Los Alamos County

Community Development Department

PLANNING & ZONING COMMISSION STAFF REPORT

Public Hearing Date: September 28, 2022
Subject: Case No. SIT-2022-0060
Owners/Applicants: Paul Lewis, on behalf of Pajarito Lodge 66
Case Manager: Desirae J. Lujan, Associate Planner

CASE NO. SIT-2022-0060: Paul Lewis, on behalf of Pajarito Lodge 66, is requesting Site Plan approval for a 2,090 ft^2 addition to the existing Masonic Lodge located at 1400 N Sage Street, Los Alamos, NM. The property, EA3 T, is located within the Eastern Area 3 subdivision and is within the Single-Family Residential (R-1-8) zoning district.

See Attachment 1: Application and Submittals

SUMMARY

The Masonic Lodge ("The Lodge"), a fraternal organization, is located on a 1.01-acre lot within the Los Alamos Townsite; accessed from N Sage Street, at the corner of 15th Street and Canyon Road. The site is mostly surrounded by residential homes on the south and east and intuitional uses on the west; also, to its north is Canyon Road. The Lodge is proposing a 2,090 ft^2 addition to the east, which includes a garage and storage area (1,458 ft^2 total) and a business area (632 ft^2) containing an ADA restroom. Location and vicinity maps are attached below in **Exhibit A** and **B** respectively.

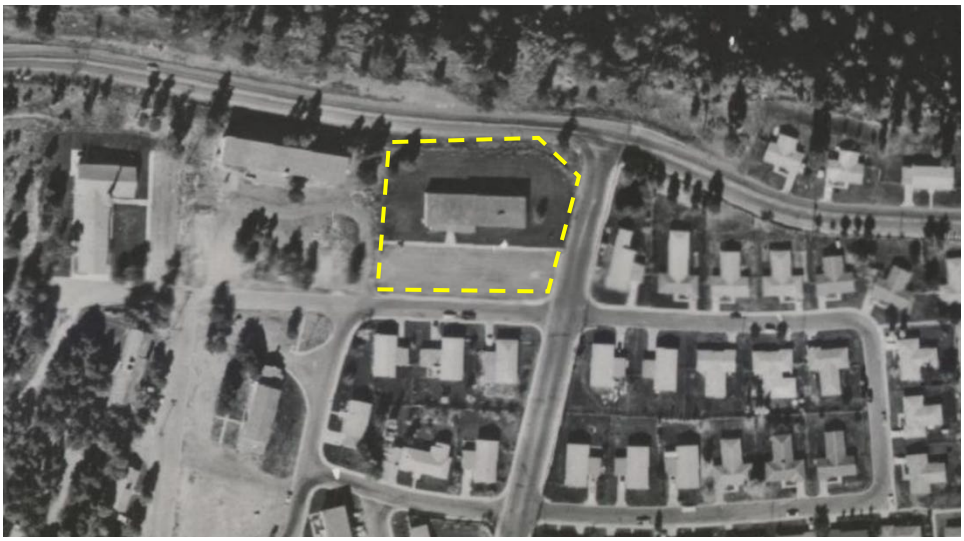
Exhibit A: Location Map

Exhibit B: Vicinity Map

SITE PLAN REQUIRED

The County of Los Alamos Development Code ("Code") was first adopted in 1965. The Lodge is seen below in Exhibit C as being established as early as 1962, prior to the Code and the county's incorporation; so it was never required to, nor received, site plan approval. However, the Code, Sec. 152, outlines that an approved or conditionally approved site plan shall be required for all development(s) of property or alteration or addition to existing structures.[1] Code Sec. 16-122 also states that a Site Plan shall be required for the expansion of existing commercial structures. Therefore, although legal non-conforming, the structure's expansion triggers the need for a site plan review.

Exhibit C: 1962 Vicinity Aerial Map

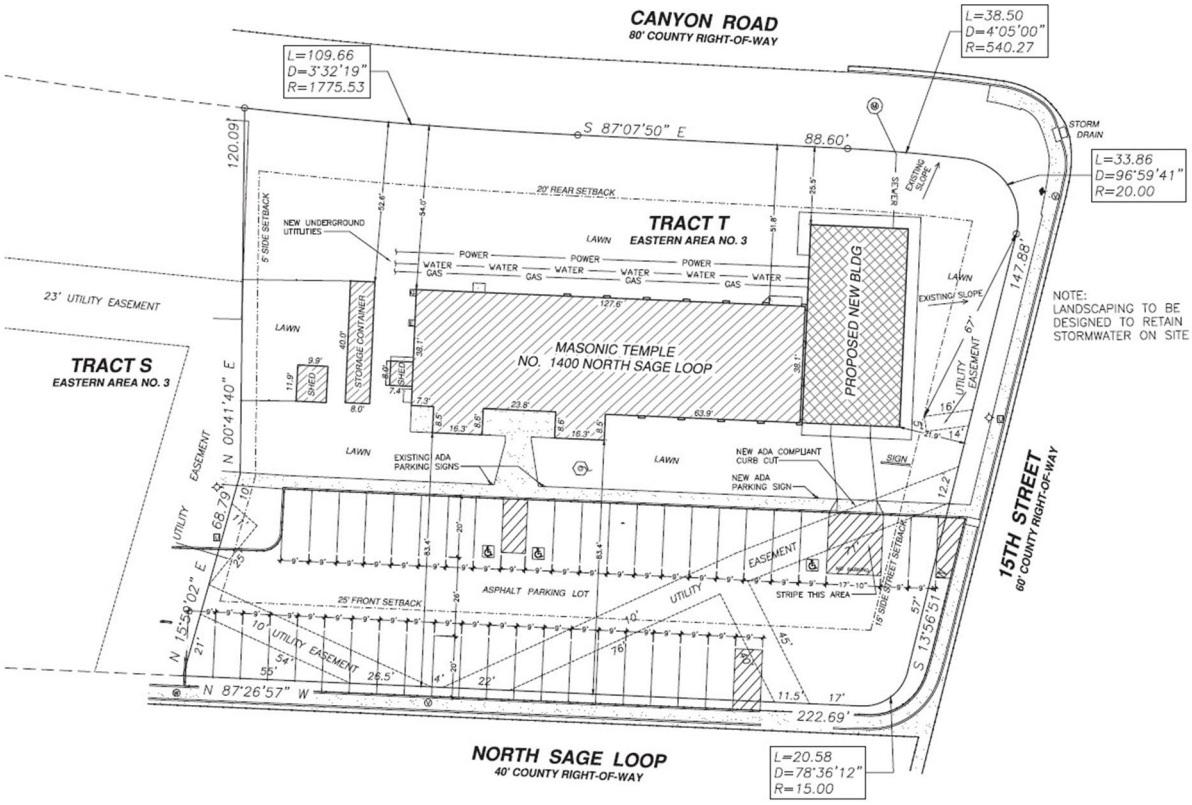


[1] *Section 15-152, Site Plan Required, excludes residential structures, changes to the interior of existing structures, façade changes, and construction of an open sunscreen. Reference Code section for details to exceptions.*

The building and site have not seen much change. The footprint remains the same, and the site now includes a few accessory structures on the west side of the building and a defined parking lot. The site plan submitted illustrates a 32’ X 65.33’ addition to be constructed on the east side of the existing 5,120 ft^2 building. It will extend north to be situated approximately 25.5’ from the north property line and 21.9’ from the east property line, parallel with 15th Street; height is proposed at 16’-8”.

Exhibit D: Site Picture

Exhibit E: Site Plan



The site plan complies with the Site Development requirements for the R-1-8 district as outlined within Table 1. It also adheres to the minimum 15' side setback, minimum, imposed on corner lots to facilitate a clear sight triangle.

	SETBACKS					
	Front	*Rear*	*Side (E)*	*Side (W)*	**HEIGHT, max**	**LOT COVERAGE, max**
R-1-8	25'	20'	10'**	5'	35'	40%
EXISTING	83.4'	51.66'	53.9'	56'	19'	12%
PROPOSED	N/C	25.5'	21.9'	N/C	16'-8"	17%

Table 1

Development Code, Sec. 16-272 (a)(2), Yards:* ***"The elected or designated front yard shall conform to the site development requirements for the district. The other yard abutting a street is a side yard and shall have a minimum setback of 15 feet or the setback required by section 16-271, whichever is larger."

INTERDEPARTMENTAL REVIEW COMMITTEE (IDRC)

The IDRC met and reviewed this request on Thursday, August 18, 2022, for a September 14 hearing date. The review revealed the need for clarification on the use and parking calculations, correction on applicable Fire Code, and necessary dimensions to evaluate design standards, and a Grading and Drainage Plan. As a result, they voted to postpone the application until the information was received. On September 1, 2022, the applicant submitted the requested information and the County Engineer determined that the site plan's notation to retain all stormwater produced from the building addition on-site was satisfactory. The IDRC did not recommend conditions for this request and the application was ready to move forward with a public hearing for September 28, 2022.

PUBLIC NOTICE

The public hearing was noticed to be located at 1000 Central Ave, Los Alamos, NM, with an option to join virtually via Zoom. The Public Notice was completed in accordance with the Los Alamos County Code of Ordinances, Chapter 16, Development Code, Sec. 16-192(b), which includes:

1) A notice setting forth the nature of the request, the specific parcel of property affected, and the date, time and place of the public hearing, shall be published in a newspaper of general circulation in the county, at least one time, at least 10 days prior to the public hearing. **Notice was published within the Los Alamos Daily Post, the county's official newspaper of record, on September 8, 2022.**

2) Notice given by U.S. mail to the owners of real property within 100 yards of the exterior lot lines of the property or properties affected at least ten days prior to the public hearing. **Notices were mailed from the Los Alamos USPS Office on September 7, 2022.**

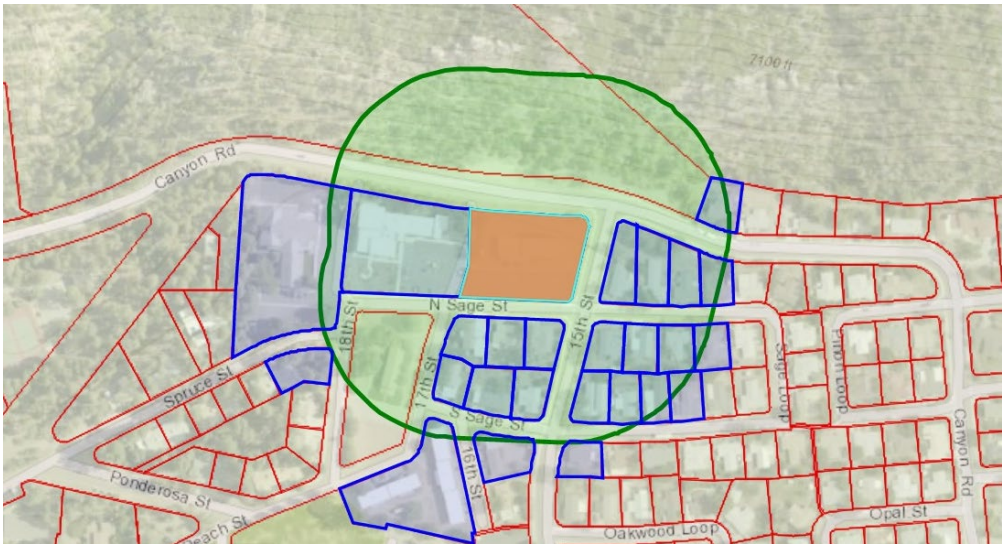


Exhibit F: 100 YD Map

3) Notice shall be posted in a conspicuous place at the county municipal building and the community development office at least ten days prior to the public hearing. **Notice was posted within the Boards & Commissions Board, at the Municipal Building, on September 2, 2022.**

Additionally, notice of this request was posted at the project site, 1400 N Sage Street, on the afternoon of September 13, 2022. As of the drafting of this report, staff has not received any comments/protests from the public.

See Attachment 2: Public Notification

SITE PLAN REVIEW CRITERIA

Sec. 16-152A of the Los Alamos County Development Code states that the Planning and Zoning Commission shall utilize the following criteria in making its determination of approval, conditional approval or denial:

(a) The site plan shall substantially conform to the comprehensive plan and shall not be materially detrimental to the health, safety and general welfare of the county.

Applicant Response: The proposed site plan shall substantially conform to the Comprehensive Plan.

Staff Response: Staff agrees that the request substantially conforms to the Comprehensive Plan ("Plan") because the Plan, Sec. 3.2: *Development, Redevelopment & Downtown*, states: *"…there is also a widespread agreement that vacant and blighted properties, both commercial and residential, need rehabilitation …"* The same section provides potential strategies, such as collaborating with service clubs to facilitate appropriate relocation and/or building rehabilitation. The Lodge is not proposing relocation, but their site plan includes improving the site with added landscaping and the removal of their storage container and one accessory structure; and the applicant has shared future plans to re-stucco the entire building after construction. So, although the building is not vacant nor blight, the community, particularly the neighborhood, could aesthetically benefit from its rehabilitation with an improved site and updated exteriors. Additionally, the request is not materially detrimental to the health, safety and general welfare of the county because the proposed expansion is proposed to be constructed within the site development requirements for the R-1-8 zoning district.

(b) Ingress, egress, traffic circulation and parking on the site shall be accomplished with safety for motorists, bicyclists and pedestrians. Provisions shall be made for the safe ingress, egress and circulation of vehicles, bicyclists and pedestrians.

Applicant Response: Refer to drawing A-1.

Staff Response:

Safe traffic circulation and parking has been met because the site plan is in conformance with the design requirements outlined within the Code, Section 16-367, and provides adequate ingress to and egress from parking spaces with a proposed 26' aisle, where 24' is minimum. Turning and maneuvering spaces can likewise be achieved entirely on the lot.

Parking requirements are also met in accordance with Sec. 16-370, Off-Street Parking Requirements with the provision of 41 spaces, of which three (3) will be provided as handicapped spaces.

	Auditoriums, Clubs, Lodges and Theaters *1 space per 4 seats maximum seating capacity*	**Masonic Lodge** *150 seating capacity, maximum*
Required	**37.5**	**---**
Proposed	**---**	**41**

Table 2

Furthermore, parking stall dimensions for 90-degree spaces are shown as 9' X 20'; Sec. 16-367 requires minimum standards as 9' X 18'.

(c) The necessary provisions shall be made for controlling stormwater drainage on-site and off-site as required by the county engineer in accordance with the county's storm drainage construction standards or such other ordinances or storm water management plans as may exist.

Applicant Response: Refer to drawing A-1.

Staff Response: This criterion has been met because the County Engineer has reviewed the plans and communicated that the site plan's note to retain all stormwater produced from the building addition on-site was satisfactory.

(d) The necessary easements shall be provided for both existing and proposed utilities, on-site and off-site. No existing easement shall be terminated without provision of alternate service, and all new services shall be provided.

Applicant Response: Refer to drawing A-1.

Staff Response: This criterion has been met because existing easements meet on-site, and off-site utilities as confirmed by the Department of Public Utilities. No new easement, nor terminations are being proposed with this application.

(e) The site plan shall include a conceptual landscape plan that will enhance the site and immediate vicinity and provide adequate screening and buffering, if appropriate, between properties. The final landscape plan shall conform to the requirements set forth in sections 16-574 and 16-575.

Applicant Response: See Attached Landscaping Plan.

Staff Response: The criterion has been met because a conceptual landscape plan has been submitted. It illustrates existing landscaping and a proposed increase which will enhance the site and immediate vicinity. (See Attachment 1: Landscaping Plan)

(f) Parking lots, outside storage areas, outside mechanical equipment and outdoor lighting shall be designed to serve the intended use of the development while minimizing adverse impacts on adjacent properties or public rights-of-way.

Applicant Response: Refer to drawing E-5 concerning outdoor lighting. Transportainer [sic] and shed adjacent to existing structure will be removed upon completion of new building. One other existing shed will remain.

Staff Response: The criterion is met because the parking lot is existing and meets design and parking requirements as mentioned. Currently the site contains three (3) accessory structures: one storage container, and two sheds. Upon approval of this expansion the Applicant plans to eliminate the storage container and one shed. Sheet E-5, Electrical Lighting Layout, illustrates that the addition will include six (6) Halo WP1850LPC, 4330 Lumen LED (38W) exterior lights on the surface wall: two (2) on the south, two (2) on the east, one at the north and west. The layout identifies the proposed exterior lighting as Dark Sky Compliant.

(g) Structures, site grading, and all other aspects of the development shall meet all applicable design standards or guidelines, as may be adopted and made a part of this code, and shall preserve, to the extent practical, outstanding topographical features and natural amenities on the site.

Applicant Response: All aspects of the development shall meet all applicable design standards or guidelines.

Staff Response: This criterion has been met because construction of the addition and site grading, if any, will be evaluated and approved during the permitting process by the Building Division and Public Works to ensure that design standards and guidelines are obeyed. The site does not have any natural amenities, nor outstanding topographical features; however, the existing slope on the north is not proposed to change.

(h) The capacity of those public services and facilities required to serve the proposed development (including but not limited to water, sanitary sewer, electricity, gas, storm sewer, streets, etc.) shall conform with, or if improvements are required, shall be made to conform with the requirements of the county's construction standards.

Applicant Response: The required utilities will conform to the county's construction standards.

Staff Response: The criterion has been met because the capacity for public services and facilities to service the Lodge exist and are sufficient. Furthermore, the Department of Public Utilities has reviewed the application and did not voice concerns with the proposal as submitted.

(i) Provisions shall be made to serve the development with tot lots and/or neighborhood parks in accordance with the adopted comprehensive plan. A fee may be paid as approved by county council to accomplish the purpose of a comprehensive plan in lieu of the development of tot lots or neighborhood parks.

Applicant Response: This provision is not applicable to this construction project.

Staff Response: This criterion is not applicable to this request.

DRAFT MOTIONS[2]

Motion Option 1: I move to **approve Case No. SIT-2022-0060**, a site plan for the existing Masonic Lodge located at 1400 N Sage Street, to construct a 2,090 ft^2 addition. The property, EA3 T, is located within the Eastern Area 3 subdivision and is within the Single-Family Residential (R-1-8) zoning district. Approval is based on the reasons stated within the staff report and per testimony entered at the public hearing.

I further move to authorize the Chair to sign the Findings of Fact for this case and, based on this decision, be prepared by County Staff.

Motion Option 2: I move to **deny Case No. SIT-2022-0060**, a request for site plan approval to construct a 2,090 ft^2 addition to the existing Masonic Lodge located at 1400 N Sage Street. The property, EA3 T, is located within the Eastern Area 3 subdivision and is within the Single-Family Residential (R-1-8) zoning district. Denial is based on failure to meet the Los Alamos County Code of Ordinances, Chapter 16, Development Code, Section 16-152A, Site Plan Review Criteria for the following reasons:

1. …

DRAFT FINDINGS OF FACT[3]

1. On August 12, 2022, Paul Lewis, on behalf of the Masonic Lodge ("Applicant"), submitted a Site Plan Application. The application requests for site plan approval for a 2,090 ft^2 addition to the existing Masonic Lodge addressed as 1400 N Sage Street ("Property") in the County of Los Alamos, New Mexico.
2. The Pajarito Lodge #66 of Los Alamos is the legal owner of the subject property commonly referred to as 1400 N Sage Street.
3. The Property is Tract T within the Eastern Area 3 Subdivision and within the Single-Family Residential zoning district (R-1-8).
4. As provided by CDD Staff Report and testimony of CDD Staff Lujan, the Application was presented to the County's Interdepartmental Review Committee ("IDRC") on August 18, 2022. CDD Staff Lujan testified that IDRC requested further information of the Applicant to proceed. The information was provided accordingly and IDRC did not recommend any conditions for approval.
5. As provided by the CDD Staff Report and testimony of CDD Staff Lujan, notice of the public hearing was published in accordance with Section 16-192(b) of the County Code.
6. The Commission having received testimony at the September 28th public hearing, concluded that Applicant has met the burden to demonstrate that the Application meets

[2] *The Board may recommend conditional approval as determined during the hearing.*

[3] *The Findings and Conclusion of Law provided are draft and may be amended after public hearing to represent the facts presented, the Commission's decision, and the basis for their action.*

the review criteria in Section 16-152A of the County Code. The Commission is in support of this finding, as follows:

a. Per the testimony provided, the request substantially conforms to the Comprehensive Plan ("Plan") because the Plan, Sec. 3.2: *Development, Redevelopment & Downtown* identifies potential strategies, such as collaborating with service clubs to facilitate appropriate relocation and/or building rehabilitation. The Lodge is not proposing relocation, but their site plan includes improving the site with added landscaping and the removal of their storage container and one accessory structure; and the applicant has shared future plans to re-stucco the entire building after construction.
b. Per testimony and evidence received, ingress, egress, traffic circulation and parking on the site conform with the design requirements outlined within the Code, Section 16-367, and provides adequate ingress to and egress from parking spaces. Parking requirements are also met in accordance with Sec. 16-370, Off-Street Parking Requirements with the provision of 41 spaces.
c. The site plan will retain all stormwater produced from the building addition on-site.
d. Existing easements meet on-site, and off-site utilities as confirmed by the Department of Public Utilities. No new easement, nor terminations are being proposed with this application.
e. A conceptual landscaping plan was submitted with a proposal for increased landscaping that will enhance the site and immediate vicinity.
f. The parking lot is existing and meets design and parking requirements, and the lighting layout identifies the proposed exterior lighting as Dark Sky Compliant.
g. Construction of the addition and site grading will be evaluated and approved during the permitting process by the Building Division and Public Works to ensure that design standards and guidelines are obeyed.
h. The capacity for public services and facilities to service the Lodge exist and are sufficient.

CONCLUSIONS OF LAW

After full hearing and consideration, the Los Alamos County Planning and Zoning Commission finds that the application has met each applicable Site Plan Review Criteria contained in §16-152A of the Los Alamos County Development Code and is acting under the authority granted it by §16-452 (c)(1) of the Development Code.

ATTACHMENTS

1. Application and Submittals
2. Public Notification

ATTACHMENT 1

LOS ALAMOS
Community Development

SITE PLAN APPLICATION

Los Alamos County Community Development Department
1000 Central Ave, Suite 150, Los Alamos NM 87544
(505) 662-8120

Address and Use of Property to which the application applies:

1400 N Sage Lp, Los Alamos, NM 87544

Current Use: ☐ **Vacant** **Other:** Masonic lodge property

Zoning District: R-1-8 **Acreage:** _____ **Lot Coverage:** _____ **Related Applications (if any):**

APPLICANT (Unless otherwise specified, all communication regarding this application shall be to Applicant):

Name: Lewis, Paul D (Please Print) Phone: 505-664-0574 Cell #: 505-228-0349

Company Name: _____

Address: 050 Forest Rd 132, Jemez Springs, NM 87025 Email: antler1532@icloud.com

SIGNATURE _____ **DATE** 8/11/22

PROPERTY OWNER ☐ **Check here if same as above**

Name: Pajarito Lodge 66 AF-AM (Please Print) Phone: _____ Cell #: _____

Address: 1400 N. Sage Lp, Los Alamos, NM 87544 (Owner's Address) Email: antler@lanl.gov

My signature below indicates that I authorize the Applicant to make this Amendment application on my behalf.

Donald J Carlson PM 8/12/2022

SIGNATURE **DATE**

Pre-Application Meeting Date(s): **IDRC Date:**

THIS SECTION TO BE COMPLETED BY THE COMMUNITY DEVELOPMENT DEPARTMENT

Date of Submittal: 8/15/22 ***Staff Initial:*** DL

CDD Application Number: SIT 2022-0060 ***Fees Paid:*** $500

SITE PLAN REVIEW CRITERIA

The Los Alamos County Code of Ordinances, Chapter 16, Development Code, Sec. 16-152A establishes the following criteria for recommendation by IDRC, or for determination by the CDD Director or P&Z, of approval, conditional approval or denial of the application. Please review each of the criteria listed and provide short comments on how your application meets the criteria in the space provided. (Attach additional sheets if needed.)

(a) ***The site plan shall substantially conform to the comprehensive plan and shall not be materially detrimental to the health, safety and general welfare of the county.***

The proposed site plan shall substantially conform to the comprehensive plan.

(b) ***Ingress, egress, traffic circulation and parking on the site shall be accomplished with safety for motorists, bicyclists and pedestrians. Provisions shall be made for the safe ingress, egress and circulation of vehicles, bicyclists and pedestrians.***

Refer to drawing A-1

(c) ***The necessary provisions shall be made for controlling stormwater drainage on-site and off-site as required by the county engineer in accordance with the county's storm drainage construction standards or such other ordinances or storm water management plans as may exist.***

Refer to drawing A-1

(d) ***The necessary easements shall be provided for both existing and proposed utilities, on-site and off-site. No existing easement shall be terminated without provision of alternate service, and all new services shall be provided.***

Refer to drawing A-1

(e) *The site plan shall include a conceptual landscape plan that will enhance the site and immediate vicinity and provide adequate screening and buffering, if appropriate, between properties. The final landscape plan shall conform to the requirements set forth in sections 16-574 and 16-575.*

See attached Landscaping Plan

(f) *Parking lots, outside storage areas, outside mechanical equipment and outdoor lighting shall be designed to serve the intended use of the development while minimizing adverse impacts on adjacent properties or public rights-of-way.*

Refer to drawing E-5 concerning outdoor lighting. Transportainer and shed adjacent to existing structure will be removed upon completion of new building. One other existing shed will remain.

(g) *The capacity of those public services and facilities required to serve the proposed development (including but not limited to water, sanitary sewer, electricity, gas, storm sewer, streets, etc.) shall conform with, or if improvements are required, shall be made to conform with the requirements of the county's construction standards.*

The required utilities will conform to the county's construction standards.

(h) *Structures, site grading, and all other aspects of the development shall meet all applicable design standards or guidelines, as may be adopted and made a part of this code, and shall preserve, to the extent practical, outstanding topographical features and natural amenities on the site.*

All aspects of the development shall meet all applicable design standards or guidelines.

(i) *Provisions shall be made to serve the development with tot lots and/or neighborhood parks in accordance with the adopted comprehensive plan. A fee may be paid as approved by county council to accomplish the purpose of a comprehensive plan in lieu of the development of tot lots or neighborhood parks.*

This provision is not applicable to this construction project.

SUBMITTALS:

Provide all information necessary for a complete review of the Site Plan request. Check each of the boxes to indicate which information you have provided. Provide two hard copies of all plans and also provide one complete copy of all materials on disk:

- [x] Agent Authorization, if applicable.
- [x] Proof of property ownership (Warranty deed, recorded Plat, etc.).
- [x] Scaleable copies of Site Plan drawings including:
  - [x] Footprint and square footage of all buildings and structures on the site.
  - [x] Building/structure elevations.
  - [x] Existing and proposed lot coverage.
  - [x] All existing and proposed easements.
  - [x] All existing and proposed setbacks.
  - [ ] Existing and proposed trails.
- [x] Preliminary Landscape Plan.
- [ ] Preliminary Grading and Drainage Plan.
- [x] Preliminary Utilities Plan.

Note: Final construction plan set will be required at Building Permit.
Additionally, per Sec. 16-571, at or before the first IDRC meeting, the County Engineer may require the following Impact Studies:

- [ ] Traffic impact analysis (TIA).
- [ ] Stormwater drainage report.
- [ ] Utility capacity analysis.
- [x] Soils report.
- [ ] Other. Describe: _____

You are advised to meet with the County Engineer early in the planning process to determine which studies will be required.

Please provide any other information that you believe is relevant to or supports this application.

ATTACHMENT 1

PLUMBING FIXTURE CALCULATIONS					
STORAGE AREAS OCCUPANT LOAD: 3		BUSINESS AREAS OCCUPANT LOAD: 7			
FIXTURE	NUMBER REQUIRED	FIXTURE	NUMBER REQUIRED	TOTAL REQ.	NUMBER PROVIDED
TOILETS	0.03 (1 PER 100)	TOILETS	0.28 (1 PER 25)	0.42	1
LAVATORIES	0.03 (1 PER 100)	LAVATORIES	0.175 (1 PER 40)	0.178	1
DRINKING FOUNTAINS	1 (1 PER 400)	DRINKING FOUNTAINS	1 (1 PER 100)	NOT REQ IPC 410.2	2 (1 HI-LO)
SERVICE SINK	1 (OR EQUAL)	SERVICE SINK	–	1	1

NOTE: SEPARATE FACILITIES NOT REQUIRED FOR MEN AND WOMEN WHEN TOTAL OCCUPANCY IS LESS THAN 15.

PARKING CALCULATIONS:
REQUIRED PARKING: 1 SPACE PER 4 SEATS AT MAX. SEATING CAPACITY
MAX. SEATING CAPACITY = 150
SPACES REQUIRED = 150/4 = 37.5
REQUIRED PARKING = 38 SPACES
PROVIDED PARKING = 41 SPACES
REQUIRED HC PARKING = 3 SPACES
PROVIDED HC PARKING = 3 SPACES

NOTE: NEW BUILDING IS ACCESSORY STRUCTURE TO EXISTING LODGE (GARAGE FOR PARKING PARADE VEHICLES). CREATES NO ADDITIONAL PARKING REQUIREMENTS.

DRAWING INDEX

BUILDING DATA

ZONING CLASSIFICATION:	R–1–8
OCCUPANCY GROUP:	S–2 & B
BUILDING USE:	GARAGE AND OFFICE
ALLOWABLE AREA:	9000 SF
TOTAL BUILDING AREA	2090 S.F.
BUILDING HEIGHT:	16'–8"
CONSTRUCTION TYPE:	V–B
SEISMIC DESIGN CATEGORY:	D
OCCUPANT LOAD:	
GARAGE AREA	1458 SF/500 = 3
OFFICE AREA	632 SF/100 = 7
	TOTAL OCCUPANCY = 10

BUILDING TO BE NON–FIRE SPRINKLED

LEGAL DESCRIPTION

TRACT T, EASTERN AREA #3,
LOS ALAMOS, LOS ALAMOS COUNTY,
NEW MEXICO

PIN 1034113104023

LOT AREA = 1.03 ACRES

ADDRESS

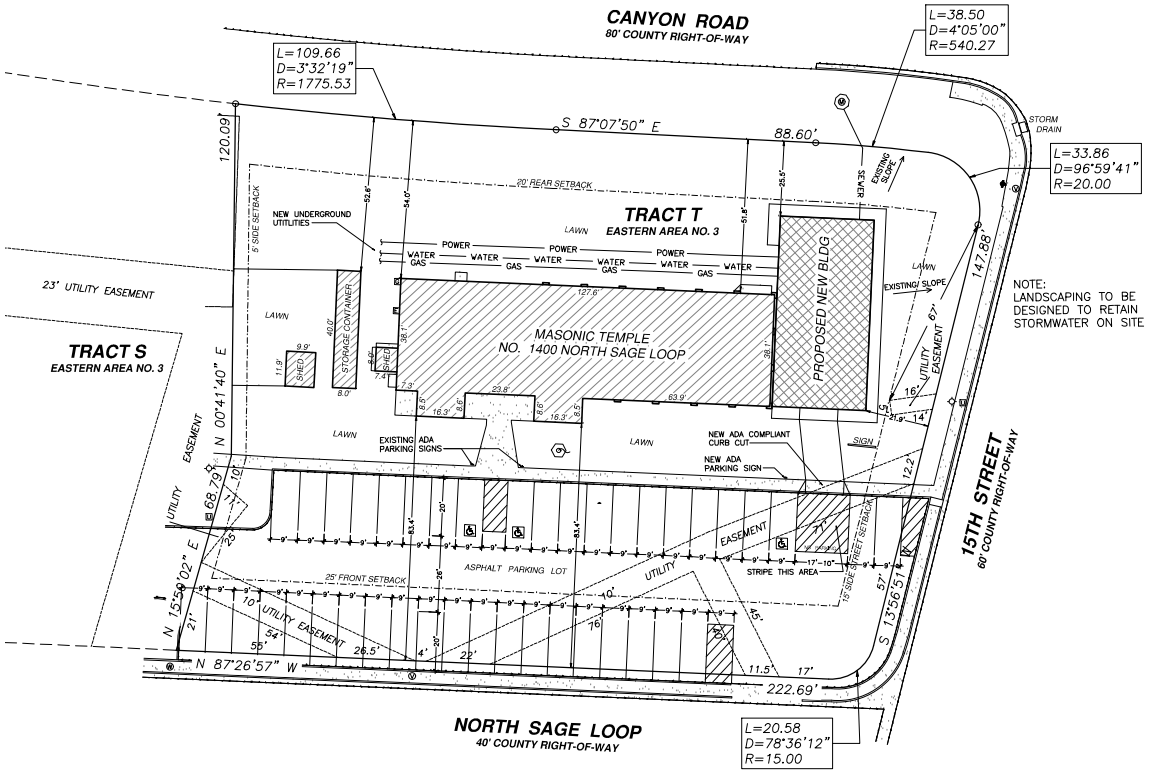
1400 NORTH SAGE LOOP
LOS ALAMOS, NEW MEXICO 87544

CODES & RESTRICTIONS

THE BUILDING SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE FOLLOWING:

- 2015 INTERNATIONAL BUILDING CODE
- 2018 IECC
- 2015 UPC
- 2015 UMC
- 2017 NEC
- 2021 IFC
- ALL APPLICABLE CODES AND REGULATIONS OF LOS ALAMOS COUNTY AND THE STATE OF NEW MEXICO

VICINITY MAP N.T.S.



SITE PLAN 1" = 20'–0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 jkbaker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

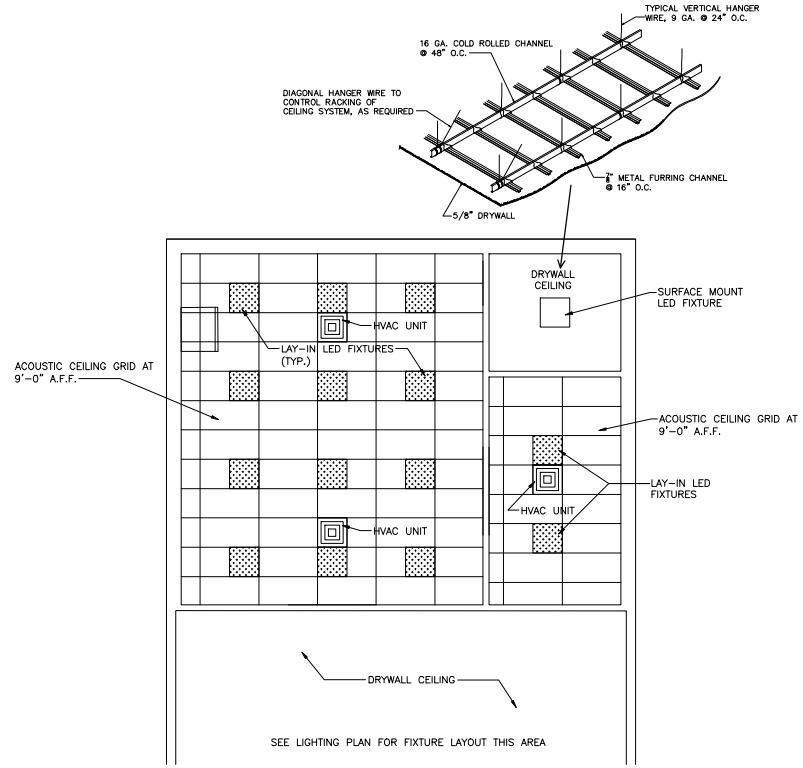
LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

SITE PLAN

DRAWN BY: JKB
DATE: 8–9–22
△ 8–31–22
△
△

A–1

ATTACHMENT 1



REFLECTED CEILING PLAN 1/4" = 1'-0"

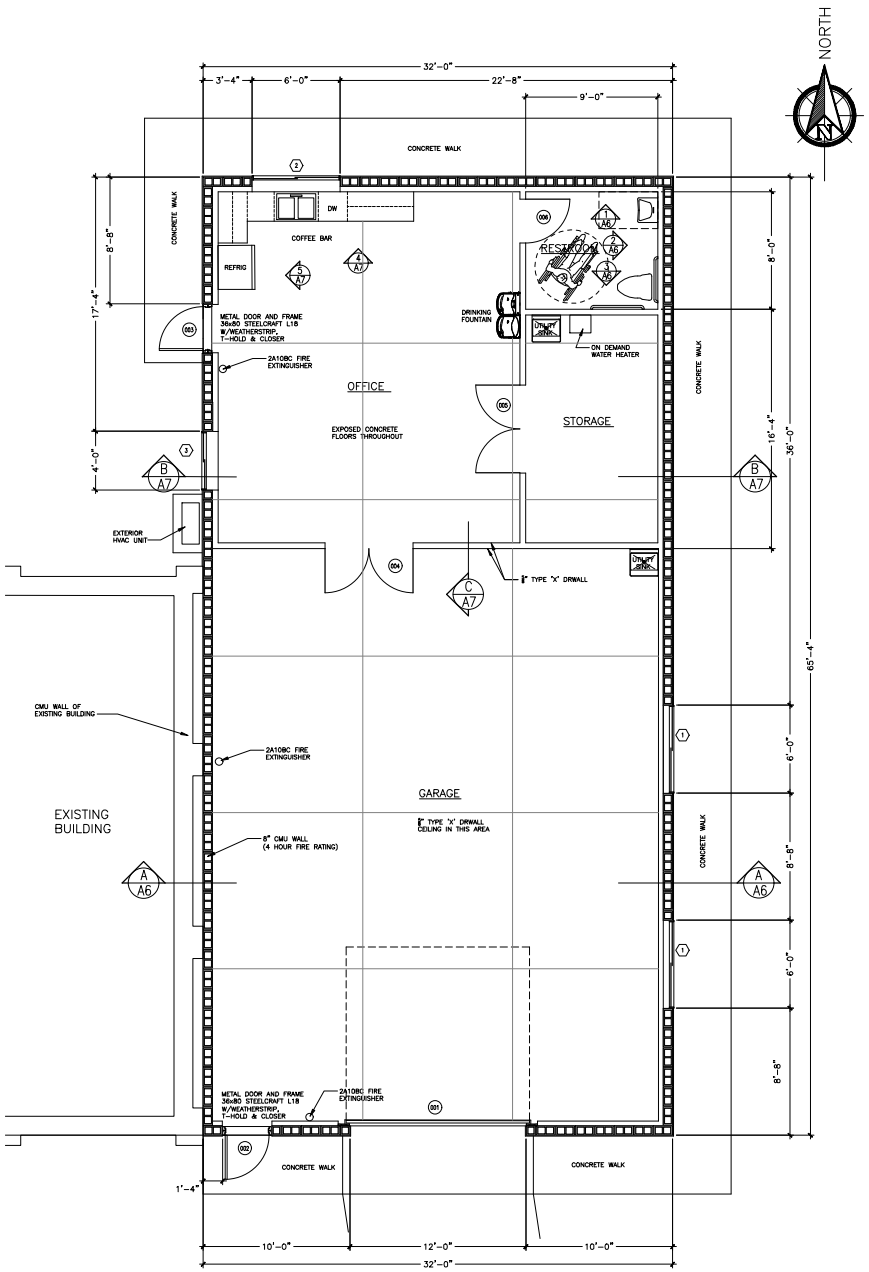
DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	TYPE	MATERIAL	QTY	MANUF.	HANDING	HARDWARE	NOTES
001	12'-0"	12'-0"	--	--	OVERHEAD	STEEL	1	OVERHEAD DOOR	--	ELECTRIC OPENER W/REMOTE	MODEL 470 INSULATED OVERHEAD SECTIONAL DOOR
002	3'-0"	7'-0"	--	--	EXTERIOR	STEEL	1	STEEL CRAFT	RIGHT HAND	KEYED W/DEADBOLT, CLOSER	MODEL L18, T-HOLD, W-STRIP, CLOSER
003	3'-0"	7'-0"	--	--	EXTERIOR	STEEL	1	STEEL CRAFT	LEFT HAND	KEYED W/DEADBOLT, CLOSER	MODEL L18, T-HOLD, W-STRIP, CLOSER
004	6'-0"	7'-0"	--	--	INTERIOR	SC WOOD	1	--	PAIR	KEYED W/DEADBOLT, CLOSER	T-HOLD, W-STRIP, CLOSER, 20 MIN. RATED/REDIFRAME
005	6'-0"	7'-0"	--	--	INTERIOR	SC WOOD	1	--	PAIR	KEYED	SC FLUSH BIRCH W/REDI-FRAME
006	3'-0"	7'-0"	--	--	INTERIOR	SC WOOD	1	--	PAIR	PRIVACY	SC FLUSH BIRCH W/REDI-FRAME

NOTE: GENERAL CONTRACTOR AND ALL SUBCONTRACTORS AND SUPPLIERS ARE TO VERIFY ALL QUANTITIES AND DIMENSIONS IN DOOR AND WINDOW SCHEDULES.

WINDOW SCHEDULE

MARK	WINDOW SIZE WIDTH	WINDOW SIZE HEIGHT	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	TYPE	MATERIAL	QTY	MANUF.	MANUF. DESIG.	NOTES
1	6'-0"	4'-0"	6'-0"	4'-0"	HORIZ. SLIDER	VINYL	2	MILGARD	TUSCANY V400	INSULATED, LOW-E COATING
2	6'-0"	3'-6"	6'-0"	3'-6"	HORIZ. SLIDER	VINYL	1	MILGARD	TUSCANY V400	INSULATED, LOW-E COATING
3	4'-0"	4'-0"	4'-0"	4'-0"	HORIZ. SLIDER	VINYL	1	MILGARD	TUSCANY V400	INSULATED, LOW-E COATING



FLOOR PLAN 1/4" = 1'-0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.kbaker@centurylink.net

STATE OF NEW MEXICO J. KORY BAKER NO. 2170 REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

FLOOR PLAN, REFLECTED CEILING PLAN

DRAWN BY: JKB
DATE: 8-9-22
△ 8-31-22
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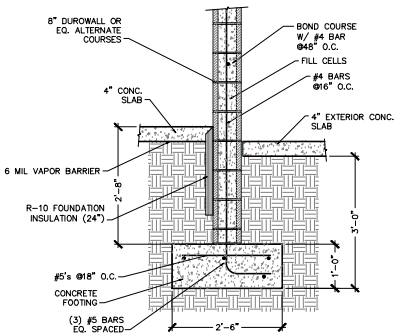
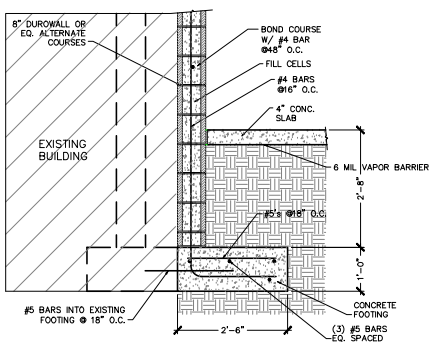
A-2



1 FOUNDATION DETAIL
SCALE: 3/4"=1'-0"



2 FOUNDATION DETAIL
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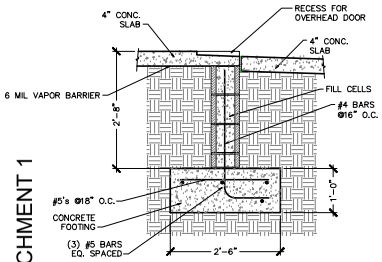
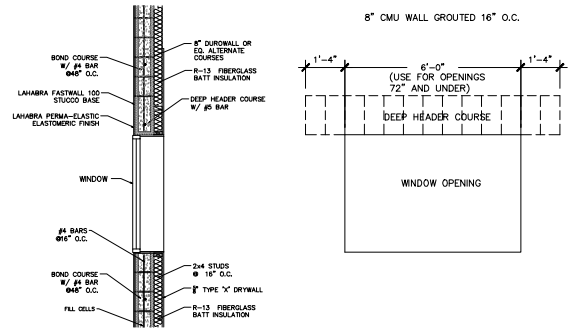


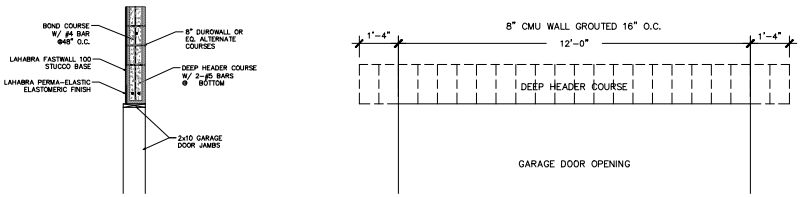
3 FOUNDATION DETAIL
SCALE: 3/4"=1'-0"

ATTACHMENT 1



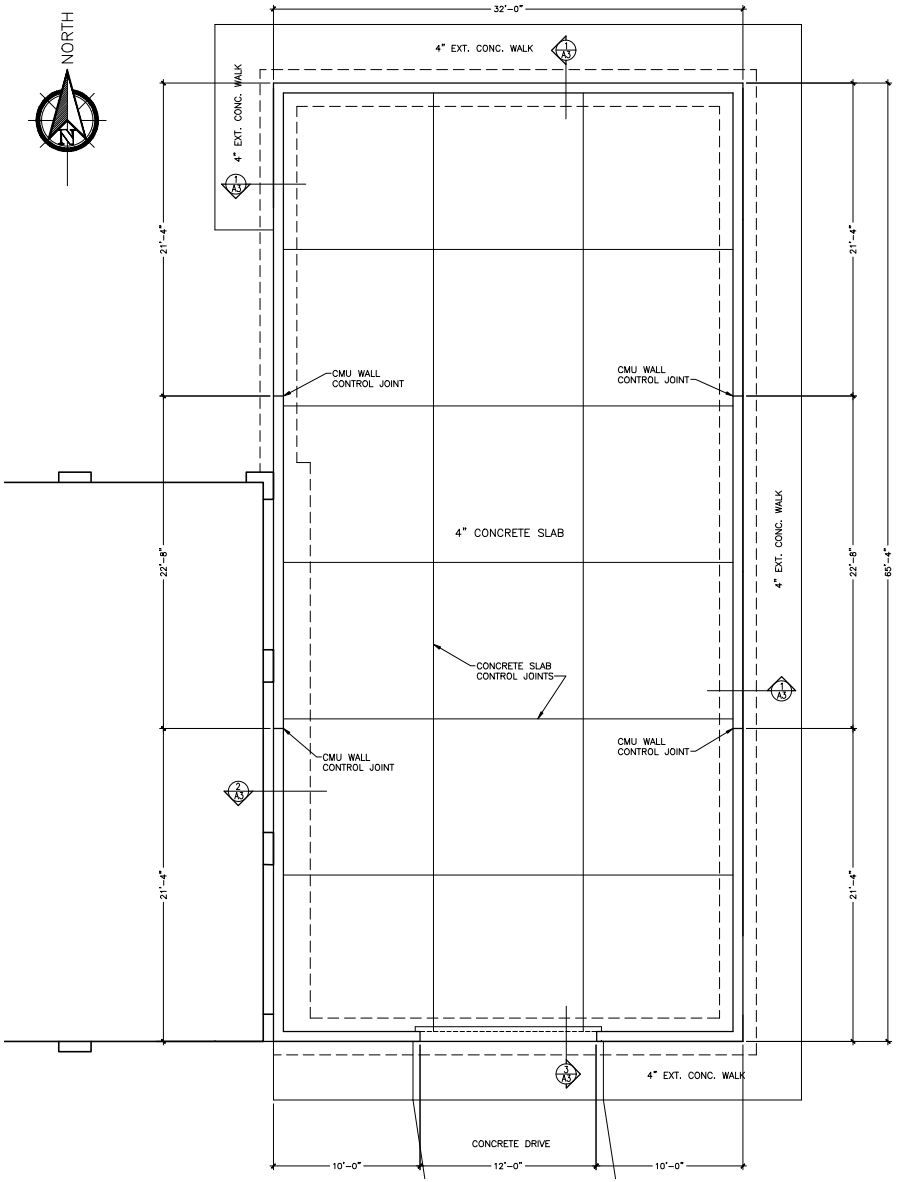
SECTION ELEVATION

MASONRY HEADER AT WINDOWS/DOORS 1/2" = 1'-0"



SECTION ELEVATION

MASONRY HEADER AT OVERHEAD DOOR 1/2" = 1'-0"



FOUNDATION PLAN 1/4" = 1'-0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

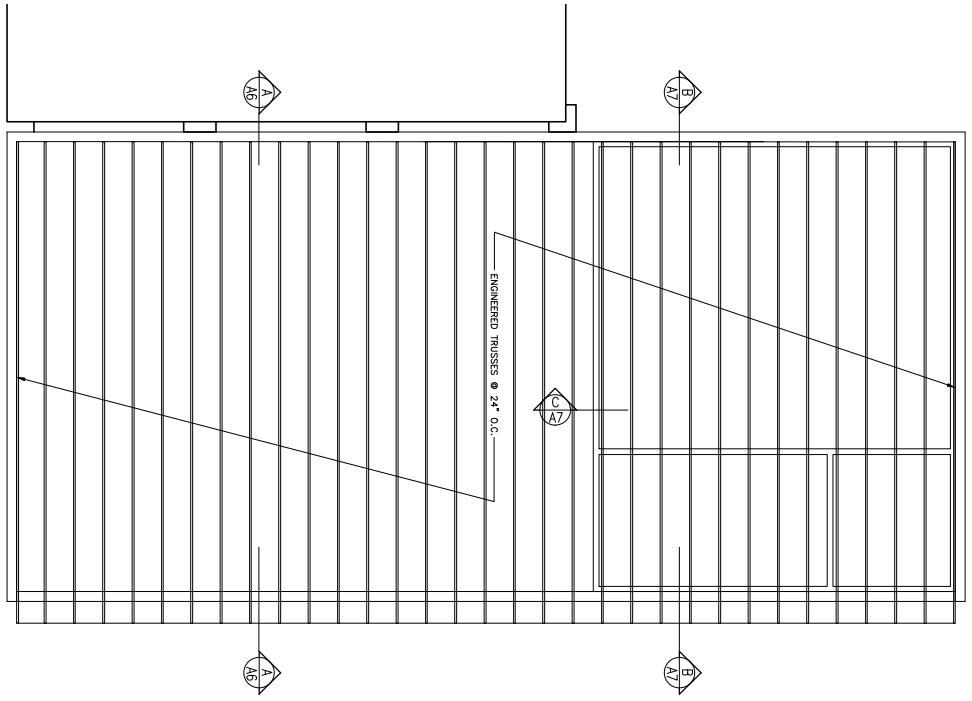
LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

FOUNDATION PLAN & DETAILS

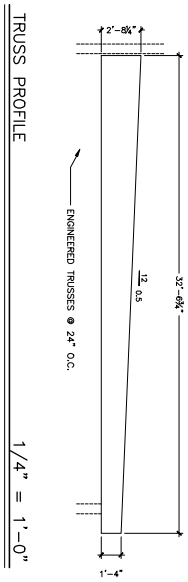
DRAWN BY: JKB
DATE: 8-9-22

A-3

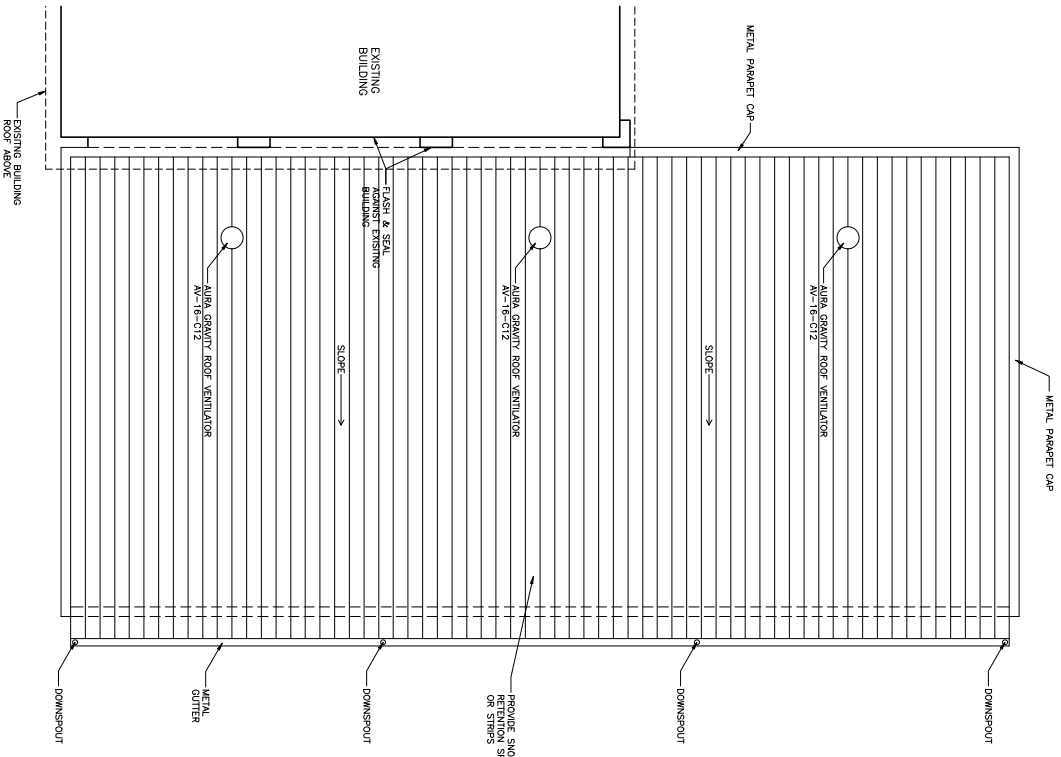
ATTACHMENT 1



ROOF FRAMING PLAN 1/4" = 1'-0"



TRUSS PROFILE 1/4" = 1'-0"



ROOF PLAN 1/4" = 1'-0"

A-4

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DATE: 8-9-22

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO
FRAMING PLAN, ROOF PLAN

STATE OF NEW MEXICO J. KORY BAKER NO. 2170 REGISTERED ARCHITECT

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505 • 384 • 3112 j.k.baker@centurylink.net

ATTACHMENT 1

GENERAL CRITERIA

1. DESIGN LOADS SHALL BE CONFIGURED USING INTERNATIONAL BUILDING CODE (IBC) 2015 EDITION, AND ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

   A. SNOW LOAD DESIGN DATA
   GROUND SNOW LOAD_____30 psf

   B. WIND LOAD DATA
   BASIC WIND SPEED, Vult_____115 MPH 3sec-gust
   Vasd_____90 MPH
   WIND EXPOSURE_____C

   C. EARTHQUAKE DESIGN DATA
   RISK CATEGORY_____II
   SEISMIC DESIGN CATEGORY_____C

2. CAST-IN-PLACE CONCRETE:
   A. F'c = 4000psi @ 28 DAYS (AIR ENTRAINED) - ALL EXTERIOR BUILDING
   B. F'c = 3000psi @ 28 DAYS (NONE AIR ENTRAINED) - ALL BUILDING

3. REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 OR A706, GRADE 60.

4. UNLESS NOTED OTHERWISE, LAP SPLICED OR EMBEDMENT LENGTHS SHALL CONFORM TO TABLE A, CLASS B SPLICE. SEE THIS SHEET, TABLE A.

5. UNLESS NOTED OTHERWISE, CONCRETE COVER OVER STEEL REINFORCEMENT SHALL CONFORM TO THE MINIMUMS REQUIRED BY CURRENT ADDITION OF ACI 318.

6. REINFORCEMENT DETAILING AND PLACEMENT SHALL CONFORM TO ACI 318 AND ACI 315, EXCEPT WHERE OTHERWISE INDICATED.

7. COVER: UNLESS OTHERWISE NOTED OR DETAILED, THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT

EXPOSURE	MINIMUM COVER (IN.)
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 - #18 BARS	2
#5 - AND SMALLER	1 1/2
C. CONCRETE NOT EXPOSED TO WEATHER OR NOT IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
#11 AND SMALLER	3/4
BEAMS, COLUMNS:	
TIES, STIRRUPS, PRIMARY REINFORCEMENT	1 1/2

FOUNDATION NOTES - GEO-TECHNICAL REPORT GOVERNS ALL REQUIREMENTS FOR GEO-TECHNICAL.

1. FOR COMPACTED FILL AND EXCAVATION REQUIREMENTS SEE GEO-TECHNICAL REPORT #1-20606 PREPARED BY GEO-TEST, INC. DATED JULY 22, 2022 AND ALSO SEE 2015 IBC. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE GEO-TECHNICAL REPORT AND FOLLOW THE RECOMMENDATIONS SPECIFIED THEREIN.

2. DESIGN FOUNDATION BEARING PRESSURE (NET) 2500 PSF DEAD + LIVE LOAD. DESIGN PRESSURE MAY BE INCREASED BY 1/3 FOR COMBINED VERTICAL AND WIND/SEISMIC LOADS.

3. REINFORCEMENT SHALL BE PLACED MID-DEPTH OF SLAB, U.N.O.

4. SUB-GRADE PREPARATION:
   A. EXISTING FOUNDATIONS AND UTILITIES AT ANY POINT BENEATH OR WITHIN 3'-0" OF THE NEW STRUCTURES SHALL BE REMOVED ENTIRELY. ANY FILL MATERIAL FROM PREVIOUS CONSTRUCTION ACTIVITIES WHICH IS ENCOUNTERED WITHIN THE BUILDING FOOTPRINT SHOULD ALSO BE REMOVED ENTIRELY. EXPOSED SUB-GRADE AT THE BASE OF REQUIRED EXCAVATION WHICH IS TO RECEIVE FILL SHALL BE COMPACTED TO NOT LESS THAN 90% MAXIMUM LAB DENSITY (ASTM D-1557) FOR COHESIVE MATERIAL, AND 95% MAXIMUM LAB DENSITY (ASTM D-1557) FOR COHESION-LESS MATERIAL, TO A MINIMUM DEPTH OF 8". SEE EXCAVATION/FILL DETAIL THIS SHEET.

4. FILL:
   A. ALL FILL PLACED UNDER BUILDING SLABS SHALL BE NON-EXPANSIVE AND SHALL BE COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY ACCORDING TO ASTM D-1557. SEE GEO-TECHNICAL REPORT FOR COMPLETE INFORMATION

STRUCTURAL STEEL

TABLE A - REINFORCEMENT TENSION LAPS, EMBEDMENT AND HOOK LENGTHS (1)
fy = 60000 psi f'c = 3000 psi (2) (3)

BAR SIZE (d)	CLEAR SPACING (IN) (4)			EMBEDMENT AND CLASS A LAP (IN) (5)(6)(7)						CLASS B LAP (IN) (6)(8)						HOOK (IN)
				TOP BAR (10)			OTHER BARS			TOP BAR (10)			OTHER BARS			
	2d	3d	5d	2d<S<3d	S≥3d (11)	S≥5D (12)	2d<S<3d	S≥3d (11)	S≥5D (12)	2d<S<3d	S≥3d (11)	S≥5D (12)	2d<S<3d	S≥3d (11)	S≥5D (12)	
3	3/4	1 1/8	1 7/8	16	16	16	13	13	13	21	21	21	16	16	16	9
4	1	1 1/2	2 1/2	22	22	22	17	17	17	28	28	28	22	22	22	11
5	1 1/4	1 7/8	3 1/8	27	27	27	21	21	21	35	35	35	27	27	27	14
6	1 1/2	2 1/4	3 3/4	35	32	32	27	25	25	46	42	42	35	32	32	17
7	1 3/4	2 5/8	4 3/8	48	38	38	37	29	29	63	49	49	48	38	38	20
8	2	3	5	63	45	43	49	35	33	82	59	56	63	45	43	22
9	2,256	3 3/8	5 5/8	80	57	48	62	44	37	104	74	63	80	57	48	25
10	2,54	3,81	6,35	102	73	58	78	56	45	132	94	76	102	73	58	28
11	2,82	4,23	7,05	125	89	71	96	69	55	162	116	93	125	89	71	31

○ NOTES FOR TABLE A

1. LENGTHS SHOWN CONFORM WITH NON SEISMIC PROVISIONS OF ACI 318 FOR UNCOATED BARS NOT ENCLOSED BY CLOSELY SPACED SPIRALS OR TIES. DEVELOPMENT OF REINFORCEMENT NOT COVERED BY THE TABLE SHALL CONFORM WITH ACI 318.

2. MULTIPLY LENGTHS SHOWN BY 0,87 FOR 4000 PSI. CONCRETE, BUT LENGTH OF LAP SHALL NOT BE LESS THAN 12 INCH.

3. MULTIPLY LENGTHS SHOWN BY 1,3 FOR LIGHTWEIGHT AGGREGATE CONCRETE.

4. BAR CLEAR SPACING IS THE CENTER TO CENTER BAR SPACING MINUS TWO BAR DIAMETERS WHEN ALL BARS ARE LAPPED AT THE SAME LOCATION. WHEN BAR LAPS ARE STAGGERED, AND LAP HALF THE BARS ARE LAPPED AT THE SAME LOCATION, THE BAR CLEAR SPACING IS TWICE THE CENTER TO CENTER BAR SPACING MINUS TWO BAR DIAMETERS. WHEN ALL BARS ARE EMBEDDED AT THE SAME LOCATION, THE BAR CLEAR SPACING IS THE CENTER TO CENTER BAR SPACING MINUS ONE BAR DIAMETER.

5. CLASS A LAP LENGTHS APPLY ONLY WHERE NOTED ON THE DRAWINGS.

6. LAP AND EMBEDMENT LENGTHS SHOWN APPLY WHEN MINIMUM CONCRETE COVER OVER BARS CONFORMS WITH VALUES GIVEN IN THE TABLE FOR "CONCRETE COVER". THESE COVER VALUES CONFIRM WITH ACI 318.

7. CLASS A LAP AND EMBEDMENT LENGTH HAVE SAME VALUE.

8. CLASS B LAP LENGTHS APPLY FOR ALL SPLICES UNLESS NOTED OTHERWISE.

9. HOOK LENGTH GIVEN IS THE STRAIGHT LINE DISTANCE FROM THE LOCATION OF MAXIMUM STRESS IN THE BAR TO THE OUTSIDE END OF THE HOOK. MULTIPLY LENGTHS GIVEN BY 0,7 FOR HOOKS WITH SIDE COVER NORMAL TO THE HOOK NOT LESS THAN 2-1/2 INCH AND FOR 90 DEGREE HOOKS COVER ON BAR EXTENSION BEYOND HOOK NOT LESS THAN 2 INCH.

10. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.

11. MULTIPLY LAP AND EMBEDMENT LENGTHS GIVEN BY 2,0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.

12. MINIMUM CONCRETE COVER FROM FACE OF MEMBER TO EDGE BAR SHALL NOT BE LESS THAN TWO AND ONE HALF BAR DIAMETERS.

CONCRETE MASONRY

1. CONCRETE MASONRY UNITS SHALL BE LOAD BEARING TYPE CONFORMING TO ASTM C-90 HAVING A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI (NET AREA)

2. MORTAR SHALL CONFORM TO ASTM C-270 TYPE S.

3. FILL CELLS AS NOTED WITH 3000 PSI GROUT, OR GROUT CONFORMING TO ASTM-476, SPECIFICALLY DESIGNED FOR FILLING OF CELLS.

4. PROVIDE HOT DIP GALVANIZED WIRE TYPE HORIZONTAL JOINT REINFORCING (HJR) AT 16" O.C. PROVIDE TWO LAYERS OF HJR AT 8" O.C. ABOVE AND BELOW ALL LINTELS AND SILLS WHICH SPAN MORE THAN 12". EXTEND ADDED HJR 24" BEYOND THE OPENING JAMBS EXCEPT AT WCJ.

5. WALL CONTROL JOINTS (WCJ) SHALL BE PROVIDED IN ALL CMU CONSTRUCTION AS INDICATED ON DRAWINGS, BUT UNLESS INDICATED OTHERWISE AT A SPACING NOT GREATER THAN 24' O.C. HORIZONTAL JOINT REIFORCING SHALL BE INTERRUPTED EACH SIDE OF WCJ. WCJ SHALL NOT BE PLACED OVER OPENINGS OR WITHIN AN OPENING JAMB WIDTH. PLACE VERTICAL REINFORCING AND GROUT CELLS ON EITHER SIDE OF WCJ.

6. BLOCK LINTELS SHALL BE SPECIFICALLY FORMED U-SHAPED LINTEL OR LOW WEB LITEL UNITS WITH REINFORCING BARS, OR PRECAST UNITS DESIGNED FOR THE WEIGHT OF THE MASONRY ABOVE AND OTHER APPLIED LOADS.

7. TYPICAL SCHEDULED VERTICAL WALL REINFORCING SIZE AND SPACING SHALL BE CONTINUED ABOVE AND BELOW ALL OPENINGS.

SCHEDULE OF CONSTRUCTION MATERIALS

	LOCATION	28-DAY COMPRESSIVE STRENGTH
CONCRETE	EXTERIOR CONCRETE (EXPOSED TO FREEZING AND/OR DE-ICERS)	4,000 P.S.I. MIX TYPE D
	EXTERIOR CONCRETE (NOT EXPOSED TO FREEZING)	3,000 P.S.I. MIX TYPE A
	FOOTINGS	3,000 P.S.I. MIX TYPE A
	FOUNDATION WALLS	3,000 P.S.I. MIX TYPE D
	INTERIOR SLABS ON GRADE	3,000 P.S.I. MIX TYPE E
	NOTE: CONCRETE STRENGTH USED IN DESIGN IS 3,000 P.S.I.	
CONCRETE MASONRY UNITS	APPLICATION	MATERIAL
	EXTERIOR WALLS	ASTM C90
REINFORCING STEEL	BARS SHOWN ON DRAWING TO BE FIELD BENT	ALL OTHER BARS
	ASTM A615, GRADE 40 OR GRADE 60 (SEE LAP SPLICE SCHEDULE FOR LAP LENGTHS	ASTM A615, GRADE 60 (SEE LAP SPLICE SCHEDULE FOR LAP LENGTHS)

Type A - Water reducing admixture. This is used to reduce the quantity of mixing water at a given workability or increase workability at a given water content.
Type B - Retarding admixture used for increasing setting time of concrete.
Type C - Accelerating admixture used for decreasing setting time and to develop early strength gain.
Type D - Water reducing and retarding admixture has the effects of both A and B.
Type E - Water reducing and accelerating admixtures has the effects of both A and C.
Type F - Water reducing, high range admixture used to reduce the quantity of mixing water required to produce concrete of a given consistency by 12% or more, and can be used to produce high slump or flowing concrete.
Type G - Water reducing, high range, and retarding admixtures are used to reduce the quantity of mixing water required to produce concrete of given consistency by 12% or more and retard setting times of concrete.
Type S - Specific performance admixtures used for shrinkage reduction, ASR mitigation, viscosity modification or any other specific requirement.

WOOD

1. UNLESS NOTED OTHERWISE ON DRAWINGS, LUMBER MAY BE NO 2 SPRUCE PINE FIR (SPF) WITH BASIC FIBER BENDING STRESS OF 865 PSI AND ELASTIC MODULES OF 1,200,000 PSI.

2. IF DOUGLAS FIR IS USED, IT SHALL BE NUMBER 2 WITH BASIC FIBER BENDING STRESS OF 1425 PSI AND ELASTIC MODULES OF 1,200,000 PSI.

3. MICROLLAM LUMBER SHALL SATISFY THE FOLLOWING DESIGN VALUES:

BENDING (Fb):	2800 OR 3100 PSI
HORIZONTAL SHEAR (Fv):	285 PSI
MODULES OF ELASTICITY (E):	2,000,000 PSI
COMPRESSION PERPENDICULAR TO GRAIN:	750 PSI
COMPRESSION PARALLEL GRAIN (Fc):	3000 PSI

DRILLING OR NOTCHING OF MICROLLAM LUMBER MUST MEET ALL MANUFACTURES REQUIREMENTS

4. FLOOR STRUCTURAL SHEATHING SHALL BE STRUCTURAL GRADE I, (OSB, PLYWOOD)

NAIL SCHEDULE

ITEM	COMMENT	NAILING
1	JOIST TO SILL OR GIRDER, TOENAIL	3~8d
2	BRIDGING TO JOIST, TOENAIL AT EACH END	2~8d
3	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16" O.C.
4	TOP PLATE TO STUD @ END	2~16d
5	STUD TO SOLE PLATE	2~16d END NAIL OR 4~8d TOE NAIL
6	DOUBLE STUDS, FACE NAIL	16d @ 12" O.C.
7	TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL. LAP IS 48" MINIMUM.	6~16d MIN
8	CONTINUOUS HEADER, TWO PIECES.	16d @ 16" O.C. ALONG EACH EDGE
9	CEILING JOIST TO PLACE, TOE NAIL.	3~8d
10	CONTINUOUS HEADER TO STUD, FACE NAIL (12" MIN)	3~8d
11	CEILING JOISTS, TO PARALLEL RAFTERS, FACE NAIL	3~16d
12	RAFTER TO PLATE, TOE NAIL	3~16d
13	1x BRACE TO EACH STUD AND PLATE, FACE NAIL	3~8d
14	BUILT UP CORNER STUDS	2~8d
15	BUILT UP GIRDER AND BEAM	16d @ 24" O.C.
16	RAFTER TO PLATE, TOE NAIL	20d @ 32" O.C. @ TOP END BOTTOM, STAGGERED 3~20d @ EACH END
17	BUILT UP CORNER STUDS	16d @ 24" O.C.

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 jk.baker@centurylink.net

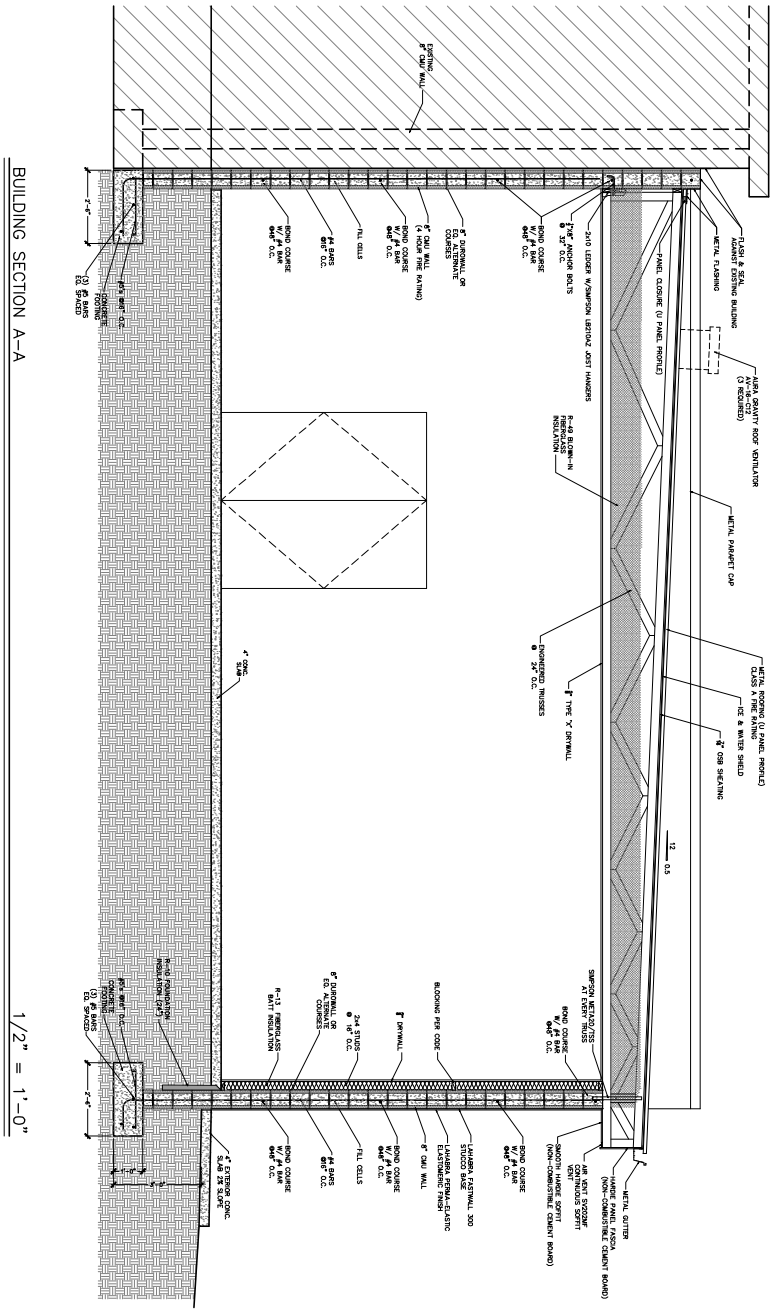
STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

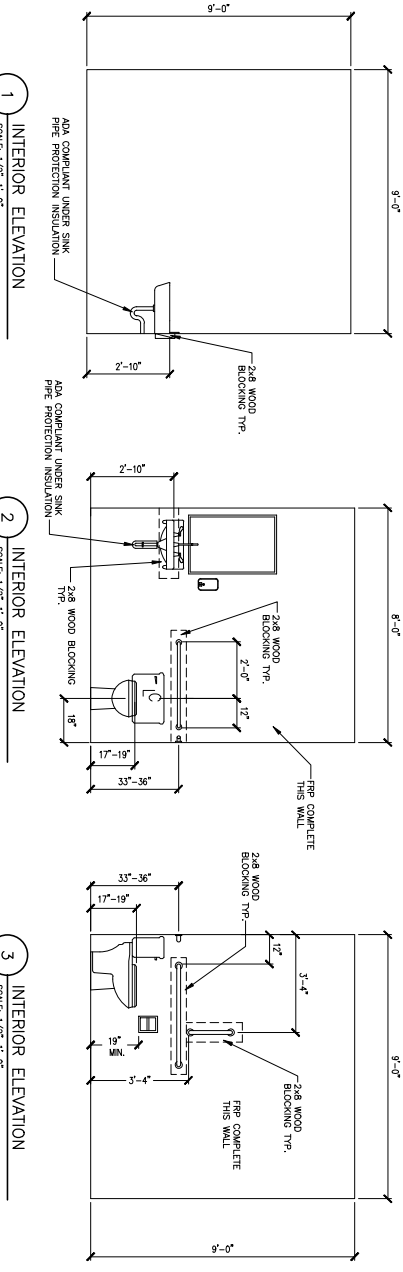
LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO
GENERAL NOTES

DRAWN BY: JKB
DATE: 8-9-22

A-5

ATTACHMENT 1





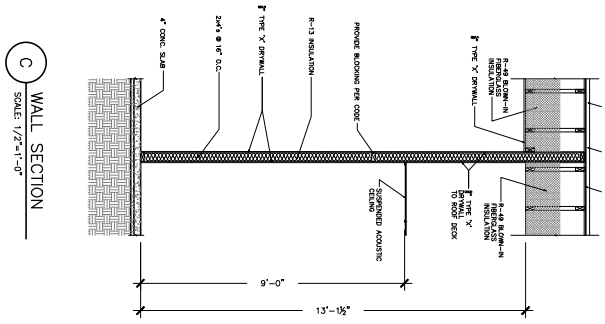
LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO
BUILDING SECTIONS AND INTERIOR ELEVATIONS

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.k.baker@centurylink.net

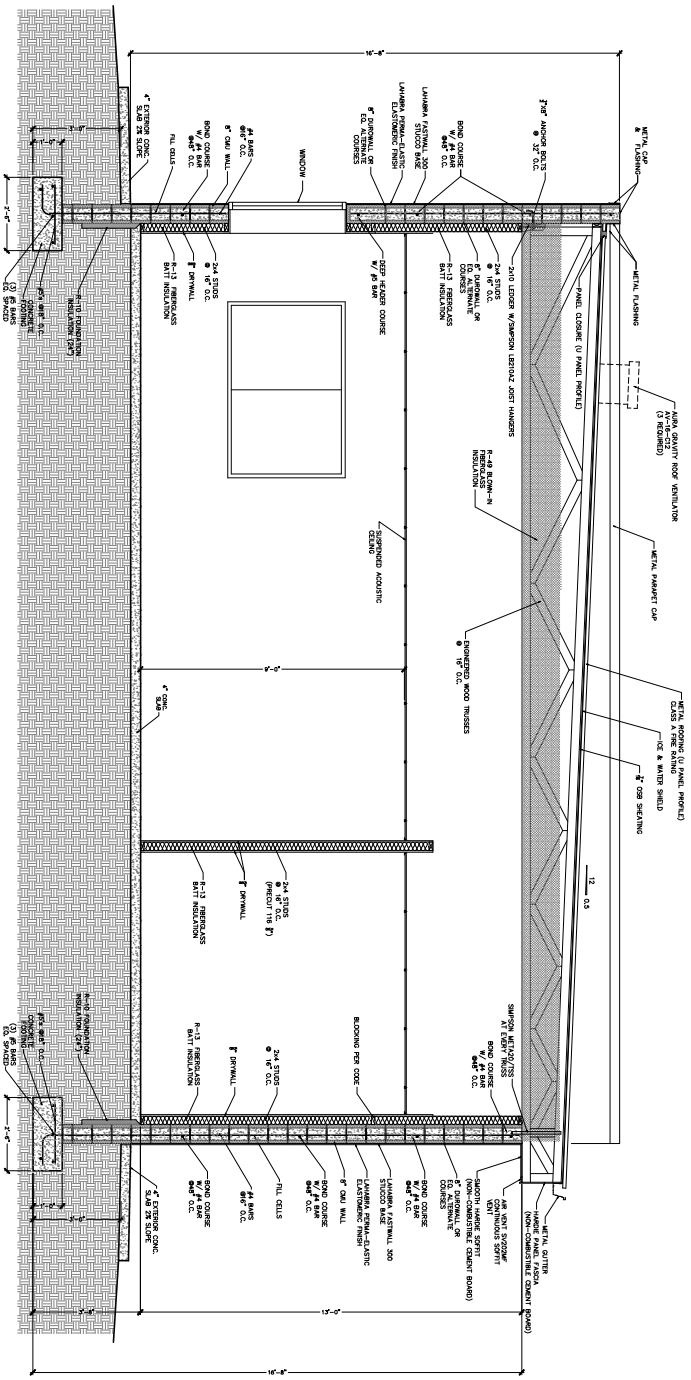
DRAWN BY: JKB
DATE: 8-29-22

A-6

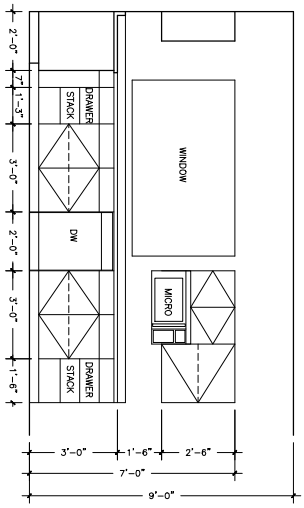
ATTACHMENT 1



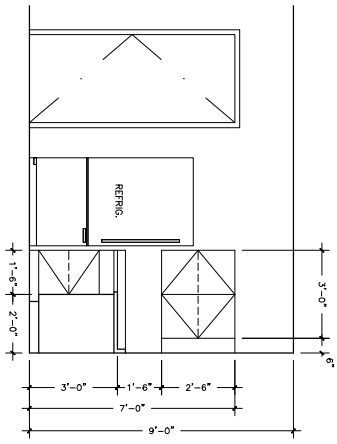
C WALL SECTION
SCALE: 1/2"=1'-0"



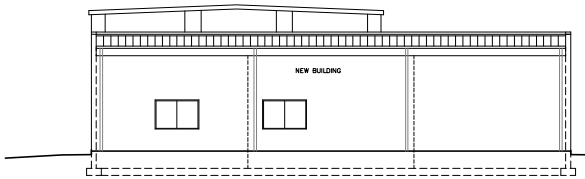
BUILDING SECTION B–B
1/2" = 1'-0"



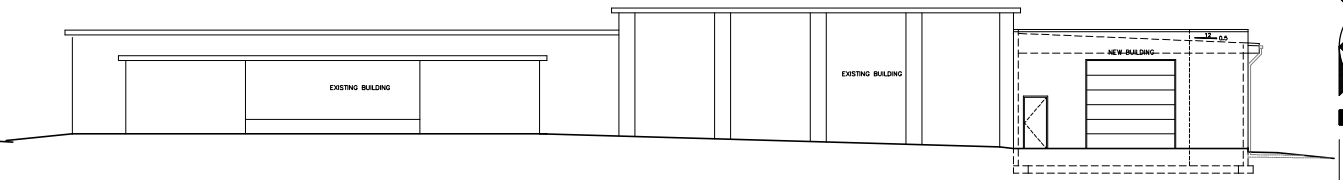
4 INTERIOR ELEVATION
SCALE: 1/2"=1'-0"



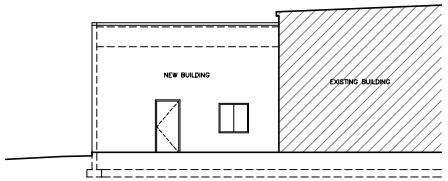
5 INTERIOR ELEVATION
SCALE: 1/2"=1'-0"



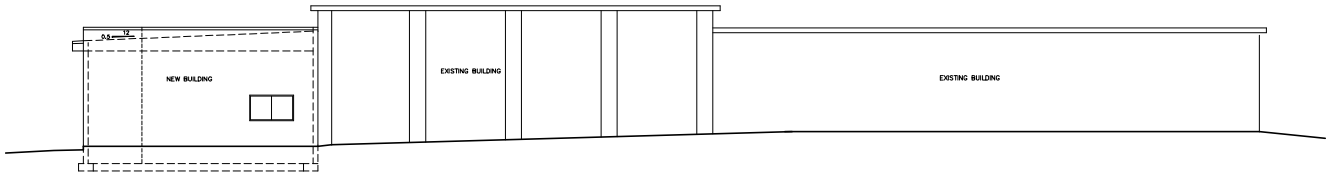
EAST ELEVATION 1/8" = 1'–0"



SOUTH ELEVATION 1/8" = 1'–0"

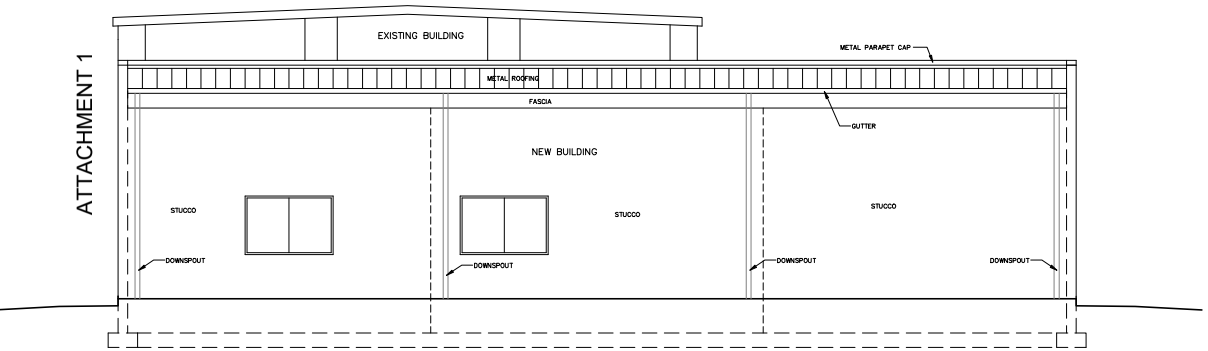


WEST ELEVATION 1/8" = 1'–0"

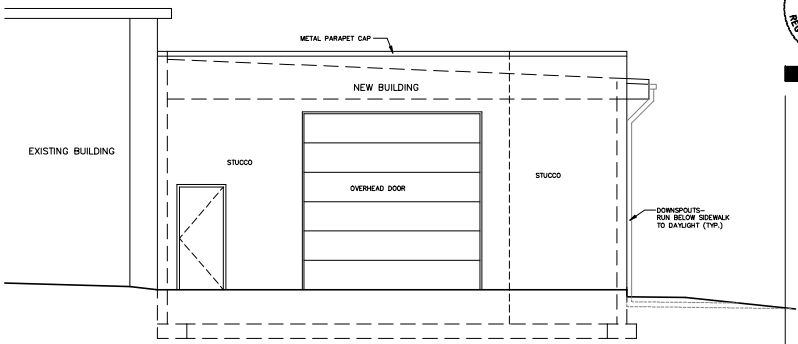


NORTH ELEVATION 1/8" = 1'–0"

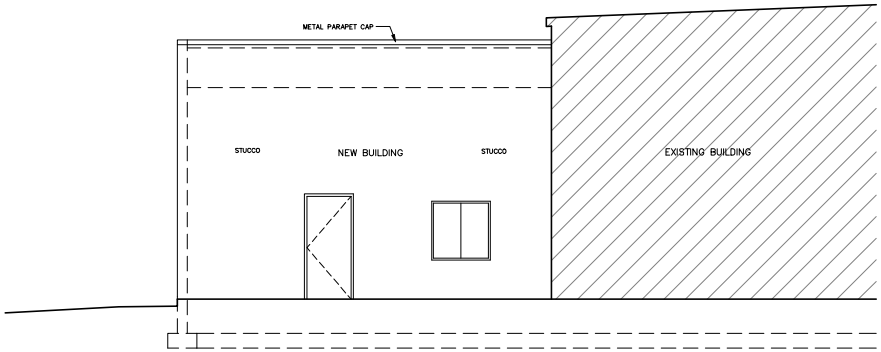
ATTACHMENT 1



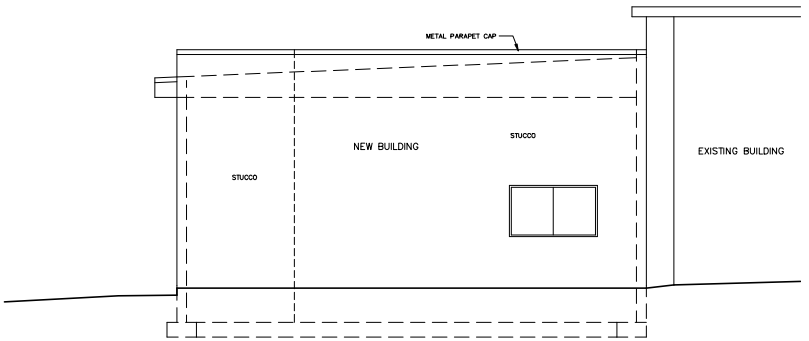
EAST ELEVATION 1/4" = 1'–0"



SOUTH ELEVATION 1/4" = 1'–0"



WEST ELEVATION 1/4" = 1'–0"



NORTH ELEVATION 1/4" = 1'–0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO
ELEVATIONS

DRAWN BY: JKB
DATE: 8–9–22
1
2
3

A–8

ATTACHMENT 1

MECHANICAL/PLUMBING SYMBOL LEGEND

(ALL SYMBOLS MAY NOT BE USED)

SYMBOL	DESCRIPTION
——— – ———	DOMESTIC COLD WATER PIPE
——— - - ———	DOMESTIC HOT WATER PIPE
——— - - - ———	DOMESTIC HOT WATER RETURN PIPE
——— G ———	NATURAL GAS PIPE
——— — — ———	SANITARY VENT PIPE
———	SANITARY PIPE
(DD)	DUCT SMOKE DETECTOR
(C)	RELAY COIL
(T)	THERMOSTAT
(T_S)	TEMPERATURE SENSOR
(1)	KEYED NOTE DESIGNATION
⊠	EXHAUST FAN
⊠	SUPPLY DIFFUSER
⊠	RETURN GRILL
(@)	ELECTRIC THERMOSTAT
⊣|⊢	UNION
⊣▽⊢	BALANCING OR PLUG COCK
—○—	RISE IN PIPING
—○—	DROP IN PIPING
—○◂	VALVE IN RISE OR DROP
D-X 000/000 CFM	DIFFUSER SYMBOL COOLING/HEATING AIRFLOW

SYMBOL	DESCRIPTION
	BALL VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	GATE VALVE
	DRAIN VALVE
	MANUAL AIR VENT.
	GRISWOLD FLOW CONTROL VALVE
	TWO-WAY CONTROL VALVE
	PNEUMATIC BYPASS VALVE
	TRIPLE DUTY VALVE
	CHECK VALVE
	GAUGE COCK
	BALANCING VALVE
	GAS COCK
	GAS PRESSURE REGULATOR
	GAS SOLENOID VALVE W/HI-LO FIRE
	RELIEF VALVE
	PETE'S PLUG
	THERMOMETER W/WELL
	PADDLE TYPE FLOW SWITCH
	DIFFERENTIAL PRESSURE FLOW SWITCH
	DIFFERENTIAL PRESSURE SENSOR
	PRESSURE GAUGE
	SENSOR WELL
	FLEXIBLE CONNECTOR
	STRAINER
	MALE HOSE CONNECTOR
	PIPING REDUCER
	PIPE ANCHOR
	PIPE GUIDE
	PIPE EXPANSION LOOP
	EXPANSION JOINT
	UNION
	FLOW ARROW
	TEE CONNECTION
	NEW TO EXISTING CONNECTION

ABBREVIATIONS

AC	AIR CONDITIONER
A.F.F.	ABOVE FINISHED FLOOR
BD	BALANCING DAMPER
BFP	BACK FLOW PREVENTER
CFM	CUBIC FEET PER MIN
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
CW	COLD WATER
DCO	DOUBLE CLEANOUT
DF	DRINKING FOUNTAIN
D-1	DIFFUSER TYPE
ESP	EXT STATIC PRESS
EX	EXHAUST GRILL
EXT, EXIST	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
FPH	FREEZE PROOF HYDRANT
FHB	FREEZE PROOF HOSE BIBB
F-1	FURNACE TYPE
GPM	GALLONS PER MIN
HB	HOSE BIBB
HW	HOT WATER
LAV	LAVATORY
NO.	NUMBER
OSA	OUTSIDE AIR
PSI	POUNDS PER SQ IN
RG	RETURN GRILL
RM	ROOM
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VTR	VENT THRU ROOF
WCO	WALL CLEANOUT
WC	WATER CLOSET
WH	WATER HEATER

Project General Notes

A. ALL WORK SHALL BE COMPLETED IN FULL COMPLIANCE WITH THE 2015 UPC, 2015 UMC, 2018 IECC, NFPA AND ALL LOCAL CODES AND ORDINANCES.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE LAY OUT AND INSTALLATION OF THE PLUMBING SYSTEMS INCLUDING ALL COORDINATION WITH NEW AND EXISTING SERVICES MECHANICAL EQUIPMENT, DUCTWORK AND ELECTRICAL EQUIPMENT.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF OUTAGES WITH BOTH THE OWNER AND UTILITY COMPANIES, FOR UTILITY CONNECTIONS.

D. CONTRACTOR SHALL VERIFY INVERTS BEFORE ROUTING ANY PIPING.

E. WASTE PIPING SHALL BE PVC OR CAST IRON. VENT PIPING MAY BE PVC PIPE OR CAST IRON ABOVE AND BELOW FLOOR, PER UPC LIMITATIONS. AND LOCAL CODES.

F. ALL WATER PIPING SHALL BE TYPE M COPPER ABOVE FLOOR AND TYPE L SOFT COPPER BELOW FLOOR OR CROSS LINKED POLYETHYLENE (AQUAPEX) TUBING MEETING ASTM F87-99A ABOVE AND BELOW FLOOR.

G. NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL ABOVE GRADE AND SHALL BE EITHER PROTECTED SCH 40 BLACK STEEL WRAPPED OR SDR-11 POLYETHENE BELOW GRADE.

H. SEE EQUIPMENT SCHEDULE FOR EQUIPMENT TYPES AND SIZES. MINIMUM BURY DEPTH FOR WATER IS 4' AND 2' FOR GAS.

I. ROUTE PIPING AS NEARLY AS POSSIBLE TO ROUTES INDICATED ON PLANS. CONTRACTOR IS FREE TO MAKE MINOR CHANGES IN ROUTING TO ACCOMMODATE CONDITIONS.

J. CONTRACTOR RESPONSIBLE FOR ALL REQUIRED TRANSITIONS, OFFSETS MINOR RELOCATIONS, AND ALL ASSOCIATED FITTINGS

K. CONTRACTOR SHALL INSTALL A COMPLETE OPERATING SYSTEM, INCLUDING REFRIGERANT PIPING, EQUIPMENT, CONTROLS, AND CONDENSATE DRAIN TO APPROVED INDIRECT WASTE.

L. ANY LINES ENCOUNTERED WHICH MAY INTERFERE WITH NEW CONSTRUCTION SHALL BE RELOCATED IF ACTIVE AND REMOVED IF INACTIVE.

M. ALL WATER PIPING LOCATED IN EXTERIOR WALLS OF THE BUILDING SHALL BE INSULATED WITH 1/2" INSULATION AND BE LOCATED ON BUILDING INTERIOR SIDE OF INSULATION.

N. ALL HW/CW, P-TRAPS AT HANDICAPPED LAVATORIES SHALL BE INSULATED.

O. CONTRACTOR SHALL PROVIDE 12" RISERS, CAPPED AT EACH FIXTURE FOR SHOCK ABSORPTION OR A SHOCK ABSORBER UNIT FOR THE SYSTEM.

P. PROVIDE WALL CLEAN OUTS AND SHUT OFF VALVES AT ALL SINKS AND WALL MOUNTED URINALS.

Q. PROVIDE ESCUTCHEONS AT ALL PIPE PENETRATIONS OF WALLS AND FLOORS.

R. PROVIDE SHUT-OFF VALVES AT PLUMBING RISES.

S. PROVIDE GAS COCKS AND FLEXIBLE CONNECTIONS AT EACH GAS OUTLET OR APPLIANCE.

T. MECHANICAL AND PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

U. SANITARY VENT TERMINATIONS SHALL BE A MINIMUM DISTANCE OF 10' HORIZONTALLY OR 3' ABOVE ANY BUILDING OPENING OR AIR INTAKE.

V. DUCTWORK SHALL BE FABRICATED AND INSTALLED PER SMACNA STANDARDS, AND UMC STANDARDS.

W. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL AND ARCHITECTURAL TO DETERMINE FINAL DIFFUSERS LOCATIONS.

X. INSULATE SUPPLY DUCTWORK PER TABLE THIS SHEET. WITH FOIL FACED EXTERNAL DUCT WRAP. PROVIDE ALUMINUM ROLL JACKETING MEETING ASTM B-209, H-14 TEMPER, .016" THICKNESS FOR EXTERNAL DUCT.

Y. DUCT DIMENSIONS ARE CLEAR INSIDE.

Z. INSTALL TURNING VANES IN RECTANGULAR ELBOWS.

AA. ALL REGISTERS AND DIFFUSERS SHALL HAVE DAMPERS OR EXTRACTORS FOR AIR BALANCING.

BB. INSTALL SPLITTERS AT BRANCH CONNECTIONS.

CC. CONTRACTOR SHALL HAVE INDEPENDENT TEST AND BALANCE CONTRACTOR BALANCE AIR FLOWS PER DRAWINGS AND ADJUST ALL TEMPERATURE AND CONTROL DEVICES. MECHANICAL CONTRACTOR SHALL TEST RUN SYSTEM FOR A PERIOD OF 8 HRS., VERIFIED BY GENERAL CONTRACTOR, BEFORE GIVING NOTICE OF COMPLETION OF WORK.

DD. CONTRACTOR SHALL INSTALL FIRE/SMOKE DAMPERS AT PENETRATIONS OF RATED WALLS/CEILINGS, VERIFY LOCATION OF RATED WALLS/CEILINGS ON ARCHITECTURAL DRAWINGS. PROVIDE ACCESS PANELS FOR ALL FIRE DAMPERS.

EE. CONTRACTOR SHALL INSTALL A PRESSURE REGULATOR AT THE INCOMING WATER SERVICE IF SITE WATER PRESSURE EXCEEDS 80 P.S.I. REGULATOR SHALL MATCH LINE SIZE.

FF. CONTRACTOR SHALL PROVIDE ACCESS PANELS OF APPROPRIATE SIZE FOR ALL INACCESSIBLE REMOTE EQUIPMENT.

GG. CONTRACTOR SHALL NOT MODIFY ANY STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, TRUSSES, ETC.

HH. ALL PIPING AND DUCTWORK THAT PENETRATES A FIRE RATED WALL SHALL BE SEALED WITH APPROVED FIRE STOPPING TO RESTORE THE FIRE RATING AND MAKE WEATHER TIGHT AS REQUIRED.

NOTES ARE FOR GENERAL INFORMATION AND REFERENCE. NOTES ONLY APPLY TO SPECIFIC ITEMS WHICH ARE SHOWN IN PLAN VIEWS. NOT ALL NOTES WILL BE USED

MINIMUM DUCT INSULATION

BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2018

DUCT AND PLENUM INSULATION AND SEALING:
ALL SUPPLY AND RETURN DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUN OF R-6 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND A MINIMUM OF R-8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION.

EXCEPTIONS:
1. WHEN LOCATED WITHIN EQUIPMENT.
2. WHEN THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM DOES NOT EXCEED 15°F (8°C).

MINIMUM PIPE INSULATION

BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2018

FOR AUTOMATIC-CIRCULATING HOT WATER SYSTEMS, PIPING SHALL BE INSULATED WITH 1" OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/HXFT2X°F. THE FIRST 8' OF PIPING IN NONCIRCULATING SYSTEMS SERVED BY EQUIPMENT WITHOUT INTEGRAL HEAT TRAPS SHALL BE INSULATED WITH 0.5" OF MATERIAL HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/HXFT2X°F.

MINIMUM PIPE INSULATION [a]

BASED ON: INTERNATIONAL ENERGY CONSERVATION CODE 2018

	NOMINAL PIPE DIAMETER	
FLUID	≤ 1.5"	
Steam	1.5	3.0
Hot Water	1.0	2.0
Chilled water, brine, or Refrigerant	1.0	1.5

a. Based on insulation having a conductivity (k) not exceeding 0.27 Btu per inch/hr ft2 °F

SEISMIC RESTRAINT FOR WATER HEATERS

BASED ON: UNIFORM MECHANICAL CODE

IN SEISMIC DESIGN CATEGORIES C,D,E, AND F, WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTHION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF ITS VERTICAL DIMENSIONS. AT THE LOWER POINT, A DISTANCE OF NOT LESS THAN 4" SHALL BE MAINTAINED ABOVE THE CONTROLS WITH THE STRAPPING.

TEMPERATURE AND HOT WATER SYSTEM CONTROLS

BASED ON: IECC 2018 CODE

SERVICE WATER-HEATING EQUIPMENT SHALL BE PROVIDED WITH CONTROLS TO ALLOW A SET POINT OF 110° F FOR EQUIPMENT SERVING DWELLING UNITS AND 90° F FOR EQUIPMENT SERVING OTHER OCCUPANCIES. THE OUTLET TEMPERATURE OF LAVATORIES IN PUBLIC FACILITY REST ROOMS SHALL BE LIMITED TO 110° F. AUTOMATIC - CIRCULATING HOT WATER SYSTEM PUMPS OR HEAT TRACE SHALL BE ARRAINGED TO BE CONVENIENTLY TURNED OFF AUTOMATICALLY OR MANUALLY WHEN THE HOT WATER SYSTEM IS NOT IN OPERATION.

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505-384-3112 jk.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO
MECHANICAL/PLUMBING GENERAL NOTES

DRAWN BY: JKB
DATE: 8-9-22

M-1

ATTACHMENT 1

MECHANICAL EQUIPMENT SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	NOMINAL COOLING CAPACITY	NOMINAL HEATING CAPACITY	SEER	REFRIG.	ELECTRICAL
A	MULTI-ZONE HEAT PUMP OUTDOOR UNIT	MITSUBISHI	PUMY-P60NKMU3	60,000 BTU/h	66,000 BTU/h	20.0	R410A	208-230/60/1 MOP (A) = 45 MCA (A) = 36.0
B	4 WAY CEILING CASSETTE INDOOR UNIT	MITSUBISHI	PLFY-P15NCMU-E	15,000 BTU/h	17,000 BTU/h	--	R410A	208-230/60/1 RATED AMPS = 0.35
C	4 WAY CEILING CASSETTE INDOOR UNIT	MITSUBISHI	PLFY-P12NCMU-E	12,000 BTU/h	13,500 BTU/h	--	R410A	208-230/60/1 RATED AMPS = 0.35
D	UNIT HEATER (¾" GAS SUPPLY LINE)	REZNOR	UDZ-100	--	100,000 BTU/h	--	--	115/60/1 MOP (A) = 15 MCA (A) = 3.9
E	CEILING EXHAUST FAN	GREENHECK (OR EQUAL)	SP-A125	--	--	--	--	115/60/1 RATED AMPS = 0.62
F	EVAPORATIVE COOLER	MASTERCOOL (OR EQUAL)	ADA-5112	--	--	--	--	115/60/1 RATED AMPS = 14.9 ¾ HP, 2 SPEED MOTOR

OUTLINE MECHANICAL SPECIFICATIONS

1. ALL MECHANICAL WORK SHALL BE PROVIDED AND INSTALLED IN CONFORMANCE WITH THE 2015 UNIFORM MECHANICAL CODE AND THE 2018 IECC.
2. HEAT PUMP: MULTIZONE INVERTER DRIVEN SPLIT SYSTEM HEAT PUMP; MATCHING INDOOR AND OUTDOOR UNITS COMPLETELY FACTORY ASSEMBLED, WIRED, AND CHARGED WITH REFRIGERANT; SINGLE POWER SOURCE FOR OUTDOOR UNIT WHICH SUPPLIES POWER TO ALL INDOOR UNITS; INVERTER DRIVEN DC COMPRESSOR; LOW AMBIENT COOLING OPERATION; INDOOR FREEZE COIL PROTECTION; BUILT IN AUTOSTART AFTER POWER FAILURE; MICROPROCESSOR CONTROL; AUTOMATIC FAN SPEED CONTRPL; HARDWIRE THERMOSTAT. MODEL NUMBERS ARE LG.
3. UNIT HEATER: GAS FIRED; INDOOR USE; 83% THERMAL EFFICIENCY; TITANIUM STABILIZED ALUMINIZED STEEL HEAT EXCHANGER WITH ADJUSTABLE LOUVERS; DYNAMICALLY BALANCED FAN; AUTOMATIC GAS SHUT OFF; TWO AND FOUR POINT SUSPENSION WITH ¾" HANGING HOLES PROVIDED; GAS SAVING AUTOMATIC SPARK IGNITION SYSTEM; 115 VOLT POWER; POWER VENTER; VENT CAP; THERMOSTAT; CEILING SUSPENSION KIT; COMPLETE WITH DISCONNECT AND 24 VOLT COMPONENTS FOR THERMOSTAT CONTROL. MODEL NUMBER IS REZNOR.
4. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT INSTALLATIONS TO AVOID CONFLICTS AND MAINTAIN ACCESS AND SERVICEABILITY.
5. CONTRACTOR SHALL FURNISH ALL NECESSARY STRUCTURES, SLEEVES AND HANGING DEVICES FOR INSTALLATION OF EQUIPMENT.
6. CONTRACTOR SHALL PROVIDE ALL PERMITS AND INSPECTIONS REQUIRED BY CODE.
7. A WRITTEN ONE YEAR WARRANTY FOR ALL LABOR AND MATERIALS PROVIDED SHALL BE PROVIDED.

PLUMBING FIXTURE SCHEDULE

1 WATER CLOSET [ACCESSIBLE]: AMERICAN STANDARD "CADET 3" MODEL 270AA.001 VITREOUS CHINA TANK TYPE TOILET, CLOSE-COUPLED TANK, 16-1/2" HIGH ELONGATED SIPHON JET FLUSH ACTION BOWL, 1.6 GPF, FULLY GLAZED TRAPWAY, AND 3" FLUSH VALVE WITH CHEMICAL RESISTANT FLAPPER. SUPPLIED WITH CHURCH 383SS WHITE CLOSED FRONT ELONGATED SEAT WITH COVER AND STAINLESS STEEL HINGES, MCGUIRE H166 STOP AND SUPPLY.
TRAP --- VENT 2" CW 1/2" HW ---

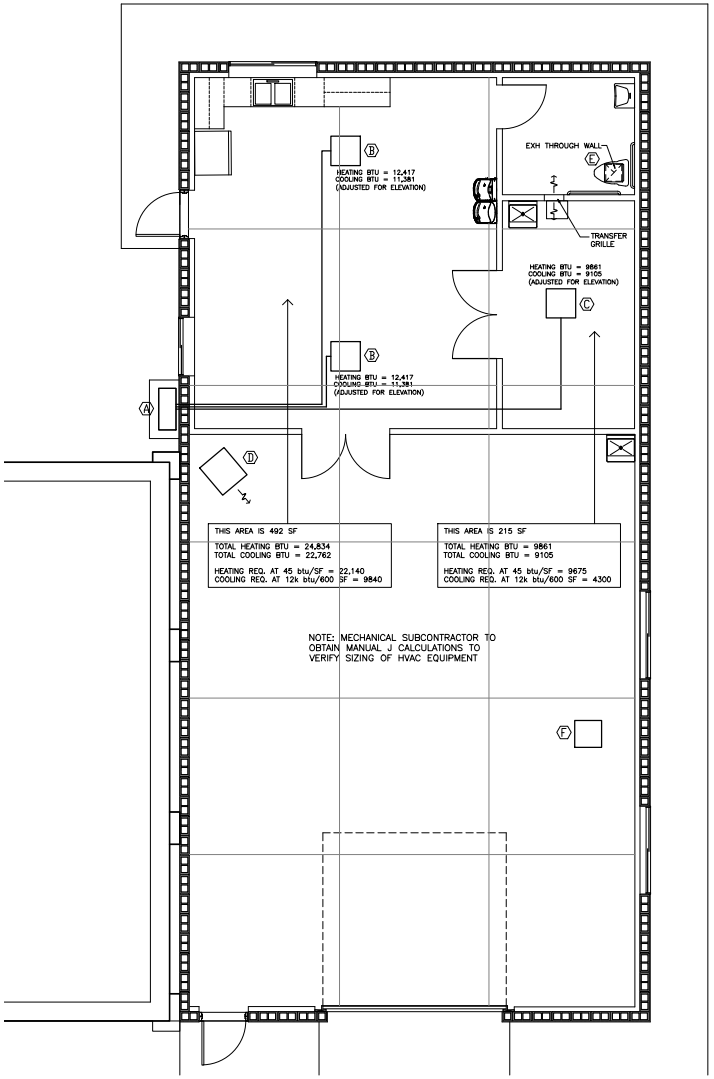
2 LAVATORY: HANDICAPPED ACCESSIBLE; WALL HUNG; VITREOUS CHINA; FAUCETS ON 4" CENTERS; AMERICAN STD #0124.024 "COMRADE" WITH WALL HANGER; NOMINAL SIZE 20"X18"; FURNISH WITH MONTERREY MODEL 5502.170 H 4" CENTERSET FAUCET WITH WRIST BLADE HANDLE, GRID DRAIN, ADJUSTABLE P-TRAP, TAIL PIECE, RISER TUBES AND BRASSCRAFT ANGLE STOP. FIXTURE SHALL BE WHITE. NOTE: ALL EXPOSED WATER AND DRAIN PIPING SHALL BE INSULATED WITH TRAP WRAP BRAND INSULATION. BOTTOM OF FRONT EDGE AT 29" ABOVE FINISHED FLOOR
TRAP 1-1/2" VENT 1-1/2" CW 1/2" HW 1/2"

3 UTILITY SINK: (1)JOHN BOOS MODEL 1PB204-1D18 SINGLE BOWL COMPARTMENT SINK WITH RIGHT HAND DRAIN BOARD. 14" DEEP BOWL, 16 GA. STAINLESS STEEL. (2)T&S MODEL B-0231 FAUCET, STAINLESS STEEL DRAIN AND STRAINER.
TRAP 2" VENT 2" CW 1/2" HW 1/2"

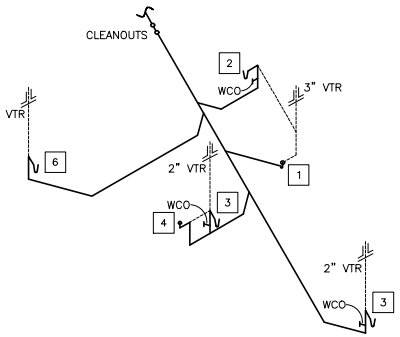
4 ELECTRIC WATER COOLER [ACCESSIBLE] : ELKAY EZSTL8LC WALL HUNG WATER COOLER, 8 GPH 50 DEGREE DRINKING WATER AT 90 DEGREE AMBIENT. 120V.-1PH 370 WATTS, 5.0 FLA
TRAP 1-1/2" VENT 1-1/2" CW 1/2"

5 WATER HEATER: RHEEM MODEL ECOH18ODVRHLN TANKLESS, BUILT IN RECIRCULATION PUMP, ¾" WATER CONNECTION, ¾" GAS CONNECTION, 120V POWER SUPPLY REQUIRED, 20A BREAKER.

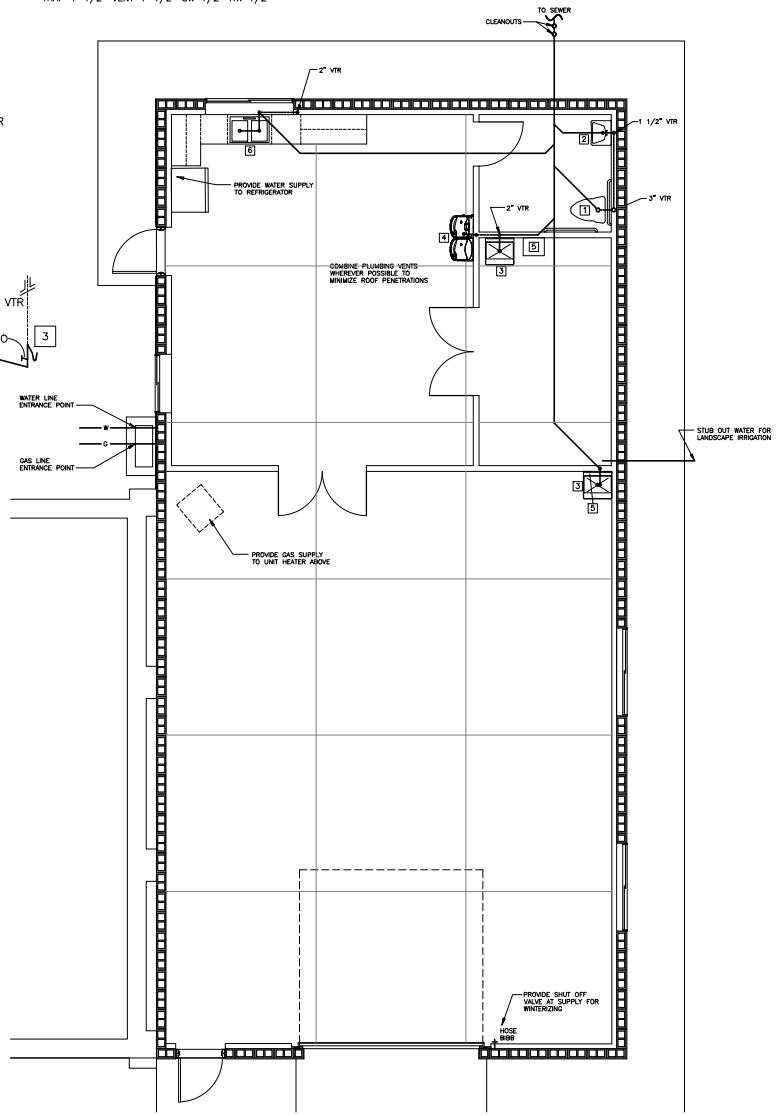
6 DOUBLE BASIN SINK: KOHLER SELF RIMMING STAINLESS DOUBLE BOWL SINK MODEL K-K-5267-3 WITH ELKAY LK1000CR FAUCET. PROVIDE WITH P-TRAP, ANGLE WALL SUPPLIES AND TAILPIECE.
TRAP 2" VENT 2" CW 1/2" HW 1/2"



MECHANICAL LAYOUT 1/4" = 1'-0"



WASTE ISOMETRIC
NOT TO SCALE



PLUMBING LAYOUT 1/4" = 1'-0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.k.bakerr@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

MECHANICAL LAYOUT PLANS

DRAWN BY: JKB
DATE: 8-9-22

M-2

ATTACHMENT 1

GENERAL NOTES

A. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL ELECTRICAL SYSTEMS IN ACCORDANCE WITH THE PLANS AND ASSOCIATED NOTES, IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), STATE AND LOCAL CODES, LOCAL UTILITY AUTHORITY STANDARDS, AND AUTHORITY HAVING JURISDICTION (A.H.J.).

B. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID THE COSTS OF ALL PERMITS, TESTS AND INSPECTIONS, AND VISIT THE SITE OF WORK PRIOR TO SUBMITTING BID.

C. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER TRADES AND REFER TO MECHANICAL AND STRUCTURAL PLANS TO DETERMINE THE EXACT LOCATION OF EQUIPMENT.

D. A SET OF MARKED UP PRINTS SHALL BE PREPARED SHOWING ALL CHANGES MADE DURING CONSTRUCTION AND TURNED OVER TO THE ENGINEER AT THE END OF THE JOB. ALL CHANGES MUST HAVE THE ENGINEER'S APPROVAL.

E. ANY DISCREPANCY BETWEEN MATERIAL DESCRIPTION AND CATALOG NUMBER SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.

F. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER FOR ALL SUBSTITUTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBSTITUTIONS.

G. ALL CONDUCTORS SHALL BE NO. 12 SOLID COPPER, TYPE THHN / THHW OR EQUIVALENT, UNLESS OTHERWISE NOTED. 120V BRANCH CIRCUIT RUNS WHICH EXCEED 100 FT IN LENGTH SHALL BE NO. 10 THHN / THHW OR EQUIVALENT. ALUMINUM BRANCH CONDUCTOR IS NOT ACCEPTABLE.

H. THE SAME COLOR CODING SHALL BE MAINTAINED THROUGHOUT ALL CIRCUITS.

I. ALL REQUIRED CONDUITS SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER. CONDUITS SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING LINES.

J. ALL PULL BOXES, SPLICE BOXES AND JUNCTION BOXES SHALL BE CODE GAUGE AND MEET THE MINIMUM SIZE AS RECOMMENDED BY THE N.E.C.

K. RECEPTACLES AND SWITCHES SERVING MECHANICAL EQUIPMENT/MOTOR LOADS SHALL BE HORSEPOWER RATED.

L. THE ELECTRICAL CONTRACTOR SHALL PROPERLY SEAL ALL PENETRATIONS THROUGH WALLS, CEILINGS, FLOORS AND ROOF IN ACCORDANCE WITH THE LOCAL CODE, A.H.J. AND OWNER REQUIREMENTS. FIRE STOP ALL RATED PENETRATIONS AND MAKE WATERTIGHT AS REQUIRED.

M. ALL CONDUIT SHALL BE CONCEALED IN WALLS, CEILING OR FLOOR UNLESS OTHERWISE NOTED.

N. CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH GETTING TELEPHONE SERVICE TO THE SITE.

O. CONTRACTOR SHALL COORDINATE WITH OWNER, TELECOMMUNICATIONS COMPANY AND MATV / CATV SERVICE PROVIDER FOR INSTALLATION OF LINES DURING CONSTRUCTION.

P. VERIFY EXACT LOCATION OF ALL ELECTRIC EQUIPMENT AND FIXTURES WITH MECHANICAL DRAWINGS.

Q. FIELD LOCATE ALL EXISTING UNDERGROUND UTILITY LINES PRIOR TO DIGGING / TRENCHING.

R. NO HORIZONTAL CONDUIT RUNS ON ROOF.

S. CONDUCTORS IN UNDERGROUND CONDUITS MUST BE THW OR THWN (CONSIDERED WET LOCATION BY N.E.C.).

T. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE IN PROJECT. THE DRAWINGS FOR ELECTRICAL WORK ARE DIAGRAMMATIC, SHOWING THE LOCATION, TYPE, DEVICES AND EQUIPMENT REQUIRED. PROVIDE ALL FIXTURES, DEVICES, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT FURNISHED BY OTHERS.

U. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO BID, TO ALLOW HIM TO SUBMIT A COMPLETE BID WITHIN THE SCOPE OF THE PLANS AND SPECIFICATIONS. ANY QUESTION ARISING DURING THE BID PERIOD IN REGARD TO THE CONTRACTOR'S FUNCTIONS, SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS IN PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE ENGINEER FOR CLARIFICATION, AND NOT AFTER THE CONTRACT HAS BEEN AWARDED. ALLOWANCES SHALL BE INCLUDED FOR UNFORESEEN EXISTING CONDITIONS THAT MAY EFFECT THE CONTRACTOR'S SCOPE OF WORK. MINOR DEVIATIONS REQUIRED FOR ACCOMPLISHING THE INTENT OF THIS DESIGN ARE TO BE INCLUDED IN THIS ALLOWANCE.

V. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE BUILDING ELECTRICAL SYSTEM.

W. VERIFY ALL DIMENSIONS FROM DRAWINGS AND FROM ACTUAL MEASUREMENTS AT THE JOB SITE. COORDINATE EXACT LOCATIONS FOR ALL WALL AND CEILING OUTLETS AND DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.

X. COORDINATE THE INSTALLATION OF ALL CONDUIT, OUTLETS, DEVICES, EQUIPMENT, ETC. WITH WORK OF OTHER TRADES.

Y. INSTALL CONDUITS IN SUCH A MANNER AS TO MAINTAIN A MINIMUM CLEARANCE BELOW CONDUIT SUPPORTS TO BOTTOM SIDE OF CEILING CONSTRUCTION OF AT LEAST 8 INCHES.

Z. COORDINATE MOUNTING HEIGHTS OF ALL SWITCHES AND RECEPTACLES WITH ARCHITECT. UNLESS OTHERWISE DIRECTED OR NOTED, ALL LIGHT SWITCHES, THERMOSTATS, ETC, SHALL BE MOUNTED AT 48" TO TOP OF BOX. UNLESS OTHERWISE DIRECTED OR NOTED, ALL POWER, DATA, PHONE, TV RECEPTACLES SHALL BE MOUNTED AT 15" TO BOTTOM OF BOX. COORDINATE MOUNTING HEIGHT FOR ALL DEVICES MOUNTED ABOVE COUNTERTOPS, UNDER CABINETRY, OR BOTH.

AA. VERIFY ALL LIGHTING FIXTURE MOUNTINGS WITH CEILING TYPES INDICATED ON DRAWINGS.

AB. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR ADDITIONAL AS REQUIRED BY N.E.C.

AC. EMT CONDUIT BENDS SHALL BE MADE IN ACCORDANCE WITH THE N.E.C. NO RIGHT ANGLE DEVICES ARE PERMITTED OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" TRADE SIZE OR LARGER.

AD. EACH CONDUIT TERMINATION SHALL BE PROVIDED WITH A PLASTIC INSULATED THROAT BUSHING - NO EXCEPTIONS.

AE. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS; ACTION CRAFT, BRADY, OR APPROVED EQUAL.

AF. ALL NEW MATERIALS SHALL BEAR THE U.L. LABEL.

AG. ALL CONDUITS SHALL BE CONCEALED IN WALLS AND CEILINGS. EXPOSED CONDUIT WILL NOT BE ACCEPTED EXCEPT IN AREAS FORMALLY APPROVED BY MANNER OF REQUEST FOR INFORMATION (R.F.I.).

AH. ALL DEVICE BOXES SHALL BE MOUNTED FLUSH IN WALLS AND CEILINGS, UNLESS NOTED OTHERWISE.

AI. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) IN ALL CONDUITS, SIZED PER N.E.C. TABLE 250-122. THE E.G.C. SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, DISCONNECT SWITCHES, STARTERS, AND MECHANICAL EQUIPMENT CABINETS.

AJ. ALL DISCONNECT SWITCHES, STARTERS AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUIT NUMBER, AND SOURCE PANEL LOCATION (NO EXCEPTIONS).

AK. ALL ELECTRICAL DEVICES AND INSTALLATION OF DEVICES SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (A.D.A.) AS ADOPTED BY THE STATE OF NEW MEXICO.

AL. ALL SWITCHES, RECEPTACLES AND COVER PLATES SHALL BE WHITE, AND MATCH THROUGHOUT ENTIRE TENANT SPACE.

AM. FLEXIBLE CONDUIT SHALL NOT BE PERMITTED.

AN. ALL CIRCUITS IDENTIFIED AS "DEDICATED" SHALL REMAIN THAT WAY AND NOT SHARE ANY GROUNDING CONDUCTORS OR NEUTRAL CONDUCTORS WITH ANY OTHER CIRCUITS.

AO. APPROVAL SHALL BE OBTAINED FROM THE STRUCTURAL ENGINEER PRIOR TO CUTTING OR DRILLING ANY STRUCTURAL SUPPORT MEMBER.

AP. ALL FINAL TELEPHONE / DATA AND ELECTRICAL OUTLET LOCATIONS SHALL BE VERIFIED BY ARCHITECT OR OWNER'S REPRESENTATIVE.

AQ. LETTERS SUCH AS "WP" AND "GFI" ADJACENT TO ANY SYMBOL INDICATE SPECIAL CONSTRUCTION IS REQUIRED. SEE ABBREVIATIONS FOR DEFINITIONS.

AR. ELEVATIONS FOR ELECTRICAL EQUIPMENT ARE SHOWN TO CENTER OF DEVICE OR ENCLOSURE UNLESS NOTED OTHERWISE.

AS. ALL SERVICE ENTRANCE CONDUCTORS SHALL BE ALUMINUM.

AT. CONDUITS ARE 1/2" UNLESS NOTED OTHERWISE.

AU. CONDUCTORS ARE #12 UNLESS NOTED OTHERWISE.

AV. PROVIDE ONE NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR ON 120V CIRCUITS.

AW. DO NOT SHARE NEUTRALS ON 120V CIRCUITS.

AX. PROVIDE (2)-#10, (1)-#10 G. IN 1/2" C. FOR RECEPTACLE CIRCUITS OVER 75'.

AY. MAKE ALL REQUIRED CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS INCLUDING POWER, CONTROLS & THERMOSTATS FOR A COMPLETE WORKING SYSTEM. SEE MECHANICAL AND PLUMBING PLANS.

AZ. CONNECT EMERGENCY LIGHTS AND EXIT SIGNS TO UN-SWITCHED LEG OF NEAREST LIGHTING CIRCUIT.

BA. COORDINATE TELEPHONE AND CABLE TELEVISION (CATV) SERVICES WITH LOCAL TELEPHONE AND CABLE PROVIDERS.

BB. COORDINATE ROOFTOP EQUIPMENT LOCATIONS WITH ARCHITECTURAL ROOF PLAN.

NOTES ARE FOR GENERAL INFORMATION AND REFERENCE. NOTES ONLY APPLY TO SPECIFIC ITEMS WHICH ARE SHOWN IN PLAN VIEWS. NOT ALL NOTES WILL BE USED

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505 • 384 • 3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

ELECTRICAL GENERAL NOTES

DRAWN BY: JKB
DATE: 8-9-22
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△
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E-1

ATTACHMENT 1

ELECTRICAL SPECIFICATIONS

26 05 00 - COMMON WORK RESULTS

A. FURNISH ALL LABOR, MATERIALS, SERVICE, EQUIPMENT AND APPLIANCES REQUIRED TO COMPLETE THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS.

B. REGULATORY AGENCIES: INSTALLATION, MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), LATEST NEW MEXICO STATE ELECTRIC CODE EDITION, THE NATIONAL ELECTRICAL SAFETY CODE (N.E.S.C.), AND THE TERMS AND THE CONDITIONS OF THE AUTHORITIES HAVING LAWFUL JURISDICTION (A.H.J.) PERTAINING TO THE WORK REQUIRED. ALL MODIFICATIONS REQUIRED BY THESE CODES, RULES, REGULATIONS AND AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE OWNER.

C. UNDERWRITER'S LABORATORIES INC. (U.L.): ALL MATERIALS, APPLIANCES, EQUIPMENT OR DEVICES SHALL CONFORM TO THE APPLICABLE STANDARDS OF U.L. THE LABEL OF, OR LISTING BY, U.L. IS REQUIRED.

D. ALL SIMILAR MATERIALS AND EQUIPMENT SHALL BE THE PRODUCT OF THE SAME MANUFACTURER. WHERE NO SPECIFIC MATERIAL, APPARATUS OR APPLIANCE IS MENTIONED, ANY FIRST-CLASS PRODUCT MADE BY A REPUTABLE MANUFACTURER MAY BE USED, PROVIDING IT CONFORMS TO THE CONTRACT REQUIREMENTS AND MEETS THE APPROVAL OF THE OWNER.

E. MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTIONS OF SUCH MATERIAL AND SHALL BE THE MANUFACTURER'S CURRENT AND STANDARD DESIGN.

F. FABRICATION, ERECTION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY QUALIFIED PERSONNEL EXPERIENCED IN SUCH WORK AND SHALL PROCEED IN AN ORDERLY MANNER SO AS NOT TO HOLD UP PROGRESS OF THE PROJECT.

G. THOROUGHLY TEST ALL FIXTURES, SERVICES AND ALL CIRCUITS FOR PROPER OPERATING CONDITION AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES, AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS.

H. DURING PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF THE SYSTEM, LOCATING EACH CIRCUIT PRECISELY BY DIMENSION. UPON COMPLETION OF THE INSTALLATION, TRANSFER ALL RECORD DATA TO RED LINE PRINTS OF THE ORIGINAL DRAWINGS.

END OF SECTION 26 05 00 - COMMON WORK RESULTS

SECTION 26 05 19 - CONDUCTORS

A. TYPE: CONFORM TO THE APPLICABLE U.L. AND INSULATED CABLE ENGINEERS ASSOCIATION (I.C.E.A.) STANDARDS FOR THE USE INTENDED. COPPER CONDUCTORS WITH 600 V INSULATION UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. STRANDED CONDUCTORS FOR #8 OR LARGER WHERE ELSEWHERE SPECIFIED OR NOTED ON THE DRAWINGS.

B. ALL SERVICE ENTRANCE CONDUCTORS MAY BE ALUMINUM OR COPPER. ALUMINUM CONDUCTORS SHALL NOT BE PERMITTED.

C. INSULATION: TYPE THHN INSULATION, 75° C., FOR ALL CONDUCTORS SPECIFIED OR NOTED ON THE DRAWINGS. 90° C. MINIMUM INSULATION WITHIN FIXTURE WIREWAYS OF FLUORESCENT FIXTURES. ALL CONTROL CONDUCTORS SHALL BE THHN STRANDED OR MTW, #12 MINIMUM.

D. SIZE: #14 MINIMUM FOR CONTROLS AND #12 MINIMUM FOR LIGHTING AND CONVENIENCE OUTLETS, ETC., UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. NOT LESS THAN N.E.C. REQUIREMENTS FOR THE SYSTEM TO BE INSTALLED. IF THE EQUIPMENT TO BE INSTALLED REQUIRES LARGER CONDUCTOR AND CONDUIT SIZES THAN INDICATED ON THE DRAWINGS, THE REQUIRED CHANGES SHALL BE MADE WITHOUT ADDITIONAL CHARGE TO THE OWNER.

E. COLOR CODING: PHASE, NEUTRAL, AND GROUND CONDUCTORS COLOR-CODED IN ACCORDANCE WITH N.E.C., CONNECT ALL CONDUCTORS OF THE SAME COLOR TO THE SAME PHASE CONDUCTOR. COLOR CODING SHALL BE A-BLACK, B-RED, C-BLUE, N-WHITE, FOR 120 / 208 V AND A-BROWN, B-ORANGE, C-YELLOW, N-OFF WHITE FOR 277 / 480 V, WITH GREEN FOR ALL GROUND CONDUCTORS. CONDUCTORS #12 AND #10 SHALL BE SOLID COLOR COMPOUNDED FOR ENTIRE LENGTH.

F. CONNECTORS & LUGS: FOR COPPER CONDUCTORS #6 AND SMALLER: 3M 'SCOTCH-LOK' OR T & B 'STA-KON' COMPRESSION OR INDENT TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATING CAPS. FOR COPPER CONDUCTORS LARGER THAN #6: SOLDERLESS, INDENT, HEX SCREW OR BOLT TYPE PRESSURE CONDUCTORS, PROPERLY TAPED OR INSULATED.

G. PLASTIC TAPE: 8.5 MILS MINIMUM THICKNESS, 1,000,000 MEGOHMS MINIMUM INSULATION RESISTANCE, OIL RESISTANT VINYL BACKING, OIL RESISTANT ACRYLIC ADHESIVE, INCAPABLE OF SUPPORTING COMBUSTION PER ASTM D-568 TEST METHOD .

H. SPLICES (480 VOLTS AND UNDER): CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES UNLESS APPROVED BY THE OWNER.

I. BUNDLING: CONDUCTORS #10 AND SMALLER SHALL BE NEATLY AND SECURELY BUNDLED AND CONDUCTORS LARGER THAN #10 SHALL BE NEATLY AND SECURELY BUNDLED IN INDIVIDUAL CIRCUITS, UTILIZING MARLIN TWINE, TWO-PLY LACING OR NYLON STRAPS.

J. CONDUCTOR PULL: CONDUCTORS SHALL NOT BE PULLED INTO CONDUITS UNTIL AFTER ALL PLASTERING OR CONCRETE WORK IS COMPLETED AND ALL CONDUITS IN WHICH MOISTURE HAS COLLECTED HAVE BEEN SWABBED OUT.

END OF SECTION 26 05 19 - CONDUCTORS

SECTION 26 05 26 - GROUNDING

A. SYSTEMS: MATERIALS, EQUIPMENT AND DEVICES RELATED TO THE GROUNDING SYSTEM ARE SPECIFIED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS.

B. INSTALL TWO SEPARATE GROUNDING SYSTEMS: A SERVICE GROUNDING SYSTEM AND AN EQUIPMENT GROUNDING SYSTEM. THE SERVICE EQUIPMENT, CONDUIT SYSTEMS, SUPPORTS, CABINETS, EQUIPMENT, AND NEUTRAL CONDUCTOR SHALL BE GROUNDED IN ACCORDANCE WITH THE MINIMUM CODE REQUIREMENTS AND AS FURTHER INDICATED ON THE DRAWINGS OR SPECIFIED. CONNECT THE TWO GROUNDING SYSTEMS TOGETHER ONLY AT THE MAIN SERVICE EQUIPMENT.

C. GENERAL: THE SERVICE GROUNDING SYSTEM IS PROVIDED FOR THE A.C. SERVICE NEUTRAL GROUND. CURRENT RETURN CONDUCTORS, SUCH AS NEUTRALS OF THE SERVICE ENTRANCE, FEEDER CIRCUITS AND BRANCH CIRCUITS, SHALL NOT BE USED FOR EQUIPMENT GROUNDING. CARE MUST BE EXERCISED TO INSURE THAT NEUTRAL BARS ARE NOT BONDED TO THE ENCLOSURES OF PANEL BOARDS, ETC., WHICH ARE NOT PART OF THE MAIN SERVICE EQUIPMENT.

D. COMMON GROUND POINT: ESTABLISH ONE COMMON GROUND POINT IN THE MAIN SERVICE EQUIPMENT BY INTERCONNECTING THE INSULATED NEUTRAL BUS (OR BAR), THE UN-INSULATED EQUIPMENT GROUND BUS (OR BAR), AND SERVICE GROUNDING ELECTRODE CONDUCTOR.

E. NEUTRAL DISCONNECTING MEANS: INSTALL A NEUTRAL DISCONNECTING MEANS IN THE MAIN SERVICE EQUIPMENT FOR DISCONNECTING AND ISOLATING THE NEUTRAL BUS FROM THE COMMON GROUND. THE DISCONNECTING MEANS MAY BE DISCONNECTING LINKS IN THE INTERCONNECTION BETWEEN THE INSULATED NEUTRAL AND UN-INSULATED EQUIPMENT GROUND.

F. NEUTRAL BARS: PROVIDE AN INSULATED NEUTRAL BAR, SEPARATE FROM THE UN-INSULATED EQUIPMENT GROUND BAR, IN ALL PANEL BOARDS, DISCONNECT SWITCHES, CABINETS, ETC., WHICH HAVE NEUTRAL CONNECTIONS.

G. EQUIPMENT GROUNDING SYSTEM: PROVIDE A COMPLETE EQUIPMENT GROUNDING SYSTEM IN ACCORDANCE WITH THE MINIMUM CODE REQUIREMENTS AND AS FURTHER INDICATED ON THE DRAWINGS OR SPECIFIED. THE EQUIPMENT GROUND (GREEN CONDUCTOR) CONSISTS OF METALLIC CONDITIONS TO GROUND OF NON-CURRENT CARRYING METAL PARTS OF THE WIRING SYSTEM OR APPARATUS CONNECTED TO THE SYSTEM.

H. CONDUITS: WHERE METALLIC CONDUITS TERMINATE WITHOUT MECHANICAL CONNECTION TO A METALLIC HOUSING OF ELECTRICAL EQUIPMENT BY MEANS OF LOCK NUT AND BUSHINGS, PROVIDE GROUND BUSHING CONNECTED WITH A BARE COPPER CONDUCTOR TO THE GROUND BAR IN THE ELECTRICAL EQUIPMENT.

I. FEEDERS AND BRANCH CIRCUITS: PROVIDE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE OR THREE-PHASE FEEDER AND EACH BRANCH CIRCUIT WITH A THREE-PHASE PROTECTIVE DEVICE. INSTALL THE REQUIRED GROUNDING CONDUCTOR IN THE COMMON CONDUIT OR RACEWAY WITH THE RELATED PHASE AND / OR NEUTRAL CONDUCTORS AND CONNECT TO THE BOX OR CABINET GROUNDING TERMINAL.

J. DEVICES: INSTALL A MINIMUM #12 GREEN INSULATED EQUIPMENT BONDING CONDUCTOR FROM A GROUNDING TERMINAL IN THE RESPECTIVE OUTLET OR JUNCTION BOX TO THE GREEN GROUND TERMINAL OF ALL RECEPTACLES AND THROUGH FLEXIBLE CONDUIT TO ALL LIGHT FIXTURE HOUSINGS.

K. GROUNDING ELECTRODE: THE SERVICE GROUND ELECTRODES SHALL BE UTILIZED. ONE SHALL BE THE MAIN COLD WATER METALLIC WATER PIPING SYSTEM AND THE OTHER SHALL BE A MADE ELECTRODE CONSISTING OF NOT LESS THAT TWENTY FEET OF BARE COPPER CONDUCTOR ENCASED ALONG THE BOTTOM OF A CONCRETE FOUNDATION FOOTING WHICH IS IN DIRECT CONTACT WITH THE EARTH, PER N.E.C. 250. MAKE THE CONNECTIONS TO THE COLD WATER PIPE INSIDE THE BUILDING AT THE POINT OF ENTRANCE. THE GROUNDING ELECTRODE FOR SEPARATELY DERIVED SYSTEMS SHALL BE APPROVED FOR THIS APPLICATION. PROVIDE PROVISIONS FOR GROUNDING IF CONTRACTOR USES NON-METALLIC WATER PIPING SYSTEM.

L. GROUNDING CONDUCTORS: THE GROUNDING CONDUCTORS FOR BOTH SERVICE GROUND ELECTRODES SHALL BE INSULATED OR BARE COPPER, SIZED IN ACCORDANCE WITH N.E.C. 250, INCLUDING THE CONDUCTOR FOR THE MADE ELECTRODE. THE CONDUCTORS SHALL BE CONTINUOUS WITHOUT JOINT OR SPLICE AND SHALL BE INSTALLED IN CONDUIT WITH THE CONDUIT BONDED TO THE CONDUCTOR AT EACH END. INSTALL THE CONDUCTOR TO PERMIT THE SHORTEST AND MOST DIRECT PATH AND TERMINATE IN THE MAIN SERVICE EQUIPMENT ON THE COMMON GROUND POINT. EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN INSULATED CONDUCTORS EQUIVALENT TO THE INSULATION ON THE ASSOCIATED PHASE CONDUCTOR, BUT NOT LESS THAN TYPE TW. THE EQUIPMENT GROUNDING CONDUCTOR OR STRAPS SHALL BE SIZED IN ACCORDANCE WITH N.E.C. WHERE ONE FEEDER SERVES A SERIES OF PANEL BOARDS OR TRANSFORMERS, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES. GROUNDING CONDUCTORS SHALL NOT BE INSTALLED THROUGH METAL-SHEATHED HOLES. ALL CONNECTIONS SHALL BE AVAILABLE FOR INSPECTION AND MAINTENANCE.

M. GROUNDING CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, THE COATING MUST BE REMOVED DOWN TO THE BARE METAL. AFTER THE COATING HAS BEEN REMOVED, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEANED SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVANOX", OR EQUAL.

N. TESTS: TEST THE COMPLETED GROUNDING SYSTEM WITH A MEGGAR AT THE SERVICE GROUND BAR AND SUBMIT A WRITTEN REPORT TO THE ARCHITECT FOR APPROVAL. THE SERVICE SHALL NOT BE ENERGIZED IF THE TEST SHOWS MORE THAN 5 OHMS, UNLESS APPROVED BY THE ENGINEER.

END OF SECTION 26 05 26 - GROUNDING

SECTION 26 05 33 - RACEWAYS, BOXES AND FITTINGS

A. ELECTRICAL METALLIC TUBING (EMT): MILD STEEL, ZINC COATED ON THE OUTSIDE AND EITHER ZINC COATED OR COATED WITH AN APPROVED CORROSION RESISTANT COATING ON THE INSIDE. MAXIMUM SIZE 2" ELECTRICAL TRADE SIZE UNLESS NOTED ON THE DRAWINGS OR SPECIFICALLY APPROVED.

B. FLEXIBLE CONDUIT: COMMERCIAL GREENFIELD, GALVANIZED STEEL, WITH A SEPARATE GROUNDING BOND WIRE INSTALLED IN THE CONDUIT IN ADDITION TO OTHER WIRES.

C. LIQUID TIGHT FLEXIBLE CONDUIT: FLEXIBLE GALVANIZED STEEL TUBING WITH EXTRUDED LIQUID TIGHT PVC OUTER JACKET AND A CONTINUOUS COPPER BONDING CONDUCTOR WOUND SPIRALLY BETWEEN THE CONVOLUTIONS. WHERE A SEPARATE GROUNDING CONDUCTOR IS INSTALLED IN THE CONDUIT, BONDING CONDUCTOR IN THE CONVOLUTIONS MAY BE OMITTED.

D. METAL-CLAD CABLE: MAY BE USED WHERE ALLOWED BY N.E.C. AND WHERE APPROVED BY THE A.H.J. MC CABLE SHALL BE TWO, THREE, OR FOUR COPPER CONDUCTORS WITH XLPE INSULATION (RW90) AND BARE COPPER GROUND WIRE, WRAPPED AND COVERED WITH BARE INTERLOCKED ALUMINUM ARMOR.

E. CONDUIT SIZE: MINIMUM CONDUIT SIZE 1/2" EXCEPT WHERE SPECIFICALLY APPROVED FOR EQUIPMENT CONNECTIONS. SIZES NOT NOTED ON DRAWINGS SHALL BE AS REQUIRED BY THE N.E.C. ALL HOME RUNS TO PANEL SHALL BE 3/4" MINIMUM. CONDUITS FOR #12 THHN WIRE SHALL BE SIZED THE SAME AS FOR #12 TW WIRE.

F. CONNECTORS AND COUPLINGS: EMT COUPLINGS AND CONNECTORS EITHER STEEL OR MALLEABLE IRON ONLY. "CONCRETE TIGHT" OR "RAIN TIGHT" AND EITHER THE GLAND AND RING COMPRESSION TYPE OR THE STAINLESS STEEL MULTIPLE POINT LOCKING TYPE. CONNECTORS TO HAVE INSULATED THROATS. EMT FITTINGS USING SET SCREWS OR INDENTATIONS AS A MEANS OF ATTACHMENT ARE NOT PERMITTED.

G. BUSHINGS: INSULATED TYPE, DESIGNED TO PREVENT ABRASION OF WIRES WITHOUT IMPAIRING THE CONTINUITY OF THE CONDUIT GROUNDING SYSTEM. FOR RIGID STEEL CONDUIT, IMC AND RIGID ALUMINUM CONDUIT LARGER THAN 1/2" SIZE AND CONNECTORS FOR EMT.

H. LIQUID-TIGHT FLEXIBLE CONDUIT FITTINGS: WITH THREADED GROUNDING CONE, A STEEL, NYLON OR EQUAL PLASTIC COMPRESSION RING AND A GLAND FOR TIGHTENING, EITHER STEEL OR MALLEABLE IRON ONLY WITH INSULATED THROATS AND MALE THREAD AND LOCKNUT OR MALE BUSHING WITH OR WITHOUT "O" RING SEAT. EACH CONNECTOR SHALL PROVIDE A LOW RESISTANCE GROUND CONNECTION BETWEEN THE FLEXIBLE CONDUIT AND THE OUTLET BOX, CONDUIT OR OTHER EQUIPMENT TO WHICH IT IS CONNECTED.

I. FLEXIBLE CONDUIT FITTINGS (COMMERCIAL GREENFIELD): EITHER STEEL OR MALLEABLE IRON ONLY, WITH INSULATED THROATS.

J. CONDUIT SYSTEMS INSTALLATION: EMT, OR RIGID NON-METALLIC CONDUIT UNLESS NOTED. USE FLEXIBLE CONDUIT ONLY FOR MOTOR OR EQUIPMENT CONNECTIONS AND THEN ONLY TO THE EXTENT OF MINIMUM LENGTHS REQUIRED FOR CONNECTIONS. INSTALL FLEXIBLE CONDUIT CONNECTIONS AT ALL RESILIENT MOUNTED EQUIPMENT. PROVIDE LIQUID-TIGHT FLEXIBLE CONDUIT IN EXTERIOR, WET OR DAMP LOCATIONS AND FOR CONNECTIONS TO THE PIPE MECHANICAL SYSTEM. CONDUIT AND TUBING SHALL BE KEPT AT LEAST 6" FROM PARALLELED RUNS OR HOT WATER OR STEAM PIPES. CONDUIT INSTALLATION: INSTALL CONCEALED CONDUIT AND EMT IN AS DIRECT LINES AS POSSIBLE. INSTALL EXPOSED CONDUITS AND EMT PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. RIGHT ANGLE BENDS IN EXPOSED CONDUIT AND EMT RUNS SHALL BE MADE WITH STANDARD ELBOWS. SCREW JOINTED CONDUIT FITTINGS OR CONDUIT BENT TO RADIUS NO LESS THAN THOSE OF STANDARD ELBOWS.

K. SUPPORTS: PROVIDE SUPPORTS FOR HORIZONTAL CONDUITS AND EMT NOT MORE THAN 8' APART WITH NOT LESS THAN TWO SUPPORTS FOR EACH 10' STRAIGHT LENGTH AND ONE SUPPORT NEAR EACH ELBOW OR BEND INCLUDING RUNS ABOVE SUSPENDED CEILINGS AND WITHIN 3' OF ALL JUNCTION BOXES, SWITCHES, FITTINGS, ETC.

L. STRAPS: INSTALL ONE HOLE PIPE STRAPS ON CONDUITS 1 1/2" OR SMALLER. INSTALL INDIVIDUAL PIPE HANGERS FOR CONDUITS LARGER THAN 1 1/2". SPRING STEEL FASTENERS WITH HANGER RODS MAY BE USED IN DRY LOCATIONS IN LIEU OF PIPE STRAPS.

M. TRAPEZES: INSTALL MULTIPLE (TRAPEZE) PIPE HANGERS WHERE TWO OR MORE HORIZONTAL CONDUITS OR EMT RUN PARALLEL AND AT THE SAME ELEVATION. SECURE EACH CONDUIT OR EMT TO THE HORIZONTAL HANGER MEMBER BY A U-BOLT, ONE HOLE STRAP OR OTHER SPECIALLY DESIGNED AND APPROVED FASTENER.

N. HANGER RODS: INSTALL 1/4" DIAMETER OR LARGER GALVANIZED STEEL RODS FOR TRAPEZES, SPRING STEEL FASTENERS, CLIPS OR CLAMPS. WIRE OR PERFORATED STRAPPING SHALL NOT BE USED FOR THE SUPPORT OF ANY CONDUIT OR EMT.

O. PVC RACEWAY: MAY BE USED WHERE ALLOWED BY N.E.C. AND WHERE APPROVED BY THE A.H.J. PVC SCHEDULE 40 AND SCHEDULE 80.

END OF SECTION 26 05 33 - RACEWAYS, BOXES AND FITTINGS

SPECIFICATIONS ARE FOR GENERAL INFORMATION AND REFERENCE. SPECIFICATIONS ONLY APPLY TO SPECIFIC ITEMS WHICH ARE SHOWN IN PLAN VIEWS. NOT ALL SPECIFICATIONS WILL BE USED

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505-384-3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

ELECTRICAL SPECIFICATIONS

DRAWN BY: JKB
DATE: 8-9-22

ATTACHMENT 1

ELECTRICAL SPECIFICATIONS

SECTION 26 05 43 - UNDERGROUND DUCTS AND ENCLOSURES

A. DUCTS: RIGID NONMETALLIC CONDUIT: NEMA TC 2, TYPE EPC-40-PVC, UL 651, WITH MATCHING FITTINGS BY THE SAME MANUFACTURER AS THE CONDUIT, COMPLYING WITH NEMA TC 3 AND 514B.

B. USE MANUFACTURED ELBOWS FOR STUB-UPS AT EQUIPMENT AND AT BUILDING ENTRANCES. USE MANUFACTURED LONG SWEEP BENDS WITH A MINIMUM RADIUS OF 25', BOTH HORIZONTALLY AND VERTICALLY, AT OTHER LOCATIONS.

C. HANDHOLES:

1. ENCLOSURES, BOXES AND COVERS ARE REQUIRED TO CONFORM TO ALL TEST PROVISIONS OF THE MOST CURRENT ANSI/SCTE 77 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY" FOR TIER 22 APPLICATIONS. WHEN MULTIPLE "TIERS" ARE SPECIFIED, THE BOXES MUST PHYSICALLY ACCOMMODATE AND STRUCTURALLY SUPPORT COMPATIBLE COVERS WHILE POSSESSING THE HIGHEST TIER RATING. ALL COVERS ARE REQUIRED TO HAVE THE TIER LEVEL RATING EMBOSSED ON THE SURFACE. IN NO ASSEMBLY CAN THE COVER DESIGN LOAD EXCEED THE DESIGN LOAD OF THE BOX. ALL COMPONENTS IN AN ASSEMBLY (BOX & COVER) ARE MANUFACTURED USING MATCHED SURFACE TOOLING. INDEPENDENT THIRD PARTY VERIFICATION OR TEST REPORTS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER CERTIFYING THAT ALL TEST PROVISIONS OF THIS SPECIFICATION HAVE BEEN MET ARE REQUIRED WITH EACH SUBMITTAL.

2. FIBERGLASS HANDHOLES: MOLDED FIBERGLASS, WITH 6" SQUARE CABLE ENTRANCE AT EACH SIDE AND WEATHERPROOF COVER WITH NON-SKID FINISH AND LEGEND. UNIT, WHEN BURIED, SHALL BE DESIGNED TO SUPPORT AASHTO H10 LOADING.

3. COVER LEGEND: 'ELECTRIC' FOR POWER, LIGHTING, OR OTHER SYSTEMS OPERATING AT 120 V OR GREATER. 'COMMUNICATIONS' FOR PHONE, DATA, CONTROLS, FIRE ALARM, OR OTHER SIGNALING SYSTEMS OPERATING BELOW 120 V TO GROUND.

D. IDENTIFY PATHS OF UNDERGROUND ELECTRICAL LINES: DURING TRENCH BACKFILLING, FOR EXTERIOR UNDERGROUND POWER, CONTROL, SIGNAL, AND COMMUNICATION LINES, INSTALL CONTINUOUS UNDERGROUND PLASTIC LINE MARKER LOCATED DIRECTLY ABOVE POWER AND COMMUNICATION LINES. LOCATE 6" TO 8" BELOW FINISHED GRADE. WHERE MULTIPLE LINES INSTALLED IN A COMMON TRENCH OR CONCRETE ENVELOPE DO NOT EXCEED AN OVERALL WIDTH OF 16", USE A SINGLE LINE MARKER.

E. UNDERGROUND LINE WARNING TAPE: PERMANENT, BRIGHT-COLORED, CONTINUOUS-PRINTED, VINYL TAPE WITH THE FOLLOWING FEATURES:

1. SIZE: NOT LESS THAN FOUR (4) MILS THICK BY 6" WIDE.
2. COMPOUNDED FOR PERMANENT DIRECT-BURIAL SERVICE.
3. EMBEDDED CONTINUOUS METALLIC STRIP OR CORE.
4. PRINTED LEGEND: INDICATES TYPE OF UNDERGROUND LINE.

END OF SECTION 26 05 43 - UNDERGROUND DUCTS AND ENCLOSURES

SECTION 26 24 16 - PANELBOARDS

GENERAL

A. DEAD FRONT, SAFETY TYPE WITH VOLTAGE RATINGS AS SCHEDULED. PANELBOARDS SHALL BE OF THE TYPE REQUIRED FOR THE SHORT CIRCUIT AND DUTY RATINGS INDICATED ON THE DRAWINGS OR SPECIFIED. ALL PANELBOARDS SHALL HAVE A NEUTRAL BUS AND A GROUND BUS. PANELBOARDS SHALL BE CIRCUIT BREAKER AS SCHEDULED, UNLESS OTHERWISE NOTED.

CABINETS

A. EACH PANELBOARD SHALL BE ENCLOSED IN A SINGLE SHEET METAL CABINET WITH FRONT DOORS, CATCHES, LOCKS, ETC, AS REQUIRED FOR A COMPLETE INSTALLATION.

B. DOOR-IN-DOOR: BOTH SURFACE AND FLUSH PANELS SHALL BE DOOR-IN-DOOR. THE DOOR OVER THE INTERIOR OF THE PANEL SHALL BE PROVIDED WITH HINGES AND COMBINED LOCK AND LATCH. THE OUTSIDE DOOR OVER THE PANEL GUTTERS SHALL HAVE A HINGE ON ONE SIDE AND MACHINE SCREWS INTO THREADED HOLES IN THE PANELBOARD CABINET ON THE OTHER THREE SIDES. ALL LOCKS SHALL BE KEYED ALIKE.

BRANCH CIRCUIT PANELS

A. ALL BRANCH CIRCUIT PANELS FOR LIGHTING AND SINGLE PHASE LOADS SHALL BE "QUICK-LAG" CIRCUIT BREAKERS WITH A MINIMUM INTERRUPTING CAPACITY, MAIN LUGS OR MAIN BREAKER AS INDICATED ON THE DRAWINGS, "DOOR-IN-DOOR" COVER. CIRCUIT BREAKERS PROVIDING MOTOR SHORT CIRCUIT PROTECTION SHALL HAVE TRIP ELEMENTS SIZED TO MEET N.E.C. REQUIREMENTS OR EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, WHICHEVER ARE SMALLER.

B. BREAKERS: MOLDED CASE AS SCHEDULED OR REQUIRED, PROVIDE QUICK-MAKE AND QUICK-BREAK TOGGLE MECHANISM, INVERSE TIME TRIP CHARACTERISTICS AND TRIP FREE OPERATION ON OVERLOAD OR SHORT CIRCUIT. AUTOMATIC TRIPPING SHALL BE INDICATED BY A HANDLE POSITION BETWEEN THE MANUAL OFF AND ON POSITION. PROVIDE TRIP RATINGS AS INDICATED IN THE PANELBOARD SCHEDULES. ADJUSTABLE MAGNETIC TRIP DEVICES SHALL BE SET AT THE FACTORY TO THE LOW TRIP SETTING. PROVIDE BREAKER FRAME SIZES AS REQUIRED FOR THE CONTINUOUS RATING OR THE INTERRUPTING CAPACITY, WHICHEVER IS LARGER.

C. BOLTED TYPE CIRCUIT BREAKER: CURRENT CARRYING CONNECTIONS TO THE BUS SHALL BE OF THE BOLTED TYPE, FACTORY ASSEMBLED. STAB-IN TYPE NOT PERMITTED. PROVIDE BUS BARS FOR THREE PHASE PANELBOARDS OF THE SEQUENCE PHASED TYPE CONNECTION AND ARRANGED FOR THREE PHASE, 4 WIRE MAINS, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

D. SPACE ONLY: WHERE "SPACE ONLY" OR "SPACE" IS NOTED ON THE DRAWINGS, PROVIDE NECESSARY CONNECTORS, MOUNTING BRACKETS, ETC., FOR THE FUTURE INSERTION OF AN OVERCURRENT DEVICE. SPACES SHALL BE SIZED FOR 100 AMP STRAPS MINIMUM. THE WORD "SPACE" IS INTENDED TO MEAN A SPACE FOR A FUTURE BRANCH CIRCUIT BREAKER, AND WILL INCLUDE CONNECTION STRAPS RATED AT 100 AMPERES, MINIMUM, HOLDING BRACKETS, AND AN IDENTIFYING NUMBERING UNIT, SO THAT ALL THAT IS NECESSARY TO CONVERT IT TO AN ACTIVE CIRCUIT IS INSTALLATION OF THE CIRCUIT BREAKER.

E. DIRECTORIES: PROVIDE TYPEWRITTEN CIRCUIT DESCRIPTIONS REFERENCING PERMANENT ROOM NUMBERING ASSIGNED IN LIEU OF THE ROOM NUMBERING SHOWN ON THE DRAWINGS.

F. LABELS: LABELS FOR IDENTIFYING THE BREAKER SHALL BE ENGRAVED LAMINATED PLASTIC STRIPS ATTACHED BY SCREWS OR PHENOLIC BUTTONS OR SMALL WINDOW FRAME TYPE.

G. SKIRTS: WHERE NOTED ON THE DRAWINGS, PANELBOARDS SHALL BE SKIRTED WITH COMPLETE METAL ENCLOSURES AND BARRIERS SEPARATING THE PANEL INTERIOR.

END OF SECTION 26 24 16 - PANELBOARDS

SECTION 26 27 26 - WIRING DEVICES

A. COMPLY WITH NEMA STANDARD WD 1, "GENERAL PURPOSE WIRING DEVICES."

B. ENCLOSURES: NEMA 1 EQUIVALENT, EXCEPT AS OTHERWISE INDICATED.

C. COLOR: WHITE EXCEPT AS OTHERWISE INDICATED OR REQUIRED BY CODE. RED FOR DEVICES CONNECTED TO EMERGENCY POWER SYSTEM.

D. RECEPTACLES, STRAIGHT-BLADE AND LOCKING TYPE: EXCEPT AS OTHERWISE INDICATED, COMPLY WITH FEDERAL SPECIFICATION WI-C-596 AND HEAVY-DUTY GRADE OF UL STANDARD 498, "ELECTRICAL ATTACHMENT PLUGS AND RECEPTACLES." PROVIDE N.R.T.L. LABELING OF DEVICES TO VERIFY THESE COMPLIANCES. 20A UNLESS NOTED OTHERWISE. LEVTON DECORA STYLE OR EQUAL.

E. GROUND-FAULT CIRCUIT INTERRUPTER (G.F.C.I.) RECEPTACLES: UL STANDARD 943, "GROUND FAULT CIRCUIT INTERRUPTERS," FEED-THROUGH TYPE, WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE ARRANGED TO PROTECT CONNECTED DOWNSTREAM RECEPTACLES ON THE SAME CIRCUIT. DESIGN UNITS FOR INSTALLATION IN A 2 3/4" DEEP OUTLET BOX WITHOUT AN ADAPTER.

F. ISOLATED GROUND RECEPTACLES: EQUIPMENT GROUNDING CONTACTS ARE CONNECTED ONLY TO THE GREEN GROUNDING SCREW TERMINAL OF THE DEVICE AND HAVE INHERENT ELECTRICAL ISOLATION FROM THE MOUNTING STRAP. DEVICES: LISTED AND LABELED AS ISOLATED GROUND RECEPTACLES. ISOLATION METHOD: INTEGRAL TO THE RECEPTACLE CONSTRUCTION AND NOT DEPENDENT ON REMOVABLE PARTS. RECEPTACLES SHALL BE RED/ORANGE FOR EASY RECOGNITION.

G. PENDANT CORD / CONNECTOR DEVICES: MATCHING, LOCKING TYPE, PLUG AND PLUG RECEPTACLE BODY CONNECTOR, NEMA L5-20P AND L5-20R, HEAVY-DUTY GRADE. BODIES: NYLON WITH SCREW-OPEN CABLE-GRIPPING JAWS AND PROVISION FOR ATTACHING EXTERNAL CABLE GRIP. EXTERNAL CABLE GRIP: WOVEN WIRE MESH TYPE MADE OF HIGH-STRENGTH GALVANIZED-STEEL WIRE STRAND AND MATCHED TO CABLE DIAMETER AND WITH ATTACHMENT PROVISION DESIGNED FOR THE CORRESPONDING CONNECTOR.

H. CORD AND PLUG SETS: MATCH VOLTAGE AND CURRENT RATINGS AND NUMBER OF CONDUCTORS TO REQUIREMENTS OF THE EQUIPMENT BEING CONNECTED. CORD: RUBBER-INSULATED, STRANDED COPPER CONDUCTORS, WITH TYPE SOW-A JACKET. GROUNDING CONDUCTOR HAS GREEN INSULATION. AMPACITY IS EQUIPMENT RATING PLUS 30% MINIMUM. PLUG: MALE CONFIGURATION WITH NYLON BODY AND INTEGRAL CABLE-CLAMPING JAWS. MATCH TO CORD AND TO RECEPTACLE TYPE INTENDED FOR CONNECTION.

I. WEATHERPROOF RECEPTACLES: DUPLEX RECEPTACLES, COMPLY WITH REQUIREMENTS ABOVE. CAST METAL BOX, COVER PLATE, AND COVER TO PROVIDE WEATHERPROOF CAPABILITY WITH PLUGS AND CORDS INSTALLED.

J. SNAP SWITCHES: QUIET-TYPE AC SWITCHES, N.R.T.L. LISTED AND LABELED AS COMPLYING WITH UL, STANDARD 20 "GENERAL USE SNAP SWITCHES," AND WITH FEDERAL SPECIFICATION WI-S-896. SPECIFICATION GRADE 20A, 120-277V.

K. SNAP SWITCHES IN HAZARDOUS (CLASSIFIED) LOCATIONS: COMPLY WITH UL STANDARD 894, "SWITCHES FOR USE IN HAZARDOUS (CLASSIFIED) LOCATIONS."

L. LED DIMMER SWITCHES: ROCK SWITCH WITH SLIDE DIMMER COMPATIBLE WITH LED, INPUT 120VAC, 450W LED, SINGLE POLE AND THREE-WAY, OPTIONAL LOCATOR LIGHT. 0-10V DRIVER COMPATIBLE. MICROPROCESSOR CONTROL. BUILT-IN RADIO/TV INTERFERENCE FILTER. OPERATING TEMPERATURE 0°-55° C. RELATIVE HUMIDITY: 20% TO 90% NON-CONDENSING. LIMITED 5 YEAR WARRANTY. COLOR: WHITE. LEVITON DECORA STYLE OR EQUAL.

M. OCCUPANCY SENSOR - WALL MOUNT; TECHNOLOGY: PASSIVE INFRARED/ULTRASONIC. BUILT-IN OVERRIDE FUNCTION TO OPERATE 'VACANCY' FUNCTION. FIELD OF VIEW: 180° COVERAGE: 900 SQ. FT. TIME ADJUSTMENT: (30S-30M). LOAD RATING: 150W LED. 120VAC. NEUTRAL WIRE CONNECTION: NOT REQUIRED. GROUND WIRE CONNECTION: REQUIRED. COLOR: WHITE. LEVITON DECORA STYLE OR EQUAL.

N. WALL PLATES: SINGLE AND COMBINATION TYPES THAT MATE AND MATCH WITH CORRESPONDING WIRING DEVICES. FEATURES INCLUDE THE FOLLOWING:

1. COLOR: MATCHES WIRING DEVICE EXCEPT AS OTHERWISE INDICATED.
2. PLATE-SECURING SCREWS: METAL WITH HEADS COLORED TO MATCH PLATE FINISH.
3. MATERIAL FOR FINISHED SPACES: HEAVY DUTY NYLON.
4. MATERIAL FOR UNFINISHED SPACES: GALVANIZED STEEL.

O. ALL WIRING DEVICES SHALL BE LEVITON DECORA TYPE OR EQUAL.

END OF SECTION 26 27 26 - WIRING DEVICES

SECTION 26 51 13 - LIGHTING EQUIPMENT

A. FURNISH ALL LIGHTING FIXTURES THROUGHOUT THE TYPE INDICATED ON THE DRAWINGS, COMPLETE WITH LAMPS, SOCKETS, WIRING, FITTERS, HANGERS, PLASTER RINGS, CANOPIES, ETC., AS REQUIRED.

B. ALL FIXTURES SHALL BE QUIET IN OPERATION. LOUVERS, SHIELDS, REFLECTORS AND ALL SECTIONS OF THE CHANNEL STRUCTURE SHALL BE SECURELY HELD IN POSITION.

C. SUPPORTS: SUPPORT CEILING FIXTURES TO METAL SUPPORTS PROVIDED FOR THAT PURPOSE OF SUITABLE STRENGTH AND STABILITY, ADEQUATELY ATTACHED TO AND SUPPORTED BY JOISTS, TRUSSES, OR OTHER STRUCTURAL MEMBERS.

D. CLEANUP: AT FINAL INSPECTION ALL FIXTURES AND LIGHTING EQUIPMENT SHALL BE IN FIRST CLASS OPERATING ORDER, IN PERFECT CONDITION AS TO FINISH AND FREE FROM DEFECTS, COMPLETELY LAMPED, CLEAN AND FREE FROM DUST, PLASTER OR PAINT SPOTS AND COMPLETE WITH THE REQUIRED GLASSWARE, REFLECTORS, SIDE PANELS, LOUVERS OR OTHER COMPONENTS NECESSARY TO COMPLETE THE FIXTURES.

END OF SECTION 26 51 13 - LIGHTING EQUIPMENT

SPECIFICATIONS ARE FOR GENERAL INFORMATION AND REFERENCE. SPECIFICATIONS ONLY APPLY TO SPECIFIC ITEMS WHICH ARE SHOWN IN PLAN VIEWS. NOT ALL SPECIFICATIONS WILL BE USED

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505-384-3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

ELECTRICAL SPECIFICATIONS

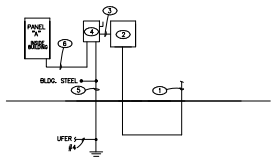
DRAWN BY: JKB
DATE: 8-9-22

E-3

ATTACHMENT 1

KEYED NOTES

1. 2"C. WITH 3 – #3/0 THWN-CU CONDUCTORS OR 2 1/2"C. WITH 3 – #250 KCMIL-THWN-AL CONDUCTORS TO TRANSFORMER.
2. METERING FOR 200 AMP, 120/240 VOLT, 1 PHASE, 3 WIRE SERVICE AS PER UTILITY CO. REQUIREMENTS.
3. SAME AS (1) EXCEPT A NIPPLE BETWEEN (2) & (4)
4. SAFETY SWITCH, 200 AMPERE, 2 POLE 3 WIRE, S/N, 250 VOLT, HEAVY DUTY, FUSIBLE WITH 200 AMP CLASS RK1 FUSES, NEMA 3R ENCLOSURE.
5. #4 CU OR #2 AL GROUND IN 1/2"C. TO GROUNDING ELECTRODES (IE: UFER, COLD WATER METALLIC PIPE, BUILDING STEEL IF AVAILABLE, AND DRIVEN GROUND RODS) TO COMPLY WITH ALL OF THE REQUIREMENTS OF ARTICLE 250 OF THE NEC THAT APPLY TO THIS PROJECT AND TO ALL LOCAL CODES.
6. 3 #3/0 THWN-CU AND 1 #2 CU GRD – 2" C. OR 3 #250 KCMIL THWN-AL & 1 #2 GRD – 2 1/2" C.



RISER DIAGRAM
N.T.S.

SERVICE CHARACTERISTICS

120/240 VOLT, 1 PHASE, 3 WIRE

CONNECTED LOAD = 33 KW
ESTIMATED DEMAND LOAD = 29 KW

TRANSFORMER SIZE REQUIRED = 50 KVA (MAX)

AVAILABLE FAULT CURRENT
PER FNM TABLE DS-4-11.0 = 10,000 AIC AT SERVICE ENTRANCE

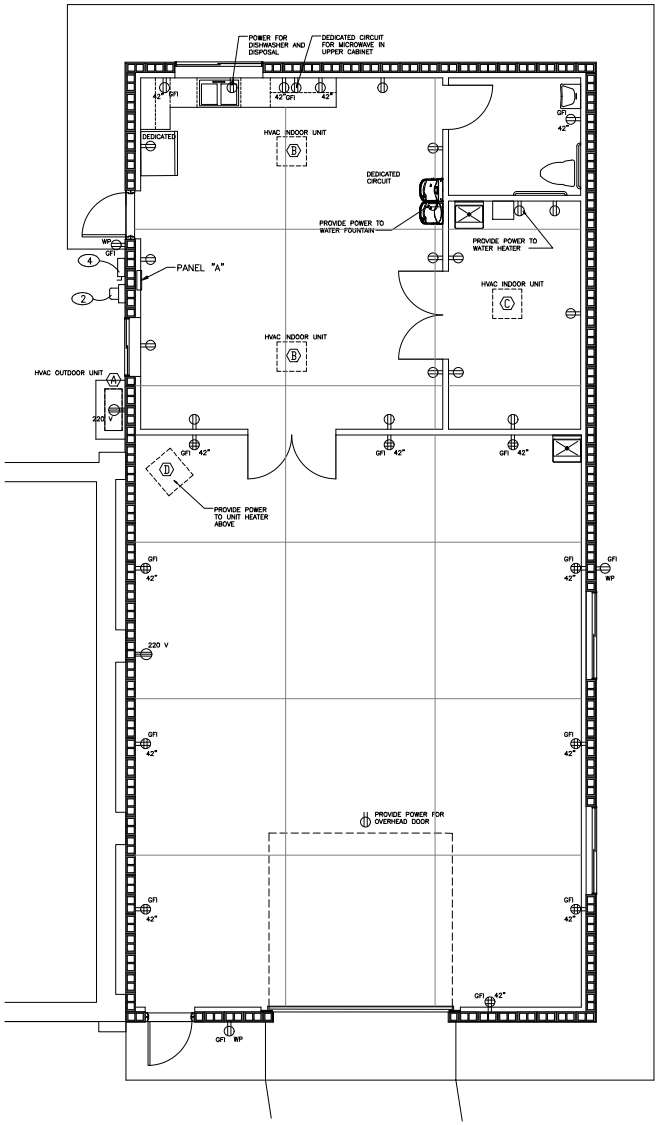
AVAILABLE FAULT CURRENT AT TRANSFORMER: 22,000 AIC
(PER FNM TABLE #DM-4-11.0)
AT LOAD SIDE OF MAIN BREAKERS: LESS THAN 10,000 AIC
AT PANEL BOARD: LESS THAN 10,000 AIC

PANEL "A" DESCRIPTION: 120/240 VOLT, 1 PHASE, 3 WIRE, S/N, 200 AMP 2 POLE MAIN CIRCUIT BREAKER, 10000 AIC MIN. BREAKERS, FLUSH MOUNT

CIRCUIT	AMPS A	AMPS B	BR TR	CT NO		CT NO	BR TR	AMPS A	AMPS B	CIRCUIT
INTERIOR LIGHTING	12		20	1	A	2	20	10		RECEPTACLES-INTERIOR
INTERIOR LIGHTING		12		3	B	4			10	RECEPTACLES-INTERIOR
EXTERIOR LIGHTING	10			5	A	6		10		RECEPTACLES-INTERIOR
EMERGENCY LIGHTING		4		7	B	8			10	EXTERIOR GFCI'S
HVAC OUTDOOR UNIT A, INDOOR B, C	36		40	9	A	10	50	43		220V WELDER RECEPTACLE
" " " "		36	40	11	B	12	50		43	" " " "
OVERHEAD DOOR MOTOR	10		20	13	A	14	20	5		WATER COOLER
EVAPORATIVE COOLER		15	20	15	B	16	20		8	UNIT HEATER
TANKLESS WATER HEATER	2		20	17	A	18	20	10		MICROWAVE
REFRIGERATOR		7	20	19	B	20				SPACE
SPARE			20	21	A	22				SPACE
SPARE			20	23	B	24				SPACE

CONNECTED LOAD: #A= 148A #B= 145A DEMAND = 148 AMPS X 90% = 133 AMPS

NORTH



POWER LAYOUT 1/4" = 1'-0"

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505•384•3112 j.k.baker@centurylink.net

STATE OF NEW MEXICO
J. KORY BAKER
NO. 2170
REGISTERED ARCHITECT

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

ELECTRICAL POWER LAYOUT

DRAWN BY: JKB
DATE: 8-9-22
△ 8-31-22
△
△

E-4

ATTACHMENT 1

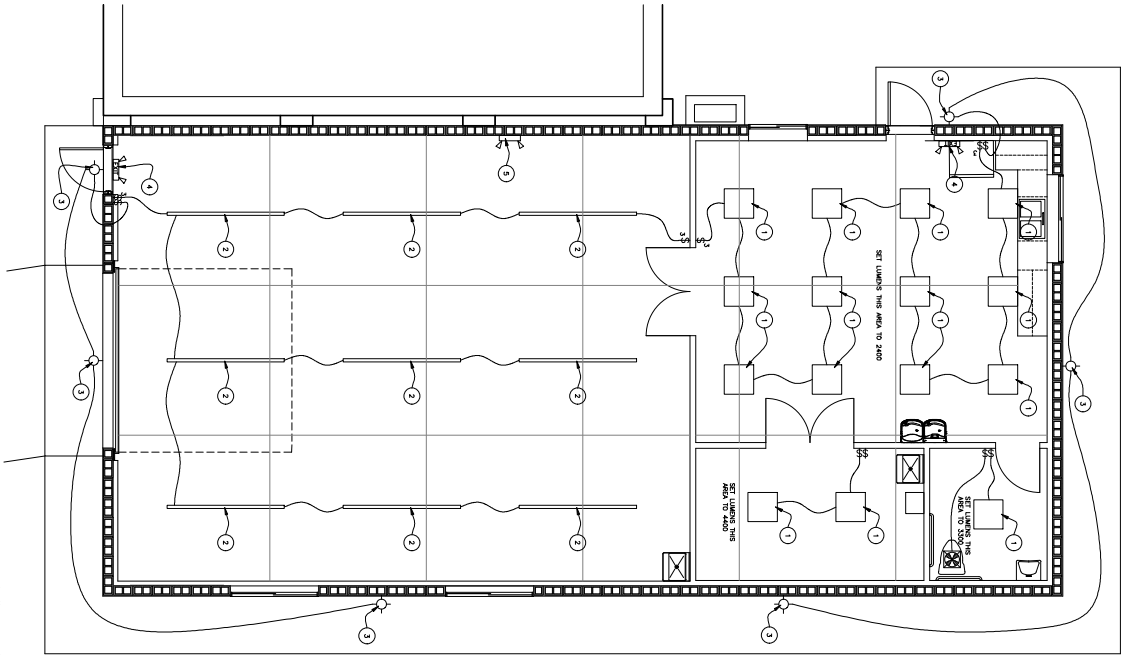
LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	QUANTITY	LAMPS	MOUNTING	REMARKS
①	LITHONIA CPANL 2X2 ALO7LM4	15	2400/3000/4400LM-22/27/41W	LAY IN	CCT = 3500/4000/5000K (ADJUSTABLE)
②	LITHONIA CDS LBR MVOLT EM 40K 80CRI WH	9	8937 LUMEN LED - 77W	CEILING - SURFACE MOUNT	CCT = 4000K
③	HALO WPSS6AFC	6	4330 LUMEN LED - 38W	SURFACE-WALL	PHOTOCELL, DARK SKY COMPLIANT
④	SURE-LITES AFX7RSO	3	FURNISHED W/ FIXTURE	SURFACE-WALL 7'-6" AFF	COMBINATION LIGHT/EXIT FIXTURE W/ BATTERY PACK
⑤	SURE-LITES SEL25	1	FURNISHED W/ FIXTURE	SURFACE-WALL 7'-6" AFF	EMERGENCY LIGHT UNIT W/ BATTERY PACK

NORTH

LIGHTING LAYOUT

1/4" = 1'-0"



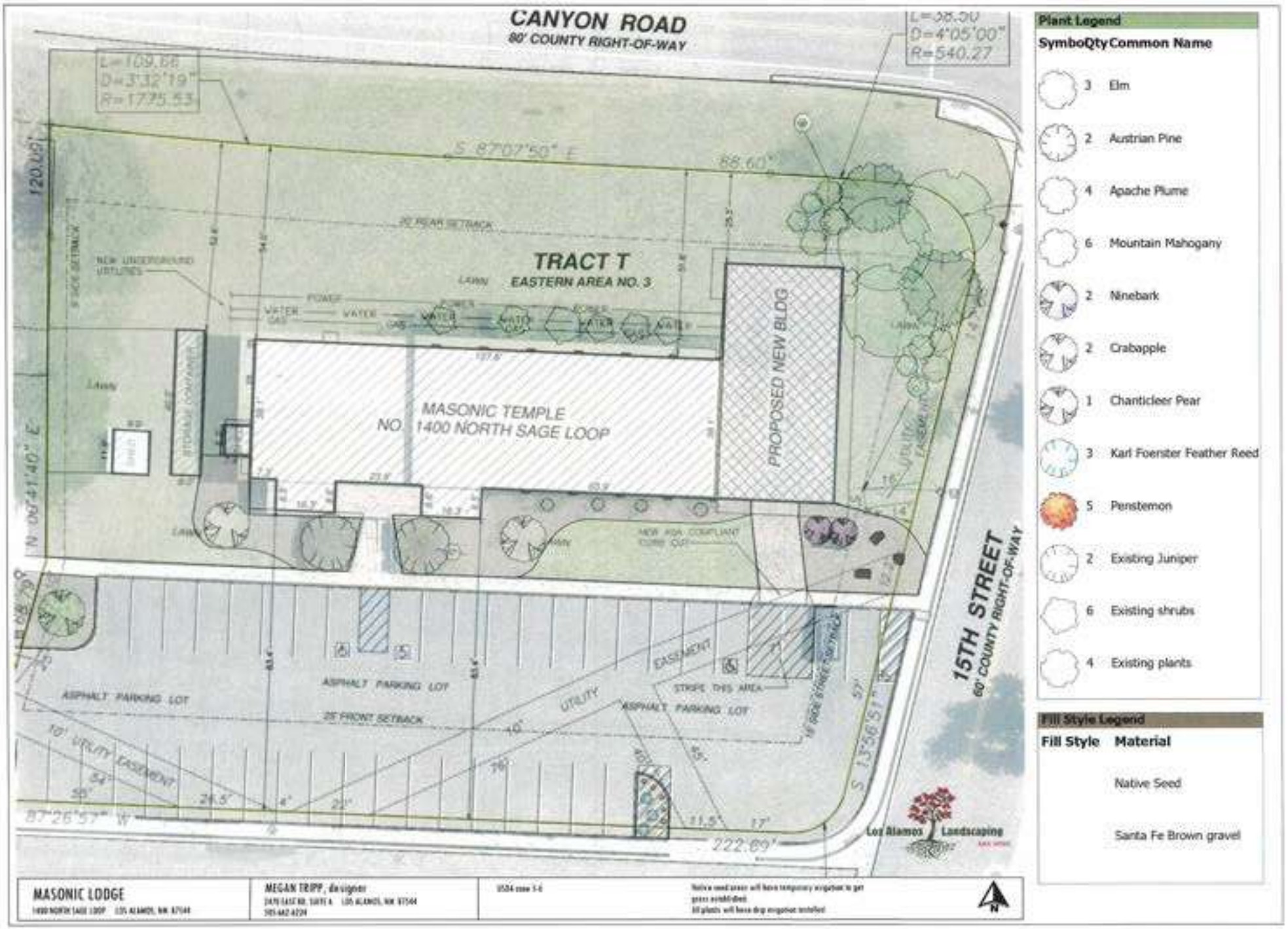
E-5

DRAWN BY: JKB
DATE: 8-9-22

LOS ALAMOS SHRINERS ACCESSORY BUILDING
LOS ALAMOS • NEW MEXICO

ELECTRICAL LIGHTING LAYOUT

J. KORY BAKER • ARCHITECT
P.O. BOX 254 • ESTANCIA • NM • 87016
505 • 384 • 3112 j.k.baker@centurylink.net



Plant Legend

Symbo	Qty	Common Name
	3	Elm
	2	Austrian Pine
	4	Apache Plume
	6	Mountain Mahogany
	2	Ninebark
	2	Crabapple
	1	Chanticleer Pear
	3	Karl Foerster Feather Reed
	5	Penstemon
	2	Existing Juniper
	6	Existing shrubs
	4	Existing plants

Fill Style Legend

Fill Style	Material
	Native Seed
	Santa Fe Brown gravel

MASONIC LODGE
1400 NORTH SAGE LOOP LOS ALAMOS, NM 87544

MEGAN TRIPP, designer
[illegible] LOS ALAMOS, NM 87544
505-662-4224

0.524 zone 1-6

Native seed areas will have temporary irrigation to get grass established.
All plants will have drip irrigation installed

ATTACHMENT 1

by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.

❖ The provisions for governing the height and area of buildings on the basis of occupancy classification and type of construction are established in this section. This section sends the user to Sections 504 and 506 to establish allowable heights, in feet and in stories, and allowable building area, based upon the type of construction. All buildings are subject to these limitations unless more specific code requirements for a building type provide for different height or area limitations. For instance:

- Section 507 allows certain buildings to be unlimited in area due to lack of exposure, low hazard level, construction type, the presence of fire safety systems such as a sprinkler system, or a combination of these characteristics.
- Section 510 allows certain buildings with additional safeguards to adjust the heights and areas allowed by Sections 504 and 506. These are the only provisions that allow a mixture of construction types. In many cases, these provisions involve a distinct portion of the structure being used for parking.
- Where more than one occupancy is present within one building, the provisions of Section 508 must be used in conjunction with Sections 504 and 506 to determine the appropriate construction type for the occupancies involved.

Table 601 is used in conjunction with this chapter to determine acceptable risk and fire safety levels for a building. Classification by occupancy, in accordance with the descriptions in Chapter 3, can be considered as establishing the level of "risk" associated with the use of a building. The various construction types, described in Chapter 6 and Table 601, can be thought of as various levels of safety in regard to fire resistance. Tables 504.3, 504.4 and 506.2 become a set of risk/safety matrices that sets a minimum level of safety (construction type) in accordance with the risk (the occupancy classification).

Fire walls are useful when a single building exceeds the allowable area limitation of Tables 504.3, 504.4 and 506.2. When fire walls (see Section 706) are used in a structure, multiple buildings are created. Each building created by the fire walls would be permitted to have its own occupancy classification and type of construction. Since multiple buildings would be created, each building would be evaluated separately in accordance with the height and area limitations of this Chapter (see commentary, Section 706 and the definition for "Area, building").

503.1.1 Special industrial occupancies. Buildings and structures designed to house special industrial processes that require large areas and unusual *building heights* to accommodate craneways or special machinery and equipment, including, among others, rolling mills; structural metal fabrication shops and foundries; or the production and distribution of electric, gas or steam power, shall be exempt from the *building height*, number of stories and *building area* limitations specified in Sections 504 and 506.

❖ This section provides an exemption from the limits of Sections 504 and 506. The occupancies that may use this exemption are quite limited. The exemption is only applicable when large areas or unusual heights beyond that permitted by Tables 504.3, 504.4 and 506.2 are necessary to accommodate the specific low-hazard or moderate-hazard manufacturing process.

It is the responsibility of the building official to determine when the application of this section is appropriate. The mere cost impact of the application of Tables 504.3, 504.4 and 506.2 does not dictate an exemption. The building official, in assessing the proposed construction, may wish to compare what protection features are being proposed to those features of facilities similar to those described in this section.

503.1.2 Buildings on same lot. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building where the *building height*, number of stories of each building and the aggregate *building area* of the buildings are within the limitations specified in Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.

❖ Ordinarily, two buildings on the same lot are considered independently for compliance with the requirements of the code. Section 705.3 requires that when two buildings are on the same lot, an "imaginary" line is assumed between the buildings. This is used to determine the appropriate exterior wall fire-resistance ratings in Table 602, exterior wall requirements of Section 705, projection requirements of Section 705.2 and opening protective ratings and requirements set forth in Table 705.8 and Section 716 (also see the commentary for the definition of "Fire separation distance"). The primary purpose of Section 503.1.2 is to eliminate the application of the provisions of Section 705.3 when two separate buildings can be regulated as one larger building on the lot. In other words, if the two buildings under consideration were actually connected (making one building) and could meet the area and height limitations for one building based on construction type, the connecting interior wall would not be required to have been rated. Therefore, it is inconsistent to require the protection of the facing exterior walls simply because there is not a physical connection between two portions of the same building.

For example, in Commentary Figure 503.1.2(1), Buildings A and B are being constructed on the same lot at the same time. If they are considered to be separate buildings, then the code requirements for exterior wall and opening protection, as well as

projections and roof coverings, would apply to each building on the basis of the placement of an imaginary lot line between the two buildings.

Under this section, however, if they are considered to be one building (for minimum type of construction purposes), then there is no need for protection of the facing exterior walls and the code requirements for exterior wall and openings do not apply to the walls between the two buildings. These walls would have to meet exterior wall requirements for the type of construction specified in Table 601 for exterior bearing walls only. If they were nonbearing walls, then the required fire-resistance rating would be zero.

Although facing exterior walls between two buildings on the same lot are not subject to fire-resistance rating and opening size limitations by using this provision (except as previously indicated for bearing walls), the remainder of the exterior walls in both buildings must comply with any applicable exterior wall and opening provisions, including Tables 601, 602, 705.8, 716.5 and 716.6. Three of the walls in Building A and three of the walls in Building B, therefore, would still be required to meet the applicable requirements, and the exemption would only apply to the two walls (one from each building) that face each other.

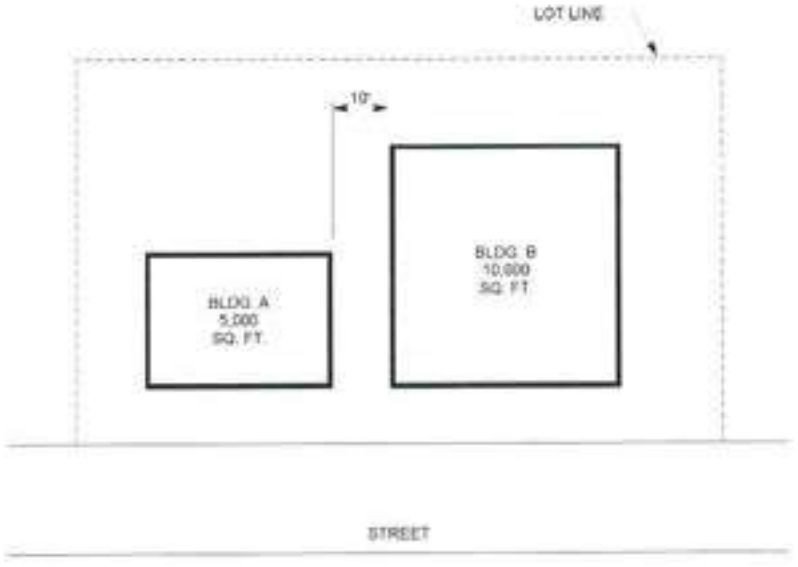
A special circumstance occurs when a large structure is divided by fire walls into two or more buildings. In such a case, the exception provided by Section 503.1.2 would not be applicable because it is likely that a fire wall has been established because the overall structure exceeds the allowable area for a single building. If the configuration of the buildings results in a court, an imaginary line should be established between the two buildings in order to determine exterior wall and opening protection requirements [see Commentary Figure 503.1.2(2)].

503.1.3 Type I construction. Buildings of Type I construction permitted to be of unlimited tabular *building heights and areas* are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited *building height* in Sections 503.1.1 and 504.3 or increased *building heights and areas* for other types of construction.

❖ Buildings of Type I construction permitted by Sections 504 and 506 to be of unlimited height and area do not need to comply with the provisions of Section 503.1.1 or the exception in Section 504.3, which allow height and area increases. While most buildings of Type I construction are permitted to be unlimited in area (see Section 506.2), they are not required to comply with any of the provisions in Section 507 for unlimited area buildings. The requirements in Section 507 address special circumstances that permit a building to be unlimited in area that would not otherwise be allowed to be unlimited in area. As there are no limitations to the size of these structures, the application of these sections would be superfluous. These buildings may be of unlimited size based on their type of construction alone.

Conversely, high-rise buildings are required to be protected by an automatic sprinkler system in accordance with Section 403.3, and this section should not be construed to be a release from that requirement if a building fits the definition of "High-rise building."

Also note that a special industrial occupancy building, in accordance with Section 503.1.1, is permitted to be unlimited in height. However, this does not



For SI: 1 foot = 304.8 mm,
1 square foot = 0.0929 m².

Figure 503.1.2(1)
BUILDINGS ON SAME LOT

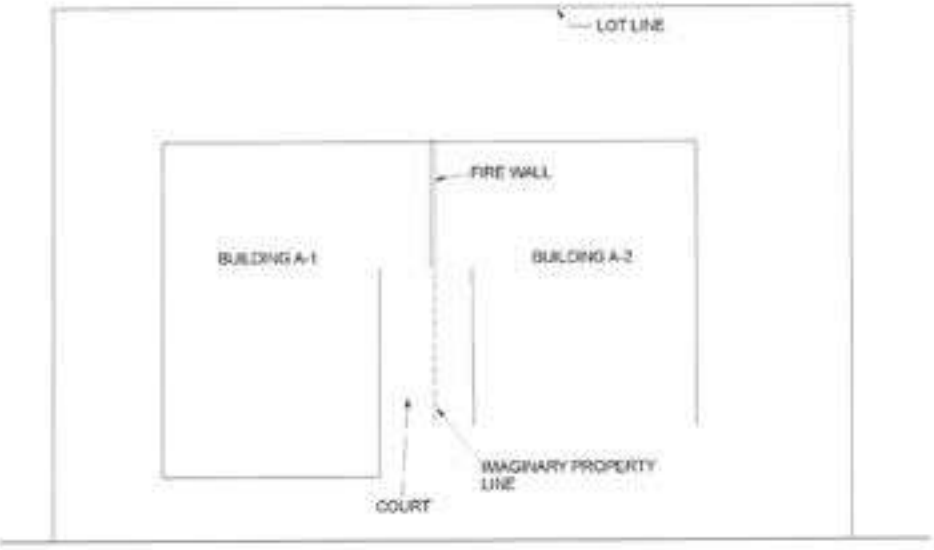


Figure 503.1.2(2)
TWO BUILDINGS ON SAME LOT CREATED BY FIRE WALL

require the type of construction for the building to be Type I. Any type of construction is permitted for special industrial occupancy buildings. Similarly, noncombustible roof structures are permitted to be unlimited in height on all buildings, including those of Type I construction. See also Sections 504.1.1 and 506.1.1 for additional options for unlimited area buildings.

SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES

504.1 General. The height, in feet, and the number of stories of a building shall be determined based on the type of construction, occupancy classification and whether there is an *automatic sprinkler system* installed throughout the building.

Exception: The *building height* of one-*story* aircraft hangars, aircraft paint hangars and buildings used for the manufacturing of aircraft shall not be limited where the building is provided with an *automatic sprinkler system* or *automatic fire-extinguishing system* in accordance with Chapter 9 and is entirely surrounded by *public ways* or *yards* not less in width than one and one-half times the *building height*.

❖ This section is a fairly straightforward statement regarding those attributes of a building that impact the allowable height of a building. These attributes are: the type of construction, as described in Chapter 6; the occupancy classification of the building, as described in Chapter 3; and the presence, or lack thereof, of an automatic sprinkler system for the entire building. This section is simply a charging statement for what is to come. The actual limitations on numbers of stories and feet come later, in Sections 504.3 and 504.4.

The exception permits fully suppressed aircraft hangars to exceed the height limits of Table 503 as long as they have the specified open area surrounding the building. The exception is necessary to accommodate the size of large aircraft within the building, and the hazard is mitigated by the requirement for suppression and the very large open space provided by the yards and public ways. While the code refers to fire-extinguishing requirements in Chapter 9, the detailed suppression requirements for aircraft hangars are specified in Section 412.4.6. Aircraft paint hangars that are Group H-2 may be unlimited in area as well, under certain conditions (see commentary, Section 507.10).

504.1.1 Unlimited area buildings. The height of unlimited area buildings shall be designed in accordance with Section 507.

❖ Section 507 allows certain buildings to be unlimited in area due to lack of exposure, low hazard level, construction type, the presence of fire safety systems or a combination of these characteristics. This section is a pointer to Section 507 for determination of the allowable height of buildings when the building is being built, using the specific provisions of the unlimited area buildings option. See also Sections 503.1.3 and 506.1.1 for additional options for unlimited area buildings.

504.1.2 Special provisions. The special provisions of Section 510 permit the use of special conditions that are exempt from, or modify, the specific requirements of this chapter regarding the allowable heights of buildings based on the occupancy classification and type of construction, provided the special

protection for Type VB construction in Group R-3 and Group U occupancies with an FSD equal or greater than 5 feet (1524 mm).

705.3 Buildings on the same lot. For the purposes of determining the required wall and opening protection, projections and roof-covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them.

Where a new building is to be erected on the same lot as an existing building, the location of the assumed imaginary line with relation to the existing building shall be such that the *exterior wall* and opening protection of the existing building meet the criteria as set forth in Sections 705.5 and 705.8.

Exceptions:

1. Two or more buildings on the same lot shall be either regulated as separate buildings or shall be considered as portions of one building if the aggregate area of such buildings is within the limits specified in Chapter 5 for a single building. Where the buildings contain different occupancy groups or are of different types of construction, the area shall be that allowed for the most restrictive occupancy or construction.
2. Where an S-2 parking garage of Construction Type I or IIA is erected on the same lot as a Group R-2 building, and there is no *fire separation distance* between these buildings, then the adjoining *exterior walls* between the buildings are permitted to have occupant use openings in accordance with Section 706.8. However, opening protectives in such openings shall only be required in the exterior wall of the S-2 parking garage, not in the exterior wall openings in the R-2 building, and these opening protectives in the exterior wall of the S-2 parking garage shall be not less than $1^1/_2$-hour *fire protection rating*.

❖ This section addresses buildings on the same lot and requires that an imaginary lot line be established between buildings in order to determine exterior wall fire ratings and opening protectives (see the definition of "Fire separation distance"). This section takes the approach of limiting the conflagration hazard between buildings on the same property.

Exception #1 permits two buildings on the same lot to be exempt from Sections 705.5 and 705.8 when considered as one building in accordance with Section 503.1.2. The provisions of Section 705.8.5 would still apply, since a need exists to restrict fire spread between stories within a building. Although not specifically identified in the exception, Section 705.11 would not apply, since it is dependent on the exterior wall being required to have a fire-resistance rating in accordance with Section 705.5, which relates to measurement of FSD. The last sentence of the exception reminds the user that normal code requirements would still be applicable once the two buildings are considered as one. Therefore, if two types of construction are involved, then the lowest type of construction would be assumed for the entire building because there is no fire wall between them. In applying this last sentence it is probably easiest to determine what the requirement is if the user imagines what the code requirement would be if the buildings were pushed together. In such a case, it would be easier to see that a fire wall would be needed between portions of a building that are of two different construction types or the entire building would have to be viewed as the lowest possible type of construction. Regarding occupancies and associated allowable areas, they would be separated per Section 508.4 or considered as nonseparated occupancies per Section 508.3 and, therefore, use the most restrictive allowable area.

In order to help make sense of the last sentence of the exception, the idea of imagining the two buildings being pushed together, as mentioned above, is helpful. Then realize that simply pulling the building apart should not increase or lessen the code requirements for that "single" building.

Exception #2 takes into account a practical design issue.

The great majority of multifamily projects are being built with parking garages beside apartment buildings. Access from the parking garage into the apartment unit's floor is provided at each garage floor onto the apartment's floor for convenience as well as for safety for the apartment dwellers. Many designs have one or more of the exterior walls of the parking garage and the apartment building at a 0-foot fire separation distance. The requirements within Table 705.8 would prohibit any openings in these exterior walls between the parking garage and the apartment building. Based on the protection afforded by the sprinkler system in the R-2 use and the inherent fire safety of the parking garage, this exception would allow these openings. See Commentary Figure 705.3 for an illustration of this condition.

705.4 Materials. *Exterior walls* shall be of materials permitted by the building type of construction.

❖ The material (combustible or noncombustible) requirements for exterior walls are found in Sections 602.1 through 602.5. Only Type V construction allows exterior walls to be combustible construction. Other types of construction require exterior walls, or at least the framing members, to be noncombustible. Type I and II construction allows limited use of fire-retardant wood for exterior nonload-bearing walls. All types of construction allow insulation, exterior wall coverings and interior finish to be combustible within limits. See Sections 603, 720 and 1405.5 for materials allowed within and on framed exterior walls.

705.5 Fire-resistance ratings. *Exterior walls* shall be fire-resistance rated in accordance with Tables 601 and 602 and this section. The required *fire-resistance rating* of *exterior walls* with a *fire separation distance* of greater than 10 feet (3048 mm) shall be rated for exposure to fire from the inside. The required *fire-resistance rating* of *exterior walls* with a

CSI MASTERFORMAT COMMERCIAL SPECIFICATION

For the Project:

Los Alamos Shriners Accessory Building
1400 North Sage Loop
Los Alamos, New Mexico 87544

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DIVISION 00 00 00. PROCUREMENT AND CONTRACTING REQUIREMENTS

00 26 00 - Procurement Substitution Procedures
Contractor to investigate proposed products and determine that they are equal or superior in all respects to products specified. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects. All substitutions must be approved in writing by the owner and the architect.

DIVISION 01 00 00. GENERAL REQUIREMENTS

01 50 00 - Temporary Facilities and Controls
This work shall consist of the application of temporary measures throughout the life of the project.

01 51 00 - Temporary Utilities
All connections and extensions required to provide temporary utilities shall be made by the Contractor at the Contractor's expense.

01 51 13 - Temporary Electricity
Contractor to provide and install temporary power for construction site. Connect to existing power service without disrupting local service requirements. Power feeder service characteristics shall be compatible with the service from which it is taken. Size, type and loading shall be per requirements as established by the National Electric Code (NEC). The contractor shall provide main service disconnect and over-current protection at a convenient location in accordance with the NEC. The Contractor shall provide power outlets for construction operations, with branch wiring and distribution boxes located as necessary and shall provide flexible power cords as required. Provide and install distribution equipment, wiring and outlets to provide single phase branch circuits for power and lighting.

01 51 36 - Temporary Water
Contractor to provide and install temporary water for construction site. Connect to an existing water source for construction operations.

01 52 00 - Construction Facilities
If required, field offices and sheds shall be portable or mobile buildings, or buildings constructed with floors raised above the ground, securely fixed to foundations, with steps and landings at entrance doors. Structurally sound, secure, weather tight enclosures for office and storage spaces shall be maintained during progress of work and removed at completion of work. Size of field offices and sheds shall depend on contractor's needs. Install appropriate fire extinguisher. HVAC shall be adequate to maintain comfortable conditions. At completion of work, all temporary facilities shall be removed, and area restored to new condition.

01 52 19 - Sanitary Facilities
Existing facilities shall not be used. Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees as will comply with laws and regulations. Temporary toilet facilities may consist of portable toilets. Toilet facilities shall be kept supplied and clean and in sanitary condition until the completion of

the work and then shall be removed from the site. Upon removal the site shall be properly cleaned and graded.

01 53 00 - Temporary Construction
The contractor shall provide and maintain for duration of work all required temporary stairs, ladders, ramps, runways and hoists for use of all trades.

01 54 00 - Construction Aides
The contractor to provide all construction aids needed during construction which shall include but not limited to; elevators, hoists, cranes, etc.

01 54 23 - Temporary Scaffolding and Platforms
The contractor shall provide and maintain for duration of work all required temporary standing scaffolding

01 56 00 - Temporary Barriers and Enclosures
The contractor shall provide barriers to prevent unauthorized entry into construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition. Install barricades and covered walkways required by governing authorities for public right of ways. When necessary, install chain link fence around job site.

01 57 00 - Temporary Controls
This work shall consist of the application of temporary measures throughout the life of the project to control erosion and siltation. Such measures shall include, but are not limited to, the use of berms, dikes, dams, sediment basins, fiber mats, silt fences, straw bales, washed gravel or crushed stone, mulch, grasses, slope drains, temporary seeding and other methods. Temporary erosion and siltation control measures as described herein, shall be applied to erodible material exposed by any activity associated with the construction and consistent with state and local control standard.

01 58 00 - Project Identification
At the commencement of work, provide one project identification sign. Maintain sign throughout the life of the project. On the sign, list two points of contact by name and telephone number.

01 60 00 - Product Requirements (Scope of Work)
All materials shall be installed in strict accordance with the manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All Items not specifically mentioned that are required to make the work complete and operational shall be included.

> **Installation and Storage** - All materials, supplies and equipment shall be installed per manufacturer's recommendations and per applicable codes and requirements. Material stored on site shall be protected from damage by moisture, wind, sun, abuse, or any other harmful effects.

01 64 00 - Owner-Furnished Products

Contractor is not responsible for products furnished by the owner that are damaged prior to opening or receiving. Additional work required to install owner furnished products will be charged to the owner and due upon installation.

01 70 00 - Execution and Closeout Requirements

The execution of all work shall be in strict accordance with these specifications and manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All work not specifically mentioned that is required to make the work complete and operational shall be included.

Codes - Construction shall comply with all applicable national, state, and local building codes. It is the responsibility of the Contractor to ensure compliance with said codes and modify the specifications as needed to comply with such codes.

Measurements - The Contractor shall check and verify all dimensions and conditions before proceeding with construction. Do not scale drawings. Noted dimensions take precedence.

Workmanship - Workmanship shall conform to the best and highest standards of quality in each trade and shall include all items of fabrication, construction, and installation. All work shall be completed by skilled tradesmen and mechanics. Installation of all equipment and materials shall be in strict accordance with manufacturers recommendations.

Insurance - Builders Risk Insurance shall be maintained by the contractor during the course of construction until final acceptance by the owner. All bonding and insurance requirements shall be coordinated with the Owner prior to beginning construction. All contractors shall provide and be solely responsible for necessary barricades and safety precautions, and strictly adhere to all governing codes on safety, including the OSHA Act.

01 74 00 - Cleaning and Waste Management

Construction site to be in a clean and orderly condition throughout the construction process. Clean interior spaces prior to the start of finish painting and the application of other finishes. At the conclusion of construction, the project shall be properly cleaned. This should include but not be limited to; cleaning the interior and exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surface areas, sweep and mop all tiled surfaces, etc. Replace filters of operating equipment. Clean equipment and fixtures to a sanitary condition. Clean exterior such as debris from roof, gutters, landscape areas, driveways, and walks, etc. Remove all waste and surplus materials.

01 76 00 - Protecting Installed Construction

Contractor to protect all installed construction. If products or materials come with a protective coating, contractor shall maintain protective coating until construction is complete. Contractor shall replace any items that become defective or damaged.

DIVISION 02 00 00. EXISTING CONDITIONS

02 00 00 - Existing Conditions
Contractor shall review construction documents and provide necessary site work, excavation and grading as required to construct said project.

02 41 00 - Demolition
Provide all labor, materials, and equipment to perform the required demolition of existing pavement no longer needed for access or parking, abandoned utilities and structures which interfere with the proposed construction. When required install chain link fencing around the area of demolition work. Protect all adjacent areas not to be demolished. Remove all debris from job site before construction begins.

02 80 00 - Facility Remediation
Contractor to abate any hazardous material or substance before beginning construction. Contactor shall contract with a properly licensed and qualified hazardous material contractor.

02 81 00 - Transportation and Disposal of Hazardous Materials
Remove and dispose of any hazardous material before beginning construction. Contactor shall contract with a properly licensed and qualified hazardous material contractor.

DIVISION 03 00 00. CONCRETE

03 00 00 - Concrete
Contractor shall review construction documents and provide labor and materials pertaining to concrete and foundations as required in said documents and as specified herein, while complying with all applicable building codes.

03 05 00 - Common Work Results for Concrete
All concrete work shall be designed on the basis of "Strength Design" in accordance with ACI 318 "Building Code Requirements for reinforced Concrete." Concrete work shall be proportioned in accordance with ACI 301 "Specifications for Structural Concrete" and ACI 211.1 " Recommended Practice for Selecting Proportions for Normal Weight Concrete". Concrete slabs, patios, driveways, walls and foundations shall be constructed of a minimum 3000 to 4000 psi concrete, 28 day test, with a 4" minimum to 6" maximum slump maximum, air-entrained to 5 - 8%. No additional water shall be added to concrete after slump test is recorded. Concrete should be a mix of high-grade Portland cement, clean sand or granular fill and washed gravel or crushed stone as coarse aggregate per ACI 530. Maximum aggregate size shall be ¾". All aggregates shall conform to ASTM C33. Gravel should be well graded and not exceed 1 1/2" in size. Water shall not exceed 5 1/2 gallons for each bag unless sand is very dry. Concrete shall be mixed using an approved batch machine or mobile mixer until uniform in color and providing a 4" minimum to 6" maximum slump. See Sheet A-5 of the drawings for additional information.

03 10 00 - Concrete Forming and Accessories
Provide all labor, materials, and equipment necessary for the completion of the plain and reinforced concrete called for on the plans. Concrete when deposited shall have a

temperature ranging between a minimum of 50 degrees Fahrenheit and a maximum of 90 degrees Fahrenheit.

Construction of Forms - Construct wood forms of sound material, and of the correct shape and dimensions, constructed tightly and of sufficient strength. Brace and tie the forms together. Make joints and seams mortar tight. Install leakage control materials in accordance with manufacturer's installation instructions.

03 15 13 - Concrete Accessories

Provide 1/2" thick by 4" wide bituminous expansion joint material at all surfaces where slabs adjoin raised slab, crawlspace or basement stem-wall CMU or poured foundations.

03 21 00 - Reinforcing Steel

Reinforcing steel (rebar) shall be minimum ASTM A615, grade 40. All reinforcement splices shall be as follows: See lap splice schedule on Sheet A-5 of the drawings. All rebar (reinforcing steel) shall be located 3" clear from bottom and side of footing and 2" clear from top. Locate vertical rebar (reinforcing steel) 16" on center (OC). All reinforcement splices shall be in accordance with ACI 318 for "Strength Design." All reinforcement steel shall be accurately placed, rigidly supported, and firmly tied in place with bar supports and spacers in accordance with ACI 301 and ACI 318.

03 22 00 - Welded Wire Fabric Reinforcing

Welded wire fabric shall conform to ASTM A105 and be located in the center of the depth. Install at slab on grade conditions.

03 22 00 – Synthetic Fiber Reinforcing (Alternate)

Concrete shall be batched at plant with Fibermesh Synthetic Fiber Reinforcement: Fibermesh 300.

1. Material: 100 percent virgin homopolymer polypropylene fibrillated fibers, containing no reprocessed olefin materials.
2. Conformance: ASTM C 1116, Type III.

03 30 00 - Footings

Center all footings on walls, piers, or columns above unless otherwise noted. All footings shall rest on soil prepared in accordance with the geotechnical report. Footings at building perimeter shall be a minimum of 36" below frost line and 30" wide, constructed of 3000 psi concrete. See Sheet A-3 of the drawings for reinforcing details. Footers shall be kept free from ground water. Underneath load-bearing walls and interior or exterior column footings, thicken slabs within a 1' radius to 12" thick.

03 30 01 - Slab Foundations

Concrete floor slabs shall be constructed of 3000 psi concrete, 4" thick reinforced with 10 gauge 6" x 6" welded-wire mesh continuous and rebar (reinforcing steel) as per plans (Fibermesh alternate). Place slabs over well-compacted granular fill compacted in 12-inch lifts to 95 percent density per AASHTO T-180 Proctor (per Geotechnical Report), and a 6 mil vapor barrier. Construction or control joints shall be provided in slabs per the drawings. Provide smooth steel trowel finish for all interior slab areas and garage surfaces. Provide broom finish texture for all exterior slabs. Slope exterior patio or porch slabs away from building at 2%.

03 35 00 - Concrete Finishing
Repair of surface defects shall begin immediately after removal of form or pouring of slab foundation. Provide smooth steel trowel finish for all interior slab areas and garage surfaces. Provide broom finish texture for all exterior slabs. Slope exterior patio or porch slabs away from building at 2%.

DIVISION 04 00 00. MASONRY

04 00 00 - Masonry
Contractor shall review construction documents and provide labor and materials pertaining to masonry work as required in said documents and as specified herein, while complying with all applicable building codes.

04 01 20.52 - Unit Masonry Cleaning
Dry brush masonry surface at the end of each day's work and after final pointing using wire brushes to remove mortar but exercise care not to scratch or damage work.

04 05 13 - Masonry Mortaring
Mortar shall be Type "M" or "S" in accordance with ASTM C270, 2500 psi. Grout shall be in accordance with ASTM C270, Type M, 2500 psi concrete using pea gravel for coarse aggregate with a maximum aggregate size of 3/8" and an 8" minimum to 11" maximum slump. Mortar joints shall be 3/8" thick, finished to produce a concave, form. Mortar or grout not used within 2 1/2 hours after mixing shall not be used in masonry work. In hot weather add water as needed to supplement evaporation losses. In cold weather, when air temperatures range between 32 degrees and 40 degrees Fahrenheit, heat mixing water or aggregate to between 70 degrees and 160 degrees Fahrenheit maximum. When air temperature is below 32 degrees Fahrenheit heat both the missing water and aggregate to between 70 degrees and 160 degrees Fahrenheit maximum.

04 05 23 - Masonry Accessories
Flashing - Flashing materials may be bituminous membranes, plastics, sheet metals or a combination of these. Continuous flashing shall be installed at the bottom of the air space. Flashing mush be at or above grade. Flashing should be installed at the heads and sills of all openings and wherever the air space is interrupted. Flashing should extend through the face of the brick veneer to form a drip edge. Where the flashing is not continuous, such as at heads and sills, the ends should be turned up approximately 1 inch.

04 22 00 - Concrete Unit Masonry
Shall be in accordance with ASTM C90 or C145, 1500 psi compressive strength, grade N, Type 1, hollow core load bearing CMU and shall have a minimum net compression strength of 1900 psi. Use Grade N, type 1, specialty shapes load bearing concrete masonry units as specified. Standard width of mortar joints for both horizontal and vertical joints shall be 3/8 inch. Joints shall have a full mortar coverage. Lay CMU plumb with all courses level using appropriate corner blocks at corners, window and door jambs. Reinforcing mesh shall be installed in the three courses above all openings and shall extend 3 feet 9 inches beyond each side of opening. Mesh shall be installed in every second course of all masonry unit walls. Cut block with a carborundum saw. Use solid load-bearing block when required for structural purpose.

DIVISION 05 00 00. METALS

05 00 00 - Metals
Contractor shall review construction documents and provide labor and materials pertaining to metal work as required in said documents and as specified herein, while complying with all applicable building codes.

DIVISION 06 00 00. WOOD, PLASTICS, AND COMPOSITES

06 00 00 - Wood, Plastics, and Composites
Contractor shall review construction documents and provide labor and materials pertaining to carpentry work as required in said documents and as specified herein, while complying with all applicable building codes.

06 10 00 - Rough Carpentry
Lumber shall be of live, sound stock and properly dried. Pressure treated lumber shall be used where any lumber shall come into contract with concrete, masonry block or soil and when using as support members for decks, porches, or balconies. Lumber for use at exterior shall have a maximum 12 percent moisture content, for dry climates 9 percent is recommended. Provide adequate bracing and shoring during the construction process. Studs and joists cut to install plumbing and/or wiring shall be reinforced by adding metal or wood structural reinforcing to strengthen member back to original capacity and maintain structural integrity. Holes bored shall not be larger than 1/3 the depth and not closer than 2" to the top or bottom of the joist.

06 11 00 - Wood Framing

Interior Walls
All interior walls shall be wood studs, with single bottom plates and double top plates throughout. Provide solid blocking at mid-height of all walls which exceed 9'-0" in height.

2"x 4" studs placed 16" on center (OC) - typical

Roof Framing: Provide engineered wood trusses as specified in drawings. Install in accordance with manufacturer's instructions.

Roof Decking - Provide and install exterior sheathing of APA rated and code certified CDX plywood panels or OSB. Sheathing shall be installed with the face grain running across the rafters, vertical joints staggered. Nails shall be 8d common smooth, ring-shank nails spaced 6" apart on the ends and 12" apart inside. Install with plywood "H" clips between each piece of decking, every 48". Install one layer of high temperature rated ice and water shield with overlap per manufacturer's specifications.

06 20 00 - Finish Carpentry
All architectural trim and woodwork shall be No. 1 grade material suitable for appropriate finishes. Wood that will be stained shall be clear of knots with concealed joints.

06 41 00 - Architectural Wood Casework
Schematic cabinet layout is shown on the drawings. Cabinet and countertop selection to be provided by owner.

DIVISION 07 00 00. THERMAL AND MOISTURE PROTECTION

07 00 00 - Thermal and Moisture Protection

Contractor shall review construction documents and provide labor and materials pertaining to thermal and moisture protection work as required in said documents and as specified herein, while complying with all applicable building codes.

07 10 00 - Dampproofing and Waterproofing

All joints and penetrations in walls, floors, and roofs shall be made watertight using approved methods and materials. Waterproofing and dampproofing recommendations contained herein are minimum, check with local code officials for additional requirements.

Slab Foundations - Install a minimum 6 mil polyethylene vapor barrier in all slabs, directly underneath concrete. Lap joints not less than 12 inches and tape and seal in accordance with manufacturers guidelines.

07 13 13 - Underlayment

On all roof surfaces install:

Grace Ice & Water Shield® HT

Grace Ice & Water Shield® HT designed for use in demanding high temperature (HT) applications where temperature resistance up to 260F is required. Excludes applications in high altitudes where copper, zinc or Cor-Ten roof coverings will be used.

PART 1 — GENERAL

1.1 SUMMARY

A. This Section specifies a self-adhering sheet membrane used as underlayment for sloped roofs.
   1. High temperature application, 260F resistance, Grace Ice & Water Shield® HT.

B. Related Sections: Refer to the following specification sections for coordination:
   Section 076100 - Sheet Metal Roofing.

C. Referenced Standards: Comply with the requirements of the following standards published by ASTM International to the extent referenced in this section.
   1. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.
   2. ASTM D461 - Standard Test Methods for Felt.
   3. ASTM D 903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
   4. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
   5. ASTM D3767 - Standard Practice for Rubber—Measurement of Dimensions.
   6. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
   7. ASTM G90 – EMMAqua test.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with requirements of authorities having jurisdiction and applicable codes at the
   location of the project.

B. Manufacturer: Minimum 10 years experience producing roofing underlayment.

C. Installer: Minimum 2 years experience with installation of similar underlayment.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in unopened factory labeled packages. Protect from damage.

B. Cover materials and store in dry condition between temperatures of 40 and 90 degrees F (5 and 32 degrees C). Use within one year of date of manufacture. Do not store at elevated temperatures as that will reduce the shelf life of the product.

PART 2 — PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: GCP Applied Technologies, Inc., 62 Whittemore Avenue, Cambridge, MA 02140, Toll Free 866-333-3726, www.gcpat.com.

2.2 MATERIALS

A. Self-Adhering Sheet Membrane Roof Underlayment: Provide Grace Ice and Water Shield HT by GCP Applied Technologies, Inc with the following characteristics:
   1. Material: Cold applied, self adhering membrane composed of an innovative and proprietary rubberized asphalt adhesive and interwound with a disposable release sheet. An embossed, slip resistant surface is provided on the high performance film with UV barrier properties.
   2. Membrane Thickness: 40 mils (1.02 mm) per ASTM D3767 Method A.
   3. Membrane Tensile Strength: MD 33 lbf/in, CD 31 lbf/inch per ASTM D412 Die C Modified.
   4. Membrane Elongation: 250% per ASTM D412 Die C Modified.
   5. Low Temperature Flexibility: Unaffected at -20 degrees F (-29 degrees C) per ASTM D1970.
   6. Adhesion to Plywood: 5.0 lb/in. width (876 N/m) per ASTM D903.
   7. Maximum Permeance: 0.05 perms (2.9 ng/sgms Pa) per ASTM E96.
   8. Maximum Material Weight Installed: 0.22 pounds/sqft (1.1 kg/sqm) per ASTM D461.
   9. Service Temperature: 260 degrees F (115.6 degrees C) per ASTM D1204
   10. Compatibility: Suitable for use under all types of sloped roofing with the exception high altitude climates where zinc, copper or Cor-Ten roof coverings are used.
   11. Adhesive: Rubberized asphalt adhesive containing post-consumer recycled content. contains no calcium carbonate, sand or fly ash.
   12. Exposure: Can be left exposed for a maximum of 120 days from date of installation per ASTM G90 – EMMAqua test.
   13. Primer: Water-based Perm-A-Barrier WB Primer by GCP Applied Technologies, Inc.
   14. Code and Standards Compliance: Grace Ice and Water Shield HT meets the following requirements:
       a. ASTM D1970.
       b. ICC-ES ESR-3121, per AC 48 Acceptance Criteria for Roof Underlayments used in Severe Climate Areas.
       c. Underwriters Laboratories Inc. R13399 - Class A fire classification under fiber-glass shingles and Class C under organic felt shingles (per ASTM E108/UL 790).
       d. Underwriters Laboratories Inc. Classified Sheathing Material Fire Resistance Classification with Roof Designs: P225, P227, P230, P237, P259, P508, P510, P512, P514, P701, P711, P717, P722, P723, P732, P734, P736, P742, P803, P814, P818, P824
       e. Miami-Dade County Code Report NOA #15-0728.11
       f. Florida State Approval Report No. FL289-R3
       g. CCMC Approval No. 13671-L

PART 3 — EXECUTION

3.1 EXAMINATION

A. Prior to start of installation, inspect existing conditions to ensure surfaces are suitable for installation of roofing underlayment. Verify flashing has been installed. Starting work indicates installers acceptance of existing conditions.

3.2 INSTALLATION

A. Installation: Install roofing underlayment on sloped surfaces at locations indicated on the Drawings, but not less than at hips, ridges, eaves, valleys, sidewalls and chimneys, and surfaces over interior space within 36 inches (914 mm) from the inside face of the exterior wall. Strictly comply with manufacturer's installation instructions including but not limited to the following:
   1. Schedule installation such that underlayment is covered by roofing within the published exposure limit of the underlayment.
   2. Do not install underlayment on wet or frozen substrates.
   3. Install when surface temperature of substrate is a minimum of 40 degrees F (5 degrees C) and rising.
   4. Remove dust, dirt, loose materials and protrusions from deck surface.

5. Install membrane on clean, dry, continuous structural deck. Fill voids and damaged or unsupported areas prior to installation.
6. Prime concrete and masonry surfaces using specified primer at a rate of 500-600 square feet per gallon (12-15 sqm/L). Priming is not required for other suitable clean and dry surfaces.
7. Install membrane such that all laps shed water. Work from the low point to the high point of the roof at all times. Apply the membrane in valleys before the membrane is applied to the eaves. Following placement along the eaves, continue application of the membrane up the roof. Membrane may be installed either vertically or horizontally after the first horizontal course.
8. Side laps minimum 3-1/2 inches (89 mm) and end laps minimum 6 inches (152 mm) following lap lines marked on underlayment.
9. Patch penetrations and damage using manufacturer's recommended methods.

3.3 CLEANING AND PROTECTION

A. Protection: Protect from damage during construction operations and installation of roofing materials. Promptly repair any damaged or deteriorated surfaces.

B. Repair minor damage to eliminate all evidence of repair. Remove and replace work which cannot be satisfactorily repaired in the opinion of the Architect.

C. Provide temporary protection to ensure work being without damage or deterioration at time of final acceptance. Remove protective film and reclean as necessary immediately before final acceptance.

07 20 00 - Thermal Protection

Effective R values shall be in accordance with local and state energy codes. All plumbing chases in interior and exterior walls shall be insulated with batt insulation for sound attenuation.

Exterior Walls - Wall insulation shall be 3 1/2" batt with an R value of 13 within 2x4 interior furr-out.

Interior Walls - Install 3 1/2", R-11 batt insulation at all interior walls for sound attenuation.

Ceilings - Attic insulation shall be loose fill blown fiberglass insulation 17" thick with an R value of 49.

Foundation Insulation - Provide 2" thick x 24" high R-10 rigid foam perimeter insulation at interior of masonry wall per drawings.

07 40 00 - Roofing Panels

Install 30 year warranty raised rib metal roof system with exposed fasteners. Install a layer of ice and water shield per Section 07 13 13. Pitch is a 0.5:12 slope. Support roof system with pre-engineered truss system to meet dead and live load requirements as specified by manufacturer.

Metal roof material: Coated steel
Metal roof: MBCI, PBU panels, Signature 200 coating, color to be selected by owner.

Roofing Materials

All necessary roofing materials for a given project shall be provided by a single manufacturer. All accessory materials shall be approved by that manufacturer as necessary to obtain the manufacturer's full warranty.

07 60 00 - Flashing and Sheet Metal
Install appropriate flashing at all joints of chimneys, dormers, walls, vent pipes and other connection points to prevent the infiltration of water. Flashing shall be assembled of 26 gauge minimum galvanized, corrosion resistant sheet metal (or coated steel to match roofing). Valleys shall be wrapped with 20" wide galvanized flashing and extend 10" in each direction from centerline of valley. Use 6" wide x 6" high x 10' long galvanized flashing between wall siding and roof surfaces and step flashing between masonry and roof surfaces. Keep flashing concealed except where exposed on vertical surfaces or counter flashing.

07 71 23 - Manufactured Gutters and Downspouts
Install 5" wide metal gutters and 4" downspouts. Attach every 2'-6" on center (OC) with straps and/or fasteners. Color to match roofing.

07 72 00 - Roof Accessories

Venting

Roof Vents: Aura Gravity Roof Ventilator – Model AV-16-C12
Provide 3 at locations indicated on Roof Plan.

Soffit Vents - Install Air Vent Model SV202MF continuous.

07 92 00 - Joint Sealants
Use a 50 year warranty silicon based caulk at high expansion/compression areas, such as around chimneys, tile, ceramic, and around enamel and pre-fabricated tubs and showers. For exterior windows, door frames, interior trim, woodwork and other paintable surfaces use a Latex based caulk. Color shall match wood stain or paint.

DIVISION 08 00 00. OPENINGS

08 00 00 - Openings
Contractor shall review construction documents and provide labor and materials pertaining to the doors and windows as required in said documents and as specified herein, while complying with all applicable building codes.

08 11 00 – Steel Doors and Frames

Provide Steelcraft L18 Insulated Hollow Metal Door (U value = 0.36)

Part 1: General

1.01 Section includes

A. Steel doors

B. Steel frames

1.02 Related sections

A. Section 08710: Door Hardware

1.04 Requirements of regulatory agencies

A. Doors and frames to conform to applicable codes for fire ratings. It is the intent of this specification that all hardware and its application comply or exceed the standards for labeled openings. In case of conflict between types required for fire protection, furnish type required by NFPA and UL. Interior vertical stairwell doors will carry a minimum 250°F (121°C) temperature rise rating in addition to the required fire rating.

1.06 Quality assurance

A. Select a qualified hollow metal distributor, who is a direct account of the manufacturer of the products furnished. In addition, that distributor must have in their regular employment an Architectural Hardware Consultant (AHC), a Certified Door Consultant (CDC) or an Architectural Openings Consultant (AOC), who will be available to consult with the Architect and Contractor regarding any matters affecting the door and frame opening.

B. Furnish materials and work performed in conformity with the contract documents.

C. Conform to requirements of the above reference standards. Submit test reports upon request by the Owner or Architect.

D. Underwriters' Laboratories and Warnock Hersey, labeled fire doors and frames: Label fire doors and frames listed in accordance with Underwriters Laboratories standard UL10C, Positive Pressure Fire Tests of Door Assemblies and Uniform Building Code Standard 7-2, Fire Tests of Door Assemblies.

E. **Manufacturer Qualifications:** Member of the Steel Door Institute.

F. **Installer:** Minimum five years documented experience installing products specified in this section.

1.07 Delivery, storage, and handling

A. **Storage of Doors** Store doors vertically in a dry area, under proper cover. Place the units on at least 4" high wood sills on floors in a manner that will prevent rust and damage. Avoid use of non-vented plastic or canvas shelters, which create a humidity chamber and promote rusting. If the door becomes wet, or moisture appears, remove any protective wrapping immediately. Provide a 4" space between the doors to permit air circulation. Proper storage is required to meet the requirements of ANSI/SDI A250.10 and HMMA 840.

B. **Storage of Frames** Store frames in an upright position with heads uppermost under cover on 4" wood sills on floors in a manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters, which create a humidity chamber and promote rusting. Store assembled frames in a vertical position, five units maximum in a stack. Provide a 2" space between frames to permit air circulation.

Provide proper storage for doors and frames, to maintain the quality and integrity of the factory applied paint, and maintain the requirements of ANSI/SDI A250.10 and HMMA 840.

Sand, touch up and clean prime painted surfaces prior to finish painting in accordance with the manufacturer's instructions.

1.08 Coordination

Coordinate Work with other directly affected sections involving manufacture or fabrication of internal cutouts and reinforcement for door hardware, electric devices and recessed items.

Coordinate work with frame opening construction, door and hardware installation.

Sequence installation to accommodate required door hardware.

Verify field dimensions for factory assembled frames prior to fabrication.

Part 2: Products

2.01 Doors

A. Construct exterior/interior doors to the designs and gauges as specified:

1. Exterior Doors: Hot-dip galvannealed steel, ASTM A 653, Class A60, 18 gauge [0.042" (1 mm)] dipped galvannealed steel, with closed tops. a. Include galvannealed components and internal reinforcements with galvannealed doors.
2. b. Close tops of exterior swing-out doors to eliminate moisture penetration. Galvannealed steel top caps are permitted.

B. Full Flush Type Doors Construction Doors construction conforming to ANSI-A250.4 criteria and tested to 5,000,000 operating cycles.

Approved door core constructions:

Polystyrene: Reinforced, stiffened, sound deadened and insulated with a rigid polystyrene core bonded to the inside faces of both panels with contact adhesive. All Polystyrene doors are full width and height polystyrene core filled.

1. **Vertical edge seams:** Provide doors with continuous vertical mechanical inter-locking joints at lock and hinge edges with visible edge seams, or a one piece full height 14 gauge channel. Apply a continuous bead of structural epoxy in the internal vertical connection.

2.02 Door frames

A. Construct exterior and metal door frames to the profiles, designs and gauges as specified.

1. **Exterior Frames:** Hot-dip galvannealed steel, ASTM A 653, Class A60, 16 gauge [0.053" (1.3 mm) hot dipped galvannealed steel. a. Include galvannealed components and internal reinforcements with galvannealed frames.

2.04 Fabrication

A. **Face Welded Frames:** Continuous face weld the joint between the head and jamb faces along their length either internally or externally. Grind, prime paint, and finish smooth face joints with no visible face seams.

Externally weld, grind, prime paint, and finish smooth face joints at meeting mullions or between mullions and other frame members as per ANSI/SDI A250.8 – 2003.

Provide two temporary steel spreaders (welded to the jambs at each rabbet of door openings) on welded frames during shipment. Remove temporary steel spreaders prior to installation of the frame.

2.05 Finish

A. Doors, frames and frame components are required to be cleaned, phosphatized, and finished with one coat of baked-on rust inhibiting prime paint in accordance with the ANSI/SDI A250.10 "Test Procedures and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames."

Part 3: Execution

3.1 Examination

3.01 Installation

A. Install doors and frames in accordance with Steel Door Institute's recommended erection instructions for steel frames ANSI A250.11.

B. Install label doors and frames in accordance with NFPA-80.

C. **Remove temporary steel spreaders prior to installation of frames.**

D. Set frames accurately in position; plumb, align and brace until permanent anchors are set. After wall construction is complete, remove temporary wood spreaders. Field splice only at approved locations indicated on the shop drawings. Weld, grind, and finish as required to conceal evidence of splicing on exposed faces.

E. Provide full height 3/8" to 1 1/2" strip of polystyrene insulation at frames requiring grouting where continuous hinges are specified. Apply the strip to the back of the frame, where the hinge is to be installed, to allow for field drilling or tapping.

F. Where grouting is required in masonry, provide and install temporary bottom and intermediate wood spreaders to maintain proper width and avoid bowing or deforming of frame members. Refer to ANSI A250.11-2012, Standard. Hollow Metal Frames to receive grouting comply with ANSI/SDI Standard A250.8.2003, 4.2.2, whereby grout will be mixed to provide a 4" maximum slump consistency and hand troweled into place. Do not use grout mixed to a thinner, pumpable consistency is not recommended and not be used. Refer to HMMA 820 TN01-03 Grouting Hollow Metal Frames

G. Provide a vertical wood brace during grouting of frame at openings over 4'0" wider, to prevent sagging of frame header.

H. Apply hardware in accordance with hardware manufacturers' instructions and Section 08710 FINISH HARDWARE of these Specifications. Install all hardware with only factory provided fasteners. Adjust door installation to provide uniform clearance at head and jambs, to achieve maximum operational effectiveness and appearance.

3.02 Adjusting

A. **Final Adjustments:** Adjust operating doors and hardware items just prior to final inspection and acceptance by the Owner and Architect. Leave work in complete and proper operating condition. Remove and replace defective work, including doors or frames that are damaged, bowed or otherwise unacceptable.

B. **Prime Coat Touch-Up:** Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

3.03 Protection

A. Provide protective measures required throughout the construction period to ensure that door and frame units will be without damage or deterioration, other than normal weathering, at time of acceptance.

08 14 00 - Interior Doors

Interior doors shall be solid core 1-3/4" flush birch with factory applied clear finish. Doors between office area and warehouse area shall have 20-Minute Fire-rating with WHI / ITS metal label applied. Manufacturer: Trudoor or equal.

Interior Door Frames - Install Rediframe 16 ga interior door frames.

08 36 00 - Overhead Doors

Install Overhead 12'-0" wide x 12'-0" high insulated steel garage/overhead door with electric opener and dual remote control units. Install weather-stripping around each door opening.

Garage/Overhead doors:

OVERHEAD DOOR COMPANY
SECTIONAL OVERHEAD DOORS
470 SERIES INSULATED STEEL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Insulated Sectional Overhead Doors.

1.2 REFERENCES

A. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.

1.3 DESIGN / PERFORMANCE REQUIREMENTS

A. Wiring Connections: Requirements for electrical characteristics.

1. 115 volts, single phase, 60 Hz.

B. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.

B. Protect materials from exposure to moisture until ready for installation.

C. Store materials in a dry, ventilated weathertight location.

1.6 WARRANTY

A. Warranty: Manufacturer's limited door and operators System warranty for 10 years against delamination of polystyrene foam from steel face and all other components for 1 year and covered under General Conditions of Contract.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Overhead Door Corporation, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: arcat@overheaddoor.com.

B. Substitutions: Upon approval of owner and architect.

2.2 INSULATED SECTIONAL OVERHEAD DOORS

A. Insulated Steel Sectional Overhead Doors: 470 Series Insulated Steel Doors by Overhead Door Corporation. Units shall have the following characteristics:

1. Door Assembly: Rigid steel construction; fully insulated on the inside face with continuous steel backing on the inside face. Fabricated with steel end stiles and tongue and groove sections.

a. Panel Thickness: 2 inches (51 mm).

b. Exterior Surface: Ribbed.

c. Exterior Steel: 26 gauge, hot-dipped galvanized with an embossed simulated wood grain texture.

d. Interior Steel: 29 gauge, hot-dipped galvanized

e. Springs:
   1) 10,000 cycles.
f. Insulation: Polystyrene.
g. Thermal Values:
   1) Polystyrene - R-value of 9.83; U-value of 0.102.

2. Finish and Color: Two coat baked-on polyester. Color as follows:
   To be selected by owner
   a. White
   b. Almond
   c. Brown
   d. Sandstone
   e. Desert Tan
3. Windload Design: Provide to meet the Design/Performance requirements specified.
4. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
5. Lock:
   a. Interior mounted slide lock.
6. Weatherstripping:
   a. Flexible bulb-type strip at bottom section.
   b. Flexible Jamb seals.
   c. Flexible Header seal.
7. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
8. Manual Operation: Pull rope.
9. Electric Motor Operation: Provide UL listed electric operator, size and type as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second. Operator shall meet UL325/2010 requirements for continuous monitoring of safety devices.
   a. Entrapment Protection: Required for momentary contact, includes radio control operation.
      1) Photoelectric sensors monitored to meet UL 325/2010.
   b. Operator Controls:
      1) Push-button operated control station.
      2) Surface mounting.
      3) Interior location.

PART 3 EXECUTION

3.1 EXAMINATION

A. **Do not begin installation until openings have been properly prepared.**

B. **Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.**

C. **Verify electric power is available and of correct characteristics.**

3.2 PREPARATION

A. **Clean adjacent surfaces thoroughly prior to installation.**

B. **Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.**

3.3 INSTALLATION

A. **Install overhead doors and track in accordance with the manufacturer's printed instructions.**

B. **Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.**

C. **Anchor assembly to wall construction and building framing without distortion or stress.**

D. **Securely brace door tracks suspended from structure. Secure tracks to structural members only.**

E. **Fit and align door assembly including hardware.**

F. **Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.**

3.4 CLEANING AND ADJUSTING

A. **Adjust door assembly to smooth operation and in full contact with weatherstripping.**

B. **Clean doors according to manufacturer's instructions.**

C. **Remove temporary labels and visible markings.**

3.5 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

B. Protect installed products until completion of project.

C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

Automatic Garage Door Opener: Overhead Door Company, Destiny 1500, Screw Drive

08 50 00 - Windows

Confirm that openings are compliant with all applicable building codes concerning egress, lighting and ventilation requirements. Temper all glass located within 2'-0" from exterior doors, all glass in doors and above tub enclosures. Provide and install necessary windows and appropriate hardware to operate and lock windows. Consult window schedule on Sheet A-2 of the drawings.

VINYL WINDOWS

PART 1 – GENERAL

A. Section Includes:
   1. Horizontal Sliding windows

1.1 QUALITY ASSURANCE

A. Overall Standards: Comply with ANSI/AAMA/101/I.S.2, except where noted herein.
B. Manufacturer Qualifications:
   1. Minimum 10 years experience in producing vinyl windows.
   2. Member AAMA & NFRC.
C. Certifications for Insulated Glass Units:
   1. Insulated glass units are certified to ASTM E2188/E2190 per the Associated Laboratories Incorporated (ALI) guidelines.
D. AAMA: Windows shall be Gold Label certified with label attached to frame per AAMA requirements.
E. NFRC: Windows shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

1.2 DELIVERY, STORAGE and HANDLING

A. General: Reference Section 01 66 00 – Product Storage and Handling Requirements.
B. Comply with Manufacturer's/Dealer's ordering instructions and lead time requirements to avoid construction delays.

C. Delivery: Deliver materials in Manufacturer's standard packaging for protection of product.
D. Storage & Protection: Store products away from exposure to environmental conditions that may be harmful to materials.
E. Store materials off ground in an upright position. Provide cover from weather and construction activity.
F. Follow Manufacturer's instructions on label applied to units.

1.3 WARRANTY

A. Commercial Warranty:
    1. 10 Year Warranty.
    2. Guarantee windows against defects in materials and workmanship including costs for replacement parts and labor.

Part 2 - PRODUCTS

2.1 MANUFACTURER

A. Products supplied by the following manufacturer:

Milgard Manufacturing, Inc.

1010 54th Avenue East

Tacoma, WA 98424

(800)-Milgard (645-4273) milgard.com

B. Window Series: Milgard Tuscany® Series
C. Substitutions: Reference Section 01 25 13 - Product Substitution Procedures

2.2 MANUFACTURED UNITS

A. Proprietary Products: Tubular Extruded Poly Vinyl Chloride (PVC) Windows
    1. Tuscany® Series Windows
    2. Glazing
    3. Accessories

B. Substitutions: Upon approval of owner and architect.

2.3 MATERIALS

A. Integral color PVC compound containing impact-resistant solid plasticizer, titanium dioxide UV inhibitor, and surface and color stabilizers.
B. Weatherstripping:
    1. Vinyl compression bulb seal

2.4 SYSTEM DESCRIPTION

A. General Performance Requirements: Products and systems provided must be manufactured, fabricated, and installed to the following performance criteria:
   1. Comply with ANSI/AAMA/NWWDA 101/I.S.2, except as noted herein
   2. U-Factor (NFRC 100): 0.28
   3. SHGC – Solar Heat Gain Coefficient (NFRC 200): 0.28

2.5 WINDOW TYPES

A. Horizontal Slider – 8120T Series, block frame
   1. Frame: 3-1/4" minimum depth. Multi-chambered vinyl profile.
   2. Sash: 1-1/4" minimum depth. Multi-chambered vinyl profile, includes vent stops located in fixed sash.
   3. Sightlines: Equal for operating and fixed sash.
   4. Structural Class:
      a. 72" x 60": LC40
      b. 71 ½" x 71 ½": LC25
   5. Hardware:
      a. SmartTouch® direct action locking mechanism.
         1. Unlocking: Lock shall function such that the unlocking and movement of the sash are performaced with the same continuous motion.
         2. Locking: Lock shall function such that the locking mechanism shall be actuated automatically upon closing of the sash.
      b. Nylon rollers with stainless steel axles, extruded vinyl snap-on monorail roller track.
      c. Dual pull rails.
   6. Weatherstripping: Fin seal polypropylene pile.

2.6 GLAZING

A. Insulated Glass Units: ASTM E 774, Class A
   1. Glazing Type: Dual Glaze
      a. SunCoat® Low-E/Clear/ SunCoat® Low-E
   2. Overall IG Unit Thickness:
      a. 7/8", except Double Slider and Double Hung which are 3/4" overall.
   3. Spacer Type:
      a. Foam spacer
   4. Gas Filled:
      a. None
   5. Glass Thickness:
      a. Per Manufacturer's Specifications

2.7 INSECT SCREENS: Provide tight fitting screen (with hardware) for operating windows

A. Screen Frame:
   1. Rolled Formed Aluminum Frame – Standard

B. Screen Mesh:
   1. PureView® High Visibility Fiberglass Mesh - Standard.

2.8 FABRICATION

A. Fabricate frames and sash with mitered and fusion welded corners and joints.
B. Trim and finish corners and welds to match adjacent surfaces.
C. Provide concealed metal reinforcements in sash frame for attachment of lock mechanism.
D. Factory interior glaze (except Double Hung and Double Slider) with snap-on mitered PVC glazing stops matching bevels on the sash and frame. Insulated glass units shall be reglazable without dismantling sash framing.
   1. Note: Field glazing is required for large window units (over 40 sq. ft).

2.9 FINISH

A. Frame and Sash Color:
   1. Exterior: To be selected by owner [White] [Adobe] [Tan] [Tweed] [Silver] [Classic Brown] [Espresso] [Bronze].
   2. Interior matched to exterior on White, Adobe and Tan only. All other exterior finish colors have white interior.

B. Hardware: [Painted or Metal finishes as supplied by Milgard]
   1. [White] [Adobe] [Tan] (matched to interior frame finish)

C. Screen Frame Color:
   1. Matched to exterior frame color

2.10 SOURCE QUALITY CONTROL:

A. Inspect windows in accordance with Manufacturer's Quality Control Program as required by AAMA Gold Label Certification.

PART 3- EXECUTION

3.1 EXAMINATION

A. Examine openings in which windows will be installed.
   1. Verify that framing complies with AAMA 2400 (Mounting Flange Installation) & AAMA 2410 (Flush Fin Installation).
   2. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.
B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.2 INSTALLATION

A. Install windows in framed walls in accordance with AAMA 2400 ("Mounting Flange Installation") and/or AAMA 2410 ("Flush Fin Installation").
B. Do not remove temporary labels.
C. Install insect screens on operable windows.
   1. Hold Screens: [Please coordinate with local supplier.]

3.3 CLEANING AND FINISHING

A. Reference Section 01 74 00 – Cleaning and Waste Management.
B. Remove temporary labels and retain for Closeout Submittals.
C. Clean soiled painted surfaces and glass using a mild detergent and warm water solution with soft, clean cloths.

08 71 00 - Door Hardware

Finish hardware shall include keyed lever and deadbolt locksets at all exterior doors. Interior doors shall be a combination of privacy and passage locks (coordinate with owner). All locksets shall be keyed the same.

08 71 01 - Door Hardware - Thresholds

Provide and install brushed aluminum thresholds and appropriate door sweeps at exterior doors.

08 83 00 - Mirrors

Install mirrors as noted in construction documents. Install with silicon sealant and spacer strips per manufacturers recommendations.

DIVISION 09 00 00. FINISHES

09 00 00 - Finishes

Contractor shall review construction documents and provide labor and materials pertaining to the finishes as required in said documents and as specified herein, while complying with all applicable building codes.

09 24 00 PORTLAND CEMENT PLASTER

LaHabra® Fastwall 100 Fiber Reinforced Stucco

LaHabra Perma-Elastic Elastomeric Finish

1.1 SECTION INCLUDES

A. **Installation of LaHabra Fastwall 300 Stucco Assemblies on CMU.**

1.2 RELATED SECTIONS

A. **Section 03 30 00 - Cast-in-Place Concrete**
B. **Section 04 20 00 - Unit Masonry**
C. **Section 07 27 00 - Air Barriers**

D. Section 07 62 00 - Sheet Metal Flashing and Trim

E. Section 07 90 00 - Joint Protection

F. Section 08 50 00 - Windows

1.3 REFERENCES

A. ASTM C897 - Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plaster

B. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster

C. ASTM C1278 - Specification for Fiber-Reinforced Gypsum Panel

D. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials

E. ASTM E119 - Method for Fire Tests of Building Construction and Materials

F. ASTM E330 - Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

G. ASTM G153 - Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

1.4 ASSEMBLY DESCRIPTION

A. LaHabra Fastwall 300 Stucco Assembly on CMU: Optional Bonding Agent, LaHabra Fiber-47 Fastwall Scratch & Brown (LaHabra Fiber-47 Fastwall Scratch & Brown Concentrate or LaHabra Fiber-47 Fastwall Scratch & Brown Sanded) and either an acrylic or elastomeric based finish coat.

1.5 SUBMITTALS

A. General: Submit Samples, Certificates in accordance with Division 1 General Requirements Submittal Section.

B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make available, at job site, approved samples.

C. Manufacturer's Warranty: Submit sample copies of Manufacturer's Warranty indicating Single Source Responsibility.

1.6 QUALITY ASSURANCE

A. Qualifications:

   A. Manufacturer: Shall have marketed stucco assemblies in United States for at least five years; At least 1,000 projects shall have been completed utilizing this type of stucco assembly; Shall have completed projects of same building size and type as this project.

   B. Applicator: Shall be experienced and competent in installation of stucco-like materials, and shall provide evidence of a minimum of 5 years experience in work similar to that required by this section.

B. LaHabra Fastwall 300 Stucco Assembly Functional Criteria:

   A. General: Stucco application shall be to vertical substrates or to substrates sloped for positive drainage. Substrates sloped for drainage shall have additional protection from weather exposure that might be harmful to coating performance.

C. Substrate Conditions:

   A. Substrates shall be sound, dry and free of dust, dirt, laitance, efflorescence and other harmful contaminants.

B. **Substrate Dimensional Tolerances: Flat with 1/4 in (6.4 mm) within any 4 ft (1219 mm) radius.**

C. **Maximum deflection of substrate system under positive or negative design loads shall not exceed L/360 of span.**

D. **Expansion and Control Joints: Continuous expansion and control joints shall be installed at locations in accordance with ASTM C1063 and ASTM C926**

A. **Substrate movement, and expansion and contraction of LaHabra Fastwall 300 Stucco Assembly and adjacent materials shall be taken into account in design of expansion joints, with proper consideration given to sealant properties, installation conditions, temperature range, coefficients of expansion of materials, joint width to depth ratios, and other material factors. Minimum width of expansion joints shall be as specified by the designer or shown on the project drawings.**

1.7 DELIVERY, STORAGE, AND HANDLING

A. **Delivery: Deliver LaHabra Fastwall 300 Stucco Assembly products in original packaging with manufacturer's identification.**

B. **Storage: Store LaHabra Fastwall 300 Stucco Assembly products in dry location, off the ground, protected from moisture conditions harmful to product performance.**

1.8 PROJECT / SITE CONDITIONS

A. **Substrate Temperature: Do not apply LaHabra Fastwall 300 Stucco Assembly products to substrates whose temperature are below 40°F (4°C) or contain frost or ice.**

B. **Inclement Weather: Do not apply Fastwall Stucco Base during inclement weather, unless appropriate protection is employed.**

C. **Sunlight Exposure: Avoid, when possible, installation of the Fastwall Stucco Base in direct sunlight. Application of Finishes in direct sunlight in hot weather may adversely affect aesthetics.**

D. **LaHabra Fastwall 300 Stucco Assembly materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40° F (4°C) within 24 hours of application. Protect stucco from uneven and excessive evaporation during hot, dry weather.**

E. **Prior to installation, the wall shall be inspected for surface contamination, or other defects that may adversely affect the performance of the LaHabra Fastwall 300 Stucco Assembly, and shall be free of residual moisture.**

1.9 COORDINATION AND SCHEDULING:

A. **Coordination: Coordinate LaHabra Fastwall 300 Stucco Assembly installation with other construction operations.**

1.10 WARRANTY

A. **Warranty: Upon request, at completion of installation, provide LaHabra Standard Limited Stucco Warranty. See LaHabra's warranty schedule for available LaHabra Fastwall 300 Stucco Assembly Warranties.**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Parex USA, Inc., 4125 E. LaPalma Ave., Suite 250, Anaheim, CA 92807

B. Components: Obtain components of LaHabra Fastwall 300 Stucco Assembly from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from Parex USA for this project.

2.2 MATERIALS

A. Bonding Agent

1. LaHabra Acryic Bonder & Admix: 100% acrylic emulsion additive for Portland cement based products, to enhance curing, adhesion, freeze-thaw resistance and workability and as an acrylic polymer bonding agent.

B. LaHabra Fiber-47 Fastwall Scratch & Brown

A. LaHabra Fiber-47 Fastwall Scratch & Brown Concentrate: A factory blended portland cement, fibers, hydrated lime and proprietary ingredients, cement scratch and brown coat mixed in the field with sand, conforming to ASTM C926.

- OR -

B. .LaHabra Fiber-47 Fastwall Scratch & Brown Sanded: A factory blend of portland cement, lime, fibers, proprietary additives and sand, scratch and brown coat, mixed in the field with water, conforming to ASTM C926.

C. Primers (Optional):

1. LaHabra Perma-Primer: 100% acrylic based coating to prepare surfaces for LaHabra finishes.

D. LaHabra Finish:

1. Perma-Elastic Elastomeric Finish: Factory blended, 100% acrylic polymer based elastomeric textured finish, integrally colored.

a. Finish texture and color as selected by Project Designer

2.3 RELATED MATERIALS AND ACCESSORIES

A. General: LaHabra Fastwall 300 Stucco Assembly and its related materials shall conform to ASTM C926, this specification and Product Data Sheets

B. Lath and Accessories: Conform to ASTM C847, ASTM C933, ASTM C1032 and ASTM C1063 and Appendix

1. Accessories: Manufacturer's standard steel products with G60 galvanizing unless otherwise indicated as rigid polyvinyl chloride (pvc plastic) or zinc alloy

2. Weep Screeds: Foundation weep screed with minimum 3½ inch vertical attachment flange.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify project site conditions under provisions of Section 01 00 00.

B. Compliance: Comply with manufacturer's instructions for installation of LaHabra Fastwall 300 Stucco.

C. **Substrate Examination: Examine prior to LaHabra Fastwall 300 Stucco Base installation as follows:**

1. **Substrate shall be of a type approved by Parex USA.**
2. **Concrete and Masonry must be cured a minimum of 28 days.**
3. **Substrate shall be examined for soundness, and other harmful conditions.**
4. **Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.**
5. **Substrate construction in accordance with substrate material manufacturer's specifications and**

D. **Advise Contractor of discrepancies preventing installation of the LaHabra Fastwall 300 Stucco Assembly. Do not proceed with the LaHabra Fastwall 300 Stucco Assembly work until unsatisfactory conditions are corrected.**

3.2 PREPARATION

A. **Concrete Masonry Units: Remove projecting joint mortar so it is even with the plane of the wall. Remove surface contaminants such as efflorescence, existing paint or any other bond inhibiting material by sandblasting, waterblasting, wire brushing, chipping or other appropriate means. Pre-moisten the surface with water just prior to placement of stucco, or apply one uniform coat of LaHabra Acryic Bonder & Admix according to application instructions.**

B. **Ensure that metal flashing has been installed per Specification Section 07 60 00 - Flashing and Sheet Metal.**

3.3 MIXING

A. **Mix proprietary products in accordance with manufacturer's instructions, including the applicable LaHabra Fastwall 300 Stucco Assembly Product Data Sheets.**

B. **Admix – LaHabra Acrylic Bonder & Admix**

1. **Mix up to 1 gallon per 90 pound bag of LaHabra Fiber-47 Fastwall Scratch & Brown Concentrate and up to 1 quart per 80 pound bag of LaHabra Fiber-47 Fastwall Scratch & Brown Sanded. Add after dry components and the majority of the water has been mixed. Mix no longer than required to provide a uniform mixture. DO NOT OVER-MIX. Overmixing entrains excessive amounts of air which weaken the material. Do not re-temper mixes over 20 minutes old.**

3.4 APPLICATION

A. **General: LaHabra Fastwall 300 Stucco Assembly and its related materials shall conform to ASTM C926, this specification and Product Data Sheets.**

B. **LaHabra Acryic Bonder & Admix for application of concrete masonry construction:**

1. **Apply at the rate of 250 sq. ft. per gallon using a low-pressure sprayer, brush, or roller. (application in direct sunlight may cause the product to dry too quickly).**
2. **Stucco Base coat should be applied after LaHabra Acryic Bonder & Admix becomes tacky.**

C. **LaHabra Fastwall 300 Stucco Base:**

1. Apply base coat to a minimum thickness of 3/8 in, using sufficient trowel pressure to key stucco into concrete masonry surface and to a uniform

thickness. Refer to ASTM C926 for allowable thicknesses direct to concrete and masonry.

2. Rod surface to true plane.
3. Trowel to smooth and uniform surface to receive finish coat
4. Moist cure stucco base with clean, cool, potable water for at least 48 hours and allow to dry for one day.

D. Primer and Finish:

1. After Moist curing, allow the LaHabra Fastwall 100 Stucco Base to air dry.

a. Minimum of 2 additional days if applying a Primer

-OR-

b. Minimum of 5 additional days before application of a Acrylic or Elastomeric based Finish Coat

2. Remove surface contaminants such as dust or dirt without damaging the substrate.

3. Ambient and surface temperature must be 40°F (4°C) or higher during application and drying time. Supplemental heat and protection from precipitation must be provided as needed.

4. Use only on surfaces that are sound, clean, dry, unpainted, and free from any residue that might affect the ability of the finish to bond to the surface.

5. Apply exterior wall finish in number of coats thickness recommended by manufacturer to achieve texture indicated, using sufficient trowel pressure or spray velocity to bond finish to base coat.

6. Protect Finish Coats from inclement weather until completely dry.

3.4 CLEAN-UP

A. Removal: Remove and legally dispose of LaHabra Fastwall 300 Stucco Assembly component debris material from job site.

3.5 PROTECTION

A. Provide protection of installed materials from water infiltration into or behind them.

B. Provide protection of installed stucco from dust, dirt, precipitation, and freezing during installation.

C. Provide protection of installed finish from dust, dirt, precipitation, freezing and continuous high humidity until fully cured and dry.

D. Clean exposed surfaces using materials and methods recommended by the manufacturer of the material or product being cleaned. Remove and replace work that cannot be cleaned to the satisfaction of the Project Designer/Owner.

09 29 00 - Gypsum Board

Gypsum board must be held firmly against the framing while fastening to avoid later movement of gypsum board on the shank of the nails or screws.

Nails or Screws: Nails and screws shall be a minimum 3/8" and a maximum of 1/2" from edges and ends of wallboard and the heads shall be seated slightly below the surface without breaking the paper. Nails shall be spaced not to exceed 7" on ceilings or 8" on sidewalls. Head diameter shall be a nominal 1/4"

with the length 1 1/2" to penetrate a minimum of 7/8" into nailing member. Nails shall meet the minimum requirements of ASTM C514 and may include coated, etched treated or annular ring shanks to improve withdrawal resistance. Drywall screws shall meet the minimum requirements of ASTM C1002. Bugle-shaped heads shall be 0.315" in nominal diameter and contain a No. 2 Phillips driving recess. Type "W" screws are designed for easier fastening in wood.

Joints: At gypsum wallboard joints install a 2" strong, cross threaded tape with a cross tensile strength of 45 lbs per lineal inch. Press a strong, good quality tape firmly onto sheathing joints and around openings, imbedded in joint cement. At corners and angles, install metal corner beads as specified by manufacturer. If corners are rounded, install corner reinforcement as required. Spread gypsum wallboard mud at all tape joints, corner beads, nails and screw penetrations and where a smooth surface is needed. Apply second coat of wallboard mud after a minimum 24 hours. After drying (minimum 48 hours), sand all joints and other areas to a smooth consistent surface.

Interior Walls: Sheath walls with 5/8" gypsum wallboard horizontally with long edges at right angles to framing members.

Ceilings: Apply a single layer of 5/8" Type 'X' gypsum wallboard across the supports and fasten with nails or screws. Offset joints between layers at least 10". Nails are spaced 6" on center (OC) with 1 1/4" heads. Screws are spaced 12" on center (OC). Ceiling finish shall be spray knockdown.

Fire-Rated Gypsum Wallboard: In garages, around gas water heaters and as required by applicable building codes, install 5/8" Type "X" fire-rated gypsum wallboard. Nails shall be 1 3/4" long, spaced a maximum of 4" on center (OC) around perimeter and 8" on center (OC) in the field of the board.

Water Resistant Gypsum Wallboard: On "wet" walls in restroom, behind plumbing fixtures, or as required by applicable building codes, install 5/8" water resistant drywall.

09 51 23 - Acoustical Tile Ceilings

Comply with the instructions and recommendations of the ceiling tile manufacturer. Install materials in accordance with governing regulations, fire resistance rating requirements and industry standards applicable to work. Ceiling areas shall be measured to establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of half width units at borders. Field cut acoustical panels as required, in accordance with manufacturers recommended procedures and equipment.

Grid layout shall be symmetrically laid out in each space. Coordinate work with other trades so that lighting fixtures, grills and other ceiling fixtures work with grid layout. Support for suspension system shall be from structure above, not from ductwork, metal deck, equipment, or piping. Hangers shall not be spread more than 6" from ends and not more than 4 feet on centers on runners. Wall moldings shall be installed at the perimeter of each acoustical ceiling area and at locations where edge or units would otherwise be exposed.

Secure moldings to supporting construction by fastening with screw anchors into the substrate through holes drilled in vertical leg. Space holes not more than 3" from each end and not more than 16" on center along each molding. Level moldings with ceiling suspension system, to level tolerance of 1/8". Miter corners of moldings accurately to provide hairline joints, securely connected to prevent dislocation. Cope exposed flanges of intersecting suspension system members, so that large faces will be flush.

Specify: Armstrong, Prelude 15/16" Exposed Tee System, White
Armstrong Cortega ceiling tiles

09 60 00 - Flooring

Contractor shall protect concrete floors during construction to prepare for an exposed concrete finish.

Concrete Sealer

Increte - Clear Seal

DIRECTIONS FOR USE:

Surface Preparation
1.The concrete surface must be clean and free of puddled or standing water.
2. INCRETE CLEAR SEAL should not be applied over other curing compounds.
3. Preparation for existing concrete: Use INCRETE UNI-STRIPP to remove old coatings.
4. All old paint, oil, grease and water-based sealers must be removed. Best results are achieved when applied to bare concrete.

APPLICATION

INCRETE CLEAR SEAL requires no pre-blending and should be used directly from the container. Apply at a uniform coverage rate with an industrial, hand-held, pump-up or airless sprayer, or by roller. Plastic garden-type sprayers should not be used. If applying by roller, use a short, 3/8 in (9.5 mm) nap, solvent-resistant roller cover. Allow the first coat to dry tack-free before applying the second coat. Best performance and appearance is achieved with two coats, following the recommended coverage rates. For a slip-resistant surface, add INCRETE SHUR GRIP to the final coat of sealer. If a low-gloss finish is desired, use INCRETE MATTE-ADD per directions. Thick applications of INCRETE CLEAR SEAL, too many successive coats, or multiple coats over time can cause bubbling, whitening, peeling, and ultimate failure of the product. To prevent over-application, it is good practice to measure the area to be sealed and the corresponding volume of product required based on the coverage rate. Also, applying INCRETE CLEAR SEAL in hot weather or onto a hot surface can cause bubbling.
If INCRETE CLEAR SEAL is showing signs of over-application, scrub the surface with a solvent such as INCRETE SOLV-KLEEN or Xylene using a stiff, natural-bristle brush. Keep the surface wet with the solvent while scrubbing, adding more if necessary. The solvent will turn the sealer back into a liquid form, at which point excess material can be wiped off with a lint-free mop or towel. Do not apply additional sealer. After removing the excess INCRETE CLEAR SEAL, a roller can be used to redistribute the remaining product evenly across the surface, adding more solvent as necessary to keep the sealer wet.

MAINTENANCE

Clean, as needed, with mild soap/detergent and water. Rinse after cleaning. If the surface begins to dull due to extensive use (typically 3-4 years), an additional coat of INCRETE CLEAR SEAL will restore the original luster.

PRECAUTIONS/LIMITATIONS
• Use with adequate ventilation. Keep away from all sources of ignition. If solvent odor is objectionable, use a water-
based, low-odor product.
• Material will not freeze in storage but should be allowed to rise to 50 °F (10 °C) or more before use.
• Do not apply when concrete surfaces or ambient temperatures are below 40 °F (4 °C), or if rain is expected within 12
hours after application. Application in hot, direct sunlight or when concrete or air temperatures are >95 °F (35 °C) can
cause bubbling.
• Excessive build-up of INCRETE CLEAR SEAL or allowing product to puddle during application can lead to bubbling
and discoloration.
• Do not thin.
Drying time* at 73 °F (22.7 °C), 50% RH: ... <1 hour
Re-coat ..... 4 to 24 hours
Foot traffic ..... 4 to 6 hours
Wheel traffic ..... 6 to 10 hours
VOC content ..... 681 g/L
Adhesion to concrete ..... excellent
*Low concrete or air temperature and/or high relative humidity will extend drying time.
Alkali resistance 48-hour exposure ..... excellent
Solvent resistance ..... minimal
Resistance to yellowing from UV exposure ..... excellent
Solids content ..... >25%
Moisture loss (ASTM C 156) ..... <0.40 kg/m2
www.euclidchemical.com19215 Redwood Road • Cleveland, OH 44110 • 800-321-7628

09 69 00 – Vinyl Cove Base
Vinyl Cove Base shall be used throughout and shall be ROPPE VINYL WALL BASE, furnished by Roppe Corporation. It shall be constructed of first-quality materials and shall be smooth and free from any imperfections which detract from its appearance. The base shall conform fully to the requirements of the U.S. Federal Specification No. SS-W-40a, Type II, Vinyl Plastic, Class 1 (vinyl chloride), Style A (Straight) or Style B (Cove). All Cove Base shall be 4" (101.6mm) in height and in lengths of 48" (1.22m). The Cove Base shall be of the Cove type, .080" (2.03mm gauge), and in a color to be selected by the owner.

09 70 00 - Wall Finishes
Walls shall be clean and free of defects such as cracks or unfinished joints prior to installation of wall finishes. If mildew is evident, mildew must be removed and surface properly treated to inhibit further mildew growth.

09 91 13 - Exterior Painting
All nail heads shall be set below the surface and finished smooth. If mildew is evident, the mildew must be removed and surface treated to inhibit further mildew growth. Exterior trim shall receive a primer coat and two coats of flat or semi-gloss paint. Colors to be selected by owner.

09 91 23 - Interior Painting
All nail heads shall be set below the surface and finished smooth. Joints should be taped and covered with a suitable drywall joint compound. Sand the spackled nail heads and joint compound smooth and dust well before priming. Interior walls shall receive a primer coat and two coats of flat or semi-gloss paint. Surfaces shall be sanded before each finish layer is applied.

Colors and textures to be specified by owner.

09 93 00 - Interior Wood
Wood surfaces shall be sanded smooth before finish is applied. Putty areas with a wood based filler where nails or other defects appear in the surface.

Paint/Stain - Prime wood surfaces including faces, edges and ends before installation. After installation, apply at least one coat of wood primer and two coats of finish paint. Surfaces shall be sanded before each finish layer is applied.

09 97 13 - Galvanized Metal
Before applying a finish, remove dirt, oil, grease and other loose particles. Wash with solvent. If rusted, wire brush or sand clean.

09 97 14 - Steel and Iron
Remove all weld splatter. Grind all edges, projection, sharp corners and welds to a smooth, round contour. Abrasive/sand blast steel and iron surfaces. In areas where blasting is not feasible use power cleaning tool. Remove dust and sand from the surfaces after sand blasting by brushing and vacuum cleaning. Apply the prime coat as soon as possible after the preparation is complete and before the dew point is reached. All surfaces blasted and power-tooled in one day shall be coated on the same day.

09 97 23 - Concrete and Masonry Coatings
Allow masonry, concrete and stucco to age at least one month before cleaning or applying a finish. Remove dirt, grease, loose particles, etc. Where efflorescence has occurred, wash with a 10% muriatic solution, rinse thoroughly with clean water and allow to thoroughly dry at least one week before painting or sealing.

DIVISION 10 00 00. SPECIALITIES

10 00 00 - Specialties
Contractor shall review construction documents and provide labor and materials pertaining to the specialties as required in said documents and as specified herein, while complying with all applicable building codes.

10 28 13 - Toilet Accessories
Restroom facilities must be designed for ease of maintenance.
Graffiti resistant finishes shall be specified where possible. Specify all stainless steel or chrome plated brass fittings for long lasting quality. Wet walls shall be covered with

FRP from floor to ceiling. The design drawings shall locate the equipment and identify any wall support requirements associated with installation.

See drawings for plumbing fixture schedule.

Tissue Roll Dispenser - A jumbo roll tissue dispenser shall be mounted a maximum of 36 inches from the rear wall to the center of the dispenser, 19 inches above the floor and a minimum of two (2) inches clear below the handrail in wheelchair stalls.

Paper Towel Dispenser shall be mounted such that the dispenser is accessible from a wheelchair and the lever should not exceed 48 inches from the floor.

Soap Dispensers to be mounted such that the top is 45" from the floor, accessible by wheelchair, and the level not to exceed 48".

Mirrors - Provide separate stainless steel framed mirrors at least 20" X 36" over each lavatory.

Grab bars – Provide ADA compliant grab bars at toilet area per drawings.

DIVISION 12 00 00. FURNISHINGS

12 30 00 - Casework

Install pre-fabricated cabinetry as specified in construction documents. Dimensions of base cabinets shall be: 24"deep x 36"high. Dimensions of overhead cabinets shall be: 12"deep x 42"high.

Pre-fabricated: Details to be specified by owner.

12 36 00 - Countertops

Plastic laminate counter tops shall be provided and installed per construction documents. Provide standard post-form laminate countertops with integral backsplash in standard color to be selected by owner.

DIVISION 15 00 00. MECHANICAL

15 00 00 - Mechanical

Contractor shall review construction documents and provide labor and materials pertaining to the mechanical systems as required in said documents and as specified herein, while complying with all applicable building codes.

See Mechanical Specifications in drawings.

DIVISION 22 00 00. PLUMBING

22 00 00 - Plumbing

Plumbing shall be a fully operational system of hot and cold water. Provide and install all piping, soil, vents, drains, sewage removal and water supply systems to connect with appropriate water and sewage systems. Provide and install appropriate insulation around piping. All permits and inspections are to be obtained by contractor as required by local building codes and the Uniform Plumbing Code.

See Mechanical Specifications in drawings.

DIVISION 23 00 00. HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

See Mechanical Specifications in drawings.

DIVISION 26 00 00. ELECTRICAL

26 00 00 - Electrical
Contractor shall review construction documents and provide labor and materials pertaining to the electrical system as required in construction documents and as specified herein, while complying with all applicable building codes, local utility requirements and building restrictions.

See Electrical Specifications in drawings.

DIVISION 31 00 00. EARTHWORK

31 10 00 - Site Clearing
The area of clearing shall be maintained within the limits shown on the appropriate site plans. Remove stumps and matted roots to a depth of 24 inches below existing ground surface. Dispose of trees and shrubs in accordance with applicable garbage, refuse or weeds ordinance.

Soil Bearing - Comply with all recommendations in the Geotechnical Investigation.

31 11 00 - Clearing and Grubbing
Clear and grub the construction site. Grade building site with appropriate soils.

31 20 00 - Earth Moving
Comply with all recommendations in the Geotechnical Investigation.

At slab foundations, compact sub-grade under slabs to a minimum 95% density. Compact backfill areas not under slabs or foundation to a minimum 90% ASTM D-689. Sub-base directly under concrete slabs on grade shall be a minimum of four inches of compacted granular fill.

31 22 00 - Grading
Carefully remove loam and topsoil to be incorporated in the finished work and store separate from the other excavated material. Failure to isolate loam and topsoil from the other excavations shall require that said soils not be used as topsoil.

31 22 19 - Finish Grading
Keep exterior finished grade a minimum of 6" below finished floor elevation by backfilling with appropriate soils. Provide swales with positive outfall and slope grade away from building to allow water to drain away from the building foundation. Do not backfill against foundation until project is completely framed and roof structure is in place. Comply with Grading and Drainage Plan.

31 23 00 - Excavation and Fill

Backfill material to be used from the excavations shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill. It shall not contain vegetation, masses of roots, stones over 3" in diameter, or porous matter and shall not be saturated. Organic matter shall not exceed minor quantities and shall be well distributed. Comply with all recommendations in the Geotechnical Investigation.

31 23 16 - Excavation

Carry out the excavation, dewatering, sheeting and bracing in such manner as to eliminate any possibility of undermining or disturbing the foundations or any existing structure or any work previously completed.

31 23 23.13 - Backfill

Correct any part of the trench bottom excavated below the specified grade with approved materials and thoroughly compact.
Complete all backfilling to the dimensions and levels shown on the construction documents. Where excavated material or any portion thereof is deemed unsuitable for backfilling material, procure and place approved select borrow materials.
Backfill as promptly as is consistent with non-damage to the installed structures. Do not place frozen material in the backfill.
No material shall be placed or compacted when it is too wet or frozen or when the sub-grade or previously placed material is too wet or frozen.

DIVISION 33 00 00. UTILITIES

33 00 00 - Utilities

Install necessary utility services, such as electricity, water, gas and oil, sanitary sewerage and support structures for power and communications. Coordinate requirements with local utility providers.

COMcheck Software Version 4.1.5.1
Envelope Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	Los Alamos Shriners Accessory Building
Location:	White Rock (Los Alamos), New Mexico
Climate Zone:	5b
Project Type:	New Construction
Vertical Glazing / Wall Area:	3%

Construction Site:
1400 North Sage Loop
Los Alamos, NM 87544

Owner/Agent:

Designer/Contractor:
Kory Baker
J. Kory Baker Architect
PO Box 254
Estancia, NM 87016
5053843112
j.k.baker@centurylink.net

Additional Efficiency Package(s)

Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Building Area	Floor Area
1-Office area (Office) : Nonresidential	632
2-Storage area (Warehouse) : Nonresidential	1458

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof 1: Attic Roof with Wood Joists, [Bldg. Use 1 - Office area]	632	49.0	0.0	0.021	0.027
Roof 2: Attic Roof with Wood Joists, [Bldg. Use 2 - Storage area]	1458	49.0	0.0	0.021	0.027
Exterior Wall 1: Concrete Block:8", Partially Grouted, Cells Empty, Medium Density, Furring: Wood, [Bldg. Use 1 - Office area]	1066	13.0	0.0	0.072	0.090
Exterior Wall 2: Concrete Block:8", Partially Grouted, Cells Empty, Medium Density, Furring: None, [Bldg. Use 2 - Storage area]	1458	---	5.0	0.133	0.090
Window 1: Vinyl/Fiberglass Frame:Operable, Perf. Specs.: Product ID NA, SHGC 0.28, [Bldg. Use 2 - Storage area] (b)	85	---	---	0.280	0.450
Door 1: Insulated Metal, Swinging, [Bldg. Use 2 - Storage area]	42	---	---	0.360	0.370
Door 2: Insulated Metal, Garage door 14% glazing, [Bldg. Use 2 - Storage area]	144	---	---	0.102	0.310
Floor 1: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 2 - Storage area] (c)	156	---	10.0	0.540	0.540

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 6% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

J. Kory Baker - Architect	J. Kory Baker	8-10-22
Name - Title	Signature	Date

COM*check* Software Version 4.1.5.1

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: Los Alamos Shriners Accessory Building
Project Type: New Construction

Construction Site:
1400 North Sage Loop
Los Alamos, NM 87544

Owner/Agent:

Designer/Contractor:
Kory Baker
J. Kory Baker Architect
PO Box 254
Estancia, NM 87016
5053843112
j.k.baker@centurylink.net

Additional Efficiency Package(s)

Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Office area (Office)	632	0.71	449
2-Storage area (Warehouse)	1458	0.43	630
		Total Allowed Watts =	1079

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Office area (Office)				
LED 1: LED Panel 19W:	1	15	19	282
2-Storage area (Warehouse)				
LED 2: LED Linear 33W:	1	9	77	691
			Total Proposed Watts =	973

Interior Lighting PASSES: Design 10% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title _____ Signature _____ Date _____

COM*check* Software Version 4.1.5.1
Exterior Lighting Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	Los Alamos Shriners Accessory Building
Project Type:	New Construction
Exterior Lighting Zone	2 (Residential mixed use area)

Construction Site:
1400 North Sage Loop
Los Alamos, NM 87544

Owner/Agent:

Designer/Contractor:
Kory Baker
J. Kory Baker Architect
PO Box 254
Estancia, NM 87016
5053843112
j.k.baker@centurylink.net

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Exterior walls at walkway (Illuminated area of facade wall or surface)	1058 ft2	0.07	No	79
			Total Tradable Watts (a) =	0
			Total Allowed Watts =	79
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Exterior walls at walkway (Illuminated area of facade wall or surface 1058 ft2): Non-tradable Wattage				
LED 1: Other:	1	6	38	228
			Total Tradable Proposed Watts =	0

Exterior Lighting PASSES: Design 0.0% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title _____ Signature _____ Date _____

COM*check* Software Version 4.1.5.1

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 2.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [FO12][3]	Radiant heating systems panels insulated to >=R-3.5 on face opposite space being heated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply. *See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Vertical fenestration U-Factor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.4 [FR14][2]	U-factor of opaque doors associated with the building thermal envelope meets requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.2.1 [FR19][1]	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 dfm/ft2. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.2, C402.5.4 [FR18][3]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.7 [FR17][3]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close. Refernece section C403.7.7 for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.2 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 3) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone, and 4) are configured such that any daylight responsive control will activate space general lighting or control zone general lighting only when occupancy for the same area is detected.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2, C405.2.2.1, C405.2.2.2 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1) have time-switch controls and functions detailed in sections C405.2.2.1 and C405.2.2.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3, C405.2.3.1, C405.2.3.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL26][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 [EL28][null]	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.3 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.6 [EL26][2]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL27][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8.2, C405.8.2.1 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roor/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [IN14][2]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][3]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN2][1]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.6 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI26][3]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.4.1 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C405.5.1 [FI19][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

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GEOTECHNICAL ENGINEERING SERVICES
JOB NO. 1-20606
SHRINERS BUILDING ADDITION
1400 NORTH SAGE LOOP
LOS ALAMOS, NEW MEXICO

PREPARED FOR:

LOS ALAMOS SHRINERS CLUB

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1060

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July 22, 2022
Job No.1-20606

Los Alamos Shrine Club
1400 North Sage Loop
Los Alamos, NM 87544

ATTN: Paul (Moose) Lewis

RE: Geotechnical Engineering Services Report
Shriners Building Addition
1400 North Sage Loop
Los Alamos, New Mexico

Dear Mr. Lewis:

Submitted herein is the Geotechnical Engineering Services Report for the above referenced project. The report contains the results of our field investigation, laboratory testing, and recommended criteria for foundation design, slab support, as well as criteria for site grading.

It has been a pleasure to serve you on this project. If you should have any questions, please contact this office.

Respectfully submitted:

GEO-TEST, INC.

Timothy Matson, Staff Engineer

Reviewed by:

Robert D Booth, P.E.

ROBERT D. BOOTH NEW MEXICO 5711 LICENSED PROFESSIONAL ENGINEER

cc: Addressee

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE
NEW MEXICO
87113
(505) 857-0833
FAX (505) 857-0803

2605-A LAS VEGAS CT
LAS CRUCES
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

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GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

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INTRODUCTION

This report presents the results of the geotechnical engineering services investigation performed for the proposed addition to the east side of the existing building located at 1400 North Sage Loop in Los Alamos, New Mexico.

The objectives of this investigation were to:

1) Evaluate the nature and engineering properties of the subsurface soils underlying the site.

2) Provide recommendations for foundation design, slab support, as well as criteria for site grading.

The investigation includes subsurface exploration, selected soil sampling, laboratory testing of the samples, performing an engineering analysis and preparation of this report.

PROPOSED CONSTRUCTION

It is understood that the project will include the construction of an addition to the existing Masonic Temple building on the subject site. The addition will be located on the east side of the existing building and will be approximately 2,000 square feet in plan area, single story with CMU walls and no basement. Maximum wall loads are unknown at this time but are not expected to exceed 7.0 kips per lineal foot.

Should foundation loads or other project details vary significantly from those outlined above, this firm should be notified for review and possible revision of the recommendations contained herein.

FIELD EXPLORATION

Two exploratory borings were drilled at the site to depths of approximately 15 feet below existing site grades. The locations of the borings are shown on the attached Boring Location Map, Figure 1. During the test drilling, the soils encountered in the borings were continuously examined, visually classified and logged. The boring logs are presented in a following section of this report. Drilling was accomplished with a truck mounted drill rig using 2.25-inch inside diameter continuous flight hollow stem auger. Subsurface materials were sampled at five-foot intervals or less in the deeper borings utilizing an open tube split barrel sampler driven by a standard penetration test hammer. Auger cuttings were also collected from one of the borings.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2246

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

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LABORATORY TESTING

Selected soil samples were tested in the laboratory to determine certain engineering properties of the soils. Moisture contents were determined to evaluate the various soil deposits with depth. The results of these tests are shown on the boring logs.

Sieve analysis and Atterberg limits tests were performed to aid in soil classification. Results of these tests are presented in the Summary of Laboratory Results and on the individual test reports presented in a following section of this report.

SITE CONDITIONS

A brief site reconnaissance was performed during our site exploration. The site is located on the east side of the existing structure. The site is relatively flat with the edges of the site sloping to the north and east. The site is covered with grass and a couple trees. The site is bordered by Canyon Road to the north, 15th Street to the east, the existing paved parking lot and North Sage Loop to the south, and the existing structure to the west.

SUBSURFACE SOIL CONDITIONS

As indicated by the exploratory borings, the soils encountered at the site consist of man-made fill soils and native soils. The man-made fill soils were isolated to boring no. 1 and extended to about 3 to 3½ feet below existing site grades. These soils ranged from low to medium in plasticity and ranged from soft to moderately firm. These soils appear to be from construction of the existing building. Native soils encountered consisted of silty sand or very weathered volcanic tuff. These soils were non-plastic, ranged from medium dense to dense and extended to depth ranging from about 4½ to 6 feet below existing site grade. Below the silty sand/very weathered tuff, volcanic tuff was encountered and extended to full depth explored. The volcanic tuff was firm to hard and non-plastic. The volcanic tuff, which is a general term for consolidated pyroclastic rock, is soft geologically but is hard from an engineering point of view and considered an excellent bearing stratum. Detailed lithological descriptions are presented on the attached boring logs.

No free groundwater was encountered in the borings and soil moisture contents were moderate to high in the man-made fill and surficial soils and low in the volcanic tuff bedrock.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

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CONCLUSIONS AND RECOMMENDATIONS

The primary geotechnical concern with the project is the man-made fill soils encountered in boring no. 1. These soils are low in density in their present condition and have the potential to create excessive settlements of footings and floor slabs, particularly upon significant moisture increases. Accordingly, the existing, near surface man-made fill soils are not considered suitable in their present condition to provide reliable support of shallow footings and slabs on-grade.

However, with special site preparation, the proposed addition can be supported on shallow spread type footings bearing directly on densified native soils or on properly compacted, non-expansive structural fill. The special site preparation would involve overexcavation of the clayey man-made fill soils in their entirety down to the native soils/very weathered tuff. The exposed native soils at the base of the excavation should be densified prior to construction or placement of structural fill.

Detailed recommendations concerning the required site preparation and for foundation design are presented in the following sections of this report. Post-construction moisture increases in the supporting soils could cause some differential foundation movements. Therefore, moisture protection is considered an important design consideration and should be reflected in overall site grading and drainage details as recommended in the Moisture Protection section of this report.

FOUNDATIONS

Shallow spread-type footings bearing directly on densified native soils/very weathered tuff or on properly compacted structural fill are recommended for the support of the proposed addition. An allowable bearing pressure of 2,500 pounds per square foot is recommended for footing design. This bearing pressure applies to full dead load plus realistic live loads and can be safely increased by one-third for totals loads including wind and seismic forces. Exterior footings should be established a minimum of 3.0 feet below lowest adjacent finished grade, while interior footings should be at least 12 inches below finished floor grade. The minimum recommended width of square and continuous footings is 2.0 feet and 1.33 feet, respectively.

All bearing surfaces should be cleaned of all loose, disturbed materials prior to placement of structural fill or concrete. All foundation systems should be adequately reinforced to aid in redistributing loads and to minimize the effects of differential settlement.

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6280
FAX (575) 523-1660

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Maximum settlements of foundations designed and constructed as recommended herein are estimated not to exceed ¾ inch for the soil moisture contents encountered during this investigation or moisture contents introduced during construction. Differential movements should be less than 75 percent of total movements. Significant moisture increases in the supporting soils after construction would cause additional movements and could cause excessive movements, at least in some areas of the site. Accordingly, the moisture protection procedures recommended in a following section of this report are considered critical for the satisfactory performance of the structure.

SLABS ON GRADE

Adequate support for lightly loaded slab-on-grade floors will be provided by the densified native soils or structural fill when placed and compacted as recommended in a following section of this report. Thus, the use of granular base for structural support of lightly loaded slabs is not considered necessary. However, should it be desired as a working surface, or to increase the modulus of subgrade reaction, a course of granular base can be placed beneath concrete floor slabs.

Heavily loaded floor slabs bearing directly on structural fill can be designed using a modulus of subgrade reaction (k) value of 200 pci. This value can be increased to 300 pci provided the slab bears on a 6-inch thickness of granular base placed and compacted beneath the slabs.

Where granular base is used beneath the slabs, it should have a plasticity index of no greater than 3 and meet the following grading requirements:

Sieve Size (Square Openings)	Percent Passing by Dry Weight
1 Inch	100
¾ Inch	85-100
No. 4	45-95
No. 200	0-10

The granular base should be compacted to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D1557.

The granular base will act as a capillary barrier but will not totally eliminate the rise of moisture to the slabs. If floor coverings are proposed which are highly sensitive to moisture, it is recommended the slab be placed in accordance with the procedures recommended by the American Concrete Institute (ACI 302.1R-04).

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1860

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SITE GRADING

The following guidelines should be included in the project construction specifications to provide a basis for quality control during site grading. It is recommended that all structural fill and backfill be placed and compacted under engineering observation and in accordance with the following:

1) After clearing and grubbing of the site, the existing site soils throughout the building area should be overexcavated to such an extent as to remove all existing man-made fill soils in their entirety. The exposed native soils or very weathered volcanic tuff exposed at the base of the overexcavation, and any other excavation should be densified prior to construction or placement of structural fill.

2) Densification of the exposed native soils/very weathered tuff should consist of scarifying, moisture conditioning to the optimum moisture content or above, and compacting the area to a minimum of 95 percent of maximum dry density as determined in accordance with ASTM D-1557. The moisture content of the native soils during compaction should be at or 2 percent above the optimum moisture content. If tuff bedrock is exposed and cannot be scarified, compaction of the exposed tuff bedrock will not be necessary provided the surface is cleaned of all loose, disturbed material prior to construction or placement of structural fill.

3) The results of this investigation indicate that most of the overexcavated man-made fill clay soils will not be suitable for use as structural fill and should be wasted or placed in non-structural areas of the site. The native silty sand and sandy silty clay soils will be suitable for use as structural fill; however, some blending may be required to meet the specifications below. If this cannot be achieved, they can be blended with a more granular imported material meet the specification for structural fill below. All structural fill or backfill material should be free of vegetation and debris and contain no rocks larger than 3 inches. Gradation of the structural fill or backfill material, as determined in accordance with ASTM D-422, should be as follows:

Size	Percent Passing
3-inch	100
No. 4	60 - 100
No. 200	20 - 60

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8528 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0833
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1860

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4) The plasticity index should no greater than 15 when tested in accordance with ASTM D-4318.

5) All exterior backfill around the perimeter of the structure should consist of the on-site clay soils except in areas where concrete slabs or paving immediately adjoin the structure.

6) Fill or backfill, shall be placed in 8-inch loose lifts and compacted with approved compaction equipment. Loose lifts should be reduced to 4 inches if hand-held compaction equipment is used. Each lift should be firm and non-yielding. All compaction of fill or backfill shall be accomplished to a minimum of 95 percent of the maximum dry density as determined in accordance with ASTM D-1557. The moisture content of the structural fill during compaction should be at or 2 percent above the optimum moisture content.

7) Tests for degree of compaction should be determined by the ASTM D-1556 method or ASTM D-6938. Observation and field tests should be carried on during fill and backfill placement by the geotechnical engineer to assist the contractor in obtaining the required degree of compaction. If less than 95 percent is indicated, additional compaction effort should be made with adjustment of the moisture content as necessary until 95 percent compaction is obtained.

CONSTRUCTION CONSIDERATIONS

Excavation of the surficial soils can be readily accomplished using normal earthmoving equipment while heavier equipment may be necessary for excavations into the tuff bedrock. It is anticipated that the tuff bedrock will breakdown sufficiently during excavation such that it can be used as structural fill.

Excavations immediately adjacent to the existing structure could result in undermining the existing footings. If this occurs, the existing building should be shored, and no loss of ground should be allowed. As an alternate to shoring, segmental excavation may be attempted. The procedure would be to excavate from the bottom of the existing footings to the bottom of the excavation at a 1.5 horizontal to 1 vertical slope. The excavation can then be completed to the existing footing in maximum 8-foot segments. Adjacent excavation should not be made until structural fill has been placed back up to the bottom of the existing footing.

Excavated slopes for foundation and utility construction should be designed and constructed in accordance with 29 CFR 1926, Subpart P, and any

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

8526 CALLE ALAMEDA
ALBUQUERQUE,
NEW MEXICO
87113
(505) 857-0933
FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1000

applicable state or local regulations. Excavated temporary slopes should not exceed 1½ to 1 (horizontal to vertical) in the surficial soils. Excavations into the tuff can be made vertically. The contractor should be responsible for all temporary slopes excavated for the project and design of any required temporary shoring, as applicable. Shoring, bracing, and benching should be performed by the contractor in accordance with applicable safety standards.

MOISTURE PROTECTION

Precautions should be taken during and after construction to minimize moisture increase of foundation soils. Positive drainage should be established away from the exterior walls of the addition and for a distance of at least 10 feet beyond its perimeter. A typical adequate slope is 6 inches in the first 5 feet with positive drainage being provided from those points to streets or natural water courses. Ideally, concrete sidewalks or paving should immediately adjoin the building around its entire perimeter. Where sidewalks or pavement do not adjoin the addition, the exterior backfill should consist of the overexcavated surficial soils as outlined in the Site Grading section of this report. If necessary, to provide positive drainage, the building area should be raised above adjacent grade with structural fill. Backfill should be well compacted and should meet the specifications outlined in the Site Grading section of this report.

Irrigation within 10 feet of foundations should either be avoided or carefully controlled. All utility trenches leading into the addition should be backfilled with compacted fill meeting the specifications for structural fill presented in the Site Grading section of this report. Special care should be taken during installation of the subfloor sewer and water lines to reduce the possibility of future subsurface saturation.

Proper landscaping and drainage maintenance is required to preclude accumulation of excessive moisture in the soils below the structure. Accumulations of excessive moisture could be harmful to some types of interior flooring, to HVAC ductwork beneath the slabs, and can weaken or cause other changes in the soils supporting the foundations. This can cause differential movement of the foundations and can result in cosmetic or structural damage to the structure.

If any water line leaks or if irrigation system leaks are detected, they should be promptly repaired. And, if any depressions develop from the settlement of soils in utility trenches or other areas, they should be backfilled to maintain the grade so that surface water drains rapidly away from the structure.

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3204 RICHARDS LANE
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NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1660

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The foregoing recommendations should only be considered minimum requirements for overall site development. It is recommended that a civil/drainage engineer be consulted for more detailed grading and drainage recommendations.

FOUNDATION REVIEW AND INSPECTION

This report has been prepared to aid in the evaluation of this site and to assist in the design of this project. It is recommended that the geotechnical engineer be provided the opportunity to review the final design drawings and specifications in order to determine whether the recommendations in this report are applicable to the final design. Review of the final design drawings and specifications should be noted in writing by the geotechnical engineer.

In order to permit correlation between the conditions encountered during construction and to confirm recommendations presented herein, it is recommended that the geotechnical engineer be retained to perform continuous observations and testing during the earthwork portion of this project. Observation and testing should be performed during construction to confirm that suitable fill soils are placed upon competent materials and properly compacted, and foundation elements penetrate the recommended soils.

CLOSURE

Our conclusions, recommendations and opinions presented herein are:

1) Based upon our evaluation and interpretation of the findings of the field and laboratory program.

2) Based upon an interpolation of soil conditions between and beyond the explorations.

3) Subject to confirmation of the conditions encountered during construction.

4) Based upon the assumption that sufficient observation will be provided during construction.

5) Prepared in accordance with generally accepted professional geotechnical engineering principles and practice.

This report has been prepared for the sole use of Los Alamos Shrine Club,

GEO-TEST, INC.
3204 RICHARDS LANE
SANTA FE,
NEW MEXICO
87507
(505) 471-1101
FAX (505) 471-2245

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ALBUQUERQUE,
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87113
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FAX (505) 857-0803

2805-A LAS VEGAS CT
LAS CRUCES,
NEW MEXICO
88007
(575) 526-6260
FAX (575) 523-1880

GEO-TEST

specifically, to aid in the design of the proposed addition at 1400 North Sage Loop in Los Alamos, New Mexico, and not for use by any third parties.

We make no other warranty, either express or implied. Any person using this report for bidding or construction purposes should perform such independent investigation as he deems necessary to satisfy himself as to the surface and subsurface conditions to be encountered and the procedures to be used in the performance of work on this project. If conditions encountered during construction appear to be different than indicated by this report, this office should be notified.

All soil samples will be discarded 60 days after the date of this report unless we receive a specific request to retain the samples for a longer period.

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NEW MEXICO
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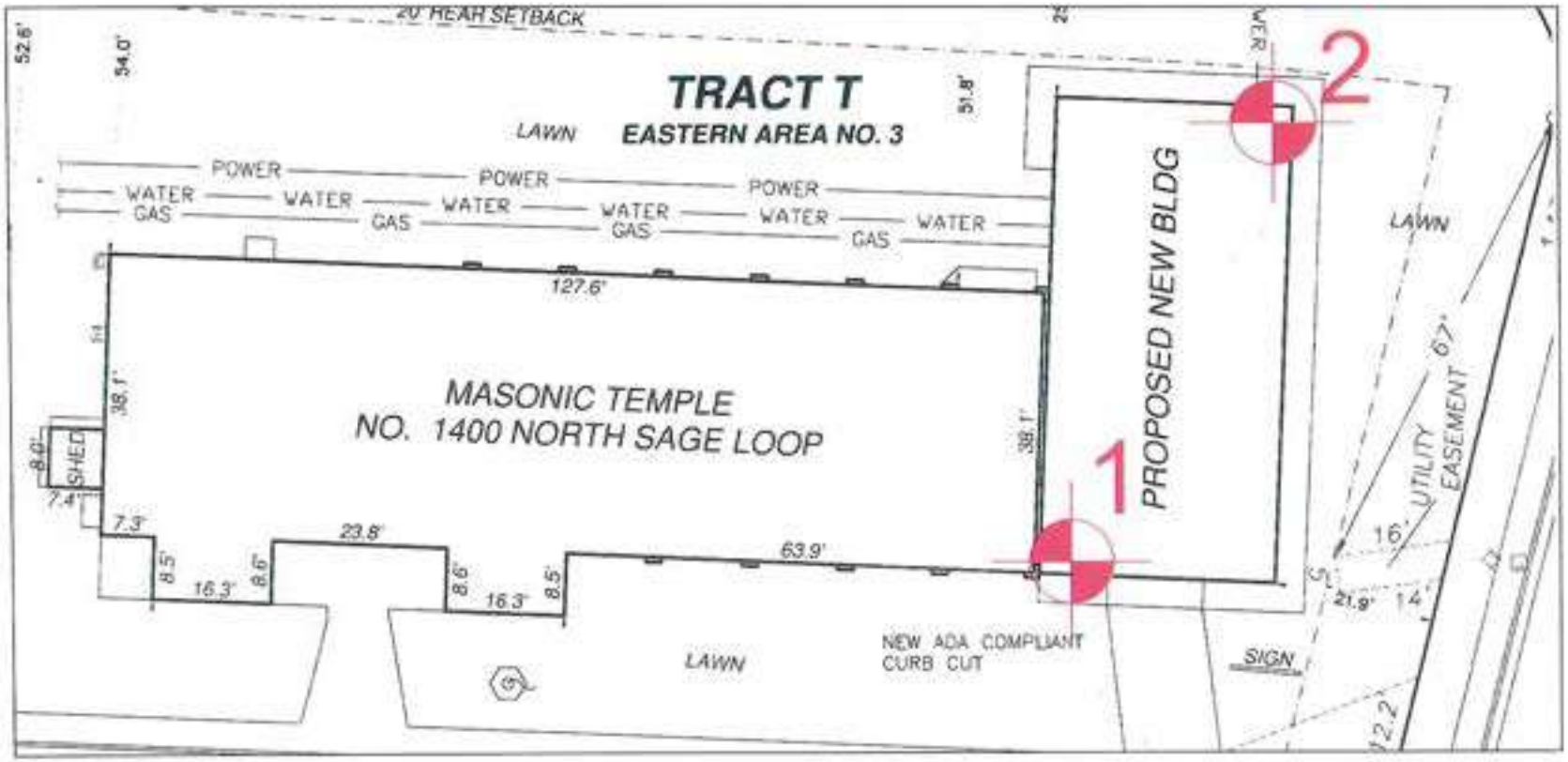
BORING LOCATION MAP



Shriners Building Addition
1400 North Sage Loop, Los Alamos, New Mexico
Job No. 1-20606

Figure 1

GEO-TEST
GEOTECHNICAL ENGINEERING
AND MATERIAL TESTING

ATTACHMENT 1

GEO-TEST

Project: Los Alamos Shriners Building Addition
Date: 07/14/2022 Project No: 1-20606
Elevation: Type: 2.25" I.D. HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 1

During Drilling: NONE After 24 Hours:

DEPTH (Ft)	SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION	N blows/ft (20 40 60 80)
		AC		18		CL	CLAY, low to medium plasticity, soft to moderately firm, very moist to moist, dark brown/black *possible fill in upper 3'	
		SS	2-4-11 15	10				15
		SS	12-14-21 35	11		SM	SILTY SAND/VERY WEATHERED TUFF, fine grained, non-plastic, medium dense, moist, tan	35
5								
10		SS	12-12-20 32	5		TUFF	WEATHERED TUFF, fine to medium grained, non-plastic, very firm to hard, slightly moist, grayish/purple	32
		SS	36-50/6"	5				
15							STOPPED AUGER AT 14' STOPPED SAMPLER AT 15'	

LOG OF TEST BORING 1-20606-LOS ALAMOS SHRINERS ADDITION.GPJ GEO TEST.GDT 7/22/22

LEGEND

SS - Split Spoon
AC - Auger Cuttings
UD/SL - Undisturbed Sleeve
AMSL - Above Mean Sea Level
CS - Continuous Sampler
UD - Undisturbed
ST - Shelby Tube

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

GEO-TEST

Project: Los Alamos Shriners Building Addition
Date: 07/14/2022 Project No: 1-20606
Elevation: Type: 2.25" I.D. HSA

LOG OF TEST BORINGS

GROUNDWATER DEPTH

NO: 2

During Drilling: NONE After 24 Hours:

DEPTH (Ft)	LOG	SAMPLE INTERVAL	TYPE	N. BLOWS/FT	MOISTURE %	DRY DENSITY (pcf)	USC	DESCRIPTION
			SS	4-4-5 9	17		CL	CLAY, low to medium plasticity, soft, very moist, dark brown/black
			SS	4-5-14 19	3		CL-ML	SANDY SILTY CLAY, fine grained, low plasticity, firm, dry, brown
5			SS	12-21-25 46	7		SM	SILTY SAND/VERY WEATHERED TUFF, fine grained, non-plastic, dense, slightly moist, brown/tan
10			SS	18-23-26 49	5		TUFF	WEATHERED TUFF, fine to medium grained, non-plastic, very firm to hard, slightly moist, grayish/purple
15			SS	33-50/4" 50/4"	4			STOPPED AUGER AT 14' STOPPED SAMPLER AT 14.8'

N blows/ft: 20 40 60 80

9 19 46 49

LOG OF TEST BORING 1-20606-LOS ALAMOS SHRINERS ADDITION.GPJ GEO TEST.GDT 7/22/22

LEGEND

SS - Split Spoon
AC - Auger Cuttings
UD/SL - Undisturbed Sleeve
AMSL - Above Mean Sea Level
CS - Continuous Sampler
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Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurments were made.

SUMMARY OF LABORATORY RESULTS

						SIEVE ANALYSIS PERCENT PASSING											
TEST HOLE	DEPTH (FEET)	UNIFIED CLASS	(%) MOIST	LL	PI	NO 200	NO 100	NO 40	NO 10	NO 4	3/8"	1/2"	3/4"	1"	1 1/2"	2"	4"
1	0.0 - 2.5	CL	17.5	28	17	90	95	96	99	100							
1	3.0		10.4														
1	5.0	SM	11.3	NP	NP	36	51	71	89	98	100						
1	10.0		5.0														
1	14.0		5.2														
2	1.0		17.3														
2	3.0	CL-ML	2.7	25	4	60	69	75	90	95	100						
2	5.0		6.8														
2	10.0	SM	4.6	NP	NP	30	35	43	78	97	100						
2	14.0		3.8														

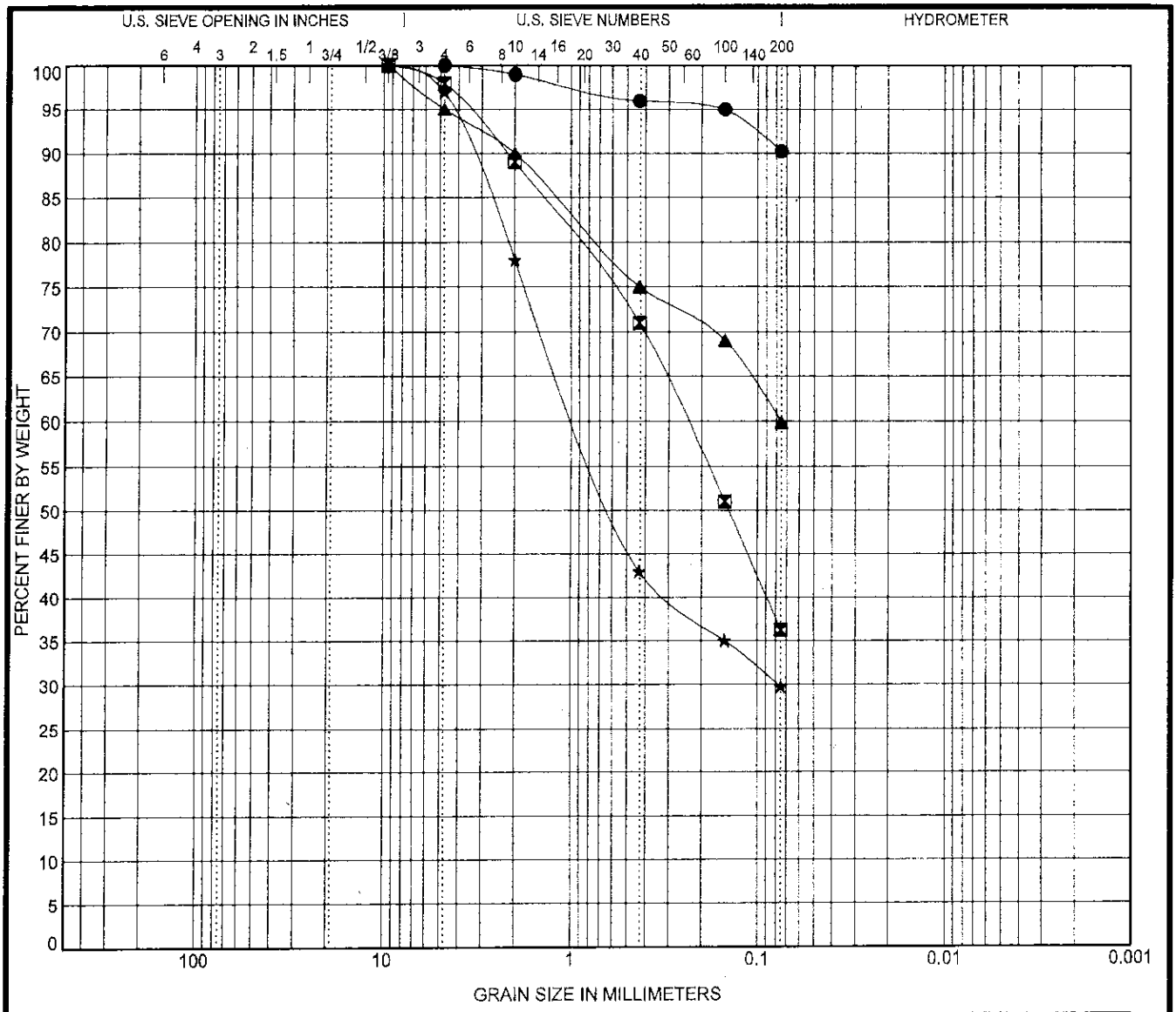
GEO-TEST

LL = LIQUID LIMIT
PI = PLASTICITY INDEX
NP = NON PLASTIC or NO VALUE

Project: Los Alamos Shriners Building Addition
Location: 1400 North Sage Loop, Los Alamos, New Mexico
Number: 1-20606

SUMMARY OF LABORATORY RESULTS 1-20606-LOS ALAMOS SHRINERS ADDITION.GPJ GEO TEST.GDT 7/22/22

ATTACHMENT 1



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	1	0.0 - 2.5	LEAN CLAY(CL)	28	11	17		
⊠	1	5.0	SILTY SAND(SM)	NP	NP	NP		
▲	2	3.0	SANDY SILTY CLAY(CL-ML)	25	21	4		
★	2	10.0	SILTY SAND(SM)	NP	NP	NP		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	1	0.0 - 2.5	4.75				0.0	9.8	90.2	
⊠	1	5.0	9.5	0.241			2.0	61.8	36.2	
▲	2	3.0	9.5	0.076			5.0	35.1	59.9	
★	2	10.0	9.5	0.907	0.078		3.0	67.3	29.7	

GEO-TEST

GRAIN SIZE DISTRIBUTION

Project: Los Alamos Shriners Building Addition

Location: 1400 North Sage Loop, Los Alamos, New Mexico

Number: 1-20606

US GRAIN SIZE 1-20606-LOS ALAMOS SHRINERS ADDITION.GPJ GEO TEST.GDT 7/22/22

INDEXED

STATE OF NEW MEXICO
County of Los Alamos, ss
I hereby certify that this instrument was filed for record on the DOC No. 11163
FEB 20 1967
at 9:21 o'clock A.M., and duly recorded in Book 7, page 241, of the Records of Misc.
of said county, on this 20th day of February, A.D. 1967
Donald D. McDonald, County Clerk.
By Julie Bardshar, Deputy.

Pajarito Lodge #66 AF & AM
Post Office Box 866
Mail To Los Alamos, New Mexico 87544

Send Tax Statement To

HUD-CDG-LA 36
Non-profit and Church Properties - Under Lease
Sale to Lessee

SPECIAL WARRANTY DEED

On this the 9th day of February, 196 7, the UNITED STATES OF AMERICA acting by and through the Secretary of Housing and Urban Development, (hereinafter called the "Government") for and in consideration of the sum of

THREE THOUSAND ONE HUNDRED TEN AND NO/100 DOLLARS ($3,110.00)

cash to it in hand paid, does hereby GRANT TO

PAJARITO LODGE #66, AF & AM

of Los Alamos County, New Mexico, hereinafter called the "Grantee" or referred to by the pronouns "he," "him," or "his," whether the Grantee be a person, persons, or a corporation, and regardless of gender), the following described real property situated in the County of Los Alamos, State of New Mexico, to-wit:

TRACT T,

EASTERN AREA NO. 3,

shown by map or plat thereof filed in the office of the Clerk of Los Alamos County, New Mexico, on the 21st day of February, 1966, and officially of record in Book 1, at page 74, Plat records of said County;

With SPECIAL WARRANTY COVENANTS.

IND-CDS-LA 36

THIS CONVEYANCE IS MADE SUBJECT TO THE FOLLOWING CONDITIONS:

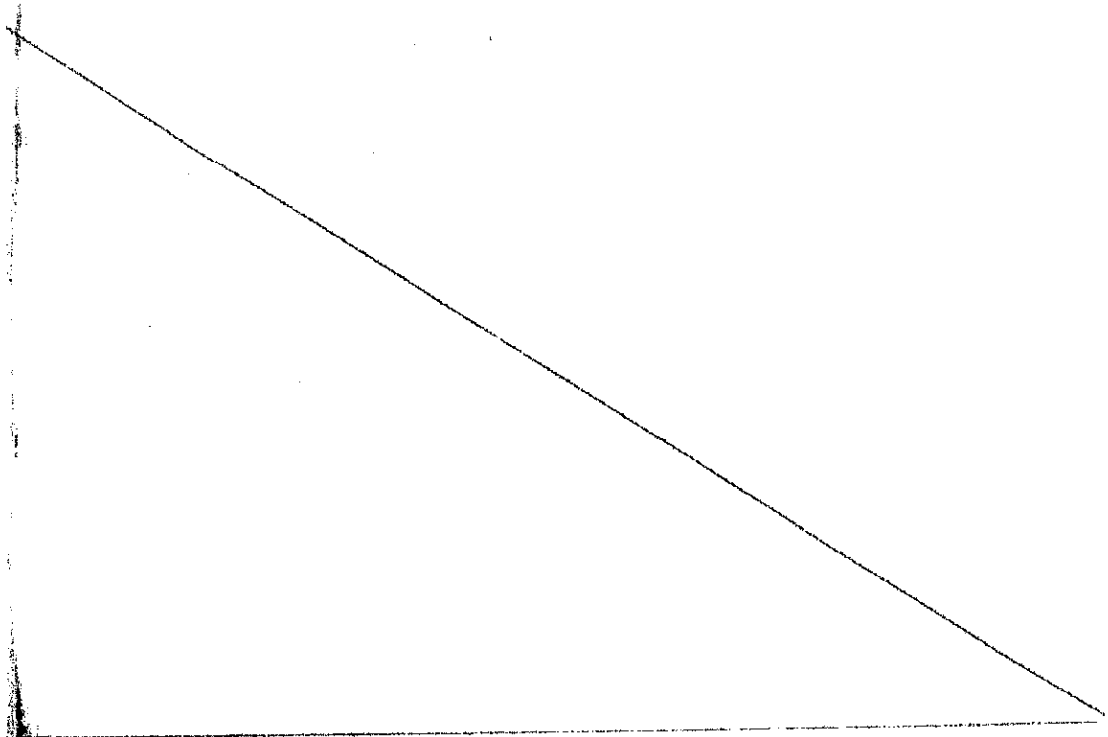
a. The Grantee, by the acceptance of this deed, and the Grantor agree, and it is the intent and purpose of the parties hereto, that the leasehold estate which was created by virtue of that certain instrument designated Lease, dated the 11th day of October, 1950, as subsequently modified and amended by Supplemental Agreements executed by and existing between The United States Atomic Energy Commission acting for and on behalf of the United States of America, the Lessor, and the Grantee in this deed, the present lessee, shall be and the same is hereby MERGED with the estate herein conveyed and said lease EXTINGUISHED.

b. It is understood and agreed that this conveyance is made and accepted, and said premises are hereby granted, upon and subject to the following covenant which shall run with the land:

The Grantee covenants for itself, its heirs, executors, administrators, successors, and assigns and every successor in interest to the property hereby conveyed, or any part thereof, that the said Grantee and such heirs, executors, administrators, successors, and assigns shall not discriminate upon the basis of race, color, creed, or national origin in the sale, lease, or rental, or in the use or occupancy of the property or any improvements erected or to be erected thereon, or any part thereof. This covenant shall not apply, however, to the lease or rental of a room or rooms within a family dwelling unit; nor shall it apply with respect to creed to premises used primarily for religious purposes. The United States of America shall be deemed a beneficiary of this covenant without regard to whether it remains theowner of any land or interest therein in the locality of the property hereby conveyed.

c. Expressly reserved unto the Government, its successors and assigns are all easements and rights of use as set out in Sections 2, 3, 4 and 5 of "Part B. Easements," of the aforesaid Plat, and, the conveyance of this property is expressly made subject to all other easements and rights of use of record.

d. ALSO, the easements hereby created, reserved, excepted and/or granted as follows:



THIS DEED OF CONVEYANCE is made and executed under and pursuant to the authority of the Atomic Energy Community Act of 1955 (Public Law 221, 84th Congress), as amended; Executive Order 11105, dated April 18, 1963 (28 F. R. 3909-10, April 20, 1963); the Department of Housing and Urban Development Act, P. L. 89-174, 79 Stat. 667; and Title 24, Section 200.83a, Code of Federal Regulations.

IN WITNESS WHEREOF, the Government, acting by and through the Secretary of Housing and Urban Development, has caused this deed to be executed as of the day and year first above written, in the name of and on behalf of the UNITED STATES OF AMERICA, by its duly authorized representative.

UNITED STATES OF AMERICA, acting by and through the Secretary of Housing and Urban Development.

By E. Daryl Masee
Field Director, Community Disposition Staff

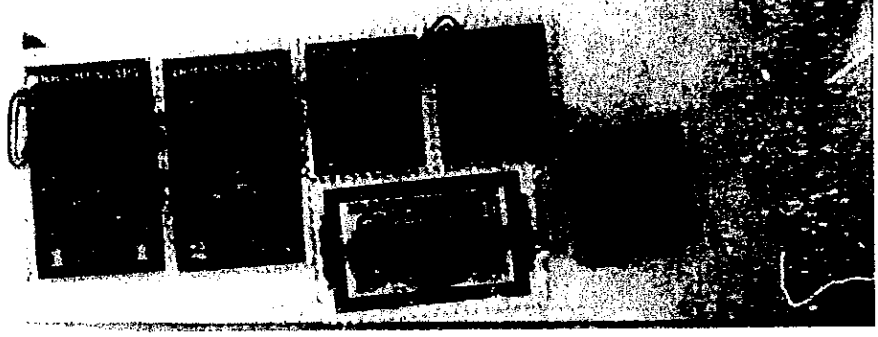
STATE OF NEW MEXICO)

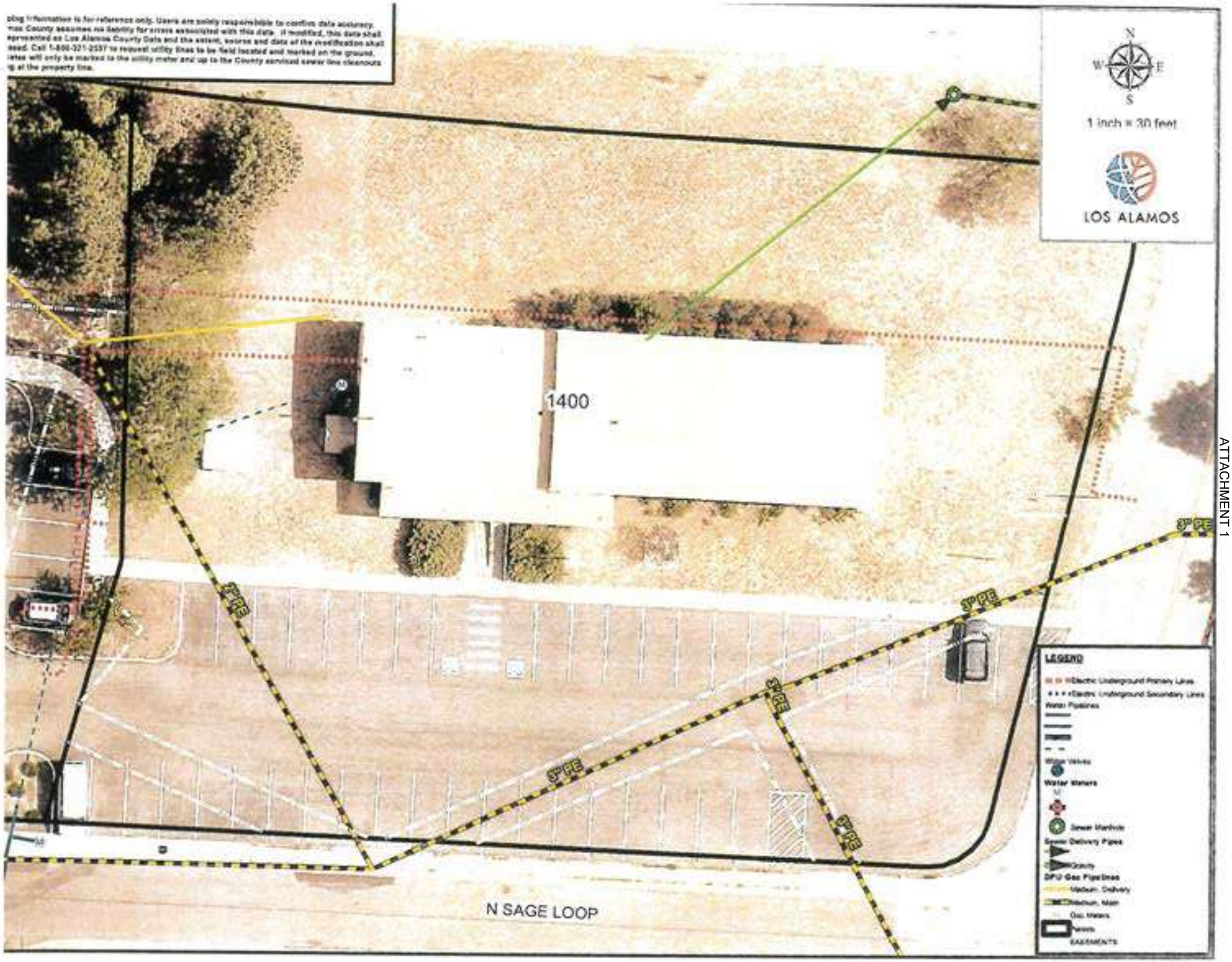
COUNTY OF LOS ALAMOS)

The foregoing instrument was acknowledged before me this 9th day of February, 19 67, by E. DARYL MASEE, Field Director, Community Disposition Staff, Department of Housing and Urban Development, on behalf of the United States of America.

Kathryn L. Fry
Notary Public in and for Los Alamos County, New Mexico

My Commission Expires:
JAN 24 1970





ATTACHMENT 1

ATTACHMENT 1

25' Front

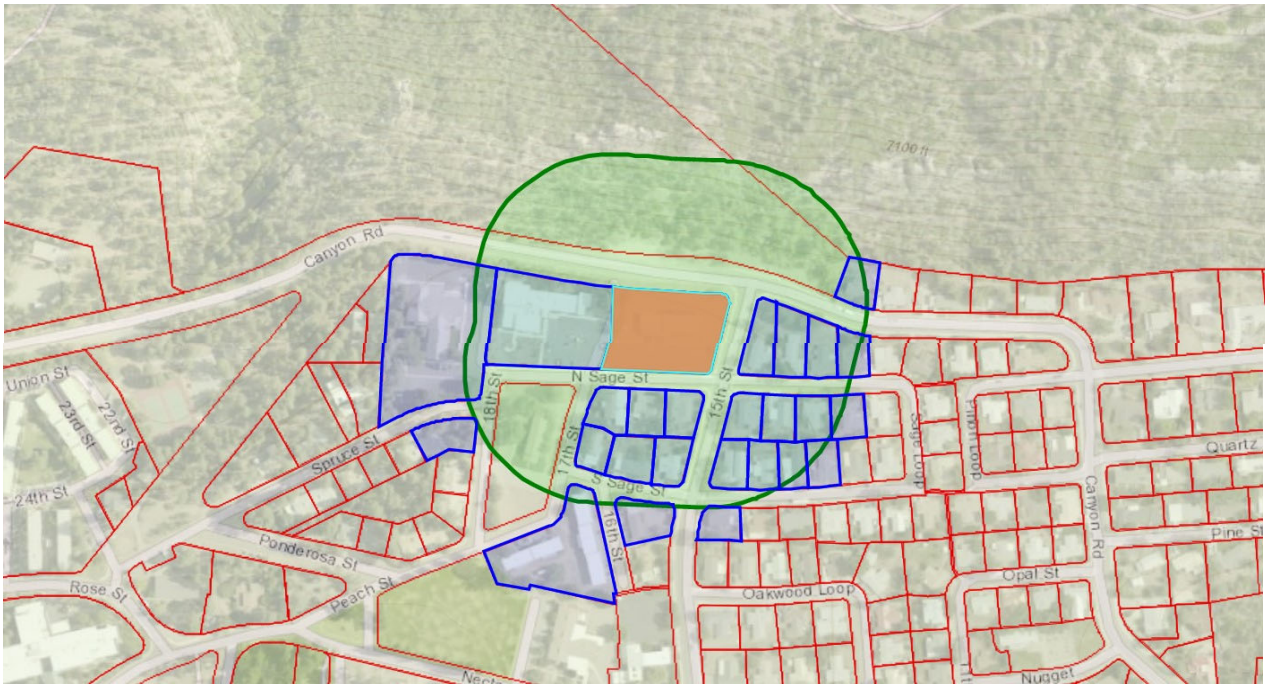
R-1-9

1400 N SAGE LOOP

Mapping information is for reference only. Users are solely responsible to confirm data accuracy. Los Alamos County

100 YD. PUBLIC NOTICE LISTING

Owner Name	Mailing Address	City/State/ZIP	Comments
BAIARDO JOSEPH P & NANCY E	1680 N SAGE LOOP	LOS ALAMOS, NM, 87544	
BECKSTEAD ERIC M & SARAH R	1372 SAGE LOOP	LOS ALAMOS, NM, 87544	
BETTS STEPHEN E & REBECCA A	1371 SAGE LOOP	LOS ALAMOS, NM, 87544	
BOSSERT CAROLYN M	1306 SAGE LOOP	LOS ALAMOS, NM, 87544	
BROWN DAVID M JR	1382 SAGE LOOP	LOS ALAMOS, NM, 87544	
CABANILLAS CLAYTON & LISA	1351 SAGE LOOP	LOS ALAMOS, NM, 87544	RETURNED MAIL - MAILED 2ND TIME; RETURNED A 2ND TIME
CRANE KARLA E	1304 SAGE LOOP	LOS ALAMOS, NM, 87544	
DAVEY JOHN RAYMOND & LAURA ANN	1720 17TH ST	LOS ALAMOS, NM, 87544	
DUNN MARK E & CHIKAKO Y REVOC TR	1909 SPRUCE ST	LOS ALAMOS, NM, 87544	
FAUCETT JOHN A & VALERIE R	1362 SAGE LOOP	LOS ALAMOS, NM, 87544	
FUEHNE DAVID P & TRELLUE HOLLY R	1300 SAGE LOOP	LOS ALAMOS, NM, 87544	
GOODWIN DAVID L & DEBORAH D	1502 N SAGE LOOP	LOS ALAMOS, NM, 87544	
HASSMAN RJ & LOUISE TRUST	940 CANYON RD	LOS ALAMOS, NM, 87544	
HIGGINS CRAIGEN L & KATHERINE JW	1361 SAGE LOOP	LOS ALAMOS, NM, 87544	
JESUS CHRIST OF LATTER DAY S - TAX ADM DIV 503-8928	50 E NORTH TEMPLE RM 2225	SALT LAKE CITY, UT, 84150-0022	
KENDRICKS SAMUEL A & S SHAY D BURNS- REVOC TRUST	1350 CANYON RD	LOS ALAMOS, NM, 87544	
LUCEADAMS BRIANA M & MATTHEW J TRUST	1600 N SAGE LOOP	LOS ALAMOS, NM, 87544	
MOORE JUSTON S & ELISABETH A	1301 SAGE LOOP	LOS ALAMOS, NM, 87544	
OBREY STEPHEN	1352 SAGE LOOP	LOS ALAMOS, NM, 87544	
PAJARITO LODGE #66	1400 N SAGE LOOP	LOS ALAMOS, NM, 87544	
PYBURN WILLIAM THOMAS JR	1302 SAGE LOOP	LOS ALAMOS, NM, 87544	
REDONDO REBECCA	1504 S SAGE	LOS ALAMOS, NM, 87544	
REMDE STEVE & DEIDRA	1381 SAGE LOOP	LOS ALAMOS, NM, 87544-2935	
TERRAZAS MIGUEL A & ALONDRA REVOC TRUST	4 CHOLLA CIRCLE	SANTA FE, NM, 87506	
UNITARIAN CHURCH OF LOS ALAMOS	1738 N SAGE	LOS ALAMOS, NM, 87544	
YOUNG RYAN & CARLA	1610 S SAGE	LOS ALAMOS, NM, 87544	



Mailed September 7, 2022

LEGAL NOTICE

Community Development Department

Notice is hereby given that the Planning and Zoning Commission of the Incorporated County of Los Alamos, State of New Mexico, has directed publication of their scheduled meeting to be held on Wednesday, September 28, 2022, beginning at 5:30 PM, within the Council Chambers located at 1000 Central Ave, Los Alamos, NM 87544. Members of the public may, also, join to make public comment by pasting into their browser the following URL:
https://us06web.zoom.us/j/88267238887?pwd=Z0QwOWZ2YnQxR1hMMHlreXVISHVZZz09

Or by phone:
US: +1 669 900 6833 or +1 719 359 4580 or +1 253 215 8782 or +1 346 248 7799

Passcode: 092822

A copy of the complete Agenda is available at least 72-hours prior for public inspection during regular business hours of 8 am-5 pm, within the Community Development Department at 1000 Central Ave, Suite 150, or online at https://losalamos.legistar.com/Calendar.aspx.

1. **CASE NO. SIT-2022-0060.** Paul Lewis, on behalf of Pajarito Lodge 66, is requesting Site Plan approval for a 2,090 Sq. Ft. addition to the existing Masonic Lodge located at 1400 N Sage Street, Los Alamos, NM. The property, EA3 T, is located within the Eastern Area 3 subdivision and is within the Single-Family Residential (R-1-8) zoning district.

Owner/Applicant: Paul Lewis, on behalf of Pajarito Lodge 66
Case Manager: Desirae Lujan, Associate Planner

2. **CASE NO. SUP-2022-0025.** Greg Gonzales, dba Columbus Capital, is requesting Special Use Permit approval for a Self-Service Storage Facility utilizing 58,000 Sq. Ft. space within an existing building located at 535 Central Avenue, Los Alamos, NM. The property, MMV 001, is within the Downtown-Neighborhood Center Overlay District (DT-NCO).

Owner/Applicant: Greg Gonzales, dba Columbus Capital
Case Manager: Sobia Sayeda, Planning Manager

/S/ Paul Andrus
Community Development Director

"If you are an individual with a disability who needs a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the Human Resources Department at (505)662-8040 at least one-week prior to the meeting, or as soon as possible. Public documents, including the Agenda and Minutes, can be provided in various accessible formats. Please contact the personnel in the County Administrator's Office at (505) 662-8080 if a summary or other type of accessible format is needed."

POSTED ON MUNICIPAL BUILDING: Friday, September 2, 2022.

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https://us06web.zoom.us/j/88267238887?pwd=Z0QwOWZ2YnQxR1hMMHlreXVISHVZZz09

Or by phone:
US: +1 669 900 6833 or +1 719 359 4580 or +1 253 215 8782 or +1 346 248 7799

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2. **CASE NO. SUP-2022-0025.** Greg Gonzales, dba Columbus Capital, is requesting Special Use Permit approval for a Self-Service Storage Facility utilizing 58,000 Sq. Ft. space within an existing building located at 535 Central Avenue, Los Alamos, NM. The property, MMV 001, is within the Downtown-Neighborhood Center Overlay District (DT-NCO).

Owner/Applicant: Greg Gonzales, dba Columbus Capital
Case Manager: Sobia Sayeda, Planning Manager

/S/ Paul Andrus
Community Development Director

"If you are an individual with a disability who needs a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the Human Resources Department at (505)662-8040 at least one-week prior to the meeting, or as soon as possible. Public documents, including the Agenda and Minutes, can be provided in various accessible formats. Please contact the personnel in the County Administrator's Office at (505) 662-8080 if a summary or other type of accessible format is needed."

PUBLISHED IN THE LA DAILY POST ON: Thursday, September 8, 2022.

Posted September 13, 2022