Project No. 1744-22

October 31, 2024

ADDENDUM No. 3
to the
DRAWINGS AND PROJECT MANUAL
for
TARWATER VETERINARY CLINIC
802 E. CRINER ST.
GRANDVIEW, TEXAS

MAGEE ARCHITECTS, L.P.
DESIGNERS • PLANNERS • INTERIORS
PO Box 101445
Fort Worth, TX 76185
817.615.9558 voice
817.992.1877 cell
magee-architects.com

3.01 GENERAL

A. This addendum modifies the Permit Set of Drawings and Project Manuals, dated September 26, 2024, as noted within and shall become part of the contract documents.

B. Bidders shall acknowledge receipt of this addendum as part of the written bid submitted. Failure to do so may subject bidder to disqualification.

C. Each holder of bid documents registered with the Architect will receive a copy of the addendum. Each prime bidder is responsible for distribution of information conveyed by this addendum to its sub-bidders and suppliers.

3.02 REVISIONS TO SPECIFICATIONS

A. SECTION 00 3132 GEOTECHNICAL DATA:

Remove the previously issued Spec Section 00 3132 GEOTECHNICAL DATA in its entirety and ADD Section 00 3132 GEOTECHNICAL DATA (WITH GEOTECHNICAL REPORT) as attached & included as a part of this Addendum.

B. SECTION 07 4113 METAL ROOF, WALL & SOFFIT PANELS:

Remove the previously issued Spec Section 07 4113 METAL ROOF, WALL & SOFFIT PANELS in its entirety and ADD Section 07 4113 METAL ROOF, WALL & SOFFIT PANELS as attached & included as a part of this Addendum.

C. SECTION 09 6520 RESILIENT FLOORING – LUXURY VINYL TILE – 2.01 Tile Flooring, Paragraph A., shall be revised to state the following:

A. Luxury Vinyl Tile: Printed film type, with transparent or translucent wear layer.
1. Manufacturers:
   a. Karndean, K-Trade Flooring; Luxury Flooring: www.ktradeflooring.com.
2. Minimum Requirements: Comply with ASTM F1700, of Class III Type B.
3. Wear Layer Thickness: 20 mil (0.50 mm).
4. Total Thickness: 0.098 inch (2.5 mm).
5. Color: Vivera – PVP5151, 48” x 7”, Gluedown

D. SECTION 09 6723 RESINOUS FLOORING:

ADD this Section in its entirety as Resinous Epoxy Flooring to be Added to the Project Scope. Location & Application is indicated on Revised Sheet SA03-A002, as attached & included as part of this Addendum.

E. SECTION 10 2600 WALL & DOOR PROTECTION – 2.02 Components, Paragraph A., shall be revised to Add Item #5 with the following requirement:

5. Locations: Provide Stainless Steel Corner Guards at Outside Corners along circulation paths & high traffic areas.

F. SECTION 31 3213 CHEMICAL SOIL STABILIZATION:

ADD this Section in its entirety as Chemical Soil Stabilization is to be Added to the Project Scope, as attached & included as part of this Addendum.

NOTE: Chemical Injection Process is cited in Geotechnical Report on Page 17, Section 5.6.4 – Subgrade Improvements Using Chemical Injection.

3.03 REVISIONS TO DRAWINGS

A. **ARCHITECTURAL**

1. SP101 – ARCHITECTURAL SITE PLAN – DIMENSION CONTROL

Delete this sheet in its entirety & replace with the Revised Sheet SA03-SP101 as attached as a part of this addendum.

2. SP102 – SITE DETAILS

Delete this sheet in its entirety & replace with the Revised Sheet SA04-SP102 as attached as a part of this addendum

3. A002 – ROOM FINISH & DOOR SCHEDULE, TYPES

Delete this sheet in its entirety & replace with the Revised Sheet SA05-A002 as attached as a part of this addendum.

B. **STRUCTURAL**

1. S101 – FOUNDATION PLAN, SECTION & DETAILS

A. Delete this sheet in its entirety & replace with the Revised Sheet SS101-S101 as attached as a part of this addendum.

2. S301 – FOUNDATION, SECTIONS & DETAILS – Detail A6/301 – Typical Pier Detail shall be revised to ADD the following clarification of drilling depth for piers:

A. Top of Grade Beam is at Elevation 674.90. The Bottom of the Slab (Top of Prepared Select Fill) is at Elevation 674.48. The depth of drilling is from the Elevation 674.48. The bearing of the pier is at 17 feet below this elevation. This Elevation of 657.48 may vary and will be verified by UES Testing Agency on Site Observation and Verification of each pier.

C. **MECHANICAL**

1. M002 – MECHANICAL SCHEDULES

A. Delete this sheet in its entirety & replace with the Revised Sheet SM01-M002 as attached as a part of this addendum.

2. M201 – MECHANICAL FLOOR PLAN

   A. Delete this sheet in its entirety & replace with the Revised Sheet SM02-M201 as attached as a part of this addendum.

D. **PLUMBING**

1. P002 – PLUMBING SCHEDULES

   A. Delete this sheet in its entirety & replace with the Revised Sheet SP01-P002 as attached as a part of this addendum.

E. **ELECTRICAL**

1. E002 – ELECTRICAL DETAILS

   A. Delete this sheet in its entirety & replace with the Revised Sheet SE01-E002 as attached as a part of this addendum.

2. E003 – ELECTRICAL PANELS, SCHEDULES

   A. Delete this sheet in its entirety & replace with the Revised Sheet SE02-E003 as attached as a part of this addendum.

3. E200 – ELECTRICAL SITE LAYOUT

   A. Delete this sheet in its entirety & replace with the Revised Sheet SE03-E200 as attached as a part of this addendum.

4. E201 – ELECTRICAL POWER FLOOR PLAN

   A. Delete this sheet in its entirety & replace with the Revised Sheet SE04-E201 as attached as a part of this addendum.

5. E202 – ELECTRICAL LIGHTING FLOOR PLAN

   A. Delete this sheet in its entirety & replace with the Revised Sheet SE05-E202 as attached as a part of this addendum.

3.04 ATTACHMENTS

A. Spec Section 00 3132 GEOTECHNICAL DATA (WITH GEOTECH REPORT)
B. Spec Section 07 4113 METAL ROOF, WALL & SOFFIT PANELS
C. Spec Section 09 6723 RESINOUS FLOORING
D. Spec Section 31 3213 CHEMICAL SOIL STABILIZATION
E. Sheet SA03-SP101 – ARCHITECTURAL SITE PLAN – DIMENSION CONTROL
F. Sheet SA04-SP102 – SITE DETAILS
G. Sheet SA05-A002 – ROOM FINISH & DOOR SCHEDULE, TYPES
H. Sheet SS101-S101 – FOUNDATION PLAN, SECTION & DETAILS
I. Sheet SM01-M002 – MECHANICAL SCHEDULES
J. Sheet SM02-M201 – MECHANICAL FLOOR PLAN
K. Sheet SP01-P002 – PLUMBING SCHEDULES
L. Sheet SE01-E002 – ELECTRICAL DETAILS
M. Sheet SE02-E003 – ELECTRICAL PANELS, SCHEDULES
N. Sheet SE03-E200 – ELECTRICAL SITE LAYOUT
O. Sheet SE04-E201 – ELECTRICAL POWER FLOOR PLAN
P. Sheet SE05-E202 – ELECTRICAL LIGHTING FLOOR PLAN

END OF ADDENDUM No. 3

DOCUMENT 00 3132
GEOTECHNICAL DATA (WITH GEOTECH REPORT)

PART 1 GENERAL

1.01 DESCRIPTION

A. Soil investigation report has been prepared by UES Professional Solutions 44, LLC, referred to hereinafter as the soils engineer.

B. A copy of the complete report with log borings is bound herein.

C. This report was obtained only for use by Architect/Engineer in design and is not a part of the contract documents.

D. Report and log of borings are made available for Contractor's information, but are not a warranty of subsurface conditions.

E. Additional Investigation: Contractor should visit the site and acquaint himself with the site conditions.

1.02 ROCK CLAUSE

A. If material is so large, heavy or cumbersome that it cannot be removed with a John Deere 455 Loader-Backhoe, then that part of excavation that requires other methods of removal such as, but not limited to, pneumatic jack hammer, hydraulic rock breaker, or dynamite, will be billed on a time and material basis less the cost for removal by normal means.

B. Some work done during the rainy season may cost more than summer time work. This should be clearly understood prior to commencement of work. Said projects may include but are not necessarily limited to, removing a roof over a finished space or soil excavation.

C. Post hole excavation is typically accomplished with hand tools. In the event any obstructions are encountered, natural or otherwise, additional labor, equipment rental and/or materials required to remove the obstruction, such as but not limited to, jack hammer, two-man auger or drill rig, etc., may be billed on a time and materials basis or may incur increased costs.

D. Drilling - Due to the fact that the conditions below the surface cannot be seen, certain assumptions are made in order to provide an estimate of cost. What follows is a list of circumstances that may alter the cost and how it will be billed should such circumstances arise:

a. Obstruction time shall be charged for drilling time or delay time due to any sub-surface obstruction other than natural geological formation.

b. In the event that caving soils, sub-surface water, hard-rock, etc., conditions (drilling refusal) prohibits us from performing the job in a normal manner (using our rock auger equipment), the work will stop. Any additional work requested by the engineer beyond that point will be done pursuant to Change Order. Drilling refusal: less penetration than 1 inch in 5 minutes.

c. In the event that drilling refusal is encountered before assumed drill depth, the footage we are short times the deduct price shall be deducted from the contract price. Any additional drilling beyond that point, if required, will be done pursuant to Change Order.

END OF SECTION

GEOTECHNICAL ENGINEERING REPORT

GRANDVIEW TEXAS VETERINARIAN CLINIC
802 East Criner Street
Grandview, Texas
UES Project No. W242089-rev1
August 28, 2024

Prepared for:

MAGEE ARCHITECTS
P.O. Box 101445
Fort Worth, Texas, 76185
Attention: Mr. Alan Magee

Prepared by:

August 28, 2024

Magee Architects
P.O. Box 101445
Fort Worth, Texas, 76185
Attention: Mr. Alan Magee

Re: Geotechnical Engineering Report
Grandview Texas Veterinarian Clinic
802 East Criner Street
Grandview, Texas
UES Project No. W242089-rev1

Dear Magee Architects:

UES Professional Solutions 44, LLC (hereinafter "UES") has performed a geotechnical exploration for the project referenced above. This study was authorized by Mr. Alan Magee on July 22, 2024 performed in accordance with UES Proposal No. 105652 dated July 1, 2024 .

The purpose of this revision is to include the bearing capacity of drilled and underreamed piers bearing in shaly clay at a depth of about 17 ft below final grade.

This report contains results of field explorations and laboratory testing and an engineering interpretation of these with respect to available project characteristics. The results and analyses were used to develop geotechnical recommendations to aid in design of foundations and pavement.

UES appreciates the opportunity to be of service on this project. If we can be of further assistance, such as providing materials testing services during construction, please contact our office.

Sincerely,
UES PROFESSIONAL SOLUTIONS 44, LLC
TBPE Firm No. 813

August 28, 2024

Karina Cohuo
Geotechnical Project Manager

Brian J. Hoyt, P.E.
Area Managing Director

KC/BJH

TABLE OF CONTENTS

APPENDIX

1.0 INTRODUCTION

Purpose and Scope. The purpose of this geotechnical study was to evaluate some of the physical and engineering properties of subsurface materials at selected locations on the subject site to develop geotechnical engineering design parameters and recommendations for the proposed project. To accomplish this, the scope of this study included field exploration consisting of drilling test borings and collecting samples of the subsurface materials, performing laboratory testing on selected samples obtained during the field exploration, performing engineering analysis and evaluation of the subsurface conditions with respect to the project characteristics, and development of foundation and pavement recommendations suitable for the proposed project. The scope of services did not include an environmental assessment of the site.

Project Description. The project consists of a proposed single story commercial building with a plan area of less than 4,500 SF and pavement to include parking areas and driveways.

Project Location. The project is located at 802 East Criner Street in Grandview, Texas. A site plan illustrating the subject site is provided as Figure 1, the Boring Location Plan, in the Appendix.

Site Grading Plan. The site grading plan was not available at the time of writing this report. Our recommendations provided herein are on the basis that cuts and fills of up to 2 feet will be required to bring the site to grade. When the grading plans are available, we should be notified and allowed to review the site grading plan to assess and modify our recommendations, as necessary.

Cautionary Statement Regarding Use of this Report. As with any geotechnical engineering report, this report presents technical information and provides detailed technical recommendations for civil and structural engineering design and construction purposes. UES, by necessity, has assumed the user of this document possesses the technical acumen to understand and properly utilize the information and recommendations provided herein. UES strives to be clear in its presentation and, like the user, does not want potentially detrimental misinterpretation or misunderstanding of this report. Therefore, we encourage any user of this report with questions regarding its content to contact UES for clarification. Clarification will be provided verbally and/or issued by UES in the form of a report addendum, as appropriate.

Report Specificity. This report was prepared to meet the specific needs of the client for the specific project identified. Recommendations contained herein should not be applied to any other project on or off this site by the client or anyone else without the explicit approval of UES.

This Report is NOT a Specification. Recommendations in this report are not specifications. Geotechnical engineering requires significant experience and professional judgment. Conditions vary in the field which require and/or allow modification to recommendations provided herein at the discretion of the Geotechnical Engineer of Record.

2.0 FIELD EXPLORATION

Test Borings. The field exploration for this project included drilling a total of four (4) test borings. Two (2) test borings were drilled to a depth of about 25 ft and two (2) test borings were drilled to a depth of about 5 ft. The depth referenced in this report are measured from the existing ground surface at the respective boring location at the time of the field exploration.

UES determined the number and depth of the test borings and performed the boring operations. The boring locations were not surveyed. Rather, UES personnel located the borings in the field using a recreational hand-held GPS unit and therefore should be considered approximate. The approximate boring locations are provided in Figure 1, the Boring Location Plan, in the Appendix.

The test borings were advanced between sample intervals to the termination depth of the borings using a drilling rig equipped with a rotary head turning continuous flight augers.

Cohesive Soil Sampling. Cohesive soil samples were generally obtained using Shelby tube samplers in general accordance with American Society for Testing and Materials (ASTM) D1587. The Shelby tube sampler consists of a relatively thin-walled steel tube with a sharp cutting edge connected to a head equipped with a ball valve threaded for rod connection. The tube is pushed into the undisturbed soils by the hydraulic pulldown of the drilling rig. The soil specimens were extruded from the tube in the field, logged, tested for consistency using a hand penetrometer, sealed and packaged to maintain "in situ" moisture content. The consistency of cohesive soil samples was evaluated in the field using a calibrated hand penetrometer. In this test a 0.25-inch diameter piston is pushed into the undisturbed sample at a constant rate to a depth of 0.25-inch. The results of these tests are tabulated at the respective sample depths on the boring logs. When the capacity of the penetrometer is exceeded, the value is reported as 4.5+.

Texas Cone Penetration (TCP). Texas Cone Penetration (TCP) test was used to assess the apparent in-place strength characteristics of the soil and rock type materials. In the TCP test procedure, a 3-inch outside diameter (OD) steel cone driven by a 170-pound hammer dropped 24 inches (340 ft-pounds of energy). The number of blows of the hammer required to provide 12 inches of penetration, or the inches of penetration of the cone due to 100 blows of the

hammer (whichever occurs first) are recorded on the field logs (reference: TxDOT, Bridge Design Manual).

Groundwater Observations. The test borings were performed using dry drilling techniques, which enabled the potential detection of groundwater during the drilling and sampling procedures and prior to backfilling and plugging the boreholes. Groundwater observations are shown in the Appendix – Boring Logs.

Borehole Backfilling and Plugging. Upon completion of the borings, the boreholes were backfilled with on-site soil cuttings.

3.0 LABORATORY TESTING

UES performs visual classification and any of a number of laboratory tests, as appropriate, to define pertinent engineering characteristics of the soils encountered. Laboratory tests are performed in general accordance with ASTM or other standards and the results included at the respective sample depths on the boring logs. Laboratory tests and procedures utilized during this geotechnical study are indicated in Table A.

TABLE A
Laboratory Testing Performed

Test Procedure	Description
ASTM D2166	Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
ASTM D2216	Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils
ASTM D4546	One Dimensional Free Swell Tests

4.0 SITE CONDITIONS

4.1 General

Current Conditions. At the time of the field exploration, the site generally consisted of a vacant, grassy tract of land.

Limitations. Due to the intermittent nature and relatively low resolution of aerial photographs, as well as our lack of detailed information regarding the past land use of the site, our review should not be interpreted as eliminating the possibility of cuts and/or fills on site which could detrimentally affect future construction.

Topography. Cursory visual observation and review of topographical maps from public data available at www.dfwmaps.com indicates the site slopes down towards the northeast about 2 ft (Appx. Elev. 674 ft to Appx. Elev. 672 ft).

4.2 Geology

Geologic Formation. Based on geological atlas maps available from the Bureau of Economic Geology, published by the University of Texas at Austin, the project site lies within the Eagle Ford formation. The Eagle Ford formation is composed predominantly of shale with occasional platy beds of sandstone and limestone. Residual overburden soils associated with the Eagle ford Formation generally consist of clay soils with moderate to very high shrink/swell potential.

4.3 Soil/Rock Conditions

Stratigraphy. Descriptions of the various strata and their approximate depths and thickness in general accordance with the Unified Soil Classification System (USCS) are provided on the boring logs included in the Appendix. Terms and symbols used in the USCS are presented in the Appendix following the Boring Logs.

Subsurface conditions encountered in most of the borings generally consisted of clay, and/or shaly clay extending to the 25 ft or 5 ft termination depths of the borings. Subsurface conditions encountered in Boring 2 generally consisted of clay and shaly clay to a depth of about 24 ft below the ground surface underlain by shale extending to the 25 ft termination depth of the borings. Depths referenced in this report are measured from the existing ground surface at the respective boring location at time of the field exploration.

Depths provided on the boring logs are based on our Field Technician's and Engineer's interpretation of conditions believed to exist between actual samples retrieved. Therefore, depth information contains both factual and interpretive information. Lines delineating subsurface strata are approximate and the actual transition between strata may be gradual or not clearly defined. In addition, variations may occur between or beyond the boring locations.

4.4 Groundwater

Groundwater Levels. The test borings were advanced using continuous flight augers with intermittent sampling methods. These dry drilling techniques enable observation of potential groundwater seepage levels. Groundwater observations in the borings during this study are identified in Table B. Depths referenced in this report and in Table B below are measured from the existing ground surface at the respective boring location at time of the field exploration.

TABLE B
Groundwater Conditions

Boring No.	Depth Groundwater Initially Encountered (feet)	Groundwater Depth Upon Completion of Drilling (feet)
B-1	15	15
B-2	Not Observed	Not Observed
B-3	Not Observed	Not Observed
B-4	Not Observed	Not Observed

Long-term Groundwater Monitoring. The groundwater observations are indicative of the groundwater conditions present at the time the borings were drilled. The amount of water in an open borehole largely depends on the permeability of the soils encountered at the boring location. In relatively impervious soils, such as clayey soils, a suitable estimate of the groundwater depth may not be possible, even after several days of observation. Long-term monitoring of groundwater conditions via piezometers or groundwater monitoring wells was not performed during this study and was beyond the scope of this study. Long-term monitoring can reveal groundwater levels materially different than those encountered during measurements taken while drilling the borings.

Groundwater Fluctuations. The groundwater observations reported herewith are applicable to groundwater conditions at the time of drilling. Future construction activities may alter the surface and subsurface drainage characteristics of this site. Seasonal variations, temperature, land-use, proximity to water bodies, and recent rainfall conditions also influence the depth to the groundwater. With these considerations, UES recommends that the contractor verifies the groundwater elevation before construction starts.

5.0 ANALYSIS AND RECOMMENDATIONS

5.1 Seismic Site Classification

The Site Class assigned for seismic design considers various factors, such as the soil profile (whether it's soil or rock), shear wave velocity, and strength, averaged over a depth of 100 feet. As our borings didn't reach depths of 100 feet, we made determinations under the assumption that the subsurface materials beneath the borehole bottoms resembled those encountered at the termination depth. Following the guidelines outlined in Section 1613.3.2 of the 2018 International Building Code and Table 20.3-1 in the 2010 ASCE-7, we recommend utilizing Site Class C (very dense soil and soft rock) for seismic design purposes at this location.

5.2 Potential Vertical Rise (PVR) of Expansive Soil

Our findings indicate floor slabs constructed within 2 ft of existing grade could experience soil-related potential movements of about 5 inches due to shrinking and swelling of active clays.

Potential seasonal movements were estimated assuming fill material used to raise the grade will consist of onsite or similar material with a plasticity index of 45 or less. If the plasticity index of material used to raise the grade is higher than 45, potential movements could be higher than our estimates.

Potential seasonal movements were estimated in general accordance with methods outlined by Texas Department of Transportation (TxDOT) Test Method Tex-124-E, from results of absorption swell tests and engineering judgment and experience. Estimated movements were calculated assuming the moisture content of the in-situ soil within the normal zone of seasonal moisture content change varies between a "dry" condition and a "wet" condition as defined by Tex-124-E. Also, it was assumed a 1 psi surcharge load from the floor slab acts on the subgrade soils. Movements exceeding those predicted above could occur if positive drainage of surface water is not maintained or if soils are subject to an outside water source, such as leakage from a utility line or subsurface moisture migration from off-site locations.

5.3 Construction Excavations

Short Term Excavations. The contractor is responsible for designing any excavation slopes, temporary sheeting or shoring. Design of these structures should include any imposed surface surcharges. Construction site safety is the sole responsibility of the contractor, who shall also be

solely responsible for the means, methods and sequencing of construction operations. The contractor should also be aware that slope height, slope inclination or excavation depths (including utility trench excavations) should in no case exceed those specified in local, state and/or federal safety regulations, such as OSHA Health and Safety Standard for Excavations, 29 CFR Part 1926, or successor regulations. Stockpiles should be placed well away from the edge of the excavation and their heights should be controlled so they do not surcharge the sides of the excavation. Surface drainage should be carefully controlled to prevent flow of water over the slopes and/or into the excavations. Construction slopes should be closely observed for signs of mass movement, including tension cracks near the crest or bulging at the toe. If potential stability problems are observed, a geotechnical engineer should be contacted immediately. Shoring, bracing or underpinning required for the project (if any) should be designed by a professional engineer registered in the State of Texas.

5.4 Groundwater Control

Groundwater was encountered at a depth of about 15 ft below the ground surface in Boring 1. However, seasonal fluctuations and/or unforeseen environmental conditions may result in water being encountered at shallower depths. This groundwater could be encountered in excavations required for building pad preparation. We therefore recommend the Contractor provide a line item for dewatering in the bid package in case dewatering is required. Test pits should be performed prior to construction to verify groundwater conditions.

The Contractor is typically responsible for designing, installing and maintaining a dewatering system for groundwater control and taking precautions to avoid distress to nearby existing structures, as a result of dewatering. Dewatering systems should be designed, installed and monitored by personnel qualified and experienced with dewatering soils. We recommend the Contractor consider retaining a dewatering expert to assist in identifying, implementing and monitoring the most suitable and cost-effective method to control groundwater. The following is intended to provide guidance to the Contractor for dewatering systems.

In cohesive soils where seepage is usually low, groundwater is generally managed by collection in trench bottom sumps for pumped disposal. Care should be taken to have a redundant pumping system that allows for overnight pumping. Water must not be allowed to pond in the excavation bottoms. The softening of soils can lead to instability and caving of trench side walls.

Generally, the groundwater depth should be lowered to a depth of at least 3 ft below the planned excavation bottom to provide a firm working surface. Extended and/or extensive dewatering can result in settlement of existing structures in the vicinity; the Contractor is to take necessary precautions to monitor and minimize the effects on these structures.

5.5 Earthwork

5.5.1 Site Preparation

In the area of improvements, all concrete, trees, stumps, brush, debris, abandoned structures, roots, vegetation, rubbish and any other undesirable matter should be removed and properly disposed.

5.5.2 Proofroll

After completion of the necessary stripping, clearing, and excavating, and prior to placing any required fill, the exposed soil subgrade should be carefully evaluated by probing and testing. Any undesirable material (organic material, wet, soft, or loose soil) still in place should be removed.

The exposed soil subgrade should be further evaluated by proof-rolling with a heavy pneumatic-tired roller, loaded dump truck or similar equipment weighing approximately 20 tons to check for pockets of soft or loose material hidden beneath a thin crust of possibly better soil.

Proof-rolling procedures should be observed routinely by a Professional Engineer or their designated representative. Any undesirable material (organic material, wet, soft, or loose soil) exposed during proof-rolling should be removed and replaced with well-compacted material as outlined in Section 5.5.5. Prior to placement of any fill, the exposed soil subgrade should be scarified to a minimum depth of 6 inches and recompacted as outlined in Section 5.5.5.

5.5.3 Construction Considerations

Surface Soils. The soils encountered at and near the ground surface at this site are susceptible to changes in moisture. The presence of surface water due to precipitation, groundwater or other sources may result in a decreased ability to compact and work with the soil. It is common for these soils to pump when subjected to high levels of moisture. As such, construction difficulties should be anticipated, especially during the wet season or immediately after rain events.

Maintenance of Subgrade during Construction. Unstable conditions could arise during general construction activities, particularly if the soil is exposed to wet weather conditions and repetitive construction traffic. After grading is completed, it's crucial to maintain the moisture content of the subgrade before proceeding with pavement construction. Minimizing construction traffic over the finished subgrade is advisable. If the subgrade becomes frozen, desiccated, saturated, or disturbed, the affected material should either be removed or treated by scarification, moisture conditioning, and recompaction before pavement construction begins. UES should be retained to observe earthwork and to perform necessary tests and observations during subgrade preparation.

5.5.4 Grading, Drainage, Other Considerations

Efforts should be made to minimize the excessive wetting or drying of the underlying soil, as it can lead to swelling and shrinkage of these soil layers. Standard construction practices of providing good surface water drainage should be used. A positive slope of the ground away from any foundation should be provided. Ditches or swales should be provided to carry the run-off water both during and after construction. Stormwater runoff should be collected by gutters and downspouts and should discharge away from the buildings.

In areas with pavement or sidewalks adjacent to the structure, a positive seal must be maintained between the structure and the pavement or sidewalk to minimize seepage of water into the underlying supporting soils. Post-construction movement of pavement and flatwork is common. Normal maintenance should include examination of all joints in paving and sidewalks, etc. as well as re-sealing where necessary.

Since granular bedding backfill is used for most utility lines, the backfilled trench should not become a conduit and allow access for surface or subsurface water to travel toward the new structures. Concrete cut-off collars or clay plugs should be provided where utility lines cross building lines to prevent water from traveling in the trench backfill and entering beneath the structures.

Root systems from trees and shrubs can draw a substantial amount of water from the clay soils at this site, causing the clays to dry and shrink. This could cause settlement beneath grade-supported slabs such as floors, walks and paving. Trees and large bushes should be located a distance equal to at least one-half their anticipated mature height away from grade slabs. Lawn areas should be watered moderately, without allowing the clay soils to become too dry or too wet.

5.5.5 Fill

Select Fill (Non-Expansive Fill). Select fill used as non-expansive fill should consist of soil with a liquid limit less than 35 and a Plasticity Index between 4 and 15. The select fill should be placed in loose lifts not exceeding 8-inches and should be compacted to at least 95 percent maximum dry density (per ASTM D-698) and at a moisture content between 1 percent below optimum and 3 percent above optimum moisture content. The subgrade to receive select fill should be scarified to a depth of 6 inches and compacted to 95 percent of the material's maximum standard Proctor dry density (ASTM D-698) at a workable moisture level at least 4 percentage points above optimum.

Flexible Base Material (Non-Expansive Fill). Flexible base material used as non-expansive fill for the building pad area should meet the requirements of TxDOT Item 247, Type A or D, Grade 1-2. The material should be compacted to a minimum 95 percent of standard Proctor maximum dry density (ASTM D 698) and within -2 to +3 percentage points of the material's optimum moisture content.

The following recommendations pertain to fill soils placed for general site grading as follows:

- *Outside* the designated building pad areas *if* moisture conditioning will be used as the method for subgrade improvement. Where moisture conditioning is used for subgrade improvement, all fill within the designated building pad areas and associated adjacent areas should meet the requirements of Section 5.6.3.

- For general grading *including* building areas below the select fill requirement *if* chemical injection as discussed in Section 5.6.4 will be used as the method for subgrade improvement.

General Fill. Clayey soils used for general fill with a plasticity index equal to or greater than 25 should be compacted to a dry density between 93 and 98 percent of standard Proctor maximum dry density (ASTM D 698). The compacted moisture content of the clays during placement should be within the range of +2 to +6 percentage points of the material's optimum moisture.

General Fill. Clayey soils with a plasticity index below 25 should be compacted to a dry density of at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of 1 percentage point below to 3 percentage points above the material's optimum moisture content.

Clayey fill should be process and the largest particle or clod should be less than 6 inches prior to compaction.

Fill Restrictions. Non-expansive fill and general fill should consist of those materials meeting the requirements stated. Non-expansive fill and general fill should not contain material greater than 4 inches in any direction, debris, vegetation, waste material, environmentally contaminated material, or any other unsuitable material.

Fill on Existing Slopes. If fill is to be placed on existing slopes (natural or constructed) steeper than six horizontal to one vertical (6:1), the fill materials should be benched into the existing slopes in such a manner as to provide a minimum bench-key width of five (5) ft. This should provide a good contact between the existing soils and new fill materials, reduce potential sliding planes, and allow relatively horizontal lift placements.

Cautionary Note. It is extremely important that material placed within building pads be properly characterized using one or more representative proctor samples. The use of a proctor sample which does not adequately represent the select fill being placed can lead to erroneous compaction (moisture and density) results which can significantly increase the potential for swelling of the select fill. The plasticity index of select fill soils placed during construction should be checked every day to confirm conformance to the project requirements and consistency with the proctor being utilized.

5.6 Foundation System

Appropriate Foundation Types. The following foundation types are appropriate to the site based on the geotechnical conditions encountered:

- Drilled and Underreamed piers
- Slab foundation

Foundation Determination. Structural loading information was not provided for this study. We have assumed that structural loads will be typical for the type and size of building proposed. Recommendations for the foundation types are presented below. Final determination of the foundation type to be utilized for this project should be made by the Structural Engineer.

Avoidance of Mixing Foundation Types. Mixing of foundation types for a given building should be avoided. Where mixing of slab and drilled and underreamed piers is required for a given building, UES should be contacted to review the foundation plans prepared by the Structural

Engineer prior to construction. Slab foundations and drilled and underreamed pier foundations can have incompatible movement characteristics.

Assumed Maximum Cut/Fill Depth. The site grading plan was unavailable at the time of this study. Therefore, we have assumed that cut/fill of up to 2 feet will be required to bring the site to grade. In the event cut/fill in the building pad exceeds 2 feet, we should be notified and allowed to review the design to assess the suitability of the foundation recommendations provided. UES *must be allowed to review the finalized grading plan to assess the appropriateness of our recommendations.*

Foundation Plans Review. Our office should be contacted to review the foundation plans, details and related structural loads, prior to finalizing the design to check conformance with the recommendations presented herein.

5.6.1 Drilled and Underreamed Piers

Applicability. Drilled and underreamed pier foundations as described in this section are appropriate for the proposed structure. The drilled and underreamed piers should bear in shaly clay at least 17 ft below final grade.

Groundwater was encountered at a depth of about 15 ft below the ground surface in Boring 1. Some field adjustments in the depth of underreamed piers may be required in some areas to maintain the bottom of the piers above groundwater seepage. However, the depth of piers should also be sufficient to maintain the underream below the depth of moisture conditioned or chemically injected soils which are prone to caving. Adjustments in the depths of underreamed piers should be observed in the field by UES personnel. Test piers should be performed outside the building pad area, or between planned pier locations inside the building pad, just prior to construction to verify groundwater conditions and constructability of drilled piers. Provisions should be made for immediate placement of concrete.

Bearing Capacity. Drilled and underreamed piers bearing in shaly clay at least 17 ft below final grade can be dimensioned using a net allowable end-bearing pressure of 4.5 kips per sq ft and no skin friction component of resistance. The recommended bearing pressure contains a factor of safety of at least 3 considering a general bearing capacity failure.

Uplift. The uplift force on the piers due to swelling of the active clays can be approximated by assuming a uniform uplift pressure of 2.2 kips per sq ft acting over the perimeter of the shaft to a depth of 12 feet below final grade. The shafts should contain enough full-length reinforcing

steel to resist uplift forces. A reduced uplift adhesion of 1.0 kip per sq ft can be used over the portion of the pier shaft in contact with moisture conditioned or chemically injected soil. The uplift adhesion due to soil swell can be neglected over the portion of the shaft in contact with non-expansive fill material used in the building pad area.

Minimum Pier Spacing. The underreamed portion should be at least two (2) and not exceeding three (3) times the diameter of the shaft. The minimum clear spacing between edges of adjacent piers should be at least one (1) underream diameter, based on the larger underream.

Settlement. Elastic settlement of drilled piers constructed as described herein should be about 1 inch or less.

Grade Beams. All grade beams connecting piers should be formed and not cast in earthen trenches. Grade beams should be formed with a nominal 10-inch void at the bottom. Commercially available cardboard box forms (cartons) are made for this purpose. The cardboard cartons should extend the full length and width of the grade beams. Prior to concrete placement, the cartons should be inspected to verify they are firm, properly placed, and capable of supporting wet concrete. Some type of permanent soil retainer, such as pre-cast concrete panels, must be provided to prevent soils adjacent to grade beams from sloughing into the void space at the bottom of the grade beams. Additionally, backfill soils placed adjacent to grade beams must be compacted as outlined in Section 5.5.5 of this report.

Construction Observation. All foundation excavations should be properly monitored to verify loose, soft, or otherwise unsuitable material is removed. All foundation excavations should be monitored to verify foundations bear on suitable material. The bearing stratum exposed in the base of all foundation excavations should be protected against any detrimental change in conditions. Surface runoff water should be drained away from excavations and not allowed to collect. All concrete for foundations should be placed as soon as practical after the excavation is made. Piers should be excavated and concrete placed the same day. All pier shafts should be at least 1.5 ft in diameter for pier stability considerations, to facilitate clean-out of the base and for proper monitoring.

Prolonged exposure of the bearing surface to air or water will result in changes in strength and compressibility of the bearing stratum. Therefore, if delays occur, a new deeper penetration should be provided, in order to provide a fresh bearing surface.

The construction of all piers should be observed to verify compliance with design assumptions and to verify:

1. Observations during pier drilling should include, but not necessarily be limited to, the following items:
2. Verification of proper bearing strata and consistency of subsurface stratification with regard to boring logs,
3. Confirmation the minimum required penetration into the bearing strata is achieved,
4. Complete removal of cuttings from bottom of pier holes,
5. Proper handling of any observed water seepage and sloughing of subsurface materials,
6. No more than 2 inches of standing water should be permitted in the bottom of pier holes prior to placing concrete, and
7. Verification of pier diameter, underream size and steel reinforcement.

Concrete Placement. Concrete should be placed immediately after the excavation has been completed. In no event should a pier excavation be allowed to remain open for more than 8 hours. Concrete should have a slump of 5 to 7 inches and should not be allowed to strike the shaft sidewall or steel reinforcement during placement.

5.6.2 Slab Foundation (Alternative)

General. The proposed structure can be supported on a reinforced ground-supported slab foundation provided that recommendations in Sections 5.6.3 or 5.6.4– Subgrade Improvement are followed. The slab foundation should be conventionally reinforced or post-tension reinforced. The slab foundation should be designed with exterior and interior grade beams adequate to provide sufficient rigidity to the foundation system to sustain the vertical soil movements expected at this site as described above. All grade beams and floor slabs should be adequately reinforced with steel to minimize cracking as normal movements occur in the foundation soils.

Bearing Capacity. The slab bearing on a subgrade improved as discussed in Sections 5.6.3 or 5.6.4 can be designed using a net allowable bearing pressure of 1,500 psf. This bearing pressure is based on a safety factor of 3 against shear failure of the foundation bearing soils.

Grade Beam Geometry. Grade beams should bear at a minimum depth of 12 inches below final grade (supported on non-expansive fill material or moisture conditioned soils). The bottom of the beam trenches should be free of any loose or soft material prior to the placement of the concrete. Grade beams should have a minimum width of 10 inches to reduce the potential for localized shear failure.

PTI Recommendations. A slab constructed within 2 ft of existing grade will be subject to potential seasonal movements of about 5 inches based upon the information gathered during this study. Subgrade improvement as discussed in Sections 5.9.3 or 5.9.4 will be required to reduce potential movements to about 1 inch. The recommended foundation design parameters based on information published in the Post Tensioning Institute (PTI) Design of Post-Tensioned Slabs-on-Ground, 3rd Edition, are summarized in Table C:

TABLE C
Foundation Design Parameters per PTI 3rd Edition

Allowable PVR in Inches	Edge Moisture Variation Distance (feet)		Differential Soil Movement (inches)	
	Center Lift	Edge Lift	Center Lift	Edge Lift
1	8.5	4.0	1.2	1.0

Construction and Observation. All foundation excavations should be properly monitored to verify loose, soft, or otherwise unsuitable material is removed. All foundation excavations should be monitored to verify foundations bear on suitable material. The bearing stratum exposed in the base of all foundation excavations should be protected against any detrimental change in conditions. Surface runoff water should be drained away from excavations and not allowed to collect. All concrete for foundations should be placed as soon as practical after the excavation is made. Prolonged exposure of the bearing surface to air or water will result in changes in strength and compressibility of the bearing stratum. Therefore, if delays occur, grade beam excavations for slab foundations should also be slightly deepened and cleaned.

To reduce cracking as normal movements occur in foundation soils, all grade beams and floor slabs should be adequately reinforced with steel. It is common to experience some minor cosmetic distress to structures with slab-on-grade foundation systems due to normal ground movements. A properly designed and constructed moisture barrier should be placed between the slab and subgrade soils to retard moisture migration through the slabs.

5.6.3 Subgrade Improvement Using Moisture Conditioning

Subgrade Improvement Using Non-Expansive Fill and Moisture Conditioned Soil. We understand it is desired to reduce the potential seasonal movement of the floor slab to about 1 inch. Movements could be reduced to about 1 inch by placing at least 2 ft of non-expansive fill between the bottom of the floor slab and top surface of moisture conditioned soil extending to a depth of 10 ft below the non-expansive fill material.

The moisture conditioned native clay soil should be compacted to 93 to 97 percent of the material's maximum standard Proctor dry density (ASTM D-698) at a workable moisture level at least 4 percentage points above optimum (with a higher limit of 7 percentage points) and placed in loose lifts not exceeding 8 inches. Soils with lower plasticity indices may need to compacted at moisture contents closer to optimum.

Subgrade improvement/moisture conditioning should extend at least 5 feet horizontally beyond the perimeter of the building and below any adjacent flatwork for which it is desired to reduce movements. The non-expansive fill should not extend beyond the building perimeter. Moisture conditioning should extend at least 10 ft beyond outward swinging doors and main entrances. If flatwork or paving is not planned adjacent to the structures (i.e. above the moisture-conditioned soils that extend beyond the building perimeter), a moisture barrier consisting of a minimum of 10-mil plastic sheeting with 8 to 12 inches of soil cover should be provided above the moisture conditioned soils.

The purpose of moisture-conditioning is to reduce the swell potential of the moisture-conditioned soil to 1 percent or less. Additional laboratory tests (i.e., standard Proctors, absorption swell tests, etc.) should be conducted during construction to verify the "target" moisture content for moisture-conditioning (estimated at 4 percentage points above the material's optimum moisture content as defined by ASTM D 698) is sufficient to reduce the swell potential of the processed soil to 1 percent or less. In addition, it is recommended samples of the moisture-conditioned material be routinely obtained during construction to verify the swell of the improved material is 1 percent or less.

Installation of moisture-conditioned soils should be monitored and tested on a full-time basis by a representative of UES to verify the soils tested were placed with the proper lift thickness, moisture content, and degree of compaction.

Subgrade Improvement at Exterior Doorways. Subgrade improvement should extend beneath sidewalk areas that abut exterior doorways to the building. Failure to perform subgrade improvement in these areas can increase the probability of differential heaving between exterior sidewalks and doorways, resulting in exterior doors that will not or have difficulty opening outward due to "sticking" caused by heaving sidewalk slabs. Sidewalks tied to pavements and other flatworks that extend beyond the subgrades treated for PVR reduction are subject to movements similar to those for untreated subgrades.

Subgrade Moisture. The slab subgrade is prone to drying after being exposed and should be kept moist prior to slab placement.

Movement Risk. Recommendations have been provided to mitigate the effects of soil movement. Some soil movement and related structural cracking and floor unevenness should be expected even after following recommendations in this report. The elimination of risk related to soil movement is typically not feasible. If some level of movement is not acceptable (about 1 inch) the floor slab should be structurally suspended above the ground surface on a drilled pier foundation system.

5.6.4 Subgrade Improvement Using Chemical Injection

As an alternative to moisture conditioning, movement of the floor slab could be reduced to about 1 inch by placing a minimum 2-ft cap of non-expansive material between the bottom of floor slab and the top surface of 10 ft of chemical injected soil. Non-expansive fill could consist of select fill or flexible base material as described in Section 5.5.5. The lateral extents of chemical injection, non-expansive fill and any required plastic sheeting should match that recommended for moisture conditioning in Section 5.6.3.

Chemical injection consists of injecting the clayey soils with a proprietary chemical specifically formulated for long-term reduction of shrink-swell capacity in expansive clayey soils. The Client should obtain appropriate documentation from the manufacturer indicating the chemical is environmentally safe and long lasting (effective for 10 years or more). All references should be obtained and verified. Chemical injection proposals should only be considered from contractors whose chemicals and processes have been studied and shown to be effective by a major U.S. research university.

Satisfactory completion of the injection process will have been achieved when the desired allowable percent free swell has been achieved in the injected soils. In order to reduce overall building pad movements to about 1 inch, the resulting measured free swell of the injected material should not exceed 1 percent. Multiple passes with chemical injection may be required to meet this design requirement. The performance of post-injection free swell testing by ALPHA should be employed as acceptance criteria in engineering analysis to examine accomplishment of the intended objectives of the injection treatment.

Construction specifications as related to the chemical injection process should be provided by the contractor due to the proprietary nature of the chemicals used during the injection process. This includes acceptance criteria and any warranty.

Maximum benefits of this procedure can best be achieved provided the entire process is carefully observed and monitored by UES.

5.6.5 Floor Slabs used with Drilled and Underreamed Piers

If some slab movement is tolerable (about 1 inch), the floor system of the building can consist of a concrete slab designed to bear uniformly on improved soils. Subgrade improvement to reduce potential for floor slab movements are provided in Sections 5.6.3 or 5.6.4. In choosing this method of floor slab movement reduction, the Owner is accepting some post construction seasonal movement of the floor slab (about 1 inch).

If a soil-supported floor slab is utilized for the planned buildings, consideration should be given to a "floating" (fully ground supported, and not structurally connected to walls or foundations) floor slab. This can reduce the risk of cracking and displacement of the floor slab due to differential movements between the slab and foundations. A floor slab doweled into perimeter grade beams can develop a plastic hinge (crack) parallel to and approximately 5 to 10 ft inside the building perimeter. Differential movements can still occur between the grade beam and a “floating” floor slab. The structural engineer should determine the need for connections between the slab and structural elements and determine if control joints to limit cracking are needed. A properly designed and constructed moisture barrier should be placed between the slab and subgrade soils to retard moisture migration through the slab.

Moisture Barrier. A moisture barrier should be used beneath the floor slab in areas where floor coverings will be utilized (such as, but not limited to, wood flooring, tile, linoleum, and carpeting).

5.6.6 Structural Slab

In view of the potential seasonal movements (about 5 inches as discussed in Section 5.2), the most positive floor system for the building supported on drilled piers is a slab suspended completely above the existing expansive soils. At least 12 inches of void space should be provided between the bottom of the floor slab, or lowest suspended fixture, and top surface of the underlying expansive clays. A ventilated crawl space is preferred. Provisions should be made for (a) adequate drainage of the under-floor space and (b) differential movement of utility lines, including areas where the utility penetrates through the grade beam and/or where the utility penetrates below grade areas.

5.7 Pavement

General. To permit correlation between information from test borings and actual subgrade conditions exposed during construction, a qualified Geotechnical Engineer should be retained to

provide subgrade monitoring and testing during construction. If there is any change in project criteria, the recommendations contained in this report should be reviewed by our office.

Civil and Drainage Consideration. Calculations used to determine the required pavement recommendations are based only on the physical and engineering properties of the materials used and conventional thickness determination procedures. Pavement joining buildings should be constructed with a curb and the joint between the building and curb should be sealed. Related civil design factors such as subgrade drainage, shoulder support, cross-sectional configurations, surface elevations, reinforcing steel, joint design and environmental factors will significantly affect the service life and must be included in preparation of the construction drawings and specifications, but all were not included in the scope of this study. Normal periodic maintenance will be required for all pavement to achieve the design life of the pavement system.

Please note, the recommended pavement sections provided below are considered the minimum necessary to provide satisfactory performance based on the expected traffic loading. In some cases, City minimum standards for pavement section construction may exceed those provided below.

5.7.1 Rigid Pavements

After subgrade improvement as recommended in Section 5.7.2, PCC (reinforced) pavement sections are recommended in Table D.

TABLE D
Recommended PCC Pavement Sections

Paving Areas and/or Type	Subgrade Preparation and Thickness	PCC Thickness, Inches
Parking Areas Subjected *Exclusively* to Passenger Vehicle Traffic	6 inches of Scarified and Compacted Subgrade[1]	5
Drive Lanes, Fire Lanes, Areas Subject to Light Volume Truck Traffic	6 inches Lime Stabilized	6
Dumpster Traffic Areas, Areas subject to Moderate Volume Truck Traffic	6 inches Lime Stabilized	7

[1] Lime stabilization of the pavement subgrade is recommended for drive lanes, fire lanes, and pavement subject to truck traffic (see Section 5.7.2). Lime treatment of the pavement subgrade is not required for pavements subjected exclusively to passenger vehicle traffic, although lime treatment is these areas would be generally beneficial to the long-term performance of the pavement.

Concrete, Reinforcing and Jointing. Portland-cement concrete should have a minimum compressive strength of 3,500 psi. Concrete should be designed with 4.5 + 1.5 percent entrained air. Joints in concrete paving should not exceed 15 ft. Reinforcing steel should consist of No. 3 bars placed at 18 inches on-center in two directions.

Alternate Pavement Thickness. Concrete pavement thicknesses provided above can be increased an extra 1 inch (corresponding reinforcing requirements must be changed) as a substitution for lime stabilization of the pavement subgrade. Prior to construction of pavement on untreated clay subgrade soil, the exposed subgrade should be scarified to a depth of at least 6 inches and compacted to at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of 0 to 4 percentage points above the material's optimum moisture content.

5.7.2 Pavement Subgrade

Application Rate. Where lime stabilization is utilized, the exposed surface of the final pavement subgrade soil should be scarified to a depth of 6 inches and mixed with a minimum 7 percent hydrated lime (by dry soil weight) in conformance with TxDOT Standard Specifications Item 260. Assuming an in-place unit weight of 100 pcf for the pavement subgrade soils, this percentage of lime equates to about 32 lbs of lime per sq yard of treated subgrade. The actual amount of lime required should be confirmed by additional laboratory tests (ASTM C 977 Appendix XI) prior to construction. In all areas where hydrated lime is used to stabilize subgrade soil, routine Atterberg-limit tests should be performed to verify the resulting plasticity index of the soil-lime mixture is at/or below 15.

Compaction. The soil-lime mixture should be compacted to at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of 0 to 4 percentage points above the mixture's optimum moisture content.

Considerations. Lime stabilization procedures should extend at least 1 ft beyond the edge of the pavement to reduce effects of seasonal shrinking and swelling upon the extreme edges of pavement. Lime stabilization of the pavement subgrade soil will not prevent normal seasonal movement of the underlying untreated materials. Pavement and other flat work will have the same potential for movement as slabs constructed directly on the existing undisturbed soils. As a minimum, good surface drainage and good perimeter drainage with a minimum slope of 2 percent away from the pavement is recommended. The use of sand as a leveling course below pavement and the use of an aggregate base course supported on expansive clays should be avoided. Normal maintenance of pavement should be expected over the life of the structures.

Cautionary Note Regarding Stabilized Subgrades. Stabilized subgrades are not suitable for supporting heavy construction traffic. Stabilized subgrades that have been subjected to heavy construction traffic should be re-inspected and re-stabilized as necessary prior to the construction of overlying pavement.

Note that this site is located in the Eagle Ford formation which can contain deposits of soluble sulfates. These compounds can react with lime and cause heaving of the pavement subgrade. Therefore, soluble sulfate testing of the pavement subgrade soils should be performed prior to mixing lime.

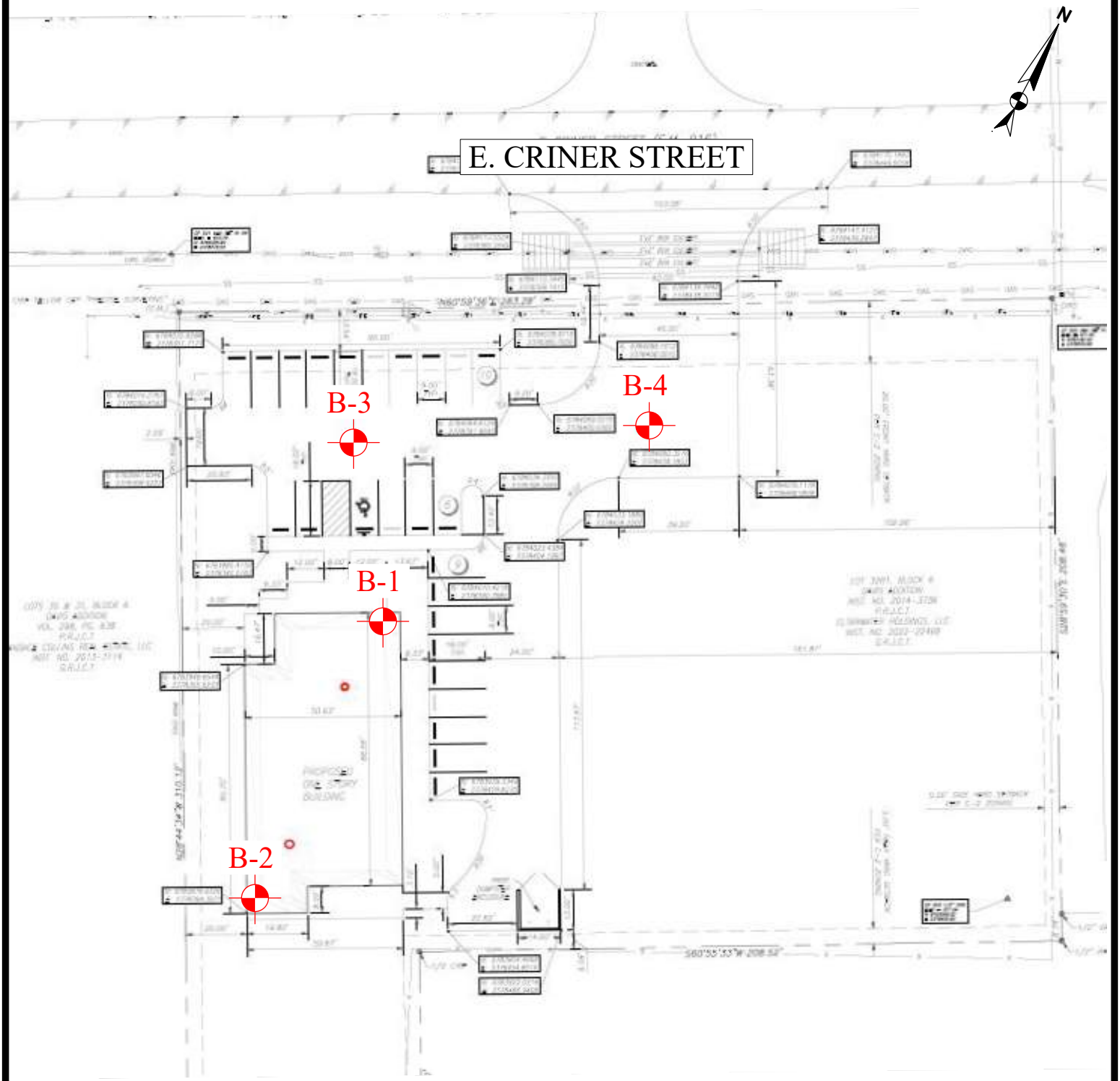
6.0 LIMITATIONS/GENERAL COMMENTS

Professional services provided in this geotechnical exploration were performed, findings obtained, and recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. The scope of services provided herein does not include an environmental assessment of the site or investigation for the presence or absence of hazardous materials in the soil, surface water or groundwater. UES, upon written request, can be retained to provide these services.

UES is not responsible for conclusions, opinions or recommendations made by others based on this data. Information contained in this report is intended for the exclusive use of the Client (and their designated design representatives), and is related solely to design of the specific structures outlined in Section 2.0. No party other than the Client (and their designated design representatives) shall use or rely upon this report in any manner whatsoever unless such party shall have obtained UES's written acceptance of such intended use. Any such third party using this report after obtaining UES's written acceptance shall be bound by the limitations and limitations of liability contained herein, including UES's liability being limited to the fee paid to it for this report. Recommendations presented in this report should not be used for design of any other structures except those specifically described in this report. In all areas of this report in which UES may provide additional services if requested to do so in writing, it is presumed that such requests have not been made if not evidenced by a written document accepted by UES. Further, subsurface conditions can change with passage of time. Recommendations contained herein are not considered applicable for an extended period of time after the completion date of this report. It is recommended our office be contacted for a review of the contents of this report for construction commencing more than one (1) year after completion of this report. Non-compliance with any of these requirements by the Client or anyone else shall release UES from any liability resulting from the use of, or reliance upon, this report.

Recommendations provided in this report are based on our understanding of information provided by the Client about characteristics of the project. If the Client notes any deviation from the facts about project characteristics, our office should be contacted immediately since this may materially alter the recommendations. Further, UES is not responsible for damages resulting from workmanship of designers or contractors. It is recommended the Owner retain qualified personnel, such as a Geotechnical Engineering firm, to verify construction is performed in accordance with plans and specifications.

Appendix



GEOTECHNICAL EXPLORATION REPORT
GRANDVIEW TEXAS VETERINARIAN CLINIC
802 EAST CRINER STREET
GRANDVIEW, TEXAS
UES PROJECT NO. W242089

UES™
Formerly Alpha Testing

FIGURE 1

BORING LOCATION PLAN

APPROXIMATE BORING LOCATION

UES
Formerly Alpha Testing

5058 Brush Creek Rd.
Fort Worth, Texas 76119
Phone: 817-496-5600
Fax: 817-496-5608
www.alphatesting.com

BORING NO.: 1
Sheet 1 of 1

PROJECT NO.: W242089

Client: Magee Architects
Project: Grandview Texas Veterinarian Clinic
Start Date: 7/29/2024 **End Date:** 7/29/2024
Drilling Method: CONTINUOUS FLIGHT AUGER

Location: Grandview, Texas
Surface Elevation:
West:
North:
Hammer Drop (lbs / in): 170 / 24

GROUND WATER OBSERVATIONS
▽ On Rods (ft): 15
▼ After Drilling (ft): 15
▽▼ After ____ Hours (ft):

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Recovery % RQD	TX Cone or Std. Pen. (blows/ft, in)	Pocket Penetrometer (tsf)	Unconfined Comp. Strength (tsf)	UU Shear Strength (tsf)	% Passing No. 200 Sieve	Unit Dry Weight (pcf)	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Swell, %
		Dark Brown CLAY with calcareous nodules				3.75					21				
						4.5					18	70	24	46	
		4.0													
5		Brown CLAY with calcareous nodules				4.5					20				
		6.0													
		Light Brown CLAY with calcareous nodules				2.75					23				
						2.25					24	62	21	41	0.0
10		10.0													
		Tan and Gray CLAY													
						3.0					27				
15	▼	15.0													
		Tan and Gray SHALY CLAY				3.0	1.5			98	19				
20															
		23.0													
		Gray SHALY CLAY with shale seams and layers				4.5+					29				
25		25.0													
		TEST BORING TERMINATED AT 25 FT													

UES
Formerly Alpha Testing

5058 Brush Creek Rd.
Fort Worth, Texas 76119
Phone: 817-496-5600
Fax: 817-496-5608
www.alphatesting.com

BORING NO.: 2
Sheet 1 of 1

PROJECT NO.: W242089

Client: Magee Architects
Project: Grandview Texas Veterinarian Clinic
Start Date: 7/29/2024 **End Date:** 7/29/2024
Drilling Method: CONTINUOUS FLIGHT AUGER

Location: Grandview, Texas
Surface Elevation:
West:
North:
Hammer Drop (lbs / in): 170 / 24

GROUND WATER OBSERVATIONS
On Rods (ft): NONE
After Drilling (ft): DRY
After ____ Hours (ft):

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Recovery % RQD	TX Cone or Std. Pen. (blows/ft, in)	Pocket Penetrometer (tsf)	Unconfined Comp. Strength (tsf)	UU Shear Strength (tsf)	% Passing No. 200 Sieve	Unit Dry Weight (pcf)	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Swell, %
		Dark Brown CLAY				3.5					21				
		2.0													
		Brown CLAY with calcareous nodules				2.25					25	61	20	41	
		4.0													
5		Light Brown CLAY with calcareous nodules				4.25					19				
						2.0					21				
		8.0													
		Brown CLAY with calcareous nodules				2.5					20				
10		10.0													
		Tan CLAY				4.5+	2.2			94	26	79	26	53	
15		15.0													
		Tan and Gray CLAY with shale				4.5+	2.0			91	26				
20		23.0													
		Gray SHALY CLAY				4.5+					17				
		24.0													
		Gray SHALE			100/ 2.50"										
25		25.0													
		TEST BORING TERMINATED AT 25 FT													

UES
Formerly Alpha Testing

5058 Brush Creek Rd.
Fort Worth, Texas 76119
Phone: 817-496-5600
Fax: 817-496-5608
www.alphatesting.com

BORING NO.: 3
Sheet 1 of 1

PROJECT NO.: W242089

Client: Magee Architects
Project: Grandview Texas Veterinarian Clinic
Start Date: 7/29/2024 **End Date:** 7/29/2024
Drilling Method: CONTINUOUS FLIGHT AUGER

Location: Grandview, Texas
Surface Elevation:
West:
North:
Hammer Drop (lbs / in): 170 / 24

GROUND WATER OBSERVATIONS
▽ On Rods (ft): NONE
▼ After Drilling (ft): DRY
▽ After ____ Hours (ft):

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Recovery % RQD	TX Cone or Std. Pen. (blows/ft, in)	Pocket Penetrometer (tsf)	Unconfined Comp. Strength (tsf)	UU Shear Strength (tsf)	% Passing No. 200 Sieve	Unit Dry Weight (pcf)	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Swell, %
		Dark Brown CLAY with calcareous nodules				3.0					23				
		2.0													
		Brown CLAY with calcareous nodules				4.5+					20	70	24	46	
5		5.0				3.0					22				
		TEST BORING TERMINATED AT 5 FT													
10															
15															
20															
25															

UES
Formerly Alpha Testing

5058 Brush Creek Rd.
Fort Worth, Texas 76119
Phone: 817-496-5600
Fax: 817-496-5608
www.alphatesting.com

BORING NO.: 4
Sheet 1 of 1

PROJECT NO.: W242089

Client: Magee Architects
Project: Grandview Texas Veterinarian Clinic
Start Date: 7/29/2024 **End Date:** 7/29/2024
Drilling Method: CONTINUOUS FLIGHT AUGER

Location: Grandview, Texas
Surface Elevation:
West:
North:
Hammer Drop (lbs / in): 170 / 24

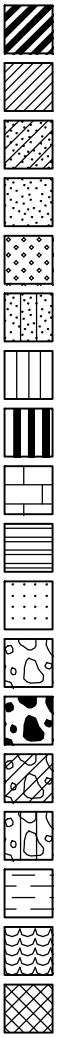
GROUND WATER OBSERVATIONS
▽ On Rods (ft): NONE
▼ After Drilling (ft): DRY
▽ After ____ Hours (ft):

Depth, feet	Graphic Log	MATERIAL DESCRIPTION	Sample Type	Recovery % RQD	TX Cone or Std. Pen. (blows/ft, in)	Pocket Penetrometer (tsf)	Unconfined Comp. Strength (tsf)	UU Shear Strength (tsf)	% Passing No. 200 Sieve	Unit Dry Weight (pcf)	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Swell, %
		Dark Brown CLAY with calcareous nodules				2.5					25	63	21	42	
		2.0													
		Brown CLAY with calcareous nodules				2.0					22				
		4.0													
5		Light Brown CLAY with calcareous nodules				1.5					22				
		5.0													
		TEST BORING TERMINATED AT 5 FT													
10															
15															
20															
25															

Formerly Alpha Testing

KEY TO SOIL SYMBOLS AND CLASSIFICATIONS

SOIL & ROCK SYMBOLS



(CH), High Plasticity CLAY
(CL), Low Plasticity CLAY
(SC), CLAYEY SAND
(SP), Poorly Graded SAND
(SW), Well Graded SAND
(SM), SILTY SAND
(ML), SILT
(MH), Elastic SILT
LIMESTONE
SHALE / MARL
SANDSTONE
(GP), Poorly Graded GRAVEL
(GW), Well Graded GRAVEL
(GC), CLAYEY GRAVEL
(GM), SILTY GRAVEL
(OL), ORGANIC SILT
(OH), ORGANIC CLAY
FILL

SAMPLING SYMBOLS

SHELBY TUBE (3" OD except where noted otherwise)
SPLIT SPOON (2" OD except where noted otherwise)
AUGER SAMPLE
TEXAS CONE PENETRATION
ROCK CORE (2" ID except where noted otherwise)

RELATIVE DENSITY OF COHESIONLESS SOILS (blows/ft)

VERY LOOSE	0 TO 4
LOOSE	5 TO 10
MEDIUM	11 TO 30
DENSE	31 TO 50
VERY DENSE	OVER 50

SHEAR STRENGTH OF COHESIVE SOILS (tsf)

VERY SOFT	LESS THAN 0.25
SOFT	0.25 TO 0.50
FIRM	0.50 TO 1.00
STIFF	1.00 TO 2.00
VERY STIFF	2.00 TO 4.00
HARD	OVER 4.00

RELATIVE DEGREE OF PLASTICITY (PI)

LOW	4 TO 15
MEDIUM	16 TO 25
HIGH	26 TO 35
VERY HIGH	OVER 35

RELATIVE PROPORTIONS (%)

TRACE	1 TO 10
LITTLE	11 TO 20
SOME	21 TO 35
AND	36 TO 50

PARTICLE SIZE IDENTIFICATION (DIAMETER)

BOULDERS	8.0" OR LARGER
COBBLES	3.0" TO 8.0"
COARSE GRAVEL	0.75" TO 3.0"
FINE GRAVEL	5.0 mm TO 3.0"
COURSE SAND	2.0 mm TO 5.0 mm
MEDIUM SAND	0.4 mm TO 5.0 mm
FINE SAND	0.07 mm TO 0.4 mm
SILT	0.002 mm TO 0.07 mm
CLAY	LESS THAN 0.002 mm

SECTION 07 4113
METAL ROOF, WALL AND SOFFIT PANELS

PART 1 – GENERAL

1.01 SYSTEM DESCRIPTION

A. Design Requirements; design roof system to withstand:
   1. Live and dead loads in accordance with Building Code.
   2. Minimum wind pressures in accordance with ASCE 7.

B. Performance Requirements; Water leakage: None, tested to ASTM E 331 with test pressure of 6.24 PSF.

1.02 SUBMITTALS

A. Submittals: Submit in accordance with Submittal Procedures.
   1. Shop Drawings: Show configuration of panels, trim members, and closures.
   2. Product Data: Show system components including panels, trim, and accessories.
   3. Samples: 3 x 3 inch finish samples showing available colors.
   4. Warranty: Sample warranty form.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years documented experience in work of this section.

1.04 DELIVERY, STORAGE AND HANDLING

A. Protect panels from contact with materials that could cause staining or discoloration of finish.

1.05 PROJECT CONDITIONS

A. Do not install underlayment at ambient or surface temperatures less than 40 degrees F or on wet or frozen substrate.

B. Do not install panels on wet or frozen substrate.

1.06 WARRANTIES

A. Furnish manufacturer's 20-year warranty providing coverage against chipping, cracking, fading, or delamination of panel finish.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturer: Sheffield Metals Snap-Lock as Basis-of-Design - (www.sheffieldmetals.com)

B. Acceptable Manufacturers:
   1. AEP-Span. (www.aep-span.com)
   2. Berridge Manufacturing Co. (www.berridge.com)
   3. Centria Architectural Systems. (www.centria.com)
   4. Fabral. (www.fabral.com)
   5. MBCI. (www.mbci.com)
   6. Petersen Aluminum Corp. (www.pac-clad.com)

2.02 MATERIALS

A. Galvanized Steel Sheet: ASTM A653, Structural Quality, G90 coating class.

B. Underlayment: Tamko TW Metal and Tile underlayment, ASTM D1970, fiberglass reinforced, self-adhering rubberized asphalt sheet membrane.

C. Metal Mesh Panels: Expanded Metal, Stainless Steel Type 316, 1/2 #16 Flattened, 60% Open Area, Sheet, 48.0000" Width x 96.0000" Length, Long Way of Opening Parallel to: Length, Metal Wall Panels applied as the cladding over wall framing specified in 05 4000 - Cold-Formed Metal Framing.

D. Accent Metal Panels: Grade 80 full hard steel, corrugated galvanized metal panels.

2.03 ACCESSORIES

A. Fasteners:

1. Underlayment: Plastic-capped Hot-dip galvanized steel nails (as needed), length to penetrate minimum 3/4 inch into sheathing.
2. Panels and Trim: 300 Series stainless steel, type best suited to application; head color to match panels where exposed, with neoprene gasketed washers.

B. Panel Clips: Hot-dip galvanized steel, designed to fit between two adjacent panels and secure both panels.

C. Panel End Closures: Sponge neoprene, cut to fit panel configuration, minimum 1 inch depth.

D. Joint Sealers: Specified in Section 07 9200.

2.04 FABRICATION

A. Fabricate panels from minimum 24 gage galvanized steel sheet.

B. Standing-seam Panel Profile: 2 inch high standing seams spaced 12 to 16 inches on center with interlocking edges (Optional Mechanically Seamed).

C. Wall & Soffit Panel Profile: 12" wide by 1-1/2" depth with Exposed Fasteners with Screw Caps on Wall Panels & Concealed Fasteners and interlocking sidelap on Soffit Panels. Profile shall have two vee grooves spaced at 4" o.c., vented panels, factory formed, continuous lengths.

1. Panel Attachment: Concealed clips,
2. Panel Substrate: 3/4" Plywood, C-D/Exposure 1-APA, Rated Sheathing 16/0 span rating.
3. Exterior Panel Finish: Smooth, Flat Finish.
4. Interior Panel Finish: Smooth, Flat Finish.
5. Exterior Panel Gauge: 24.

D. Trim: Profiles as indicated or as required, fabricated from same material as panels.

E. Roll form panels and trim to required profiles in longest practical lengths.

2.05 FINISHES

A. Panels and Trim: Fluoropolymer coating, AAMA 2605, containing minimum 70 percent PVDF resins applied to sheets in coil form, color to be galvalume.

PART 3 - EXECUTION

3.01 INSTALLATION OF UNDERLAYMENT

A. Starting at low edge, apply one ply of underlayment horizontally over substrate.

B. Weather lap each strip 6 inches minimum over previous strip.

C. Lap ends 6 inches minimum.
D. Fasten top of each strip under overlapping strip to hold strip in position until roofing panels are installed.
E. Provide 18 inch weave pattern at valleys.
F. Lap underlayment minimum 12 inches over hips and ridges from both sides. Apply 36 inch wide strip centered lengthwise over ridge. Nail at 12 inches on center on each side.
G. Extend minimum 4 inches up abutting vertical surfaces.

3.02 INSTALLATION OF METAL PANELS

A. Install in strict accordance with manufacturer's written instructions and recommendations.
B. Install aligned, level, and plumb.
C. Fasten panels using concealed panel clips.
D. Install panels in continuous lengths from eave to ridge without end joints.
E. Install trim to maintain visual continuity of system.
F. Install joint sealers and gaskets to prevent water penetration.
G. Flash penetrations through roofing with metal trim to match panels:
   1. Lap flashings over roof panels 12 inches minimum on all sides and seal with double bead of joint sealer.
   2. Install metal draw band and joint sealer at top of pipe penetrations.
   3. Install water diverter at uphill side of square and rectangular penetrations.
H. Installation Tolerances:
   1. Variation from location: Plus or minus 1/4 inch.
   2. Variation from plane: 1/4 inch in 10 feet.

3.03 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

3.04 ADJUSTING

A. Touch up field cuts and abrasions on finished surfaces to match factory finish.

END OF SECTION

SECTION 09 6723
RESINOUS FLOORING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:
   1. Dur-A-Flex, Inc - Dur-A-Gard, Epoxy-Based seamless flooring system

B. Related Sections:
   1. Section 03 3000 – Cast-in-Place Concrete.
   2. Section 07 9200 – Joint Sealants for sealants installed at joints in resinous flooring systems.

1.03 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a pigmented epoxy-based floor coating system. The system shall have the color and texture as specified by the Owner with a nominal thickness of 40mils. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

1.04 SUBMITTALS

A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.

B. Manufacturer’s Safety Data Sheet (SDS) for each product being used.

C. Samples: A 3 x 3-inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

1.05 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 10 years’ experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.

B. The Applicator shall have been approved by the flooring system manufacturer in all phases of surface preparation and application of the product specified.

C. No requests for substitutions shall be considered that would change the generic type of the specified System.

D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.

E. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping:
   1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.

B. Storage and Protection
   1. The Applicator shall be provided with storage area for all components. The area shall be between 60 F and 90 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
   2. Copies of Safety Data Sheets (SDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal
   1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.07 PROJECT CONDITIONS

A. Site Requirements:
   1. Application may proceed while air, material and substrate temperatures are between 60 F and 90 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
   2. The relative humidity in the specific location of the application shall be less than 85% and the surface temperature shall be at least 5 F above the dew point.
   3. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with epoxy material.
   1. Concrete shall be moisture cured for a minimum of 7 days and have fully cured a minimum of twenty eight days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
   2. Concrete shall have a flat rubbed finish, float, or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
   3. Sealers and curing agents should not be used.
   4. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

C. Safety Requirements
   1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
   2. "No Smoking" signs shall be posted at the entrances to the work area.
   3. The Owner shall be responsible for the removal of foodstuffs from the work area.
   4. Non-related personnel in the work area shall be kept to a minimum.

1.08 WARRANTY

A. Dur-A-Flex, Inc. warrants that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to Dur-A-Flex, Inc. published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.

B. Dur-A-Flex, Inc. liability with respect to this warranty is strictly limited to the value of the material purchase.

PART 2 – PRODUCTS

2.01 FLOORING

A. Dur-A-Flex, Inc, Dur-A-Gard, Epoxy-Based seamless flooring system

1. System Materials:
   a. Primer: Dur-A-Flex, Inc, Elast-O-Coat resin and hardener.
   b. Base Coat: Dur-A-Flex, Inc, Dur-A-Gard resin and hardener.
   c. Topcoat: Dur-A-Flex, Inc. Armor Top pigmented resin and hardener and pigment.
2. Patch Materials:
   a. Shallow Fill and Patching: Use Dur-A-Flex, Inc. Dur-A-Glaze #4 Cove Rez.
   b. Deep Fill and Sloping Material (over ¼ inch): Use Dur-A-Flex, Inc. Dur-A-Crete.

2.02 MANUFACTURER

A. Dur-A-Flex, Inc., 95 Goodwin Street, East Hartford, CT 06108, Phone: (860) 528-9838, contact_us@dur-a-flex.com

B. Manufacturer of Approved System shall be single source and made in the USA.

2.03 PRODUCT REQUIREMENTS

A.	Primer	Elast-O-Coat	
1.	Percent Solids	100 %	
2.	VOC	4.34 g/L	
3.	Elongation, ASTMD 412	150 %	
4.	Tensile Strength, ASTM D 412	2,400 psi	
B.	Base Coat	Dur-A-Gard	
1.	Percent Solids	100 %	
2.	VOC	4 g/L	
3.	Compressive Strength, ASTM D 695	16,000 psi	
4.	Tensile Strength, ASTM D 638	3,000 psi	
5.	Flexural Strength, ASTM D 790	4,000 psi	
6.	Abrasion Resistance, ASTM D 4060		
	CS 17 Wheel, 1,000 gm load, 1,000 cycles	35 mg loss	
7.	Flame Spread/NFPA-101, ASTM E 84	Class A	
8.	Flammability, ASTM D 635	Self Extinguishing	
9.	Impact Resistance MIL D-3134	0.025-inch Max	
10.	Water Absorption. ASTOM D 570	0.04 %	
11.	Pot Life @ 70 F	20-25 minutes	
C.	Topcoat	Armor Top	
1.	Percent Solids	95.2 %	
2.	VOC	0 g/L	
3.	Tensile Strength, ASTM D 2370	7,000 psi	
4.	Adhesion, ASTM 4541	Substrate Failure	
5.	Hardness, ASTM D 3363	>4H	
6.	600 Gloss ASTM D 523	Satin 50+/-10	Gloss 70+/-10
7.	Abrasion Resistance, ASTM D4060	Gloss	Satin

CS 17 wheel (1,000 g load) 1,000 cycles	4	8 mg loss with grit
	10	12 mg loss without grit
8. Pot Life, 70 F, 50% RH		45 mins
9. Full Chemical Resistance		7 days

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.

1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.02 PREPARATION

A. General:

1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
2. Moisture Testing: Perform tests recommended by manufacturer and as follows.
   a. Perform anhydrous calcium chloride test ASTM F 1869-98. Application will proceed only when the vapor/moisture emission rates from the slab is less than and not higher than 3 lbs/1,000 sf/24 hrs.
   b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75% relative humidity level measurement.
   c. If the vapor emission exceeds 75 % relative humidity or 3 lbs/1,000 sf/24 hrs. then Dur-A-Flex, Inc Dur-A-Glaze MVP Primer moisture mitigation system must be installed prior to resinous flooring installation. Slab-on grade substrates without a vapor barrier may also require the moisture mitigation system.
3. There shall be no visible moisture present on the surface at the time of application of the system. Compressed oil-free air and/or a light passing of a propane torch may be used to dry the substrate.
4. Mechanical surface preparation
   a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes, and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 2-3 as described by the International Concrete Repair Institute.
   b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
   c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/8-inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
   d. Cracks and joints (non-moving) greater than 1/8-inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
5. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.03 APPLICATION

A. General:

1. The system shall be applied in four distinct steps as listed below:
   a. Substrate preparation
   b. Priming
   c. Base coat application.
   d. Topcoat application
2. Immediately prior to the application of any component of the system, the surface shall be dry, and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

B. Membrane

1. The Elast-O-Coat membrane shall consist of a liquid resin and hardener that is mixed at the ratio of 2 parts resin to 1 part hardener per the manufacturer’s instructions.
2. The Elast-O-Coat membrane shall be applied by flat squeegee and back rolled at the rate of 80 sf/gal to yield a dry film thickness of 20 mils.

C. Base Coat

1. The base coat shall be comprised of two component Dur-A-Gard, a resin, and hardener as supplied by the Manufacturer.
2. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.
3. The base coat shall be applied over horizontal surfaces using “v” notched squeegee and back rolled at the rate of 100 sf/gal to yield a dry film thickness of 16 mils.

D. Topcoat

1. The topcoat shall be comprised of three components, a resin, hardener, and pigment as supplied by the Manufacturer.
2. The resin and pigment shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.
3. The topcoat shall be applied over horizontal surfaces at the rate of 500 sf/gal to yield a dry film thickness of 3-4 mils.
4. The finish floor will have a nominal thickness of 40 mils.

3.04 FIELD QUALITY CONTROL

A. Tests, Inspection

1. The following tests shall be conducted by the Applicator:
   a. Temperature
      1) Air, substrate temperatures and, if applicable, dew point.
   b. Coverage Rates

1) Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.05 CLEANING AND PROTECTION

A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.

B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION

SECTION 31 3213
CHEMICAL SOIL STABILIZATION

PART 1 – GENERAL

1.01 SUBMITTALS

A. Submittals: Submit in accordance with Section 01 3300 - Submittal Procedures.

1.02 QUALITY ASSURANCE

A. The details of the injection/application rate, injection pressure, and chemical concentration to provide uniform distribution of the chemical mixture will be determined solely by the applicator.

B. Installer Qualifications: A firm with not less than 10 years successful experience in chemical soil injection and quality control and shall have been in business under the same name and operating as a soil stabilization company for not less than 10 years.

PART 2 - PRODUCTS

2.01 CHEMICAL INJECTION STABILIZATION MATERIALS

A. Soil: Upper 15'-0" of material in place after the subgrade below the pavement has been established and shaped.

B. Chemical: EcSS 3000 as manufactured by Environmental ® Soil Stabilization, L.L.C. (phone 817.426.8000 web site: www.esslsoils.com), or approved equal. Equivalent chemical shall be shown to be able to reduce the swell characteristics of the in-place clays to meet the project specifications and be shown to not only reduce the negative charge of the clay particles but to also change the clay structure from an expanding crystalline lattice to a non-crystalline, amorphous structure.

1. Equivalent products and application processes, subject to all requirements of the drawings and specifications, as manufactured by ProChemical Soil Stabilization of Texas (phone 817.832.6223 web site: www.prochemtex.com)

2.02 EQUIPMENT

A. Equipment shall be suitable for the intended work. Injection equipment shall be self-propelled and constructed to provide straight pipe injection under pressure to the stated treatment depth. Injection equipment shall be equipped with flow meter and pressure meter and control valve for monitoring and controlling the amount of chemical injected. The pump units shall have centrifugal pumps installed and shall be capable of injecting at least 7,500 gallons/hour at 200 to 250 pounds per square inch constant pressure.

PART 3 - EXECUTION

3.01 PREPARATION

A. The area to be chemical injected shall be graded to subgrade required for pavement thickness indicated.

B. Swelling the active clays shall be anticipated during the chemical injection process. Additional grading of the site may be required prior to paving.

3.02 CHEMICAL INJECTION APPLICATION

A. The subgrade shall be injected to a depth of 15 feet and at least 5 feet beyond the paving limits. Injection rods shall be forced downward (not jetted or washed) in approximately 12 inch vertical intervals, to a depth of 15 feet. Spacing for the injection holes shall not exceed 3 feet on center, each way. Injection shall be carried outside paving limits a minimum of 5 feet.

B. A minimum waiting period of 72 hours is required before finishing operations, sampling, or testing is performed.

3.03 FIELD QUALITY CONTROL

A. Post-treatment evaluation for chemical injection shall be based on one dimensional laboratory swell tests (ASTM D 4546, Method B) conducted by the Owner's geotechnical engineer. Soil samples used for testing shall be undisturbed samples retrieved by using thin walled seamless tube samplers to a depth equal to the specified injection depth.

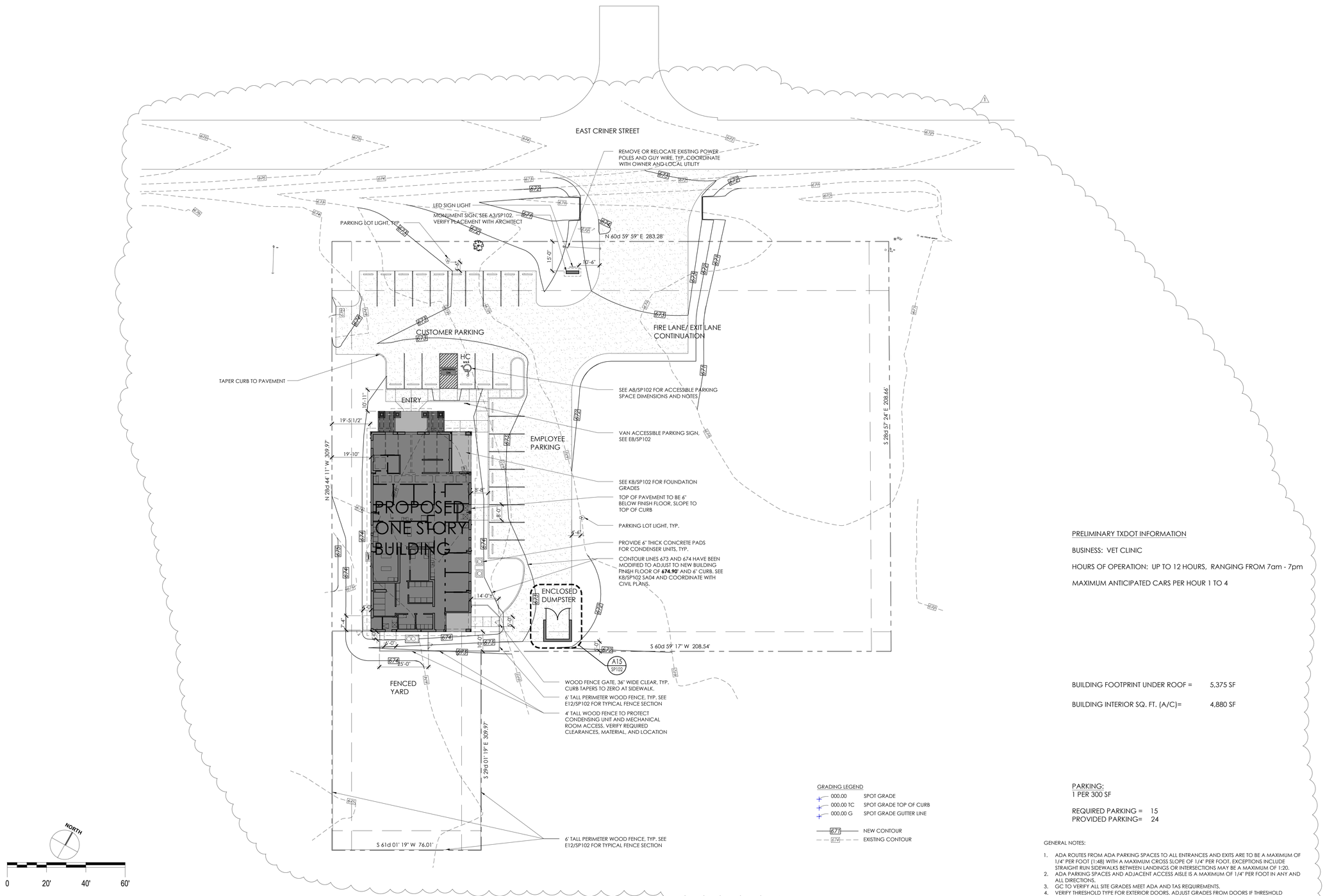
B. Sampling shall be one sample for each 5,000 to 10,000 square feet, or portion thereof, of treated area, or a minimum of 2 sample borings, whichever is greater. Sample borings shall be taken at an equal distance from injection points. Continuous tube samples shall be obtained from the entire treated depth. Samples shall be extruded from the sampling tube, wrapped in plastic, sealed in plastic bags to prevent moisture loss, and protected from disturbance. Aluminum foil shall not be used.

C. A minimum of 4 one-dimensional swell tests shall be performed for each sample boring for injection depths up to 15 feet. Test depth ranges shall be: 0 to 3 feet, 3 to 5 feet, 5 to 7 feet, 7 to 10 feet, and 10 to 15 feet. One dimensional swell tests shall be documented in accordance with ASTM D 4546, Method B. Test results shall be reported for a swell of 48 hours duration under a single surcharge load simulating overburden pressure after construction of the pavement. The swell test shall be continued beyond 48 hours if the sample exhibits a 25 percent or greater change in sample height during the 36 to 48 hour test interval. Moisture and hand penetrometer determinations shall be performed on one foot intervals in all borings.

D. The average swell from each boring sampled shall not exceed 1.0 percent; and no swell test from each boring shall have a swell of more than 2.0 percent.

E. Where the swell criteria is not met in any one of the borings, determination of the project area and depth increment to be re-injected will be made by the geotechnical engineer. Re-treatment and acceptance testing will be performed in accordance with the geotechnical engineer's recommendations.

END OF SECTION



PRELIMINARY TXDOT INFORMATION

BUSINESS: VET CLINIC

HOURS OF OPERATION: UP TO 12 HOURS, RANGING FROM 7am - 7pm

MAXIMUM ANTICIPATED CARS PER HOUR 1 TO 4

BUILDING FOOTPRINT UNDER ROOF = 5,375 SF

BUILDING INTERIOR SQ. FT. (A/C)= 4,880 SF

GRADING LEGEND

000.00	SPOT GRADE
000.00 TC	SPOT GRADE TOP OF CURB
000.00 G	SPOT GRADE GUTTER LINE
671	NEW CONTOUR
674	EXISTING CONTOUR

PARKING:
1 PER 300 SF

REQUIRED PARKING = 15
PROVIDED PARKING= 24

GENERAL NOTES:

1. ADA ROUTES FROM ADA PARKING SPACES TO ALL ENTRANCES AND EXITS ARE TO BE A MAXIMUM OF 1/4" PER FOOT (1:48) WITH A MAXIMUM CROSS SLOPE OF 1/4" PER FOOT. EXCEPTIONS INCLUDE STRAIGHT RUN SIDEWALKS BETWEEN LANDINGS OR INTERSECTIONS MAY BE A MAXIMUM OF 1:20.
2. ADA PARKING SPACES AND ADJACENT ACCESS AISLE IS A MAXIMUM OF 1/4" PER FOOT IN ANY AND ALL DIRECTIONS.
3. GC TO VERIFY ALL SITE GRADES MEET ADA AND TAS REQUIREMENTS.
4. VERIFY THRESHOLD TYPE FOR EXTERIOR DOORS. ADJUST GRADES FROM DOORS IF THRESHOLD SPECIFIED DOES NOT ACCOMMODATE 1/4" DROP INDICATED.
5. ALL EXPOSED CURB ENDS ARE TO TAPER DOWN TO THE ADJACENT PAVING OVER A LENGTH OF 12".
6. MAXIMUM INTENDED GROUND SLOPE 1:5
7. HOLD FINAL GRADING OR SOD DOWN APPROXIMATELY 1" FROM THE EDGE OF ALL PAVING.
8. REMOVE EXISTING FENCE ALONG THE FRONT OF PROPERTY AND SALVAGE TO OWNER

NOTE:
SEE CIVIL DRAWINGS FOR GRADES AND ADDITIONAL DIMENSIONS

A1 NORTH **SITE PLAN - DIMENSION CONTROL**

SCALE: 1" = 20'

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817.731.9392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

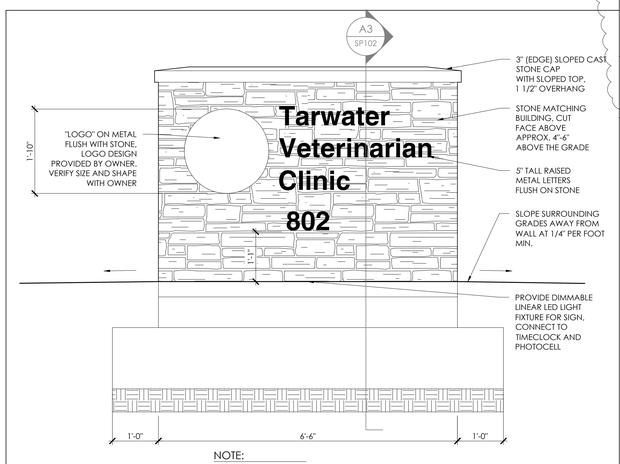
PROJECT NO.: 1744-22
DATE: 09/26/2024
DRAWN: PF
REVISED: 1 10/31/2024

REGISTERED ARCHITECT ALAN R. MAGEE 7028 STATE OF TEXAS

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ALAN R. MAGEE TX NO. 7028

SHEET CONTENT
SITE PLAN DIMENSION CONTROL

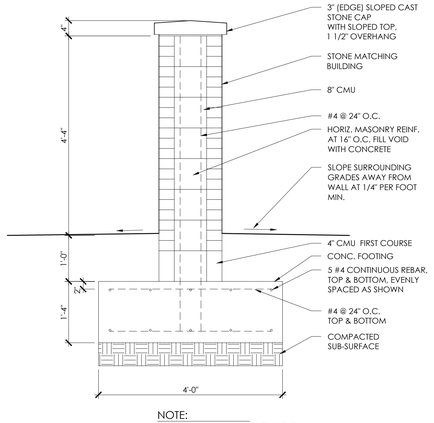
SHEET NUMBER
SA03 SP101



NOTE:
PROVIDE LOGO, NUMBERS AND LETTERS FOR ONE SIDE FACING STREET

F3 MONUMENT SIGN ELEVATION

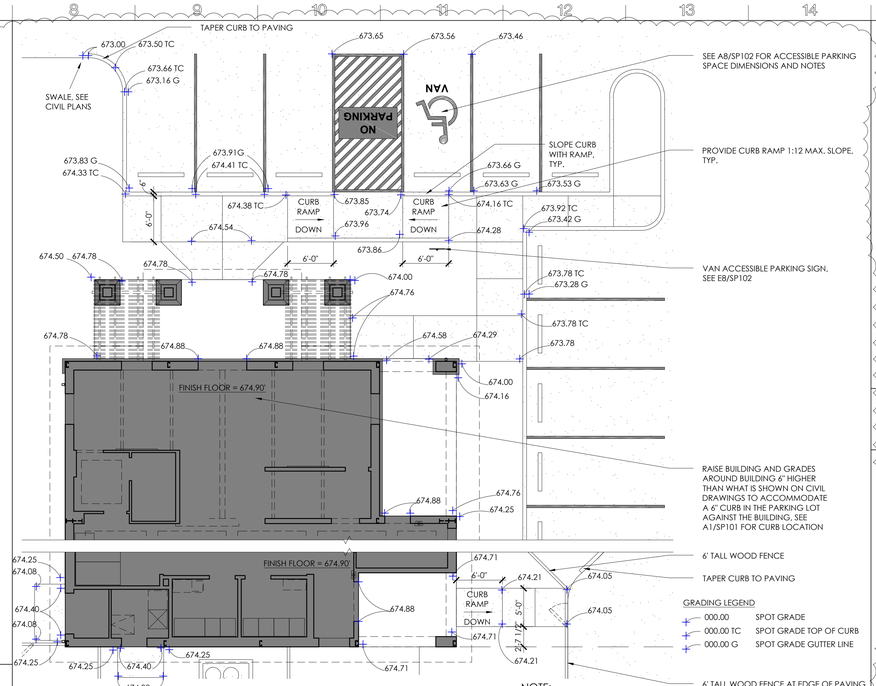
SCALE: 1/4" = 1'-0"



NOTE:
SEE F3/SP102 FOR ELEVATION

A3 MONUMENT SIGN SECTION

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



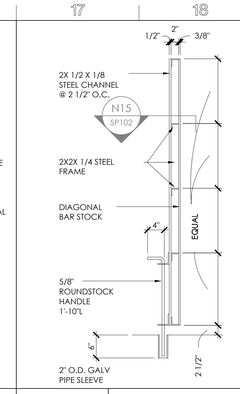
NOTE:
SEE CIVIL DRAWINGS FOR ADDITIONAL GRADES AND DIMENSIONS

K8 GRADING PLAN ENLARGEMENT

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

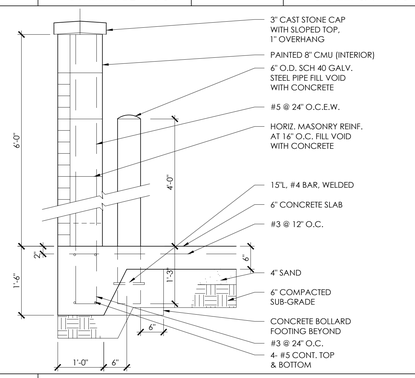
N15 DETAIL

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



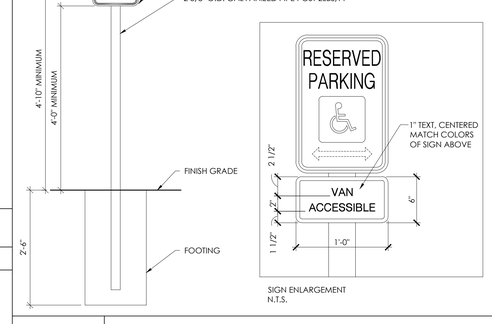
N17 SECTION

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



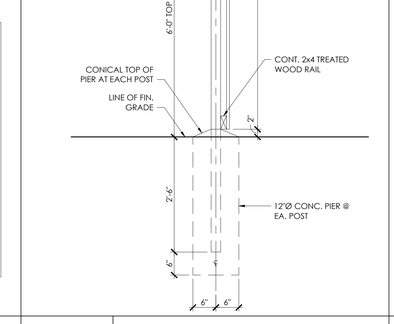
J15 SECTION DETAIL

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



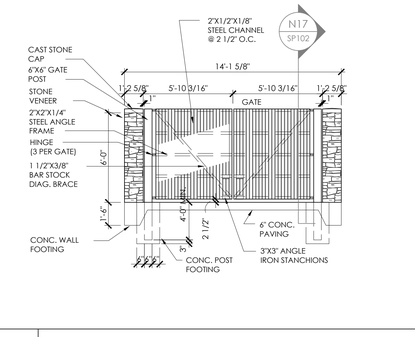
E8 H.C. PARKING SIGN

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



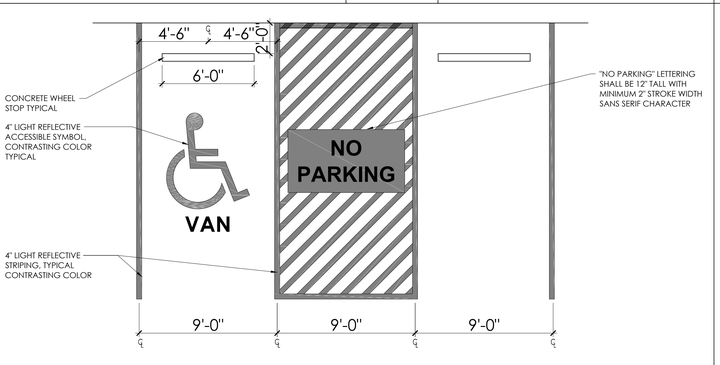
E12 FENCE SECTION

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



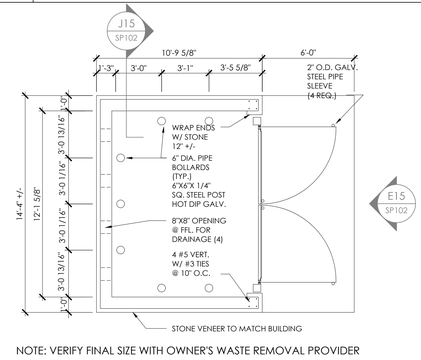
E15 ELEVATION

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



A8 PLAN DETAIL - H.C. PARKING

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



NOTE: VERIFY FINAL SIZE WITH OWNER'S WASTE REMOVAL PROVIDER

A15 DUMPSTER ENCLOSURE PLAN

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

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817.731.9392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO.: 1744-22
DATE: 09/26/2024
DRAWN: PF
REVISED: ⚠ 10/31/2024

ALAN R. MAGEE
REGISTERED ARCHITECT
STATE OF TEXAS
7028

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ALAN R. MAGEE TX NO. 7028

SHEET CONTENT
SITE DETAILS

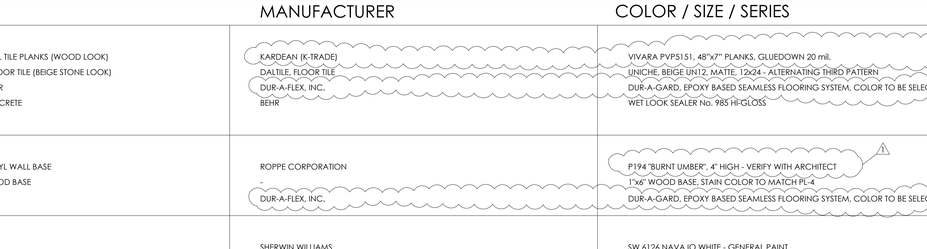
SHEET NUMBER
SA04
SP102

COLOR LEGEND

MATERIAL		MANUFACTURER	COLOR / SIZE / SERIES	
A. FLOOR				
LVT-1	LUXURY VINYL TILE PLANKS (WOOD LOOK)	KARDEAN (K-TRADE)	VIVARA PVP5151, 48"x7" PLANKS, GLUEDOWN 20 mil.	https://www.ktradeflooring.com/product/vivara-20mil-gluedown/
CT-1	CERAMIC FLOOR TILE (BEIGE STONE LOOK)	DALTILE, FLOOR TILE	UNICHE, BEIGE UN12, MATTE, 12x24 - ALTERNATING THIRD PATTERN	
EP-1	EPOXY FLOOR	DUR-A-FLEX, INC.	DUR-A-GARD, EPOXY BASED SEAMLESS FLOORING SYSTEM, COLOR TO BE SELECTED BY ARCHITECT FROM FULL RANGE OF COLORS	
SC-1	SEALED CONCRETE	BEHR	WET LOOK SEALER No. 985 HI-GLOSS	-
B. BASE				
RB-1	RESILIENT VINYL WALL BASE	ROPPE CORPORATION	P194 "BURNT UMBER", 4" HIGH - VERIFY WITH ARCHITECT	-
WB-1	STAINED WOOD BASE	-	1"x6" WOOD BASE, STAIN COLOR TO MATCH PL-4	
EP-2	EPOXY BASE	DUR-A-FLEX, INC.	DUR-A-GARD, EPOXY BASED SEAMLESS FLOORING SYSTEM, COLOR TO BE SELECTED BY ARCHITECT FROM FULL RANGE OF COLORS	
C. WALLS				
PT-1	WALL PAINT	SHERWIN WILLIAMS	SW 6126 NAVAJO WHITE - GENERAL PAINT	-
PT-2	EPOXY WALL PAINT	SHERWIN WILLIAMS	SW 6113 INTERACTIVE CREAM	-
CT-2	CERAMIC WALL TILE (LIGHT COLOR WALL TILE)	DALTILE, WALL TILE	FABRIQUE, P686 CREME LINEN, 12x24 - ALTERNATING THIRD PATTERN (BATHROOM WALLS)	
CT-3	GLASS ACCENT WALL TILE	DALTILE, GLASS ACCENT TILE	CAPRICE, MINK F171 - RANDOM INTERLOCKING PATTERN (6" TALL BAND, VERIFY WITH BATHROOM ELEVATIONS)	
FRP-1	FIBERGLASS REINFORCED PANELS	-	COLOR TO BE SELECTED BY ARCHITECT FROM FULL RANGE OF COLORS	-
D. CEILING				
AC-1	ACOUSTICAL PANLES	ARMSTRONG	CORTEGA, TEGULAR EDGE	-
VC-1	LAY-IN CEILING	ARMSTRONG	VINYL COATED GYP. BD.	
PT-3	PAINT	SHERWIN WILLIAMS	-	-
GYP-1	GYPSUM BOARD	USG 5/8" FIRE RATED / SHERWIN WILLIAMS PAINT	SW 7005 PURE WHITE, FLAT	-
T-1	T1-11 PLYWOOD	-	-	-
G. COUNTER TOPS				
SS-1	SOLID SURFACE ACRYLIC	WILSONART	SEA STONE 9202CS (MITER AT EDGES AND TURN DOWN)	-
H. CABINET FRONTS				
PL-2	PLASTIC LAMINATE	WILSONART LAMINATE	BURNISHED CHESTNUT, 4796-60, MATTE FINISH	-
PL-3	PLASTIC LAMINATE	WILSONART LAMINATE	WAREHOUSE OAK, 7969K-12, SOFTGRAIN FINISH	-
J. SOLID CORE WOOD DOORS				
PL-4	PLASTIC LAMINATE (WOOD LOOK LAMINATE, ALSO AT INTERIOR SILLS)	WILSONART LAMINATE	PREMIUM LAMINATE, WAREHOUSE OAK, 7969K-12, SOFTGRAIN FINISH	-
K. HOLLOW METAL FRAMES				
PT-4	PAINT	SHERWIN WILLIAMS	CAVIAR SW 6990 - VERIFY WITH ARCHITECT	-
L. FIBERGLASS DOORS AND FRAMES				
FGD-1	PREFINISHED	EDGEWATER	COLOR TO BE SELECTED BY ARCHITECT FROM FULL RANGE OF COLORS	-

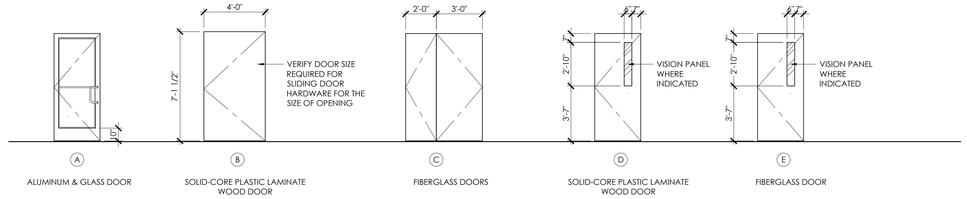
NOTE: SUBMITTAL OF FINISH COLORS ARE REQUIRED TO BE REVIEWED HOLISTICALLY. FINISH COLORS WILL BE CONFIRMED OR SELECTED ONCE ALL COLOR SAMPLES ARE RECEIVED.
ITEMS THAT ARE TO BE CONSIDERED FOR COLOR SELECTION BEYOND WHAT IS LISTED IN COLOR LEGEND ARE TO INCLUDE BUT NOT LIMITED TO:

- GROUT
- SEALANTS
- TACK BOARD COVERS
- ACOUSTICAL PANELS
- LOCKERS
- FIRE EXTINGUISHER CABINETS
- FIRE EXIT SIGNAGE
- ROOM SIGNAGE



E1 FRAME TYPES

SCALE: 3"= 1'-0"



A1 DOOR TYPES

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

ROOM FINISH SCHEDULE

NO.	ROOM NAME	FLOOR	BASE	WALLS N	WALLS E	WALLS S	WALLS W	CLG.	CLG. HT.	NO.	NOTES
101	LOBBY	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	T-1	VARIES	101	3
102	HALL	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1/GYP-1	9'-8"	102	1
103	UNISEX TOILET	CT-1	-	CT-2 / CT-3	CT-2 / CT-3	CT-2 / CT-3	CT-2 / CT-3	AC-1	9'-0"	103	
104	CORRIDOR	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1/GYP-1	9'-8"	104	1,2
105	RECEPTION	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	T-1	VARIES	105	3
106	CHECK OUT	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	T-1	VARIES	106	3
107	EXAM ROOM 4	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	107	
108	EXAM ROOM 3	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	108	
109	EXAM ROOM 2	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	109	
110	EXAM ROOM 1	LVT-1	WB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	110	
111	LAB	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	111	
112	JANITOR	CT-1	RB-1	PT-1	FRP-1	FRP-1	FRP-1	VC-1	9'-8"	112	
113	IT ROOM	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GYP-1	9'-8"	113	4
114	PREP	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	114	
115	SURGERY	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	115	
116	X-RAY	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	116	
117	CORRIDOR	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	117	
118	UNISEX TOILET	CT-1	-	CT-2 / CT-3	CT-2 / CT-3	CT-2 / CT-3	CT-2 / CT-3	AC-1	9'-0"	118	
119	BREAK ROOM	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	119	
120	OFFICE 1	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	120	
121	OFFICE 2	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	121	
122	OFFICE 3	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	AC-1	9'-8"	122	
123	HALL	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	123	
124	HALL	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	124	
125	NOT USED	-	-	-	-	-	-	-	-	125	
126	LAUNDRY	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	126	
127	CATS	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	127	
128	ISOLATION	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	GYP-1	9'-8"	128	4
129	SMALL DOGS	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	129	
130	LARGE DOGS	EP-1	EP-2	PT-2	PT-2	PT-2	PT-2	VC-1	9'-8"	130	
131	MECHANICAL	CONC-1	RB-1	PT-2	PT-2	PT-2	PT-2	GYP-1	9'-8"	131	4
132	ELECTRICAL	CONC-1	RB-1	PT-2	PT-2	PT-2	PT-2	GYP-1	9'-8"	132	4
133	MECHANICAL	CONC-1	RB-1	PT-2	PT-2	PT-2	PT-2	GYP-1	9'-8"	133	4

NOTES:

1. HEIGHT OF GYP. BD. FURR DOWN = 9'-0" A.F.F.
2. USE CUT 2' x 4' CEILING TILES, SEE A401
3. WOOD VENEER BEAMS ON CEILING, SEE A401 FOR LOCATION
4. GYP. BD. CEILING TO BE SUPPORTED BY 2" x 8" WOOD JOISTS AT 16" O.C.

GENERAL NOTES:

1. SUBMITTAL OF FINISH COLORS ARE REQUIRED TO BE REVIEWED HOLISTICALLY. FINISH COLORS WILL BE CONFIRMED OR SELECTED ONCE ALL COLOR SAMPLES ARE RECEIVED.
2. PROVIDE FOR BUILDING ADDRESS NUMBERS ADHERED TO GLASS AT FRONT DOOR AREA. MINIMUM 6" HIGH OR AS REQUIRED BY LOCAL ORDINANCE.
3. EXPOSED STEEL LINTELS ARE TO BE PAINTED COLOR AS TO MATCH ADJACENT MATERIAL UNLESS OTHERWISE NOTED ON PLANS.
4. PROVIDE P.LAM SILLS AT EXTERIOR WINDOWS EXCEPT WHERE OTHERWISE NOTED ON PLANS. COLOR TO BE SELECTED.
5. ROOM SIGNS - PROVIDE FOR ONE SIGN PER ROOM WITH AN AVERAGE OF 12 LETTERS AND SIGN WITH SYMBOL AT EACH RESTROOM, SIGNS SHALL COMPLY WITH TAS/ADA REQUIREMENTS.
6. PROVIDE SIGNS IN RISER ROOMS, ELECTRICAL, MECHANICAL, JANITORIAL CLOSETS AND OTHERS AS REQUIRED BY CITY CODE OFFICIALS, FIRE MARSHAL, AND ANY OTHER GOVERNING ENTITIES THAT ARE REQUIRED TO MEET, BUT NO LIMITED TO, CITY CODES, BUILDING CODES, AND TAS/ADA STANDARDS.
7. PROVIDE 1" HORIZONTAL MINI-BLINDS FOR EACH WINDOW, EXCEPT AT ENTRY GLAZING AND DOORS OR AS OTHERWISE INDICATED ON PLANS. COLOR TO BE SELECTED FROM SAMPLES PROVIDED IN SUBMITTAL.
8. PROVIDE FOR 48"x48" TACK BOARD FOR EACH BREAK ROOM AND AS INDICATED ON PLAN.
9. PROVIDE FOR ONE BRONZE PLAQUE, MINIMUM 24"X36" OR AS INDICATED ELSEWHERE ON PLANS

DOOR SCHEDULE

No.	TYPE	OPENING SIZE	THICK	HEAD	JAMB	JAMB	THRESHOLD	FRAME	LABEL	HDWR	No.	REMARKS
101A	A	6'-0" x 7'-0"	1 3/4"	N6/A004	A10/A004+J6/A004	A10/A004+J6/A004	E15/A004	AL1	-	1	101A	-
101B	D	3'-0" x 7'-0"	1 3/4"	N3/A004	J3/A004	J3/A004	-	HM2		3	101B	
102A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		4	102A	
102B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	C4/A004	HM1		3	102B	
104A	A	3'-0" x 7'-0"	1 3/4"	N6/A004	J6/A004	J6/A004	E15/A004	AL1		2	104A	
104B	B	3'-6" x 7'-0"	1 3/4"	N15/A004	C15/A004	C15/A004 SIM.	-	-		9	104B	4
104C	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	104C	
107A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	107A	
107B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	107B	1
108A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	108A	
108B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	108B	1
109A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	109A	
109B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	109B	1
110A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	110A	
110B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	110B	1
111A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		9	111A	
111B	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		9	111B	
114A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		6	114A	1
115A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM3		8	115A	1, 3
117A	A	3'-0" x 7'-0"	1 3/4"	N6/A004	N8/A004	J15/A004	E15/A004	AL1		2	117A	
118A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	C4/A004	HM1		4	118A	
119A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		5	119A	
120A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		7	120A	
121A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		7	121A	
122A	D	3'-0" x 7'-0"	1 3/4"	N1/A004	J1/A004	J1/A004	-	HM1		7	122A	
123A	E	3'-0" x 7'-0"	1 3/4"	E1/A004	E4/A004	E4/A004	A4/A004	FG1		5	123A	2
124A	E	3'-0" x 7'-0"	1 3/4"	E1/A004	E4/A004	E4/A004	A4/A004	FG1		5	124A	2
124B	E	3'-0" x 7'-0"	1 3/4"	E7/A004	A7/A004	A7/A004 SIM.	-	FG1		5	124B	2
127A	E	3'-0" x 7'-0"	1 3/4"	E7/A004	A7/A004	A7/A004	A1/A004	FG1		5	127A	1,2
128A	E	3'-0" x 7'-0"	1 3/4"	E7/A004	A7/A004	A7/A004	A1/A004	FG1		5	128A	1,2
129A	E	3'-0" x 7'-0"	1 3/4"	E7/A004	A7/A004	A7/A004	A1/A004	FG1		6	129A	1,2
130A	E	3'-0" x 7'-0"	1 3/4"	E7/A004	A7/A004	A7/A004	A1/A004	FG1		6	130A	1,2
131A	E	3'-0" x 7'-0"	1 3/4"	N10/A004	J10/A004	J10/A004	E10/A004	FG1		10	131A	2
132A	C	5'-0" x 7'-0"	1 3/4"	N10/A004	J10/A004	J10/A004	E10/A004	FG1		11	132A	2
133A	E	3'-0" x 7'-0"	1 3/4"	N10/A004	J10/A004	J10/A004	E10/A004	FG1		10	133A	2
133B	E	3'-0" x 7'-0"	1 3/4"	N10/A004	J10/A004	J10/A004	E10/A004	FG1		10	133B	2

REMARKS:

1. VISION PANEL
2. FIBERGLASS DOOR
3. DOUBLE SWINGING
4. SLIDING DOOR, SEE A15/A004 AND A17/A004 FOR BARN DOOR TRACK DETAILS

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/3193392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN : PF
REVISED : ⚠ 10/31/2024

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY ALAN R. MAGEE TX NO. 7028

SHEET CONTENT

ROOM FINISH SCHEDULE, COLOR LEGEND, DOOR SCHEDULE, TYPES AND FRAMES
WINDOW TYPES
WINDOW DETAILS

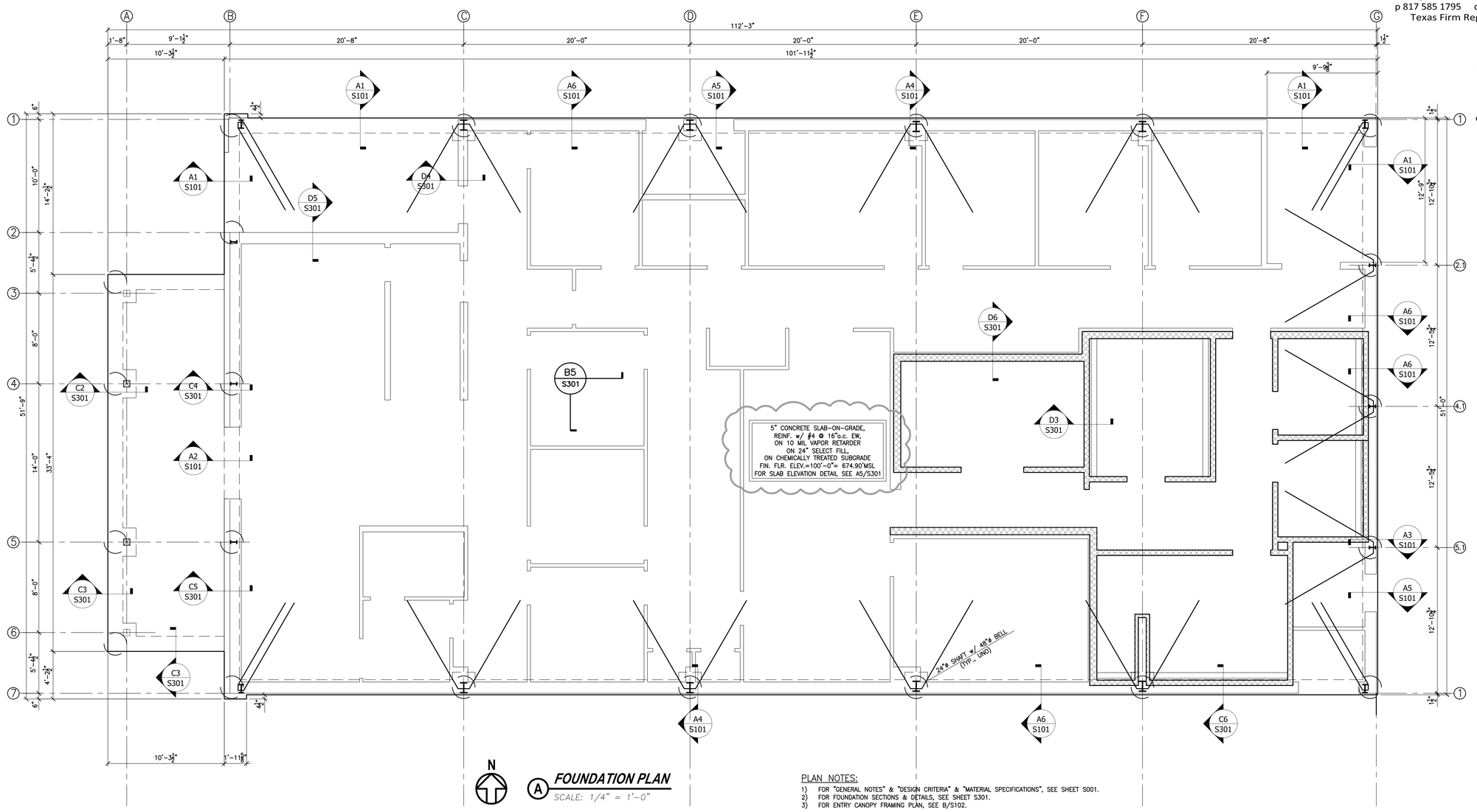
SHEET NUMBER

SA05 A002

DETAILED ENGINEERING
6421 Camp Bowie Blvd., #307, Fort Worth, TX 76116
p 817 585 1795 detailedengineereing.com
Texas Firm Registration No. 24384

STATE OF TEXAS · CHRISTOPHER R. SUBE · 53666 · LICENSED PROFESSIONAL ENGINEER

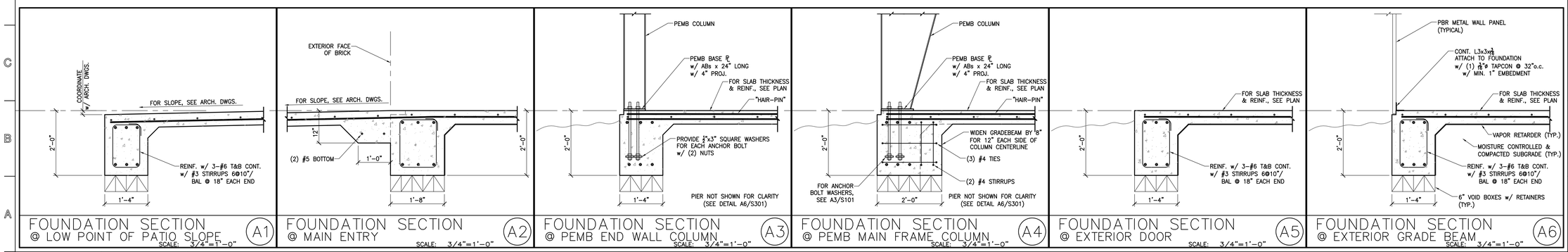
CHRISTOPHER R. SUBE, P.E.
TX LICENSE NO. 53666



N

A FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

PLAN NOTES:
1) FOR "GENERAL NOTES" & "DESIGN CRITERIA" & "MATERIAL SPECIFICATIONS", SEE SHEET S001.
2) FOR FOUNDATION SECTIONS & DETAILS, SEE SHEET S301.
3) FOR ENTRY CANOPY FRAMING PLAN, SEE B/S102.



FOUNDATION SECTION @ LOW POINT OF PATIO SLOPE — A1 — SCALE: 3/4"=1'-0"
FOUNDATION SECTION @ MAIN ENTRY — A2 — SCALE: 3/4"=1'-0"
FOUNDATION SECTION @ PEMB END WALL COLUMN — A3 — SCALE: 3/4"=1'-0"
FOUNDATION SECTION @ PEMB MAIN FRAME COLUMN — A4 — SCALE: 3/4"=1'-0"
FOUNDATION SECTION @ EXTERIOR DOOR — A5 — SCALE: 3/4"=1'-0"
FOUNDATION SECTION @ EXTERIOR GRADE BEAM — A6 — SCALE: 3/4"=1'-0"

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817.731.9392

TARWATER VETERINARIAN CLINIC
802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

MA PROJECT No.:	1744-22
DE PROJECT No.:	24-40
DATE:	09-26-24
DRAWN:	CRS
REVISED:	
ADDENDUM #3	10/31/24

SHEET CONTENT
FOUNDATION PLAN
SECTIONS & DETAILS

SHEET NUMBER
SS101
S101

100% O/A SPLIT SYSTEM A/C UNIT WITH ELECTRIC HEAT

MARK AHU/CU -	ARRANGEMENT	EVAPORATOR FAN				ELECTRIC HEATING			COMPRESSOR			CONDENSER			NET COOLING PERFORMANCE							ELECTRIC REHEATING			AHU POWER CONN.				CU POWER CONN.				EER	MANUFACTURER AND MODEL	UNIT WEIGHTS AHU/CU(LBS)	REMARKS
		S/A CFM	O/A CFM	EXT. S.P.	MOTOR HP	LEAVING AIR D.B.	KW	NO. STAGES	NO.	RLA	REF. TYPE	NO. FANS	H.P. EACH	O.D. D.B.	ENTERING AIR D.B.	ENTERING AIR W.B.	LEAVING AIR D.B.	LEAVING AIR W.B.	CAPACITY (MBH) SENS	CAPACITY (MBH) LAT	CAPACITY (MBH) TOTAL	LEAVING AIR D.B.	MBH	NO. STAGES	V.	Ph.	MCA	MOCP	V.	Ph.	MCA	MOCP			
3	UPFLOW	1,500	1,500	0.5	2.00	95.0	35	SCR	2	20.4/22.4	R-410A	2	1	105	100.0	78.0	55.0	54.5	72.9	54.3	127.2	95.0	38	SCR	208	3	90.0	90.0	208	3	63.0	80.0	10.8	AAON V3 & CFA	775/1122	1-10

1. EXTERNAL STATIC PRESSURE ("WG") INCLUDES DUCTWORK, BALANCING DAMPERS AND AIR DEVICES ONLY
2. CAPACITIES LISTED ARE NET FROM UNIT DISCHARGE. UNITS SHALL PERFORM TO LISTED CAPACITIES. UNIT PERFORMANCE MUST SATISFY BOTH SENSIBLE AND LATENT CAPACITY REQUIREMENTS.
3. PROVIDE FACTORY CONDENSER COIL HAIL GUARDS.
4. PROVIDE WITH MODULATING ELECTRIC HEAT (SCR).
5. PROVIDE WITH CRANKCASE HEATER.
6. PROVIDE WITH MODULATING VFD DRIVEN COMPRESSOR
7. AAON IS THE BASIS OF DESIGN. NO EXCEPTIONS.
8. PROVIDE WITH AAON CONTROLLER WITH PROGRAMMING TO SUPPORT BOTH TEMPERATURE AND HUMIDITY CONTROL.
9. PROVIDE UNIT WITH MODULATING ELECTRIC REHEAT (SCR).

SPLIT SYSTEM SCHEDULE

MARK	TONNAGE	INDOOR UNIT										AIR COOLED CONDENSING UNIT														FCU COOLING PERFORMANCE DATA					REMARKS
		ARRANGEMENT	UNIT CFM	O/A CFM	EXT. S.P.	H.P.	POWER CONNECTION V.	POWER CONNECTION Ph.	CIRCUIT 1 MCA	CIRCUIT 1 MOCP	WEIGHT/LBS	MANUFACTURER AND MODEL NO.	COMPRESSORS NO.	COMPRESSORS R.L.AMPS EACH	REF. TYPE	FANS NO.	FANS FLA	POWER CONNECTION V.	POWER CONNECTION Ph.	POWER CONNECTION MCA	POWER CONNECTION MOCP	HEATING CAPACITY O.D. TEMP	HEATING CAPACITY I.D. DB TEMP	HEATING CAPACITY LVG DB TEMP	HEATING CAPACITY MBH	MANUFACTURER AND MODEL NO.	CAPACITY (MBH) TOTAL	CAPACITY (MBH) SENS	AMB. D.B. F.	ENTERING D.B. F.	ENTERING W.B. F.	
AHU/CU-1	3	VERTICAL	980	200	0.4	1/2	208	1	5.0	15.0	144	TRANE/TEM6	1	17.0	R410A	1	0.74	208	1	24	35	22	60	85	26.2	TRANE/4TWR	33.1	27.6	105	81	68	1-10
AHU/CU-2	5	VERTICAL	1,740	350	0.7	3/4	208	1	9.0	15.0	174	TRANE/TEM6	1	32.1	R410A	1	1.3	208	1	41	60	22	60	85	46.3	TRANE/4TWR	58.9	47.0	105	81	68	1-10
AHU/CU-4	1.5	WALL MOUNTED	437	0	-	-	208	1	1.0	-	29	MITSUBISHI/MSZ	1	17.0	R410A	1	0.65	208	1	18	20	22	75	95	9.4	MITSUBISHI/MUZ	16.4	10.9	105	78	62	2-9, 11-13
1 AHU/CU-5	1	WALL MOUNTED	400	0	-	-	208	1	1.0	-	22	1 MITSUBISHI/MSY	1	17.0	R410A	1	0.65	208	1	7	15	-	-	-	-	MITSUBISHI/MUY	9.0	9.0	105	78	62	2-9, 11-13

REMARKS:

1. UNITS SHALL BE PROVIDED WITH TXV VALVES
2. SIZE, ROUTE, INSULATE AND PROVIDE APPURTENANCES FOR DX PIPING SYSTEMS, IN STRICT ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS.
3. LISTED CAPACITIES ARE FOR THE FAN COIL UNIT AND CONDENSER UNIT COMBINATION. UNITS SHALL PERFORM TO LISTED CAPACITIES.
4. PROVIDE FACTORY CONDENSER COIL HAIL GUARDS.
5. SEER / EER. RATINGS ARE AT ARI CONDITIONS FOR CONDENSING UNIT ONLY.
6. PROVIDE FILTER DRYER AND SIGHT GLASS ON THE DX LINES.
7. FOR LONG DX RUNS, USE MANUFACTURER'S RECOMMENDED LONG LINE INSTALLATION GUIDELINES.
8. PROVIDE FACTORY PROGRAMMABLE THERMOSTAT 7-DAY, 2-EVENT.
9. COORDINATE OUTDOOR UNIT MOUNTING REQUIREMENTS.
10. ACCEPTABLE MANUFACTURERS ARE: CARRIER, LG, DAIKIN, TRANE, MITSUBISHI.
11. PROVIDE WITH AN MINI CONDENSATE PUMP.
12. ACCEPTABLE MANUFACTURERS ARE: MITSUBISHI, LG.
13. THE INDOOR UNIT IS POWERED BY THE OUTDOOR UNIT.

FAN SCHEDULE

MARK EF-	SERVES	CFM	EXT. SP IN WG	MOTOR DATA HP	MOTOR DATA VOLTS	MOTOR DATA PH	DRIVE	MAX SONES	WEIGHT/LBS	MANUFACTURER/ MODEL SERIES	REMARKS
1-6	RESTROOMS & EXAM ROOMS	50	0.3	1/25	120	1	DIRECT	10.2	12	COOK/GC-128	1,2,3
7	PREP ROOM	830	0.3	1/3	120	1	DIRECT	4.0	58	COOK/GC-822	1,2,4
8	ANIMAL ZONES	780	0.5	1/5	120	1	DIRECT	9.5	49	COOK/100 SQN-D GALV	1,2,5

REMARKS:

1. ACCEPTABLE MANUFACTURER'S ARE: LOREN COOK, GREENHECK, PENNBARRY.
2. PROVIDE VIBRATION ISOLATORS.
3. FAN RUNS INTERMITTENTLY, CONTROLED BY THE ATTACHED OCCUPANCY SENSOR.
4. FAN RUNS INTERMITTENTLY, CONTROLED BY A SWITCH WITH A PROGRAMMABLE TIMER.
5. FAN RUNS CONTINUOUSLY.

LOUVER SCHEDULE

MARK	CFM	TYPE	MATERIAL	OPENING SIZE WIDTH(IN)	OPENING SIZE HEIGHT(IN)	OPENING SIZE VELOCITY (FPM)	OPENING SIZE FREE AREA (SF)	DELTA P	MANUFACUTRER AND MODEL NUMBER	REMARKS
L1	310	EXHAUST	ALUMINIUM	12.0	18.0	600	0.50	0.1	POTTORFF EFD-445	1,2,3,4,5
L2	550	INTAKE	ALUMINIUM	12.0	30.0	600	0.92	0.1	POTTORFF EFD-445	1,2,3,4,5
L3	1,500	INTAKE	ALUMINIUM	24.0	36.0	600	2.50	0.1	POTTORFF EFD-445	1,2,3,4,5
L4	830	EXHUAST	ALUMINIUM	18.0	30.0	600	1.37	0.1	POTTORFF EFD-445	1,2,3,4,5
L5	770	EXHUAST	ALUMINIUM	18.0	30.0	600	1.30	0.1	POTTORFF EFD-445	1,2,3,4,5

1. OR APPROVED EQUAL
2. PROVIDE EXTRUDED ALUMINUM, 4" DRAINABLE STATIONARY WALL LOUVER WITH BIRD SCREEN.
3. PROVIDE LOUVER WITH ANODIZED FINISH, COORDINATE COLOR WITH ARCHITECT
4. PROVIDE WITH EXTENDED SILL.
5. PROVIDE TRANSITION OR ADAPTOR WHERE REQUIRED TO ADAPT DUCTWORK TO NECK SIZE.

AIR DEVICE SCHEDULE

MARK	SERVES	NECK SIZE (INCHES)	FACE SIZE (INCHES)	MOUNTING	TYPE	MATERIAL	MAXIMUM NC	DESIGN BASIS MANUFACTURER/ MODEL SERIES	REMARKS
S1	SUPPLY	8	48 x 4	CEILING	SLOT	ALUMINUM	25	TITUS/ML-37	1--6
S2	SUPPLY	6,8,10	24 x 24	CEILING	LOUVERED	ALUMINUM	25	TITUS/TDCA	1,2
S3	SUPPLY	6,8	24 x 24	CEILING	LOUVERED	ALUMINUM	25	TITUS/OMNI	1,2
R1	RETURN	8	48 x 4	CEILING	SLOT	STEEL	30	TITUS/MLR-37	1,2,3,6
R2	RETURN	6,8,10	24 x 24	CEILING	LOUVERED	STEEL	30	TITUS/PAR	1,2
E1	EXHAUST	6,8,10,12,14	24 x 24	CEILING	LOUVERED	STEEL	30	TITUS/PAR	1,2
E2	EXHAUST	6	12 x 12	CEILING	LOUVERED	STEEL	30	TITUS/PAR	1,2

REMARKS:

1. PROVIDE MOUNTING FRAME TO BE COMPATIBLE WITH TYPE OF CEILING IN WHICH THE DEVICE IS TO BE MOUNTED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES.
2. WHERE ROUND NECK SIZE IS NOTED ON DUCTWORK PLAN, PROVIDE RECTANGULAR TO ROUND DUCT COLLAR.
3. PROVIDE WITH ONE (1) 1/2" SLOTS.
4. PROVIDE WITH BORDER 2A.
5. PROVIDE WITH MPI INSULATED PLENUM.
6. SLOT BORDER IS X-X, CONTRACTOR TO COORDINATE.

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS , L . P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/731/3392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
1 10/31/2024

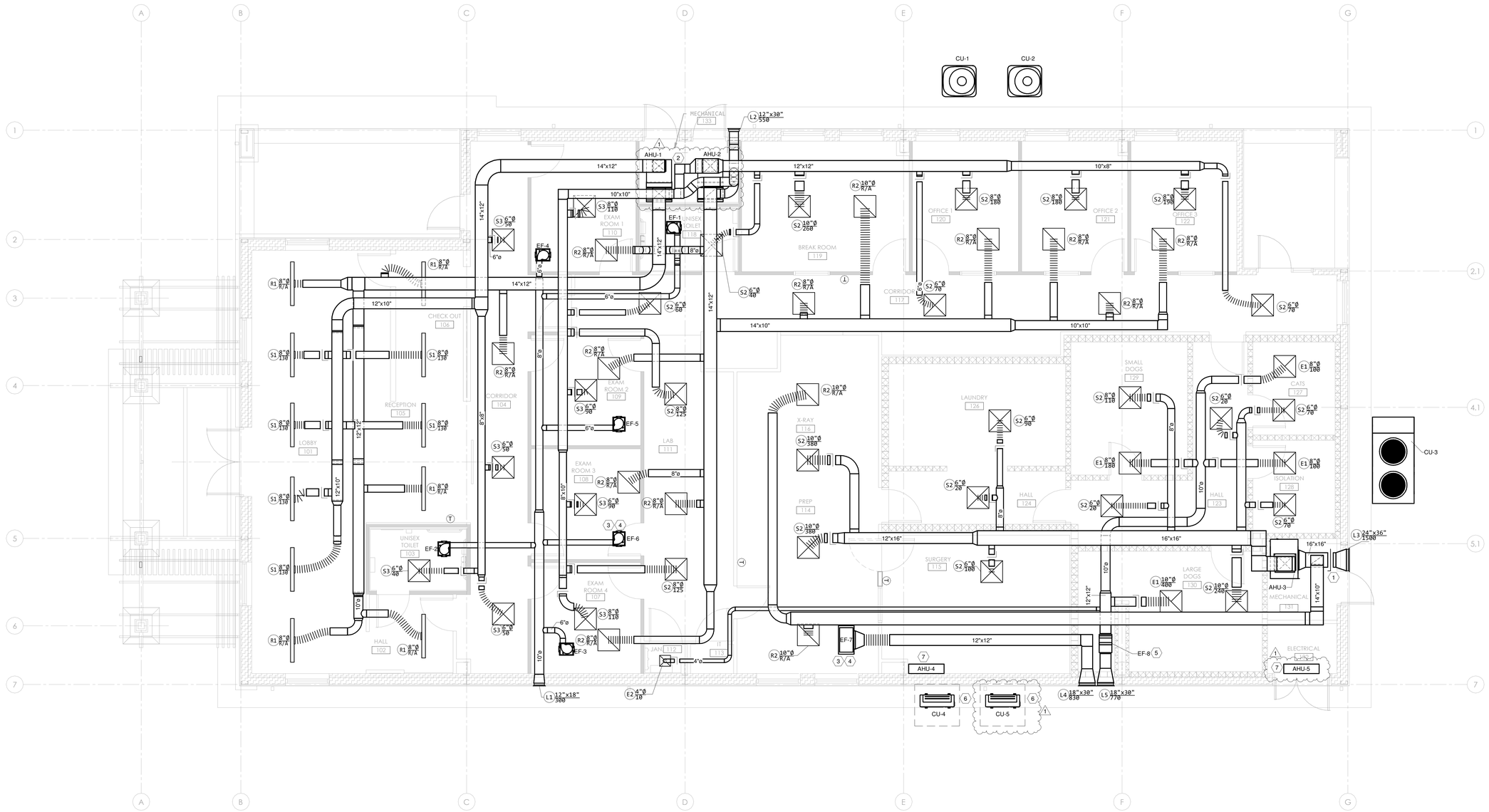
STATE OF TEXAS
BRIAN D. RICHARDS
74703
LICENSED
PROFESSIONAL ENGINEER
10/31/2024

SHEET CONTENT
MECHANICAL SCHEDULES

SHEET NUMBER
SM01
M002

Mechanical Notes By Symbols

1	ADD MOTORIZED DAMPERS ON THE RETURN AND OUTDOOR DUCTS. INTERLOCKED WITH THE EXHAUST FAN-7. BALANCE THE DAMPER TO MAKE SURE THE RETURN AIR AND OUTDOOR AIR BOTH TO BE 750CFM WHEN THE EF-7 IS OFF; CLOSE THE RETURN AIR DAMPER AND FULLY OPEN THE OUTDOOR AIR DAMPER WHEN EF-7 IS ON. REFER TO DETAIL 8/M501 AND 100% OA SPLIT SYSTEM SCHEDULE FOR ADDITIONAL INFORMATION.
2	AIR HANDLERS IN MECHANICAL ROOM TO BE MOUNTED ON PLENUMS. REFER TO DETAIL 1/M501 AND SPLIT SCHEDULES FOR ADDITIONAL INFORMATION.
3	CEILING EXHAUST FAN TO BE CONTROLLED BY OCCUPANCY SENSOR. REFER TO DETAIL 2/M501 AND FAN SCHEDULE FOR ADDITIONAL INFORMATION.
4	CEILING EXHAUST FAN TO BE CONTROLLED BY SWITCH. REFER TO DETAIL 2/M501 AND FAN SCHEDULE FOR ADDITIONAL INFORMATION.
5	INLINE EXHAUST FAN TO RUN CONTINUOUSLY. PROVIDE WITH ACCESS PANEL. REFER TO DETAIL 6/M501 AND FAN SCHEDULE FOR ADDITIONAL INFORMATION.
6	CONDENSING UNIT TO BE MOUNTED ON CONCRETE PAD. REFER TO DETAIL 7/M501 FOR ADDITIONAL INFORMATION.
7	WALL MOUNTED MINI SPLIT TO BE INSTALLED AS HIGH AS POSSIBLE PER MANUFACTURERS INSTRUCTIONS. REFER TO DETAIL 7/501 FOR ADDITIONAL INFORMATION.



4' 0' 4' 8'

1/4" = 1'-0"

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

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

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817.731.9392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
1 10/31/2024

STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED PROFESSIONAL ENGINEER

SHEET CONTENT
MECHANICAL FLOOR PLAN

SHEET NUMBER
SM02
M201

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ROUGH IN (MINIMUM) W	V	CW	HW	E	MANUFACTURER AND MODEL NUMBER	ADA /TAS
WC1	WATERCLOSET, ADA COMPLIANT, FLOOR MOUNT, FLUSHOMETER VALVE, TOP SPUD, ELONGATED, SIPHON ACTION JETTED BOWL, VITREOUS CHINA, WHITE, ASME A112.19.2M, 2" FULLY GLAZED TRAPWAY, 10" ROUGH-IN, 1.28 GPF	4"	2"	-	-	-	AMERICAN STANDARD, 3043.001; KOHLER, K-96057; ZURN, Z5665-BWL1; SLOAN, ST-2029.	
	FLUSHOMETER VALVE, 1.28 GPF, EXPOSED DIAPHRAGM-TYPE, CHROME PLATED, 1 1/2" TOP SPUD, SPUD COUPLING AND FLANGE, OSCILLATING NON-HOLD OPEN HANDLE, CHROME PLATED ANGLE STOP WITH STOP CAP, VACUUM BREAKER FLUSH CONNECTION, CAST WALL FLANGE WITH SET SCREW, ANSI/ASME 112.19.6	-	-	1 1/2"	-	-	SLOAN, 111-1.28; ZURN, Z6000AV-HET.	
	SEAT, EXTRA HEAVY WEIGHT, POSTURE MOLDED SOLID PLASTIC, ELONGATED, OPEN FRONT, LESS COVER, EXTERNAL CHECK HINGES, STAINLESS STEEL HINGE POSTS, WHITE	-	-	-	-	-	CHURCH 9500C; BEMIS, 1655C; OLSONITE, 95/SS	
L1	LAVATORY, 20"X17" OVAL SELF-RIMMING BASIN WITH FAUCET LEDGE, 4" CENTER FAUCET HOLES, VITREOUS CHINA, FRONT OVERFLOW, ANSI A112.19.2.	2"	1 1/2"	-	-	-	AMERICAN STANDARD, 0476.028; KOHLER, K-2196-4; ZURN, Z5114; SLOAN, SS-3002.	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, 4" INTEGRAL SPOUT, TWO-HANDLE, 1/4 TURN, 2 1/2" LEVER HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 0.5 GPM MAX. FLOW RATE	-	-	1/2"	1/2"	-	CHICAGO FAUCETS, 802-VE66XKABCP; T&S BRASS, B-0871-VF05; ZURN, Z81101-XL-27M.	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	-	-	-	MCGUIRE, LFH2165CCLK; T&S BRASS, B-1305; OR BRASSCRAFT, OCR1912A	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8902; BRASSCRAFT, 507; OR EQUAL IN T&S BRASS	
	OFFSET TAILPIECE AND STRAINER, CHROME PLATED CAST BRASS	-	-	-	-	-	MCGUIRE, 155WC; OR EQUAL IN T&S BRASS; OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS, LFUSG-B; LEONARD, 170-LF; BRADLEY, S59-4000A; OR EQUAL	
L2	LAVATORY, 20"X18" VITREOUS CHINA WALL MOUNT, 4" CENTER FAUCET HOLES, FRONT OVERFLOW, CONCEALED ARM CARRIER SYSTEM, DECK MOUNTED FAUCET, INTEGRAL 4" BACKSPLASH, ANSI A112.19.2	2"	1 1/2"	-	-	-	AMERICAN STANDARD, 0355.012; KOHLER, K-2005; ZURN, Z5364; SLOAN, SS-3003.	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, 4" INTEGRAL SPOUT, TWO-HANDLE, 1/4 TURN, 2 1/2" LEVER HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 0.5 GPM MAX. FLOW RATE	-	-	1/2"	1/2"	-	CHICAGO FAUCETS, 802-VE66XKABCP; T&S BRASS, B-0871-VF05; ZURN, Z81101-XL-27M.	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	-	-	-	MCGUIRE, LFH2165CCLK; T&S BRASS, B-1305; OR BRASSCRAFT, OCR1912A	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8902; BRASSCRAFT, 507; OR EQUAL IN T&S BRASS	
	OFFSET TAILPIECE AND STRAINER, CHROME PLATED CAST BRASS	-	-	-	-	-	MCGUIRE, 155WC; OR EQUAL IN T&S BRASS; OR BRASSCRAFT	
	FIXTURE CARRIER, CONCEALED ARMS, LEVELING AND SECURING SCREWS, UPRIGHTS, WELDED FEET	-	-	-	-	-	JOSAM, SERIES 17100; WATTS, CA-411; ZURN, Z1231; OR JR SMITH, 0700	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS, LFUSG-B; LEONARD, 170-LF; BRADLEY, S59-4000A; OR EQUAL	
S1	SINK, SINGLE COMPARTMENT, 19"x21"x5", SELF RIMMING, SEAMLESS #18 GAUGE TYPE 304 STAINLESS STEEL, FAUCET LEDGE, MINIMUM 1 3/4" VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, FULLY UNDERCOATED, ANSI A112.19.3M. DRAIN CENTERED IN REAR OF BASIN.	2"	1 1/2"	-	-	-	JUST, SL-ADA-1921-A-GR; ELKAY, LRAD221950.	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, 5 1/4" RIGID / SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4 TURN 2 1/2" LEVER HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 1.0 GPM MAX. FLOW RATE.	-	-	1/2"	1/2"	-	CHICAGO, 895-GN2AE73ABCP; T&S BRASS, B-0874-133X; ZURN, Z812B1-XL-21F.	
	SUPPLY AND STOP, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	1/2"	1/2	-	MCGUIRE, LFH2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8912; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST J-ADA-35; OR EQUAL IN MCGUIRE, T&S BRASS OR BRASSCRAFT	
S2	SINK, SINGLE COMPARTMENT, 19"x21"x5", SELF RIMMING, SEAMLESS #18 GAUGE TYPE 304 STAINLESS STEEL, FAUCET LEDGE, MINIMUM 1 3/4" VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, FULLY UNDERCOATED, ANSI A112.19.3M. DRAIN CENTERED IN REAR OF BASIN.	2"	1 1/2"	-	-	-	JUST, SL-ADA-1921-A-GR; ELKAY, LRAD221950.	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, 5 1/4" RIGID / SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4 TURN 2 1/2" LEVER HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 1.0 GPM MAX. FLOW RATE.	-	-	1/2"	1/2"	-	CHICAGO, 895-GN2AE73ABCP; T&S BRASS, B-0874-133X; ZURN, Z812B1-XL-21F.	
	FAUCET MOUNTED EYEWASH.	-	-	-	-	-	GUARDIAN, G1101; OR EQUAL.	
	SUPPLY AND STOP, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	1/2"	1/2	-	MCGUIRE, LFH2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8912; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST J-ADA-35; OR EQUAL IN MCGUIRE, T&S BRASS OR BRASSCRAFT	
S3	SINK, SINGLE COMPARTMENT, 16"x28"x5 1/2", SELF RIMMING, SEAMLESS #18 GAUGE TYPE 304 STAINLESS STEEL, FAUCET LEDGE, MINIMUM 1 3/4" VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, FULLY UNDERCOATED, ANSI A112.19.3M. DRAIN CENTERED IN REAR OF BASIN.	2"	1 1/2"	-	-	-	ELKAY, LRAD312255; OR EQUAL.	
	FAUCET, DECK MOUNT, 8" SWING SPOUT, CHROME PLATED BRASS, 8" CENTERS, WITH SIDE HAND SPRAY, TWO-1/4 TURN 2 1/2" LEVER HANDLES, NSF 61 COMPLIANT, ANSI A112.18.1M, 1.5 GPM MAX. FLOW RATE.	-	-	1/2"	1/2"	-	CHICAGO, 1102-L9E35-369ABCP; T&S BRASS, B-1172; ZURN, Z871G1-XL-HS-17F.	
	SUPPLY AND STOP, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	1/2"	1/2	-	MCGUIRE, LFH2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8912; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST J-ADA-35; OR EQUAL IN MCGUIRE, T&S BRASS OR BRASSCRAFT	
VT1	VETERINARIAN TABLE. AS SELECTED BY OWNER, INSTALLED BY CONTRACTOR.	2"	1 1/2"	-	-	-	AS SELECTED BY OWNER, INSTALLED BY CONTRACTOR.	
	FAUCET, COMPONENT OF TABLE, AS SELECTED BY OWNER, INSTALLED BY CONTRACTOR.	-	-	1/2"	1/2"	-	AS SELECTED BY OWNER, INSTALLED BY CONTRACTOR.	
	SUPPLY AND STOP, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS	-	-	1/2"	1/2	-	MCGUIRE, LFH2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE, 8912; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST J-ADA-35; OR EQUAL IN MCGUIRE, T&S BRASS OR BRASSCRAFT	
DW1	DOG WASH FAUCET AND SPRAY HOSE, 8" WALL MOUNTED MIXING FAUCET WITH VACUUM BREAKER, 9'-0" COILED HOSE WITH WITH ANGLED SPRAY VALVE, 4 GPM MIN. FLOW RATE. ASME A112.18.1, ASSE 1001.	-	-	1/2"	1/2"	-	T&S BRASS, PG-8WREV; OR EQUAL.	
	SHOWER STALL STRAINER, HEAVY CAST BRASS BODY, STAINLESS STEEL GRID	2"	1 1/2"	-	-	-	MCGUIRE1266A; OR EQUAL IN JOSAM, ZURN OR JR SMITH	
HR1	COMPLETE HOSE REEL SYSTEM, 8" WALL MOUNTED MIXING FAUCET, CONTINUOUS VACUUM BREAKER, 50'-0" HEAVY-DUTY HOSE. ASSE 1056.	-	-	3/4"	3/4"	-	T&S BRASS, B-7143-U05XS1E; OR EQUAL.	
MSB1	MOP SINK BASIN, ONE PIECE PRECAST TERRAZZO 24"x24"x12" (1 1/4" WALL THICKNESS WITH MINIMUM 9.75" INSIDE DEPTH) 6" DROP FRONT, STAINLESS STEEL EDGE CAPS ON ALL SIDES, CAST BRASS DRAIN WITH STAINLESS STEEL STRAINER.	3"	2"	-	-	-	FIAT, TSB3000; STERN-WILLIAMS, HL-1810; FLORESTONE, MODEL 92.	
	FAUCET, EXPOSED YOKE, WALL MOUNTED UTILITY FAUCET, VACUUM BREAKER, 6"THREADED SPOUT	-	-	3/4"	3/4"	-	FIAT, 830-AA; CHICAGO, 540-LDB97SGXKCCP; T&S BRASS, B-0665-BSTP.	
	24"x3" STAINLESS STEEL MOP BRACKET WITH THREE RUBBER TOOL GRIPS	-	-	-	-	-	FIAT, 889-CC; OR EQUAL.	
	36" RUBBER HOSE (5/8"), CHROME COUPLING 1 END, 5"x3" STAINLESS STEEL BRACKET W/ RUBBER GRIP	-	-	-	-	-	FIAT, 832-AA; OR EQUAL.	
	ALUMINUM BUMPER GUARD ON LEADING EDGE OF MOP SINK BASIN	-	-	-	-	-	FIAT, 1239-BB; OR EQUAL.	
	STAINLESS STEEL WALL GUARDS	-	-	-	-	-	FIAT, MSG2424; OR EQUAL.	
EWC1	TWO STATION WATER COOLER, INDOOR BI-LEVEL WALL MOUNTED, FILTERED, SELF CONTAINED ELECTRIC REFRIGERATION, STAINLESS STEEL BASIN AND CABINET WITH ANTI-SPLASH RIDGE, INTEGRAL DRAIN STRAINER, NON-SQUIRT BUBBLER, PUSH BAR ACTIVATION ON FRONT AND SIDES OF WATER COOLER. REFRIGERATION SYSTEM SERVING BOTH BI-LEVELS TO INCLUDE HIGH EFFICIENCY COMPRESSOR, R-134A, FULLY INSULATED STAINLESS STEEL TANK, 8 GPH WITH 50°F SUPPLY TEMPERATURE AND 80°F AMBIENT, 115VOLT. ANSI 117.1, NFS/ANSI 61.	2"	1 1/2"	-	-	115V	HALSEY TAYLOR, HAC8BLSS-WF; ELKAY, LZSTL8SC; OASIS, PGF8ACSL.	
	HANDICAPPED COMPLIANT APRON, MOLDED STAINLESS STEEL SKIRT KIT FOR INSTALLATION ON THE HIGH UNIT	-	-	-	-	-	HALSEY TAYLOR, 98324C; ELKAY, LKAPREZL; OASIS, 035174-003.	
	SERVICE STOP WITH DIELECTRIC COUPLING	-	-	1/2"	-	-	REFER TO MANUFACTURER FOR REQUIREMENTS	
	P-TRAP, PVC, WHITE	-	-	-	-	-	DEARBORN BRASS, A9701BG; KEYSAN MOEM9100; OR EQUAL	
	FIXTURE CARRIER, STEEL TOP AND BOTTOM PLATES W/ ADJ. HOLES, CHROME PLATED CAP NUTS/WASHERS	-	-	-	-	-	JOSAM SERIES 17905; WATTS, CA-431-1; OR EQUAL IN ZURN OR JR SMITH	
FD1	FLOOR DRAIN, CAST IRON BODY, ANCHOR FLANGE, WEEPHOLES FOR DOUBLE DRAINAGE, 6" SQUARE STAINLESS STEEL FLAT STRAINER, ADJUSTABLE DRAIN HEAD W/ MACHINED INTEGRAL BODY THREADS, ASME A112.21.1	-	-	-	-	-	JOSAM, 30000-S; WATTS, FD-1100-M6; MIFAB, F1000-S; ZURN, Z415S.	
	INSTALL TRAP SEAL SYSTEM, ABS PLASTIC FRAME, SILICONE RUBBER FLAPPERS AND FOUR FLEXIBLE SEALING RIBS, UV RESISTANT, ASSE 1072.	-	-	-	-	-	JOSAM, 88240; MIFAB, MI-GARD; ZURN, Z1072.	
FS1	FLOOR SINK, 8"x8"x6", CI BODY, DBL DRAINAGE FLANGE, STAINLESS STEEL DOME STRAINER, 1/2 GRATE, NON-PUNCTURING FLASHING COLLAR, PORCELAIN ENAMEL OR EPOXY COATED INTERIOR	-	-	-	-	-	JOSAM, 49300-3; WATTS, FS-710-F-150; MIFAB, FS1520-FL-150; ZURN, Z1910-XC-2-32.	
	INSTALL TRAP SEAL SYSTEM, ABS PLASTIC FRAME, SILICONE RUBBER FLAPPERS AND FOUR FLEXIBLE SEALING RIBS, UV RESISTANT, ASSE 1072.	-	-	-	-	-	JOSAM, 88240; MIFAB, MI-GARD; ZURN Z1072.	
TD1	TRENCH DRAIN, 6" WIDE WITH 4 1/2" THROAT, 4" OUTLET, POLYPROPYLENE MODULAR CHANNEL SECTIONS, INTERLOCKING ENDS, RADIUS BOTTOM, 0.75% BUILT-IN SLOPE, BOTTOM OUTLET, ACID RESISTANT COATED FRAME, HEAL PROOF DUCTILE IRON GRATE, VANDAL PROOF SECURED GRATE.	-	-	-	-	-	WATTS, DEAD LEVEL D-DI-ADA; OR EQUAL.	
WCO	WALL CLEANOUT, CI BODY, RECESSED, THREADED BRASS PLUG, STAINLESS STEEL ACCESS COVER	-	-	-	-	-	JOSAM, 58600-PLG; MIFAB, C1460-RD; ZURN, Z1441; WATTS, CO-460-RD. REFER DETAIL 12/P401.	
GCO	GRADE CLEANOUT, HEAVY DUTY COATED CAST IRON ACCESS BODY WITH ANCHOR FLANGES, HEAVY DUTY DUCTILE IRON ACCESS COVER WITH VANDAL RESISTANT STAINLESS STEEL SCREWS	-	-	-	-	-	JOSAM, 58680-5-26-VP; MIFAB, C1300-MF-6; ZURN, Z-1474-SG-VP; WATTS, CO-300-MF. REFER DETAIL 10/P401.	
DCO	2-WAY GRADE CLEANOUT, TWO-RISER CLEANOUT BODY WITH HEAVY DUTY COATED CAST IRON ACCESS BODY WITH ANCHOR FLANGES, HEAVY DUTY DUCTILE IRON ACCESS COVER WITH VANDAL RESISTANT STAINLESS STEEL SCREWS	-	-	-	-	-	JOSAM, 58680-5-26-VP; MIFAB, C1300-MF-6; ZURN, Z-1474-SG-VP; WATTS, CO-300-MF. REFER DETAIL 11/P401.	
PCO	PLUG CLEANOUT, SPIGOT CONNECTION, RAISED HEAD THREADED BRASS PLUG	-	-	-	-	-	JOSAM; MIFAB; ZURN	
NFWH1	NON-FREEZE WALL HYDRANT, EXPOSED WALL TYPE, CHROME FINISH ON BRASS CASTINGS, VACUUM BREAKER, LOOSE KEY HANDLE, 3/4" MALE HOSE THREAD NOZZLE	-	-	3/4"	-	-	WOODFORD, 67; JOSAM, 71050; ZURN, Z1321; WATTS, HY-420.	
IMB1	REFRIGERATOR ICE MAKER CONNECTION BOX, 8"X8" RECESSED STAINLESS STEEL ENCLOSURE	-	-	1/2"	-	-	GUY GREY MODEL SSIB1; OR EQUAL	

NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL SUPPLIES, STOPS, TRAPS, TAILPIECES AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION OF ALL FIXTURES.
2. ALL ADA ACCESSIBLE SINKS AND LAVATORIES SHALL BE EQUIPPED WITH TRUEBRO #103 UNDER SINK PROTECTIVE PIPE COVERS WHERE NOT CONCEALED BY MILLWORK.
3. COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY'S STANDARD (TAS). PLUMBING CONTRACTOR SHALL PROVIDE PLUMBING FIXTURES WITH FLUSH VALVE HANDLES LOCATED ON THE WIDE SIDE OF EACH STALL OR ROOM.
4. FLOOR CLEANOUT ACCESS COVERS IN ALL FINISHED AREAS SHALL BE OF THE RECESSED TYPE TO ALLOW FOR INSERTION OF FINISHED FLOOR TREATMENT. TILE OR CARPET MARKER AS NECESSARY.
5. ABOVE THE FLOOR P-TRAPS ON LAVATORIES AND SINKS SHALL BE 17 GAUGE, CHROME PLATED BRASS. ACCEPTABLE MANUFACTURERS: MCGUIRE, T&S BRASS, OR BRASSCRAFT.
6. CONTRACTOR SHALL VERIFY FIXTURE SUPPLIES AND APPURTENANCES FOR EACH FIXTURE PRIOR TO BIDDING AND PURCHASING.
7. ALL FLOOR MOUNTED WATER CLOSETS SHALL HAVE 10" ROUGH-IN UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL VERIFY PLUMBING FIXTURES PROVIDED COMPLY WITH HANDICAPPED ACCESSIBILITY STANDARDS INCLUDING HEIGHT AND CLEARANCE REQUIREMENTS.
9. ALL WATER CLOSET AND URINAL FLUSH VALVES SHALL INCLUDE CHROME PLATED CAST WALL FLANGE WITH SETSCREW AND COVER TUBE.

DOMESTIC ELECTRIC WATER HEATER SCHEDULE

REMARKS LEGEND:
1. TWO ELECTRIC HEATING ELEMENTS SET FOR NON-SIMULTANEOUS OPERATION.
2. ADJUST STORAGE WATER TEMPERATURE IN ACCORDANCE WITH LOCAL ENERGY CODE REQUIREMENTS.
3. OR EQUAL.

MARK	SERVICE	TYPE	STORAGE CAPACITY (GAL)	RECOVERY RATE (80 RISE) (GPH)	LEAVING WATER TEMPERATURE (F)	ELECTRICAL CHARACTERISTICS # ELEMENTS	KW	VOLTS	PHASE	HZ	MANUFACTURER	MODEL NUMBER	REMARKS
WH1	DOMESTIC HOT WATER	ELECTRIC TANK	80	138	140	6	4.5	208	3	60	A.O. SMITH	DRE-80-27	2, 3

THERMOSTATIC MIXING VALVE SCHEDULE

REMARKS LEGEND:
1. PROVIDE AND INSTALL WITH STAINLESS STEEL, RECESSED CABINET ASSEMBLY.
2. PROVIDE AND INSTALL WITH PAINTED, RECESSED CABINET ASSEMBLY. VERIFY WITH ARCHITECTURAL SPECIFICATIONS FOR COLOR.
3. PROVIDE AND INSTALL WITH PAINTED, SURFACE MOUNTED CABINET ASSEMBLY. VERIFY WITH ARCHITECTURAL SPECIFICATIONS FOR COLOR.
4. MIXING VALVE SHALL MEET ASSE CERTIFICATION OF SCHEDULED USE.
5. OR EQUAL.

MARK	SERVICE	TYPE	FLOWRATE CAPACITY HIGH (GPM)	LOW (GPM)	PRESSURE DROP (PSIG)	INLET HOT WATER TEMPERATURE (F)	INLET COLD WATER TEMPERATURE (F)	LEAVING WATER TEMPERATURE (F)	MANUFACTURER	MODEL NUMBER	REMARKS
TSMV1	TEMPERED HOT WATER	MASTER MIXING VALVE	20	1	15	140	57	110	LEONARD	TM-420B-LF-DT	4, 5

PUMP SCHEDULE

REMARKS LEGEND:
1. PROVIDE 7-DAY TIME CLOCK FOR OPERATION OF CIRCULATION PUMP (SET TO OPERATE DURING NORMAL BUSINESS HOURS, ADJUSTABLE).
2. PUMPS SHALL BE RATED FOR CONTINUOUS OPERATION AT WATER TEMPERATURE OF CONNECTED SYSTEM.
3. OR EQUAL.

MARK	SERVICE	TYPE	FLOWRATE (GPM)	TOTAL DYNAMIC HEAD (FEET)	SPEED (RPM)	EFFIC. (%)	ELECTRICAL CHARACTERISTICS HP	VOLTS	PHASE	HZ	MANUFACTURER	MODEL NUMBER	REMARKS
CP1	DOMESTIC HOT WATER CIRCULATION	INLINE CENTRIFUGAL PUMP	4	25	1750	65	1/6	115	1	60	TACO	0013-SP	1, 2, 3

SOLARE ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS , L . P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 8177919392

TARWATER VETERINARIAN CLINIC

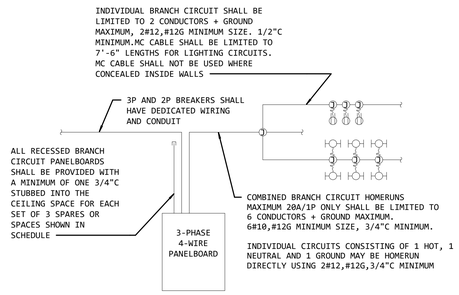
802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN : HCH
REVISED :
1 10/31/2024

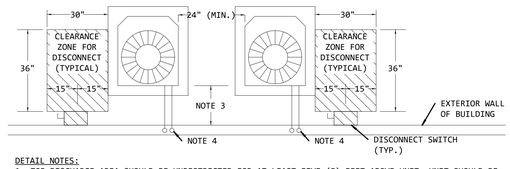
STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED PROFESSIONAL ENGINEER

SHEET CONTENT
PLUMBING SCHEDULES

SHEET NUMBER
P002

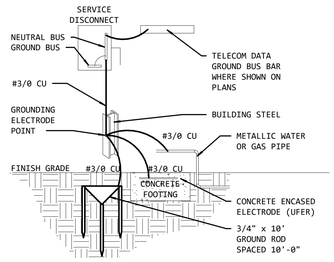


1 **LIGHTING CONTROLS DETAIL**
NTS



DETAIL NOTES:
1. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR AT LEAST FIVE (5) FEET ABOVE UNIT. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT.
2. UNIT SHOULD BE UNOBSTRUCTED FOR 12" (MIN.) ON ANY SIDE AND IN FRONT.
3. 12" (MIN) FOR DISCONNECT SWITCH ON THE SIDE OF UNIT. DISCONNECT SWITCH MAY BE PLACED BEHIND UNIT, IN THIS CASE THIS DIMENSION FROM THE FRONT OF THE DISCONNECT SWITCH TO THE BACK OF THE UNIT CAN BE NO SMALLER THAN 36" FOR 208 V. AND 42" FOR 480 V. UNITS.
4. REFRIGERANT PIPING TO RUN IN WALL UP TO MECHANICAL SPACE AND TO AIR HANDLER UNIT. SEAL WALL PENETRATION WEATHER TIGHT.

2 **DISCONNECT CLEARANCE DETAIL**
N.T.S.



SERVICE ENTRANCE GROUNDING DETAIL NOTES:
1. AT THE CONTRACTOR'S OPTION, ANY ONE OF THE THREE ALLOWED ELECTRODE SYSTEMS SHOWN MAY BE USED AS THE MAIN GROUNDING ELECTRODE POINT (GROUND RODS, UFER, OR BUILDING STEEL) WITH ALL OTHER ELECTRODES BONDED TO IT. THE EXAMPLE SHOWN USES BUILDING STEEL AS THE MAIN ELECTRODE POINT.
2. THE GROUNDING ELECTRODE CONDUCTOR (GEC) SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250.66. REFER TO FEEDER SCHEDULE.

3 **SERVICE ENTRANCE GROUNDING DETAIL**
NTS

RISER GENERAL NOTES

1. CONTRACTOR SHALL PERFORM ARC FLASH STUDY AND PROVIDE AND INSTALL LABELS ON ALL ELECTRICAL EQUIPMENT. LABELS SHALL INDICATE FLASH PROTECTION REQUIREMENTS AND SHOCK PROTECTION REQUIREMENTS AND OTHER INFORMATION AS REQUIRED BY OSHA AND NFPA 70E. SERVICE EQUIPMENT SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT IN ACCORDANCE WITH NEC.
2. CONTRACTOR SHALL PROVIDE AND PERFORM COMPLETE OVERCURRENT PROTECTION COORDINATION STUDY IN ACCORDANCE WITH NEC REQUIREMENTS PRIOR TO PURCHASE OF EQUIPMENT AND PROVIDE STUDY WITH SWITCHBOARD AND PANELBOARD SUBMITTALS. CONTRACTOR SHALL SUBMIT COORDINATION STUDY TO CITY INSPECTOR UPON REQUEST.
3. ALL OVERCURRENT DEVICES RATED 1,200A OR LARGER SHALL HAVE ARC ENERGY REDUCTION CAPABILITY AS REQUIRED BY NEC. INSTALL BREAKERS WITH ZONE-SELECTIVE INTERLOCKING OR AN ENERGY REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR.

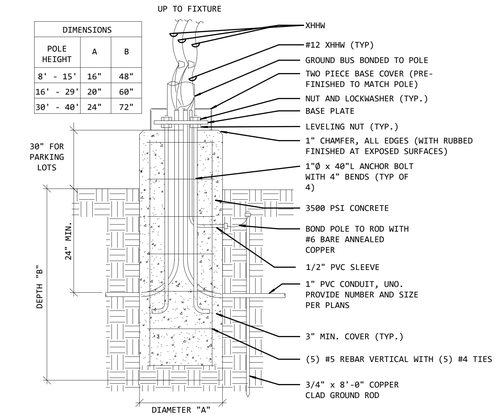
RISER NOTES BY SYMBOL

(1) PROVIDE ASCO 208/120 SERVICE ENTRANCE RATED AND LISTED CONNECTION SPD SURGE PROTECTION. CONNECT USING MANUFACTURERS ACCUGUIDE CABLE DIRECTLY TO BUS USING SHORTEST DISTANCE POSSIBLE. CONDUCTORS SHALL BE ROUTED TO AVOID SHARP BENDS AND MINIMIZE LEAD LENGTHS. RISER DIAGRAM.

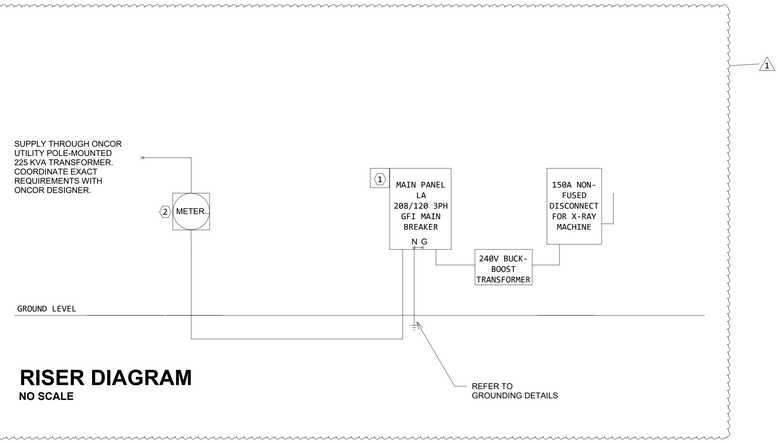
(2) UTILITY METER. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH ONCOR DESIGNER.

SECONDARY FEEDER SCHEDULE

FED FROM	EQUIPMENT FED	SECONDARY	FEEDER	TRANSFORMER RATING
	UTILITY			225000 VA
UTILITY	LA		(2)4#350,#2G,3"C	



4 **POLE BASE DETAIL**
N.T.S.



5 **RISER DIAGRAM**
NO SCALE

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS, L. P.
DESIGNERS · PLANNERS · INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/7319392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
10/31/2024

STATE OF TEXAS
BRIAN D. RICHARDS
10/31/2024
74703
LICENSED
PROFESSIONAL ENGINEER

SHEET CONTENT
ELECTRICAL DETAILS

SHEET NUMBER
SE01
E002

NAME: LA

Supply From: UTILITY
Feeder: (2)4#350,#2G,3"C
Enclosure: NEMA 1

Mounting: SURFACE
Volts: 120/208 Wye
Phases: 3
Wires: 4

Fault Current(Amps): 39,894
AIC-Rating(Amps): 65,000
Mains Type: MCB
Mains Rating: 600

CKT	LEN	BRANCH CIRCUIT %VD	WIRE SIZE 2#12,#12G,1/2"C UON	LOAD NAME	BKR (A)	P	A(A)	B(A)	C(A)	P	BKR (A)	LOAD NAME	WIRE SIZE 2#12,#12G,1/2"C UON	BRANCH CIRCUIT %VD	LEN	CKT
1	7...	0.04%		IRRIGATION CTL	20	1	2	2		1	20	CIR PUMP		0.02%	3...	2
3	26'	0.77%		ACT DUPLEX GFI, DUPLEX...	20	1		9	8	1	20	WP RECEPTACLE		0.62%	25'	4
5	52'	1.81%		ACT DUPLEX, DUPLEX...	20	1			11	12	1	20	DUPLEX RECEPTACLE, WP...		1.05%	26'	6
7	62'	2.16%		DUPLEX RECEPTACLE, TV	20	1	11	9			1	20	DUPLEX RECEPTACLE, TV		1.59%	53'	8
9	63'	1.05%		MICROWAVE	20	1		5	11		1	20	DUPLEX RECEPTACLE, TV		2.52%	72'	10
11	85'	3.40%		ACT DUPLEX GFI, DUPLEX...	20	1			12	10	1	20	GARBAGE DISPOSAL		3.07%	92'	12
13	97'	1.61%		REFRIGERATOR	20	1	5	5			1	20	MICROWAVE		1.45%	87'	14
15	116'	2.89%		WP RECEPTACLE	20	1		8	11		1	20	ACT DUPLEX, ACT DUPLEX...		3.72%	106'	16
17	95'	1.18%		EXHAUST FAN	20	1			4	9	1	20	DUPLEX RECEPTACLE		2.80%	93'	18
19	117'	4.66%		ACT DUPLEX, DUPLEX...	20	1	12	9			1	20	DUPLEX RECEPTACLE, TV		2.86%	95'	20
21	87'	0.97%		WATER FOUNTAIN	20	1		3	4		1	20	EXHAUST FAN		0.94%	75'	22
23	97'	3.41%		ACT DUPLEX, ACT DUPLEX...	20	1			11	12	1	20	ACT DUPLEX, DUPLEX...		4.33%	108'	24
25	89'	2.67%		ACT DUPLEX GFI, DUPLEX...	20	1	9	9			1	20	ACT DUPLEX GFI, DUPLEX...		2.39%	80'	26
27	69'	2.41%		ACT DUPLEX GFI, DUPLEX...	20	1		11	5		1	20	DUPLEX RECEPTACLE		0.90%	60'	28
29	55'	0.23%		EXHAUST FAN	20	1			1	11	1	20	ACT DUPLEX GFI, DUPLEX...		2.37%	68'	30
31	70'	2.82%		ACT DUPLEX, ACT DUPLEX...	20	1	12	5			1	20	REFRIGERATOR		1.27%	76'	32
33	54'	1.35%		DUPLEX RECEPTACLE	20	1		8	9		1	20	DUPLEX RECEPTACLE		1.25%	42'	34
35	53'	0.88%		FREEZER	20	1			5	6	1	20	ACT DUPLEX GFI		1.07%	54'	36
37	63'	1.74%		CLOTHES DRYER	20	2	14	10			1	20	CLOTHES WASHING MACHINE		2.02%	61'	38
39								14	14		1	20	EQ, LIGHTING, LIGHT SWITCH		2.36%	50'	40
41	45'	0.24%		LIGHTING	20	1				2	13	1	20	EQ, LIGHTING, LIGHT...		4.01%	93'	42
43	292'	0.81%		Lighting	20	1	1	1				1	20	Lighting		0.67%	236'	44
45	107'	1.19%		(AHU-1,5MCA,15MOCP,208/1)	20	2			6	1		1	20	EXHAUST FAN		0.07%	18'	46
47										6	10							48
49	78'	1.75%	3#8,#10G,3/4"C	(CU-1,24MCA,35MOCP,208/1)	40	2	30	10			2	20	(AHU-2,9MCA,15MOCP,208/1)		1.81%	98'	50
51								30	51									52
53	42'	1.08%	3#10,#10G,1/2"C	(CU-4,18MCA,20MOCP,208/1)	30	2				23	51	2	70	(CU-2,41MCA,60MOCP,208/1)	3#4,#8G,1"C	1.16%	76'	54
55							23	78										56
57	8'-8"	0.08%	4#1/0,#6G,1-1/2"C	(AHU-3,90MCA,90MOCP,208/3)	125	3			90	78		3	100	(CU-3,63MCA,80MOCP,208/3)	4#1,#8G,1-1/2"C	0.13%	13'	58
59										90	78							60
61							90	75										62
63	63'	0.84%	3#1/0,#6G,1-1/2"C	X-RAY BUCK-BOOST TRANSFORMER	150	2			115	75		3	100	(WH,80A,208/3)	4#1,#8G,1-1/2"C	0.05%	5'-6"	64
65										115	75							66
67	34'	0.57%		(CU-5,7MCA,15MOCP,208/1)	20	2	9	3				1	20	DUPLEX RECEPTACLE		0.11%	7...	68
69									9									70
71																		72
73																		74
75																		76
77																		78
79																		80
81																		82
83																		84

Total Load kVA: 50 65 64

Total Amps: 420 A 560 A 555 A

ALL LENGTHS SHOWN ARE FOR CALCULATION PURPOSES ONLY TO ESTIMATED HOME RUN POINT ADDITIONAL WIRE WILL BE NEEDED FOR CIRCUIT, CONTRACTOR SHALL ESTIMATE BASED ON CONTRACTOR PLANNED INSTALL. IF ANY VALUES ARE SUBSTANTIALLY DIFFERANT CONTRACTOR SHALL NOTIFY A/E OF REVISIONS NEEDED AND AWAIT INSTRUCTIONS BEFORE PROCEEDING.

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Continuous	1800 VA	125.00%	2250 VA		
Electric Clothes Dryer	3000 VA	100.00%	3000 VA	**Total Conn. Load:**	180 kVA
HVAC	28222 VA	100.00%	28222 VA	**Total Connt. Amps**	500 A
Heating	27000 VA	100.00%	27000 VA	**Total Demand Load:**	172 kVA
Lighting	3595 VA	125.00%	4494 VA	**Total Demand Amps:**	478 A
Non-Continuous	57599 VA	100.00%	57599 VA		
Receptacle	28260 VA	67.69%	19130 VA		
X-Ray	24000 VA	100.00%	24000 VA		
Non-Continuious	6500 VA	100.00%	6500 VA		

Schedule Notes:

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/7319392

TARWATER VETERINARIAN CLINIC

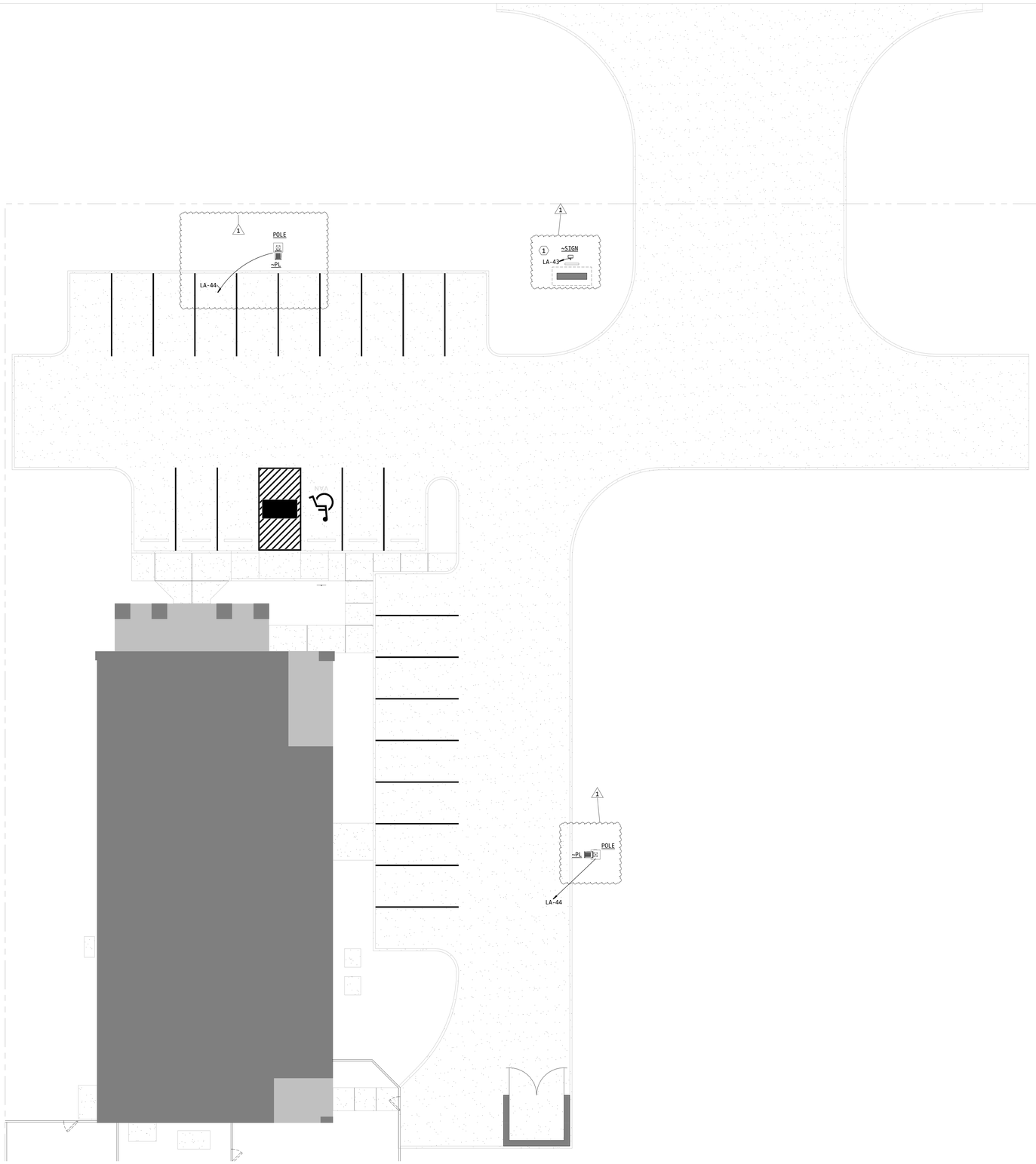
802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
10/31/2024

STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED
PROFESSIONAL ENGINEER

SHEET CONTENT
ELECTRICAL PANELS SCHEDULES

SHEET NUMBER
SE02
E003



UNDERLINED KEYED NOTES _

KEY	Description
POLE	25' TALL 5" SQUARE STRAIGHT STEEL POLE
~PL	AREA LIGHT INSTALLED ON 25' BY 5' STEEL SQUARE POLE. REFER TO LUMINAIRE SCHEDULE AND POLE BASE DETAILS.
~SIGN	FLOOD LIGHT FOR MONUMENT SIGN ILLUMINATION

NOTE BY HEXAGON SYMBOL

#	NOTE
1	REFER TO PANEL SCHEDULE FOR CONDUCTOR AND CONDUIT SIZING. UNDERGROUND CONDUIT EXACT ROUTING TO BE COORDINATED ON SITE BY ELECTRICAL CONTRACTOR BASED ON UTILITIES AND SITE CONDITIONS. SWITCHING METHOD TO BE DECIDED BY OWNER.

1 **ELECTRICAL SITE LAYOUT**
1" = 10'-0"

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS, L. P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/7319392

TARWATER VETERINARIAN CLINIC
802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
10/31/2024

STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED
PROFESSIONAL ENGINEER

SHEET CONTENT
ELECTRICAL SITE LAYOUT

SHEET NUMBER
SE03
E200

NOTE BY HEXAGON SYMBOL

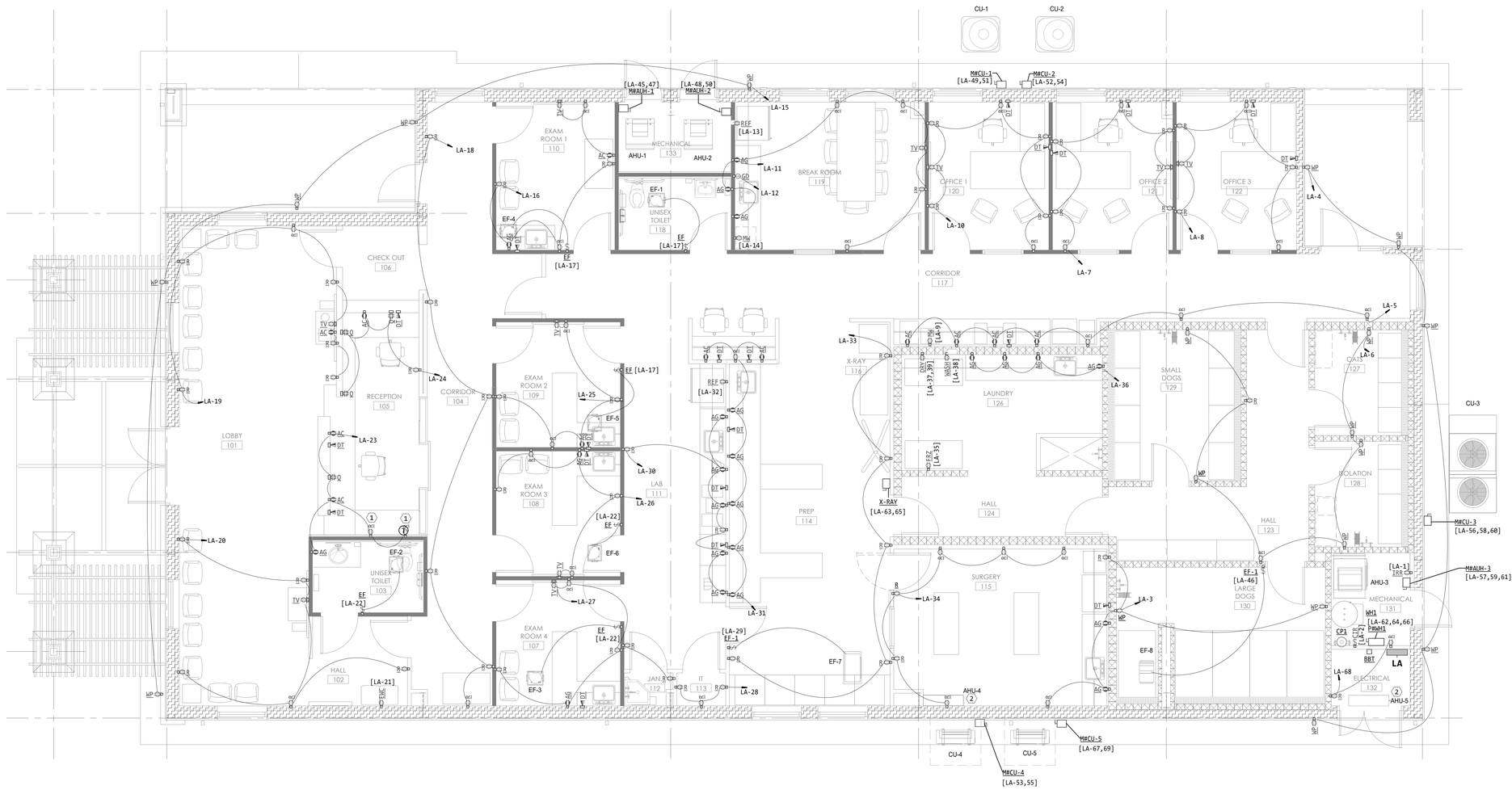
#	NOTE
1	INSTALL @ 2' 2" AFF OVER LOW COUNTER
2	AHU-4 & AHU-5 ARE ELECTRICALLY SUPPLIED THROUGH CU-4 & CU-5 RESPECTIVELY

UNDERLINED KEYED NOTES _

KEY	Description
AC	ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
AG	GFI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
BBT	240V OUTPUT SINGLE PHASE 16/32V BUCK-BOOST TRANSFORMER FOR X-RAY MACHINE. CONTRACTOR SHALL USE SQUARED MODEL 500SV46B OR EQUIVALENT WITH CAPACITY NOT LESS THAN 3.5KVA. TRANSFORMER SHALL BE CONNECTED AS SHOWN FOR X-RAY CONNECTION IN LA PANEL SCHEDULE.
CIR	MOTOR RATED SWITCH FOR CIRCULATION PUMP. CONFIRM LOCATION WITH INSTALLER OF PUMP.
CP1	CLOSED COUPLED VERTICAL IN-LINE MOUNTED PUMP
DRY	OUTLET FOR CLOTHES DRYER COORDINATE EXACT NEMA CONFIGURATION WITH ITEM PURCHASED BY OTHERS MOUNT AT 36" AFF.
DT	4" SQUARE JBOX WITH 3/4"C TO ACCESSIBLE LOCATION ABOVE CEILING FOR OWNERS DATA AND TELEPHONE WIRING.
EF	MOTOR RATED SWITCH WITH OCCUPANCY SENSOR/TIMER FOR EXHAUST FAN. REFER TO MECHANICAL DESIGN FOR CONTROL METHOD AND SETTINGS.
EF-1	MOTOR RATED SWITCH FOR EXHAUST FAN IN LARGE DOGS AREA. REFER TO MECHANICAL DESIGN FOR CONTROL METHOD AND SETTINGS.
EWC	DUPLEX RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE EXACT LOCATION AND HEIGHT WITH THE INSTALLER OF THE EQUIPMENT.
FRZ	GFI RECEPTACLE FOR FREEZER. COORDINATE LOCATION WITH OWNER.
GD	SIMPLEX GFI RECEPTACLE BELOW SINK FOR GARBAGE DISPOSAL. PROVIDE ABOVE COUNTER CONTROL SWITCH AT LOCATION INDICATED BY ARCHITECT ELEVATIONS. OUTLET TO BE ACCESSABLE FROM INSIDE CABINET.
IRR	GFI OUTLET FOR IRRIGATION CONTROLLER. COORDINATE MOUNTING LOCATION WITH INSTALLER OF IRRIGATION SYSTEM.
M⌀AUH-1	30/2/NF/NEMA 3R DISCONNECT FOR AIR HANDLING UNIT

UNDERLINED KEYED NOTES _

KEY	Description
M⌀AUH-2	30/3/NF/NEMA 3R DISCONNECT FOR AIR HANDLING UNIT.
M⌀CU-1	30/2/NF/NEMA 3R DISCONNECT FOR CONDENSING UNIT
M⌀CU-2	60/2/NF/NEMA 3R DISCONNECT FOR CONDENSING UNIT.
M⌀CU-3	80/3/NF/NEMA 3R DISCONNECT FOR CONDENSING UNIT
M⌀CU-4	30/2/NF/NEMA 3R DISCONNECT FOR CONDENSING UNIT CU-4.
M⌀CU-5	30/2/NF/NEMA 3R DISCONNECT FOR CONDENSING UNIT CU-5.
MW	GFI RECEPTACLE FOR MICROWAVE. COORDINATE LOCATION WITH OWNER.
P⌀WH1	80/3/NF/NEMA 3R DISCONNECT FOR ELECTRIC WATER HEATER
Q	QUADPLEX RECEPTACLE
R	DUPLEX RECEPTACLE
REF	GFI RECEPTACLE FOR REFRIGERATOR. COORDINATE LOCATION WITH INSTALLER OF REFRIGERATOR.
TV	RECESSED DUPLEX RECEPTACLE FOR TELEVISION OR DISPLAY, COORDINATE EXACT ELEVATION WITH ARCHITECT.
WASH	OUTLET FOR CLOTHES WASHING MACHINE COORDINATE EXACT NEMA CONFIGURATION WITH ITEM PURCHASED BY OTHERS MOUNT AT 36" AFF.
WH1	COMMERCIAL ELECTRIC WATER HEATER
WP	WEATHER RESISTANT RECEPTACLE IN NEMA 3R WHILE IN USE COVER.
X-RAY	100/2/NF/NEMA 1 DISCONNECT FOR THE X-RAY MACHINE. VERIFY WHETHER THE MACHINE HAS AN INTEGRATED DISCONNECT SWITCH IN WHICH CASE THERE IS NO NEED FOR EXTERNAL DISCONNECT SWITCH. CONNECTION IS THROUGH 240V BUCK-BOOST TRANSFORMER. CONFIRM ELECTRICAL CONNECTION REQUIREMENTS WITH THE MANUFACTURER.



ELECTRICAL POWER PLAN

1/4" = 1'-0"

SOLARE
ENGINEERING UNLIMITED, INC.
1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

MAGEE ARCHITECTS , L . P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/7319392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
10/31/2024

STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED
PROFESSIONAL ENGINEER

SHEET CONTENT

ELECTRICAL POWER FLOOR PLAN

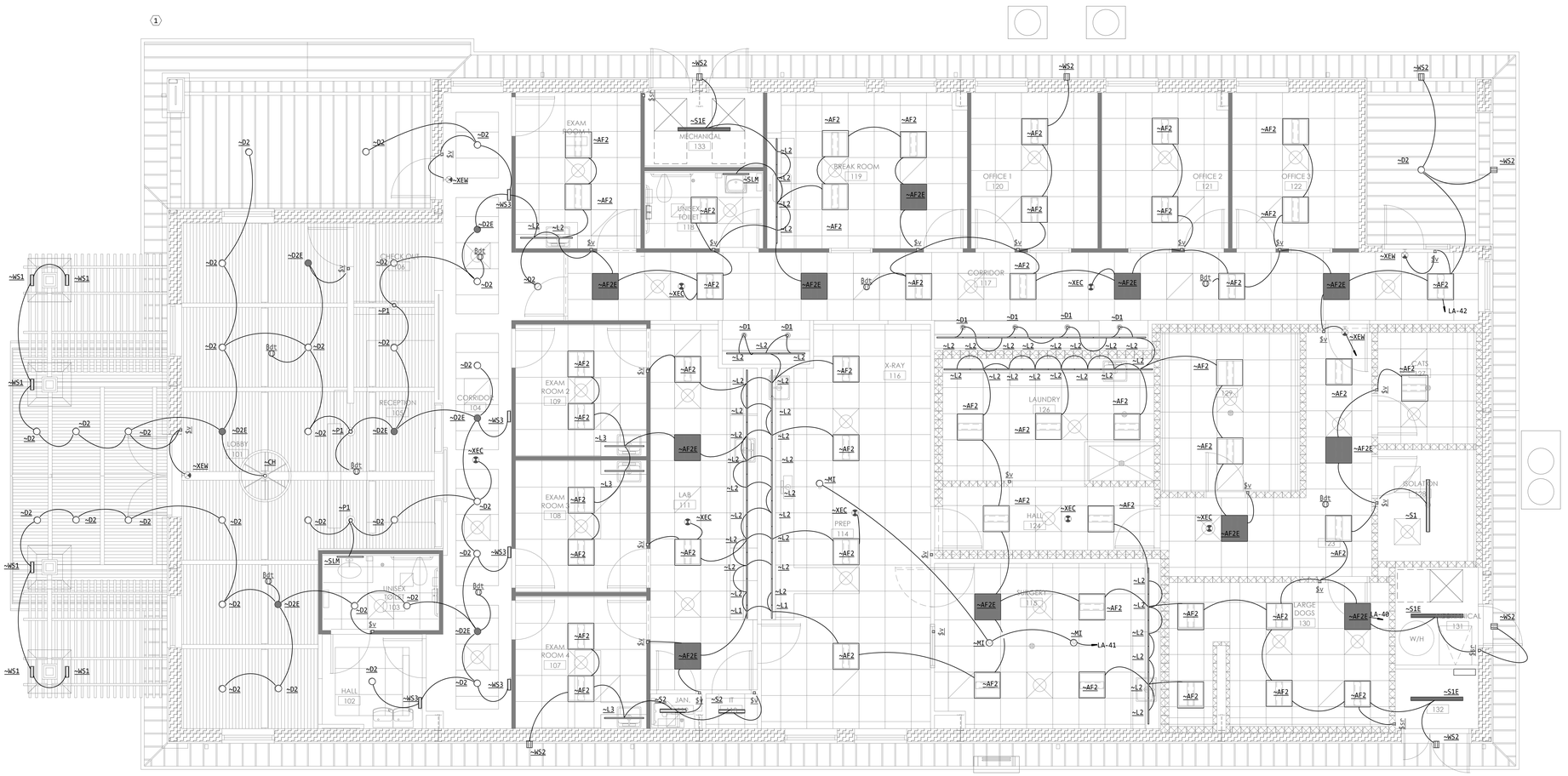
SHEET NUMBER
SE04
E201
1

NOTE BY HEXAGON SYMBOL

#	NOTE
1	APPROXIMATE LOCATION FOR AN EXTERIOR LIGHT PHOTOCELL CONTROLLER. COORDINATE EXACT LOCATION ON SITE. REFER TO SHEET E-301 FOR EXTERIOR LIGHTING CONTROL.

UNDERLINED KEYED NOTES _

KEY	Description
$sr	LINE VOLTAGE TOGGLE SWITCH FOR LOCATIONS WHERE AUTOMATIC OFF WOULD ENGAGER LIFE SAFETY.
$v	DIGITAL LOW VOLTAGE BUTTON PROGRAMMED TO VACANCY SENSOR(ON/OFF,RAISE/LOWER) USED TO ALLOW OCCUPANTS TO MANUALLY TURN LIGHTS ON WHEN THEY ENTER THE ROOM AND HAVE LIGHTS TURN OFF AUTOMATICALLY WHEN ROOM IS VACANT
~AF2	RECESSED FLAT PANEL 2X2 LED LIGHT FIXTURE. REFER TO SCHEDULE.
~AF2E	RECESSED FLAT PANEL 2X2 LED LIGHT FIXTURE WITH EMERGENCY BATTERY. REFER TO SCHEDULE.
~CH	CEILING SUSPENDED CHANDELIER LIGHT. 124W 4623LM 3000K. DARK BRONZE FINISH.
~D1	4" RECESSED LED CAN LIGHT FIXTURE. REFER TO SCHEDULE.
~D2	6" RECESSED LED CAN LIGHT FIXTURE. REFER TO SCHEDULE.
~D2E	6" RECESSED LED CAN LIGHT FIXTURE WITH EMERGENCY BATTERY. REFER TO SCHEDULE.
~L1	ULTRA SLIM UNDER CABINET LED LIGHT. DIFFERENT LENGTHES.
~L2	ULTRA SLIM UNDER CABINET LED LIGHT DIFFERENT LENGTHES.
~L3	ULTRA SLIM UNDER CABINET LED LIGHT. DIFFERENT LENGTHES.
~MI	MEDICAL EXAMINATION LIGHT BY OWNER.
~P1	CEILING SUSPENDED PENDANT LIGHT. TO BE SELECTED BY AOR
~S1	SURFACE MOUNTED LED UTILITY STRIP LIGHT FIXTURE. PROVIDE NECESSARY HARDWARE FOR SURFACE MOUNTING. REFER TO SCHEDULE.
~S1E	SURFACE MOUNTED LED UTILITY STRIP LIGHT FIXTURE. PROVIDE NECESSARY HARDWARE FOR SURFACE MOUNTING. REFER TO SCHEDULE.
~S2	2FT SURFACE MOUNTED LED UTILITY STRIP LIGHT FIXTURE. PROVIDE NECESSARY HARDWARE FOR SURFACE MOUNTING. REFER TO SCHEDULE.
~SLM	LED SIDE LIT MIRROR ABOVE TOILET SINK. COMES WITH 120V/24V ADAPTOR TO CONNECT TO GFCI OUTLET. WIDTH & HEIGHT TO BE DETERMINED BY ARCHITECT. DARK BRONZE FINISH.
~WS1	WALL MOUNTED EXTERIOR LED SCONCE. PRODUCT TO BE WEATHER PROOF. REFER TO SCHEDULE.
~WS2	WALL MOUNTED EXTERIOR LED SCONCE. PRODUCT TO BE WEATHER PROOF. REFER TO SCHEDULE.
~WS3	WALL MOUNTED LED SCONCE. REFER TO SCHEDULE.
~XEC	ECONOMICAL EXIT LIGHT CEILING MOUNTED. FACE AND CHEVRONS AS SHOWN IN PLAN LOCATION
~XEW	ECONOMICAL EXIT LIGHT WALL MOUNTED. FACE AND CHEVRONS AS SHOWN IN PLAN LOCATION.
Bdt	DUAL TECHNOLOGY SENSOR COORDINATED WITH ASSOCIATED SWITCHING SYSTEM



SOLARE
ENGINEERING UNLIMITED, INC.

1300 Summit Avenue, Suite 514
Fort Worth, Texas 76102
Tel 817-529-6800
www.solare-eng.com
Texas Registration # F-10963

1 **ELECTRICAL LIGHTING PLAN**
1/4" = 1'-0"

MAGEE ARCHITECTS , L . P.
DESIGNERS • PLANNERS • INTERIORS
HTTP://WWW.MAGEE-ARCHITECTS.COM/
FORT WORTH, TEXAS 817/7319392

TARWATER VETERINARIAN CLINIC

802 E. CRINER STREET
GRANDVIEW, TEXAS 76050

PROJECT NO. : 1744-22
DATE : 09/26/2024
DRAWN :
REVISED :
10/31/2024

STATE OF TEXAS
10/31/2024
BRIAN D. RICHARDS
74703
LICENSED
PROFESSIONAL ENGINEER

SHEET CONTENT
ELECTRICAL LIGHTING FLOOR PLAN

SHEET NUMBER
SE05
E202
1