

ADDENDUM

TO THE DRAWINGS AND THE PROJECT MANUAL

PROJECT NAME: Lehman High School 2025 Additions and Renovations

CLIENT NAME: Hays CISD

LOCATION: KYLE, TX

PROJECT NUMBER: 1954-08-01

PROPOSAL DATE: 20 May, 2025

ADDENDUM DATE: 08 May, 2025

For additional information regarding this project, contact Gigi Morgan at 800.687.1229.



THIS ADDENDUM INCLUDES:

Civil Items	8 Pages
Sports Items	4 Pages
Structural Items	21 Pages
Architectural Items	20 Pages
Plumbing Items	1 Pages
Electrical Items	3 Pages
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AND ALL ATTACHED REVISED SPECIFICATION & DRAWING REFERENCES IN THE ADDENDUM

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CIVIL ITEMS FOR ADDENDUM NO. 1

NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AS NOTED: DRAWINGS:

AD No 1, Civil Item 1: To the Drawings, Sheet C2.02, "DEMOLITION PLAN (2 OF 2),"

1) Wall and sidewalk added to demolition scope.

AD No 1, Civil Item 2: To the Drawings, Sheet C3.00, "EROSION CONTROL PLAN PHASE 1,"

- 1) Limits of disturbance increased.
- 2) Additional inlet protection added.

AD No 1, Civil Item 3: To the Drawings, Sheet C3.01, "EROSION CONTORL PLAN PHASE 2,"

- 1) Limits of disturbance increased.
- AD No 1, Civil Item 4: To the Drawings, Sheet C4.02, "DIMENSION CONTROL PLAN (2 OF 2),"
 - 1) Additional sidewalk area.
 - 2) Addition of tree planters.

AD No 1, Civil Item 5: To the Drawings, Sheet C5.01, "PAVING PLAN,"

- 1) Additional sidewalk area.
- AD No 1, Civil Item 6: To the Drawings, Sheet C6.02, "GRADING PLAN (2 OF 2),"
 - 1) Additional sidewalk and grading area.

<u>AD No 1, Civil Item 7:</u> To the Drawings, Sheet C6.03, "PVR PLAN (1 OF 2)," 1) Reduction of PVR boundaries.

AD No 1, Civil Item 8: To the Drawings, Sheet C6.04, "PVR PLAN (2 OF 2)," 1) Reduction of PVR boundaries. END OF CIVIL ADDENDUM



Civil Items For Addendum No. 1 Page 1 of 1



ARCHITECTURAL ITEMS FOR ADDENDUM NO. 1

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

PROJECT MANUAL:

<u>AD. No 1, Arch. Item 1</u> To the Project Manual, Section 00-3132, "GEOTECHNICAL DATA" Section replaced in its entirety to Project Manual

<u>AD. No 1, Arch. Item 2</u> To the Project Manual, Section 01-2300, "ALTERNATES," Section replaced in its entirety to Project Manual

AD. No 1, Arch. Item 3 To the Project Manual, Section 10-1400, "SIGNAGE"

Section replaced in its entirety to Project Manual Omit 1.01 D. Double Sided Electronic Message Sign Omit 2.01 C Double Sided Electronic Message Sign Information Omit 2.02 F Double Sided Electronic Message Sign Information

Omit 3.03 C Electronic Message Sign information

DRAWINGS:

AD. No 1, Arch. Item 4 To the Drawings, Sheet G1.02, "GENERAL DATA,"

- 1) Added alternates to reflect alternate scope
- AD. No 1, Arch. Item 5 To the Drawings, Sheet AS1.01 "ARCHITECTURAL SITE PLAN,"
 - 1) Updated civil background
- AD. No 1, Arch. Item 6 To the Drawings, Sheet AD1.01 "DEMOLITION FLOOR PLAN AREA B,"
 - 1) Updated demolition scope
- AD. No 1, Arch. Item 7 To the Drawings, Sheet AD1.02 "DEMOLITION FLOOR PLAN AREA C,"
 - 1) Updated demolition scope and added more views for clarification



Architectural Items For Addendum No. 1 Page 1 of 3

AD. No 1, Arch. Item 8 To the Drawings, Sheet AD1.03 - "DEMOLITION FLOOR PLAN – AREA D,"

1) Updated demolition scope and added more views for clarification

AD. No 1, Arch. Item 9 To the Drawings, Sheet A1.1A1 - "FLOOR PLAN - AREA A,"

- 1) Updated grid spacing
- 2) Updated field striping arrows

AD. No 1, Arch. Item 10 To the Drawings, Sheet A1.1B1 - "FLOOR PLAN – AREA B – LEVEL 1,"

- 1) Updated bleacher configuration
- 2) Updated athletic dividing curtain location

AD. No 1, Arch. Item 11 To the Drawings, Sheet A1.1B2 - "FLOOR PLAN – AREA B – LEVEL 2,"

- 1) Updated wall type tag for clarification
- 2) Updated opening to a door with card reader
- 3) Added wall section detail for clarification

AD. No 1, Arch. Item 12 To the Drawings, Sheet A1.20 - "ENLARGED PLANS,"

1) Updated bleacher layout, bleacher dimensions, and seat counts

AD. No 1, Arch. Item 13 To the Drawings, Sheet A1.40, "PLAN DETAILS,"

1) Refer to attached drawings 1, 3, 18, 19 to show updated fence location

AD. No 1, Arch. Item 14 To the Drawings, Sheet A2.1C1, "REFLECTED CEILING PLAN – AREA C – LEVEL 1,"

1) Changed ceiling expansion joint call outs to section markers

AD. No 1, Arch. Item 15 To the Drawings, Sheet A2.1C2, "REFLECTED CEILING PLAN - AREA C - LEVEL 2,"

1) Changed ceiling expansion joint call outs to section markers

AD. No 1, Arch. Item 16 To the Drawings, Sheet A3.01, "DOOR AND SPECIAL OPENING SCHEDULES AND CONFIGURATIONS,"

- 1) Updated schedule to include new door
- 2) Updated counter coiling door detail

AD. No 1, Arch. Item 17 To the Drawings, Sheet A4.1B1, "FINISH PLAN – AREA B,"

1) Changed flooring material from resinous to tile in restrooms.

AD. No 1, Arch. Item 18 To the Drawings, Sheet A4.1C1, "FINISH PLAN – AREA B,"

1) Changed flooring material from resinous to tile in restrooms.



Architectural Items For Addendum No. 1 Page 2 of 3

<u>AD. No 1, Arch. Item 19</u> To the Drawings, Sheet A4.1E1, "FINISH PLAN – AREA E" 1.) Changed flooring material from resinous to sealed concrete in multiuser restrooms and concessions areas. 2.) Added Turf to Rubber transition detail in weight room area

AD. No 1, Arch. Item 20 To the Drawings, Sheet A4.14, "TYPICAL INTERIOR FINISH DETAILS"

1.) Added Turf to Rubber transition detail for weight room area

AD. No 1, Arch. Item 21 To the Drawings, Sheet A5.02, "EXTERIOR ELEVATIONS - AREA B & C,"

1) Changed existing conditions and grade line at all exterior elevations

AD. No 1, Arch. Item 22 To the Drawings, Sheet A5.03, "EXTERIOR ELEVATIONS - AREA D & E,"

- 1) Changed grade line to reflect civil grade at 3/A5.03 & 6/A5.03
- 2) Added gutters and sloped canopy roofs at 2/A5.03
- 3) Cleaned up graphics to reflect proposed design at 5/A5.03

AD. No 1, Arch. Item 23 To the Drawings, Sheet A6.05, "WALL SECTIONS – AREAS A, B,"

- 1) Refer to attached drawings 1, 2, 3 to show updated fence locations
- 2) Refer to attached drawing 1 for clarification on bottom of steel brace height

AD. No 1, Arch. Item 24 To the Drawings, Sheet A7.12, "TYPICAL COMMON ROOFING DETAILS,"

1) Added detail

END OF ARCHITECTURAL ADDENDUM



Architectural Items For Addendum No. 1 Page 3 of 3



STRUCTURAL ITEMS FOR ADDENDUM NO. 1 NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

PROJECT MANUAL:

DRAWINGS:

- AD No 1, Struct Item 1: To the Drawings, Sheet S1.1, "GENERAL NOTES,"
 - 1) Section 1.1.12 Updated grading elevation to align with civil.
 - 2) Section 1.3.2 and 1.3.6 Clarified loading.
 - 3) Section 3.2.1 Clarified steel grades.
 - 4) Section 3.2.6 Clarified concrete cover.
 - 5) Section 3.3.1 Revised concrete strength where shown.
- AD No 1, Struct Item 2: To the Drawings, Sheet S2.1A1, "FOUNDATION PLAN AREA A,"
 - 1) Revised grids and perimeter columns where shown.
- AD No 1, Struct Item 3: **To the Drawings, Sheet S2.1A2, "ROOF FRAMING PLAN AREA A,"** 1) Revised grids and perimeter columns where shown.
- AD No 1, Struct Item 4: **To the Drawings, Sheet S2.1B1, "FOUNDATION PLAN AREA B,"** 1) Updated detail references and elevations where shown.
- AD No 1, Struct Item 5: To the Drawings, Sheet S2.1B2, "LEVEL 2 FRAMING PLAN AREA B," 1) Updated detail reference where shown.
- AD No 1, Struct Item 6: **To the Drawings, Sheet S2.1B3, "ROOF FRAMING PLAN AREA B,"** 1) Clarified loading where shown.
- AD No 1, Struct Item 7: To the Drawings, Sheet S2.1C1, "FOUNDATION PLAN AREA C,"
 - 1) Clarified demolition extent.
 - 2) Updated detail refences where shown.
- AD No 1, Struct Item 8: **To the Drawings, Sheet S2.1C3, "ROOF FRAMING PLAN AREA C,"** 1) Clarified RTU loading.
- AD No 1, Struct Item 9: To the Drawings, Sheet S2.1D1, "FOUNDATION PLAN AREA D,"
 - 1) Clarified canopy base detailing.

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Structural Items For Addendum No. 1 Page 1 of 2

- AD No 1, Struct Item 10: **To the Drawings, Sheet S2.1E1, "FOUNDATION PLAN AREA E,"** 1) Revised beam sizes where shown.
- <u>AD No 1, Struct Item 11:</u> To the Drawings, Sheet S3.3, "CONCRETE DETAILS,"
 1) Detail 12 Revised beam dimensions and reinforcing.
- AD No 1, Struct Item 12: **To the Drawings, Sheet S3.4**, **"CONCRETE DETAILS,"** 1) Detail 12 – Revised EJ detailing.
- AD No 1, Struct Item 13: **To the Drawings, Sheet S3.5, "CONCRETE DETAILS,"** 1) Detail 4 – New detail.
- AD No 1, Struct Item 14: **To the Drawings, Sheet S3.7, "CONCRETE DETAILS,"** 1) Detail 22 – New Detail.
- AD No 1, Struct Item 15: **To the Drawings, Sheet S4.1, "TYPICAL MASONRY DETAILS,"** 1) Detail 15 – Clarified joist support.
- <u>AD No 1, Struct Item 16</u>: To the Drawings, Sheet S4.2, "MASONRY DETAILS,"
 1) Detail 6 Clarified brick support detailing.
- AD No 1, Struct Item 17: **To the Drawings, Sheet S5.2**, **"TYPICAL STEEL DETAILS,"** 1) Detail 3 – Revised girder reinforcing.
- AD No 1, Struct Item 18: **To the Drawings, Sheet S5.3**, **"TYPICAL STEEL DETAILS,"** 1) Detail 4 – Revised stair perimeter detailing.
- AD No 1, Struct Item 19: To the Drawings, Sheet S5.4, "STEEL DETAILS,"
 - 1) Details 7, 14, 15, 17, 19, 20, 21 Modified details where shown.
 - 2) Detail 23 New detail.
- AD No 1, Struct Item 20: **To the Drawings, Sheet S5.5, "STEEL DETAILS,"** 1) Details 4 and 5 New details.
- AD No 1, Struct Item 21: To the Drawings, Sheet S5.6, "STEEL DETAILS,"
 - 1) Detail 18 New detail.
 - 2) Detail 24 Modified detail where shown.

END OF STRUCTURAL ADDENDUM

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Structural Items For Addendum No. 1 Page 2 of 2



ELECTRICAL ITEMS FOR ADDENDUM NO. 1 NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

PROJECT MANUAL:

AD No 1, Elec Item 1: To the Project Manual, Sections as listed below:

1) Added Section 26 4113, "LIGHTNING PROTECTION SYSTEM," in its entirety.

DRAWINGS:

- AD No 1, Elec Item 2: To the Drawings, Sheet E2.01C1, "FIRST FLOOR PLAN AREA C LIGHTING,"
 - 1) Adjusted lighting locations in C103 and C111.
- AD No 1, Elec Item 3: To the Drawings, Sheet E2.02C2, "SECOND FLOOR PLAN AREA C LIGHTING,"
 - 1) Adjusted lighting locations in C203 and C211.

AD No 1, Elec Item 4: To the Drawings, Sheet ES1.00, "SITE PLAN - ELECTRICAL,"

1) Added notation on front parking alternate as shown.

END OF ELECTRICAL ADDENDUM



Electrical Items For Addendum No. 1 Page 1 of 1



FIRE PROTECTION ITEMS FOR ADDENDUM NO. 1 NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

PROJECT MANUAL:

<u>AD No 1, F Item 1:</u> **To the Project Manual, Section 21 0000, "Fire Protection,"** To paragraph 1.01, B, 5, Standpipes shall have fire department valve in cabinet.

END OF FIRE PROTECTION ADDENDUM



Fire Protection Items For Addendum No. 1 Page 1 of 1



PLUMBING ITEMS FOR ADDENDUM NO. 1 NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

DRAWINGS:

AD No 1, Plumb Item 1: To the Drawings, Sheet P2.01A1, "First Floor Plan – Area A - Plumbing,"

1) Added entire new sheet.

END OF PLUMBING ADDENDUM



Plumbing Items For Addendum No. 1 Page 1 of 1



SPORTS ITEMS FOR ADDENDUM NO. 1 NOTICE TO PROPOSERS:

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REFERENCE IS MADE TO THE DRAWINGS AND THE PROJECT MANUAL AS NOTED:

SPECS:

AD No 1, Sports Item 1: To the Specs, Section 31 0010, "EARTHWORK AND GRADING,"

1) Updated all parts of this spec section to reflect the new Geotech report.

DRAWINGS:

AD No 1, Sports Item 2: To the Drawings, Sheet F1

- 1) Sheet labeled as Alternate #1.
- 2) Adjusted field event layout within detention pond to correspond with civils new background.
- 3) Adjusted viewport to fit new layout of field events.
- 4) Added two shotputs in existing detention pond and called out with detail 92F.

AD No 1, Sports Item 3: To the Drawings, Sheet F2

- 1) Sheet labeled as Alternate #1.
- 2) Adjusted field event layout within detention pond to correspond with civils new background.
- 3) Adjusted viewport to fit new layout of field events.
- 4) Removed fence and gates from sports plans.
- 5) Updated note 73A to say "Soil shall be stabilized with 8 inches of lime stabilization. Sub-grade shall be stabilized and compacted subgrade per geotech report to achieve PRV of 1.5 inches."

AD No 1, Sports Item 4: To the Drawings, Sheet F3

- 1) Sheet labeled as Alternate #1.
- 2) Removed all mention of alternate #1 from all utility boxes.

AD No 1, Sports Item 5: To the Drawings, Sheet F4

- 1) Sheet labeled as Alternate #1.
- 2) Removed fence detail 73N and gate detail 73Q.
- 3) Added detail 92F for shotput.

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Sports Items For Addendum No. 1 Page 1 of 2

4) Added "Soil shall be stabilized with 8 inches of lime stabilization. Sub-grade shall be stabilized and compacted subgrade per geotech report to achieve PRV of 1.5 inches." To detail 73D.

END OF SPORTS ADDENDUM

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Sports Items For Addendum No. 1 Page 2 of 2

SECTION 00 3132 GEOTECHNICAL DATA

PART 1 - GENERAL

1.01 SUMMARY

A. Related Documents: General and Supplementary Conditions of the Contract, Division 01 General Requirements, and Drawings are applicable to this Section.

1.02 INVESTIGATION

- A. An investigations of subsurface soil conditions at the building site was authorized by the Owner, and these investigations were made by USE Professional Solutions 44, LLC and are attached as follows:
 - 1. Report number 24-0925, dated September 4, 2024.
 - 2. Report number A251017, dated April 16, 2025.

1.03 REPORT

- A. The complete report of the testing laboratory follows this section and is provided for information only.
- B. Report and log of borings are available for Contractor's information but is not a warranty of subsurface conditions, nor is it a part of the Contract Documents.

1.04 RESPONSIBILITY

- A. Bidders are expected to examine the site and subsurface investigation reports and then decide for themselves the character of the materials to be encountered.
- B. The Owner and Architect assume no responsibility for variations of subsoil quality or conditions.
- C. The Owner and the Architect assume no responsibility for any conclusions or interpretations made on the basis of subsurface information contained in the contract documents.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

GEOTECHNICAL EXPLORATION

ADDITIONAL PARKING – LEHMAN HIGH SCHOOL

1700 Lehman Road Kyle, Texas UES Report No. 24-0925 September 4, 2024

Prepared for:

HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT 21003 IH - 35 Kyle, Texas 78640

Attention: Nate Wensowitch

Prepared By:





Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

September 4, 2024

Hays Consolidated Independent School District 21003 IH - 35 Kyle, Texas 78640

Attention: Nate Wensowitch

Re: Geotechnical Exploration Additional Parking – Lehman High School 1700 Lehman Road Kyle, Texas UES Report No. 24-0925

Attached is the report of the geotechnical exploration performed for the project referenced above. This study was authorized by Nathan Wensowitch on July 24, 2024 and performed in accordance with accordance with UES Professional Solutions 44, LLC (hereinafter UES) Proposal No. 24-1455, dated July 15, 2024.

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 recommendations to aid design and construction of foundations and pavement.

UES Professional Solutions 44, LLC 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

Sebastian L. Aleman Geotechnical Project Manager SLA/LEG Copies: (1-PDF) Nathan Wensowitch, Hays CISD



Lee E. Gurecky, P.E. Geotechnical Department Manager – San Antonio

TeamUES.com

UES REPORT NO. 24-0925

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APPENDIX

- A-1 Methods of Field Exploration
 Site Vicinity Map Figure 1A
 Boring Location Plans Figures 1B to 1C
- B-1 Methods of Laboratory Testing
 Swell Test Data Sheet Figure 2
 Logs of Borings
 Key to Soil Symbols and Classifications

1.0 PURPOSE AND SCOPE

The purpose of this geotechnical exploration is for UES Professional Solutions 44, LLC (UES) to evaluate for Hays Consolidated Independent School District (Client) some of the physical and engineering properties of subsurface materials at selected locations on the subject site with respect to formulation of appropriate geotechnical design parameters for the proposed construction. The field exploration was accomplished by securing subsurface samples from widely spaced test borings performed across the expanse of the site. Engineering analyses were performed from results of the field exploration and results of laboratory tests performed on representative samples.

Also included are general comments pertaining to reasonably anticipated construction problems and recommendations concerning earthwork and quality control testing during construction. This information can be used to evaluate subsurface conditions and to aid in ascertaining construction meets project specifications.

Recommendations provided in this report were developed from information obtained in test borings depicting subsurface conditions only at the specific boring locations and at the particular time designated on the logs. Subsurface conditions at other locations may differ from those observed at the boring locations, and subsurface conditions at boring locations may vary at different times of the year. The scope of work may not fully define the variability of subsurface materials and conditions that are present on the site.

The nature and extent of variations between borings may not become evident until construction. If significant variations then appear evident, our office should be contacted to re-evaluate our recommendations after performing on-site observations and possibly other tests.

2.0 PROJECT CHARACTERISTICS

It is proposed to construct a new approximate 19,000 SF parking area. The project site is located at the existing Lehman High School at 1700 Lehman Road in Kyle, Texas. A site plan illustrating the general outline of the property is provided as Figures 1A to 1C, the Boring Location Plan, in the Appendix.

We understand the proposed parking will be designed for both Asphalt Concrete Pavements and Portland Concrete Pavements. Grading plans were not provided to us for this study. For the purpose of our analysis, we have assumed maximum cuts and fills of 2 ft to achieve final grades. Grading plans should be provided to UES prior to design finalization.

2.1 Pre-Existing Conditions

During our field exploration activities for this project, our field representative observed that the site is currently an operating High School green area between an existing parking area and Bunton Creek Road. The area is relatively flat without a noticeable slope. Vegetation at the site is generally comprised of grass and weeds. No rock out-crops were observed at this site.

3.0 FIELD EXPLORATION

Subsurface conditions on the site were explored by drilling a total of two (2) test bores to their planned termination depth of 15 ft. The test borings were drilled in general accordance with ASTM Standard D 420 using air rotary drilling equipment. The approximate location of each test boring is shown on the Boring Location Plans, Figure 1B and 1C, enclosed in the Appendix. Details of drilling and sampling operations are briefly summarized in Methods of Field Exploration, Section A-1 of the Appendix.

Subsurface types encountered during the field exploration are presented on Log of Boring sheets included in the Appendix. The boring logs contain our Field Technician's and Engineer's interpretation of conditions believed to exist between actual samples retrieved. Therefore, these boring logs contain both factual and interpretive information. Lines delineating subsurface strata on the boring logs are approximate and the actual transition between strata may be gradual.

4.0 LABORATORY TESTS

Selected samples of the subsurface materials were tested in the laboratory to evaluate their engineering properties as a basis in providing recommendations for foundation design and earthwork construction. A brief description of testing procedures used in the laboratory can be found in Methods of Laboratory Testing, Section B-1 of the Appendix. Individual test results are presented on the Log of Boring sheets enclosed in the Appendix.

5.0 GENERAL SUBSURFACE CONDITIONS

The Geologic Map of Texas, published by the University of Texas at Austin, Bureau of Economic Geology, has mapped the Pecan Gap Chalk (Kpg) formation in the general area of the project site. The Pecan Gap Chalk formation generally consists of clay, chalk, chalky marl, and limestone.

Within the 15-ft maximum depth explored on the site, subsurface materials consist generally of non-plastic to high plasticity FILL: LEAN CLAY with SAND (CL) and FILL: POORLY GRADED SILTY SAND (SP-SM), overlying LEAN CLAY with SAND (CL). Fill material was encountered to depths of about 4½ to 6½ ft below the existing ground surface in the borings at this site. The letters in parenthesis represent the soils' classification according to the <u>Unified Soil Classification System (ASTM D 2488)</u>. More detailed stratigraphic information is presented on the boring logs attached to this report.

The clayey materials encountered are considered relatively impermeable and are anticipated to have a relatively slow response to water movement. The granular materials are considered relatively permeable and are anticipated to have a relatively fast response to water movement. Therefore, several days of observation would be required to evaluate actual groundwater levels within the depths explored. Also, the groundwater level at the site is anticipated to fluctuate seasonally depending on the amount of rainfall, prevailing weather conditions and subsurface drainage characteristics.

Groundwater was not encountered at the boring locations during drilling at this site. However, it is common to detect seasonal groundwater from natural fractures within the clayey matrix, in and the granular materials, particularly during or after periods of precipitation. If more detailed groundwater information is required, monitoring wells or piezometers can be installed. Further details concerning subsurface materials and conditions encountered can be obtained from the boring logs provided in the Appendix. *Note: Granular materials were encountered in the borings at this site. From our experience, these materials can be difficult to excavate (including trenching) and could require forming and/or casing especially if groundwater is encountered during construction.*

6.0 DESIGN RECOMMENDATIONS

The following design recommendations were developed on the basis of the previously described Project Characteristics (Section 2.0) and General Subsurface Conditions (Section 5.0). Should the project criteria change, including the construction location on the site, our office should conduct a review to determine if modifications to the recommendations are required. Further, it is recommended our office be provided with a copy of the final plans and specifications for review prior to construction.

6.1 **General Considerations**

Design criteria given in this report were developed assuming final grades are within 2 ft of existing grade. Substantial cutting and filling (more than 2 ft) on the site can alter our recommendations. Therefore, it is recommended UES be contacted before performing other cutting and filling on site to verify the appropriate design parameters are utilized for final design.

6.1.1 Existing Fill

As stated in Section 5.0, existing fill was encountered to a depths of up to 6½ ft below the existing ground surface in the borings at this site. Such fill may also exist in areas other than those explored to greater or lesser depths. We understand the fill was placed during initial development of the school and was tested by others. Evaluation of the consistency and compaction of the existing fill are considered beyond the scope of this study. The following recommendations are predicated upon our understanding that all of the existing fill encountered on the site meets or exceeds the recommendations contained in

Section 7.3 of this report. Note: It is recommended the Client obtain written confirmation from a Professional Engineer that the existing fill was tested upon placement and has been adequately compacted for support of the proposed pavements.

If documentation of the fill is not available, removal and replacement of all fill is the only method of eliminating the risk of unusual settlement associated with the fill. Samples obtained of the uncontrolled fill were generally free of significant voids. In the absence of documented density control, the possibility of under-compacted zones or voids may exist within the uncontrolled fill.

Although not encountered at the borings, uncontrolled fills can contain boulders, rubble, debris, organic materials, and other unsuitable materials. Excavation and grading contracts should contain provision for removal of unsuitable materials. Test pits could be performed prior to construction to assess the depth, lateral extent, and nature of the existing fill. UES would be pleased to assist with a test pit program if desired.

6.1.2 Vertical Movements

Expansive soils are present at this site. This report provides recommendations to help the effects of soil shrinkage and expansion. However, even if these recommendations are followed, some movement and cracking in the pavements should be anticipated. The severity of cracking and other damage such as uneven pavements will probably increase if any modification of the site results in excessive wetting or drying of the expansive soils.

Grade supported pavements at this site could experience soil-related seasonal movement (i.e. PVR) up to about 2 inches. *Note: These PVR values were estimated using on-site or similar soil with a Plasticity Index (PI) of 30 or less to raise grades a maximum of 2 ft.*

These potential seasonal movements were estimated in general accordance with methods outlined by the Texas Department of Transportation (TxDOT) Test Method Tex-124-E, using swell tests (ASTM D 4546, Method B), engineering judgment, and experience. The estimated movement was 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.

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. However, soil movements may be reduced by implementing the subgrade improvement recommendations presented below, in Section 6.2 of this report.

6.2 <u>Pavements</u>

The soils encountered near the ground surface should be improved and prepared prior to construction of pavements at this site. To permit correlation between information from the borings and actual subgrade conditions exposed during construction, a qualified UES 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.

Calculations used to determine the required pavement thickness are based only on the physical and engineering properties of the materials and conventional thickness determination procedures. Pavement joining the 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 were not included in the scope of this study. Normal periodic maintenance will be required for all pavements to achieve the design life of the pavement system.

Recommendations for both Portland Cement Concrete (PCC) and asphalt concrete pavements are provided below. These types of pavement are not considered equal in performance. Over the life of the pavement structure, asphalt concrete pavement should be expected to have a shorter life and higher maintenance costs. Also, pavement in dumpster areas and areas receiving heavy truck traffic should consist of PCC. The dumpster pads should be extended to include all wheels of any garbage trucks.

Based on our knowledge of the project, we anticipate that traffic loads will be produced primarily by automobile traffic, occasional delivery, and trash removal trucks. For this project General Parking and Access Drives pavement section alternatives are provided. General Parking is for areas expected to receive only car traffic. Access Drives assumes areas with some delivery truck traffic, trash trucks, and main access drive areas. If heavier traffic loading is expected, UES should be provided with the information and allowed to review these pavement sections.

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.

6.2.1 <u>Pavement Subgrade Preparation</u>

After final subgrade elevation has been achieved, the exposed subgrade preparation should consist of scarifying the exposed subgrade soils to a depth of at least 6 inches and then lime treating or recompacting the scarified soils to at least 95 percent of standard

Proctor maximum dry density (ASTM D 698) and within the range of -1 to +3 percentage points of the material's optimum moisture content. The pavement subgrade should be proof-rolled as described in Section 7.1 in this report. Recommendations for subgrade preparation (lime treated subgrade or recompacted subgrade) are presented in Section 6.2.4.

It is recommended that subgrade preparation (lime treated subgrade or recompacted subgrade) 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. Also, the curb should be constructed such that the base of the curb extends at least 6 inches into the pavement subgrade.

Pavement will have the same potential for movement as discussed in Section 6.1.2 (up to about 2 inches). Good perimeter surface drainage with a minimum slope of 2 percent away from the pavement is recommended. The use of sand as a leveling course below pavement supported on expansive clays should be avoided. Normal maintenance of pavement should be expected over the life of the pavement structures.

6.2.2 Portland Cement Concrete Pavements

Subgrade preparation as described in Section 6.2.1 is required for PCC pavement. The minimum recommended PCC pavement sections to be constructed are provided in Table A:

TABLE A					
FOLLOWING SUBGRADE IMPROVEMENT PROVIDED IN SECTION 6.2.1					
PORTLAND CEMENT CONCRETE PAVEMENT SECTIONS					
	General Parking Access Drives				
	30,000 ESAL (inches)		100,000 ESAL (inches)		
Reinforced PCC	5.0	5.5	6.0	6.5	
Lime Treated Subgrade	6.0		6.0		
Recompacted Subgrade		6.0		6.0	

A minimum of 7 inches of PCC is recommended for dumpster pads. PCC should have a minimum compressive strength of 4,000 psi at 28 days. Concrete should be designed with 5 ± 1 percent entrained air.

<u>Pavement Joints and Reinforcement</u> – The following is recommended for all concrete pavement sections in this report. *Note: Refer to ACI 330 for additional information on pavement joints and reinforcement.*

Contraction Joints:

Spacing:	12½ ft each way for pavement thickness of 5 or 5½ inches; 15 ft		
	each way for pavement thickness of 6 or 6½ inches.		
Depth:	At least one-fourth (¼) of pavement thickness.		
Width:	One-fourth (¼) inch or as required by joint sealant manufacturer.		

Construction Joints:

Spacing:	Install at location of contraction joints.			
Width/Depth:	Full depth of pavement thickness. Construct sealant reservoir			
	along one edge of the joint. Width of reservoir to be one-fourth			
	(¼) inch or as required by joint sealant manufacturer. Depth of			
	reservoir to be at least one-fourth (¼) of pavement thickness.			

Isolation Joints:

Spacing:	As required to isolate pavement from structures, etc.		
Depth:	Full depth of pavement thickness.		
Width:	One-half (½) to one (1) inch or as required by the joint sealant		
	manufacturer.		

Expansion Joints: None (see note below)

Note: In this locale, drying shrinkage of concrete typically significantly exceeds anticipated expansion due to thermal affects. As a result, the need for expansion joints is eliminated provided all joints (including saw cuts) are sealed. Construction of an unnecessary joint may also become a maintenance problem. All joints should be sealed. If all joints, including saw cuts, are not sealed then expansion joints should be installed.

Distributed Steel: Steel reinforcement should consist of No 4 reinforcing steel bars at 18 inches on-center-each-way, Grade 60. *Note: It is imperative that the distributed steel be positioned accurately in the pavement cross section.*

All construction joints have dowels. Dowel information varies with pavement thickness as presented as follows.

Pavement Thickness:	5, 5½ inches	6, 6½ inches	7, 7½ inches
Dowels:	% inch diameter	¾ inch diameter	7/8-inch diameter
Dowel Spacing:	12 inches on center	12 inches on center	12 inches on center
Dowel Length:	12 inches long	14 inches long	14 inches long
Dowel Embedment:	5 inches	6 inches	6 inches

6.2.3 Asphalt Concrete Pavements

Subgrade preparation as described in Section 6.2.1 is required for asphalt concrete pavement. The minimum recommended asphalt concrete pavement sections to be constructed are provided in Table B. Pavement materials are described in Section 6.2.4.

TABLE B				
FOLLOWING SUBGRADE IMPROVEMENT PROVIDED IN SECTION 6.2.1				
ASPHALT CONCRETE PAVEMENT SECTIONS				
	General Parking 18,000 ESAL (inches)		Access Drives	
			75,000 ESAL (inches)	
HMAC Surface Course – Type D	2.0	2.0	2.5	2.5
Flexible Base	12.0	8.0	14.0	10.0
Lime Treated Subgrade		6.0 ¹		6.0 <i>1</i>
Recompacted Subgrade	6.0		6.0	
¹ Geogrid may be used in lieu of the can be found in Section 6.2.4.	e 6-inch lime ti	reated subgra	de. Criteria fo	or geogrid

6.2.4 Pavement Materials

Presented below are various materials that may be used to construct the pavement sections at this site. Submittals should be made for each pavement material. The submittals should be reviewed by the Geotechnical Engineer and appropriate members of the design team and should provide test information necessary to verify full compliance with the recommended or specified material properties.

<u>Hot Mix Asphaltic Concrete (HMAC) Courses</u> - The HMAC surface course should be plant mixed, hot laid Type D (TxDOT Standard Specifications Item 341). Each mix should meet the master specifications requirements of 2014 TxDOT Standard Specifications Item 341, Item SS 3224 (2011) and specific criteria for the job mix formula.

<u>Flexible Base</u> – Flexible base should meet TxDOT Standard Specification Item 247 Grade 1-2, Type A. Flexible base should be compacted to a minimum of 95 percent of the materials maximum standard Proctor dry density (ASTM D 698) at a moisture content of -2 to +2 percentage points of optimum moisture.

<u>Lime Treated Subgrade</u> – Due to the presence of clayey soils (with a PI over 20) at this site, the pavement subgrade may be treated with hydrated lime. The subgrade 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 Specification 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 square 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. 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. 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 20 percent. Subgrade preparation utilizing lime stabilization as described herein will not prevent normal seasonal movement of the underlying untreated materials.

<u>Geogrid</u> – Geogrid can be used in lieu of the 6 inches of lime treated subgrade for asphalt pavements. The geogrid should consist of Tensar TX130S, Tensar Biaxial Type 1 or TxDOT Type 2. The geogrid should be placed at the bottom of the flexible base material layer. However, the pavement subgrade should still be moisture conditioned and compacted to a depth of about 6 inches.

<u>Recompacted Subgrade</u> – The subgrade should be scarified to a depth of 6 inches and compacted to a dry density of at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of 0 to +4 percentage points of optimum moisture content.

6.3 Drainage

Adequate drainage should be provided to reduce seasonal variations in the moisture content of foundation soils. All pavement and sidewalks within 10 ft of buildings should be sloped away from buildings to prevent ponding of water around buildings. Final grades within 10 ft of existing structures should be adjusted to slope away from those structures at a minimum slope of 2 percent. Maintaining positive surface drainage throughout the life of the structure is essential.

In areas with pavement or sidewalks adjacent to the structures, 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 resealing where necessary.

Several factors relate to civil and architectural design and/or maintenance, which can significantly affect future movements of the flatwork and pavement systems:

• Large trees and shrubs should not be allowed closer to the pavements or flatwork than a horizontal distance equal to roughly their mature canopy due to their significant moisture demand upon maturing. Note: A landscape expert may be consulted to evaluate the precise extents of potential root growth for specific tree and shrub species so that root growth beneath the flatwork and pavements can be avoided.

- Moisture conditions should be maintained "constant" around the edge of the pavements and sidewalks. Ponding of water in planters, in unpaved areas, and around joints in paving and sidewalks can cause soil induced movements beyond those predicted in this report.
- Planter box structures placed adjacent to the pavements and sidewalks should be provided with a means to assure concentrations of water are not available to the subsoil stratigraphy.
- The root systems from any existing trees cleared/removed at this site will have dried and desiccated the surrounding clay soils, resulting in soil with near-maximum swell potential. Clay soils surrounding tree root mats within the pavement areas or flatwork areas should be removed to a depth of 3 ft and compacted in-place with moisture and density control as described in Section 7.3.

Trench backfill for utilities should be properly placed and compacted as outlined in Section 7.3 and in accordance with requirements of local City standards. 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 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.

7.0 GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

Variations in subsurface conditions could be encountered during construction. To permit correlation between boring data and actual subsurface conditions encountered during construction, it is recommended UES be retained to observe construction procedures and materials.

Some construction problems, particularly degree or magnitude, cannot be anticipated until the course of construction. The recommendations offered in the following paragraphs are intended not to limit or preclude other conceivable solutions, but rather to provide our observations based on our experience and understanding of the project characteristics and subsurface conditions encountered in the borings.

7.1 <u>Site Preparation and Grading</u>

All areas supporting pavement, flatwork, or areas to receive new fill should be properly prepared.

• 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 15 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 UES Professional Engineer, or his designated representative.
- Any undesirable material (organic material, wet, soft, or loose soil) exposed during the proofroll should be removed and replaced with well-compacted material as outlined in Section 7.3.
- Prior to placement of any fill, the exposed soil subgrade should then be scarified to a minimum depth of 6 inches and recompacted as outlined in Section 7.3.

Slope stability analysis of embankments (natural or constructed) was not within the scope of this study. If fill is to be placed on existing slopes (natural or constructed) steeper than six (6) horizontal to one (1) vertical (6:1), the fill materials should be benched into the existing slopes in such a manner as to provide a minimum bench 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.

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. 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.

Due to the nature of the clayey soils found near the surface at the borings, traffic of heavy equipment (including heavy compaction equipment) may create pumping and general deterioration of shallow soils. Therefore, some construction difficulties should be anticipated during periods when these soils are saturated.

7.2 Excavations

All excavations should be monitored to verify bearing stratum consists of suitable material. The bearing stratum exposed in the base of all 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 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. All excavations should not be left open for more than 48 hours.

Groundwater was not encountered during drilling at this site. However, from our experience, seasonal groundwater seepage could be encountered at the site during excavation, and the risk of encountering seepage is increased during or after periods of precipitation. UES should be contacted for further review and evaluation if groundwater seepage is encountered during excavation.

7.3 <u>Fill Compaction</u>

The following fill compaction recommendations provided below are applicable for general site grading. *Note: Imported soils used as general fill should consist of material with a PI not greater than 30 percent.*

<u>General Fill (Clay)</u> – Clay soils should be compacted to a dry density between 95 and 100 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 0 to 4 percentage points above optimum. Clayey materials used as fill should be processed and the largest particle or clod should be less than 6 inches prior to compaction.

<u>General Fill (Granular)</u> – Granular materials should be compacted to a dry density between 95 and 100 percent of Standard Proctor maximum dry density (ASTM D 698). The compacted moisture content of the granular soils during placement should be within the range of -2 to +2 percentage points of optimum.

Prior to placement of any fill or foundation, the subgrade should be scarified to a depth of 6 inches and recompacted to a dry density of at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of +1 to +4 percentage points of the material's optimum moisture content.

In cases where mass fills outside the structure areas are more than 12 ft deep, the fill below 12 ft should be compacted to at least 100 percent of standard Proctor maximum dry density (ASTM D-698) and within 2 percentage points of the material's optimum moisture content. The portion of the fill shallower than 12 ft should be compacted as outlined above. *Note: Even if fill is properly*

compacted, fills in excess of about 12 ft are still subject to settlements over time of up to about 1 to 2 percent of the total fill thickness. This should be considered when designing structures and pavements on relatively deep backfill. UES should be contacted if alterative backfill recommendations are required to reduce settlement of mass fills.

Compaction should be accomplished by placing fill in about 8-inch thick loose lifts and compacting each lift to at least the specified minimum dry density. Field density and moisture content tests should be performed on each lift. A qualified geotechnical engineering firm should be retained to perform sufficient in-place density tests during the filling operations to evaluate that proper levels of compaction, including dry unit weight and moisture content, are being attained. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris or materials exceeding 4 inches in maximum dimension. *Note: We recommend any imported fill to be used at this site be approved by UES prior to placement.*

7.4 <u>Utilities</u>

Where utility lines are deeper than 12 ft, the fill/backfill below 12 ft should be compacted to at least 100 percent of standard Proctor maximum dry density (ASTM D 698) and within 2 percentage points of the material's optimum moisture content. The portion of the fill/backfill shallower than 12 ft should be compacted as previously outlined. Density tests should be performed on each lift (maximum 12-inch thick) and should be performed as the trench is being backfilled. *Even if fill is properly compacted, fills in excess of about 12 ft are still subject to settlements over time of up to about 1 to 2 percent of the total fill thickness. This should be considered when designing pavement over utility lines.*

If utility trenches or other excavations extend to or beyond a depth of 5 ft below construction grade, the contractor or others shall be required to develop an excavation safety plan to protect personnel entering the excavation or excavation vicinity. The collection of specific geotechnical data and the development of such a plan, which could include designs for sloping and benching or various types of temporary shoring, is beyond the scope of this study. Any such designs and safety plans shall be developed in accordance with current OSHA guidelines and other applicable industry standards.

7.5 <u>Groundwater</u>

Groundwater was not encountered during drilling at this site. However, from our experience with similar soils, seasonal groundwater seepage could be encountered in excavations for utility conduits and other general excavations. The risk of encountering seepage increases with depth of excavation and during or after periods of precipitation. Standard sump pits and pumping may be adequate to control minor seepage on a local basis in relatively shallow excavations.

In any areas where cuts are made to establish final grades at the site, attention should be given to possible seasonal water seepage that could occur through natural cracks and fissures in the newly exposed stratigraphy. Subsurface drains may be required to intercept seasonal groundwater seepage. The need for these or other de-watering devices should be carefully addressed during construction. Our office could be contacted to visually observe the final grades to evaluate the need for such drains.

8.0 LIMITATIONS

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. Noncompliance 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

A-1 METHODS OF FIELD EXPLORATION

A truck-mounted, rotary drill rig equipped with continuous flight augers were used to advance the boreholes. A total of two (2) borings were performed for this geotechnical exploration at the approximate locations shown on the Boring Location Plans, Figure 1B and 1C. The boring locations were staked by either pacing or taping and estimating right angles from landmarks which could be identified in the field and as shown on the site plan provided during this study. The locations of the borings shown on the Boring Location Plan are considered accurate only to the degree implied by the methods used to define them. The approximate latitude and longitude coordinates at each boring location were obtained using a handheld GPS device.

Samples of granular and cohesive materials were obtained using split-spoon sampling procedures in general accordance with ASTM Standard D 1586. Disturbed samples were obtained at selected depths in the borings by driving a standard 2-inch O.D. split-spoon sampler 18 inches into the subsurface material using a 140-pound hammer falling 30 inches. The number of blows required to drive the split-spoon sampler the final 12 inches of penetration (N-value) is recorded in the appropriate column on the boring logs. However, if the sampler was not driven the initial 6-inch seating increment with 50 hammer blows, refusal (i.e. "ref") is recorded along with the inches driven on the logs.

Our field representative prepared field logs as part of the field exploration. The field logs included visual descriptions of the materials encountered during drilling and their interpretation of the subsurface conditions between samples. The Log of Boring sheets included in this report represent the engineer's interpretation of the field logs and include modifications based on visual observations using the Unified Soil Classification System (USCS) and testing of the samples in the laboratory. Samples not consumed by testing will be retained in our laboratory for at least 30 days and then discarded unless the Client requests otherwise.



Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

SITE VICINITY MAP

LOCATION IS APPROXIMATE FIGURE 1A



Hays CISD UES Project No.: 24-0925 **LEHMAN HS – ADDITIONAL PARKING** 1700 Lehman Road Kyle, Texas

4740 Perrin Creek, San Antonio, TX 78217 ph. 210.249.2100 10856 Vandale Street, San Antonio, TX 78216 ph. 210.495.8000

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Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

BORING LOCATION PLAN

LOCATIONS ARE APPROXIMATE FIGURE 1B



Hays CISD UES Project No.: 24-0925 LEHMAN HS – ADDITIONAL PARKING 1700 Lehman Road Kyle, Texas

4740 Perrin Creek, San Antonio, TX 78217 ph. 210.249.2100 10856 Vandale Street, San Antonio, TX 78216 ph. 210.495.8000

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B-1 METHODS OF LABORATORY TESTING

Representative samples were inspected and classified by a qualified member of the Geotechnical Division and the boring logs were edited as necessary. To aid in classifying the subsurface materials and to determine the general engineering characteristics, natural moisture content tests (ASTM D 2216), Atterberg-limit tests (ASTM D 4318), and percent passing No. 200 Sieve (ASTM D 1140) were performed on selected samples. Results of these laboratory tests are provided on the Logs of Boring sheets.
									LO	G OI	FΒ	ORING 01 SHEET 1 of 1	
												CLIENT: Hays CISD	
						UES 1085	Profes 6 Vano	siona dale S	l Solutio treet	ons 44, l	LC	PROJECT: Lehman High School - Additional Parking	
	San Antonio, Texas 78216 Telephone: 210-495-8000 Fax: 210-495-8015										LOCATION: 1700 Lehman Road, Kyle, Texas		
						Fax:	210-4	95-80	15			NUMBER: 24-0925	
												DATE(S) DRILLED: 08/13/2024 - 08/13/2024	
	FIE		DA1	ГА		LABC	DRAT	ORY	/ DAT	A		DRILLING METHOD(S):	
					_	AT	TTERBERG						
ABOL	FT)	NUMBER	S	S/FT Sa FT Sa FT VSa FT	RE CONTENT (%	ID LIMIT	TIC LIMIT	TICITY INDEX	lsitΥ /cu.FT	SSIVE TH Q FT)	O. 200 SIEVE (%	GROUNDWATER INFORMATION: Groundwater was not encountered during drilling, and the boring was dry upon completion of drilling.	
SYI	тн (APLE	IPLE	SNO1	STUI	LIQU	PLAS	PLAS	DEN	APRE IENG NS/S	N S N	SURFACE ELEVATION: N/A	
SOIL	DEP	SAN	SAN/	я л н л н л н л н л г г о	MOI	LL	PL	PI	POL	STR TOL	MN	DESCRIPTION OF STRATUM	
	- 1 -	SPT	M	N=28	5	43	19	24			75	FILL:LEAN CLAY WITH SAND, soft to very stiff, dark brown and light brown. (CL)	
	2	-											
	- 3 -	SPT	X	N=4	9								
	· 4 ·	_	А										
	- 5 -	SPT	X	N=12	3	NP	NP	NP			11	FILL: POORLY GRADED SILTY SAND, medium dense, reddish brown. (SP-SM)	
	· 6 ·	-	А										
			\square									LEAN CLAY WITH SAND, hard, light brown with gray. (CL)	
	- 7 -	SPT	IX.	N=49	13								
	. g .		Δ										
	0												
	- 9 -	SPT	M	N=50	12	46	18	28			81		
	· 10 ·	-	Н										
	- 11 -	-											
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									LC	G O	- B	ORING 02 SHEET 1 of 1		
												CLIENT: Hays CISD		
	UES Professional Solutions 44, LLC 10856 Vandale Street San Antonio, Texas 78216											PROJECT: Lehman High School - Additional Parking		
				E5.	1	San /	Antoni	o, Tex	as 782	16		LOCATION: 1700 Lehman Road, Kyle, Texas		
						Fax:	210-4	95-80	495-800 15	00		NUMBER: 24-0925		
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	- 5 -	SPT	M	N=32	12							LEAN CLAY WITH SAND, hard, light brown with reddish brown. (CL)		
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			KEY TO	SOIL CLASSIFICATION AND SYN	MBOLS				
	UNIFIE	D SOIL CLASS	IFICATION SYSTE	M	_	TERMS (ACTERIZING SOIL	
MAJOR D	IVISIONS	SYMBOL		NAME			SIRU	JUTURE	
		GW	Well Graded Gra or no fines	vels or Gravel-Sand mixtures, little	s SLIC	KENSIDED - h t are slick and	having I glossy	inclined planes of weakness / in appearance	
	GRAVEL AND	GP	Poorly Graded G or no fines	ravels or Gravel-Sand mixtures, litt	tle FISS	FISSURED - containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less			
	GRAVELLY SOILS	GM	Silty Gravels, Gra	avel-Sand-Silt mixtures	LAM	LAMINATED (VARVED) - composed of thin layers of			
COARSE		GC	Clayey Gravels, (Gravel-Sand-Clay Mixtures	ORU	or silt at the bottom to clay at the top			
SOILS		SW	Well Graded San fines	ds or Gravelly Sands, little or no	blo	blocks or crumbs on drying			
	SAND AND	SP	Poorly Graded Sa fines	ands or Gravelly Sands, little or no	cal	cium carbonat	e, gen having	wide range in grain sizes	
	SANDY SOILS	SM	Silty Sands, Sand	d-Silt Mixtures	anosiz	d substantial a es	mount	s of all intermediate particle	
		SC	Clayey Sands, Sa	and-Clay mixtures	POO uni soi	POORLY GRADED - predominantly of one grain size uniformly graded) or having a range of sizes with some intermediate size missing (gap or skip graded)			
		ML	Inorganic Silts ar or Clayey fine Sa	nd very fine Sands, Rock Flour, Silt nds or Clayey Silts	ty				
	SILTS AND CLAYS	CL	Inorganic Clays o Clays, Sandy Cla	of low to medium plasticity, Gravelly lys, Silty Clays, Lean Clays	y	SYMBO	OLS F	OR TEST DATA	
		OL	Organic Silts and	l Organic Silt-Clays of low plasticity	y <u>v</u>	/ (I	Ground Initial F	water Level Reading)	
		мн	Inorganic Silts, N Sandy or Silty so	licaceous or Diatomaceous fine ils, Elastic Silts			Final R	water Level leading)	
	SILTS AND CLAYS	сн	Inorganic Clays o	of high plasticity, Fat Clays		s		l ube Sample	
	LL > 50	ОН	Organic Clays of Silts	medium to high plasticity, Organic] — A	Auger S	ample	
	<u> </u>		Limestone			R	Rock Co	ore	
NC US(ON CS		Marl/Claystone			— т	Texas C	cone Penetrometer	
		× × ×	Sandstone] — G	Grab Sa	mple	
		•	TERMS	DESCRIBING CONSISTENCY OF	= SOII				
COARSE GRAINED SOILS FINE GRAINED SOILS									
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Very Loose			0 - 4	Very Soft		< 2		< 0.25	
Loose Medium Dor	200		4 - 10 10 - 30	Soft		2 - 4		0.25 - 0.50	
Dense	196	3	30 - 50	Stiff		4-0 8-15		1.00 - 2.00	
Very Dense		C	over 50	Very Stiff Hard		15 - 30 over 30		2.00 - 4.00 over 4.00	
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				anon tor consistency of Fille Gra	anneu Jons	is determined	withg		

GEOTECHNICAL EXPLORATION

LEHMAN HIGH SCHOOL

1700 Lehman Road Kyle, Texas 78640 UES Report No. A251017 April 10, 2025

Prepared for:

HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

21003 Interstate 35 Frontage Road Kyle, Texas 78640

Attention: Nathan Wensowitch

Prepared By:





Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

April 10, 2025

Hays Consolidated Independent School District 21003 Interstate 35 Frontage Road Kyle, Texas 78640

Attention: Nathan Wensowitch

Re: Geotechnical Exploration Lehman High School 1700 Lehman Road Kyle, Texas 78640 UES Report No. A251017

Attached is the report of the geotechnical exploration performed for the project referenced above. This study was authorized by Nathan Wensowitch with Hays Consolidated Independent School District on February 5, 2025 and performed in accordance with UES Proposal No. P25-0173 dated February 5, 2025 and Hays CISD Purchase Order #25003600.

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

UES Professional Solutions 44, LLC (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

Sebastian L. Aleman, E.I.T. Geotechnical Project Manager SLA/LEG Copies: (1-PDF) Nathan Wensowitch; Hays CISD



Lee E. Gurecky, PE Geotechnical Department Manager

TeamUES.com

UES REPORT NO. A251017

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APPENDIX

- A-1 Methods of Field Exploration Site Vicinity Map Boring Location Plan
- B-1 Methods of Laboratory Testing Logs of Borings Key to Soil Symbols and Classifications

1.0 PURPOSE AND SCOPE

The purpose of this geotechnical exploration is for UES PROFESSIONAL SOLUTIONS 44, LLC (UES) to evaluate for HAYS CONSOLIDATED INDEPENDENT SCHOOL DISTRICT (Client) some of the physical and engineering properties of subsurface materials at selected locations on the subject site with respect to formulation of appropriate geotechnical design parameters for the proposed construction. The field exploration was accomplished by securing subsurface samples from widely spaced test borings performed across the expanse of the site. Engineering analyses were performed from results of the field exploration and results of laboratory tests performed on representative samples.

Also included are general comments pertaining to reasonably anticipated construction problems and recommendations concerning earthwork and quality control testing during construction. This information can be used to evaluate subsurface conditions and to aid in ascertaining construction meets project specifications.

Recommendations provided in this report were developed from information obtained in borings depicting subsurface conditions only at the specific boring locations and at the particular time designated on the logs. Subsurface conditions at other locations may differ from those observed at the boring locations, and subsurface conditions at boring locations may vary at different times of the year. The scope of work may not fully define the variability of subsurface materials and conditions that are present on the site.

The nature and extent of variations between borings may not become evident until construction. If significant variations then appear evident, determined by experienced on-site personnel, our office should be contacted to re-evaluate our recommendations after performing additional onsite observations and possibly other tests.

2.0 PROJECT CHARACTERISTICS

It is proposed to design and construct a new weight room, multipurpose academic building, and associated pavements to be located at the existing Lehman High School in Kyle, Texas. A Site Vicinity Plan and Boring Location Plans illustrating the general outline of the property are provided in the Appendix of this report. A site grading plan, including initial and final contours, was not available at the time of this study. For the purpose of this study, we have assumed the final site grades will be within 2-feet of existing grades.

We understand that a deep foundation system will be considered to support the proposed structures at this site. The client has indicated that design PVR/PVM of ¾ and ½-inch are desired for this project. We anticipate the maximum column loads will not exceed 300-kips. New pavements consisting of both asphalt and concrete will be considered at this site.

3.0 FIELD EXPLORATION

Subsurface conditions on the site were explored by drilling a total of five (5) test borings in general accordance with ASTM D 420 using standard air-rotary drilling equipment to advance the borings to their termination depth. The corresponding location of each boring is provided in Table A.

TABLE A									
Locations	Boring No.	Boring Depth <i>, ft</i>							
Multipurpose Academic Building	B-1 and B-2	35							
Future Weight Room	B-3 to B-5	35							

The approximate location of each boring is shown on the Boring Location Plan enclosed in the Appendix. Details of drilling and sampling operations are briefly summarized in Methods of Field Exploration, Section A-1 of the Appendix.

Subsurface types encountered during the field exploration are presented on the Log of Boring sheets (boring logs) included in the Appendix. The boring logs contain our Field Technician's and Engineer's interpretation of conditions believed to exist between actual samples retrieved. Therefore, these boring logs contain both factual and interpretive information. Lines delineating subsurface strata on the boring logs are approximate and the actual transition between strata may be gradual.

4.0 LABORATORY TESTS

Selected samples of the subsurface materials were tested in the laboratory to evaluate their engineering properties as a basis in providing recommendations for foundation design and earthwork construction. A brief description of testing procedures used in the laboratory can be found in Methods of Laboratory Testing, Section B-1 of the Appendix. Individual test results are presented on boring logs or summary data sheets enclosed in the Appendix.

5.0 GENERAL SUBSURFACE CONDITIONS

The Geologic Map of Texas, published by the University of Texas at Austin, Bureau of Economic Geology, has mapped the Pecan Gap Chalk (Kpg) formation in the general area of the project site. The Pecan Gap Chalk formation generally consists of clay, chalk, chalky marl, and limestone.

Within the 35-foot maximum depth explored on the site, subsurface materials consist generally of upper strata of low to very high plasticity FILL: SANDY FAT CLAY (CH), FILL: SANDY LEAN CLAY (CL), FILL: SILTY, CLAYEY GRAVEL with SAND (GC-GM), FAT CLAY with SAND (CH), LEAN CLAY (CL), LEAN CLAY with SAND (CL), SANDY LEAN CLAY (CL), and CLAYEY GRAVEL with SAND (GC), generally overlying FAT CLAY (CH). Fill material was encountered at depths from about 1 to 4 feet below existing grades in borings B-1 and B-3 to B-5. Boring B-4 contained 2 inches of asphalt pavement

at the existing ground surface. The letters in parenthesis represent the soils' classification according to the Unified Soil Classification System (ASTM D 2488). More detailed stratigraphic information is presented on the boring logs attached to this report.

The clayey materials encountered are considered relatively impermeable and are anticipated to have a relatively slow response to water movement. The granular materials are considered relatively permeable and are anticipated to have a relatively fast response to water movement. Therefore, several days of observation would be required to evaluate actual groundwater levels within the depths explored. Also, the groundwater level at the site is anticipated to fluctuate seasonally depending on the amount of rainfall, prevailing weather conditions and subsurface drainage characteristics.

Groundwater was encountered during drilling at depths of 16 and 31-feet below the existing ground surface in borings B-2 and B-4, respectively. Groundwater was remeasured at depths of 17.25 and 32.3-feet. Groundwater was not encountered in the remaining borings during and after drilling at this site. It is common to detect seasonal groundwater from natural fractures within the clayey matrix, and in the granular materials, particularly during or after periods of precipitation. If more detailed groundwater information is required, monitoring wells or piezometers can be installed. Further details concerning subsurface materials and conditions encountered can be obtained from the boring logs provided in the Appendix.

6.0 DESIGN RECOMMENDATIONS

The following design recommendations were developed on the basis of the previously described Project Characteristics (Section 2.0) and General Subsurface Conditions (Section 5.0). If project criteria should change, our office should conduct a review to determine if modifications to the recommendations are required. Further, it is recommended our office be provided with a copy of the final plans and specifications for our review prior to construction.

6.1 **General Considerations**

The foundation system being considered to provide support for the proposed structures must satisfy two independent engineering criteria. One criterion is the foundation system must be designed with an appropriate factor of safety, or a performance limit state, to reduce the possibility of soil failure when subjected to axial and lateral load conditions. The other criterion is foundation movements, whether vertical, horizontal, or rotational, must be within allowable operational limits of the structure. These criteria can be achieved for the planned structure foundations if they are designed and constructed in accordance with the recommendations contained in this report.

Design criteria given in this report were developed assuming the floor slab of the building is constructed within 2-feet of existing grade. Substantial cutting and filling (more than 2-feet) on the site can alter the recommended foundation design parameters. Therefore, it is recommended UES be contacted before performing other cutting and filling on site to verify the appropriate design parameters are utilized for final foundation design.

6.1.1 Existing Fill

As stated in Section 5.0, existing fill was encountered to a depth of up to 4-feet below the existing ground surface in some of the borings at this site. Such fill may also exist in areas other than those explored to greater or lesser depths. We understand the fill was placed during initial development of the school and was tested by others. Evaluation of the consistency and compaction of the existing fill are considered beyond the scope of this study. The following recommendations are predicated upon our understanding that all of the existing fill encountered on the site meets or exceeds the recommendations contained in Section 7.3 of this report. *Note: It is recommended the Client obtain written confirmation from a Professional Engineer that the existing fill was tested upon placement and has been adequately compacted for support of the turf fields.*

If documentation of the fill is not available, removal and replacement of all fill is the only method of eliminating the risk of unusual settlement associated with the fill. Samples obtained of the uncontrolled fill were generally free of significant voids. In the absence of documented density control, the possibility of under-compacted zones or voids may exist within the uncontrolled fill.

Although not encountered at the borings, uncontrolled fills can contain boulders, rubble, debris, organic materials, and other unsuitable materials. Excavation and grading contracts should contain provision for removal of unsuitable materials. Test pits could be performed prior to construction to assess the depth, lateral extent, and nature of the existing fill. UES would be pleased to assist with a test pit program if desired.

6.1.2 Vertical Movements

Expansive soils are present at this site. This report provides recommendations to reduce the effects of soil shrinkage and expansion. However, even if these recommendations are followed, some movement and cracking in the structures and any flatwork should be anticipated. The severity of cracking and other damage such as uneven floor slabs will probably increase if any modification of the site results in excessive wetting or drying of the expansive soils. Grade supported structures at this site (including foundations) could experience soilrelated potential seasonal movements (i.e. PVM) of about 2 to 6-inches. Note: These PVR values were estimated using on-site or similar soil with a Plasticity Index (PI) of 40 or less to raise grades a maximum of 2-feet.

These potential seasonal movements were also estimated in general accordance with methods outlined by the Texas Department of Transportation (TxDOT) Test Method Tex-124-E, engineering judgment, and experience. The estimated movement was 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 significantly 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. However, soil movements may be reduced by implementing the subgrade improvement recommendations presented below, in Section 6.2 of this report.

6.1.3 Foundation Considerations

The proposed structures could be supported using a deep foundation system. The deep foundation system should consist of Drilled Piers or Auger Cast In Place (ACIP) piles with a structurally suspended floor slab. Recommendations for these types of foundation systems are provided in Sections 6.3 through 6.4.

A structural slab suspended completely above the existing highly expansive soils should be used for the buildings supported on piers or piles. At least 12-inches of void space should be provided between the bottom of the floor slab (and lowest suspended fixture) and top surface of the underlying expansive clays. This 12-inch void space should also be maintained between the bottom of any structural element or utility line above the expansive soils. Cardboard carton forms or a deeper crawl space can be used to create the minimum void space.

If a crawl space is constructed, consideration should be given to constructing a mud mat below the crawl space. The benefits of a mud mat include (but are not limited to) resistance to moisture ingress through the suspended floor slab from the precipitation of moisture from the underlying soils and improved access below the structure for maintenance and repairs of utilities. In addition, proper ventilation should be provided to reduce the possibility that a high humidity environment could develop in the void space areas. We recommend that the crawl space subgrade be sloped (not steeper than 3 horizontal to 1 vertical) to appropriate drainage outlets to reduce the possibility of water accumulation in these areas. Flexible connections should be utilized in suspended piping, especially where it enters the ground. Note: A structurally suspended slab will be required to achieve design PVM less than 1-inch. Subgrade improvement is not required for structurally suspended slabs.

6.2 <u>Subgrade Preparations (Flatwork)</u>

As discussed above, flatwork supported within 2-feet of existing grade could experience soilrelated potential seasonal movements up to about 6-inches. *Note: Care should be taken when excavating adjacent to existing structures when performing subgrade improvement. In some cases, it will be necessary to shore the existing structure to prevent undermining of existing foundations and slabs.* Potential seasonal movements can be reduced by properly preparing the building pad as recommended in the following sections. *Note: Subgrade improvement is not required if the slabs are structurally suspended above the ground surface on drilled piers or auger cast in place pile .*

6.2.1 Removal and Replacement with Select Fill

Potential seasonal movements can be reduced to about 1-inch by properly preparing the subgrade as recommended below:

Over-excavate all of the existing soils to a depth of 10-feet below the finished grade in the movement sensitive flatwork areas. The flatwork area is defined as the area directly beneath and at least 3-feet (horizontal) beyond the perimeter of the proposed flatwork and appurtenances. Appurtenances are those items attached to the building, typically including, but not limited to, the building sidewalks, porches, ramps, stoops, etc.

The building pad can be completed by placing and compacting select fill or flexible base, to the bottom of the floor slab in the building area. Select fill or flexible base materials should be placed in loose lifts of no more than 8-inches. *Note: Criteria for select fill and flexible base are provided in Section 7.3 of this report. The new exposed slope should be benched during fill placement forming horizontal cuts into the slope at vertical intervals of 1 to 3-feet.*

If not covered with concrete flatwork or pavements, the upper 2-feet of the 5-foot overbuild should consist of a cohesive clay with a Plasticity Index (PI) between 20 to 35 percent. The purpose of the clay cap is to reduce the potential for water to infiltrate the building pad causing the subgrade soils to swell. The material should have at least 70 percent by weight passing the No. 200 Sieve and no more than 15 percent by weight retained in the No. 4 Sieve. The material should be compacted as recommended in Section 7.3 of this report, to reduce the risk of surface water infiltration into the flexible base and below the floor slab.

6.2.2 Moisture Conditioned On-Site with Select Fill Cap

If a grade supported floor slab is desired, potential seasonal movements can be reduced to about 1-inch by properly preparing the subgrade as recommended below:

Over-excavate the existing on-site soils to 12-feet below the finished grade in the movement sensitive flatwork areas. The flatwork area is defined as the area directly beneath and at least 3-feet (horizontal) beyond the perimeter of the proposed flatwork and appurtenances. Appurtenances are those items attached to the building, typically including, but not limited to, the building sidewalks, porches, ramps, stoops, etc.

After over-excavating to 12-feet below the finished grade in the flatwork areas, place and compact moisture conditioned on-site soil to within 2-feet below the bottom of the floor slab in the building area. Moisture conditioning should be performed as discussed in Section 6.2.2.1.

The pad can be completed by placing and compacting select fill to the bottom of the flatwork in the movement sensitive flatwork area. Select fill material should be placed in loose lifts of no more than 8-inches.

The pad preparation should result in at least 2-feet of select fill over at least 10-feet of moisture conditioned on-site soil in the building area. To provide a more uniform support and create a more all-weather working surface, the final 6-inches of the pad could be constructed with flexible base (optional) to provide a working surface. *Note: Criteria for select fill and flexible base material are provided in Section 7.3.*

6.2.2.1 Moisture Conditioned On-Site Soil

Moisture conditioning consists of processing and compacting the specified minimum thickness of on-site soil at a "target" moisture content approximated to range between 4 to 6 percentage points above the material's optimum moisture content as determined by the standard Proctor method (ASTM D 698). Soils with relatively lower plasticity index values may need to be placed at moisture contents closer to optimum to allow for compaction. The moisture-conditioned soil should be placed in 8-inch thick loose lifts and compacted to a dry density of 93 to 97 percent of standard Proctor maximum dry density.

Moisture conditioning of the on-site soil should extend at least 5-feet outside the perimeter beam and adjoining flatwork. However, select fill material should not extend beyond the building limits. If flatwork or paving is not planned adjacent to the structures (i.e. above the moisture-conditioned soils), a moisture barrier consisting of a minimum of 10 mil plastic sheeting with a clay cover should be placed above the moisture-conditioned soils that are outside the building perimeter. The clay cover should consist of a clay with a PI between 15 to 30 percent and at least 65 percent by weight passing the No. 200 Sieve. *Note: The moisture conditioned on-site soil should be maintained in a moist condition prior to placement of the required thickness of select fill, plastic sheeting, flatwork, and/or pavement.*

The resulting estimated potential seasonal movement was calculated assuming the moisture content of the moisture-conditioned soil varies between the "target" moisture content and the "wet" condition while the deeper undisturbed in-situ soil within the normal zone of seasonal moisture content change varies between the "dry" condition and the "wet" condition as defined by methods outlined in TxDOT Test Method Tex-124-E.

Note: It is the intent of the moisture-conditioning process described above 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 to range between 4 to 6 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. One swell test per every 3-feet (thick) should be performed every 5,000 SF of the moisture conditioned soil in the building area.

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.

6.2.3 Comments Regarding Excavation Adjacent to Existing Building

Care should be taken when excavating adjacent to existing structures when performing subgrade improvement to prevent undermining foundations and floor slabs. In some cases, it will be necessary to shore the existing structure to prevent undermining of existing foundations and slabs. Considering the relatively shallow depth of subgrade improvement required (about 5-feet or less), another method is to excavate next to the existing building in narrow strips that are perpendicular to the building, and then quickly backfill the excavations with select fill or flexible base before proceeding to the next adjoining strip. The key to this method is to excavate in narrow enough strips so that the excavation can be made and completely backfilled in a very short period of time. The soils under the existing structure, and the excavation should be immediately backfilled if any indications of movement are detected.

The contractor and design team shall be required to develop an excavation safety plan to protect personnel entering the excavation or excavation vicinity, and to protect existing structures. The collection of specific geotechnical data and the development of such a plan, which could include designs for sloping and benching or various types of temporary shoring, is beyond the scope of this study. Any such designs and safety plans shall be developed by a professional engineer registered in the State of Texas who is experienced in such designs, in accordance with current OSHA guidelines and other applicable industry standards.

6.3 Deep Foundations

Auger cast in place (ACIP) piles or drilled piers may be considered to support the structural loads for the Main Building. Recommendations for an ACIP pile or drilled straight-shaft pier foundation systems are provided in the following sections. *Note: Groundwater was encountered at this site. Construction difficulties may occur during straight-shaft installation due to the potential for sidewall collapse. Casing will be needed where groundwater is encountered. A test pier is recommended just prior to construction to determine the constructability of drilled shafts at this site and for the presence of groundwater.*

6.3.1 ACIP Piles

Auger cast in place (ACIP) piles could be utilized to support the relatively heavy foundation loads associated with this project. ACIP piles are generally installed by advancing a continuous-flight hollow-stem auger to a predetermined depth in the ground, and then pumping high-strength flowable cement grout into the excavated shaft through the bottom of the hollow auger as the auger is slowly withdrawn. The grout is pumped under relatively high pressure, and a positive head of grout is maintained above the base of the auger during auger extraction. After the auger is completely removed, reinforcing steel is placed.

Depending on subsurface conditions, the load carrying capacity of an ACIP pile is derived from end bearing and/or skin friction along the shaft. ACIP piles could be designed using unit skin friction and end bearing values in Table B.

					TABLE B							
	AUGER CAST-IN-PLACE PILES											
	ALLOWABLE END BEARING AND SKIN FRICTION VALUES											
	Depth from Allowable Allowable Allowable Allowable											
	Existing End Skin Uplift Uplift											
	Grades, ft Bearing, psf Friction, psf Resistance, psf Adhesion, psf											
	0 to 15 1,500 ¹											
	15	to	25	6,500	1,200	1,000						
	25	to	30	8,000	1,500	1,200						
	30	to	35		1,500	1,200						
1	Мау	ı be redu	ced to	1,000 psf for moiste	ure-conditioned sc	oils and neglected for	the portion of the shaft					
	that penetrate through non-expansive, select fill material.											
2	Pier	s should	not be	drilled deeper than	35 ft below existi	ng grades. If deeper p	piers are required,					
	dee	per borin	gs will	be necessary to ver	rify these recomme	endations.						

The above bearing capacity values contain a factor of safety of at least three (3) considering a general bearing capacity failure and the skin friction and uplift resistance values have a factor of safety of at least three (3). The capacity of pile groups can be less than the sum of the individual pile capacities within the group. To reduce group effects, we recommend that the adjacent piles be spaced on centers no closer than three (3) pile diameters, based on the larger pile. Pile spacing closer than three (3) pile diameters could result in reduction of the load carrying capacity of single piles and increased group settlement. At a pile spacing of two (2) pile diameters, the bearing capacities should be reduced by to 75 percent of the capacity of a single pile. Piles closer than two (2) pile diameters are not recommended. Once the pile group configurations have been finalized, we would be pleased to evaluate the efficiency of the pile groups if desired.

<u>Uplift Force</u> – Each pile shaft should be reinforced with suitable tension steel over its entire length to adequately resist potential uplift (tensile) forces due to potential soil swell (soil-to-pier adhesion) along the pile, from post construction heave and other uplift forces applied by structural loadings. The magnitude of uplift adhesion due to soil swell along the pile shaft cannot be defined accurately and can vary according to the actual in-place moisture content of the soils during construction. The estimated soil uplift adhesion force from Table B can be considered to act uniformly over the upper 15-feet of the pile from final grade. The soil uplift force can be neglected for the portion of the pile that penetrates through non-expansive, select fill material. The uplift force can be reduced by the dead load of the structure. The uplift resistance of each pier can be computed using the allowable uplift resistance values provided in Table B.

Based on our experience, we expect settlements to be less than about ½ inch for properly installed individual, isolated ACIP piles designed with an appropriate factor of safety, with a pile tip at a depth of at least 15-feet below the existing ground surface, and constructed in accordance with the recommendations presented herein. It should be noted that groups of piles will likely settle more than individual piles subjected to the same load per foundation. Differential settlements resulting from variations in subsurface conditions

and loading conditions are also expected to be small. Settlement response of ACIP piles is impacted more by the quality of construction than by soil-structure interaction.

6.3.1.1 ACIP Load Tests

Installation of ACIP piles is a highly specialized operation, and the successful performance of ACIP piles is highly dependent on the means and methods used by the pile installation contractor. We recommend full-scale ACIP pile load tests to verify the design pile capacity is achievable and to establish the methods and procedures to be used for production piles. A pile load test should be performed for each significant loading condition or class of pile used for the project, including lateral load test(s) if significant lateral loads are present. It is critical that the test pile(s) be installed using the same procedures that will be utilized for installation of production piles. We generally recommend testing the piles to failure, although this is not necessary.

From our experience, ACIP piles frequently achieve a higher capacity during load testing than that calculated from static analysis. Therefore, pile load tests can also be used to maximize the working load capacity of the piles, potentially reducing the number of piles and/or pile depth required for the project. Also, ACIP pile contractors frequently will propose alternative pile lengths and capacities based on their experience; contractor-proposed alternates should be verified by pile load tests.

Reaction piles used during pile load tests should not be utilized as production piles after load tests are complete. The reaction piles will be subject to uplift forces and displacements during the load test, and their axial capacity will be substantially reduced.

UES should be involved in development of load test objectives, should observe and document load test procedures and data, and should analyze the load test results.

6.3.2 Drilled Straight Shaft Piers

Drilled straight-shaft piers may be used to support the structural loads of the Multipurpose Academic Building and Future Weight Room. The piers should bear at least 15-feet below existing grade. Deeper pier depths will be required to develop skin friction and/or uplift resistance. Straight-sided drilled piers can be designed based on the following parameters provided in Table C.

	TABLE C											
	DRILLED STRAIGHT-SHAFT PIERS											
	ALLOWABLE END BEARING AND SKIN FRICTION VALUES											
	Depth from Allowable Allowable Uplift Uplift											
	Existing End Skin Uplift Adhesion, psf											
	Grades, ft Bearing, psf Friction, psf Resistance, psf											
	0 to 15 1,500 ¹											
	15	to	25	6,500	1,200	1,000						
	25	to	30	8,000	1,500	1,200						
	30	to	35		1,500	1,200						
1	May	be redu	ced to 2	1,000 psf for moistu	ire-conditioned so	ils and neglected for t	the portion of the shaft					
	that penetrate through non-expansive, select fill material.											
2	Piers	should	not be a	drilled deeper than	35 ft below existir	ng grades. If deeper p	iers are required,					
	deep	oer borin	gs will l	be necessary to ver	ify these recomme	endations.						

The above bearing capacity values contain a factor of safety of at least three (3) considering a general bearing capacity failure and the skin friction and uplift resistance values have a factor of safety of at least three (3). The allowable end bearing and skin friction values are based on center-to-center spacing of the pier foundations no closer than a horizontal distance of three (3) pier diameters (using the largest pier diameter). A closer spacing may be considered but may affect (reduce) the axial capacity of the foundation depending on the spacing pattern of the foundations.

The following reduction values should be used for piers spaced within three (3) pier diameters:

Axial Loading (Skin Friction):

3 diameters (center to center) or greater - no reduction is required.
2 diameters (center to center) will have a 25% reduction (0.75 times the value).
1 diameter (center to center) will have a 50% reduction (0.5 times the value).

Axial Loading (End Bearing):

For end bearing no reduction is required.

Note: Linear interpolate between pier diameters for pier spacing between the values given.

<u>Uplift Force</u> – Each pier shaft should be reinforced with suitable tension steel over its entire length to adequately resist potential uplift (tensile) forces due to potential soil swell (soil-to-pier adhesion) along the shaft, from post construction heave and other uplift forces applied by structural loadings. The magnitude of uplift adhesion due to soil swell along the pier shaft cannot be defined accurately and can vary according to the actual inplace moisture content of the soils during construction. The estimated soil uplift adhesion force from Table C can be considered to act uniformly over the pier shaft for the specified

depth from existing grade. The soil uplift force can be neglected for the portion of the shaft that penetrates through non-expansive, select fill material. The uplift force can be reduced by the dead load of the structure. The uplift resistance of each pier can be computed using the allowable uplift resistance values provided in Table C.

This calculated uplift force may be used to compute the longitudinal reinforcing steel required in the pier to resist the uplift force induced by the swelling clays. However, the cross-sectional area of the reinforcing steel should not be less than ½ percent of the gross cross-sectional area of the drilled pier shaft.

Total settlements, based on the indicated bearing pressure, should be less than 1-inch for properly designed and constructed drilled piers. Settlement beneath individual piers will be primarily elastic with most of the settlement occurring during construction. Differential settlement may also occur between adjacent piers. The amount of differential settlement could approach 50 to 75 percent of the total pier settlement. Settlement response of drilled piers is impacted more by the quality of construction than by soil-structure interaction.

6.3.3 Lateral Loading

Lateral analysis can be performed using the following design parameters provided for the site soils in Table D. The lateral resistance of the top portion of the pile shafts (portion within 6-feet of final grade) should be neglected.

TABLE D DESIGN PARAMETERS FOR L-PILE									
Clay Soils									
6 to 15 ft Below 15 ft to 35 ft Below Deeper Than 3									
	Final Grade	Final Grade	Below Grade						
L-Pile p-y Model	Soft Clay	Very Stiff Clay	Hard Clay						
Effective Unit Weight (γ), pci	0.069	0.072	0.036						
Undrained Cohesion (c), psi 3.4 20 35									
Friction Angle (F), degrees	0	0	0						

6.3.4 Grade Beams and Pier/Pile Caps

Grade beams connecting to piles or piers, pier caps, and pile caps should be formed and not cast in earthen trenches. Grade beams should be formed with a nominal 12-inch void at the bottom for a structurally suspended floor slab.

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, 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 and caps from sloughing into the void space at the bottom of the grade beams and caps. Additionally, backfill soils placed adjacent to grade beams and caps must be compacted as outlined in Section 7.3 of this report.

6.4 <u>Structurally Suspended Floor Slab on ACIP Piles or Drilled Piers</u>

A structural slab suspended completely above the existing highly expansive soils could be used for the building supported on ACIP piles or piers. A structurally suspended floor slab will be required for potential movements of less than 1-inch. At least 12-inches of void space should be provided between the bottom of the floor slab (and lowest suspended fixture) and top surface of the underlying expansive clays. Utilities and other fixtures below the building should be suspended from the floor and isolated from the active clay soils, and a minimum 12-inch void space should also be provided below the bottom of the utility or fixture. Cardboard carton forms or a deeper crawl space can be used to create the minimum void space.

If a crawl space is constructed, consideration should be given to constructing a mud mat at the bottom of the crawl space. The benefits of a mud mat include (but are not limited to) resistance to moisture ingress through the suspended floor slab from the precipitation of moisture from the underlying soils and improved access below the structure for maintenance and repairs of utilities. In addition, proper ventilation should be provided to reduce the possibility that a high humidity environment could develop in the void space areas. We recommend that the crawl space subgrade be sloped (not exceeding 3 horizontal to 1 vertical) to appropriate drainage outlets to reduce the possibility of water accumulation in these areas. Flexible connections should be utilized in suspended piping, especially where it enters the ground.

6.5 <u>Flatwork</u>

Exterior flatwork supported on-grade could be subjected to potential seasonal movements up to about 6-inches as discussed in Section 6.1.2 of this report. Subgrade improvement, as discussed in Section 6.2 should be considered if it is desired to reduce these anticipated movements to about 1-inch and to reduce the risk of potential for differential movements between the flatwork and adjoining structural elements. Note: Select fill placed below flatwork may consist of material in compliance with "Select Fill (Flatwork)" outlined in section 7.3 of this report. Subgrade improvement below flatwork is intended to reduce the potential for large differential movements between the flatwork and the structure. However, some differential movement should be expected. Therefore, allowances should be made for differential movements between the structure and the flatwork, including flexible connections and control joints. The use of sand as a leveling course below flatwork supported on expansive clays should be avoided. *Note: UES should be contacted if additional subgrade improvement recommendations are needed for the flatwork area*.

The flatwork should be installed to ensure drainage away from the structure. A positive slope away from the structure should be maintained. The slope should be sufficient to accommodate future potential movements. The flatwork should never be allowed to reach either a level plane or negative slope back toward the structure. In addition, a moisture seal should be provided at the joint between the flatwork and the foundation.

6.6 <u>Seismic Considerations</u>

TABLE E						
SEISMIC PARAMETERS						
Description	Values					
2021 International Building Code Site Classification (IBC) ¹ D ²						
Site Latitude (Degrees)	29.9958738					
Site Longitude (Degrees)	-97.8507182					
Mapped Spectral Acceleration for Short Periods (0.2-Second): (S _s) ³ 0.052 g						
Mapped Spectral Acceleration for a 1-Second Period: (S ₁) ³ 0.029 g						
¹ The site class definition was determined using SPT N-values in conjunction w	ith section 1613.2.2 in the 2021					
IBC and ASCE 7-16.						
² Section 20.1 in the 2010 ASCE-7 requires a site soil profile determination exte	ending to a depth of 100 feet for					
seismic site classification. The current scope does not include the required 10	0-foot soil profile determination.					
Borings extended to a maximum depth of 35 ft, and this seismic site class d	efinition considers that stiff soil					
continues below the maximum depth of the subsurface exploration. Addition	nal exploration to deeper depths					
would be needed to confirm the conditions below the current depth of exploration.						
³ The Spectral Acceleration values were determined using publicly available info	ormation provided on the United					
States Geological Survey (USGS) website. The spectral acceleration values ca	in be used to determine the site					
coefficients using Tables 1613 2 3 (1) and 1613 2 3 (2) in the 2018 IBC						

6.7 <u>Pavements</u>

The soils encountered near the ground surface should be improved and prepared prior to construction of pavements at this site. To permit correlation between information from the 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.

Calculations used to determine the required pavement thickness are based only on the physical and engineering properties of the materials and conventional thickness determination procedures. Pavement joining the 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 were not included in the scope of this study. Normal periodic maintenance will be required for all pavements to achieve the design life of the pavement system. Recommendations for both Portland Cement Concrete (PCC) and asphalt concrete pavements are provided below. These types of pavement are not considered equal in performance. Over the life of the pavement structure, asphalt concrete pavement should be expected to have a shorter life and higher maintenance costs. Also, pavement in dumpster areas and areas receiving heavy truck traffic should consist of PCC. The dumpster pads should be extended to include all wheels of any garbage trucks.

Based on our knowledge of the project, we anticipate that traffic loads will be produced primarily by automobile traffic and occasional delivery, trash removal trucks and school buses. For this project General Parking, Access Drives and Bus Loop pavement section alternatives are provided. General Parking is for areas expected to receive only car traffic. Access Drives assumes areas with some delivery truck traffic, trash trucks and main access drive areas. Bus Loop assumes 30 school bus trips per day and 5 trash removal truck trips per week with some car traffic. If heavier traffic loading is expected, UES should be provided with the information and allowed to review these pavement sections.

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.

6.7.1 Pavement Subgrade Preparation

After final subgrade elevation has been achieved, the exposed subgrade preparation should consist of scarifying the exposed subgrade soils to a depth of at least 6-inches and then either lime treating or recompacting the scarified soils to at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of -1 to +3 percentage points of the material's optimum moisture content. The pavement subgrade should be proof-rolled as described in Section 7.1 in this report. Recommendations for subgrade preparation (lime treated subgrade) are presented in Section 6.7.4.

It is recommended that subgrade preparation (lime treated subgrade) extend at least 1-foot beyond the edge of the pavement to reduce effects of seasonal shrinking and swelling upon the extreme edges of pavement. Also, the curb should be constructed such that the base of the curb extends at least 6-inches into the pavement subgrade.

Pavement will have the same potential for movement as discussed in Section 6.1.2 (up to about 6-inches). Good perimeter surface drainage with a minimum slope of 2 percent away from the pavement is recommended. The use of sand as a leveling course below pavement supported on expansive clays should be avoided. Normal maintenance of pavement should be expected over the life of the pavement structures.

Note: Based on our experience with similar projects in the general geographical area of the site, the risk of sulfate induced heave of lime-treated subgrade is considered to be low for on-site soils. We do not anticipate any special treatment of the subgrade in this regard. However, additional testing of soluble sulfates is recommended during construction once pavement grades are established.

6.7.2 Portland Cement Concrete Pavement

Subgrade preparation as described in Section 6.7.1 is required for PCC pavement. The minimum recommended PCC pavement sections to be constructed are provided in Table F:

TABLE F PORTLAND CEMENT CONCRETE PAVEMENT SECTIONS											
General ParkingAccess DrivesBus Loop/Fire L30,000 ESAL100,000 ESAL200,000 ESAL(inches)(inches)(inches)											
Reinforced PCC	5.0	5.5	6.0	6.5	7.0	7.5					
Lime Treated Subgrade ¹	6.0		6.0		6.0						
Recompacted Subgrade		6.0		6.0		6.0					

A minimum of 7-inches of PCC is recommended for dumpster pads. PCC should have a minimum compressive strength of 4,000 lbs per sq inch (psi) at 28 days. Joints in concrete paving should not exceed 15-feet. Reinforcing steel should consist of No. 3 bars placed at 18 inches on-center in two directions for General Parking and No. 4 bars placed at 18-inches on-center in two directions for Access Drives and Bus Loops/Fire Lanes. *Note: Refer to ACI 330 for additional information on pavement joints and reinforcement.*

6.7.3 Asphalt Concrete Pavement

Subgrade preparation as described in Section 6.7.1 is required for asphalt concrete pavement. The minimum recommended asphalt concrete pavement sections to be constructed are provided in Table G. Pavement materials are described in Section 6.7.4.

TABLE G ASPHALT CONCRETE PAVEMENT SECTIONS										
General ParkingAccess DrivesBus Loop/Fire Lane18,000 ESAL75,000 ESAL200,000 ESAL(inches)(inches)(inches)										
HMAC Surface Course – Type C or D	2.0	2.0	2.0	2.0	2.5	2.5				
Flexible Base	8.0	10.0	10.0	14.0	12.0	15.0				
Lime Treated Subgrade ^{1,2}	6.0		6.0		6.0					
Recompacted Subgrade		6.0		6.0		6.0				
¹ Geogrid may be used in lieu of the 6-inch lime treated subgrade. Criteria for geogrid can be found in Section 6.7.4.										

6.7.4 Pavement Materials

Presented below are various materials that may be used to construct the pavement sections at this site. Submittals should be made for each pavement material. The submittals should be reviewed by the Geotechnical Engineer and appropriate members of the design team and should provide test information necessary to verify full compliance with the recommended or specified material properties.

<u>Hot Mix Asphaltic Concrete (HMAC) Courses</u> - The HMAC surface course should be plant mixed, hot laid Type C or D (TxDOT Standard Specifications Item 341). Each mix should meet the master specifications requirements of 2014 TxDOT Standard Specifications Item 341, Item SS 3224 (2011) and specific criteria for the job mix formula.

<u>Flexible Base</u> – Crushed limestone flexible base should meet TxDOT Standard Specification Item 247 Grade 1-2, Type A. Flexible base should be compacted to a minimum of 95 percent of the materials maximum Modified Proctor dry density (ASTM D1557) at a moisture content of -2 to +2 percentage points of optimum moisture.

<u>Lime Treated Subgrade</u> – Due to the presence of clayey soils (with a PI over 20) at this site, the pavement subgrade may be treated with hydrated lime. The subgrade should be scarified to a depth of 6 inches and mixed with a minimum 8 percent hydrated lime (by dry soil weight) in conformance with TxDOT Standard Specification Item 260. Assuming an in-place unit weight of 100 pcf for the pavement subgrade soils, this percentage of lime equates to about 36 lbs of lime per square 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. 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. 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 20 percent. Subgrade preparation utilizing lime stabilization as described herein will not prevent normal seasonal movement of the underlying untreated materials.

<u>Geogrid</u>-Geogrid should be placed beneath the base material and on top of the compacted subgrade. Geogrid should be Tensar HX-5.5 and should be placed and overlapped in accordance with the manufacturer's recommendations. Geogrid will significantly improve the performance of the flexible pavements and reduce cracking.

If alternate geogrid products are desired for use, additional base material thickness will apply, and UES should be contacted for the specific recommendations. If a direct substitution with an alternate geogrid is proposed by the local geogrid distributor, the geogrid should come with a pavement design specific for the site that is sealed by a licensed professional engineer in the state of Texas and that pavement design shall supersede the pavement recommendations provided herein.

<u>Recompacted Subgrade</u> – The subgrade should be scarified to a depth of 6 inches and compacted to a dry density of at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of 0 to +4 percentage points of optimum moisture content.

6.8 Drainage and Other Considerations

Adequate drainage should be provided to reduce seasonal variations in the moisture content of foundation soils. All pavement and sidewalks within 10-feet of a building should be sloped away from the building to prevent ponding of water around the building. Final grades within 10-feet of the building should be adjusted to slope away from the building at a minimum slope of 2 percent. Maintaining positive surface drainage throughout the life of the structures is essential.

In areas with pavement or sidewalks adjacent to the new structures, 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 resealing where necessary.

Several factors relate to civil and architectural design and/or maintenance, which can significantly affect future movements of the foundation and floor slab system:

• Preferably, a complete system of gutters and downspouts should carry runoff water a minimum of 5-feet from the completed structures.

- Large trees and shrubs should not be allowed closer to the foundations than a horizontal distance equal to roughly their mature canopy due to their significant moisture demand upon maturing. Note: A landscape expert may be consulted to evaluate the precise extents of potential root growth for specific tree and shrub species so that root growth beneath the structures and pavements can be avoided.
- Moisture conditions should be maintained "constant" around the edge of the slabs. Ponding of water in planters, in unpaved areas, and around joints in paving and sidewalks can cause slab movements beyond those predicted in this report.
- Planter box structures placed adjacent to the building should be provided with a means to assure concentrations of water are not available to the subsoil stratigraphy.
- The root systems from any existing trees cleared/removed at this site will have dried and desiccated the surrounding clay soils, resulting in soil with near-maximum swell potential. Clay soils surrounding tree root mats within the building areas or flatwork areas should be removed to a depth of 3-feet and compacted in-place with moisture and density control as described in Section 7.3 of this report.

Trench backfill for utilities should be properly placed and compacted as outlined in Section 7.3 of this report and in accordance with requirements of local City standards. 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.

7.0 GENERAL CONSTRUCTION PROCEDURES AND RECOMMENDATIONS

Variations in subsurface conditions could be encountered during construction. To permit correlation between boring data and actual subsurface conditions encountered during construction, it is recommended a registered Professional Engineering firm be retained to observe construction procedures and materials.

Some construction problems, particularly degree or magnitude, cannot be anticipated until the course of construction. The recommendations offered in the following paragraphs are intended not to limit or preclude other conceivable solutions, but rather to provide our observations based on our experience and understanding of the project characteristics and subsurface conditions encountered in the borings.

7.1 Site Preparation and Grading

All areas supporting pavement, flatwork, or areas to receive new fill should be properly prepared.

- 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 his designated representative.
- Any undesirable material (organic material, wet, soft, or loose soil) exposed during the proofroll should be removed and replaced with well-compacted select fill material as outlined in Section 7.3.
- Prior to placement of any fill, the exposed soil subgrade should then be scarified to a minimum depth of 6 inches and recompacted as outlined in Section 7.3.

Slope stability analysis of embankments (natural or constructed) was not within the scope of this study. If fill is to be placed on existing slopes (natural or constructed) steeper than six (6) horizontal to one (1) vertical (6:1), the fill materials should be benched into the existing slopes in such a manner as to provide a minimum bench width of five (5) feet. This should provide a good contact between the existing soils and new fill materials, reduce potential sliding planes and allow relatively horizontal lift placements.

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. 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.

Due to the nature of the clayey and granular soils found near the surface at the borings, traffic of heavy equipment (including heavy compaction equipment) may create pumping and general deterioration of shallow soils. Therefore, some construction difficulties should be anticipated during periods when these soils are saturated.

7.2 Foundation Excavations

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. Drilled piers should be completed the same day as excavated. All other excavations should not be left open for more than 48 hours. If delays occur, excavations for drilled piers should be slightly widened, deepened, and cleaned.

All pier shafts should be at least 1.5-feet in diameter to facilitate clean-out of the base and proper monitoring. Concrete placed in pier holes should be directed through a tremie, hopper, or equivalent. Placement of concrete should be vertical through the center of the shaft without hitting the sides of the pier or reinforcement to reduce the possibility of segregation of aggregates. Concrete placed in piers should have a minimum slump of 5-inches (but not greater than 7-inches) to avoid potential honey-combing.

Observations during pier drilling should include, but not necessarily be limited to, the following items:

- Verification of proper bearing strata and consistency of subsurface stratification with regard to boring logs,
- Confirmation the minimum required penetration into the bearing strata is achieved,
- Complete removal of cuttings from bottom of pier holes,
- Proper handling of any observed water seepage and sloughing of subsurface materials,
- No more than 2-inches of standing water should be permitted in the bottom of pier holes prior to placing concrete, and

• Verification of pier diameter, underream diameter (where applicable), and steel reinforcement.

Groundwater was encountered during drilling at depths of 16 and 31-feet below the existing ground surface in borings B-2 and B-4, during drilling at this site. From our experience, seasonal groundwater seepage could be encountered at the site during pier installation, and the risk of encountering seepage is increased during or after periods of precipitation. Immediate placement of concrete may be required to prevent sidewall collapse from impacting pier or pile construction. Temporary casing may be required to control sloughing of the subsurface soils and groundwater seepage encountered during the pier drilling. The casing should be properly seated below the depth of seepage and groundwater should be removed prior to beginning the design penetration. As casing is extracted, care should be taken to maintain a positive head of plastic concrete and minimize the potential for intrusion of sloughing of fill soils. It is recommended a separate bid item be provided for casing on the contractor's bid schedule. Underwater or slurry placement of concrete may also be necessary in conjunction with or as an alternate to casing depending on the depth to groundwater at the time of pier drilling. Pier drilling contractors experienced in similar soil and groundwater conditions should be utilized for this project. The sidewalls of the pier excavation need to be sufficiently rough or artificially roughened to mobilize skin friction. UES should be contacted for further review and evaluation if groundwater seepage and/or pier shaft sidewall collapse occurs during pier installation.

When the pier excavation depth is achieved and the bearing area has been cleaned, steel and concrete should then be placed immediately in the excavation. The concrete should be placed completely to the bottom of the excavation with a closed-end tremie in the pier excavation if more than 2-inches of water is ponded on the bearing surface or the slurry drilling technique is used. A short tremie may be used if the excavation has less than 2-inches of ponded water or if the water is pumped out prior to concrete placement. The fluid concrete should not be allowed to strike the pier reinforcement, temporary casing (if required) or excavation sidewalls during concrete placement.

7.3 Fill Material and Compaction

The following fill materials and compaction recommendations provided below are applicable for general site grading and other structural areas.

<u>Select Fill</u> – Materials used as select fill material should consist of a "non-expansive" material with a liquid limit less than 35 percent, a PI not less than about 5 percent or greater than 15 percent and contain no more than 0.5 percent fibrous organic materials, by weight. All select fill material should contain no deleterious material and should be compacted to a dry density of at least 95 percent 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. *Note: The plasticity index and liquid limit of material used as select fill material should be routinely verified during placement using*

laboratory tests. Visual observation and classification should not be relied upon to confirm the material to be used as select fill material satisfies the above Atterberg-limit criteria.

<u>Flexible Base</u> – Flexible base used as non-expansive fill in the building pad should consist of material meeting the requirements of TxDOT Standard Specifications Item 247, Type A, B, C or D, Grade 1-2. The flexible base should be compacted to at least 98 percent of modified Proctor maximum dry density (ASTM D 1557) and within the range of 2 percentage points below to 2 percentage points above the material's optimum moisture content. *Note: Any flexible base used for pavement applications should meet the requirements of Section 6.7.4.*

The following fill compaction recommendations provided below are applicable for general site grading. *Note: Imported soils used as general fill should consist of material with a PI not greater than 35 percent.*

<u>General Fill (Clay)</u> – Clay soils should be compacted to a dry density between 95 and 100 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 0 to 4 percentage points above optimum. Clayey materials used as fill should be processed and the largest particle or clod should be less than 6-inches prior to compaction.

<u>General Fill (Granular)</u> – Granular materials should be compacted to a dry density between 95 and 100 percent of standard Proctor maximum dry density (ASTM D 698). The compacted moisture content of the granular soils during placement should be within the range of -2 to +2 percentage points of optimum.

Prior to placement of any fill, the subgrade should be scarified to a depth of 6-inches and recompacted to a dry density of at least 95 percent of standard Proctor maximum dry density (ASTM D 698) and within the range of -1 to +4 percentage points of the material's optimum moisture content.

In cases where mass fills outside the structure areas are more than 12-feet deep, the fill below 12-feet should be compacted to at least 100 percent of standard Proctor maximum dry density (ASTM D-698) and within 2 percentage points of the material's optimum moisture content. The portion of the fill shallower than 12-feet should be compacted as outlined above. *Note: Even if fill is properly compacted, fills in excess of about 12-feet are still subject to settlements over time of up to about 1 to 2 percent of the total fill thickness. This should be considered when designing structures and pavements on relatively deep backfill. UES should be contacted if alterative backfill recommendations are required to reduce settlement of mass fills.*

Compaction should be accomplished by placing fill in about 8-inch thick loose lifts and compacting each lift to at least the specified minimum dry density. Field density and moisture content tests should be performed on each lift. A qualified geotechnical engineering firm should

be retained to perform sufficient in-place density tests during the filling operations to evaluate that proper levels of compaction, including dry unit weight and moisture content, are being attained. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris or materials exceeding 4-inches in maximum dimension. *Note: We recommend any imported fill to be used at this site be approved by UES prior to placement.*

7.4 <u>Utilities</u>

In cases where utility lines are more than 12-feet deep, the trench backfill below 12-feet should be compacted to at least 100 percent of standard Proctor maximum dry density (ASTM D 698) and within –2 to +2 percentage points of the material's optimum moisture content. The portion of the trench backfill shallower than 12-feet should be compacted as previously outlined. Density tests should be performed on each lift (maximum 12-inch thick) and should be performed as the trench is being backfilled. *Note: Even if the utility backfill is properly compacted, fills in excess of about 12-feet are still subject to settlements over time of up to about 1 to 2 percent of the total fill thickness. This should be considered when designing pavements or other structures over utility lines and/or other areas with deep fill. UES should be contacted if alterative backfill recommendations are required to reduce settlement of deep utility lines.*

If utility trenches or other excavations extend to or beyond a depth of 5-feet below construction grade, the contractor or others shall be required to develop an excavation safety plan to protect personnel entering the excavation or excavation vicinity. The collection of specific geotechnical data and the development of such a plan, which could include designs for sloping and benching or various types of temporary shoring, is beyond the scope of this study. Any such designs and safety plans shall be developed in accordance with current OSHA guidelines and other applicable industry standards.

7.5 <u>Groundwater</u>

Groundwater was encountered during drilling at depths of 16 and 31-feet below the existing ground surface in borings B-2 and B-4, during drilling at this site. From our experience with similar soils, seasonal groundwater seepage could be encountered in excavations for grade beams, foundations, utility conduits and other general excavations. The risk of encountering seepage increases with depth of excavation and during or after periods of precipitation. Standard sump pits and pumping may be adequate to control minor seepage on a local basis in relatively shallow excavations.

In any areas where cuts are made to establish final grades at the site, attention should be given to possible seasonal water seepage that could occur through natural cracks and fissures in the newly exposed stratigraphy. Subsurface drains may be required to intercept seasonal groundwater seepage. The need for these or other de-watering devices should be carefully addressed during construction. Our office could be contacted to visually observe the final grades to evaluate the need for such drains.

8.0 LIMITATIONS

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. Noncompliance 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

A-1 METHODS OF FIELD EXPLORATION

A truck-mounted, rotary drill rig equipped with continuous flight augers or air rotary augers were used to advance the boreholes. A total of five (5) borings were performed for this geotechnical exploration at the approximate locations shown on the Boring Location Plan. The boring locations were staked by using a handheld GPS device in conjunction with assessing landmarks which could be identified in the field and as shown on the site plan provided during this study. The locations of the borings shown on the Boring Location Plans are considered accurate only to the degree implied by the methods used to define them. The approximate latitude and longitude coordinates at each boring location were obtained using a handheld GPS device.

Relatively undisturbed samples of the cohesive subsurface materials were obtained by hydraulically pressing 3-inch O.D. thin-wall sampling tubes into the underlying soils at selected depths (ASTM D 1587). These samples were removed from the sampling tubes in the field and evaluated visually. One representative portion of each sample was sealed in a plastic bag for use in future visual evaluations and possible testing in the laboratory.

Samples of granular, cohesive, and rock materials were obtained using split-spoon sampling procedures in general accordance with ASTM Standard D 1586. Disturbed samples were obtained at selected depths in the borings by driving a standard 2-inch O.D. split-spoon sampler 18-inches into the subsurface material using a 140-pound hammer falling 30-inches. The number of blows required to drive the split-spoon sampler the final 12-inches of penetration (N-value) is recorded in the appropriate column on the boring logs. However, if the sampler was not driven the initial 6-inch seating increment with 50 hammer blows, refusal (i.e. "ref") is recorded along with the inches driven on the logs.

Our field representative prepared field logs as part of the field exploration. The field logs included visual descriptions of the materials encountered during drilling and their interpretation of the subsurface conditions between samples. The Log of Boring sheets included in this report represent the engineer's interpretation of the field logs and include modifications based on visual observations using the Unified Soil Classification System (USCS) and testing of the samples in the laboratory. **Samples not consumed by testing will be retained in our laboratory for at least 30 days and then discarded unless the Client requests otherwise.**



Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

SITE VICINITY MAP

LOCATION IS APPROXIMATE



Hays CISD UES Project No.: A251017 **Lehman HS** 1700 Lehman Road Kyle, Texas

4740 Perrin Creek, San Antonio, TX 78217 ph. 210.249.2100 10856 Vandale Street, San Antonio, TX 78216 ph. 210.495.8000

TeamUES.com


Environmental Geotechnical Engineering Materials Testing Field Inspections & Code Compliance Geophysical Technologies

BORING LOCATION PLAN

LOCATIONS ARE APPROXIMATE



Hays CISD UES Project No.: A251017 **Lehman HS** 1700 Lehman Road Kyle, Texas

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BORING LOCATION PLAN

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B-1 METHODS OF LABORATORY TESTING

Representative samples were inspected and classified by a qualified member of the Geotechnical Division and the boring logs were edited as necessary. To aid in classifying the subsurface materials and to determine the general engineering characteristics, natural moisture content tests (ASTM D 2216), Atterberg-limit tests (ASTM D 4318), and percent passing No. 200 Sieve (ASTM D 1140) were performed on selected samples. Results of these laboratory tests are provided on the Logs of Boring sheets.

In addition to the Atterberg-limit tests, the expansive properties of the clay soils were further analyzed by absorption swell tests (ASTM D 4546, Method B). The swell test is performed by placing a selected sample in a consolidation machine and applying the overburden pressure and then allowing the sample to absorb water. When the sample exhibits very little tendency for further expansion, the height increase is recorded and the percent swell and total moisture gain calculated. Results of the absorption swell tests are provided on the Logs of Boring sheets.

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		_										
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		-			+		+		+	+		FAT CLAY WITH SAND, hard to very stiff, light brown, with
		- ST		P=4.5+	7	52	15	37	118		81	calcareous deposits. (CH)
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	10	_										
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3127		- st		P=4.5+	15	60	18	42	107	6.4	94	- (confining pressure = 24.7 psi)
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1017.0	35	-										Boring terminated at a depth of 35-feet
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	IELL) C	DATA		LA	BOR	ATO	RY D	ATA		
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FT)	ТҮРЕ	SYMBOL	S/FT SQ FT SQ FT %SQ FT	RE CONTENT (%)	ID LIMIT	STIC LIMIT		VSITY S/CU.FT)	ESSIVE TH Q FT)	IO. 200 SIEVE (%)	GROUNDWATER INFORMATION: Groundwater was encountered at a depth of 16-feet during drilling. Groundwater was measured at a depth of 17-feet 3- inches upon completion of the drilling.
тн (APLE	IPLE	LOW/SNC/	STU	LIQU	PLAS	PLAS	UND	APRE ENG NS/S	NSN	SURFACE ELEVATION: N/A
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-			1 - 4.0 '	-						12	brown, with calcaleous deposits. (CL)
-	SPT	M	N=15	10							
-	-										
5 -	ST		P=3.0	8							
-	ST		P=4.5+	11	31	13	18	104		91	LEAN CLAY , hard, light brown, with calcareous deposits. (CL) - (swell result = 1.1%, final moisture = 22.0%)
_	ST		P=4.5+	15							
10 -	-		-								CLAYEY GRAVEL WITH SAND dense light brown (41%
- - - 15 -	ST		P=1.5	10							gravel). (GC)
-	-		<u> </u>	4							
-		\square									
20 -	SPT	Д	N=48	7	33	15	18			18	
-	-										FAT CLAY, hard, yellow light brown. (CH)
- - 25 -	ST		P=4.5+	14							
-	1										
- - 30 -	ST		P=4.5+	14							
- - - 35 -	ST		P=4.5+	11	57	18	39	110	8.6	93	- (confining pressure = 28.9 psi) Boring terminated at a depth of 35-feet.
N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX									REMARKS: Boring location determined by UES. Drilling operations performed by UES. GPS Coordinates: N 29.9953581°, W -97.8500825°		

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	-	ST		P=4 5+	5	44	12	32			55	FILL: SANDY LEAN CLAY, hard to stiff, brown. (CL)	
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	5 -	ST		P=4.0	18	54	15	39			89		
	-				10								
	-			P=4. 3	- 12-				T			LEAN CLAY, hard, light brown. (CL)	
		ST		P=4.5	13	38	13	25	114		88	- (swell result = 0.5% final moisture = 17.4%)	
	10 -	-											
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ප් ග් F	QC - STATIC CONE PENETROMETER TEST INDEX										GPS Coordinates: N 29.9950677°, W -97.8497962°		
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YMBOL	н (FT)	е түре	E SYMBOL	WS/FT S/SQ FT S/SQ FT VS/SQ FT	URE CONTENT (%		ASTIC LIMIT	ASTICITY INDEX	ENSITY DS/CU.FT)	RESSIVE IGTH	NO. 200 SIEVE (%)	GROUNDWATER INFORMATION: Groundwater was encountered at a depth of 31-feet during drilling. Groundwater was measured at a depth of 32-feet 4-inches upon completion of the drilling.				
OIL S	EPTH	AMPL	AMPL		OIST		ЪГ	L L		OMPI	SUNS	SURFACE ELEVATION: N/A				
ы Х	D	√ ð	\v}/	ŹĔĔŎ	ž	LL	PL	PI	Б.	UN C	Σ					
		GB	W 4		4	15	11	4			24	FILL: SILTY, CLAYEY GRAVEL WITH SAND , 10-inches,	_/_			
		ST		P=3.0	13							brown and red, (47% gravel). (GC-GM)				
	· ·	ST		P=3.0	14	77	17	60			94	<u>FAT CLAY</u> , very stiff, dark brown and brown, with calcareous deposits. (CH)				
	5	ет		D-3 0	14											
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		-	-		+		+		+	+	+	I FAN CLAY very stiff to hard light brown (CL)				
	- 10 -	ST		P=4.5+	10	45	18	27	104		85	- (swell result = 0.2% , final moisture = 21.5%)				
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] ет		D-1 5+	7											
	20			r-4.5+												
	- 25 -	ST		P=3.0	11	33	15	18	114	6.5	88	- (confining pressure = 20.4 psi)				
SITZIE		ST		P=2.5	8											
	- 30 ·	-	-		<u>+</u>		+		+	+	+	FAT CLAY, very stiff to hard, vellow light brown (CH)				
17.GPJ ROCK ETL.C	 	- ST		<u>-</u> <u>-</u> P=4.5+	¥ 16	67	22	45	106	9.3	96	- (confining pressure = 28.9 psi)				
A2510	30 ·		Π									Boring terminated at a depth of 35-feet.				
	N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX P - POCKET PENETROMETER RESISTANCE										REMARKS: Boring location determined by UES. Drilling operations performed by UES. GPS Coordinates: N 29.9946098°, W -97.8468833°					

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						474	S Prof 10 Per	essior	nal Solu rek Su	itions, Ll ite 480	C	PROJECT: Lehman HS
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						AT		ERG				Solid Filght Auger
ABOL	±Τ)	TYPE	SYMBOL	S/FT SQ FT SQ FT /SQ FT	RE CONTENT (%)	D LIMIT		TICITY INDEX	JSITY S/CU.FT)	:SSIVE TH Q FT)	O. 200 SIEVE (%)	GROUNDWATER INFORMATION: Groundwater was not encountered during drilling, and the boring was dry upon completion of drilling.
SYA	TH (F	ЪГЕ ВГЕ	РГЕ	S/SNC S/SNC S/SNC	STUF	Ingul	PLAS	LAS	DEN	IPRE ENG	NSL	SURFACE FLEVATION: N/A
SOIL	DEP	SAM	SAM	N: BL P: TC Q: 1 Q: 1 C	MOI		PL	PI	DRY (POL	CON STRI (TON	MIN	DESCRIPTION OF STRATUM
				2-2.0	10							FILL: SILTY, CLAYEY GRAVEL WITH SAND, very stiff, brown
		- ST	F	P=3.0	13	63	21	42			86	And red. (GC-GM) FAT CLAY , very stiff to hard, dark brown and brown. (CH)
	5	ST		P=4 5+	13							
	-	ST	F	P=4.5+	12	46	16	30	120		91	- (swell result = 1.5%, final moisture = 15.7%)
		ST	F	P=4.5+	9							
	- - - - - -	- ST	F	P=4.5+	15	66	21	45	107	7.4	95	FAI CLAY , hard, yellow light brown. (CH)
	20	- ST -	F	D=4.5+	14							
	25 ·	- ST -	F	^D =4.5+	16							
ETL.GDT 3/27/25	30 ·	- ST	F	P=4.5+	11	64	20	44	110	13.6	93	- (confining pressure = 24.7 psi)
251017.GPJ ROCK	35 ·	- ST	F	P=4.5+	11							Boring terminated at a depth of 35-feet.
NG A												
	N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX P - POCKET PENETROMETER RESISTANCE											REMARKS: Boring location determined by UES. Drilling operations performed by UES. GPS Coordinates: N 29.9946937°, W -97.8465158°



			KEY TO	SOIL CLASSIFICATION AND SYN	MBOLS					
	UNIFIE	D SOIL CLASS	IFICATION SYSTE	M	_	TERMS (ACTERIZING SOIL		
MAJOR D	IVISIONS	SYMBOL		NAME			SIRU	JUTURE		
		GW	Well Graded Gra or no fines	vels or Gravel-Sand mixtures, little	s SLIC	KENSIDED - h t are slick and	having I glossy	inclined planes of weakness / in appearance		
	GRAVEL AND	GP	Poorly Graded G or no fines	ravels or Gravel-Sand mixtures, litt	tle FISS	URED - contai	ining s nd or s	hrinkage cracks, frequently ilt; usually more or less		
	GRAVELLY SOILS	GM	Silty Gravels, Gra	avel-Sand-Silt mixtures	LAM	 Vertical LAMINATED (VARVED) - composed of thin layers of varying color and texture, usually grading from sand or silt at the bottom to clay at the top CRUMBLX - cobesive soils which break into small 				
COARSE		GC	Clayey Gravels, (Gravel-Sand-Clay Mixtures	ORU					
SOILS		SW	Well Graded San fines	ds or Gravelly Sands, little or no	blo	blocks or crumbs on drying				
	SAND AND	SP	Poorly Graded Sa fines	ands or Gravelly Sands, little or no	cal	calcium carbonate, generally nodular				
	SANDY SOILS	SM	Silty Sands, Sand	d-Silt Mixtures	anosiz	d substantial a es	mount	s of all intermediate particle		
		SC	Clayey Sands, Sa	and-Clay mixtures	POO uni soi	POORLY GRADED - predominantly of one grain size uniformly graded) or having a range of sizes with some intermediate size missing (gap or skip graded)				
		ML	Inorganic Silts ar or Clayey fine Sa	nd very fine Sands, Rock Flour, Silt nds or Clayey Silts	ty					
	SILTS AND CLAYS	CL	Inorganic Clays o Clays, Sandy Cla	of low to medium plasticity, Gravelly lys, Silty Clays, Lean Clays	y	SYMBO	OLS F	OR TEST DATA		
		OL	Organic Silts and	l Organic Silt-Clays of low plasticity	y <u>v</u>	/ (I	Ground Initial F	water Level Reading)		
		мн	Inorganic Silts, N Sandy or Silty so	licaceous or Diatomaceous fine ils, Elastic Silts			Final R	water Level leading)		
	SILTS AND CLAYS	сн	Inorganic Clays o	of high plasticity, Fat Clays		s		l ube Sample		
	LL > 50	ОН	Organic Clays of Silts	medium to high plasticity, Organic] — A	Auger S	ample		
	<u> </u>		Limestone			R	Rock Co	ore		
NC US(ON CS		Marl/Claystone			— т	Texas C	cone Penetrometer		
		× × ×	Sandstone] — G	Grab Sa	mple		
		• <u> </u>	TERMS	DESCRIBING CONSISTENCY OF	= SOII					
	COARSE C	GRAINED SOILS	6		FINE GF	RAINED SOILS	S			
DESC	RIPTIVE ERM	NO. E STANI	BLOWS/FT. DARD PEN. TEST	DESCRIPTIVE TERM	NO. I STAN	BLOWS/FT. DARD PEN. TEST		UNCONFINED COMPRESSION TONS PER SQ. FT.		
Very Loose			0 - 4	Very Soft		< 2		< 0.25		
Loose Medium Dor	200		4 - 10 10 - 30	Soft		2 - 4		0.25 - 0.50		
Dense	196	3	30 - 50	Stiff		4-0 8-15		1.00 - 2.00		
Very Dense		C	over 50	Very Stiff Hard		15 - 30 over 30		2.00 - 4.00 over 4.00		
			Field Classific	tion for "Consistancy" of Eine Cra	nined Sails	is determined	with a	0.25" diamotor popotromotor		
				anon tor consistency of Fille Gra	anneu Jons	is determined	withg			

SECTION 01 2300 ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Description of Alternates.
- B. Procedures for pricing Alternates.

1.02 RELATED REQUIREMENTS

A. Document 00 2116 - Instructions to Proposers

1.03 PROCEDURES

- A. Proposers are required to submit alternate proposals to add work or to deduct work from the base proposal as described below. Failure to submit alternate amounts in spaces provided on proposal form is basis for disqualification of proposal.
- B. The successful proposer shall not modify, withdraw or cancel any of the alternate proposals or any part thereof for 45 days after date of receipt of proposals, unless specifically noted otherwise.
- C. Contractor shall be responsible for any changes in the work affected by acceptance of these alternates. Include within the alternative proposal prices all costs, including materials, installations, and fees.
- D. Claims for additional dollars resulting from changes caused by the alternates will not be allowed.
- E. Refer to the drawings and project manual for items of work affected by alternates.
- F. Alternates will be exercised at the option of the Owner.
- G. Coordinate related work and modify surrounding work as required to complete the Work, including changes under each alternate, when acceptance is designated in the Owner Contractor Agreement.

1.04 ACCEPTANCE OF ALTERNATES

- A. Indicate variation of proposal price for alternates described below and list on the proposal form or any supplement to it, which requests a 'difference' in proposal price by adding to or deducting from the base proposal price or by indicating "No Charge".
- B. Indicating "No Bid" as an alternate is unacceptable and is reason for rejection of the proposal.
- C. Alternates quoted on Bid / Proposal Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- D. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.05 SCHEDULE OF ALTERNATES

- A. Alternate Number 1:
 - 1. Construction of the Multi-Purpose Athletic Facility as specified and where shown on the drawings.
- B. Alternate Number 2:
 - 1. Add card reader access at classroom, workrooms and other locations as specified and where shown on the drawings. Infrastructure to be in base bid.
- C. Alternate Number 3:
 - 1. Construction of the Nort Parking Lot as specified and where shown on the drawings.

PART 2 PRODUCTS - NOT USED PART 3 EXECUTION - NOT USED

END OF SECTION



DIVISION 26 & 28 HAYS CISD LEHMAN HIGH SCHOOL ADDITIONS & RENOVATIONS 2025 Bond ELECTRICAL SPECIFICATIONS

CONTENTS:

ADD #1

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SECTION 21 0000 - FIRE PROTECTION

PART 1 - DESCRIPTION

- 1.01 DESCRIPTION
 - A. Description:
 - This section describes specific requirements, products and methods of execution relating to fire protection for the project.
 - 2. Temporary occupancy permits, or partial occupancy require alarm and life safety systems to be fully operational. Expedite installation and complete life safety requirements for temporary occupancy.
 - B. Scope: Provide a system of fire protection, complete in every detail and in perfect operating order, in accordance with the contract documents and applicable codes and standards to protect the areas noted, including all piping, valves, backflow preventers, sprinkler heads, heat shields, fire department connections, alarm valves, flow switches, hangers, supports, pertinent accessories, etc. for a complete turnkey job.
 - 1. Remodel or Expansion Scope:
 - a. Expand existing fire sprinkler system to the remainder of the building.
 - b. All Additions Provide complete new system.
 - c. Phasing : Phasing of the sprinkler system installation will be required. All phasing shall be coordinated with General Contractor, they are in charge of all phasing. General Contractor will provide separate plan as applicable to communicate phasing. Summer work, during school year work, start and stop dates etc....
 - d. Coordinate all ceiling work with General Contractor.
 - 2. New Construction : Provide Complete system.
 - 3. This is a performance specification. Construction and installation drawings and hydraulic calculations shall be prepared according to standard practice, by a Sprinkler designer under the supervision of a State of Texas licensed RME-G or a Professional Engineer. Change in installation necessary due to lack of coordination with other trades shall be made without additional cost to the Owner. Verify final location of all exposed piping with the Architect.
 - 4. Coordinate final location of Fire Department Connection (FDC) with local Fire Marshall. Provide all piping and materials required for installation of FDC.
 - 5. Provide Class I standpipe system in stairways and at locations if required in accordance with IFC and NFPA 14. Fire hose threads used in connection with the standpipe systems shall be approved and shall be compatible with fire department hose threads. Final location of fire department hose connections shall be approved by Fire Marshal and coordinated with Architect. Standpipes shall have fire department valve in cabinet.



05/08/202

- 6. Provide Class III standpipes in stages greater than 1,000 square feet as required by IFC and NFPA 14. Fire hose threads used in connection with the standpipe systems shall be approved and shall be compatible with fire department hose threads. Final location of fire department hose connections shall be approved by Fire Marshal and coordinated with Architect.
- 7. Sprinkler Contractor to begin work at flanged stub 12" A.F.F. provided by site utility contractor in Fire Riser Room. Coordinate final size and stub location with site utility contractor.
- 8. Provide AMES Fire and Waterworks Series 1BR In-Building Riser, single piece, stainless steel, with all NFPA 24 and code required thrust blocking/rod anchoring, coordinate with soil conditions. When expansive soils are present provide 'EBAA Iron INC. "FLEX-TEND FORCE BALANCED FLEXIBLE EXPANSION JOINT". Size to match fire line size. If soil conditions are unknown at time of bid, include in base price and provide deductive alternate to be removed from scope when soil conditions are known. Installation to be by Fire Protection Contractor or Site Utility Contractor with 'SCRU' License. Installation to be per NFPA 24 "Standard for Installation of Private Fire Main.
- C. Provide the following type fire protection in the areas noted:
 - 1. Provide a wet and/or dry pipe sprinkler system (light hazard pipe schedule) to protect the entire building as required. Hazard type shall be as required by FM Global, NFPA-13, International Fire Code and as required by the Owner's Insuring Agency.
 - 2. Provide a dry pipe system in any areas subject to freezing.
 - 3. Remodel areas receiving new ceilings shall have new heads as defined in this specification and treated as new construction to match all additions. Existing pendant heads shall not be reused on new ceilings.
- D. SPECIAL NOTE: All provisions and divisions of these specifications are a part of this section of these specifications. The Contractor shall consult these divisions and provisions in detail for instructions and include all items pertaining to this work. The Contractor shall consult all other divisions of these specifications, determine the extent of impact on the work required to complete the work required by this section of the specifications or portion thereof and related work shown on the drawings.
- E. Provide floor sink in each sprinkler riser room.
- F. Submit shop drawings for the fire sprinkler system to the local Fire Department for review prior to installation.
- 1.02 Provide all fire protection in accordance with the minimum provisions of the latest approved edition of the following codes and standards.
 - A. NFPA 13 Latest approved edition, Sprinkler Systems.
 - B. Latest approved edition of the International Fire Code.
 - C. Latest approved local ordinances and amendments.

1.03 SUBMITTALS AND APPROVALS

- A. Review and Approvals Required:
 - 1. Obtain written review and approval of the entire fire protection system design and arrangement from the following authority:

a.	State Fire Marshall	(Approval)
b.	Owner's Insuring Authority	(Approval)
С.	Architect	(Approval)
d.	Mechanical Engineer	(Review)

- 2. Provide construction drawings, calculations, details and all other data required by the above authority for approval.
- B. Submittals:
 - 1. Provide complete fire protection systems construction drawings and calculations for the entire project.
 - 2. Obtain and verify the high and low static water pressure and the residual pressure at full flow at the point of connection to the water utility systems or at a nearby point acceptable to the approval authority. Obtain data from flow tests or system network design calculations of reliability acceptable to the approval authority. Use this data in flow calculations and include it with submittal of calculations.
 - 3. Include the following on the construction drawings:
 - a. Location of water source, routing and size of supply piping.
 - b. Location of key gate valves.
 - c. Detector check valves.
 - d. Fire department connections.
 - e. All necessary controlling equipment.
 - f. Location of flow alarm valves.
 - g. All distribution system piping and outlets.
 - h. Reflected ceiling plan showing proposed location of sprinkler heads and other outlets.
 - i. Interference control between work of other trades.
 - j. Indicate connection points for Fire Alarm Contractor and provide letter indicating coordination has been done with Fire Alarm Contractor.

- k. Provide 1/4" shop drawing of sprinkler entrance and valve assemblies to ensure adequate space.
- 4. Submit six copies of fire protection drawings reviewed and approved by the Administrative Authority to the Architect for further approval. Include all correspondence with the Administrative Authority.
- 5. Obtain approval of Architect prior to ordering, fabricating or installing any part of the system. Head locations are subject to this review and approval.

1.04 COORDINATION REQUIRED

- A. Check all dimensions indicated on the Architectural or structural drawings and verify dimensions at the site before fabricating any portion of the system. Any discrepancies in piping and head locations resulting from failure to so check shall be corrected expeditiously to provide proper coordination of all trades.
- B. Coordinate work with that of other crafts to ensure that adequate space is provided for all work, including requirements for accessibility and serviceability. Locate sprinkler heads to avoid conflict with light fixtures and other installed equipment, and center location of piping and heads in field to accomplish these requirements for coordination.
- C. Coordinate with Mechanical Shop Drawings to avoid ducts from RTU's and other main runs.
- D. Do not install any piping over electric rooms, electric equipment, MDF/IDF/Technology rooms or racks. Only piping serving electric/technology rooms may enter electric rooms and should enter over doorway.

1.05 FINAL INSPECTION AND APPROVAL

A. After installation is complete, obtain inspection and letter of approval of system stating that sprinkler system complies with all requirements for a fully sprinklered building.

1.06 ACCEPTABLE SUPPLIERS

- A. Furnish the services of a qualified and approved fire protection subcontractor to provide the work of this specification section. Unless otherwise noted, this is substantially a "performance" specification.
- B. Subcontractor minimum qualifications include:
 - 1. Maintain a complete engineering, sales, installation and service organization that has operated within the Austin/San Antonio area for at least three years prior to bid date of this project.
 - 2. Maintain a complete stock of replacement parts.
 - 3. Remain on 24-hour call for emergency service.
 - 4. Demonstrate satisfactory completion of three projects of similar size and scope. Provide references if required.
 - 5. Bids by wholesalers, Contractors or any firm whose principle business is not that of manufacturing and/or installing fire protection systems are not acceptable.

1.07 MAINTENANCE INFORMATION AND INSTRUCTION

- A. Reference Section 20 00 00.
- B. Include instruction charts describing operation and proper maintenance of fire protection devices.
- C. Include publication entitled: "Care and Maintenance of Sprinkler Systems", NFPA No. 13latest approved edition.

PART 2 - PRODUCTS

- 2.01 General: Provide only products which are a standard product of a manufacturer regularly engaged in the fire protection application where they are used.
- 2.02 Labels and Approvals for Products: All products UL or FM listed, labeled and specifically approved for the fire protection application where they are used.
- 2.03 PIPE AND FITTINGS
 - A. Water Systems:
 - 1. Piping system materials shall be currently recognized by NFPA 13 and must be listed for the intended service by UL or FM. Furnish steel pipe and fittings of <u>domestic manufacturers</u> only.
- 2.04 VALVES
 - A. All valves UL listed and labeled and specifically approved for the fire protection application where they are used. Minimum working pressure 175 psi non-shock cold water.
- 2.05 SPRINKLER HEADS; FINISHED AREAS
 - A. General: Heads of temperature rating required by NFPA 13, suitable for system type. **USE FLEXIBLE TYPE SPRINKLER HEAD CONNECTION ONLY.**
 - B. Concealed Quick Response Type: With coverplate and spring-loaded clips, color as approved by Architect. Reliable G4QR concealed with cover to be used in all ceilings unless otherwise noted.
 - C. Quick Response Dry Pendant Type: For use in freeze applications. Reliable Model G3FR.
 - D. Institutional Heads: For cell and other secure type areas. Flush style type to conceal operating parts except for sensor, Conical Escutcheon Assembly attached to sprinkler body with tamper resistant fasteners. Pendent or side wall mount as applicable. Use side wall in cell areas. Reliable Model ZX-OR-IWST.
 - E. Pendant Type: For the Gym and Maintenance Areas use Quick Response Type, Reliable Model F1FR. Use sprinkler guards on sprinkler heads in Gym Area.
 - F. Manufacturers: Chemetron, Reliable, Grinnell or approved equal.
- 2.06 SPRINKLER HEADS; UNFINISHED AREAS

- A. General: Heads of temperature rating required by NFPA 13; plain finish suitable for system type.
- B. Type: Fusible link, equal to Reliable Model A.
- C. Manufacturers: Reliable, Grinnell, approved equal.
- 2.07 FIRE DEPARTMENT CONNECTION (FDC)
 - A. FDC: Cast brass body and trim having individual 2-1/2" double female snoot inlets with rigid end NPT with pin lug hose thread swivels, plugs, and chain; outlet size as required; exposed parts polished brass (chrome-plated); horizontal flush mounting; Potter Roemer 5020 Series or approved equal. Coordinate final requirements and locations of FDC with Fire Marshal.
 - B. Provide appropriate lettering on escutcheon plate, to identify connection.
 - C. Provide hose threads to match the threads of the local fire department.
 - D. Provide Knox Caps per Fire Department requirements.
- 2.08 SPRINKLER ALARM VALVE ASSEMBLY
 - A. Provide sprinkler alarm valve assemblies, appropriate to the system, complete with all trimmings and accessories for proper alarm initiation and interface with fire alarm system. Include inlet and discharge pressure gauges, main drain and inspectors test connection.
 - B. Alarm Gong: Provide a 10" diameter water powered alarm bell, confirm location with Architect.
- 2.09 WATER FLOW DETECTORS
 - A. Provide flow switches or water flow detectors as required. Provide switches compatible with fire alarm system.
 - B. Electrical connection by Electrical Contractor. Coordinate location and quantity with Electrical Contractor.
- 2.10 VALVE TAMPER SWITCHES
 - A. Furnish UL listed and FM approved, series NGV supervisory switch for OS & Y valve installation with two single pole, double throw microswitches. The mechanism shall be contained in a red baked enamel, weatherproof housing and shall incorporate the necessary facilities for attachment to valves. The switch mechanism shall be compatible with the fire alarm system. The entire installed assembly shall be tamperproof and arranged to cause switch operation if the housing cover is removed or if the unit is removed from its mounting. Install supervisory switches and furnish all wire and conduit required from supervisory switch to the alarm panel. Furnish a set of additional alarm contacts for additional supervisory capability.
 - B. Manufacturers: Potter Electric Signal Co., Model OSYS-B or approved equal.
 - C. Electrical connection by Electrical Contractor. Coordinate location and quantity with Electrical Contractor.
- 2.11 INSPECTORS TEST CONNECTIONS

- A. Provide inspectors test connections for complete system testing and as required for final approval by inspecting authority.
- B. Chemoplate all portions of pipe and fittings exposed outside building; provide chrome-plated set screw escutcheon.

2.12 DRY SYSTEM

- A. Provide Nitrogen Generator System for all Dry Zones.
 - 1. Basis of Design South Tek (www.southteksystems.com)
 - a. FPS xxx (sized for system)
 - b. Quick Check Purity Manifold (sized for system)
 - c. Provide with Auto Purge
 - d. Provide appropriately sized air compressor for system to have 30 min max charge time.
- B. Provide UL approved low air pressure alarm switches on each dry system, compatible with fire alarm system.
- C. Electrical connection is described in Division 26-28 work. Coordinate location and quantity with Electrical Contractor.

2.13 BACKFLOW PREVENTER

A. Provide UL and FM approved reduced pressure zone (RPZ) double check backflow flow preventer equal to Ames Silver Bullet style inside building at fire entry point. Provide shop drawing indicating space requirements. Pipe RPZ relief to nearest floor sink.

2.14 FIRE PUMP SYSTEMS

- A. Furnish and install a complete fire pump system complete with pump, driver, controller, jockey pump accessories. The pumping unit shall be listed by Underwriter's Laboratories, Inc. and fully approved by the Associated Factory Mutual Fire Insurance Companies. The pumping unit shall meet all requirements of the National Fire Protection Associated Pamphlet No. 20. The fire pump shall be designed to deliver a required G.P.M. and pressure to meet NFPA flow requirements for building. Contractor to verify city pressures.
- B. The driver shall be an open drip-proof (or T.E.F.C.), ball bearing type, AC, induction, squirrel cage motor, wound for 480 volts, 3 phase, 50 hertz. The motor shall be of such capacity that 115% of the full-load ampere rating shall not be exceeded at any condition of pump load for U.L. listed fire pump systems and 110% of full-load for F.M. approved fire pump systems. Locked rotor current shall not exceed the values specified in NFPA Pamphlet No. 20.
- C. Pump and motor shall be mounted on a common baseplate of steel with drip rim. Pump and motor shall be checked for alignment after the pump base has been installed and grouted in place.
- D. All pumps where the suction pressure is expected to average 40 P.S.I. or below, shall be

provided with lantern ring connected to the pressure side of the pump by a cored passage in the parting flange of the pump. Stuffing boxes shall be equipped with split bronze packing glands designed for easy removal for packing inspection and maintenance.

- E. The fire pump service rated motor control shall be U.L. listed and F.M. approved. It shall be completely assembled, wired and tested by the control manufacturer before shipment from the factory, and shall be labeled "Fire Pump Controller". Fire pump controller shall have over current protection to handle locked rotor amp of fire pump. The controller shall be located as close as practical and within sight of the motor. The controller shall be so located or protected that it will not be injured by water escaping from the pump or connections. The controller shall be of the combined manual and automatic across-the-line type, and shall be complete with disconnect switch externally operable, quick break type, circuit breaker time delay type with strips in all places set for 300% of the motor full-load current motor starter across-the-line type capable of being energized automatically through the pressure switch or manually by means of an externally operable handle, pressure switch, running period timer set to keep motor in operation, when started automatically, for testing as required by code. (Control equipment shall meet all requirements of NFPA No. 20.)
- F. Provide ¼" scale shop drawing of fire pump room. Indicating fire pump, piping controller and jockey pump.
- G. Manufacturers: Aurora, Suncroflo or equal.
- H. Coordinate all final electrical requirements with Electrical Contractor.
- I. Coordinate final room size with Architect.
- J. Provide alternate to provide MIC Control System to aid in reducing degradation.

PART 3 - EXECUTION

- 3.01 Install all work in accordance with codes and recommended practices for this type of work.
- 3.02 Conceal all piping possible. Coordinate with the other trades to take timely advantage of available space above ceilings, in pipe and duct spaces, and elsewhere.
- 3.03 Provide access doors where "Fire Protection" valves, switches, or other controlling or monitoring devices are concealed. Label doors for quick location and recognition of concealed device.
- 3.04 Advise the Architect immediately of any conflicts between the plans and specifications. Clearly explain problem, limits of problem, and proposed solution.
- 3.05 Center sprinkler heads in ceiling tiles in both directions. Coordinate exact placement with diffusers, light fixtures and other ceiling mounted devices.

3.06 Sprinkler heads shall not be painted.

- 3.07 Provide as-built drawings indicating location of zones.
- 3.08 FLUSHING AND TESTING
 - A. Flush underground service piping and distribution piping before connecting underground

piping to sprinkler system.

- B. Arrange for proper witnessing of all tests as required by codes and authorities.
- C. Make all tests in accordance with applicable codes. Test piping at minimum 200 psig hydrostatic for two hours. Flush as required by NFPA.
- D. Provide a letter of certification stating that all testing and flush has been performed in accordance with the applicable codes and standards. Itemize codes and standards complied with.
- 3.09 All sprinkler piping is to be routed in conditioned space to prevent freezing and concealed above ceiling, furr-outs or other Architectural features whenever possible. Coordinate changes in elevation, piping between floors and adjoining spaces with Architectural drawings to ensure that piping will not be exposed to finished spaces. Any piping that must be exposed is to be coordinated with Architect and indicated on shop drawings.
- 3.10 DRY SPRINKLER SYSTEM
 - A. Air Compressor: Confirm final electrical requirements with Electrical Contractor(min 20amp-120v dedicated circuit). Compressor must have adequate vibration isolation so that no vibrations are transmitted to the structure or slab.
 - B. Nitrogen Generator: Confirm final electrical requirements with Electrical Contractor(min 20amp-120v dedicated circuit). If large system coordinate 208volt connection.
 - C. Provide start-up and test report showing proper functioning of Nitrogen systems, Purity Manifold operation and monitoring, including final Nitrogen Content.
 - D. Provide all piping and controls associated with air compressors.
 - E. Arrange wiring for single point connection, for each piece of equipment.
- 3.11 REMODEL AREA
 - A. Provide new heads in ALL remodel areas to match new construction standards and aesthetics based on this specification.

END OF SECTION



SECTION 26 4113 - LIGHTNING PROTECTION SYSTEM

PART 1 - GENERAL

1.01 SCOPE OF WORK



- A. The Contractor shall furnish and install all equipment, accessories, and material required by the installation of a complete Master labeled UL, AW, IRI approved Lightning Protection System in accordance with the specifications. Any material and/or equipment necessary for the proper operation of the system not specified or described herein shall be deemed pa95/08/2025 this specification.
- B. The equipment described and furnished under these specifications shall be the standard product of one manufacturer.

1.02 STANDARDS

- A. Construct each item of equipment, including parts and accessories, in a workmanlike manner, using new materials or the best quality obtainable for the purpose intended. Design and build materials, wiring and equipment in accordance with the best practices of the electrical industry.
- B. Furnish and install a complete Lightning Protection System which shall comply with the specifications of the Underwriters' Laboratories (UL 96A), the National Fire Protection Association (NFPA No. 78) and the Lightning Protection Institute (LPI-75). The Underwriter's Laboratories Master Label "C" shall be delivered to the Architect/Engineer for approval before installation is completed.

1.03 QUALIFICATIONS

- A. Manufacturer: Company specializing in lightning protection equipment with minimum three years documented experience and member of the Lightning Protection Institute.
- B. Installer: Authorized installer of manufacturer with three years documented experience and member of the Lightning Protection Institute.

1.04 SUBMITTALS

- A. Furnish the Engineer Shop Drawings/Submittals for each of the following:
 - 1. Submit shop drawings showing layout of air terminals, grounding electrodes, and bonding connections to structure and other metal objects. Include terminal, electrode, and conductor sizes, and connection and terminal details.
 - 2. Submit product data showing dimensions and materials of each component and include indication of listing in accordance with ANSI/UL 96.
 - 3. Complete manufacturer's installation documentation.

1.05 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of air terminals, grounding electrodes, bonding connections and routing of system conductors.



PART 2 – PRODUCTS

- 2.01 PRODUCTS
 - A. Components Including but not limited to: (In accordance with ANSI/UL 96)
 - 1. Air Terminals
 - 2. Grounding Plate
 - 3. Conductors
 - 4. Connectors and Splicers
 - B. Materials shall be as required by code to suit installation requirement including materials of mounting surfaces.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All metal bodies such as ventilators, stacks, pipes, gutters, downspouts, ducts, tracks, antennas, water pipes, ladders, exercise yard cover and other similar metal shall be interconnected to the main conductor system.
- B. Incoming electric and telephone service shall have a common ground with the Lightning Protection System.
- C. Obtain the services of Underwriters Laboratories, Inc. to provide inspection and certification of the lightning protection system under provisions of UL 96A.
- D. No part of the system shall be concealed until inspected. In addition, the Underwriter's Laboratories Master Label "C" shall be delivered to the Architect or Owner before the completed installation is cleared for final payment. Any items found not to comply with the specification requirements shall be immediately replaced at no additional cost to the Owner.
- E. The system shall be installed by an authorized installer.
- F. All materials shall be copper, except where specifically prohibited by UL96A due to materials of mounting surfaces which may cause deterioration in the presence of moisture. At these locations use appropriate material.

END OF SECTION

SECTION 31 0010 EARTHWORK AND GRADING (Sports Facility Work)

PART 1 - GENERAL

1.01 CONSIDERATIONS:

A. Earthwork consists of operations required for the excavation and/or fill of subgrade materials; stock piling materials; scarifying and compaction of sub-grades; finish grading; and other required operations

1.02 REFERENCES:

A. ASTM D 2487--Classification of Soils for Engineering Purposes.

ASTM D 698--Compaction Characteristics of Soil Using Standard Effort.
 C. Geotechnical Exploration Report by UES, dated April 10, 2025

1.03 DEFINITIONS:

- A. Classification: Earthwork materials are classified in accordance with definitions in this Article.
- B. Subgrade: Natural soil at the established lines and grades.
- C. Earthen Fill: Suitable, clean material excavated on-site or imported borrow material meeting specified characteristics.
- D. Finish Grading: Operations required for smoothing disturbed areas that are not overlaid with pavement.
- E. Excavation: Excavation of every description and of whatever substances encountered within the limits of the project to the lines and grades indicated.
- F. Compaction: Compaction of soil materials shall be measured as a percent of Standard Proctor density as determined by ASTM D698.

1.04 EXISTING UTILITIES:

A. Where pipes, ducts and structures are encountered in the excavation but are not shown or specified on the drawings to be abandoned, immediately notify the Engineer.

PART 2 - PRODUCTS

2.01 EARTHEN FILL:



Select fill shall be comprised of material which is free of all organic materials and meets the requirements of the Geotech Report. Unsuitable materials shall be classified as:

Topsoil; frozen materials; material containing more than 0.5 percent fibrous organic material by weight; construction materials and materials subject to decomposition; clods of clay and stones larger than 75 mm (3 inches); organic material, including silts, which are unstable; and inorganic materials, including silts, too wet to be stable and any material with a liquid limit greater than 35 and a plasticity index outside the range of 5-15.) Unsatisfactory soils also include satisfactory soils not maintained within -1 and +3 percent of optimum moisture content at time of compaction.

2.02 SOURCE QUALITY CONTROL:

A. Pr A. co

Provide materials from same source throughout the project. Imported soils shall be clean non-expansive soils having a liquid limit less than 35 and a PI between 5 and 15. Soils shall be maintained at -1 and +3 percent of optimum moisture content at time of compaction.

B. A change in source requires sampling, testing, and approval by Engineer.

PART 3 - EXECUTION

3.01 SITE PREPARATION:

A. The project site shall be stripped of all vegetation and shall be rough graded and otherwise prepared, as detailed on the drawings. Additionally, the contractor shall clean subgrade soils of any organic material or trash encountered during excavation so as to maintain clean earthen materials.

3.02 TREATMENT OF SUBGRADES:

- A. (All site preparation and grading shall be performed in accordance with the Geotech Report and construction drawings.
- B. In cut areas, over excavate and remove soils to a depth of 10-feet below finished elevations and grades indicated on the drawings. Excess clean soils shall be stockpiled in the locations designated by the Owner, if Owner agrees to utilize such, or shall otherwise be properly disposed of.
- C. (After completion of cut, the exposed subgrade shall be proof rolled with a heavy pneumatic tired roller or approved equivalent to check for pockets of soft or loose material. Proof rolling shall be observed routinely by a Profession Engineer.
- D. Upon completion of proof rolling) subgrade shall be scarified to a minimum depth of 6inches and thereafter compacted to a minimum density of 95 percent of maximum density per ASTM D 698 at a moisture content of betweer -1 and +4 percent of optimum. Subgrade surface shall be proof roll tested in the presence of the Geotechnical Engineer prior to placing new layers.
- E. Examination of Subgrade: Do not place materials on prepared subgrade until the subgrade preparation has been accepted by the Engineer. Do not place fill over frozen or saturated ground.





3.03 PLACING FILL:

- A. Place select fill to a depth of 10-feet in accordance with the Geotech Report. Select fill shall be placed in loose lifts no greater than 8-inches.
- B. In fill areas, after placement of fill, compact material to a minimum density of 95 percent of maximum density per ASTM D 698 at a moisture content of between -1 and +3 percent of optimum.
- C. Attaining Proper Bond: If the compacted surface of a layer is too smooth to bond with succeeding layers, loosen the surface by means of scarifying to a minimum depth of 3-inches before placing fill and continuing the work.
- D. Place materials to lines and grades shown allowing for depth of base and concrete/asphalt. Material depths to follow depths as outlined in the geotechnical report.
- E. Maintain aggregate drainage throughout construction.
- F. The material shall be blended sufficiently to secure the best degree of compaction.

3.05 FINAL GRADING:

A. Upon completion of the excavation, grading and compaction process, fine grade all surfaced by means of laser grading (or grade using equivalent means) as needed to meet the meet the elevations, lines and grades indicated on the drawings.

3.06 TESTING:

- A. Compaction Testing: Conduct compaction testing for subgrade soils. Minimum spacing for compaction testing shall be one test per each ten thousand square feet of area compacted. Material shall be compacted to a density of 95 percent of maximum density per ASTM 698 at a moisture content of -1 and +3 percent of optimum. Areas of the field found not to meet compaction criteria shall be re-worked and/or re-compacted at the Contractors expense until compaction criteria are met. Contractor shall also be responsible for the costs of additional compaction testing.
 - B. Grading Test: For synthetic turf field area, conduct in the presence of the Engineer, a string line test on the final grades of the field prior to installation of geotextile fabric. String line test shall be conducted by pulling a string along the direction of the grade to verify positive drainage. Strings shall be pulled at a minimum interval of 15 feet. Acceptable tolerance for this test shall be 0.06 foot. Areas found to be outside of stated tolerances shall be re-graded at the Contractor's expense and re-tested until entire field meets grading tolerance.

END OF SECTION

ALTERNATE #2 – ADD CARD READERS AT CLASSROOMS/WORKROOMS (INFRASTRUCTURE IN BASE BID) ALTERNATE #3 – NORTH PARKING LOT REF SPECIFICATION AND REMAINDER OF CONSTRUCTION DOCUMENTS FOR ADDITIONAL INFORMATION.

ALTERNATES

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AB ANCHOR BOLT JT JOINT A/C AIR CONDITIONER JST(S) JOIST(S) ACC ACCESSIBLE ANGLÈ ACMU ARCHITECTURAL CONCRETE MASONRY UNIT LAB LABORATORY ADA AMERICANS WITH DISABILITES ACT / ADA LAV LAVATORY STANDARDS FOR ACCESSIBLE DESIGN LEPC LOCAL EMERGENCY PLANNING COMMITTEE LONG LONGITUDINAL LVT LUXURY VINYL TILE (LATEST VERSION) ADDN'L ADDITIONAL ADJ ADJUSTABLE MAS MASONRY ADH ADHESIVE/ADHERE MAT'L MATERIAL ADMIN ADMINISTRATION MAX MAXIMUM AFF ABOVE FINISHED FLOOR MB MARKER BOARD AFG ABOVE FINISHED GRADE MCM METAL COMPOSITE MATERIAL MDF MAIN DISTRIBUTION FRAME AG AGRICULTURE AHU AIR HANDLING UNIT MECH MECHANICAL MEZZ MEZZANINE AL ALUMINUM ALT ALTERNATE MFG MANUFACTURER ALUM ALUMINUM MFR MANUFACTURER AP ACOUSTICAL PANELS MIN MINIMUM AP ASSISTANT PRINCIPAL MISC MISCELLANEOUS MO MASONRY OPENING APPROX APPROXIMATE ARCH ARCHITECTURAL MP METAL WALL PANELS MPF MULTI-PURPOSE FACILITY B BEYOND B/B BACK TO BACK MSK MOP SINK BD BOARD MS METAL SOFFIT BLDG BUILDING MSL MEAN SEA LEVEL BLKG BLOCKING MTL METAL BOD BOTTOM OF DECK NB NO BASE BOM BOTTOM OF MASONRY NF NO FINISH NIC NOT IN CONTRACT BOS BOTTOM OF STEEL BOT BOTTOM NO NUMBER BP BASE, PORCELAIN TILE NS NATURAL STONE NTS NOT TO SCALE BR BASE, RUBBER BRES BASE, RESINOUS INTEGRAL OC ON CENTER BRG BEARING BRK BRICK OCC OCCUPANTS / OCCUPANCY OCEW ON CENTER EACH WAY OCD OVERHEAD COILING DOOR BRV BASE, RUBBER VENTED OCG OVERHEAD COILING GRILLE BTC BASE, TILE CERAMIC BTZP BASE, TERRAZZO PRECAST OD OUTSIDE DIAMETER BS BOTH SIDES OF OUTSIDE FACE BTWN BETWEEN OFCI OWNER FURNISHED CONTRACTOR INSTALLED BW BOTH WAYS OFF OFFICE OFOI OWNER FURNISHED OWNER INSTALLED BWD BASE, WOOD C/C CENTER TO CENTER OH OPPOSITE HAND CAB CABINET OHD OVERHEAD CCD COILING COUNTER DOOR OPP OPPOSITE CCPS CERAMIC CLADDING PANEL SYSTEM OS OVERFLOW SCUPPER CDW CUSTOM DIGITAL WALLCOVERINGS P/C PRECAST CONCRETE CDAP CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL PEMB PRE-ENGINEERED METAL BUILDING CFMF COLD-FORMED METAL FRAMING PERIM PERIMETER PERP PERPENDICULAR CH CHANNEL CONTINUOUS INSULATION PLA PLATE / PLASTER CI PLASTIC LAMINATE CONTROL JOINT PL CJ PLP PLASTIC LAMINATE PANEL SYSTEM CL CENTERLIN CLG CEILING CENTERLINE PNT PAINT CLR CLEAR PR PRACTICE ROOM CMU CONCRETE MASONRY UNIT PREFIN PREFINISHED CNTRD CENTERED CO CLEAN OUT/CASED OPENING PREP PREPARATION PROJ PROJECTION COL COLUMN PS PROJECTION SCREEN CONC CONCRETE POINT PT PW PLYWOOD CONF CONFIGURATIONS / CONFERENCE QTZ QUARTZ SURFACING CONN(S) CONNECTION(S) CONT CONTINUOUS R RISER RAD RADIUS RAFF RESILIENT ATHLETIC FLUID FLOORING COORD COORDINATE COP CONCRETE (POLISHED) CORR CORRIDOR RAFP RESILIENT ATHLETIC FLOORING POLYURETHANE COS CONCRETE SEALED RAFS RUBBER FLOORING SHEET CPT CARPET, SHEET RAFV RESILIENT ATHLETIC FLOORING VINYL CPY CANOPY L ANGLE RD ROOF DRAIN CR CLASSROOM CS CAST STONE REF REFERENCE CSM CONCRETE STONE MASONRY REINF REINFORCING CU CONDENSING UNIT RES RESINOUS CUST CUSTODIAN REQ'D REQUIRED CT CARPET, TILED CTE CAREER TRAINING ED RM ROOM RO ROUGH OPENING CTRL CONTROL RR RESTROOM CW CURTAIN WALL RT RUBBER TILE CWF CUSTOM WINDOW FILM RTR RUBBER TREADS AND RISERS DBL DOUBLE RTU ROOFTOP UNIT DET DETAIL SB SPLASH BLOCK DH DOOR HARDWARE SCHED SCHEDULE DIA DIAMETER SEC SECURITY DIAG DIAGONAL DIM DIMENSION SECT SECTION SF STOREFRONT / SQUARE FEET DN SHT SHEET DOWN DS DOWNSPOUT SIM SIMILAR DTL DETAIL DWG DRAWING DWR DRAWER EA EACH SLOPE SL SPLASH PAN (METAL) SP SPEC SPECIFICATIONS SPF SPLIT-FACE CONCRETE MASONRY UNIT EBWS EPOXY BASED WALL SYSTEM SPS SOLID POLYMER SURFACE ED EDUCATION STAINLESS STEEL SS EF EACH FACE SSM SOLID SURFACE MATERIAL EJ EXPANSION JOINT STD STANDARD EL ELEVATION STL STEEL ELEC ELECTRICAL STN STAIN ELEV ELEVATOR STOR STORAGE ENGR ENGINEER STRUCT STRUCTURE EPNT EPOXY PAINT SVT SOLID VINYL TILE EQ EQUAL (EQUALLY) SYMM SYMMETRICAL EQUIP EQUIPMENT T&B TOP & BOTTOM EW EACH WAY T&G **TONGUE & GROOVE** EWC ELECTRIC WATER COOLER TAS TEXAS ACCESSIBILITY STANDARDS (LATEST VERSION) EXIST EXISTING TB TACK BOARD EXP EXPANSION EXT EXTERIOR TC TILE, CERAMIC THRESHOLD TH EXTNG EXTINGUISHER TLT TOILET TOB TOP OF BEAM F/F FACE TO FACE FC FURRING CHANNEL TOC TOP OF CURB FD FLOOR DRAIN TOJ TOP OF JOIST FDC FIRE DEPARTMENT CONNECTION TOM TOP OF MASONRY FDN FOUNDATION TOS TOP OF STEEL FIRE EXTINGUISHER (SURFACE MOUNT) TOSF TOP OF METAL STUD FRAMING FE FEC FIRE EXTINGUISHER CABINET (SEMI-TOW TOP OF WALL TPC TILE, PORCELAIN RECESSED) FFE FINISHED FLOOR ELEVATION TILE, QUARRY TQ TR TREATED FHC FIRE HOSE CABINET (SEMI-RECESSED) FIN FINISH(ED) TRAN TRANSVERSE / TRANSPARENT FIN FLR FINISHED FLOOR TRIM METAL FLASHINGS AND COPINGS FL FLUSH (FLUSHED) FLR FLOOR TACKABLE SURFACE TS TYPICAL TYP FR FRAME TERRAZZO FRP FIBERGLASS REINFORCED PLASTIC PANEL TERRAZZO, PRECAST STAIR TREADS AND RISERS TZP SYSTEM FIBERGLASS REINFORCED PANELING TERRAZZO TILE TZT FRT FIRE RETARDANT TREATED URINAL UNDERWRITERS LABORATORIES FRTW FIRE RETARDANT TREATED WOOD UL FTG FOOTING FV FIELD VERIFY UNO UNLESS NOTED OTHERWISE UP UPHOLSTERY GA GAGE OR GAUGE VCT VINYL COMPOSITION TILE GALV GALVANIZED VERT VERTICAL GB GRAB BAR / GRADE BEAM VEST VESTIBULE GEN GENERAL VSF VINYL SHEET FLOORING GFRC GLASS FIBER REINFORCED CONCRETE W/ WITH W/IN WITHIN GRF GROUND FACE CMU (BURNISHED) GUT GUTTER W/O WITHOUT GYM GYMNASIUM WASH WASH STATION GYP GYPSUM HB HOSE BIB WC WATER CLOSET WD WOOD WH WATER HEATER / WALL HYDRANT HDWD HARD WOOD WMP WOOD (MAPLE) STRIP AND PLANK FLOORING HM HOLLOW METAL HO HOLD OPEN WMS MASONITE WOOD FLOORING WOM WALK-OFF MAT HORIZ HORIZONTAL HSS HOLLOW STRUCTURAL SECTION WOT WALK-OFF TILE HT HEIGHT WP WORKPOINT HVAC HEATING, VENTILATION, & A/C WT WEIGHT ICF INSULATED CONCRETE FORMS / INSULATED WWF WELDED WIRE MESH (FABRIC) CONCRETE FORMING XB X-BRACING IDF INTERMEDIATE DISTRIBUTION FRAME >= LARGER THAN OR EQUAL TO INFO INFORMATION <= LESS THAN OR EQUAL TO INSUL INSULATION INT INTERIOR (NOT ALL ABBREVIATIONS MAY BE USED)

ABBREVIATIONS





AREA MAP

GENERAL		\$3.8C	SLAB REINFORCING PLAN - AREA C	F\$1.10	FS ELEVATIONS
G1.01 G1.02	GENERAL DATA	\$3.6D \$4.1	TYPICAL MASONRY DETAILS		FS SECTIONS & DETAILS
G2.01	CODE ANALYSIS PLAN - LEVEL 1	S4.2	MASONRY DETAILS	PLUMBING	
G2.02	CODE ANALYSIS PLAN - LEVEL 2 ENLARGED CODE ANALYSIS PLAN - AREA A	S4.3	MASONRY WALL ELEVATIONS	P0.01	NOTES AND LEGENDS - PLUMBING
G2.03	ENLARGED CODE ANALYSIS PLAN - AREA A	S4.5	MASONRY WALL ELEVATIONS	P0.10	SCHEDULES - PLUMBING
G2.05	ENLARGED CODE ANALYSIS PLAN - AREAS D & E	S4.6	MASONRY WALL ELEVATIONS	P1.10	DETAILS - PLUMBING
G2.06	FLOOR (ABOVE) + ROOF FIRE PROTECTION PLANS - AREAS B, C. D	S4.7	MASONRY WALL ELEVATIONS	P1.11	DETAILS - PLUMBING FIRST FLOOR PLAN - AREA A - PLUMBING
G2.07	TYPICAL INTERIOR PARTITION DETAILS	S5.2	TYPICAL STEEL DETAILS	P2.01B1	FIRST FLOOR PLAN - AREA B - PLUMBING
G3.01	INTERIOR PARTITION, EXTERIOR WALL & ROOF TYPES	\$5.3	TYPICAL STEEL DETAILS	P2.01C1	FIRST FLOOR PLAN - AREA C - PLUMBING
G3.03 G3.05	WALL PENETRATIONS - GYP BD	\$5.4	STEEL DETAILS STEEL DETAILS	P2.01D1	FIRST FLOOR PLAN - AREA D - PLUMBING
G3.06	WALL PENETRATIONS - ACOUSTICAL	S5.6	STEEL DETAILS	P2.02B2	SECOND FLOOR PLAN - AREA B - PLUMBI
G4.01		S6.1	BRACING ELEVATIONS AND DETAILS	P2.02C2	SECOND FLOOR PLAN - AREA C - PLUMBI
G5.01 G5.02	SCHEDULE OF MATERIALS AND COLORS			P3.01B1	FIRST FLOOR PLAN - AREA B - PLUMBING
00.02		AD1.00A	DEMOLITION MASTER PLAN	P3.01D1	FIRST FLOOR PLAN - AREA C - PLOMBING
CIVIL		AD1.00B	DEMOLITION MASTER PLAN	P3.01E1	FIRST FLOOR PLAN - AREA E - PLUMBING
C0.00	COVER SHEET	AD1.01	DEMOLITION FLOOR PLAN - AREA B	P3.02B2	SECOND FLOOR PLAN - AREA B - PLUMBI
C1.00	PLAT (1 OF 2)	AD1.02	DEMOLITION FLOOR PLAN - AREA C	P3.02C2	ROOF PLAN - AREA B - PLUMBING
C1.02	PLAT (2 OF 2)	A0.1	MASTER FLOOR PLAN - LEVEL 1	P4.01C	ROOF PLAN - AREA C - PLUMBING
C1.03	SURVEY (1 OF 2)	A0.2	MASTER FLOOR PLAN - LEVEL 2	P4.01D	ROOF PLAN - AREA D - PLUMBING
C1.04 C2.00	OVERALL DEMOLITION PLAN	A0.3	CRAWL SPACE PLANS	P4.01E	ROOF PLAN - AREA E - PLUMBING
C2.01	DEMOLITION PLAN (1 OF 2)	A1.1B1	FLOOR PLAN - AREA B - LEVEL 1	FIRE PROTE	CTION
C2.02	DEMOLITION PLAN (2 OF 2)	A1.1B2	FLOOR PLAN - AREA B - LEVEL 2	F2.01	FIRE PROTECTION PLAN - FIRST FLOOR
C3.00	EROSION CONTROL PLAN PHASE 1	A1.1C1	FLOOR PLAN - AREA C - LEVEL 1	F2.02	FIRE PROTECTION PLAN - SECOND FLOO
C3.02	EROSION CONTROL DETAILSL (1 OF 2)	A1.1C2	FLOOR PLAN - AREA D FLOOR PLAN - AREA D	MECHANICA	L
C3.03	EROSION CONTROL DETAILSL (2 OF 2)	A1.1E1	FLOOR PLAN - AREA E	M0.01	NOTES AND LEGENDS - MECHANICAL
C4.00	OVERALL SITE PLAN	A1.1E1	FLOOR PLAN	M0.02	NOTES AND LEGENDS - MECHANICAL
C4.01 C4.02	DIMENSION CONTROL PLAN (1 OF 2)	A1.20	ENLARGED PLANS	M0.10	SCHEDULES - MECHANICAL MISCELLANEOUS FOUIPMENT SCHEDULE
C5.00	FIRE PROTECTION PLAN	A1.30	TOILET ROOMS, COMPARTMENTS & ENLARGED RESTROOM	M0.12	SCHEDULES - MECHANICAL
C5.01	PAVING PLAN		PLANS	M1.10	DETAILS - MECHANICAL
C6.00	UVERALL GRADING PLAN GRADING PLAN (1 OF 2)	A1.40 Δ2 1Δ1	PLAN DE LAILS REFLECTED CFILING PLΔN - ΔRFΔ Δ	M1.11	
C6.02	GRADING PLAN (2 OF 2)	A2.181	REFLECTED CEILING PLAN - AREA B - LEVEL 1	M2.00E	FIRST FLOOR PLAN - AREA A - MECHANI
C7.00	OVERALL UTILITY PLAN	A2.1B2	REFLECTED CEILING PLAN - AREA B - LEVEL 2	M2.01B1	FIRST FLOOR PLAN - AREA B - MECHANIC
C7.01	UTILITY PLAN (1 OF 2)	A2.1C1	REFLECTED CEILING PLAN - AREA C - LEVEL 1	M2.01C1	FIRST FLOOR PLAN - AREA C - MECHANIC
C7.02 C8.00	OVERALL STORM PLAN	A2.102	REFLECTED CEILING PLAN - AREA D	M2.01D1	FIRST FLOOR PLAN - AREA D - MECHANIC
C8.01	STORM PLAN (1 OF 2)	A2.1E1	REFLECTED CEILING PLAN - AREA E	M2.02B2	SECOND FLOOR PLAN - AREA B - MECHAN
C8.02	STORM PLAN (2 OF 2)	A2.10	CEILING DETAILS	M2.02C2	SECOND FLOOR PLAN - AREA C - MECHA
C9.00	EXISTING DRAINAGE AREA MAP PROPOSED DRAINAGE AREA MAP	A3.01	DOOR AND SPECIAL OPENING SCHEDULES AND CONFIGURATIONS	M3.01A	SECTIONS - MECHANICAL
C9.02	DRAINAGE CALCULATIONS	A3.02	STOREFRONT AND CURTAIN WALL CONFIGURATIONS	M4.01B	ROOF PLAN - AREA B - MECHANICAL
C10.00	POND PLAN	A3.03	OPENING DETAILS	M4.01D	ROOF PLAN - AREA D - MECHANICAL
C10.01	POND DETAILS	A3.04	OPENING DETAILS FINISH PLANS - ARFA A	M4.01E	ROOF PLAN - AREA E - MECHANICAL
C11.00	UTILITY DETAILS (1 OF 2)	A4.1B1	FINISH PLAN - AREA B	ELECTRICAL	
C11.02	UTILITY DETAILS (2 OF 2)	A4.1C1	FINISH PLAN - AREA C - LEVEL 1	E0.01	SCHEDULES, NOTES, AND LEGENDS - ELE
C11.03	STORM DETAILS (2 OF 2)	A4.1C2	FINISH PLAN - AREA C - LEVEL 2	E0.10	SCHEDULES - ELECTRICAL
C11.04	STORM DETAILS (1 OF 2)	A4.161	FINISH PLAN - AREA E	E0.11	
LANDSCAPE		A4.1F1	FINISH PLAN - AREA E	E0.12 E0.13	PANEL SCHEDULES - ELECTRICAL
TP0.00	OVERALL TREE PRESERVATION	A4.05		E1.10	DETAILS - ELECTRICAL
TP1.00	TREE PRESERVATION ENLARGED PLAN	A4.06	INTERIOR ELEVATIONS - AREA B	E1.11	DETAILS - ELECTRICAL
LP0.00	OVERALL LANDSCAPE PLAN	A4.08	INTERIOR ELEVATIONS - AREAS B, C, & D	E2.00B	CRAWLSPACE PLAN - AREA B - LIGHTING
LP1.00	LANDSCAPE PLAN (1 OF 2)	A4.10	INTERIOR ELEVATIONS - AREA E	E2.01A1	FIRST FLOOR PLAN - AREA A - LIGHTING
LP1.01	LANDSCAPE PLAN (2 OF 2)	A4.10		E2.01B1	FIRST FLOOR PLAN - AREA B - LIGHTING
LP2.00	LANDSCAPE DETAILS	A5.02	EXTERIOR ELEVATIONS - AREA A	E2.01C1	FIRST FLOOR PLAN - AREA C - LIGHTING
LP2.02	LANDSCAPE SPECIFICATIONS (2 OF 2)	A5.03	EXTERIOR ELEVATIONS - AREA D & E	E2.01E1	FIRST FLOOR PLAN - AREA E - LIGHTING
L10.00	OVERALL IRRIGATION PLAN	A6.05	WALL SECTIONS - AREAS A, B	E2.02B2	SECOND FLOOR PLAN - AREA B - LIGHTIN
LI1.00	IRRIGATION PLAN (1 OF 2)	A6.07	WALL SECTIONS - AREAS C, D WALL SECTIONS - AREA F	E2.02C2	SECOND FLOOR PLAN - AREA C - LIGHTIN
LI2.00	IRRIGATION NOTES AND DETAILS	A6.08	STAIR SECTION - STAIR 1 - B100.1	E3.00B	CRAWLSPACE PLAN - AREA B - POWER
		A6.10	WALL SECTION DETAILS	E3.01A1	FIRST FLOOR PLAN - AREA A - POWER
SPORTS		A6.11	WALL SECTION DETAILS	E3.01B1	FIRST FLOOR PLAN - AREA B - POWER
F1 F2	GRADING PLAN	A7.1A	ROOF PLAN - AREA A	E3.01C1	FIRST FLOOR PLAN - AREA C - POWER
F3	UTILITY PLAN	A7.1B	ROOF PLAN - AREA B	E3.01E1	FIRST FLOOR PLAN - AREA E - POWER
F4	DETAIL SHEET	A7.1C		E3.02B2	SECOND FLOOR PLAN - AREA B - POWER
	IRAL SITE	A7.10 A7.1E	ROOF PLAN - AREA E	E3.02C2	SECOND FLOOR PLAN - AREA C - POWER
AS1.01	ARCHITECTURAL SITE PLAN	A7.10	TYPICAL ROOFING DETAILS MOD. BIT. ROOFING	E4.01B	ROOF PLAN - AREA C - POWER
AS1.02	SITE DETAILS	A7.11	TYPICAL COMMON ROOFING DETAILS	E4.01D	ROOF PLAN - AREA D - POWER
STRUCTURA		A7.12 A7.13	TYPICAL COMMON ROOFING DETAILS	E4.01E	ROOF PLAN - AREA E - POWER
S1.1	GENERAL NOTES	A8.01	CASEWORK LEGENDS AND ELEVATIONS	ES1.00	SHE PLAN - ELECTRICAL
S1.2	STATEMENT OF SPECIAL INSPECTIONS	A8.02	CASEWORK ELEVATIONS + DETAILS	TECHNOLOG	SY
S1.3	AXONOMETRIC - AREAS A, B, C	A9.01		T0.0	TECHNOLOGY - INDEX SHEET
S1.4 S1.5	COMPONENTS & CLADDING WIND I OADING	A9.02	TYPICAL MISC DETAILS	TS1.01	
S1.5	3D VIEWS	A9.03	EXPANSION JOINT DETAILS	T0.1	TECHNOLOGY - MASTER FLOOR PLAN - L
S2.1D2	LEVEL 2 FRAMING PLAN - AREA D	- S A0 12		T1.1A1	TECHNOLOGY - FLOOR PLAN - AREA A - L
SD2.1B1 SD2.1B2	LOW ROOF DEMOLITION PLAN - AREA B	A9.20		T1.1B2	TECHNOLOGY - FLOOR PLAN - AREA B - L
SD2.1C3	ROOF DEMOLITION PLAN AREA C			T1.1C2	TECHNOLOGY - FLOOR PLAN - AREA C - L
S2.1	OVERALL FOUNDATION PLAN	FOOD SERV		T1.1D1	TECHNOLOGY - FLOOR PLAN - AREA D - L
52.1A1 S2.1A2		FS1.0	FS EQUIPMENT PLAN	T1.1E1	TECHNOLOGY - FLOOR PLAN - AREA E - L
\$2.1B1	FOUNDATION PLAN - AREA B	FS1.1	FS FACILITY MODEL	T5.00	TECHNOLOGY - ENLARGEMENTS
S2.1B3	ROOF FRAMING PLAN - AREA B	FS1.2		T5.01	TECHNOLOGY - DETAILS
S2.1C1	FOUNDATION PLAN - AREA C	FS1.3	FS SPECIAL CONDITIONS & MECHANICAL PLAN FS PLUMBING PLAN	T5.02	TECHNOLOGY - DETAILS
S2.102 S2.103	ROOF FRAMING PLAN - AREA C	FS1.5	FS ELECTRICAL PLAN	T6.00	
S2.1D1	FOUNDATION PLAN - AREA D	FS1.7	FS CONDENSING UNITS	T7.00	TECHNOLOGY - AV DETAILS
S2.1D2	ROOF FRAMING PLAN - AREA D	FS1.8		T7.01	TECHNOLOGY - AV DETAILS
52.1E1		FS1.9 FS1.9.1	FS SERVING COUNTERS	T7.02	TECHNOLOGY - AV DETAILS
\$3.1	TYPICAL CONCRETE DETAILS			SPORTS	
\$3.2	TYPICAL CONCRETE DETAILS			C1	SURFACE PLAN - BASE BID
\$3.3				C1.1	SURFACE PLAN - ALTERNATE
53.4 \$3.5	CONCRETE DETAILS			C2	GRADING PLAN - BASE BID
S3.6	CONCRETE DETAILS			C3	UTILITY PLAN
\$3.7				C4	DETAIL SHEET
33.00		1			





COMPREHENSIVE.

TRACTS THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE. KIMLEY-HORN AND ASSOCIATES, INC. DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING HIS OWN SITE RECONNAISSANCE TO SCOPE HIS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY

THE CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW ANY AVAILABLE REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION

B. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.

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	EXISTING EDGE OF ASPHALT	
SS	EXISTING SANITARY LINE TO REMAIN	
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5. IT IS THE CONTRACTORS RE COMPANIES WHICH MAY HA'	ESPONSIBILITY TO CONTACT THE VARIOUS UTILITY VE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE	
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THE CONTRACTOR SHALL H. THE CONTRACT DOCUMENT	AVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF S INCLUDING PLANS, SPECIFICATIONS AND SPECIAL	
CONDITIONS, COPIES OF AN CONTROL PLANS.	IY REQUIRED CONSTRUCTION PERMITS, AND EROSION	
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CONTRACTOR MUST PROTE	ALL FEES AND CHARGES.	
ENGLUSURES, ETC., ACCOR PRIOR TO DEMOLITION OCC	URRING, ALL EROSION CONTROL DEVICES AROUND THE SITE	
DAMAGE TO ALL EXISTING C	CONDITIONS TO REMAIN WILL BE REPLACED AT	©2025 KIMLEY-HORN AND
CONTRACTOR'S EXPENSE.	LY TO THE FULLEST EXTENT WITH ALL REGULATIONS	ASSOCIATES, INC. TBPE FIRM NO. 928
GOVERNING THE DEMOLITIC DEMOLITION DEBRIS.	UN, REMOVAL, TRANSPORTATION AND DISPOSAL OF ALL	
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UPERATIONS, AND SHALL CO	OMPLY WITH ALL USHA PERFORMANCE CRITERIA.	RICHARD J. UNDERWOOD
SMALL AN AREA AS PRACTIO WELL CLEAR OF THE BUILDI BY THE OWNER PRIOR TO S	CABLE AND THE LOCATION OF ANY STOCKPILE SHALL BE NG PAD AREA AND THE LOCATION MUST BE PRE-APPROVED TOCKPILING.	MANNONAL ENG
5. FILL MATERIAL SHALL BE PL	ACED IN ACCORDANCE WITH THE GEOTECH REPORT.	flue from in 05/08/2025
	C2.02	www.huckabee-inc.com 800.687.1229
	C2.02	
		DEMOLITION PLAN
		PACKAGE VOLUME Job No. Short Nic
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LEGEND PROPERTY BOUNDARY _____ EXISTING CONTOUR _ _ _ 670 _ _ _ _ PROPOSED CONTOUR PROPOSED RETAINING WALL _____ TP (PS) PERMANENT STABILIZATION TREE TO REMAIN NOTES STABILIZED BY VEGETATION OR STRUCTURE. MITIGATION PLAN. PHASE 2 DISTURBED AT ANY POINT IN TIME) BEGIN GRADING THE SITE AND BEGIN RETAINING WALL CONSTRUCTION. COMMENCED. LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE. BROUGHT TO FINAL GRADE. INSTALLED. STRUCTURE IS INSTALLED. 9. PREPARE SITE FOR PAVING. 0. BEGIN PAVING SITE. BASIN AND TRAPS MUST BE REMOVED AND LEGALLY DISPOSED OF. THEN: MANAGEMENT PRACTICES (BMPS), WITH THE CITY. SITE DATA TOTAL LOT AREA 53.577 AC 18.651 AC

TOTAL AREA DISTURBED * 5.186 AC NEW PAVED AREA 0.819 AC NEW ROOFED AREA 8.726 AC NEW LANDSCAPED AREA UPDATE AS NECESSARY DURING CONSTRUCTION.

NOT REQUIRED.





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- OF HARDSCAPE.
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- NON-STANDARD MATERIAL IS REQUIRED.

















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 Alter of the sequence of the sequ	SECTION SECTION	1 - GENERAL INFORMATION AND DESIGN CRITERIA 1.1 - DOCUMENTS	STRUCTUR 1.3.11	AL DEFLECTIONS Live Load - Floor and roof system deflections due to live loads to
 A. Borden and Ansam the sense seture of the borden and an analysis of the borden and an analysis of the borden and an analysis of the borden and an	1.1.1	Structural Drawings are not stand-alone documents and are augmented by technical specifications and must be coordinated with the complete set of contract documents.		Attachments of architectural and between floor and roof structures deflections of this magnitude to or deformity to the components.
 And A. A.	1.1.2	Structural documents are protected by Copyright Law of the United States and are not to be used for any purpose other than construction of the building structure described in the contract documents at the geographic location shown	1.3.12	Dead Load - Floor and roof system deflections due to total loads to deflections may occur incremental structure and in the case of cor
 Al-A The Detector Data Report A received a more part of the provided comparison of the sector of the	1.1.3	General Notes and Typical Details apply throughout the project wherever conditions similar to those depicted exist and are not necessarily specifically referenced in the documents.		an extended time period. Attachme mechanical components do not allo may occur after installation. For deflections may occur when mechan
 Additional and a second second	1.1.4	The Geotechnical Report referenced herein is not part of the Structural Documents. However, a copy should be obtained for reference during installation of foundations and subgrade preparation.	1.3.13	Structural cambers, where shown of for estimated dead load deflection cambered beams or trusses should
 1.4. Consistence of the set of the	COORDINA 1.1.5	ATION Contractor is responsible for coordinating Structural Documents with other trades and disciplines in the contract documents. Some requirements are not known prior to issue and may change as layout and fabrication drawings are developed. Promptly report deviations and interferences with structural components for	1.3.14	dead loads. Where steel beams are devices, final tensioning must be loads are in place. Panelized Wall Systems- Attachmen panel systems must allow for diff
 M.Z. Subscription is subscription. Length and length	1.1.6	Contractor to verify dimensional location and depth of slab recesses and offsets with Architectural Drawings.		0.375 inches, and horizontal def H/400 between adjacent floors. W transfer lateral reactions to bo joists, or trusses except, 1) wh
 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	1.1.7	Contractor to verify size, weights, location, and details of structurally supported equipment and associated openings prior to fabrication of the supporting structure.	SECTION	Structural Drawings, or 2) speci wall supplier/installer to trans floor slab.
 accounting and Lacence through constanting for a frequency for a freq	1.1.8	Contractor to verify size and location of floor and roof penetrations shown on structural drawings with other disciplines. Submit for approval a composite drawing showing all proposed	SECTION SECTION 2.1.1	2.1- GEOTECHNICAL REPORT Design of foundations and struct soil is based on recommendations
 1.10 Contractor 12 worthy stratuting, actually and manufactory interval and control of the worthy stratuting actually stratuged interval actually stratuged inter		openings and sleeves through structural members for engineering review prior to or simultaneous with shop drawings for affected framing.		Report Author Report Number Date of Report
 1.1.1 mod case plant, data is and section for plantary, length or any plantary data is an index and plantary data index and plantary data is an index and plantary data index and plant	1.1.10	Contractor to verify dimensions, details, plumbness and squareness of existing structures meeting or tying into new construction.	2.1.2	Refer to the Geotechnical Report be encountered during foundation preparation.
 It is quick in the densing relation is retrong in both bloc. When the set of th	1.1.11 REFERENC	Do not scale plans, details and sections for quantity, length or fit of materials. CE ELEVATIONS Heights of floor and roof decks and various framing components	SUBGRADE 2.1.3	CRITERIA UNDER BUILDING SLABS Coordinate under-floor drainage a with architectural and plumbing (
Area A PPE = 100 - Dr / Defined Toy Area D FF = 100 - Dr / Defined Toy Area D FF = 100 - Dr / Defined Toy. Area D FF = 100 - Dr / Defined	1.1.12	are given on the drawings relative to a reference elevation that is equivalent to a Mean Sea Level Elevation noted below. Contractor to verify against Civil grading plans and report discrepancies to Architect for resolution prior to construction.	EARTH RE 2.1.4	TENTION SYSTEMS Design of earth retention system Documents. Refer to Geotechnical
 handback matching handback matching<		Area A FFE = 100' - 0" / Givil 672.10' Area B FFE = 100' - 0" / Civil 671.67) Area C FFE = 103' - 4" / Givil 675.29' Area D FFE = 100' - 0" / Civil 671.96' Area E FFE = 100' - 0" / Civil 672.10'	SECTION 2.2.1	2.2- STRAIGHT SHAFT PIERS Design Criteria: Bearing Stratum Top of Stratum Elevation (for Bidding Durphone Only)
 1.1.4 Maintain temportry frame bracing until iselalistic of persenting temports and constraints, amber connections and flowr and frameworks, amber connections and flowr and flow are complete. 2.2.8 Structural Concrete Odds - American Entitute (ADI) 318 2.3.8 Butter and Studened of jurisdictan - 2021 International Building Odd 2.3.8 Structural Steel Code - American Entitute (ADI) 318 2.4.8 Structural Steel Code - American Entitute (ADI) 318 2.5.9 Structural Steel Code - American Entitute (ADI) 318 2.6.10 Dirot Exactling Framework (ADI) 500 2.7.9 Structural Steel Code - American Entitute (ADI) 318 2.8.10 Dirot Exactling Framework (ADI) 500 2.9.2 Structural Steel Code - American Entitute (ADI) 318 2.9.2 Structural Steel Code - American Entities of Steel Construction (PPF) (DIP) (DI	TEMPORAR 1.1.13	BY BRACING Structural systems are designed for final, in-place conditions only. Provide temporary bracing of structural components for conditions that will exist during construction and to meet all regulatory requirements for safety of workers.		Allowable End Bearing Positive Side Friction Upheaval Side Friction Upheaval Design Depth
 BUILDIN 1.2: ODES AND STANDANDS BUILDIN CORES AND STANDANDS BUILDIN CORE AND STANDANDS BUILDIN	1.1.14	Maintain temporary frame bracing until installation of permanent structural bracing elements, member connections and floor and roof diaphragms are complete.	2.2.2	Negative Side Friction Pier depths indicated are for bi
 12.1 District of point action is point action is obtained other with a second section is a second section. Second is a second section is a second section is a second se	SECTION	1.2- CODES AND STANDARDS	2.2.3	Remove overpour at tops of piers
 12.3 Structural Masserry Godu - The Masserry Society (TMS) 402 Structural Steel Code - American Institute of Steel Construction (AISC) 300 (and 34 waves explicable) 12.5 Structural CALL Former splicable) 12.6 Structural CALL Former splicable) 12.7 Structural CALL Former splicable) 13.8 Structure Risk Category III 13.9 EXPLORE A Category III 13.1 Structure Risk Category III 13.2 Live Ladd Occupanty or Use (nof noncentrated Notes Structure Net Category III 13.2 Live Ladd Occupanty or Use (nof noncentrated Notes Structure Risk Category III 13.3 Structure Risk Category III 13.4 Device Structure Risk Category III 13.5 Structure Risk Category III 13.6 More Structure Data Structure Risk Category III 13.7 More Structure Risk Category III 13.8 Dor State Masser Restance Restan	1.2.2	Structural Concrete Code - American Concrete Institute (ACI) 318	SECTION	2.3- FOUNDATION WALLS
 2.3.5 Wind Level Typical Concentrated Loads applied over 2.5-fort square typical concentrates and the square typical concentrates and typical concentrates and typical concentrates and the square typical concentrates and typical concentrates and the square typical concentrates and typica	1.2.3 1.2.4	Structural Masonry Code – The Masonry Society (TMS) 402 Structural Steel Code - American Institute of Steel Construction (AISC) 360 (and 341 where applicable)	2.3.1	Do not backfill walls until later at top and bottom of each wall a specified design strength.
 La.1 Structure Risk Category III L3.2 Live Loads Ground Lavel Typical 100 Goneentrated Notes (PPT) (DI) (1) Ground Lavel Typical 100 Stair and Elavator Lobbis 100 Stairs and Stair Loads Stair Trans Stair Trans 100 Stairs and Stair Response Coord, Stair Loads Stair Trans 200 4 sq in Notes: Concentrated Loads Trans 100 Stairs and Stair Trans 200 4 sq in Notes: Concentrated Loads Trans 100 Stairs and Stair Trans 200 4 sq in Notes: Concentrated Loads Thermise 100 Stairs and Stair Trans 200 4 sq in Notes: Concentrated Trans 100 Stair Trans 200 4 sq in Notes: Concentrated Trans 100 Stairs and Stair Trans 200 4 sq in Notes: Concentrated Trans 200 4 sq in Notes: Concentrated Trans 200 4 sq in Notes: Concentrated Trans 200 5 stair Trans 200 5 stairs and Stair Tran	1.2.5	Structural Cold-Formed Steel Code - American Iron and Steel Institute (AISI) S100	2.3.2	Do not backfill perimeter below (temporary lateral bracing struct constructed and the wall has att Walls shall remain braced until
 1.1.2 Life Lands 1.1.2 Life Lands 1.1.2 Control Level, Typical 1.1.3 Ground Level, Typical 1.1.4 Ground Level, Typical 1.1.5 Ground Level, Typical 1.1.5 Ground Snow Loads 1.1.6 Ground Snow Loads 1.1.6 Ground Snow Loads 1.1.7 Typical Concentrated Loads 1.1.8 Ground Snow Loads 1.1.8 Ground Snow Loads 1.1.9 Ground Snow Loads 1.1.1 Ground Snow Loads 1.1.1 Ground Snow Loads 1.1.2 Form vertical faces of grade base 1.1.3 Ground Snow Loads 1.1.4 Superimposed Dead Loads 1.1.5 Wind Loads 1.1.5 Wind Loads 1.1.6 Superimposed Gead Loads 1.1.6 Superimposed Gead Loads 1.1.7 Typical Grade Mark 1.1.8 Ground Snow Loads 1.1.8 Ground Snow Loads 1.1.9 Typical Grade Mark 1.1.1 Formed Voids 1.1.2 Form vertical faces of grade base 1.1.2 Form vertical faces 1.2.2 Form vertical faces 2.2.3 Explored Mark 3.2.4 Forme faces 3.2.5 Forme faces 3.2.6 Formit faces 3.2.7 Weided Wire facinforcement spin babe 3.2.8 Forme faces 3.2.9 Forme faces 3.2.9 Forme faces 3.2.9 Forme faces 3.2.1 Forme faces 3.2.1 Forme faces 3.2.2 Forme faces 3.2.3 Forme faces	1.3.1	Structure Risk Category III	SECTION	3 - STRUCTURAL CONCRETE
 Stairs and Elevator Labbies 100 300 Stairs and Elevator Labbies 100 Notes: (1) Typical concentrated loads applied over 2.5-foot square at ostructural members. 1.3.4 Superimposed boads Loads Typical Structured Level 15 pef Typical Structured Level 30 pef 30 p	1.5.2	Live LoadsOccupancy or UseUniformConcentratedNotes(psf)(lbf)(1)Ground Level, Typical100Roof, Typical20Schools, Upper Levels801.000	3.1.1	Formed Voids - Provide retained bottom of structural members and follows: Grade Beams and Pilasters
 (1) Typical concentrated leads applied over 2.5-foot square at ostructural members. 1.3.3 Boor Snow toxis Ground Snow Snow toxis Ground Snow toxis Ground Snow toxis Ground Snow toxis Ground Snow Snow toxis Ground Snow toxis Ground Snow toxis Ground Snow toxis Ground Snow Snow toxis Ground Snow toxis Ground Snow toxis Ground Snow Snow Snow Snow Snow Snow Snow Snow	C	Stairs and Exitways 100 300 Stair and Elevator Lobbies 100	3.1.2	Slab on Void 12 Form vertical faces of grade bear and other vertical foundation ele
 1.3.3 Rbof Snow Yurdds 1.3.4 Superimposed Dead Loads Typical Structured Level 15 psf 1.3.5 Superimposed dead loads do not include self-weight of members 1.3.6 Superimposed dead loads do not include self-weight of members 1.3.7 Nain Loads 1.3.8 Wind Loads 1.3.9 Wind Loads 1.3.9 Wind Loads 1.3.9 Wind Loads 1.3.9 Wind Loads 1.3.10 Koats 1.3.9 Wind Loads 1.3.10 Koats 1.3.6 Seismic Incortance Factor, Ie 1.25 Mapped Spectral Acceleration, Sta 1.3.6 Seismic Design Category Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Design Category Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Design Category Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Design Category Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Design Category Analysis Procedure Used: Equivalent Lateral Force Steel Systems Not Detailed for Seismic Steel Roof Deck 200 1 sq ft Steel Roof Deck 200 1 sq ft State Root Root Bas and therwise. Stabs 300 4 sq in Notes: Assumed weights an location of structurally supported equipment are indicated on the framing plans. 	Ĺ	(1) Typical concentrated loads applied over 2.5-foot square area to structural members.	SECTION	3.2-STEEL REINFORCING
 Allowable design wind speed, Vult 115 mph Allowable design wind speed, Vult 115 mph Allowable design wind speed, Vult 115 mph Allowable design wind speed, Vult 115 mph Exposure Classification C C Internal Pressure Coefficient 0.18 Seismic Loads Seismic Loads Seismic Ladoel acceleration, St 0.062 Site Class 3.6 Seismic Loads Seismic Acceleration, St 0.029 Site Class Important Acceleration, St 0.064 Seismic Response Coefficient, R 3.0 Seismic Response Coefficient R 3.0 Seismic Response Coefficient R 3.0 Seismic Response Coefficient R 3.0 Seismic Response Rodificient R 3.0 Seismic Response Rodificient R 3.0 Seismic Resp	1.3.3	Roof Snow Loads Control of the second		Reinforcing bars shall be deform as follows: Deformed Bar Anchors 7 Other bars, UNO 6
 shown in structural drawings. 3.2.3 Bottom and middle bars in beam supports, unless noted otherwing supports, unless noted support, unless noted supports, unless noted support, not supports of supports, unless noted supports, unless no		Typical Roof 30 psf Notes: Superimposed dead loads do not include self-weight of members	SPLICING 3.2.2	OF REINFORCING BARS Top bars in beams or slabs shall between supports, unless noted o
 Allowable design wind speed, Vasd & 89 mph Serviceability wind speed (25 Year) 80 mph Exposure Classification C Internal Pressure Coefficient 0.18 Seismic Loads Seismic Importance Factor, Ie 1.25 Mapped Spectral Acceleration, Ss O.052 Mapped Spectral Acceleration, Sd Design Spectral Acceleration, Sd Design Spectral Acceleration, Sd Design Spectral Acceleration, Sd Design Spectral Acceleration, Sd D.055 Design Spectral Acceleration, Sd D.046A Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Design Spectral Coefficient, R Seismic Response Modification Coefficient, R 3.7 Rain Loads Rain Intensity, i 5.36 in/hr Notes: Concentrated Loads Location Load-pounds Area Steel Roof Deck 200 1 sq ft Stair Treads 300 4 sq in Notes: Concentrated Loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. 3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans. 	1.3.5	shown in structural drawings. Wind Loads Ultimate design wind speed, Vult 115 mph	3.2.3 3.2.4	Bottom and middle bars in beams supports, unless noted otherwise Vertical bars in walls shall be
 1.3.6 Seismic Loads 1.3.6 Seismic Loads Seismic Importance Factor, Ie 1.25 Mapped Spectral Acceleration, Ss 0.029 Site Class Design Spectral Acceleration, Sds Stel Systems Not Detailed for Seismic Rain Intensity, i S.36 in/hr Notes: Above dimensions apply As ant Loads Stair Treads Subation Acceleration on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. 		Allowable design wind speed, Vasd89 mphServiceability wind speed (25 Year)80 mphExposure ClassificationCInternal Pressure Coefficient0.18See component and cladding wind load diagram	LAPPED S 3.2.5	above floors, unless noted other PLICE LENGTHS Lap reinforcing 30 bar diameters
 Mapped Spectral Acceleration, S1 0.029 Site Class Design Spectral Acceleration, Sds 0.055 Design Spectral Acceleration, Sds 0.046 Analysis Procedure Used: Equivalent Lateral Force Basic Seismic Force Resisting System: Stel Systems Nod Detailed for Seismic Response Modification Coefficient, R 3.0 Seismic Response Coeff, Cs 0.01 3.7 Rain Loads Rain Intensity, i 5.36 in/hr Stel Roof Deck 200 1 sq ft Stair Treads 300 4 sq in Notes: Concentrated Loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. 3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans. 	1.3.6	Seismic Loads Seismic Importance Factor, Ie 1.25 Mapped Spectral Acceleration, Ss 0.052	3.2.6	Tension splice lengths shall be 318. Use Class B splices unless
Equivalent Lateral Force Basic Seismic Force Resisting System: Steel Systems Not Detailed for Seismic Response Modification Coefficient, R 3.0 Seismic Response Coeff, Cs 0.01 1.3.7 Rain Loads Rain Intensity, i 5.36 in/hr Notes: Above dimensions apply 1.3.8 Other Concentrated Loads Location Load-pounds Area Steel Roof Deck 200 1 sq ft Stair Treads 300 4 sq in Notes: Concentrated loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. 3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans.		Mapped Spectral Acceleration, S1 0.029 Site Class Design Spectral Acceleration, Sds Design Spectral Acceleration, Sd1 0.046 Seismic Design Category Analysis Procedure Used:	3.2.7	Welded Wire Reinforcement splice between outermost cross wires of least one spacing of cross wires less than 6 inches.
1.3.7 Rain Loads Rain Intensity, i 5.36 in/hr Notes: Above dimensions apply 1.3.8 Other Concentrated Loads Location Load-pounds Area Steel Roof Deck 200 1 sq ft Stair Treads 300 4 sq in Notes: Concentrated loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans.		Equivalent Lateral Force Basic Seismic Force Resisting System: Steel Systems Not Detailed for Seismic Response Modification Coefficient, R 3.0 Seismic Response Coeff, Cs 0.01	CONCRETE 3.2.8	COVER TO REINFORCING Clearance from face of concrete Piers Formed Grade Beams, Pier Caps, Pilasters
 1.3.8 Other Concentrated Loads Location Load-pounds Area Steel Roof Deck 200 1 sq ft Stair Treads 300 4 sq in Notes: Concentrated loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. .3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans. 	1.3.7	Rain Loads Rain Intensity, i 5.36 in/hr		SLADS 3/4" int Notes: Above dimensions apply un
Notes: Concentrated loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise. .3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans.	1.3.8	Other Concentrated LoadsLocationLoad-poundsSteel Roof Deck200Stair Treads3004 sq in		
.3.9 Assumed weights and locations of structurally supported equipment are indicated on the framing plans.		Notes: Concentrated loads apply to any location on supporting structure, separately from (not in addition to) uniform live loads, except as noted otherwise.		
	1.3.9	Assumed weights and locations of structurally supported equipment are indicated on the framing plans.		

GENERAL NOTES

PLACEMENT OF REINFORCING

oof systems are designed to limit vertical loads to (Clear Span)/360 or less. tural and mechanical components to or	3.2.9 Place f from a edge be	first bar of slab free edge or half eam.	reinforcing p [:] of required	barallel to s bar spacing	ide 2 inches from face of	5.5.10	shall be qualified in accordance with sensitivity to installation direction	ACI 355.4 requirements for
structures do not allow for live load nitude to occur without causing distress	3.2.10 Single	layer reinforcin(ן in walls sh	all be placed	l at	SECTION	4 - STRUCTURAL MASONRY	
ponents.	center	of walls unless r	oted otherwis	se.	on steel deck at	SECTION 4.1.1	4.1- GENERAL See Architectural Drawings and Specif: dimensions of masonry work	ications for details and
L loads to (Clear Span)/240 or less. Some acrementally as loads are placed on the ase of concrete structures. may occur over	SECTION 3.3- CON	of slab unless no	ited otherwise	e.	on steer deck at	4.1.2	Grout lifts at reinforced masonry wall accordance with TMS 402/602.	ls shall be accomplished in
Attachments of architectural and on the second seco	3.3.1 Concret	ce Mix Schedule:				SECTION	4.2- STRUCTURAL PROPERTIES	
ation. For example, significant Then mechanical systems are charged with	a. Cor nor b. Whe Sch	ncrete type is NWC rmalweight concret ere w/c ratio is n hedule, it shall f	<pre>> unless noted te having max: not indicated pe as necessa is shown it</pre>	d otherwise. imum cured de in the Conce ry to meet s shall be add	NWC refers to ensity of 145 PCF. rete Mix trength requirements.	4.2.1 4.2.2	Required compressive strength of struc Load-bearing Concrete Masonry Units: A Required net area compressive strengt	ctural assembly = 2000 psi ASTM C90 Normal-weight h = 2000 psi
deflections. Components attached to es should not be connected in a manner	reg d. "St	jardless of streng trength" is requi	jth requirement red compressi	nts. ve cylinder s	strength at an	4.2.3	Mortar: ASTM C270 Type S	
tical deflection prior to the placement of beams are connected with self-tensioning	age e. See	e of 28 days. e specification fo	or additional	information	at auger cast in	4.2.4	Grout: ASTM C476 Required 28-day compressive strength (of grout 2000 psi
ig must be delayed until structural dead	pla f. Exp cla	ice piles. Dosure classes are asses for concret	∍ noted as de [.] e mixes are F	fined in ACI 0, SO, WO, a	318. Exposure nd CO unless	SECTION	4.3- REINFORCING	
Attachments of curtainwall and other wall v for differential vertical deflection of	not	ced otherwise.		· · · ·		JOINT RE 4.3.1	EINFORCEMENT Horizontal joint reinforcing shall be	"Ladder Type" 9 gage welde
ontal deflection of floors. Wall cladding attachments do not ons to bottom flanges of steel beams	Descrip of Use	tion Str psj	ength Agg Size	Max Air w/c Conter	Exposure Notes It Class	432	wires spaced 16 inches on center vert:	ically.
ot, 1) where specifically shown on the 2) special bracing is provided by the	ACIP Pi Grade B	.les 500 Beams, 400)0)0 1 "	0.55 4.5%	 5 F1	4.012	intersections.	
to transfer lateral reactions to the	Pilast Foundat Structu	:ers, :ion Walls .ral Beams 400)O 1"	0.45		4.3.3	Lap horizontal wires at least 8" at s	plices.
ATED EARTHWORK	and Sl Slab on	labs 1 Steel (350	3/4"	0.45		4.3.4	Reinforcing bars shall conform to AST	M A615 Grade 60.
nd structural components in contact with endations given in the following:	Compos Houseke Light P	ite Deck eping Pads 300 Pole Base 500)0 3/4")0 1"	 0.45 5%	 F2	4.3.5	Bar reinforcing shall be lapped at spi typical details. Stagger splices in a least 4'-0".	lices per schedule in djacent horizontal bars at
: UES Professional Solutions	Exterio	or Slabs 500	0 3/4"	0.40 5%	F3	4.3.6	Vertical reinforcing in cells to be g	routed shall be placed usin
: A251017 : April 10, 2025	SECTION 3.4- COM	NCRETE SLABS				4.3.7	fabricated bar positioners to maintain Grout solid cells below adjacent grad	n location within cell. e or finish floor elevation
al Report for subgrade conditions that may oundation installation and site	3.4.1 Slab Pl Locatic	.aced on Carton Fc ວກ Thi	orm Lokness	Reinforcing			and cells with vertical or horizontal	bar reinforcement.
SLABS	Typical	. 8 ir	iches UNO F	Per details (a)	STRUCTUF 4.3.8	AL WALLS Typical wall reinforcing for load-bea is noted in structural wall elevations	ring, structural CMU walls s.
drainage and waterproofing requirements olumbing drawings and recommendations of	a) Rein deta	ıforcement shall k ails unless shown)e placed in a otherwise.	accordance wi	th typical.	NON-STRU	JCTURAL WALLS	
	3.4.2 Slabs c	on Composite Steel	Deck			4.3.9	Unless shown otherwise on plans or de walls not shown in the structural draw	tails, reinforcing for CMU wings shall be as follows:
on systems is not included in Structural technical Report for requirements.	Type Mark	Overall Typ S Thickness Rein1	3lab	Notes/ Addl Top	Reinf		Wall Thickness Vert Reinf	Dowels Max Heigh
8	CA	6.5" WWR 6	3x6-W2.5xW2.5	#5(10-0)@	12 over girders		6 inches 1 #4 @ 48 max 1 #4() 8 inches 1 #5 @ 48 max 1 #5()	0-10/4-0) @ 48 max 18' - 0 0-10/4-0) @ 48 max 24' - 0
: NA ation : 15'-0"	Notes: 1. See	e typical details	for reinforc	ing placemen	t and		Notes: a) Align and lap dowels with vert	ical wall reinforcing.
es Only) ng : O psf below 30 ft penet ion : 1200 psf at 15 - 25 ft	ado int (2) Sla	litional reinforci terior beams orie ab types correspo	ing over girde ited parallel nd to deck ty	ers. "Girder: to deck. pe (see Compo	s" refers to osite Steel		 b) At wall openings, see wall ope typical details for reinforcin c) Post-installed dowels are acce 	ning reinforcing schedule i g of jambs and lintels. ptable at non-structural CM
1500 psf at 25 - 35 ft ion : 1500 psf	Dec	sk).	5.			4 0 40	Drill & embed dowels 9 bar dia	meters minimum with adhesiv
ion : 1000 psf at 15 - 25 ft 1200 psf at 25 - 35 ft	Pad Thi Pad Rei	ckness: 4. nforcing: WW	0 inches F6x6-W2.1xW2.	1		4.3.10	each side of a control joint with 1 ve CMU walls or 2 vertical bars for 12-in	ertical bar for 6- or 8-inc nch CMU walls. Jambs
re for bidding purposes only. Actual pier ng on depth to bearing stratum.	Pad Thi Pad Rei	nforcing: WW	F6x6-W3.5xW3.	5			reinforced per applicable details.	sonry are to be grouted and
of piers ("mushrooms") to the	Reinfor mechani and thi	cing shall be cent cal drawings for ckness required a	tered in the pad locations	pad. Refer , plan dimen	to sions	4.3.11	Install single course depth bond beam horizontal bar at the top of CMU walls	with at least one s.
	3.4.4 Slabs o	on Geofoam				SECTION 4.4.1	4.4- CONTROL JOINTS Do not locate vertical control joints	in CMU walls through an
ntil lateral bracing structures	Loc Bai	ation Thickn	ess Re ches #	einforcing 3 @ 12 FW			opening or within the jamb or lintel l opening. Control joints must be vertic	bearing adjacent to an cal from the wall foundatio
th.	8	Ramps				4.4.2	See plans for control joint locations	in load-bearing CMU walls.
er below grade walls over 3 ft until ng structure at top of each wall is L has attained specified design strength. ed until permanent lateral bracing	a) b)	EPS Geofoam Insul requirements of base slab and t	all be centere Lation shall A ASTM D6817. o one another	ed in slab. be type EPS1 Geofoam bloc with a non-	5 meeting the ks to be adhered to solvent based	SECTION 4.5.1	4.5- REQUIRED SUBMITTALS Prior to construction, contractor is layout and fabrication drawings for re	to submit CMU reinforcing eview. Submittal shall
specified design strength.		adhesive.					contain the following information: a) CMU wall thickness b) Material properties	
	3.5.1 Drill h	loles with rotary	impact hammer	r drill using	y carbide tipped		c) Plans and wall elevations that details, openings, beam pocket	show wall reinforcing s, and lintels
retained void spaces between	bits. D anchor)rill bits shall b manufacturer. All	e of the diam holes shall	neter as spec be drilled p	ified by the perpendicular to	OFOTION	d) Control joint locations	
rs 12"	3.5.2 Embedde	ed items: Identify	y position of	reinforcing	steel and other	SECTION	5.1- STRUCTURAL FRAME	
12"	embedde in dril	d items prior to	drilling hole naging existir	es for anchor ng reinforcir	rs. Exercise care ng or embedded	5.1.1	Structural Steel Properties:	ACTN ACCO Crada 50
dation element.	items a necessa	ary to avoid damaç	iring drillinç jing electric:	g. Take preca	nutions as mmunications		Use for W Shapes and WT's Structural Steel (Normal Strength)	ASTM A36
he deformed Strength of bars shall be	conduit	:, and gas lines.	Unless other	wise specific	d do not drill		Use for Angles, Channels, and Plates Steel Pipes Hollow Structural Sections (HSS)	s, UNO ASTM A53, Grade B ASTM A500 Grade C
70 ksi	holes i achieve	In concrete or mas d full design str	sonry until co rength. Do not	oncrete, mort t install adh	ear, or grout has nesive anchors in		Erection Bolts High Strength Bolts	ASTM A307 ASTM F3125, A325N UNO
Grade 60	concret require	∴e that is placed ∍ment)	less than 21	days prior.	(from ACI 318		Anchor Rods	ASTM F3125, A490N where shown in drawings ASTM F1554 Gr. 36 UNO
abs shall be spliced at midspan s noted otherwise.	TESTING 3.5.4 Continu	lous special inspe	ction is requ	uired for adh	esive anchors.		High Strength Anchor Rods	ASTM F1554 Gr. 105 where shown in drawings
in beams or slabs shall be spliced at otherwise.	Remove fill em high-st	and replace mispl npty anchor holes trength nonshrink	aced or mait. and patch fai nonmetallic	inctioning ar iled anchor] grout. Ancho	ichors. Clean and ocations with ors that fail to		Headed Stud Anchors	ASIM A29 Gr. 1010-1020, Type B
shall be spliced at top of concrete	meet pr regarde	•oof load or insta ed as malfunctioni	ເllation torqu Ing.	ue requiremer	its shall be	5.1.2	Continuity Plates (Full Depth column s flanges, or Full Depth beam stiffeners	stiffeners aligned with bea s aligned with column
ted otherwise.	EXPANSION, UNDE 3.5.5 Concret	RCUT, SCREW AND A te base material:	DHESIVE ANCHO provide anch	RS ors of size a	und type shown	WELDING	Tlanges) shall match the steel grade (ot the base member.
liameters at splices of slab-on-grade and ge reinforcing unless noted or detailed	with IC	C-ES or IAPMO-UES	; compliance r	required		5.1.3	Unless otherwise noted, angles, plates framing shall be welded at contact jos	s, rods, and miscellaneous ints and supports. Weld
shall be calculated in accordance with ACI	Expansi Undercu	.on Anchors: Hil ut Anchors: Hil	ti KWIK BOIt Lti HDA Under	cut Anchors (ICC-ES ESR-1546)		otherwise.	ums, except where noted
s unless noted otherwise.	Screw A	Anchors: Hi]	∟ti Kwik HUS-F	EZ (ICC-ES ES	SR-3027)	5.1.4	Where fillet weld sizes are not indica size shall be 1/16th inch smaller than materials being joined	ated on weld symbols, fille n thickness of thinner of
wires of each fabric sheet, shall be at oss wires plus 2 inches, but in no case	Adhesiv	ve Anchors: Hil	ti HIT-HY 200. (ICC-ES ESR-) Safe Set Sy 3187) for us	vstem e with Hilti	5.1.5	Complete penetration welds are indica	ted by notation "CJP" on
		HIT Hi]	-Z Rod, HAS-E ti HIT-RE 500 (ICC-ES ESR-	E Rod, & Holl D-V3 Safe Set 3814) for us	ow Drill Bit System e with Hilti	STRUCTU	weld symbols, partial penetration by	"PJP".
concrete to face of reinforcing:		HAS Rou	Fighening Tool	ow Drill Bit	& Hilti	5.1.6	Bolts indicated on details shall be 3 noted otherwise.	/4 inch diameter, unless
3/4" interior,1 1/2", exterior exposure	3.5.6 Grout f	Hil ۶illed CMU (Concré	.ст нті HY-200 ete Masonrv Ur	ווטט-ES ESF nit) base mat	י סוטי) erial: provide	5.1.7	Bolts shall be tightened by the AISC noted otherwise.	"Snug Tight" method unless
apply unless noted otherwise in details	anchors complia	; of size and type ance required	shown with J	ICC-ES or IAF	PMO-UES	MISCELLA	ANEOUS	nd roofs shall be continued
	Screw A	Anchors: Hi]	.ti Kwik HUS F	EZ (ICC-ES ES	GR-3056)	5.1.8	and spliced per typical details.	HA FOULS SHALL DE CONTINUOU
	Adhesiv INSTALLATION	'e Anchors: Hil	ti HIT-HY 270.	D (ICC-ES ESF	8-4143)	5.1.9	Unless noted otherwise, steel members at exterior conditions. Field welds to with ASTM A780.	shall be hot dip galvanize o be repaired in accordance
	3.5.7 Perform printed	ו anchor installat ו installation in:	ion in accord tructions (MI	dance with ma PII).	unufacturer's	COMPOSIT	TE STEEL BEAMS	
	3.5.8 Protect	: threads from dan	age during ar	nchor install	ation.	5.1.10	Beams snall nave shear studs spaced a unless specifically indicated to have	t 2 teet maximum on center, zero studs.
	3.5.9 Contrac to prov	tor to arrange fo ide installation	or a manufactu training for	urer's field all products	representative to be used	5.1.11	Composite steel beams do not require s concrete slab, unless noted otherwise	shoring during placement of
	prior t perform shall b	i post-installed a post-installed a be kept on site ar	אסיה. טווע t nchor instal! d made avail:	lation. A rec able upon rec	cord of training uest.			

3.5.10 Adhesive anchors installed horizontally or upwardly inclined shall be qualified in accordance with ACI 355 4 requirements for in 5.3.4 ve. ich

SHEAR STUDS

5.1.12 Shear studs shall be fusion-welded, headed studs of high strength steel.

5.1.13 Unless noted otherwise, studs shall have a shank diameter of 3/4inch. See details for length of studs measured after welding. SECTION 5.2- STEEL JOISTS

5.2.1 Joist Legend:

22K6 - SJI K-SERIES JOIST. 24LH8 - SJI LH-SERIES JOIST.

22KSP - SPECIAL DESIGN FOR SPECIFIED LOADING. 5.2.2 Unless noted or detailed otherwise, typical seat depths shall be: K or KCS Series - 2-1/2 inches

LH or DLH Series - 5 inches 5.2.3 Joists shall be designed for concentrated dead or live load in addition to required uniform dead and live loads,

as follows at top and bottom chords: Joists: 250 lb. placed at any panel point.

5.2.4 Design joists supporting mechanical units to support a concentrated load equal to 60% of the weight shown on plan at any joist panel point. Design joists supporting more than one mechanical unit to support a concentrated load equal to 60% of the sum of the weights shown on plan at any joist panel point. These concentrated loads are in addition to the loads noted above.

5.2.5 See loading diagram for net uplift requirements due to wind load.

5.2.6 Joist loads shown on drawings are nominal Loads per building code and have not been multiplied by ASD (Allowable) nor LRFD (Strength) load multipliers unless specifically noted otherwise.

5.2.7 Deflection shall not exceed L/240 for total load or L/360 for short term loads (live, snow, or wind).

SECTION 5.3- COMPOSITE STEEL DECK

ng 5.3.1 Basis of design assumes the deck is continuous over three spans. Contractor shall review deck properties at conditions that do not meet this assumption.

- 5.3.2 Contractor shall provide composite metal decking to meet the following criteria: 1. Decking alone shall be capable of supporting the wet
 - weight of concrete plus construction loads without requiring intermediate shoring for all span conditions on the project, unless noted otherwise. 2. Composite slab and deck system shall be capable of
 - supporting design loads indicated on the drawings for all span conditions on the project.
 - 3. Deck thickness, indicated by gage in Composite Steel Deck Schedule, is a minimum and shall be increased as necessary to meet these requirements, at no additional cost to the Contract.
- 5.3.3 Composite Steel Deck Schedule: a. See framing plans for location of deck types. b. Deck yield strength: Fy = 40 ksi minimum
- Type Deck Minimum Minimum Minimum Minimum Minimum Mark Height Gage Ip-in4 In-in4 Sp-in3 Sn-in3 -----CA 3.0" 20 .921 .931 .524 .573
- 5.3.5 Composite floor system minimum load capacity requirements: Superimposed Concentrated Туре Uniform Load (psf) Load (lbs) * CA 353 psf (8' - 6" span) See Section 1 *Concentrated load acting on area 2.5 ft x 2.5 ft; not acting
- simultaneously with uniform load. 5.3.6 See technical specifications for composite deck connection to
- supporting structure.

on SECTION 5.5- STEEL ROOF DECK

5.5.1	Steel a. S b. T	Roof ee fr ypica	Deck Sc aming pl l deck y	hedule: ans for ield str	locatio ength:	n of de Fy = 40	ck type ksi mi	s. nimum	
	Deck Type Mark	Deck Gage	SDI Profile	Deck Height	Min. Ip in4	Min. In in4	Min. Sp in4	Min. Sn in3	Deck Finish
	RA RB	22 20	WR DR	1.5" 3.0"	.147 .725	.170 .946	.171 .464	.179 .506	G-60 G-60
5.5.2	Steel	Roof	Deck Co	nnection	Schedu	1e:			

5.5.2 Steel Roof Deck Connection Schedule: a. Shear Capacity listed is allowable (0.6W, 0.7E) and is considered acting in combination with wind uplift pressures. b. W/N = sheet width/no. connections each sheet. c. Deck Connections are noted on Plans.

Conn Type Mark	Conn @ Supports (W/N)	Parallel Edges (In)	Sidelap Conn No./Span	Reqd Shear Capacity (PLF)
I	24/4	8	7	336 @ 10'-0" span
II	36/7	6	4	457 @ 6'-0" span

5.5.3 Support and parallel edge connections shall be 5/8" visible diameter arc spot welds. Sidelap connections shall be no. 10 hex head screws.

SECTION 6 - DEFERRED APPROVALS

6.1.1 The following items require deferred approval from the enforcement agency. See specifications for additional

design services to be provided by Contractor.

- 1. Cold formed metal framing 2. Stairs and railings
- 3. Steel connection design 4. Pre-engineered Metal Building (PEMB)
- 6.1.2 The design of the above items is by the Contractor/Manufacturer. Contractor/Manufacturer must prepare all necessary calculations and drawings per the Building Code of Jurisdiction under the supervision of a Structural Engineer, registered in the state in which the project is located, and obtain all necessary plan check approvals from the enforcement agency.

let 6.1.3 Fabrication and installation of the above items shall not be started until detailed plans, specifications and engineering calculations have been accepted and signed by the Architect or Structural Engineer of Record and the signature of the Architect or Professional Engineer who has been delegated responsibility covering the work shown on a particular plan or specification, and approved by the enforcement agency.

6.1.4 Submittal documents for deferred items shall be submitted to the registered design professional in responsible charge, who shall review them and forward them to the building official with a notation indicating that the deferred documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred items shall NOT be installed until their design and submittal documents have been approved by the building official.

Notes continue on S1.2





Date:

04/22/2025





FOUNDATION PLAN NOTES

1. SEE PLAN FOR TOP OF CURB ELEVATION (RELATIVE TO DATUM 100'-0").

2. SHEET INDEX: GENERAL NOTES S1.1 TYPICAL CONC DETAILS S3.1, S3.2 PIER SCHEDULE STEEL COLUMN SCHEDULE VERTICAL BRACES

S3.1 S5.1 S6.1



(north)



 3333 Lee Parkway, Suite 300 • Dailas, 1 x 75219

 LAFP PROJ. NO. 24081

 FIRM REG. NO.

 F-537



OF METAL PANEL SIDING. X-BRACING NOT PERMITTED TO EXTEND BELOW BOTTOM OF METAL PANEL.



PEMB PLAN NOTES

- -----1. PEMB SUPPLIER SHALL BE RESPONSIBLE FOR THE ENTIRE DESIGN OF THE STEEL SUPERSTRUCTURE INCLUDING FLOORS ABOVE GRADE, ROOFING SUPPORT, FASCIAS, FACADE SUPPORT, ANCHOR BOLT LAYOUT & DESIGN, TEMPORARY BRACING, LATERAL
- ANALYSIS AND RELATED WORK. 2. REFER TO INCLUDED STRUCTURAL NARRATIVE FOR ADDITIONAL INFORMATION REGARDING PEMB DESIGN CRITERIA.





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LAFP PROJ. NO. 24081 FIRM REG. NO. F-537



FOUNDATION PLAN - AREA B

FOUNDATION PLAN NOTES

1/8" = 1'-0"

- -----1. FINISH FLOOR ELEVATION IS SHOWN ON PLAN (RELATIVE TO DATUM 100'-0").
- 2. TOP OF CONCRETE SLAB IS FINISH FLOOR UNLESS SHOWN OTHERWISE.
- 3. SHEET INDEX: GENERAL NOTES GENERAL NOTESS1.1TYPICAL CONC DETAILSS3.1, S3.2PIER SCHEDULES3.1 STEEL COLUMN SCHEDULE S5.1 VERTICAL BRACES S6.1
- TYPICAL CONCRETE SLAB THICKNESS IS 8" (OVERALL) UNLESS NOTED OTHERWISE.
- 5. BRICK LEDGE ELEVATION IS 8" BELOW FINISH FLOOR UNLESS SHOWN OTHERWISE.
- 6. TOP AND BOTTOM REINFORCING IN FLAT SLAB SHALL BE PLACED IN PROPER SEQUENCE - SEE SLAB REINFORCEMENT PLANS AND DETAIL.





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LEVEL 2 FRAMING PLAN - AREA B 1/8" = 1'-0"

- LEVEL 2 FRAMING PLAN NOTES
- 1. FINISH FLOOR ELEVATION IS SHOWN ON PLAN (RELATIVE TO DATUM 100'-0").
- 2. TOP OF CONCRETE SLAB IS FINISH FLOOR UNLESS SHOWN OTHERWISE.
- 3. SHEET INDEX: GENERAL NOTES S1.1 STEEL COLUMN SCHEDULE \$5.1 MASONRY TYPICAL DETAILS S4.1, S4.2 MASONRY WALL ELEVATIONS S4.3, S4.4, S4.5, S4.6, S4.7 STEEL TYPICAL DETAILS S5.1, S5.2, S5.3
- 4. UNLESS SHOWN OTHERWISE, STEEL BEAMS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES AND WALLS.
- 5. NUMBER OF SHEAR STUDS IS NOTED IN PARENTHESES () ADJACENT TO BEAM SIZES. SEE TYPICAL DETAILS FOR LAYOUT REQUIREMENTS OF STUDS.

ROOF PLAN NOTES

- 1. TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. SEE TOP OF STEEL ELEVATIONS NOTED ON FRAMING PLANS, SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES AND WALLS UNO.
- 2. TOP OF STEEL ELEVATIONS SHOWN ON PLAN ARE BOTTOM OF ROOF DECK (TOP OF BEAM OR JOIST). ELEVATIONS ARE SHOWN RELATIVE TO DATUM 100'-0" UNO. SEE GENERAL NOTES FOR MORE INFO.
- 3. UNLESS NOTED OTHERWISE, STEEL JOISTS/BEAMS SHALL BE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES.
- 4. JOISTS SUPPORTING MECHANICAL EQUIPMENT SHALL BE DESIGNED FOR TYPICAL ROOF LOADING PLUS A CONCENTRATED LOAD OF 60% OF INDICATED EQUIPMENT WEIGHT PLACED AT ANY PANEL POINT.
- 5. ADDITIONAL LOADS FOR ROOF JOISTS ARE ALSO SPECIFICED IN THE STRUCTURAL DETAILS AND ARE IN ADDITION TO THE DESIGN LOADS AND ANY ADDITIONAL LOADS NOTED ON THE STRUCTURAL FRAMING PLANS.
- 6. SEE S1.5 FOR COMPONENTS AND CLADDING WIND PRESSURES, INCLUDING JOIST NET UPLIFT DESIGN REQUIREMENTS



(north)



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FOUNDATION PLAN - AREA C

1/8" = 1'-0" FOUNDATION PLAN NOTES

- 1. FINISH FLOOR ELEVATION IS SHOWN ON PLAN (RELATIVE TO DATUM 100'-0").
- 2. TOP OF CONCRETE SLAB IS FINISH FLOOR UNLESS
- SHOWN OTHERWISE. 3. SHEET INDEX:

SHEET INDEX:	
GENERAL NOTES	S1.1
TYPICAL CONC DETAILS	S3.1, S3.2
PIER SCHEDULE	S3.1
STEEL COLUMN SCHEDULE	S5.1

- STEEL COLUMN SCHEDUL S5.1 S6.1 VERTICAL BRACES TYPICAL CONCRETE SLAB THICKNESS IS 8" (OVERALL) UNLESS NOTED OTHERWISE.
- 5. BRICK LEDGE ELEVATION IS 8" BELOW FINISH FLOOR
- UNLESS SHOWN OTHERWISE.
- 6. TOP AND BOTTOM REINFORCING IN FLAT SLAB SHALL BE PLACED IN PROPER SEQUENCE - SEE SLAB REINFORCEMENT PLANS AND DETAIL.

D />

FOUNDATION PLAN NOTES

FINISH FLOOR ELEVATION IS SHOWN ON PLAN (RELATIVE TO DATUM 100'-0").

2. TOP OF CONCRETE SLAB IS FINISH FLOOR UNLESS SHOWN OTHERWISE.

3. SHEET INDEX: GENERAL NOTES TYPICAL CONC DETAILS S3.1, S3.2 PIER SCHEDULE STEEL COLUMN SCHEDULE \$5.1

S1.1 S3.1 VERTICAL BRACES S6.1

- TYPICAL CONCRETE SLAB THICKNESS IS 8" (OVERALL) UNLESS NOTED OTHERWISE.
- 5. BRICK LEDGE ELEVATION IS 8" BELOW FINISH FLOOR UNLESS SHOWN OTHERWISE.
- 6. TOP AND BOTTOM REINFORCING IN FLAT SLAB SHALL BE PLACED IN PROPER SEQUENCE SEE SLAB REINFORCEMENT PLANS AND DETAIL.

D F <u>KEY PLAN</u> L.A. FUESS PARTNERS, INC. Structural Engineers 3333 Lee Parkway, Suite 300 • Dallas, TX 75219
 3333 Lee Parkway, Suite 500 • Dailas, 1 A 7 3217

 LAFP PROJ. NO. 24081

 FIRM REG. NO.

 F-537

RS. ING	С.
,	
allas, TX 75	219
EG. NO.	F-537

Date: 04/22/2025

ADDL (4) #5 ST @ 3" MAX

> 16 3/4" = 1'-0"

3/4" = 1'-0"

^

3/4" = 1'-0"

LARGE OPENING IN GRADE BEAM

RS, IN	1C.
allas, TX 7	75219
EG. NO.	F-537

MASONRY	SPLICE	SCHEDU	JLE -	GRADE	60

fm	1900 -	2000 PSI	2500) PSI
BAR SIZE	HORIZ OR EDGE VERT	CENTER VERT	HORIZ OR EDGE VERT	CENTER VERT
#4	24"	16"	20"	14"
#5	36"	24"	32"	22"
#6	54"	45"	54"	40"
#7	64"	62"	64"	54"
#8	72"	72"	72"	72"

CMU LINTEL SCHEDULE							
WALL THICKNESS	MAX OPENING	LINTEL DEPTH	TOP REINF	BOT REINF			
	3' - 4"	8"	NONE	1 #4			
6"	6' - 8"	16"	1 #4	1 #4			
	8' - 8"	24"	1 #4	1 #4			
	3' - 4"	8"	NONE	2 #4			
01	6' - 8"	16"	2 #4	2 #4			
8	10' - 0"	24"	2 #4	2 #4			
	12' - 8"	32"	2 #5	2 #5			
	3' - 4"	8"	NONE	2 #4			
12"	6' - 8"	16"	2 #4	2 #4			
	10' - 0"	24"	2 #4	2 #4			
	12' - 8"	24"	2 #5	2 #5			
	16' - 0"	32"	2 #6	2 #6			

MASONRY WALL BRACING NOTES:

- 1. CLEAR GAPS INDICATED BETWEEN TOP OF WALLS AND STRUCTURE ARE TO BE FILLED (COMPRESSIBLE FILLER, ETC.) AS INDICATED ON ARCHITÈCTURAL DRAWINGS.
- 2. WHERE WALLS ARE ORIENTED SKEWED TO FRAMING, USE PARALLEL AND PERPENDICULAR DETAILS IN COMBINATION TO PROVIDE BRACING CONNECTIONS AT MAXIMUM SPACING INDICATED.
- 3. AT FREE ENDS OF WALLS, LOCATE FIRST BRACE WITHIN 5 FT OF END OF WALL.
- 4. CORNERS AND TEES WITH MINIMUM 5 FT LONG INTERSECTING WALLS CAN BE CONSIDERED BRACED POINTS. HORIZONTAL RUNS OF WALL 10 FT LONG AND LESS WITH INTERSECTIONS ON BOTH ENDS DO NOT REQUIRE BRACING.
- 5. REFER TO SHEET ARCHITECTURAL DRAWINGS FOR LAYOUT AND DEFINITION OF WALLS THAT EXTEND TO DECK.

LAFP PROJ. NO. 24081 FIRM REG. NO. F-53

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WELD SIZE TABLE					
FLANGE T (SMALLEST)	EFFECTIVE THROAT (E)				
1/2" < T _< 3/4"	1/4"				
3/4" < T _< 1 1/2"	5/16"				
1 1/2" < T _< 2 1/4"	3/8"				
2 1/4" < T <u></u> 6"	1/2"				
NOTE: PROVIDE A LAND WIDTH OF 1/4" OR GREATER FOR PJP FLANGE WELDS					

NOTES: 1. THIS TYPICAL DETAIL APPLIES TO COLUMNS WITH DEPTHS THAT ARE NOMINALLY THE SAME. 2. THIS TYPICAL DETAIL APPLIES TO GRAVITY COLUMNS ONLY. SEE OTHER TYPICAL DETAILS FOR SPLICES IN MOMENT FRAMES AND BRACED FRAMES. 3. THE SPLICING OPTION DEPICTED IN THIS TYPICAL DETAIL IS PRE-APPROVED FOR USE ON THIS PROJECT. THE FABRICATOR MAY SUBMIT ALTERNATE MEANS OF SPLICING FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

WF COLUMN SPLICES (GRAVITY COLUMNS) 1 **TYPICAL DETAIL** NO SCALE TD05140

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RS, IN	IC.
allas, TX 7	75219
EG. NO.	F-537

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SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF PORCHES, RAMPS, VESTIBULE, SLOPED PAVING, TRUCK DOCKS, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

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1 05-07-2025 ADD-1

NEW GYP. BOARD AT CORRIDOR SIDE OF WALL. PREPARE WALL TO	M18. REMOVE EXISTING TOILET ACCESSORIES. PATCH WALL AS REQ'D.
W14. REMOVE EXTERIOR MASONRY VENEER AND SUBSTRATE FROM EXISTING METAL STUD WALL. PREPARE FOR NEW SUBSTRATE AND MASONRY AS SHOWN.	M19. REMOVE EXISTING HVAC UNIT. CAP OFF W/ NEW SHEET MTL & INSULATE OPENING. M20. REMOVE EXISTING HVAC UNIT & CURB, INFILL OPENING W/ NEW
W15. REMOVE EXISTING PARTITION (SHOWN DASHED, TYPICAL), INCLUDING BASE, DOORS, WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE PARTITION CONTRACTOR SHAIL VEREY ELECTRICAL	METAL DECK & NEW RIGID INSUL TO MATCH EXISTING ROOF TO FLUSH W/ EXISTING. PROVIDE ADDITIONAL SUPPORT STRUCTURE PER STRUCTURAL.
MECHANICAL, AND PLUMBING IN EXISTING AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT WALLS AND PARTITIONS AND PREPARE TO RECEIVE NEW AS SHOWN ON PLANS.	INCLUDING BASE, DOORS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL PARTITION. CONTRACTOR SHALL VERIFY ELECTRICAL, MECHANICAL, AND PLUMBING IN EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK PATCH, REPAIR, AND CLEAN ALL
W16. SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING WALL. PREPARE OPENING TO RECEIVE NEW DOOR, FRAME, AND HARDWARE AS SCHEDULED.	ADJACENT WALLS AND PREPARE TO RECEIVE NEW SOUND ISOLATION ROOMS AS SHOWN ON PLANS.
W17, SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING	<u>PLUMBING</u>
WALL. PREPARE OPENING TO RECEIVE NEW LINTEL AND FINISHES AS SPECIFIED.	P1. REMOVE EXISTING PLUMBING FIXTURES, BRACKETS, AND ACCESSORIES. TERMINATE OR RELOCATE UTILITIES AS REQUIRED. REF. PLUMBING.
W18. REMOVE EXISTING CERAMIC TILE AND BACKING LAYER OF GYP. BOARD. REPLACE GYP. BD. WITH NEW GYP. BD. (TILE BACKER BD. AT NEW TILE FINISH) TO CREATE LEVEL WALL WITH ANY ADJACENT EXISTING GYP. WALL BOARD AND PREPARE FOR NEW	P2. REMOVE EXISTING PLUMBING FIXTURES AND REPLACE WITH NEW FIXTURES IN THE SAME LOCATION. REF. PLUMBING.
FINISHES AS SCHEDULED.	P3. REMOVE EXISTING PLUMBING FIXTURE, TO BE REPLACED W/ NEW
W19. PILASTER TO REMAIN.	
CEILINGS	
C1. REMOVE EXISTING CEILING GRID, TILE, GRILLES, DIFFUSERS, LIGHTING, EQUIPMENT, DEVICES, AND ALL OTHER ITEMS	R1. REMOVE PORTION OF EXISTING ROOF, DECK, WALKWAY COVER, AND/ OR CANOPY AND PREPARE ADJACENT AREAS FOR NEW CONSTRUCTION AS SHOWN.
TRIM WHEREVER IT OCCURS. PREPARE ADJACENT WALLS TO RECEIVE NEW CEILING AS SHOWN ON REFLECTED CEILING PLANS. REF. ELEC.	R2. REMOVE PORTION OF EXISTING ROOF COVER AND INSULATION. PREPARE TO RECEIVE NEW ROOF WITH NEW WORK.
C2. REMOVE EXISTING PLASTER CEILING SYSTEM AND ASSOCIATED TRIMS, FRAMING, HANGERS, AND HARDWARE, LIGHTING, AND ALL	R.3 REMOVE COPING, AND DAMAGED BLOCKING TO PREPARE FOR NEW WORK. PROTECT AND PRESERVE UNDAMAGED FLASHING, ROOFING MEMBRANE, AND BLOCKING. COORDINATE WITH NEW WORK.
ADJACENT WALLS TO RECEIVE NEW CEILING AS SHOWN ON	STRUCTURAL
C3. REMOVE EXISTING ACOUSTICAL CEILING. REMOVE LIGHTING, EQUIPMENT, DEVICES, AND OTHER ITEMS ATTACHED TO CEILING.	S1. REMOVE EXISTING CONCRETE COLUMN. REF. STRUCTURAL DRAWINGS FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.
C4. REMOVE EXISTING CELLULOSE FIREPROOFING AT DECK & STRUCTURAL FRAMING. POWER WASH REMOVAL IS ACCEPTABLE.	S2. SAW CUT EXISTING CONCRETE SLAB. REF. STRUCTURAL PLANS FOR EXTENTS AND DETAILS.
C5. REMOVE EXISTING WOOD PANEL CEILING CLOUDS. PROTECT & STORE FOR REINSTALLATION.	S3. REMOVE EXISTING STEEL COLUMN. REF. STRUCTURAL DRAWINGS FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.

SHEET MTL & ENING W/ NEW ROOF TO FLUSH URE PER

M17. REMOVE EXISTING FOLDING PANEL PARTITION M18. REMOVE EXISTING TOILET ACCESSORIES. PATCH WALL AS REQ'D.

M16. REMOVE EXISTING LOCKER BASE, LOCKERS & BENCHES

M14. REMOVE EXISTING METAL LOCKERS M15. REMOVE & RELOCATE EXISTING METAL LOCKERS, REF PLAN

M12. REMOVE EXISTING ELECTRICAL SERVICE M13. REMOVE EXISTING THEATRICAL RIGGING, SOUND, LIGHTING EQUIP & SPEAKERS LOCATED WITHIN STAGE AREA

M11. REMOVE EXISTING MILLWORK, CABINETS AND OR BRACKETS

M10. REMOVE EXISTING MARKERBOARD OR TACKBOARD. RELOCATE TO NEW LOCATION, REF. PLANS

NEW CONSTRUCTION AS SHOWN. M9. REMOVE EXISTING MASONRY PLANTERS

M7. REMOVE EXISTING CHAIN LINK FENCE PARTITION M8. REMOVE EXISTING HANDRAILS AND PREPARE ADJACENT AREAS FOR

OWNER.

M6. REMOVE EXISTING WIRE MESH PARTITIONS AND DELIVER TO

M4. REMOVE EXISTING COLUMN COVERS AND DELIVER TO OWNER. M5. REMOVE EXISTING CONCRETE STAIRS OR RAMP AND ASSOCIATED HANDRAILS AND PREPARE ADJACENT AREAS FOR NEW CONSTRUCTION AS SHOWN.

M3. REMOVE EXISTING LOCKERS AND DELIVER TO OWNER.

M2. REMOVE EXISTING TOILET PARTITIONS AND ALL ASSOCIATED EQUIPMENT, ACCESSORIES, AND HARDWARE IN THEIR ENTIRETY AND DELIVER TO OWNER.

M1. REMOVE AND DISPOSE OF EXISTING CASEWORK AND ACCESSORIES.

MISCELLANEOUS

D11. REMOVE EXISTING WINDOW, SAW CUT WALL BELOW FOR INSTALLATION OF NEW DOOR

D10. REMOVE EXISTING ALUM STOREFRONT SYSTEM OR CURTAIN WALL SYSTEM, GLAZING, GASKETS, HARDWARE, AND ASSOCIATED BRACING.

NEW HARDWARE. D9. REMOVE EXISTING WINDOWS.

OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS. D8. REMOVE EXISTING DOOR FRAME. SALVAGE DOOR & PREP DOOR FOR

D7. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE,

D6. REMOVE EXISTING DOOR, INFILL HINGE LOCATIONS TO A SMOOTH FINISH, AND PREP FOR PAINTING.

D5. REMOVE EXISTING DOOR, FRAME, AND ASSOCIATED HARDWARE.

D4. REMOVE EXISTING DOOR (FRAME TO REMAIN, PREP FOR PAINTING AND NEW HARDWARE).

D3. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE, OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS. PREPARE WALL FOR NEW FINISH.

D2. REMOVE EXISTING DOOR AND/OR WINDOW AND FRAME (SHOWN DASHED, TYPICAL). PATCH, REPAIR AND CLEAN OPENING AND PREPARE FOR NEW DOOR OR WINDOW AS SHOWN ON FLOOR PLANS.

PREPARE TO INFILL OPENING AS SHOWN ON FLOOR PLANS.

DOORS & WINDOWS D1. REMOVE EXISTING DOOR AND/OR WINDOW, FRAME, AND HARDWARE (SHOWN DASHED, TYPICAL). PATCH, REPAIR, AND CLEAN OPENING AND

C14. REMOVE EXISTING PLASTER CEILING / SOFFIT AND ASSOCIATED TRIMS, FRAMING HANGERS, AND HARDWARE

C13. REMOVE PORTION OF EXISTING CEILING SYSTEM FOR INSTALLATION OF ROOF DRAINS, REF PLUMBING.

CEILING TO MATCH EXISTING.

C12. REMOVE PORTION OF GYP BD CEILING AS REQ'D FOR INSTALLATION OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES. PATCH & TEXTURE

C11. REMOVE PORTION OF CEILING GRID AS REQ'D FOR INSTALLATION OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES.

C10. REMOVE EXISTING FURRDOWNS/BULKHEADS ABOVE.

C9. REMOVE EXISTING CEILING TILES IN ENTIRE ROOM AND/OR SPACE.

C8. REMOVE EXISTING LIGHTS (PULL WIRE BACK TO ELECT PANEL).

C7. REMOVE EXISTING LAY-IN CEILING GRID IN ENTIRE ROOM AND/OR SPACE. RETAIN LIGHTS, HVAC ETC. SUPPORT IN PLACE FOR REINSTALLATION IN NEW CEILING.

DIFFUSERS, CEILING-MOUNTED EQUIPMENT, AND CEILING-MOUNTED

C6. REMOVE EXISTING CEILING SYSTEM IN ENTIRE ROOM AND/OR

CONDITIONS, INCLUDING BUT NOT LIMITED TO EXISTING

DIMENSIONS, EQUIPMENT, LOCATIONS, SIZES, QUANTITIES, AND MATERIALS.

CEILINGS CONT-

COMPONENTS, OPERATIONAL MECHANISMS, ATTACHMENTS,

F1. REMOVE EXISTING TILE FLOORING & BASE DOWN TO EXISTING

SUBSTRATE. PATCH AND/OR REPAIR EXISTING SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

F2. REMOVE EXISTING CARPETED FLOORING & BASE DOWN TO EXISTING SUBSTRATE. PATCH AND/OR REPAIR EXISTING

SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW

F3. REMOVE EXISTING VCT FLOORING & BASE DOWN TO EXISTING

LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

OF NEW PLUMBING. REF PLUMBING DRAWINGS.

F6. SAW CUT & REMOVE EXISTING CONC RAMP

SHOWN - REF. STRUCTURAL DRAWINGS

ACCEPTABLE TO CUT THE BAR.

<u>WALLS</u>

THEREIN

INDICATED

OPFNING

INDICATED

ON PLANS.

UTILITIES THEREIN

REF PLAN FOR TYPE

SUBSTRATE. PATCH AND/OR REPAIR EXISTING SUBSTRATE. APPLY

F4. SAW CUT EXISTING FLOOR SLAB AS REQ'D. FOR INSTALLATION

F5. SHOT BLAST EXISTING CONC SURFACE FOR PREPARATION OF

F7. SAW CUT & REMOVE PORTION OF EXISTING CONC. SLAB AS

F8. SAW CUT & REMOVE EXISTING FLOOR & CONC SLAB - REMOVE GRADE BEAMS & PIERS TO A DEPTH OF 3'-0" BELOW PROPOSED

NEW GRADE AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.

F9. CORE EXISTING TWO-WAY CONCRETE SLAB OVER CRAWLSPACE

WITH THE MINIMUM DIAMETER CORE POSSIBLE, NOT TO EXCEED 8',

WHERE NEEDED FOR NEW SANITARY SEWER PIPING ONLY AFTER

USING A HILTI PS-200 FERROSCAN TO LOCATE EXISTING TOP AND

BOTTOM BARS IN THE SLAB AND CENTERING THE CORE BETWEEN

EXISTING BARS. IF IT IS CONSIDERED NECESSARY TO CUT

THROUGH ANY EXISTING REINFORCEMENT, THE CONTRACTOR

W1. REMOVE EXISTING GYP PARTITION, INCLUDING ANYTHING

CONTAINED WITHIN THE PARTITION. CAP OFF OR TERMINATE

W3. SAW CUT & REMOVE PORTION OF EXISTING MASONRY WALL

W4. CUT IN NEW DOOR/WINDOW OPENING IN EXISTING GYP WALL,

W5. SAW CUT EXISTING MASONRY WALL FOR NEW DOOR/WINDOW

W6. SAW CUT NEW RECTANGULAR HOLE THROUGH EXISTING WALL

W7. REMOVE EXISTING CERAMIC WALL TILE IN ENTIRE ROOM

W8. REMOVE PORTION OF EXISTING FACE BRICK FROM WALL AS

W9. REMOVE PORTION OF EXISTING CONC. TILT-WALL PANEL.

SHALL VERIFY ELECTRICAL, MECHANICAL, AND PLUMBING IN

CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT

W11. REMOVE PORTION OF EXISTING MASONRY WALL TO 1 1/2"

BELOW ADJACENT FINISH FLOOR LEVEL. HONE CUT SURFACE SMOOTH AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.

W12. REMOVE PORTION OF EXISTING EXTERIOR METAL STUD WALL

WITH MASONRY VENEER. SHORE AND BRACE AS REQUIRED AND

W13. REMOVE EXISTING INTERIOR WALL PANELING AND/OR

EXISTING VINYL WALL COVERING AND SUBSTRATE AND PROVIDE

PREPARE FOR NEW CONSTRUCTION AS SHOWN.

SHORE AND BRACE AND PREPARE FOR NEW CONSTRUCTION.

W10. REMOVE EXISTING EXTERIOR WALL, INCLUDING BASE, DOORS.

ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL. CONTRACTOR

EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR

WALLS AND PREPARE TO RECEIVE NEW CONSTRUCTION AS SHOWN

WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY

AND/OR SPACE & PREPARE EXISTING WALL FOR NEW TILE

FOR HVAC DUCT, REF. MECH. FOR DUCT SIZE

CONTAINED WITHIN THE PARTITION. CAP OFF / TERMINATE UTILITIES

W2. REMOVE EXISTING MASONRY PARTITION, INCLUDING ANYTHING

SHALL SUBMIT AN RFI ASKING FOR VERIFICATION THAT IT IS

HARDWARE E6. REMOVE EXIST FLAGPOLE & BASE, AND ASSOCIATED

HARDWARE, AND LIGHTING

SCHEDULED FINISH.

NEW SCHEDULED FINISH

FLOORS

ASSOCIATED COMPONENTS, TRIMS, ATTACHMENTS, AND

E5. REMOVE EXISTING CANOPY SYSTEM, CONC. FOUNDATION, AND

E4. REMOVE EXIST BRICK/CONC SCREEN WALL & FOUNDATION

E3. REMOVE EXISTING GUTTERS, DOWNSPOUTS & SPLASH BLOCKS

RETAINING WALL

WORK

EXTERIOR

E2. SAW CUT & REMOVE EXIST CONC LANDING / STEPS & RAILING &

E1. SAW CUT & REMOVE EXISTING CONC SIDEWALK, CURB OR FLAT

SPACE, INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, HVAC DEVICES.

PROJECT

EACH RESPECTIVE TRADE.

FOR PEDESTRIAN SAFETY.

REQUIRED FOR DEMOLITION.

CONDITION.

PROJECT.

DRAINAGE.

EXISTING H.V.A.C. SYSTEMS.

EXISTING ELECTRICAL POWER SERVING THE EXISTING FACILITY SHALL REMAIN ON LINE. DISRUPTIONS REQUIRED FOR

BY THE OWNER. PROVIDED IN THE SPECIFICATIONS. R. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO SEPARATE

CONDITIONS.

DEMOLITION GENERAL NOTES

DEMOLITION LEGEND

Q. DEMOLITION SHALL FOLLOW THE CONSTRUCTION SCHEDULE

STORE THE ITEMS AT THE SITE. THE OWNER MAY REMOVE RETAINED ITEMS FROM THE SITE OR, AS A PART OF THIS CONTRACT AND AT NO ADDITIONAL COST, IF REQUESTED BY OWNER, THE CONTRACTOR SHALL DELIVER OWNER-RETAINED ITEMS TO A LOCAL LOCATION SELECTED BY THE OWNER AND OFFLOAD AND PLACE THE ITEMS FOR STORAGE AS DIRECTED

2 DEMOLITION PLAN, AREA C, LEVEL 2 1/16" = 1'-0"

3 DEMOLITION PLAN, AREA C, ROOF 1/16" = 1'-0"

ACCEPTABLE TO CUT THE BAR.	D9. REMOVE EXISTING WINDOWS.	M. CONTRACTOR SHALL MAINTAIN
WALLS	D10. REMOVE EXISTING ALUM STOREFRONT SYSTEM OR CURTAIN WALL SYSTEM, GLAZING, GASKETS, HARDWARE, AND ASSOCIATED BRACING.	COMPONENTS DURING THE COU UNTIL NEW WORK IS IN PLACE A
W1. REMOVE EXISTING GYP PARTITION, INCLUDING ANYTHING CONTAINED WITHIN THE PARTITION. CAP OFF / TERMINATE UTILITIES THEREIN	D11. REMOVE EXISTING WINDOW, SAW CUT WALL BELOW FOR INSTALLATION OF NEW DOOR	INCLUDES, BUT IS NOT LIMITED T DRAINAGE.
W2. REMOVE EXISTING MASONRY PARTITION, INCLUDING ANYTHING CONTAINED WITHIN THE PARTITION. CAP OFF OR TERMINATE		N. REFER TO ROOF PLAN AND MEC PLUMBING, TECHNOLOGY AND A DRAWINGS FOR ADDITIONAL REP SPECIFICALLY COVERED BY ARC
W3. SAW CUT & REMOVE PORTION OF EXISTING MASONRY WALL	M1. REMOVE AND DISPOSE OF EXISTING CASEWORK AND ACCESSORIES. M2. REMOVE EXISTING TOILET PARTITIONS AND ALL ASSOCIATED	PLANS, ESPECIALLY WORK RELA EXISTING H.V.A.C. SYSTEMS.
V4. CUT IN NEW DOOR/WINDOW OPENING IN EXISTING GYP WALL,	DELIVER TO OWNER.	O. DEMOLITION, AS NOTED, CONSIS THE LISTED ITEMS, RELATED FA: MATERIALS LEAVING A CLEAN S ¹
5. SAW CUT EXISTING MASONRY WALL FOR NEW DOOR/WINDOW	M4. REMOVE EXISTING COLUMN COVERS AND DELIVER TO OWNER.	NOTED MATERIALS OR SCHEDUL
JPENING	M5. REMOVE EXISTING CONCRETE STAIRS OR RAMP AND ASSOCIATED	P. UNLESS NOTED OTHERWISE, OR TO RETAIN DEMOLISHED ITEMS I
W6. SAW CUT NEW RECTANGULAR HOLE THROUGH EXISTING WALL FOR HVAC DUCT, REF. MECH. FOR DUCT SIZE	HANDRAILS AND PREPARE ADJACENT AREAS FOR NEW CONSTRUCTION AS SHOWN.	BY OWNER SHALL BE REMOVED OF AT CONTRACTOR'S SOLE EXF
W/. REMOVE EXISTING CERAMIC WALL TILE IN ENTIRE ROOM AND/OR SPACE & PREPARE EXISTING WALL FOR NEW TILE	M6. REMOVE EXISTING WIRE MESH PARTITIONS AND DELIVER TO OWNER.	AND FEDERAL LAWS. DURING DE CAREFULLY REMOVE ANY ITEMS
W8. REMOVE PORTION OF EXISTING FACE BRICK FROM WALL AS INDICATED	M7. REMOVE EXISTING CHAIN LINK FENCE PARTITION	CONSTRUCTION THAT THE OWN TO RETAIN AND, IF NECESSARY, STORE THE ITEMS AT THE SITE
W9. REMOVE PORTION OF EXISTING CONC. TILT-WALL PANEL. SHORE AND BRACE AND PREPARE FOR NEW CONSTRUCTION	NEW CONSTRUCTION AS SHOWN.	RETAINED ITEMS FROM THE SITE CONTRACT AND AT NO ADDITION
W10. REMOVE EXISTING EXTERIOR WALL, INCLUDING BASE, DOORS,	M9. REMOVE EXISTING MASONRY PLANTERS	OWNER, THE CONTRACTOR SHA ITEMS TO A LOCAL LOCATION SH
WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL. CONTRACTOR SHALL VERIFY FLECTRICAL MECHANICAL, AND PLUMBING IN	M10. REMOVE EXISTING MARKERBOARD OR TACKBOARD. RELOCATE TO NEW LOCATION, REF. PLANS	OFFLOAD AND PLACE THE ITEMS BY THE OWNER.
EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT	M11. REMOVE EXISTING MILLWORK, CABINETS AND OR BRACKETS	Q. DEMOLITION SHALL FOLLOW TH PROVIDED IN THE SPECIFICATION
WALLS AND PREPARE TO RECEIVE NEW CONSTRUCTION AS SHOWN ON PLANS.	M12. REMOVE EXISTING ELECTRICAL SERVICE	R. CONTRACTOR SHALL TAKE ALL
W11. REMOVE PORTION OF EXISTING MASONRY WALL TO 1 1/2" BELOW ADJACENT FINISH FLOOR LEVEL. HONE CUT SURFACE	M13. REMOVE EXISTING THEATRICAL RIGGING, SOUND, LIGHTING EQUIP & SPEAKERS LOCATED WITHIN STAGE AREA	AND CONSTRUCTION EFFORTS, BE NECESSARY TO PROTECT TH
SMOOTH AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.	M14. REMOVE EXISTING METAL LOCKERS	S. ADDITIONAL MATERIALS, WHERI
WIZ. REMOVE PORTION OF EXISTING EXTERIOR METAL STUD WALL WITH MASONRY VENEER. SHORE AND BRACE AS REQUIRED AND DREPARE FOR NEW CONSTRUCTION AS SHOWN	M15. REMOVE & RELOCATE EXISTING METAL LOCKERS, REF PLAN	IDENTIFIED IN THE DEMOLITION REQUIRED TO COMPLETE THE C
W13. REMOVE EXISTING INTERIOR WALL PANELING AND/OR	M10. REMOVE EXISTING FOLDING PANEL PARTITION	MATERIALS TYPICALLY INCLUDE LIMITED TO, MATERIALS PROJEC
EXISTING VINYL WALL COVERING AND SUBSTRATE AND PROVIDE NEW GYP. BOARD AT CORRIDOR SIDE OF WALL. PREPARE WALL TO	M18. REMOVE EXISTING TOILET ACCESSORIES. PATCH WALL AS REQ'D.	THE WALL, SUCH AS BRICK SILL GUTTERS, AND TRIMS. REFER T
RECEIVE NEW FINISH AS SHOWN ON FINISH PLANS.	M19. REMOVE EXISTING HVAC UNIT. CAP OFF W/ NEW SHEET MTL &	
W14. REMOVE EXTERIOR MASONRY VENEER AND SUBSTRATE FROM EXISTING METAL STUD WALL. PREPARE FOR NEW SUBSTRATE AND WASONRY AS SHOWN.	INSULATE OPENING. M20. REMOVE EXISTING HVAC UNIT & CURB, INFILL OPENING W/ NEW METAL DECK & NEW RIGID INSUL TO MATCH EXISTING ROOF TO FLUSH	DEMOLITION TO DETERMINE IF BEARING. COORDINATE WITH C PROVIDE SHORING AND ANY OT
W15. REMOVE EXISTING PARTITION (SHOWN DASHED, TYPICAL), INCLUDING BASE, DOORS, WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED	W/ EXISTING. PROVIDE ADDITIONAL SUPPORT STRUCTURE PER STRUCTURAL.	ANY FEATURES CARRYING STRU CHANGE IN STRUCTURAL INTEG REPLACEMENT STRUCTURAL SI
WITH THE PARTITION. CONTRACTOR SHALL VERIFY ELECTRICAL, MECHANICAL, AND PLUMBING IN EXISTING AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT WALLS AND PARTITIONS AND PREPARE	M21. REMOVE EXISTING SOUND ISOLATION PRACTICE ROOMS; INCLUDING BASE, DOORS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL PARTITION. CONTRACTOR SHALL VERIFY ELECTRICAL, MECHANICAL, AND	U. REFER TO TECHNOLOGY SHEET TECHNOLOGY AND TECHNOLOG
TO RECEIVE NEW AS SHOWN ON PLANS. W16. SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING	PLUMBING IN EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT WALLS AND PREPARE TO RECEIVE NEW SOUND ISOLATION	
WALL. PREPARE OPENING TO RECEIVE NEW DOOR, FRAME, AND HARDWARE AS SCHEDULED.	ROOMS AS SHOWN ON PLANS.	DEMOLITION GENERAL NO
W17. SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING WALL. PREPARE OPENING TO RECEIVE NEW LINTEL AND FINISHES	PLOMBING P1. REMOVE EXISTING PLUMBING FIXTURES, BRACKETS, AND ACCESSORIES, TERMINATE OR RELOCATE LITULTIES AS REQUIRED, REE	
W18. REMOVE EXISTING CERAMIC TILE AND BACKING LAYER OF	PLUMBING.	EXISTING PARTITION BASE, DOORS, WINDO SWITCHES, CHALK/TA
BD. AT NEW TILE FINISH) TO CREATE LEVEL WALL WITH ANY ADJACENT EXISTING GYP. WALL BOARD AND PREPARE FOR NEW FINISHES AS SCHEDULED	FIXTURES IN THE SAME LOCATION. REF. PLUMBING.	CAPS AND ANY ITEM / WITH THE PARTITION ELECTRICAL MECHAN
W19. PILASTER TO REMAIN.	FIXTURE	WALLS & TERMINATE CONTRACT WORK. PA
CEILINGS	ROOF	ADJACENT WALLS AN PARTITION WALLS AS
C1. REMOVE EXISTING CEILING GRID, TILE, GRILLES, DIFFUSERS, LIGHTING, EQUIPMENT, DEVICES, AND ALL OTHER ITEMS	R1. REMOVE PORTION OF EXISTING ROOF, DECK, WALKWAY COVER, AND/ OR CANOPY AND PREPARE ADJACENT AREAS FOR NEW CONSTRUCTION AS SHOWN.	EXISTING DOOR, FRA REMOVED UNLESS O
DCCURRING WITHIN THE CEILING PLANE. REMOVE ANY CEILING TRIM WHEREVER IT OCCURS. PREPARE ADJACENT WALLS TO RECEIVE NEW CEILING AS SHOWN ON REFLECTED CEILING PLANS	R2. REMOVE PORTION OF EXISTING ROOF COVER AND INSULATION. PREPARE TO RECEIVE NEW ROOF WITH NEW WORK	EXISTING ITEM TO BE
REF. ELEC.	R.3 REMOVE COPING, AND DAMAGED BLOCKING TO PREPARE FOR NEW	EXISTING WALL / PAR
C2. REMOVE EXISTING PLASTER CEILING SYSTEM AND ASSOCIATED TRIMS, FRAMING, HANGERS, AND HARDWARE, LIGHTING, AND ALL DTHER ITEMS OCCURRING WITHIN THE CEILING PLANE. PREPARE	WORK. PROTECT AND PRESERVE UNDAMAGED FLASHING, ROOFING MEMBRANE, AND BLOCKING. COORDINATE WITH NEW WORK.	EXISTING DOOR, FRA
REFLECTED CEILING PLANS. REF. ELEC.	S1. REMOVE EXISTING CONCRETE COLUMN. REF. STRUCTURAL	
C3. REMOVE EXISTING ACOUSTICAL CEILING. REMOVE LIGHTING, EQUIPMENT, DEVICES, AND OTHER ITEMS ATTACHED TO CEILING.	DRAWINGS FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.	DEMOLITION LEGEND
C4. REMOVE EXISTING CELLULOSE FIREPROOFING AT DECK & STRUCTURAL FRAMING. POWER WASH REMOVAL IS ACCEPTABLE.	SZ. SAW CUT EXISTING CONCRETE SLAB. REF. STRUCTURAL PLANS FOR EXTENTS AND DETAILS.	
C5. REMOVE EXISTING WOOD PANEL CEILING CLOUDS. PROTECT & STORE FOR REINSTALLATION.	S3. REMOVE EXISTING STEEL COLUMN. REF. STRUCTURAL DRAWINGS FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.	
	NOTES BY SYMBOL	
		В

CEILINGS CONT-

DEVICES.

C6. REMOVE EXISTING CEILING SYSTEM IN ENTIRE ROOM AND/OR

SPACE, INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, HVAC

SPACE. RETAIN LIGHTS, HVAC ETC. SUPPORT IN PLACE FOR

C10. REMOVE EXISTING FURRDOWNS/BULKHEADS ABOVE.

C13. REMOVE PORTION OF EXISTING CEILING SYSTEM FOR

INSTALLATION OF ROOF DRAINS, REF PLUMBING.

TRIMS, FRAMING HANGERS, AND HARDWARE

OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES.

REINSTALLATION IN NEW CEILING.

CEILING TO MATCH EXISTING.

DOORS & WINDOWS

WALL FOR NEW FINISH.

AND NEW HARDWARE).

NEW HARDWARE.

FINISH, AND PREP FOR PAINTING.

DIFFUSERS, CEILING-MOUNTED EQUIPMENT, AND CEILING-MOUNTED

C7. REMOVE EXISTING LAY-IN CEILING GRID IN ENTIRE ROOM AND/OR

C8. REMOVE EXISTING LIGHTS (PULL WIRE BACK TO ELECT PANEL).

C9. REMOVE EXISTING CEILING TILES IN ENTIRE ROOM AND/OR SPACE.

C11. REMOVE PORTION OF CEILING GRID AS REQ'D FOR INSTALLATION

C12. REMOVE PORTION OF GYP BD CEILING AS REQ'D FOR INSTALLATION

OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES. PATCH & TEXTURE

C14. REMOVE EXISTING PLASTER CEILING / SOFFIT AND ASSOCIATED

D1. REMOVE EXISTING DOOR AND/OR WINDOW, FRAME, AND HARDWARE

(SHOWN DASHED, TYPICAL). PATCH, REPAIR, AND CLEAN OPENING AND

D2. REMOVE EXISTING DOOR AND/OR WINDOW AND FRAME (SHOWN

OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS. PREPARE

D4. REMOVE EXISTING DOOR (FRAME TO REMAIN, PREP FOR PAINTING

D5. REMOVE EXISTING DOOR, FRAME, AND ASSOCIATED HARDWARE.

D6. REMOVE EXISTING DOOR, INFILL HINGE LOCATIONS TO A SMOOTH

D8. REMOVE EXISTING DOOR FRAME. SALVAGE DOOR & PREP DOOR FOR

D7. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE,

OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS.

DASHED, TYPICAL). PATCH, REPAIR AND CLEAN OPENING AND PREPARE

PREPARE TO INFILL OPENING AS SHOWN ON FLOOR PLANS.

FOR NEW DOOR OR WINDOW AS SHOWN ON FLOOR PLANS.

D3. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE,

MATERIALS.

PROJECT

EACH RESPECTIVE TRADE.

FOR PEDESTRIAN SAFETY.

REQUIRED FOR DEMOLITION.

CONDITION.

PROJECT.

Α

EXISTING BARS. IF IT IS CONSIDERED NECESSARY TO CUT SHALL SUBMIT AN RFI ASKING FOR VERIFICATION THAT IT IS

THROUGH ANY EXISTING REINFORCEMENT, THE CONTRACTOR

F9. CORE EXISTING TWO-WAY CONCRETE SLAB OVER CRAWLSPACE WITH THE MINIMUM DIAMETER CORE POSSIBLE, NOT TO EXCEED 8', WHERE NEEDED FOR NEW SANITARY SEWER PIPING ONLY AFTER USING A HILTI PS-200 FERROSCAN TO LOCATE EXISTING TOP AND BOTTOM BARS IN THE SLAB AND CENTERING THE CORE BETWEEN

SHOWN - REF. STRUCTURAL DRAWINGS

F7. SAW CUT & REMOVE PORTION OF EXISTING CONC. SLAB AS

EXTERIOR

WORK

RETAINING WALL

HARDWARE

FLOORS

HARDWARE, AND LIGHTING

SCHEDULED FINISH.

NEW SCHEDULED FINISH

<u>∕1</u>∖

-(W19

F8. SAW CUT & REMOVE EXISTING FLOOR & CONC SLAB - REMOVE GRADE BEAMS & PIERS TO A DEPTH OF 3'-0" BELOW PROPOSED NEW GRADE AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.

E1. SAW CUT & REMOVE EXISTING CONC SIDEWALK, CURB OR FLAT

E2. SAW CUT & REMOVE EXIST CONC LANDING / STEPS & RAILING &

E3. REMOVE EXISTING GUTTERS, DOWNSPOUTS & SPLASH BLOCKS

E5. REMOVE EXISTING CANOPY SYSTEM, CONC. FOUNDATION, AND

E4. REMOVE EXIST BRICK/CONC SCREEN WALL & FOUNDATION

ASSOCIATED COMPONENTS, TRIMS, ATTACHMENTS, AND

E6. REMOVE EXIST FLAGPOLE & BASE, AND ASSOCIATED

COMPONENTS, OPERATIONAL MECHANISMS, ATTACHMENTS,

F1. REMOVE EXISTING TILE FLOORING & BASE DOWN TO EXISTING

SUBSTRATE. PATCH AND/OR REPAIR EXISTING SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

F2. REMOVE EXISTING CARPETED FLOORING & BASE DOWN TO EXISTING SUBSTRATE. PATCH AND/OR REPAIR EXISTING

SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW

F3. REMOVE EXISTING VCT FLOORING & BASE DOWN TO EXISTING

LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

OF NEW PLUMBING. REF PLUMBING DRAWINGS.

F6. SAW CUT & REMOVE EXISTING CONC RAMP

SUBSTRATE, PATCH AND/OR REPAIR EXISTING SUBSTRATE, APPLY

F4. SAW CUT EXISTING FLOOR SLAB AS REQ'D. FOR INSTALLATION

F5. SHOT BLAST EXISTING CONC SURFACE FOR PREPARATION OF

DEMOLITION REFLECTED CEILING PLAN, AREA D

STORE FOR REINSTALLATION.

OCCURRING WITHIN THE CEILING PLANE. REMOVE ANY CEILING TRIM WHEREVER IT OCCURS. PREPARE ADJACENT WALLS TO RECEIVE NEW CEILING AS SHOWN ON REFLECTED CEILING PLANS. C2. REMOVE EXISTING PLASTER CEILING SYSTEM AND ASSOCIATED

<u>CEILINGS</u> C1. REMOVE EXISTING CEILING GRID, TILE, GRILLES, DIFFUSERS, LIGHTING, EQUIPMENT, DEVICES, AND ALL OTHER ITEMS

TRIMS, FRAMING, HANGERS, AND HARDWARE, LIGHTING, AND ALL

OTHER ITEMS OCCURRING WITHIN THE CEILING PLANE. PREPARE

C3. REMOVE EXISTING ACOUSTICAL CEILING. REMOVE LIGHTING,

EQUIPMENT, DEVICES, AND OTHER ITEMS ATTACHED TO CEILING.

STRUCTURAL FRAMING. POWER WASH REMOVAL IS ACCEPTABLE.

C5. REMOVE EXISTING WOOD PANEL CEILING CLOUDS. PROTECT &

C4. REMOVE EXISTING CELLULOSE FIREPROOFING AT DECK &

ADJACENT WALLS TO RECEIVE NEW CEILING AS SHOWN ON

REFLECTED CEILING PLANS. REF. ELEC.

NOTES BY SYMBOL

BD. AT NEW TILE FINISH) TO CREATE LEVEL WALL WITH ANY ADJACENT EXISTING GYP. WALL BOARD AND PREPARE FOR NEW FINISHES AS SCHEDULED. W19. PILASTER TO REMAIN.

W18. REMOVE EXISTING CERAMIC TILE AND BACKING LAYER OF

GYP. BOARD. REPLACE GYP. BD. WITH NEW GYP. BD. (TILE BACKER

AS SPECIFIED.

W16. SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING

WALL. PREPARE OPENING TO RECEIVE NEW DOOR, FRAME, AND HARDWARE AS SCHEDULED. W17. SHORE, BRACE, AND SAW CUT NEW OPENING INTO EXISTING WALL. PREPARE OPENING TO RECEIVE NEW LINTEL AND FINISHES

AND CLEAN ALL ADJACENT WALLS AND PARTITIONS AND PREPARE TO RECEIVE NEW AS SHOWN ON PLANS.

INCLUDING BASE, DOORS, WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE PARTITION. CONTRACTOR SHALL VERIFY ELECTRICAL, MECHANICAL, AND PLUMBING IN EXISTING AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR,

W15. REMOVE EXISTING PARTITION (SHOWN DASHED, TYPICAL),

W13. REMOVE EXISTING INTERIOR WALL PANELING AND/OR EXISTING VINYL WALL COVERING AND SUBSTRATE AND PROVIDE NEW GYP. BOARD AT CORRIDOR SIDE OF WALL. PREPARE WALL TO RECEIVE NEW FINISH AS SHOWN ON FINISH PLANS. W14. REMOVE EXTERIOR MASONRY VENEER AND SUBSTRATE FROM EXISTING METAL STUD WALL. PREPARE FOR NEW SUBSTRATE AND

SHALL VERIFY ELECTRICAL, MECHANICAL, AND PLUMBING IN EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL ADJACENT WALLS AND PREPARE TO RECEIVE NEW CONSTRUCTION AS SHOWN ON PLANS. W11. REMOVE PORTION OF EXISTING MASONRY WALL TO 1 1/2"

WINDOWS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES, AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL. CONTRACTOR

W8. REMOVE PORTION OF EXISTING FACE BRICK FROM WALL AS INDICATED W9. REMOVE PORTION OF EXISTING CONC. TILT-WALL PANEL. SHORE AND BRACE AND PREPARE FOR NEW CONSTRUCTION.

W7. REMOVE EXISTING CERAMIC WALL TILE IN ENTIRE ROOM

AND/OR SPACE & PREPARE EXISTING WALL FOR NEW TILE

EXTERIOR

WORK

RETAINING WALL

HARDWARE

FLOORS

HARDWARE, AND LIGHTING

SCHEDULED FINISH.

NEW SCHEDULED FINISH

E1. SAW CUT & REMOVE EXISTING CONC SIDEWALK, CURB OR FLAT

E2. SAW CUT & REMOVE EXIST CONC LANDING / STEPS & RAILING &

E3. REMOVE EXISTING GUTTERS, DOWNSPOUTS & SPLASH BLOCKS

E5. REMOVE EXISTING CANOPY SYSTEM, CONC. FOUNDATION, AND

F1. REMOVE EXISTING TILE FLOORING & BASE DOWN TO EXISTING

SUBSTRATE. PATCH AND/OR REPAIR EXISTING SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

F2. REMOVE EXISTING CARPETED FLOORING & BASE DOWN TO EXISTING SUBSTRATE. PATCH AND/OR REPAIR EXISTING

SUBSTRATE. APPLY LEVELING COMPOUND AS REQ'D. FOR NEW

F3. REMOVE EXISTING VCT FLOORING & BASE DOWN TO EXISTING

SUBSTRATE. PATCH AND/OR REPAIR EXISTING SUBSTRATE. APPLY

LEVELING COMPOUND AS REQ'D. FOR NEW SCHEDULED FINISH.

F4. SAW CUT EXISTING FLOOR SLAB AS REQ'D. FOR INSTALLATION

F5. SHOT BLAST EXISTING CONC SURFACE FOR PREPARATION OF

F7. SAW CUT & REMOVE PORTION OF EXISTING CONC. SLAB AS

F8. SAW CUT & REMOVE EXISTING FLOOR & CONC SLAB - REMOVE GRADE BEAMS & PIERS TO A DEPTH OF 3'-0" BELOW PROPOSED

NEW GRADE AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.

F9. CORE EXISTING TWO-WAY CONCRETE SLAB OVER CRAWLSPACE

WITH THE MINIMUM DIAMETER CORE POSSIBLE, NOT TO EXCEED 8",

WHERE NEEDED FOR NEW SANITARY SEWER PIPING ONLY AFTER

USING A HILTI PS-200 FERROSCAN TO LOCATE EXISTING TOP AND

BOTTOM BARS IN THE SLAB AND CENTERING THE CORE BETWEEN

THROUGH ANY EXISTING REINFORCEMENT, THE CONTRACTOR

EXISTING BARS. IF IT IS CONSIDERED NECESSARY TO CUT

SHALL SUBMIT AN RFI ASKING FOR VERIFICATION THAT IT IS

W1. REMOVE EXISTING GYP PARTITION. INCLUDING ANYTHING

CONTAINED WITHIN THE PARTITION. CAP OFF OR TERMINATE

W3. SAW CUT & REMOVE PORTION OF EXISTING MASONRY WALL

W4. CUT IN NEW DOOR/WINDOW OPENING IN EXISTING GYP WALL,

W5. SAW CUT EXISTING MASONRY WALL FOR NEW DOOR/WINDOW

W6. SAW CUT NEW RECTANGULAR HOLE THROUGH EXISTING WALL

FOR HVAC DUCT, REF. MECH. FOR DUCT SIZE

CONTAINED WITHIN THE PARTITION. CAP OFF / TERMINATE UTILITIES

W2. REMOVE EXISTING MASONRY PARTITION, INCLUDING ANYTHING

OF NEW PLUMBING. REF PLUMBING DRAWINGS.

F6. SAW CUT & REMOVE EXISTING CONC RAMP

SHOWN - REF. STRUCTURAL DRAWINGS

ACCEPTABLE TO CUT THE BAR.

WALLS

THEREIN

INDICATED

OPENING

UTILITIES THEREIN

REF PLAN FOR TYPE

E4. REMOVE EXIST BRICK/CONC SCREEN WALL & FOUNDATION

ASSOCIATED COMPONENTS, TRIMS, ATTACHMENTS, AND

E6. REMOVE EXIST FLAGPOLE & BASE, AND ASSOCIATED

COMPONENTS, OPERATIONAL MECHANISMS, ATTACHMENTS,

CEILINGS CONT-

DEVICES.

C6. REMOVE EXISTING CEILING SYSTEM IN ENTIRE ROOM AND/OR

DIFFUSERS, CEILING-MOUNTED EQUIPMENT, AND CEILING-MOUNTED

C7. REMOVE EXISTING LAY-IN CEILING GRID IN ENTIRE ROOM AND/OR

C8. REMOVE EXISTING LIGHTS (PULL WIRE BACK TO ELECT PANEL).

C9. REMOVE EXISTING CEILING TILES IN ENTIRE ROOM AND/OR SPACE.

C11. REMOVE PORTION OF CEILING GRID AS REQ'D FOR INSTALLATION

C12. REMOVE PORTION OF GYP BD CEILING AS REQ'D FOR INSTALLATION OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES. PATCH & TEXTURE

C14. REMOVE EXISTING PLASTER CEILING / SOFFIT AND ASSOCIATED

01. REMOVE EXISTING DOOR AND/OR WINDOW, FRAME, AND HARDWARE

(SHOWN DASHED, TYPICAL). PATCH, REPAIR, AND CLEAN OPENING AND

D2. REMOVE EXISTING DOOR AND/OR WINDOW AND FRAME (SHOWN

DASHED, TYPICAL), PATCH, REPAIR AND CLEAN OPENING AND PREPARE

OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS. PREPARE

D4. REMOVE EXISTING DOOR (FRAME TO REMAIN, PREP FOR PAINTING

D5. REMOVE EXISTING DOOR, FRAME, AND ASSOCIATED HARDWARE.

D6. REMOVE EXISTING DOOR, INFILL HINGE LOCATIONS TO A SMOOTH

D8. REMOVE EXISTING DOOR FRAME. SALVAGE DOOR & PREP DOOR FOR

010. REMOVE EXISTING ALUM STOREFRONT SYSTEM OR CURTAIN WALL

M1. REMOVE AND DISPOSE OF EXISTING CASEWORK AND ACCESSORIES.

M2. REMOVE EXISTING TOILET PARTITIONS AND ALL ASSOCIATED

M4. REMOVE EXISTING COLUMN COVERS AND DELIVER TO OWNER.

M6. REMOVE EXISTING WIRE MESH PARTITIONS AND DELIVER TO

M7. REMOVE EXISTING CHAIN LINK FENCE PARTITION

NEW CONSTRUCTION AS SHOWN.

NEW LOCATION, REF. PLANS

INSULATE OPENING.

ROOMS AS SHOWN ON PLANS.

CONSTRUCTION AS SHOWN.

STRUCTURAL.

PLUMBING

PLUMBING.

FIXTURF

STRUCTURAL

EXTENTS AND DETAILS.

NOTES BY SYMBOL

M9. REMOVE EXISTING MASONRY PLANTERS

M12. REMOVE EXISTING ELECTRICAL SERVICE

& SPEAKERS LOCATED WITHIN STAGE AREA

M14. REMOVE EXISTING METAL LOCKERS

M5. REMOVE EXISTING CONCRETE STAIRS OR RAMP AND ASSOCIATED

HANDRAILS AND PREPARE ADJACENT AREAS FOR NEW CONSTRUCTION

M8. REMOVE EXISTING HANDRAILS AND PREPARE ADJACENT AREAS FOR

M10. REMOVE EXISTING MARKERBOARD OR TACKBOARD. RELOCATE TO

M13. REMOVE EXISTING THEATRICAL RIGGING, SOUND, LIGHTING EQUIP

M15. REMOVE & RELOCATE EXISTING METAL LOCKERS, REF PLAN

M18. REMOVE EXISTING TOILET ACCESSORIES. PATCH WALL AS REQ'D.

M19. REMOVE EXISTING HVAC UNIT. CAP OFF W/ NEW SHEET MTL &

M20. REMOVE EXISTING HVAC UNIT & CURB, INFILL OPENING W/ NEW

METAL DECK & NEW RIGID INSUL TO MATCH EXISTING ROOF TO FLUSH

INCLUDING BASE, DOORS, OUTLETS, EQUIPMENT, DEVICES, SWITCHES,

PLUMBING IN EXISTING WALLS AND TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR, AND CLEAN ALL

ADJACENT WALLS AND PREPARE TO RECEIVE NEW SOUND ISOLATION

PARTITION. CONTRACTOR SHALL VERIFY ELECTRICAL, MECHANICAL, AND

W/ EXISTING. PROVIDE ADDITIONAL SUPPORT STRUCTURE PER

121. REMOVE EXISTING SOUND ISOLATION PRACTICE ROOMS;

AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE WALL

21. REMOVE EXISTING PLUMBING FIXTURES, BRACKETS, AND ACCESSORIES. TERMINATE OR RELOCATE UTILITIES AS REQUIRED. REF

FIXTURES IN THE SAME LOCATION. REF. PLUMBING.

P2. REMOVE EXISTING PLUMBING FIXTURES AND REPLACE WITH NEW

P3. REMOVE EXISTING PLUMBING FIXTURE, TO BE REPLACED W/ NEW

R1. REMOVE PORTION OF EXISTING ROOF, DECK, WALKWAY COVER,

2. REMOVE PORTION OF EXISTING ROOF COVER AND INSULATION.

R.3 REMOVE COPING, AND DAMAGED BLOCKING TO PREPARE FOR NEW

WORK. PROTECT AND PRESERVE UNDAMAGED FLASHING, ROOFING

1. REMOVE EXISTING CONCRETE COLUMN. REF. STRUCTURAL

DRAWINGS FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.

S2. SAW CUT EXISTING CONCRETE SLAB. REF. STRUCTURAL PLANS FOR

3 REMOVE EXISTING STEEL COLLIMN REE STRUCTURAL DRAWINGS

FOR BRACING AND COLUMN REPLACEMENT IF APPLICABLE.

MEMBRANE, AND BLOCKING. COORDINATE WITH NEW WORK.

AND/ OR CANOPY AND PREPARE ADJACENT AREAS FOR NEW

PREPARE TO RECEIVE NEW ROOF WITH NEW WORK.

M16. REMOVE EXISTING LOCKER BASE, LOCKERS & BENCHES

M17. REMOVE EXISTING FOLDING PANEL PARTITION

M11. REMOVE EXISTING MILLWORK, CABINETS AND OR BRACKETS

M3. REMOVE EXISTING LOCKERS AND DELIVER TO OWNER.

EQUIPMENT, ACCESSORIES, AND HARDWARE IN THEIR ENTIRETY AND

SYSTEM, GLAZING, GASKETS, HARDWARE, AND ASSOCIATED BRACING.

011. REMOVE EXISTING WINDOW, SAW CUT WALL BELOW FOR

D7. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE,

OPERATIONAL MECHANISMS, AND ASSOCIATED SUPPORTS.

PREPARE TO INFILL OPENING AS SHOWN ON FLOOR PLANS.

FOR NEW DOOR OR WINDOW AS SHOWN ON FLOOR PLANS.

D3. REMOVE EXISTING OVERHEAD DOOR, TRACKS, HARDWARE,

SPACE, INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, HVAC

SPACE. RETAIN LIGHTS, HVAC ETC. SUPPORT IN PLACE FOR

C10. REMOVE EXISTING FURRDOWNS/BULKHEADS ABOVE.

C13. REMOVE PORTION OF EXISTING CEILING SYSTEM FOR

OF FIRE SPRINKLER SYSTEM / FIRE ALARM DEVICES.

INSTALLATION OF ROOF DRAINS, REF PLUMBING.

TRIMS, FRAMING HANGERS, AND HARDWARE

REINSTALLATION IN NEW CEILING.

CEILING TO MATCH EXISTING.

DOORS & WINDOWS

WALL FOR NEW FINISH.

AND NEW HARDWARE).

NEW HARDWARE.

MISCELLANEOUS

DELIVER TO OWNER.

AS SHOWN.

OWNFR.

FINISH, AND PREP FOR PAINTING.

D9. REMOVE EXISTING WINDOWS.

INSTALLATION OF NEW DOOR

W10. REMOVE EXISTING EXTERIOR WALL, INCLUDING BASE, DOORS,

BELOW ADJACENT FINISH FLOOR LEVEL. HONE CUT SURFACE

SMOOTH AND PREPARE FOR NEW CONSTRUCTION AS SHOWN.

PREPARE FOR NEW CONSTRUCTION AS SHOWN.

MASONRY AS SHOWN.

REF. ELEC.

W12. REMOVE PORTION OF EXISTING EXTERIOR METAL STUD WALL

WITH MASONRY VENEER. SHORE AND BRACE AS REQUIRED AND

MATERIALS.

PROJECT

EACH RESPECTIVE TRADE.

FOR PEDESTRIAN SAFETY.

REQUIRED FOR DEMOLITION.

CONDITION

PROJECT

DRAINAGE

EXISTING H.V.A.C. SYSTEMS.

BY THE OWNER.

CONDITIONS.

DEMOLITION GENERAL NOTES

DEMOLITION LEGEND

PROVIDED IN THE SPECIFICATIONS.

WILL BE PATCHED AND REPAIRED TO MATCH ORIGINAL

REMAIN FUNCTIONAL. ANY DISRUPTIONS REQUIRED FOR NEW TIE-INS DURING CONSTRUCTION MUST BE COORDINATED WITH THE OWNER REPRESENTATIVE ASSIGNED TO THIS SPECIFIC

D. CONTRACTOR SHALL COORDINATE EXACT SIZES AND LOCATIONS FOR MECHANICAL, PLUMBING, ELECTRICAL, AND TECHNOLOGY PENETRATIONS REQUIRED FOR NEW WORK WITH

CONTRACTOR SHALL KEEP OPENINGS TO THE EXTERIOR TEMPORARILY COVERED FOR PROTECTION FROM WATER. F. CONTRACTOR SHALL KEEP OPENINGS TEMPORARILY COVERED

. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF TEMPORARY SHORING AND BRACING

H. REFER TO MECHANICAL, ELECTRICAL, TECHNOLOGY, AND PLUMBING SHEETS FOR ADDITIONAL PENETRATIONS AND OTHER RELATED DEMOLITION OR EQUIPMENT REMOVAL.

EXISTING CONSTRUCTION IS SHOWN BASED ON OWNER FURNISHED PLANS, OWNER FURNISHED SURVEYS, AND ONSITE OBSERVATIONS. DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS WILL BE REPORTED TO THE ARCHITECT/ENGINEER/PROJECT MANAGER AND ANY ADDITIONAL DIRECTION, IF NECESSARY, SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO PROCEEDING WITH WORK. EXISTING CONSTRUCTION ADJACENT TO DEMOLITION WORK

K. DEMOLITION WORK TIMES SHALL BE COORDINATED WITH THE OWNER REPRESENTATIVE ASSIGNED TO THIS SPECIFIC

THIS EXISTING FACILITY SHALL REMAIN FUNCTIONAL DURING THE COURSE OF THE DEMOLITION WORK. CONTRACTOR WILL MAINTAIN DUST BARRIERS, BARRICADES, PEDESTRIAN PROTECTION, WATER PROTECTION, AND SAFETY DEVICES IN PLACE AT ALL TIMES DURING AND AFTER DEMOLITION UNTIL

NEW WORK IS INSTALLED AND ACCEPTED BY OWNER. M. CONTRACTOR SHALL MAINTAIN SITE DRAINAGE DEVICES AND COMPONENTS DURING THE COURSE OF DEMOLITION AND UP UNTIL NEW WORK IS IN PLACE AND ACCEPTED BY OWNER. THIS INCLUDES, BUT IS NOT LIMITED TO, EXISTING SUB-SURFACE

N. REFER TO ROOF PLAN AND MECHANICAL, ELECTRICAL, PLUMBING, TECHNOLOGY AND ANY OTHER DISCIPLINES' DRAWINGS FOR ADDITIONAL REQUIRED DEMOLITION NOT SPECIFICALLY COVERED BY ARCHITECTURAL DEMOLITION PLANS, ESPECIALLY WORK RELATED TO MODIFICATIONS TO

0. DEMOLITION, AS NOTED, CONSISTS OF COMPLETE REMOVAL OF THE LISTED ITEMS, RELATED FASTENERS, AND ATTACHMENT MATERIALS LEAVING A CLEAN SURFACE READY TO RECEIVE NOTED MATERIALS OR SCHEDULED FINISHES.

P. UNLESS NOTED OTHERWISE, OR OWNER EXPRESSES A DESIRE TO RETAIN DEMOLISHED ITEMS BEFORE THEY ARE REMOVED FROM THE SITE, ALL DEMOLISHED MATERIALS NOT RETAINED BY OWNER SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT CONTRACTOR'S SOLE EXPENSE. DISPOSAL SHALL COMPLY WITH ALL CODES AND LAWS, INCLUDING LOCAL, STATE AND FEDERAL LAWS. DURING DEMOLITION, CONTRACTOR SHALL CAREFULLY REMOVE ANY ITEMS FROM THE EXISTING CONSTRUCTION THAT THE OWNER HAS EXPRESSED A DESIRE TO RETAIN AND, IF NECESSARY, TEMPORARILY PROTECT AND STORE THE ITEMS AT THE SITE. THE OWNER MAY REMOVE RETAINED ITEMS FROM THE SITE OR, AS A PART OF THIS CONTRACT AND AT NO ADDITIONAL COST, IF REQUESTED BY OWNER, THE CONTRACTOR SHALL DELIVER OWNER-RETAINED ITEMS TO A LOCAL LOCATION SELECTED BY THE OWNER AND OFFLOAD AND PLACE THE ITEMS FOR STORAGE AS DIRECTED

Q. DEMOLITION SHALL FOLLOW THE CONSTRUCTION SCHEDULE R. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO SEPARATE

STUDENTS, SCHOOL STAFF, AND VISITORS FROM DEMOLITION AND CONSTRUCTION EFFORTS, ACTIVITIES AND WORK, AS MAY BE NECESSARY TO PROTECT THEIR HEALTH AND SAFETY.

ADDITIONAL MATERIALS, WHERE CONSTRUCTION ADJOINS EXISTING, EVEN THOUGH IT MAY NOT BE SPECIFICALLY IDENTIFIED IN THE DEMOLITION PLANS, WILL BE REMOVED AS REQUIRED TO COMPLETE THE CONSTRUCTION. THESE MATERIALS TYPICALLY INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, MATERIALS PROJECTING BEYOND THE FACE OF THE WALL, SUCH AS BRICK SILLS AND ROOF FLASHINGS, GUTTERS, AND TRIMS. REFER TO WALL SECTIONS FOR SPECIFIC

INVESTIGATE EXISTING CONSTRUCTION SUBJECT TO DEMOLITION TO DETERMINE IF IT IS INTENDED AS STRUCTURE-BEARING. COORDINATE WITH CONSTRUCTION SEQUENCE AND PROVIDE SHORING AND ANY OTHER TEMPORARY SUPPORT FOR ANY FEATURES CARRYING STRUCTURAL LOAD TO PREVENT ANY CHANGE IN STRUCTURAL INTEGRITY UNTIL NEW OR REPLACEMENT STRUCTURAL SUPPORT IS IN PLACE.

. REFER TO TECHNOLOGY SHEETS FOR DEMOLITION OF TECHNOLOGY AND TECHNOLOGY-RELATED ITEMS.

= = EXISTING PARTITION TO BE REMOVED. INCLUDING BASE, DOORS, WINDOWS, OUTLETS, DEVICES, SWITCHES, CHALK/TACK BOARDS, POWER POLES, WALL CAPS AND ANY ITEM ATTACHED TO OR ASSOCIATED WITH THE PARTITION. CONTRACTOR WILL VERIFY ELECTRICAL, MECHANICAL & PLUMBING IN EXISTING WALLS & TERMINATE OR RELOCATE AS REQUIRED FOR CONTRACT WORK. PATCH, REPAIR & CLEAN ALL ADJACENT WALLS AND PREPARE TO RECEIVE NEW PARTITION WALLS AS SHOWN ON FLOOR PLANS.

> EXISTING DOOR, FRAME, AND HARDWARE TO BE REMOVED UNLESS OTHERWISE NOTED.

EXISTING ITEM TO BE REMOVED AS NOTED.

EXISTING WALL / PARTITION TO REMAIN.

EXISTING DOOR, FRAME, AND HARDWARE TO REMAIN.

<u>KEY PLAN</u>

()	AD				Æ				AF)				(A0 400'	- 0 "				AH				A	J	
	191' - 9 3	33' - 3/8"	- 4"	,			33' - 4"				3)3' - 4"			6'-	3	3' - 4"			2 1.1A1	33' - 4 BOVE	, n		FE	3 _ DOWNSP(AT C
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	 191' - 9 3	3/8"		FE							2				EG-A 6'-	00.5				DOW	/NSPOUT, AT COLUI	TYPICAL _	FE]	

A	6.05					
	SF-04		SF-05		SF-04	0
FOLDING BASKETBALL GOAL	8' - 0"	4' - 0"	12' - 0"	4' - 0"	8' - 0"	5' - 6 1/8"
1		1 1		1		1

1 REFLECTED CEILING PLAN - AREA C - LEVEL 2 1/8" = 1'-0"

TRUE

4 1 1/2" = 1'-0"

CMU VERIFY DIM W/ WALL TYPE CONT 1 1/2" RIGID INSUL R-9.75 CONT WEATHER BARRIER—

TERMINATION BAR W/ THERMOPLASTIC-

APPLIED TO FACE OF CMU SEALANT ON SELF-ADH FLASHING

SELF-ADH FLASHING W/ END DAMS,-----REF TYP SELF-ADH FLASHING DTL -EXTEND 4" BEYOND LINTEL

MORTAR DROPPING COLLECTION -FACE BRICK OR ACMU AT HEAD-TO BE RUNNING BOND, SOLDIER,

OR AS NOTED ON ELEV. AND DTLS. PROVIDE 2 WEEPS PER OPENING

WEEPS @ 2'-0" O.C. TYP. -

STL LINTEL - REF STRUCT,-REF DRIP EDGE DTL

3/8" THICK STL BENT PLATE. ----FINISH TO CODE 100.

1 1/2" = 1'-0"

MARK	AAOS Shared HW Set	GATE HEIGHT	GATE WIDTI
EG-1.08	J704X	8' - 0"	6' - 0"
EG-A100.1	J704X	8' - 0"	6' - 0"
EG-A100.2	J704X	8' - 0"	6' - 0"
EG-A100.3	J704X	8' - 0"	6' - 0"
EG-A100.4	J704X	8' - 0"	6' - 0"
EG-A100.5	J704X	8' - 0"	6' - 0"
EG-A100.6	J704X	8' - 0"	6' - 0"

	Image: constrained of the second of the s	
🐒 🚽 🕻 HEAD DTL - (DCD - MTL STUD	HEAD DTL - O

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				A3 - DOOR SCHEDULE									
	OPENING					DOC	DR		FRA	ME			
OPENING H. NUMBER	ARDWARE SET	FIRE RATING	EXTERIOR	WIDTH	HEIGHT	TYPE	DR GLAZING	PANIC HARDWARE	MATERIAL	FRAME TYPE			
AREA B					•		1						
B100.1 D	700CM	45 MIN	No	3' - 0"	7' - 0"	HM-NL (PR)	GTC	Yes	НМ	B1			
B100.2 D	700CM	45 MIN	No	3' - 0"	7' - 0"	HM-NL (PR)	GTC	Yes	НМ	B1			
B100.3 D	700M	45 MIN	Yes	3' - 0"	7' - 0"	HM-NL (PR)	IGSE	Yes	НМ	B1			
B100.4 D	701C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	B1			
B101 20	03SW		No	4' - 0"	7' - 0"	SC-FL			НМ	B1			
B102.1 D	700M	45 MIN	No	3' - 0"	7' - 0"	HM-2L (PR)	GTC	Yes	НМ	B1			
B102.2 D	700CM	45 MIN	Yes	3' - 0"	7' - 0"	HM-2L (PR)	IGSE	Yes	НМ	B1			
B103 71	11C	45 MIN	No	3' - 0"	7' - 0"	SC-FL			НМ	B1			
B104 22	21	45 MIN	No	3' - 0"	7' - 0"	SC-FL			НМ	B1			
B105 22	21	45 MIN	No	3' - 0"	7' - 0"	SC-FL			НМ	B1			
B200 C	E201		No	3' - 0"	7' - 0"	HM-NL	GTC		HM	B1			
AREA B - OVER	HÈAD												
SO-B101.1 00	01		No	6' - 0"	8' - 0"	OCD-STL			STL				
SO-B101.2 00	01		No	6' - 0"	8' - 0"	OCD-STL			STL				
AREA C			1	1	1		- I			1			
C100.1 C	714AM		Yes	3' - 0"	7' - 0"	AL-SF (PR)	IGSE	Yes	AL	CW-04			
C100.2 C	E201C		No	3' - 0"	7' - 0"	SC-NL	IGSE	Yes	НМ	В			
C100.3 C	714AM		Yes	3' - 0"	7' - 0"	AL-SF (PR)	IGLSA		AL	CW-01			
C101 C	E201C		No	3' - 0"	7' - 0"	SC-NL	IGSE	Yes	НМ	В			
C102 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C103 C	E201		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C105 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C106 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C107 34	43		No	3' - 0"	7' - 0"	SC-FL			НМ	В			
C108 34	43		No	3' - 0"	7' - 0"	SC-FL			НМ	В			
C109.1 C	711		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C109.2 C	711		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C110 20	01		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C111 C	E201		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C201 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C202 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C203 C	E201		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C204 C	711C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C205 C	E201		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C206 C	711		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C207 20	07		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
C208.1 C	E201C		No	3' - 0"	7' - 0"	SC-NL	GTC		НМ	В			
-						1			+	+			
















A1.1 CALLOUT REFERENCE WALL SECTION REFERENCE **** A101 / B - HORIZONTAL BLINDS B SMB - MOTORIZED SHADES - BLACKOUT SB - WINDOW SHADES - BLACKOUT SM - MOTORIZED SHADES S - WINDOW SHADES FLOOR INSTALLATION DIRECTION \longrightarrow FLOOR TRANSITION - FINISH WALL FINISH TAG 8' MB EQUIPMENT TAG FINISH PLAN LEGEND NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE. PROVIDE CEILING MOUNT PERIMETER NETTING BEHIND GOAL POSTS. REF. RCP. 2. PROVIDE A GOAL POST AT BOTH ENDS. 3. PROVIDE FULL HEIGHT WALL TILE ON ALL WALLS. START FULL TILE ABOVE RESINOUS BASE. REFER TO INTERIOR ELEVATIONS FOR TYPICAL RESTROOM WALL FINISHES. NEW FLOORING TO TIE INTO EXISTING PATTERN SEAMLESSLY -FULL TILE TO FULL TILE. ALL EXISTING WALL APPLICATIONS SUCH AS ACOUSTICAL PANELS, MARKERBOARDS, AND TACKBOARDS, ARE TO BE INSTALLED IN THE SAME LOCATION. REF SPORTS FOR FLOOR SURFACE MATERIAL WITHIN PERIMETER OF FENCE. 8. REF ELEVATIONS FOR ADDITIONAL INFORMATION 9. PROVIDE FRP FINISH TO 4' - 4" AFF. **10.** REF FOOD SERVICE FOR KITCHEN EQUIP TYP. TRAY SLIDES SHALL BE STAINLESS STEEL. SERVING LINE FRONT PANELS SHALL BE PL01. FINISH REMARKS APPLIES TO SECTION PLANS A. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O. B. INTERIOR ACCESS PANELS TO MATCH ADJACENT FINISH. COORDINATE WITH ARCHITECT. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE) D. PROVIDE SEALANT JT'S @ INSIDE CORNERS OF TILED WALLS E. VERIFY FINISH PATTERNS WITH SCHEDULE OF MATERIALS. FINISH PLAN GENERAL NOTES ALL SCHEDULED WALL FINISH DIRECTIONS ARE DIRECTIONS PER PLAN NORTH OF THE FINISH PLANS, NOT TRUE NORTH OF THE PROJECT SITE 1' - 6" MIN. (CRITICAL) DOOR AS SCHED. — - REF. FLOOR PLA FOR WALL CONSTRUCTION \leq 4"_____ MIN. (U.N.O.) 1' - 0" MIN. / (CRITICAL) DOOR LOCATION

A1.1 1>

ELEVATION REFERENCE

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A1.1 1

A1.1

A101

ELEVATION REFERENCE

CALLOUT REFERENCE

WALL SECTION REFERENCE





- WALL FINISH AS SCHED. - CONT. SEALANT





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3 EXTERIOR ELEVATION - AREA E - SOUTH 1/8" = 1'-0"





110' - 0" T.O. OPEN

ST01-







2 EXTERIOR ELEVATION - AREA D - SOUTH EAST 1/8" = 1'-0"



1 EXTERIOR ELEVATION - AREA E - NORTH







APPLICABLE TO AL

GROUT

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S \frown OO A \mathbf{C} CISD

LEHMAN HIGH SCH(5 ADDITIONS + RENO FOR HAYS CISD

2025

Huckabee

WALL SECTIONS - AREAS A,

VOLUME

ISSUE FOR BID

A6.05

Sheet No.

PACKAGE

Job No. 01954-08-01

Drawn By:

Date: 05/08/2025

YR/AB

www.huckabee-inc.com 800.687.1229









NO PLUMBING SCOPE. REFERENCE CIVIL DRAWINGS AND SPORTS/CEI DRAWINGS FOR HOSE BIBBS SERVING THIS BUILDING.

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0 1 FIRST FLOOR PLAN - AREA C - LIGHTING SCALE: 1/8" = 1'-0"

LIGHTING KEY NOTES

CIRCUIT TO EXISTING 277V LIGHTING PANEL SERVING AREA TO SPARE 20A/1P BREAKER. IF NO BREAKER AVAILABLE, PROVIDE AND INSTALL 20A/1P BREAKER IN PANEL. WIRE/CONDUIT MARK #2.

CONNECT TO EXISTING EXTERIOR LIGHTING CIRCUIT. WIRE/CONDUIT MARK #2.

ALL FIXTURES IN THIS REGION WITHIN DASHED LINE TO BE CIRCUITED TO THE CIRCUIT LISTED.

ALL LIGHT FIXTURES ARE TYPE 'A4' UNLESS NOTED OTHERWISE.





0 1 SECOND FLOOR PLAN - AREA C - LIGHTING SCALE: 1/8" = 1'-0"

LIGHTING KEY NOTES

LOW VOLTAGE LIGHTING CONTROL BUTTON. REFERENCE MISCELLANEOUS EQUIPMENT SCHEDULE.

CIRCUIT TO EXISTING 277V LIGHTING PANEL SERVING AREA TO SPARE 20A/1P BREAKER. IF NO BREAKER AVAILABLE, PROVIDE AND INSTALL 20A/1P BREAKER IN PANEL. WIRE/CONDUIT MARK #2.

ALL FIXTURES IN THIS REGION WITHIN DASHED LINE TO BE CIRCUITED TO THE CIRCUIT LISTED.

ALL LIGHT FIXTURES ARE TYPE 'A4' UNLESS NOTED OTHERWISE.



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0 1 SITE PLAN - ELECTRICAL SCALE: 1" = 80'-0"

	SITE KEY NOTES
	THESE NOTES APPLY TO THIS SHEET ONLY
S1	COORDINATE FINAL POLE LIGHT LOCATIONS WITH CIVIL AND LANDSCAPE CONSULTANTS PRIOR TO DRILLING PIERS. REFER ENGINEER FOR STRUCTURAL POLE BASE DETAILS.
S2	EXISTING UNDERGROUND PRIMARY IN AREA. CONTRACTOR TO FIELD VERIFY EXISTING ROUTING AND ADVISE ENGINEER IF ARE IN CONFLICT WITH EXISTING UNDERGROUND ELECTRICAL.
S3	EXTEND EXISTING SITE LIGHTING CIRCUIT IN AREA TO NEW FIXTURES.
S4	EXISTING BASEBALL/SOFTBALL SPORTS COMPLEX ELECTRICAL SERVICE YARD.
S5	REPLACE EXISTING 30' POLE 'S1' FIXTURE WITH 40' POLE AND TYPE S1H FIXTURE. 'S1' FIXTURE TO BE USED AT NEW POLE L SITE. USE EXISTING CIRCUITING.
S6	USE POLE AND HEAD REMOVED FROM BAND PRACTICE AREA. DRILL EXISTING POLE FOR NEW HEAD AND PROVIDE ADDITIO
S7	USE POLE AND HEAD REMOVED FROM BAND PRACTICE AREA. AT THIS LOCATION.

ALL SITE CIRCUITING IS DIAGRAMMATIC ONLY. DOES NOT INDICATE CONDUIT ROUTING. ELECTRICAL CONTRACTOR IS TO DETERMINE ALL FINAL CONDUIT ROUTING, COORDINATED WITH ALL SITE UTILITIES AND SITE CONDITIONS. REFERENCE CIVIL AND LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.



