



Planning and Development Services

2001 S. State Street N3-600 • Salt Lake City, UT 84190-4050

Phone: (385) 468-6700 • Fax: (385) 468-6674

<https://msd.utah.gov/agendas/>



GREATER SALT LAKE
**Municipal Services
District**

Salt Lake County Planning Commission

Public Meeting Agenda

Wednesday, July 13, 2022 8:30 A.M.

LOCATION:

Join meeting in WebEx

Meeting number (access code): 961 841 420

<https://slco.webex.com/join/wgurr>

Join meeting in WebEx (download available at <https://www.webex.com/downloads.html> for Windows, Android, and Apple devices)

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Anchor Location:

2001 South State Street

North Building, Room N1-110

*UPON REQUEST, WITH 5 WORKING DAYS NOTICE, REASONABLE ACCOMMODATIONS FOR QUALIFIED INDIVIDUALS MAY BE PROVIDED. PLEASE CONTACT WENDY GURR AT 385-468-6707.
TTY USERS SHOULD CALL 711.*

The Planning Commission Public Meeting is a public forum where, depending on the agenda item, the Planning Commission may receive comment and recommendations from applicants, the public, applicable agencies and MSD staff regarding land use applications and other items on the Commission's agenda. In addition, it is where the Planning Commission takes action on these items, which may include: approval, approval with conditions, denial, continuance or recommendation to other bodies as applicable.

BUSINESS MEETING

- 1) Approval of the May 11, and June 15, 2022 Planning Commission Meeting Minutes. (Motion/Voting)
- 2) Other Business Items (as needed)

ADMINISTRATIVE LAND USE APPLICATION(S)

CUP2022-000622 – Northrup Grumman is requesting Site Plan and Conditional Use approval for an expansion of the existing Rocket Motor Manufacturing plant. **Parcel Area:** 35.515 acres. **Location:** 4098 South 8400 West (Legal Address), Approximately 4400 South 9200 West (Actual Location). **Zone:** M-2 (Manufacturing). **Planner:** Brian Tucker (Motion/Voting)

ADJOURN

Rules of Conduct for the Planning Commission Meeting

1. Applications will be introduced by a Staff Member.
2. The applicant will be allowed up to 15 minutes to make their presentation.
3. The Community Council representative can present their comments.
4. Persons in favor of, or not opposed to, the application will be invited to speak.
 - a. Speakers will be called to the podium by the Chairman.
 - b. Because the meeting minutes are recorded it is important for each speaker to state their name and address prior to making any comments.
 - c. All comments should be directed to the Planning Commissioners, not to the Staff or to members of the audience.
 - d. For items where there are several people wishing to speak, the Chairman may impose a time limit, usually 3 minutes per person, or 5 minutes for a group spokesperson.
5. Persons opposed to the application will be invited to speak.
6. The applicant will be allowed 5 minutes to provide concluding statements.
 - a. After the hearing is closed, the discussion will be limited to the Planning Commission and the Staff.

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File # CUP 2022-000622

Site Plan and Conditional Use Permit for the Expansion of an Existing Rocket Motor Manufacturing Plant

Public Body: Salt Lake County Planning Commission

Meeting Date: July 13, 2022

Parcel ID: Portions of 20-06-100-001 and 20-06-200-001

Current Zone: M-2 (Manufacturing Zone)

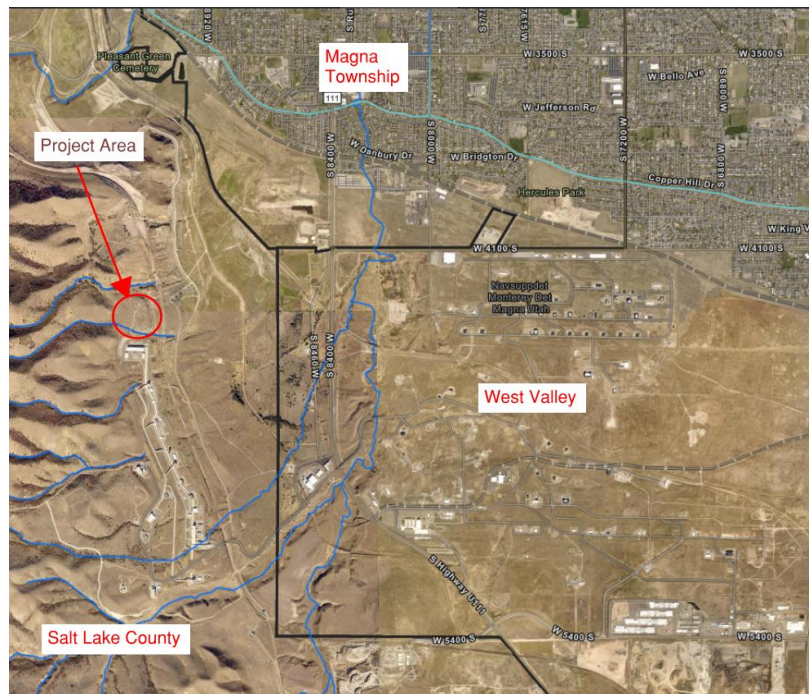
Property Address: 4098 South 8400 West (Legal Address) Approximately 4400 South 9200 West (Actual Location)

Request: Northrup Grumman is requesting Site Plan and Conditional Use approval for an expansion of the existing Rocket Motor Manufacturing plant.

Planner: Brian Tucker

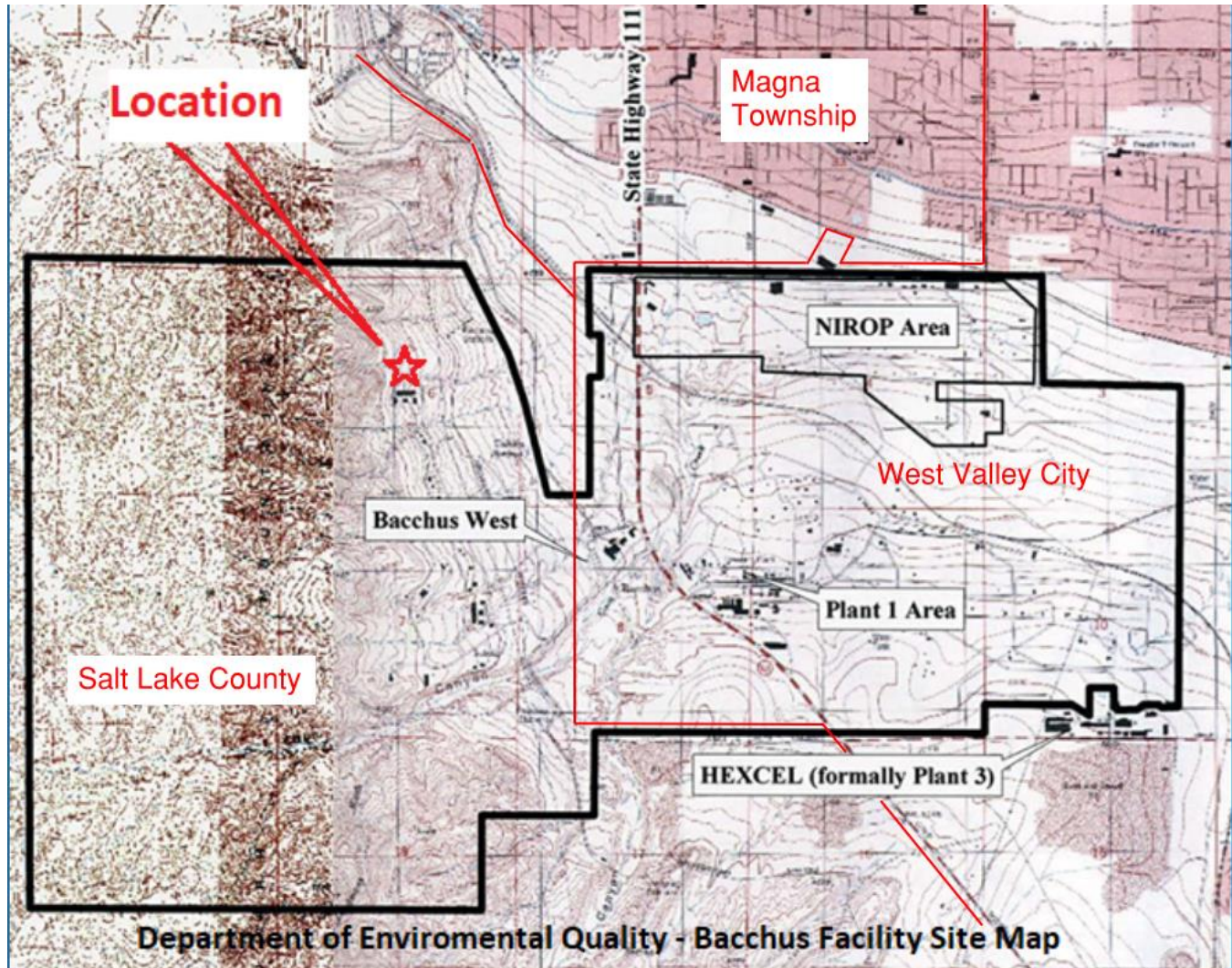
Applicant Name: Northrup Grumman (Douglas Farley, Representative)

SITE & VICINITY DESCRIPTION



The project area is located about 0.7 miles south and west of the Magna Township Boundary and 2.5 miles south of Magna Main Street. The project is at the north end of an existing Northrop Grumman Plant and is an extension of the existing rocket motor assembly line. The legal address for this portion of the plant is 4098 West 8400 West, but the actual location is at approximately 4400 South and 9200 West. This existing plant is located to the west of the Northrop Grumman Facility, which was formerly known as the Hercules Bacchus Plant.

PROJECT BACKGROUND AND DESCRIPTION



Hercules, Inc. established the Bacchus Works in 1915 as a producer of commercial blasting powder. The plant was renovated into a modern solid rocket propulsion facility in 1958 with research, development, and production capability. In June 2018, Northrop Grumman Corporation acquired the Bacchus facility, which they operate under a subsidiary known as ATK Launch Systems.

The Bacchus facility occupies about 10,000 acres within West Valley City and unincorporated Salt Lake County. The facility includes over 400 buildings that are used to produce and prepare propellant ingredients, manufacture solid propellants, and produce solid propellant rocket motors. It is located

south of the Magna Township, about 18 miles southwest of Salt Lake City. Plant 1 (Bacchus East) and the Naval Industrial Reserve Ordnance Plant (NIROP) are located in West Valley. Bacchus West straddles the boundary between West Valley City and unincorporated Salt Lake County, with most of the plant located to the south and west of Magna and in unincorporated Salt Lake County. This Bacchus West Facility began construction in 1983 and has been producing rockets for more than 35 years. It is this Bacchus West Facility that is the subject of the conditional use permit for site plan approval request.

All the facilities that comprise Bacchus East, Bacchus West and NIROP are owned or leased, and are operated by ATK Launch Systems, a subsidiary of Northrop Grumman Innovation Systems. The NIROP facility is owned by the United States Navy and is operated by ATK Launch Systems as an integral part of the facility. Plant 1 and a portion of the Bacchus West facilities are owned by ATK Launch Systems. Much of the Bacchus West property is owned by and leased from the Kennecott Utah Copper Corporation.

In June of this year, the Salt Lake County Council approved a rezone of 35 acres from A-20 (agricultural zone) to M-2 (manufacturing zone) to facilitate the expansion of the existing plant. These 35 acres included not only the expanded plant but also the entirety of the area to be disturbed.

PROPOSAL

Northrop Grumman is the only builder of a specific solid state fuel rocket motor used for commercial and military applications. Facing increased demand, Northrop Grumman intends to invest \$450 million dollars in expanding the existing manufacturing line. Northrop Grumman is looking to both upgrade the existing Bacchus facility and increase their production capacity by building additional buildings for storage and manufacturing. This additional manufacturing capability will allow the company to triple the number of rocket motors they are able to build.

Some of the proposed buildings will be in West Valley City, but nine significant buildings are proposed in unincorporated Salt Lake County. Four of these buildings are located within the footprint of the current plant, but the remaining five are proposed for the area north of the existing assembly line as they are an addition to that assembly line. The 35-acre rezone area is the home to these five proposed buildings.

The five significant buildings within the 35-acre rezone area will be used for the casting of the liquid fuels into the rocket casings and cured into the solid fuel rocket motors that are the product of this plant. This casting work is done in two casting/curing buildings to accommodate tipping the unfilled rocket motor on end, in an 80' deep pit, for fuel to be cast. The fuel then cures into a rubber like state. After curing, the motor is then transported to the Finishing building, located within the West Valley City portion of the plant. The Propellant Manufacturing Control House is the location where the employees control the work in the casting/curing buildings. The Core Storage Building and Boiler House are part of the casting/curing operations. The four buildings within the existing Bacchus West footprint support the expanded production capacity and include a storage building, a utility building, a cleaning building and an air handler building.

While the Bacchus Facility does produce rocket motors with highly explosive fuels, the motors that will be manufactured in this expanded plant use a much less explosive fuel than the fuel the overpressure zone is based on. Consequently, expansion of the existing plant operations and manufacturing line to the north did not necessitate amending the overpressure zone. No intentional explosions will take place in association with this plant.

PLANNING STAFF ANALYSIS

Zoning:

The Salt Lake County Council rezoned the property to M-2 to facilitate the expansion of this plant. The existing plant and the proposed expansion area are all zoned M-2, a zone that does not specifically include rocket motor manufacturing but does include *“manufacture, fabrication, assembly, compounding, packaging, processing, treatment, storage and maintenance of” “Airplanes and parts”*, among other uses. This *“airplanes and parts”* manufacturing use is a permitted use in the M-2 (but industrial developments over one acre are conditional uses). There is no other use that closely resembles what the applicants intend. When this is the case, Salt Lake County and its Planning Director are empowered to make an administrative determination for uses that are not listed but are of a similar nature to uses that are. There is very little historical information available about the initial permitting of the existing plant, but it was likely allowed through the conditional use process.

The Director of Planning and Development Services has made an administrative decision that the manufacture, fabrication, assembly, packaging, processing, storage and treatment of rocket motors is a permitted use in the M-2 zone.

Conditional Use Permit Review Criteria:

The Salt Lake County Planning Commission is the decision-making body for conditional uses. The Planning Commission may impose reasonable conditions of approval to mitigate any legitimate detrimental effects of the proposed land use that are identified. The standards of approval are as follows:

- A. The proposed site development plan shall comply with all applicable provisions of the zoning ordinance, including parking, building setbacks, and building height.
- B. The proposed use and site development plan shall comply with all other applicable laws and ordinances.
- C. The proposed use and site development plan shall not present a serious traffic hazard due to poor site design or to anticipated traffic increases on the nearby road system as reviewed by Salt Lake County Engineering.
- D. The proposed use and site development plan shall not pose a serious threat to the safety of persons who will work on, reside on, or visit the property nor pose a serious threat to the safety of residents or properties in the vicinity by failure to adequately address the following issues: fire safety, geologic hazards, soil or slope conditions, liquefaction potential, site grading/topography, storm drainage/flood control, high ground water, environmental health hazards, or wetlands.
- E. The proposed use and site development plan shall not adversely impact properties in the vicinity of the site through lack of compatibility with nearby buildings in terms of size, scale, height, or noncompliance with community general plan standards.

Approval Process for Conditional Use Permits:

There is an approval process for conditional use permits. First, applicant submits an application and the required plan sets. When the MSD determines that the applicant has submitted all of the required and necessary plans and the applicant pays the necessary fees, the application is deemed to be complete. The project is then submitted to SL Co Engineering, the SL Co Surveyor, the UFA Fire Marshall, SL Co Public Works Operations, MSD Grading, MSD Building, and SL Co Health for conceptual review. These agencies either approve the plans conceptually or require revisions prior to moving the project to Planning Commission. The application does not move on to the Planning Commission for approval until all of the agencies give conceptual approval. Conceptual approval is an approval of the concept. This is an acknowledgement that the proposed project likely can be made to work, not that it certainly does.

The Planning Commission holds a public meeting where they discuss the project and make a decision. This approval is preliminary and will typically include a number of conditions that are intended to mitigate legitimate potential impacts. The approval is always conditioned on agency approval through the technical review process. The MSD issues an after-action report, outlining the decision of the Planning Commission and the conditions of approval. The Planning Commission is not the final step in the approval process.

After the Planning Commission, the applicant submits revised plans for technical review. Technical review is the critical step that the applicant must overcome. These revised plans are placed in technical review, where comments and revisions go back and forth until the plans have final approval from each of the Salt Lake County departments, UFA and MSD divisions. Only at the conclusion of the technical review process is a final approval letter issued, with conditions of approval and copies of the approved plans. At this time the applicant may proceed.

Air Quality and other Environmental Impacts:

Air quality and other environmental concerns have been identified as potential detrimental effects both during a potential construction phase of the project and the longer-term operation of the plant.

The mass grading of any project, industrial or residential, carries with it concerns about air and water quality due to the movement of soils and removal of vegetative cover. Blowing winds, flowing water and the movement of machines can displace soils, causing air and water pollution. Storm Water Pollution Prevention Plans (SWPPP) and Fugitive Dust Control Plans are required by the State of Utah to ensure that the applicant uses best management practices to control air quality and water pollution that may result from construction activities. Penalties for violations of the plans can be imposed if these plans are violated. These plans must be in place for the entirety of the construction portion of a project and in some instances are required for the life of the facility.

The Bacchus Facility has air quality, water quality, waste, and hazardous waste permits through the Utah Department of Environmental Quality (DEQ). DEQ monitors and licenses air and water quality as well as waste and hazardous waste. These existing permits will need to be amended with DEQ in conjunction with this project. The existing plant has a permit to store hazardous waste at three locations at its current plant, all three of which are located within the West Valley City portion of the plant and have no bearing on this application.

Flood Control and Grading:

Grading plans will need to be approved by the MSD Storm Water and Grading Division. The proposed plant will require nearly two (2) million cubic yards of cut and 75 thousand cubic yards of fill. The excess soil from the site grading of the current facility was stored within the project area. This soil will be removed, along with significant grading of the hillside. The project will require the removal of a portion of the hillside that at its greatest extent will result in an elevation change of nearly 160 feet. The resulting slope will have a 200-foot drop over a distance of 300 feet, resulting in a 33.69-degree slope. By way of comparison, this slope is the same as a roof pitch of 8/12. This finished grade is steeper than most of the existing hillside and will need to be re-vegetated to control erosion. The proposed storage area for the excess material is to the east of the existing manufacturing line. (See Attached Grading Plan) The Storm Water and Grading Division has given conceptual approval for the grading plans.

The plant is proposed to be constructed across an ephemeral stream. The applicant is proposing that the ephemeral street be piped. Stream alteration can fall under the jurisdiction of the Division of Water Rights, Stream Alteration Permitting. Stream Alteration Permitting only requires a permit if there is significant riparian or other value. Typically, an ephemeral stream will not require a permit. Salt Lake County engineering has given conceptual approval for the preliminary urban hydrology plans.

Newly hardscaped ground and rooftops will create additional runoff that will need to be mitigated by on-site detention or by some other permitted means. As mentioned previously, the County's Engineering staff have given conceptual approval for urban hydrology. This conceptual approval includes several comments that will need to be resolved through the technical review process.

Soils, Liquefaction and Ground Water:

The applicant has submitted geotechnical reports covering all the proposed building sites. A Geotechnical Report addresses the types of soils and their potential for liquefaction, along with ground water and drainage to assess the stability of the site and gives recommendations for mitigating any potential issues with soil stability for buildings and infrastructure. Salt Lake County Engineering has examined these reports and have given the conceptual approval for the geology review.

Fire and Fire Code:

The rocket motors built in the existing facility are the same as those proposed for the expanded facility. While the rocket fuel is highly flammable, it is not a mass detonation hazard. Unified Fire Authority has conceptually approved the plans and have not identified any special concerns.

Transportation:

Transportation access for this site is primarily 8400 West (S.R 111/Bacchus Highway). The route passes through the plant between the West Bacchus and Plant 1 areas. 4100 South and 5400 South are along the north and south plant boundaries and may provide additional access to the site. Finally, a railroad spur provides rail service to the Bacchus Plant. Salt Lake County Engineering has given conceptual approval for traffic circulation.

Neighboring Property Impacts:

The proposed use and site development plan can't adversely impact properties in the vicinity of the site through lack of compatibility. In this case, all of the property within 0.5 miles of the proposed plant expansion are owned either by the applicant or by Rio Tinto/Kennecott, who will lease or sell the

property in the project area to the applicant. Rio Tinto/Kennecott have given Northrup Grumman permission to make the rezone application and this conditional use permit application.

Notice:

Notice has been given in accordance with Utah Code 17-27a-205 and Salt Lake County Code 19.90.020. Notice was mailed to each affected entity and property owner at least 10 calendar days before the public meeting. Notice was posted on the County's official website, on the Utah Public Notice Website, and in three public locations at the Salt Lake County Government Center.

POTENTIAL PLANNING COMMISSION ACTIONS

The Planning Commission has three options with respect to the proposed conditional use permit:

- Option 1: Approve the conditional use permit with the conditions proposed by MSD Staff; or
- Option 2: Approve the conditional use permit with additional reasonable conditions determined by the Planning Commission, based on legitimate potential detrimental effects that have been identified; or
- Option 3: Deny the conditional use permit application because a legitimate detrimental effect has been identified that cannot be mitigated by a reasonable condition or conditions. If a legitimate detrimental effect is identified, unless it cannot be mitigated by a reasonable condition, the conditional use permit must be approved.

PLANNING STAFF RECOMMENDATION

Because the Salt Lake County Council approved the rezone of the 35 acres to facilitate the expansion of the existing plant, and because there have not been any legitimate potential effects identified that cannot be mitigated through the application of reasonable conditions, the Planning Staff recommend that the Site Plan and Conditional Use Permit for the proposed expansion of the existing Rocket Motor Manufacturing plant owned by Northrup Grumman be approved with the following conditions:

Conditions:

1. Final Conditional Use Permit Approval shall not be granted by the MSD until the applicant has complied with all requirements from reviewing agencies to date and any requirements that arise during the technical review process.
2. Building permits are required for any construction in accordance with the applicable building codes.
3. Storm Water Pollution Prevention Plans (SWPPP) and Fugitive Dust Control Plans are required.
4. The air quality, water quality, and waste permits through the Utah Department of Environmental Quality (DEQ) must be amended, with copies submitted to the MSD.
5. Grading plans must be approved by the MSD Storm Water and Grading Division.
6. If required, a stream alteration permit must be issued by the Division of Water Rights, Stream Alteration Permitting. If the division does not require a stream alteration permit, that must be communicated to Salt Lake County Engineering by Division of Water Rights, Stream Alteration Permitting.
7. Drainage and detention plans must be approved by Salt Lake County Engineering.

Attachments:

1. Administrative Determination
2. Northrop Grumman Bacchus Works Master Plan
3. Site Plan
4. Grading Plan
5. Building Footprints and Elevations
6. Agency Conceptual Review Summary



Municipal Services District

2001 So. State Street, Ste. N3-600
Salt Lake City, UT 84190
(385) 468-6700 MSD.UTAH.GOV



8952 W Magna Main St.
Magna, UT 84044
(801) 834-2577
magnametrotownship.org

July 5th, 2022

Northrup Grumman
PO Box 96, Attn Doug Farley
Magna, Utah 84044

RE: Administrative Determination Regarding a Rocket Motor Plant in the M-2 Zone

The Greater Salt Lake Municipal Services District (MSD) Planning and Development Services received your request to make an administrative determination for a rocket motor plant in the M-2 Zone in Salt Lake County, $\frac{3}{4}$ mile southwest of the intersection between 8400 West and 4100 South. The existing rocket motor plant was approved in the late 1980's and built in the early 1990's. As proposed, the applicant is requesting that an additional 9 buildings be added to this rocket motor plant. The Salt Lake County Council has approved a rezone to M-2 for 35.5 acres to facilitate these additional buildings, the purpose of which is to expand the plant capacity by up to 200%.

The M-2 Manufacturing zone of the Salt Lake County Code (Section 19.68.20) does not specifically list the manufacturing of rocket motors as a permitted or conditional use in the M-2 Zone. Salt Lake County Code, Section 19.76.030 allows the Planning and Development Service Director to make an administrative determination as to the classification of uses not specifically listed in the Salt Lake County Code. As such, after reviewing the Salt Lake County Code and the Salt Lake County West General Plan, the following administrative determination is made:

"The Manufacture, fabrication, assembly, compounding, processing, treatment and/or maintenance of rocket motors is allowed as a permitted use,¹ under Salt Lake County Code, Section 19.68.020."

The determination is based on the fact that the manufacturing of rocket motors is of the same character and intensity and similar to other permitted uses in the M-2 zone, such as *"manufacturing, fabrication, assembly, compounding, processing, treatment and/or maintenance of airplanes and parts"*. This determination also considers the fact that rocket motors have been manufactured at this site for approximately 30 years. The approval for the expansion of this plant was a legislative policy decision, given that the Salt Lake County Council approved the rezone to accommodate this expansion.

An appeal of this administrative determination to the Salt Lake County Planning Commission may be files in writing to the MSD Planning and Development Services Department no later than 10 days from the filing of this mailing.

Respectfully,

Trent Sorensen, Director
Planning and Development Services Department

C: Salt Lake County Planning Commission



Note:

1. Any project containing 1 or more acres requires site plan approval through a conditional use permit.

Cast/Cure and associated buildings

Buildings in West Valley

Other buildings in Salt Lake County

Attachment #2
Northrup Grumman
Bacchus Works
Master Plan



Attachment #3 Site Plan

The site plan shows four main buildings: CONTROL HOUSE #2 (FF= 5117.50), CASTING/CURING BUILDING #4 (FF= 5100.50), CASTING/CURING BUILDING #3 (FF= 5100.50), and CASTING/CURING BUILDING #2 (FF= 5100.50). The buildings are arranged around a central paved area. A north arrow and scale bar (1" = 50') are located in the top right corner. A SHEET REFERENCE diagram shows the current sheet (C1.0) as part of a larger set.

SHEET REFERENCE

C1.0
C1.8

GENERAL SITE NOTES:

- ALL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
- FIRE LANE MARKINGS AND SIGNS TO BE INSTALLED AS DIRECTED BY THE FIRE MARSHAL.
- ASLE MARKINGS, DIRECTIONAL ARROWS AND STOP BARS WILL BE PAINTED AT EACH DRIVEWAY AS SHOWN ON THE PLANS.
- CONST. CURB TRANSITION AT ALL POINTS WHERE CURB ADJUTS SIDEWALK; SEE DETAIL.
- CONTRACTOR SHALL PLACE ASPHALT PAVING IN THE DIRECTION OF VEHICLE TRAVEL WHERE POSSIBLE.
- LIMITS OF DEMOLITION/DISTURBED AREAS SHOWN ON THE PLANS MAY NOT BE AN EXACT DEFINITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MEANS AND METHODS OF HOW THE WORK WILL BE COMPLETED. THE CONTRACTOR SHALL DETERMINE THE AREA OF CONSTRUCTION IMPACT. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ALL IMPACTED AREAS AND ALL RESTORATION SHALL BE PART OF THE CONTRACT BID.

CONSTRUCTION SURVEY NOTE:

THE CONSTRUCTION SURVEY LAYOUT FOR THIS PROJECT WILL BE PROVIDED BY ANDERSON WAHLEN & ASSOCIATES. THE LAYOUT PROPOSAL AND PROFESSIONAL SERVICES AGREEMENT WILL BE PROVIDED TO THE GENERAL CONTRACTOR(S) FOR INCLUSION IN BASIS BIDS. THE SURVEY LAYOUT PROPOSAL HAS BEEN BROKEN OUT INTO BUILDING COSTS AND SITE COSTS FOR USE IN THE SITE WORK BID FORM.

SURVEY CONTROL NOTE:

THE CONTRACTOR OR SURVEYOR SHALL BE RESPONSIBLE FOR FOLLOWING THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS (NSPS) MODEL STANDARDS FOR ANY SURVEYING OR CONSTRUCTION LAYOUT TO BE COMPLETED BY ANDERSON WAHLEN & ASSOCIATES ALTA SURVEYS OR ANDERSON WAHLEN & ASSOCIATES CONSTRUCTION IMPROVEMENT SURVEYS. THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL POINTS PROVIDED BY ANDERSON WAHLEN & ASSOCIATES FOR VERIFYING HORIZONTAL CONTROL POINTS SHOWN ON ANY ALTA SURVEY. THE SURVEYOR SHALL ALSO USE THE BENCHMARKS AS SHOWN ON THE PLAN, AND VERIFY THEM AGAINST NO LESS THAN THREE EXISTING HARD IMPROVEMENT ELEVATIONS INCLUDED ON THESE PLANS OR ON ELECTRONIC DATA PROVIDED BY ANDERSON WAHLEN & ASSOCIATES. IF ANY DISCREPANCIES ARE ENCOUNTERED, THE SURVEYOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND RESOLVE THE DISCREPANCIES BEFORE PROCEEDING WITH ANY CONSTRUCTION STAKING.

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING THE LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

OVER ALL SITE PLAN
1" = 50'-0"

REVISIONS

REV	DESCRIPTION	FEQ. NO.	DATE	APP'D

APPROVALS

BY	DATE
SM	
JT	

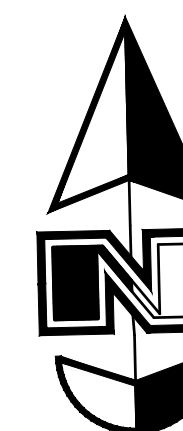
NORTHROP GRUMMAN SPACE SYSTEMS SECTOR PROPULSION SYSTEMS, BACCHUS FACILITIES ENGINEERING
CAST CURE BUILDING #3 & #4 OVERALL SITE PLAN

DRAWING NO.: C1.0 REVISION:
SCALE: 1" = 50' SHEET: 3 OF 18

JACOBS
Jacobs Engineering Group Inc.
2010 South Main Street, Suite 100, Fort Worth, TX 76102
817-339-1000 • jacobsgroup.com

ANDERSON WAHLEN & ASSOCIATES
Professional Engineer
No. 7884605
Surveyor
State of Texas

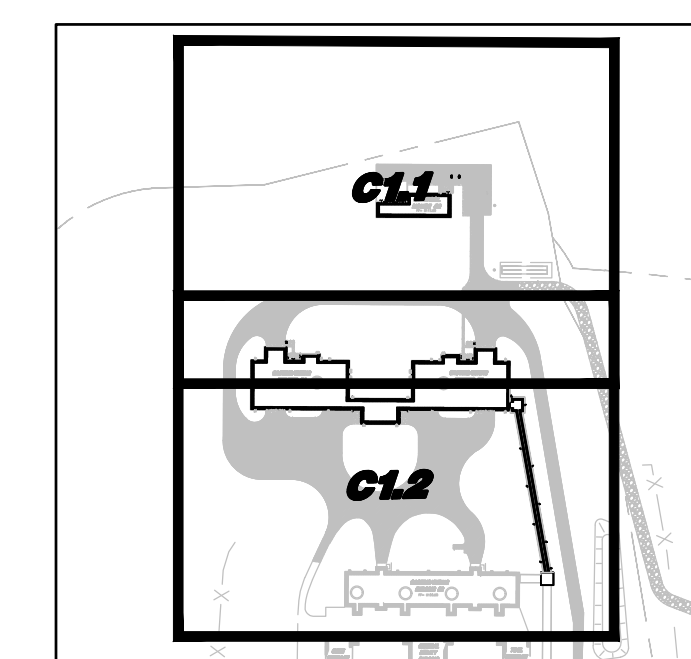
THIS PRINT, AND THE INFORMATION AND TECHNOLOGY HEREON, IS THE PROPERTY OF NORTHROP GRUMMAN, AND MAY NOT BE USED, REPRODUCED, OR DISCLOSED TO OTHERS WITHOUT THE WRITTEN PERMISSION OF NORTHROP GRUMMAN. PERMITTED REPRODUCTIONS IN WHOLE OR PART, INCLUDING BORROWER'S SHOP DRAWINGS, SHALL BEAR OR REFER TO THIS NOTICE. RETURN OF THIS PRINT SHALL BE MADE TO NORTHROP GRUMMAN UPON REQUEST.



Scale: 1" = 50'

A horizontal scale bar with tick marks at 0, 50, and 100 feet. The bar is divided into two equal segments, each representing 50 feet.

SHEET REFERENCE



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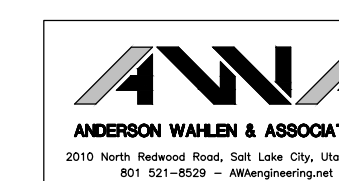
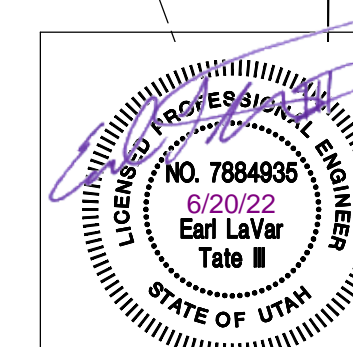
SURVEY CONTROL NOTE:

THE CONTRACTOR OR SURVEYOR SHALL BE RESPONSIBLE FOR FOLLOWING THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS (NSPS) MODEL STANDARDS FOR ANY SURVEYING OR CONSTRUCTION LAYOUT TO BE COMPLETED USING ANDERSON WAHLIN AND ASSOCIATES ALTA SURVEYS OF ANY TYPE. THE CONTRACTOR OR SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL, THE SURVEY OR CONSTRUCTION STAKING, THE SURVEYOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL CONTROL FROM THE SURVEY OR CONSTRUCTION STAKING. THE CONTRACTOR OR SURVEYOR SHALL POINT SHOWN ON AN ALTA SURVEY, IMPROVEMENT PLAN, OR ON ELECTRONIC DATA PROVIDED BY ANDERSON WAHLIN AND ASSOCIATES. THE CONTRACTOR OR SURVEYOR SHALL VERIFY THE POINTS ON THE PLAN, AND VERIFY THEM AGAINST NO LESS THAN THREE EXISTING HARD IMPROVEMENT ELEVATIONS INCLUDED ON THESE PLANS OR ON ELECTRONIC DATA PROVIDED BY ANDERSON WAHLIN AND ASSOCIATES. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR OR SURVEYOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND RESOLVE THE DISCREPANCIES BEFORE PROCEEDING WITH ANY CONSTRUCTION.

PRIVATE ENGINEER'S NOTICE TO CONTRACTOR:

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF PERSONS AND PROPERTY. THE CONTRACTOR SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

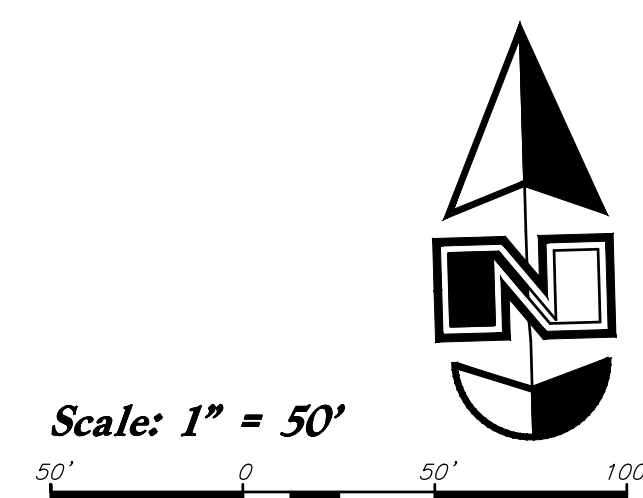
1 OVER ALL SITE PLAN
1" = 50'-0"



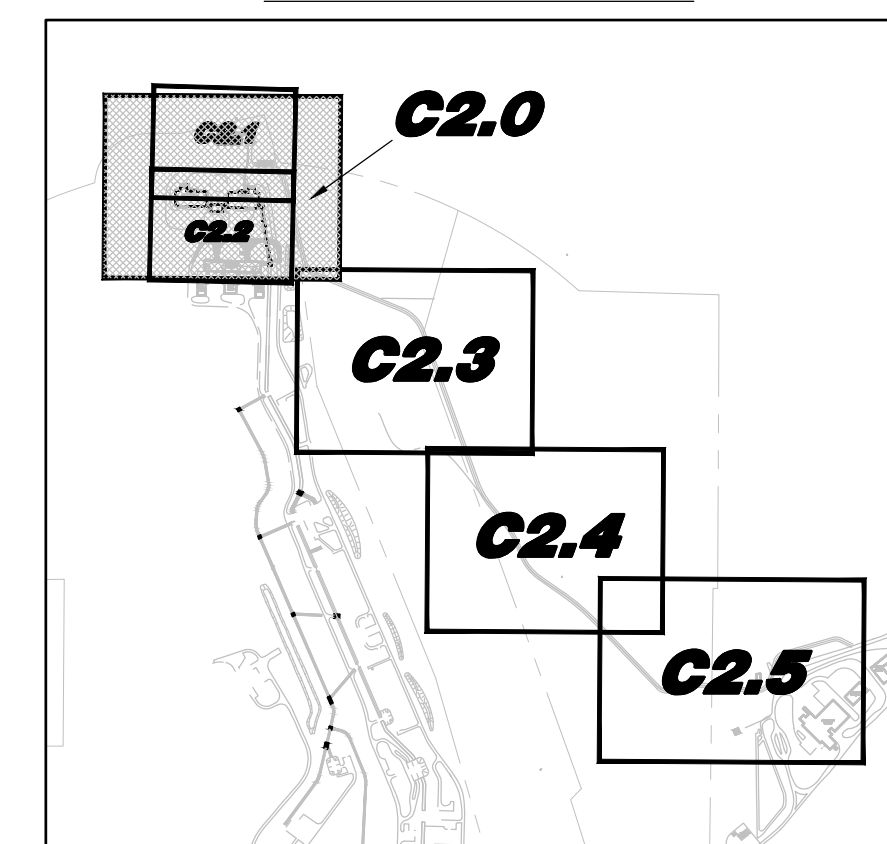
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Fort Worth, TX 76102

REVISIONS					APPROVALS				NORTHROP GRUMMAN		SPACE SYSTEMS SECTOR PROPULSION SYSTEMS, BACCHUS		
REV	DESCRIPTION	FEO NO.	DATE	APP'D	DRAWN	BY	DATE	FACILITIES' ENGINEERING CAST CURE BUILDING #3 & #4 OVERALL SITE PLAN					
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					ENGINEER	JT							
					OPERATIONS								
					PROCESS/INFG ENG								
					SAFETY								
					MAINTENANCE			DRAWING NO: C1.0					
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					FEO NO.			SCALE: 1" = 50'					SHEET: 3 OF 4

Attachment #4 Grading Plan



SHEET REFERENCE



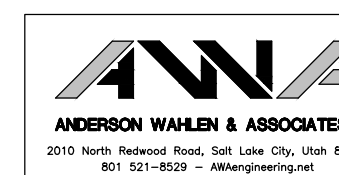
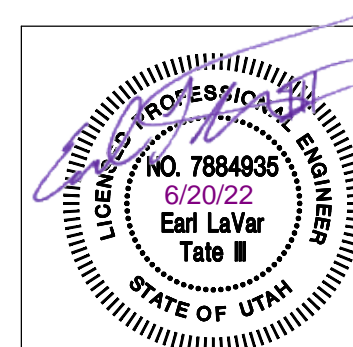
GENERAL GRADING NOTES:

1. ALL GRADING SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL STUDY.
 2. DIRT SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
 3. FILL SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL.
 4. ALL FILL COMPACTATIONS SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER. THE PROCEEDING REPORT PREPARED FOR THE PROJECT SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
 5. ALL FILL SHALL BE PLACED IN A MANNER PROPERLY PREPARED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING FILL.
 6. FILLS SHALL BE BENCHED INTO COMPETENT MATERIAL AS PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
 7. THE DIRT BACKFILL SHALL BE TESTED AND CERTIFIED BY A GEOTECHNICAL ENGINEER.
 8. A GEOTECHNICAL ENGINEER SHALL PERFORM PERIODIC INSPECTIONS AND SUBMIT A COMPLETE REPORT AND MAP UPON COMPLETION OF THE ROUGH GRADING.
 9. THE FINAL COMPACTED REPORT AND CERTIFICATION FROM A GEOTECHNICAL ENGINEER SHALL BE THE TYPE OF FILL METHOD PERFORMED. EACH TEST SHALL BE IDENTIFIED WITH THE TESTING OF THE FILL IN PLACE. THE TYPE OF FILL METHOD SHALL BE IDENTIFIED AND SHALL BE SO NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY TESTS SHALL BE CONDUCTED TO VERIFY THE ACHIEVEMENT OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.
 10. DUST SHALL BE CONTROLLED BY WATERING.
 11. THE LOCATION PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITEE.
 12. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS REQUIRED TO PROTECT ADJACENT TERRAINS DURING THE GRADING PROCESS.
 13. ALL PUBLIC ROADWAYS MUST BE CLEARED DAILY OF ALL DIRT, MUD AND GRAVEL. THIS SHALL BE A RESULT OF THE GRADING OPERATIONS. CLEANING IS TO BE DONE TO THE SATISFACTION OF THE CITY ENGINEER.
 14. THE SITE SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND ALL EXISTING UTILITY PIPES SHALL BE REMOVED.
 15. THE CONTRACTOR SHALL PROVIDE SHORING IN ACCORDANCE WITH OSHA REQUIREMENTS FOR TRENCH WALLS.
 16. ADEQUATE BASE SHALL BE COMPACTED PER THE GEOTECHNICAL REPORT PREPARED FOR THE PROJECT.
 17. THE RECOMMENDATIONS IN THE FOLLOWING GEOTECHNICAL ENGINEERING REPORT BY GORDON GEOTECHNICAL ENGINEERING INC. ARE INCLUDED IN THE REPORTS OF GRADING AND SITE PREPARATION. THE REPORT IS TEST THROUGHT AS CATCH TO CATCH.
- PROJECT NO. 866-004-21
DATED 04-29-21
18. AS PART OF THE CONSTRUCTION DOCUMENTS, OWNER HAS PROVIDED CONTRACTOR WITH A TOPOGRAPHIC SURVEY, PERFORMED BY MANUEL GONZALEZ, INC. SUCH SURVEY IS TO BE USED TO CONSTRUCT THE PROJECT. IT IS EXPRESSLY UNDERSTOOD THAT SUCH SURVEY MAY NOT ACCURATELY REFLECT EXISTING TOPOGRAPHY.
 19. IN THE EVENT OF UNDESIRABLE EVIDENCE OF HAZARDOUS MATERIALS OR CONTAMINATED SOILS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE PROJECT ENGINEER AND SHALL BE RESPONSIBLE FOR THE COSTS OF INVESTIGATION, PROCEEDING WITH DISTURBANCE OF S/D MATERIALS OR CONTAMINATED

SIDEWALK CONSTRUCTION NOTES:

1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED WITH A CROSS SLOPE OF 1.5% UNLESS SHOWN OTHERWISE ON PLAN.
2. RUNNING SLOPE OF SIDEWALKS SHALL BE BUILT PER GRADES SHOWN ON THE PLAN. WHERE GRADES ARE NOT PROVIDED, SIDEWALKS SHALL BE CONSTRUCTED WITH A MAXIMUM RUNNING SLOPE OF 4.5%
3. REFER TO THE SITE PLAN FOR SIDEWALK DIMENSIONS.

1 GRADING PLAN



Jacobs

REVISIONS					APPROVALS	
REV	DESCRIPTION	FEO NO.	DATE	APP'D		B.Y.
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				ENGINEER	JT	
				OPERATIONS		
				PROCESS/MFG ENG		
				SAFETY		
				MAINTENANCE		
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NORTHROP
GRUMMAN

SPACE SYSTEMS SECTOR
PROPULSION SYSTEMS, BACCHUS

FACILITIES ENGINEERING

CAST CURE BUILDING #3 & #4
GRADING PLAN

DRAWING NO:

REVISION:

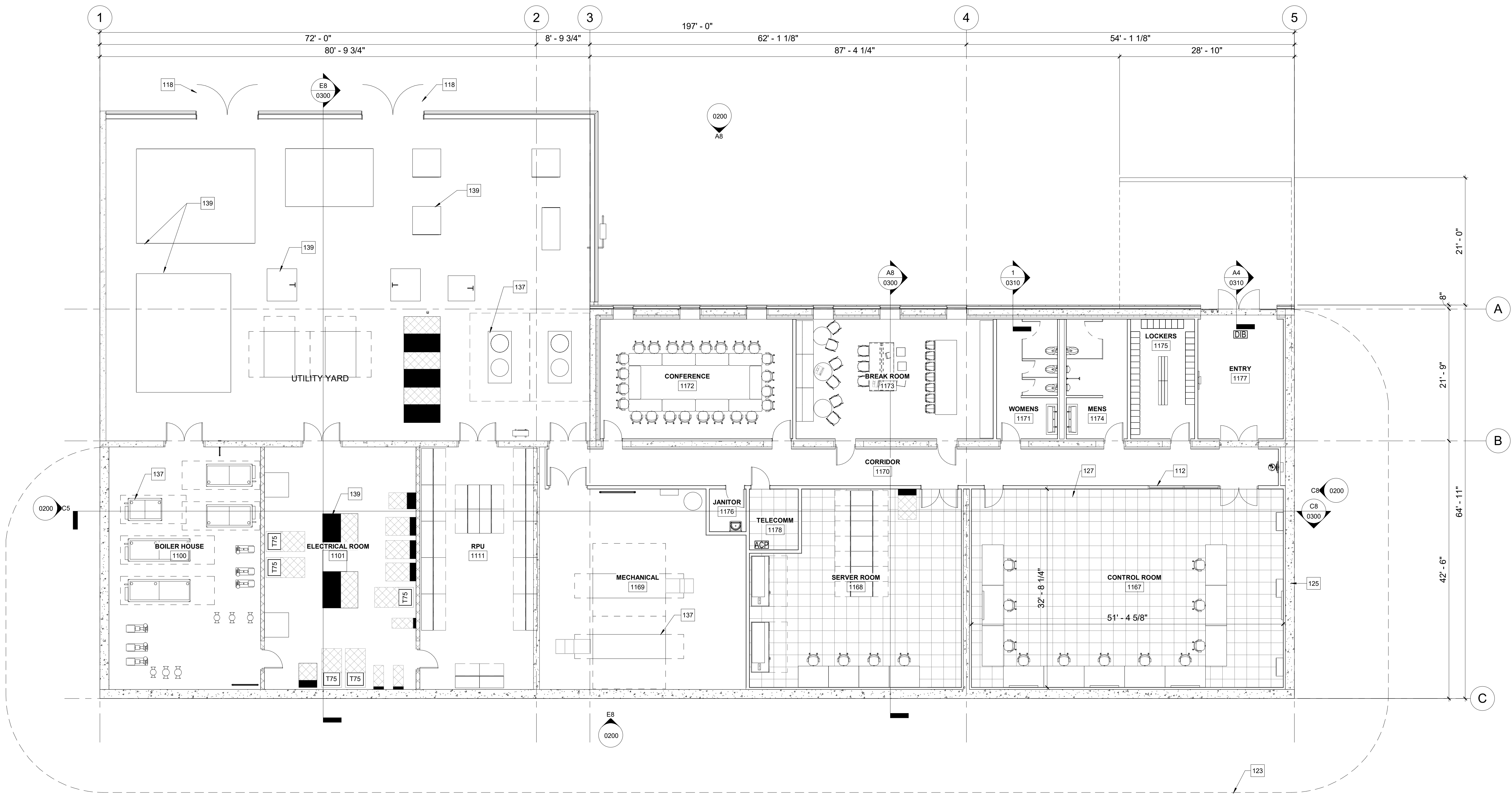
SCALE: 1" = 50'-0"

SHEET: 6 OF 18

- GENERAL NOTES**
1. VERIFY AND DOCUMENT CONDITIONS AND DIMENSIONS ON THE JOB.
 2. DO NOT SCALE THE DRAWINGS FOR CONSTRUCTION PURPOSES.
 3. VERIFY SIZE, LOCATIONS AND CHARACTERISTICS OF ALL EQUIPMENT TO BE FURNISHED WITH MANUFACTURERS OR SUPPLIERS BEFORE BEGINNING CONSTRUCTION.
 4. VERIFY SIZE AND LOCATION OF ALL OPENINGS FOR EQUIPMENT AND RELATED WORK.
 5. ALL PLAN DIMENSIONS ARE TO FACE OF GYPSUM BOARD, FACE OF CONCRETE MASONRY UNITS OR CENTERLINE OF COLUMNS.
 6. REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS OF PENETRATIONS OCCURRING WITHIN FLOOR, WALL, CEILING AND ROOF SYSTEMS.
 7. REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR LOCATIONS OF EQUIPMENT NOT SHOWN ON ARCHITECTURAL DRAWINGS.
 8. COORDINATE LOCATIONS OF ALL FLOOR DRAINS.

- KEYNOTES**
- 112 INTERIOR STOREFRONT GLAZING SYSTEM
 - 118 MECHANICAL YARD ACCESS GATE
 - 123 SINGLE PLY ROOFING MEMBRANE OVER EARTHEN BERM
 - 125 CAST-IN-PLACE CONCRETE WALL, REFER TO STRUCTURAL
 - 127 2"x2" SEISMICALLY BRACED ACCESS FLOORING OVER 1'-0" DEPRESSIONED SLAB
 - 137 MECHANICAL EQUIPMENT, REFER TO MECHANICAL
 - 139 ELECTRICAL EQUIPMENT, REFER TO ELECTRICAL

- GENERAL NOTES - OVERALL PLAN**
1. REFER TO INTERIORS DRAWINGS FOR FF&E FLOOR PLANS



A7 OVERALL FLOOR PLAN - LEVEL 01
1/8" = 1'-0"

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						OPERATIONS	PROCESS/MFG ENG				
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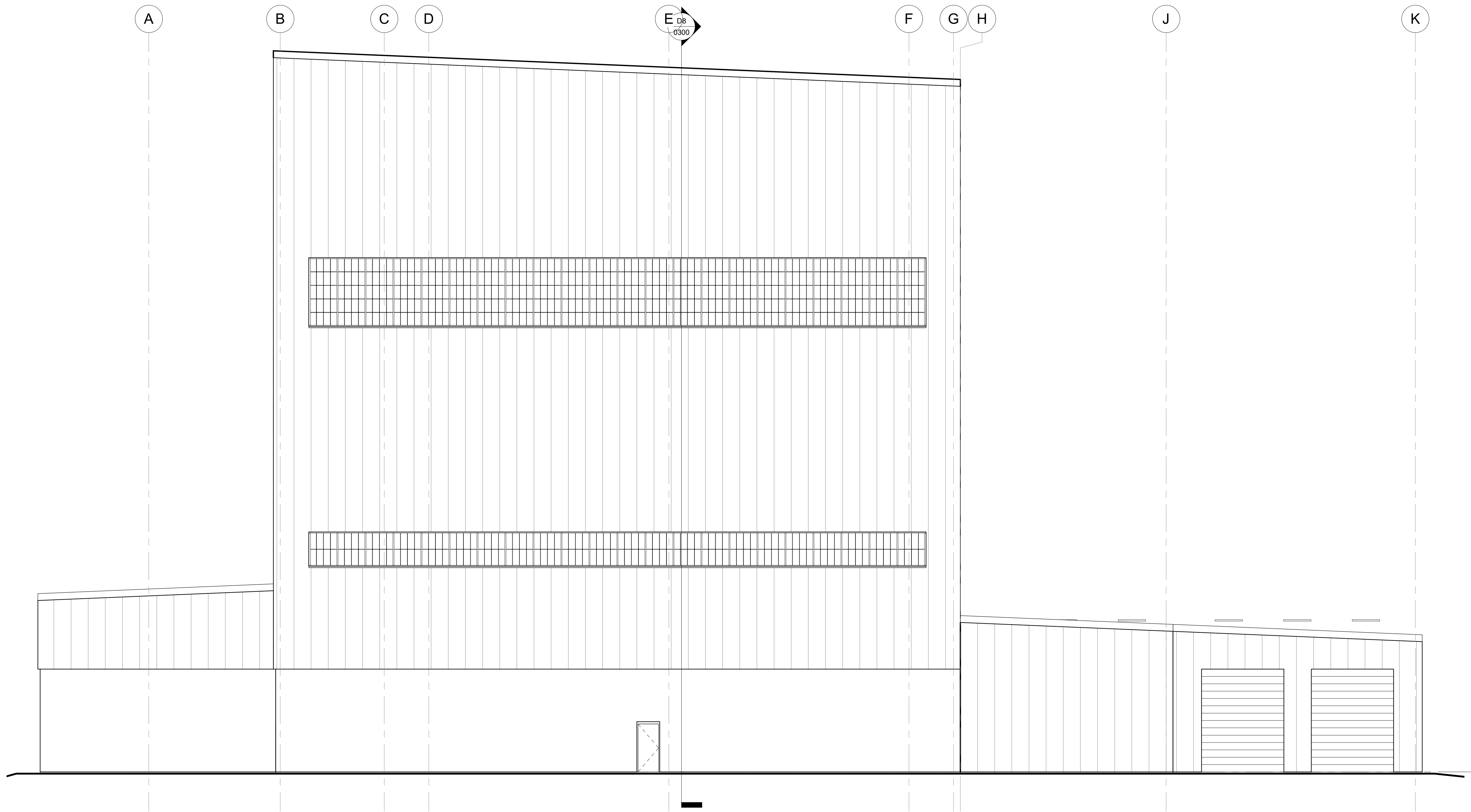
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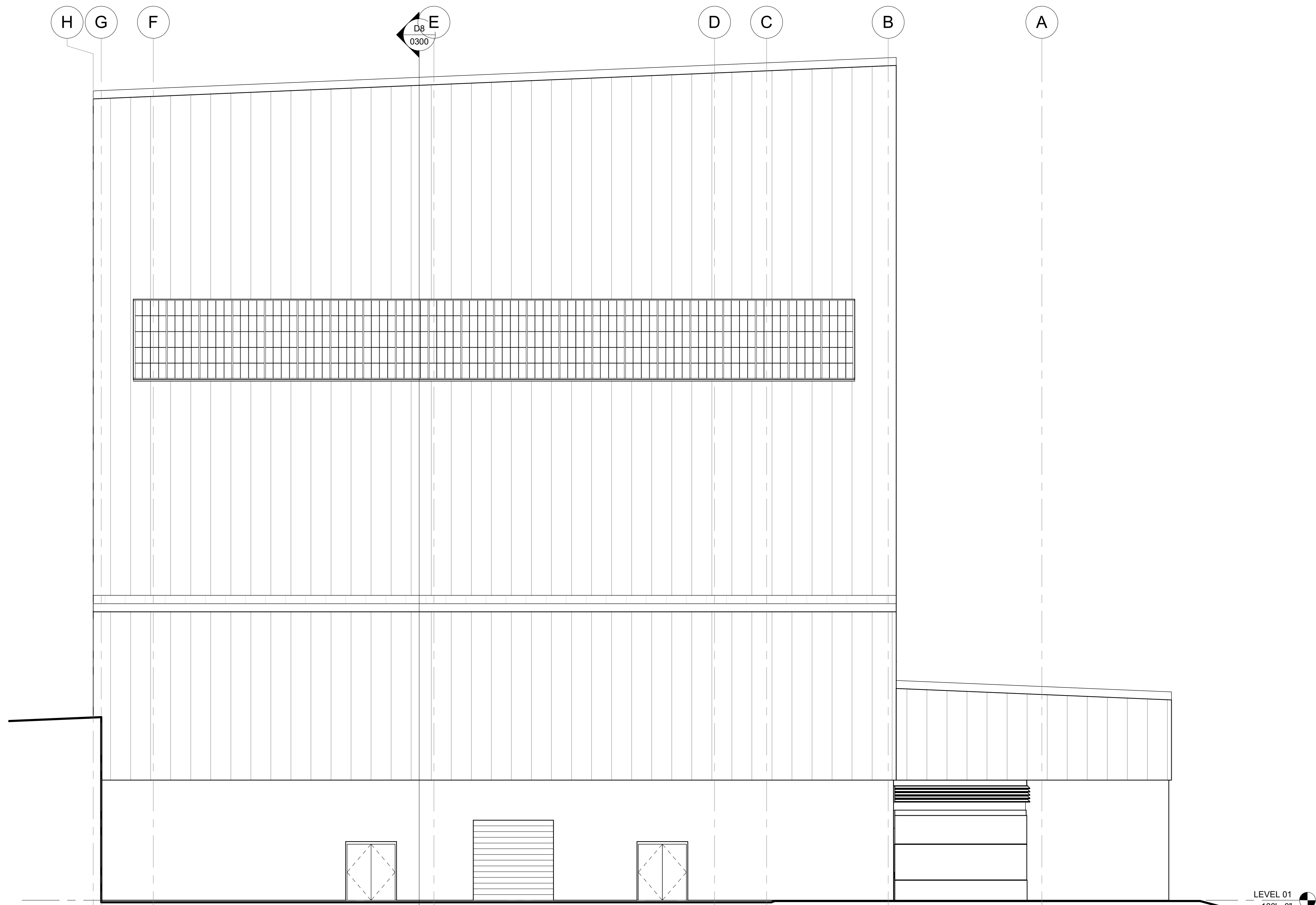
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REFERENCE DRAWINGS				FEO NO.	SCALE:	SHEET: OF	



E7 EXTERIOR ELEVATION CAST CURE 3 - PLAN WEST
1/8" = 1'-0"



A7 EXTERIOR ELEVATION CAST CURE 3 - PLAN EAST
1/8" = 1'-0"

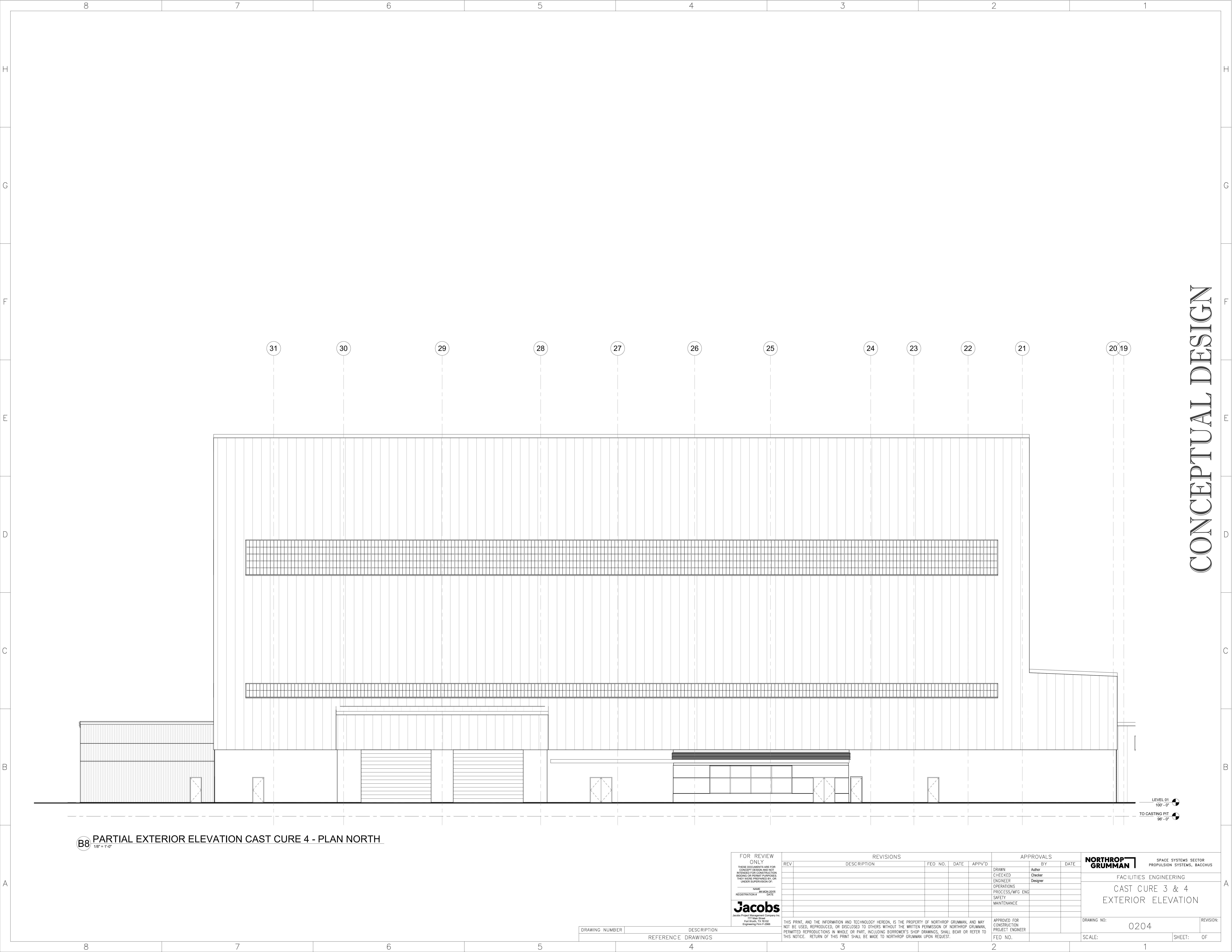
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					OPERATIONS		
					PROCESS/MFG ENG		
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APPROVALS		
BY	DATE	
Author		
Owner		
Designer		

NORTHROP GRUMMAN SPACE SYSTEMS SECTOR
PROPULSION SYSTEMS, BACCHUS
FACILITIES ENGINEERING
CAST CURE 3 & 4
EXTERIOR ELEVATIONS
DRAWING NO: 0203 REVISION: [blank]
SCALE: [blank] SHEET: 0F

CONCEPTUAL DESIGN



CONCEPTUAL DESIGN

B8 PARTIAL EXTERIOR ELEVATION CAST CURE 4 - PLAN NORTH

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					PROCESS/MFG. ENG.		
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PROPULSION SYSTEMS, BACCHUS

FACILITIES ENGINEERING

CAST CURE 3 & 4
EXTERIOR ELEVATION

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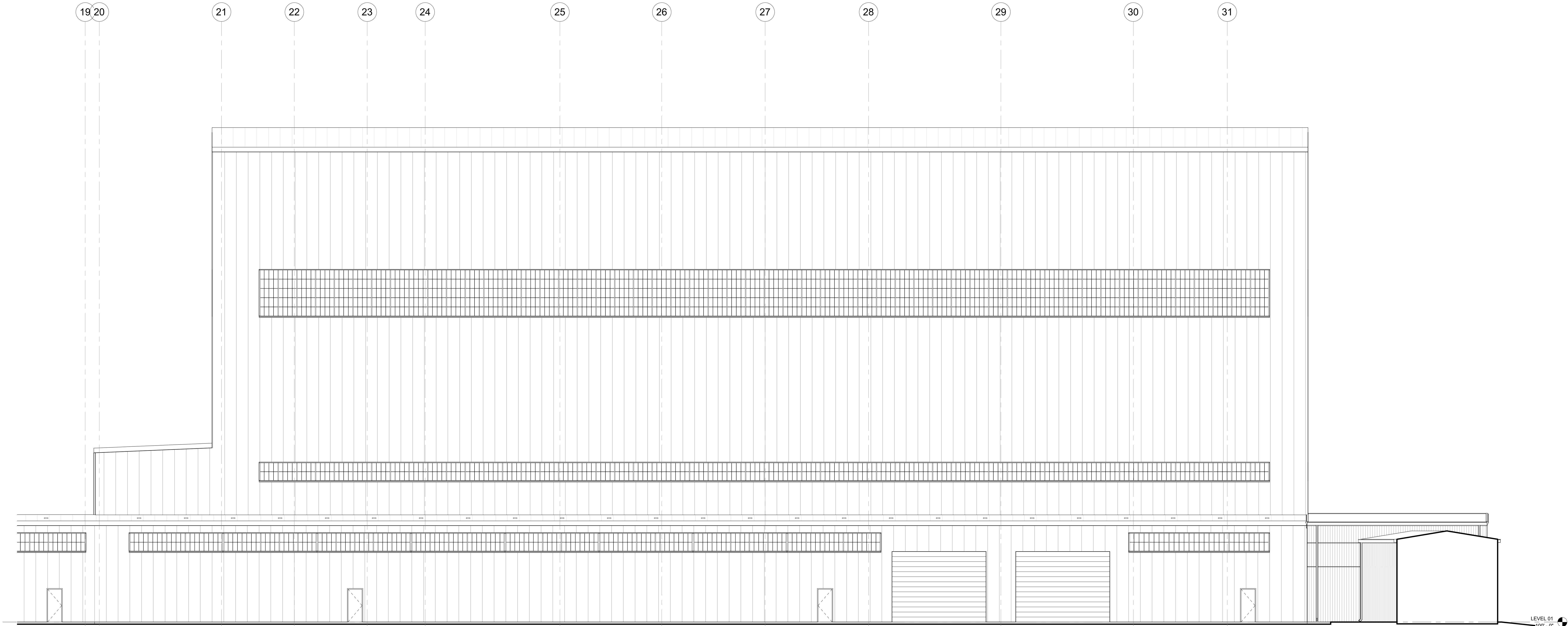
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SCALE:

SHEET:

OF



B8 PARTIAL EXTERIOR ELEVATION CAST CURE 4 - PLAN SOUTH

1/8" = 1'-0"

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					ENGINEER	Owner	
					OPERATIONS	Designer	
					PROCESS/MFG ENG		
					SAFETY		
					MAINTENANCE		

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SPACE SYSTEMS SECTOR
PROPULSION SYSTEMS, BACCHUS

FACILITIES ENGINEERING

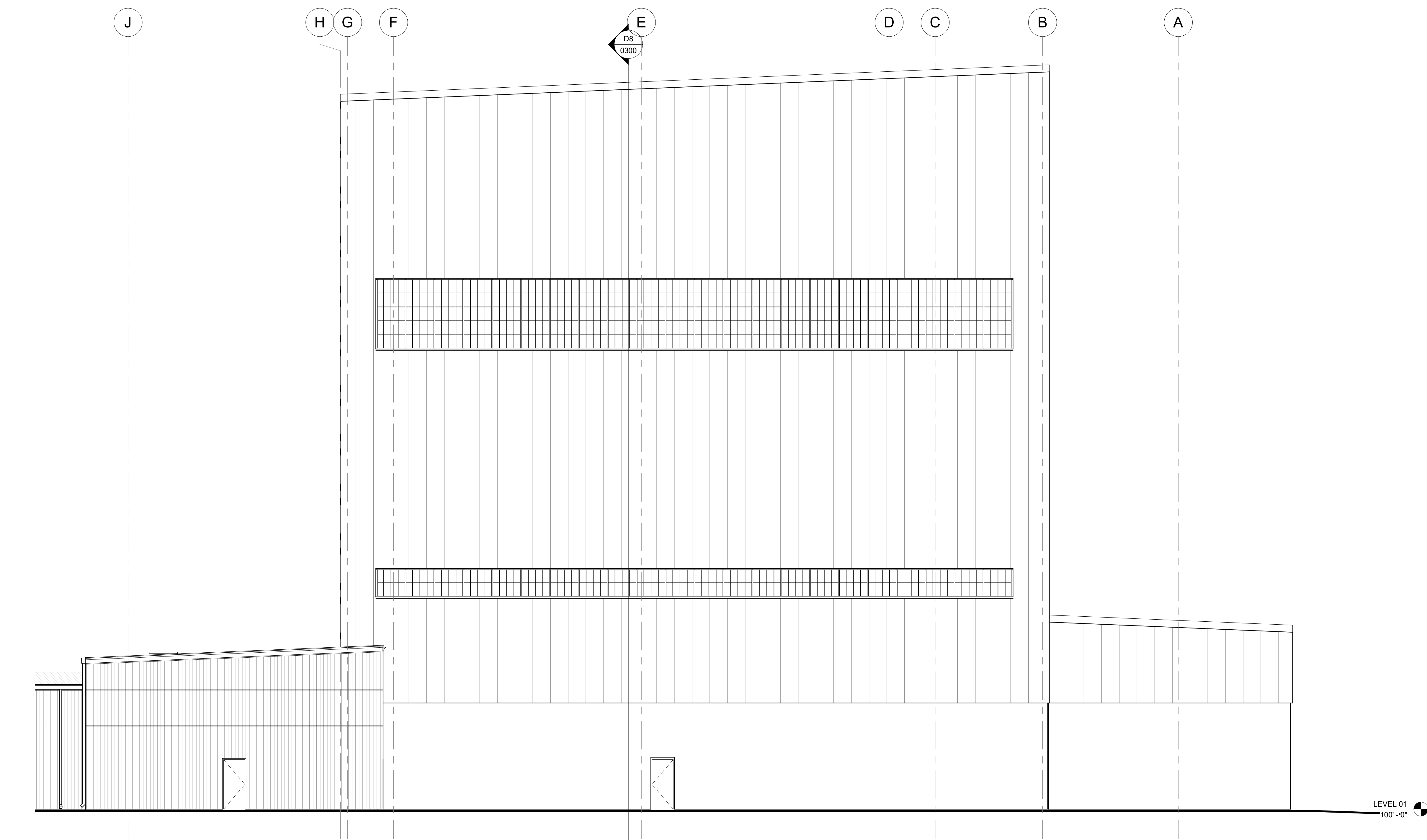
CAST CURE 3 & 4
EXTERIOR ELEVATION

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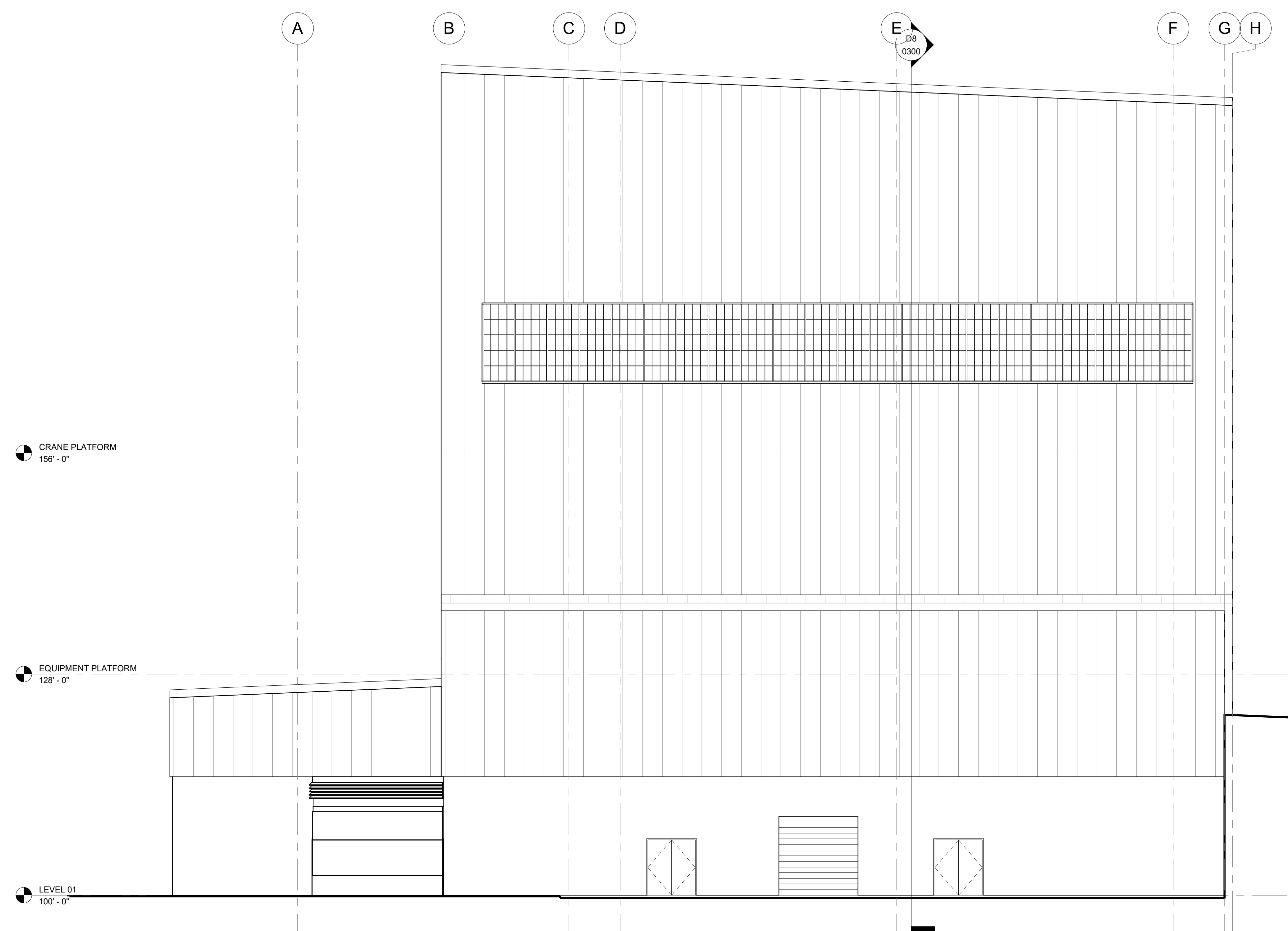
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	REFERENCE DRAWINGS
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B5 EXTERIOR ELEVATION CAST CURE 4 - PLAN EAST
1/8" = 1'-0"



A7 EXTERIOR ELEVATION CAST CURE 4 - PLAN WEST
1/8" = 1'-0"

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DATE _____

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Jacobs Project Management Company
777 Main Street
Fort Worth, TX 76102
Engineering Firm F-2995

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	SPACE SYSTEMS SECTOR	
	PROPULSION SYSTEMS, BACCHUS	
	FACILITIES ENGINEERING	
	CAST CURE 3 & 4 EXTERIOR ELEVATIONS	
DRAWING NO:	0206	REVISION
SCALE:	SHEET:	OF

Attachment #6 Agency Conceptual
Review Summary



Planning and Development Services

2001 S State Street N3-600

Salt Lake City, UT 84190-4050

Phone: (385) 468-6700

www.msd.utah.gov

Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Planning Comments

Reviewer Name: **Brian Tucker**

Phone Number: **385-468-6696**

Email Address: **btucker@msd.utah.gov**

Date of Review: **06/14/22**

Comments on Conceptual Plans:

1. Manufacturing of airplanes and airplane parts is a permitted use in the M-2 Zone. The manufacturing of rockets and rocket engines is substantially the same use.
2. Any use in the M-2 zone over 1 acre requires conditional use approval of the site plan.
3. The buildings meet the 20' setback requirement to a street.
4. The buildings will not cover more than 80% of the lot.
5. A landscaping plan must be submitted in accordance with Chapter 19.77 of the Salt Lake County Code. An alternate landscaping plan can be submitted by a qualified professional. This plan must:
 - a. Provide exceptional preservation and incorporation of existing site vegetation;
 - b. Provide significant protection of natural areas and features;
 - c. Provide for maximum retention of existing tree canopy cover;
 - d. Create exceptional enhancement of neighborhood continuity and connectivity;
 - e. Provide for extensive accommodation of nonvehicular access and use;
 - f. Represent greater innovation in site design and plant use.

Comments and Items for Technical Review:

1. Please submit information to evaluate parking requirements. The parking is based on the number of employees present during the highest employment shift. Please submit a parking plan to ensure that sufficient parking is available for the current and future employees.



Planning and Development Services

2001 S State Street N3-600

Salt Lake City, UT 84190-4050

Phone: (385) 468-6700

www.msd.utah.gov

Ok for concept only,
technical review still
required.

Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Geology Comments

Reviewer Name: Jefferson Thomson

Phone Number: 385-468-6614

Email Address: jethomson@slco.org

Date of Review: 7/6/2022

Comments on Conceptual Plans:

1. Follow the recommendations from the provided geotechnical report (G2 - April 14, 2022) and associated addendum.
2. Footing and foundation excavations shall be inspected and approved in writing by a Qualified Geotechnical Engineer prior to the placement of concrete forms or rebar.

Comments and Items for Technical Review:



Planning and Development Services

2001 S State Street N3-600

Salt Lake City, UT 84190-4050

Phone: (385) 468-6700

www.msd.utah.gov

Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Grading Comments

Reviewer Name: Mike George

Phone Number: 385-468-6682

Email Address: mgeorge@msd.utah.gov

Date of Review: 07/01-2022

Comments on Conceptual Plans:

1. Footing excavations shall be inspected and approved in writing by a Qualified Geotechnical Engineer prior to the placement of concrete forms or rebar.
2. Update your Storm Water Pollution Prevention Plan (SWPPP) and Notice of intent (NOI) as needed.

Comments and Items for Technical Review:



Planning and Development Services

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Salt Lake City, UT 84190-4050

Phone: (385) 468-6700

www.msd.utah.gov

Ok for concept only,
technical review still
required.

Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Urban Hydrology Comments

Reviewer Name: Jefferson Thomson

Phone Number: 385-468-6614

Email Address: jethomson@slco.org

Date of Review: 7/6/2022

Comments on Conceptual Plans:

1. The "Upstream Drainage Analysis" report seemed to indicate that the proposed piping which is intended to convey the ephemeral stream, would be all installed at 1% slope. The current plan conflicts with that report and has several section of pipe which are proposed to be at significantly greater slopes. Please see Sheet C3.1 for details.
2. Ensure that any necessary permitting required by other agencies (USACE, Utah DWQ, etc.) for the proposed stream alteration are approved and received prior to the alteration work.
3. See Sheets C3.1 and C3.2 for additional comments.

Comments and Items for Technical Review:

1. Follow final drainage and grading plan approved during building review process.
2. Provide calculations, showing how storm water from the 10 year 24 hour storm will be contained on the property or routed to an approved Salt Lake County system at a rate of 0.2 cfs/acre or less. Provide details of how 100 year storm will be directed safely away from adjoining properties. It is recommended to use NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES.
3. Provide details of the proposed detention basin(s) including volume, side slope, High water mark and freeboard.
4. Show percentage of grade with direction of flow of all storm water.
5. How is storm water quality being addressed before storm water enters detention basin?
6. Suggest using Low Impact Development BMPs to manage storm water
7. Geographic Information Systems (GIS) data is due prior to final approval. After drawings are approved please submit GIS data for review and approval (Section 17.20.150.A.2 & 17.20.540.A.2). Contact Jefferson Thomson at JeThomson@slco.org or 385-468-6614 regarding data type and format.
8. Provide Engineer's estimate of storm drain improvements for bond estimate after plans are finalized. (Section 17.20.150.A)
9. If there is an irrigation component, water master must approve all drawings that show irrigation. Water master's approval is required as a signature block on the final irrigation drawings prior to approval.
10. How is added storm water from the roof drains being directed? Where are the roof drain outlet(s) located? It is advised that it should not be directed towards the septic system leach area.
11. Show the location of the proposed septic system and ensure it meets proper setback requirements.



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Phone: (385) 468-6700
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Ok for concept only,
technical review still
required.

Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Traffic Comments

Reviewer Name: Jefferson Thomson

Phone Number: 385-468-6614

Email Address: jethomson@slco.org

Date of Review: 7/6/2022

Comments on Conceptual Plans:

1. Follow the recommendations from the provided geotechnical report (G2 - April 14, 2022) regarding pavement cross-sections and updated associated details as necessary.
2. See Sheets C0.1 and C2.1 for comments.

Comments and Items for Technical Review:

All roadway improvements, private or public, must comply with Salt Lake County standards. (See SLCO ordinance 14.12 and Salt Lake County Standard Plans for Public Works Construction). A performance bond is required for all improvements. A right-of-way excavation permit is required for all cuts into roadway for utility connections or for any other purpose.



Planning and Development Services

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Salt Lake City, UT 84190-4050

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Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Unified Fire Authority Comments

Reviewer Name: Dan DeVoogd, Deputy Fire Marshal

Phone Number: 801-824-3719

Email Address: ddevoogd@unifiedfire.org

Date of Review: 06/22/2022

Comments on Conceptual Plans:

Comments and Items for Technical Review:



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Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Health Department Comments

Reviewer Name: **Josh Wolf**

Phone Number: **385.214.9932**

Email Address: **jowolf@slco.org**

Date of Review: **06/28/22**

Comments on Conceptual Plans:

Water and sewer availability letters received. As this project does not have sewer service available, a letter detailing plans for the extension of the sewer main to create a connection or plans for a septic system must be submitted before final approval will be granted.

Project is not located in SLCo Protected Watershed. Project is not located in Drinking Water Source Protection Zone.

Comments and Items for Technical Review:



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Circle as Applicable:

Plans are Conceptually O.K.

Revisions Required

Additional Items Required

Agency Review Comment Sheet

Building Comments

Reviewer Name: **Trent Sorensen**

Phone Number: **385-468-6693**

Email Address: **tsorensen@msd.utah.gov**

Date of Review: **6/23/2022**

Comments on Conceptual Plans:

Plan review for code compliance of the building will not be done at this stage. It will be done under the building permit process. That being said, please note the following:

- 1. Separate building permits are required for the construction of each new building and structure.**
- 2. At time of building permit application, provide complete building plans showing compliance with current building code including architectural analysis per the IBC**
- 3. At time of building permit application, provide fire flow verification for the nearest fire hydrant and show how compliance is going to be made with any Unified Fire District Guidelines.**

Comments and Items for Technical Review: