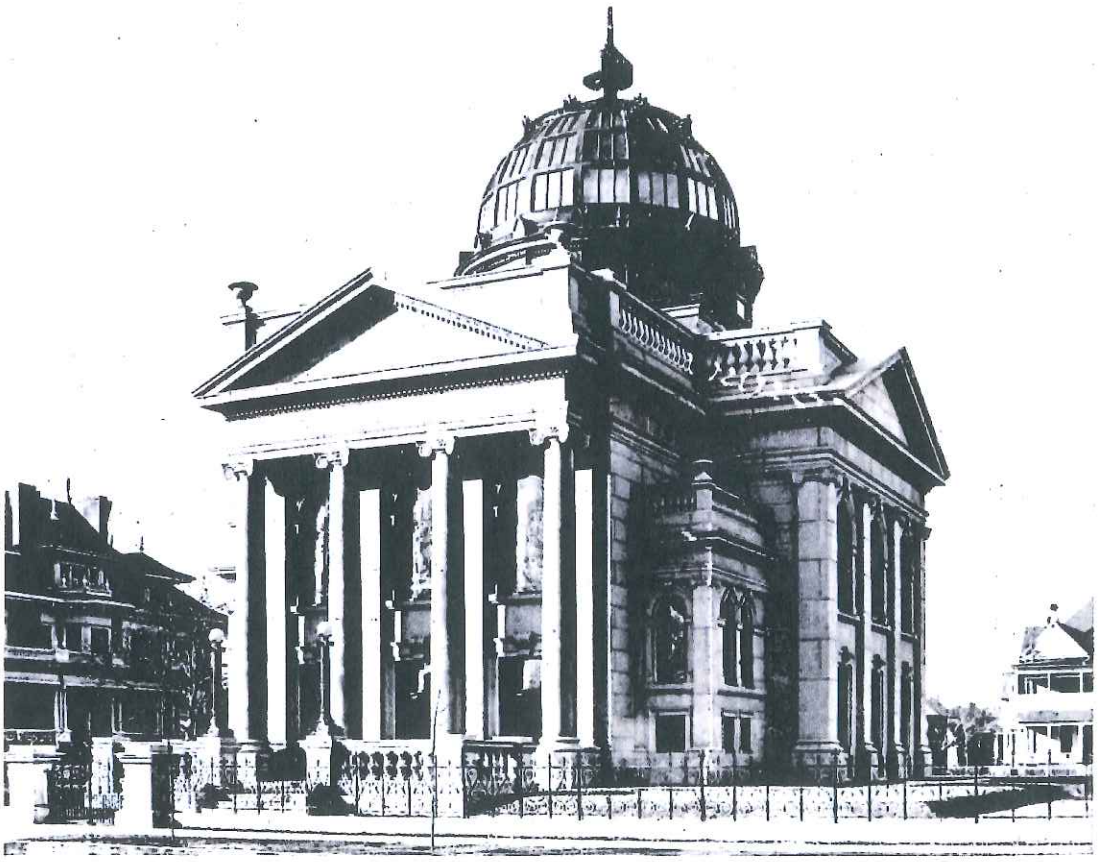


FIG. 1—EXTERIOR VIEW LUTCHER MEMORIAL "REFRIGERATED" CHURCH AT ORANGE, TEX.

The church people of Orange evidently believe that ministration to the spiritual needs of the community is an all the year around necessity quite the same as is the supplying of man's secular wants. But the excessive heat of summer thinned the attendance to where the benefits conferred made the advisability of continuous service problematical under the old regime of suffocation in summer, just as everybody now employs artificial means of heating in cold weather.

The old ventilating system had proved unsatisfactory and after investigation of the air cooling system by means of mechanical refrigeration, such as had been installed by Kroeschell Bros. Ice Machine Co., Chicago, in a number of hotels, it was decided to equip the church with a similar plant. Accordingly contracts were let for installation of a Kroeschell CO_2 refrigerating and air cooling plant large enough to cool 12,000 cubic feet of air per minute from 100° F. to 60° F. To accomplish this a 60-ton refrigerating machine, driven by belt from a 70-h.p., 110-volt, direct current, slow speed motor was supplied, also a carbonic anhydride condenser of the double-pipe countercurrent type, in six sections, and expansion coils placed in a special chamber for cooling the air. This chamber is also provided with air washers, that is, the incoming air, drawn by the air blower that drives the cool air current into the church auditorium, first passes through a spray of falling water from perforated pipes in the upper part of the chamber. Thus washed and partly cooled, the air is drawn over the expansion coils, which consists of 2,500 lineal feet of 1-inch pipe, over which a spray of water also flows. The cold air is then drawn through an eliminator, or box containing a series of baffles for dehumidifying the air, and thence through conduits into the room or rooms to be cooled.

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This effect is not only produced in the one department of our work but throughout, on the Sabbath School and mid-week services as both the Sabbath School room and the main auditorium may be cooled at the same time or one may be cut off and the other cooled. E. T. DRAKE, Minister.

In addition to the air cooling plant, the church was also provided with its own electric generating plant. A 100 kw. generator, operated by a 200-h.p. De La Vergne oil engine using crude oil for fuel, was included in the power plant, and this supplies current, at 220 volts, for lighting the church, for driving the motors and also for charging a storage battery which supplies power for operating the large pipe organ in the church.

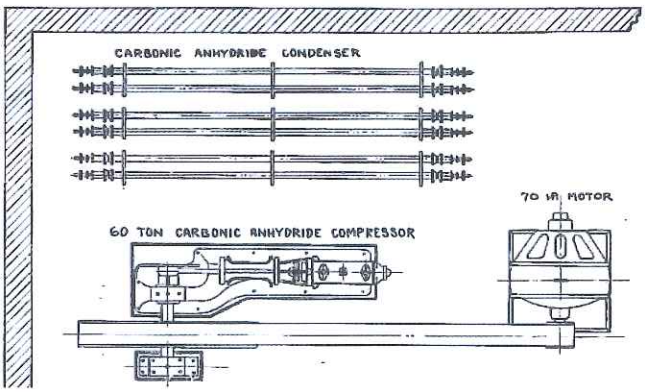


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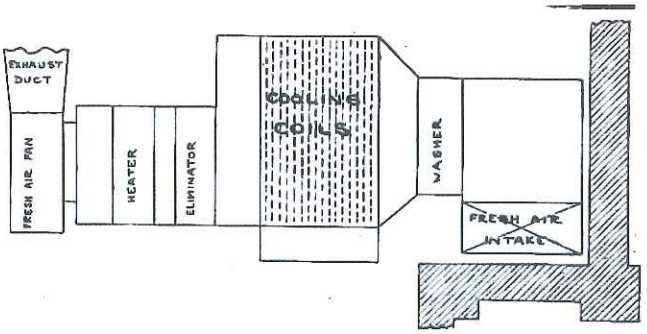


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IN AN article on "Refrigeration of Fruit Cars," by R. V. Gillespie, in *The Traffic World*, the railway viewpoint of liability for neglect in reicing refrigerator cars is presented. It is declared that the field and body heat of the fruit from the South is removed by the time the car reaches the first reicing station or very soon after, and that thereafter it will require about two tons of ice each twenty-four hours to keep the fruit at 45° to 50° F.; therefore, even if not iced every day, no deteriorative effect will result so long as bunkers are one-third to one-fourth full. However, if on arrival of car at destination, and regardless of conditions of fruit, it is shown that car was not reiced every twenty-four hours a claim is presented to the carrier and if the omission to reice is established, claim is allowed, although in many cases there is no liability on the part of the carrier. "The various fruit growers' associations throughout the Southwest," Mr. Gillespie states, "have employes at all icing stations who report to them daily any cars arriving at icing

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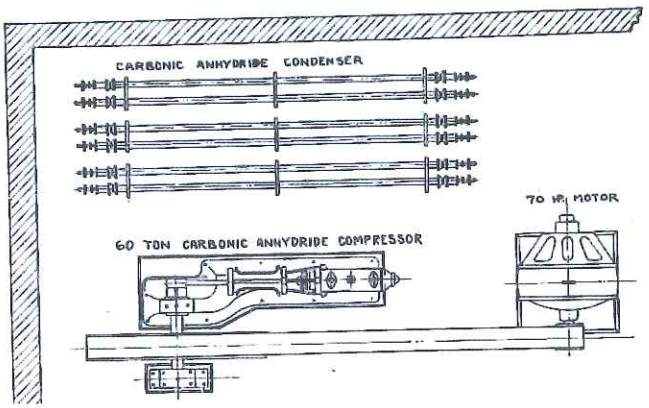


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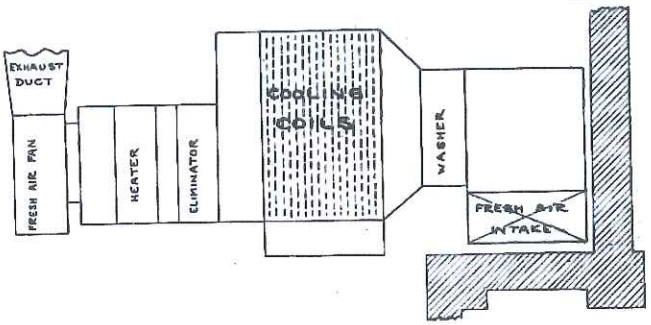


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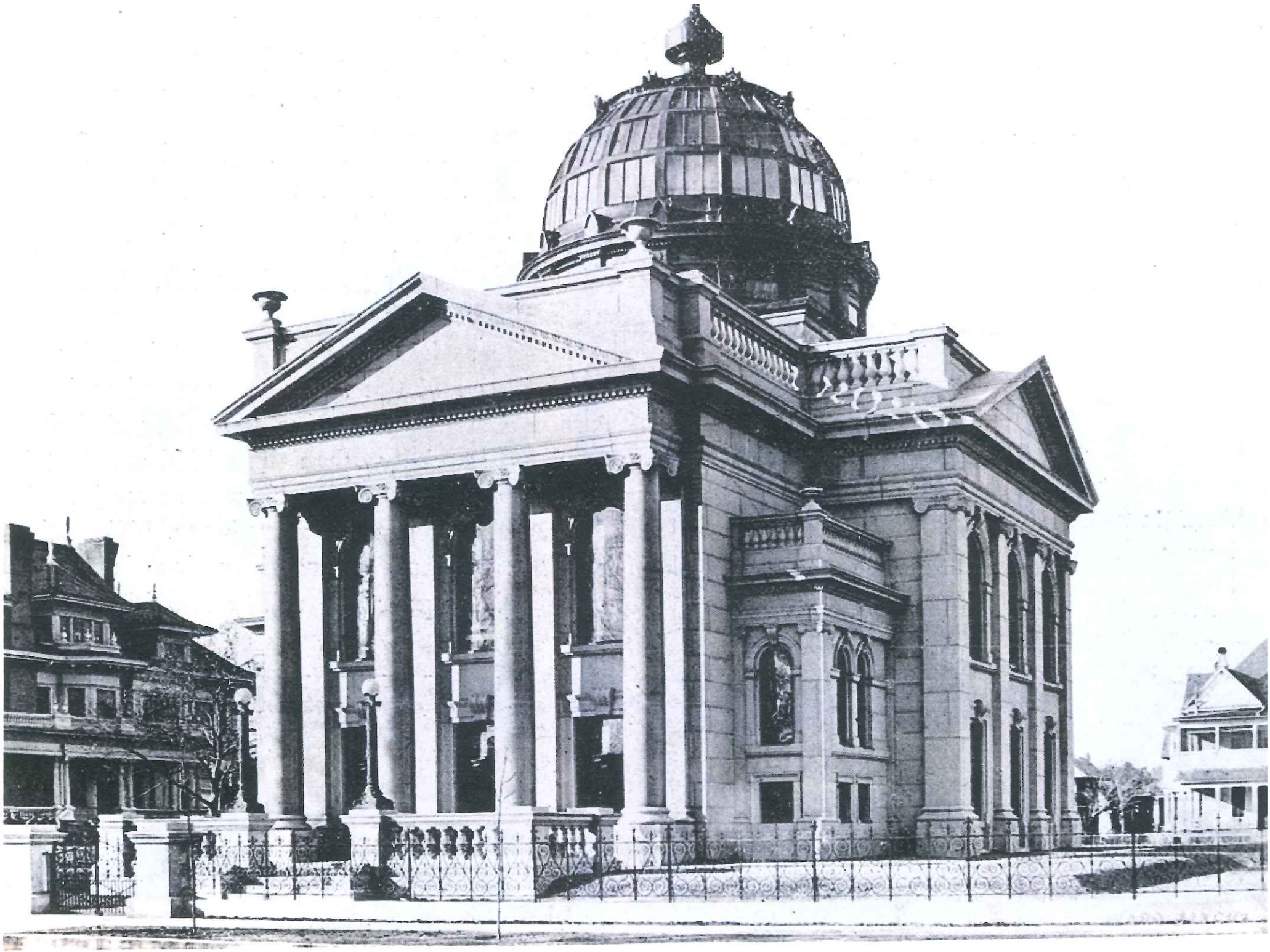
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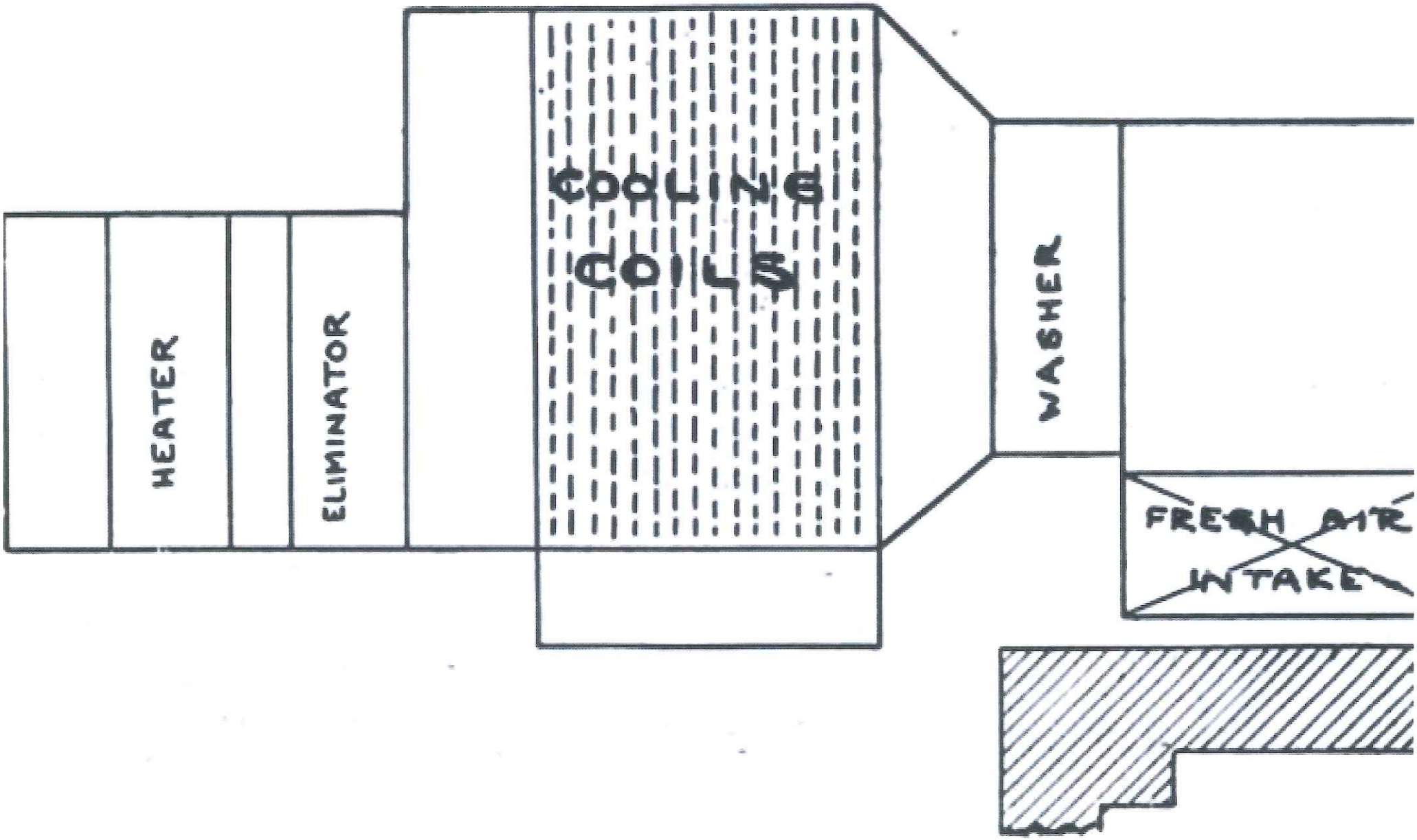
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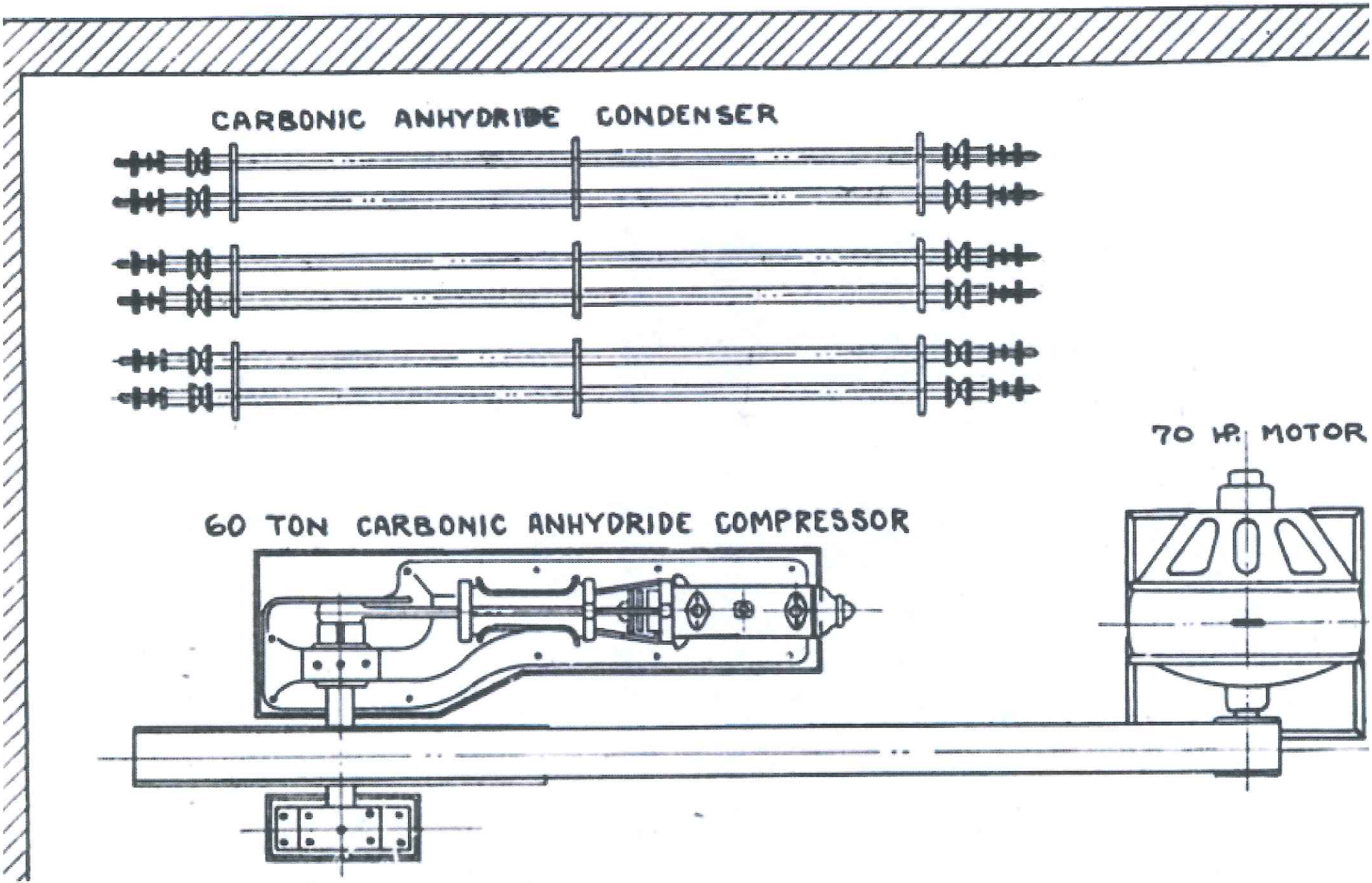
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——An ordinance has been introduced in the City Council, Cleveland, O., requiring the installation of pressure gauges on all compression machines in refrigerating plants.





-PLAN OF AIR WASHER AND COOLER, LUTCHER MEM.



G. 3—CO_2 COMPRESSOR AND CONDENSER, LUTCHER MEM. CHUR

Excerpts from Kroeschell Engineering Company History July 14, 1958

1896: In this year the Kroeschell Bros. Ice Machine Co., was incorporated to design, manufacture and install a full line of refrigeration compressors, together with related equipment, using Carbon Dioxide as a refrigerant. The Julius Sedlacek Austrian patents were purchased, which covered mainly the special stuffing boxes required for high pressure CO2 (roughly 1,200 pounds [sic PSIG], and a complete machine shop was installed. Kroeschell thus were pioneers, becoming the first company, in America to design, manufacture and install CO2 refrigerating equipment in sizes from one to 25O tons capacity, including both horizontal and vertical compressors, together with condensers, chillers, CO2 gas collecting plants, etc.

1901: In this year, the company launched into the marine refrigeration with installations on ships of every size and description. Originally, the compressors were all steam driven. The Kroeschell were the first in the field to offer a completely self-contained, factory-assembled unit.

1903: In this year Kroeschell Bros, Ice Machine Co., designed and built equipment for candy factories, blowing air with fans through coolers consisting pf prime surface extra heavy coils with baffles in sheet metal housing for chocolate dipping rooms; and storage. With this application Kroeschell again were pioneers in the United States for cooling with air.

1906: In this -year, which was very important to the Kroeschell Bros, Ice Machine, a contract was entered into with the Congress Hotel Company; to design, build and install an air cooling system, including compressors, condensers, fans, air cooler, and sheet metal ducts for their Pompeian and Gold Rooms. To the best of our knowledge, this was the first system of its kind designed for comfort cooling to be installed in the United States. Incidentally, this system was in continuous use until the end of World War Two. In the same year we obtained the order to install a complete air cooling system in the Lutcher Memorial Church in Orange, Texas (1)

Inevitably, the first big impetus to air cooling occurred in 1919, when Balaban & Katz, followed by other national theatre chains, entered into a mad race to cool their theatres. In this period, Kroeschell were the leaders in this field and closed contracts in all parts of the country and abroad.

From the time the Ice Machine Company was started, all types, of C02 installations were made, especially where CO2 as a refrigerant was desirable. These jobs included hotels, restaurants, hospitals, cold storage for the food industry, bottling plants, small breweries, candy factories, drinking water circulating systems, special industrial work, marine work, etc.

ICE and REFRIGERATION June, 1914 CHURCH COOLING.

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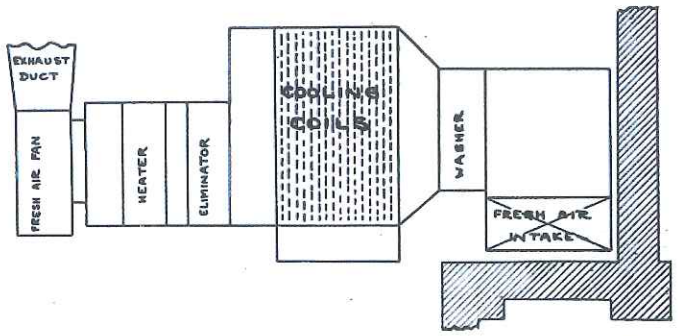


FIG 2—PLAN OF AIR WASHER AND COOLER, LUTCHER MEM. CHURCH.

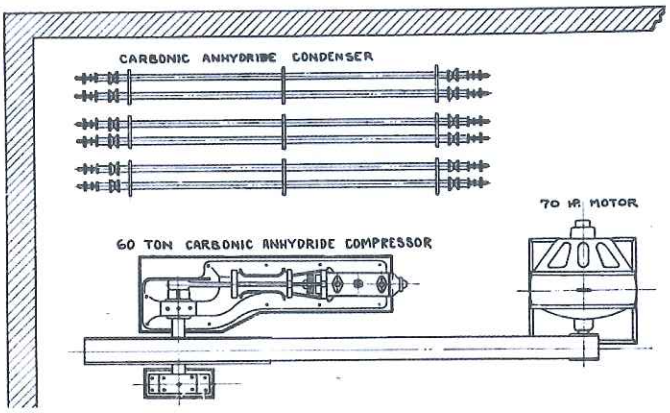


FIG. 3—CO_2 COMPRESSOR AND CONDENSER, LUTCHER MEM. CHURCH.

Continued Excerpts from Kroeschell Engineering Company History July 14, 1958

1922 In this year the Kroeschell Brothers Company and the Kroeschell Bros. Ice Machine Co. merged with Brunswick Refrigerating Company of New Brunswick, N.J., manufacturers of small and medium sized ammonia, compressors, related equipment, coils, etc. The result of this consolidation was the Brunswick-Kroeschell Company, and construction was started on a large factory in Chicago at 4221 Diversey Ave.

1931: In this year the Brunswick-Kroeschell Company entered into a merger with the Carrier Engineering Co. of Newark, N.J., and the York Heating & Ventilating Co., of .Philadelphia, Pa., forming, Carrier Corporation.

1932: In November, 1932, Robert and Paul Kroeschell, Arnold Goelz and Hans Stade, resigned from the Carrier Corporation and incorporated the Kroeschell Engineering Co. Simultaneously, several Kroeschell associates of many years' experience joined the Kroeschell Engineering Co., among them Harry Coesfeld and Wm. Christmann, who are now Vice Presidents of Kroeschell Engineering Co.

FRED WITTENMEIER, DECEASED.

ONE of the pioneers in the development of the carbonic refrigerating machines, in the person of Fred Wittenmeier, passed away at his home in Chicago March 19, 1928.

Mr. Wittenmeier was born in Zweibrucken, Germany, May 30, 1863, and came to this country in 1881, settling in Chicago in 1885. He had obtained a thorough mechanical training in Germany and was engaged in the steam fitting business until 1896 when he joined Kroeschell Bros. Co. who, at the time, were in the boiler manufacture and steam fitting business only.

In collaboration with others, Mr. Wittenmeier experimented with the CO_2 ice machine and developed it into a commercial success, starting the Kroeschell Bros. Ice Machine Co. in this phase of their business. In 1900 the carbonic machine was commercially unknown in this country and most of the credit for its successful development to the present time must be given to him.

He continued as head of the Kroeschell Bros. Ice Machine Co. until 1917, at which time he founded the Wittenmeier Machinery Co., devoted to the exclusive manufacture of carbonic refrigerating machines and apparatus. He was active in the business until five weeks before his death and will, undoubtedly, be missed by his many friends throughout the country.

GRANDFATHER HERMAN KROESCHELL - BORN 9-5-1819 - GOOBEN GERMANY
HIS FATHER WAS CARL ALEXANDER KROESCHELL - HERMAN HAD 1-BROTHER ALBERT 1-SISTER FREDERIC

CR 789

CR 789

KROESCHELL SINCE 1879

A BRIEF HISTORY (DICTATED HURRIEDLY FROM MEMORY)

GRAND PARENTS OF HERMAN WERE GEORGE CHRISTIAN CARL HENSCHELL & FREDERIC

1879 Four brothers - Charles, Albert, Otto and Herman Kroeschell, founded Kroeschell Bros. Co., a corporation to design, manufacture and install boilers, and engage in a broad line of steam fitting work. Charles was a boilermaker; Albert and Otto were steamfitters: Herman was a business executive. Operations were started in a small shop with 10 or 15 mechanics, on what was then known as Michigan Street (now Hubbard St.) near Wells.

From this modest beginning, the Kroeschell business prospered, and grew and within a few years, property was purchased at the corner of Erie and Townsend Streets, where a basement and one-story Boiler and Pipe Shop was built.

Shortly thereafter, an existing three-story and basement building at the corner of Erie and Kingsbury Streets was purchased, giving Kroeschell Bros. Co. the entire block.

At this time some machine tools were installed for the manufacture of large, flanged, cast iron pipe fittings which Kroeschell used for their own requirements. They had their own pattern shop and bought the rough castings from foundries in the neighborhood.

The company designed and built a broad line, including all sizes of water tube, fire box, combination fire and water tube, and water or steam green-house boilers, supplemented later with a line of high-pressure, vertical bent-tube boilers. In addition, they designed and fabricated a line of

FROM: KROESCHELL ENGINEERING CO. CHICAGO 1/19

steam separators, hot water heaters, tanks of every description, large filters, steel stacks, breechings, etc..

This was all before the days of the automobile, and Kroeschells acquired property and built a large stable at the corner of Webster Avenue and Burling Street. This stable housed some 40 horses and various wagons and skows with which they did their own hauling.

1896 In this year, the Kroeschell Bros. Ice Machine Co., was incorporated to design, manufacture and install a full line of refrigeration compressors, together with related equipment, using Carbon Dioxide as a refrigerant. The Julius Sedlacek Austrian patents were purchased, which covered mainly the special stuffing boxes required for high pressure CO_2 (roughly 1200 pounds), and a complete machine shop was installed.

Kroeschells thus were pioneers, becoming the first company in America to design, manufacture and install CO_2 refrigerating equipment in sizes from one to 250 tons capacity, including both horizontal and vertical compressors, together with condensers, chillers, CO_2 gas collecting plants, etc..

1901 In this year, the company launched into the Marine refrigeration field, with installations on ships of every size and description. Originally, the compressors were all steam driven and Kroeschell were the first in the field to offer a completely self-contained, factory-assembled unit.

1903 In this year Kroeschell Bros. Ice Machine Co., designed and built equipment for candy factories, blowing air with fans through coolers consisting of prime surface extra heavy coils

with baffles in a sheetmetal housing for chocolate dipping rooms and storage. With this application Kroeschells again were pioneers in the United States for cooling with air.

1906 In this year, which was very important to the Kroeschell Bros. Ice Machine Co., a contract was entered into with the Congress Hotel Company, to design, build and install an air cooling system, including compressors, condensers, fans, air cooler, and sheetmetal ducts for their Pompeian and Gold Rooms. To the best of our knowledge, this was the first system of its kind designed for comfort cooling to be installed in the United States. Incidentally, this system was in continuous use until the end of World War Two.

In the same year we obtained the order to install a complete air cooling system in the Lutcher Memorial Church in Orange, Texas.

1908 In this year Kroeschell installed unit coolers with refrigeration cycle aboard the U.S. Battleship Ohio, for the storage of smokeless powder.

We also installed an air cooling system in the Larkin Co. office building in Buffalo, N.Y. Frank Lloyd Wright was the Architect for this building.

Following this, we obtained many orders for air cooling systems, such as the Ritz-Carlton Hotel in New York City, and the original Bismarck Restaurant, Marigold Gardens, States Restaurant, Wintergarden Restaurant, Stillsons Restaurant, etc., in Chicago.

Air cooling was in its infancy . . . the name "Air Conditioning" had not as yet come into use.

1919 Inevitably, the first big impetus to air cooling occurred in 1919, when Balaban & Katz, followed by other national theatre chains, entered into a mad race to cool their theatres. In this period, Kroreschell were the leaders in this field and closed contracts in all parts of the country and abroad.

1910 By 1910, and thereafter, both the Ice Machine and Boiler Co. were going ahead full blast. In plant facilities we were, figuratively speaking, bursting at the seams.

1917 The Marine business was increasing by leaps and bounds. Existing passenger ships, freighters, Naval vessels, and ships of every description were installing our CO_2 equipment. During World War One we received orders for installations on practically every ship afloat and under construction in shipyards on the Great Lakes, including the 5500-ton Emergency Fleet Freighters.

We also received a steady flow of orders from shipyards on both East and West Coasts, including the Navy shipyards.

From the time the Ice Machine Company was started, all types of CO_2 installations were made, especially where CO_2 as a refrigerant was desirable. These jobs included hotels,

restaurants, hospitals, cold storage for the food industry, bottling plants, small breweries, candy factories, drinking water circulating systems, special industrial work, marine work, etc.

1923
1922 In 1922 the Kroeschell Brothers Company and the Kroeschell Bros. Ice Machine Co. merged with Brunswick Refrigerating Company of New Brunswick, N.J., manufacturers of small and medium sized ammonia compressors, related equipment, coils, etc. The result of this consolidation was the Brunswick-Kroeschell Company, and construction was started on a large factory in Chicago at 4221 Diversey Ave. This consisted of a modern machine shop, boiler and tank shop, pattern shop, power plant and 2-story office building, and this, together with the New Brunswick, N.J. plant, gave the Company excellent modern facilities.

1928 KROESCHELL BOILER TAKEN OVER BY CARL K. LAUTENSCHLAGER.

1931 In this year the Brunswick-Kroeschell Company entered into a merger with the Carrier Engineering Co. of Newark, N.J., and the York Heating & Ventilating Co. of Philadelphia, Pa., forming Carrier Corporation.

1932 In November, 1932, Robert and Paul Kroeschell, Arnold Goelz and Hans Stade, resigned from the Carrier Corporation and incorporated the Kroeschell Engineering Co. Simultaneously, several Kroeschell associates of many years' experience joined the Kroeschell Engineering Co., among them Harry Coesfeld and

Wm. Christmann, who are now Vice Presidents of Kroeschell Engineering Co. Later on John LeComte and Tom McCarthy joined our organization and subsequently each were elected to the office of Vice President.

Essentially, Kroeschell Engineering Co. is composed of a professional group of engineers, engaged in the design of, and acting as general contractors in the thermal field specializing in mainly large commercial and industrial air conditioning, heating, and process and power piping jobs.

The organization consists of a Board of Directors and Officers all of whom are actively engaged in the business, augmented by a compliment of project engineers, senior engineers, junior engineers, purchasing department, accounting department, required clerical help, etc.

Plumbing, sheetmetal and temperature control work are included in our work as subcontracts.

The Company operates a Machine Shop principally for repairs, and an outstanding Service Department staffed by experienced mechanics which is in operation 24 hours a day, Sundays and holidays included.

The officers are as follows:

R. A. Kroeschell, Chairman of the Board
P. H. Kroeschell President AND TREASURER
H. A. Stade, Executive Vice President
W. F. Christmann, Vice President
H. M. Coesfeld, Vice President
J. LeComte, Vice President
T. F. McCarthy, Vice President
V. FERSON, SECRETARY

Kroeschell Engineering Co., formed in 1932, is a well-known organization of men with broad experience in the design, manufacture, installation and servicing of commercial and industrial air conditioning, boilers, heating, refrigeration and piping systems.

This Organization is a continuation of the former Officers and Design Engineers of Kroeschell Brothers Co., Boiler Manufacturers and Piping Contractors, established in 1879, Kroeschell Brothers Ice Machine Co., Manufacturers of CO2 Refrigerating Equipment, established in 1896, Brunswick-Kroeschell Co., through merger in 1922, Brunswick-Kroeschell Division of Carrier Corp. through merger in 1931, and the present Kroeschell Engineering Co.

Mr. Robert A. Kroeschell, Chairman, is of the second generation of the original founders. Mr. Hans A. Stade, President and Treasurer, joined Kroeschell Brothers Ice Machine Co. in 1919.

Excerpts from Kroeschell Engineering Company History July 14, 1958

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History of church windows through art can bring a person closer to God

December 19, 2012 Local Church News

Many years may have passed, but the inside of the First Presbyterian Church remains a snapshot in history when the opulence and glory of the early 1900s is frozen in time.

Construction started on the towering pink granite building began in 1908 and took more than three years to complete.

The stained-glass windows are not something which can simply be talked about, but must be seen, said Kyle Hood, tour guide of the church.

After walking through the front doors, guests are met with a grand stair case of carved marble. The Italian marble was installed by craftsman from Italy. Along the stairwell there are angels in the opalescent stained glass. The stair windows from the lower foyer to the upper foyer draw on the Sir Edward Conley Burne-Jones' work "Angel Stairway" for their inspiration.

At the top of the stairs overlooking the entrance down below are the three famed stained glass windows which are said to have been the starting point for the church.

Frances Ann Robinson Lutcher was married to Henry Jacob Lutcher. He was a butcher and a mill owner in Pennsylvania, Louisiana and Texas. Together they had two daughters Mariam and Carrie. Mariam would later marry William Henry Stark while Carrie would marry E.W. Brown.

Mrs. Lutcher and her two daughters attended the Chicago's World Fair in 1893. It was there they saw the three-prize-winning works of Fredrich Lamb and his sister Ella of the J&R Lamb Studios. They were purchased and stored in New York until the day they would be needed. It is not known if there was already a plan to have a church built in Orange, but the windows were definitely a start.

The church building was planned, built and underwritten by Frances Ann Lutcher as a memorial to the Henry Jacob Lutcher family and as a result was named the Lutcher Memorial. She never divulged the costs of the structure, but upon completion established an endowment to provide for the maintenance costs. In addition, The Carrie Lutcher Brown Foundation was established in 1942 by Edgar and Lutcher Brown in memory of their mother. This foundation in conjunction with the original endowment by Mrs. Lutcher continues to maintain the building.

The church, no matter how it started, was built to glorify God with everything the finest of its' type from the Italian marble stairs and banisters and mahogany pews, columns, doors and wall areas from Honduras to the 48 stained glass windows throughout the structure.

James Oliver Hogg, an architect from Kansas City, Mo. was commissioned to oversee the project under the direction of Mrs. Lutcher.

The central window symbolizes religion. It shows an unknown person sitting in a chair holding a Bible, but standing behind them is Michael in blue armor to war against the evil in the world with his followers on the window to the east symbolizing The Church Militant. Gabriel is also standing behind him with his followers to the west window which symbolizes The Church Triumphant. The theme of The Church Militant and the Church Triumphant is continued in the front of the sanctuary on the hymn boards.

Above the doors entering into the sanctuary are tall glass panes. They are intricately designed with clear glass but in the middle of each section are the traditional symbols of the four Evangelists. There is St. Matthew which is a winged man to remind people that Matthew begins his account with Jesus' human genealogy. Then there is St. Mark which has a winged lion to remind people of the nobility, strength and kingship of Christ portrayed in Mark's gospel. A winged ox represents St. Luke to symbolize Christ's sacrificial death. Finally, there is the winged eagle of St. John to remind people of John's gospel which soars in affirming the deity of Christ.

On either side of the entrance are two leaded windows with scripture verses in gold.

Seen throughout the church is the egg and dart and the bead and reel which collectively symbolize birth and death and to serve as a reminder "man is mortal."

The story of Jesus is told by the artwork of the windows which weigh about 1,000 pounds each. The artist chose subjects from oil paintings in Europe. They were not historical people, but of their day. The technique of making opalescent stained glass is an American invention by John Lafarge.

"Stained glass is a living art," Hood said. "It needs the light."

Each window of vibrant colors are from two to four layers of glass which is then placed into a kiln and fired together to give it the special effect. OSG contains metallic oxide which gives it the color depth. However, the secret to the unique process was forever gone when Frederick Lamb died. Since then the process has not been successfully duplicated. Some of the parts were painted such as the faces with lifelike details.

The story of Jesus begins with the window, the Annunciation. It features the Arch Angel Gabriel telling Mary she will be the one to carry Jesus.

The second window is The Holy Family which was painted by Fuerstein. Painters began their trades by copying old paintings to learn the techniques. The infant Jesus is vibrant as the afternoon sunlight brightly glows due to the opalescent glass. Each face has a look of adoration, calmness and peacefulness.

Jesus at the age of 12 is on the next window of the story. A copy of the painting hands in a museum. Jesus' family has just been to Jerusalem for Passover. Mary's face show relief while the Pharisees are wondering who the child is. Their headbands shimmer in the sunlight. In the background is a circumcision ceremony in a temple. The ornate walls of the temple are decorated with many crosses.

The fourth window is the Good Shepherd window. It was done by Sibyl Parker. It was the only window done by a woman artist. There are many Christian symbols in the window such as; the cross formed by wooden beams, grapes for communion, doves representing the baptism and the Holy Spirit, the crown of thorns, the pierced hands and feet of Jesus, the open door inwardly beckoning one to enter in, and the sheep. Jesus is depicted holding a lamb which is just as important to the many others even though he may be lost.

Instead of Jesus on the cross, the next window depicts the trial of Jesus when Pontias Pilate authorized the crucifixion of Jesus. In the Bible, she approaches her husband telling him Jesus is an innocent man. The window depicts her coming down some stairs and being comforted by an angel. Jesus is seen in the background. However, what sets this window apart is there are three men which are not of Jesus' time. One of men is John Calvin who was an influential French theologian and pastor during the Protestant Reformation. He was a principal figure in the development of the system of Christian theology which was later called Calvinism. Originally trained as a humanist lawyer, he broke from the Catholic Church around 1530. There is also John Knox who founded the Presbyterian Church. Martin Luther is also seen and was a German monk, priest, professor of theology and important figure of the Protestant Reformation.

Finally, to complete the story, there is The Assention which shows Christ's resurrection.

From the outside of the church, a copper dome which was installed in the 1950s can be seen which has oxidized to the color green. It covers which was once a glass dome. It is the only opalescent glass dome in the Unites States. From the inside the 36-foot glass dome is comprised of 16 angelic figures bearing a Christian symbol. Starting counter clockwise from the pulpit, there are the Scroll and Quill, Canticle, Church building, Cross, Chalice, Scepter, Dove, Lamb, Lyre, Organ, Open Bible, Stone Tablets, Sword, Scales, Psalms and Lilies.

In the fellowship hall beneath the sanctuary which was originally used for the Sunday school class rooms there are still more stained glass windows. On the west side is the Flight into Egypt and Madonna with Jesus and St. John. The east side of the building has Jesus In the Carpenter's Shop and Jesus Blessing the Children.

The building is on the National Register of Historic Places and has been a landmark in the city for a century. The church is one of the leading tourist destinations in the county because of its priceless Victorian Era stained glass windows.

Visitors are given a tour by appointment and are welcome to attend services Sunday mornings. For more information call 409-883-2097.

Pictured:
The pastor of the First Presbyterian Church takes a moment to gaze at one of the 48 stained glass windows in the church called The Holy Family.

1st Presbyterian Church Orange, Texas Air Conditioned in 1912 by Buffalo Forge & Willis Carrier

By Mike Louviere



Frances Ann Robinson Lutcher

Frances Ann Robinson was born on October 17, 1841 in Pennsylvania. She married Henry Jacob Lutcher on January 23, 1858. With their two daughters, Miriam Melissa and Carrie Luna, they moved to Orange Texas in 1878. Frances Ann Robinson Lutcher would become the lady that ensured that Orange would always have a unique place in history.

She became a philanthropic lady. She and her husband acquired great wealth through the Lutcher and Moore Lumber Company. Sometime in the years after her arrival in Orange she developed the idea of building a church. The church would be a great edifice to glorify God and also serve as a memorial to the Lutcher family.

She was a member of the Presbyterian Church. The first Presbyterian church in Orange had been established in 1878 when nine members of the church petitioned the Presbytery of Eastern Texas for permission to gather as a congregation and build a meeting place. The first building was a white frame building on the corner of Market and Polk Streets.

The church had grown and needed to expand and Lutcher began to plan the new church.

Lutcher and her two daughters had gone to the 1893 Chicago World's Fair and purchased three stained glass windows. One window depicts a man sitting in a chair holding a Bible. Michael the Militant appears on the left and the angel Gabriel is on the right. In effect the church would be planned around these three windows.

More stained glass was purchased at the Columbian Exposition in 1896.

The overall design of the church would be classic Greek Revival architecture. The church would feature a 36 foot diameter opalescent glass dome, the only transparent dome in the nation.

The pink granite would be quarried and dressed in Llano, Texas, and the white, living, marble would be imported from Italy.

The stained glass, the opalescent glass dome and the imported marble would be enough to construct a magnificent church, but Lutcher had learned of a new invention.

In 1902, one year after he graduated from Cornell University, a young engineer named Willis Haviland Carrier had invented an "Apparatus for Treating Air". A printer in a printing plant in Brooklyn, New York was having problems with the heat and humidity causing the paper to slightly shift. This would throw off the printing process and cause misalignment of colors in color ink printing.

Carrier, a new employee of Buffalo Forge Company, earning $10 per week had solved the problem. He developed a way to control humidity while lowering temperature in a stable manner. The patent for his process was awarded in 1906.

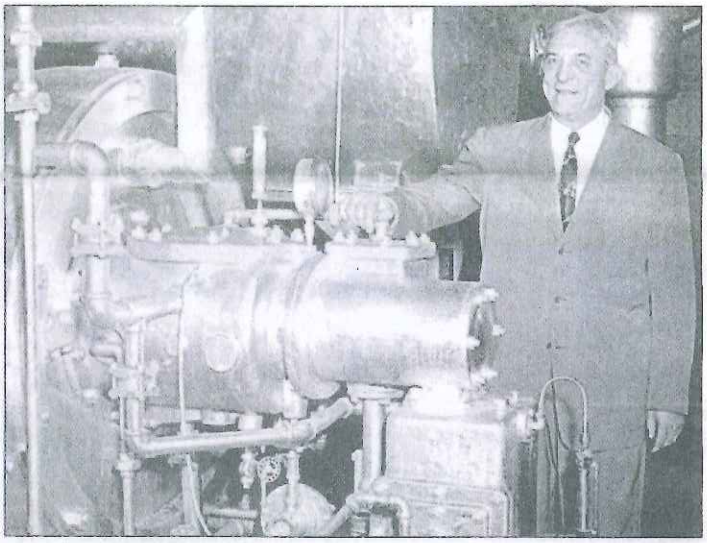
In 1906 another engineer, Stuart H. Cramer developed a system for controlling air in textile plants with a device that added water vapor to the air. Cramer called his process "air conditioning." Carrier adopted the term for his system as well.

Carrier was such an advanced engineer that his calculations, Rational Psychrometric Formulae, developed in 1911 are still in use by the air conditioning industry today.

When Lutcher learned of the new air conditioning system, she contacted the Buffalo Forge Company and ordered a system for the new church.

The design of the church incorporated air conditioning. The windows were not constructed to be opened.

Construction on the church began in 1908. Orange was a small town with limited utilities. The town would not be able to produce enough electricity to power the new church



with its air conditioning system. At the rear of the church a two story power plant would be built to house the coal fired steam generator for electric power and the large air conditioning unit.

The early air conditioning systems were reciprocal, using pistons to force the air through the cooling coils and into the duct system in the church. They were also large and dangerous, using ammonia as a coolant. It was necessary to hire a Carrier engineer to live in Orange for the single purpose of operating the power plant and air conditioner.

The power plant and the church would be connected with large underground copper piping to serve as the ducts for the cool air and a set of underground conduits for electric service to the church.

The ducts came into the basement and then into the floor of the downstairs fellowship hall and into the walls to the ceiling of the sanctuary. The original duct system in the church is still in service.

The church would become the first air conditioned public building west of the Mississippi River when it was dedicated in 1912. It was one of only two or three air conditioned churches in the nation.

In 1914 the Buffalo Forge Company changed its focus and moved exclusively into construction. Carrier left and formed his own company, the Carrier Engineering Corporation, in 1915.

In 1921 Carrier developed a "centrifugal chiller" that was more efficient and smaller than the piston driven systems. Dilene, dichloroethylene, a safer coolant fluid had been developed, making for a safer system. It was no longer to use the dangerous ammonia. In 1928 Freon was produced, making air conditioning even safer and more efficient.

There was an upgrade to the church's system in 1928. A centrifugal system and new coolant was installed. There was another upgrade to the system in 1944.

The glass dome was covered with copper in the 1940s, possibly having something to do with the World War II. In the 1950s there were some leaks in the dome and the windows. The leaks were repaired and a new copper dome was installed.The original intent was to keep the copper polished. However the bright dome caused a reflection and glare that caused airplane pilots to have problems, so the copper was allowed to gain a green patina.

Over the years the dome has been the climbing goal of some of the more adventurous Orange youth. The view from the top is said to be outstanding.

Lutcher's memorial church stands in the city like a cathedral.

It is truly a treasure. So much that she chose was so advanced that there has been little need for replacement. There has only been the need for maintenance, or occasional repair.

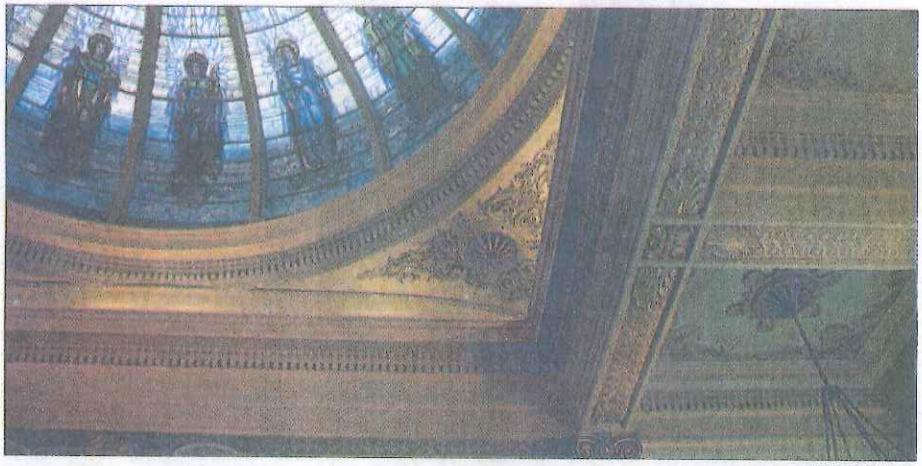
She even gave an endowment for the upkeep of the church. Since her original endowment family members have added additional funds.

There is a staff of docents at the church and tours may be arranged by calling the church office: 409-883-2097

BON TEMPS

1C Weekend, July 7-8, 2012 orangeleader.com

Mrs. Lutcher's Church is Orange's Treasure



Leader photo by Mike Louviere

Each of the air conditioning ducts was installed when the church was built 1908-1912. They have emained in constant use. Each of the ceiling lights in the Presbyterian Church hangs from the center of a duct. Below right is Willis with his centrifugal chiller, developed in 1922.

The church construction was started in 1908 with the air conditioning being installed and the church was dedicated in 1912. [1]

BIBLIOGRAPHY

(1) By Mike Louvievere as published in the Bon Temps, July 7-8, 2012; Photos and Text downloaded from orangeleader.com

100th anniversary for air conditioning in Orange

August 7, 2012 Orange County News

The summer heat may be sweltering but those wanting to escape the heat have been able to do so for 100 years in Orange with the first public building in the south, the First Presbyterian Church, to have the luxury in August 1912.

In 1902, a year after Willis Carrier graduated from Cornell University with a masters degree in engineering, he landed a job at a printing company in New York. They paid him $10 a week. However, the company was struggling with the heat and humidity which caused the colors to run. Carrier invented a device which made printing possible and made him a very valuable employee. The invention controlled the temperature. Carrier later went into business for himself and was contacted by Frances Ann Lutcher to install air conditioning in the First Presbyterian Church.

The church was organized in April 1878 under the guidance of Dr. W.H. Vernor and Dr. R.H. Byers. The first church building was located at Market and Polk Streets. The current building was planned, erected and paid for by Frances Ann Lutcher. She wanted to build the church as a memorial to the Henry Jacob Lutcher family and it was named the Lutcher Memorial Church Building.

Frances Ann Lutcher took it upon herself to do all the planning and choosing of the windows herself. An architect from Kansas City, Mo., James Oliver Hogg, was hired for the design. The granite is a native Texas stone and comes from Llano. However, the marble is from Italy. Construction began in 1908 and the glorious structure was completed in 1908. It was formally dedicated in January 1912.

The plans for air conditioning was not without hurdles to overcome. But, when there is a will, there is a way.

Church records have been lost over the years and it is not certain which system was first used at the church. But, it is believed since Carrier held a patent on an air conditioning system which used ammonia, this was the first system installed in the church. However, it was toxic and highly flammable. Also under consideration is the first air conditioning unit may also have been a system which used water and carbon dioxide. This system would have worked similar to the unit with ammonia, according to Record archives.

In addition, electricity would have been a problem. The air conditioning system would have taken two-thirds of the power available in Orange. The solution was to build a power source just for the church.

Carrier built a powerhouse which was built behind the main church building. Crews installed a 200 horsepower engine which ran on crude oil.

A newer air conditioning system was installed in the church in the late 1920s. As the years rolled by, another unit was installed in the 1950s. Eventually, a 50 ton unit was implemented and still keeps the church cool and visitors comfortable.

Some of the original duct work and piping are still used in the church as part of the current Carrier system. However, some things have changed. The powerhouse where the chief engineer once lived on

the top floor now serves another purpose. The remainder of the powerhouse such as the top three floors was removed many years ago.

Through-out the entire project, Frances Ann Lutcher kept costs a secret which also remains in effect to this day. To make sure the building was maintained properly and church members would not be burdened with upkeep, she set up an endowment, according to Record archives.

Few records are left of how the structure came to be. Only a few drawings remain. But, the church still stands as one woman's plan to leave a memorial for future generations while enjoying a little comfort as they gather during the long hot summers of Orange.

A UNIFIED HISTORY OF THE LUTCHER MEMORIAL CHURCH BUILDING

by
R. B. Johnson
701 W. Cypress Ave., Orange, Texas

In 1893, at the First World's Fair in Chicago, Illinois, a dream was realized in the heart and mind of Mrs. Henry Jacob (Frances Ann) Lutcher, of Orange, Texas. While attending the national event with her two daughters Mrs. Miriam Lutcher Stark and Mrs. Carrie Lutcher Brown, Mrs. Lutcher became enamored with, and purchased, the Fair's three prize, leaded-artglass windows. The windows were stored in New York City until the year 1908, when Mrs. Lutcher made possible the building of a church in Orange, Texas, in which the three windows would be used as the central art theme in its design.

Born Frances Ann Robinson in Windsor, Canada, October 17, 1841, as a young woman she was married to Mr. Henry Jacob Lutcher (born November 4, 1836) in Williamsport, Pennsylvania. To the couple was born two daughters, Miriam (1859) and Carrie (1861). In the year 1879 the family moved to Orange, Texas, where as head of The Lutcher & Moore Lumber Company, Mr. Lutcher amassed a fortune in the lumber industry of southeast Texas and southwest Louisiana. He and Mrs. Lutcher, a lady of social culture and Christian dedication, devoted their finest endeavors to their family, the church and the community in which they lived.

After a long and fruitful life, Mr. Lutcher died October 3, 1912; Mrs. Lutcher, on October 21, 1924. Both Mr. and Mrs. Lutcher are buried in Orange, in the family mausoleum in

Evergreen Cemetery.

Early in the 1900's Mrs. Lutcher contracted to have built the church structure to be known as the First Presbyterian Church, Lutcher Memorial, of Orange, Texas, as a memorial to the Lutcher family. For the design and construction of the building, she engaged the services of the architectural firm of James Oliver Hogg, Kansas City, Missouri.

Located on Lots 1, 2, and 3, Sheldon Survey, Block 41 in the City of Orange, Orange County, Texas, on the corner of Green Avenue and Eighth Street[1] (in downtown Orange), the building faces south. It is 92'4" long, 69'10" wide and has an overall height of 104'; and has an underground foundation of 6'. Four marble columns 3' in diameter and 48' high form the front entrance. There is an outer dome 36' high which is capped by a copper cupola which reaches 15'. In addition to the utility basement, the two main floors have approximately 5800 square feet of floor space each.[2]

"There are several 'firsts' claimed by this church. According to an advertisement in one national magazine, 'air-conditioning was born in a church.' The memorial building was air-conditioned when completed in 1912 and also for a number of years maintained its own power plant building for lighting, heating

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1 Copy of deed from Mrs. Frances Ann Lutcher and husband to the Trustees of the First Presbyterian Church of Orange, Texas, dated the 27th day of January, A. D. 1912, and recorded in Volume 9, Page 468, Deed Records of Orange County, Texas.

2 Blueprint of construction plans, stored in the Pastor's Study, First Presbyterian Church, Orange, Texas.

and cooling purposes!"[3] The power generating plant still stands on the site immediately behind the main structure. The original cooling system was designed as an ammonia cooling plant, air being distributed throughout the building through ducts. These same ducts are still in use today. However, modern air-conditioning and heating units have replaced the original ammonia plant.

In the early twenties the church built its own private radio station for broadcasting its Sunday services, the first such radio station in any church, as claimed in the church records.

Among other materials used in construction of the church building were "living" marble imported from Italy and granite brought overland by rail from the Tiche Granite Works, Llano, Texas (a like granite to that used in the present State Capitol Building, Austin, Texas).

In addition to the foyer on the first floor of the church were Sunday School classrooms and a kitchen, with adequate pantry and storage space for china, glass and silver given by Mrs. Lutcher in a quantity sufficient to serve a congregation of approximately 200 people. Wooden partitions, to be raised or lowered according to need, made possible separate classrooms for instruction, and a small, raised platform acted as a stage for assembly plays, etc. Today this area is used as a Fellowship Hall for wedding receptions, church suppers and any small gatherings of the congregation.

All of the artglass windows of the church, both upstairs and

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[3] Newspaper article, The Orange Leader, April 2, 1953.

downstairs, were made by the J & R Lamb Studios of New York City (now located in New Jersey) and are protected by Lexan.[4] The process employed in crafting the windows required so much skill, time, and expense that the Studio has since discontinued their manufacture.

In the upper foyer of the building are the three art windows previously mentioned. The center window symbolizes "Religion"; the window to its left, "The Church Militant," and the window to its right, "The Church Triumphant." On either side of the entrance to the sanctuary are two leaded windows with Scripture verses in gold; and at the front of the sanctuary, the idea of "The Church Militant" and "The Church Triumphant" is further embodied in the bronze figures on the hymnboards.

Subjects of the six windows forming the west and east walls of the sanctuary are copies of famous art works, placed in logical sequence as follows: "The Annunciation" (Shields), "The Holy Family" (Feuerstein), "Jesus in the Temple" (Holman Hunt), "The Good Shepherd" (C. S. Parker), "Pilate's Wife's Dream" (Doré), and "Ascension" (Carlotti).

In the dome artglass, sixteen angelic figures are depicted bearing the symbols, attributes and offices of the Visible Church. The object in each angel's hand suggests the title. Starting counter-clockwise immediately over the pulpit, these are manuscripts, canticle, chapel, cross, chalice, scepter, dove, lamb,

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[4] Tradename of a clear, nonbreakable plastic. This protective material was a special gift of Mrs. Nelda C. Stark, widow of H. J. Lutcher Stark, grandson of Mrs. Lutcher.

music, organ, Bible, ten commandments, sword, scales, palms, and lilies.

Extensive, intricate mosaic work enhances the front of the pulpit, the inscriptions on the marble communion table and baptismal font, and the motifs decorating the robes of the figures grouped about the organ loft, as well as those bearing the crown above the pulpit.

Carvings and decorations on the ceiling and walls are overlaid with gold leaf and represent Christian symbols. These were also designed and crafted at the Lamb Studios in New York. Light fixtures and hardware are bronze, while the pews and wood paneling about the organ loft are of dark mahogany.

The original organ in the Lutcher Memorial edifice was installed at the time of the building of the church and was a three-manual Hope-Jones organ. This is said to have been the last organ built by Jones, an Englishman, before his death. In March, 1953, it was replaced by a 38-rank Cassavant organ, a three-manual instrument with 2435 pipes, built by the Cassavant Frerer Co. of Hyacinth, Quebec, Canada, and given by Messrs. Edgar and Lutcher Brown in loving memory of their mother Carrie Lutcher Brown.

In January, 1912, the building was complete and formally accepted by the congregation of the First Presbyterian Church of Orange. They never knew its cost, since it was the express wish of Mrs. Lutcher that the figures relating to its expense be neither recorded nor divulged, ever.

In the deed conveying the church building and land on which

it is built, it is stated that the "property so conveyed herein has upon it, now standing complete, The Lutcher Memorial Church, an edifice built for use in the religious services of the First Presbyterian Church of Orange, Texas, . . . or its successors in name and faith . . . but if at any time said property or any portion of the same should be used for any other purpose than for the religious services of said church or devoted to any other purposes or used for any other purposes, then this deed shall immediately become void, and of no effect and the property and all of the same herein conveyed shall immediately revert to the grantors herein or to their heirs or legal representatives . . . . .

"It is further expressly provided and made a condition of this deed that the seats in said church building at all church services shall be free and at no time shall any charge or rental be demanded or charged for the use of such seats or any of them at any of the ordinary services conducted in said church."

To endow the church, Mrs. Lutcher on October 18, 1912, gave $50,000.00, and on May 7, 1913, an additional $25,000.00, the principal sums of which were to "be kept untouched and unexpended by the trustees of the First Presbyterian Church of Orange, the owners of said Lutcher Memorial Church, and whenever said principal sum shall be collected the same shall be by said trustees reinvested in securities to be approved by them, interest bearing, and shall at all times be so kept invested, under the direction, care, control and supervision of said acting trustees and at no time shall said

principal sum or any portion thereof be expended for any purpose."[5]

Interest from such invested funds was to provide for the support, care of, and protection, as well as the complete and perfect repair of the Lutcher Memorial Church and buildings used in connection therewith, the grounds used in connection therewith, the fences around the same and the furniture and other things in the same and used in connection with the same; and if after said buildings and property has been kept in perfect repair, then any surplus remaining from said interest fund shall be used in the ordinary proper and current expenses of said church ... ."[6]

In December, 1942, an agreement between the First Presbyterian Church of Orange, Texas, and the Brown Paper Mill Company, Inc., of the State of Delaware, was entered into, creating the Carrie Lutcher Brown Foundation "to establish a fitting and suitable memorial in honor and memory of its co-founder" Mrs. Carrie Lutcher Brown, as a faithful and devoted charter member of the Lutcher Memorial Church who "during her lifetime frequently expressed the desire that said church be forever properly maintained and preserved ... ."

In said agreement the sum of $170,000.00 was given "for the use and benefit of said Lutcher Memorial Church," and "together with all other gifts, devises and bequests which may be made to said Foundation, or the Trustees thereof, and all increases therein and additions thereto, shall be held and administered, and the net income annually realized therefrom distributed and applied

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5 Copy of instruments signed by Mrs. Frances A. Lutcher, dated October 18, 1912 and May 7, 1913, attached.

6 ibid.

exclusively for the use and benefit of said Lutcher Memorial Church located at Green Avenue and Eighth Street . . . ."[7]

In these instruments one catches a glimpse into the foresight, business acumen, wisdom and understanding, as well as the high degree of spiritual discernment of the donors of these gifts. And through the years it has been both a joy and a privilege for the people benefitting from the family's generosity to glorify God and offer unreserved thanks for its liberality.

Modifications to the church building, in addition to the replacement of the organ already noted, include the placement in 1918 of a geodetic survey benchmark of elevation on the southeast corner of the building by U. S. Army Engineers, the installation in 1925 of a bronze plaque on the west wall of the main entrance in honor of the memory of Frances Ann Lutcher; and, on the east wall, a plaque containing the names of members of the church who entered the armed services during World War II, given by George S. Colburn, an elder in the church, in memory of his son Lt. Frank M. Colburn.

On May 2, 1948, electronic Schulmerich Chimes from Sellersville, Pennsylvania were dedicated. The chimes and property to the west of the church were gifts of the family of Mrs. E. W. (Carrie Lutcher) Brown.[8]

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[7] Carrie Lutcher Brown Foundation Agreement, dated Dec. 14, 1942, attached.

[8] Record of transfer of Lots 4-9, Block 41, Sheldon Survey (Dr. E. W. Brown Estate), dated 1947, City of Orange, Texas, on file at Orange County Courthouse.

In 1962, in observance of the fiftieth anniversary of the use of the building, the interior was redecorated by the Lamb Studios of New York, and in 1973 an elevator was installed.

The original organization of the congregation of the First Presbyterian Church of Orange, Texas, took place on April 6, 1878, with nineteen members participating. By 1892 the church file listed 52 members and 65 Sunday School pupils. The membership increased to 75 by 1897, and in 1912 there were 180 enrolled members. A membership list dated October, 1942, numbers 359; in 1950, there were 464 members, and currently (1977) the total number of communicants is 723.

Dr. W. H. Vernor, an evangelist and Dr. R. H. Byers served as commissioners of the Presbytery of Eastern Texas in the organization of the church in 1878, and Dr. Vernor remained as the church's spiritual leader until 1880, when the Rev. W. C. Wallace replaced him as a stated supply, to be followed by the Rev. J. D. Burkhead, an evangelist of the Presbytery, in 1882.

On July 1, 1883, the small group of worshippers dedicated their first church building, a frame structure erected on the corner of Market and Polk Streets, Orange. Served by the Rev. R. H. Head at this time as pastor, in its new home the church continued its faithful service. In the years following, men who provided spiritual leadership as pastors are Rev. R. H. Head (1883), Rev. J. M. Cochran (1886), Rev. J. G. Henderson (1889), Rev. H. Petry (1891), Dr. M. L. Frierson (1893), Rev. W. J. Sechrest (1895), Dr. T. J. Horne (1897), Dr. E. T. Drake (1907), Rev. I. H. Williams

(1951), and Rev. B. E. Gillespie (1958).

Throughout her 100-year history the church has gradually and consistently enlarged the scope of her spiritual and social influence in the community and in missions. Although the membership in 1912 was small, the members were very active. As reported in an article appearing in the Orange Leader (known then as The Daily Leader) on April 20, 1912, the Home Missions Committee recommended establishment of an infirmary at Indian Village, located in the edge of Polk County, midway between Livingston and Woodville, Texas, in a large wooded area. The recommendation was accepted and necessary funds were raised to implement the idea.

Through efforts of the Presbyterian Brotherhood of the Church, in 1917 a mission chapel was built on the corner of Fifteenth and Burton Streets in Orange which in 1949 became an independent church under the name of Drake Memorial Church. Yet another outreach of the church in its early years was the erection of a house of worship for communicants in the area of Orangefield, Texas, upon the opening of an extensive oilfield there.

Worldwide, also, the church has contributed much to missions. For many years two missionaries were supported in Korea: Robt. W. Wilson, M. D. at Kwangju, and Miss Georgia Hewson, a registered nurse, stationed at Mokpo. Presently, the congregation contributes to the support of the Rev. R. P. McCall and his family, of Hualien, Taiwan.

Trustees of the church have continuously administered with extraordinary diligence the care and maintenance of the building,

both exterior and interior, as called for by the Endowment and Foundation Agreements. The structure today is in complete and perfect repair, as may be clearly observed in the accompanying photographs.

It is the desire of the congregation of the First Presbyterian Church of Orange to have the Lutcher Memorial Church building declared a "Recorded Texas Historical Landmark" at the time of their centennial celebration in 1978 in order to document the worthiness of this magnificent building, one of the country's most beautiful examples of architectural art. Also, the desire is for recognition of the exemplary contribution this church has made to both the City of Orange and the State of Texas.

DOCUMENTARY ATTACHMENTS

(1). Copy of Minutes of Session Meeting January 2, 1912, authorizing calling of a congregational meeting for the purpose of considering the acceptance of the building erected by Mrs. H. J. Lutcher for a place of worship.

(2) Copy of Minutes of congregational meeting held in the First Presbyterian Church of Orange, Texas, on January 7, 1912.

(3) Copy of deed from Mrs. Frances Ann Lutcher and husband to the Trustees of the First Presbyterian Church of Orange, Texas, dated the 27th day of January, 1912, and recorded in Vol. 9, Page 468, Deed Records of Orange County, Texas.

(4) Copy of instrument signed by Mrs. Frances A. Lutcher, dated October 18, 1912, creating Endowment Fund in the amount of $50,000.00.

(5) Copy of instrument signed by Mrs. Frances A. Lutcher, dated May 7, 1913, creating Endowment Fund in the amount of $25,000.00.

(6) Copy of the Carrie Lutcher Brown Foundation Agreement, dated December 14, 1942.

(7) Copy of newspaper article dated March 10, 1953, The Orange Leader, Orange, Texas.

(8) Copy of newspaper picture (with caption), dated April 2, 1953, The Orange Leader, Orange, Texas.

(9) Four photographs, Lutcher Memorial Church building, exterior views.

(10) Four photographs, Lutcher Memorial Church building, interior views.

BIBLIOGRAPHY

Robert P. Turpin, Sec'y. of The Lutcher & Moore Lumber Company, Orange, Texas (Retired);
Elder and Past Clerk of the Session,
First Presbyterian Church, Orange, Texas

Nelda C. Stark, widow of H. J. Lutcher Stark (grandson of Mr. and Mrs. Henry Jacob Lutcher), Orange, Texas

Clyde V. McKee, Gen. Counsel,
H. J. Lutcher Stark Foundation, Orange, Texas.
(Oral interview, July 11, 1977)

The Rev. Ben E. Gillespie, pastor,
First Presbyterian Church, Orange, Texas

The Orange Leader Publishing Co., J. Cullen Browning,
Vice President and Editor, Orange, Texas

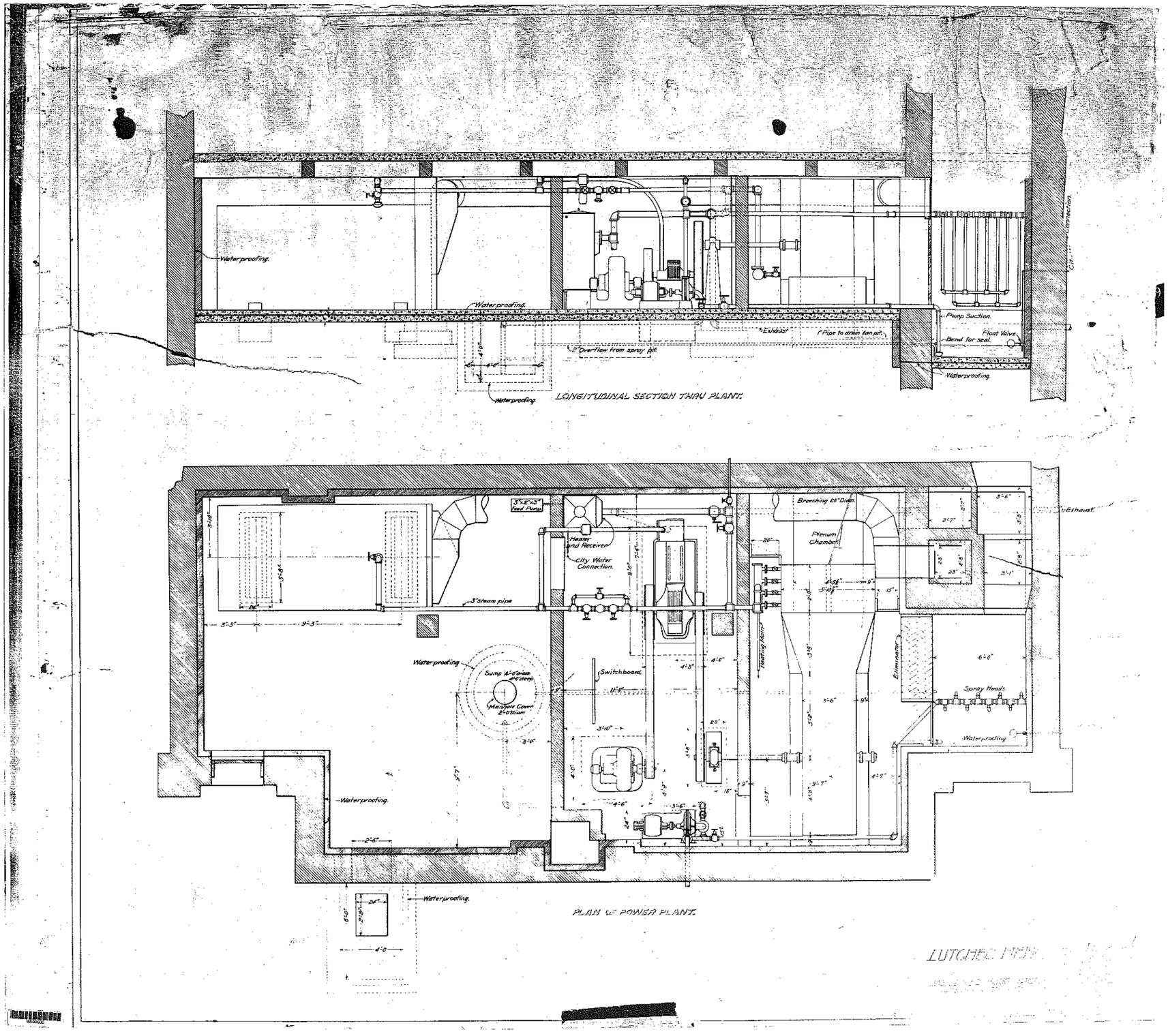
Mrs. Harry L. Sutton, author of a brief history of the Lutcher Memorial Church, copyrighted 1976, Orange, Texas

Mrs. Hobson Meriwether, elder, First Presbyterian Church,
Orange, Texas
(Oral interview, June 16, 1977)

R. B. Johnson, elder,
First Presbyterian Church, Orange, Texas
(Personal files)

For years, I've been under the impression that the first air-conditioning system installed in our church was designed by the Carrier Corporation. Last May, an engineering professor from the University of Massachusetts in Amherst visited our church. He's been on a sabbatical at U.T. – Austin for 1999-2000. He has a family history of refrigeration operations (his grandfather ran an ice plant). The professor (Karl Stephan) spent several summer months scanning through back issues of a trade journal entitled "Ice & Refrigeration". He found an article published in June 1914 which discussed the air-conditioning equipment at FPCO. It was designed and built by the Kroeschall Ice Machine Co. of Chicago. The article states that the Kroeschall equipment replaced the original ventilating system which proved to be unsatisfactory (air blown over large blocks of ice, as I understand). The article also includes a letter dated April 9, 1914 from E.T. Drake, Minister, commenting on how well the new system worked to achieve pleasant temperatures in the church in the summer time. The article doesn't state when the air-conditioning unit was installed, but apparently it was in 1913. The Lutcher Memorial Building was dedicated in January 1212. So – there you have it.

By Art Adamson June 28, 2000 FPCO Church Newsletter


Waterproofing.
Waterproofing.
Waterproofing.
2" Overflow from spray Aff.
Exhaust
1" Pipe to drain tan pit.
Pump Suction.
Float Valve.
Bend for seal.
Waterproofing.
City Water Connection.
LONGITUDINAL SECTION THRU PLANT.
3'-6"x2'-3" Feed Pump.
Heater and Receiver
City Water Connection.
3" steam pipe
Breeching 28" Diam.
Plenum Chamber
Exhaust
Heating Mains
Eliminator
Spray Heads.
Waterproofing
Sump 4'-6" diam. 24" steel.
Switchboard.
Waterproofing.
Waterproofing.
PLAN OF POWER PLANT.

Fresh Air Inlet to Auditorium

Sunday School Room Floor

Floor Beam

Impure Air from Sunday School Room

Fresh Air to Sunday School Room

Plenum Chamber

Detail of Ducts to First Floor.

Waterproofing.

Gallery Floor

Auditorium Floor

Damper

Impure Air from Auditorium.

To Ceiling of Sunday School Room

Mezzanine Floor

Fresh Air Intake

Galvanized Iron

Damper

Return Air Flue

To Atmosphere above Sunday School Room.

Floor of Sunday School Room.

Impure Air from Sunday School Room

Short Iron Partition

Elevator

Fan

Engine Room Floor

Sump Pit

6"x6" Openings in Wall

Waterproofing.

Section thru Impure Air Flues & Fresh Air Intake.

Flue covered at this point

To Auditorium Registers.

Chimney of Fire Brick Lining

Fresh Air to Auditorium

Opening for Breeching

Damper #3

Elevator

Waterproofing

Section thru Chimney and Air duct to Auditorium.

Mezzanine Floor

Steam Riser Diagram.

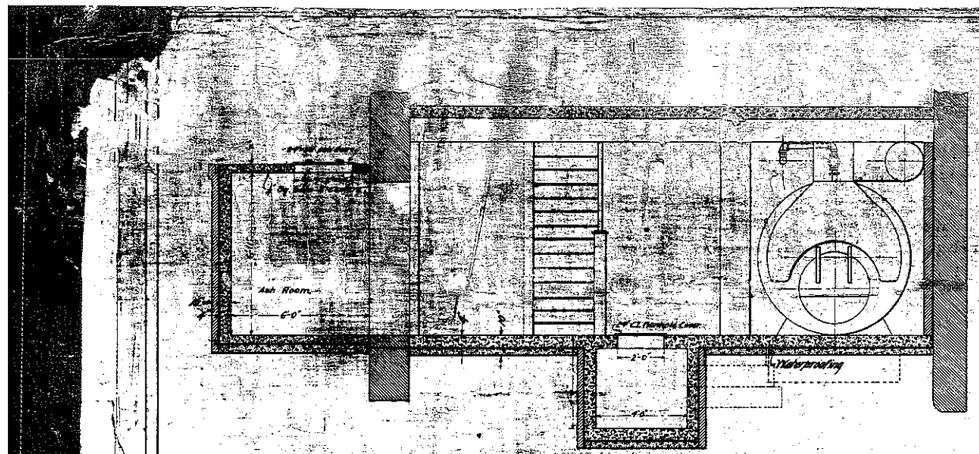
DETAILS OF DUCTS AND RISERS. SHOWING HEATING, VENTILATING & LIGHTING.

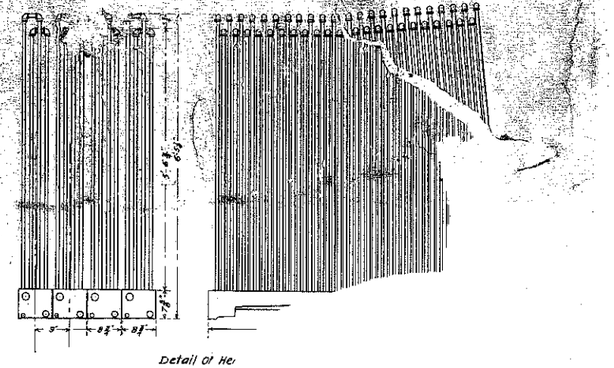
LUTCHER MEMORIAL CHURCH

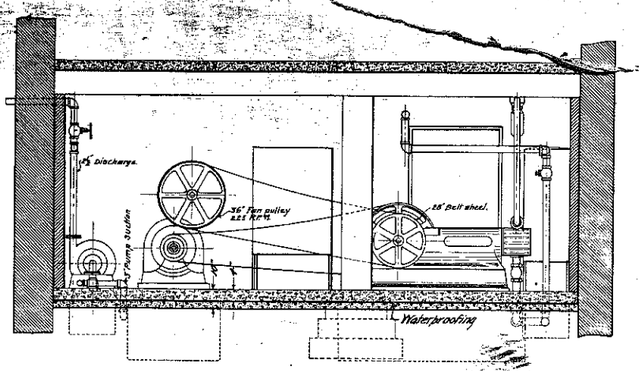
ORANGE TEXAS.

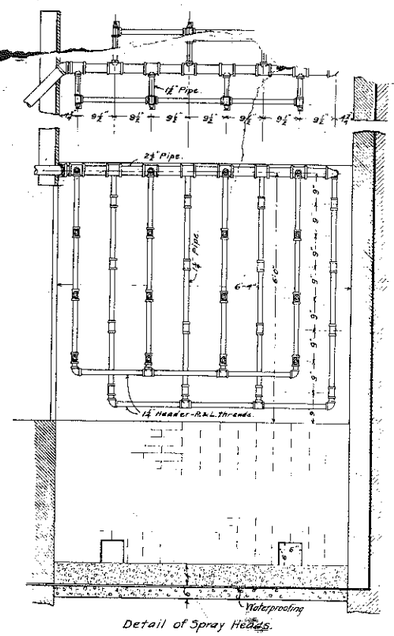
JAS. OLIVER HOGG. ARCHT. KANSAS CITY MO.

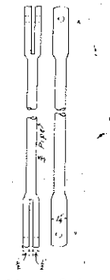
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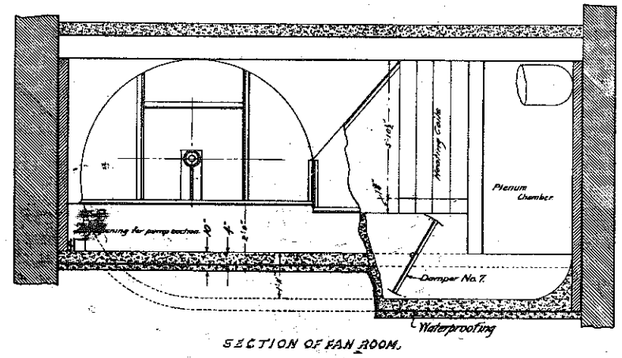


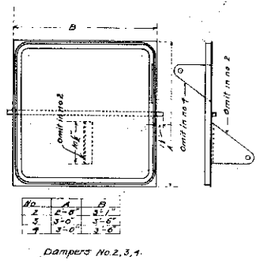


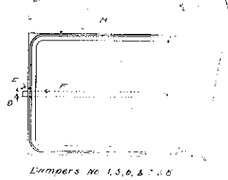






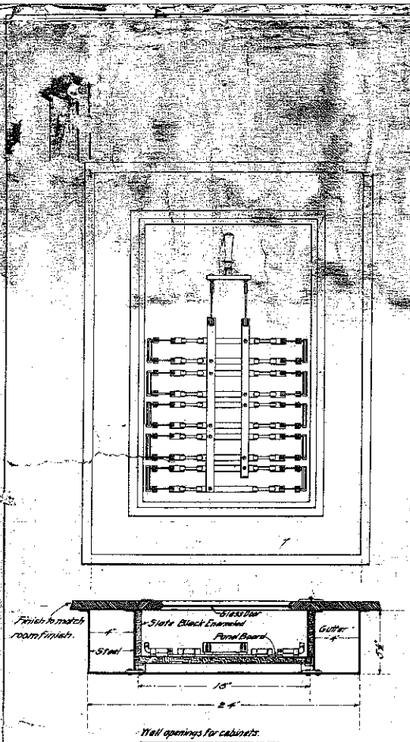






SECTIONS AND DETAILS.

LUTC



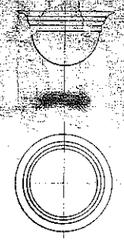
Wall openings for cabinets.

Size	High	Wide
6 Circuit	22	24
8 Circuit	29	24
22 Circuit	49	24

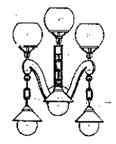
Type of Cabinet to be used

Riser Diagram

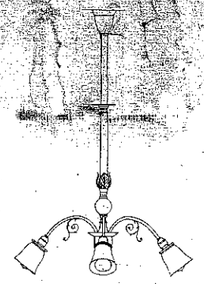
Pendant Ceiling Lights for Auditorium.
Approximate dimensions Drop 7'6" Spread 2'9".



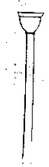
Ceiling Light for Sunday School Room
2 Light 12" Globe



Bracket Lights for Auditorium
Combination Gas and Electric

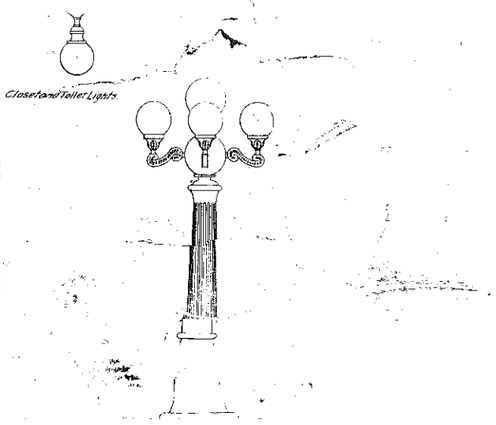


Chandelier for Study, Parlors, Dining Room,
Place 6'-8" from floor.



Dom.
Using 18" deep cone

Organ Loft.

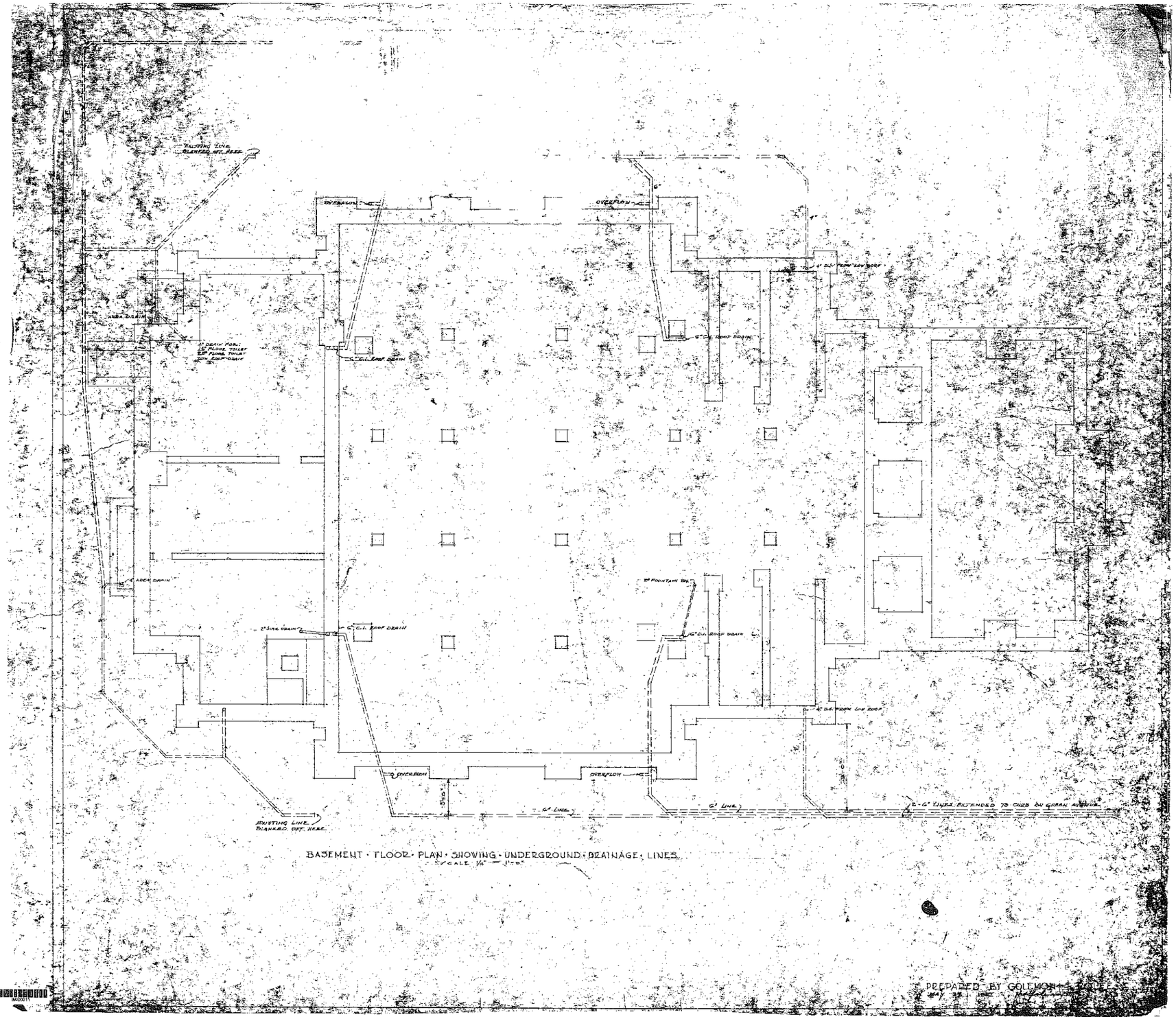


Closet and Toilet Lights.

5 Light Pedestal for Newels etc.
Approximate dimensions Height 9'6" Spread 5'

LIGHTING DETAILS.

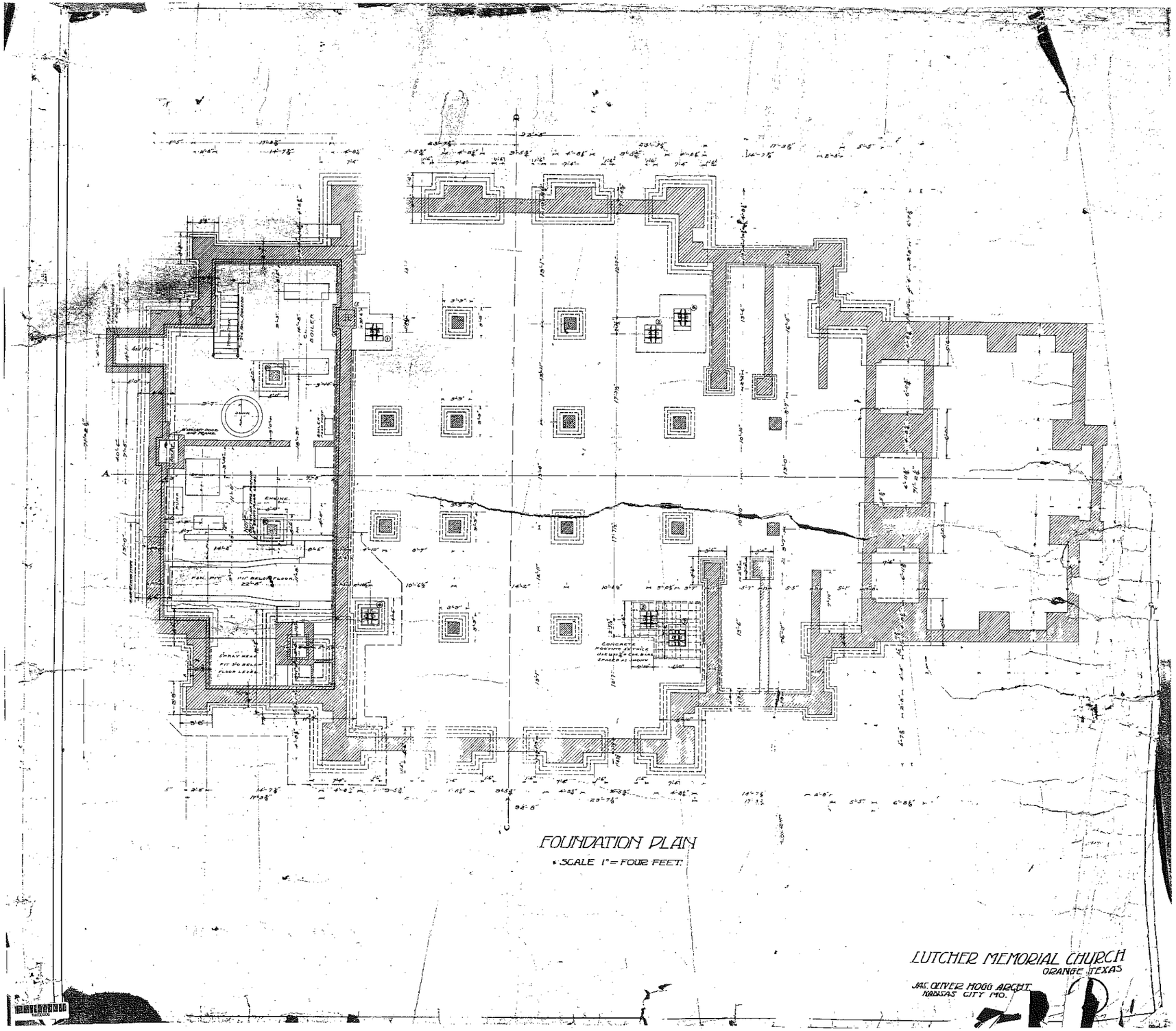
DEC 19 1930

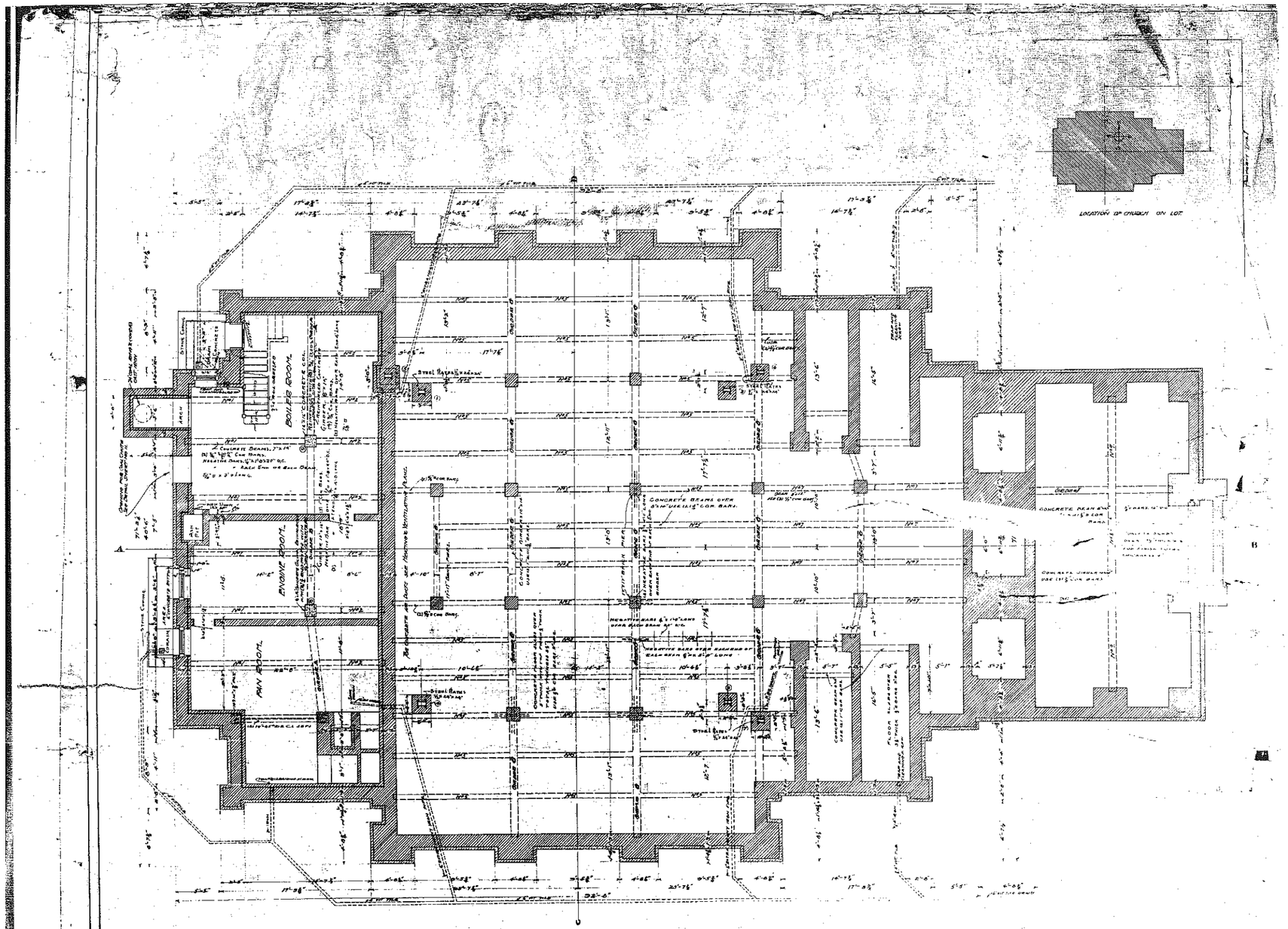


BASEMENT · FLOOR · PLAN · SHOWING · UNDERGROUND · DRAINAGE · LINES.

SCALE 1/8" = 1'-0"

PREPARED BY GOLEMON & REES


FOUNDATION PLAN
SCALE 1" = FOUR FEET.
LUTCHER MEMORIAL CHURCH
ORANGE TEXAS
JAS. OLIVER HOGG ARCHT.
KANSAS CITY MO.



BASEMENT PLAN

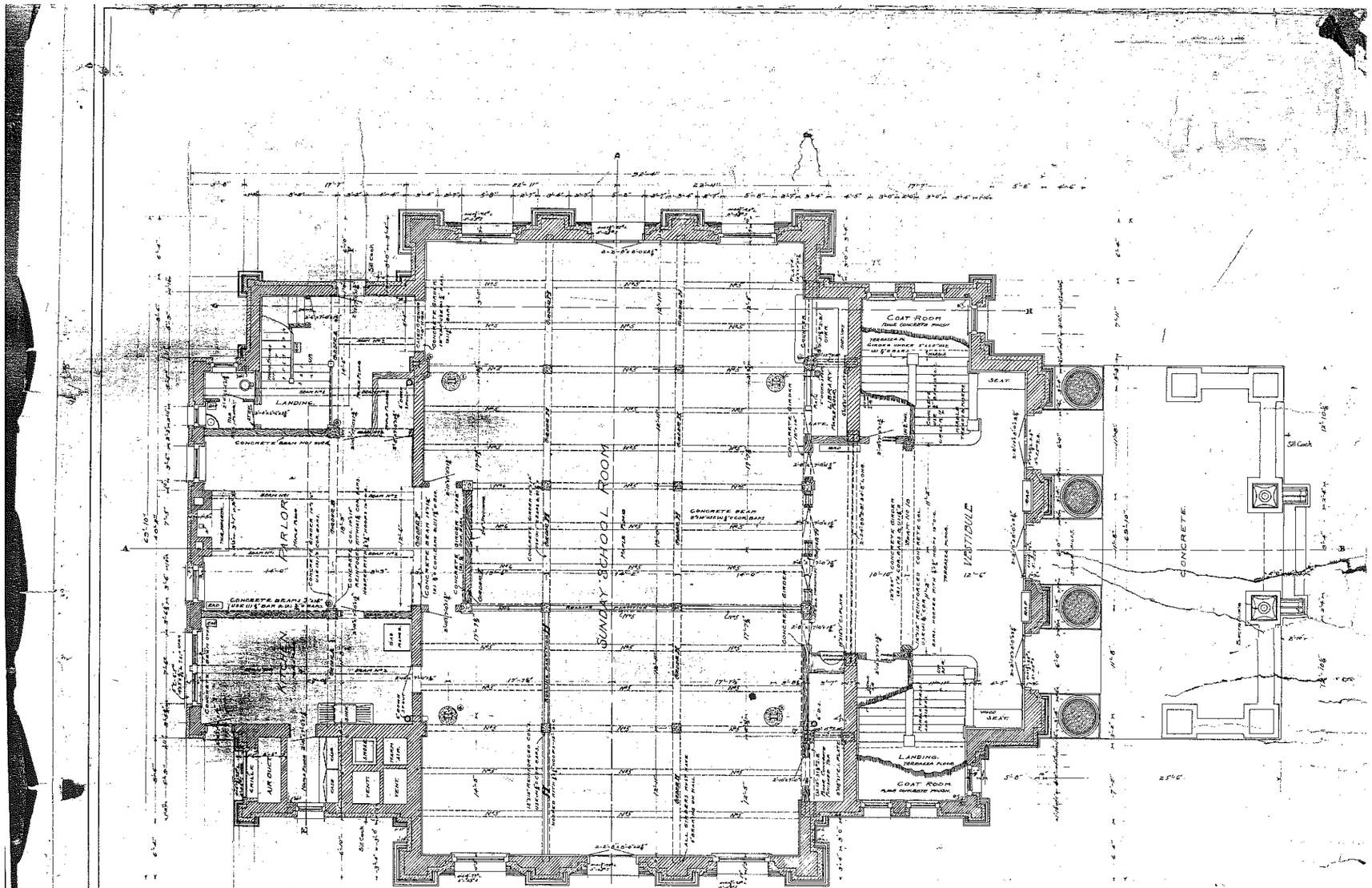
SCALE 1"=FOUR FEET.

LUTCHER MEMORIAL CHURCH

ORANGE TEXAS

JAS. OLIVER HOGG. ARCHT.
KANSAS CITY MO.

2



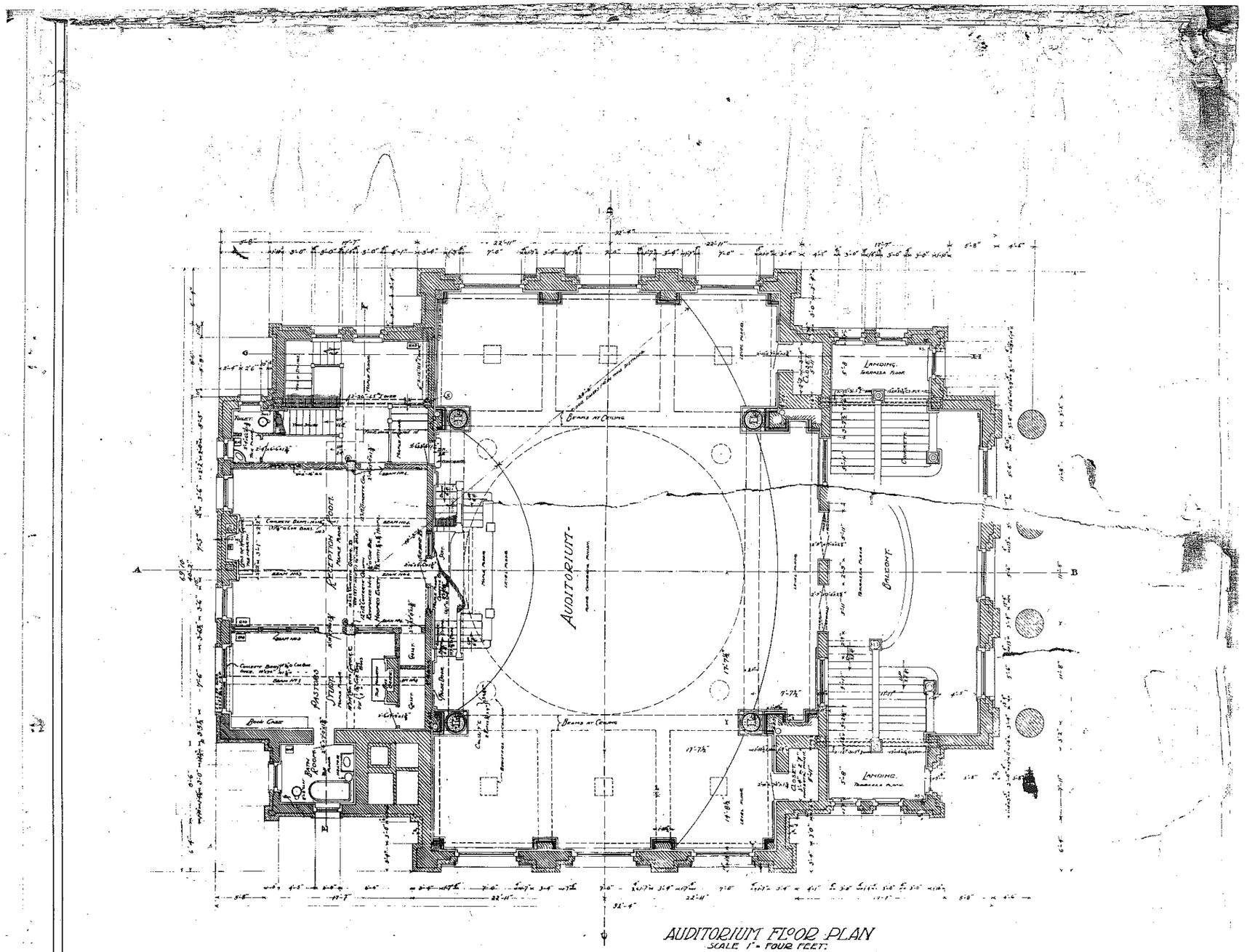
FIRST FLOOR PLAN

SCALE 1"=FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG ARCHT.
KANSAS CITY MO.

3



AUDITORIUM FLOOR PLAN
SCALE 1" = FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE, TEXAS

JAS. O. [illegible] HOGG ARCH'T
KANSAS CITY, MO.

4

SHEET NOS WILL CONTAIN A SMALL SCALE
LAYOUT OF GROUNDS AND WILL BE SENT
TO CONTRACTOR BEFORE ACTIVE WORK ON BLUE STARTS

LUTHER MEMORIAL CHURCH
ORANGE TEXAS

G. ARCHT.
KANSAS CITY MO

5

TYPICAL DETAIL OF TRUSSES A, B & C

1/8 SCALE PLAN OF TRUSSES IN DOME.

PLAN OF ORGAN LOFT

SCALE 1"=FOUR FEET.

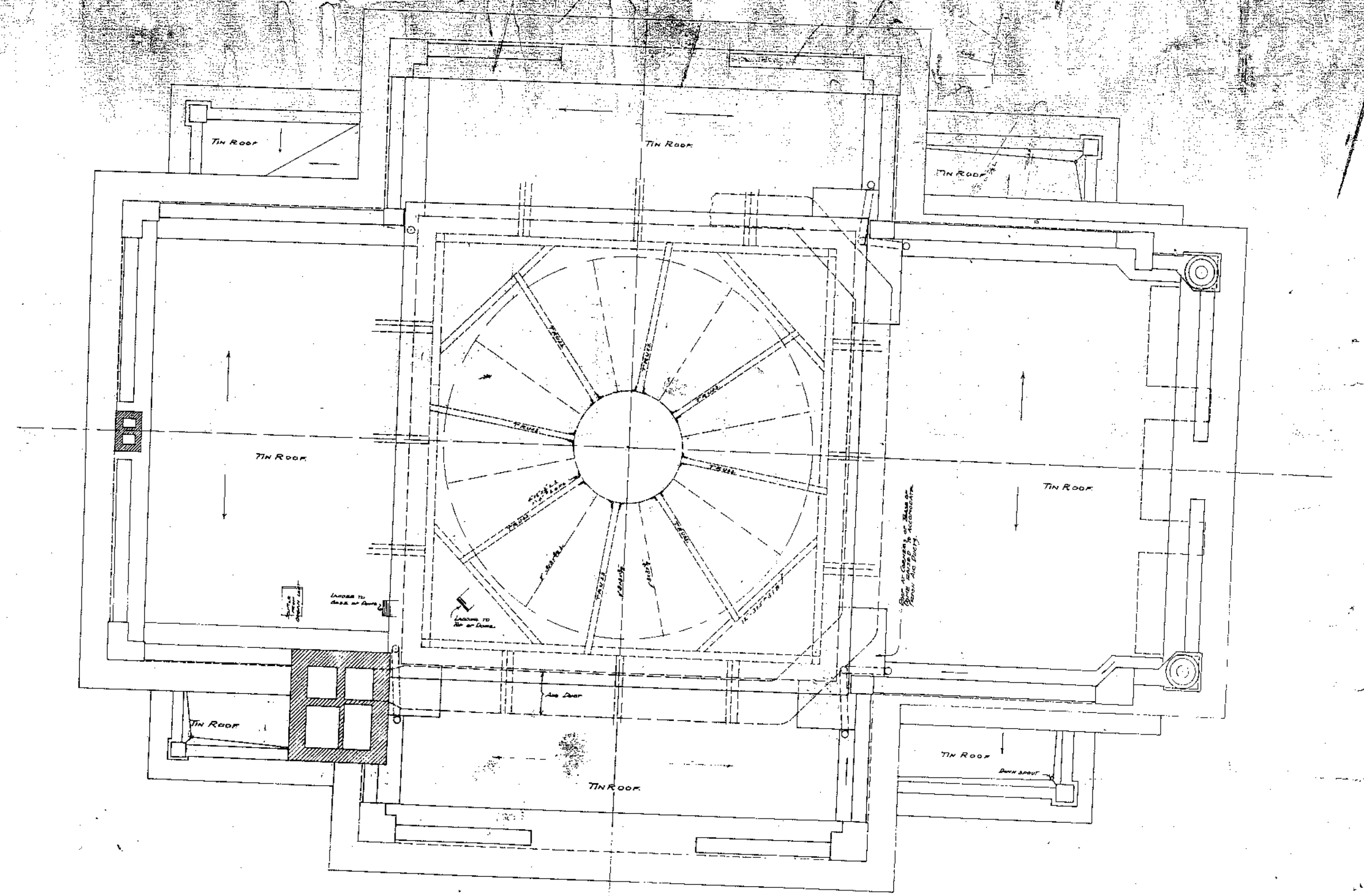
1/8 SCALE PLAN THRO WINDOWS IN DOME.

1" SCALE DETAILS OF TRUSSES A, B & C.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HODGE ARCHT.
KANSAS CITY, MO.

6

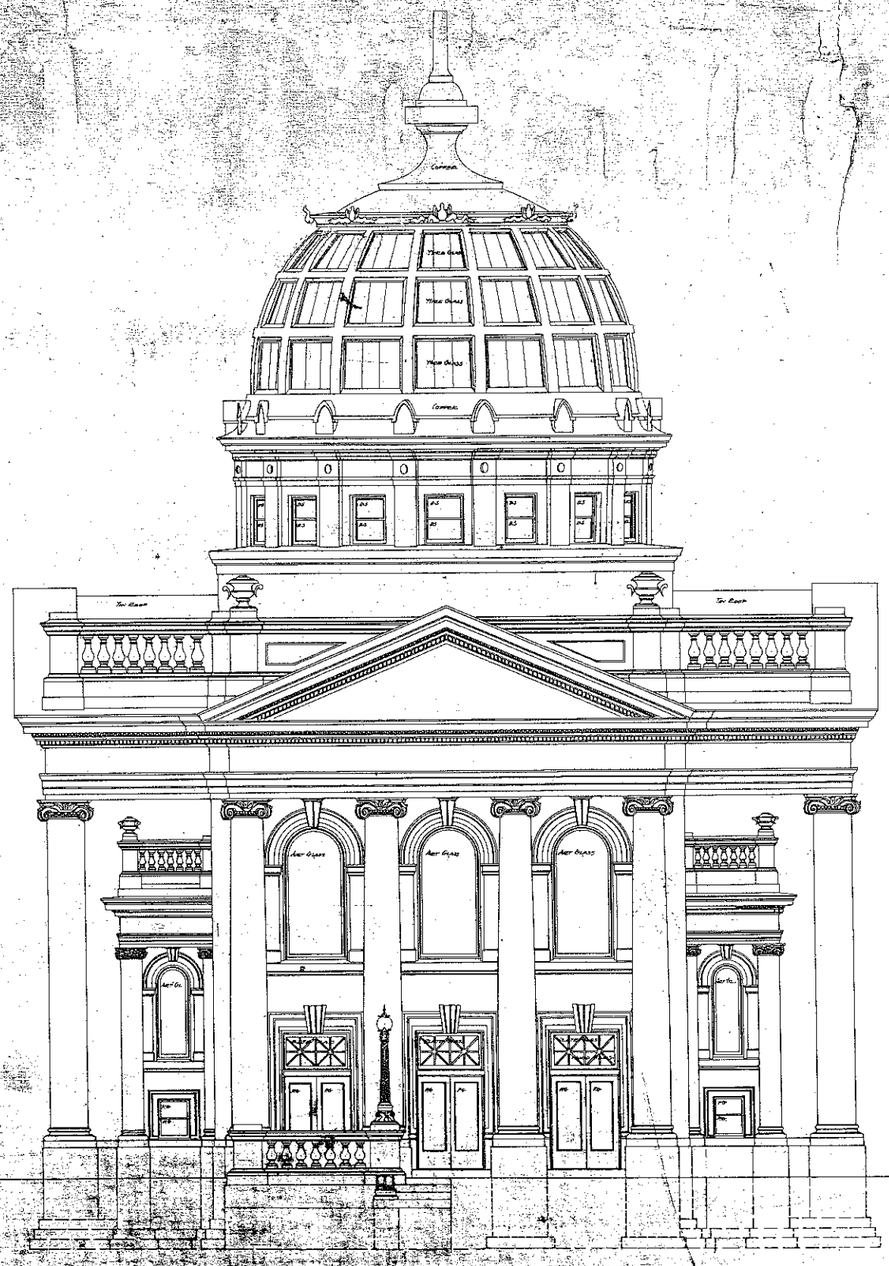


ROOF PLAN.
SCALE 1" = FOUR FEET.

LUTCHER MEMORIAL

JAS. OLIVER

7



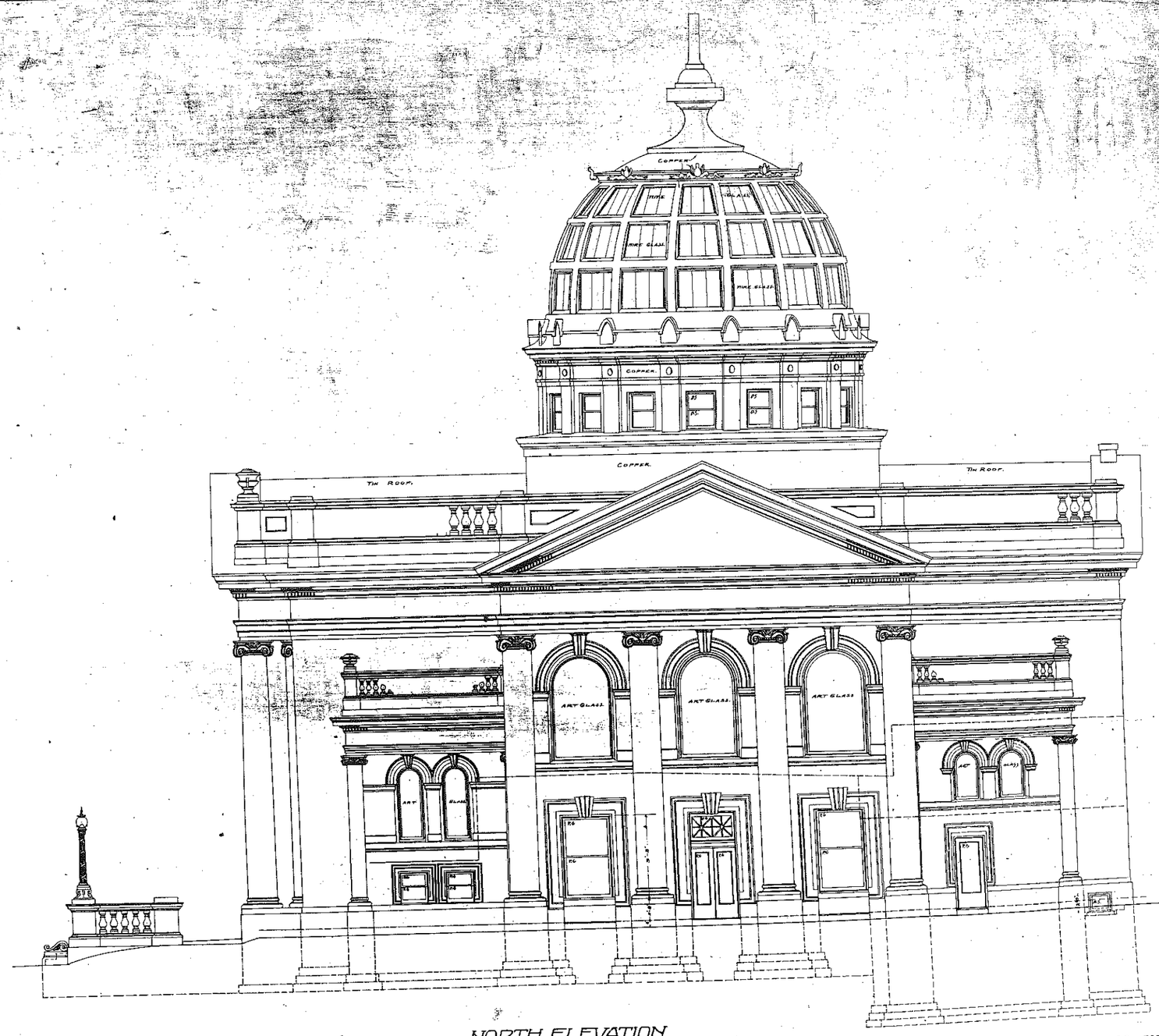
FRONT ELEVATION [EAST]

SCALE 1" = FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG. ARCHT.
KANSAS CITY MO.

8



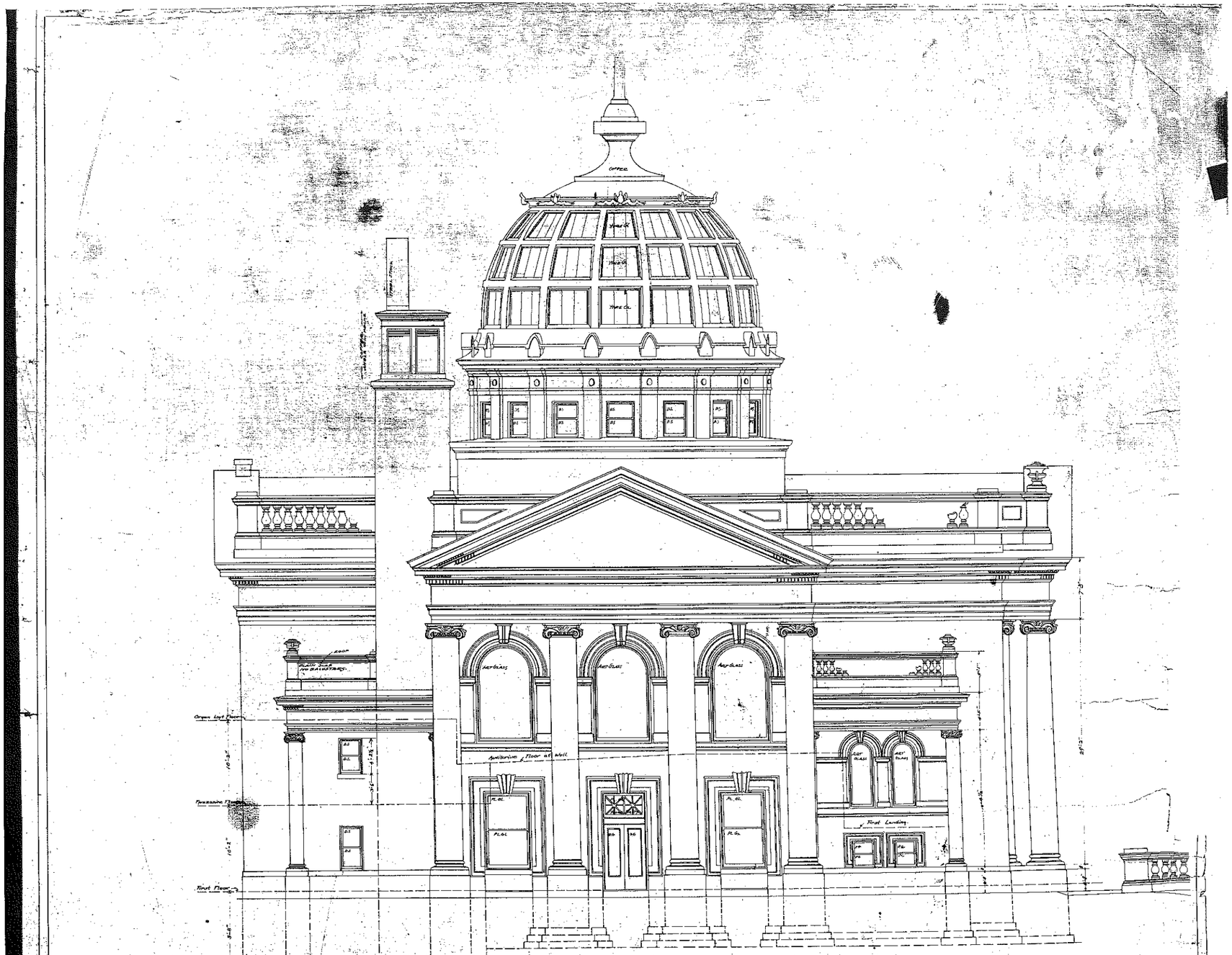
NORTH ELEVATION

SCALE 1"=FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE, TEXAS.

JAS. OLIVER MOOG ARCH'T.
KANSAS CITY, MO.

9



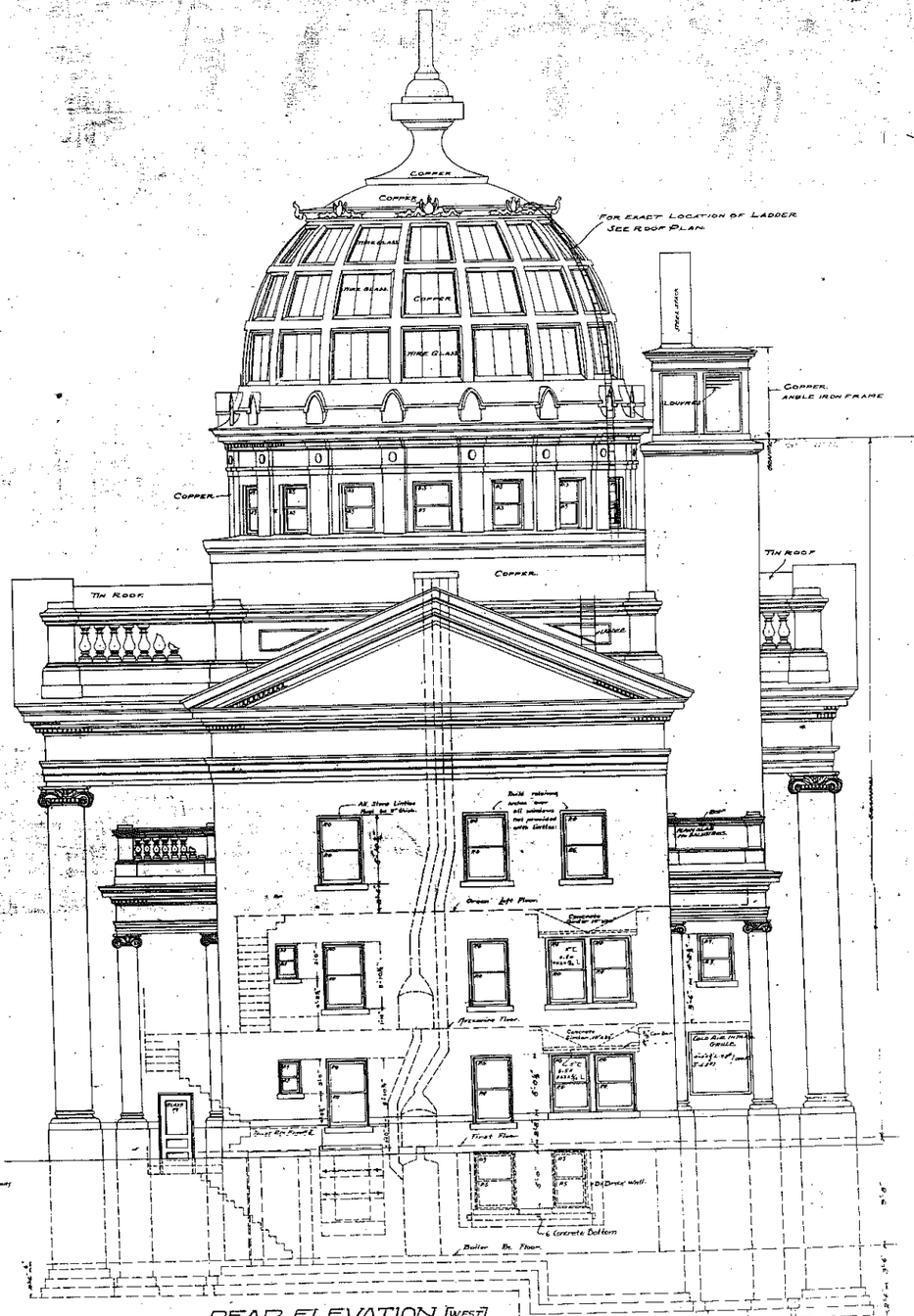
SOUTH ELEVATION

SCALE 1" = FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG ARCH'T.
KANSAS CITY MO.

10



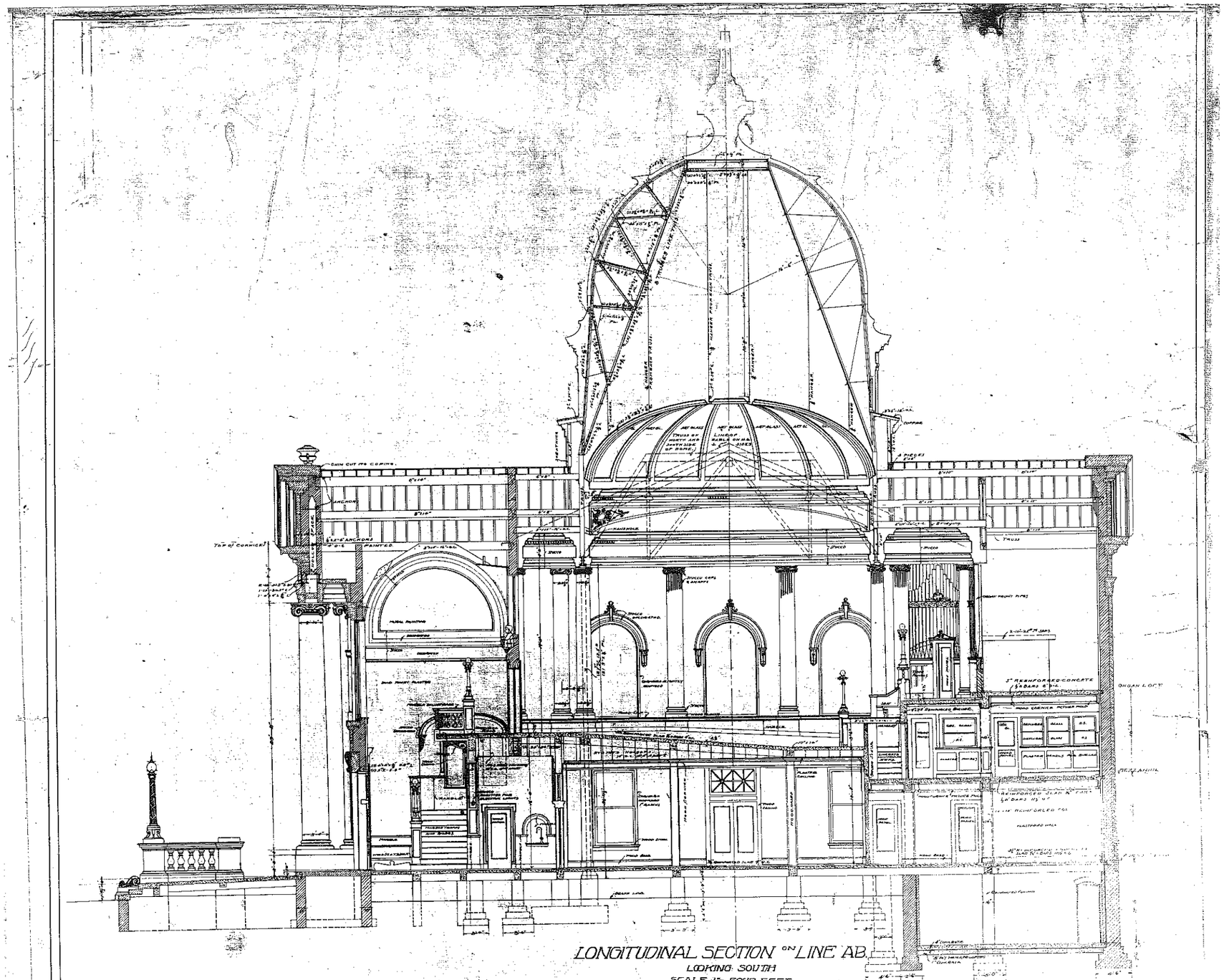
REAR ELEVATION [WEST]

SCALE 1/4" = FOUR FEET.

LUTCHER MEMORIAL (ART)

JAS. OLIVER HODGE, ARCHITECT
KANSAS CITY, MO.

11



LONGITUDINAL SECTION ON LINE AB.

LOOKING SOUTH

SCALE 1"= FOUR FEET.

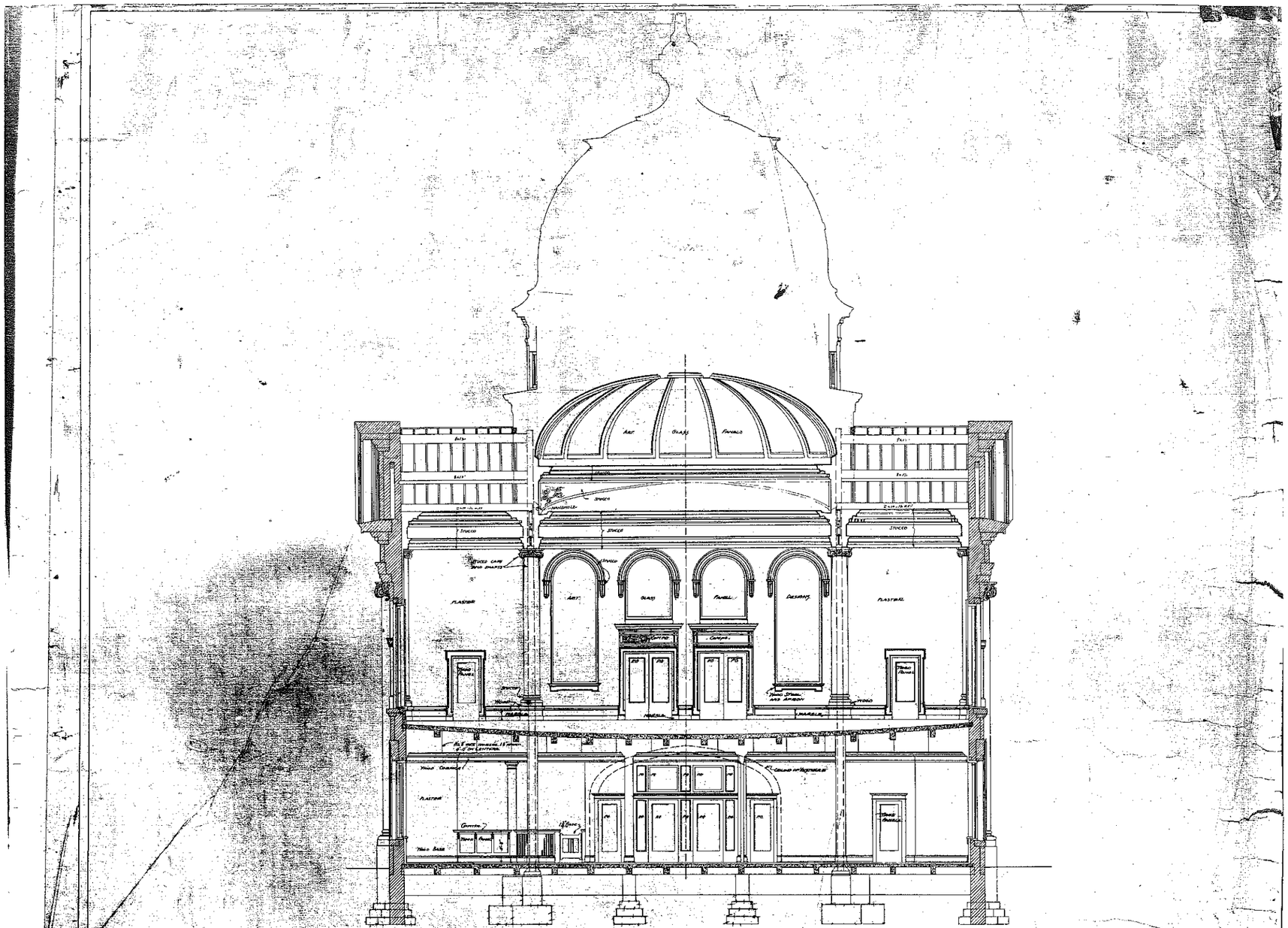
LUTCHER MEMORIAL CHURCH

ORANGE, TEXAS.

JAS. OLIVER HOGG, ARCHT.

KANSAS CITY, MO.

17



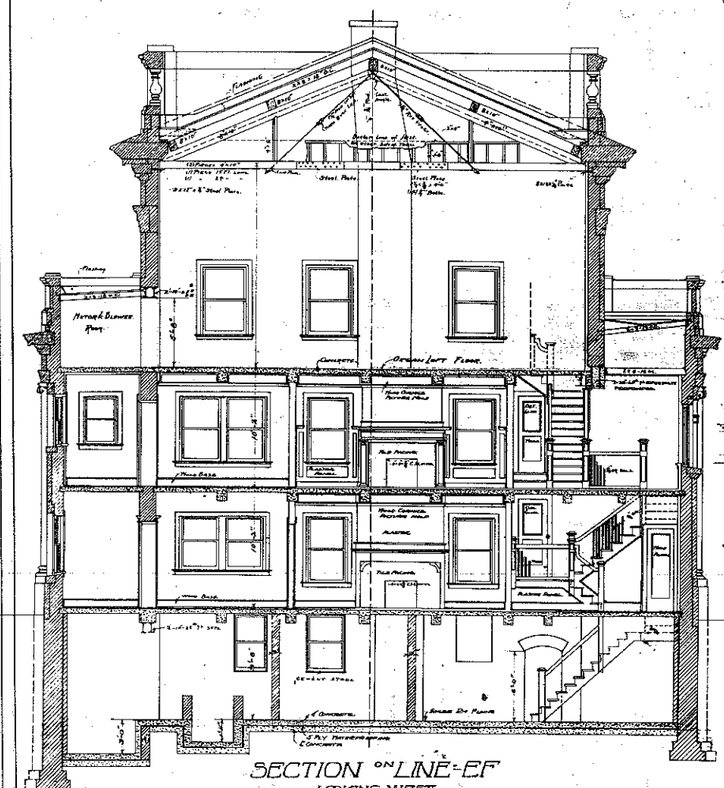
SECTION ON LINE C.D.
LOOKING EAST.

SCALE 1" = FOUR FEET.

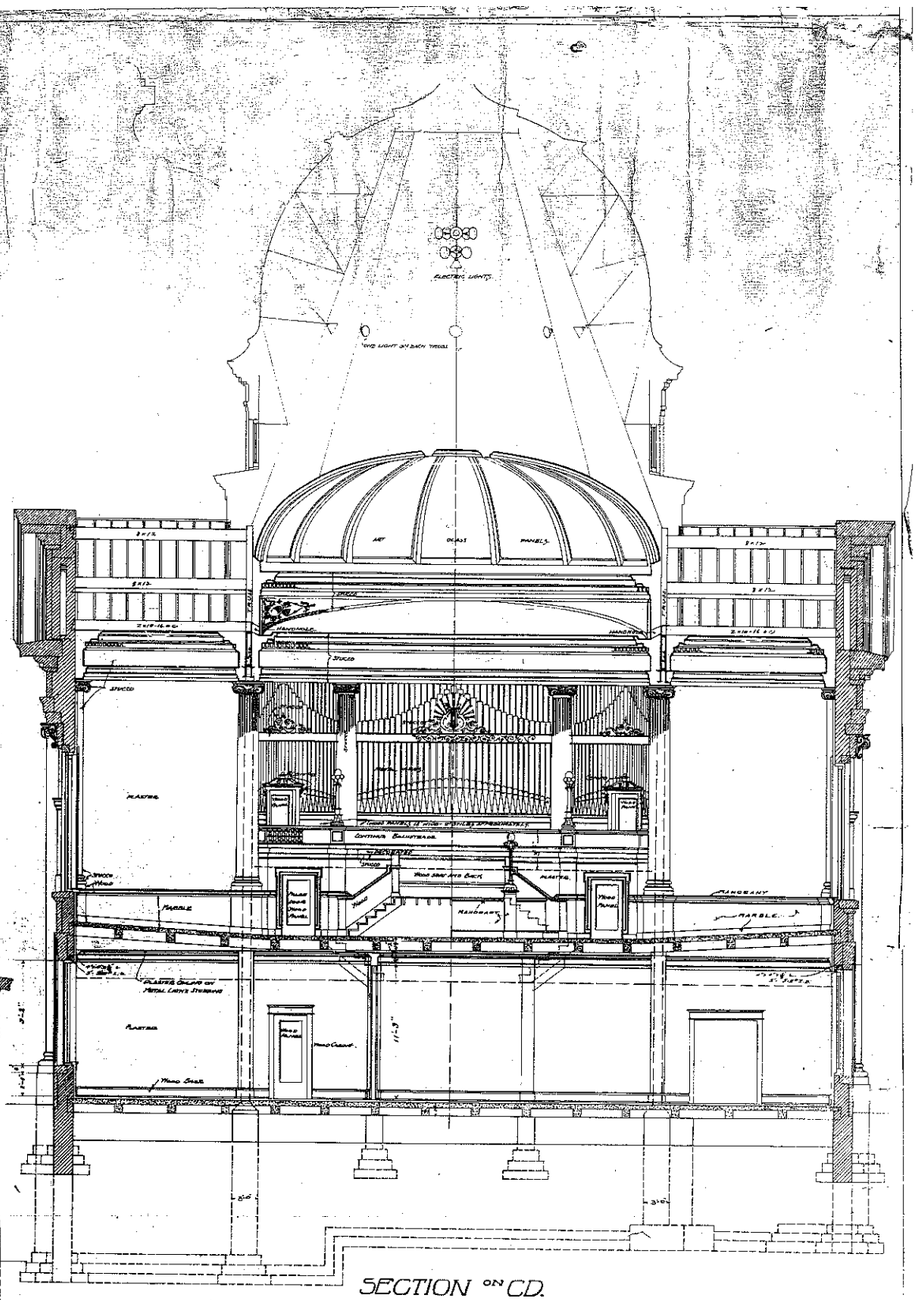
LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG ARCHT.
KANSAS CITY MO.

13



SECTION ON LINE-EF
LOOKING WEST.

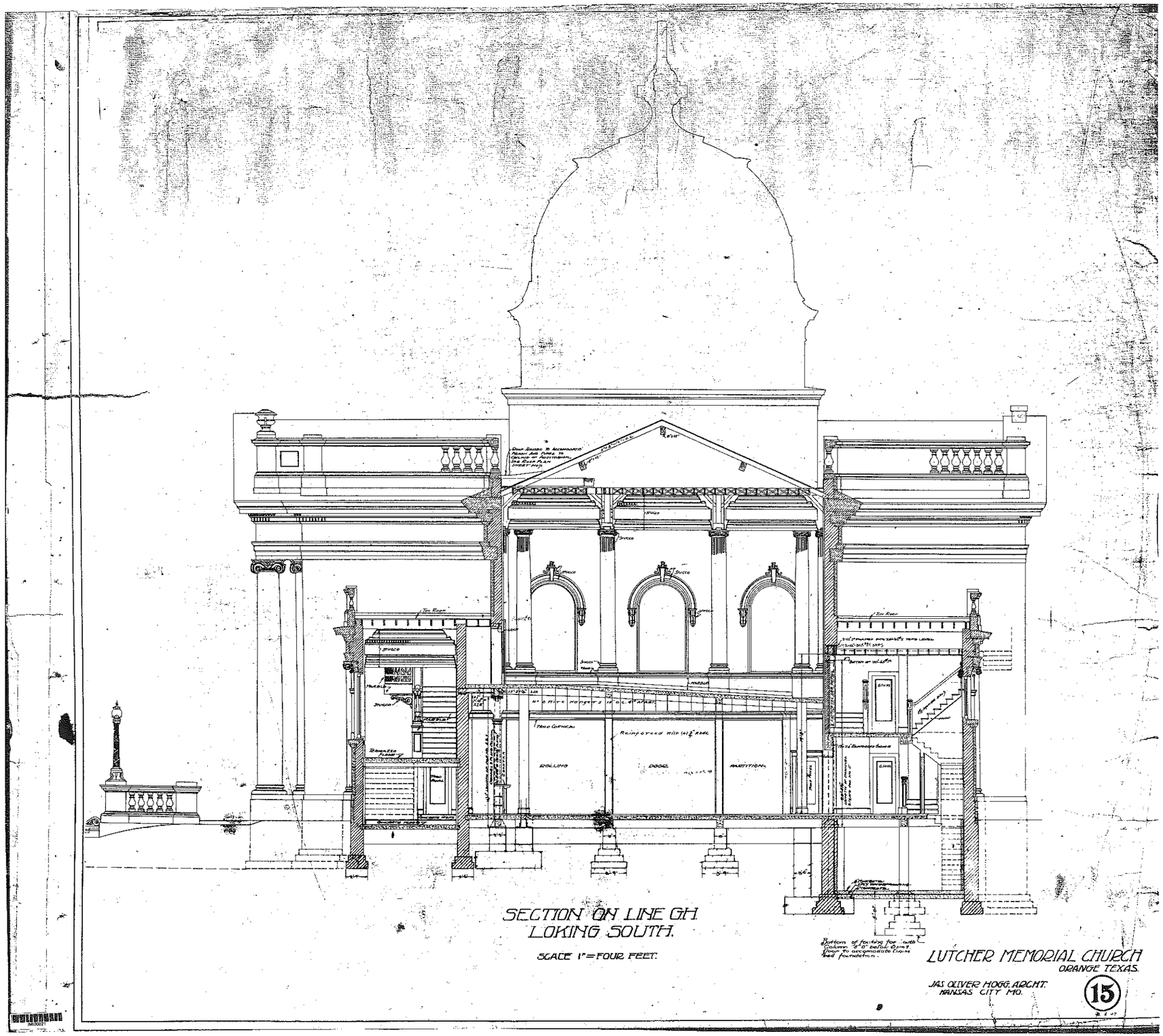


SECTION ON CD.
LOOKING TOWARD PULPIT.
SCALE 1" = FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG ARCHT.
KANSAS CITY MO.

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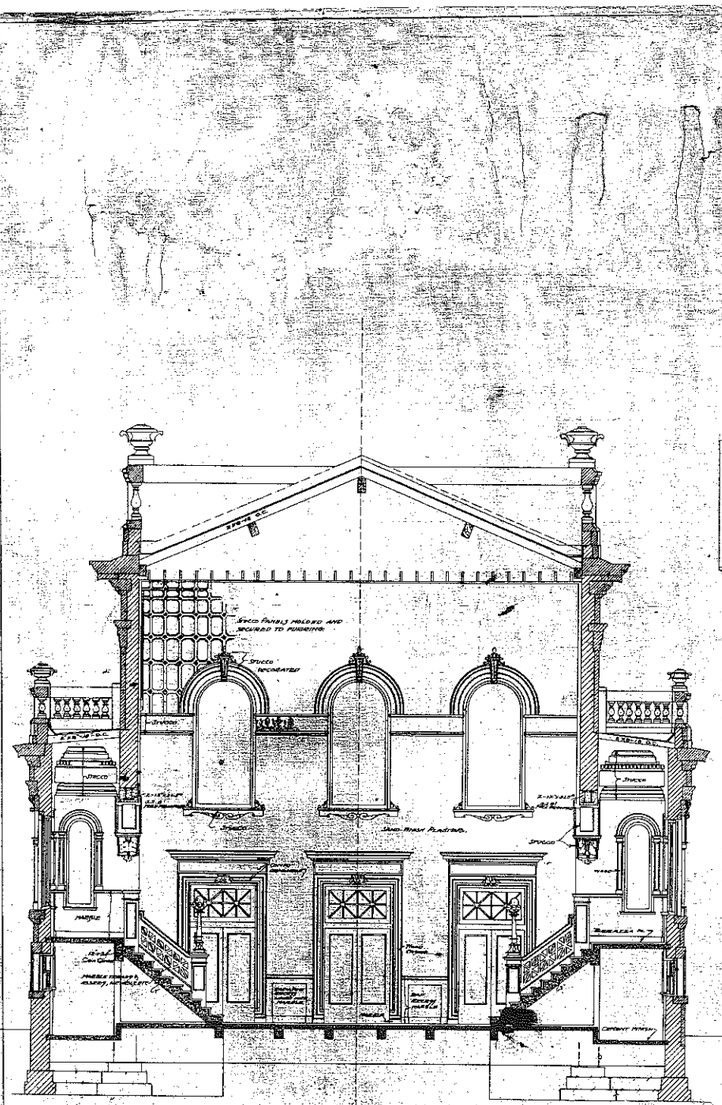
SECTION ON LINE GH
LOKING SOUTH.

SCALE 1"=FOUR FEET.

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG. ARCH'T.
KANSAS CITY MO.

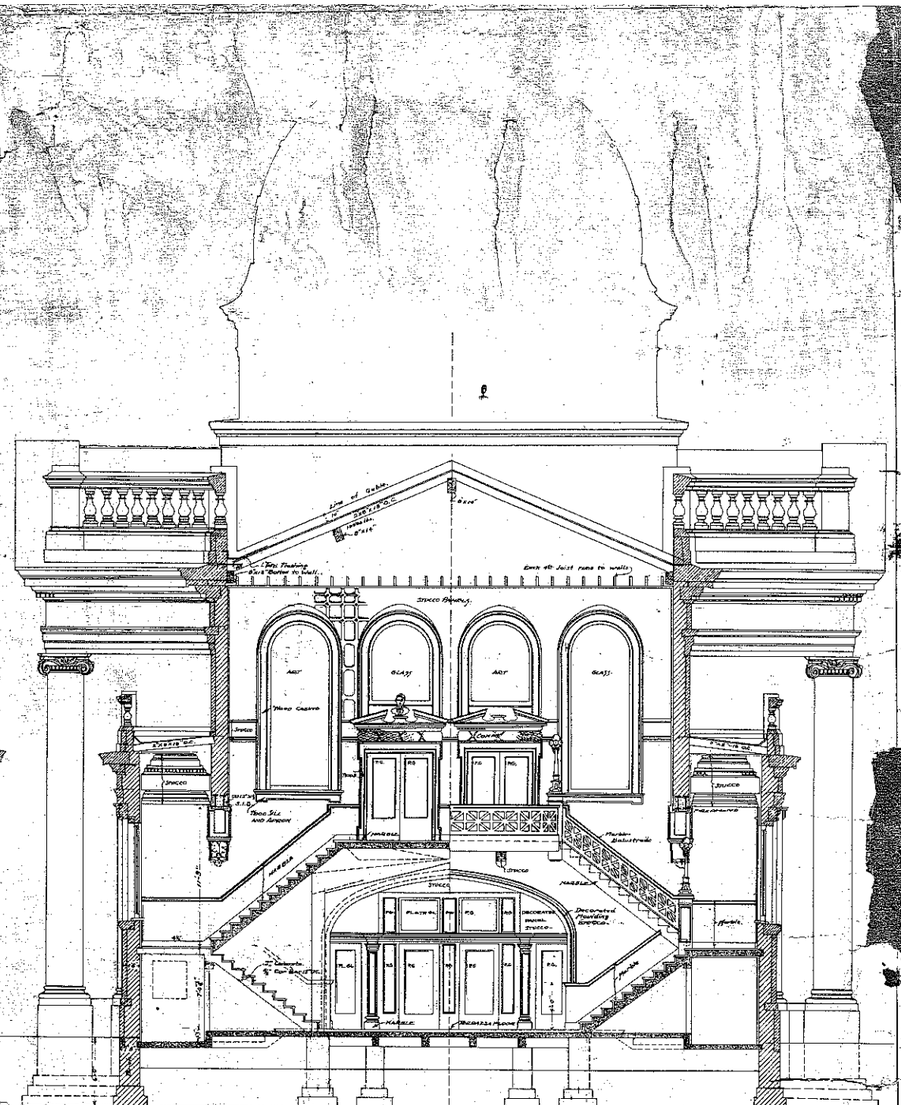
15



SECTION THRO VESTIBULE

LOKING TOWARD FRONT.

SCALE 1" = FOUR FEET.



SECTION THRO VESTIBULE.

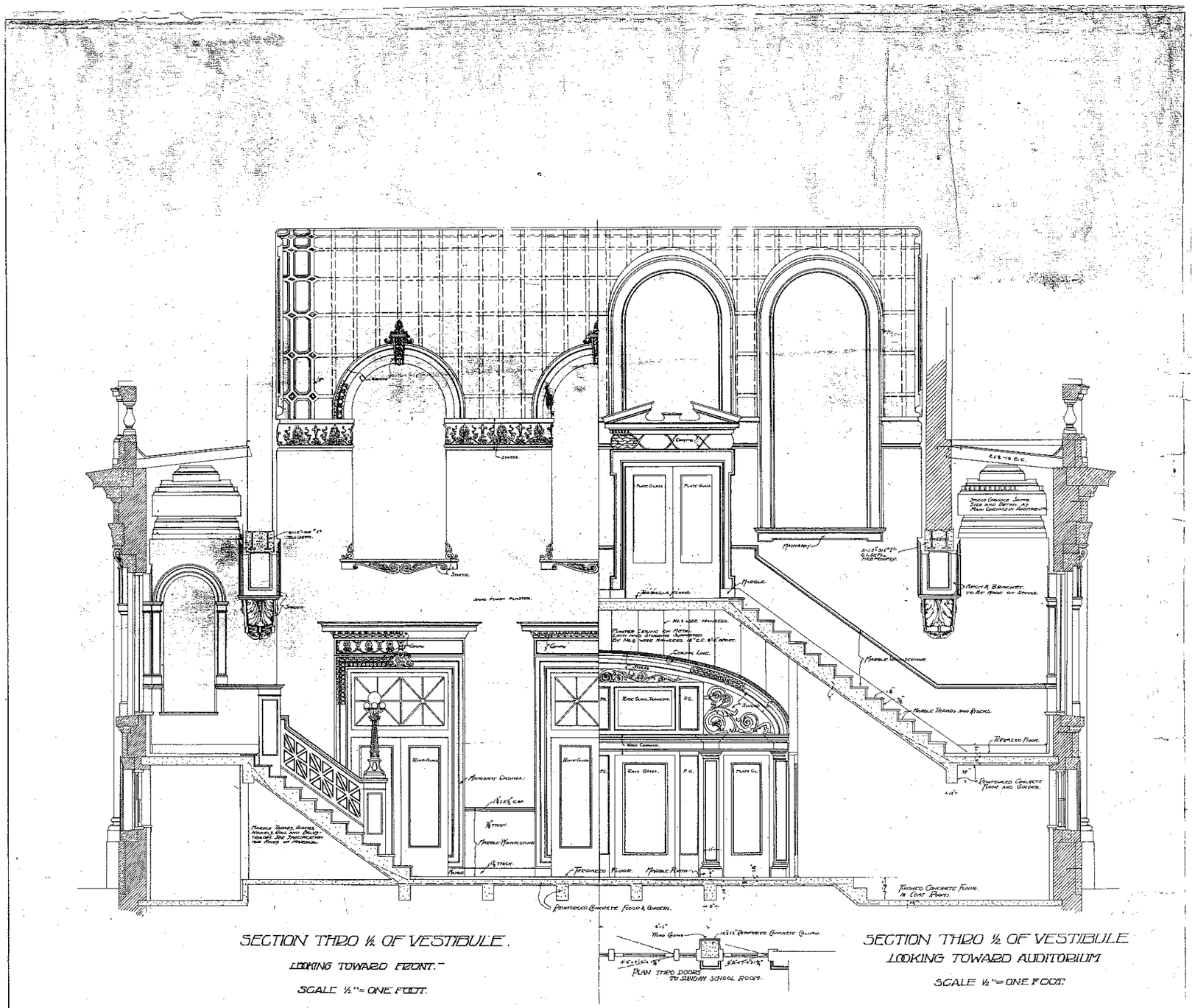
LOKING TOWARD AUDITORIUM.

LUTCHER MEMORIAL CHURCH

ORANGE, TEXAS.

JAS. OLIVER HOGG. ARCHT.
KANSAS CITY MO.

16



SECTION THRO ½ OF VESTIBULE.

LOOKING TOWARD FRONT.

SCALE ½" = ONE FOOT.

SECTION THRO ½ OF VESTIBULE

LOOKING TOWARD AUDITORIUM

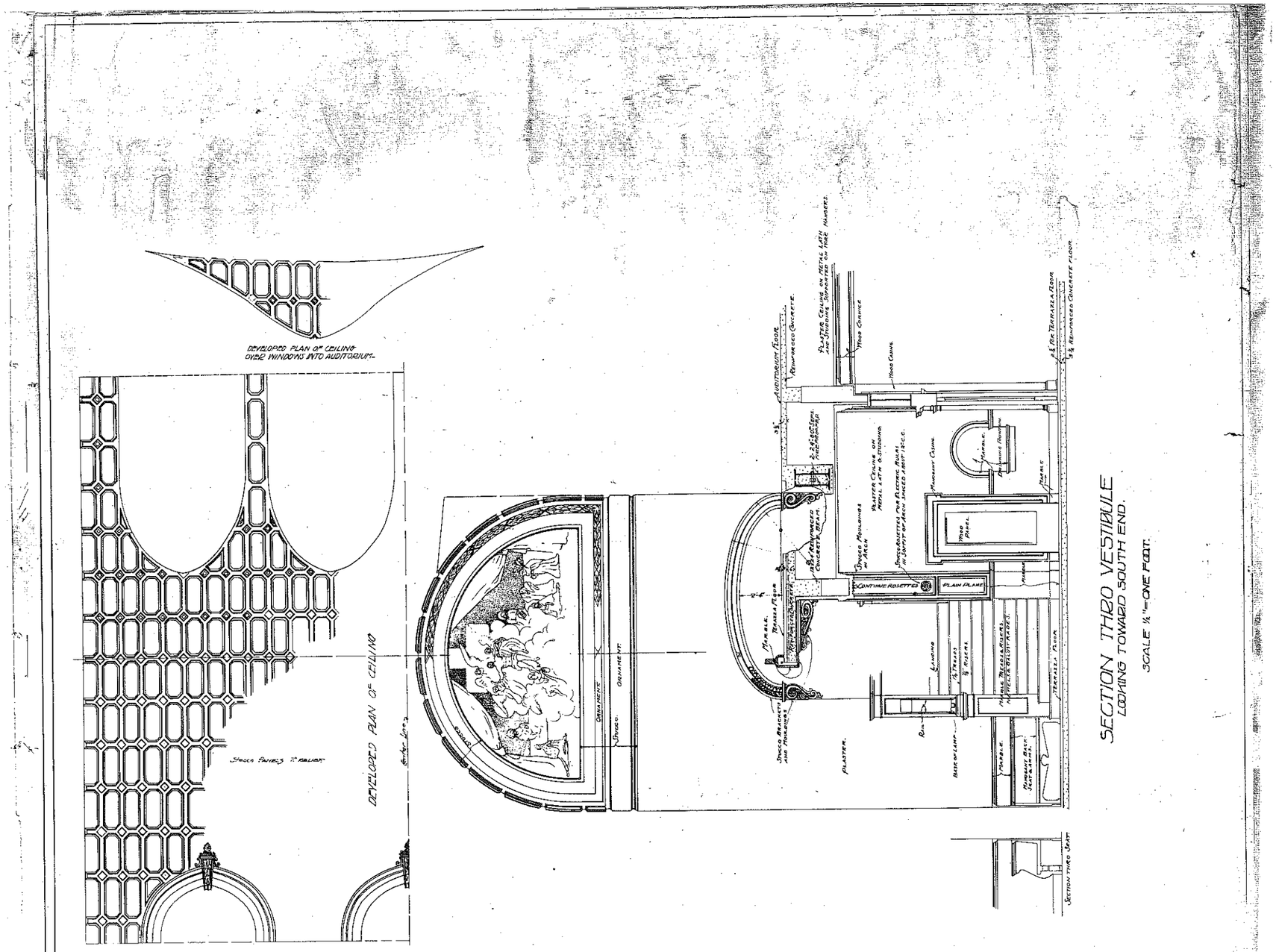
SCALE ½" = ONE FOOT.

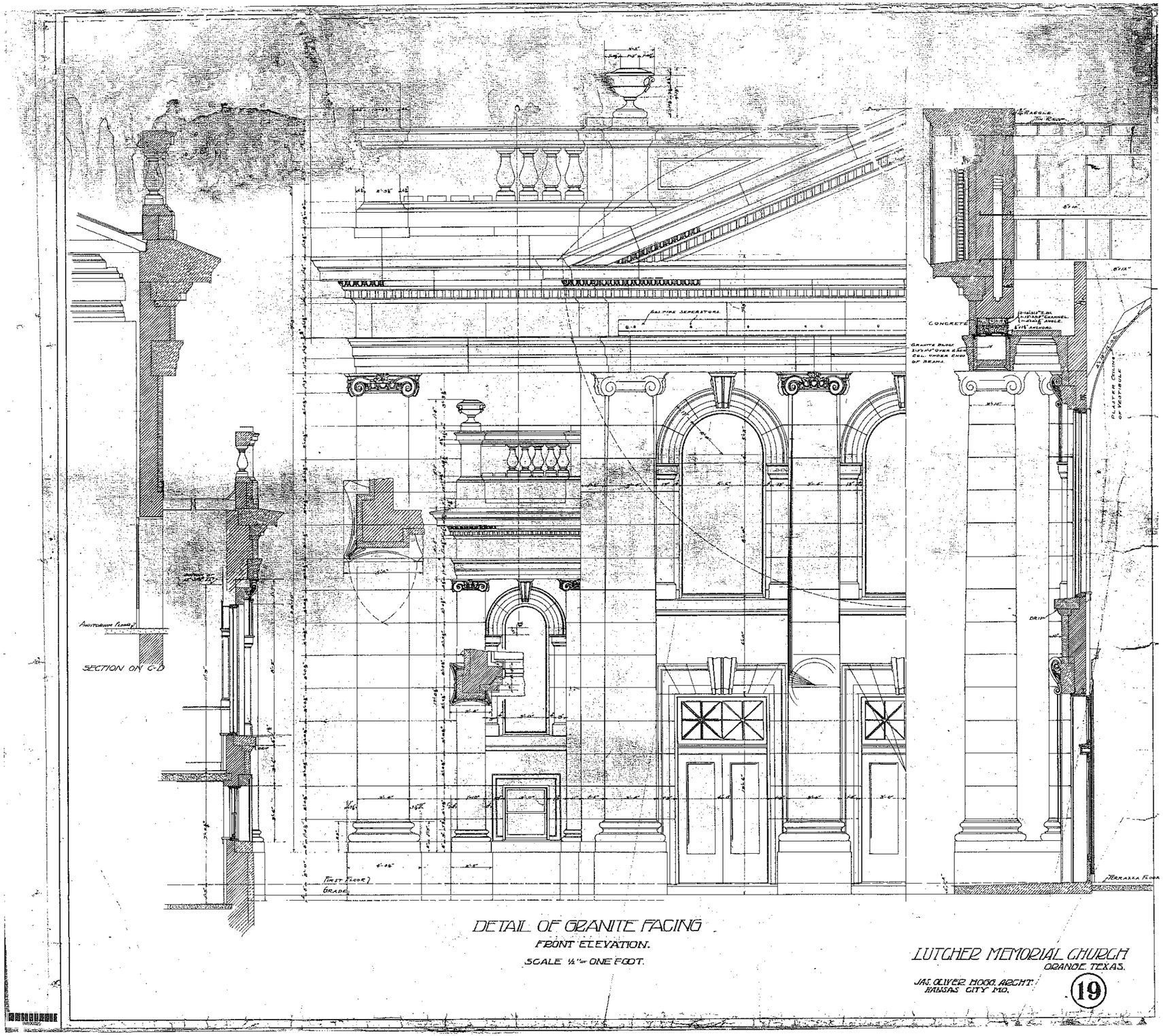
LUTCHER MEMORIAL CHURCH

ORANGE TEXAS.

JAS. OLIVER HOGG. ARCHT.
KANSAS CITY MO.

17


DEVELOPED PLAN OF CEILING OVER WINDOWS INTO AUDITORIUM.
DEVELOPED PLAN OF CEILING
Stucco Panels & Rosettes
Border Line
Ornament
Stucco
Auditorium Floor
Reinforced Concrete.
Plaster Ceiling on Metal Lath and Wooden Furring
Wood Cornice
Moldings
Plaster Ceiling on Metal Lath & Wooding
Stucco Moldings in Arch
Continuous Rosettes
Plain Plane
Stucco Brackets and Pendants
Pilaster.
Base of Lamp
Landing
Risers
Treads
Marble Wainscot Panels
Marble Floor
Marble Base
Plaster
Section Thru Seat
SECTION THRO VESTIBULE
LOOKING TOWARD SOUTH END.
SCALE ½"=ONE FOOT.
LUTCHER MEMORIAL CHURCH
ORANGE TEXAS
JAS. OLIVER HOGG, ARCHT.
KANSAS CITY MO.
18



DETAIL OF GRANITE FACING

FRONT ELEVATION.

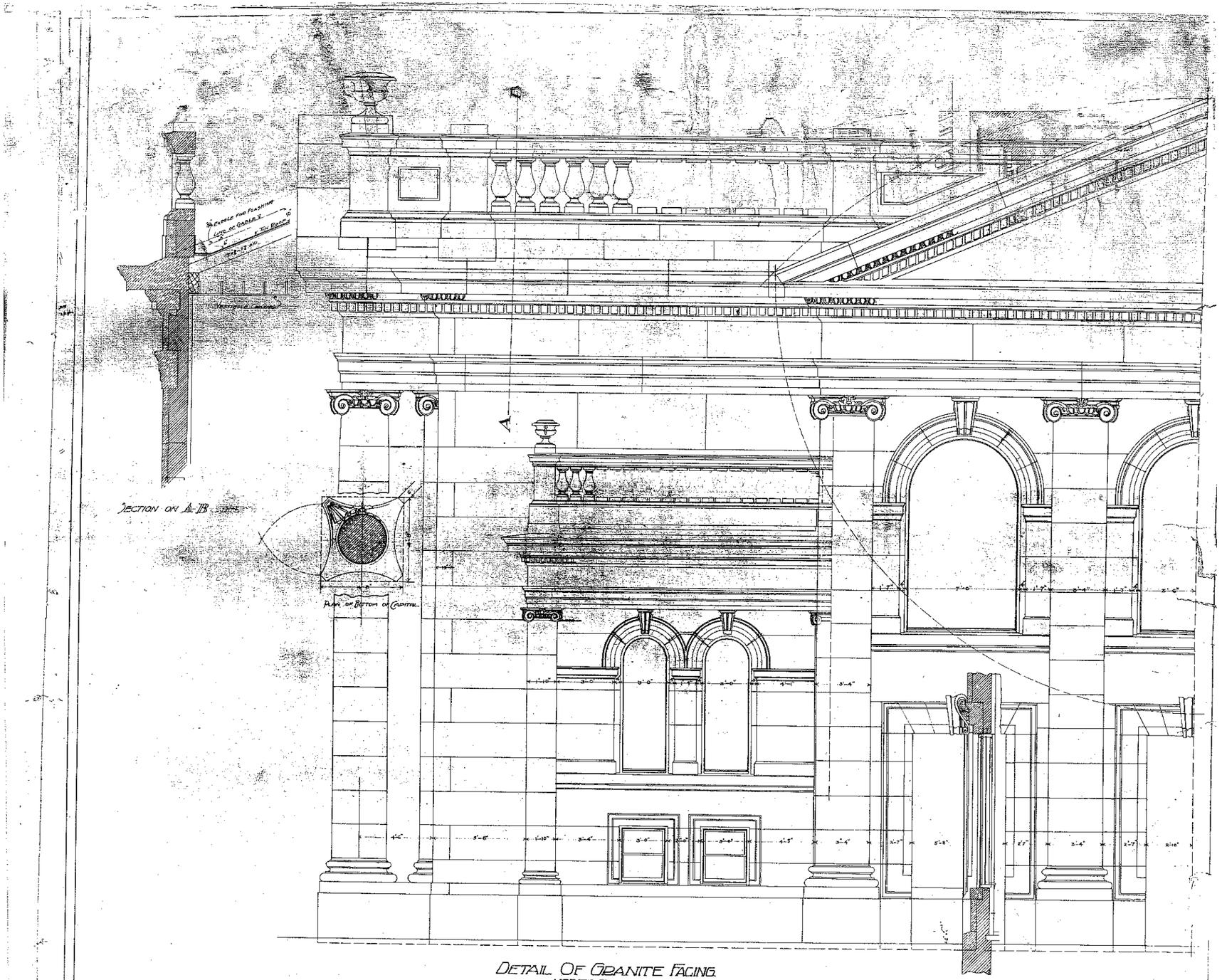
SCALE 1½"= ONE FOOT.

LUTCHER MEMORIAL CHURCH

ORANGE, TEXAS.

JAS. OLIVER HOGG, ARCHT.
KANSAS CITY MO.

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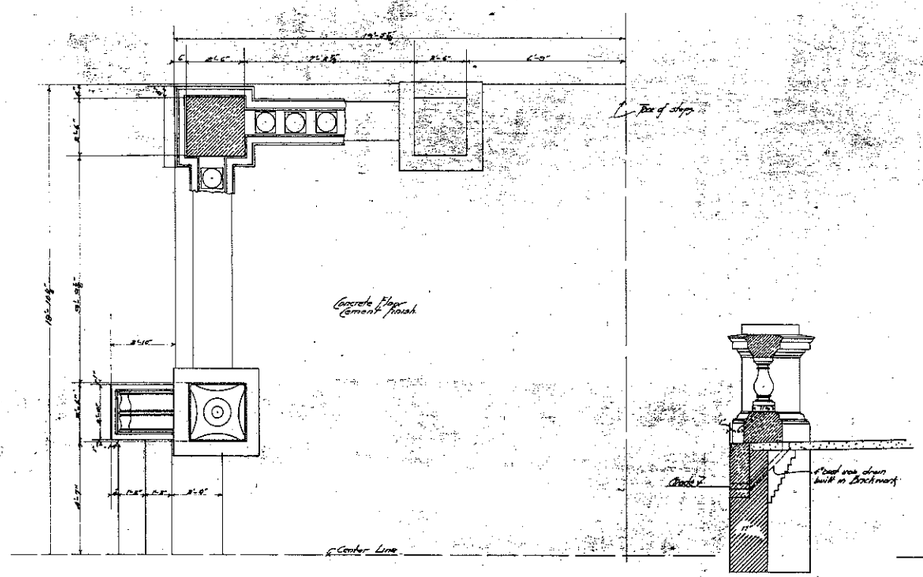


DETAIL OF GRANITE FACING.
NORTH ELEVATION.
SCALE 1½" = ONE FOOT.

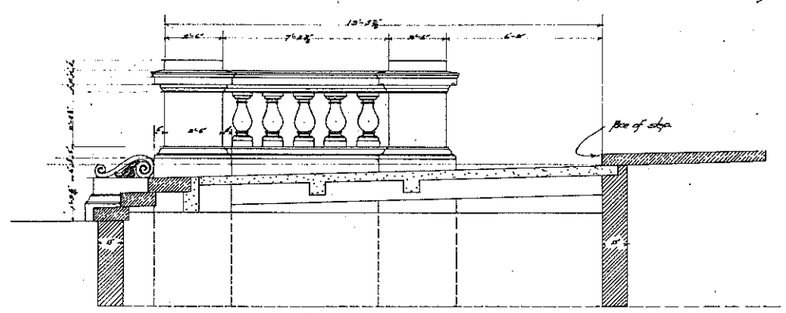
LUTCHER MEMORIAL CHURCH
ORANGE, TEXAS.

JAS. OLIVER HOGG, ARCHT.
KANSAS CITY, MO.

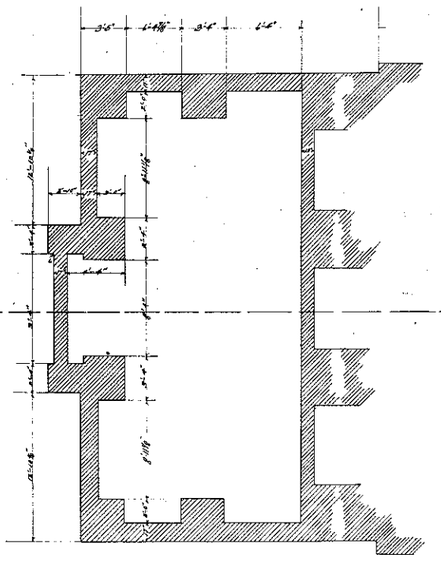
20



SECTION THRO WALLS & RAIL



SECTION THRO APPROACH.



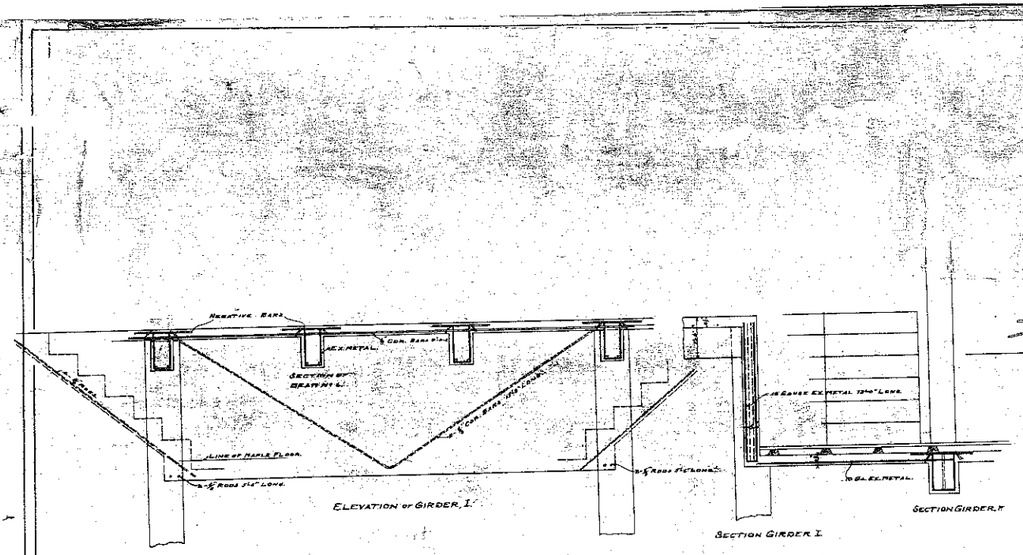
1/8 SCALE PLAN OF APPROACH SUPPLYING MEASUREMENTS NOT GIVEN ON FOUNDATION PLAN-

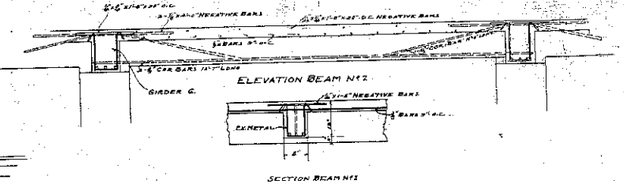
1/2" SCALE DETAILS OF APPROACH-

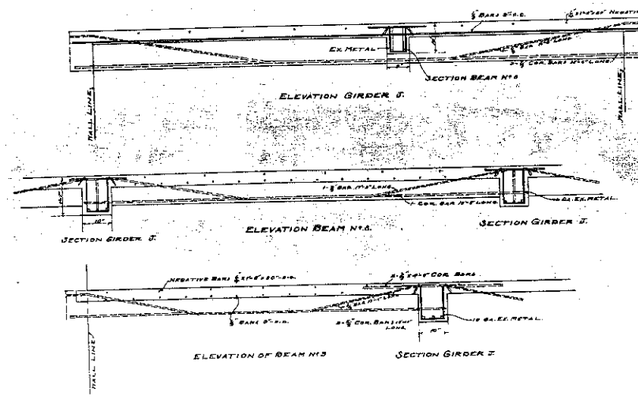
LUTCHER MEMORIAL CHURCH
ORANGE TEXAS

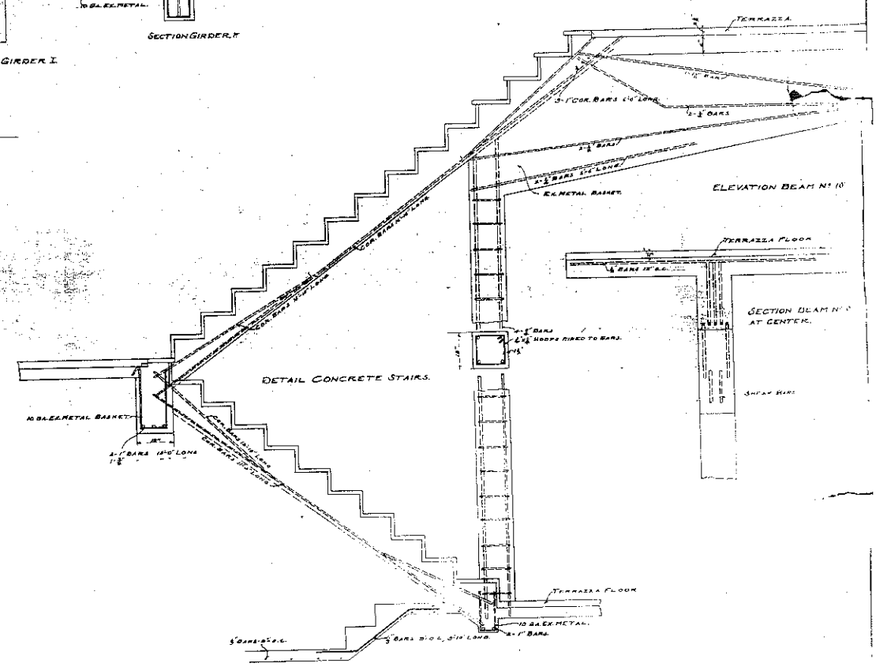
JAS OLIVER HOGG ARCHT
KANSAS CITY MO

20





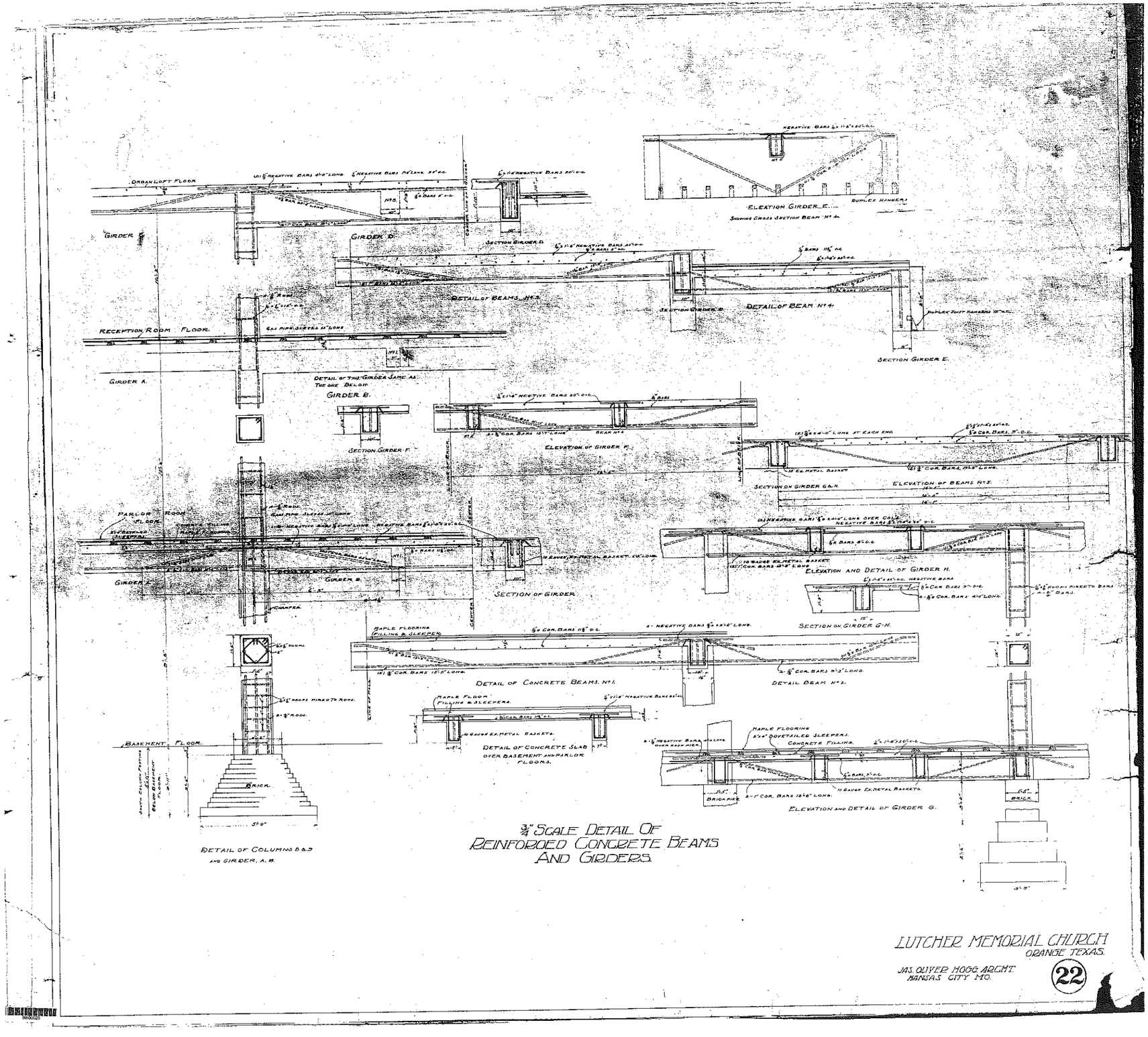




¾" Scale Detail Of Reinforced Concrete Beams And Girders.

LUTCHER MEMORIAL CHURCH

JAS. OLIVER ROSS ARCHT
KANSAS CITY, MO.


ORGAN LOFT FLOOR
GIRDER C
GIRDER D
SECTION GIRDER D
DETAIL OF BEAMS Nº3
RECEPTION ROOM FLOOR
GIRDER A
DETAIL OF THIS GIRDER SAME AS THE ONE BELOW
GIRDER B
SECTION GIRDER F
ELEVATION OF GIRDER F
PARLOR FLOOR
GIRDER A
GIRDER B
SECTION OF GIRDER
CAMPER
BASEMENT FLOOR
BRICK
DETAIL OF COLUMNS B & J AND GIRDER A. B.
ELEVATION GIRDER E
SECTION GIRDER E
DETAIL OF BEAM Nº4
DUPLEX HANGERS
DETAIL OF CONCRETE BEAMS Nº1
DETAIL BEAM Nº2
DETAIL OF CONCRETE SLAB OVER BASEMENT AND PARLOR FLOORS
ELEVATION OF BEAMS Nº5
SECTION ON GIRDER G.H.
ELEVATION AND DETAIL OF GIRDER H.
SECTION ON GIRDER G-H
ELEVATION AND DETAIL OF GIRDER G.
3/4" SCALE DETAIL OF REINFORCED CONCRETE BEAMS AND GIRDERS.
LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.
JAS. OLIVER HOGG ARCHT.
KANSAS CITY MO.
22

MAIN CORNICE IN AUDITORIUM

PANEL SOFFIT OF ARCH

½" SCALE DETAILS OF WOOD WORK

COLUMN

PILASTER

VESTIBULE CEILING

CEILING OVER STAIR LANDING

ALL BEAMS, CORNICES AND ORNAMENTAL WORK TO BE MADE OF STUCCO.

CEILING PLAN OF AUDITORIUM & VESTIBULE

SCALE 1" = FOUR FEET.

½" SCALE FOR COLUMNS

LUTCHER MEMORIAL CHURCH

ORANGE TEXAS

JAS. OLIVER HOGG ARCHT

KANSAS CITY MO

23

PLAN THRO' WINDOWS IN DOME.

PLAN AT B

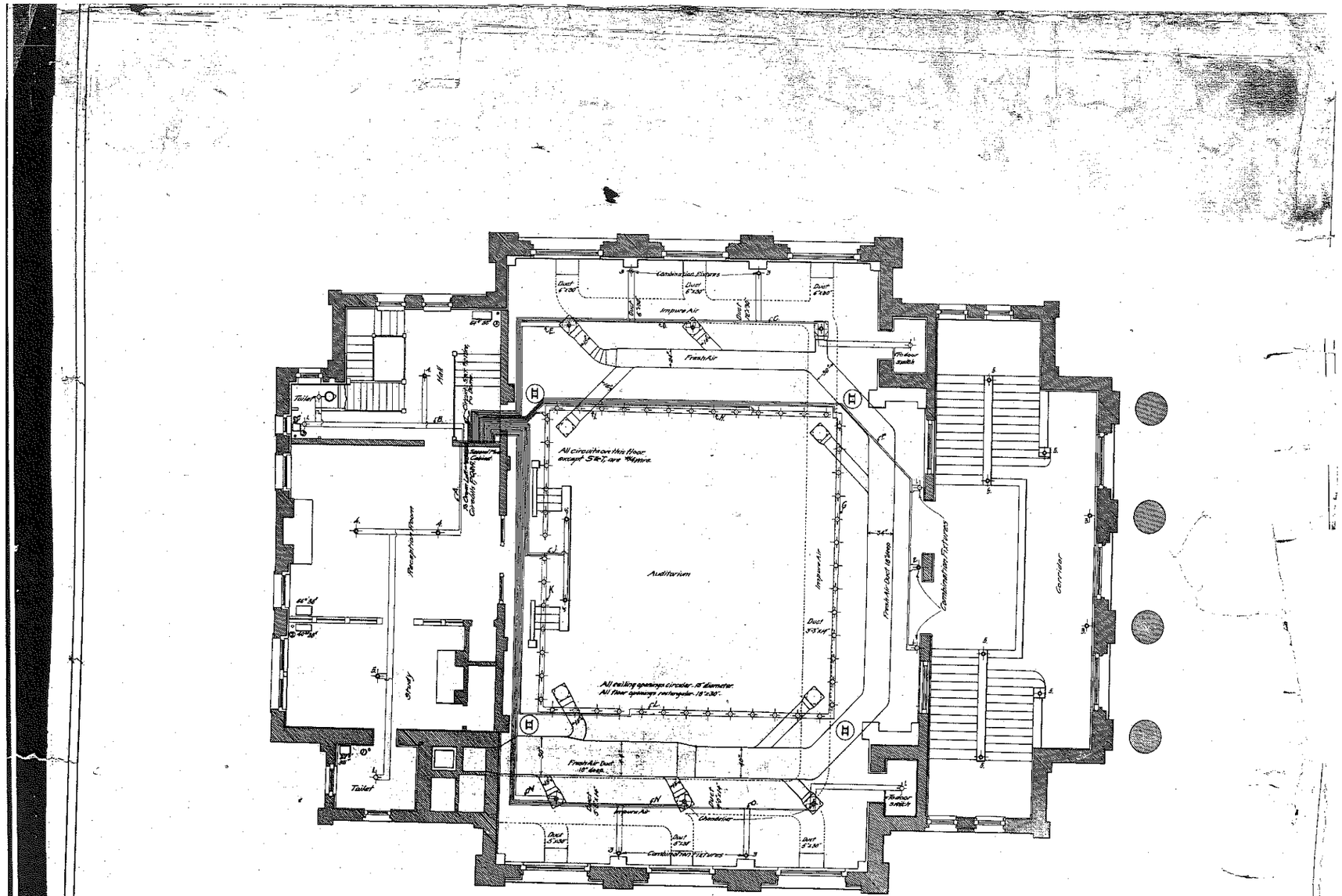
3" SCALE DETAIL OF HORIZONTAL RIBS.

VERTICAL RIBS SIMILAR DETAIL.

1/2" SCALE DETAIL OF DOME.

LUTCH MEMORIAL CHU

(24)

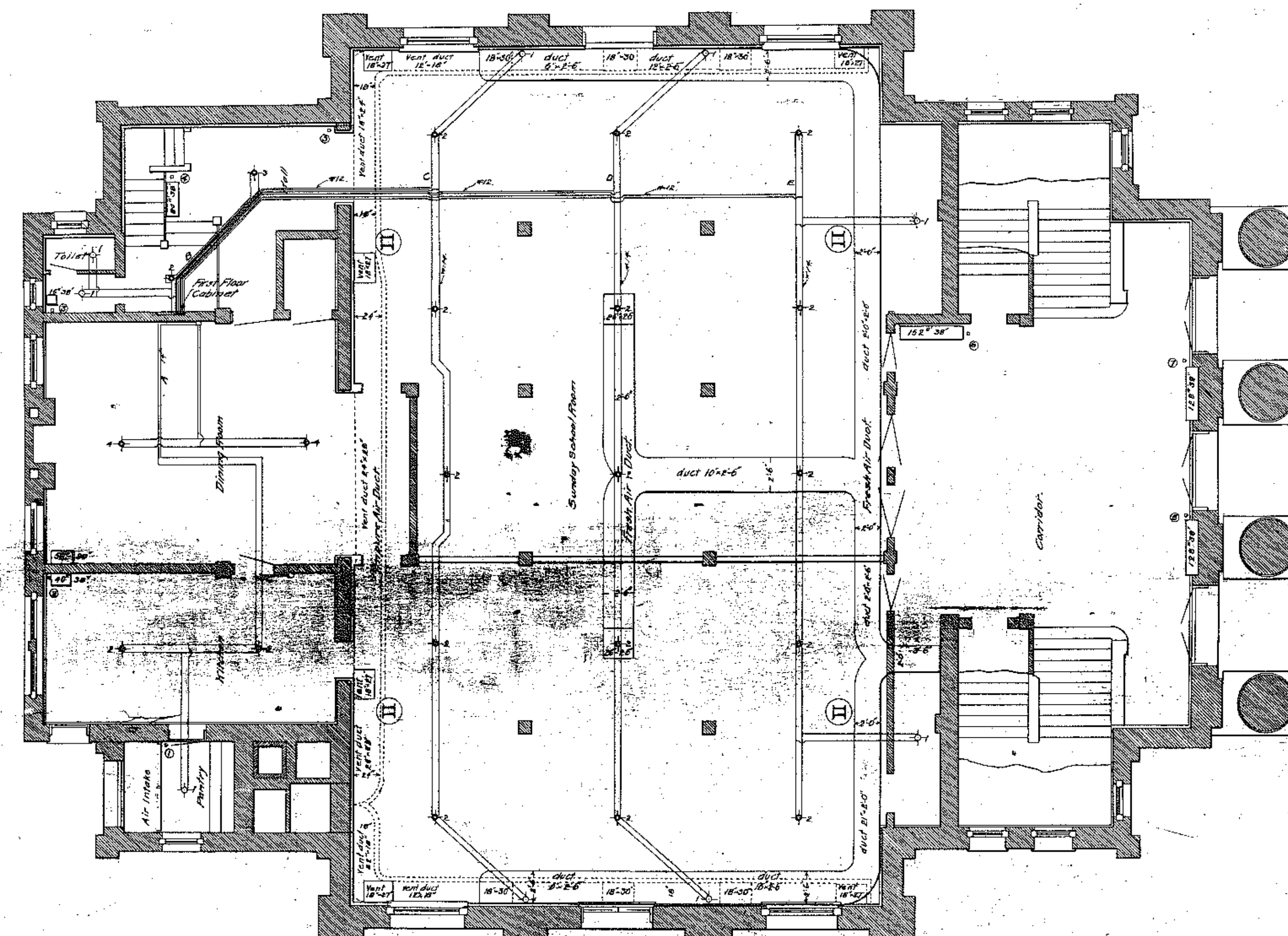


AUDITORIUM FLOOR PLAN.
SHOWING
HEATING, VENTILATING & LIGHTING

LUTCHER MEMORIAL CHURCH
ORANGE, TEXAS

JAS. OLIVER HOGG, ARCHT.
KANSAS CITY, MO.

2

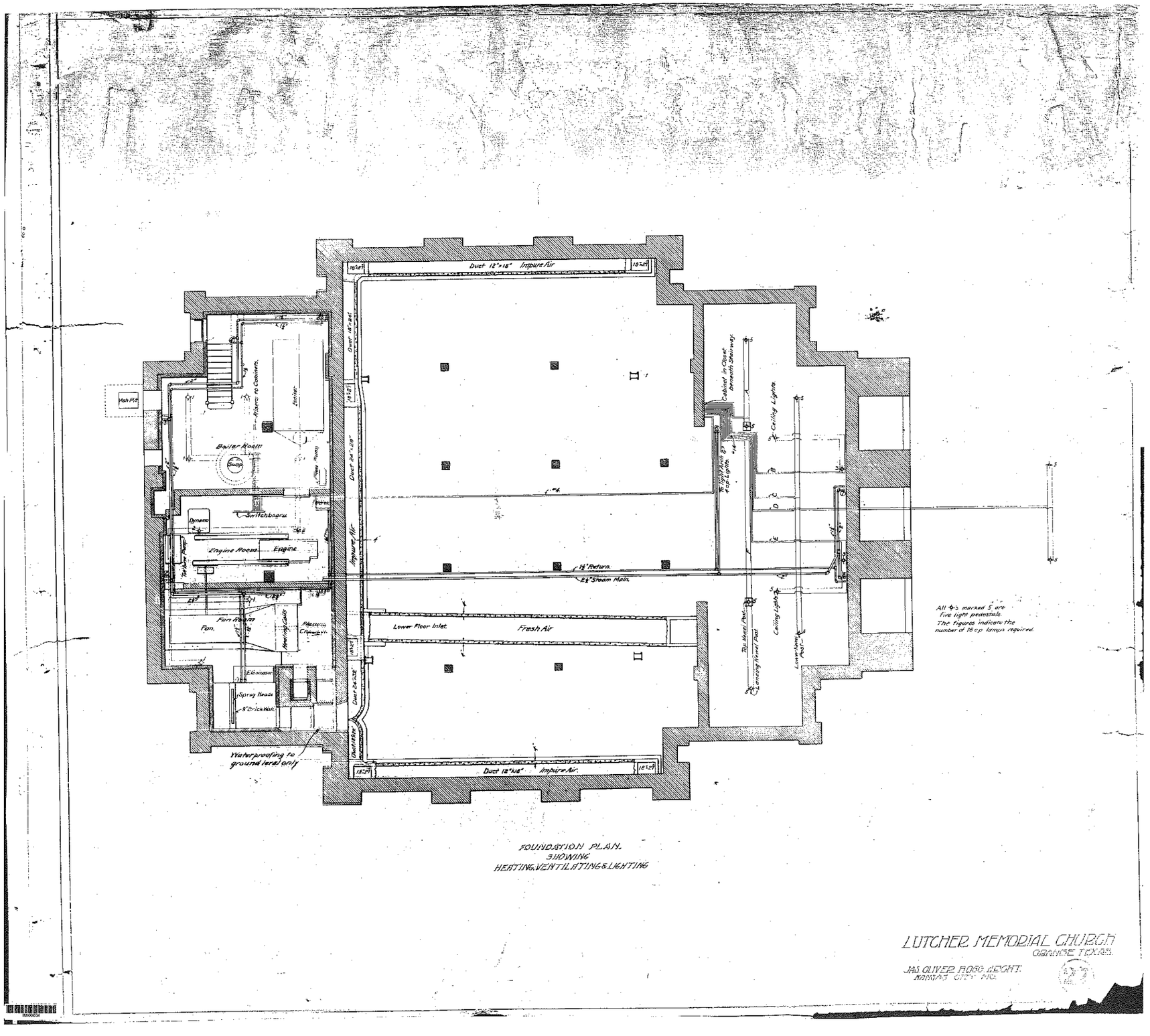


FIRST FLOOR PLAN.
SHOWING
HEATING, VENTILATING, & LIGHTING

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER HOGG. ARCHT.
KANSAS CITY MO.

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FOUNDATION PLAN.
SHOWING
HEATING, VENTILATING & LIGHTING

LUTCHER MEMORIAL CHURCH
ORANGE TEXAS.

JAS. OLIVER ROBB. ARCHT.
KANSAS CITY MO.