ADDENDUM

NO. 1

TO THE DRAWINGS AND THE PROJECT MANUAL

PROJECT NAME: Tomball ISD Intermediate School Replacement

CLIENT NAME: Tomball ISD

LOCATION: Tomball, TX

PROJECT NUMBER: 00802-04-01

PROPOSAL DATE: Thursday, August 13, 2026, 2:00 PM

ADDENDUM DATE: Tuesday, July 28, 2026

For additional information regarding this project, contact Caitlin Munch.

THIS ADDENDUM INCLUDES:

General Items	05 Items
Civil Items	36 Sheets
Landscape Items	02 Sheets
Irrigation Items	03 Sheet
Architectural Site Items	01 Sheet
Structural Items	15 Sheets
Architectural Items	19 Sheets + 1 Specification Section
Foodservice Items	--
Plumbing Items	14 Sheets
Mechanical Items	02 Sheets
Electrical Items	14 Sheets
Technology Items	03 Sheets + 1 Specification Section
Audiovisual Items	03 Sheets + 1 Specification Section
Theatrical Items	02 Sheets

AND ALL ATTACHED REVISED DRAWING REFERENCES IN THE ADDENDUM

Huckabee

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

GENERAL ITEMS FOR ADDENDUM NO. 1

NOTICE TO PROPOSERS:

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

AD No 1, Gen. Item 1: Adjustment to the RFP
Final questions from the contractors due to the architect and design team by Tuesday, August 4th 5:00 PM. All Substitution requests remain to be due by Friday July 31 2:00 PM,

APPENDIX ITEMS:

AD No 1, Gen. Item 2: To the Appendices
RFP Exhibit A Excel File (can be found as a direct download on the Huckabee and ProjectMates bidding site)

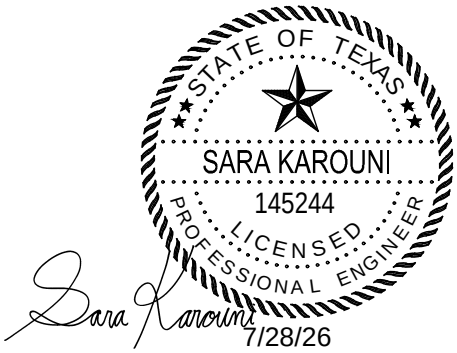
AD No 1, Gen. Item 3: To the Appendices
Added RFI Response log

AD No 1, Gen. Item 4: To the Appendices
Added Substitution Request Log

AD No 1, Gen. Item 5: To the Appendices
Added Prebid Meeting Sign-in Sheet

END OF GENERAL ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00788-002



CIVIIL ITEMS FOR ADDENDUM NO. 1

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

PROJECT MANUAL:

DRAWINGS:

AD No 1, Civil. Item 1: **To the Drawings, C1.2, "GENERAL NOTES"**
Description.

- Additional private utility notes have been provided.

AD No 1, Civil. Item 2: **To the Drawings, C1.3, "OVERALL LAYOUT"**
Description.

- Tetherballs proposed by others have been relocated.
- Inlet orientations have been revised to be parallel to the storm sewer, where applicable. Please refer to Sheets C6.1 and C6.2.

AD No 1, Civil. Item 3: **To the Drawings, C1.4, "DEMOLITION PLAN"**
Description.

- An inset has been included showing the proposed development to be removed from the existing parking lot south of the Baker Hughes building.

AD No 1, Civil. Item 4: **To the Drawings, C2.1, "STORM WATER POLLUTION PREVENTION PLAN"**
Description.

- Eleven (11) additional inlet protection barriers (IPB) have been added to document the proposed development within the existing parking lot adjacent to the Baker Hughes Building.
- All IPB I and IPB II along Huffsmith Kohrville Road have been removed from this plan set, as the associated scope of work is included in the public improvement plan set titled "Tomball ISD Huffsmith Kohrville Road Improvements" under Harris County Project No. 2607140104.

AD No 1, Civil. Item 5: **To the Drawings, C3.1, "DIMENSION CONTROL & SIGNAGE PLAN (1 OF 2)"**
Description.

- The pavement striping on Innovation Drive has been revised to reflect the latest roadway layout. Approximately 53 LF of striping has been removed.

AD No 1, Civil. Item 6: **To the Drawings, C3.2, "DIMENSION CONTROL & SIGNAGE PLAN (2 OF 2)"**
Description.

- One (1) additional DO NOT ENTER sign has been added to the proposed signage plan.
- The fire lane striping has been revised to provide additional fire access. Approximately 133 LF of striping has been added.

AD No 1, Civil. Item 7: **To the Drawings, C4.2, "GRADING PLAN (2 OF 2)"**
Description.

- Additional swales have been incorporated south of the building to improve site drainage and convey runoff to the proposed inlets.

AD No 1, Civil. Item 8: **To the Drawings, C5.2, "UTILITY PLAN – WATER & SANITARY (2 OF 2)"**
Description.

- Gate valves have been added throughout the proposed 4-inch, 8-inch, and 12-inch waterline systems.
- Additional waterline appurtenances have been identified for the proposed 12-inch waterline extending west of the project site.
- The sanitary sewer line connecting to the public manhole from the northwest has been reduced in size from 8 inches to 6 inches.
- The proposed public sanitary sewer connection has been raised to tie into the crown elevation of the existing public manhole along Huffsmith Kohrville Road.

AD No 1, Civil. Item 9: **To the Drawings, C6.1, "UTILITY PLAN – STORM SEWER (1 OF 2)"**
Description.

- One proposed inlet has been replaced with a Type C manhole equipped with a grated top. Please refer to the inlet towards the east side of the first driveway tying into Innovation Drive.
- A grate top has been added to one proposed Type C manhole. Please refer to the manhole towards the west side of the first driveway tying into Innovation Drive.

AD No 1, Civil. Item 10: **To the Drawings, C6.2, "UTILITY PLAN – STORM SEWER (2 OF 2)"**
Description.

- The storm sewer layout for the downspout connection north of the building, east of the art courtyard, has been revised.
- The storm sewer layout for the downspout connection on the west side of the building adjacent to the landscape area has been revised.
- The storm sewer pipe layout within the courtyard has been revised.
- Four (4) additional inlets have been added to improve drainage in the proposed turf areas.
- Storm sewer flowline elevations have been updated throughout the system.
- An additional 217 LF of 15-inch storm sewer pipe has been added.
- An additional 48 LF of 6-inch storm sewer pipe has been added.

AD No 1, Civil. Item 11: **To the Drawings, C13.1, "STORM WATER POLLUTION PREVENTION PLAN"**
Description.

- All proposed filter fabric fencing has been removed from the public plans in order to eliminate redundancy with the private plans. Proposed inlet protection barriers will be sufficient for the work within the Right of Way.
- A note to provide inlet protection barriers for the next inlets along Huffsmith Kohrville Road on either side has been added to the sheet.

AD No 1, Civil. Item 12: **To the Drawings, C15.1, "LEFT TURN LANE"**
Description.

- The left turn lane design has been revised to meet the Harris County Design Standards.

AD No 1, Civil. Item 13: **To the Drawings, C16.1, "PLAN AND PROFILE – 8" SANITARY SEWER"**
Description.

- The auger pit location has been moved to the location of the proposed sanitary manhole.
- The length of the auger and 14" steel casing has been extended 10 feet to the R.O.W. line.
- Contractor will need to remove and replace existing concrete section around existing manhole in order to tie our sanitary sewer into the existing line.
- The proposed sanitary sewer tie in has been modified to match crowns with the existing flowlines.

END OF CIVIL ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

LANDSCAPE ITEMS FOR ADDENDUM NO. 1

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

PROJECT MANUAL:

DRAWINGS:

AD No 1, Land Item 1: **To the Drawings, Sheet L1.1,"LANDSCAPE PLAN"**
Paving and landscape adjusted to coordinate with new fence line. Tree and bench locations have been adjusted to this as well.

AD No 1, Land Item 1: **To the Drawings, Sheet L1.2, "ENLARGEMENT LANDSDCAPE PLAN"**
Paving and landscape adjusted to coordinate with new fence line. Tree and bench locations have been adjusted to this as well. Landscape and Hardscape legends have been updated with more information on types and finishes.
Details for concrete bench locations and conditions have been added as well as details on artificial turf installation.

END OF LANDSCAPE **ADDENDUM**

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

F-1252
F-5923

STRUCTURAL ITEMS FOR ADDENDUM NO. 1

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

PROJECT MANUAL:

DRAWINGS:

AD No 1, Struc. Item 1: To the Drawings, Sheet S0.01,"GENERAL NOTES"
Added beam end shear reaction for connection design table and updated required compressive strength for polystyrene foam fill.

AD No 1, Struc. Item 2: To the Drawings, Sheet S1.11,"MASTER PLAN - JOIST LOADING"
Added new sheet.

AD No 1, Struc. Item 3: To the Drawings, Sheet S3.03,"TYPICAL FOUNDATION DETAILS"
Deleted detail.

AD No 1, Struc. Item 4: To the Drawings, Sheet S6.03,"FLOOR & LOW ROOF FRAMING PLAN - AREA C"
Modified learning stair/nest area.

AD No 1, Struc. Item 5: To the Drawings, Sheet S6.07,"ROOF FRAMING PLAN - AREA B"
Changed roof purlin size.

AD No 1, Struc. Item 6: To the Drawings, Sheet S6.08,"ROOF FRAMING PLAN - AREA C"
Added beam axial load notation.

AD No 1, Struc. Item 7: To the Drawings, Sheet S6.09,"ROOF FRAMING PLAN - AREA D"
Changed roof purlin size.

AD No 1, Struc. Item 8: To the Drawings, Sheet S6.10,"ROOF FRAMING PLAN - AREA E"
Added beam axial load notation.

AD No 1, Struc. Item 9: To the Drawings, Sheet S6.13,"ENLARGED FLOOR FRAMING PLANS"
Modified learning stair/nest area.

AD No 1, Struc. Item 10: To the Drawings, Sheet S6.14,"ROOF SCREEN PLANS AND DETAILS"
Added new sheet.

Huckabee

AD No 1, Struc. Item 11: To the Drawings, Sheet S7.09,"FRAMING DETAILS"
Revised detail.

AD No 1, Struc. Item 12: To the Drawings, Sheet S7.15,"FRAMING SECTIONS"
Added and revised details.

AD No 1, Struc. Item 13: To the Drawings, Sheet S7.16,"FRAMING SECTIONS"
Added, deleted, and revised details.

AD No 1, Struc. Item 14: To the Drawings, Sheet S7.22,"FRAMING SECTIONS"
Deleted detail.

AD No 1, Struc. Item 15: To the Drawings, Sheet S7.22,"FRAMING SECTIONS"
Added beam axial load notation.

END OF STRUCTURAL ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

07/24/2026

ARCHITECTURAL ITEMS FOR ADDENDUM NO. 1

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

PROJECT MANUAL:

AD No 1, Arch. Item 1: **To the Project Manual, 11 6623,"GYMNASIUM EQUIPMENT"**
Updated specification as highlighted for correct model of equipment.

DRAWINGS:

AD No 1, Arch. Item 2: **To the Drawings, Sheet G3.01,"ROOF, EXTERIOR WALL, & INTERIOR PARTITION TYPES"**
Removed exterior wall type W100, W100.1, & W100.2. Wall types not used in project.

AD No 1, Arch. Item 3: **To the Drawings, Sheet AS1.02,"ENLARGED SITE PLAN"**
Updated west fence to be 6' H to match other site fence.
Updated perimeter of site finishes to align with west fence.

AD No 1, Arch. Item 4: **To the Drawings, Sheet A1.37,"LEARNING STAIRS"**
Added view 4/A1.37.

AD No 1, Arch. Item 5: **To the Drawings, Sheet A1.38,"LEARNING STAIRS"**
Updated views 1, 2, 3, 4, & 6 to show the construction of the learning stairs to be concrete slab over polyiso in coordination with structural.

AD No 1, Arch. Item 6: **To the Drawings, Sheet A1.39,"LEARNING STAIRS"**
Updated views 1, 3, 4, 5, & 7 to show the construction of the learning stairs to be concrete slab over polyiso in coordination with structural.

AD No 1, Arch. Item 7: **To the Drawings, Sheet A1.45,"PLAN DETAILS"**
Issued sheet.

AD No 1, Arch. Item 8: **To the Drawings, Sheet A2.01,"MASTER REFLECTED CEILING PLAN – LEVEL 01"**
Added general note #6.

AD No 1, Arch. Item 9: **To the Drawings, Sheet A2.30,"CEILING DETAILS"**
Revised detail #6, widen the bulkhead to include the curtain.

AD No 1, Arch. Item 10: **To the Drawings, Sheet A2.31,"CEILING DETAILS"**
Added typical detail #7.

AD No 1, Arch. Item 11: **To the Drawings, Sheet A4.1E,"FINISH PLAN – LEVEL 1- AREA E"**
Revised E121 finish tag to show tile on treads and rises.
Added detail 12/A4.45 and revised transition tag to TP03.
Added elevation tag at STAIR E117, detail 7/A4.39.

AD No 1, Arch. Item 12: **To the Drawings, Sheet A4.2B,"FINISH PLAN – LEVEL 2- AREA B"**
Revised tile annotation at alcoves. typical throughout project.
Revised FINISH PLAN GENERAL NOTES #10.

AD No 1, Arch. Item 13: **To the Drawings, Sheet A4.2C,"FINISH PLAN – LEVEL 2- AREA C"**
Added detail tags 10/A4.46 at tile sill.

AD No 1, Arch. Item 14: **To the Drawings, Sheet A4.32,"INTERIOR ELEVATIONS"**
Revised elevation #8 to show acoustic panels.

AD No 1, Arch. Item 15: **To the Drawings, Sheet A4.36,"INTERIOR ELEVATIONS"**
Revised elevation #1, # 4, #5, AND #6. Where TP03 field tile occurs TP04 to occur as accent, typical throughout project.

AD No 1, Arch. Item 16: **To the Drawings, Sheet A4.39,"INTERIOR ELEVATIONS"**
Revised elevation #5, #6, AND #7 tile pattern at Stair C105/C204.

AD No 1, Arch. Item 17: **To the Drawings, Sheet A4.46,"INTERIOR FINISH DETAILS"**
Added detail #10.

AD No 1, Arch. Item 18: **To the Drawings, Sheet A7.02,"INTERIOR FINISH DETAILS"**
Revised sky-roof dimensioning to include frame & glazing width.

AD No 1, Arch. Item 19: **To the Drawings, Sheet A8.2B,"SIGNAGE AND EQUIPMENT PLAN – LEVEL 02 – AREA B"**
Added equipment item #38 to the equipment schedule and the plan.

AD No 1, Arch. Item 20: **To the Drawings, Sheet A8.33,"CASEWORK ELEVATIONS"**
Revised elevation #16 to add upper cabinets to room F130 OFFICE.

END OF ARCHITECTURAL ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY
BRANDON K. ADAMS, PE #142295 ON 07/24/2026

PLUMBING ITEMS FOR ADDENDUM NO. 1

NOTICE TO PROPOSERS:

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PROJECT MANUAL:

DRAWINGS:

AD No 1, Plumb. Item 1: To the Drawings, Sheet P0.02,"PLUMBING SCHEDULES"

1) Added HS1 and NFWH2 for use in Kitchen to address RFI comments.
2) Changed water softener to WSF1 to avoid mix up with wash station.

AD No 1, Plumb. Item 2: To the Drawings, Sheet P2.0B,"PLUMBING PLAN – UNDER SLAB – AREA B"

1) Adjusted location of floor sink.

AD No 1, Plumb. Item 3: To the Drawings, Sheet P2.0C,"PLUMBING PLAN – UNDER SLAB – AREA C"

1) Adjusted location of floor sink.

AD No 1, Plumb. Item 4: To the Drawings, Sheet P2.0E,"PLUMBING PLAN – UNDER SLAB – AREA E"

1) Adjusted location of floor sink.

AD No 1, Plumb. Item 5: To the Drawings, Sheet P2.1A,"PLUMBING PLAN – LEVEL 01 – AREA A"

1) Added mechanical units to floor 1 plans.
2) Added keynote 6.

AD No 1, Plumb. Item 6: To the Drawings, Sheet P2.1B,"PLUMBING PLAN – LEVEL 01 – AREA B"

1) Added mechanical units to floor 1 plans.
2) Added keynotes 7, 8, 9.
3) Adjusted location of floor sink.

AD No 1, Plumb. Item 7: To the Drawings, Sheet P2.1C,"PLUMBING PLAN – LEVEL 01 – AREA C"

1) Added mechanical units to floor 1 plans.
2) Added keynotes 9 through 13.
3) Adjusted location of floor sink.

AD No 1, Plumb. Item 8: To the Drawings, Sheet P2.1E,"PLUMBING PLAN – LEVEL 01 – AREA E"

1) Added mechanical units to floor 1 plans.
2) Added keynotes 11, 12, 13.

AD No 1, Plumb. Item 9: To the Drawings, Sheet P2.1F,"PLUMBING PLAN – LEVEL 01 – AREA F"

1) Added mechanical units to floor 1 plans.
2) Added keynotes 11, 12.
3) Adjusted Water Softener callout to WSF1.

AD No 1, Plumb. Item 10: To the Drawings, Sheet P2.2A,"PLUMBING PLAN – LEVEL 02 – AREA A"

1) Added keynote 5.

AD No 1, Plumb. Item 11: To the Drawings, Sheet P2.2C,"PLUMBING PLAN – LEVEL 02 – AREA C"

1) Added keynotes 13, 14.

AD No 1, Plumb. Item 12: To the Drawings, Sheet P2.2E,"PLUMBING PLAN – LEVEL 02 – AREA E"

1) Added keynotes 14, 15.

AD No 1, Plumb. Item 13: To the Drawings, Sheet P2.2F,"PLUMBING PLAN – LEVEL 02 – AREA F"

1) Added keynote 10.

AD No 1, Plumb. Item 14: To the Drawings, Sheet P4.01,"PLUMBING ENLARGED PLAN – KITCHEN"

1) Added callouts for schedule additions HS1 and NFWH2.

END OF PLUMBING ADDENDUM

Project Name: Tomball ISD New Intermediate School
Client: Tomball ISD
Tomball, Texas
Project Number: 01909-05-01

THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY
GABRIEL R. GARCIA, PE #125068 ON 07/24/2026

MECHANICAL ITEMS FOR ADDENDUM NO. 1

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REFERENCE IS MADE TO THE DRAWINGS AS NOTED:

DRAWINGS:

AD No 1, Mech. Item 1: To the Drawings, Sheet M0.02, "MECHANICAL SCHEDULES"

1) Updated duct silencer schedule.

AD No 1, Mech. Item 2: To the Drawings, Sheet M2.1C, "MECHANICAL PLAN – LEVEL 1 – AREA C"

1) Duct silencer noted on supply of AHU 3.

END OF MECHANICAL ADDENDUM

Project Name: Tomball ISD New Intermediate School
Client: Tomball ISD
Tomball, Texas
Project Number: 01909-05-01

THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY
B. KYLE HASKOVEC, PE #143448 ON 07/21/2026

ELECTRICAL ITEMS FOR ADDENDUM NO. 1

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REFERENCE IS MADE TO THE DRAWINGS AS NOTED:

DRAWINGS:

AD No 1, Elec. Item 1: To the Drawings, Sheet E0.02, "ELECTRICAL SCHEDULES"

1) Added fixture types J3 and FS8E to the fixture schedule.

AD No 1, Elec. Item 2: To the Drawings, Sheet E1.00, "ELECTRICAL POWER SITE PLAN"

1) Added Generator Note per city comment.

AD No 1, Elec. Item 3: To the Drawings, Sheet E2.1C, "POWER PLAN – LEVEL 01 – AREA C"

1) Added more receptacles at Learning Stair C218.
2) Updated backlit signage note to include basis of design for tape lighting.

AD No 1, Elec. Item 4: To the Drawings, Sheet E2.1E, "POWER PLAN – LEVEL 01 – AREA E"

1) Updated backlit signage note to include basis of design for tape lighting.

AD No 1, Elec. Item 5: To the Drawings, Sheet E2.1F, "POWER PLAN – LEVEL 01 – AREA F"

1) Added receptacles for TV's in Dining Area F112.

AD No 1, Elec. Item 6: To the Drawings, Sheet E2.2C, "POWER PLAN – LEVEL 02 – AREA F"

1) Updated backlit signage note to include basis of design for tape lighting.

AD No 1, Elec. Item 7: To the Drawings, Sheet E2.2E, "POWER PLAN – LEVEL 02 – AREA F"

1) Updated backlit signage note to include basis of design for tape lighting.

AD No 1, Elec. Item 8: To the Drawings, Sheet E3.1C, "LIGHTING RCP – LEVEL 01 – AREA C"

1) Added FS8E fixture under stairwell C105.
2) Added exit signs under exterior canopy per city comments.

AD No 1, Elec. Item 9: To the Drawings, Sheet E3.1E, "LIGHTING RCP – LEVEL 01 – AREA E"

1) Added FS8E under stairwell E117.

AD No 1, Elec. Item 10: To the Drawings, Sheet E3.1F, "LIGHTING RCP – LEVEL 01 – AREA F"

1) Updated lighting around serving line entries to new J3 cove light.

AD No 1, Elec. Item 11: To the Drawings, Sheet E3.2A, "LIGHTING RCP – LEVEL 02 – AREA A"

1) Updated lighting of main entry to new J3 cove light.

AD No 1, Elec. Item 12: To the Drawings, Sheet E3.2B, "LIGHTING RCP – LEVEL 02 – AREA B"

1) Added exit sign locations per city comments.

AD No 1, Elec. Item 13: To the Drawings, Sheet E3.2D, "LIGHTING RCP – LEVEL 02 – AREA D"

1) Updated exit sign layout in main corridor per city comments.

AD No 1, Elec. Item 14: To the Drawings, Sheet E5.08, "ELECTRICAL PANEL SCHEDULES"

1) Added circuits for new TV's on panel 7-L1..

END OF ELECTRICAL ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

TECHNOLOGY ITEMS FOR ADDENDUM NO. 1

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

PROJECT MANUAL:

AD No 1, TECH. Item 1: **27 1000 – STRUCTURED CABLING SYSTEM**

- Added section 2.08 COMPOSITE COPPER FIBER CABLE

DRAWINGS:

AD No 1, TECH. Item 2: **T0-00 GENERAL NOTES AND LEGENDS**

- Revised CABLE TYPE LEGEND – Added Type J – Composite Copper Fiber Cable
- Revised SYMBOL LEGEND – VIDEO SURVEILLANCE SYSTEMS – to show INP Pole Mount type cameras

AD No 1, TECH. Item 3: **T1-00 TECHNOLOGY OVERALL SITE PLAN**

- Site cameras changed to INP - for pole mounts

AD No 1, TECH. Item 4: **T19-10 SECURITY DEVICE SCHEDULES**

- Security schedule updated to show INP - Pole Mount

END OF TECHNOLOGY ADDENDUM

Project Name: Tomball Intermediate School
Client: Tomball ISD
Tomball, TX
Project Number: 00802-04-01

AV/TS ITEMS FOR ADDENDUM NO. 1

NOTICE TO PROPOSERS:

A. This Addendum shall be considered part of the contract documents for the above-mentioned project as though it had been issued at the same time and incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original contract documents, this Addendum shall govern and take precedence.
B. Proposers are hereby notified that they shall make any necessary adjustments in their estimate on account of this Addendum. It will be construed that each Proposer's proposal is submitted with full knowledge of all modifications and supplemental data specified therein. Acknowledge receipt of this addendum in the space provided on the proposal form. Failure to do so may subject Proposer to disqualification.

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

PROJECT MANUAL:

AD No 1, AV/TS. Item 1: **27 5000 - DISTRIBUTED COMMUNICATIONS AND MONITORING SYSTEMS**
- Added Section 2.06 – Network Switch
- Removed Section 3.07 - CAT5E/CAT6 CABLE CERTIFICATION

DRAWINGS:

AD No 1, AV/TS. Item 2: **AV0-00 GENERAL NOTES AND LEGENDS**
- Revised SYMBOL LEGEND – AUDIO/VISUAL SYSTEMS - Mounting height added for DB – Wall/Column

AD No 1, AV/TS. Item 3: **AV1.1B - FLOOR PLAN - LEVEL 01 - AREA B**
- Added DB and AV2 wall plate to Principals Office B128

AD No 1, AV/TS. Item 4: **AV11.13 – OFFICE AND MEETING ROOMS FUNCTIONAL DIAGRAMs**
- Renamed sheet from "MEETING AND HUDDLE ROOMS FUNCTIONAL DIAGRAMS"
- Added Detail 3, "PRINCIPALS OFFICE B128 FUNCTIONAL DIAGRAM"
- Added Detail 4, "PRINCIPALS OFFICE AV2 PLATE DETAILS"

AD No 1, AV/TS. Item 5: **TS1.2F – ENLARGED PLAN – UPPER LEVEL – AREA F**
- Revised location of Keynote 749.
- Added Keynote 701.

AD No 1, AV/TS. Item 6: **TS5.01 – SECTIONS AND RIGGING SCHEDULES**
- Revised Lineset Schedule – Dimensions From Datum, Lineset 4 Offset
- Revised Drapery Schedule, US Traveler with Rear Liner Size, Main Drape Size
- Clarified Keynotes 719 and 718 on Detail 2, "FOH FACING TRANSVERSE SECTION"
- Revised Lineset 4 Offset; Clarified Keynotes 719 and added Keynote 722. Updated Lineset 1 Drapery Height on Detail 1, "PLATFORM CENTERLINE SECTION"
- Added instances of Keynote 719 on Detail 3 "STAGE FACING TRANSVERSE ELEVATION"

END OF AV/TS ADDENDUM

Huckabee

07/24/2026

SECTION 11 6623
GYMNASIUM EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Basketball backboards, goals, and support framing.

B. Wall mounted protection pads.

1.02 RELATED REQUIREMENTS

A. Section 03 3000 - Cast-in-Place Concrete: Concrete floor slab to receive floor sleeves and anchors.

B. Section 05 1200 - Structural Steel Framing: Structural members supporting basketball systems.

C. Section 05 5000 - Metal Fabrications: Secondary structural members supporting gymnasium equipment.

D. Section 09 6466 - Wood Athletic Flooring

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023.

B. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).

C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

D. NFPA 101 - Life Safety Code; 2017.

E. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Large Components: Ensure that large components can be moved into final position without damage to other construction.

B. Electrically Operated Equipment: Coordinate location and electrical characteristics of service connection.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's data showing configuration, sizes, materials, finishes, hardware, and accessories; include:
   1. Electrical characteristics and connection locations.
   2. Structural steel welder certifications.
   3. Manufacturer's installation instructions.

C. Shop Drawings: For custom fabricated equipment indicate, in large scale detail, construction methods; method of attachment or installation; type and gage of metal, hardware, and fittings; plan front elevation; elevations and dimensions; minimum one cross section; utility requirements as to types, sizes, and locations.

D. Erection Drawings: Detailed dimensional requirements for proper location of equipment and court layouts.

E. Submit a copy of the latest UIL rules and regulations verifying compliance

F. Samples: Submit samples of manufacturer's available range of colors, textures, and graphics. Accompanying the submittal described above, submit Samples of each sealant, each backing material, each primer, and each bond breaker proposed to be used

G. Operating and maintenance data, for each operating equipment item.

H. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified with minimum three years of experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site in manufacturer's original packaging with factory original labels attached.

B. Store products indoors and elevated above floor; prevent warping, twisting, or sagging.

C. Store products in accordance with manufacturer's instructions; protect from extremes of weather, temperature, moisture, and other damage.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Backboard and goal shall have a life-time replacement warranty against breakage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gymnasium Equipment:
   1. AALCO Manufacturing Company; www.aalcomfg.com.
   2. ADP Lemco, Inc.; www.adplemco.com.
   3. Arizona Courtlines, Inc; www.arizonacourtlines.com.
   4. Draper, Inc: www.draperinc.com/sle.
   5. IPI by Bison, Inc: www.ipibybison.com/#sle.
   6. Performance Sports Systems: www.perfsports.com.
   7. Porter Athletic Equipment Company: www.porterathletic.com.
   8. Sports Imports: www.sportsimports.com
   9. Substitutions: See Section 01 6000 - Product Requirements.

2.02 GENERAL REQUIREMENTS

A. All equipment model numbers equal to Porter Equipment Co.

B. See drawings for sizes and locations, unless noted otherwise.

C. Where mounting dimensions or sizes are not indicated, comply with applicable requirements of the following:
   1. National Federation of State High School Associations (NFHS) sports rules.
   2. United States Olympic association rules for the sport.

D. Provide mounting plates, brackets, and anchors of sufficient size and strength to securely attach equipment to building structure; comply with requirements of Contract Documents.

E. Hardware: Heavy duty steel hardware, as recommended by manufacturer.

F. Electrical Wiring and Components: Comply with NFPA 70; provide UL-listed equipment.

G. Structural Steel Fabrications: Welded in accordance with AWS D1.1/D1.1M, using certified welders.

2.03 BASKETBALL

A. Wall-Mounted Backstop Assemblies:
   1. Framing: Stationary framing.
      a. Side Court; model 00312-R10H
   2. Height Adjuster: Each backstop shall be provided with line height adjustment unit model 900 that raises or lowers assembly by 2 feet to adjust goal height from 8'-0" to 10'-0" A.F.F..
   3. Framing Color: Manufacturer's standard.

B. Ceiling-Suspended Backstop Assemblies:
   1. Framing: Center strut; forward folding; front braced framing
      a. Main Court; model 0949-00
   2. Folding Control System: Electric hoist; Provide each retractable backstop with a model 713, 1 H.P. electric winch. Winch and safety strap model 797 and key switch model 791. Refer to Section 08 7100 – Door Hardware for key cylinder.
   3. Height Adjuster: Each backstop shall be provided with line height adjustment unit model 900 to raise/lower assembly by 2 feet to adjust goal height from 8'-0" to 10'-0" A.F.F..
   4. Framing Color: Manufacturer's standard.

C. Backboards: Model 00208-300, 1/2" Tempered glass, rectangular shaped.
   1. Frame: Brushed aluminum edge, steel mounting.
   2. Dimensions: 42 inches high by 72 inches wide
   3. Markings: Integrally manufactured.
   4. Provide model 00-326 safety padding for bottom edge of backboard.
   5. Provide mounting kit.
   6. Color: As selected from manufacturer's standard selection.

D. Goals: Model 236154 steel rim, mounted to backboard, with attached nylon anti-whip net; complete with mounting hardware.
   1. Net Attachment Device: Tube-tie.
   2. Finish: Powder coat orange.

2.04 WALL PADDING

A. Wall Padding: Model 00575-1 with foam filling bonded to backing board, wrapped in covering; each panel fabricated in one piece.
   1. Surface Burning Characteristics: Flame spread index (FSI) of 25 or less, smoke developed index (SDI) of 450 or less, Class A, when tested in accordance with ASTM E84 as a complete panel.
   2. Flammability: Comply with NFPA 286.
   3. Covering: Vinyl-coated polyester fabric, mildew and rot resistant; stapled to back of board.
      a. Color: As selected from manufacturer's standard range.
      b. Texture: Embossed leather-look.
      c. Fabric Weight: 19 oz/sq yd.
   4. Foam: Flame Retardant Neoprene Foam
   5. Foam Thickness: 2 inches.
   6. Backing Board: Oriented strand board.
      a. Thickness: 7/16 inch.
      b. Surface Burning Characteristics: Flame spread index (FSI) of 25 or less, smoke developed index (SDI) of 450 or less, Class A, when tested in accordance with ASTM E84.
   7. Panel Dimensions: 24 inches wide by 70 inches long, no nailing margins.
   8. Mounting: Removable; Model 00347-100 and 00347-200 mounting hardware. Set wall pads 2" above floor elevation

B. ~~Specially Shaped Padding: Same construction as standard padding; custom fabricate to fit irregularly shaped members, areas, and protrusions in gymnasium as indicated; provide padding for:~~
   1. ~~Wall corners.~~
   2. ~~Hand Rail and Guard Rail~~

C. ~~Round Column Padding: Same construction as standard padding; made to fit; with grommet strip on each long side of pad, provide laces.~~

PART 3 EXECUTION

3.01 EXAMINATION

A. Take field measurements to ensure proper fitting of work. If taking field measurements before fabrication will delay work, allow for adjustments within recommended tolerances.

B. Inspect areas and conditions before installation, and notify Architect in writing of unsatisfactory or detrimental conditions.

C. Do not proceed with this work until conditions have been corrected; commencing installation constitutes acceptance of work site conditions.

D. Verify that electrical services are correctly located and have proper characteristics.

3.02 INSTALLATION

A. Install in accordance with Contract Documents and manufacturer's instructions.

B. Coordinate installation of inserts and anchors that must be built in to flooring or subflooring.

C. Install equipment rigid, straight, plumb, and level.

D. Secure equipment with manufacturer's recommended anchoring devices.

E. Install wall padding securely, with edges tight to wall and without wrinkles in fabric covering.

F. Separate dissimilar metals to prevent electrolytic corrosion.

3.03 ADJUSTING

A. Verify proper placement of equipment.

B. Verify proper placement of equipment anchors and sleeves, and use actual movable equipment to be anchored if available.

C. Adjust operating equipment for proper operation; remove and replace equipment causing noise or vibration; lubricate equipment as recommended by manufacturer.

3.04 CLEANING

A. Remove masking or protective covering from finished surfaces.

B. Clean equipment in accordance with manufacturer's recommendations.

3.05 PROTECTION

A. Protect installed products until Date of Substantial Completion.

B. Replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 27 1000

STRUCTURED CABLING SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. The intent of this specification is to ensure a successful installation of an American National Standards Institute (“ANSI”) and Telecommunications Industry Association (“TIA”) Standards-Based Structured Cabling System (“SCS”) throughout the Project.

B. The SCS is to be constructed and tested to ANSI/TIA-568-C Standards for Category 6 and 6A performance. Certification requirements will include a minimum 25 year product and performance warranty.

C. The SCS provides the physical media for the Project’s Local Area Network (LAN) and, as such, provides connectivity for:

1. Data and telecommunication outlets.
2. Facility Monitoring System network devices, e.g., surveillance cameras.
3. Voice over Internet Protocol (VoIP).
4. Wireless Local Area Network (WLAN).
5. Building Automation System

D. The drawings and specifications and requirements between governing Codes and Regulations may vary. The more restrictive requirements shall be followed on this project.

E. Nothing in the Contract Documents grants authority or permission to disregard or violate any legal requirements.

F. Materials are to be purchased new for this project.

G. Materials that are listed by UL must bear the UL label. In the event UL has no published standard for a particular item, then other independent testing standards are to apply and the applicable labeling utilized.

H. Coordinate exact location and installation of equipment, power, grounding and raceway requirements with the Architect.

I. Provisioning is required for labor, equipment, materials, supplies and plant.

J. Related Sections:

1. The following list is intended only as a reference for the Contractor’s cognizance and may not represent a complete list of divisions of the Project Manual related to this section.
   a. Division 01: General Requirements.
   b. Division 08: Openings.
   c. Division 09: Finishes.
   d. Division 26: Electrical.
   e. Division 28: Electronic Safety and Security

K. The work of this section also includes:

1. Required licenses, insurance and permits including payment of charges and fees.

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2. Verification of dimensions and conditions at the job site.
3. Preparation of submittal information.
4. Installation of Owner Furnished Equipment (OFE) listed in Part 2 of this Section.
5. Installation in accordance with the contract document, manufacturer's recommendation, and in conformity with applicable codes and the authority having jurisdiction (AHJ).
6. Coordination of electrical service, including ground, for SCS/IT equipment locations.
7. Final tests and adjustments, written report, and documentation.
8. Instruction of system operation to Owner's technical representative.
9. Provision of manuals.
10. Maintenance services and warranty.

1.03 REFERENCE CODES AND STANDARDS

A. Compliance with the following published codes, standards, and tests and recommended methods of trade, industry, or governmental organizations are required for Work in this section.

1. Telecommunications Industry Association (TIA)
    a. ANSI/TIA-568-C (series),Telecommunications Cabling Standards.
    b. ANSI/TIA-569-D, Commercial Building Standard for Telecommunications Pathways and Spaces
    c. ANSI/TIA-606-C, Administration Standard for Commercial Telecommunications Infrastructure
    d. ANSI/TIA-607-C, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises
    e. ANSI/TIA-758-B, Customer-owned Outside Plant Telecommunications Infrastructure Standard
    f. TIA-526-7-A, Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
    g. TIA-526-14-C Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant
    h. TIA/TSB-140 Additional Guidelines for Field-Testing Length, Loss and Polarity of Optical Fiber Cabling Systems
2. Other
    a. National Electrical Manufacturers Association (NEMA), VE 2-2018 Cable Tray Installation Guidelines
    b. BICSI Telecommunications Distribution Methods Manual (TDMM), 14th Edition
    c. BICSI Outside Plant Design Reference Manual, 5th Edition
    d. National Electric Code (NEC), 2017 Edition
    e. Underwriters Laboratory, Inc. (UL)
    f. Americans with Disabilities Act (ADA)
    g. Requirements of the local Authority Having Jurisdiction (AHJ).

1.04 DEFINITIONS

A. In addition to definitions of Division 01, the following list of terms used in this section are defined as follows.

1. "Furnish" indicates to purchase, procure, acquire, and deliver complete with related accessories.

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2. “Install” indicates to set in place, join, attach, link, set up or otherwise connect together and test until complete before turning over to the Owner, all parts, items, or equipment.
3. “Provide” indicates to furnish and install.
4. Some processes, methods, and procedures, as well as spaces, rooms and structure, may be abbreviated or used interchangeably within this section. The following list is presented to reconcile these differences within this section.
    a. SCS: Structured Cabling System. A SCS is defined as all required cabling including hardware, termination blocks, cross connect wire or cordage, patch panels, patch cords, telecommunication outlets, work area cords, UTP and fiber optic cable installed and configured to provide computer data and voice connectivity from each data or voice device to the network file server or voice network/switch designated as the service point of the local area network.
    b. TS: Telecommunications Space. A common area used for telecommunications cabling terminations and the location of telecommunications equipment, typically a secure environmentally controlled area
    c. EF: Entrance Facility. A TS is the entrance to a building for both public and private network service cables, including the entrance point at the building wall or floor, and continuing to the entrance room or entrance space.
    d. MDF: Equipment Room. This is the TS that contains main electronics of the telecommunications system, such as servers, controllers and phone systems. This room is also often the center of the SCS that connects with all other TSs.
    e. IDF: Telecommunications Room. This is typically the TS where cables from workstations terminate. The IDF is designated for an exclusive purpose of housing telecommunication communications equipment and related wiring that serves a specific area of the building.
    f. TE: Telecommunication Enclosure. This is a stand-alone wall mounted or floor mounted enclosure that provides the same service as the IDF to a specific area of the building.
    g. WAO: Work Area Outlet. The workstation end-point of horizontal distribution cable. An icon legend is provided on the related drawings, and symbols or legends represent the type and quantity of cables terminated at the WAO.
    h. Backbone: The Backbone subsystem links the MDF to IDFs and TEs. It consists of the fiber optic or copper cables between these locations and the associated connecting hardware terminating this media.
    i. PBB: Primary Bonding Busbar – The common source for bonding telecommunications equipment within the MDF and the MDF with building ground.
    j. SBB: Secondary Bonding Busbar - The common source for bonding telecommunications equipment within the EF, IDF or TE and with the PBB.
    k. TBB: Telecommunications Bonding Backbone: Copper cable that connects the PBB to SBBs throughout the building.
    l. TBC: Telecommunications Bonding Conductor: Copper cable that connects the SBB to an electrical ground and building steel.

1.05 PROJECT CONDITIONS

A. Verify dimensions and conditions on the job site applicable to this work. Notify the Architect in writing of discrepancies, conflicts, or omissions promptly upon discovery.

B. The drawings diagrammatically show cabling and arrangements of equipment fitting the space available without interference. If conditions exist which make it impossible to install work as

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shown, recommend solutions and/or submit drawings to the Architect for approval, showing how the work may be installed.

C. If a conflict develops between the contract documents and the appropriate codes and is reported to the Architect prior to bid opening, the Architect will prepare the necessary clarification. When a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform work.

D. During the course of construction, room names and/or room numbers may be changed. For continuity during installation the Contractor shall refer to rooms and spaces by their identities as shown on the technology series drawings. This shall apply to all correspondence, RFI's, proposal requests, and submittal packages pertaining to this Section.

E. Provide temporary or permanent protection of materials bearing the UL label that risk exposure to conditions that may compromise any portion of the material.

1.06 SCOPE SUMMARY

A. This entire specification section and the project drawings define the requirements for the installation of a SCS. The following is intended to summarize the Work and clarify design intent and is not an exhaustive description of the SCS.

B. Coordinate exact location and installation of the following:

1. Conduits, wire-ways, cable trays external to the telecommunication spaces, floor boxes, wall boxes, pull boxes, and junction boxes
2. Slots and sleeves
3. Firestopping products
4. AC power circuits for telecommunications equipment
5. AC power circuits within telecommunications spaces
6. Plywood wall linings within telecommunications spaces
7. Lighting requirements within telecommunications spaces
8. MEP systems and equipment terminating within or intersecting telecommunications spaces
9. Telecommunications grounding and bonding system required for telecommunications spaces
10. Wireless access points with light fixtures, HVAC ductwork, and architectural elements
11. Incoming service provider circuits

C. Deliver Submittals, Shop Drawings and Cable Test Records as specified herein.

D. Obtain permits, licenses, or other municipal requirements and pay any fees required for the execution of this Work.

E. Provide copper or fiber optic cabling for network communication applications homerun from the IDF to individual work area outlets or network devices as shown on the related drawings.

1. Provide faceplates, surface mount boxes, raceway products, copper and fiber optic inserts, blank inserts, patch panels, termination blocks, and copper and fiber optic patch cables.
2. Provide surge protection modules as specified and shown on drawings or required to protect circuits from damaging electrical surges.

F. Provide backbone cabling consisting of twisted pair copper, fiber optic cable, and ground wire as specified and shown on drawings.

1. Twisted pair cable terminations shall include both punch-down blocks and patch panels.
2. Fiber optic termination shall be with specified connector.

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3. Ground wire terminations shall utilize irreversible crimp style lugs.

G. Provide primary and branch pathway distribution systems which may consist of cable tray, conduit, J-hooks, of ladder runway for the support and protection of horizontal and backbone cabling.

H. Provide racks, cabinets, cable management, and cable runway to route cables and securely house telecommunications equipment and cabling termination panels.

I. Provide bonding of equipment racks, armored cable sheaths, and cable pathway system in accordance with equipment manufacturer's requirements and ANSI/TIA 607-C Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.

J. Provide labeling of the completed systems, components, and cabling in accordance with TIA-606-B or Owner's standards. Verify labeling scheme with Owner prior to implementation.

K. Provide mechanical and non-mechanical firestopping systems as specified or required by code.

L. Perform tests of the completed SCS installation in accordance with the following:

1. ANSI/TIA-568-C.2, for twisted pair cabling
2. ANSI/TIA-568.3-D, for fiber optic cabling

M. Supply accessories and minor equipment parts required for a complete working system, even if not specifically mentioned in these Specifications or on the drawings, without claim for additional payment.

N. Perform installation and testing utilizing trained and certified staff in order to provide the Owner's vendor of choice SCS extended product and application warranty certification. The Contractor shall extend this certification on behalf of the manufacturer.

O. Provide instructions to the Owner's designated personnel on the system documentation, proper methods of use and maintenance of the system and related components.

P. Provide the SCS complete and ready for use by the Owner.

1.07 CONTRACTOR QUALIFICATIONS

A. Must be a CommScope Uniprise Certified Integrator/Installer factory trained and authorized to provide the Owner's vendor of choice SCS extended warranty covering all network cable and connectivity hardware products comprising this project.

B. Must be a Tomball ISD approved SCS installer, no other installers will be considered:

1. E-Tech
2. Duke System
3. Triumph
4. TAG

C. Must submit current manufacturer certification documentation for installation training and ability to provide the manufacturer warranty.

D. SCS installation staff shall be employees of the certified vendor with a minimum of 25% of the installation staff to be factory trained and certified for the duration of the project.

E. Must have an on staff Registered Communications Distribution Designer (RCDD®) for the performance of quality control during installation, equipment set-up, and testing.

1. They are to be officed within 75 miles of the project site.

F. Must have five plus (5+) years of experience with equipment and systems of the specified types.

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G. Must have completed comparable sized projects. Provide a reference sheet of (10) similar size projects with project name and date of subnational completion with contact information confirming successful completion in the SCS system.

H. Must have proven abilities to test and certify telecommunications cabling systems, and to create test records in compliance with the referenced standards of this specification section and in accordance with the calibration requirements as stated by the test equipment manufacturer.

I. Must maintain a fully staffed and equipped service facility.

J. Must perform operations necessary to complete the installation of a SCS in accordance with these specifications utilizing related drawings.

K. At the request of the Architect, the Contractor must demonstrate an adequate staff with commensurate technical experience available.

L. At the request of the Architect, the Contractor must demonstrate adequate plant and equipment available to complete the work.

1.08 PRE-CONSTRUCTION SUBMITTALS

A. The pre-construction submittal is required to verify the Contractor will obtain the specified product, understands the processes and procedures, and understands the requirements to install, test, certify and create test record documentation for the SCS.

B. Requests for substitutions of specified product must be done using procedures specified in Division 01. Requests must be done prior to submittals. Substitutions submitted that have not been approved will be rejected.

C. The Submittal package is to be delivered for approval prior to commencement of Work.

1. Any submittals beyond the original submittal and one resubmittal may result in charges to the Contractor (charged for third and any subsequent reviews).
2. Additional review fees will be at the prevailing rate in effect at the time that the additional review takes place

D. The Submittal for this portion of the Work must be assembled and packaged as specified.

E. Provide submittals in an electronic version in Adobe PDF format as follows:

1. Document set shall be in a folder named as follows:
   a. “27 10 00 SUBMITTAL – PROJECT NAME – {*CONTRACTOR name*}”.
2. The submittals shall contain information in the following order
   a. “Project Compliance
   b. “Certificates”
   c. “Test Equipment”
   d. “Materials”
   e. “Labels & Markings”
   f. “Shop Drawings”

F. “Project Compliance” folder shall contain a PDF document that includes:

1. The first page stating the project title, submittal number, and submittal date in the header. This cover sheet must be imprinted with Contractor’s stamp, initialed or signed, certifying that the Submittal Package offered is in compliance with the requirements of this Section, and the material is in compliance with this Section of the Project Manual or with approved substitutions.
2. The next page shall state any questions or concerns that might be relevant to clarifying the work

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3. Provide a list of ‘Approved’ substitutions, if any.

G. “Certificates” folder shall contain a PDF document that includes:
   1. Current manufacturer Certification that shows that the Warranty requirement of this Section can be provided by the Contractor.
   2. RCDD certificate and any other BICSI certifications called out as a requirement in this Section

H. “Test Equipment” folder shall contain a PDF document that includes
   1. Provide a manufacturers technical data sheet of the test equipment that will be utilized for test and certification of the specified cabling. Include the Manufacturer, make and model.
   2. Submit an example of a test record document containing test records that have been created with the scheduled test equipment for the type of cabling to be tested.

I. “Materials” folder shall contain a PDF document that includes
   1. A complete materials list or Bill of Materials that includes all products specified in this Section or previously approved through the substitution request process in Division 1.
      a. Present the materials list or Bill of Materials in the order in which the product is specified in Part 2 of this section.
      b. The column headings for the list must include a product description, manufacturer, part number, quantity of item required, use or location on project, and PDF page number of product data sheet in this document.
   2. Product data sheets shall be combined into (1) PDF document. The PDF page number is the actual number of pages into the document where the product sheet can be found.
   3. Example

Description	Manufacturer	PN	Use	Page
Blue Category 6 jack	Ortronics	OR-TJ600-44	Data outlet	15

      a. Immediately following the list, insert the manufacturers’ product data sheet (PDS).
      b. Arrange the sheets in the same sequence and order of the list of Materials.
      c. The literature must provide sufficient detail to facilitate proper evaluation of the product’s suitability for use within the Work.
      d. Any PDS or literature sheets that provide product options, or sheets that also include items not intended for this work, must be clearly marked with an arrow or other appropriate symbol to indicate the model and/or option being submitted for the work.

J. “Labels & Markings” folder shall contain a PDF document that includes:
   1. Photos or drawings of the proposed labels, tags and markers for cables, patch panels, termination blocks, busbars, fire sleeves, enclosures, racks, outlet faceplates and other components as necessary.
   2. Representative nomenclature for equipment and cable labeling, with labeling as defined in ANSI/TIA-606-B Class 2 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings. Include font sizes and styles, an explanation of the rationale for the nomenclature, and a Key, which defines the descriptors and designators of the labeling system.
   3. Labels shall be permanent and intended to last the life of the system, device, or equipment being labeled.
   4. Product sheets for label materials shall be included in the “Materials” folder

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K. “Shop Drawings” shall contain PDF documents including:
   1. Large-sheet drawings;
      a. Drawing rendered in AutoCAD™ or an AutoCAD™-compatible application.
      b. Execute drawings at an appropriate scale but no less than 1/8”=1’-0”.
      c. Create drawings using industry-standard graphics and a monochromatic scheme with varied line types and weight so the attributes of the various elements of the image are readily discernable.
      d. Enlarged floor plans and elevations of each equipment room in the project with equipment and ladder runway(s) placement in the rooms shall be shown to scale.
      e. The Shop Drawings will be the source document for the As-Built drawings that the Contractor is required to provide at the close of the project.
   2. Floor plan sheets that depict;
      a. Device symbol legend
      b. Individual service areas of the facility.
      c. Equipment room locations.
      d. Work area faceplate/outlets locations.
      e. Cable pathways, raceway type, and locations.
      f. Horizontal cable link length for longest cable lengths based on above routing.
      g. Location and size of wall penetrations/sleeve pass-thru.
      h. Quantity of cables passing through each wall penetration/sleeve pass-thru.

1.09 CONSTRUCTION CLOSE-OUT SUBMITTALS

A. Submit Closeout documentation in accordance with Division 01 of the Project Manual and any applicable supplements.

B. Each submittal shall be provided in a PDF format.

C. Provide each submittal PDF file with the project title and submittal number.
   1. Transfer media, CD, or memory stick shall be labeled with same information.

D. Segregate documents into separate folders containing data relevant to operational, maintenance, and warranty issues.

E. Warranty and Maintenance:
   1. Statement of warranty commencement date, length of warranty, and all warranty certificates issued by manufacturer.
   2. Provide a list of contact names, telephone numbers, and hours of operation for normal warranty service.
   3. Provide a contact name/number for 365/7/24 emergency warranty service with an explanation of limiting conditions if applicable.
   4. Include maintenance phone number(s) and hours; maintenance schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.
   5. Manufacturer data sheets and installation manuals/instructions for equipment installed shall be included.

F. Test Report CD(s)
   1. Results of copper and fiber-optic tests specified in Part 3 of this section of the Project Manual.

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a. The test records are to be a full test report of individual copper media and fiber optical media test results for each fiber-optic cable strand.

b. The test record must include information regarding the building, closet, patch panel and “port” number of the patch panel; the test device type and ID, the name of the test technician performing the test, and the date and time that the test was conducted.

2. The test records are to be placed in a “Test Record” file in ascending sequential order by building, closet and patch panel.

3. Provide an electronic file containing all individual test records and the software required to display and print the test records using a typical personal computer (PC).

G. As-Built Drawings

1. Provide “as-built” drawings of the completed cabling installation.

2. The as-built drawings must indicate:

a. The actual locations of the work area faceplate/outlets

b. Pathways and pathway fill

c. Media identification information at each faceplate/outlet

d. The identity information for each Equipment Room

e. Revised equipment rack layout detail drawings

f. All field changes, corrections, modifications, and updates to the shop drawings

3. One (1) color/laminated full-size drawing must be attached to the wall of each IDF to include the aforementioned information. Only the drop locations served from each particular IDF are to be included on each color/laminated drawing for that IDF.

4. Provide owner copies of “as-built” drawings on CD media in AutoCAD 2002 or later, Revit and PDF format.

H. Provide Owner any keys to cabinets and/or equipment and special maintenance tools required to repair, maintain, or service the system.

I. Furnish a list (in excel format) of all data drops listed by IDF number, patch panel number, and port number with the associated assigned room number.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Ship product in its original container, to prevent damage or entrance of foreign matter.

B. Handling and shipping in accordance with manufacturer’s recommendation.

C. Provide protective covering during construction, to prevent damage or entrance of foreign matter.

D. Provide warning placards, warning tape or protective barrier systems for temporary protection of products or personnel during installation processes to include but not limited to the following:

1. Cabling subject to foot or vehicle traffic laid on the floor/ground as a service loop.

2. Exothermic welding of telecommunications bonding conductors.

3. Open trench work during cabling installation.

E. Provide a minimum temperature schedule for cold climate installations of the SCS. Do not install cabling or equipment in climate conditions less than the manufacturer’s recommended minimum temperature.

F. Replace at no expense to Owner, product damaged during storage, handling or the course of construction.

1.11 PRODUCT WARRANTY AND APPLICATION ASSURANCE

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A. The SCS Manufacturer's Extended Product Warranty and Application Assurance requirements are as follows:
   1. Extended Product Warranty
   2. Application Assurance
   3. Term of Warranty
      a. A minimum of 25 years from the date of substantial completion.
      b. Moves, additions, or changes are covered by the original registration certificate if performed by an approved installer in compliance with the supplier's SCS design, installation and registration requirements.

B. Contractor's warranty covering installed products and labor against defects in materials and workmanship for a period of 1 year.
   1. Within the 1-year warranty period, answer service calls within 4 hours and begin work to correct the deficiency within twenty-four hours.

C. Manufacturer Warranty starts the date of projects warranty certification issue to the District from the manufacturer.

D. A manufacturer's Representative shall inspect and certify all work to validate the manufacturer's warranty.

PART 2 - PRODUCTS

2.01 GENERAL

A. Related Divisions and articles remain applicable to the products specified herein. Any repetition of related specification is for emphasis only.

B. Products shall be new, free from defects and listed by UL or ETL when an applicable standard exists.

C. Regardless of the length or completeness of the descriptive paragraph herein, provide product complying with the specified manufacturer's published specifications.

D. Product not specifically identified within this document, but which is required for the successful implementation of the intended system(s), shall be of the same class and quality as the specified product and equipment.

E. Products of one type must be from the same manufacturer throughout the entire project.

F. Products included in this Section are to establish performance requirements to be used on this project; equivalent products are acceptable with Owner approval.

G. Any materials required in the completion of the cabling infrastructure and make-ready for use by the Owner that is not listed is to be provided as if it were specified.

2.02 CABLE PATHWAYS AND SUPPORT

A. Conduit
   1. Refer to Division 26 for product details
   2. Requirements for bend radius, run lengths, and pull boxes are called out in this Section and on the drawings.

B. Cable Ladder Tray, 18"W x 4"H
      a. Aluminum I-beam design with 9" rung spacing with 7" rail height
      b. UL classified

C. Cable Ladder Tray Fittings

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1. Aluminum I-beam design with 9” rung spacing or solid bottom matching tray width and rail height
2. Provide for use at cable tray intersections, bends, and offsets
3. Adjustable splice plates are not acceptable for use in place of factory fittings
4. UL classified

D. Cable Ladder Tray Splice Plates
1. Provide UL classified splice plates for use with adjoining straight sections of cable ladder tray
2. Provide UL classified splice plates for use with adjoining straight sections of cable ladder tray to factory fittings
3. Provide with pre-drilled mounting holes
4. Provide with manufacturer recommended mounting hardware with the hex nut on the outboard side of the rail.
5. Provide expansion splice plates in accordance with NEMA VE-2, Table 3-2
6. Provide manufacturer recommended bonding jumpers on both side rails of adjoining sections of cable ladder tray at expansion joints

E. Cable Ladder Tray Strut Support
1. Provide strut support no less than 4” greater than the width of the cable tray
2. Provide with manufacturer’s recommended securing hardware in accordance with NEMA VE-2, Figure 3-6

F. Cable Ladder Tray Wall Support
1. Provide with manufacturer’s recommended securing hardware in accordance with NEMA VE-2, Figures 3-20 and 3-21
2. Provide for use with cable tray widths of 18” and less

G. Cable Ladder Tray Vertical Support
1. Provide with manufacturer recommended mounting hardware
2. Provide at minimum (2) support locations for vertical sections of tray greater than 12’

H. Basket Tray
1. 4” deep
2. UL listed
3. Approved products
    a. PEMSA Rejiband
        1) Zinc electro plated
            a) 12” Wide Part # 60213300-003
            b) 18” Wide Part # 60213450-003
            c) 24” Wide Part # 60213600-003
        2) Black
            a) 12” Wide Part # 60283300-003
            b) 18” Wide Part # 60283450 -003
            c) 24” Wide Part # 60283600-003
    b. Cablofil
        1) Electrozinc

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a) 12” Wide Part # CF105/300EZ
b) 18” Wide Part # CF105/450EZ
c) 24” Wide Part # CF105/600EZ

2) Black
a) 12” Wide Part # CF105/300BL
b) 18” Wide Part # CF105/450BL
c) 24” Wide Part # CF105/600BL

c. NVent Caddy
1) Electrozinc
a) 12” Wide Part # WBT4X12 S ZP
b) 18” Wide Part # WBT4X18 S ZP
c) 24” Wide Part # WBT4X24 S ZP

2) Black
a) 12” Wide Part # WBT4X12 S BL
b) 18” Wide Part # WBT4X18 S BL
c) 24” Wide Part # WBT4X24 S BL

d. Substitutions: Under provisions of Division 01.

I. J-hooks
1. Made for support of Category cables
2. Wide support
3. Available with multiple sizes for cable quantities
4. Available with variety of building attachment methods
5. Approved products
a. Erico CADDY CAT series
b. Panduit J-Mod series
c. CEAS 200 – 224 series
d. Cooper B-Line BCH series
e. Substitutions: Under provisions of Division 01

J. Standard firestop sleeve
1. UL classified
2. Rolled edges to eliminate bushings
3. Escutcheon plates and intumescent gaskets
4. Intumescent sealing putty
5. Approved products:
a. STI Firestop
1) 1” penetrations Part # FS100
2) 2” penetrations Part # FS200
3) 4” penetrations Part # FS400
b. Unique FireStop

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1) 1” penetrations Part # SF-1
2) 2” penetrations Part # SF-2
3) 4” penetrations Part # SF-4

c. Substitutions: Under provisions of Division 01

K. Conduit Waterfall
1. Designed for 4”
2. UL recognized
3. Control cable to minimum 4” radius
4. Approved products
a. Panduit CWF400
b. Substitutions: Under provisions of Division 0

L. Nonmechanical firestop systems
1. UL classified
2. Intumescent flexible block
3. Intumescent non-hardening putty
4. Intumescent pillows

2.03 COMMUNICATIONS EQUIPMENT ROOM FITTINGS

A. Plywood backboard
1. ¾” x 4’ x 8’ sheets
2. Void free A/C grade
3. Fire retardant
4. UL listed
5. All visible surfaces painted with 2 coats of light colored fire retardant paint, leaving (1) fire rating stamp visible on each sheet.

B. 2 post equipment rack:
1. 19” x 7’ with 3” channel
2. High strength aluminum
3. Black
4. 1000 lb. weight capacity
5. UL listed
6. RMU markings
7. Approved products:
a. CommScope Part # RK-45
8. Provide with (1) PDU
a. 120V Basic PDU
b. 13 NEMA 5-15/20R Outlets,
c. NEMA 5-20P Input
d. 1RU

C. 10” vertical cable manager:
1. Double sided, back gated

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2. For 7’ 45U racks
3. Front side dual opening door
4. Pass through opening
5. Black
6. Approved products:
    a. Commscope Part # VCM-DS-84-10B
    b. Verify with Owner IT prior to ordering

D. 12” ladder runway:
1. 10’ length (9’-11 ½”)
2. 3/8” x 1 ½” steel tubing
3. 12” cross member intervals
4. Available with mounting and cable routing accessories.
5. UL Classified
6. Black in color
7. Approved products:
    a. CommScope Part # CR-SLR-10L12W

E. Laddar runway, 3” channel mounting plate:
1. Black in color
2. Approved products:
    a. CommScope Part # 760084053

F. Laddar runway, radius drop:
1. Black in color
2. Approved products:
    a. CommScope Part # 760083956

G. Laddar runway, angled wall support:
1. Black in color
2. Approved products:
    a. CommScope Part # 760084160

H. Laddar runway, end caps:
1. Black in color
2. Approved products:
    a. CommScope Part # 760084012

I. Laddar runway, junction splice kit:
1. Approved products:
    a. CommScope Part # 760084046

J. Primary Bonding Busbar:
1. 4” x 12 x ¼” copper
2. UL listed
3. BICSI AND ANSI /TIA hole patterns
4. Comes with mounting brackets

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5. Approved products:
    a. Hoffman Part # DGTB412

K. Secondary Bonding Busbar
1. 2” x 12 x ¼” copper
2. UL listed
3. BICSI AND ANSI /TIA hole patterns
4. Comes with mounting brackets
5. Approved products:
    a. Hoffman Part # DGTB412

L. #6 CU ground wire:
1. Green THHN
2. UL listed

M. #6 grounding lug:
1. Provide irreversible crimp style
2. 2-hole, long barrel
3. ¼” hole size and 5/8” hole spacing
4. UL listed
5. Approved products:
    a. NSi Part # L6N-14

2.04 COMMUNICATIONS FIBER BACKBONE CABLING

A. Products combinations must allow for a long term manufacture warranty required by this Section.

B. 12 strand single mode armored fiber optic cable:
1. Riser rated
2. Approved products:
    a. CommScope Part # P-012-DZ-8W-FSUYL

C. Armored and shielded cable grounding clamp
1. Approved products
    a. CommScope 760258219

D. Single mode LC connector:
1. 900 micro boot
2. Fusion spliced
3. Approved products:
    a. CommScope Part # 760117895

E. Single mode LC adapter panels:
1. 12 fiber adapter panel
2. Aqua adapters
3. Approved products:
    a. CommScope Part # 760067165

F. Blank adapter panel:

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1. Approved products:
    a. CommScope Part # 760147751

G. Rack mount fiber enclosure:
1. Approved products:
    a. CommScope 2U Part # EPX-2U-PNL-ENC-FX
    b. CommScope 4U Part # EPX-4U-PNL-ENC-FX

H. Fiber optic patch cord:
1. LC-LC
2. Yellow
3. Single mode
4. Approved products:
    a. 3 meter CommScope Part # UDGLULU62
    b. Provide (4) patch cords for each fiber optic backbone cable installed. Confirm with owner prior to purchase.

2.05 TELECOMMUNICATION BONDING BACKBONE

A. #3/0 CU ground wire:
1. THHN
2. UL listed

B. #3/0 grounding lug:
1. Mechanical compression
2. 2 hole
3. Approved products:
    a. Burndy Part # YA272N
    b. Cooper B-Line Part # SBCL 3
    c. Substitutions: Under provisions of Division 01

2.06 COMMUNICATIONS HORIZONTAL UTP CABLING

A. Products combinations must allow for a long term manufactures warranty required by this Section

B. 4 pair Category 6 plenum rated UTP communications cable:
1. Blue jacket – Voice Data
2. Green jacket – IP cameras
3. Approved product
    a. CommScope Part # UN874043014/10

C. 4 pair Category 6A plenum UTP communications cable:
1. Yellow jacket
2. Approved product
    a. CommScope Part # CS44P-YEL

D. Category 6 RJ-45 jack, unshielded:
1. 8-position, 8-wire RJ45 receptacle
2. Match RJ-45 jack color with cable jacket color
3. Approved products:

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a. CommScope
1) Blue Part # 760237628
2) Green Part # 760237630

E. Category 6A RJ-45 jack, unshielded:
1. 8-position, 8-wire RJ45 receptacle
2. Yellow in color
3. Approved products:
a. CommScope Part # 760241143

F. Flush mount workstation faceplates:
1. Stainless steel
2. Use gray in color blank inserts for unused ports
3. 4 port outlet with label window
4. Approved products:
1) SEMTRON #1FM-(4)0E-AMP-LAB

G. Surface mount workstation:
1. With label window
2. Verify color with architect prior to purchase
3. Approved products:
a. CommScope
1) White 2 port Part # 107984056
2) White 4 port Part # 107952459

H. Category 6 patch panel:
1. Modular style panel
2. 24 ports per 1U rack space
3. Loaded with Category 6 RJ-45 jacks with colors to match cable jacket color.
a. Group by color
4. Blank inserts in unused ports, black in color.
5. Approved products:
a. CommScope
1) 24 port Part # CPP-SDDM-SL-1U-24
2) 48 port Part # CPP-SDDM-SL-1U-48

I. Category 6A patch panel:
1. Modular style panel
2. 24 ports per 1U rack space
3. Loaded with white Category 6A RJ-45 jacks to support installed cables
4. Blank inserts in unused ports, black in color.
5. Approved products
a. CommScope
1) 24 port Part # CPP-SDDM-SL-1U-24
2) 48 port Part # CPP-SDDM-SL-1U-48

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J. Category 6 patch cords, IDF:
   1. Approved products:
      a. CommScope, 6ft in length
         1) Blue jacket Part # UC1BBB2-0ZF006
         2) Green jacket Part # UC1BBB2-0MF006
   2. Provide the following quantities in colors matching the installed ports
      a. Provide blue in color for 120% (with 20% is attic stock) of the installed work area outlet/IP device ports, 6 foot
      b. Provide green in color for 120% (with 20% is attic stock) of the installed security camera outlet ports, 6 foot
   3. Confirm color, length and quantity with owner prior to purchasing

K. Category 6 patch cords, Workstation/Device outlet end:
   1. Approved products:
      a. CommScope, 10ft in length
         1) Blue jacket Part # UC1BBB2-0ZF010
         2) Green jacket Part # UC1BBB2-0MF010
   2. Provide the following quantities in colors matching the installed ports
      a. Provide blue in color for 120% (with 20% is attic stock) of the installed work area outlet/IP device ports, 6 foot
      b. Provide green in color for 120% (with 20% is attic stock) of the installed security camera outlet ports, 6 foot
   3. Confirm color, length and quantity with owner prior to purchasing

L. Category 6A patch cords, IDF:
   1. Approved products:
      a. CommScope, 6ft in length
         1) Yellow jacket Part # UC1AAA2 -09F006
   2. Provide 100% of the installed Access Point (AP) data outlet ports, 6 foot
   3. Confirm color, length and quantity with owner prior to purchasing

M. Category 6A patch cords, Device outlet end:
   1. Approved products:
      a. CommScope, 10ft in length
         1) Yellow jacket Part # UC1AAA2 -09F010
   2. Provide 100% of the installed Access Point (AP) data outlet ports, 10 foot
   3. Confirm color, length and quantity with owner prior to purchasing

2.07 COMPONENTS

A. Rack mount battery backup/UPSs are Owner furnished and installed.

B. Power Distribution is Owner furnished and installed

C. Wireless access points are Owner furnished and Contractor installed.

2.08 COMPOSITE COPPER FIBER CABLE

1. 4-strand OS2, 12/2 conductor, Outdoor rated cable
2. UL listed
3. Acceptable Product

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4. **CommScope PFC-S04O12**
5. **Substitutions: Under provisions of Division 01**

PART 3 - EXECUTION AND SCOPE

3.01 GENERAL

A. Coordinate incorporation of the Work specified herein with other project work so as to facilitate a cohesive final product.

B. The installation recommendations contained within TIA-568-C, TIA-569-D, and the BICSI Telecommunications Distribution Methods Manual (TDMM), including manufacturer recommended installation methods or practices for a standards-based SCS, are mandatory minimum standards and requirements.

C. Mount equipment plumb and level. Permanently installed equipment to be firmly and safely held in place. Equipment supports must support loads imposed with a safety factor of at least five.

D. Each outlet must consist of an outlet box and plate listed on the legend provided on drawings.

E. Coordinate with Architectural and Electrical drawings for locations of telecommunication outlets, junction boxes, conduits and floor boxes within the project.

F. Route cables from outlets to the nearest IDF unless the drawings designate cables to be routed to specific IDF locations. Notify the Owner's representative if any cables are expected to exceed a total of 295 feet termination to termination.

G. Provide temporary or permanent protection of materials bearing the UL label that risk exposure to conditions that may compromise any portion of the material.

1. Do not paint or allow paint overspray on products bearing a UL label unless specifically approved by the manufacturer.
    a. Cables exposed to paint or other chemicals are to be replaced.
    b. Cables will be replaced at no cost to the owner

3.02 CABLE PATHWAYS AND SUPPORT

A. Conduit

1. Install raceway and conduit system complete with offsets, pull boxes, junction boxes and fittings.
2. No raceway shall be run horizontally inside of walls or partitions. Exceptions: building perimeter walls under windows, clerestory panel walls, and where structural conditions do not allow vertical access to tops of walls.
3. Install rigid wall hot-dipped galvanized steel conduit in the following locations:
    a. Where exposed to physical damage
    b. Outdoors
    c. Indoors where exposed to moisture
    d. Where required by code
4. Install Electrical Metallic Tubing (EMT) – minimum size 1-inch in the following locations:
    a. Interior spaces not subject to moisture
    b. Where openly run communications cabling passes through inaccessible ceilings.
    c. As shown on drawings
5. PVC Conduit:

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a. Utilize PVC conduit for underground installations, minimum size 4-inch.
   1) PVC conduit runs shall have PVC coated rigid steel stub outs from the ground, including the last 90 degree bend.
   2) Elbows for conduit installed below grade shall be rigid steel conduit with two coats of corrosion-resistant paint or tape wrap.

6. Maintain proper conduit bend radius. For conduit with an internal diameter of 2” or less, maintain a bend radius of a least six (6) times the internal diameter. For conduit with an internal diameter greater than 2”, maintain a bend radius of at least ten (10) times the internal conduit diameter.
7. Multiple Conduit Installation:
   a. Install conduits parallel to or at 90 degrees to the structure. Multiple conduits shall not be installed using a single rod support. Multiple conduits running the same direction with spacing 48 inches apart or less shall be installed on the same trapeze.
   b. Trapeze hangers shall be supported on minimum 3/8-inch diameter all-thread rod attached to the structure with coupling nuts and expansion bolts or beam clamps.
   c. Conduit straps or other devices specifically designed for the purpose shall be used to secure conduits to the metal framing. Wire ties and hanger wires are not permitted.
   d. Conduits shall only be installed on the top surface of the metal framing, with multiple layered trapeze supports if required.
   e. Hanger rods shall not extend more than 1 inch past the lower trapeze metal framing. Use double nuts for all-thread rods.
8. Single Conduit Installation:
   a. Install single conduits parallel to or at 90 degrees to the structure and suspended from the structure on all-thread rods (1/4-inch minimum) or clamped and/or clipped to the structure with manufactured clamps/clips.
   b. When single conduits are suspended from all-thread rods, conduit clamps with bolts and nuts shall be used.
      1) Through partition wall penetration shall not be construed as a means of conduit support.
      2) Wire ties and hanger wires are not permitted.
   c. Single conduits may be secured as follows:
      1) Toggle bolts on hollow masonry.
      2) Bolts and expansion anchors in concrete or brick.
      3) Machine screws, threaded rods and clamps on steel.
      4) Conduit clips on steel joists.
      5) Plastic anchors are not allowed.
9. Install expansion fittings in metal conduit as follows:
   a. Conduit Crossing Building Expansion Joints:
      1) EMT all sizes.
      2) Rigid Galvanized Steel (RGS) all sizes.
   b. Conduits entering environmental rooms and other locations subject to thermal expansion and as required by NEC.
   c. Provide conduit expansion fitting with an integral bonding braid.

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d. Expansion fittings are not required where offsets, expansion loops, or flexible conduit are placed in conduit runs.

10. Install conduit concealed in walls, partitions and above ceilings.
11. Install exposed overhead conduit (at structure) of mechanical rooms and in other similar rooms where ceilings are not provided.
12. Avoid moisture traps where possible; where unavoidable, provide junction box with drain fitting at conduit low point.
13. Use suitable conduit caps to protect installed conduit against entrance of dirt and moisture.
14. Install pull wires in empty conduits. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
15. Cap ends of spare conduits and extend into space above accessible ceiling a minimum of 18 inches. Label conduit as spare.
16. Do not daisy chain conduit installations in or on walls, provide a single conduit wall drop per device.
17. Communications pathways exposed to public view shall be in conduit, stubbed to primary pathway/accessible ceiling
18. Exterior junction boxes, conduit/raceway, terminations, etc. at and those within enclosures where enclosures are exposed to outdoor conditions are to meet NEMA ratings for outdoor electrical applications.
19. Pull and junction boxes
    a. Pull and junction boxes shall be provided for conduit runs in excess of 100 feet.
    b. Provide boxes as shown on Drawings, and as required for wire pulling, equipment connection, and code compliance. Box locations shown on Drawings are approximate unless dimensioned. Verify location of outlets prior to rough in. Locate and install boxes to allow access and clearances per NEC.
    c. Locate pull boxes and junction boxes above accessible ceilings or in unfinished areas.
    d. Support pull and junction boxes independent of conduit.
    e. Use cast floor boxes for installations in slab on grade; formed steel boxes are acceptable for other installations. Set floor boxes level and adjust floor box flush with finish flooring material.
    f. Support pull and junction boxes independent of conduit.
    g. Provide knockout plugs for unused openings.
    h. Switch boxes shall not be used as junction boxes
20. Conduits originating from cable tray require a manufacturer recommended conduit-to-tray mounting bracket.

B. Workstation outlets
1. Install backboxes with reducer rings as called out on the drawings
2. Each outlet must have a dedicated conduit extending 18 inches into an accessible ceiling, to cable tray or into a IDF.
    a. Daisy chaining of outlets is not allowed unless otherwise noted o the drawings.
    b. Conduits must be equipped with bushings and a 200lb test pull line.

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3. Coordinate with Architectural and Electrical drawings for locations of telecommunication outlets, junction boxes, conduits and floor boxes within the project.
4. Do not install boxes back-to-back in walls. Provide minimum 6-inch separation in non-fire-rated walls. Provide minimum 24-inch horizontal separation in acoustic-rated walls.
5. Install boxes in walls without damaging wall insulation.

C. Surface metal raceways
1. Raceway systems shall be installed complete, including insulating bushings and inserts where required by specified standards and/or required by manufacturer's guidelines. Unused raceway openings shall be closed.
2. Install raceways above ceilings, exposed, on walls and casework parallel to or at right angles to structure and casework. Securely support raceway at intervals not exceeding 10 feet or in accordance with manufacturer's recommendations.
3. The number of conductors installed in any raceway shall not be greater than the number for which the raceway is approved.

D. J-Hooks
1. Support cabling not installed in conduit or cable tray with J-hooks sized for the quantity of cable installed plus 20%.
2. Maximum of 48 cables per bundle.
3. Each cable type, by color, shall be bundled and supported in sperate j-hooks
4. Wherever practical install all cable running square with building structure.
5. Route cable bundles down hallways or other accessible routes.
6. Maintain an 8 inch minimum clearance between the bottom of the cable and accessible ceiling
7. Space J-hooks at no greater than 5 foot intervals unless a lesser interval will be required for product warranty.
8. J-hooks sized 1 5/16" and larger will have a cable retainer strap to contain cables on hanger. Straps must be suitable for use in air handling spaces, both removable and unusable.
9. Provide J-hooks with the proper configuration to attach to the building structure at each location.
    a. Where direct attachment to the building is not practical use of hanger wire or threaded rod attached to the building and dedicated to cable support is acceptable
    b. Do not attach J-hooks to any support used by other trades.

E. Fire wall penetrations
1. All penetrations through a fire rated wall or floor shall be sleeve with a metallic sleeve.
2. Seal the interior of the conduit sleeve around the cables and around the outside of the sleeve on each side of the penetration with fire-stop caulk or putty.
3. Attach the manufactures UL label on the wall adjacent to the penetration

3.03 COMMUNICATIONS EQUIPMENT ROOM FITTINGS

A. Provide rated fire retardant, painted plywood on walls of telecommunications rooms as shown on the drawings and secured flush with wall framework.
1. Install with fire rating stamp visible on each sheet of plywood.
2. Fire retardant paint shall be light in color to enhance lighting.
3. Install sheets side by side 6" off the floor with the 8' length vertical unless otherwise noted on the drawings.

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4. Provide two overlapping layers of the specified plywood when covering masonry walls.
5. Plywood shall be permanently fastened to the wall by means of wall anchors utilizing galvanized, zinc plated, or stainless steel hardware with a flat head.
    a. Finished installation shall have a flush appearance with countersunk screw heads to prevent splitting of the plywood.
    b. Drywall screws are not acceptable.
6. Plywood and paint shall be coordinated with the AHJ to meet applicable codes.

B. Provide floor standing network cabinets and racks with vertical cable managers at locations shown on the drawings.
1. Install racks so that a minimum 3 foot clearance is maintained to the front, rear and at least one side.
    a. Clearance is measured from the wall or from the surface of permanently installed wall mount equipment to the leading vertical surface of the rack, cable manager or installed equipment.
    b. Notify owner/architect if any clearances will be less than 3 feet.
2. The equipment rack(s) must be anchored to the floor. Utilize (4) ½” bolts and associated hardware (anchors & washers) for rack anchoring.
3. Provide any seismic bracing required by local codes for free-standing racks designed and sealed by a registered professional engineer licensed to practice in the state.
4. The cabinets and racks must be bonded to the PBB or SBB.
5. Coordinate the installation of power circuits and conduit to prevent obstruction of equipment mounting rails.
6. Mounting screws not used shall be bagged and left with the rack upon completion of the installation.

C. Provide wall mounted cabinets and racks at locations shown on the drawings.
1. Install on plywood backboard matching the footprint of the cabinet/rack or larger.
2. Install with minimum 3 foot working clearance in front.
3. Install so swing out cabinets/racks have full clearance to open.
4. The cabinets and racks must be bonded to the PBB or SBB.

D. Provide horizontal cable managers for cabinets and racks.
1. When flat patch panels are provided for termination of copper cables, provide 1RU and 2RU cable managers so there is a least 1RU of cable management above or below every 24 ports. 2U of cable management is required between 48 port patch panels. Angled patch panels do not require horizontal cable managers and are designed for patch cords to route directly into vertical cable managers.
2. Provide additional horizontal cable managers as shown on the drawings.

E. Provide shelves and additional cabinet/rack accessories as called out on the drawings

F. Provide overhead ladder runway in the configuration as shown on the drawings.
1. Provide wall angle brackets and attach the ends of the ladder runway to walls.
2. Where possible, provide and attach the ladder runway to equipment cabinets with cabinet to runway mounting plates and elevation kits.
3. Provide support for the ladder runway every 5 feet.
    a. Cable runway will be mounted at a height of 7’-6” or 6” above equipment cabinets/racks unless noted otherwise.

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1) Support runway above rack with elevation kit.

b. Support runway with equipment cabinets

c. Support runway with triangle wall brackets

d. Support runway from above with (2) support brackets and 3/8” threaded rod attached to building structure.

1) Attach threaded rod to building structure using concrete anchors, beam clamps, or other devices designed for building attachment. Connections must have a pull-out strength and be spaced to provide support for the ladder runway to meet the manufacturer’s load rating for the ladder runway.

2) Provide plastic threaded rod covers to cover lower 2 feet of threaded rod.

4. Provide any seismic bracing required by local codes for cable tray/runway designed and sealed by a registered professional engineer licensed to practice in the state.
5. Field cuts must be filed smooth, dressed square, and painted to match.
6. Provide end caps on exposed ladder runway ends.
7. Provide and connect ladder runway with appropriate butt splice kits, junction splice kits and other hardware designed for assembly of the runway system.
8. Provide cable radius drop out from ladder runway to vertical cable managers at every location where cables transition from the runway to the cable managers.
9. Use moveable cross members where required to mount the cable radius drop out so cables can be routed directly into the vertical cable managers.

G. Provide vertical ladder runway as shown on the drawings.

1. Attach to wall using vertical wall brackets or unistrut with J bolts.
2. Use cable runway foot kit to support vertical runway and secure it to the floor.
   a. Bolt foot kit to floor with minimum 1/4” concrete anchors, bolts, and washers.
3. Provide end caps for top end of vertical runway.

H. Provide re-enterable firestop sleeves in wall(s) as shown on the drawings

I. Provide a PBB and SBB sized as described in Part 2 and shown on the drawings.

1. Bond PBB to main electrical service ground with #3/0 CU insulated cable.
   a. Terminate with two-hole #3/0 ground lug.
2. Connect busbar to building structural steel with #6 CU ground wire.
   a. Terminate with two-hole #6 ground lug.
3. Use correctly sized compress tools.

J. Provide connection from equipment racks and ladder runway within the telecommunications room, and cable tray and conduit that enter the room to the PBB or SBB.

1. Provide a home run #6 CU ground wire from each equipment rack unless drawings provide alternative grounding scheme.
2. Provide a home run #6 CU ground wire from each independent group of ladder runway sections.
3. Provide #6 CU ground strap between ladder sections to create a single ground plane.
4. Provide a home run #6 CU ground wire from any cable tray or conduit that enters the room.
5. Terminate ground wire with a two-hole #6 ground lug.
6. Use correctly sized compress tools

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K. Remove any finish and make-bare any metallic surface at the point where grounding wire is connected to and or terminated on equipment frames, racks or devices. Use antioxidant joint compound for connecting unlike metals.

L. Coordinate and verify final connection of related electrical power.

3.04 CABLE - GENERAL PRACTICES

A. Confirm conduits have bushings prior to installation.

B. Confirm firewall penetrations have sleeves or openings that will allow for the fire rating to be restored after cable installation.

C. Confirm penetrations through acoustically rated walls have sleeves or openings that will allow for the acoustic rating to be restored after cable installation.

D. Confirm pathways have adequate capacity to support the cable type and quantity.

E. Cover edges of cable/wire pass-through holes in chassis, housings, boxes, and raceways with insulated grommets

F. Only install cable in areas it was rated for

1. Do not install outside plant cables (OSP) more than 50 feet inside buildings unless inside of continuous metallic conduit.
2. Do not install riser rated cables (CMR. OFNR, OFCR) in plenum air spaces.
3. Do not install plenum rated cables (CMP, OFNP, OFCP) or riser rated cables (CMR. OFNR, OFCR) in outside plant environments, including conduits below/in slab that maybe exposed to moisture, unless they have a dual rating for outside plant.

G. Do not install cable in climate condition less than the manufacturer’s recommended minimum temperature.

H. Install the cable so that the tension applied to the cables does not exceed the manufacturer’s recommendation for the type and size of cable.

I. The cable shall not be crushed, deformed, skinned, crimped, twisted, or formed into tight radius bends that could compromise the integrity of the cabling.

J. Communication cables must not be run loose or lay upon ceiling grid or ceiling tiles.

K. Communications cable shall not be fastened to or supported by electrical conduits, mechanical ductwork/piping, sprinkler pipes, or routed to obstruct access to doors, utility access panels, or service work areas.

L. Maintain a 6 inch minimum clearance above accessible ceiling tiles.

M. Isolate cables and wires of different signals or different levels; and separate, organize, and route to restrict channel crosstalk or feedback oscillation.

N. Label cables within 12 inches of termination with the specified labeling scheme.

O. Dress cables neatly where exposed in the telecommunication room, securing cable bundles with plenum rated hook and loop tie wraps.

P. Cabling is to remain clean of all paint, or any other construction overspray / material. Contractor to take precautions necessary to ensure this requirement.

1. Damaged or contaminated cables shall be replaced at no cost to the owner.

Q. Outside plant copper cables that are exposed to potential damaging electrical surges must be terminated on Building Entrance Terminals (BET).

3.05 COMMUNICATIONS FIBER OPTIC BACKBONE CABLE

A. Provide fiber optic cables between telecommunications rooms as shown on the drawings.

1. Use a pulling grip or factory installed pulling eye for proper distribution of pulling forces.

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a. When pulling in conduit use a ball bearing swivel between the pulling grip and pull line.
b. When pulling in conduit use a pulling lubricant designed for fiber optic cables.

2. Minimum bend radius during pull is 20 times the diameter of the cable, 10 times the diameter after the pull.
3. Provide a minimum of a 10 foot service loop at each telecommunication room termination. Stage service loop in a figure eight conditions at the top of deck in the IDF, MDF or in the cable runway.
4. Armored fiber optic cable must have the armor grounded.

B. Provide fiber optic connectors on both ends of each fiber.
1. Maintain a clean environment for terminating fiber optic cables.
2. Clean and visually inspect the fiber before terminations.
a. Use a magnifying scope to look for contaminants.
b. Reclean if necessary
3. Follow manufacturer's instructions for correct connection procedure.
4. Visually inspect the connector after termination.
5. Cap the end of the connector until ready for connection to the adapter panel.

C. Provide fiber optic enclosures as called out on the drawings.
1. Mount in rack locations or on walls shown on the drawings.
2. Fiber optic enclosures should be sized for the number of adapter panels required to support the fiber cables plus blanks as described the next section.

D. Provide fiber optic adapter panels required for connection to each installed fiber.
1. Each adapter panels shall have fibers from only (1) cable connected to them.
2. When multiple panels are required for termination of a single cable, these panels shall be adjacent to each other.
3. When multiple fiber types connect each telecommunications room, group panels by fiber type.
4. Provide (1) blank adapter panel between each grouping of adapter panels.
5. Keep port covers on adapter panel ports until backbone fibers or fiber patch cords are attached.

E. 100% of fibers shall be tested in accordance with testing requirements in this Section.

3.06 TELECOMMUNICATION GROUNDING AND BONDING

A. Provide telecommunications bus bar of adequate size to provide bonding to equipment within telecommunications spaces.

B. Provide two-hole grounding lugs to connect the telecommunication bonding backbone to the telecommunications bus bars.
1. Connect busbar with bonding conductor to acceptable building steel and to main electrical service panel near the telecommunications space, complying with TIA standards referenced in this section.
2. Connection to the telecommunications bus bars shall utilize irreversible compression type connections.

3.07 TELECOMMUNICATION BONDING BACKBONE (TBB)

A. A. Provide a telecommunications bonding backbone conduit between telecommunications rooms as shown on the drawings.

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1. The TBB should be installed without splices.
    a. Taps are acceptable where pathways would otherwise be duplicated.
        1) Taps shall be located within a telecommunications room.
        2) Joined segments shall be connected using exothermic welding, irreversible
        3) compression-type connectors, or equivalent.
        4) Joints shall be adequately supported and protected from damage.

B. Provide telecommunications bus bar of adequate size to provide bonding to equipment within telecommunications spaces.

C. Provide two-hole grounding lugs to connect the telecommunication bonding backbone to the telecommunications bus bars.
    1. Connection to the backbone cable shall utilize exothermic welding or irreversible compression type connections.
    2. Connection to the telecommunications bus bars shall utilize irreversible compression type connections.

3.08 COMMUNICATIONS HORIZONTAL UTP CABLING

A. Provide specified Category UTP cables homerun from workstation outlets shown on the drawings to the nearest telecommunications room unless otherwise noted.
    1. Install in compliance with manufacturers installation procedures.
    2. Do not install cables with a total length greater than 295 feet without written permission from the Owner's representative.
    3. Install cable so that the pulling tension applied to the cable does not exceed 25 lbf or the manufacturer's guidelines whichever is lesser.
    4. Install cable so that a radius bend of no less than six times the cables outside diameter is maintained during and after installation.
    5. Maintain the following distances from sources of electrical interference
        a. 6 inches from fluorescent lighting
        b. 6 inches from grounded conduit cable used for electrical power distribution
        c. 12 inches from unshielded electrical power cables
        d. 48 inches from electric motors and transformers
    6. Support and coil a 10 foot service loop at each workstation above accessible ceiling.

B. Provide Category rated RJ-45 jacks for various application in the colors called out in this specification and on the drawings.
    1. Terminate cables on jacks with a T568B pinout for new building construction.
        a. Match existing pinout for facilities undergoing remodel or expansion.
        b. Strip cable jackets and untwist pairs only as much as is required to terminate individual pairs.
        c. Match cable colors to jack colors called out for specific applications.
        d. Install jacks at workstations in configurations shown on the drawings

C. Provide workstation outlet types in locations shown on the drawings

D. Provide Category rated patch panels to support workstation cables.
    1. Terminate cables on patch panels grouped by applications if shown on the drawings.
        a. Match existing pinout for facilities undergoing remodel or expansion.

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b. Strip cable jackets and untwist pairs only as much as is required to terminate individual pairs, following manufacturers installation procedure.

2. Terminate cables on patch panels matching the 568A or 568B pinout used for the jacks.
3. Arrange patch panels on racks and in cabinets as shown on the drawings.

E. Provide horizontal cable managers for patch cord management
1. Install 1RU and 2RU cable managers as shown on the drawings.

F. Furnish Category rated patch cords in colors, lengths, and quantities as specified or shown on the drawings.
1. Confirm with owner prior to purchasing.

3.09 LABELING

A. Provide labeling in accordance with ANSI/TIA 606-B Level 1 numbering and ID format.

B. Mechanically print and install in accordance with drawing details.

C. Labels must be single line all capital letters bold font. Select font size of no less than 1/8” in height on the applicable device or cable.

D. Ensure all surfaces are clean prior to placing labeling products. Follow manufacturer’s recommendation for cleaning.

E. Both ends of telecommunications cables, outlet faceplates, terminal blocks, floor boxes, termination cabinets, patch panels, bonding busbars, ground cables, equipment racks, and equipment rooms must be labeled in accordance with the aforementioned standards.
1. At locations where outlets are out of sight above ceilings, provide an additional label with ½” lettering below the outlet on the ceiling grid or ceiling access panel.

F. Labels for cabling shall be self-laminating.

G. Hand written labels are unacceptable.

H. Locate the cable designator at the origination and destination of each cable within 12 inches of the point of termination or connection.

I. Provide machine printed wall plate labels meeting ANSI/TIA 606-B standards inserted behind built-in clear plastic windows.

3.10 TEST AND CERTIFICATION

A. Pretest notification
1. Prior to conducting any field-testing of the SCS the Contractor must deliver to the project Architect a written notification of the test commencement date and the sequence of testing.
2. If the Contractor elects to commence testing in a phased approach, prior to completion of cable installation, a test sequence schedule must be provided.
3. Notification must be delivered to the Architect at least three weeks prior to the scheduled test date.
4. Upon receipt of the notification the Architect will arrange for the Owner’s technical representative to attend the commencement of testing.
5. The purpose of the Owner’s technical representative’s attendance will be to observe:
a. The type of test equipment being utilized compared to the scheduled test equipment.
b. The test equipment can perform the tests to comply with the specified Standards.
c. The Contractor’s technical personnel are prepared to conduct the tests.
d. The Owner’s technical representative will make an Observation Report to the Architect

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6. Failure to offer notification as specified above will subject the Contractor to re-test any cabling that was tested prior to the OWNER's technical representative review, at no additional cost to the project.

B. Testing equipment and devices
   1. Test equipment must be capable of measuring the performance of the installed SCS and comparing the performance to the parameters specified in the applicable ANSI/TIA Standards.
   2. Test equipment calibration must be current as defined by the test equipment manufacturer and included on individual test reports. Failure to perform SCS testing with equipment that meets this requirement will require retesting of applicable cabling at no additional cost to the Owner.
   3. The following equipment list is provided to define the expected test equipment type. The test equipment is to be available for the entire test period through final inspection.
      a. Manufacturer – Fluke DSX series
         1) The most current software, firmware and appropriate launch cords must be used.

C. Horizontal twisted pair testing
   1. The horizontal distribution cable must be tested to perform in accordance with ANSI/TIA-568-C. Cables must meet or exceed the requirements for horizontal, twisted pair cabling as specified in ANSI/TIA 568-C for a "PERMANENT LINK" test.
      a. Include this testing for Category 5e and above cables used for backbone or interconnect cables with distances less than 295 feet.
   2. Any cable, which fails any given test, must be corrected or replaced. Such activity must be performed at no additional cost to the Owner.
      a. Only cables with PASS results will be accepted. Results that show PASS* will be considered a failed test.
      b. PASS* tests will be accepted if written approval is provided from the manufacturer providing the extended performance warranty on the system stating that these cable segments will be covered by the extended warranty.
   3. Following manufacturer guidelines to test/certify long distance UTP cable.
      a. 2.5Gbps and 100W PoE up to 656 feet (200m).

D. Fiber cable testing
   1. Perform bi-directional field testing of each terminated strand of fiber optic cable listed in this Section for length, loss and polarity. Field testing equipment must include both an optical loss test set (OLTS) and optical time domain reflectometer (OTDR). Testing measurements are required to meet transmission performances listed in ANSI/TIA-568.3-D/4.2/Table 1 at both 850 nm and 1300 nm for multimode fiber, and both 1310 nm and 1550 nm for single-mode fiber.
   2. Submit cable certification reports of the following field testing measurement methods:
      a. Attenuation
      b. Length
      c. Polarity
      d. OTDR traces
   3. Cable certification reports must bear the location/room number and cable identifier for each cable tested. Test results/reports in electronic copies by closet must be delivered to the Project Manager according to the submittal procedures.

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4. Deliver an electronic file containing all individual test records and the software required to display and print the test records using a typical personal computer (PC).
    a. Deliver test results in a PDF format on a compact disk or DVD.

3.11 FINAL INSPECTION

A. Be cognizant of the project schedule and execute work to comply with the Project Schedule for Final Inspection.

B. Ensure that the project management and the Architect are made aware of any issues that may prevent the completion of work prior to the scheduled final inspection time-frame.

C. Prior to the scheduled final inspection time-frame the following must be completed:
    1. Complete installation, initial adjustments, tests and measurements
    2. Submit Test Results and As-Built documentation to the Architect.
    3. Notification of the Architect, in writing of the date that they will be ready for final inspection and test.
    4. Submit warranty paperwork to the Owner's vendor of choice for the completed SCS.

D. No earlier than two weeks after receipt of the Contractor's notification the Architect's representative will schedule a final inspection.

E. During the Final Inspection site-walk make available:
    1. A minimum of two people for inspection who are familiar with all aspects of the System.
    2. Ladders and scaffolding necessary to inspect cable in cable trays and ceiling mounted junction boxes.
    3. Test equipment specified and used for testing the SCS.

F. In the event the need for further adjustment or work becomes evident during the inspection, the Contractor is to continue working until the System is acceptable at no addition to the contract price. If approval is delayed because of defective equipment or failure of equipment or installation to meet specifications, and if any extension of the inspection and testing period is required, the contract price will be reduced for the additional time and expenses of the Owner at the standard rate in effect at that time.

G. If the Contract Documents, law, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the Contractor must give timely notice to the Owner and the Consultant of the readiness and the date arranged so they may observe such inspection, testing or approval procedure. In addition, the Owner or Consultant may require special inspection, testing or approval of material or Work for compliance with the requirements of the Contract Documents. Upon direction by the Owner and the Consultant, the Contractor must promptly arrange for such special testing, inspection or approval procedure. Should the material or Work fail to comply with the requirements of the Contract Documents, the Contractor must bear all costs to replace, fix, and/or re-terminate the failed work.

3.12 INSTRUCTION OF OWNER PERSONNEL

A. After final completion, instruct the Owner's designated personnel on the use, operation, maintenance, and care of the Systems.

END OF SECTION 27 1000

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SECTION 27 5000

DISTRIBUTED COMMUNICATIONS AND MONITORING SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section. Reference AV drawings for additional information.

B. The work of this section also includes:

1. Required licenses, insurance and permits including payment of charges and fees
2. Verification of dimensions and conditions at the job site
3. Preparation of submittal information
4. Pick-up of Owner Furnished Equipment (OFE) and incorporation into project if applicable.
5. Development and implementation of AV control system software code and control panel layouts, which will become the property of the Owner
6. Installation in accordance with the contract document, manufacturer's recommendation, and in conformity with applicable codes and authority having jurisdiction (AHJ)
7. Extension of electrical service, including ground, to equipment locations if required
8. Final tests and adjustments, written report, and documentation
9. Instruction of operating personnel
10. Provision of manuals
11. Maintenance services and warranty.

1.02 RESPONSIBILITY

A. All materials, equipment, transportation, and labor necessary to achieve a complete and functionally working system as shown or inferred on the Drawings and in the Specifications. Supply accessories and minor equipment items (such as, but not limited to: power strips, adapters, connectors, mounting hardware, etc.) needed for a complete system, even if not specifically mentioned in these Specifications or on the associated Drawings, without claim for additional payment.

B. Notwithstanding any detailed information in the Contract Documents, it is the responsibility of the Contractor to supply a full working, tested, and calibrated system. Notify the Architect of any discrepancies in part numbers or quantities before bid. Failing to provide such notification, supply items and quantities according to the intent of the Specification and Drawings, without claim for additional payment.

C. Specifications and drawings are complementary. Work called for by one is binding as if called for by both. Any discrepancies between specifications and drawings shall be brought to the attention of the Architect for clarification during the bidding period. No allowance shall subsequently be made to the Contractor by reason of his failure to have brought said discrepancies to the attention of the Architect.

D. Execute all work in accordance with the National Electrical Code (NEC), the National Electrical Safety Code, the Occupational Safety and Health Act (OSHA) and all applicable State and Local codes, ordinances, and regulations. If a conflict develops between the contract documents and the appropriate codes and is reported to the Architect prior to bid opening, the Architect will prepare the necessary clarification. Where a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform Work.

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1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 1: Submittals.

B. Section 27 1000: Voice and Data Cabling Distribution System

C. Section 27 4116: Integrated Audio/Video Systems

D. Section 16: Electrical Work.

1. Conduit, wireways, floor boxes, wall boxes, pull boxes, junction boxes, AC power circuits and ground wiring.

1.04 REFERENCES

A. Published specification standards, tests or recommended methods of trade, industry or governmental organizations apply to Work in this section where cited below:

1. American National Safety Institute (ANSI)
2. American Society of Testing and Materials (ASTM)
3. Electronics Industries Association (EIA)
4. Federal Communications Commission (FCC)
5. National Electrical Manufacturer's Association (NEMA)
6. National Electrical Code (NEC)
7. Underwriters Laboratories (UL)
8. Occupational Safety and Health Administration (OSHA)
9. Building Industry Consulting Service International (BICSI)
10. Davis and Davis, Sound System Engineering (2nd Edition), Howard W. Sams, 1987
11. Giddings, Audio System Design and Installation (ASDI), Howard W. Sams, 1990
12. AV Installation Handbook Second Edition: The Best Practices for Quality Audiovisual Systems, Infocomm, 2009

1.05 DEFINITIONS

A. In addition to those Definitions of Division1, the following list of terms as used in this specification shall be defined as follows:

1. Furnish - To purchase, procure, acquire, and deliver complete with related accessories.
2. Install – To set in place, join, attach, link, set up or otherwise connect together and test until complete before turning over to the Owner, all parts, items, or equipment supplied by Contractor.
3. Provide – To furnish and install.

1.06 DESCRIPTIONS & REQUIREMENTS

A. The following is intended to further describe the Work and clarify design intent and is not an exhaustive description of the systems.

B. IP Intercom System

1. The school IP Intercom System shall include the following features:
   a. An IP based platform.
   b. Bell Scheduling, Zone Paging, Classroom Paging, Pre-Recorded Messages and Pre Recorded Audio Tones, Music and Voice.
   c. Be password protected.
   d. Page through "Push to Talk" microphones as well as campus Voice Over IP (VOIP) System.

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e. Set up through the software to allow pages to be broadcast through the system for evacuation procedures or other instructions.

f. Emergency announcements shall override any pre-programmed zones assuring that all emergency/lockdown/etc. are heard at all speaker locations.

g. Pre-recorded emergency announcements shall be available through soft key or dedicated push-button activation.

h. System time shall be synchronized with the network timeserver or a web-based timeserver.

i. System shall remain complete and functional in the event that the district connection is unavailable.

j. Prioritized audio from the IP intercom system shall supersede audio from any connected or adjacent audio system.

1.07 SUBMITTALS

A. Provide submittals in accordance with Conditions of the Contract and Division 1, Submittal Procedures section unless otherwise indicated.

B. Supplementary submittal requirements:

1. Provide the following in one electronic submission for review within thirty days of issuance of Notice to Proceed (NTP) and prior to commencement of Work:

a. Complete schedule of submittals.

b. Chronological schedule of Work in bar chart form.

c. Manufacturer’s Data Sheets:

1) Provide a complete table of contents with the following information:

2) Project title.

3) Submittal number. In the case of a resubmittal, use the original submittal number immediately followed by the suffix “R” immediately followed by a unique number and be numbered in consecutive order.

4) Date of submission.

5) Provide a list of and Manufacturer's data sheets on products to be incorporated with the Work. Arrange data sheets in the same order they appear in this specification. Where a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol.

6) Submit manufacturer’s product literature for each type of firestop material to be used. Literature shall include documentation of UL classifications or approved third party testing. Manufacturer’s name and number for each part shall be included. Submit drawings of through penetrations, which include the system to be utilized for the firestopping application. Drawing shall indicate construction of wall or floor assembly; size, number and material of penetrating items; firestop system designation; required F-rating, T-rating and remarks.

7) Upon Owners and/or Consultant’s request provide (3) three copies of the submittals. Bind submittal in titled three ring D style binders sized for 150 per cent of the material. Maximum size: three inch spine. Use multiple volumes as required. Separate major grouping with labeled binder tabs.

8) Submissions that do not follow the format and configuration described above will be returned without review.

d. Shop Drawings:

1) Functional Diagrams/Schematics:

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2) Detailed, redrawn wiring diagrams showing interconnection of components and products, wiring and cabling diagrams depicting cable types and designators, and device designators for each system. Provide connector designations and terminal strip identification, along with color codes for cables connecting to these devices. Give each component a unique designator and use this designator consistently throughout the project.

e. Coordination Drawings:

1) Prepare and submit a set of coordination drawings showing major elements, components, and devices of the audio and video system in relationship with other building components. Prepare drawings to an accurate scale of 1/8”=1’-0” or larger on suitable sized media.

2) Prepare floor plans, reflected ceiling plans, elevations, sections, and details to conclusively coordinate and integrate all equipment. Indicate locations where space is limited, and where sequencing and coordination of installations is of importance to the efficient flow of the Work including but not necessarily limited to the following:

3) Equipment housings

4) Wall mounted devices

5) Ceiling mounted devices

f. Equipment: Location of equipment within racks, consoles, or on tables, with dimensions; wire routing and cabling within housings; AC power outlet and terminal strip locations.

g. Patch panel(s): Layouts and designation (labeling) strips, including color schemes.

h. Full fabrication details of any custom enclosures and millwork indicating size, material, finish and openings for equipment.

i. Projector, loudspeaker, camera mounting details, include hardware types and load capacity.

j. Fabricated Plates and Panels: Provide complete drawings on custom fabricated plates or panels. Drawings shall include dimensioned locations of components, component types, engraving information, plate material and color, and bill of material.

k. Labeling: Equipment and cabling labeling scheme. Include font sizes and styles, explanation of scheme, and designator schedule.

l. Schedules: Wiring schedule showing source and destination of wiring and indicating which wiring is in conduit. Junction box schedule showing type of box, size, mounting and location. Include this information with remainder of wiring diagrams.

m. Consultant’s project documents in electronic format will not be supplied to the Contractor for their use as part of submittals.

n. Detail drawings executed at an appropriate scale, but not smaller than 1/8 inch = 1’–0”.

o. Submissions that do not follow the format and configuration described above will be returned without review.

p. Any other pertinent data which is necessary to provide the Work.

2. Control System Software:

a. Provide electronic copies of proposed control system user interfaces within sixty (60) days of issuance of Notice to Proceed (NTP).

C. Resubmission requirements:

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1. Make all requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.
2. Indicate all changes that have been made other than those requested.

1.08 CONTRACT CLOSE-OUT DOCUMENTS:

A. Provide submittals in accordance with Conditions of the Contract and Division 1, Submittal Procedures section unless otherwise indicated, after substantial completion but prior to final observation:

B. Supplementary submittal requirements:

1. Provide the following in one electronic submission for review.
2. Equipment Manuals:
   a. Manufacturer's owner/instruction manual for each type of Product by manufacturer and model or part number unless specified otherwise herein
   b. Supply manufacturer’s serial numbers for each Product
   c. For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item
   d. Separately bind list by manufacturer and model or part number of Products incorporated within the Work, arranged in alpha numeric order. When applicable, bind Manufacturer's warranty statements separately.
3. Test Reports: Recorded findings of Commissioning.
4. System Operation and Instructions: Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity.
   a. This procedure should describe the operation of system capabilities.
   b. Assume the intended reader of the manual to be technically inexperienced but unfamiliar with the components and the facility.
5. Service Information, including service phone number(s) and hours; service schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.
6. Any other pertinent data generated during the Project or required for future service.
7. Within three (3) weeks of final observation, submit the following in one electronic submission for review. Upon Owners and/or Consultant’s request provide (3) three copies of the following:
   a. Record drawings: Final rendition of Shop Drawings depicting what is actually incorporated within the Work.
   b. Hardcopy full size set of Record drawings.
   c. Three (3) compact disc or DVD’s containing Record drawings in AutoCad editable DWG format and Adobe PDF format. Resolution to be sufficient to permit Owner’s technicians to be able to clearly read all notes and text on screen.
   d. One set of signed proof-of-training documents.
8. Submittal Format:
   a. Record Drawings: Drawings executed at an appropriate scale, but not smaller than 1/8 inch = 1’–0”.
   b. Segregate documents into separate binders containing data relevant to operational, maintenance, and warranty issues. Appropriately duplicate data within the separate bindings when it will reasonably clarify procedures, e.g., operational data in maintenance binding.

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c. Bind Project Record Manual in titled three ring D style binders sized for 150 per cent of the material. Maximum size: three inch spine. Use multiple volumes as required. Separate major grouping with labeled binder tabs.

C. Resubmission requirements:

1. Make all requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.
2. Indicate all changes that have been made other than those requested.

1.09 CUSTOM SOFTWARE

A. Introduction:

1. Proprietary software provided for the Technical Systems shall be subject to this software license between the Contractor and the Owner as an essential element of the system as defined in the system specification and associated documents, drawings and agreement.
2. Contractor shall agree that 3rd party proprietary software provided with the system shall be subject to this agreement.
3. Contractor and Owner agree that this software license is deemed to be part of, and subject to, the terms of the Agreement applicable to both parties; and shall supersede any standard manufacturer or Contractor's standard license agreement.
4. Proprietary software shall be defined to include, but not be limited to, device and system specific software and firmware designed to run on conventional computer based operating platforms as well as all micro-processor based hardware used to program, setup, or operate the system or its components.
5. For sake of this agreement, MS Windows® shall not be considered "proprietary" software, unless a non-public version of Windows® or any of its components are critical to the operation of the system in which case it shall be deemed proprietary.

B. License Grant and Ownership:

1. Contractor hereby grants to Owner a perpetual, non-exclusive, site license to all software for Customer's use in connection with the establishment, use, maintenance and modification of the system implemented by Contractor. Software shall mean executable object code of software programs and the patches, scripts, modifications, enhancements, designs, concepts or other materials that constitute the software programs necessary for the proper function and operation of the system as delivered by the Contractor and accepted by the Owner.
2. Except as expressly set forth in this agreement, Contractor shall at all times own all intellectual property rights in the software. Any and all licenses, product warranties or service contracts provided by third parties in connection with any software, hardware or other software or services provided in the system shall be delivered to Owner for the sole benefit of Owner.
3. Owner may supply to Contractor or allow the Contractor to use certain proprietary information, including service marks, logos, graphics, software, documents and business information and plans that have been authored or pre-owned by Contractor. All such intellectual property shall remain the exclusive property of Owner and shall not be used by Contractor for any purposes other than those associated with delivery of the system.

C. Copies, Modifications, and Use:

1. Source code shall be available to Owner for a period of not less than 10 years.
2. Owner may make copies of the software for archival purposes and as required for modifications to the system. All copies and distribution of the software shall remain within the direct control of Owner and its representatives.

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3. Owner may make modifications to the source code version of the software, if and only if the results of all such modifications are applied solely to the system. In no way does this Software License confer any right for Owner to license, sublicense, sell, or otherwise authorize the use of the software, whether in executable form, source code or otherwise, by any third parties.
4. All express or implied warranties relating to the software shall be deemed null and void in case of any modification to the software made by any party other than Contractor.

D. Warranties and Representations:
1. Contractor represents and warrants to Owner that:
a. It has all necessary rights and authority to execute and deliver this Software License and perform its obligations hereunder and to grant the rights granted under this Software License to Owner;
b. The goods and services provided by contractor under this Software License, including the software and all intellectual property provided hereunder, are original to Contractor or its subcontractors or partners; and
c. The software, as delivered as part of the system, will not infringe or otherwise violate the rights of any third party, or violate any applicable law, rule or regulation.
2. Contractor further represents and warrants that, throughout the System Warranty Period, the executable object code of software and the system will perform substantially in accordance with the System Specifications and Agreement. If the software fails to perform as specified and accepted all remedies are pursuant to the policies set forth in the Specification and in the Agreement. No warranty of any type or nature is provided for the source code version of the software which is delivered as is.
3. Except as expressly stated in this Agreement, there are no warranties, express or implied, including, but not limited to, the implied warranties of fitness for a particular purpose, of merchantability, or warranty of no infringement of third party intellectual property rights.

1.10 QUALITY ASSURANCE

A. Qualifications: Contractor to be experienced in the provision of systems similar in complexity to those required for this project; and meet the requirements listed below. Provide documentation at the time of bid to support these qualifications.
1. No less than three years experience with equipment and systems of the specified types.
2. Experience with at least three comparable scale projects within the last three years.
3. Be a franchised dealer and service facility for the manufacturer’s products furnished.
4. Maintain a fully staffed and equipped service facility with full time field technicians.
5. Have at least one supervisory on site employee having completed and certified CTS-I by Infocomm.
6. At the request of the Owner, demonstrate that:
a. Adequate plant and equipment is available to complete the work.
b. Adequate staff with commensurate technical experience is available.

B. Work: Perform Work in compliance with the applicable standards listed herein and governing codes and regulations of the authorities having jurisdiction and the Contract Documents.
1. Drawings and specification requirements govern where they exceed Code and Regulation requirements.
2. Where requirements between governing Codes and Regulations vary, the more restrictive provision applies.

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3. Nothing in the Contract Documents grants authority or permission to disregard or violate any legal requirements.

C. Coordinate exact location and installation of equipment, power, grounding, and raceway requirements with the Architect.

1.11 DELIVERY, STORAGE & HANDLING

A. Ship Products in its original container, to prevent damaging or entrance of foreign matter.

B. Handling and shipping in accordance with Manufacturer's recommendation.

C. Provide protective covering during construction of all installed devices, to prevent damaging or entrance of foreign matter.

D. Replace at no expense to Owner, Products damaged during storage, handling or the course of construction.

1.12 PROJECT CONDITIONS

A. Verify conditions on the job site applicable to this work. Notify Architect in writing of discrepancies, conflicts, or omissions promptly upon discovery.

B. The Drawings diagrammatically show cabling and arrangements of equipment fitting the space available without interference. If conditions exist which make it impossible to install work as shown, recommend solutions and/or submit drawings to the Architect for approval, showing how the work may be installed.

1.13 WARRANTY

A. Warrant labor and equipment for one year following the date of substantial completion to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace defects occurring in labor or equipment within the Warranty period without charge.

B. This warranty is in addition to any specific warranties issued by manufacturers for greater periods of time.

C. Within the warranty period, answer service calls within twenty four (24) hours during normal working hours and correct the deficiency within forty eight (48) hours.

D. Provide Owner with the name and telephone number of the person to call for service. This information to be part of Project Closeout Documents.

E. Thirty days prior to the end of the warranty period provide a complete checkout of all system components. Repair or replace any defective equipment discovered during the testing. Correct any defects in wiring or other functional problems reported by Owner. Warranty replacement and service of equipment shall not apply to Owner furnished equipment (OFE). Coordinate observation visit with the Owner.

PART 2 - PRODUCTS

2.01 GENERAL

A. Products quantity is as required. If a quantity is given, provide at least the given amount. Some product listed may not be required to fulfill the obligations of the Work.

B. Equipment and materials shall be new and conform to applicable UL or ANSI provisions.

C. Regardless of the length or completeness of the descriptive paragraph herein, provide Products complying with the specified manufacturer's published specifications.

D. Remove or blank out all manufacturers' names, logos, or other symbols from loudspeakers or other objects placed in view of the public. If logos are removable, remove and repaint to the color of the adjacent surface and reattach.

E. Take care during installation to prevent scratches, dents, chips, etc.

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2.02 ACCEPTABLE MANUFACTURERS

A. Model numbers and manufacturers included in this specification are listed as a standard of function, performance, and quality.

B. Refer to General and Supplementary Conditions and Division 1 Specification Sections for equipment substitution procedure.

C. If a specified product has been discontinued by a manufacturer, provide the replacement model (as certified by the manufacturer) at no additional cost.

D. Where required provide manufacturer's rack mount adapter or one manufactured by Middle Atlantic or Winstead unless specified elsewhere.

2.03 INTERCOM PROCESSING

A. Main system server
   1. Basis of design:
      a. Carehawk CH-2000IP
         1) Carehawk Spotlight Software Suite

B. Intercom Control Computer
   1. Coordinate location and quantity with client
   2. Spotlight software + Computer
   3. Integrated speakers
   4. Keyboard and mouse
   5. Basis of Design:
      a. Carehawk Mapassist Touch Screen Computer 22"
         1) Spotlight software

C. Intercom Admin Console Station (ADM)
   1. Coordinate locations and quantities with client
   2. Basis of Design:
      a. Carehawk Admin Console ADMIN7

D. SIP Gateway
   1. Coordinate location and quantity with district
   2. Basis of Design:
      a. Carehawk GW2WIP1
      b. Carehawk approved equivalent

E. IP Audio Bridge
   1. Basis of Design:
      a. Carehawk SS32IP-Kit
         1) Qty: as needed
      b. Carehawk approved equivalent

F. Mobile Application
   1. Software license
   2. Basis of Design:
      a. Carehawk VCall+

G. GPIO Hub

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1. Basis of Design:
    a. Carehawk GPIO-8I-8O
        1) Qty: as needed
    b. Carehawk approved equivalent

2.04 POWER AMPLIFIERS

A. Intercom Audio Amplifiers
    1. Basis of Design:
        a. Carehawk DAF100-25
        b. Carehawk DAF300-25
        c. Carehawk DAF100-70
        d. Carehawk DAF300-70
        e. Carehawk approved equivalent

2.05 LOUDSPEAKERS

A. Intercom Speaker (Type P1)
    1. Ceiling tile speaker
    2. 25V/70V
    3. Taps: 0.31W, 0.63W, 1.25W, 2.5W and 5W
    4. Basis of Design:
        a. Quem System 12
        b. Carehawk approved equivalent

B. Intercom Speaker (Type P2)
    1. Type: Ceiling loudspeaker
    2. Basis of Design:
        a. Quam C5/BU/W
            1) Quam ERD8U
            2) Quam SSB-7
        b. Carehawk approved equivalent

C. Intercom Speaker (Type P3)
    1. Surface Wall mounted speaker
    2. Include 25/70V transformer
    3. Vandal Resistant mount
    4. Taps: 0.31W, 0.63W, 1.25W, 2.5W and 5W
    5. Basis of Design:
        a. Quam System 1
        b. Carehawk approved equivalent

D. Intercom Speaker (Type H)
    1. Horn speaker
    2. Flush mounted or surface mounted
    3. Rated for outdoor use
    4. 25V/70V

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5. Taps: 0.9W, 1.8W, 3.8W, 7.5W, 15W
6. Basis of Design:
    a. Atlas APF-15T
        1) Provide VP161-APF Vandal resistant grille
        2) Provide Atlas L20-213 for surface mount – as needed
    b. Carehawk approved equivalent

2.06 NETWORK SWITCH

A. Network Switch

1. Coordinate quantity and location with district

2. Acceptable Product:

a. Aruba 6200F (Qty: as needed)

2.07 CABLES & WIRING

A. Refer to Structured Cabling Specifications 271000.

B. All electrical conductors installed under this contract, except where otherwise specified, shall be soft drawn annealed stranded copper having a conductivity of not less than 98% of pure copper, and meet appropriate ratings (e.g., CMR, CMP, etc.)

C. Cable shall carry appropriate fire rating (e.g., CMR, CMP, OFNR, OFNP, etc.) on jacket of cable.

D. Where cables are routed through cable tray, provide tray rated cable of equal specification.

E. Where speaker cables are run exposed through a return air plenum, provide plenum rated cable of equal specification.

F. Shielded cables located in raceways shall have aluminum foil shield with drain wire.

G. The Belden cables listed below are approved for use on this project and are listed to set the acceptable standard of performance. If field conditions or actual cable pathway requires tray or plenum cable, provide version of cable that meets required rating. Cables from Liberty, Commscope, Gepco, and West Penn are also acceptable provided they meet the performance specifications of the approved listed cables.

H. Loudspeaker Cables - 70.7 Volt:
    1. Homerun to Amp: 14 gauge twisted pair, jacketed. Belden 5100UP
    2. Volume Control to Speaker: 16 gauge twisted pair, jacketed. Belden 5200UP
    3. Speaker to Speaker: 16 gauge twisted pair, jacketed. Belden 5200UP
    4. Acceptable Manufacturer:
        a. Belden (Model number listed above)

I. Loudspeaker Cable - 8 Ohm, 16 Ohm, 4 Ohm:
    1. Provide 14 AWG cable
    2. Cable to be CL3R or CL2P rated
    3. Jacket color: gray
    4. Acceptable Product:
        a. West Penn 226
        b. West Penn 25226 (where required)

J. Microphone/Line Level Wire:
    1. Provide shielded 22 AWG cable.

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2. Cable to be PVC jacketed.
3. Jacket color: black.
4. Acceptable Product:
    a. Belden 9451
    b. Liberty 22-1P-EZ
    c. Belden 88761 (where required)
    d. Liberty 22-2C-PSH-WHT (where required)

K. Control Level Wire:
1. Provide unshielded 22 AWG cable.
2. Cable to be CMR or CMP rated
3. Provide number of conductors where required.
4. Acceptable Product:
    a. West Penn 27x Series
    b. West Penn 2527x Series (where required)

L. Relay Control Wire:
1. Provide unshielded 22 AWG cable.
2. Cable to be CMR or CMP rated
3. Provide number of conductors where required.
4. Acceptable Product:
    a. West Penn 27x Series
    b. West Penn 2527x Series (where required)

M. Other Misc. Cables:
1. Acceptable Product:
    a. As per manufacturer specifications

2.08 CONNECTORS

A. XLR Panel mount Connectors:
1. Provide panel mount XLR connectors with unified metal shell
2. RF-Protector connectors
3. Shell Color: Black
4. Contacts: Silver
5. Terminations: Solder
6. Acceptable Product:
    a. Male Connectors: Neutrik NC*MD-L-1-BAG Series
    b. Female Connectors: Neutrik NC*FD-L-1-BAG Series

B. XLR Cable Connectors:
1. Provide XLR cable connectors with die cast shell
2. No-screw type assembly
3. Chuck-type strain relief
4. Shell Color: Black
5. Contacts: Silver

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6. Terminations: Solder
7. Acceptable Product:
    a. Male Connectors: Neutrik NC*MX-BAG Series
    b. Female Connectors: Neutrik NC*FX-BAG Series.

C. ¼" Panel mount Connectors:
1. Provide panel mount ¼" connectors with unified metal shell
2. Shell Color: Black
3. Contacts: Silver
4. Terminations: Solder
5. Acceptable Product:
    a. Female Connectors: Neutrik NJ3FP6C-BAG Series

D. ¼" Cable Connectors:
1. Provide ¼" cable connectors with die cast shell
2. No-screw type assembly
3. Chuck-type strain relief
4. Shell Color: Black
5. Contacts: Nickel
6. Terminations: Solder
7. Acceptable Product:
    a. Male Connectors: Neutrik NP3C-BAG Series

E. RCA Male Cable Connectors:
1. Provide RCA cable connectors with die cast shell
2. Shell Color: Silver
3. Contacts: Silver
4. Terminations: Solder
5. Acceptable Product:
    a. Switchcraft 3502 Series
    b. Liberty

F. Other Connectors:
1. As per manufacturers specifications

PART 3 - EXECUTION

3.01 GENERAL

A. Coordinate incorporation of the Work specified herein with other project work so as to facilitate a cohesive final Products.

B. The installation recommendations contained within ASDI and Telecommunications Distribution Methods Manual are mandatory minimum standards and requirements.

C. Mount equipment and enclosures plumb and level.

D. Permanently installed equipment to be firmly and safely held in place. Design equipment supports to support loads imposed with a safety factor of at least five. Seismic bracing shall be installed on appropriate equipment where local codes require such installation.

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E. Verify all locations of equipment in all rooms with Owner's Representative, Owner, and Consultant.

F. Perform functional testing with Owner's technology department, Owner's facilities department, and other necessary parties. All equipment to be fully functional and signed off by the Contractor, Owner(s), and any other parties. Possession of the campus warranty phase wil not take place until functionality has been fully agreed upon by aforementioned parties.

3.02 INSTALLATION

A. Installation of cable and wiring

1. Cabling and Wiring:

a. Install cable in a manner to adhere to manufacturer's specifications for maximum cable pulling tension, minimum bend radius, and restrictions.

b. Provide appropriate support at all horizontal-to-vertical transitions in order to keep the weight of the cable from degrading at the point of transition.

c. If a J-hook or trapeze system is used to support cable bundles, all horizontal cables shall be supported at a maximum of 48-inch (1.2 meter) intervals. At no point shall the cables rest on light fixtures, acoustic ceiling grids, panels, conduits, sprinkler pipe, water pipe and/or HVAC system ducting.

d. Horizontal distribution cables shall be bundled in groups of no more than 50 cables when being supported by J-Hook or trapeze systems. Cable bundle quantities in excess of 50 cables may cause deformation of the bottom cables within the bundle and degrade cable performance. An exception to this rule is when cable is installed in cable tray systems.

e. Cable shall be installed above fire-sprinkler systems and shall not be attached to the system or any ancillary equipment or hardware. The cable system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices

f. Cables shall not be attached to ceiling grid or lighting fixture wires. Where support for horizontal cable is required, install appropriate carriers to support the cabling.

g. Any cable damaged or exceeding recommended installation parameters during installation shall be replaced prior to final acceptance at no cost to the Owner.

h. Cables shall be identified by a self-adhesive machine label in accordance with the System Documentation Section of this specification and ANSI/TIA/EIA-606-A. The cable label shall be applied to the cable behind the faceplate on a section of cable that can be accessed by removing the cover plate.

i. Unshielded twisted pair cable shall be installed so that there are no bends smaller than four times the cable outside diameter at any point in the run and at the termination field.

j. Provide splice free wiring and cabling from origination to destination. Cables shall be installed in continuous lengths from origin to destination (no splices). Properly designed transition points, or consolidation points are not considered 'splice' points.

k. Make joints and connections with rosin-core 60/40 solder or with mechanical connectors specifically intended for the type and class of cable being used. Where spade lugs are used, crimp properly with ratchet type tool.

l. Take precaution to prevent and guard against electromagnetic and electrostatic hum. For line-level audio signal, float cable shield at one end. Shield not connected to be folded back over cable jacket and covered with heat-shrink tubing. Do not cut off unused shield.

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m. Isolate cables and wires of different signals or different levels; and separate, organize, and route to restrict channel crosstalk or feedback oscillation in any amplifier section. Keep wiring separated into groups for microphone level circuits, line level circuits, loudspeaker circuits, and power circuits.

n. Connect cable to active components through XLR connections whenever multiple formats are available. Make connections to speaker transformers with properly sized closed end connectors crimped with factory approved ratchet type tool. Wire nut or "Scotchlock" connectors are not acceptable. Do not wrap audio cable splices or connections with adhesive backed tape.

o. Cover edges of cable and wire pass-through holes in chassis, housings, boxes, etc., with rubber grommets or Brady GRNY nylon grommetting.

p. Execute wiring in strict adherence to:

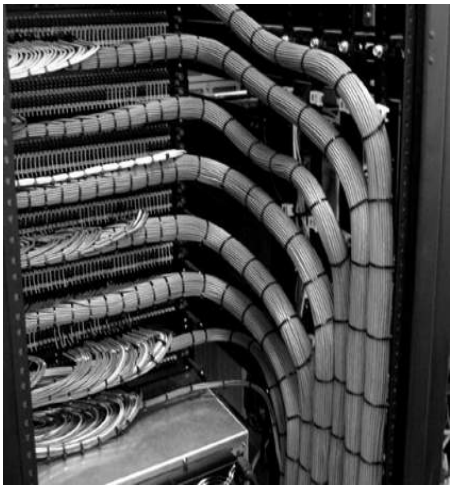
1) Phillip Giddings. Audio System Design and Installation. Indianapolis: Howard W. Sams & Co., 1990.

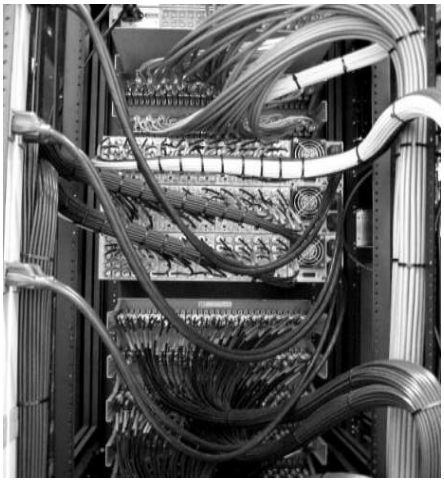
2) Don Davis and Carolyn Davis. Appendix II, Recommended Wiring Practices. Sound System Engineering, 2nd Edition. Indianapolis: Howard W. Sams & Co., 1989.

3) AV Installation Handbook Second Edition: The Best Practices for Quality Audiovisual Systems, Infocomm, 2009

2. Equipment Housing Cabling and Wiring:

a. Lace, tie, or harness wire or cable as required herein, and in accordance with accepted professional practice. Dress, lace or harness all wire or cable to prevent mechanical stress on electrical connections; no wire or cable shall be supported by a connection point. Install cable and wire neatly tied in manageable bundles with cable lengths cut to minimize excess cable slack but still allow for service and testing. Provide horizontal support bars if cable bundles sag. Reference photos below for standard of quality.





b. Provide adequate service loops so that equipment mounted on rack slides may be pulled fully out, to their locked position without straining cable.

c. Neatly bundle excess AC power cable from housing mounted equipment with plastic cable ties.

d. Provide plastic cable ties or Velcro straps to bundle cabling and wiring. Electrical tape and adhesive backed cable tie anchors are not acceptable.

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e. Install with connections completely visible and labeled.

f. Provide termination resistors, if required, of 5 per cent tolerance; fully visible and not concealed.

B. Installation of connectors, plates & panels:

1. Install panel mounted connectors rigidly attached to panels, plumb and level.
2. Custom rack panels shall be 1/8 inch thick aluminum, standard EIA sizes, brushed black anodized finish (brushed in direction of aluminum grain only), unless otherwise noted.
3. Custom connector plates (speaker, microphone, etc) are typically stainless steel, unless otherwise noted or specified. However, verify plate finish with the Architect.
4. Install XLR type connectors in accordance with IEC-268 standard, with a wiring scheme of pin 2 hot (high), pin 3 (low), and pin 1 screen (shield).
5. Other Plates and Panels may be required to satisfy the requirements of the Work.

C. Installation power and grounding:

1. Coordinate final connection of power and ground wiring to housings.
2. Hardwire power wiring directly to internal AC receptacles to ensure uninterrupted operation.
3. Provide 3-conductor, isolated ground, 120 VAC outlets as required within each housing. Provide a minimum of two spare outlets in each rack.
4. Provide a copper ground buss top to bottom in each housing, insulated from the housing. Ground equipment chassis not having a three wire power cord to these busses using 6/32 nuts, bolts and lock-washers with No. 12 wire. Connect green ground wire from each AC outlet in housing to this buss bar.
5. Replace manufacturers supplied 18 gauge IEC power cords with UL listed 18 gauge pre-molded 6”, 12”, 18”, or 24”. Use minimum length required. No looped or cable tied IEC power cords will be permitted within the equipment rack.
6. Replace manufacturers supplied 14 gauge IEC power cords with UL listed 14 gauge pre-molded 18” or 36” for all equipment IEC capable. Use minimum length required and minimize looped or cable tied IEC power cords present in the equipment rack.

D. Installation of electronic equipment:

1. Take appropriate precautions against electrostatic discharge (ESD). Establish a personal ground before handling electronic equipment through the use of a grounded wrist wrap and/or an anti-static floor pad.
2. Take appropriate precautions to protect the equipment from damage during installation. Equipment to be installed free of damages, scratches, dents, etc.
3. Mount trim potentiometers, custom circuit cards, relays, and transformers (except large 70V units) in shielded enclosures and mark their function and connections with engraved lamicoid labels.
4. Mount equipment plumb and level, firmly and safely held in place.

E. Installation of equipment housing:

1. Mount equipment in racks and consoles and fully wire and test before delivery to job site. If field conditions prevent prior assembly of racks, notify Owner in writing that racks will be fabricated on site and the reasons for the change.
2. Provide rear support for housing mounted equipment greater than 15 inches deep.
3. Provide blank panels to fill unused panel space within the equipment housing.
4. If Key door locks are required, key each housing type alike.

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5. Looking at the rack from the rear, locate AC power and speaker wiring on the left; line level audio, video, and RF wiring on the right.
6. Provide shaft locks or security covers on non-user operated equipment having front panel controls. These panels are to be installed at the conclusion of testing.
7. If forced air active thermal management is used, provide ventilation blocking material on the front, sides, and rear of the equipment rack as needed. Reference Middle Atlantic Products “Controlling the Temperature Inside Equipment Racks”.
8. Panels or equipment mounted on the rear rack rails shall not block access to any front mounted components.
9. If equipment rack is not equipped with casters, provide two inch high wood base to isolate equipment rack from floor. Wood base should be capable of supporting the load.

F. Installation of loudspeakers:
1. Loudspeakers shall be mounted at the operating position in a safe, secure and permanent manner.
2. Rigging, mounting and support systems for loudspeakers shall be reviewed and certified by a registered Professional Engineer (PE) licensed to practice in the State in which the project is located. Documentation shall be included as a submittal item. Once the systems are installed, the PE shall physically inspect the methods and means used to verify compliance with the original design.
3. Paint speakers, supports and related hardware color as directed by Architect.
4. The aiming direction of all loudspeakers shall be adjustable by ±5 degrees vertically.
5. Structural support members to have a safety factor of at least five. Mounting hardware and wire rope to have a safety factor of eight. All fasteners to be graded and certified for use in the intended applications. Overhead suspension hardware shall comply with ASME B30.20 standards and all applicable local building and safety codes. Overhead suspension hardware must be of a type that includes product traceability controls.
6. Provide safety cable on all bracket mounted loudspeakers.
7. All loudspeakers located in ceiling tiles shall be located in the center of the tile unless noted otherwise.

3.03 FIRESTOP

A. A fire-stop system is comprised of the item or items penetrating the fire rated structure, the opening in the structure and the materials and assembly of the materials used to seal the penetrated structure. Fire-stop systems comprise an effective block for fire, smoke, heat, vapor and pressurized water stream.

B. All penetrations through fire-rated building structures (walls and floors) shall be sealed with an appropriate fire-stop system. This requirement applies to through penetrations (complete penetration) and membrane penetrations (through one side of a hollow fire rated structure). Any penetrating item i.e., riser slots and sleeves, cables, conduit, cable tray, and raceways, etc. shall be properly fire-stopped.

C. Fire-stop systems shall be UL Classified to ASTM E814 (UL 1479) and shall be approved by a qualified Professional Engineer (PE), licensed (actual or reciprocal) in the state where the work is to be performed.

D. A drawing showing the proposed fire-stop system, stamped/embossed by the PE shall be provided to the Owner’s Technical Representative prior to installing the fire-stop system(s).

E. All fire-stop systems shall be installed in accordance with the manufacturer’s recommendations and shall be completely installed and available for observation by the local authorities prior to cable system acceptance.

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3.04 LABELING OF EQUIPMENT

A. Provide each terminal strip with a unique descriptor and a numerical designator for each terminal. Show terminal strip descriptor and designator on system schematic drawing.

B. Provide logical and legible cable and wiring label permanently affixed for easy identification.

1. Labels on cables to be adhesive strip type covered with clear heat-shrink tubing. Factory stamped heat shrink tubing may be used in lieu of the adhesive strip style.
2. Wiring designator to be an alpha-numeric code unique for each cable. Actual cable designation assignments to be determined by Contractor. Add cable designation codes to system schematic drawings.
3. Locate the cable designator at the origination and destination of each circuit within 3 inches of the point of termination or connection. Provide cable designator on circuits with intermediate splice points with an additional suffix to indicate each segment.

3.05 ENGRAVING

A. Text font: 1/8 inch block sans serif characters unless noted otherwise.

B. On dark materials, provide white characters; on stainless steel or brushed natural aluminum plates, or light-colored materials, provide black characters.

C. Provide at least two lines of text with first line listing the general device name, e.g., amplifier. Second line to include schematic reference of the device, e.g., AMP-1.

D. Equipment label: black with white characters except where indicated.

3.06 COMMISSIONING

A. Prior to energizing or testing the system, ensure the following:

1. All products are installed in proper and safe manner according to manufacturer's instructions.
2. Insulation and shrink tubing are present were required.
3. Dust, debris, solder splatter, etc. is removed.
4. Cable is dressed, routed, and labeled; connections are consistent with regard to polarity.
5. Labeling has been provided.
6. Temporary facilities and utilities have been properly disconnected, removed and disposed of off-site.
7. Products are neat, clean and unmarred and parts securely attached.
8. Broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. have been replaced or properly repaired, and debris cleaned up and discarded.

B. Prior to energizing the System verify and perform the following tests and adjustments in compliance with applicable EIA standards.

1. Electronic devices are properly grounded.
2. Test each AC power receptacle with a circuit checker for proper hot, neutral and ground connections.
3. Verify each individual component is operating properly.
4. Verify each individual component's performance meets the manufacturer's published performance for this unit.
5. Measure and record the DC resistance between the technical ground in any equipment rack or console and the main building ground. Resistance should be 0.15 ohms or less.

C. Speaker Circuit Verification Test

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1. Measure the impedance of each speaker line leaving the equipment racks.
2. For constant voltage systems measure the impedance at 100 (or 250) Hz, 1 KHz and 8 (or 10) KHz of each line leaving the equipment rack with the line disconnected from the driving source. For band limited devices, use a frequency appropriate for the operating range of the transducer.
3. When documenting the results of these tests, include the calculated impedance based on number of units on a line and the size and distance of the run. Correct any field readings that differ more than 20% from the calculated impedance.
4. Include the results of the tests in the Project Record Manual.

D. Speaker Polarity Verification Test
1. Use an electronic polarity checker, TEF-20, SYSID, SIM II, Smaart, or other similar device to test each loudspeaker. All speakers should have the same relative polarity.
2. Follow manufacturer's recommendations in conducting the tests.
3. Include the results of the tests in the Project Record Manual.

E. Audio Signal Paths
1. Verify operation from each source device through all switching, amplification and distribution devices.

F. System Gain Adjustment
1. Adjust each active device to have proper gain structure from the mixer output to the input of the amplifier.
2. With all amplifiers turned off, connect a sine wave or pink noise generator to the input of the mixer. Using an RMS AC voltmeter with a dB scale, adjust the mixer to an output between -10 and 0 dBu. Once the level has been established, it should remain unchanged throughout the test. All equalizers should be set flat for this test.
3. Follow the signal flow from the mixer to each subsequent component. Measure the input level and output level of each device at the point of connection to the device. The input level reading should differ no more than 0.25 dB from the level recorded for the preceding device. Diagnose and correct the wiring or equipment when any readings exceed this range.
4. Adjust the output of each component to achieve the proper output level.
5. Record the output levels of each device in the Project Record Manual.

G. Signal Delay Adjustment
1. Adjust the delay to each subsystem to ensure proper synchronization between the main speakers and delayed speakers.
2. Using a TEF 20, SYSID, Smaart, SIM II, or other acceptable time based measurement system, measure the arrival time of the distant signal and then measure the arrival of the local signal.
3. Based on the arrival times measured, adjust the delay applied to the local speakers to synchronize them with the distant speakers. Repeat the test to verify the delay has been set to within 1 ms of the arrival of the distant signal. Once the precise delay time has been determined, provide an additional 10 ms of Haas effect delay to maintain directional orientation toward the original sound source.
4. Continue to test and adjust each separate subsystem with a dedicated delay channel.
5. Provide hard-copy printout of each delay adjustment showing first the arrival times with no delay set and then the result after the delay has been adjusted. Record the settings of each delay in the Project Record Manual.

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H. Remote Input Verification Test
   1. Using a microphone or portable signal generator, connect to each microphone/line level receptacle throughout the facility.
   2. Verify that the receptacle under test appears at the correct input and is operating properly.
   3. In a similar manner, check all remote tielines and media related lines for correct wiring and labeling.

I. System Equalization
   1. Using a RTA, TEF 20, SYSID, or SMAART, equalize all loudspeaker systems to provide a suitable frequency response as follows:
      a. Speech Reinforcement Systems: flat response from 125 Hz to 2.5 KHz, with 2 dB roll off above.
      b. Program Reproduction Systems: flat response from 65 Hz to 8 KHz, with 2 dB roll off above.
   2. Verify system gain and amplifier levels.
   3. Provide program levels of at least 85 dB and speech reinforcement levels of at least 70 dB in the seating area without objectionable distortion, buzzes, or rattles.
   4. Provide hard copy printouts of the spectral response with the test data.

J. RFI and Parasitic Oscillation
   1. With systems operating check to ensure that all systems are free from spurious oscillation and radio frequency interference in the absence of audio signal.

K. Buzzes, Rattles and other Distortions
   1. Adjust the system for normal operating level in the space. Apply a slow sine wave sweep from 60 Hz to 3 KHz and listen carefully for buzzes, rattles and other objectionable distortions.
   2. Correct the cause of the defect. If the cause is not from the system. Bring the cause to the attention of the GC, indicating cause and suggestive corrective actions.

~~3.07 CAT5E/CAT6 CABLE CERTIFICATION~~

~~A. General Field Test Requirements~~

~~1. All CAT5E/CAT6 cabling links installed as part of this scope shall be tested for the following, in accordance with the field test specifications defines in ANSI/TIA-568-C.2 "Commercial Balanced Twisted-Pair Telecommunications Cabling and Components Standard." This document will be referred to as the "Category 5e Standard":~~

~~a. Wire Map~~

~~b. Length~~

~~c. Insertion Loss~~

~~d. NEXT loss~~

~~e. PS NEXT Loss~~

~~f. ACR-F Loss~~

~~g. PS ACR-F Loss~~

~~h. Return Loss~~

~~i. Propagation Loss~~

~~j. Delay Skew~~

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2. The installed twisted-pair horizontal links shall be tested from terminated end point to terminated end point for compliance with the "Permanent Link" performance specification as defined in the Category 5e Standard.
3. One hundred percent of the installed cabling links must pass the requirements of the Category 5e standard mentioned above and as further detailed in Section B below. Any failing link must be diagnosed and corrected. The corrective action shall be followed with a new test to prove that the corrected link meets the performance requirements. The final and passing result of the tests for all links shall be provided in the test results documentation in accordance with Section C below.
4. The test equipment (tester) shall comply with the accuracy requirements for level IIe field testers as defined in ANSI/TIA-1152. The tester including the appropriate interface adapter must meet the specified accuracy requirements. The accuracy requirements for the permanent link test configuration (baseline accuracy plus adapter contribution) are specified in Table 2 of ANSI/TIA-1152 (Table 2 in this TIA document also specifies the accuracy requirements for the channel configuration).
5. The RJ45 test plug shall fall within the values specified in ANSI/TIA-568-C Annex C for NEXT, FEXT and Return Loss.
6. The tester shall be within the calibration period recommended by the vendor in order to achieve the vendor-specified measurement accuracy.
7. The tester interface adapters must be of high quality and the cable shall not show any twisting or kinking resulting from coiling and storing of the tester interface adapters. In order to deliver optimum accuracy, preference is given to a permanent link interface adapter for the tester that can be calibrated to extend the reference plane of the Return Loss measurement to the permanent link interface. To ensure that normal handling on the job does not cause measurable Return Loss change, the adapter cord cable shall not be of twisted-pair construction.
8. The Pass or Fail condition of the link-under-test is determined by the results of the required individual tests (detailed in Section 4.2.2 of ANSI/TIA-1152). Any Fail result yields a Fail for the link-under-test. In order to achieve an overall Pass condition, the results for each individual test parameter must Pass.
9. A Pass or Fail result for each parameter is determined by comparing the measured values with the specifies test limits for that parameter.

B. Performance Test Parameters

1. The test parameters are defined by the Category 5e Standard. The test of each link shall contain all of the following parameters as detailed below. In order to pass the test, all measurements (at each frequency in the range from 1 MHz through 100 MHz) must meet or exceed the limit value determined in the above mentioned standard.
2. Wire Map - Shall report Pass if the wiring of each wire-pair from end to end is determined to be correct.
3. Length – The field tester shall be capable of measuring length of all pairs of a basic link or channel based on the propagation delay measurement and the average value for NVP. The physical length of the link shall be calculated using the pair with the shortest electrical delay. This length figure shall be reported and shall be used for making the Pass/Fail decision. The Pass/Fail criteria are based on the maximum length allowed for the Permanent Link configuration (90 meters – 295 feet) plus 10% to allow for the variation and uncertainty of NVP.
4. Insertion Loss (Attenuation) – Insertion Loss is a measure of signal loss in the permanent link or channel. The term "Attenuation" has been used to designate

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~~"Insertion Loss." Insertion Loss shall be tested from 1 MHz through 100 MHz in maximum step size of 1 MHz. It is preferred to measure insertion loss at the same frequency intervals as NEXT loss in order to provide a more accurate calculation of the Attenuation-to-Crosstalk Ratio (ACR) parameter. Minimum test results documentation (summary results): Identify the worst wire pair (1 of 4 possible). The test results of the worst wire pair must show the highest attenuation value measured (worst case), the frequency at which the worst case value occurs, and the test limit value at this frequency.~~

~~5. NEXT Loss – Pair-to-pair near end crosstalk loss (abbreviated as NEXT loss) shall be tested for each wire pair combination from each end of the link (a total of 12 pair combinations).This parameter is to be measured from 1 through 100 MHz. NEXT Loss measures the crosstalk disturbance on a wire pair at the end from which the disturbance signal is transmitted (near-end) on the disturbing pair. The maximum step size for NEXT loss measurements shall not exceed the maximum step size defined in the Category 5e Standard as shown in Table 1. Minimum test results documentation (summary results): Identify the wire pair combination that exhibits the worst value of NEXT (worst case). NEXT is to be measured from each end of the link-under-test. These wire pair combinations must be identified for the tests performed from each end. Each reported case should include the frequency at which it occurs as well as the test limit value at this frequency.~~

~~Table 1 – Maximum frequency step size as defined in ANSI/TIA-1152~~

~~Frequency Range (MHz)~~	~~Maximum Step size (MHz)~~
~~1 - 31.25~~	~~0.15~~
~~31.26 - 100~~	~~0.25~~

~~6. PS NEXT Loss – Power Sum NEXT Loss shall be evaluated and reported for each wire pair from both ends of the link under-test (a total of eight results). PS NEXT Loss captures the combined near-end crosstalk effect (statistical) on a wire pair when all other pairs actively transmit signals. Like NEXT this test parameter must be evaluated from 1 through 100 MHz and the step size may not exceed the maximum step size defined in the Category 5e Standard as shown in Table 1. Maximum test results documentation (summary results): Identify the wire pair that exhibits the worst-case margin and the wire pair that exhibits the worst value for PS next. These wire pairs must be identified for the tests performed from each end. Each reported case should include the frequency at which it occurs as well as the test limit value at this frequency.~~

~~7. ACR-F Loss, pair to pair – Attenuation Crosstalk Ratio Far-end is calculated from the pair-to-pair FEXT Loss. It shall be measured for each wire-pair combination from both ends of the link under-test. FEXT Loss measures the crosstalk disturbance on a wire pair at the opposite end (far-end) from which the transmitter emits the disturbing signal on the disturbing pair. FEXT is measured to compute ACR-F Loss that must be evaluated and reported in the test results. ACR-F measures the relative strength of the far-end crosstalk disturbance relative to the attenuated signal that arrives at the end of the link. This test yields 24 wire pair combinations. ACR-F is to be measured 1 through 100 MHz and the maximum step size for FEXT loss measurements shall not exceed the maximum step size defined as the standard as in Table 1. Minimum test results documentation (summary results): Identify the wire pair combination that exhibits the worst value for ACR-F. There wire pairs must be identified for the tests performed from each end. Each~~

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reported case should include the frequency at which it occurs as well as the test limit value at this frequency.

8. PS ACR-F Loss – Power Sum Attenuation Crosstalk Ratio Far-end is a calculated parameter that combines the effect of the FEXT disturbance from three wire pairs of the fourth one. This test yields eight wire-pair combinations. Each wire-pair is evaluated from 1 through 100 MHz in frequency increments that do not exceed the maximum step size defined in the standard as shown in Table 1. Minimum test results documentation (summary results): Identify the wire pair that exhibits the worst pair combinations must be identified for the tests performed from each end. Each reported case should include the frequency at which it occurs as well as the test limit value at this frequency.

9. Return Loss – Return Loss (RL) measures the total energy reflected on each wire pair. Return Loss is to be measured from both ends of the link-under-test for each wire pair. This parameter is also to be measured from 1 through 100 MHz in frequency increments that do not exceed the maximum step size defined in the Category 5e Standard as shown in Table 1. Minimum test results documentation (summary results): Identify the wire pair that exhibits the worst value of Return Loss. These wire pairs must be identified for the tests performed from each end. Each reported case should include the frequency at which it occurs as well as the test limit value at this frequency.

10. Propagation Delay – Propagation delay is the time required for the signal to travel from one of the links to the other. This measurement is to be performed for each of the four wire pairs. Minimum test results documentation (summary results): Identify the wire pair with the worst propagation delay. The report shall include the propagation delay value measured as well as the test limit value.

11. Delay Skew – [as defined in the Category 5e Standard; Section 6.2.19] This parameter shows the difference in propagation delay between the four wire pairs. The pair with the shortest propagation delay between the four wire pairs. The pair with the shortest propagation delay is the reference pair with a delay skew value of zero. Minimum test results documentation (summary results): Identify the wire pair with the worst-case propagation delay (the longest propagation delay). The report shall include the delay skew value measured as well as the test limit value.

C. Test Result Documentation

1. The test results/measurements shall be transferred into a Windows based database utility that allows for the maintenance, inspection, and archiving of these test records. A guarantee must be made that the measurement results are transferred to the PC unaltered, i.e., "as saved in the tester" at the end of each test and that these results cannot be modified at a later time.

2. The database for the completed job shall be stored and delivered on CD-ROM or DVD including the software tools required to view, inspect, and print any selection of test reports.

3. A paper copy of the test results shall be provided that lists all the links that have been tested with the following summary information:

4.

a. The identification of the link in accordance with the naming convention defined in the overall system documentation.

b. The overall Pass/Fail evaluation of the link-under-test including the NEXT Headroom (overall worst case) number.

c. The date and time the test results were saved in the memory of the tester.

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5. General information to be provided in the electronic data base with the test results information for each link:
   a. The identification of the customer site as specified by the end-user.
   b. The identification of the link in accordance with the naming convention defined in the overall system documentation.
   c. The overall Pass/Fail evaluation of the link-under-test
   d. The name of the test limit selected to execute the stored test results
   e. The cable type and value of NVP used for length calculations
   f. The date and time the test results were saved in the memory of the tester
   g. The brand name, model, and serial number of the tester.
   h. The identification of the tester interface
   i. The revision of the tester software and the revision of the test limits database in the tester
   j. The test results information must contain information on each of the required test parameters that are listed in Section B and as further detailed below under paragraph C5.
6. For each of the frequency-dependent test parameters, the value measured at every frequency during the test is stored. The PC-resident database program must be able to process the stored results to display and print a color graph of the measured parameters. The PC-resident software must also provide a summary numeric format in which some critical information is provided numerically as defined by the summary results (minimum numeric test results documentation) as outlined above for each of the test parameters.
7. The detailed test results data to be provided in the electronic database must contain the following information:
   a. Length: Identify the wire-pair with the shortest electrical length, the value of the length rounded to the nearest 0.1 m330 and test limit value.
   b. Propagation delay: Identify the pair with the shortest propagation delay, the value measured in nanoseconds (ns) and the test limit value.
   c. Delay Skew: Identify the pair with the largest value for delay skew, the value measured in nanoseconds (ns) and the test limit value.
   d. Insertion Loss (Attenuation): Minimum test results documentation as explained in Section B for the worst pair.
   e. Return Loss: Minimum test results documentation as explained in Section B for the worst pair as measured from each end of the link.
   f. NEXT, ACR-F: Minimum test results documentation as explained in Section B for the worst pair combination as measured from each end of the link.
   g. PS NEXT and PS ACR-F: Minimum test results documentation as explained in Section B for the worst pair combination as measured from each end of the link.

3.08 FINAL OBSERVATION & TESTING

A. Upon completion of installation, initial adjustments, tests and measurements specified in Part 3, and submission and review of the results, a final observation and test will be performed by the Owner or Owner's representative no earlier than two weeks after receipt of the written results.

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B. Provide a minimum of one (1) person for observation and testing familiar with aspects of the System to assist the Owner.

C. The process of testing the System may necessitate moving and adjusting certain components.

D. Testing includes operation of each major system and any other components deemed necessary. Perform tests and provide required test equipment, tools and material required to make any necessary repairs, corrections, or adjustments.

E. The following procedures will be performed on each System:

1. Observation of the methods and means employed to incorporate the System within the facility.
2. Verification of proper operation, from controlling devices to controlled devices.
3. Verification of proper adjustment, balance, and alignment of equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for each level control, and appropriately record these settings within the Record Documents.
4. Other tests on equipment or systems deemed appropriate.

F. In the event the need for further adjustment or work becomes evident during testing, the Contractor is to continue his work until the System is acceptable at no addition to the contract price. If approval is delayed because of defective equipment, or failure of equipment or installation to meet the requirements of these specifications and any extension of the observation and testing period is required, the Contractor shall pay for additional time and expenses of the Owner at the standard rate in effect at that time.

3.09 TEST EQUIPMENT

A. Thirty days prior to start of testing, provide a list to the Owner of test equipment make, model numbers and calibration dates that will be used.

B. The following equipment shall be available on site for the entire test period through final system testing.

1. Sound Level Meter: ANSI S1.4-1971 Type S1A with digital or analog display. Meter to provide ranges of 40 to 120 dBA.
2. Pink Noise Source - Equal energy per octave bandwidth 20 Hz to 20,000 Hz, ±1 dB (long-term average) at 0 dBm output. Stability: ±2 dB per day.
3. Dual-trace oscilloscope - 100 MHz bandwidth, 1 mV/cm sensitivity.
4. Impedance Meter - Capable of testing audio lines at three frequencies, minimum, between 250 Hz and 5k Hz. Measurement Range: 1 ohm to 100 kohms.
5. Audio Oscillator: bandwidth 20 Hz to 20k Hz ±.5 dB at 0 dBm output. Output to be balanced. Oscillator to include adjustable output level over the range from –30 dBu to +10 dBu.
6. Multimeter - Measurement range, DC to 20k Hz, 100 mV to 300 V, 10 ma to 10 A, dB.
7. NTSC Test generator
8. Real time analyzer with LED or CRT display. The unit shall meet the filter requirements of ANSI S1.11 Class III for one third octave filters.
9. Video (analog) test generator capable of generating signal up to 1920 x 1200 with audio.
10. Video (digital) test generator capable of generating signal up to 1920 x 1200 with audio.
11. Ladders and scaffolding necessary to inspect elevated equipment, junction boxes, etc.

C. Provide three portable VHF or UHF business band radios for use during acceptance testing with transmission range sufficient to cover entire project. Include rechargeable batteries and

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recharger along with holster for wearing on belt. Radios to be available for duration of testing process, including any follow-up visits required prior to final acceptance.

3.10 INSTRUCTION OF OWNER PERSONNEL

A. Provide 12 hours instruction to Owner designated personnel focusing on the use, operation and maintenance of the systems, scheduled as a minimum of two separate sessions, by an instructor fully knowledgeable and qualified in system operation. The System Reference Manuals should be complete and on site at the time of this instruction. Coordinate schedule of demonstration with Owner's Representative.

B. Video record all training sessions and compile a training video to be provided to the Owner on DVD.

C. Provide sign in sheet to document the attendee's presence.

D. If Contractor is not properly equipped to conduct Owner training on particular equipment, arrange for factory representatives of the equipment to be present to provide training at no additional cost to the Owner.

E. Cleanup and Repair

F. Upon completion of the work, remove refuse and rubbish from and about the premises. Leave areas and equipment clean and in an operational state. Repair any damage caused to the premises by the installation of systems at no cost to the Owner.

END OF SECTION 27 5000

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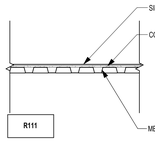
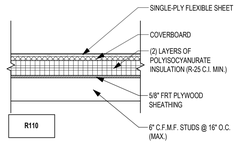


R111

NOTE: ONLY USED WHEN ROOF IS NOT PART OF THERMAL/WEATHER BARRIER



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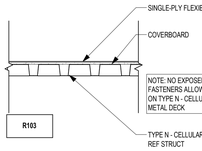
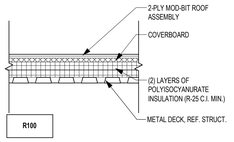


R103



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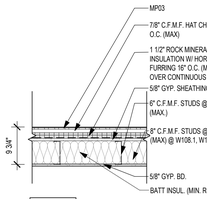
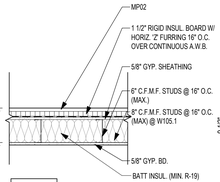
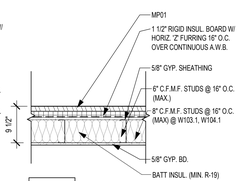


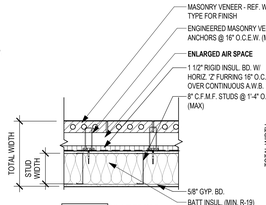
W108	
W108.1	8" C.F.M.F. STUDS
W109	NO RIGID INSULATION BOARD
W109.1	8" C.F.M.F. STUDS NO RIGID INSULATION BOARD



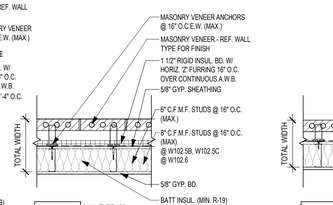
W105	
W105.1	8" C.F.M.F. STUDS
W106	NO RIGID INSULATION BOARD



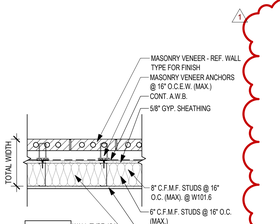
W103	
W103.1	8" C.F.M.F. STUDS
W104	NO RIGID INSULATION BOARD
W104.1	8" C.F.M.F. STUDS NO RIGID INSULATION BOARD



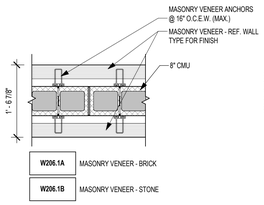
W102-E	WALL TYPE 102-E
W102.5E	MASONRY VENEER - FACE BRICK BRK01
W102.6E	MASONRY VENEER - STONE CSUM01



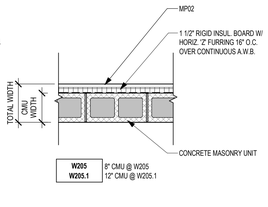
W102	WALL TYPE 102
W102.1 W102.5	MASONRY VENEER - FACE BRICK BRK02 @ W102.1B / W102.5B BRK01 @ W102.1C W102.5C
W102.1E	MASONRY VENEER - FACE BRICK BRK01 NO RIGID INSULATION BOARD
W102.2 W102.6 W102.7	MASONRY VENEER - STONE 10" C.F.M.F. STUDS
W102.3	IN-LIEU OF 5/8" GYP. BOARD, PROVIDE 1/4" & 3/8" GYP. BOARD
W102.3A	MASONRY VENEER - STONE NO RIGID INSULATION BOARD



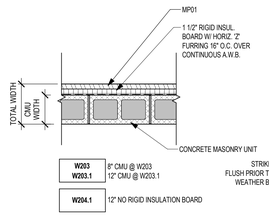
W101	WALL TYPE 101
W101.1	MASONRY VENEER - FACE BRICK
W101.2 W101.6	MASONRY VENEER - STONE



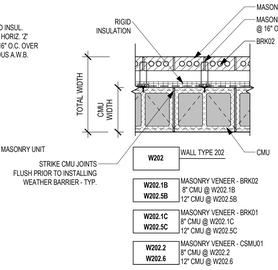
W206.1A	MASONRY VENEER - BRICK
W206.1B	MASONRY VENEER - STONE



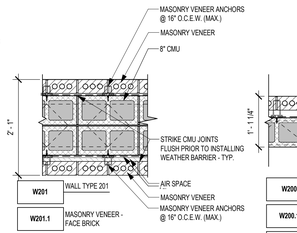
W205 W205.1	8" CMU @ W205 12" CMU @ W205.1



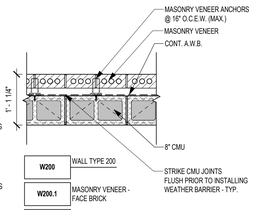
W203 W203.1	8" CMU @ W203 12" CMU @ W203.1
W204.1	12" NO RIGID INSULATION BOARD



W202	WALL TYPE 202
W202.1B W202.5B	MASONRY VENEER - BRK02 8" CMU @ W202.1B 12" CMU @ W202.5B
W202.1C W202.5C	MASONRY VENEER - BRK01 8" CMU @ W202.1C 12" CMU @ W202.5C
W202.2 W202.6	MASONRY VENEER - CSMU01 8" CMU @ W202.2 12" CMU @ W202.6



W201	WALL TYPE 201
W201.1	MASONRY VENEER - FACE BRICK
W201.2	MASONRY VENEER - STONE



W200	WALL TYPE 200
W200.1	MASONRY VENEER - FACE BRICK
W200.2	MASONRY VENEER - STONE

PARTITION TYPE TAGS

A3 | D

WALL ASSEMBLY 'A' IN PLAN VIEW

LETTERS TO THE RIGHT INDICATE PARTITION HEIGHT, FIRE RATING AND ACOUSTICAL PROPERTIES:

- D — WALL TO DECK / STRUCTURE
- C — WALL TO 6" (MIN.) ABOVE CEILING
- FR — FIRE RATED WALL TO DECK / STRUCTURE
- AD — ACOUSTICAL WALL TO DECK / STRUCTURE
- AC — ACOUSTICAL WALL TO 6" (MIN.) ABOVE CEILING
- AR — ACOUSTICAL RATED WALL TO DECK / STRUCTURE
- GD — GYP WALL ABOVE TO DECK / STRUCTURE
- SR — SMOKE RESISTANT PARTITION TO DECK / STRUCTURE

LETTER & NUMBER TO THE LEFT INDICATE PARTITION TYPE & STUD OR CMU SIZE AS FOLLOWS:

- 1 - 7/8" HAT CHANNEL
- 2 - 1 5/8" CFMF
- 3 - 2 1/2" CFMF
- 4 - 3 5/8" CFMF OR CMU
- 6 - 6" CFMF OR 5 5/8" CMU
- 8 - 8" CFMF OR 7 5/8" CMU
- 10 - 9 5/8" CMU
- 12 - 11 5/8" CMU

EXTERIOR WALL TYPE TAGS

W200 | WALL ASSEMBLY 'A' SECTION VIEW

LETTER INDICATES EXTERIOR WALL

NUMBER INDICATES BACKUP CONSTRUCTION AS FOLLOWS:

- **100** - CFMF
- **200** - CMU

NOTE: AIR SPACE CAVITY IN ALL EXTERIOR MASONRY VENEER WALLS MUST BE 2" MINIMUM CLEAR

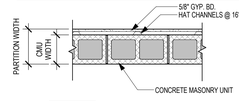
WALL / PARTITION NOTES:

1. ALL INTERIOR WALL/PARTITIONS NOT OTHERWISE DESCRIBED BY A WALL SECTION ARE IDENTIFIED BY A SYMBOL WITH AN ALPHANUMERIC CODE INDICATING MATERIALS (BY LETTER), NOMINAL THICKNESS OF STRUCTURE (BY NUMBER) AND AN ALPHANUMERIC CODE REPRESENTING HEIGHT, FIRE RATING AND ACOUSTICAL PROPERTIES.
2. **UNTAGGED WALL/PARTITIONS AND COLUMN FURRINGS** SHALL BE ASSUMED TO BE **"TYPICAL"**, AS FOLLOWS, FOR BIDDING PURPOSES:
   GYP BOARD (EXTENDS TO 6" ABOVE CEILING U.N.O.)
   WALLS/PARTITIONS - TYPE **M4**, ACOUSTICAL
   COLUMN FURRING - **M4**, NON-ACOUSTICAL
   MASONRY (EXTENDS TO 4" ABOVE CEILING OR TO NEAREST 8" COURSING ABOVE 4" U.N.O.)
   WALLS/PARTITIONS - TYPE **A8**, NON-ACOUSTICAL
   COLUMN FURRING - TYPE **A6**, NON-ACOUSTICAL
   ANY UNTAGGED PARTITIONS WHICH APPEAR INCONSISTENT WITH THE DESCRIPTIONS ABOVE SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO BIDDING.
3. WALL TYPES IDENTIFIED AS CMU MAY INCLUDE ACMU. FLOOR PLAN HATCH PATTERNS WILL DIFFERENTIATE REGULAR SMOOTH FACE CMU FROM ARCHITECTURAL CMU. FINISH PLANS AND SCHEDULES WILL IDENTIFY ACMU SELECTIONS (GROUND FACE, SPLIT FACE, ETC.) AND IDENTIFY WHICH SIDE OF A SINGLE WYTHE ACMU WALL IS THE FINISH SIDE.
4. WALL/PARTITION TYPES IDENTIFIED AS INCLUDING VENEER MAY INCLUDE BRICK, STONE, OR ACMU. FLOOR PLAN HATCH PATTERNS WILL DIFFERENTIATE REGULAR SMOOTH FACE CMU, BRICK, STONE, OR ARCHITECTURAL CMU. FINISH PLANS AND SCHEDULES WILL IDENTIFY ACMU SELECTIONS (GROUND FACE, SPLIT FACE, ETC.)
5. WALL/PARTITIONS INDICATED BY TAG "GYP WALL ABOVE TO DECK" SHALL BE CONSTRUCTED OF THE SPECIFIED WALL TYPE TO ONE FULL COURSE (MIN.) ABOVE THE CEILING, BRACED, AND AN H4 (OR M4) WALL/PARTITION (H6 OR M6 WHERE REQUIRED BY UNBRACED HEIGHT) SHALL BE BUILT FROM THE TOP OF WALL TO DECK. WALL/PARTITIONS INDICATED BY TAG "ACOUSTICAL GYP WALL ABOVE TO DECK" SHALL BE CONSTRUCTED OF THE SPECIFIED WALL TYPE TO A ONE FULL COURSE (MIN.) ABOVE THE CEILING, BRACED, AND AN H4 (OR M4) WALL/PARTITION (H6 OR M6 WHERE REQUIRED BY UNBRACED HEIGHT) WITH BATT INSULATION SHALL BE BUILT FROM THE TOP OF WALL TO DECK, WHERE INDICATED BY THE FIRE CODE PLAN TO BE FIRE RATED, ALL CONNECTIONS SHALL MEET RATING REQUIREMENTS.
6. FIRE-RATED WALL/PARTITIONS ARE INDICATED ON THE FIRE CODE PLANS ON THE G2 SHEETS. ALL GYP BOARD IN A RATED ASSEMBLY MUST BE 5/8" TYPE "X" AND CONSTRUCTION MUST MATCH THE ASSIGNED UL NUMBER. REFERENCE THE TYPE SCHEDULES ON THIS SHEET FOR UL NUMBERS WHERE APPLICABLE. SUBSTITUTE UL ASSEMBLIES MAY BE PRESENTED FOR THE CONSIDERATION OF THE ARCHITECT , BUT MUST NOT BE USED UNLESS APPROVED IN WRITING. PARTITIONS NOT IDENTIFIED AS RATED SHALL BE BUILT WITH STANDARD GYP BOARD.
7. WHERE FIRE-RATED MASONRY WALL/PARTITIONS ARE INDICATED TO EXTEND TO DECK, ANY VENEER OR ACMU MAY TERMINATE ABOVE CEILING LEVEL. THE CMU WALL/PARTITION SHALL EXTEND TO DECK WITH REGULAR CMU OF SAME THICKNESS AS THE CMU (OR ACMU) IN THE WALL ASSEMBLY.
8. ALL ACOUSTICAL GYP BD WALL/PARTITIONS REQUIRE HIGHER QUALITY CONSTRUCTION AND SHALL BE FULL HEIGHT SOUND ATTENUATING BATT INSULATION. IN ORDER TO ACHIEVE THE INDICATED STC RATING, ALL WALL/PARTITIONS ARE TO HAVE ALL PIN HOLES & VOIDS, PIPES, DUCTS, CONDUITS, ETC ACOUSTICALLY FILLED ON BOTH SIDES. ALL WALL BOXES ON BOTH SIDES OF WALL/PARTITION ARE TO HAVE ACOUSTICAL PUTTY PADS ON THE INTERIOR SIDE AS DETAILED. BOTH SIDES OF WALL/PARTITION SHALL BE SEALED TIGHT TO DECK AS DETAILED. THE FLOOR TRACK SHALL BE SET ON AN ACOUSTICAL ISOLATOR PAD.
9. ALL ACOUSTICAL CMU WALL/PARTITIONS REQUIRE A HIGHER QUALITY CONSTRUCTION, SHALL BE NORMAL WEIGHT CMU BLOCK, EXTEND TO DECK AND HAVE FULL HEAD JOINTS. ALL PENETRATIONS SHALL BE ACOUSTICALLY SEALED ON BOTH SIDES OF WALL MORTAR JOINTS TO BE FILLED W/ NO PIN HOLES OR VOIDS. HEAD OF WALL SHALL BE SEALED TIGHT TO DECK AS DETAILED.
10. ALL COLD FORM METAL FRAMING ARE SUBJECT TO THE DESIGN OF A QUALIFIED STRUCTURAL ENGINEER. FINAL DETERMINATION OF GAUGE AND DIMENSIONS OF FRAMING WILL BE DETERMINED BY STRUCTURAL DESIGN. ENGINEERS RECOMMENDATIONS WHICH WOULD SIGNIFICANTLY IMPACT WALL THICKNESS MUST BE COORDINATED WITH THE ARCHITECT FOR ALIGNMENT PRIOR TO CONSTRUCTION.
11. REFER TO TYPICAL INTERIOR WALL/PARTITION BRACING DETAILS FOR ADDITIONAL INFORMATION REGARDING FLOOR AND DECK CONNECTIONS. FIRE-RATED WALLS SHALL USE FIRE STOPPING SEALANTS OR ASSEMBLIES WHERE THE WALL/PARTITION ABUTS THE DECK, INCLUDING MINERAL WOOL INSULATION WHERE APPLICABLE. NON-RATED PARTITIONS SHALL USE ACOUSTICAL SEALANTS AND INSULATION WHERE THE WALL/PARTITION ABUTS THE DECK.
12. FOR ANY DISCREPANCY BETWEEN WALL/PARTITION TYPES AND WALL SECTIONS, WALL SECTION SHALL SUPERCEDE.
13. NOT ALL WALL/PARTITION TYPES SHOWN WILL BE USED.

INTERIOR & EXTERIOR PARTITION TYPE LEGEND

WALL TYPE	CMU WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
B8	7 5/8"	9 1/8"	2HR	U905	47	54
B12	11 5/8"	1'- 1 1/8"	2HR	U905	51	59
BN8	7 5/8"	9 1/8"	2HR	U905	47	54
BN12	11 5/8"	1'- 1 1/8"	2HR	U905	51	59

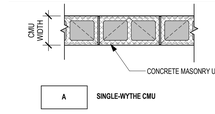
***NOTE:** FIRE RATINGS ARE BASED ON NCMA TEK 7.1 EQUIVALENT THICKNESS CALCULATIONS FOR LIGHT WEIGHT CMU OF EXPANDED CLAY, SHALE, OR SLATE.
***NOTE:** (AN) WALL TYPE DENOTES NON LOAD-BEARING MASONRY WALLS. LOCATIONS TO BE COORDINATED WITH STRUCTURAL DRAWINGS.



B — GYP. BD. FURRING ON CMU

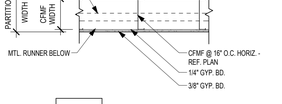
WALL TYPE	CMU WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
A6	5 5/8"	5 5/8"	1HR	U905	45	50
A8	7 5/8"	7 5/8"	2HR	U905	47	54
A12	11 5/8"	11 5/8"	2HR	U905	51	59
AN8	7 5/8"	7 5/8"	2HR	U905	47	54
AN12	11 5/8"	11 5/8"	2HR	U905	51	59

***NOTE:** FIRE RATINGS ARE BASED ON NCMA TEK 7.1 EQUIVALENT THICKNESS CALCULATIONS FOR LIGHT WEIGHT CMU OF EXPANDED CLAY, SHALE, OR SLATE.
***NOTE:** (AN) WALL TYPE DENOTES NON LOAD-BEARING MASONRY WALLS. LOCATIONS TO BE COORDINATED WITH STRUCTURAL DRAWINGS.



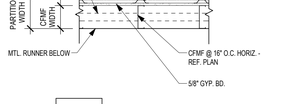
A — SINGLE-WYTHE CMU

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
AB6	6"	8 1/8"	--	--	--	34
AB8	8"	10 1/8"	--	--	--	34
AB12	12"	14 1/8"	--	--	--	34



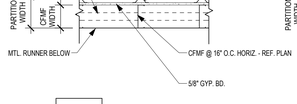
AB — MASONRY VENEER ON BACKER BD.FURRING

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
AA4	3 5/8"	6"	--	--	--	34
AA6	6"	8 3/8"	--	--	--	34



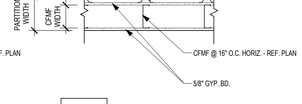
AA — METAL PANEL ON GYP. BD. FURRING

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
Z4	3 5/8"	5 3/4"	--	--	--	34
Z6	6"	8 1/8"	--	--	--	34



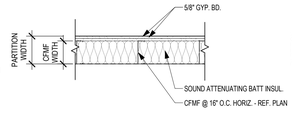
Z — WOOD ON GYP. BD. FURRING

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
Y4	3 5/8"	6 3/8"	--	--	40	44
Y6	6"	8 5/8"	--	--	40	44



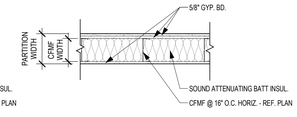
Y — WOOD FURRING ON CFMF

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
T4	3 5/8"	4 7/8"	--	U419; U465	--	38
T6	6"	7 1/4"	--	U411; U419	--	38



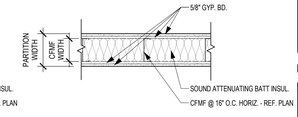
T — GYP. BD. ON CFMF - SOUND ASSY.

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
S4	3 5/8"	5 1/2"	--	U419; U465	--	46
S6	6"	7 7/8"	--	U411; U419	--	46



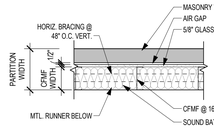
S — GYP. BD. ON CFMF - SOUND ASSY.

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
R4	3 5/8"	6 1/8"	--	U419; U465	--	50
R6	6"	8 1/2"	--	U411; U419	--	50



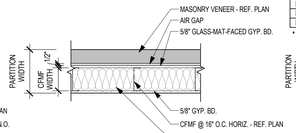
R — GYP. BD. ON CFMF - SOUND ASSY.

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	IBC (PRESCRIPTIVE FIRE RESISTANCE) TABLE 721.1	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
P4	3 5/8"	8 3/8"	1-2 HR	REF. IBC 721.1(2)	--	34
P6	6"	10 3/4"	1-2 HR	REF. IBC 721.1(2)	--	34



P — MASONRY VENEER ON GYP. BD. FURRING

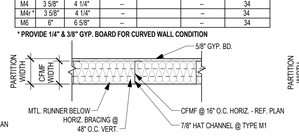
WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	IBC (PRESCRIPTIVE FIRE RESISTANCE) TABLE 721.1	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
N4	3 5/8"	9"	1-2 HR	REF. IBC 721.1(2)	40	44
N6	6"	11 3/8"	1-2 HR	REF. IBC 721.1(2)	40	44
N8	8"	1'- 1 3/8"	1-2 HR	REF. IBC 721.1(2)	40	44



N — MASONRY VENEER ON CFMF

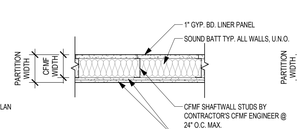
WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
M1	7/8"	1 1/2"	--		--	34
M2	1 5/8"	2 1/4"	--		--	34
M3	2 1/2"	3 1/8"	--		--	34
M4	3 5/8"	4 1/4"	--		--	34
M4*1	3 5/8"	4 1/4"	--		--	34
M6	6"	6 5/8"	--		--	34

*** PROVIDE 1/4" & 3/8" GYP. BOARD FOR CURVED WALL CONDITION**



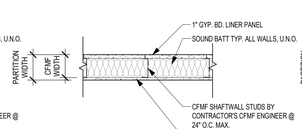
M — GYP. BD. FURRING ON CFMF

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
L3	2 1/2"	3 3/4"	2 HR	U415	40	51
L4	4"	5 1/4"	2 HR	U415	40	51
L6	6"	7 1/4"	2 HR	U415	40	51



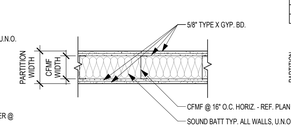
L — GYP. BD. ON SHAFT LINER

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
K3	2 1/2"	3 1/8"	1 HR	U415	37	48
K4	4"	4 5/8"	1 HR	U415	37	48
K6	6"	6 5/8"	1 HR	U415	37	48



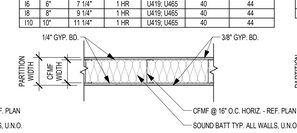
K — GYP. BD. ON SHAFT LINER

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
J4	3 5/8"	6 1/8"	2 HR	U411; U419	45	53
J6	6"	8 1/2"	2 HR	U411; U419	45	53



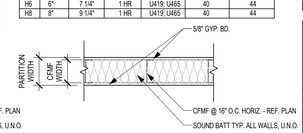
J — GYP. BD. ON CFMF - FIRE RATED

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
I4	3 5/8"	4 7/8"	--	U419; U465	40	44
I4	3 5/8"	4 7/8"	1 HR	U419; U465	40	44
I6	6"	7 1/4"	--	U419; U465	40	44
I6	6"	7 1/4"	1 HR	U419; U465	40	44
I8	8"	9 1/4"	1 HR	U419; U465	40	44
I10	10"	11 1/4"	1 HR	U419; U465	40	44



I — GYP. BD. ON CURVED CFMF

WALL TYPE	CFMF WIDTH	PARTITION WIDTH	FIRE RATING	UL LISTING	STC RATING NO SOUND ATTENUATION	STC RATING WITH SOUND ATTENUATION
H4	3 5/8"	4 7/8"	--	U419; U465	40	44
H4	3 5/8"	4 7/8"	1 HR	U419; U465	40	44
H6	6"	7 1/4"	--	U419; U465	40	44
H6	6"	7 1/4"	1 HR	U419; U465	40	44
H8	8"	9 1/4"	1 HR	U419; U465	40	44



H — GYP. BD. ON CFMF

Revision /	Date
1	07/24/26 ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEP

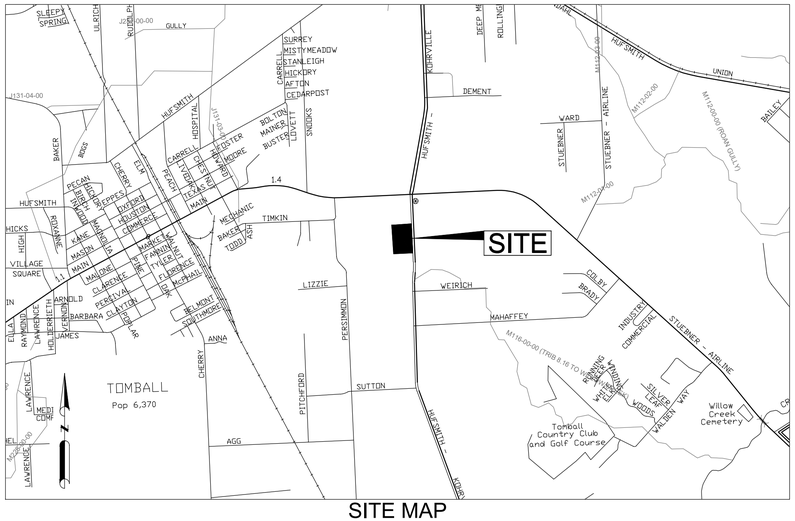
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT

22939 HUFSMITH KOHRVILLE ROAD, TOMBALL, TX 77375

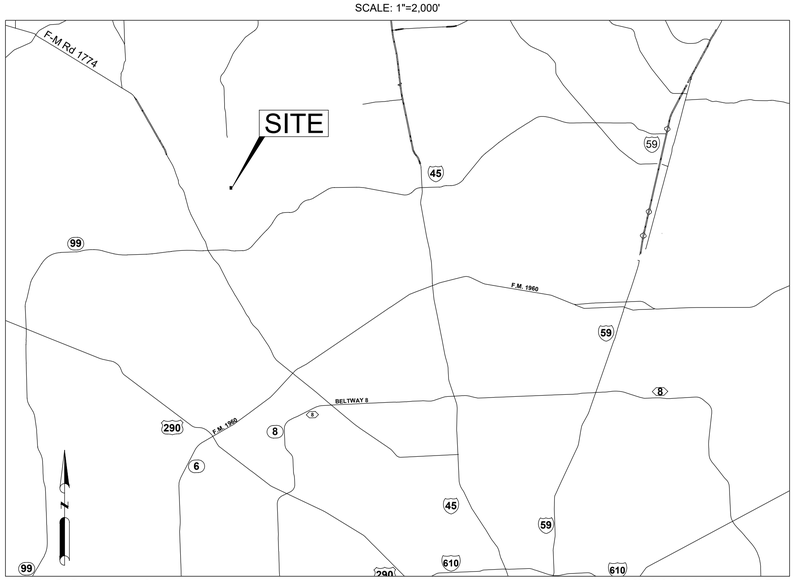
WITHIN HARRIS COUNTY, TX
CONSTRUCTION PLANS
FOR PROPOSED

WATER DISTRIBUTION, SANITARY SEWER, PAVING & DRAINAGE

W,SS,P & D PLANS FOR
(TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT)



SITE MAP
SCALE: 1"=2,000'



ZIP CODE 77375 — VICINITY MAP — KEY MAP: 289E
SCALE: 1"=20,000'

JULY 2026

DRAWING INDEX

SHEET NO.	TITLE
C0.0	COVER
C0.1	PLAT 1 OF 3 (FOR REFERENCE ONLY)
C0.2	PLAT 2 OF 3 (FOR REFERENCE ONLY)
C0.3	PLAT 3 OF 3 (FOR REFERENCE ONLY)
C0.4	TOPOGRAPHIC SURVEY 1 OF 4 (FOR REFERENCE ONLY)
C0.5	TOPOGRAPHIC SURVEY 2 OF 4 (FOR REFERENCE ONLY)
C0.6	TOPOGRAPHIC SURVEY 3 OF 4 (FOR REFERENCE ONLY)
C0.7	TOPOGRAPHIC SURVEY 4 OF 4 (FOR REFERENCE ONLY)
C1.1	CITY OF TOMBALL GENERAL NOTES
C1.2	GENERAL NOTES
C1.3	OVERALL LAYOUT
C1.4	DEMOLITION PLAN
C2.1	STORM WATER POLLUTION PREVENTION PLAN
C2.2	STORM WATER POLLUTION PREVENTION PLAN DETAILS
C3.1	DIMENSION CONTROL & SIGNAGE PLAN (1 OF 2)
C3.2	DIMENSION CONTROL & SIGNAGE PLAN (2 OF 2)
C4.1	GRADING PLAN (1 OF 2)
C4.2	GRADING PLAN (2 OF 2)
C5.1	UTILITY PLAN - WATER & SANITARY (1 OF 2)
C5.2	UTILITY PLAN - WATER & SANITARY (2 OF 2)
C5.3	PLAN & PROFILE - 8" SANITARY SEWER
C6.1	UTILITY PLAN - STORM SEWER (1 OF 2)
C6.2	UTILITY PLAN - STORM SEWER (2 OF 2)
C7.1	DRAINAGE AREA MAP
C7.2	DRAINAGE CALCULATIONS
C7.3	DRAINAGE SERVICE AREA MAP (FOR REFERENCE ONLY)
C8.1	PAVING DETAILS (1 OF 3)
C8.2	PAVING DETAILS (2 OF 3)
C8.3	PAVING DETAILS (3 OF 3)
C9.1	WATER AND SANITARY SEWER DETAILS (1 OF 2)
C9.2	WATER AND SANITARY SEWER DETAILS (2 OF 2)
C10.1	STORM SEWER DETAILS
	LANDSCAPE PLANS
L1.1	LANDSCAPE PLAN
L1.2	ENLARGEMENT LANDSCAPE PLAN
IR1.1	IRRIGATION PLAN
IR1.2	IRRIGATION SCHEDULES
IR1.3	IRRIGATION DETAILS

DESIGNED BY: AH/AG
CHECKED BY: SK
DRAWN BY: CT

REV	DESCRIPTION	DATE
	ADDENDUM 01	07-24-2026

STATE OF TEXAS
SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
(713) 223-4567 (In Houston)
(New Statewide Number Outside Houston)
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WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120
Houston, Texas 77063
713.789.1900
4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

WGA PROJECT NO. 00788-002
CITY OF TOMBALL PROJECT NO. SP26-025

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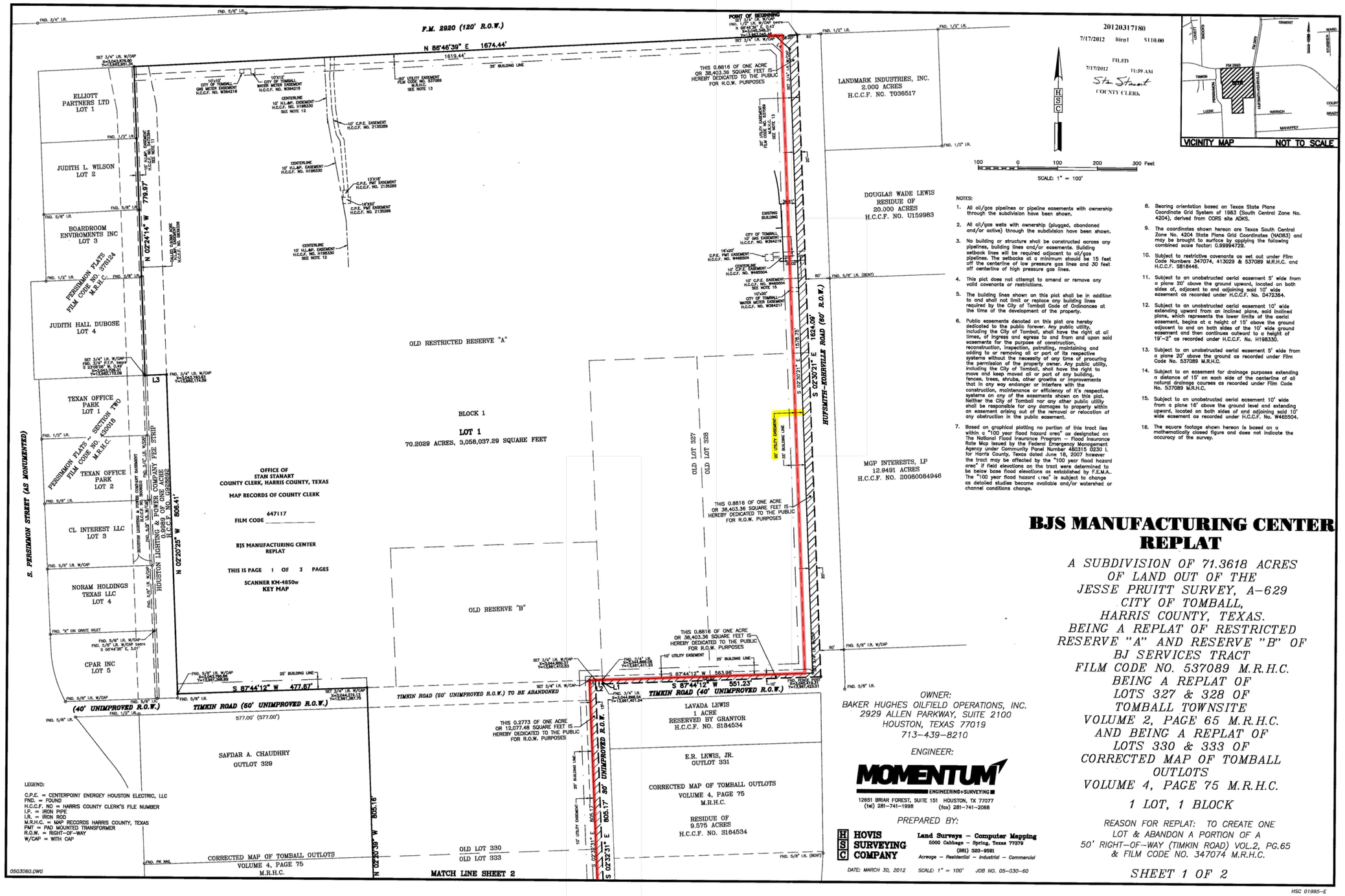

NOTES:

1. All oil/gas pipelines or pipeline easements with ownership through the subdivision have been shown.
2. All oil/gas wells with ownership (plugged, abandoned and/or active) through the subdivision have been shown.
3. No building or structure shall be constructed across any pipelines, building lines and/or easements. Building setback lines will be required adjacent to oil/gas pipelines. The setbacks at a minimum should be 15 feet off the centerline of low pressure gas lines and 30 feet off centerline of high pressure gas lines.
4. This plat does not attempt to amend or remove any valid covenants or restrictions.
5. The building lines shown on this plat shall be in addition to and shall not limit or replace any building lines required by the City of Tomball Code of Ordinances at the time of the development of the property.
6. Public easements denoted on this plat are hereby dedicated to the public forever. Any public utility, including the City of Tomball, shall have the right at all times, of ingress and egress to and from and upon said easements for the purpose of construction, reconstruction, inspection, patrolling, maintaining and adding to or removing all or part of its respective systems without the necessity of any time of procuring the permission of the property owner. Any public utility, including the City of Tomball, shall have the right to move and keep moved all or part of any building, fences, trees, shrubs, other growths or improvements that in any way endanger or interfere with the construction, maintenance or efficiency of it's respective systems on any of the easements shown on this plat. Neither the City of Tomball nor any other public utility shall be responsible for any damages to property within an easement arising out of the removal or relocation of any obstruction in the public easement.
7. Based on graphical plotting no portion of this tract lies within a "100 year flood hazard area" as designated on The National Flood Insurance Program – Flood Insurance Rate Map issued by the Federal Emergency Management Agency under Community Panel Number 480315 0230 L for Harris County, Texas dated June 18, 2007 however the tract may be affected by the "100 year flood hazard area" if field elevations on the tract were determined to be below base flood elevations as established by F.E.M.A.. The "100 year flood hazard area" is subject to change as detailed studies become available and/or watershed or channel conditions change.
8. Bearing orientation based on Texas State Plane Coordinate Grid System of 1983 (South Central Zone No. 4204), derived from CORS site ADKS.
9. The coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale factor: 0.99994729.
10. Subject to restrictive covenants as set out under Film Code Numbers 347074, 413029 & 537089 M.R.H.C. and H.C.C.F. S818446.
11. Subject to an unobstructed aerial easement 5' wide from a plane 20' above the ground upward, located on both sides of, adjacent to and adjoining said 10' wide easement as recorded under H.C.C.F. No. D472384.
12. Subject to an unobstructed aerial easement 10' wide extending upward from an inclined plane, said inclined plane, which represents the lower limits of the aerial easement, begins at a height of 15' above the ground adjacent to and on both sides of the 10' wide ground easement and then continues outward to a height of 19'-2" as recorded under H.C.C.F. No. H198330.
13. Subject to an unobstructed aerial easement 5' wide from a plane 20' above the ground as recorded under Film Code No. 537089 M.R.H.C.
14. Subject to an easement for drainage purposes extending a distance of 15' on each side of the centerline of all natural drainage courses as recorded under Film Code No. 537089 M.R.H.C.
15. Subject to an unobstructed aerial easement 10' wide from a plane 16' above the ground level and extending upward, located on both sides of and adjoining said 10' wide easement as recorded under H.C.C.F. No. W465004.
16. The square footage shown hereon is based on a mathematically closed figure and does not indicate the accuracy of the survey.

LEGEND:

C.P.E. = CENTERPOINT ENERGEY HOUSTON ELECTRIC, LLC
FND. = FOUND
H.C.C.F. NO. = HARRIS COUNTY CLERK'S FILE NUMBER
I.P. = IRON PIPE
I.R. = IRON ROD
M.R.H.C. = MAP RECORDS HARRIS COUNTY, TEXAS
PMT = PAD MOUNTED TRANSFORMER
R.O.W. = RIGHT-OF-WAY
W/CAP = WITH CAP

BJS MANUFACTURING CENTER REPLAT

A SUBDIVISION OF 71.3618 ACRES
OF LAND OUT OF THE
JESSE PRUITT SURVEY, A-629
CITY OF TOMBALL,
HARRIS COUNTY, TEXAS.
BEING A REPLAT OF RESTRICTED RESERVE "A" AND RESERVE "B" OF BJ SERVICES TRACT
FILM CODE NO. 537089 M.R.H.C.
BEING A REPLAT OF LOTS 327 & 328 OF TOMBALL TOWNSITE
VOLUME 2, PAGE 65 M.R.H.C.
AND BEING A REPLAT OF LOTS 330 & 333 OF CORRECTED MAP OF TOMBALL OUTLOTS
VOLUME 4, PAGE 75 M.R.H.C.

1 LOT, 1 BLOCK

REASON FOR REPLAT: TO CREATE ONE LOT & ABANDON A PORTION OF A 50' RIGHT-OF-WAY (TIMKIN ROAD) VOL.2, PG.65 & FILM CODE NO. 347074 M.R.H.C.

SHEET 1 OF 2

OWNER:
BAKER HUGHES OILFIELD OPERATIONS, INC.
2929 ALLEN PARKWAY, SUITE 2100
HOUSTON, TEXAS 77019
713-439-8210

ENGINEER:

MOMENTUM ENGINEERING+SURVEYING
12851 BRIAR FOREST, SUITE 151 HOUSTON, TX 77077
(te) 281-741-1998 (fax) 281-741-2068

PREPARED BY:

HOVIS SURVEYING COMPANY
Land Surveys – Computer Mapping
5000 Cabbage – Spring, Texas 77379
(281) 320-9581
Acreage – Residential – Industrial – Commercial

DATE: MARCH 30, 2012 *SCALE: 1" = 100'* *JOB NO. 05-030-60*

Revision / Addendum 01 — Date 07/24/2026

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

PLAT 1 OF 3
VOLUME 01

Job No. 00788-002	Sheet No. C0.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 | Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C0.1-0.3 Plat (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 - 3:32pm By: cteague

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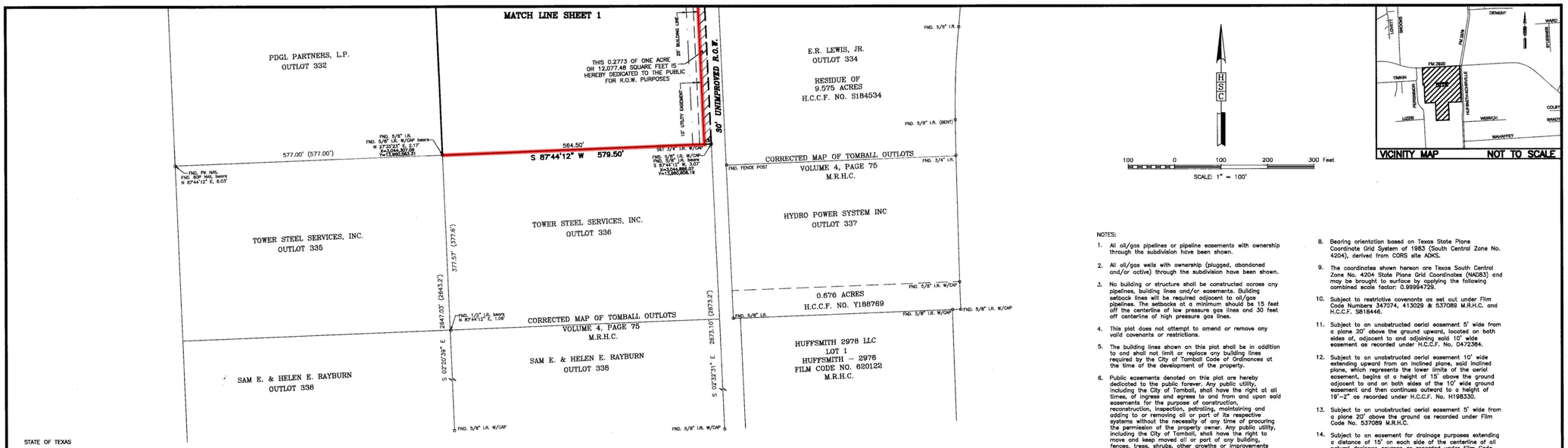

NOTES:

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2. All oil/gas wells with ownership (plugged, abandoned and/or active) through the subdivision have been shown.
3. No building or structure shall be constructed across any pipelines, building lines and/or easements. Building setback lines will be required adjacent to oil/gas pipelines. The setbacks at a minimum should be 15 feet off the centerline of low pressure gas lines and 30 feet off centerline of high pressure gas lines.
4. This plat does not attempt to amend or remove any valid covenants or restrictions.
5. The building lines shown on this plat shall be in addition to and shall not limit or replace any building lines required by the City of Tomball Code of Ordinances at the time of the development of the property.
6. Public easements denoted on this plat are hereby dedicated to the public forever. Any public utility, including the City of Tomball, shall have the right at all times, of ingress and egress to and from and upon said easements for the purpose of construction, reconstruction, inspection, patrolling, maintaining and adding to or removing all or part of its respective systems without the necessity of any time of procuring the permission of the property owner. Any public utility, including the City of Tomball, shall have the right to move and keep moved all or part of any building, fences, trees, shrubs, other growths or improvements that in any way endanger or interfere with the construction, maintenance or efficiency of it's respective systems on any of the easements shown on this plat. Neither the City of Tomball nor any other public utility shall be responsible for any damages to property within an easement arising out of the removal or relocation of any obstruction in the public easement.
7. Based on graphical plotting no portion of this tract lies within a "100 year flood hazard area" as designated on The National Flood Insurance Program – Flood Insurance Rate Map issued by the Federal Emergency Management Agency under Community Panel Number 480315 0230 L for Harris County, Texas dated June 18, 2007 however the tract may be affected by the "100 year flood hazard area" if field elevations on the tract were determined to be below base flood elevations as established by F.E.M.A.. The "100 year flood hazard area" is subject to change as detailed studies become available and/or watershed or channel conditions change.
8. Bearing orientation based on Texas State Plane Coordinate Grid System of 1983 (South Central Zone No. 4204), derived from CORS site ADKS.
9. The coordinates shown hereon are Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83) and may be brought to surface by applying the following combined scale factor: 0.99994729.
10. Subject to restrictive covenants as set out under Film Code Numbers 347074, 413029 & 537089 M.R.H.C. and H.C.C.F. S818446.
11. Subject to an unobstructed aerial easement 5' wide from a plane 20' above the ground upward, located on both sides of, adjacent to and adjoining said 10' wide easement as recorded under H.C.C.F. No. D472364.
12. Subject to an unobstructed aerial easement 10' wide extending upward from an inclined plane, said inclined plane, which represents the lower limits of the aerial easement, begins at a height of 15' above the ground adjacent to and on both sides of the 10' wide ground easement and then continues outward to a height of 19'-2" as recorded under H.C.C.F. No. H198330.
13. Subject to an unobstructed aerial easement 5' wide from a plane 20' above the ground as recorded under Film Code No. 537089 M.R.H.C.
14. Subject to an easement for drainage purposes extending a distance of 15' on each side of the centerline of all natural drainage courses as recorded under Film Code No. 537089 M.R.H.C.
15. Subject to an unobstructed aerial easement 10' wide from a plane 16' above the ground level and extending upward, located on both sides of and adjoining said 10' wide easement as recorded under H.C.C.F. No. W465504.
16. The square footage shown hereon is based on a mathematically closed figure and does not indicate the accuracy of the survey.

STATE OF TEXAS

COUNTY OF HARRIS

We, Baker Hughes Oilfield Operations, Inc., acting by and through David E. Emerson, Vice President and Susan Diane Koontz, Assistant Secretary, being officers of Baker Hughes Oilfield Operations, Inc., owner, hereinafter referred to as Owner of the 71.362 acre tract described in the above and foregoing map of BJS MANUFACTURING CENTER REPLAT, do hereby make and establish said subdivision said property according to all liens, dedications, restrictions, and notations on said plat and hereby dedicate to the use of the public forever, all streets, alleys, parks, watercourses, drains, easements and public places shown thereon for the purposes and considerations therein expressed; and do hereby bind ourselves, our heirs, successors and assigns to warrant and forever defend the title to the land so dedicated.

FURTHER, Owner has dedicated and by these presents does dedicate to the use of the public for public utility purposes forever an unobstructed aerial easement five feet in width from a plane twenty feet (20') above the ground level upward, located adjacent to all public utility easements shown hereon.

IN TESTIMONY WHEREOF, Baker Hughes Oilfield Operations, Inc. has caused these presents to be signed by David E. Emerson, its Vice President, thereunto authorized, attested by its Assistant Secretary, Susan Diane Koontz, this 26th day of JUNE, 2012.

Baker Hughes Oilfield Operations, Inc.

By: _____
David E. Emerson, Vice President

Attest: _____
Susan Diane Koontz, Assistant Secretary

STATE OF TEXAS

COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared, David E. Emerson, Vice President of Baker Hughes Oilfield Operations, Inc., known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations therein expressed and in the capacity therein and herein stated and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 26th day of JUNE, 2012

_____
Notary Public in and for the State of Texas

My Commission expires: _____

ELLEN S ROTH
Notary Public, State of Texas
My Commission Expires
November 07, 2015

STATE OF TEXAS

COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared, Susan Diane Koontz, Assistant Secretary of Baker Hughes Oilfield Operations, Inc., known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that she executed the same for the purposes and considerations therein expressed and in the capacity therein and herein stated and as the act and deed of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 26th day of JUNE, 2012

_____
Notary Public in and for the State of Texas

My Commission expires: _____

ELLEN S ROTH
Notary Public, State of Texas
My Commission Expires
November 07, 2015

I, Mary M. McKenzie, am registered under the laws of the State of Texas to practice the profession of surveying and hereby certify that the above subdivision is true and correct; was prepared from an actual survey of the property made under my supervision on the ground; that all boundary corners, angle points, points of curvature and other points of reference have been marked with iron (or other suitable permanent metal) pipes or rods having an outside diameter of not less than three quarter (3/4) inch and a length of not less than three (3) feet, except where corners were found; and that the plat boundary corners have been tied to the Texas South Central Zone No. 4204 State Plane Grid Coordinates (NAD83).

STATE OF TEXAS
REGISTERED
MARY M. McKENZIE
6123
PROFESSIONAL
LAND SURVEYOR

Mary M. McKenzie
Texas Registration No. 6123

This is to certify that the Planning & Zoning Commission of the City of Tomball, Texas, has approved this plat and the subdivision of BJS MANUFACTURING CENTER REPLAT in conformance with he laws of the State of Texas and the ordinances of the City of Tomball as shown hereon and authorized the recording of this plat this 26th day of JUNE, 2012.

Lori Wallace
Chairman

Evelyn Chevenak
Vice Chairman

We, the City Manager and the City Engineer for the City of Tomball, do hereby certify that this plat complies with the City of Tomball ordinances.

George Shadrock
City Manager

Lori Lakatos, P.E.
Acting City Engineer

This is to certify that the City accepts the Planning & Zoning Commission's authorized approval and acceptance of all of the dedicated public easements in conformance with the laws of the State of Texas and the ordinances of the City of Tomball as shown hereon and authorizes the recording of this plat, this 2nd day of JULY, 2012.

Gretchen Fagan
Mayor

Darla Speer
City Secretary

I, Stan Stanart, County Clerk of Harris County, do hereby certify that the within instrument with its certificate of authentication was filed for registration in my office on July 2nd, 2012, at 11:39 o'clock A.M. and duly recorded on July 2nd, 2012, at 1:35 o'clock A.M., and at Film Code Number 647118 of the Map Records of Harris County for said county.

Witness my hand and seal of office, at Houston, the day and date last above written.

This certificate is valid only as to the instrument on which the original signature is affixed and only there to the extent that such instrument is not altered or changed after recording.

ANY PROVISION HEREIN WHICH RESTRICT THE SALE, RENTAL OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS INVALID AND UNENFORCEABLE UNDER FEDERAL LAW

STAN STANART
Stan Stanart
County Clerk
of Harris County, Texas

By: Edwina V. Mack
Deputy EDWINA V. MACK

LINE	DISTANCE	BEARING
L1	10.00'	N 02°45'28" W
L2	17.71'	S 87°44'12" W
L3	54.68'	S 87°23'14" W
L4	49.19'	S 47°51'51" E
L5	15.00'	S 87°44'12" W
L6	15.00'	S 87°44'12" W

OFFICE OF
STAN STANART
COUNTY CLERK, HARRIS COUNTY, TEXAS

MAP RECORDS OF COUNTY CLERK

647118
FILM CODE _____

BJS MANUFACTURING CENTER
REPLAT

THIS IS PAGE 2 OF 3 PAGES

SCANNER KM-4850w
KEY MAP

RECORDER'S MEMORANDUM
At the time of recordation, this instrument was found to be inadequate for the best photographic reproduction because of illegibility, carbon or photo copy, discolored paper, etc. All blackouts, additions and changes were present at the time the instrument was filed and recorded.

BJS MANUFACTURING CENTER REPLAT

A SUBDIVISION OF 71.3618 ACRES OF LAND OUT OF THE JESSE PRUITT SURVEY, A-629 CITY OF TOMBALL, HARRIS COUNTY, TEXAS. BEING A REPLAT OF RESTRICTED RESERVE "A" AND RESERVE "B" OF BJ SERVICES TRACT FILM CODE NO. 537089 M.R.H.C. BEING A REPLAT OF LOTS 327 & 328 OF TOMBALL TOWNSITE VOLUME 2, PAGE 65 M.R.H.C. AND BEING A REPLAT OF LOTS 330 & 333 OF CORRECTED MAP OF TOMBALL OUTLOTS VOLUME 4, PAGE 75 M.R.H.C.

1 LOT, 1 BLOCK

REASON FOR REPLAT: TO CREATE ONE LOT & ABANDON A PORTION OF A 50' RIGHT-OF-WAY (TIMKIN ROAD) VOL.2, PG.65 & FILM CODE NO. 347074 M.R.H.C.

SHEET 2 OF 2

OWNER:
BAKER HUGHES OILFIELD OPERATIONS, INC.
2929 ALLEN PARKWAY, SUITE 2100
HOUSTON, TEXAS 77019
713-439-8210

ENGINEER:
MOMENTUM ENGINEERING+SURVEYING
12851 BRIAR FOREST, SUITE 151 HOUSTON, TX 77077
(tel) 281-741-1998 (fax) 281-741-2068

PREPARED BY:
HOVIS SURVEYING COMPANY
Land Surveys – Computer Mapping
5000 Cabbage – Spring, Texas 77379
(281) 320-9591
Acreage – Residential – Industrial – Commercial
DATE: MARCH 30, 2012 *SCALE: 1" = 100'* *JOB NO. 05-030-60*

0503060.DWG

HSC 01995-E-1

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

PLAT 2 OF 3
VOLUME 01

Job No. 00788-002	Sheet No. C0.2
Drawn By: CT	
Date: 07.23.25	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C0.1-0.3 Plat (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 – 3:33pm By: ctaogue

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TAX CERTIFICATE

DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR
1001 PRESTON AVE., SUITE 100
HOUSTON, TEXAS 77002

Issued To:
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON , TX 77210-4442

Legal Description:
RES A
(LAND ACCT*12424900100001)
(TAX ABATEMENT EXPIRED 2009)
B J SERVICES COMPANY

Parcel Address: 11211 FM 2920 RD
Legal Acres: .0000

>--
Account Number: **117-224-000-0003** <--
Certificate No: 11813757
Certificate Fee: $10.03

Print Date: 02/21/2012
Paid Date:
Issue Date: 02/21/2012
Operator ID: AZURITA

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2011. ALL TAXES ARE PAID IN FULL

Exemptions:

Certified Owner:
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON , TX 77210-4442

Certified Tax Unit(s):
40 Harris County
41 Harris County Flood Control Dist
42 Port of Houston Authority
43 Harris County Hospital District
44 Harris County Dept. of Education

2011 Value:	12,997,940
2011 Levy:	$82,739.81
2011 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.03
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Reference (GF) No: N/A
Issued By:
DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR

Delinquent_tax_certificate.rdf v1.69

TAX CERTIFICATE

DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR
1001 PRESTON AVE., SUITE 100
HOUSTON, TEXAS 77002

Issued To:
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON , TX 77210-4442

Legal Description:
RES A
(LAND ACCT*12424900100001)
(TAX ABATEMENT EXPIRED 2009)
B J SERVICES COMPANY

Parcel Address: 11211 FM 2920 RD
Legal Acres: .0000

>--
Account Number: **117-224-000-0004** <--
Certificate No: 11813756
Certificate Fee: $10.00

Print Date: 02/21/2012
Paid Date:
Issue Date: 02/21/2012
Operator ID: AZURITA

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2011. ALL TAXES ARE PAID IN FULL

Exemptions:

Certified Owner:
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON , TX 77210-4442

Certified Tax Unit(s):
83 City of Tomball

2011 Value:	12,997,940
2011 Levy:	$44,382.12
2011 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.00
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Reference (GF) No: N/A
Issued By:
DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR

Delinquent_tax_certificate.rdf v1.69

TAX CERTIFICATE

DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR
1001 PRESTON AVE., SUITE 100
HOUSTON, TEXAS 77002

Issued To:
BJ SERVICES COMPANY USA
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PO BOX 4442
HOUSTON , TX 77210-4442

Legal Description:
RES A
(LAND ACCT*12424900100001)
(IMPS ONLY)
B J SERVICES COMPANY

Parcel Address: 11211 FM 2920 RD
Legal Acres: .0000

>--
Account Number: **117-224-000-0005** <--
Certificate No: 11813755
Certificate Fee: $10.00

Print Date: 02/21/2012
Paid Date:
Issue Date: 02/21/2012
Operator ID: AZURITA

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2011. ALL TAXES ARE PAID IN FULL

Exemptions:

Certified Owner:
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON , TX 77210-4442

Certified Tax Unit(s):
45 Lone Star College System
679 Emergency Service Dist #8 (E.M.S.)

2011 Value:	12,997,940
2011 Levy:	$52,226.48
2011 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.00
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Reference (GF) No: N/A
Issued By:
DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR

Delinquent_tax_certificate.rdf v1.69

PAGE 1 OF 1

TAX CERTIFICATE FOR ACCOUNT : 1172240000005
AD NUMBER: 1172240000005
GF NUMBER:
CERTIFICATE NO : 1574219

DATE : 2/15/2012
FEE : $10.00

PROPERTY DESCRIPTION
RES A
(LAND ACCT*12424900100001)
(IMPS ONLY)
B J SERVICES COMPANY
0011211 FM 2920 RD
0 ACRES

COLLECTING AGENCY
Brian Ludwig
PO Box 276
Tomball TX 77377-0276

PROPERTY OWNER
BJ SERVICES COMPANY USA
ATTN: MARK A COX
PO BOX 4442
HOUSTON TX 772104442

REQUESTED BY
BJ SERVICES COMPANY USA

PO BOX 4442
HOUSTON TX 772104442

THIS IS TO CERTIFY THAT THE AD VALOREM RECORDS OF THE TOMBALL ISD TAX ASSESSOR-COLLECTOR REFLECT THE TAX, INTEREST, AND OTHER STATUTORY FEES THAT HAVE BEEN ASSESSED AND ARE NOW DUE TO THE TAXING ENTITIES AND FOR THE YEARS SET OUT BELOW FOR THE DESCRIBED PROPERTY HEREIN. THE TAX ASSESSOR-COLLECTOR MAKES NO CERTIFICATION AS TO THE AMOUNT OF TAX, PENALTY, INTEREST, OR OTHER FEES ASSESSED BY OR DUE ANY TAXING ENTITY FOR THE YEAR OR YEARS FOR WHICH THE TAX ASSESSOR-COLLECTOR DID NOT HAVE THE STATUTORY DUTY TO COLLECT OR KEEP RECORDS OF SUCH COLLECTION. ADDITIONAL TAXES MAY BECOME DUE ON THE DESCRIBED PROPERTY, WHICH ARE NOT REFLECTED HEREIN, IF THE SAID DESCRIBED PROPERTY HAS OR IS RECEIVING ANY SPECIAL STATUTORY VALUATIONS THAT MAY TRIGGER TAX ROLLBACK PROVISIONS. THIS CERTIFICATE APPLIES TO ADVALOREM TAXES ONLY AND DOES NOT APPLY TO ANY SPECIAL ASSESSMENT LEVIES.

CURRENT VALUES			
LAND MKT VALUE:	0	IMPROVEMENT :	12,997,940
AG LAND VALUE:	0	DEF HOMESTEAD:	0
APPRAISED VALUE:	12,997,940	LIMITED VALUE:	0
EXEMPTIONS:			
LAWSUITS:			

YEAR	TAX UNIT	LEVY	PEN	INT	DEF INT	ATTY	AMOUNT DUE
2011	TOMBALL I.S.D.	0.00	0.00	0.00	0.00	0.00	0.00
						2011 SUB TOTAL	$0.00

TOTAL CERTIFIED TAX DUE 2/2012 : **$ 0.00**

ISSUED TO : BJ SERVICES COMPANY USA
ACCOUNT NUMBER: 1172240000005

CERTIFIED BY: Kristi Williams TOMBALL I.S.D.

This is a statement from the Tax Collector of Tomball I.S.D., indicating that the taxes to be imposed on account number 1172240000005 by Tomball Independent School District for the 2012 tax year have not been calculated as of the above date.

TAX CERTIFICATE

DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR
1001 PRESTON AVE., SUITE 100
HOUSTON, TEXAS 77002

Issued To:
BJ SERVICES COMPANY USA
PO BOX 4442
HOUSTON , TX 77210-4442

Legal Description:
RES A BLK 1
PC IMPS*12424900100003)
B J SERVICES TRACT

Parcel Address: 11211 FM 2920 RD
Legal Acres: 46.1100

>--
Account Number: **124-249-001-0001** <--
Certificate No: 11813759
Certificate Fee: $10.03

Print Date: 02/21/2012
Paid Date:
Issue Date: 02/21/2012
Operator ID: AZURITA

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2011. ALL TAXES ARE PAID IN FULL

Exemptions:

Certified Owner:
BJ SERVICES COMPANY USA
PO BOX 4442
HOUSTON , TX 77210-4442

Certified Tax Unit(s):
40 Harris County
41 Harris County Flood Control Dist
42 Port of Houston Authority
43 Harris County Hospital District
44 Harris County Dept. of Education
45 Lone Star College System
83 City of Tomball
679 Emergency Service Dist #8 (E.M.S.)

2011 Value:	29,576,666
2011 Levy:	$339,840.62
2011 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.00
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Reference (GF) No: N/A
Issued By:
DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR

Delinquent_tax_certificate.rdf v1.69

OFFICE OF
STAN STANART
COUNTY CLERK, HARRIS COUNTY, TEXAS

MAP RECORDS OF COUNTY CLERK

647119
FILM CODE _____

BJS MANUFACTURING CENTER
REPLAT

THIS IS PAGE 3 OF 3 PAGES

SCANNER KM-4850w

PAGE 1 OF 1

TAX CERTIFICATE FOR ACCOUNT : 1242490010001
AD NUMBER: 1242490010001
GF NUMBER:
CERTIFICATE NO : 1574217

DATE : 2/15/2012
FEE : $10.00

PROPERTY DESCRIPTION
RES A BLK 1
PC IMPS*12424900100003)
B J SERVICES TRACT

0011211 FM 2920 RD
46.11 ACRES

COLLECTING AGENCY
Brian Ludwig
PO Box 276
Tomball TX 77377-0276

PROPERTY OWNER
B J SERVICES COMPANY USA

PO BOX 4442
HOUSTON TX 772104442

REQUESTED BY
B J SERVICES COMPANY USA

PO BOX 4442
HOUSTON TX 772104442

THIS IS TO CERTIFY THAT THE AD VALOREM RECORDS OF THE TOMBALL ISD TAX ASSESSOR-COLLECTOR REFLECT THE TAX, INTEREST, AND OTHER STATUTORY FEES THAT HAVE BEEN ASSESSED AND ARE NOW DUE TO THE TAXING ENTITIES AND FOR THE YEARS SET OUT BELOW FOR THE DESCRIBED PROPERTY HEREIN. THE TAX ASSESSOR-COLLECTOR MAKES NO CERTIFICATION AS TO THE AMOUNT OF TAX, PENALTY, INTEREST, OR OTHER FEES ASSESSED BY OR DUE ANY TAXING ENTITY FOR THE YEAR OR YEARS FOR WHICH THE TAX ASSESSOR-COLLECTOR DID NOT HAVE THE STATUTORY DUTY TO COLLECT OR KEEP RECORDS OF SUCH COLLECTION. ADDITIONAL TAXES MAY BECOME DUE ON THE DESCRIBED PROPERTY, WHICH ARE NOT REFLECTED HEREIN, IF THE SAID DESCRIBED PROPERTY HAS OR IS RECEIVING ANY SPECIAL STATUTORY VALUATIONS THAT MAY TRIGGER TAX ROLLBACK PROVISIONS. THIS CERTIFICATE APPLIES TO ADVALOREM TAXES ONLY AND DOES NOT APPLY TO ANY SPECIAL ASSESSMENT LEVIES.

CURRENT VALUES			
LAND MKT VALUE:	2,202,176	IMPROVEMENT :	27,374,490
AG LAND VALUE:	0	DEF HOMESTEAD:	0
APPRAISED VALUE:	29,576,666	LIMITED VALUE:	0
EXEMPTIONS:			
LAWSUITS:			

YEAR	TAX UNIT	LEVY	PEN	INT	DEF INT	ATTY	AMOUNT DUE
2011	TOMBALL I.S.D.	0.00	0.00	0.00	0.00	0.00	0.00
						2011 SUB TOTAL	$0.00

TOTAL CERTIFIED TAX DUE 2/2012 : **$ 0.00**

ISSUED TO : B J SERVICES COMPANY USA
ACCOUNT NUMBER: 1242490010001

CERTIFIED BY: Kristi Williams TOMBALL I.S.D.

This is a statement from the Tax Collector of Tomball I.S.D., indicating that the taxes to be imposed on account number 1242490010001 by Tomball Independent School District for the 2012 tax year have not been calculated as of the above date.

TAX CERTIFICATE

DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR
1001 PRESTON AVE., SUITE 100
HOUSTON, TEXAS 77002

Issued To:
B J SERVICES COMPANY USA
PO BOX 4442
HOUSTON , TX 77210-4442

Legal Description:
RES A BLK 1 (IMPS ONLY)
(LAND*12424900100001)
(POLLUTION CONTROL)
B J SERVICES TRACT

Parcel Address: 11211 FM 2920 RD
Legal Acres: .6000

>--
Account Number: **124-249-001-0003** <--
Certificate No: 11813758
Certificate Fee: $10.00

Print Date: 02/21/2012
Paid Date:
Issue Date: 02/21/2012
Operator ID: AZURITA

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2011. ALL TAXES ARE PAID IN FULL

Exemptions:
POLLUTION CONTROL

Certified Owner:
B J SERVICES COMPANY USA
PO BOX 4442
HOUSTON , TX 77210-4442

Certified Tax Unit(s):
40 Harris County
41 Harris County Flood Control Dist
42 Port of Houston Authority
43 Harris County Hospital District
44 Harris County Dept. of Education
45 Lone Star College System
83 City of Tomball
679 Emergency Service Dist #8 (E.M.S.)

2011 Value:	704,060
2011 Levy:	$0.00
2011 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.00
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Reference (GF) No: N/A
Issued By:
DON SUMNERS, CPA, RTA
HARRIS COUNTY TAX ASSESSOR-COLLECTOR

Delinquent_tax_certificate.rdf v1.69

PAGE 1 OF 1

TAX CERTIFICATE FOR ACCOUNT : 1242490010003
AD NUMBER: 1242490010003
GF NUMBER:
CERTIFICATE NO : 1574218

DATE : 2/15/2012
FEE : $10.00

PROPERTY DESCRIPTION
RES A BLK 1 (IMPS ONLY)
(LAND*12424900100001)
(POLLUTION CONTROL)
B J SERVICES TRACT
0011211 FM 2920 RD
0 ACRES

COLLECTING AGENCY
Brian Ludwig
PO Box 276
Tomball TX 77377-0276

PROPERTY OWNER
B J SERVICES COMPANY USA

PO BOX 4442
HOUSTON TX 772104442

REQUESTED BY
B J SERVICES COMPANY USA

PO BOX 4442
HOUSTON TX 772104442

THIS IS TO CERTIFY THAT THE AD VALOREM RECORDS OF THE TOMBALL ISD TAX ASSESSOR-COLLECTOR REFLECT THE TAX, INTEREST, AND OTHER STATUTORY FEES THAT HAVE BEEN ASSESSED AND ARE NOW DUE TO THE TAXING ENTITIES AND FOR THE YEARS SET OUT BELOW FOR THE DESCRIBED PROPERTY HEREIN. THE TAX ASSESSOR-COLLECTOR MAKES NO CERTIFICATION AS TO THE AMOUNT OF TAX, PENALTY, INTEREST, OR OTHER FEES ASSESSED BY OR DUE ANY TAXING ENTITY FOR THE YEAR OR YEARS FOR WHICH THE TAX ASSESSOR-COLLECTOR DID NOT HAVE THE STATUTORY DUTY TO COLLECT OR KEEP RECORDS OF SUCH COLLECTION. ADDITIONAL TAXES MAY BECOME DUE ON THE DESCRIBED PROPERTY, WHICH ARE NOT REFLECTED HEREIN, IF THE SAID DESCRIBED PROPERTY HAS OR IS RECEIVING ANY SPECIAL STATUTORY VALUATIONS THAT MAY TRIGGER TAX ROLLBACK PROVISIONS. THIS CERTIFICATE APPLIES TO ADVALOREM TAXES ONLY AND DOES NOT APPLY TO ANY SPECIAL ASSESSMENT LEVIES.

CURRENT VALUES			
LAND MKT VALUE:	0	IMPROVEMENT :	704,060
AG LAND VALUE:	0	DEF HOMESTEAD:	0
APPRAISED VALUE:	704,060	LIMITED VALUE:	0
EXEMPTIONS:	Pollution Control		
LAWSUITS:			

YEAR	TAX UNIT	LEVY	PEN	INT	DEF INT	ATTY	AMOUNT DUE
2011	TOMBALL I.S.D.	0.00	0.00	0.00	0.00	0.00	0.00
						2011 SUB TOTAL	$0.00

TOTAL CERTIFIED TAX DUE 2/2012 : **$ 0.00**

ISSUED TO : B J SERVICES COMPANY USA
ACCOUNT NUMBER: 1242490010003

CERTIFIED BY: Kristi Williams TOMBALL I.S.D.

This is a statement from the Tax Collector of Tomball I.S.D., indicating that the taxes to be imposed on account number 1242490010003 by Tomball Independent School District for the 2012 tax year have not been calculated as of the above date.

Revision / Date
ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

PLAT 3 OF 3
VOLUME 01

Job No. 00788-002	Sheet No. C0.3
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C0.1-0.3 Plat (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 - 3:34pm By: ctoque

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DETAILS

DETAIL 1
GRATE INLET
TG=174.99
FL 30"X30" CBC (N) 171.10
FL 36" CMP (E) 171.13
FL 30" RCP (W) 170.96

DETAIL 2
"C" INLET
TR=175.69
FL 36" HDP (W) 171.17
FL 36" CMP (E) 171.16

DETAIL 3
STM. SWR. MH.
TR=175.19
FL 15" RCP (N) 171.56
FL 42" HDP (E) 167.60
FL 54" RCP (S) 167.85
FL 36" CMP (W) 171.15

DETAIL 4
GRATE INLET
TG=174.60
FL 12" HDP (NW) 171.66
FL 15" HDP (S) 171.64

DETAIL 5
GRATE INLET
TG=174.50
FL 10" HDP (N) 171.61
FL 12" HDP (SE) 171.58

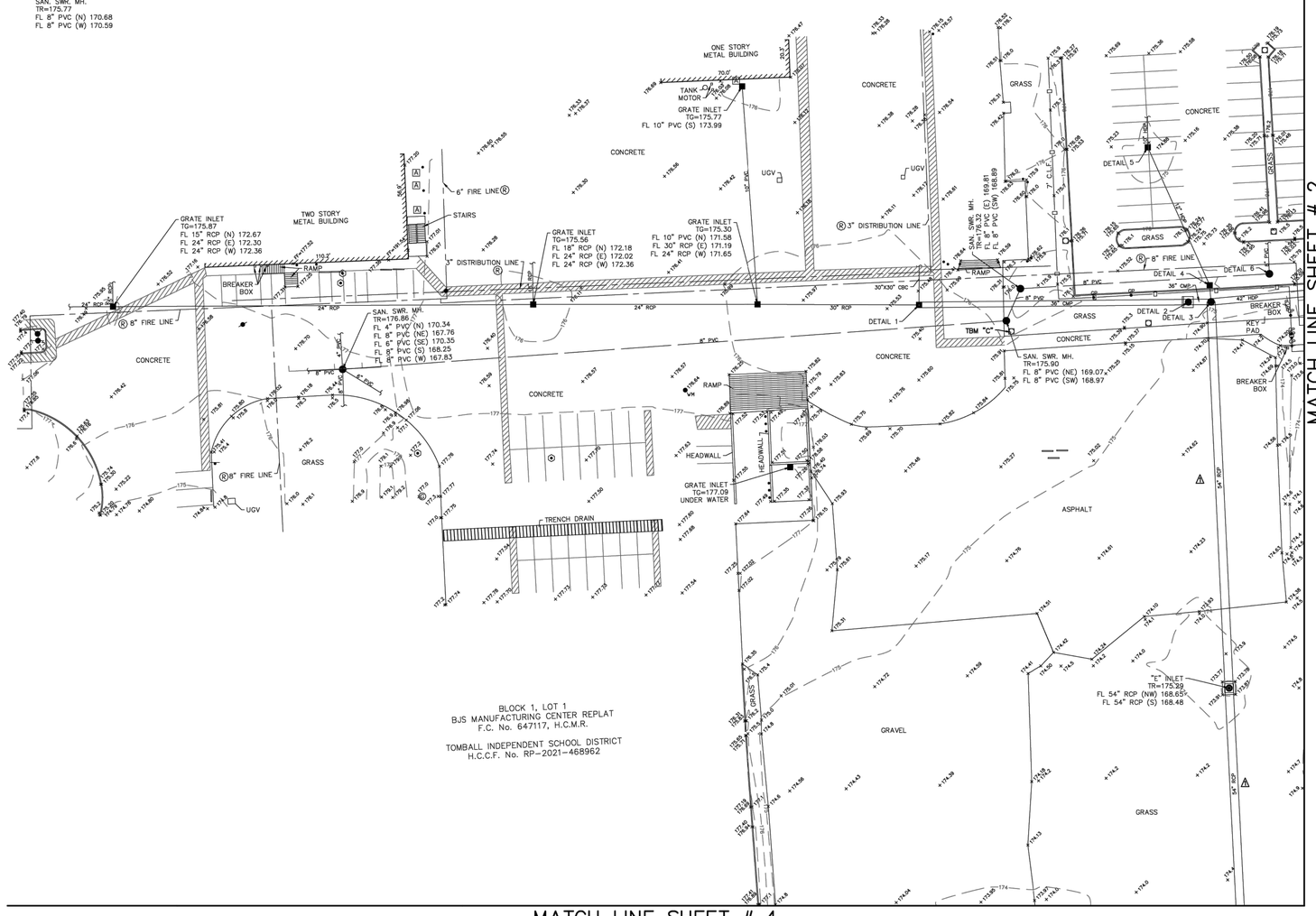
DETAIL 6
SAN. SWR. MH.
TR=175.77
FL 8" PVC (N) 170.68
FL 8" PVC (W) 170.59

LEGEND

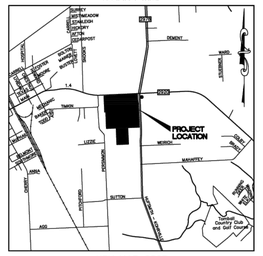
- AIR CONDITIONING UNIT
- BENCHMARK
- BOLLARD
- "C" INLET
- "C1" INLET
- CLEANOUT
- DOWN SPOUT
- "E" INLET
- ELECTRIC JUNCTION BOX
- FIRE HYDRANT
- GAS VALVE
- GATE POST
- GREASE TRAP
- GUY WIRE
- INLET
- IRRIGATION CONTROL VALVE
- LIGHT STANDARD
- MANHOLE
- PEDESTAL
- PIPELINE MARKER
- POWER POLE
- SAMPLE WELL
- SIGN
- TELEPHONE MANHOLE
- WATER METER
- WATER VALVE
- WHEEL STOP

ABBREVIATIONS

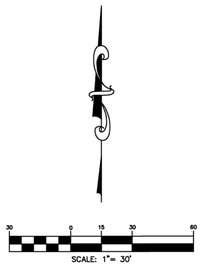
B.L.–BUILDING LINE
BOT.–BOTTOM
CBC–CONCRETE BOX CULVERT
CMC–CREPE MYRTLE CLUSTER
CMP–CORRUGATED METAL PIPE
ELEV.–ELEVATION
ESMT.–EASEMENT
FC–FILM CODE
FF–FINISH FLOOR
FL–FLOW LINE
FND.–FOUND
H.C.C.F.–HARRIS COUNTY CLERK'S FILE
H.C.M.R.–HARRIS COUNTY MAP RECORDS
HDP–HIGH DENSITY POLYETHYLENE PIPE
I.R.–IRON ROD
MH–MANHOLE
OHE–OVERHEAD ELECTRIC
PG.–PAGE
PVC–POLYVINYL CHLORIDE PIPE
RCP–REINFORCED CONCRETE PIPE
R.O.W.–RIGHT–OF–WAY
SAN.–SANITARY
STM.–STORM
SWR.–SEWER
TG–TOP OF GRATE
TR–TOP OF RIM
TYP.–TYPICAL
UGV–UNDERGROUND VAULT
VOL.–VOLUME
W.M.E.–WATER METER EASEMENT



VICINITY MAP



KEY MAP 289E
SCALE 1" = 3000'



SCALE: 1"= 30'

SURVEYOR'S NOTES:

1. THE CAD FILE OF THE DRAWING SHOWN HEREIN IS BASED ON TEXAS SOUTH CENTRAL ZONE NO. 4204, STATE PLANE SURFACE VALUE (NAD83) AND MAY BE CONVERTED TO GRID BY SCALING THE DRAWING BY THE FOLLOWING COMBINED SCALE FACTOR OF 0.999947290105.

2. ACCORDING TO F.I.R.M. MAP NO. 48201c0230l (COMMUNITY–PANEL NO. 480315023O), MAP REVISED DATE: JUNE 18, 2007. THE SUBJECT PROPERTY LIES WITHIN THE AREA DESIGNATED AS ZONE "X" UNSHADED. DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.

THIS STATEMENT IS BASED ON SCALING THE LOCATION OF THE SUBJECT TRACT ON THE ABOVE REFERENCED MAP. THIS INFORMATION IS TO DETERMINE FLOOD INSURANCE RATES ONLY AND IS NOT INTENDED TO IDENTIFY SPECIFIC FLOODING CONDITIONS.

3. ALL UTILITIES SHOWN HEREON ARE LOCATED USING "APPARENT & VISIBLE" EVIDENCE BY ON–SITE OBSERVATION UNLESS OTHERWISE NOTED.

4. THE SUBJECT TRACT IS AFFECTED BY THE CITY ORDINANCES AND ZONING REGULATIONS OF THE CITY OF TOMBALL FOR ZONE "LI" (LIGHT INDUSTRIAL).

5. THE SUBJECT TRACT IS AFFECTED BY THE SHORT FORM BLANKET EASEMENT RECORDED UNDER H.C.C.F. No. RP–2017–438787.

6. –I– INDICATES AN UNDERGROUND SEWER LINE WITH UNKNOWN DIRECTION, SIZE OR LOCATION OR A POSSIBLE STUB–OUT.

7. Ⓡ INDICATES RECORD UTILITIES PLOTTED FROM CITY OF TOMBALL ONLINE GIS.

REFERENCE BENCHMARK:

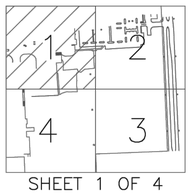
RM120165 – ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED.
ELEVATION = 140.69' (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARKS:

TBM "B" – BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH–KOHRVILLE ROAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
ELEVATION = 174.74'

TBM "C" – BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
ELEVATION = 176.71'

TBM "D" – BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.
ELEVATION = 177.49'



SHEET 1 OF 4

STATE OF TEXAS
REGISTERED
JOEL D. WALKER
5189
PROFESSIONAL SURVEYOR

TO: TOMBALL INDEPENDENT SCHOOL DISTRICT

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION 1 SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

4/16/26
DATE

Joel D. Walker
JOEL D. WALKER, R.P.L.S.
TEXAS REGISTRATION NO. 5189

TOMBALL INDEPENDENT SCHOOL DISTRICT

TOPOGRAPHIC SURVEY

TOMBALL ISD
INTERMEDIATE SCHOOL
OUT OF THE
JESSE PRUETT SURVEY
ABSTRACT NO. 629
CITY OF TOMBALL
HARRIS COUNTY, TEXAS

WEST BELT
SURVEYING, INC.
21020 PARK ROW
KATY, TX. 77449
PHONE: (281) 599-8288
FAX: (281) 492-6020
CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY
2	4/16/26	DETAILED MANHOLES	DB
1	4/1/26	ADDRESSED COMMENTS	DB

DRAWN BY: DB	CHECKED BY: MDL
SCALE: 1"=30'	APPROVED BY: JDW
PROJECT NO. S866–0037B	DATE: FEBRUARY 24, 2026

Revision / Date
ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

TOPOGRAPHIC SURVEY
1 OF 4
VOLUME 01

Job No. 00788-002	Sheet No. C0.4
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

16 Apr 2026 9:27AM darrenb
G:\sdsk\proj\S866O037B\DWG\T041626.dwg
Includes Xref(s):

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04401_Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C0.4-0.7 topographic Survey (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 – 3:41pm By: cteague

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MATCH LINE SHEET # 1

ABBREVIATIONS

B.L.–BUILDING LINE
BOT.–BOTTOM
CBC–CONCRETE BOX CULVERT
CMC–CREPE MYRTLE CLUSTER
CMP–CORRUGATED METAL PIPE
ELEV.–ELEVATION
ESMT.–EASEMENT
FC–FILM CODE
FF–FINISH FLOOR
FL–FLOW LINE
FND.–FOUND
H.C.C.F.–HARRIS COUNTY CLERK'S FILE
H.C.M.R.–HARRIS COUNTY MAP RECORDS
HDP–HIGH DENSITY POLYETHYLENE PIPE
I.R.–IRON ROD
MH–MANHOLE
OHE–OVERHEAD ELECTRIC
PG.–PAGE
PVC–POLYVINYL CHLORIDE PIPE
RCP–REINFORCED CONCRETE PIPE
R.O.W.–RIGHT–OF–WAY
SAN.–SANITARY
STM.–STORM
SWR.–SEWER
TG–TOP OF GRATE
TR–TOP OF RIM
TYP.–TYPICAL
UGV–UNDERGROUND VAULT
VOL.–VOLUME
W.M.E.–WATER METER EASEMENT

DETAILS

DETAIL 7
GRATE INLET
TG=175.10
FL 10" HDP (N) 171.65
FL 12" HDP (S) 171.63

DETAIL 8
GRATE INLET
TG=175.36
FL 12" HDP (N) 171.39
FL 15" HDP (S) 170.73

DETAIL 9
GRATE INLET
TG=174.77
FL 15" HDP (N) 170.62
FL 48" HDP (E) 169.15
FL 42" HDP (W) 169.16

DETAIL 10
GRATE INLET
TG=174.79
FL 36" HDP (N) 169.59
FL 10" HDP (NE) 171.04
FL 48" HDP (W) 169.30

DETAIL 11
GRATE INLET
TG=175.48
FL 10" HDP (E) 172.40
FL 12" HDP (W) 172.42

DETAIL 12
GRATE INLET
TG=175.88
FL 10" HDP (NE) 172.91
FL 10" HDP (E) 172.80
FL 10" HDP (W) 172.88

DETAIL 13
GRATE INLET
TG=175.22
FL 2'X2' CBC (E) 173.62

DETAIL 14
STM. SWR. MH.
TR=177.35
FL 24" RCP (N) 168.65
FL 24" RCP (E) 169.69
FL 30" RCP (S) 167.99
FL 24" RCP (W) 169.74

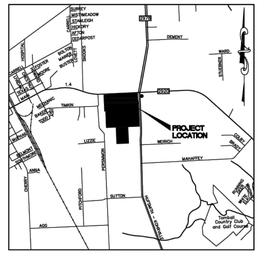
DETAIL 15
"C" INLET
TR=176.40
FL 2'X2' CBC (E) 172.88
FL 24" RCP (W) 170.00

DETAIL 16
STM. SWR. MH.
TR=176.08
FL 30" RCP (N) 167.74
FL 24" RCP (E) 169.03
FL 30" RCP (S) 167.68
FL 24" RCP (W) 169.06

DETAIL 17
"C" INLET
TR=175.44
FL 24" RCP (E) 169.33
FL 2'X2' CBC (W) 172.30

MATCH LINE SHEET # 3

VICINITY MAP



KEY MAP 289E
SCALE 1" = 3000'

SCALE: 1"= 30'

LEGEND

- AIR CONDITIONING UNIT
- BENCHMARK
- BOLLARD
- "C" INLET
- "C1" INLET
- CLEANOUT
- DOWN SPOUT
- "E" INLET
- ELECTRIC JUNCTION BOX
- FIRE HYDRANT
- GAS VALVE
- GATE POST
- GREASE TRAP
- GUY WIRE
- INLET
- IRRIGATION CONTROL VALVE
- LIGHT STANDARD
- MANHOLE
- PEDESTAL
- PIPELINE MARKER
- POWER POLE
- SAMPLE WELL
- SIGN
- TELEPHONE MANHOLE
- WATER METER
- WATER VALVE
- WHEEL STOP

SURVEYOR'S NOTES:

1. THE CAD FILE OF THE DRAWING SHOWN HEREIN IS BASED ON TEXAS SOUTH CENTRAL ZONE NO. 4204, STATE PLANE SURFACE VALUE (NAD83) AND MAY BE CONVERTED TO GRID BY SCALING THE DRAWING BY THE FOLLOWING COMBINED SCALE FACTOR OF 0.999947290105.

2. ACCORDING TO F.I.R.M. MAP NO. 48201c0230l (COMMUNITY–PANEL NO. 4803150230l), MAP REVISED DATE: JUNE 18, 2007. THE SUBJECT PROPERTY LIES WITHIN THE AREA DESIGNATED AS ZONE "X" UNSHADED, DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.

THIS STATEMENT IS BASED ON SCALING THE LOCATION OF THE SUBJECT TRACT ON THE ABOVE REFERENCED MAP. THIS INFORMATION IS TO DETERMINE FLOOD INSURANCE RATES ONLY AND IS NOT INTENDED TO IDENTIFY SPECIFIC FLOODING CONDITIONS.

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5. THE SUBJECT TRACT IS AFFECTED BY THE SHORT FORM BLANKET EASEMENT RECORDED UNDER H.C.C.F. No. RP–2017–438787.

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7. (R) INDICATES RECORD UTILITIES PLOTTED FROM CITY OF TOMBALL ONLINE GIS.

REFERENCE BENCHMARK:

RM120165 – ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED.
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TEMPORARY BENCHMARKS:

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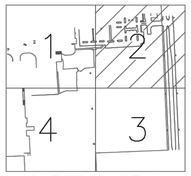
ELEVATION = 174.74'

TBM "C" – BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
ELEVATION = 176.71'

TBM "D" – BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.
ELEVATION = 177.49'



SHEET 2 OF 4

STATE OF TEXAS REGISTERED JOEL D. WALKER 5189 PROFESSIONAL LAND SURVEYOR

TO: TOMBALL INDEPENDENT SCHOOL DISTRICT

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION 1 SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

4/16/26
DATE

JOEL D. WALKER, R.P.L.S.
TEXAS REGISTRATION NO. 5189

Revision / Date
ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

TOMBALL INDEPENDENT SCHOOL DISTRICT

TOPOGRAPHIC SURVEY

TOMBALL ISD
INTERMEDIATE SCHOOL
OUT OF THE
JESSE PRUETT SURVEY
ABSTRACT NO. 629
CITY OF TOMBALL
HARRIS COUNTY, TEXAS

FOR REFERENCE ONLY

WEST BELT SURVEYING, INC.
21029 PARK ROW
KATY, TX. 77449
PHONE: (281) 599-8288
FAX: (281) 492-6026
CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY
2	4/16/26	DETAILED MANHOLES	DB
1	4/1/26	ADDRESSED COMMENTS	DB

DRAWN BY: DB | CHECKED BY: MDL
SCALE: 1"=30' | APPROVED BY: JDW
PROJECT NO. S866–0037B | DATE: FEBRUARY 24, 2026

Huckabee
www.huckabee-inc.com
800.687.1229

TOPOGRAPHIC SURVEY
2 OF 4
VOLUME 01

Job No. 00788-002
Sheet No. C0.5
Drawn By: CT
Date: 07.23.25

ADDENDUM 01

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Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C0.4-0.7 topographic Survey (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 – 3:33pm By: ctaogue

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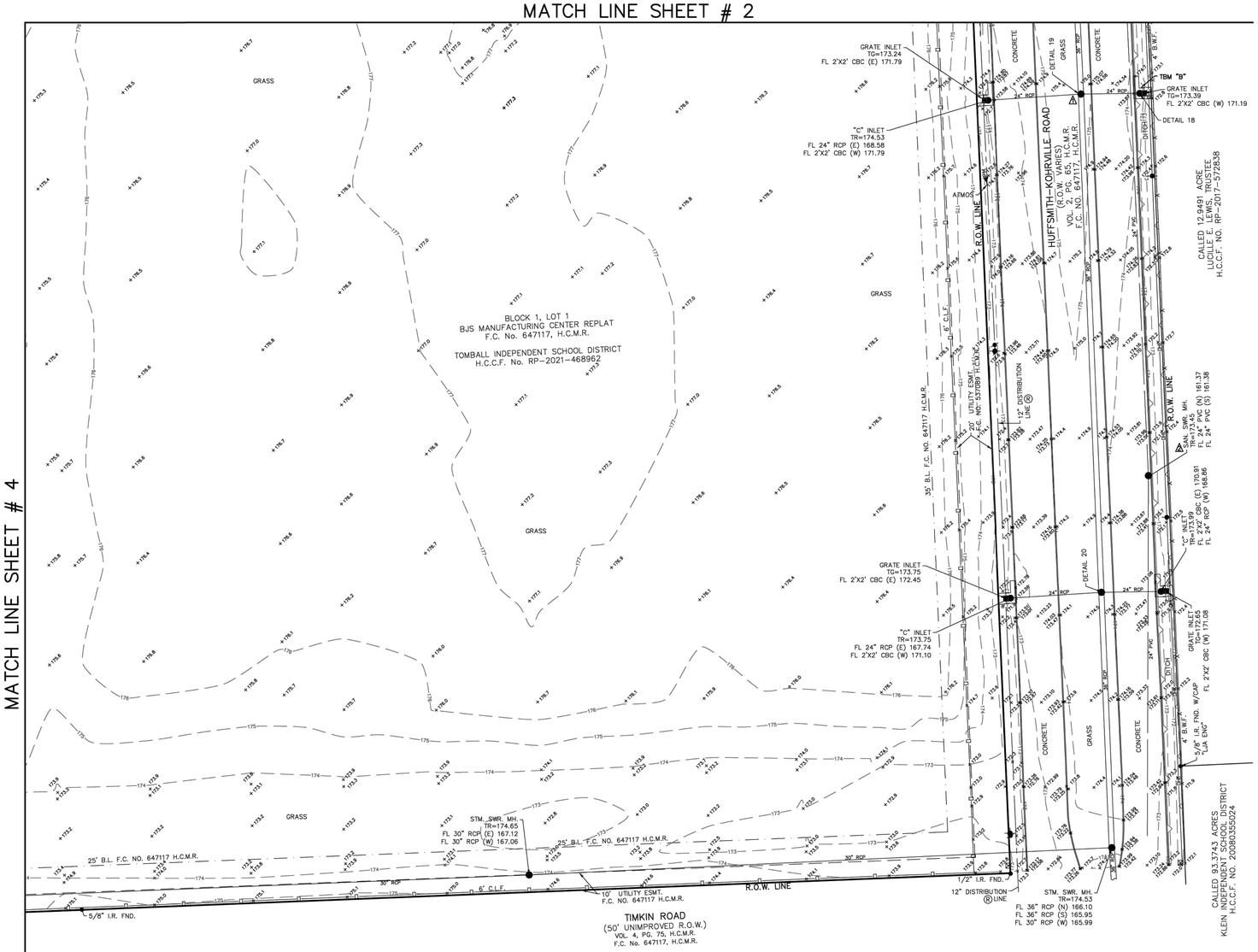
MATCH LINE SHEET # 2

MATCH LINE SHEET # 4



ABBREVIATIONS

B.L.–BUILDING LINE	MH–MANHOLE
BOT.–BOTTOM	OHE–OVERHEAD ELECTRIC
CBC–CONCRETE BOX CULVERT	PG.–PAGE
CMC–CREPE MYRTLE CLUSTER	PVC–POLYVINYL CHLORIDE PIPE
CMP–CORRUGATED METAL PIPE	RCP–REINFORCED CONCRETE PIPE
ELEV.–ELEVATION	R.O.W.–RIGHT–OF–WAY
ESMT.–EASEMENT	SAN.–SANITARY
FC–FILM CODE	STM.–STORM
FF–FINISH FLOOR	SWR.–SEWER
FL–FLOW LINE	TG–TOP OF GRATE
FND.–FOUND	TR–TOP OF RIM
H.C.C.F.–HARRIS COUNTY CLERK'S FILE	TYP.–TYPICAL
H.C.M.R.–HARRIS COUNTY MAP RECORDS	UGV–UNDERGROUND VAULT
HDP–HIGH DENSITY POLYETHYLENE PIPE	VOL.–VOLUME
I.R.–IRON ROD	W.M.E.–WATER METER EASEMENT

LEGEND

AIR CONDITIONING UNIT	INLET
BENCHMARK	IRRIGATION CONTROL VALVE
BOLLARD	LIGHT STANDARD
"C" INLET	MANHOLE
"C1" INLET	PEDESTAL
CLEANOUT	PIPELINE MARKER
D.S. DOWN SPOUT	POWER POLE
"E" INLET	SAMPLE WELL
ELECTRIC JUNCTION BOX	SIGN
FIRE HYDRANT	TELEPHONE MANHOLE
GAS VALVE	WATER METER
GATE POST	WATER VALVE
GREASE TRAP	WHEEL STOP
GUY WIRE	

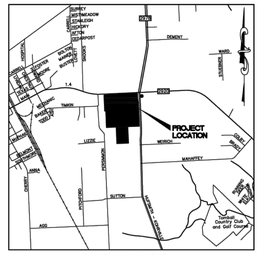
DETAILS

DETAIL 18
"C" INLET
TR=174.75
FL 2'X2' CBC (E) 171.10
FL 24" RCP (W) 168.39

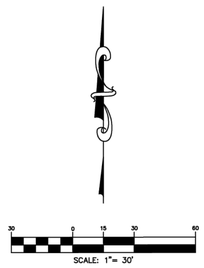
DETAIL 19
STM. SWR. MH.
TR=175.31
FL 36" RCP (N) 167.23
FL 24" RCP (E) 168.26
FL 36" RCP (S) 166.84
FL 24" RCP (W) 168.28

DETAIL 20
STM. SWR. MH.
TR=174.57
FL 36" RCP (N) 166.57
FL 24" RCP (E) 167.37
FL 36" RCP (S) 166.70
FL 24" RCP (W) 167.49

VICINITY MAP



KEY MAP 289E
SCALE 1" = 3000'



SCALE: 1"= 30'

SURVEYOR'S NOTES:

1. THE CAD FILE OF THE DRAWING SHOWN HEREIN IS BASED ON TEXAS SOUTH CENTRAL ZONE NO. 4204, STATE PLANE SURFACE VALUE (NAD83) AND MAY BE CONVERTED TO GRID BY SCALING THE DRAWING BY THE FOLLOWING COMBINED SCALE FACTOR OF 0.999947290105.

2. ACCORDING TO F.I.R.M. MAP NO. 48201c0230l (COMMUNITY–PANEL NO. 480315023O), MAP REVISED DATE: JUNE 18, 2007. THE SUBJECT PROPERTY LIES WITHIN THE AREA DESIGNATED AS ZONE "X" UNSHADED. DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.

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5. THE SUBJECT TRACT IS AFFECTED BY THE SHORT FORM BLANKET EASEMENT RECORDED UNDER H.C.C.F. No. RP–2017–438787.

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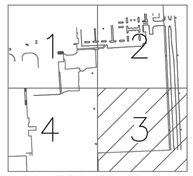

SHEET 3 OF 4

STATE OF TEXAS
REGISTERED
JOEL D. WALKER
5189
PROFESSIONAL
LAND SURVEYOR

TO: TOMBALL INDEPENDENT SCHOOL DISTRICT

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION 1 SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

4/16/26
DATE

JOEL D. WALKER, R.P.L.S.
TEXAS REGISTRATION NO. 5189

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

TOMBALL INDEPENDENT SCHOOL DISTRICT

TOPOGRAPHIC SURVEY

TOMBALL ISD INTERMEDIATE SCHOOL OUT OF THE JESSE PRUETT SURVEY ABSTRACT NO. 629 CITY OF TOMBALL HARRIS COUNTY, TEXAS

WEST BELT
SURVEYING, INC.
21029 PARK ROW
KATY, TX. 77449
PHONE: (281) 599-9288
FAX: (281) 492-0926
CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY
1	4/16/26	DETAILED MANHOLES	DB
1	4/1/26	ADDRESSED COMMENTS	DB

DRAWN BY: DB	CHECKED BY: MDL
SCALE: 1"=30'	APPROVED BY: JDW
PROJECT NO. S866-0037B	DATE: FEBRUARY 24, 2026

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

TOPOGRAPHIC SURVEY
3 OF 4
VOLUME 01

Job No.	Sheet No.
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Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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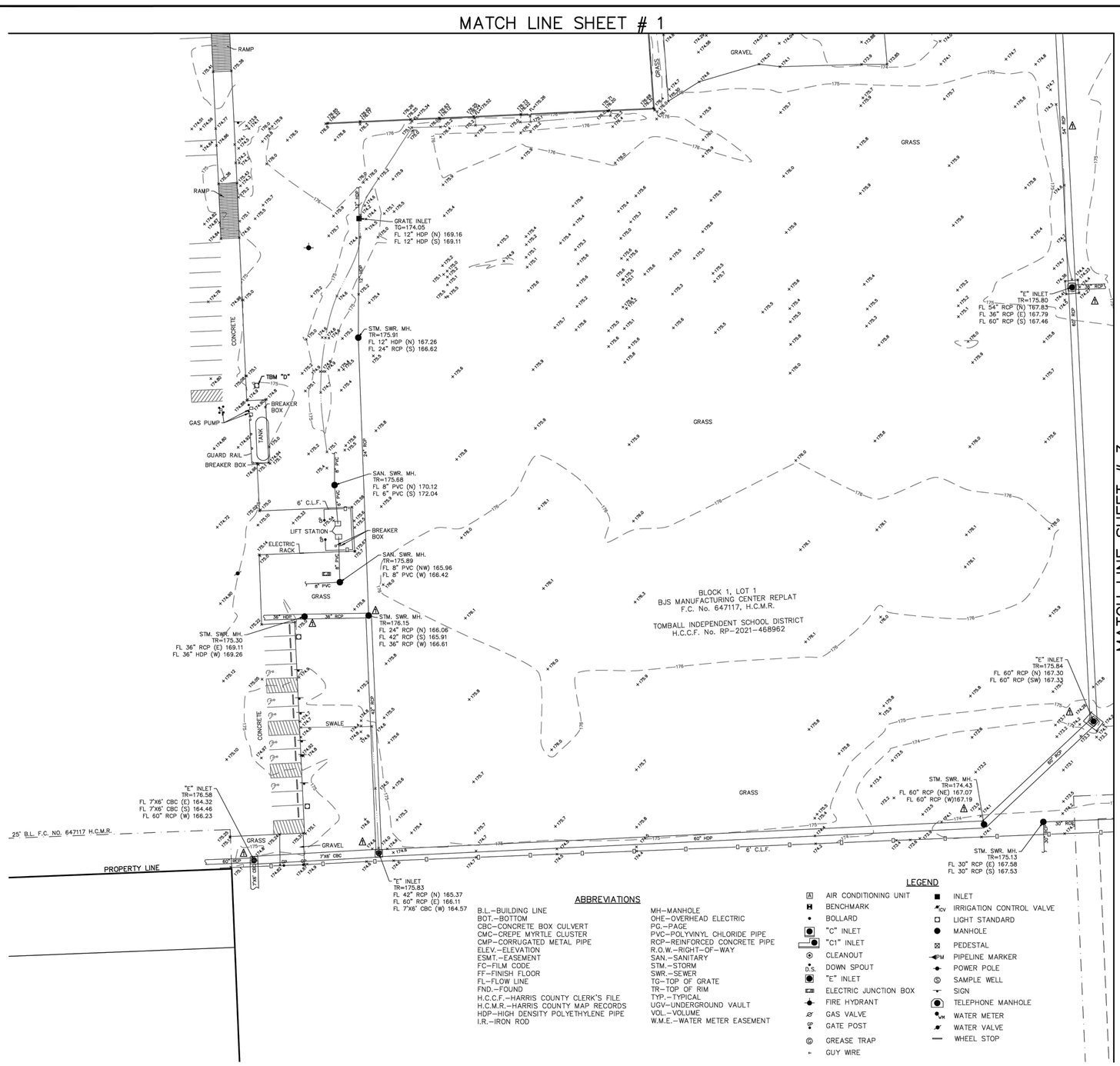

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LEGEND

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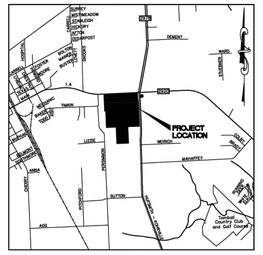
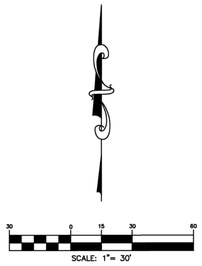
VICINITY MAP



KEY MAP 289E
SCALE 1" = 3000'



SCALE: 1"= 30'

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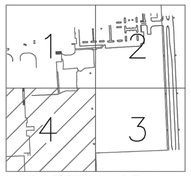

SHEET 4 OF 4

STATE OF TEXAS
REGISTERED
JOEL D. WALKER
5189
PROFESSIONAL
LAND SURVEYOR

TO: TOMBALL INDEPENDENT SCHOOL DISTRICT

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS MANUAL OF PRACTICE REQUIREMENTS FOR A CATEGORY 6, CONDITION 1 SURVEY AND THE CURRENT MINIMUM REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYING ACT.

4/16/26
DATE

JOEL D. WALKER, R.P.L.S.
TEXAS REGISTRATION NO. 5189

Revision / Date
ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

TOMBALL INDEPENDENT SCHOOL DISTRICT

TOPOGRAPHIC SURVEY

TOMBALL ISD
INTERMEDIATE SCHOOL
OUT OF THE
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ABSTRACT NO. 629
CITY OF TOMBALL
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PHONE: (281) 599-8288
FAX: (281) 492-6026
CERTIFIED FIRM NO. 10073800

NO.	DATE	REVISIONS	BY
2	4/16/26	DETAILED MANHOLES	DB
1	4/1/26	ADDRESSED COMMENTS	DB

DRAWN BY: DB	CHECKED BY: MDL
SCALE: 1"=30'	APPROVED BY: JDW
PROJECT NO. S866–0037B	DATE: FEBRUARY 24, 2026

FOR REFERENCE ONLY

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800.687.1229

TOPOGRAPHIC SURVEY
4 OF 4
VOLUME 01

Job No. 00788-002	Sheet No.
Drawn By: CT	C0.7
Date: 07.23.26	

ADDENDUM 01

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GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONTACT THE CITY OF TOMBALL A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK.
2. CONTRACTOR SHALL ADEQUATELY PROTECT EXISTING STRUCTURES, UTILITIES, TREES, SHRUBS AND OTHER PERMANENT OBJECTS.
3. TREES WITHIN THE STREET RIGHT-OF-WAY SHALL NOT BE REMOVED OR DISTURBED, EXCEPT WHERE CALLED OUT TO BE REMOVED. WHERE TREE ROOTS MUST BE CUT, FOLLOW THE REPAIR METHODS DESCRIBED IN THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL CONDUCT THEIR OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE. CLEAN UP OF STREETS SHALL BE PERFORMED AS NECESSARY.
5. ANY AREA OF GRASS, WHICH IS DISTURBED OR DUG UP DURING CONSTRUCTION, SHALL BE REPLACED WITH SEED OR SOD.
6. ALL NON ACTIVE EXPOSED AREAS OF EXCAVATION SHALL BE COVERED WITH STEEL SHEETING WHEN IN PAVED AREAS. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCING AND TRAFFIC BARRICADES AROUND ALL OTHER EXPOSED AREAS OF EXCAVATION.
7. EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND LANDSCAPING DAMAGED OR REMOVED DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPLACED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR AT THEIR EXPENSE.
8. WHEN ANY STREET OR ANY SECTION OF A STREET IS CLOSED, THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE BARRICADES, WARNING AND DIRECTING SIGNS, RED FLAGS AND LIGHTS AT THE END OF EACH STREET AND AT ALL INTERSECTIONS ALONG THE STREET WITHIN THE LIMIT OF THE WORK AREA. ALL EXPENSE INCURRED FOR THE ABOVE REQUIREMENTS SHALL BE BORNE BY THE CONTRACTOR. ALL WARNING SIGNS AND BARRICADES SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. CONTRACTOR TO NOTIFY PROPER AUTHORITIES A MINIMUM OF 48 HOURS PRIOR TO ANY STREET OR PARTIAL STREET CLOSING
9. CONTRACTOR SHALL PROVIDE THE CITY OF TOMBALL ONE SET OF (RECORD) DRAWINGS AS PER SPECIFICATIONS.
10. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENDING WORK. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO LOCATE AND PRESERVE UNDERGROUND UTILITIES.
11. IN ACCORDANCE WITH TEXAS STATE LAW THE _____ CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING TEXAS 811 AT LEAST 48 HOURS PRIOR TO COMMENDING CLEARING OR EXCAVATION.
13. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING AND SHORING AS SPECIFIED.
14. EXISTING PAVEMENTS, CURBS, SIDEWALKS AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL OR BETTER CONDITION.
15. CONDITION OF THE FACILITIES, UPON COMPLETION OF JOB, SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK. THE CONTRACTOR SHALL RESTORE ALL GRADES AND LANDSCAPING TO PRECONSTRUCTION CONDITIONS AND RE-ESTABLISH TURF AREAS DAMAGED BY THE CONSTRUCTION ACTIVITIES UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.
16. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AFFECTED BY CONSTRUCTION BY MEANS OF ANCHORED STEEL PLATES, BY BACKFILLING IMMEDIATELY AFTER CONSTRUCTION, AND/OR BY PLACING SHELL OR LIMESTONE SURFACES FOR TEMPORARY DRIVEWAY PURPOSES. CONTRACTOR'S ATTENTION IS DIRECTED TO HS-20 LOAD RATED ACCESS REQUIREMENTS FOR ALL SUCH AREAS.
17. ALL EXCESS DIRT FROM EXCAVATION SHALL BE DISPOSED OF OFFSITE BY CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
18. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS INCLUDING HARRIS COUNTY, TXDOT AND CITY OF TOMBALL.
19. CONTRACTOR TO REMOVE ALL TRASH, EXCESS MATERIAL, DEBRIS, ETC. FROM THE SITE UPON COMPLETION OF THE PROJECT PRIOR TO INSPECTION AND APPROVAL BY THE APPROVING AGENCIES.
20. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN 6 FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATION, TITLE 29, PART 1910.180(J) AND PART 1926.440(A)(15) REQUIRE A MINIMUM CLEARANCE OF 10 FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF YOU OR YOUR COMPANY MUST WORK NEAR OVERHEAD POWER LINES, CALL 713-207-7777 FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT YOUR EXPENSE.
21. CONTRACTOR IS RESPONSIBLE FOR HORIZONTAL AND VERTICAL CONTROL. REFERENCE POINTS AND CONSTRUCTION STAKING IS INCIDENTAL TO THE PROJECT.
22. SIDEWALKS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 40, SECTION 40-65(1), THE COMPREHENSIVE PLAN, AND THE LIVABLE CENTERS STUDY.
23. EACH CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION OPERATIONS WITH THOSE OF OTHER CONTRACTORS AND ENTITIES TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE PROPOSED WORK.
24. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF ALL POWER/TELEPHONE POLES AND CORRESPONDING GUY WIRES WITHIN FIFTEEN (15) FEET OF PROPOSED WORK. CONTRACTOR SHALL REPAIR DAMAGED POLES AND GUY WIRES AS REQUIRED BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
25. CITY OF TOMBALL NORMAL WORKING HOURS ARE MONDAY THROUGH FRIDAY FROM 7 AM TO 5 PM, EXCEPT CITY OBSERVED HOLIDAYS. THE CONTRACTOR SHALL NOT BE PERMITTED TO CLOSE LANES OR DO ANY WORK THAT REQUIRES THE SERVICE OR INSPECTION OF THE CITY OUTSIDE OF THE NORMAL WORKING HOURS UNLESS LISTED IN THE PERMIT. THE CONTRACTOR WITH THE PERMITSSION OF THE CITY OF TOMBALL MAY BE PERMITTED TO WORK OUTSIDE OF THE NORMAL WORK HOURS FOR CLEAN-UP ACTIVITIES OR OTHER SUCH ITEMS THAT DO NOT ADVERSELY IMPACT TRAFFIC, RESIDENTS, BUSINESSES OR CITY SERVICES.

WASTEWATER NOTES

1. ALIGNMENT, CENTERLINE CURVE DATA, AND STATIONING TO BE DETERMINED FROM APPROVED, RECORDED SUBDIVISION PLAT OR ROAD RIGHT-OF-WAY PLAT.
2. SEWER MAINS, MANHOLES AND LIFT STATIONS ARE TO BE DESIGNED, TO BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH CITY OF TOMBALL STANDARDS AND TCEQ TITLE 30 CHAPTER 217 OF THE TEXAS ADMINISTRATIVE CODE. TAC 217.2 REQUIRES LOW-PRESSURE AIR TESTS TO CONFORM TO THE PROCEDURE DESCRIBED IN ASTM C828, C924, F-1417 OR OTHER APPROPRIATE PROCEDURES. FOR SAFETY REASONS, AIR TESTING OF SECTIONS OF PIPE SHALL BE LIMITED TO LINES LESS THAN 36-INCH AVERAGE INSIDE DIAMETER. LINES 36-INCH IN DIAMETER OR LARGER MAY BE AIR TESTED AT EACH JOINT. DEFLECTION TESTING OF ALL FLEXIBLE AND SEMI-RIGID PIPE SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. RIGID PIPE SHALL NOT EXCEED A DEFLECTION OF 1% FLEXIBLE PIPE SHALL NOT EXCEED A DEFLECTION OF 5%. THE DEFLECTION TEST IS TO BE RUN USING A RIGID MANDREL, AND SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. ALL TESTS TO BE WITNESSED & APPROVED BY CITY OF TOMBALL.
3. MAINTAIN 12 INCH MINIMUM CLEARANCE AT CROSSINGS BETWEEN ALL OTHER UTILITY LINES, STORM SEWERS, AND CULVERTS UNLESS OTHERWISE NOTED.
4. SEWER TRENCHES UNDER OR WITHIN ONE (1) FOOT OF PROPOSED OR FUTURE PAVEMENT TO BE BACKFILLED WITH CEMENT SAND (1.5 SACKS PER TON) BACKFILL AS SPECIFIED, TO WITHIN ONE (1) FOOT OF SUBGRADE, BEDDING WILL BE CLASS AAA WHERE CEMENT-SAND BACKFILL IS USED FOR SANITARY SEWERS. INCLUDE COST OF BACKFILL IN UNIT PRICE BID PER LINEAR FOOT OF PIPE.
5. UNLESS OTHERWISE NOTED ALL PROPOSED GRAVITY WASTEWATER MAINS 8" TO 15" SHALL BE PVC PIPE (ASTM D3034 OR D2241 SDR 26). ALL PROPOSED GRAVITY WASTEWATER MAINS 18" TO 36" SHALL BE PVC PIPE (ASTM F679 PS 115).
6. FOR PVC PIPE, USE MANHOLE WATERSTOP GASKET AND CLAMP ASSEMBLY AT MANHOLE CONNECTIONS (NO SEPARATE PAY).
7. SANITARY SEWER MANHOLES SHALL BE PRECAST OR POURED IN PLACE MONOLITHIC CONCRETE, AND BACKFILLED WITH CEMENT STABILIZED SAND (1.5 SACKS PER YARD) AS SPECIFIED (NO SEPARATE PAY). MANHOLES WILL BE VACUUM TESTED AS SPECIFIED BY THE CITY OF TOMBALL.
8. ALL SERVICE LEADS SHALL BE FOUR (4) INCHES OR SIX (6) INCHES AT 1.0% MINIMUM SLOPE. ALL FAR SIDE LEADS (OPEN-CUT OR BORED AND JACKED) SHALL CONFORM TO ASTM D1784 (SCHEDULE 80), ASTM D2241 (SDR 26) OR ASTM D3034 (SDR 26).
9. STUBS OR LEADS SERVING TWO LOTS SHALL HAVE A SERVICE WYE WITH TEMPORARY PLUGS. THE WYE SHALL BE LOCATED WITHIN THE STREET RIGHT-OF-WAY NEAR AN ADJOINING UTILITY EASEMENT.
10. MANHOLE RIMS ARE TO BE SET AT THE ELEVATIONS SHOWN ON THE PLANS INITIALLY, AFTER PAVING AND GRADING IS COMPLETED, RIMS ARE TO BE ADJUSTED TO THREE (3) TO SIX (6) INCHES ABOVE FINAL GRADE AND GRADE SOIL SO AS TO PROVIDE DRAINAGE AWAY FROM MANHOLE.
11. ALL PVC PIPE SHALL HAVE RUBBER GASKET EQUIPPED BELL AND SPIGOT JOINTS. SOLVENT WELDED JOINTS SHALL NOT BE CONSIDERED AN ACCEPTABLE MATERIAL.
12. ALL GRADE CHANGES AT MANHOLES IN EXCESS OF 2 FEET SHALL BE ACCOMPLISHED WITH DROP MANHOLE CONNECTIONS.
13. CONTRACTOR TO FURNISH CITY WITH RECORD DRAWINGS UPON COMPLETION OF PROJECT (CERTIFIED BY ENGINEER).
14. ALL MANHOLES SHALL BE LINED WITH RAVEN LINING 405 EPOXY LINER OR APPROVED EQUAL WITH 100 MILS MINIMUM THICKNESS.
15. THE CONTRACTOR(S) SHALL BE ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWAGE OCCURS. THE PERSON IDENTIFIED WITH THIS RESPONSIBILITY SHALL BE ON-SITE WHEN ACTIVITIES THAT COULD RESULT IN A SPILL OR OVERFLOW ARE BEING PERFORMED. SHOULD AN OVERFLOW OR SPILL OCCUR, THE CONTRACTOR SHALL IMMEDIATELY:
    - 15.1. IDENTIFY THE SOURCE OF THE SPILL, ATTEMPT TO STOP AND ELIMINATE ANY ADDITIONAL SPILLAGE OR OVERFLOW,
    - 15.2. NOTIFY THE CITY OF TOMBALL CITY PUBLIC WORKS DEPARTMENT (281) 290-1400,
    - 15.3. CONTAIN THE SPILL IN PLACE AND PREVENT CONTAMINATION OF STREAMS AND WATERWAYS,
    - 15.4. CLEAN UP THE SPILL AND DISPOSE OF CONTAMINATED MATERIALS,
    - 15.5. DISINFECT THE AREA WITH A MIXTURE OF HTH CHLORINE AND WATER,
    - 15.6. IDENTIFY AND TRAIN CONTRACTOR'S PERSONNEL RESPONSIBLE FOR SPILL PREVENTION AND CONTROL,
    - 15.7. ALL WORK PERFORMED IN RELATION TO A SPILL SHALL BE IN CONFORMANCE WITH TCEQ REGULATIONS AND AT NO ADDITIONAL COST TO THE CITY OF TOMBALL
16. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND MARKING ALL STACKS AND SERVICE LEADS AFTER THE PAVING IS COMPLETE. A ¼ -INCH DEEP NOTCH SHALL BE CUT IN THE CURB AND PAINTED WITH A RED LINE ADJACENT TO THE STACK OR LEAD. IF STAKES ARE LEFT IN THE GROUND AT THE STACKS AND LEADS AFTER CONSTRUCTION OF UTILITIES, THEN AN EFFORT WILL BE MADE TO PRESERVE THEM DURING PAVING CONSTRUCTION. HOWEVER, IF THESE STAKES ARE KNOCKED OUT FOR ANY REASON, THE UTILITY CONTRACTOR REMAINS RESPONSIBLE FOR LOCATING AND MARKING THE FACILITIES AS DESCRIBED ABOVE.

WATER NOTES

1. ALIGNMENT, CENTERLINE CURVE DATA, AND STATIONING TO BE DETERMINED FROM APPROVED AND/OR RECORDED SUBDIVISION OR ROAD RIGHT-OF-WAY PLAT.
2. ALL WATER LINE CONSTRUCTION TO BE ACCOMPLISHED IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
3. ALL WATER LINES TO BE LOCATED INSIDE PUBLIC ROAD RIGHT-OF-WAYS OR PUBLIC EASEMENTS. CITY REPRESENTATIVE TO INSPECT & APPROVE PRIOR TO BACKFILL.
4. ALL WATER MAINS LESS THAN OR EQUAL TO 12" IN DIAMETER SHALL BE PVC C-900 (DR-18). ALL PROPOSED WATER MAINS GREATER THAN OR EQUAL TO 14" IN DIAMETER SHALL BE PVC C-905 (DR-18).
5. WATER MAINS TO HAVE A MINIMUM COVER OF FOUR (4) FEET. VARY FLOW LINE UNIFORMLY FROM DEPTH AND LOCATION SHOWN IN PLANS.
6. WATER LINE FITTINGS TO BE DUCTILE IRON WITH POLYETHYLENE WRAP AS SPECIFIED UNLESS OTHERWISE NOTED.
7. MAINTAIN 12-INCH MINIMUM CLEARANCE AT CROSSINGS BETWEEN ALL WATER LINES AND ALL UTILITIES INCLUDING STORM SEWERS AND CULVERTS UNLESS OTHERWISE NOTED.
8. WATER LINES SHALL BE SAND-BEDDED AS SHOWN IN THE CITY OF TOMBALL DETAILS. (COT-WA-02) ALL WATER LINES TO BE INSPECTED BY CITY OF TOMBALL PRIOR TO BACKFILL.
9. WATERLINE TRENCHES UNDER OR WITHIN ONE (1) FOOT OF PROPOSED OR FUTURE PAVEMENT SHALL BE BACKFILLED PER THE CITY OF TOMBALL DETAILS (COT-WA-02).
10. ALL 2" THRU 12" GATE VALVES FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH AWWA C509 DOUBLE SEATED RESILIENT SEAT GATE VALVES AND SHALL OPEN IN A COUNTER CLOCKWISE DIRECTION ONLY. VALVES ON ALL TAPPING SLEEVES ARE TO BE OF THE SAME TYPE.
11. VALVES TO BE LOCATED OPPOSITE PROPERTY CORNER WHERE APPROPRIATE.
12. ALL VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE AFTER PAVING/GRADING IS COMPLETE.
13. ALL FIRE HYDRANTS SHALL BE MUELLER CENTURION OR AMERICAN DARLING. EQUIP EACH FIRE HYDRANT WITH TWO (2) TWO AND ONE-HALF (2 ½) INCH NOMINAL INSIDE DIAMETER HOSE NOZZLES AND ONE (1) FIVE AND ONE-QUARTER (5 ¼) INCH NOMINAL INSIDE DIAMETER PUMPER NOZZLE WITH NATIONAL STANDARD THREADS ON EACH NOZZLE. SUPPLY STORZ CONNECTOR & PRESSURE CAP FOR PUMPER NOZZLE.
14. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURES SPECIFIED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND THE CITY OF TOMBALL.
15. ALL WATER LINE TESTING SHALL BE WITNESSED AND APPROVED BY THE CITY OF TOMBALL.
16. TWELVE (12) GAUGE LOCATOR WIRE TO BE INSTALLED ON ALL WATER LINES, GAS LINES AND FORCE MAINS. TO BE ACCESSIBLE AT VALVE STACKS.
17. ALL TS&V SHALL BE FULL BODY – CAST IRON OR APPROVED STAINLESS STEEL OR DUCTILE IRON.
18. ONE (1) WATER SAMPLE PER 1000 FEET SHALL BE SUBMITTED TO A TEXAS DEPARTMENT OF HEALTH APPROVED LABORATORY AND SHALL BE FREE OF ANY CONTAMINATES, PRIOR TO BEING PUT IN SERVICE.
19. DISINFECTION OF NEW AND REPAIRED WATER MAINS SHALL BE IN CONFORMANCE WITH AWWA C651. ALL NEW WATER MAINS SHALL BE DISINFECTED BEFORE THEY ARE PLACED IN SERVICE. ALL WATER MAINS TAKEN OUT OF SERVICE FOR INSPECTING, REPAIRING OR OTHER ACTIVITY, WHICH MIGHT LEAD TO CONTAMINATION OF WATER, SHALL BE DISINFECTED BEFORE THEY ARE RETURNED TO SERVICE. (NON PAY ITEM)
20. ALL WATER AND WASTEWATER CROSSINGS SHALL CONFORM TO TCEQ CHAPTER 217 AND 290 SEPARATION REQUIREMENTS.
21. ALL VALVE BOXES SHALL BE ERECTED PLUMBED & BE FREE OF DEBRIS.
22. PROVIDE BACKFLOW PREVENTOR BASED ON APPROPRIATE APPLICATIONS (I.E. IRRIGATION, DOMESTIC, FIRE)
23. ALL DUCTILE IRON FITTINGS SHALL BE WRAPPED IN MINIMUM 8 MIL POLYETHYLENE WRAP.

PAVEMENT NOTES

1. ALL INTERSECTIONS WHERE A STOP SIGN IS LOCATED SHALL HAVE A STOP BAR, STOP BARS SHALL BE LOCATED WHERE PEDESTRIAN CROSSWALKS ARE PROVIDED, 1'-4" BEHIND CROSSWALKS.
2. STOP BARS SHALL BE 24" WIDE, AND CONSIST OF SOLID WHITE LINES EXTENDING ACROSS APPROACH LANES TO INDICATE THE POINT AT WHICH THE STOP IS INTENDED OR REQUIRED TO BE MADE.
3. ON APPROACH – BEGINNING WITH STOP BAR, INSTALL A 4" WIDE SOLID WHITE LINE FOR 50 FT BACK FROM STOP BAR SKIP 25' AND BEGIN NORMAL LANE LINES.
4. ON EXIT – BEGINNING WITH CROSSWALK, OR 12' FROM CURB LINE OF INTERSECTING STREET, INSTALL A 4" WIDE SOLID WHITE LINE FOR 50 FT., AND BEGIN NORMAL LANE LINE.
5. CROSSWALKS SHALL BE A MINIMUM INSIDE WIDTH OF 5' (FT.). AT LOCATIONS WHERE ADDITIONAL VISIBILITY IS REQUIRED, WHERE TRAFFIC CONTROL DEVICES ARE NOT PRESENT, AND IN SCHOOL ZONES CONTINENTAL CROSSWALKS SHALL BE USED.
6. ALL PAVEMENT MARKINGS AT INTERSECTIONS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH COT APPROVED PRODUCT LIST.
7. PAVEMENT MARKINGS MUST BE SHOWN ON THE APPROVED CONSTRUCTION PLANS. ALL PAVEMENT MARKINGS MUST BE RETRO-REFLECTIVE MATERIAL APPLIED TO THE ROAD SURFACE IN A MOLTEN STATE BY SCREED/EXTRUSION, SUSPENDED EXTRUSION, OR SPRAY MEANS, WITH A SURFACE APPLICATION OF GLASS BEADS.
8. THE COLOR OF RAISED PAVEMENT MARKERS UNDER BOTH DAYLIGHT AND NIGHTTIME CONDITIONS SHALL CONFORM TO THE COLOR OF THE MARKING FOR WHICH THEY SERVE AS A POSITIONING GUIDE OR FOR WHICH THEY SUPPLEMENT OR SUBSTITUTE.
9. ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROX. 2").
10. ALL BUTTONS SHALL BE INSTALLED WITH AN APPROVED EXPOXY.
11. A BLUE REFLECTORIZED BUTTON SET 6" OFF CENTERLINE OF ROADWAY SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS.
12. PAVEMENT SURFACE AREAS PRIOR TO PLACEMENT OF PAVEMENT MARKINGS, AND/OR RAISED PAVEMENT MARKERS SHALL BE CLEANED IN ACCORDANCE WITH THE C.O.M.C. STANDARDS. CONCRETE SURFACES SHALL BE CLEANED BY ABRASIVE BLASTING MEDIUM. ASPHALT PAVEMENT SURFACES SHALL BE CLEANED BY BRUSHING, WASHING, COMPRESSED AIR, AND/OR HIGH-PRESSURE WATER. AREAS MUST BE FREE OF CURING MEMBRANCE, DIRT, GREASE, LOOSE AND/OR FLAKING EXISTING MARKERS AND OTHER FORMS OF DEBRIS.
13. ALL ESPLANADE NOSES, AND CURBS IN LEFT TURN BAY'S SHALL BE BRICK STAMPED ON PAVERS AND SHALL COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC DEVICES, A.D.A., T.A.S., AND COT STANDARDS AND ALL REVISIONS THEREOF.
14. ALL ROADWAYS WITHOUT CURB SHALL HAVE A SOLID 4" WHITE REFLECTORIZED STRIPE 12" INSIDE THE EDGE OF PAVEMENT.
15. WITHIN A TANGENT SECTION THE TYPE I-C PAVEMENT MARKERS CAN BE PLACED AT 40' C-C ON ROADWAYS WITHOUT CURB AND GUTTERS.
16. ALL STREET CROSSINGS SHALL COMPLY WITH T.A.S. AND A.D.A., SEE HANDICAP CROSS DETAIL.
17. ALL PAVEMENT MARKINGS, AND/OR RAISED PAVEMENT MARKERS SHALL COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC DEVICES, A.D.A., T.A.S., AND C.O.M.C. STANDARDS AND ALL REVISIONS THEREOF.
18. ALL MARKINGS SHALL HAVE A UNIFORM CROSS-SECTION, AND THE DENSITY AND QUALITY OF THE MARKING'S SHALL BE UNIFORM THROUGHOUT THEIR THICKNESS.
19. PAVEMENT MARKING'S PLACED THAT ARE NOT IN ALIGNMENT OR SEQUENCE, AS SHOWN ON THE PLANS OR STATED IN THE PROJECT SPECIFICATIONS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
20. FOR SKEW INTERSECTIONS AND STREET WIDTHS NOT SHOWN, COORDINATE WITH THE COT DEPARTMENT OF ENGINEERING & PLANNING.

STORM SEWER NOTES

1. STORM SEWER CONSTRUCTION SHALL CONFORM TO THE CITY OF TOMBALL SPECIFICATIONS FOR STORM SEWER CONSTRUCTION.
2. ALL STORM SEWER TO BE ASTM C-76, CLASS III REINFORCED CONCRETE PIPE WITH RUBBER GASKETED JOINTS CONFORMING TO ASTM C443. CLASS IV RCP REQUIRED UNDER PAVEMENT WITH LESS THEN 2' OF COVER.
3. ALL STORM SEWER INLETS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND (1.5 SACKS PER TON). ALL BEDDING SHALL BE CLASS "AA". ALL STORM SEWERS TO BE INSPECTED BY CITY PRIOR TO BACKFILL.
4. ALL STORM SEWER TRENCHES UNDER PROPOSED AND FUTURE PAVEMENT OR WITHIN ONE FOOT (1') FROM BACK OF CURB TO BE BACKFILLED WITH CEMENT STABILIZED SAND (1.5 SACKS PER TON) TO A POINT OF ONE FOOT (1') BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL TO BE MADE WITH COMPACTED SELECT MATERIAL. COST OF BACKFILL AND BEDDING TO BE INCLUDED IN UNIT PRICE PER LINEAR FOOT OF PIPE.
5. HIGH DENSITY POLYETHYLENE PIPE MAY BE SUBSTITUTED ON PRIVATE PROPERTY FOR REINFORCED CONCRETE PIPE SUBJECT TO THE FOLLOWING:
    - 5.1. FOR PIPES 36" AND SMALLER – CEMENT STABILIZED SAND PLACED BEFORE PIPE IS LAID, TO 7" MIN. BEDDING DEPTH. FOR SEWERS 42"-60" CEMENT STABILIZED SAND PLACED BEFORE PIPE IS LAID, TO 10" MIN. BEDDING DEPTH. THE SIDES SHALL BE 12" MIN. FROM EDGE OF TRENCH TO SPRINGLINE.
    - 5.2. CEMENT STABILIZED SAND SHALL BE THOROUGHLY RODDED, PLACED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY 1'-0" ABOVE THE TOP OF PIPE, AFTER PIPE IS LAID.
    - 5.3. PIPE AND FITTINGS: THE TYPES OF PIPE WILL BE INDICATED ON THE DRAWINGS BY THE FOLLOWING DESCRIPTION CONFORMING TO AASHTO M 252, AASHTO M 294, AND/OR AASHTO MP6-95, LATEST EDITION. PIPE DESCRIPTION: CPP (CORRUGATED POLYETHYLENE PIPE).
    - 5.4. TYPE S (THIS PIPE SHALL HAVE A FULL CIRCULAR CROSS-SECTION, WITH AN OUTER CORRUGATED PIPE WALL AND A SMOOTH INNER LINE).

SIDEWALK NOTES

1. EXISTING CURB AND GUTTER TO BE SAW CUT, REMOVED AND REPLACED. DOWEL STEEL FOR MINIMUM REINFORCING OVERLAP OF 10 INCHES (10") DOWELS SHALL BE EIGHTEEN INCHES (18") LONG AND EPOXIED A MINIMUM OF (8") EIGHT INCHES INTO EXISTING PAVEMENT.
2. IF SIDEWALKS ARE NEITHER EXISTING NOR PROPOSED WHERE CURB RAMP ACCESS IS REQUIRED, CONCRETE SIDEWALKS SURFACE 4 1/2" THICK SHALL BE INSTALLED TO PROVIDE ACCESS TO THE PEDESTRIAN PUSH BUTTONS.
3. DETECTABLE WARNINGS REQUIRED BY T.A.S. SECTIONS 4.1 AND 4.7 SHALL COMPLY WITH T.A.S. SECTION 4.29
4. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACE SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE.
5. DETECTABLE WARNING SURFACE SHALL COVER THE ENTIRE WIDTH AND DEPTH OF RAMP.
6. DETECTABLE WARNINGS SHALL BE INSTALLED WITH PAVERS IN ACCORDANCE WITH MANUFACTURE'S REQUIREMENTS.
7. CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-935, C-33, AND SHALL BE PLACE IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.
8. CONCRETE PAVER UNITS SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS. DOMES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.
9. CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR THAT PROVIDES A LIGHT REFLECTIVE THAT SIGNIFICANTLY CONTRASTS WITH THE ADJACENT SURFACES. ADJACENT SURFACES INCLUDE SIDE FLARES. COLORS OTHER THAN RED-BROWN REQUIRE COT APPROVAL.
10. CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY, AND ANY CUT UNIT SHALL NOT BE LESS THAN 25% OF A FULL UNIT.
11. THE MAXIMUM WIDTH BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 20'-0"
12. EXPANSION JOINT IS TO BE 1/2" THICK CLEAR HEART REDWOOD WITH DOWELS.
13. SCORED CONTRACTION JOINTS SHALL BE EVERY 4' OR EQUAL TO WIDTH OF SIDEWALK.
14. ALL ADJACENT EARTHEN AREAS ARE TO BE SODDED UNLESS SHOWN OTHERWISE ON DRAWINGS AND APPROVED BY CITY ENGINEER.
15. 6 INCH, 5 SACK CEMENT PER CUBIC YARD CONCRETE, 3000 PSI. REINFORCED CONCRETE WITH #3 BARS, 18 INCHES O.C.E.W., FOR SIDEWALKS, #4 BARS 18' O.C.E.W. FOR CURB RAMPS IS THE MINIMUM ACCEPTED. MINIMUM 3 LONGITUDINAL BARS.
16. USE RADIUS TOOL ON ALL EXPOSED EDGES.
17. MEMBRANE CURING COMPOUND IS REQUIRED AS DESCRIBED IN COT STANDARD SPECIFICATION 02775.
18. REFER TO GENERAL NOTES AND CONCRETE/PAVING NOTES.
19. SIDEWALK EXPANSION JOINTS SHALL CONFORM TO STREET EXPANSION JOINT STANDARDS.

DRIVEWAY NOTES

1. SIDEWALK, DRIVEWAY, CURB AND GUTTER AND GRADE SHALL BE APPROVED BY ENGINEERING & PLANNING DIRECTOR.
2. SIDEWALKS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, 5.5 SACK CEMENT PER CUBIC YARD (MIN. 3000 PSI), 4 1/2" THICK, 4'-0" MINIMUM WIDTH, AND BE REINFORCED WITH # 3 @ 18" O.C.E.W.
3. DRIVEWAYS SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, 5.5 SACK CEMENT PER CUBIC YARD (MIN. 3000 PSI), 6" THICK, FROM CURB TO PROPERTY LINE AND BE REINFORCED WITH MINIMUM # 3 @ 18" O.C.E.W. (16" MIN. LENGTH OF LAP) OR # 4 @ 24" O.C.E.W. (22" MIN. LENGTH OF LAP).
4. ONE-INCH BOARD EXPANSION OR 1/2" NON-EXTRUDING PREFORMED JOINT; AT INTERVALS OF 20 FT. (MAXIMUM) THROUGHOUT ENTIRE LENGTH OF SIDEWALKS, WHERE NEW WALK MEETS OLD WALK AND/OR NEW DRIVEWAY.
5. ONE-INCH BOARD EXPANSION OR 1/2" NON-EXTRUDING PREFORMED JOINT, BETWEEN SIDEWALK AND CURB, AROUND FIRE HYDRANTS AND UTILITY POLES.
6. NO WORK PRIOR TO OBTAINING A CITY OF TOMBALL DRIVEWAY PERMIT

NATURAL GAS NOTES

1. CONSTRUCTION OF NATURAL GAS PIPING SYSTEM MUST BE PERFORMED BY AN APPROVED CITY OF TOMBALL CONTRACTOR IN GOOD STANDING WITH THE CITY. ALL PERSONNEL CERTIFICATIONS MUST BE KEPT ON SITE WITH CONSTRUCTION CREW AT ALL TIMES.
2. CONTRACTOR MUST BE IN COMPLIANCE WITH CITY OF TOMBALL ANTI-DRUG AND ALCOHOL MISUSE PLAN BY PARTICIPATING IN AN APPROVED DRUG TESTING PROGRAM. PROOF OF TESTING PROTOCOLS IS REQUIRED.
3. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL NATURAL GAS FACILITIES AS PROPOSED IN THIS PLAN SET. ANY DEVIATIONS MUST FIRST BE APPROVED BY THE CONTRACTOR OF RECORD AND THE CITY OF TOMBALL PUBLIC WORKS DIRECTOR OR DESIGNATED REPRESENTATIVE.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE MEANS, METHODS, SEQUENCE, PROCEDURES, TECHNIQUES AND/OR SCHEDULING OF ALL PORTIONS OF THE GAS WORK ARE PERFORMED SAFELY AND IN ACCORDANCE WITH CITY OF TOMBALL REQUIREMENTS, OSHA REGULATIONS, AND ANY OTHER STANDARDS OR CODES REQUIRED BY ANY OTHER REGULATORY AGENCY.
5. SHUT-INS AND/OR SYSTEM TIES ARE TH

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SWPPP CONSTRUCTION NOTES

1. CONTRACTOR SHALL IMPLEMENT INLET PROTECTION DEVICES AND REINFORCED FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON THE TYPICAL STORM WATER POLLUTION PREVENTION (SWPPP) PLANS TO KEEP SILT AND/OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER INLETS AND DITCHES EVENTUALLY POLLUTING THE RECEIVING STORM.
2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATED MATERIAL CAN BE QUICKLY HAULED AWAY FROM THE SITE AND TO PREVENT IT FROM STAYING UNCOLLECTED ON THE EXISTING PAVEMENT. ANY LOOSE EXCAVATED MATERIAL WHICH FALL ON PAVEMENTS OR DRIVEWAYS SHALL BE SWEPT BACK INTO THE EXCAVATED AREA.
3. CONTRACTOR SHALL CLEAN UP THE EXISTING STREET INTERSECTIONS AND DRIVEWAYS DAILY, AS NECESSARY, TO REMOVE ANY EXCESS MUD, SILT OR ROCK TRACKED FROM THE EXCAVATED AREA.
4. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
5. CONTRACTOR TO INSPECT AND MAINTAIN THE AREAS LISTED BELOW AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
   A) DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
   B) AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
   C) STRUCTURAL CONTROL MEASURES.
   D) LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
6. CONTRACTOR TO BE RESPONSIBLE TO MAINTAIN EXISTING DITCHES AND/OR CULVERTS FOR UNOBSTRUCTED DRAINAGE AT ALL TIMES. WHERE SODDING IS DISTURBED BY EXCAVATION ON BACKFILLING OPERATIONS, SUCH AREAS SHALL BE REPLACED BY SEEDING OR SODDING. SLOPES 4:1 OR STEEPER SHALL BE REPLACED BY BLOCK SODDING.

TRAFFIC NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. PER HARRIS COUNTY, GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.
3. NO LANES SHALL BE CLOSED DURING THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:30 PM MONDAY THRU FRIDAY.
4. OFF DUTY POLICE OFFICERS/FLAGGERS ARE REQUIRED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED.
5. CONTRACTOR SHALL COVER THE EXCAVATION WITH STEEL PLATES ANCHORED PROERLY DURING NON-WORKING HOURS AND ALLOW NORMAL TRAFFIC FLOW. IF COVERING IS NOT FEASIBLE, USE TRANTEX FR 336 EFX 36" DELINEATOR OR APPROVED EQUAL WITH SHEETING AND BASE EPOXIED TO PAVEMENT NEXT TO EXCAVATION DURING NON-WORKING HOURS.
6. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
7. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF TRAFFIC CONTROL PLAN DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT ALTERNATE PLANS" TO TRAFFIC SECTION OF HCPID FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.

* THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS.

8. IF THE PROJECT IS WITHIN 400 FEET FROM A SIGNALIZED INTERESCTION, THE CONTRACTOR SHALL CONTACT HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT, SIGNAL DIVISION, AT 713-881-3210 FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

PRIVATE UTILITY NOTES

CAUTION: UNDERGROUND GAS FACILITIES

THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 207-5463 OR 713-945-5037 (7:00 AM TO 4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 659-2111 OR (713) 207-4200.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING: OVERHEAD ELECTRICAL LINES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES; AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.

ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY

NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-6348 OR (713) 207-5769.

WARNING: UNDERGROUND ELECTRICAL UTILITIES

THE CONTRACTOR SHALL CALL 1-800-545-6005 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.

- ALL INFORMATION CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTORS ARE RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPELINES, CONDUITS AND STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES OR BY EXCAVATING IN ADVANCE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES WHEN AND WHERE THEY FALL IN THE PATH OF CONSTRUCTION.
- THE CONTRACTOR IS ALSO RESPONSIBLE FOR CONTACTING THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 AND TEXAS ONE CALL AT 1-800-245-4545, FORTY-EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
- THE LOCATION OF ANY CENTERPOINT ENERGY UTILITIES ARE SHOWN IN APPROXIMATE WAY ONLY. THE SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. THEY AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- ALL PROPOSED FACILITIES SHALL MAINTAIN 12" CLEAR FROM ALL EXISTING UTILITIES.

CAUTION: AT&T TEXAS/SWBT FACILITIES

1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.

2. THE CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.

3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OFAT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.

4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR SHOULD PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.

6. PLEASE CONTACT THE AT&T TEXAS/SWBT DAMAGE PREVENTION MANAGER MR. KEVING REY (713)614-1983 OR E-MAIL HIM AT KR7896@ATT.COM, IF THERE ARE QUESTION ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

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SCALE	DESIGN	DRAWN
N/A	AH	CT

GENERAL NOTES

VOLUME 01

Job No.	Sheet No.
00788-002	C1.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C1.1 General Notes.dwg Last Plotted: Thu Jul 23, 2026 – 3:34pm By: ctaogue

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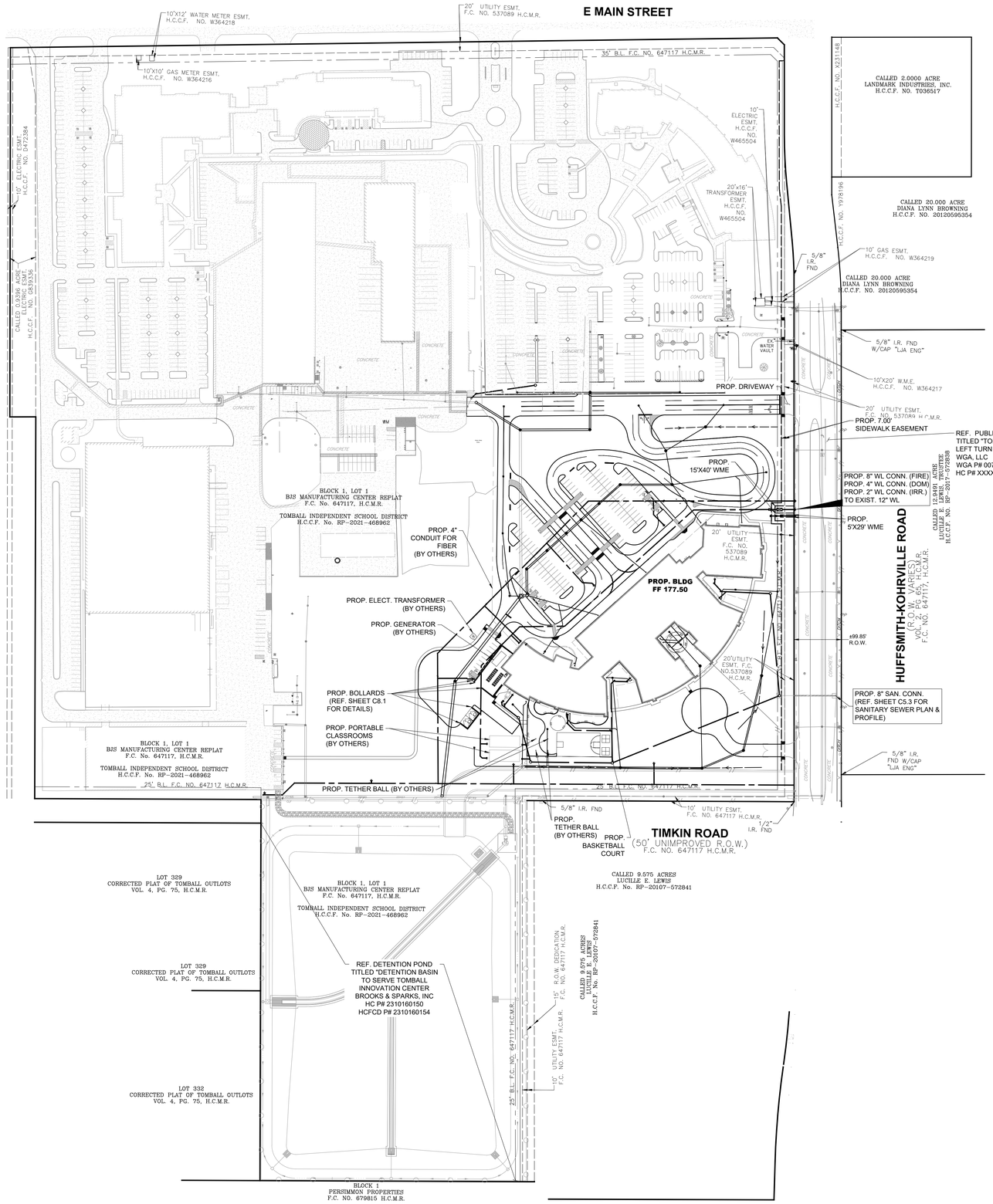
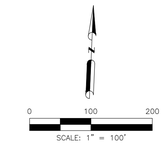
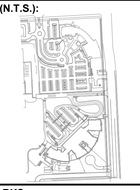




OVERALL LAYOUT LEGEND:

	EXISTING STORM SEWER/MANHOLE
	EXISTING LARGE DIAMETER STORM SEWER/MANHOLE
	EXISTING STORM SEWER/CURB INLET/ GRATE INLET
	EXISTING SANITARY SEWER/MANHOLE/ STACK/CLEANOUT
	EXISTING WATER LINE/REDUCER/ GATE VALVE/FIRE HYDRANT
	PROPOSED STORM SEWER/MANHOLE
	PROPOSED LARGE DIAMETER STORM SEWER/MANHOLE
	PROPOSED STORM SEWER/CURB INLET/ GRATE INLET
	PROPOSED SANITARY SEWER/MANHOLE/ STACK/CLEANOUT
	PROPOSED WATER LINE/REDUCER/ GATE VALVE/FIRE HYDRANT
	PROPOSED WATER METER
	PROPOSED WATER BACKFLOW PREVENTER
	PROPOSED CURB

KEY MAP (N.T.S.):



BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22303 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

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FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

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SCALE	DESIGN	DRAWN
1"=100'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER
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OVERALL LAYOUT
VOLUME 01

Job No.	Sheet No.
00788-002	C1.3
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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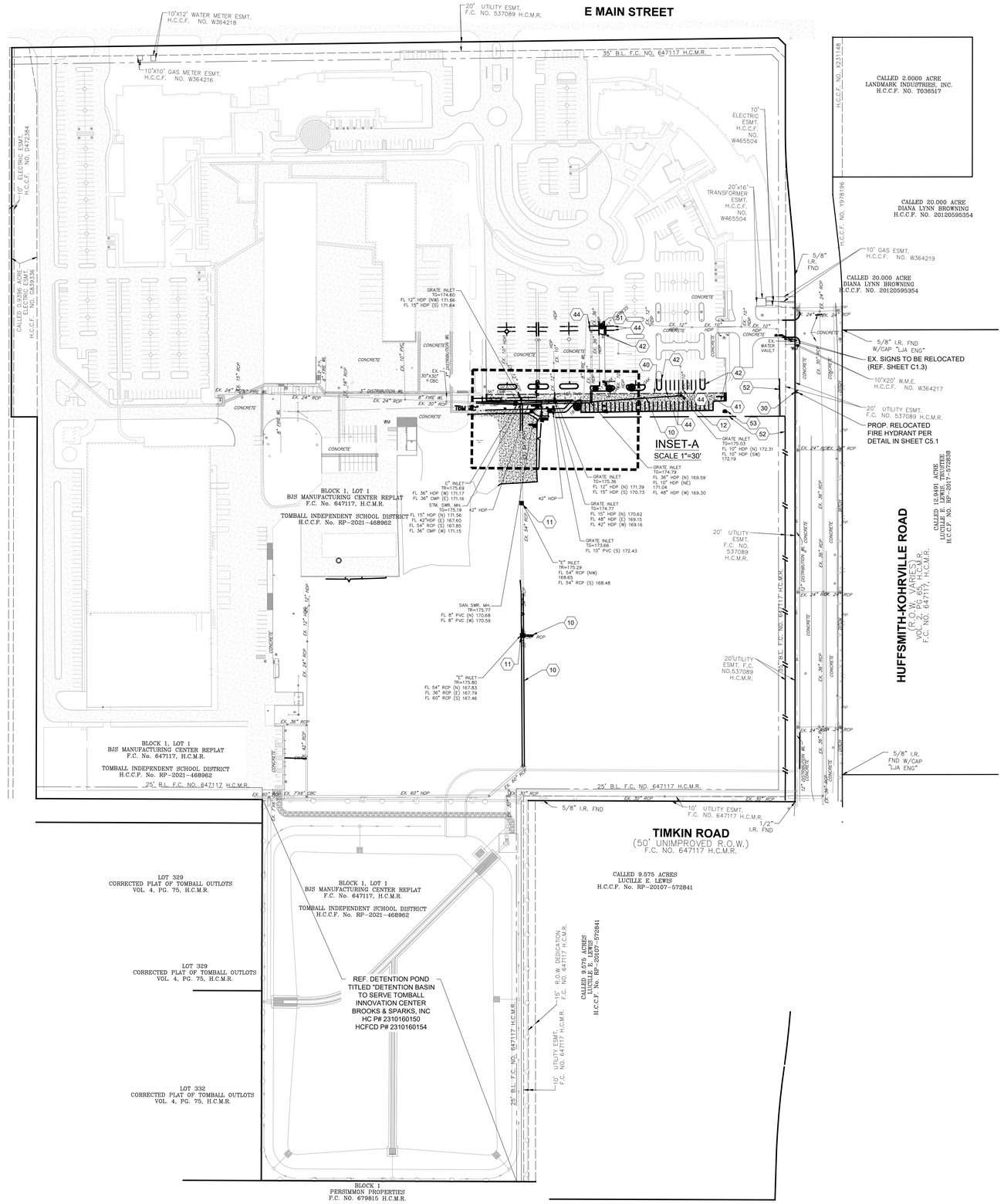
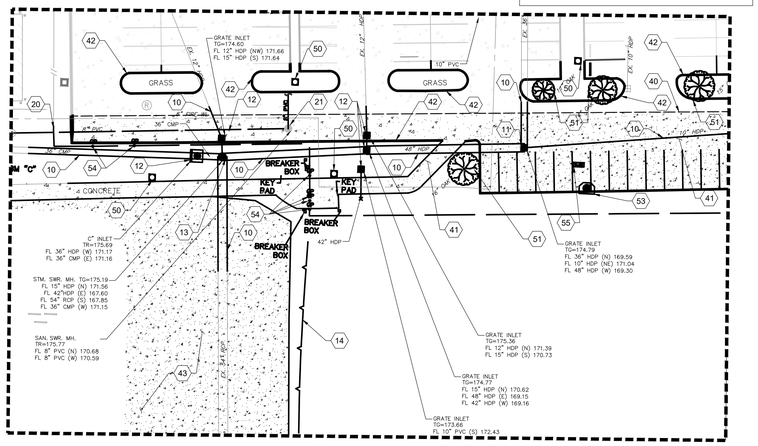
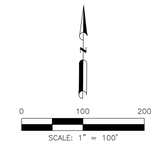




ENLARGED DEMOLITION DETAIL-A
SCALE 1"=30'



SITE DEMOLITION NOTES:

ALL EXISTING FACILITIES, AS DEPICTED ON THE TOPOGRAPHIC SURVEY, BOTH ABOVE GROUND AND UNDERGROUND, TO BE REMOVED BY CONTRACTOR UNLESS OTHERWISE NOTED. CONTRACTOR TO CONTACT 811 (CITY OF HOUSTON) OR LOCAL EQUIVALENT PRIOR TO DIGGING OR REMOVAL OF ANY WET OR DRY UTILITIES.

CONTRACTOR TO COORDINATE GAS, ELECTRIC, AND COMMUNICATION REMOVAL/RELOCATION WITH THE PROPER PUBLIC & PRIVATE JURISDICTIONAL AGENCIES. WGA DOES NOT GUARANTEE THE LOCATION OR STATUS OF ANY EXISTING UTILITIES SHOWN.

OVERALL LAYOUT LEGEND:

	PROPERTY LINE
	RIGHT OF WAY LINE

DEMOLITION KEYNOTES

STORM SEWER DEMOLITION:

10 STORM SEWER TO BE REMOVED
11 INLET TO BE REMOVED
12 INLET TO BE CAPPED
13 STORM SEWER MANHOLE TO BE CAPPED
14 SWALE TO BE REMOVED

SANITARY SEWER DEMOLITION:

20 SANITARY SEWER LINE TO BE REMOVED
21 SANITARY MANHOLE TO BE REMOVED

WATER DEMOLITION:

30 FIRE HYDRANT TO BE REMOVED

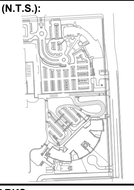
PAVEMENT DEMOLITION:

40 PROPOSED SAWCUT
41 CONCRETE PAVING TO BE REMOVED
42 CURB TO BE REMOVED
43 ASPHALT TO BE REMOVED
44 STRIPING TO BE REMOVED

MISCELLANEOUS DEMOLITION:

50 LIGHT POLE TO BE REMOVED
51 TREE TO BE REMOVED
52 FENCE TO BE REMOVED
53 TELEPHONE MANHOLE TO BE REMOVED
54 GATE POST TO BE REMOVED
55 ELECTRIC JUNCTION BOX TO BE REMOVED

KEY MAP (N.T.S.):



BENCHMARKS:

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RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

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SCALE	DESIGN	DRAWN
1"=100'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

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DEMOLITION PLAN
VOLUME 01

Job No.	Sheet No.
00788-002	C1.4
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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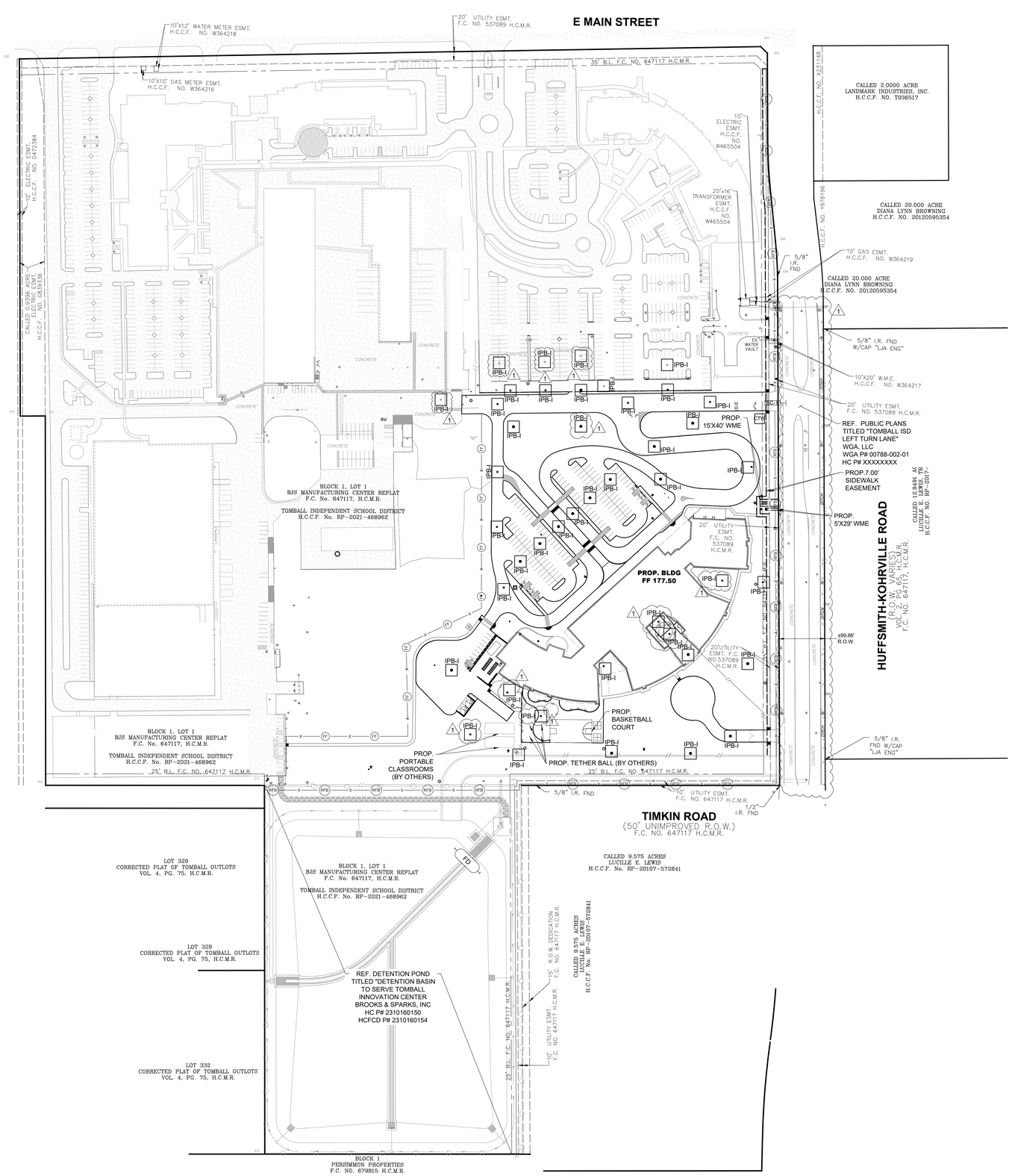

0 100 200

SCALE: 1" = 100'

EROSION CONTROL SCHEDULE AND SEQUENCING

I. ROUGH GRADING
GRADING CONSTRUCTION ENTRANCE/EXIT, SILT FENCE PROTECTION, AND STONE OVERFLOW STRUCTURES SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING, AS NEEDED.

I. UTILITY INSTALLATION
ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING UTILITY INSTALLATION. INLET PROTECTION SHALL BE INSTALLED AS STORM DRAINAGE SYSTEM IS CONSTRUCTED.

III. PAVING
ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING PAVING AND THROUGHOUT THE REMAINDER OF THE PROJECT.

IV. FINAL GRADING/SOIL
STABILIZATION: ALL TEMPORARY EROSION CONTROL MEASURES TO BE REMOVED AT THE CONCLUSION OF THE PROJECT ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

SWPPP NOTE:

ANY OFF-SITE STAGING AREA UTILIZED BY THE OPERATOR OF THIS SITE MUST BE INCLUDED IN THE SWPPP NARRATIVE PLAN AND TO SWPPP SITE PLAN AS REQUIRED BY THE TPDES TEXAS GENERAL PERMIT TXR150000 (SECTION F). ANY SUCH AREA INCLUDED IN THE SWPPP WILL BE TREATED BY THE OPERATOR AS ANY OTHER PART OF THE CONSTRUCTION ACTIVITY FOR THE PURPOSES OF STORM WATER POLLUTION PREVENTION.

SWPPP LEGEND:

SC-1	STABILIZED CONSTRUCTION EXIT
x RFB x	REINFORCED FILTER FABRIC FENCE
x FF x	FILTER FABRIC FENCE
IPB-I	INLET PROTECTION BARRIER TYPE I
IPB-II	INLET PROTECTION BARRIER TYPE II
CTW	CONCRETE TRUCK WASHOUT AREA
FD	FILTER DAM

KEY MAP (N.T.S.):

BENCHMARKS:

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WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120 Houston, Texas 77063 713.789.1900
4526 Research Forest, Suite 360 The Woodlands, Texas 77381 713.789.1900

SCALE	DESIGN	DRAWN
1"=100'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER
7/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

STORM WATER POLLUTION PREVENTION PLAN
VOLUME 01

Job No.	Sheet No.
00788-002	C2.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt
Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C2.1 SWPPP.dwg Last Plotted: Thu Jul 23, 2026 - 3:42pm By: ctaogue

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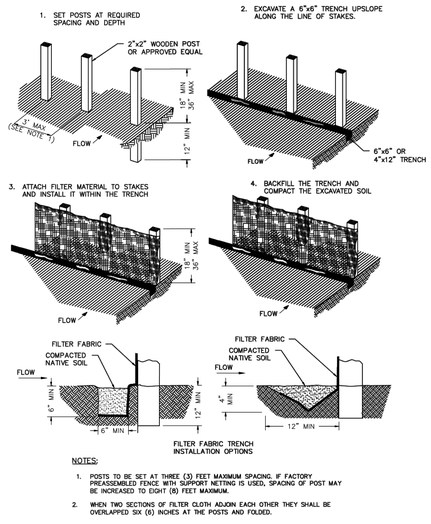
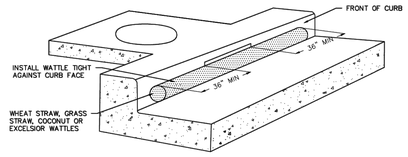


NOTES:

1. POSTS TO BE SET AT THREE (3) FEET MAXIMUM SPACING. IF FACTORY PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO EIGHT (8) FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED SIX (6) INCHES AT THE POSTS AND FOLDED.

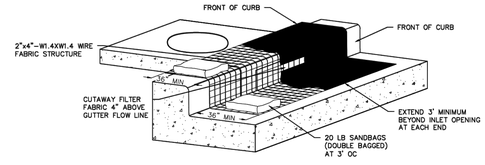
1 FILTER FABRIC FENCE DETAIL
NOT TO SCALE



NOTES:

1. ONLY ALLOWED USE OF APPLICATION IS ON CURB AND GUTTER INLETS.
2. INSTALL WATTLE ALONG INLET WITH WATTLE EXTENDING A MIN OF 36" BEYOND INLET OPENINGS IN EACH DIRECTION.
3. WATTLE MUST BE INSTALLED TIGHTLY AGAINST CURB. MAY REQUIRE ADDITIONAL MEASURES TO ENSURE WATTLE REMAINS TIGHT AGAINST CURB, SUCH AS USING ZIP TIES TO SECURE WATTLE TO INLET'S TRASH BARS OR USING SANDBAGS TO WEIGHT DOWN WATTLE.
4. REPLACE WATTLE AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM.

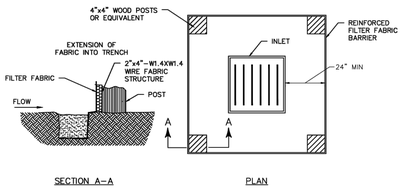
2 WATTLE INLET PROTECTION BARRIER DETAIL
NOT TO SCALE



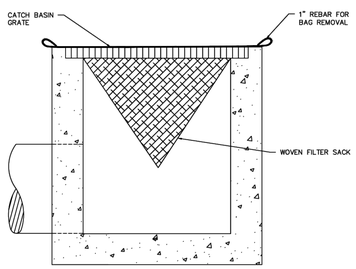
NOTES:

1. TO HOLD THE FILTER DIKE IN PLACE, 20 LB SANDBAGS SHALL BE USED AT 3' O.C.
2. MINIMUM 3" OVERLAP OF FILTER FABRIC WHERE SPLICE IS NECESSARY.
3. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
4. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2". INLET PROTECTION SHALL BE REPLACED AS NECESSARY DURING CONSTRUCTION DUE TO DAMAGE OR DETERIORATION (SUBSIDIARY TO INLET PROTECTION).
5. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND ONLY REMOVE INLET PROTECTION IF DIRECTED BY THE CITY OR IF CONTRACTOR OBSERVES AN IMMINENT THREAT OF FLOODING OF SURROUNDING PROPERTY.
6. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

3 FILTER FABRIC INLET PROTECTION BARRIER DETAIL
NOT TO SCALE



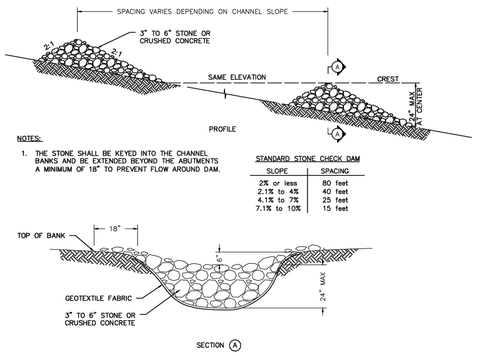
4 STAGE I INLET PROTECTION BARRIER DETAIL
NOT TO SCALE



NOTES:

1. REPLACE SACK AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM.

5 CATCH BASIN INSERT DETAIL
NOT TO SCALE



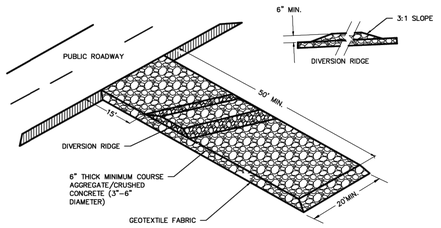
NOTES:

1. THE STONE SHALL BE KEYED INTO THE CHANNEL BANKS AND BE EXTENDED BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND DAM.

STANDARD STONE CHECK DAM

SLOPE	SPACING
2% or less	80 feet
2.1% to 4%	40 feet
4.1% to 7%	25 feet
7.1% to 10%	15 feet

6 ROCK CHECK DAM DETAIL
NOT TO SCALE



NOTES:

1. A STONE STABILIZED PAD SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE TO A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, PARKING AREA, OR ANY OTHER AREA WHERE THERE IS A TRANSITION FROM BARE SOIL TO A PAVED AREA.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 3-6 INCH STONE OR CRUSHED CONCRETE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

7 CONSTRUCTION EXIT DETAIL
NOT TO SCALE

NO.	DATE	REVISION

CITY OF TOMBALL
STORM WATER POLLUTION PREVENTION DETAILS

APPROVED BY CITY OF TOMBALL ENGINEERING DEPARTMENT
CITY ENGINEER
EFFECTIVE MARCH 17, 2021

SHEET SWP-01
SEQ.

Revision / Date
ADDENDUM 01 07/24/2026

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4526 Research Forest, Suite 360 The Woodlands, Texas 77381 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

STORM WATER POLLUTION PREVENTION PLAN DETAILS
VOLUME 01

Job No. 00788-002
Drawn By: CT
Date: 07.23.26
Sheet No. C2.2

ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C2.2 SWPPP Details.dwg Last Plotted: Thu Jul 23, 2026 - 3:36pm By: ctreague

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20' UTILITY ESMT.
F.C. NO. 537089 H.C.M.R.

35' B.L. F.C. NO. 647117 H.C.M.R.

20069
△ 177.89
Chkln TP-508

20252
△ 177.88
TP Chkln TP-504

PROP. 7.00' SIDEWALK ESMT.
PROP. 6.00' SIDEWALK

35' B.L. F.C. NO. 647117 H.C.M.R.

10' GAS ESMT. H.C.C.F. NO. W364219

5/8" I.R. FND

10' ELECTRIC ESMT. H.C.C.F. NO. W465504

20'x16' TRANSFORMER ESMT. H.C.C.F. NO. W465504

BRICK WALL

PROP. SIGN RELOCATION

10'X20' W.M.E. H.C.C.F. NO. W364217

20' UTILITY ESMT. F.C. NO. 537089 H.C.M.R.

PROP. 7.00' SIDEWALK ESMT.

PROP. 6.00' SIDEWALK

EX. WATER VAULT

CALLED 20.000 ACRE
DIANA LYNN BROWNING
H.C.C.F. NO. 20120595354

5/8" I.R. FND W/CAP "LJA ENG"

±24.19'
(25.16' B-B)

±23.99'
(24.99' B-B)

±99.79'
R.O.W.

89.96'

R25.00'

REF. PUBLIC PLANS TITLED "TOMBALL ISD LEFT TURN LANE"
WGA, LLC
WGA P# 00788-002-01
HC P# XXXXXXXX
FOR PROPOSED LEFT TURN LANE & DRIVEWAY

CALLED 12.9491 ACRE
LUCILLE R. LEWIS TRUSTEE
H.C.C.F. NO. RP-2017-472630

H.C.C.F. NO. Y878196

H.C.C.F. NO. X231148

CALLED 2.000(
LANDMARK INDUST
H.C.C.F. NO. T

HUFFSMITH-KOHRVILLE ROAD
(R.O.W. VARIES)

40.00'
(41.00' B-B)
ACCESS

40.00'
FIRE LANE

R25.00'

R25.00'

R50.00'

R30.00'

STOP

STOP

STOP

PROP. 6.00' SIDEWALK

PROP. 7.00' SIDEWALK

R25.00'

R25.00'

R25.00'

R25.00'

GRASS

CONCRETE

8" OAK

10" OAK

15" OAK

8" CYPRESS

10" CYPRESS

UGV

MATCHLINE
(SEE SHEET C3.2)

0 30 60
SCALE: 1" = 30'

LEGEND:

	EXISTING PAVEMENT (CONCRETE/ASPHALT AS NOTED)
	PROPOSED 4 ½" CONCRETE PAVEMENT (SIDEWALK)
	PROPOSED 5" CONCRETE PAVEMENT
	PROPOSED 6" CONCRETE PAVEMENT
	PROPOSED 7" CONCRETE PAVEMENT
	PROPOSED SALTED CONCRETE (REF. ARCH. FOR DETAILS)
	PROPOSED BUILDING

FIRE LANE LEGEND:

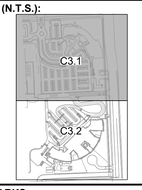
	PROPOSED FIRE LANE

SHEET NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. REFERENCE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
3. ALL CURB RADII TO BE 3' (FEET) UNLESS OTHERWISE SHOWN ON PLAN.
4. PROPOSED HANDICAP SIGN SEE PAVEMENT DETAILS.
5. PROPOSED SIGN. REFERENCE LANDSCAPE ARCHITECT PLANS FOR DETAILS.
6. CONTRACTOR SHALL REFERENCE THE LANDSCAPE ARCHITECTURAL PLANS FOR ALL COURTYARD DETAILS.
7. EXISTING SURVEY WAS DONE BY WEST BELT SURVEYING, INC. WITH THEIR CONTACT INFORMATION AS FOLLOWS:

WEST BELT SURVEYING, INC.
21020 PARK ROW KATY, TX 77449
Phone (281) 599-8288 Fax (281) 492-6026

KEY MAP (N.T.S.):



BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0220G, MAP REVISED JUNE 18TH, 2007.

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120 Houston, Texas 77063 713.789.1900
4526 Research Forest, Suite 360 The Woodlands, Texas 77381 713.789.1900

SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

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FOR
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TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED PROFESSIONAL ENGINEER
7/23/26

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800.687.1229

DIMENSION CONTROL & SIGNAGE PLAN (1 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C3.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C3.1-3.2 Dimension Control Plan.dwg Last Plotted: Thu Jul 23, 2026 - 3:37pm By: ctaegue

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MATCHLINE
(SEE SHEET C3.1)

REF. PUBLIC PLANS TITLED "TOMBALL ISD LEFT TURN LANE" WGA, LLC WGA P# 00788-002-01 HC P# XXXXXXXX

N
0 30 60
SCALE: 1" = 30'

LEGEND:

	EXISTING PAVEMENT (CONCRETE/ASPHALT AS NOTED)
	PROPOSED 4½" CONCRETE PAVEMENT (SIDEWALK)
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	PROPOSED 6" CONCRETE PAVEMENT
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	PROPOSED BUILDING

FIRE LANE LEGEND:

	PROPOSED FIRE LANE

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FOR
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TOMBALL, TEXAS

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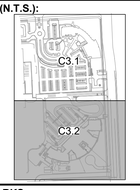

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SCALE	DESIGN	DRAWN
1"=30'	AH	CT

DIMENSION CONTROL & SIGNAGE PLAN (2 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C3.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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11/18/2025 5:39:39 AM
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Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C3.1~3.2 Dimension Control Plan.dwg Last Plotted: Thu Jul 23, 2026 – 3:33pm By: cteague

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20' UTILITY ESMT.
F.C. NO. 537089 H.C.M.R.

35' B.L. F.C. NO. 647117 H.C.M.R.

202
610
1/2" IRF
203
609
1/2" IRF
204
254
205
206
207
608
5/8" IRF LJA
5/8" I.R. FND

HUFFSMITH-KOHRVILLE ROAD
(R.O.W. VARIES)

H.C.C.F. NO. X231148
H.C.C.F. NO. Y978196

CALLED 2.000(
LANDMARK INDUST
H.C.C.F. NO. T

35' B.L. F.C. NO. 647117 H.C.M.R.

10' GAS ESMT.
H.C.C.F. NO. W364219

10" ELECTRIC ESMT.
H.C.C.F. NO. W465504

20'x16' TRANSFORMER ESMT.
H.C.C.F. NO. W465504

BRICK WALL

CALLED 20.000 ACRE
DIANA LYNN BROWNING
H.C.C.F. NO. 20120595354

CALLED 12.9491 ACRE
LUCILLE E. LEWIS, TRUSTEE
H.C.C.F. NO. RP-2017-470568

10'x20' W.M.E.
H.C.C.F. NO. W364217

20' UTILITY ESMT.
F.C. NO. 537089 H.C.M.R.

±99.78'
R.O.W.

5/8" I.R. FND W/CAP "LJA ENG"

REF. PUBLIC PLANS TITLED
"TOMBALL ISD LEFT TURN LANE"
WGA, LLC
WGA P# 00788-002-01
FOR PROPOSED DRIVEWAY

PROP. 16.50' SAWCUT

PROP. SWALE
86 LF @ 0.82%

PROP. SWALE
152 LF @ 0.72%

MATCHLINE
(SEE SHEET C4.2)

0 30 60
SCALE: 1" = 30'

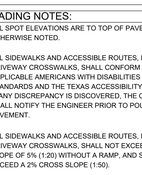
GRADING NOTES:

1. ALL SPOT ELEVATIONS ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL SIDEWALKS AND ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSWALKS, SHALL CONFORM TO ALL APPLICABLE AMERICANS WITH DISABILITIES ACT STANDARDS AND THE TEXAS ACCESSIBILITY STANDARDS. IF ANY DISCREPANCY IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO POURING ANY PAVEMENT.
3. ALL SIDEWALKS AND ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSWALKS, SHALL NOT EXCEED A RUNNING SLOPE OF 5% (1:20) WITHOUT A RAMP, AND SHALL NOT EXCEED A 2% CROSS SLOPE (1:50).
4. THE ACCESSIBLE PARKING AND PASSENGER LOADING AREAS SHALL NOT EXCEED A SLOPE OF 2% (1:50) IN ANY DIRECTION.
5. ALL EXISTING APPURTENANCES ON SITE SHALL BE ADJUSTED TO PROPOSED GRADE AS APPLICABLE.
6. CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT AND ALL ADDENDA FOR BUILDING PAD LIMITS AND PREPARATION REQUIREMENTS.
7. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND NO PONDING IN PAVED AREAS, AND SHALL NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.

GRADING LEGEND:

79.50	*EXISTING GRADE*
TC79.50	TOP OF CURB
G79.50	GUTTER
TP79.50	TOP OF PAVEMENT
TG79.50	TOP OF GRATE
79.50	PROPOSED NATURAL GROUND
79.50±ME	MATCH EXISTING
HP79.50	HIGH POINT
TW79.50	TOP OF WALL
BW79.50	BASE OF WALL
TS79.50	TOP OF STAIR
BS79.50	BOTTOM OF STAIR
(1)	TRANSITION CURB 0" - 6" WITHIN 5 FEET
	SWALE
	HIGH POINT
130	EXISTING CONTOUR
130	PROPOSED CONTOUR

KEY MAP (N.T.S.):



BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22303 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

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4526 Research Forest, Suite 360, The Woodlands, Texas 77381, 713.789.1900

SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

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GRADING PLAN
(1 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C4.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C4.1~4.2 Grading Plan.dwg Last Plotted: Thu Jul 23, 2026 – 3:42pm By: ctaogue

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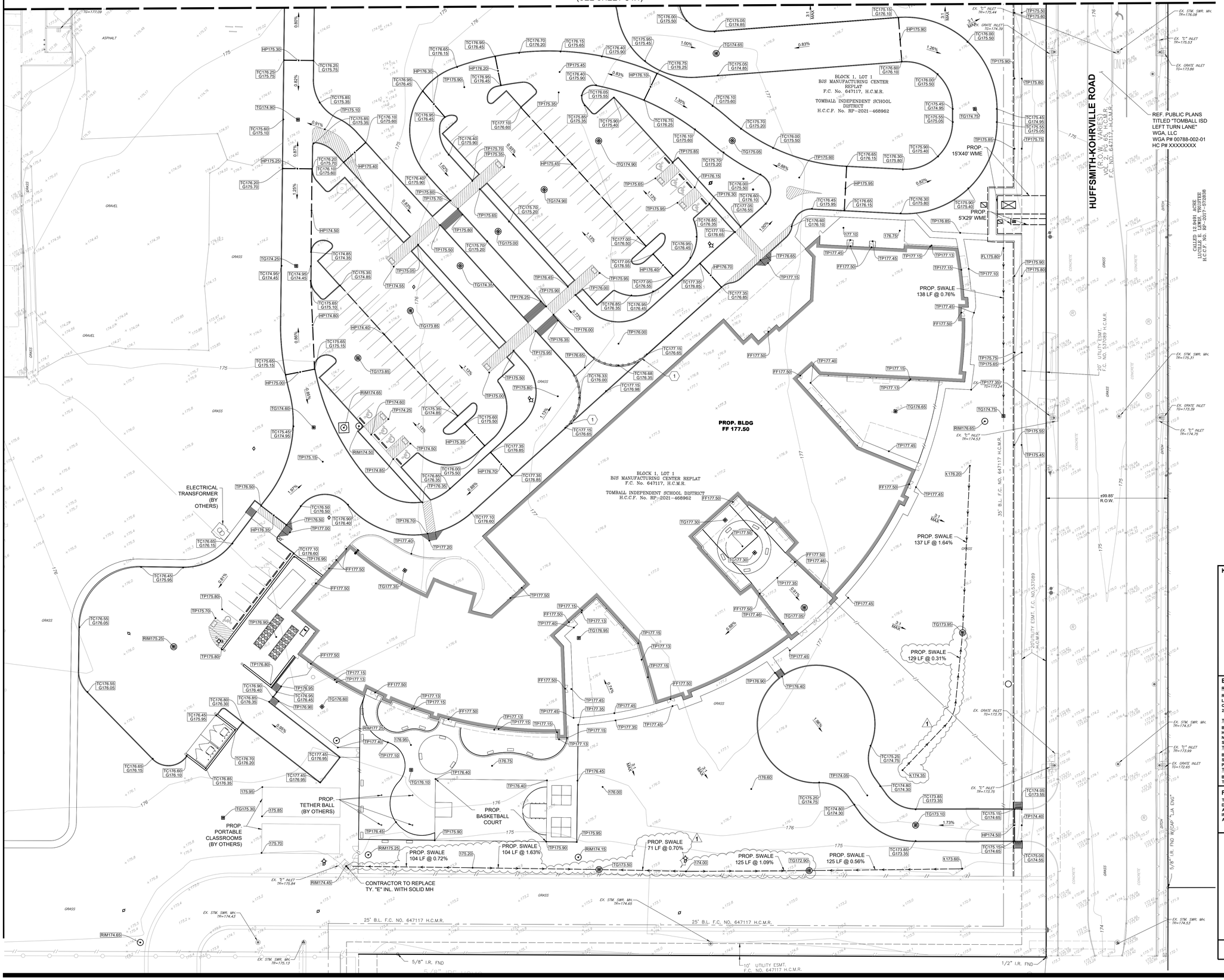
MATCHLINE
(SEE SHEET C4.1)


BLOCK 1, LOT 1
BJS MANUFACTURING CENTER REPLAT
F.C. No. 647117, H.C.M.R.
TOMBALL INDEPENDENT SCHOOL DISTRICT
H.C.C.F. No. RP-2021-468962
PROP. BLDG
FF 177.50
PROP. 15'X40' WME
PROP. 5'X29' WME
PROP. SWALE
138 LF @ 0.76%
PROP. SWALE
137 LF @ 1.64%
PROP. SWALE
129 LF @ 0.31%
PROP. SWALE
104 LF @ 0.72%
PROP. SWALE
104 LF @ 1.63%
PROP. SWALE
71 LF @ 0.70%
PROP. SWALE
125 LF @ 1.09%
PROP. SWALE
125 LF @ 0.56%
PROP. BASKETBALL COURT
PROP. TETHER BALL (BY OTHERS)
PROP. PORTABLE CLASSROOMS (BY OTHERS)
ELECTRICAL TRANSFORMER (BY OTHERS)
CONTRACTOR TO REPLACE TY. "E" INL. WITH SOLID MH
HUFFSMITH-KOHRVILLE ROAD
VOL. 20, PG. 1 VARIES O.R.
F.C. NO. 647117, H.C.M.R.
REF. PUBLIC PLANS TITLED "TOMBALL ISD LEFT TURN LANE" WGA, LLC WGA P# 00788-002-01 HC P# XXXXXXXX
CALLED 12.8499 ACRE HUFFSMITH-KOHRVILLE ROAD H.C.C.F. NO. RP-2021-774838
35' B.L. F.C. NO. 647117 H.C.M.R.
±99.85' R.O.W.
25' B.L. F.C. NO. 647117 H.C.M.R.
10' UTILITY ESMT. F.C. NO. 647117 H.C.M.R.
5/8" I.R. FND
1/2" I.R. FND
5/8" I.R. FND W/CAP "LJA ENG"
EX. STM. SWR. MH. TR=175.31
EX. STM. SWR. MH. TR=174.53
EX. STM. SWR. MH. TR=174.65
EX. STM. SWR. MH. TR=174.43
EX. STM. SWR. MH. TR=175.13
EX. STM. SWR. MH. TR=176.08
EX. "C" INLET TR=175.53
EX. GRATE INLET TG=173.86
EX. GRATE INLET TG=173.39
EX. "C" INLET TR=174.75
EX. GRATE INLET TG=173.75
EX. "C" INLET TR=173.89
EX. GRATE INLET TG=172.65
EX. "C" INLET TR=173.75
EX. "C" INLET TR=175.84
EX. "C" INLET TR=174.53
EX. GRATE INLET TG=174.39
EX. GRATE INLET TG=173.74
EX. GRATE INLET TG=174.74
EX. GRATE INLET TG=174.74
EX. GRATE INLET TG=174

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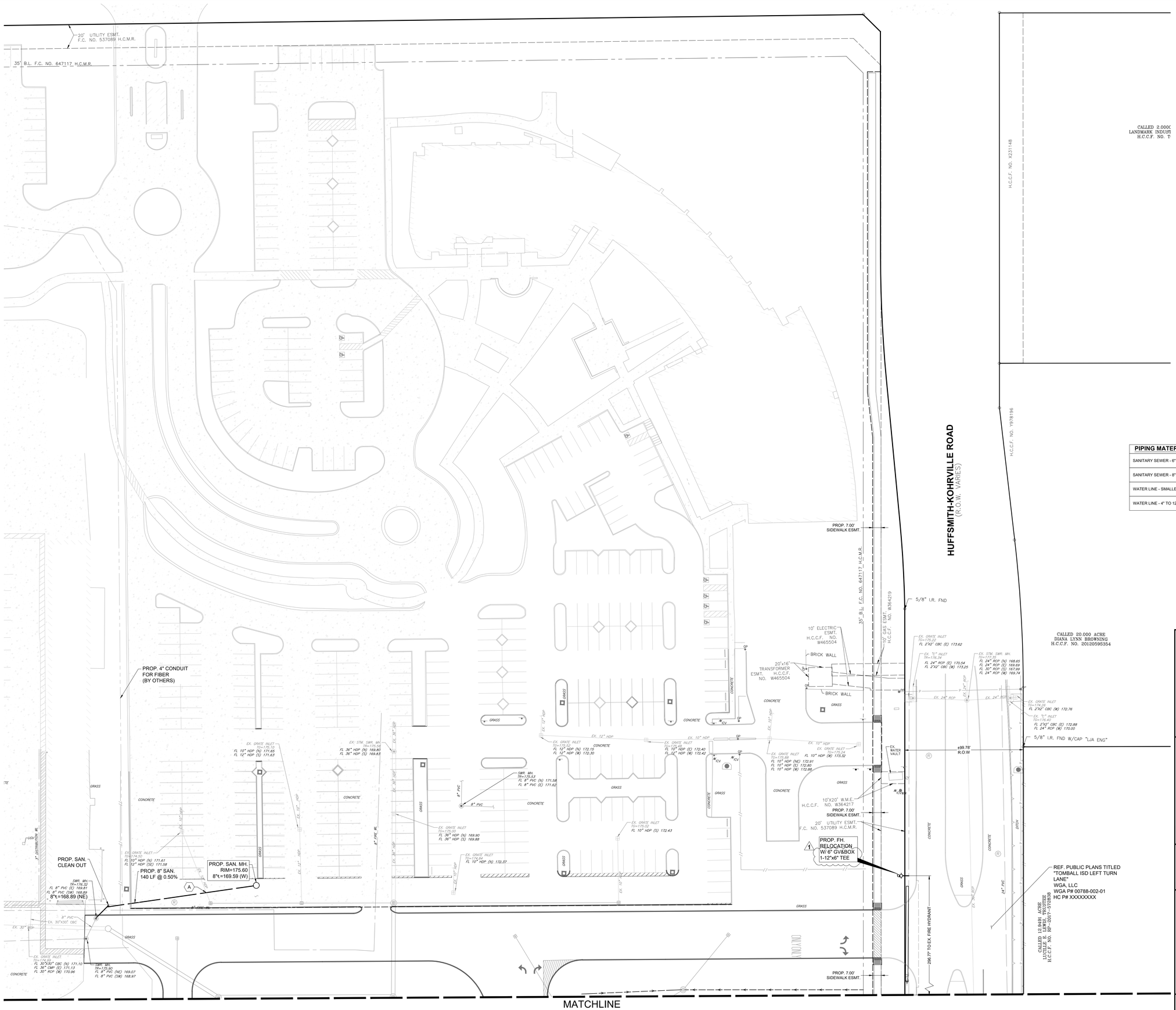

0 30 60
SCALE: 1" = 30'

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UTILITY NOTES:

1. UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY CONFLICT OR DISCREPANCIES.
2. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR SERVICE ORIGINATION AND CONNECTION.
3. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING ITEMS ONSITE.
4. CONTRACTOR SHALL KEEP THE SITE CLEAN OF DEBRIS AND ANY EROSION CONTROL MEASURES ARE ADEQUATELY PLACED.
5. CONTRACTOR TO COORDINATE LOCATIONS OF UNDERGROUND IRRIGATION SLEEVING PRIOR TO PAVING. SEE LANDSCAPE PLANS.
6. CONTRACTOR TO COORDINATE LOCATIONS OF UNDERGROUND CONDUIT FOR SITE LIGHTING PRIOR TO PAVING.
7. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 903 SAN JACINTO, RM 319, AUSTIN, TX. 78701. TEL: (512) 916-5783.
8. ALL SANITARY SEWERS CROSSING WATER LINES WITH A 6 INCHES TO 9 FEET CLEARANCE SHALL HAVE A MINIMUM OF 18' JOINT OF 150 P.S.I. SDR 26 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER PROVIDE MINIMUM 2 FOOT SEPARATION.
9. REFERENCE MEP PLANS FOR UTILITY CONDUIT LOCATIONS.

PIPING MATERIAL SCHEDULE

SANITARY SEWER - 6" AND SMALLER	SCHEDULE 40 PVC
SANITARY SEWER - 8" AND LARGER	SDR-26 PVC
WATER LINE - SMALLER THAN 4"	SCHEDULE 40 PVC AS PER ASTM D1785
WATER LINE - 4" TO 12"	PVC CLASS 150, DR-18, AWWA C-900

OVERALL LAYOUT LEGEND:

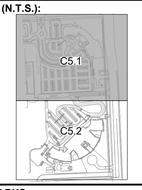
	PROPOSED SANITARY SEWER/MANHOLE/ STACK/CLEANOUT
	PROPOSED LARGE DIAMETER SANITARY SEWER/MANHOLE
	PROPOSED WATER LINE/REDUCER/ GATE VALVE/FIRE HYDRANT

UTILITY CROSSINGS:

	STORM ℄	SANITARY ℄	CLEARANCE
A	12"℄=171.63'	8"℄=169.38'	1.58'

* CLEARANCE LESS THAN ONE FOOT. CONTRACTOR TO CEMENT STABILIZE.

KEY MAP (N.T.S.):



BENCHMARKS:

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TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
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SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
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FOR
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TOMBALL, TEXAS

STATE OF TEXAS
SARA KAROUNI
145244
LICENSED
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UTILITY PLAN - WATER & SANITARY (1 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C5.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
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Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C5.1-5.2 Utility Plan- Water & Sanitary.dwg Last Plotted: Thu Jul 23, 2026 - 3:40pm By: ctreque

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MATCHLINE
(SEE SHEET C5.1)

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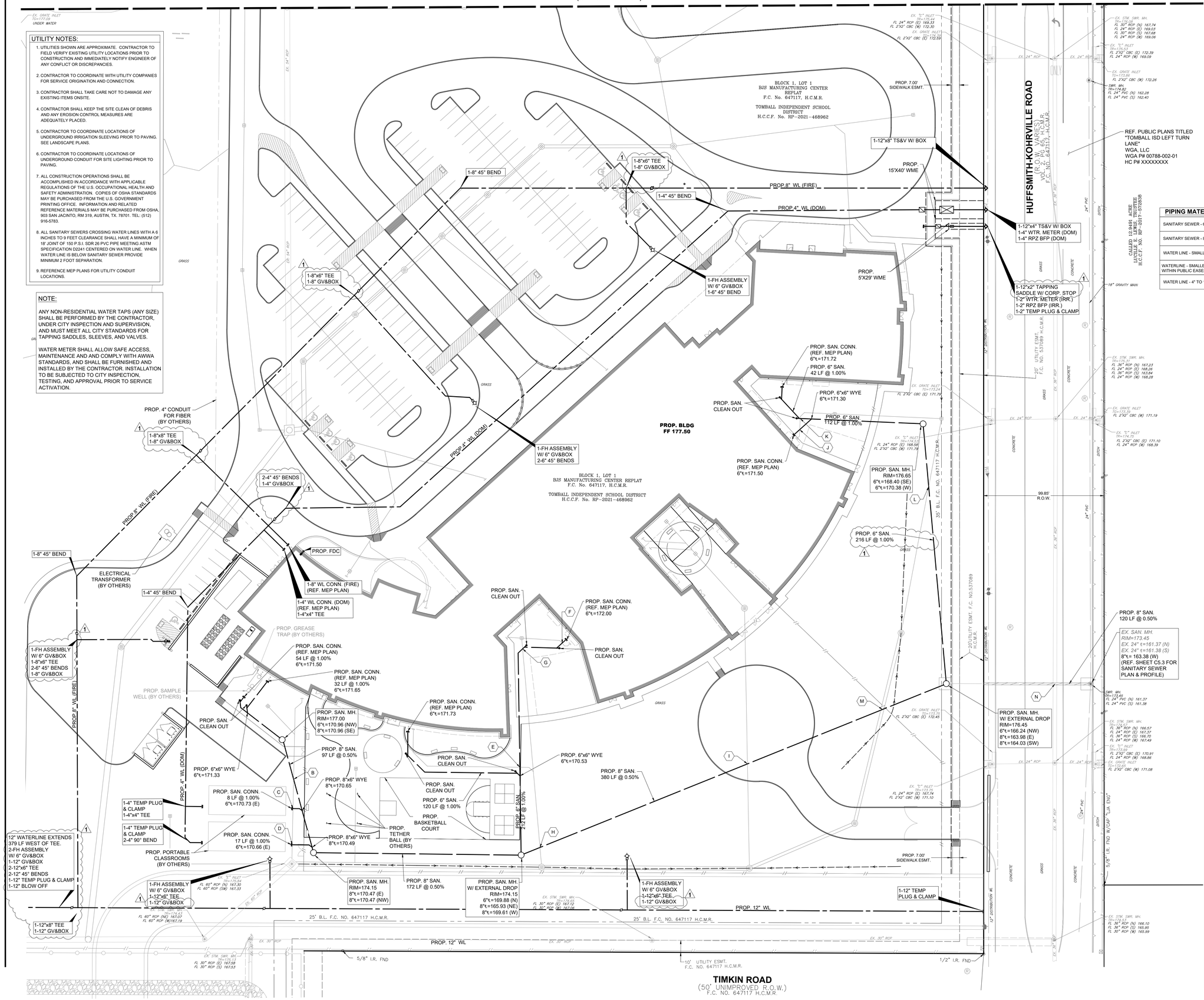
9. REFERENCE MEP PLANS FOR UTILITY CONDUIT LOCATIONS.

NOTE:

ANY NON-RESIDENTIAL WATER TAPS (ANY SIZE) SHALL BE PERFORMED BY THE CONTRACTOR, UNDER CITY INSPECTION AND SUPERVISION, AND MUST MEET ALL CITY STANDARDS FOR TAPPING SADDLES, SLEEVES, AND VALVES.

WATER METER SHALL ALLOW SAFE ACCESS, MAINTENANCE AND AND COMPLY WITH AWWA STANDARDS, AND SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. INSTALLATION TO BE SUBJECTED TO CITY INSPECTION, TESTING, AND APPROVAL PRIOR TO SERVICE ACTIVATION.



PIPING MATERIAL SCHEDULE	
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WATER LINE - SMALLER THAN 4"	SCHEDULE 40 PVC AS PER ASTM D1785
WATERLINE - SMALLER THAN 4" WITHIN PUBLIC EASEMENT OR RIGHT-OF-WAY	HDPE
WATER LINE - 4" TO 12"	PVC CLASS 150, DR-18, AWWA C-900

OVERALL LAYOUT LEGEND:

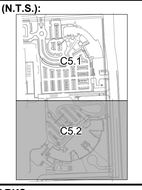
P	PROPOSED SANITARY SEWER/MANHOLE/ STACK/CLEANOUT
	PROPOSED WATER LINE/REDUCER/ GATE VALVE/FIRE HYDRANT
	PROPOSED WATER METER
	PROPOSED WATER BACKFLOW PREVENTER

UTILITY CROSSINGS:

	STORM ℄	SANITARY ℄	CLEARANCE
B	6"℄=169.20'	8"℄=170.79'	1.09'
C	6"℄=168.97'	6"℄=170.72'	1.25'
D	6"℄=168.67'	6"℄=170.65'	1.48'
E	6"℄=168.85'	8"℄=170.60'	1.25'
F	8"℄=169.36'	6"℄=171.95'	1.92'
G	15"℄=168.07'	6"℄=171.60'	1.90'
H	15"℄=168.52'	8"℄=165.84'	2.01'
I	15"℄=168.94'	8"℄=164.92'	3.35'
J	6"℄=172.42'	6"℄=171.43'	0.49'
K	6"℄=172.32'	6"℄=171.39'	0.43'
L	24"℄=169.47'	6"℄=167.88'	1.09'
M	30"℄=168.41'	8"℄=164.31'	3.43'
N	36"℄=166.24'	8"℄=163.52'	2.05'

* CLEARANCE LESS THAN ONE FOOT. CONTRACTOR TO CEMENT STABILIZE.

KEY MAP (N.T.S.):



BENCHMARKS:

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SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER
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UTILITY PLAN - WATER & SANITARY (2 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C5.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

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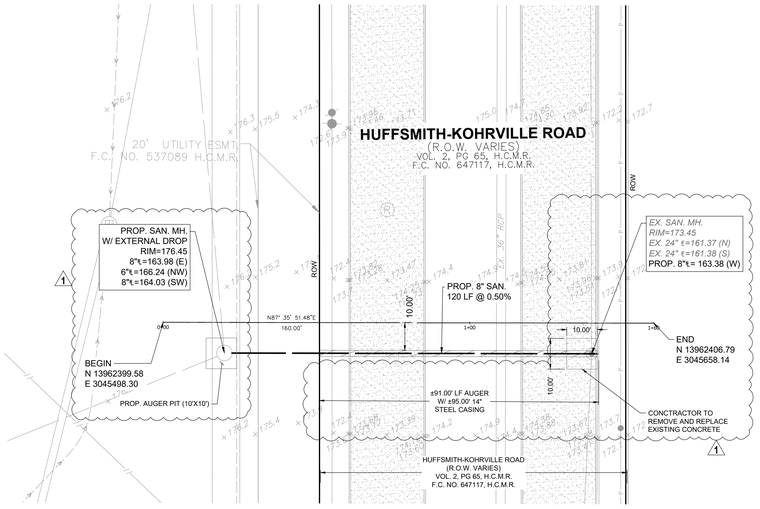
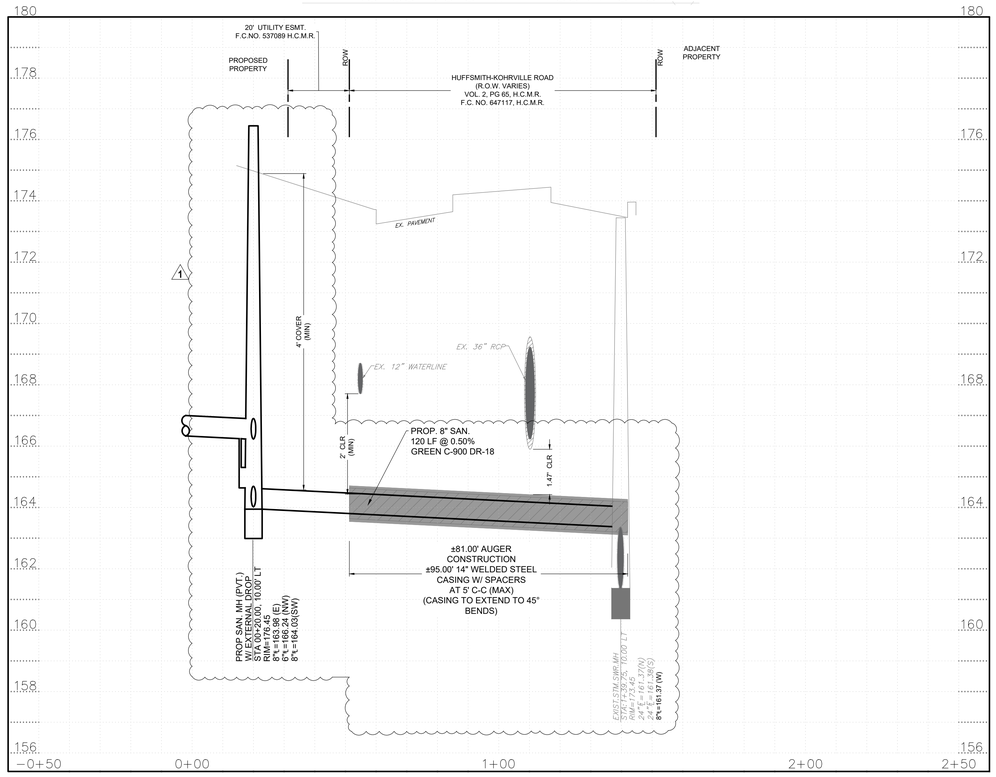
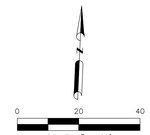


PROPOSED 8" SANITARY CONNECTION





Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

1 LEGEND:

	EXISTING PAVEMENT (CONCRETE/ASPHALT AS NOTED)
	PROPOSED CONCRETE PAVEMENT (MATCH EXISTING CONCRETE THICKNESS AND REINFORCING)

KEY MAP (N.T.S.):

BENCHMARKS:

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4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
H: 1"=20' V: 1"=2'	AH	CT

Sara Karouni
STATE OF TEXAS
SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

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PLAN & PROFILE - 8" SANITARY SEWER
VOLUME 01

Job No.	Sheet No.
00788-002	C5.3
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01, Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C5.3 Sanitary Sewer P&P.dwg Last Plotted: Thu Jul 23, 2026 - 3:34pm By: ctoague

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20' UTILITY ESMT.
F.C. NO. 537089 H.C.M.R.

35' B.L. F.C. NO. 647117 H.C.M.R.

PROP. 4" CONDUIT
FOR FIBER
(BY OTHERS)

PROP. TY. "C" MH
RIM=175.80
EX. 36"¢ =171.15 (E)
36"¢=171.15 (SE)

PROP. TY. "A" INL. (C1)
TG=175.60±ME
EX. 12"¢ =171.63 (NW)
12"¢=171.63 (E)

PROP. TY. "A" INL. (C1)
TG=175.55±ME
EX. 12"¢ =171.39 (N)
12"¢=171.29 (W, E)

PROP. TY. "A" INL. (C1)
TG=175.05±ME
EX. 10"¢ =172.32 (N)
12"¢=172.20 (W)

PROP. TY. "A" INL. (A1)
TG=174.20
12"¢=170.56 (SW)

PROP. TY. "A" INL. (A3.1)
TG=174.85
12"¢=170.21 (SE)

PROP. TY. "A" INL. (A2)
TG=173.70
12"¢=170.30 (NE)
15"¢=170.05 (SW)

PROP. TY. "A" INL. (B1)
TG=174.50
12"¢=168.55 (S)

PROP. TY. "C" MH
W/ GRATE TOP
RIM=175.30
36"¢=171.03 (NW)
42"¢=169.44 (E)
EX. 54"¢ =169.01 (S)

PROP. TY. "C" MH
W/ GRATE TOP
RIM=175.35
36"¢=169.56 (N)
42"¢=169.56 (W)

PROP. TY. "C" MH. (C1)
W/ GRATE TOP
TG=175.80±ME
12"¢=170.95 (W)
12"¢=171.36 (E)
EX. 36"¢ =169.65 (N)
36"¢=169.65 (S)

PROP. 36" STM.
109 LF @ 0.11%

PROP. 36" STM.
79 LF @ 0.11%

PROP. 12" STM.
77 LF @ 0.44%

PROP. 12" STM.
77 LF @ 0.44%

PROP. 12" STM.
190 LF @ 0.44%

PROP. 12" STM.
111 LF @ 0.44%

PROP. 12" STM.
60 LF @ 0.44%

PROP. 42" STM.
147 LF @ 0.082%

EX. GRATE INLET
TG=175.10
FL 10" HDP (N) 171.65
FL 12" HDP (S) 171.63

EX. STM. SWR. MH.
TH=175.56
FL 36" HDP (N) 169.80
FL 36" HDP (S) 169.83

EX. GRATE INLET
TG=175.00
FL 36" HDP (N) 169.90
FL 36" HDP (S) 169.88

EX. GRATE INLET
TG=174.60
FL 10" HDP (N) 172.37

EX. GRATE INLET
TG=175.52
FL 12" HDP (N) 172.15
FL 12" HDP (W) 172.30

EX. GRATE INLET
TG=175.46
FL 10" HDP (E) 172.40
FL 12" HDP (W) 172.42

EX. GRATE INLET
TG=175.88
FL 10" HDP (NE) 172.91
FL 10" HDP (E) 172.85
FL 10" HDP (W) 172.88

EX. GRATE INLET
TG=175.34
FL 10" HDP (S) 172.88

SWR. MH.
TH=175.53
FL 8" PVC (N) 171.58
FL 8" PVC (E) 171.62

SWR. MH.
TH=176.32
FL 8" PVC (E) 169.81
FL 8" PVC (SW) 168.89

SWR. MH.
TH=175.90
FL 8" PVC (NE) 169.07
FL 8" PVC (SW) 168.97

EX. GRATE INLET
TG=176.22
FL 2'X2' CBC (E) 173.62

EX. "C" INLET
TH=176.34
FL 24" RCP (E) 170.54
FL 2'X3' CBC (W) 173.25

EX. STM. SWR. MH.
TG=177.35
FL 24" RCP (N) 168.65
FL 24" RCP (E) 169.69
FL 30" RCP (S) 167.99
FL 24" RCP (W) 169.74

EX. GRATE INLET
TG=174.26
FL 2'X2' CBC (W) 172.76

EX. "C" INLET
TG=176.40
FL 2'X2' CBC (E) 172.88
FL 24" RCP (W) 170.00

EX. GRATE INLET
TG=176.40
FL 2'X2' CBC (W) 173.10
FL 36" CMP (E) 171.14
FL 30" RCP (W) 170.96

EX. 30"X30" CBC

EX. 8" PVC

EX. 24" RCP

EX. 30" RCP

EX. 12" HDP

EX. 24" HDP

EX. 36" HDP

EX. 10" HDP

8" PVC

24" PVC

5" CONNECTION WL

10" ELECTRIC ESMT. H.C.C.F. NO. W465504

20'x16' TRANSFORMER ESMT. H.C.C.F. NO. W465504

BRICK WALL

10' GAS ESMT. H.C.C.F. NO. W364219

5/8" I.R. FND

5/8" I.R. FND W/CAP "LJA ENG"

10'X20' W.M.E. H.C.C.F. NO. W364217

20' UTILITY ESMT. F.C. NO. 537089 H.C.M.R.

±99.78' R.O.W.

HUFFSMITH-KOHRVILLE ROAD
(R.O.W. VARIES)

35' B.L. F.C. NO. 647117 H.C.M.R.

H.C.C.F. NO. X231148

H.C.C.F. NO. Y978196

CALLED 2.000(
LANDMARK INDUST
H.C.C.F. NO. T

CALLED 20.000 ACRE
DIANA LYNN BROWNING
H.C.C.F. NO. 20120595354

CALLED 12.9491 ACRE
LUCILLE E. LEWIS, TRUSTEE
H.C.C.F. NO. RP-2017-42726

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WGA, LLC
WGA P# 00788-002-01
HC P# XXXXXXXX

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UTILITY NOTES:

1. UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY CONFLICT OR DISCREPANCIES.
2. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES FOR SERVICE ORIGINATION AND CONNECTION.
3. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING ITEMS ONSITE.
4. CONTRACTOR SHALL KEEP THE SITE CLEAN OF DEBRIS AND ANY EROSION CONTROL MEASURES ARE ADEQUATELY PLACED.
5. CONTRACTOR TO COORDINATE LOCATIONS OF UNDERGROUND IRRIGATION SLEEVING PRIOR TO PAVING. SEE LANDSCAPE PLANS.
6. CONTRACTOR TO COORDINATE LOCATIONS OF UNDERGROUND CONDUIT FOR SITE LIGHTING PRIOR TO PAVING.
7. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 903 SAN JACINTO, RM 319, AUSTIN, TX. 78701. TEL: (512) 916-5783.
8. ALL SANITARY SEWERS CROSSING WATER LINES WITH A 6 INCHES TO 9 FEET CLEARANCE SHALL HAVE A MINIMUM OF 18' JOINT OF 150 P.S.I. SDR 26 PVC PIPE MEETING ASTM SPECIFICATION D2241 CENTERED ON WATER LINE. WHEN WATER LINE IS BELOW SANITARY SEWER PROVIDE MINIMUM 2 FOOT SEPARATION.
9. REFERENCE MEP PLANS FOR UTILITY CONDUIT LOCATIONS.

PIPING MATERIAL SCHEDULE

STORM SEWER - SMALLER THAN 12"	SDR-35 PVC PER ASTM D3034
STORM SEWER - 12" OR LARGER (PRIVATE)	DUAL-WALLED HDPE, AASHTO M252 & M294
STORM SEWER - WITHIN PUBLIC EASEMENT OR RIGHT-OF-WAY	RCP, C-76, CLASS III
STORM SEWER - UNDERNEATH BUILDING	SCHEDULE 40 PVC

OVERALL LAYOUT LEGEND:

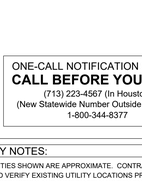
	PROPOSED STORM SEWER/MANHOLE
	PROPOSED LARGE DIAMETER STORM SEWER/MANHOLE
	PROPOSED STORM SEWER/CURB INLET/ GRATE INLET

UTILITY CROSSINGS:

	STORM ¢	SANITARY ¢	CLEARANCE
(A)	12"¢=171.63'	8"¢=169.38'	1.58'

* CLEARANCE LESS THAN ONE FOOT. CONTRACTOR TO CEMENT STABILIZE.

KEY MAP (N.T.S.):



BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22303 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFFSMITH-KOHRVILLE RAD ±1,170' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

WGA
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2500 Tanglewilde, Suite 120
Houston, Texas 77063
713.789.1900
4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Sara Karouni
SARA KAROUNI
145244
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UTILITY PLAN - STORM SEWER (1 OF 2)
VOLUME 01

Job No.	Sheet No.
00788-002	C6.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C6.1-6.2 Utility Plan- Storm.dwg Last Plotted: Thu Jul 23, 2026 - 3:35pm By: ctaogue

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MATCHLINE
(SEE SHEET C6.1)

N

0 30 60
SCALE: 1" = 30'

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9. REFERENCE MEP PLANS FOR UTILITY CONDUIT LOCATIONS.

EX. GRATE INLET TG=177.09 UNDER WATER
ASPHALT
EX. 24" RCP
PROP. 12" STM. 148 LF @ 0.44%
PROP. TY. "A" INL. (B2) TG=174.90 12"ϕ=167.90 (N) 15"ϕ=167.90 (S)
PROP. 15" STM. 120 LF @ 0.33%
PROP. TY. "A" INL. (B3) TG=174.25 15"ϕ=167.50 (N) 18"ϕ=167.50 (SE)
GRASS
PROP. 18" STM. 133 LF @ 0.26%
PROP. J-BOX RIM=174.65 24"ϕ=167.11 (NW) 42"ϕ=167.11 (E) 54"ϕ =168.10 (W) 60"ϕ=167.11 (SW)
PROP. TY. "A" INL. (B4) TG=174.60 18"ϕ=167.16 (N) 24"ϕ=167.16 (E)
GRAVEL
PROP. 4" CONDUIT FOR FIBER (BY OTHERS)
GRASS
PROP. 24" STM. 25 LF @ 0.18%
PROP. 60" STM. 207 LF @ 0.051%
PROP. 42" STM. 56 LF @ 0.082%
PROP. 42" STM. 12 LF @ 0.082%
PROP. 42" STM. 207 LF @ 0.082%
PROP. TY. "C" MH. (A9) W/ GRATE TOP TG=173.85 36"ϕ=167.46 (NE) 42"ϕ=167.21 (SW)
PROP. TY. "C" MH. (A10) W/ GRATE TOP TG=173.85 42"ϕ=167.16 (NE) 42"ϕ=167.16 (S)
PROP. TY. "C" (MH1) RIM=174.50 8"ϕ=169.75 (SE) 42"ϕ=167.12 (N, W)
PROP. 8"x6" WYE 8"ϕ=170.27
6"ϕ=171.09 (S)
PROP. TY. "C" (A11) RIM=175.00 60"ϕ=166.99 (NE, SW)
PROP. TY. "C" (MH3) RIM=174.65
EX. 60" ϕ =166.87±ME (N)
60"ϕ=166.87 (N)
EX. STM. SWR. MH. (MH4) TG=174.40±ME 60" ϕ =167.07 (NE) ±ME 60" ϕ =167.19 (W) ±ME
EX. STM. SWR. MH. TW=174.45 FL 60" RCP (NE) 167.07 FL 60" RCP (W)167.19
EX. 60" RCP
EX. 30" RCP
EX. STM. SWR. MH. TW=175.13 FL 30" RCP (E) 167.58 FL 30" RCP (S) 167.53
EX. "E" INL. (C6) CONTRACTOR TO TIE INTO EX. INL. AND REPLACE TY "E" INL. TOP WITH SOLID MH TOP TG=174.45 6"ϕ=168.51 (N) 15"ϕ=170.80 (W) 42"ϕ=167.30 (E) EX. 60" ϕ =167.30± (SW)
EX. "E" INLET TW=175.84 FL 60" RCP (N) 167.55 FL 60" RCP (SW) 167.33
5/8" I.R. FND
1/2" I.R. FND
25' B.L. F.C. NO. 647117 H.C.M.R.
10' UTILITY ESMT. F.C. NO. 647117 H.C.M.R.

1 PROP. TY. "C" MH. (A3) W/ GRATE TOP TG=174.65 12"ϕ=169.73 (NW) 15"ϕ=169.73 (NE) 24"ϕ=169.48 (SW)
PROP. 15" STM. 98 LF @ 0.33%
PROP. 24" STM. 73 LF @ 0.18%
PROP. TY. "A" INL. (A4) TG=175.05 6"ϕ=170.89 (SE) 18"ϕ=170.29 (NE) 24"ϕ=169.34 (NE) 30"ϕ=168.84 (W)
BLOCK 1, LOT 1 BJS MANUFACTURING CENTER REPLAT F.C. No. 647117, H.C.M.R.
TOMBALL INDEPENDENT SCHOOL DISTRICT H.C.C.F. No. RP-2021-468962
PROP. TY. "C" MH. (A5) W/ GRATE TOP TG=174.90 30"ϕ=168.20 (SW) 30"ϕ=168.70 (E)
PROP. TY. "C" MH. (A6) W/ GRATE TOP TG=174.90 30"ϕ=168.12 (NE) 36"ϕ=168.12 (SW)
PROP. 30" STM. 60 LF @ 0.13%
PROP. 30" STM. 110 LF @ 0.13%
PROP. 18" STM. 201 LF @ 0.26%
18"ϕ=170.65
PROP. CB (A4.1) TG=174.75 18"ϕ=170.82 (SW)
PROP. 36" STM. 51 LF @ 0.11%
PROP. TY. "C" MH. (A7) W/ GRATE TOP TG=175.00 8"ϕ=170.61 (SE) 36"ϕ=168.07 (NE) 36"ϕ=167.57 (SW)
PROP. TY. "C" MH. (A8) W/ GRATE TOP TG=174.35 36"ϕ=167.52 (NE) 36"ϕ=167.52 (SW)
PROP. 36" STM. 42 LF @ 0.11%
PROP. 36" STM. 55 LF @ 0.11%
PROP DS CONN. (REF MEP PLANS) 176 LF @ 0.75% 8"ϕ=171.93
PROP DS CONN. (REF MEP PLANS) 101 LF @ 1.00% 6"ϕ=171.90
PROP DS CONN. (REF MEP PLANS) 102 LF @ 1.00% 6"ϕ=171.67
PROP. CB RIM=176.65 6"ϕ=172.01 (E, W)
PROP. CB (C1) TG=174.75 6"ϕ=171.12 (W) 24"ϕ=169.57 (S)
PROP. CB RIM=177.30 8"ϕ=170.26 (SW)
PROP. 8" STM. 36 LF @ 0.75%
8"ϕ=170.08
PROP DS CONN. (REF MEP PLANS) 49 LF @ 1.00% 6"ϕ=172.50
PROP. 6" STM. 89 LF @ 1.00%
PROP DS CONN. (REF MEP PLANS) 26 LF @ 1.00% 6"ϕ=170.29
PROP. CB RIM=177.30 8"ϕ=169.99 (SW)
PROP. TY "A" INL. (C4.1) TG=177.05 8"ϕ=169.53 (NW) 15"ϕ=169.37 (S)
PROP DS CONN. (REF MEP PLANS) 156 LF @ 0.75% 8"ϕ=170.92 (S)
PROP DS CONN. (REF MEP PLANS) 37 LF @ 1.00% 6"ϕ=170.45
PROP DS CONN. (REF MEP PLANS) 35 LF @ 1.00% 6"ϕ=170.37
PROP. CB (C5.1) TG=176.55 6"ϕ=170.43 (NW) 8"ϕ=169.10 (E) 15"ϕ=168.10 (S)
8"ϕ=170.03 6"ϕ=170.02
PROP. 8" STM. 61 LF @ 0.75%
PROP DS CONN. (REF MEP PLANS) 43 LF @ 0.75% 8"ϕ=169.42
PROP. CB (C2) TG=173.20 24"ϕ=169.24 (NE) 30"ϕ=168.49 (SW)
PROP. 15" STM. 216 LF @ 0.33%
PROP. 30" STM. 162 LF @ 0.13%
PROP. 30" STM. 95 LF @ 0.13%
PROP. CB RIM=177.40 6"ϕ=171.39 (SW)
PROP DS CONN. (REF MEP PLANS) 117 LF @ 1.00% 6"ϕ=171.44
PROP. GENERATOR (BY OTHERS)
6"ϕ=171.86
PROP DS CONN. (REF MEP PLANS) 83 LF @ 1.00% 6"ϕ=171.92
PROP DS CONN. (REF MEP PLANS) 3 LF @ 1.00% 6"ϕ=171.89
PROP. CB RIM=176.60 32 LF @ 1.00% 6"ϕ=169.91 (S)
PROP DS CONN. (REF MEP PLANS) 140 LF @ 1.00% 6"ϕ=169.91
PROP DS CONN. (REF MEP PLANS) 49 LF @ 1.00% 6"ϕ=170.92
PROP DS CONN. (REF MEP PLANS) 123 LF @ 1.00% 6"ϕ=168.96
6"ϕ=169.59
PROP. TETHER BALL (BY OTHERS)
PROP. CB RIM=176.10 15"ϕ=167.48 (S)
15"ϕ=167.73
PROP. BASKETBALL COURT
PROP. 15" STM. 78 LF @ 0.33%
PROP. 15" STM. 191 LF @ 0.33%
PROP. CB RIM=175.30 15"ϕ=171.26 (S)
PROP. 15" STM. 139 LF @ 0.33%
PROP. PORTABLE CLASSROOMS (BY OTHERS)
42"ϕ=167.22
PROP. 42" STM. 207 LF @ 0.082%
PROP. CB (C5) TG=173.50 15"ϕ=167.47 (N) 36"ϕ=167.47 (E) 42"ϕ=167.47 (W)
PROP. 36" STM. 173 LF @ 0.11%
PROP. CB (C4) TG=172.90 15"ϕ=168.66 (N) 30"ϕ=167.66 (NE) 36"ϕ=167.66 (W)
PROP. TY "A" INL. (C3) TG=173.10 30"ϕ=168.28 (NE) 30"ϕ=167.78 (SW)
EX. TY "E" INL. (C6)
PROP. BLDG FF 177.50
BLOCK 1, LOT 1 BJS MANUFACTURING CENTER REPLAT F.C. No. 647117, H.C.M.R.
TOMBALL INDEPENDENT SCHOOL DISTRICT H.C.C.F. No. RP-2021-468962
25' B.L. F.C. NO. 647117 H.C.M.R.
35' B.L. F.C. NO. 647117 H.C.M.R.
PROP. 24" STM. 181 LF @ 0.18%
GRASS
CONCRETE

EX. "C" INLET TG=175.44 FL 24" RCP (E) 169.33 FL 2'X2' CBC (W) 172.50
EX. GRATE INLET TG=175.55 FL 2'X2' CBC (E) 172.55
EX. 24" RCP
EX. STM. SWR. MH. TW=176.08 FL 30" RCP (N) 167.74 FL 24" RCP (E) 169.03 FL 30" RCP (S) 167.68 FL 24" RCP (W) 169.06
EX. "C" INLET TG=175.53 FL 2'X2' CBC (E) 172.39 FL 24" RCP (W) 169.09
EX. GRATE INLET TG=173.86 FL 3'X2' CBC (W) 172.26
SWR. MH. TW=174.82 FL 24" PVC (N) 162.28 FL 24" PVC (S) 162.40
HUFFSMITH-KOHRVILLE ROAD
REF. PUBLIC PLANS TITLED "TOMBALL ISD LEFT TURN LANE" WGA, LLC WGA P# 00788-002-01 HC P# XXXXXXXX
CULLED 12.8491 ACRE TRACT DESCRIBED IN H.C.C.F. NO. RP-2017-573838
20' UTILITY ESMT. F.C. NO. 537089 H.C.M.R.
12" DISTRIBUTION ln.
24" PVC
DITCH
18" GRAVITY MAIN
EX. STM. SWR. MH. TW=175.11 FL 36" RCP (N) 167.23 FL 24" RCP (E) 168.24 FL 36" RCP (S) 163.64 FL 24" RCP (W) 168.28
EX. GRATE INLET TG=173.59 FL 2'X2' CBC (W) 171.19
EX. "C" INLET TW=174.75 FL 3'X2' CBC (E) 171.10 FL 24" RCP (W) 168.39
EX. GRATE INLET TG=173.24 FL 3'X2' CBC (E) 171.79
EX. "C" INLET TW=174.53 FL 24" RCP (E) 168.58 FL 2'X2' CBC (W) 171.79
EX. GRATE INLET TG=173.75 FL 2'X2' CBC (E) 172.45
EX. "C" INLET TW=174.75 FL 24" RCP (E) 167.74 FL 2'X2' CBC (W) 171.10
EX. 36" RCP
EX. 24" RCP
SWR. MH. TW=173.45 FL 24" PVC (N) 161.37 FL 24" PVC (S) 161.38
EX. STM. SWR. MH. TW=174.10 FL 24" RCP (N) 166.57 FL 24" RCP (E) 163.37 FL 24" RCP (S) 166.70 FL 24" RCP (W) 167.49
EX. "C" INLET TW=173.99 FL 2'X2' CBC (E) 170.91 FL 24" RCP (W) 168.86
EX. GRATE INLET TG=170.65 FL 2'X2' CBC (W) 171.08
EX. STM. SWR. MH. TW=176.51 FL 24" RCP (N) 166.10 FL 36" RCP (S) 165.95 FL 30" RCP (W) 165.99
5/8" I.R. FND W/CAP "LJA ENG"
99.85' R.O.W.

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PIPING MATERIAL SCHEDULE

STORM SEWER - SMALLER THAN 12"	SDR-35 PVC PER ASTM D3034
STORM SEWER - 12" OR LARGER (PRIVATE)	DUAL-WALLED HDPE, AASHTO M252 & M294
STORM SEWER - WITHIN PUBLIC EASEMENT OR RIGHT-OF-WAY	RCP, C-76, CLASS III
STORM SEWER - UNDERNEATH BUILDING	SCHEDULE 40 PVC

OVERALL LAYOUT LEGEND:

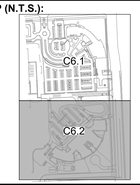
	PROPOSED STORM SEWER/MANHOLE
	PROPOSED LARGE DIAMETER STORM SEWER/MANHOLE
	PROPOSED STORM SEWER/CURB INLET/ GRATE INLET

UTILITY CROSSINGS:

	STORM ϕ	SANITARY ϕ	CLEARANCE
B	6"ϕ=169.20'	8"ϕ=170.79'	1.09'
C	6"ϕ=168.97'	6"ϕ=170.72'	1.25'
D	6"ϕ=168.67'	6"ϕ=170.65'	1.48'
E	6"ϕ=168.85'	8"ϕ=170.60'	1.25'
F	8"ϕ=169.36'	6"ϕ=171.95'	1.92'
G	15"ϕ=168.07'	6"ϕ=171.60'	1.90'
H	15"ϕ=168.52'	8"ϕ=165.84'	2.01'
I	15"ϕ=168.94'	8"ϕ=164.92'	3.35'
J	6"ϕ=172.42'	6"ϕ=171.43'	0.49'
K	6"ϕ=172.32'	6"ϕ=171.39'	0.43'
L	24"ϕ=169.47'	6"ϕ=167.88'	1.09'
M	30"ϕ=168.41'	8"ϕ=164.31'	3.43'
N	36"ϕ=166.24'	8"ϕ=163.52'	2.05'

* CLEARANCE LESS THAN ONE FOOT. CONTRACTOR TO CEMENT STABILIZE.

KEY MAP (N.T.S.):



BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22303 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,170' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120 Houston, Texas 77063 713.789.1900
4526 Research Forest, Suite 360 The Woodlands, Texas 77381 713.789.1900

SCALE	DESIGN	DRAWN
1"=30'	AH	CT

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER 1/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

UTILITY PLAN - STORM SEWER (2 OF 2) VOLUME 01

Job No.	Sheet No.
00788-002	C6.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00002-04-01_Tomball ISD IS Replacement_ARCH.rvt

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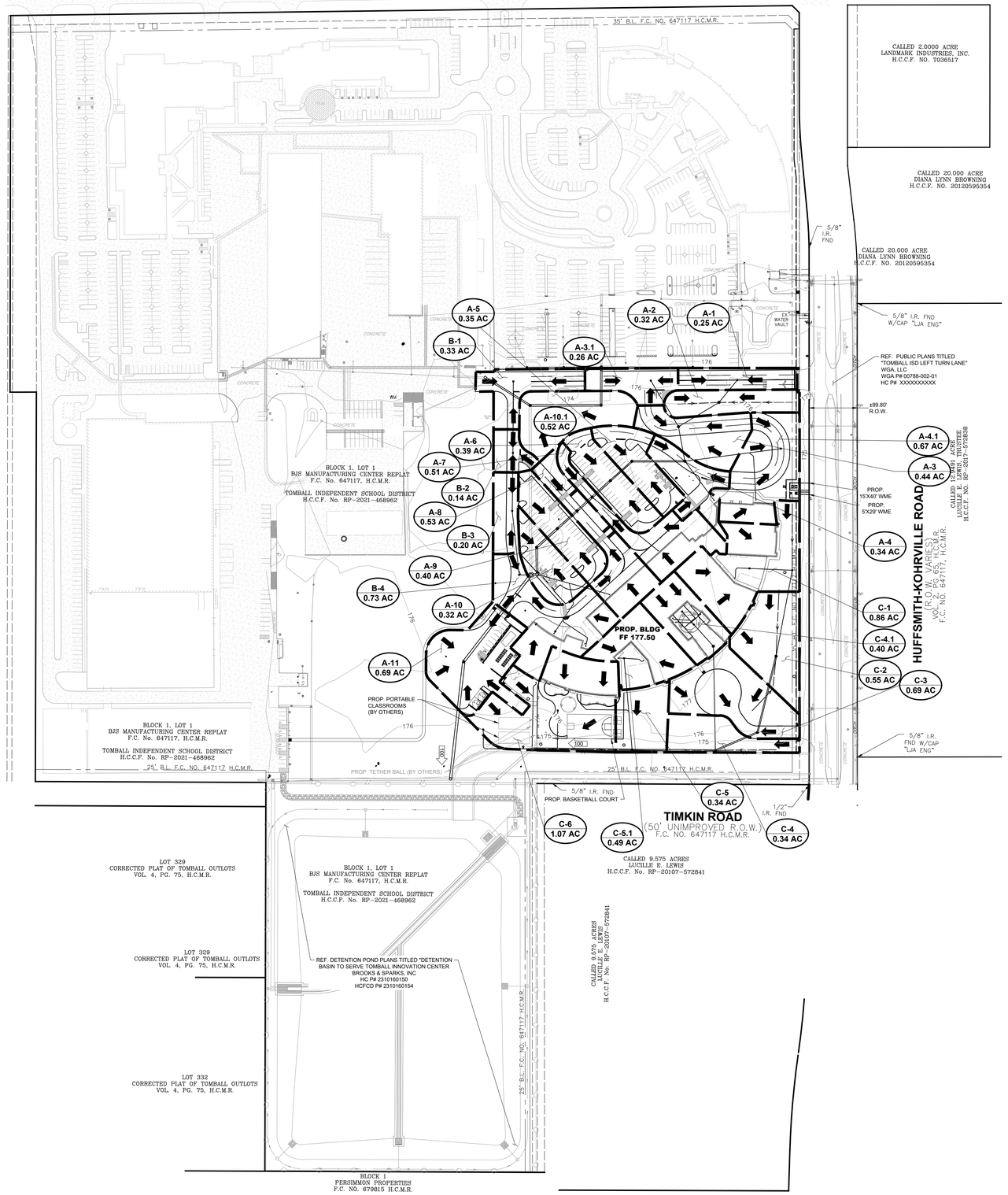

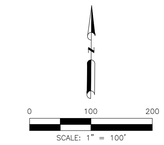

DRAINAGE AREA MAP LEGEND:

A 1.52 AC	DRAINAGE AREA AREA IN ACRES
	DRAINAGE BOUNDARY
	25-YEAR SHEET FLOW
100	100-YEAR SHEET FLOW
	OFF-SITE SHEET FLOW
130	EXISTING CONTOUR

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

KEY MAP (N.T.S.):

BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 22803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

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4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
1"=100'	AH	CT

DRAINAGE AREA MAP

VOLUME 01

Job No.	Sheet No.
00788-002	C7.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 5:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01, Tomball ISD IS Replacement, ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C7.1 Drainage Area Map.dwg Last Plotted: Thu Jul 23, 2026 – 3:38pm By: ctaogue

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WGA

STORM SEWER CALCULATIONS

Project: Tomball ISD Intermediate School Replacement
Job No: 00788-002
System: A, B & C
By: AH
DATE 7-22-2026
Rainfall Frequency (years): 25

$$I = \frac{b}{(t_c + d)^e}$$

C_f = 1.00
b = 54.97
d = 6.27
e = 0.6446

Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\400 Engineering\403 Drainage\[2026.06.07 Tomball ISD StormCalcs .xls]DESIGN (25-year)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
											LINE						DESIGN			HYD. GRAD												
ID	From MH	To MH	Sub Area Acres	Total Area Acres	Sub Runoff Coeff. C	Sub Runoff Coeff. $C'C_f$	Sum of $CF'C'A$	Time of Conc. min.	Intensity I (In / Hr.)	Sum of Flows cfs Q	Reach Length Feet	Dia. in. or Rise (ft)	# of Pipes/ Boxes	Width of box (ft)	Slope %	Mannings n"	Capacity cfs Q	Velocity fps	drop at down stream manhole	Actual Velocity fps	Hydraulic Gradient %	Change in Head Ft.	Elev. Up Stream	Elev. Down Stream	TG/ Gutter Elevation Upstream	TG/ Gutter Elevation Downstream	MH UP	flowline upstream	MH DOWN	flowline downstream	Top of Pipe (upstream)	Top of Pipe downstream
"A"	1	2	0.25	0.25	0.80	0.80	0.20	16.60	7.31	1.46	60	12	1		0.44	0.012	2.57	3.27	0.25	3.37	0.143	0.086	172.73	172.64	174.20	173.70	1	170.56	2	170.30	171.56	171.30
"A"	2	3	0.32	0.57	0.80	0.80	0.46	16.91	7.25	3.31	98	15	1		0.33	0.012	4.03	3.28	0.25	3.65	0.223	0.219	172.64	172.42	173.70	174.65	2	170.05	3	169.73	171.30	170.98
"A"	3	4	0.44	1.27	0.80	0.80	1.02	17.40	7.15	7.26	73	24	1		0.18	0.012	10.43	3.32	0.50	3.58	0.088	0.064	172.42	172.36	174.65	175.05	3	169.48	4	169.34	171.48	171.34
"A"	4	5	0.34	2.18	0.80	0.80	1.74	17.77	7.08	12.35	110	30	1		0.13	0.012	16.06	3.27	0.50	3.60	0.077	0.085	172.36	172.27	175.05	174.90	4	168.84	5	168.70	171.34	171.20
"A"	5	6	0.35	2.53	0.80	0.80	2.02	18.33	6.97	14.12	60	30	1		0.13	0.012	16.06	3.27	0.00	3.69	0.101	0.061	172.27	172.21	174.90	174.90	5	168.20	6	168.12	170.70	170.62
"A"	6	7	0.39	2.92	0.80	0.80	2.34	18.64	6.92	16.16	51	36	1		0.11	0.012	24.03	3.40	0.50	3.65	0.050	0.026	172.21	172.19	174.90	175.00	6	168.12	7	168.07	171.12	171.07
"A"	7	8	0.51	3.43	0.80	0.80	2.74	18.89	6.88	18.87	42	36	1		0.11	0.012	24.03	3.40	0.00	3.75	0.068	0.029	172.19	172.16	175.00	174.35	7	167.57	8	167.52	170.57	170.52
"A"	8	9	0.53	3.96	0.80	0.80	3.17	19.09	6.84	21.67	55	36	1		0.11	0.012	24.03	3.40	0.25	3.85	0.090	0.049	172.16	172.11	174.35	173.85	8	167.52	9	167.46	170.52	170.46
"A"	9	10	0.40	4.36	0.80	0.80	3.49	19.36	6.79	23.69	58	42	1		0.08	0.012	30.91	3.21	0.00	3.53	0.047	0.027	172.11	172.08	173.85	173.85	9	167.21	10	167.16	170.71	170.66
"A"	10	MH1	0.32	5.20	0.80	0.80	4.16	19.66	6.74	28.05	56	42	1		0.08	0.012	30.91	3.21	0.00	3.63	0.066	0.037	172.08	172.04	173.85	174.50	10	167.16	MH1	167.12	170.66	170.62
"A"	MH1	J-BOX	0.00	5.20	0.80	0.80	4.16	19.95	6.69	28.05	12	42	1		0.08	0.012	30.91	3.21	0.00	3.63	0.066	0.008	172.04	172.04	174.50	174.65	MH1	167.12	J-BOX	167.11	170.62	170.61
"A"	J-BOX	11	0.00	7.12	0.80	0.80	5.70	20.01	6.68	38.07	227	60	1		0.05	0.012	63.89	3.25	0.00	3.38	0.018	0.041	172.04	171.99	174.65	175.25	J-BOX	167.11	11	166.99	172.11	171.99
"A"	11	MH3	0.69	7.81	0.80	0.80	6.25	21.18	6.50	40.61	244	60	1		0.05	0.012	63.89	3.25	0.00	3.43	0.021	0.051	171.92	171.87	175.25	174.40	11	166.99	MH3	166.87	171.99	171.87
																												166.87				
"A"	4.1	4	0.57	0.57	0.80	0.80	0.46	16.60	7.31	3.33	201	18	1		0.26	0.012	5.82	3.29	0.95	3.40	0.086	0.172	171.97	171.79	174.75	175.05	4.1	170.82	4	170.29	172.32	171.79
																												169.34				
"A"	3.1	3	0.26	0.26	0.80	0.80	0.21	11.13	8.72	1.81	111	12	1		0.44	0.012	2.57	3.27	0.00	3.54	0.221	0.245	172.17	171.92	174.85	174.65	3.1	170.21	3	169.73	171.21	170.73
																												169.73				
"B"	1	2	0.33	0.33	0.80	0.80	0.26	11.64	8.56	2.26	148	12	1		0.44	0.012	2.57	3.27	0.00	3.68	0.342	0.507	170.09	169.58	174.50	174.90	1	168.55	2	167.90	169.55	168.90
"B"	2	3	0.14	0.47	0.80	0.80	0.38	12.40	8.33	3.13	120	15	1		0.33	0.012	4.03	3.28	0.00	3.63	0.200	0.240	169.58	169.34	174.90	174.25	2	167.90	3	167.50	169.15	168.75
"B"	3	4	0.20	0.67	0.80	0.80	0.54	13.01	8.16	4.37	133	18	1		0.26	0.012	5.82	3.29	0.00	3.60	0.148	0.197	169.34	169.14	174.25	174.60	3	167.50	4	167.16	169.00	168.66
"B"	4	J-BOX	0.73	1.40	0.80	0.80	1.12	13.68	7.98	8.94	25	24	1		0.18	0.012	10.43	3.32	0.00	3.73	0.133	0.033	169.14	169.11	174.60	174.65	4	167.16	J-BOX	167.11	169.16	169.11
																												167.11				
"A"	10.1	J-BOX	0.52	0.52	0.80	0.80	0.42	14.37	7.81	3.25	393	54	1		0.23	0.012	102.44	6.44	0.99	2.90	0.000	0.001	172.60	172.60	175.40	174.65	10.1	169.01	J-BOX	168.10	173.51	172.60
																												167.11				
"C"	1	2	0.86	0.86	0.80	0.80	0.69	11.01	8.76	6.03	181	24	1		0.18	0.012	10.43	3.32	0.75	3.42	0.060	0.109	172.71	172.60	174.75	174.50	1	169.57	2	169.24	171.57	171.24
"C"	2	3	0.55	1.41	0.80	0.80	1.13	11.91	8.47	9.56	162	30	1		0.13	0.012	16.06	3.27	0.50	3.40	0.046	0.075	170.98	170.91	174.50	173.10	2	168.49	3	168.28	170.99	170.78
"C"	3	4	0.69	2.10	0.80	0.80	1.68	12.74	8.24	13.84	95	30	1		0.13	0.012	16.06	3.27	0.00	3.68	0.097	0.092	171.00	170.91	173.10	172.90	3	167.78	4	167.66	170.28	170.16
"C"	4	5	0.34	2.84	0.80	0.80	2.27	13.22	8.10	18.41	173	36	1		0.11	0.012	24.03	3.40	0.00	3.74	0.065	0.112	171.99	171.88	172.90	173.90	4	167.66	5	167.47	170.66	170.47
"C"	5	6	0.34	3.67	0.80	0.80	2.94	14.07	7.88	23.15	207	42	1		0.08	0.013	28.89	3.00	0.00	3.33	0.053	0.110	170.91	170.80	173.90	174.45	5	167.47	6	167.30	170.97	170.80
"C"	6	MH4	1.07	4.74	0.80	0.80	3.79	15.22	7.61	28.86	96	60	1		0.11	0.013	86.61	4.41	0.12	3.93	0.012	0.012	172.20	172.19	174.45	174.43	6	167.30	MH4	167.19	172.30	172.19
"C"	MH4	MH3	0.00	4.74	0.80	0.80	3.79	15.58	7.53	28.86	96	60	1		0.11	0.013	86.61	4.41	0.00	3.93	0.012	0.012	171.88	171.87	174.43	174.40	MH4	167.07	MH3	166.87	172.07	171.87
																												166.87				
"C"	4.1	4	0.40	0.40	0.80	0.80	0.32	12.40	8.33	2.67	216	15	1		0.33	0.012	4.03	3.28	1.00	3.50	0.145	0.313	172.20	171.88	177.05	172.90	4.1	169.37	4	168.66	170.62	169.91
																												167.66				
"C"	5.1	5	0.49	0.49	0.80	0.80	0.39	12.12	8.41	3.30	191	15	1		0.33	0.012	4.03	3.28	0.00	3.65	0.222	0.424	172.62	172.20	176.55	173.90	5.1	168.10	5	167.47	169.35	168.72
																												167.47				

WGA

STORM SEWER CALCULATIONS

Project: Tomball ISD Intermediate School Replacement
Job No: 00788-002
System: A, B & C
By: AH
DATE 7-22-2026
Rainfall Frequency (years): 100

$$I = \frac{b}{(t_c + d)^e}$$

C_f = 1.00
b = 53.93
d = 4.53
e = 0.5870

Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\400 Engineering\403 Drainage\[2026.06.07 Tomball ISD StormCalcs .xls]DESIGN (100-year)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
											LINE						DESIGN			HYD. GRAD												
ID	From MH	To MH	Sub Area Acres	Total Area Acres	Sub Runoff Coeff. C	Sub Runoff Coeff. $C'C_f$	Sum of $CF'C'A$	Time of Conc. min.	Intensity I (In / Hr.)	Sum of Flows cfs Q	Reach Length Feet	Dia. in. or Rise (ft)	# of Pipes/ Boxes	Width of box (ft)	Slope %	Mannings n"	Capacity cfs Q	Velocity fps	drop at down stream manhole	Actual Velocity fps	Hydraulic Gradient %	Change in Head Ft.	Elev. Up Stream	Elev. Down Stream	TG/ Gutter Elevation Upstream	TG/ Gutter Elevation Downstream	MH UP	flowline upstream	MH DOWN	flowline downstream	Top of Pipe (upstream)	Top of Pipe downstream
"A"	1	2	0.25	0.25	0.80	0.80	0.20	16.60	9.00	1.80	60	12	1		0.44	0.012	2.57	3.27	0.25	3.52	0.217	0.130	173.10	172.97	174.20	173.70	1	170.56	2	170.30	171.56	171.30
"A"	2	3	0.32	0.57	0.80	0.80	0.46	16.91	8.92	4.07	98	15	1		0.33	0.012	4.03	3.28	0.25	3.74	0.338	0.331	172.97	172.64	173.70	174.65	2	170.05	3	169.73	171.30	170.98
"A"	3	4	0.44	1.27	0.80	0.80	1.02	17.40	8.80	8.94	73	24	1		0.18	0.012	10.43	3.32	0.50	3.73	0.133	0.097	172.64	172.55	174.65	175.05	3	169.48	4	169.34	171.48	171.34
"A"	4	5	0.34	2.18	0.80	0.80	1.74	17.77	8.72	15.20	110	30	1		0.13	0.012	16.06	3.27	0.50	3.72	0.117	0.129	172.55	172.42	175.05	174.90	4	168.84	5	168.70	171.34	171.20
"A"	5	6	0.35	2.53	0.80	0.80	2.02	18.33	8.59	17.39	60	30	1		0.13	0.012	16.06	3.27	0.00	3.54	0.153	0.092	172.42	172.32	174.90	174.90	5	168.20	6	168.12	170.70	170.62
"A"	6	7	0.39	2.92	0.80	0.80	2.34	18.64	8.52	19.91	51	36	1		0.11	0.012	24.03	3.40	0.50	3.79	0.076	0.039	172.32	172.29	174.90	175.00	6	168.12	7	168.07	171.12	171.07
"A"	7	8	0.51	3.43	0.80	0.80	2.74	18.89	8.47	23.24	42	36	1		0.11	0.012	24.03	3.40	0.00	3.87	0.103	0.043	172.29	172.24	175.00	174.35	7	167.57	8	167.52	170.57	170.52
"A"	8	9	0.53	3.96	0.80	0.80	3.17	19.09	8.43	26.70	55	36	1		0.11	0.012	24.03	3.40	0.25	3.78	0.137	0.075	172.24	172.17	174.35	173.85	8	167.52	9	167.46	170.52	170.46
"A"	9	10	0.40	4.36	0.80	0.80	3.49	19.36	8.37	29.20	58	42	1		0.08	0.012	30.91	3.21	0.00	3.65	0.072	0.042	172.17	172.13	173.85	173.85	9	167.21	10	167.16	170.71	170.66
"A"	10	MH1	0.32	5.20	0.80	0.80	4.16	19.66	8.31	34.57	56	42	1		0.08	0.012	30.91	3.21	0.00	3.60	0.101	0.056	172.13	172.07	173.85	174.50	10	167.16	MH1	167.12	170.66	170.62
"A"	MH1	J-BOX	0.00	5.20	0.80	0.80	4.16	19.95	8.25	34.57	12	42	1		0.08	0.012	30.91	3.21	0.00	3.60	0.101	0.012	172.07	172.06	174.50	174.65	MH1	167.12	J-BOX	167.11	170.62	170.61
"A"	J-BOX	11	0.00	7.12	0.80	0.80	5.70	20.01	8.24	46.93	227	60	1		0.05	0.012	63.89	3.25	0.00	3.54	0.028	0.063	172.06	171.99	174.65	175.25	J-BOX	167.11	11	166.99	172.11	171.99
"A"	11	MH3	0.69	7.81	0.80	0.80	6.25	21.18	8.02	50.10	244	60	1		0.05	0.012	63.89	3.25	0.00	3.59	0.032	0.077	171.95	171.87	175.25	174.40	11	166.99	MH3	166.87	171.99	171.87
																												166.87				
"A"	4.1	4	0.57	0.57	0.80	0.80	0.46	16.60	9.00	4.10	201	18	1		0.26	0.012	5.82	3.29	0.95	3.55	0.130	0.261	172.06	171.79	174.75	175.05	4.1	170.82	4	170.29	172.32	171.79
																												169.34				
"A"	3.1	3	0.26	0.26	0.80	0.80	0.21	11.13	10.73	2.23	111	12	1		0.44	0.012	2.57	3.27	0.00	3.68	0.334	0.371	172.32	171.95	174.85	174.65	3.1	170.21	3	169.73	171.21	170.73
																												169.73				
"B"	1	2	0.33	0.33	0.80	0.80	0.26	11.64	10.53	2.78	148	12	1		0.44	0.012	2.57	3.27	0.00	3.54	0.518	0.767	170.59	169.82	174.50	174.90	1	168.55	2	167.90	169.55	168.90
"B"	2	3	0.14	0.47	0.80	0.80	0.38	12.40	10.25	3.85	120	15	1		0.33	0.012	4.03	3.28	0.00	3.74	0.303	0.364	169.82	169.46	174.90	174.25	2	167.90	3	167.50	169.15	168.75
"B"	3	4	0.20	0.67	0.80	0.80	0.54	13.01	10.04	5.38	133	18	1		0.26	0.012	5.82	3.29	0.00	3.73	0.223	0.297	169.46	169.16	174.25	174.60	3	167.50	4	167.16	169.00	168.66
"B"	4	J-BOX	0.73	1.40	0.80	0.80	1.12	13.68	9.82	11.00	25	24	1		0.18	0.012	10.43	3.32	0.00	3.75	0.201	0.050	169.16	169.11	174.60	174.65	4	167.16	J-BOX	167.11	169.16	169.11
																												167.11				
"A"	10.1	J-BOX	0.52	0.52	0.80	0.80	0.42	14.37	9.61	4.00	393	54	1		0.23	0.012	102.44	6.44	0.99	3.05	0.000	0.001	172.60	172.60	175.40	174.65	10.1	169.01	J-BOX	168.10	173.51	172.60
																												167.11				
"C"	1	2	0.86	0.86	0.80	0.80	0.69	11.01	10.78	7.41	181	24	1		0.18	0.012	10.43	3.32	0.75	3.60	0.092	0.166	172.77	172.60	174.75	174.50	1	169.57	2	169.24	171.57	171.24
"C"	2	3	0.55	1.41	0.80	0.80	1.13	11.91	10.42	11.76	162	30	1		0.13	0.012	16.06	3.27	0.50	3.56	0.070	0.113	171.07	170.96	174.50	173.10	2	168.49	3	168.28	170.99	170.78
"C"	3	4	0.69	2.10	0.80	0.80	1.68	12.74	10.13	17.02	95	30	1		0.13	0.012	16.06	3.27	0.00	3.70	0.147	0.139	171.10	170.96	173.10	172.90	3	167.78	4	167.66	170.28	170.16
"C"	4	5	0.34	2.84	0.80	0.80	2.27	13.22	9.97	22.64	173	36	1		0.11	0.012	24.03	3.40	0.00	3.86	0.098	0.170	172.06	171.89	172.90	173.90	4	167.66	5	167.47	170.66	170.47
"C"	5	6	0.34	3.67	0.80	0.80	2.94	14.07	9.70	28.47	207	42	1		0.08	0.013	28.89	3.00	0.00	3.42	0.080	0.166	170.96	170.80	173.90	174.45	5	167.47	6	167.30	170.97	170.80
"C"	6	MH4	1.07	4.74	0.80	0.80	3.79	15.22	9.36	35.50	96	60	1		0.11	0.013	86.61	4.41	0.12	4.17	0.019	0.018	172.21	172.19	174.45	174.43	6	167.30	MH4	167.19	172.30	172.19
"C"	MH4	MH3	0.00	4.74	0.80	0.80	3.79	15.58	9.26	35.50	96	60	1		0.11	0.013	86.61	4.41	0.00	4.17	0.019	0.018	171.89	171.87	174.43	174.40	MH4	167.07	MH3	166.87	172.07	171.87
																												166.87				
"C"	4.1	4	0.40	0.40	0.80	0.80	0.32	12.40	10.25	3.28	216	15	1		0.33	0.012	4.03	3.28	1.00	3.65	0.220	0.474	172.36	171.89	177.05	172.90	4.1	169.37	4	168.66	170.62	169.91
																												167.66				
"C"	5.1	5	0.49	0.49	0.80	0.80	0.39	12.12	10.35	4.06	191	15	1		0.33	0.012	4.03	3.28	0.00	3.74	0.336	0.642	173.00	172.36	176.55	173.90	5.1	168.10	5	167.47	169.35	168.72
																												167.47				

DETENTION SUMMARY		
TOTAL AREA	=	70.05 AC
DETENTION RATE REQUIRED	=	0.75 AC-FT / AC
DETENTION VOLUME REQUIRED	=	52.54 AC-FT
EXISTING DETENTION VOLUME	=	63.51 AC-FT

*NO DETENTION REQUIRED FOR TOMBALL ISD SCHOOL REPLACEMENT. REFERENCE HC PROJECT NO. 2310160150 FOR DETENTION BASIN PLANS AND CITY OF TOMBALL PERMIT NUMBER SP-23-028.

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120, Houston, Texas 77063, 713.789.1900
4526 Research Forest, Suite 360, The Woodlands, Texas 77381, 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

DRAINAGE CALCULATIONS
VOLUME 01

Job No. 00788-002
Sheet No. C7.2
Drawn By: CT
Date: 07.23.26

ADDENDUM 01

11/18/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00002-24-01 - Tomball ISD IS Replacement_ARCH.rvt

Drawing: Z:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C7.2 Drainage Area Calculations.dwg Last Plotted: Thu Jul 23, 2026 – 3:36pm By: cteague

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DETENTION SUMMARY

1. TOTAL AREA OF SITE 70.05 ACRES
2. DETENTION STORAGE RATE 0.75 AC.FT./AC.
3. DETENTION STORAGE VOLUME REQUIRED 52.54 AC.FT.
4. 100-YR DESIGN WATER SURFACE ELEVATION= 173.50 FT.
5. TOTAL STORAGE VOLUME PROVIDED
   WATER SURFACE ELEVATION 172.50 = 63.51 AC.FT.
6. MAXIMUM OUTFALL RATE ALLOWED 7 CFS
7. PROP. RESTRICTOR SIZE 24 INCHES
8. TOTAL OUTFALL RATE = 7 CFS
9. DISCHARGE FLOW RATE =

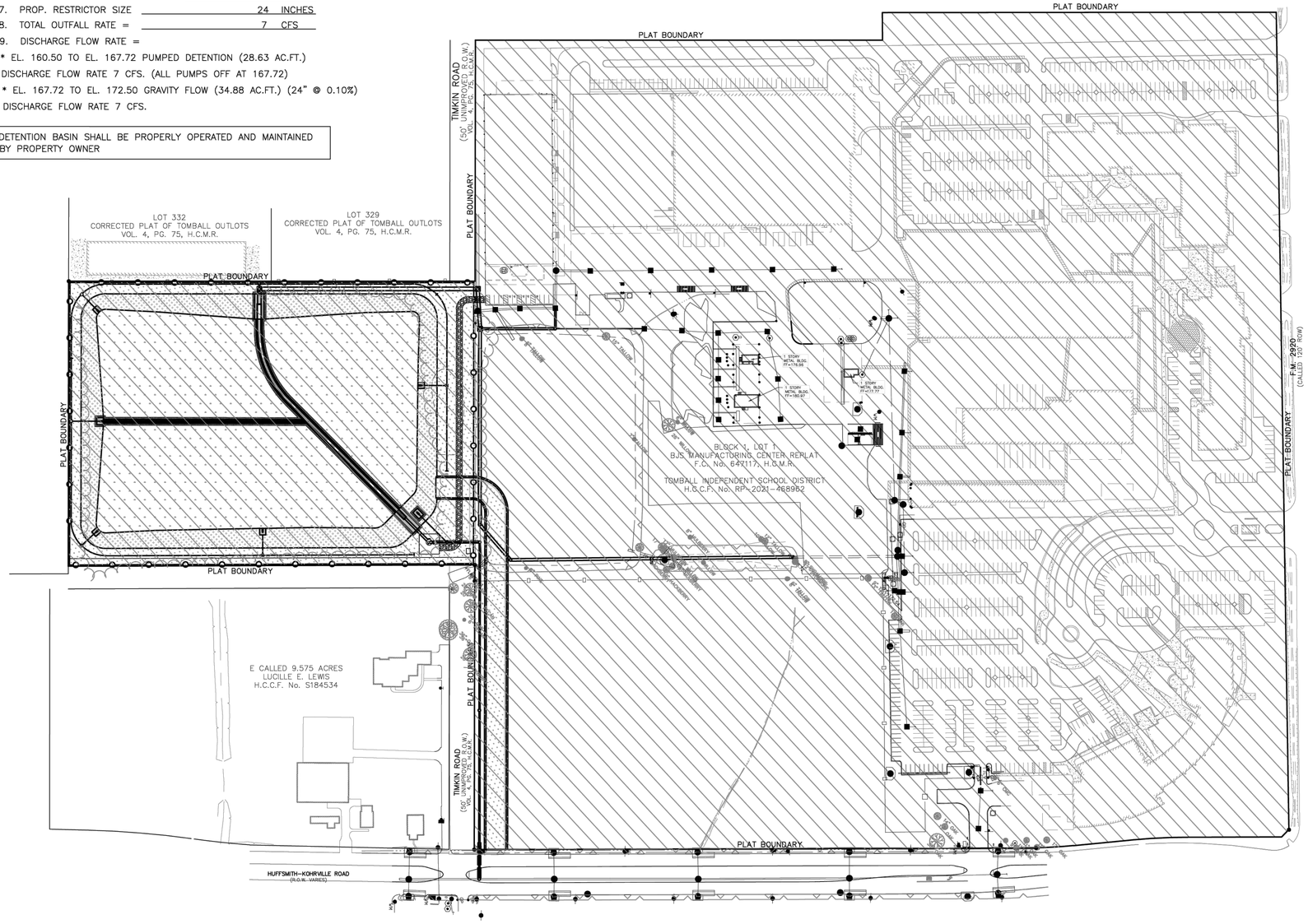
* EL. 160.50 TO EL. 167.72 PUMPED DETENTION (28.63 AC.FT.)
DISCHARGE FLOW RATE 7 CFS. (ALL PUMPS OFF AT 167.72)
* EL. 167.72 TO EL. 172.50 GRAVITY FLOW (34.88 AC.FT.) (24" @ 0.10%)
DISCHARGE FLOW RATE 7 CFS.

DETENTION BASIN SHALL BE PROPERLY OPERATED AND MAINTAINED BY PROPERTY OWNER

LEGEND:

SERVICE AREA (70.05 AC)

SCALE: 1" = 100'



UTILITY ONE CALL
CONTRACTOR TO CALL BEFORE DIGGING !!!!
PHONE: 811
Texas 811

BROOKS & SPARKS, INC.
CONSULTING ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-880
21020 PARK ROW PHONE: (281) 578-9595
KATY, TX 77449 FAX: (281) 578-9686

GENERAL NOTES:

1. This survey was prepared without the benefit of a current Commitment for Title Insurance or Abstractor's Certificate and therefore easements or encumbrances may exist which are not shown hereon. No research of the Public Records of Harris County, Texas regarding these easements or encumbrances was performed by Quiddity Engineering.
2. This survey does not provide any determination concerning wetlands, fault lines, toxic waste or any other environmental issues. Such matters should be directed by the client or prospective purchaser to an expert consultant.
3. According to Map No. 48201C0230L of the Federal Emergency Management Agency's Flood Insurance Rate Maps for Harris County, Texas and Incorporated Areas, dated June 18, 2007, the subject tract is situated within: Unshaded Zone X defined as areas determined to be outside the 0.2% annual chance floodplain (500-year flood).

   This flood statement does not imply that the property or structures thereon will be free from flooding or flood damage. On rare occasions floods can and will occur and flood heights may be increased by man-made or natural causes. This flood statement shall not create liability on the part of the surveyor.
4. Research for Adjoiner Tracts was performed by Quiddity Engineering on June 1, 2022.
5. The surveyor has not been provided with construction plans showing the location of underground utilities. Underground utilities may exist which are not shown hereon.
6. Elevations shown hereon are based on Harris County Floodplain Reference Mark No. 120170 located along the northeast right-of-way of FM 2920 approximately 110 feet from its intersection with Stuebner Airline Road with a published elevation of 154.74 feet, NAVD 88, 2001 Adjustment.
7. Temporary Benchmark A being a 100D nail set in concrete at the northwest corner of the subject tract and further shown hereon.
   Elevation = 177.70 feet, NAVD 88, 2001 Adjustment.
8. Temporary Benchmark B being a MAG nail and shiner set in a wheelchair ramp at the southwest corner of the intersection of FM 2920 and Hufsmith-Kohrville Road and further shown hereon.
   Elevation = 177.95 feet, NAVD 88, 2001 Adjustment.
9. Temporary Benchmark C being a MAG nail set at the bullnose of a median along the centerline of Hufsmith-Kohrville Road and further shown hereon.
   Elevation = 174.29 feet, NAVD 88, 2001 Adjustment.
10. Temporary Benchmark D being a 100D nail set in concrete at the southwest corner of the subject tract and further shown hereon.
    Elevation = 175.67 feet, NAVD 88, 2001 Adjustment.
11. Visible improvements/utilities were located with this survey; no subsurface probing, excavation or exploration was performed for this survey.

NOTE: THE LOCATIONS OF THE PRIVATE UTILITY LINES ARE SHOWN IN AN APPROXIMATE WAY ONLY.THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE ALSO ACCEPTS FULL RESPONSIBILITY FOR ANY AND ALL DAMAGES INCURRED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UTILITIES.

TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.
NOTICE:
FOR YOUR SAFETY, YOU ARE REQUIRED BY TEXAS LAW TO CALL 811 AT LEAST 48 HOURS BEFORE YOU DIG SO THAT UNDERGROUND LINES CAN BE MARKED. THIS VERIFICATION DOES NOT FULFILL YOUR OBLIGATION TO CALL 811.

VERIFICATION OF PRIVATE UTILITY LINES

Date

CenterPoint Energy/Natural Gas Facilities Verification ONLY. (This Signature verifies that you have shown CNP Natural Gas lines correctly. Not to be used for conflict verification.) (Gas service lines are not shown.) Signature Valid for six months.

Date

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This Signature verifies that existing underground facilities. Not to be used for conflict verification.) Signature Valid for six months.

Date

APPROVED FOR AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES ONLY. Signature valid for one year.

BROOKS & SPARKS, INC.
F-880
STATE OF TEXAS
FRANK E. BROOKS
49225
REGISTERED
PROFESSIONAL ENGINEER
01/04/2024

TOMBALL INDEPENDENT SCHOOL DISTRICT
PLANS FOR
DETENTION BASIN
TO SERVE
TOMBALL INNOVATION CENTER

SERVICE AREA MAP

NO.	DATE	REVISIONS	BY

DRAWN BY: RV	CHECKED BY: CSM, JAE
DESIGNED BY: CSM	APPROVED BY: FEB
PROJECT NO. 866-0018	DATE: 01/04/2024
SCALE: 1"=100'	SHEET 15 OF 39

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

FOR REFERENCE ONLY

Huckabee
www.huckabee-inc.com
800.687.1229

DRAINAGE SERVICE AREA MAP
VOLUME 01

Job No. 00788-002	Sheet No. C7.3
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

04 Jan 2024 12:05PM RobertV
\\hou-srv05\cadd\project\BROOK_SP\tomball isd\8660020-02-tic detention and pump station\Civil\8660020-SAM.dwg
Includes Xref(s): 866020-X-POND.dwg; 866020-X- BRD.dwg; 866020-X-SEAL.dwg; 866020-X-TEXT.dwg; 866020-X-TOPO.dwg

11/19/2025 8:39:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00920-04-01 Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C7.3 Drainage Service Area Map (For Reference Only).dwg Last Plotted: Thu Jul 23, 2026 - 3:33pm By: cteague

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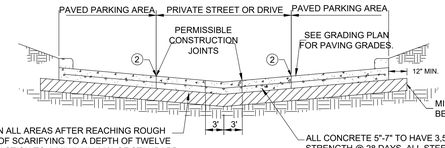


SUBGRADE PREPARATION IN ALL AREAS AFTER REACHING ROUGH GRADE SHOULD CONSISTS OF SCARIFYING TO A DEPTH OF TWELVE (12) INCHES, THEN RECOMPACTION TO A MINIMUM 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY THE ASTM D-698 PROCEDURE, AT OPTIMUM MOISTURE CONTENT (0 TO ±2%)

IF WET CONDITIONS EXISTS AT TIME OF CONSTRUCTION, AND STABILIZATION IS REQUIRED, IT SHOULD BE PERFOMED USING LIME-FLY ASH STABILIZATION .

IT IS RECOMMENDED THAT THE UPPER 6-8 INCHES OF SUBGRADE BE CHEMICALLY TREATED WITH LIME OR MIXTURE OF LIME-FLYASH.

1. REINFORCING STEEL: 5" THICK CONCRETE PAVEMENT TO HAVE #3 BARS SPACED AT 18" INTERVALS OR #4 BARS SPACED AT 24 INCHES ON CENTERS IN BOTH DIRECTIONS.
   6" THICK CONCRETE PAVEMENT TO HAVE #3 BARS SPACED AT 12" INTERVALS OR #4 BARS SPACED AT 18 INCHES ON CENTERS IN BOTH DIRECTIONS.
   7" THICK CONCRETE PAVEMENT TO HAVE #4 BARS SPACED AT 18" ON CENTERS IN BOTH DIRECTIONS
2. *CONTROL JOINT SPACING: 5" PAVING MAXIMUM OF 12.5'
   6" & 7" PAVING MAXIMUM OF 15'
3. EXPANSION JOINT: PLACED WHERE PAVEMENT ABUTS ANY STRUCTURE AND TO BE SPACED AT A MAXIMUM OF 60 FEET IN ANY DIRECTION
4. DOWELS AT EXPANSION JOINTS: ⅝ DIAMETER, 12" IN LENGTH, SPACED AT 12" CENTERS AT EACH JOINT, AND BE EMBEDDED AT LEAST 5"
   ⅝ DIAMETER, 14" IN LENGTH, SPACED AT 12" CENTERS AT EACH JOINT, AND BE EMBEDDED AT LEAST 6"
   ⅞ DIAMETER, 14" IN LENGTH, SPACED AT 12" CENTERS AT EACH JOINT, AND BE EMBEDDED AT LEAST 6"

*CONTROL JOINTS CUT WITHIN 6-12 HOURS OF CONCRETE PLACEMENT

TYPICAL CONCRETE PAVEMENT SECTION
N.T.S.

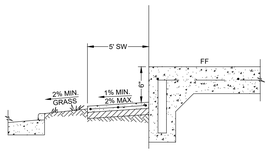
SEE GEOTECHNICAL ENGINEERING REPORT BY TERRACON (PROJECT No. 92245559, DATED MAY 4, 2026)

PAVEMENT MARKINGS NOTES:
FURNISH AND INSTALL PAVEMENT MARKINGS OF THE TYPE AND SIZE SHOWN ON THE PLANS AND AS REQUIRED FOR COMPLIANCE WITH GOVERNING CODES. IF NO GOVERNING CODES APPLY, THEN USE TXDOT STANDARDS.

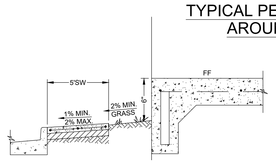
EXECUTION:

1. MINIMUM LINE WIDTH IS 4 INCHES. PAVEMENT MARKINGS MUST COMPLY WITH LOCAL FIRE STANDARDS AND CURRENT ACCESSIBILITY CODE.
2. A MINIMUM OF TWO COATS SHALL BE REQUIRED. WAIT 30 DAYS AFTER PAVEMENT INSTALLATION BEFORE APPLYING THE SECOND COAT OF PAVEMENT MARKINGS.
3. CLOSE AREAS TO TRAFFIC FOR DURATION OF DRYING TIME, WHICH SHALL BE NO LESS THAN THE MINIMUM RECOMMENDED BY THE PAINT MANUFACTURER.
4. TRAFFIC PAINT SHALL BE AS FOLLOWS OR APPROVED EQUAL:
   - CONCRETE- SHERWIN WILLIAMS, SETFAST ACRYLIC ZONE MARKING PAINT
   - CONCRETE & BLUE HANDICAP BACKGROUNDS- SHERWIN WILLIAMS, SETFAST CHLORINATED RUBBER ZONE MARKING PAINT
   - NEW ASPHALT- SHERWIN WILLIAMS, SETFAST, ACRYLIC LATEX TRAFFIC MARKING PAINT
   - OLD ASPHALT- SHERWIN WILLIAMS, SETFAST ACRYLIC WB TRAFFIC MARKING PAINT

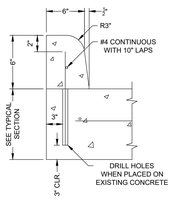
PAVEMENT MARKING DETAIL
N.T.S



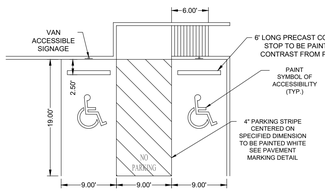
TYPICAL PERIMITER GRADES AROUND BUILDING
N.T.S.



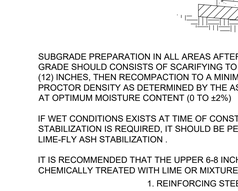
TYPICAL PERIMITER GRADES AROUND BUILDING
N.T.S.



TYPICAL 6" CONCRETE CURB REINFORCING
N.T.S.

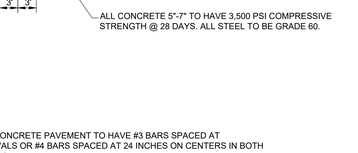


TYP - ACCESSIBLE PARKING SPACE
N.T.S.



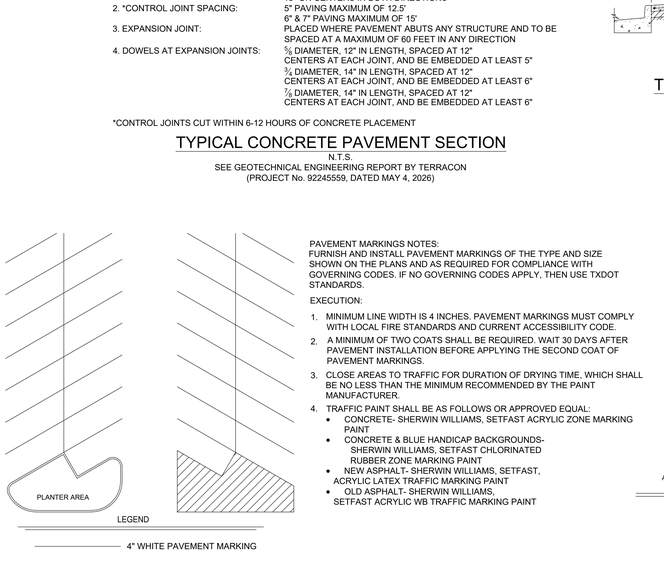
NOTES:
T = PAVEMENT THICKNESS

CONCRETE TO CONCRETE STANDARD PAVEMENT TIE IN
N.T.S.



NOTES:
T = PAVEMENT THICKNESS
#1, #4, EXPANSION JOINT SPACING & THICKNESS REFERENCE "TYPICAL CONCRETE PAVEMENT SECTION" FOR DETAILS

EXPANSION JOINT
N.T.S.



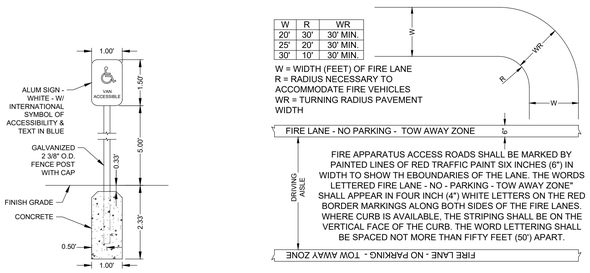
CONCRETE SIDEWALK

NOTE:
1) BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATTER, MEETING THE UNIFIED SOILS CLASSIFICATION SYSTEM GROUP SYMBOL SW CRITERIA W/ A PLASTICITY INDEX OF ≤ 10, AND NO MORE THAN 12% OF MATERIAL CAN PASS THE No. 200 SIEVE.
2) DOWEL IN AND TIE TO ANY CONCRETE STRUCTURE ADJACENT TO SIDEWALK (DRIVEWAY, INLET BOX, CURB, JUNCTION BOX, ETC.) WITH #3x12" BARS @ 18" O.C. INCLUDE EXPANSION JOINT AT CONNECTION WITH BACK OF CURB.

NOT TO SCALE

CITY OF TOMBALL ENGINEERING & PLANNING DEPARTMENT	
CONCRETE SIDEWALK CONSTRUCTION DETAILS	
APPROVED BY COT:	
ENGINEERING & PLANNING DEPARTMENT EFFECTIVE NOVEMBER 19, 2018	
SHEET 001 OF 001	DWG NO. COT SW-03

TYP - ACCESSIBLE PARKING SIGNAGE
N.T.S.

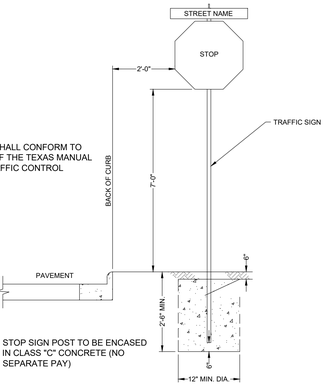


W	R	WR
20'	30'	30' MIN.
25'	20'	30' MIN.
30'	10'	30' MIN.

W = WIDTH (FEET) OF FIRE LANE
R = RADIUS NECESSARY TO ACCOMMODATE FIRE VEHICLES
WR = TURNING RADIUS PAVEMENT WIDTH

FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PAINTED LINES OF RED TRAFFIC PAINT SIX INCHES (6") IN WIDTH TO SHOW TH EBOUNDARIES OF THE LANE. THE WORDS LETTERED FIRE LANE - NO - PARKING - TOW AWAY ZONE" SHALL APPEAR IN FOUR INCH (4") WHITE LETTERS ON THE RED BORDER MARKINGS ALONG BOTH SIDES OF THE FIRE LANES. WHERE CURB IS AVAILABLE, THE STRIPING SHALL BE ON THE VERTICAL FACE OF THE CURB. THE WORD LETTERING SHALL BE SPACED NOT MORE THAN FIFTY FEET (50') APART.

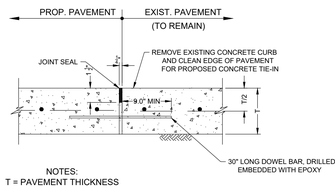
FIRE STRIPING DETAIL



NOTE:
TRAFFIC SIGNAGE SHALL CONFORM TO THE SATNDARD OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

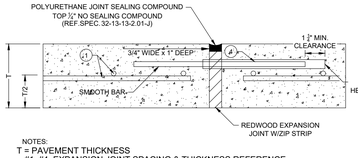
STOP SIGN POST TO BE ENCASED IN CLASS "C" CONCRETE (NO SEPARATE PAY)

TRAFFIC SIGNAGE DETAIL
N.T.S.



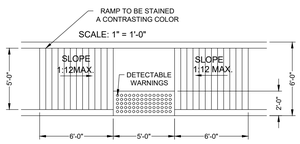
NOTES:
T = PAVEMENT THICKNESS

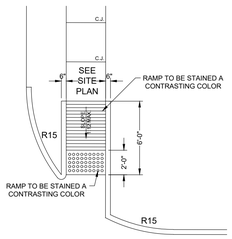
CONCRETE TO CONCRETE STANDARD PAVEMENT TIE IN
N.T.S.



NOTES:
T = PAVEMENT THICKNESS
#1, #4, EXPANSION JOINT SPACING & THICKNESS REFERENCE "TYPICAL CONCRETE PAVEMENT SECTION" FOR DETAILS

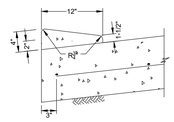
EXPANSION JOINT
N.T.S.



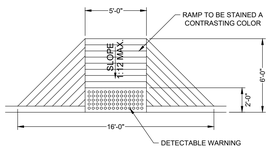


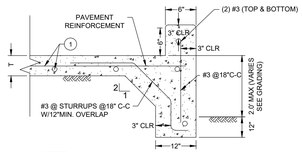
NOTE:
1. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9", A HEIGHT OF NOMINAL 0.2" AND A CENTER TO CENTER SPACING OF NOMINAL 2.35" AND SHALL CONTRAST VISUALL WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
2. THE SURFACE OF A WHEEL CHAIR RAMP IS BE GROVED LATERALLY WITH ¼" WIDE BY ¼" DEEP GROOVES, SPACED 2-1/4" C-C, AND ROUGHENED NO LESS THAN A BROOM FINISH TO PREVENT SLIPPING, AND TO DIFFERENTIATE TEXTURE FROM THAT OF STANDARD SIDEWALK.

CONCRETE PEDESTRIAN RAMP
N.T.S.



TYPICAL ROLL DOWN DETAIL 4"X12" CURB
N.T.S



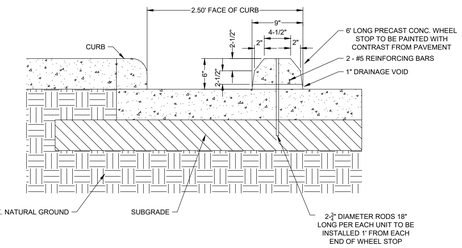


NOTES:
T = PAVEMENT THICKNESS
#1, SAWCUT SPACING, & THICKNESS REFERENCE : "TYPICAL CONCRETE PAVEMENT SECTION" FOR DETAILS

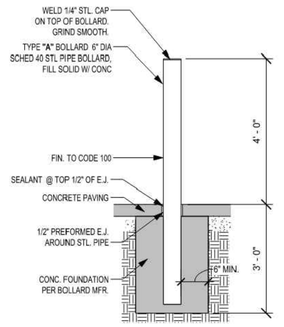
TYPICAL CURB WITH TURNDOWN
N.T.S.

PAVER NOTES:

1) CONSTRUCT PAVERS/TERRAZZO PAVING AS SHOWN ON THIS SHEET.
2) PAVESTONE AND TERRAZZO PAVING SHALL COMPLY WITH SPECIFICATIONS OF THE MANUFACTURER.
3) THIS BLOCKOUT DIMENSION FOR PAVERS/TERRAZZO IS NOMINAL. THE CONTRACTOR MAY ADJUST BLOCKOUT AS NEEDED TO MINIMIZE THE AMOUNT OF PAVERS/TERRAZZO TO BE CUT. HOWEVER, THE PAVERS MUST ALWAYS BE HELD ONE FOOT AWAY FROM FACE OF CURB AT THE DRIVEWAY.



WHEEL STOP DETAIL
N.T.S.



BOLLARD DETAIL MISC.
N.T.S.

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER 7/23/26

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4526 Research Forest, Suite 360, The Woodlands, Texas 77381, 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

PAVING DETAILS (1 OF 3)
VOLUME 01

Job No.	Sheet No.
00788-002	C8.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt

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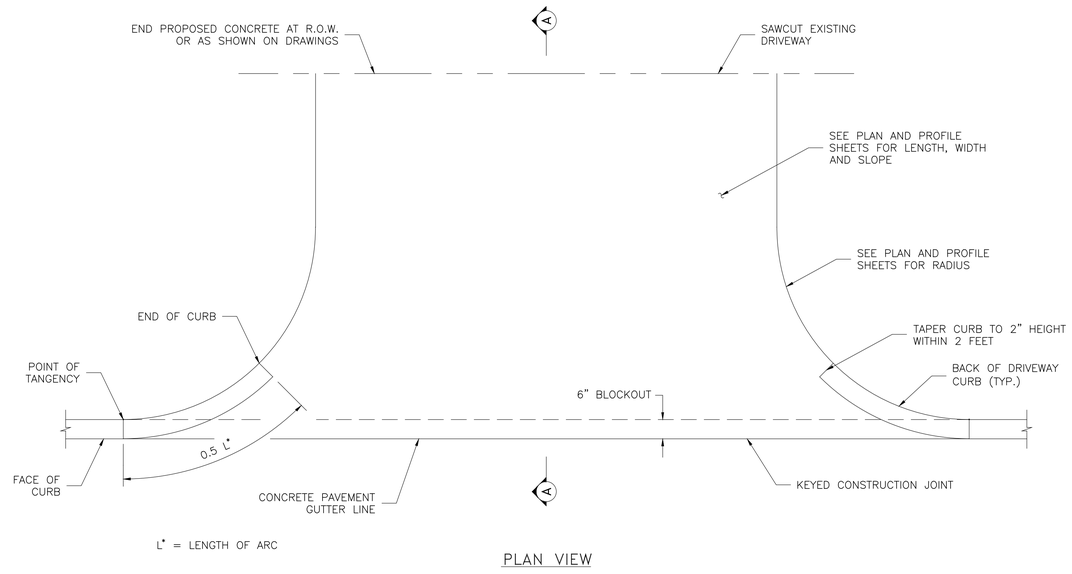
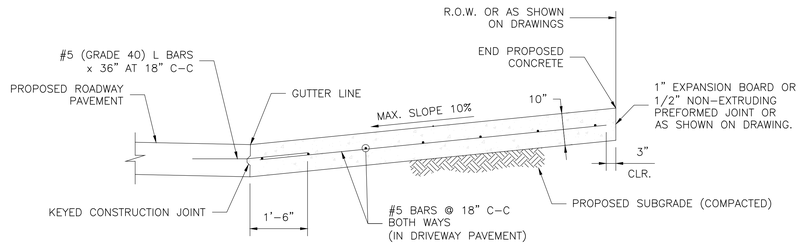


L* = LENGTH OF ARC

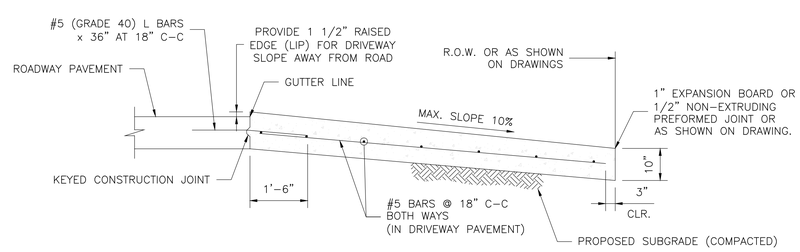
PLAN VIEW

NOTES:

1. SAWCUT EXISTING DRIVEWAY AT R.O.W. LINE OR AS SHOWN ON DRAWING AND REMOVE EXISTING DRIVEWAY TO SAWCUT LINE.
2. IF THERE IS EXISTING CURB ON DRIVEWAY, CONNECT PROPOSED CURB TO EXISTING CURB; OTHERWISE TAPER CURB HEIGHT AS SHOWN.
3. SEE PAVEMENT DETAIL SHEET FOR CONCRETE CURB REINFORCEMENT.
4. THIS DRIVEWAY INSTALLATION IS GOVERNED BY ITEM 360.



SECTION A-A
(DRIVEWAY SLOPES TO ROADWAY)



SECTION A-A
(DRIVEWAY SLOPES AWAY FROM ROADWAY)

NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY ENGINEERING DEPARTMENT

PROJECT TITLE:

SHEET DESCRIPTION: MAJOR ROADWAY CONSTRUCTION

DRIVEWAY DETAILS

CIVIL STANDARD: MRCD

DRAWN BY: JDZ | CK'D BY: PDG | SCALE: 1" = 1'-6" | DATE: 8/15/17 | SHEET NO: 7

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

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SCALE	DESIGN	DRAWN
N/A	AH	CT

PAVING DETAILS (2 OF 3)
VOLUME 01

Job No.	Sheet No.
00788-002	C8.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:30 AM
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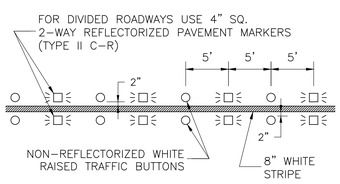
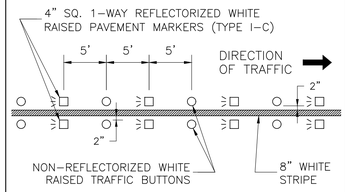
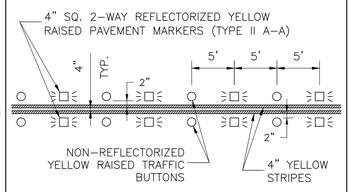
DETAIL "A"
(FOR DIVIDED ROADWAYS)



DETAIL "B"
(FOR UNDIVIDED ROADWAYS)

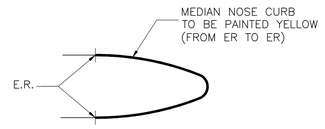


DETAIL "C"

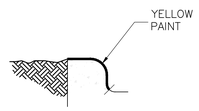


DETAIL "D"

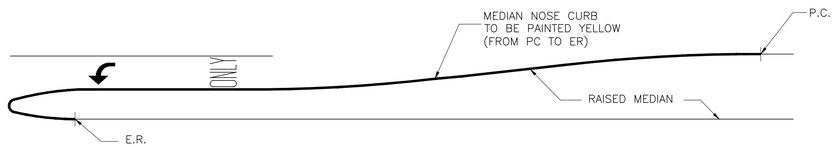
* PAINT FROM THE BACK OF CURB TO THE GUTTER LINE



TYPICAL MEDIAN NOSE



TYPICAL CURB SECTION



RAISED MEDIAN WITH TURN BAY

PAVEMENT MARKER LEGEND

SYMBOL	DESCRIPTION
⩾□⩽	4" x 4" REFLECTORIZED RAISED PAVEMENT MARKER
□⩽	INDICATED DIRECTION OF TRAFFIC FLOW
○	NON-REFLECTIVE 4" DIA. RAISED TRAFFIC BUTTON

RADIUS DIMENSIONS

MEDIAN	*R1	*R2
≤10'	N/A	W/2
>10' ≤40'	90'	W/5
>40'	N/A	N/A

TABLE 1

TYPICAL MEDIAN OPENING "C"

MEDIAN INTERRUPTION	(1) NO LTB	(1) 1 LTB	(1) 2 LTB
PRIVATE DRIVE	45'	52.5'	60'
UNDIVIDED STREET <40'	45'	52.5' (2)	60'
UNDIVIDED STREET 44'	50'	55' (2)	60'
DIVIDED STREET	D+22'	D+22'	D+22'

NOTES:

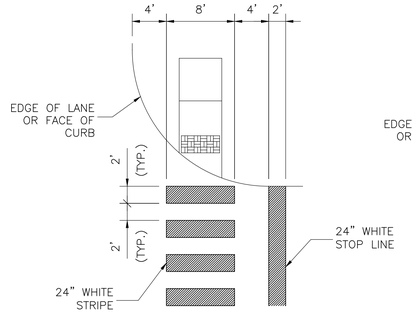
(1) LTB = LEFT TURN BAY

(2) DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN NOSE WITH LEFT TURN LANE IS 30' FOR RIGHT ANGLE INTERSECTIONS, FOR INTERSECTIONS OTHER THAN 90°, APPLY DESIGN VEHICLE TURNING TEMPLATE TO DETERMINE DIMENSION TO MEDIAN NOSE CUT OFF.

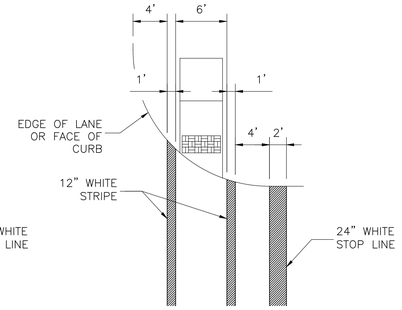
(3) D = WIDTH OF DIVIDED STREET

TYPICAL CROSSWALK PLACEMENT

CONTINENTAL TYPE

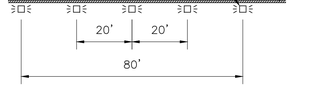


STANDARD TYPE



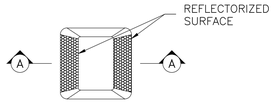
CENTER LINE DETAIL CURVE SECTION

TWO-WAY LEFT TURN CURVE SECTION

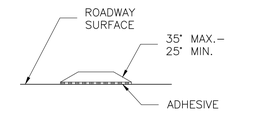


RAISED PAVEMENT MARKERS

TYPE I (TOP VIEW)

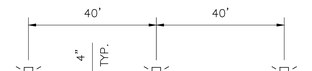


TYPE II (TOP VIEW)

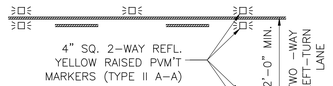


SECTION A–A

CENTER LINE DETAIL TANGENT SECTION



TWO-WAY LEFT TURN TANGENT SECTION



NO.	REVISIONS	DATE	NAME
1			
2			
3			
4			
5			

HARRIS COUNTY
ENGINEERING DEPARTMENT

PROJECT TITLE:

SHEET DESCRIPTION: PAVEMENT MARKING DETAILS (2 OF 2)

TRAFFIC STANDARD: PM

DRAWN BY: JDZ | DATE: 12/14/17

CK'D BY: BSH | SCALE: NONE | SHEET NO: 7

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED
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7/23/26

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SCALE	DESIGN	DRAWN
N/A	AH	CT

PAVING DETAILS (3 OF 3)

VOLUME 01

Job No. 00788-002 | Sheet No. C8.3

Drawn By: CT

Date: 07.23.26

ADDENDUM 01

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11/18/2025 8:39:30 AM

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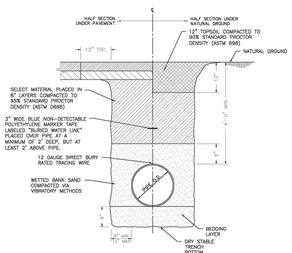
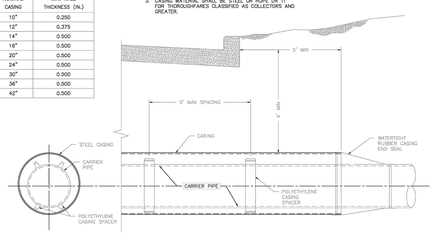


1 PVC WATER TYPICAL TRENCH DETAIL
NOT TO SCALE

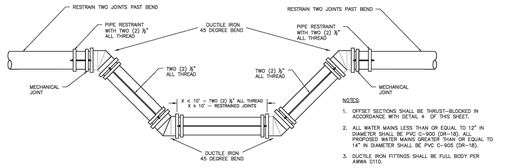
NOTES:
1. CASING SIZE AND THICKNESS SHALL CONFORM TO THE MINIMUM REQUIREMENTS AS SHOWN ON SCHEDULE OF CASING, OTHER PERMITS AS REQUIRED.
2. LENGTH OF ENCASEMENT SHALL BE AS SHOWN ON THE PLAN AND PROFILE DRAWING. ENCASEMENT TO EXTEND MINIMUM OF 5' FROM EDGE OF PAVEMENT.
3. CASING MATERIAL SHALL BE STEEL OR HDPE OR 11 FOR THOROUGHFARES CLASSIFIED AS COLLECTORS AND GREATER.

SCHEDULE OF STEEL CASING

CARRIER PIPE	NOMINAL CASING	MIN. WALL THICKNESS (in.)
6"	10"	0.250
8"	12"	0.375
10"	14"	0.500
12"	16"	0.500
16"	20"	0.500
18"	24"	0.500
20"	30"	0.500
24"	36"	0.500
30"	42"	0.500

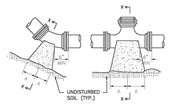


2 ENCASEMENT DETAIL
NOT TO SCALE

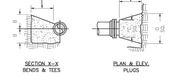


NOTES:
1. OFFSET SECTIONS SHALL BE THRUST-BLOCKED IN ACCORDANCE WITH DETAIL 4 OF THIS SHEET.
2. ALL WATER MAINS LESS THAN OR EQUAL TO 12" IN DIAMETER SHALL BE PVC C-900 (DR-18). ALL PROPOSED WATER MAINS GREATER THAN OR EQUAL TO 14" IN DIAMETER SHALL BE PVC C-905 (DR-18).
3. DUCTILE IRON FITTINGS SHALL BE FULL BODY PER AWWA C110.
4. CITY ENGINEER MUST APPROVE INSTANCES OF WATER MAIN OFFSET ABOVE OBSTRUCTION.

3 OFFSET ASSEMBLY DETAIL
NOT TO SCALE

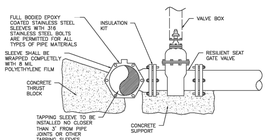


NOTES:
1. CONCRETE SHALL BE 2,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE MOIST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL FITTING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.

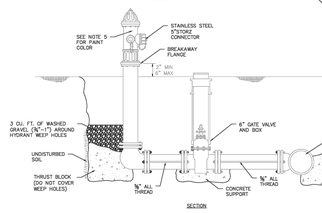


PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG
	A	B	A	B	A	B	A	B	C	D	
4"	8"	12"	8"	8"	6"	6"	6"	6"	8"	8"	10"	18"
6"	10"	12"	8"	10"	8"	8"	8"	8"	10"	10"	12"	18"
8"	12"	13"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	8"	10"	8"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"
20"	36"	26"	24"	18"	18"	12"	12"	8"	19"	18"	24"	48"
24"	48"	33"	30"	21"	18"	18"	12"	11"	20"	21"	28"	52"

4 THRUST BLOCK DETAIL
NOT TO SCALE

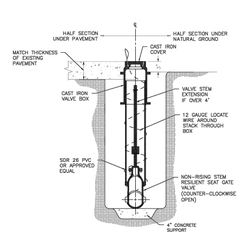


5 TAPPING SLEEVE & VALVE
NOT TO SCALE

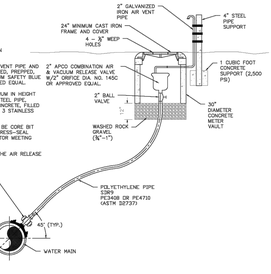


NOTE:
1. APPROVED FIRE HYDRANT MODELS:
   1.1. MUELLER A423 SUPER CENTURION 250
   1.2. AMERICAN DARLING B-84-B-5
2. DEPTH MAY VARY, BUT THERE WILL BE NO ADDITIONAL PAY FOR ADDED DEPTH.
3. FIRE HYDRANT TO FACE STREET OR FIRE ACCESS
4. LOCATE FIRE HYDRANTS 3 FEET BEHIND CURB OR PROJECTED FUTURE CURB
5. ALL FIRE HYDRANTS EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED RED USING A HIGH GRADE ENAMEL.

6 FIRE HYDRANT ASSEMBLY DETAIL
NOT TO SCALE



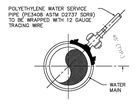
7 VALVE BOX DETAIL
NOT TO SCALE

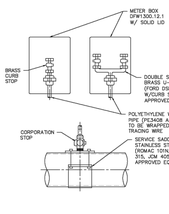


NOTES:
1. AIR RELEASE VALVE VAULT FOR USE IN NON-PAVEMENT AREAS.
2. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND STEEL SUPPORT PIPE SHALL BE CLEANED, PREPPED, PRIMED AND PAINTED WITH RUST-OLEUM SAFETY BLUE ACRYLIC #5223402 PAINT, OR APPROVED EQUAL.
3. THE AIR VENT PIPE SHALL BE 4" MINIMUM IN HEIGHT AND SHALL BE SUPPORTED BY A 4" STEEL PIPE, WHICH IS TO BE SET IN 2500 P.S.I. CONCRETE, FILLED WITH CONCRETE AND SUPPORTED WITH 3 STAINLESS STEEL CLAMPS.
4. CONCRETE VAULT PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED BY PRESS-SEAL WATERTIGHT SEAL OR APPROVED EQUIVALENT MEETING A.S.T.M. C923, OR APPROVED EQUAL.
5. PIPE SUPPORT TO BE PROVIDED FOR THE AIR RELEASE VALVE.

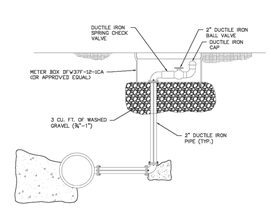
8 AIR RELEASE VALVE DETAIL
NOT TO SCALE

NOTES:
1. NO SPLICES IN POLYETHYLENE TUBING WILL BE ALLOWED FOR NEW SERVICE CONNECTIONS.
2. WATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH INTO ADJACENT PROPERTIES WITHOUT APPROVAL OF THE CITY ENGINEER.
3. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
4. TOP OF METER BOXES SHALL BE INSTALLED 1" ABOVE FINAL GROUND LEVEL.
5. METER BOX SHALL NOT BE INSTALLED WITHIN SIDEWALK, DRIVEWAY OR VEHICULAR TRAVEL AREA.
6. 12 GAUGE TRACING WIRE SHALL WRAP POLYETHYLENE SERVICE PIPING.





9 WATER SERVICE CONNECTION DETAIL
NOT TO SCALE

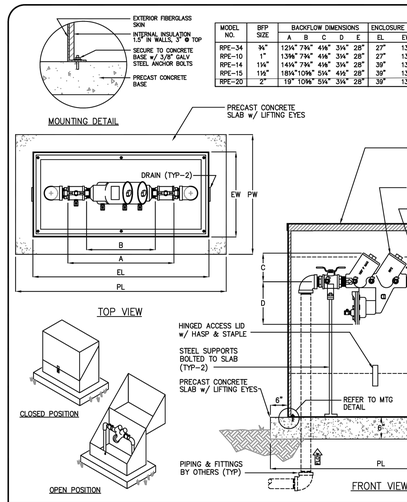


10 STANDARD BLOW OFF VALVE ASSEMBLY
NOT TO SCALE

CITY OF TOMBALL
WATER CONSTRUCTION DETAILS

APPROVED BY CITY OF TOMBALL DEVELOPMENT SERVICES
EFFECTIVE APRIL 9, 2021

SHEET WA-01
SEQ.



MODEL NO.	BFP SIZE	BACKFLOW DIMENSIONS A	B	C	D	E	ENCLOSURE DIMENSIONS EL	EW	EH	PAD DIMENSIONS PL	PW
RPE–34	34"	1234"	734"	414"	334"	28"	27"	13"	35"	42"	28"
RPE–10	1"	1384"	734"	414"	334"	28"	27"	13"	35"	42"	28"
RPE–14	114"	1434"	734"	414"	334"	28"	30"	13"	35"	54"	28"
RPE–15	112"	1814"	1034"	514"	414"	28"	30"	13"	35"	54"	28"
RPE–20	2"	19"	1034"	514"	334"	28"	30"	13"	35"	54"	28"

Specifications

CONCRETE : Class II concrete with design strength of 4500 PSI at 28 days.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

Typical Applications

RP devices are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospital facilities, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Engineering Data

The backflow assembly shall be factory assembled on pad & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

FM AWWA

PROJECT :	
CUSTOMER :	
ARCHITECT :	
ENGINEER :	
ORDER # :	
DATE :	

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

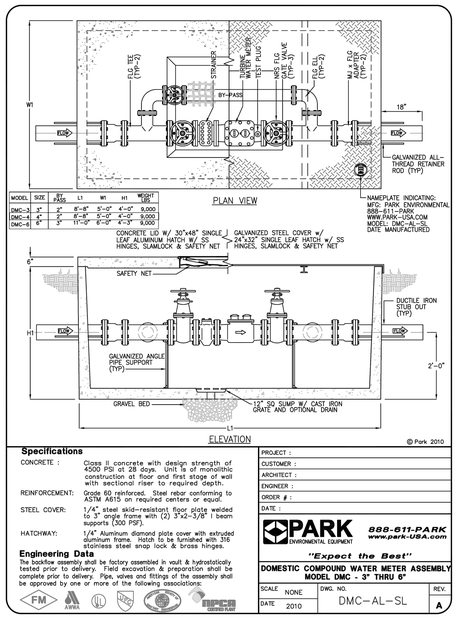
"Expect the Best"

REDUCED PRESSURE BACKFLOW PREVENTER ON PRECAST CONCRETE PAD MODEL RPE - 3/4" THRU 2"

SCALE	NONE	DWG. NO.	RPE–1	REV.
DATE	2010			A

1-8

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats



MODEL	SIZE	BY PASS	L1	W1	H1	WEIGHT LBS
DMC–AL–3"	3"	2"	6'–8"	5'–0"	4'–0"	8,000
DMC–AL–4"	4"	2"	6'–8"	5'–0"	4'–0"	9,000
DMC–AL–6"	6"	3"	11'–0"	8'–0"	4'–3"	9,000

Specifications

CONCRETE : Class II concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

STEEL COVER: 1/4" steel skid–resistant floor plate welded to 3" angle frame with (2) 3"x2–3/8" I beam supports (300 PSF).

HATCHWAY: 1/4" Aluminum diamond plate cover with extruded aluminum frame. Hatch to be furnished with 316 stainless steel snap lock & brass hinges.

Engineering Data

The backflow assembly shall be factory assembled in vault & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

FM AWWA

PROJECT :	
CUSTOMER :	
ARCHITECT :	
ENGINEER :	
ORDER # :	
DATE :	

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

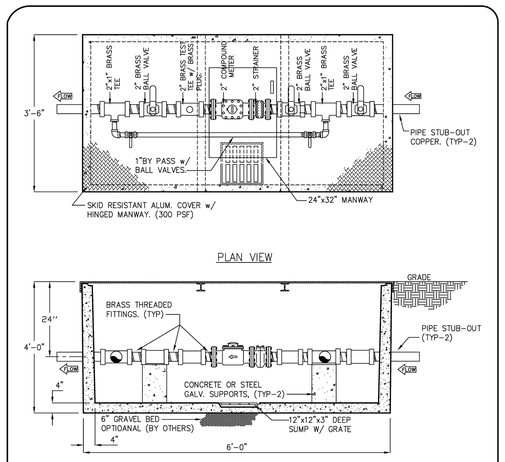
"Expect the Best"

DOMESTIC COMPOUND WATER METER ASSEMBLY MODEL DMC - 3" THRU 6"

SCALE	NONE	DWG. NO.	DMC–AL–SL	REV.
DATE	2010			A

2-6

All drawings are avalible for download at www.park-usa.com in .dwg & .pdf formats



Specifications

CONCRETE: Class I/II concrete with design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth. Gross empty weight of approximately 5,000 pounds.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

ALUM. COVER: 1/4" aluminum skid–resistant floor plate welded to angle frame & hinged manway.

Engineering Data

Field excavation and preparation shall be completed prior to delivery of assembly. Use dimensional data as shown. Pipe, valves and fittings of the assembly are approved by one or more of the following associations:

AWWA

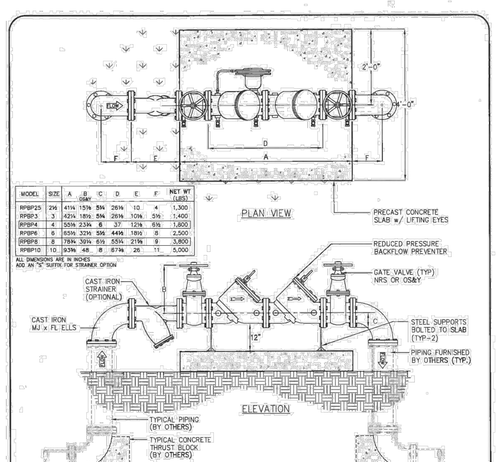
PROJECT:	
CUSTOMER:	
ENGINEER:	
ORDER #:	
PROJ #:	
DATE:	

BBB.611.PARK www.parkusa.com PARK USA DESIGN FOR WATER

2" WATER METER ASSEMBLY

FM	DRN	ENG
DATE 08/2017	DWG. NO. DMC–2	REV. A

DMC2–1



MODEL	SIZE	A	B	C	D	E	F	NET WT (LBS)
RPBP2S	2"#	41¼	13¾	5¾	25¾	10	4	1,300
RPBP3	3	42¼	18½	5¾	26¼	10¾	5½	1,400
RPBP4	4	55¾	23¾	6	37	12¾	6½	1,600
RPBP6	6	63¾	32¾	5¾	44⅝	18½	8	2,500
RPBP8	8	78¾	36¾	6½	53¾	21⅝	9	3,800
RPBP10	10	93⅜	48	8	67⅝	26	11	5,000

ALL DIMENSIONS ARE IN INCHES
ADD AN "S" SUFFIX FOR STRAINER OPTION

© Park 2002

Specifications

CONCRETE : Class I concrete with design strength of 4500 PSI at 28 days.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

Typical Applications

RP devices are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospital facilities, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Engineering Data

The backflow assembly shall be factory assembled on pad & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves and fittings of the assembly shall be approved by one or more of the following associations:

PROJECT :	
CUSTOMER:	
ARCHITECT :	
ENGINEER :	
ORDER # :	
DATE :	

PARK ENVIRONMENTAL EQUIPMENT 888-611-PARK www.park-USA.com

"Expect the Best"

REDUCED PRESSURE BACKFLOW PREVENTER w/ STRAINER ON PRECAST CONCRETE PAD

SCALE	NONE	DWG. NO.	RPBPS–1	REV.
DATE:	1/06			A

Revision / ADDENDUM 01 — Date 07/24/2026

TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

Project:

SARA KAROUNI 145244 LICENSED PROFESSIONAL ENGINEER 7/23/26

Huckabee
www.huckabee–inc.com 800.687.1229

WGA
TEXAS REGISTERED ENGINEERING FIRM F–9756
2500 Tanglewilde, Suite 120 Houston, Texas 77063 713.789.1900
4526 Research Forest, Suite 360 The Woodlands, Texas 77381 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

WATER AND SANITARY SEWER DETAILS (1 OF 2) VOLUME 01

Job No. 00788-002	Sheet No. C9.1
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

Drawing: J:\00788 (Huckabee)\002 Tomball Intermediate School Replacement\500 CAD\530 Sheets\C9.1 Water & Sanitary Sewer Details.dwg Last Plotted: Thu Jul 23, 2026 – 3:46pm By: ctaogue

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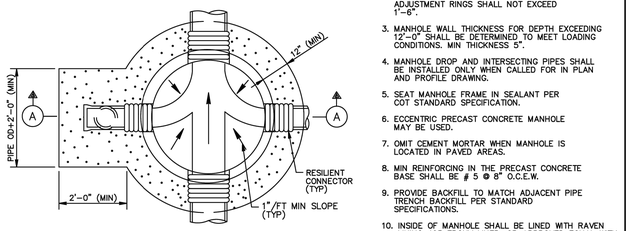
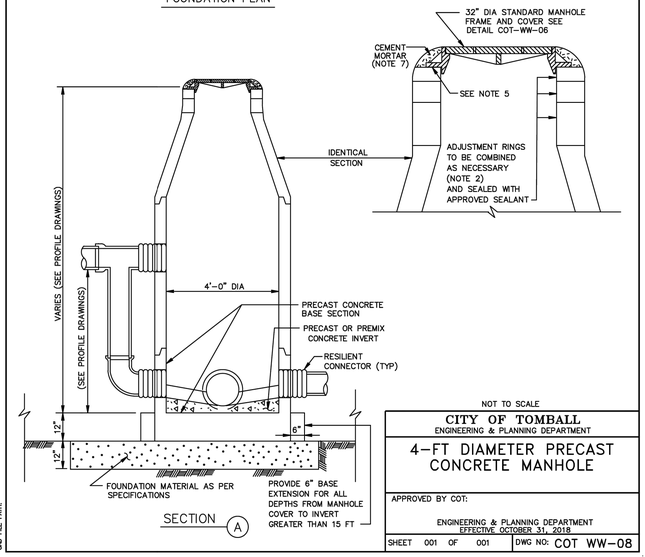


FOUNDATION PLAN

NOTES:

1. DEPTH OF MANHOLE DETERMINES SECTIONS REQUIRED.
2. PRECAST CONCRETE RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12", THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-6".
3. MANHOLE WALL THICKNESS FOR DEPTH EXCEEDING 12'-0" SHALL BE DETERMINED TO MEET LOADING CONDITIONS. MIN THICKNESS 5".
4. MANHOLE DROP AND INTERSECTING PIPES SHALL BE INSTALLED ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWING.
5. SEAT MANHOLE FRAME IN SEALANT PER COT STANDARD SPECIFICATION.
6. ECCENTRIC PRECAST CONCRETE MANHOLE MAY BE USED.
7. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
8. MIN REINFORCING IN THE PRECAST CONCRETE BASE SHALL BE # 5 @ 8" O.C.E.W.
9. PROVIDE BACKFILL TO MATCH ADJACENT PIPE TRENCH BACKFILL PER STANDARD SPECIFICATIONS.
10. INSIDE OF MANHOLE SHALL BE LINED WITH RAVEN LINING 405 EPOXY LINER, OR APPROVED EQUAL WITH 100 MILS MINIMUM THICKNESS.



NOT TO SCALE

CITY OF TOMBALL
ENGINEERING & PLANNING DEPARTMENT

4-FT DIAMETER PRECAST CONCRETE MANHOLE

APPROVED BY COT:

ENGINEERING & PLANNING DEPARTMENT
EFFECTIVE OCTOBER 31, 2018

SHEET 001 OF 001 | DWG NO: COT WW-08

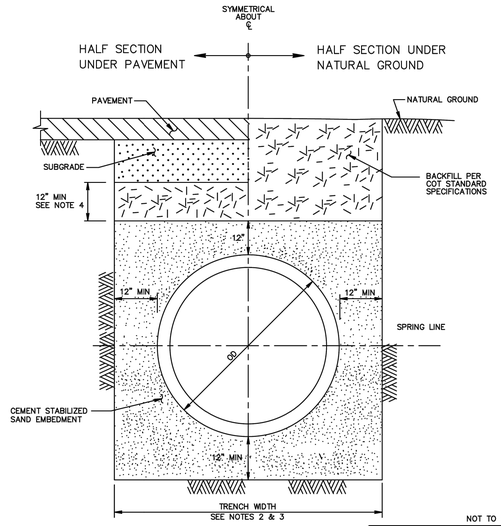
CAD FILE PATH:

NOTES:

1. WHERE WET SAND IS ENCOUNTERED, REINFORCED CONCRETE PIPE SEWERS SHALL BE CONSTRUCTED USING APPROVED SPECIAL DESIGN AS SHOWN ON DRAWINGS.
2. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "A" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"A"
18" TO 30"	24"
OVER 30"	36"

3. MAX TRENCH WIDTH SHALL NOT BE GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.



NOT TO SCALE

CITY OF TOMBALL
ENGINEERING & PLANNING DEPARTMENT

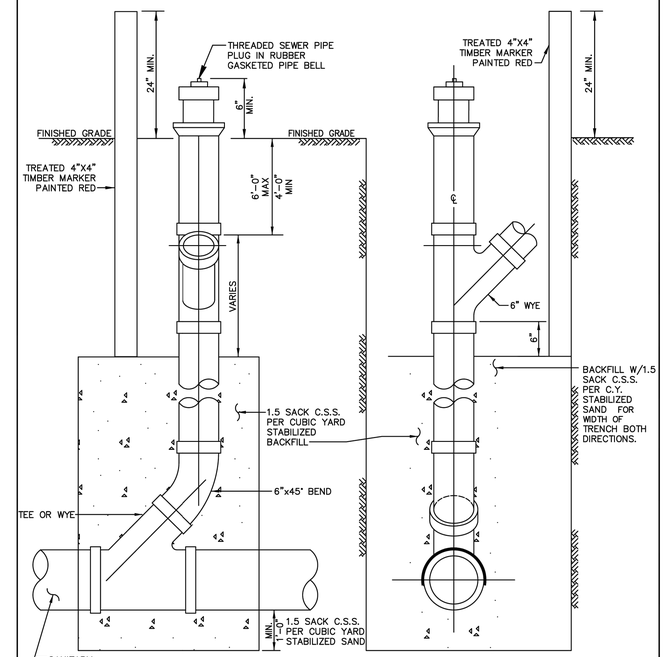
SANITARY BEDDING & BACKFILL FOR DRY STABLE TRENCH

APPROVED BY COT:

ENGINEERING & PLANNING DEPARTMENT
EFFECTIVE JULY 1, 2010

SHEET 001 OF 001 | DWG NO: COT WW-19

CAD FILE PATH:



TRENCH SIDE VIEW

STACK DETAIL

TRENCH END VIEW

NOTES:

A.) NO STACKS ON MAINS OVER 18' DEEP OR IN WET SAND CONDIITIONS.

B.) ALL STACK CONNECTIONS SHALL BE IN-LINE FITTINGS.

NOT TO SCALE

CITY OF TOMBALL
ENGINEERING & PLANNING DEPARTMENT

SANITARY SEWER STANDARD STACK CONSTRUCTION DETAILS

APPROVED BY COT:

ENGINEERING & PLANNING DEPARTMENT
EFFECTIVE JULY 1, 2010

SHEET 001 OF 001 | DWG NO: COT WW-15

CAD FILE PATH:

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

SARA KAROUNI
145244
LICENSED PROFESSIONAL ENGINEER
7/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120, Houston, Texas 77063, 713.789.1900
4526 Research Forest, Suite 360, The Woodlands, Texas 77381, 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

WATER AND SANITARY SEWER DETAILS (2 OF 2) VOLUME 01

Job No.	Sheet No.
00788-002	C9.2
Drawn By: CT	
Date: 07.23.26	

ADDENDUM 01

11/18/2025 8:38:39 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt

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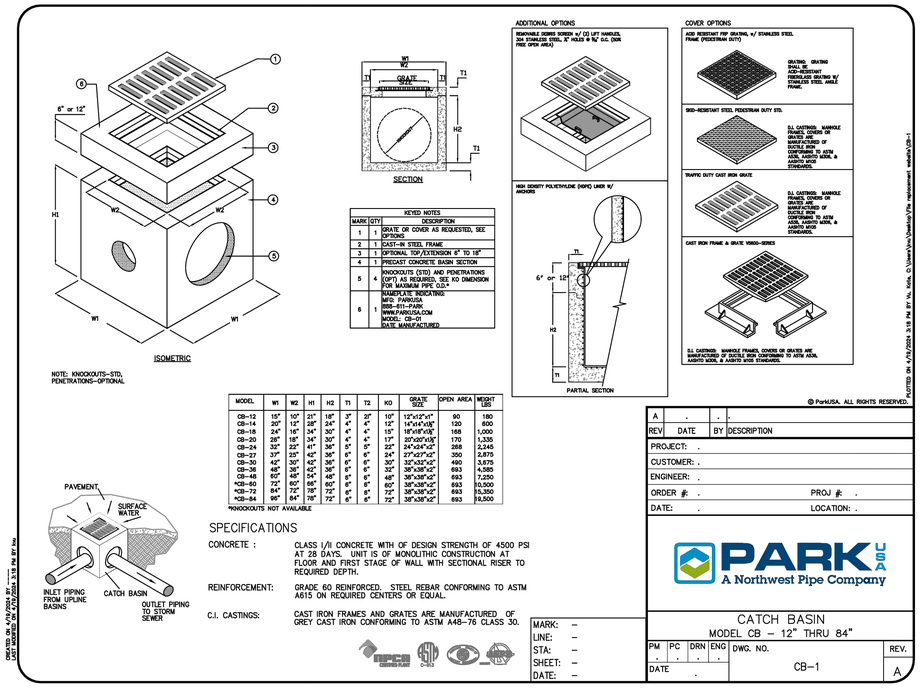


MODEL	W1	W2	H1	H2	T1	T2	KO	GRATE SIZE	OPEN AREA	WEIGHT LBS
CB–12	15"	10"	21"	18"	3"	2"	10"	12"x12"x1"	90	180
CB–14	20"	12"	28"	24"	4"	4"	12"	14"x14"x1⅜"	120	600
CB–18	24"	18"	34"	30"	4"	4"	15"	18"x18"x1⅜"	168	1,000
CB–20	28"	18"	34"	30"	4"	4"	17"	20"x20"x1⅜"	170	1,335
CB–24	33"	22"	41"	36"	5"	5"	22"	24"x24"x2"	288	2,245
CB–27	37"	25"	42"	36"	6"	5"	25"	27"x27"x2"	350	2,875
CB–30	42"	30"	42"	36"	6"	5"	30"	32"x32"x2"	490	3,675
CB–36	48"	36"	42"	36"	6"	5"	36"	38"x38"x2"	693	4,585
CB–48	60"	48"	54"	48"	6"	6"	48"	38"x38"x2"	693	7,250
*CB–60	72"	60"	66"	60"	6"	6"	60"	38"x38"x2"	693	10,500
*CB–72	84"	72"	78"	72"	6"	6"	72"	38"x38"x2"	693	13,350
*CB–84	96"	84"	78"	72"	6"	6"	72"	38"x38"x2"	693	19,500

*KNOCKOUTS NOT AVAILABLE

SPECIFICATIONS

CONCRETE : CLASS I/II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

REINFORCEMENT: GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48–76 CLASS 30.

REV	DATE	BY	DESCRIPTION
A	.	.	.

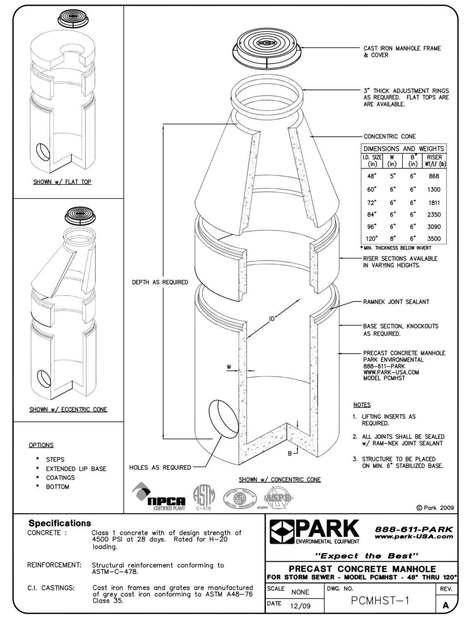
PROJECT: .
CUSTOMER: .
ENGINEER: .
ORDER #: . PROJ #: .
DATE: . LOCATION: .

PARK USA — A Northwest Pipe Company

MARK: –
LINE: –
STA: –
SHEET: –
DATE: –

CATCH BASIN
MODEL CB – 12" THRU 84"

PM	PC	DRN	ENG	DWG. NO.	REV.
.	.	.	.	CB–1	A
DATE	.				



Specifications

CONCRETE : Class 1 concrete with of design strength of 4500 PSI at 28 days. Rated for H–20 loading.

REINFORCEMENT: Structural reinforcement conforming to ASTM–C–478.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48–76 Class 35.

PARK ENVIRONMENTAL EQUIPMENT 888–611–PARK www.park–USA.com

"Expect the Best"

PRECAST CONCRETE MANHOLE
FOR STORM SEWER – MODEL PCMHST – 48" THRU 120"

SCALE	NONE	DWG. NO.	REV.
DATE	12/09	PCMHST–1	A

All drawings are available for download at www.park-usa.com in .dwg & .pdf formats

3-37

MODEL # JUNCTION BOX	DIMENSIONS W1	W2	H1	H2	KO	WEIGHT LBS
JBE–48	60"	48"	54"	48"	48"	8,900
JBE–60	72"	60"	66"	60"	60"	13,650
JBE–72	84"	72"	78"	72"	72"	19,000
JBE–84	96"	84"	78"	72"	84"	23,000

SPECIFICATIONS

CONCRETE : Class 1 concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth. Rated for H–20 Loading.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required centers or equal.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48–76 Class 30.

PARK ENVIRONMENTAL EQUIPMENT 888–611–PARK www.park–USA.com

"Expect the Best"

JUNCTION BOX
MODEL JBE– 48" THRU 84"

SCALE	NONE	DWG. NO.	REV.
DATE	12/09	JBE–1	A

DOWNSPOUT TIE-IN
N.T.S.

NOT TO SCALE

CITY OF TOMBALL
ENGINEERING & PLANNING DEPARTMENT

STORM BEDDING & BACKFILL FOR DRY STABLE TRENCH

APPROVED BY COT:
ENGINEERING & PLANNING DEPARTMENT
EFFECTIVE SEPTEMBER 7, 2017

SHEET 001 OF 001 DWG NO: COT STM–04

DRI FILE #4976

SPECIFICATIONS

CONCRETE : Class II concrete with of design strength of 4500 PSI at 28 days. Unit is of monolithic construction at floor and first stage of wall with sectional riser to required depth. Rated for H–20 Loading.

REINFORCEMENT: Grade 60 reinforced with steel rebar to conform to ASTM A615 on required centers or equal.

C.I. CASTINGS: Cast iron frames and grates are manufactured of grey cast iron conforming to ASTM A48–76 Class 30.

PARK ENVIRONMENTAL EQUIPMENT 888–611–PARK www.park–USA.com

"Expect the Best"

TYPE–A GRATE INLET
MODEL COHTAI – SIZE 30"

SCALE	NONE	DWG. NO.	REV.
DATE	2010	COHTAI–2	A

3-14

All drawings are available for download at www.park-usa.com in .dwg & .pdf formats

REVISION / ADDENDUM	DATE
1	07/24/2026

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

SARA KAROUNI — 145244 — LICENSED PROFESSIONAL ENGINEER — 7/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120, Houston, Texas 77063, 713.789.1900
4526 Research Forest, Suite 360, The Woodlands, Texas 77381, 713.789.1900

SCALE	DESIGN	DRAWN
N/A	AH	CT

STORM SEWER DETAILS
VOLUME 01

Job No.	Sheet No.
00788-002	C10.1
Drawn By: CT	
Date: 07.23.26	

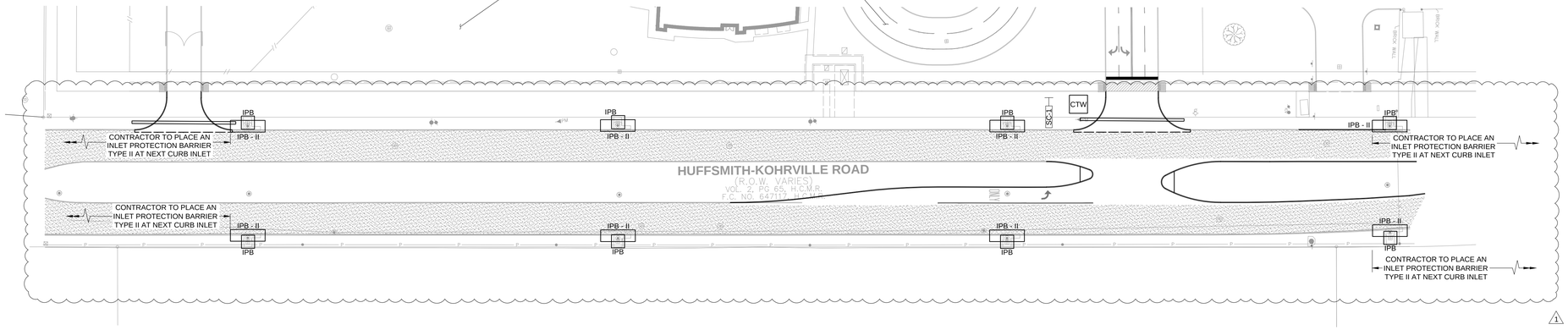
ADDENDUM 01

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00002-44-01 - Tomball ISD IS Replacement_ARCH.rvt

Copyright © 2026, Huckabee & Associates, Inc.

0 40 80
SCALE: 1" = 40'

REF: WATER DISTRIBUTION, SANITARY SEWER, PAVING & DRAINAGE
TITLED "TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT"
WARD, GETZ & ASSOCIATES
WGA P# 00788-002
CITY OF TOMBALL PROJECT NO. SP26-025



EROSION CONTROL SCHEDULE AND SEQUENCING

I. ROUGH GRADING
GRADING CONSTRUCTION ENTRANCE/EXIT, SILT FENCE PROTECTION, AND STONE OVERFLOW STRUCTURES SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING, AS NEEDED.

II. UTILITY INSTALLATION
ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING UTILITY INSTALLATION. INLET PROTECTION SHALL BE INSTALLED AS STORM DRAINAGE SYSTEM IS CONSTRUCTED.

III. PAVING
ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING PAVING AND THROUGHOUT THE REMAINDER OF THE PROJECT.

IV. FINAL GRADING/SOIL STABILIZATION
ALL TEMPORARY EROSION CONTROL MEASURES TO BE REMOVED AT THE CONCLUSION OF THE PROJECT ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

SWPPP NOTE:

ANY OFF-SITE STAGING AREA UTILIZED BY THE OPERATOR OF THIS SITE MUST BE INCLUDED IN THE SWPPP NARRATIVE PLAN AND TO SWPPP SITE PLAN AS REQUIRED BY THE TPDES TEXAS GENERAL PERMIT TXR150000 (SECTION F). ANY SUCH AREA INCLUDED IN THE SWPPP WILL BE TREATED BY THE OPERATOR AS ANY OTHER PART OF THE CONSTRUCTION ACTIVITY FOR THE PURPOSES OF STORM WATER POLLUTION PREVENTION.

1

SWPPP LEGEND:

SC-1	STABILIZED CONSTRUCTION EXIT
x — SFB — x	REINFORCED FILTER FABRIC BARRIER
IPB	INLET PROTECTION BARRIER (STAGE 1 & 2)
CTW	CONCRETE TRUCK WASHOUT AREA
IPB - II	INLET PROTECTION BARRIER TYPE II
	EXISTING CONCRETE PAVEMENT

BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 23803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
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BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120
Houston, Texas 77063
713.789.1900
4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
1" = 40'	AG, MH	AG

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Sara Karouni
STATE OF TEXAS
SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

Huckabee
www.huckabee-inc.com
800.687.1229

STORM WATER POLLUTION PREVENTION PLANS
VOLUME 01

Job No. 00788-002-01	Sheet No. C13.1
Drawn By: AG	
Date: 07.23.26	

S&S

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt

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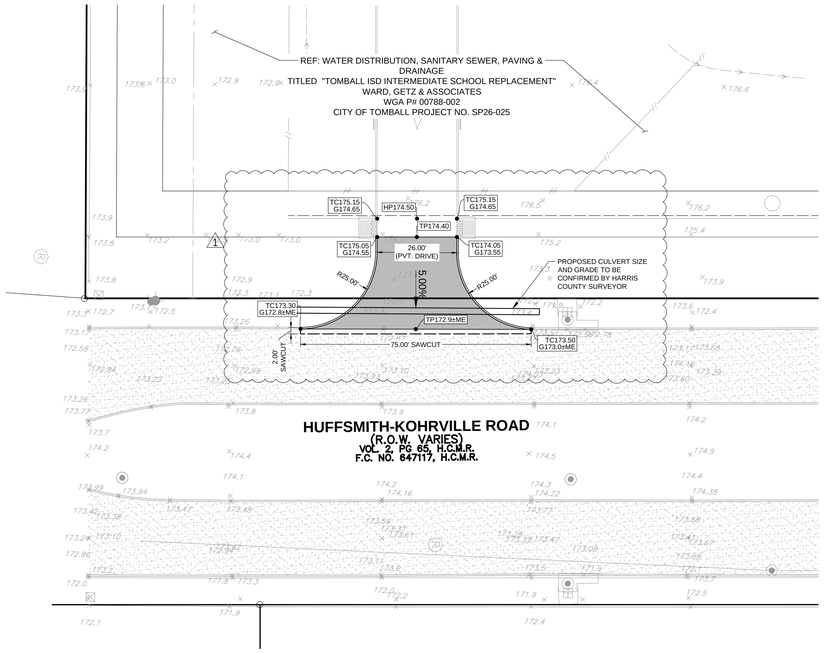
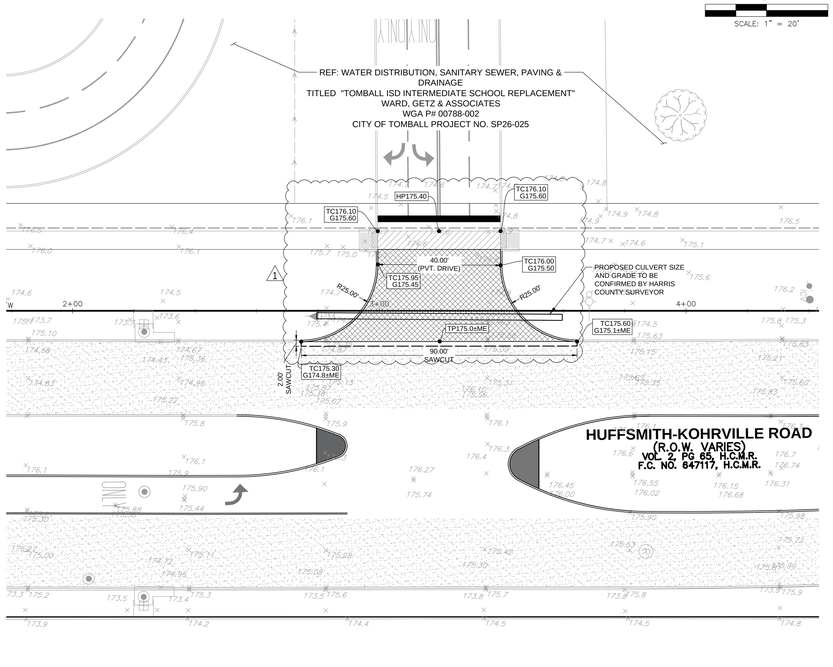
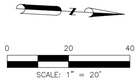


DRIVEWAY 1



DRIVEWAY 2



LEGEND:

	EXISTING CONCRETE PAVEMENT
	PROPOSED 6" CONCRETE PAVEMENT
	PROPOSED 7" CONCRETE PAVEMENT

PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND HARRIS COUNTY DESIGN STANDARD AS CURRENTLY AMMENDED

Appendix F

CONSTRUCTION NOTES FOR ESPLANADE OPENINGS AND TURN LANES

NO	DESCRIPTION OF ITEM
1	Esplanade noses at the crossover are to be bullet type, painted reflectorized yellow, in accordance with the Harris County Pavement Marking Detail and to be six inches (6") thick with surface colored black for concrete pavement and uncolored for asphalt pavement, a minimum of six feet (6') deep measured from the end of the median nose and the curbs are at least four feet (4') in width face to face.
2	The relocation of existing trees, landscaping, sprinkler systems, water meters, fire hydrants, manholes, and pipelines (if applicable) are to be re-installed as recommended by the Harris County Engineering Department – Permit Office and/or the Harris County Precinct (If located in Precinct 3, add note: **Contractor(s) to contact Precinct 3 Parks Administration Office @ (281-531-1592) two (2) weeks prior to construction for tree(s) and landscaping relocation.**
3	Existing reinforced concrete pavement is to be machine saw-cut 1-1/2 inches deep to expose a minimum of twenty-four (24) inches of reinforcing bars and place new reinforcing bars to match existing steel size and spacing and tie new reinforcing bars to existing reinforcing bars with eighteen (18) inch laps. Full depth saw-cut may be used as an alternative.
4	Reinforcing concrete pavement is to be a minimum eight (8) inches with a minimum of 5.0 sack cement per cubic yard, [4500 psi in twenty-eight (28) days]. Note: Depth of concrete to meet current requirements of depth of existing pavement whenever it is greater.
5	Asphalt turn lane to be minimum (2) inches H.M.A.C. with (10) inch base. Road widening's done on asphalt roadways for turn lanes must be overlaid full width of the roadway from beginning to ending transition.
6	Subgrade shall be a minimum of six (6) inches for asphalt and eight (8) inches for concrete, of a material as specified by the engineer and approved by Harris County, and compacted to ninety-five (95) percent standard proctor density (+/-) two (2) percent moisture. Cement stabilized sand, as prescribed by Harris County specs, may be used as an alternative.
7	Slope on proposed concrete left turn slots is to be a minimum of 1/8 inch per foot with crown at center of esplanade.
8	All sewers under or within one (1) foot of proposed or future pavement shall be backfilled with 1-1/2 sack cement stabilized sand to within one (1) foot of subgrade.
9	The contractor shall notify the Harris County Engineering Department – Permit Office twenty-four (24) hours in advance of commencing construction at (713) 274-3931 and written notification forty-eight (48) hours in advance of commencing construction for commercial and residential development.

Appendix F

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10	All pavement work will require an accredited lab certification for subgrade, concrete compressive strength, in place core. Asphalt work will require a sieve test, subgrade and base compaction results.
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13	Include Harris County Drawing SD-1 as part of the construction plans.
14	Include Harris County Pavement Marking Detail as a part of the construction plans.
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16	**OWNER OR OWNER'S AGENT** to obtain all permits and notification(s) required by Harris County, Texas prior to starting construction of utilities and/or culverts within Harris County road rights-of-way.

PLEASE ADD ALL NOTES CIRCLED IN RED TO THE CONSTRUCTION PLANS.

NOTES:

1. PROP. CURB LINE REPRESENTS FACE OF CURB. ALL STATION AND ELEVATION SHOTS ARE SHOWN TO FACE OF PROP. CURB.
2. CONTRACTOR TO ADJUST WATER VALVES WITHIN LIMITS OF CONSTRUCTION, AS NECESSARY.
3. CONTRACTOR TO RELOCATE ALL FIRE HYDRANTS 3' FROM BACK OF CURB, AS NECESSARY.

NOTE:

1. A NOTIFICATION ISSUED BY HC INFRASTRUCTURE DEPARTMENT-PERMITS OFFICE- IS REQUIRED FOR PROPOSED WORK WITHIN HARRIS COUNTY RIGHT-OF-WAY. THE PROJECT MUST BE APPROVED PRIOR TO OBTAIN THE REQUIRED NOTIFICATION. A NOTIFICATION MUST BE OBTAINED SEPARATELY FROM SITE DEVELOPMENT PERMIT PACKAGE. FOR ADDITIONAL INFORMATION PLEASE VISIT: HTTP://HCPID.ORG/PERMITS/PR_NOTIFICATION_OF_CONSTRUCTION.HTML OR CONTACT PUBLIC REVIEW INSPECTIONS DEPARTMENT @ (713)274-3931
2. SAW CUT AREA MUST BE TO THE EXISTING JOINTS
3. HARRIS COUNTY HAS FINAL DETERMINATION ON SAW CUT AREA

BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 23803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

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BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
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BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

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WGA
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2500 Tanglewilde, Suite 120
Houston, Texas 77063
713.789.1900
4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
N/A	AG, MH	AG

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Huckabee
www.huckabee-inc.com
800.687.1229

PROPOSED DRIVEWAYS

VOLUME 01

Job No. 00788-002-01	Sheet No. C14.1
Drawn By: AG	
Date: 07.23.26	

S&S

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt
Drawing: Z:\00788 (huckabee)\002 tomball intermediate school replacement\01 public\500 CAD\530 sheets\15 – PLAN A.dwg Last Plotted: Thu Jul 23, 2026 – 5:21pm By: mvega

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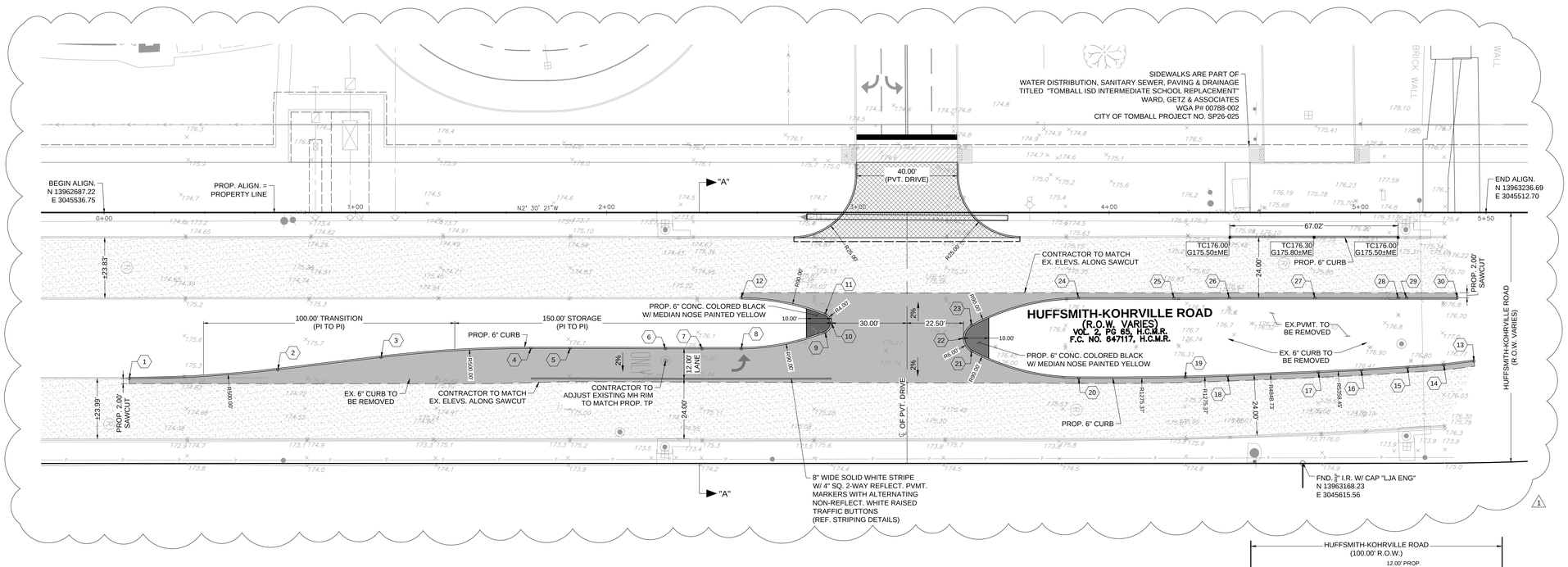
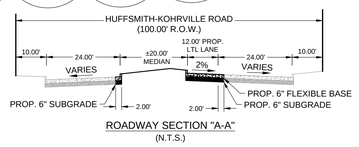


LEGEND:	
	EXISTING CONCRETE PAVEMENT
	PROPOSED CONCRETE PAVEMENT (MATCH EXISTING CONCRETE THICKNESS AND REINFORCING



ROADWAY SECTION "A-A"
(N.T.S.)

PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND HARRIS COUNTY DESIGN STANDARD AS CURRENTLY AMMENDED

NOTES:

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2. SAW CUT AREA MUST BE TO THE EXISTING JOINTS
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SPEED LIMIT 45

MEDIAN TC TABLE

No.	STATION	OFFSET	TC ELEVATION
1	0+10.00	66.07' RT	175.25±ME
2	0+69.15	62.51' RT	175.55
3	1+10.25	57.58' RT	175.70
4	1+69.88	54.03' RT	176.00
5	1+85.47	54.03' RT	176.05
6	2+23.45	54.15' RT	176.10
7	2+38.05	54.20' RT	176.10
8	2+53.59	54.17' RT	176.15
9	2+87.01	47.72' RT	176.35
10	2+89.52	44.00' RT	176.30
11	2+87.00	40.29' RT	176.10
12	2+53.58	33.88' RT	175.80±ME
13	5+45.24	59.17' RT	176.85±ME
14	5+33.24	60.73' RT	176.80
15	5+18.73	61.65' RT	176.70
16	5+00.36	62.81' RT	176.70
17	4+83.32	63.60' RT	176.65
18	4+47.21	65.08' RT	176.65
19	4+30.31	65.60' RT	176.50
20	3+87.88	65.93' RT	176.40
21	3+45.22	55.26' RT	176.45
22	3+42.05	49.98' RT	176.50
23	3+45.20	44.69' RT	176.30
24	3+87.82	33.88' RT	176.15
25	4+25.77	33.98' RT	176.35
26	4+47.78	33.89' RT	176.45
27	4+81.88	33.91' RT	176.60
28	5+15.04	33.93' RT	176.65
29	5+18.40	33.93' RT	176.65
30	5+38.67	33.94' RT	176.70±ME

Appendix F

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BENCHMARKS:

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BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

WGA
TEXAS REGISTERED ENGINEERING FIRM F-9756
2500 Tanglewilde, Suite 120
Houston, Texas 77063
713.789.1900
4526 Research Forest, Suite 360
The Woodlands, Texas 77381
713.789.1900

SCALE	DESIGN	DRAWN
1" = 20'	AG, MH	AG

Revision /	Date
1 ADDENDUM 01	07/24/2026

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Huckabee
www.huckabee-inc.com
800.687.1229

PROPOSED LEFT TURN LANE
VOLUME 01

Job No. 00788-002-01	Sheet No. C15.1
Drawn By: AG	
Date: 07.23.26	

S&S

11/19/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt
Drawing: Z:\00788 (huckabee)\002 tomball intermediate school replacement\01 public\500 CAD\530 sheets\15 – PLAN A.dwg Last Plotted: Thu Jul 23, 2026 – 5:27pm By: mvega

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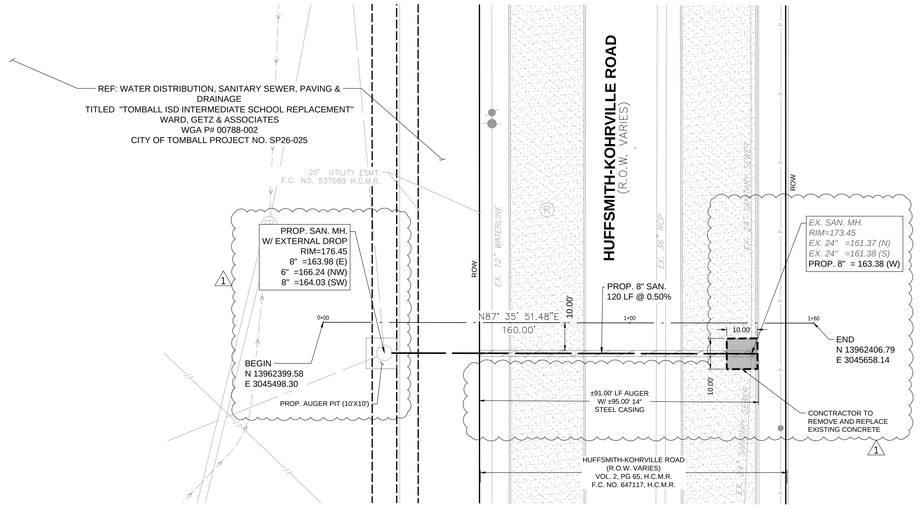
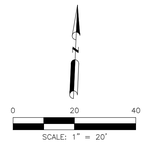
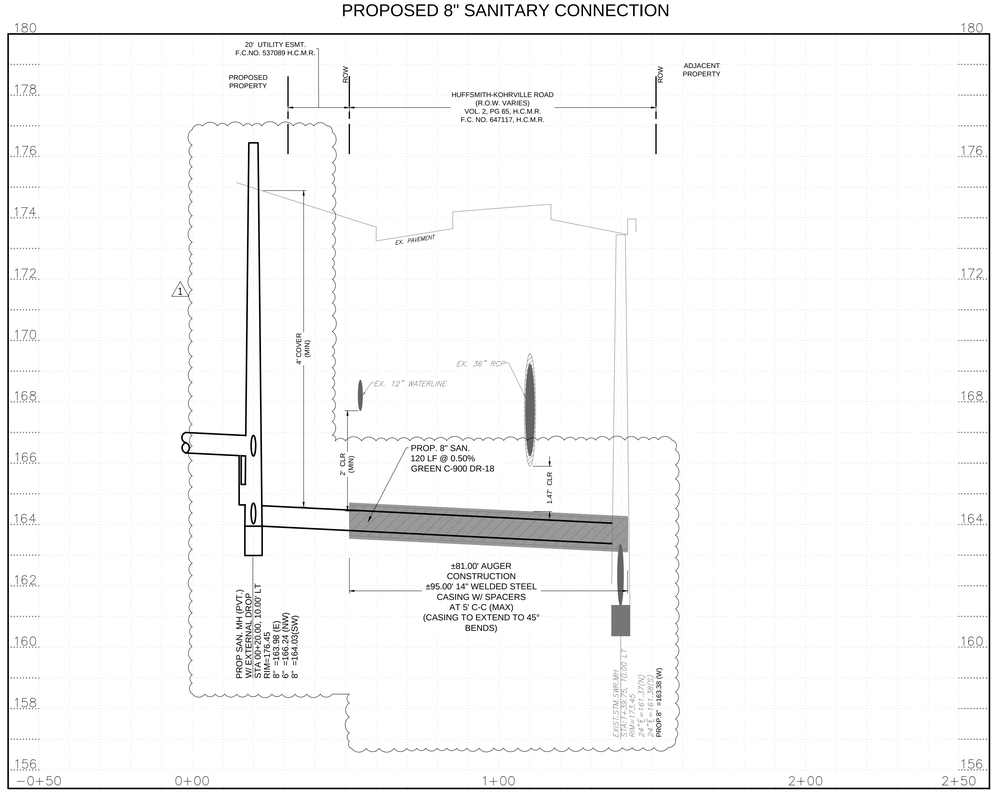




PROPOSED 8" SANITARY CONNECTION



1

LEGEND:	
	EXISTING PAVEMENT (CONCRETE/ASPHALT AS NOTED)
	PROPOSED CONCRETE PAVEMENT (MATCH EXISTING CONCRETE THICKNESS AND REINFORCING)

BENCHMARKS:

REFERENCE BENCHMARK PUBLISHED ELEVATION - 140.69'

RM120165 - ALUMINUM ROD WITH LOGO CAP STAMPED "120165" LOCATED ON THE WEST SIDE OF TUWA ROAD ±120' NORTH OF THE CENTERLINE OF THE DRIVEWAY FOR 23803 TUWA ROAD IN KEY MAP 289H IN THE WILLOW CREEK WATERSHED. (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARK 'B' ELEVATION - 174.74'

BOX CUT ON "C1" INLET LOCATED ON THE EAST SIDE OF HUFSMITH-KOHRVILLE RAD ±1,175' SOUTH OF F.M. 2920 AND ±450' NORTH OF THE MOST EASTERLY SOUTHEAST CORNER OF THE SUBJECT TRACT.
TEMPORARY BENCHMARK 'C' ELEVATION - 176.71'

BOX XUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ±40' SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTHEAST PARKING LOT.
TEMPORARY BENCHMARK 'D' ELEVATION - 177.49'

BOX CUT ON CONCRETE BASE OF LIGHT STANDARD LOCATED ON THE NORTH SIDE OF THE DIESEL FUELING STATION.

FLOODPLAIN NOTE:

THIS SUBJECT TRACT LIES WITHIN UNSHADED ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN (1% ANNUAL FLOODPLAIN CHANCE) AS DELINEATED ON THE FLOOD INSURANCE MAP FOR HARRIS COUNTY, TEXAS AND INCORPORATED AREAS, MAP NO. 48201C0230L MAP REVISED JUNE 18TH, 2007.

WGA
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The Woodlands, Texas 77381
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SCALE	DESIGN	DRAWN
1" = 20'	AG, MH	AG

Revision / Date
1 ADDENDUM 01 07/24/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Sara Karouni
STATE OF TEXAS
SARA KAROUNI
145244
LICENSED
PROFESSIONAL ENGINEER
7/23/26

Huckabee
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PLAN AND PROFILE - 8" SANITARY SEWER VOLUME 01

Job No. 00788-002-01	Sheet No.
Drawn By: AG	C16.1
Date: 07.23.26	

S&S

11/18/2025 8:39:30 AM
Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01_Tomball ISD IS Replacement_ARCH.rvt
Drawing: Z:\00788 (huckabee)\002 tomball intermediate school replacement\01 public\500 CAD\530 sheets\17 - SANITARY SEWER P & P.dwg Last Plotted: Thu Jul 23, 2026 - 5:21pm By: mvega

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Landscape Requirements:

1. Perform all work in accordance with all applicable laws, codes, and regulations required by authorities having jurisdiction over such work and provide all inspections and permits required by Federal, State, and local authorities in supply, transportation, and installation of materials.

2. The contractor shall be responsible for the verification of all underground utility lines (telephone, gas, water, electrical, cable, TV, etc.) and all overhead utility easements prior to start of any planting works.

3. All plant materials shall possess the following minimum qualities:
   a. Plants shall be nursery grown in accordance with good horticultural practices under climatic conditions similar to those of the project for at least twelve months.
   b. All plants shall be heavy, symmetrical, tightly knit, so trained or favored for development and appearance as to be superior in form, number of branches, compactness, and symmetry.
   c. Plants shall be sound, healthy and vigorous, well branched, and densely foliated when in leaf. They shall be free of disease, insects, pests, eggs, or larvae.
   d. All plants shall be true of species and variety and shall conform to measurements (caliper size, trunk heights, spread) as specified on the drawings.
   e. Container grown stock when specified shall have grown in the container in which delivered for at least six months, but not over two years. Samples must prove no rootbound conditions exist.
   f. Caliper measurements shall be taken at a point on the trunk six inches (6") above natural ground line for trees up to four inches (4") in caliper.
   g. All trees shall be staked by a minimum of two metal "T" stakes for single trunk trees and three stakes for all multi-trunk trees.

4. Planting mix shall be thoroughly mixed in the following proportions:
   a. Prepared soil as backfill for shade and ornamental trees shall be: 5 part clay loam topsoil + 2 part compost + 1 part sharp sand + 4 Lbs. Commercial fertilizer per CY Or 10 Lbs. Organic fertilizer.
   b. Prepared soil as backfill for shrubs and groundcovers and seasonal colors shall be: 1 part enriched mulch + 1 part compost bark mulch + 1 part enriched topsoil + 1 part No. 1 Bank Sand + 3 Lbs. Time- released fertilizer, 14-14-14 per CY or 8 Lbs. Organic fertilizer.

5. Excavation work and Surface drainage works shall conform to the following requirements:
   a. Test drainage of plant beds and plant pits by filling with water twice in succession. Conditions permitting the retention of water for more than 24 hours shall be brought to the attention of the Owner.
   b. Work shall include the final responsibility for proper surface drainage of planted areas. Any obstructions on the site, or prior work done by another part, which precludes establishing proper drainage shall be brought to the attention of the Owner in writing.
   c. Excavate each tree hole 18" deep plus the depth of the tree container size (15 gal. Or 30 gal. Or 65 gal. Or 100 gal.).
   d. Excavate entire shrub bed to a depth of 8" plus the depth of the shrub container size (5 gal.) unless noted as being pit planted on landscape legend.
   e. Excavate entire groundcover bed to a depth of 6" plus the depth of the groundcover container size (4" pot or 1 gal.).

6. Additional work requirements on landscape areas:
   a. Prior to installation of any planting works (trees, shrubs,groundcover and grass works); apply "Round Up" in all planting areas to eradicate all weed growths on site.
   b. ADD ALTERNATE: Install weed control barriers in all trees, shrub and groundcover planting areas. Weed barrier fabric shall be back polypropylene sheet 27 mils thick, 4 oz/s.y. grab tensile strength per ASTM D-4632; 90 lbs. (machine direction) 50 lbs.(cross machine direction). Provide DeWitt "Weed Barrier" or approved substitute.
   c. Use **"Shovel Edge"** to separate all plant beds from grass areas.
   d. Spread a minimum two inch layer of pine bark mulch overall shrub and groundcover bed areas.

7. Landscape maintenance work by the Landscape Contractor after final acceptance shall include the following:
   a. The maintenance period shall commence upon inspection and approval at Final Acceptance and shall be for a period of Sixty Days (60).
   b. The landscape contractor shall coordinate the watering program for all the landscape work with the Owner.
   c. Maintenance of new plantings shall consist of watering, cultivating, weeding, mulching, restaking, tightening and repair of guys; resetting plants for proper grades or upright position, and furnishing and application of pesticides/herbicides; sprays, and invigorants as are necessary to keep plantings free of insects and disease and in a thriving condition.

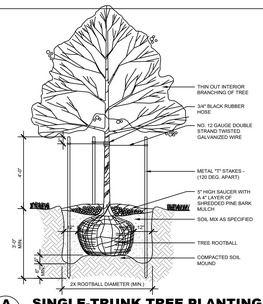
8. Warranty Periods, Plant Guarantees, and Replacements:
   a. Planting supplied shall be warranted to remain alive and healthy for a period of twelve months (12) after the date of Final Acceptance by Owner. Plants in an impaired, dead, or dying condition after initial acceptance or within 12 months shall be removed and replaced immediately to the satisfaction of the Owner.

Landscape Summary:

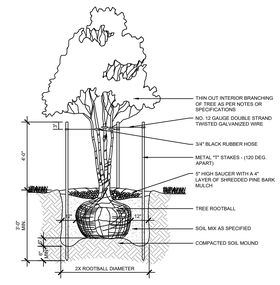
Applicable Code	Section 50-113, Code of Ordinances	
Total Area of Site (SF)	602,699 SF	
Total Area of Site covered by a building:	88,379.47 SF	
Total Area of Site NOT covered by a building:	514,319.53 SF	
TOMBALL REQUIREMENTS:	**REQUIRED**	**PROVIDED**
Front Yard Landscaping: 15% of the Front Yard shall be permanently landscaped. 60,425 x 15% = 9,063.75 SF required.	9,063.75 SF required.	17,423 SF provided
Tree Requirements: 40,001 sf or greater, per 20,000 sf: 3 trees Total SF of site not covered by a building:	514,319.53 SF/20,000 = 25.7 x 3 = 77 Trees	81 Trees Provided
Street Trees Section 50-113(f)(4)(d), code of ordinances Hufsmith-Kohrville Rd 770.60 LF/40 = 19.26 trees	19 Trees	19 Trees
Parking Lot Trees 152/10= 15.2 trees	15 Trees	15 Trees
Total Trees (Site + Street + Parking) 77 + 19 + 15 = 121	111 Trees	116 Trees

Grass Hydromulching Work Requirements:

1. Grass works:
   a. Seed which has become wet, moldy and otherwise damaged in transit or in storage will not be acceptable.
   b. All grass seed shall be fresh, re-cleaned grass seed of the latest crop, mixed in the following proportions by weight and meeting the accepted standards of pure live seed content, purity and germination.
   c. Grass seed shall have the following minimum ratio:
      Summer Mix:
      Cynodon Dactylon (Hulled Common Bermuda Grass) 85% pure live seed at 75 Lbs. Pure live seed per acre.
      Winter Mix:
      Cynodon Dactylon (Unhulled - Common Bermuda Grass) 85% pure live seed at 75 Lbs. Pure live seed per acre. Annual Rye Grass or equal, 85% pure live seed at 175 Lbs. Pure live seed per acre.
2. Slurry Mix Component per Acre shall be Wood cellulose fiber mulch = 2,000 pounds + Grass Seed as specified + fertilizer (13-13-13) 800 pounds.
3. Hydromulched seeding on Prepared finished grades:
   a. Install and spread out a minimum of one inch layer of topsoil over all areas to be hydromulched.
   b. Bed preparation: Immediately after the finished grade has been approved, begin hydroseeding operation to reduce excessive weed growth and erosion.
   c. Apply seed, fertilizer and mulch by spraying them on the previously prepared seedbeds in the form of an aqueous mixture and by using the methods and equipment described herein.
   d. Particular care shall be exercised by the contractor to insure that the application is made uniformly and at the prescribed rate and to guard against miss and overlapped areas.
   e. Where slope of areas to be grassed exceed a 3:1 H:V; an erosion control fabric shall be installed prior to hyromulching process.
4. Maintenance:
   a. Maintenance shall consist of weeding, fertilizing, insect control, watering, replanting, mowing, maintaining of existing grades and repair of any erosion damages.
   b. Guarantee growth and coverage of hydromulch planting shall be a minimum on ninety five percent 95% of the area planted will be covered with specified planting after sixty days with no bare spots visible.
   c. Watering: Coordinate with the Owner to properly operate irrigation system to assure a regular, deep watering program.
5. Inspection and Final Acceptance:
   Final acceptance of lawn establishment shall mean that hydroseed areas are Ninety Five percent 95% uniform coverage of grass in excess of one inch height. No bare spots will be acceptable.



A L1.1 **SINGLE-TRUNK TREE PLANTING**
SCALE: NOT TO SCALE



B L1.1 **MULTI -TRUNK TREE PLANTING**
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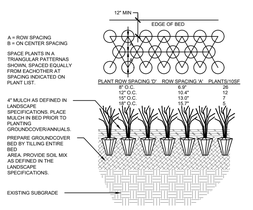

C L1.1 **GROUNDCOVER PLANTING**
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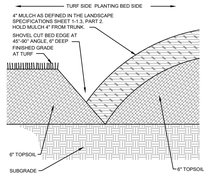

D L1.1 **SHOVEL CUT BED EDGE**
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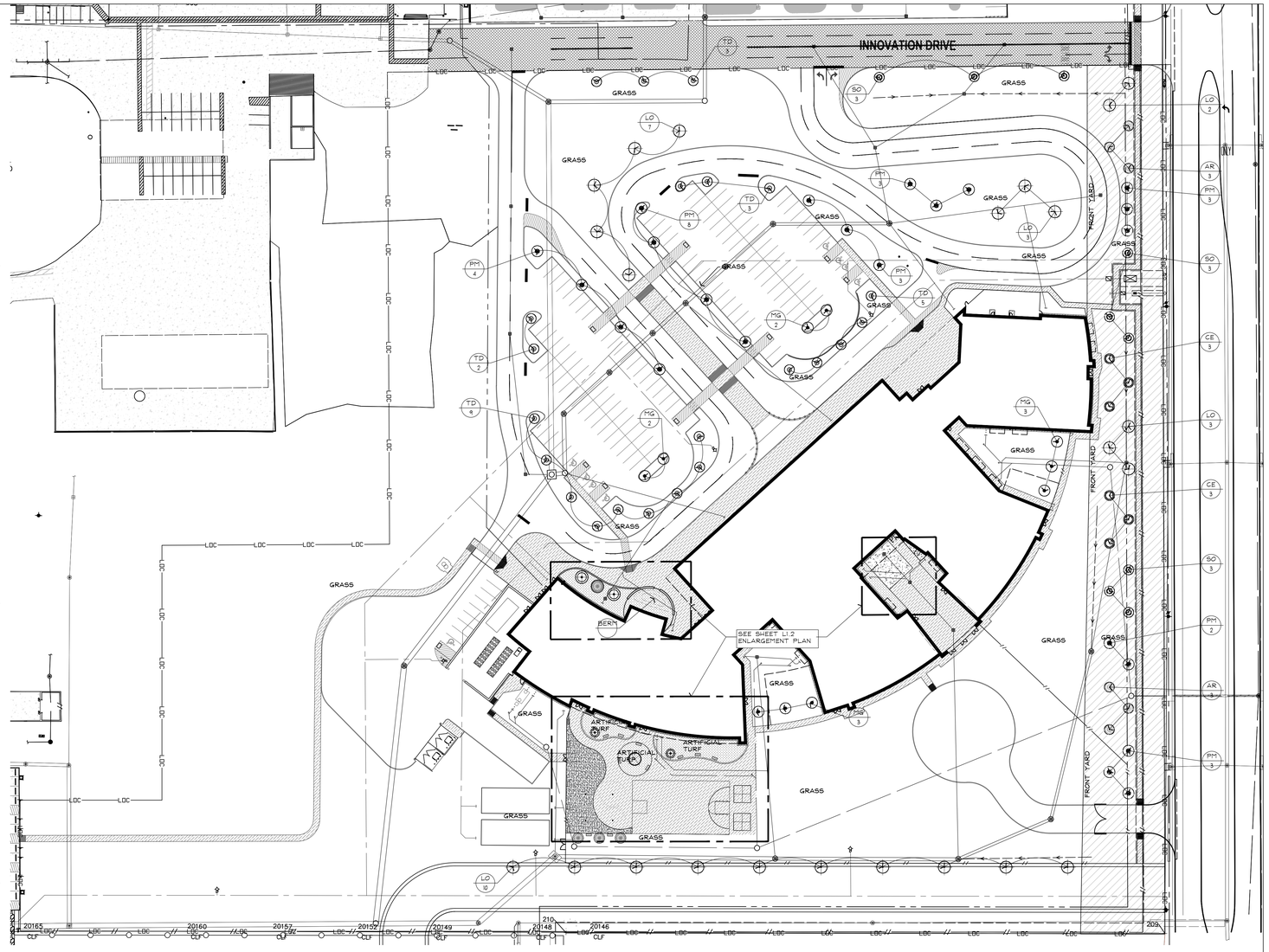

Landscape Legend:

Symbolic Name	Quantities (Verify)	Botanical Name	Common Name	Size and Plant Requirements
LO	24	Quercus Virginiana	Live Oak	4" cal. 65 gal. container; 12' to 14' ht.
AR	6	Acer Rubrum	October Glory Maple	4" cal. 65 gal. container; 12' to 14' ht.
TD	22	Taxodium Distichum	Bald Cypress	3" cal. 65 gal. container; 12' to 14' ht.
PM	22	Platanus Mexicana	Mexican Sycamore	4" cal. 65 gal. container; 12' to 14' ht.
SO	9	Quercus Shumard	Shumard Oak	4" cal. 65 gal. container; 12' to 14' ht.
CE	6	Ulmus Crassifolia	Cedar Elm	4" cal. 65 gal. container; 12' to 14' ht.
MG	10	Magnolia Grandiflora	DD Blanchard Magnolia	3" cal. 65 gal. container; 12' to 14' ht.
SHRUBS, PERENNIALS, ORNAMENTAL GRASSES				
Edge — — —	Verify	Proposed 12" wide maintenance band to be constructed along all building edge.		Excavate a 12' wide channel to a minimum depth of 3". Compact subgrade and slope away from building. Install geotextile filter fabric membrane over excavated channel prior to filling with Black Star crushed granite. Use Permaloc edging as edge restraints.
Grass	Verify SF.	Cynodon Dactylon	Common Bermuda	**Hydromulch** for all areas within the limits of this project. All areas to be grassed shall be cleaned up of all construction debris prior to any fine grading works. All fine grading work shall adhere to WGA drainage/grading plans.

Owner's Responsibility For Maintenance
Client acknowledges and agrees that proper Project maintenance is required after the Project is complete. A lack of or improper maintenance in areas such as, but not limited to, operation and maintenance of automatic irrigation system, all site drainage and all planting materials maintenance may result in damage to property or persons. Client further acknowledges that he is solely responsible for the results of any lack of or improper maintenance.
Landscape Contractor's Responsibilities:
All drainage (surface and subsurface) of all landscape areas within the project limits shall be the responsibility of the installing landscape contractor and landscape maintenance company. All grading of areas along all building areas must absolutely have positive slope away from building, In no case shall any plant bed be constructed along edge of building that will impede water flow away from building. If planting beds are located at edges of building, landscape contractor shall make sure that these areas drain properly (surface and subsurface-wise). Contractor shall install moisture barrier along building as necessary to keep water from penetrating underneath building slab.

"REFER TO FINISHED GRADES SHOWN ON PROJECT CIVIL GRADING PLAN. IT WILL REPRESENT FINAL ELEVATIONS. CARE SHOULD BE TAKEN BY THE LANDSCAPE CONTRACTOR NOT TO INCREASE THESE FINISHED GRADES WITH LANDSCAPING OR OTHER ALTERATIONS. THE THICKNESS OF SOD, GRASS AND LANDSCAPING MATERIALS SHOULD BE DEDUCTED FROM THE FINISHED GRADE ELEVATIONS IN THESE CIVIL GRADING PLANS IN ORDER TO DETERMINE THE GROUND ELEVATIONS DURING CONSTRUCTION."

0 10' 25' 50' 100'
SCALE: 1"=50'

1 L1.1 **LANDSCAPE PLAN**
SCALE: 1" = 50'-0"

N

Revision / Addendum 01 — Date 07.24.26

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

Wong & Associates, Inc.
P.O. Box 2028 Bellaire, Texas 77402-2028
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JOSHUA COGBURN
TX 2642/3

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LANDSCAPE PLAN
VOLUME 01

Job No.	Sheet No.
00802-04-01	L1.1
Drawn By: EW/SR	
Date: 07.15.26	

DD QC

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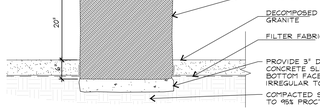
Landscape Legend:

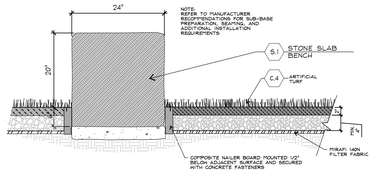
Symbolic Name	Quantities (Verify)	Botanical Name	Common Name	Size and Plant Requirements
TREES				
LO	1	Quercus Virginiana	Live Oak	4" cal. 100 gal. container; 12' to 14' ht.
PR	4	Prunus mexicana	Mexican Plum	2" cal. 30 gal. container; 9' to 10' ht.
CC	4	Cercis Canadensis	Texas Redbud	2" cal. 30 gal. container; 9' to 10' ht.
SHRUBS, PERENNIALS, ORNAMENTAL GRASSES				
Grass	Verify SF.	Cynodon Dactylon	Common Bermuda	**Hydromulch** for all areas within the limits of this project. All areas to be grassed shall be cleaned up of all construction debris prior to any fine grading works. All fine grading work shall adhere to WGA drainage/grading plans.

Hardscape Legend:

Key	Quantities (Verify)	Description / Model Number	Color/Finish	Contact	Remarks
CONCRETE / STONE / PAVER					
C.1	sf	Concrete with Rock Salt finish	Medium Rock Salt - 1/4" salt	LOCAL SOURCE	-Contractor to provide sample for landscape architect approval prior to installation. -Contractor to verify quantity prior to ordering and installation. -Refer to plans for design and location
C.3	lf	6" CORTEN STEEL, HAMMER-IN, ROUNDED TOP EDGE or IRON TREE GRATE	CORTEN STEEL or TBD	EDGE RIGHT OR SIMILAR https://edgeright.com/ info@edgeright.com 205-509-2733	-Contractor to provide sample for landscape architect approval prior to installation. -Contractor to verify quantity prior to ordering and installation. -Refer to plans for design and location
C.4	sf	SYNLAWN: SYNAugustine 347 or similar	Artificial Turf	SYNLAWN OR SIMILAR	-Contractor to provide sample for landscape architect approval prior to installation. -Contractor to verify quantity prior to ordering and installation. -Refer to plans for design and location
FURNISHING					
F.1	19	LIMESTONE BLOCK BENCH W24" X H26" x L60"	LIMESTONE	LOCAL SOURCE	- Install Per Manufacturer's Recommendations -Refer to plans for quantity and location -Contractor to provide cut sheet & color samples for approval prior to ordering



B L1.2 **LIMESTONE BLOCK BENCH ON GRASS**
SCALE: NOT TO SCALE



C L1.2 **LIMESTONE BLOCK BENCH ON SYNLAWN**
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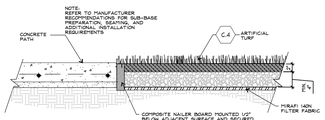

D L1.2 **ARTIFICIAL TURF AT CONCRETE PATH**
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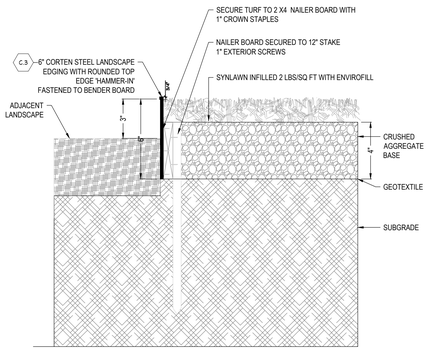

E L1.2 **ARTIFICIAL TURF AT CONCRETE PATH**
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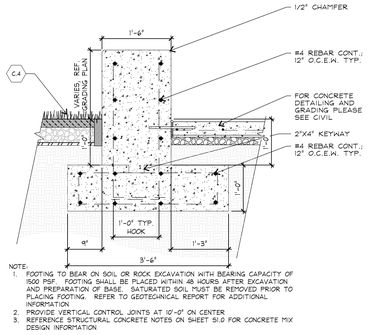
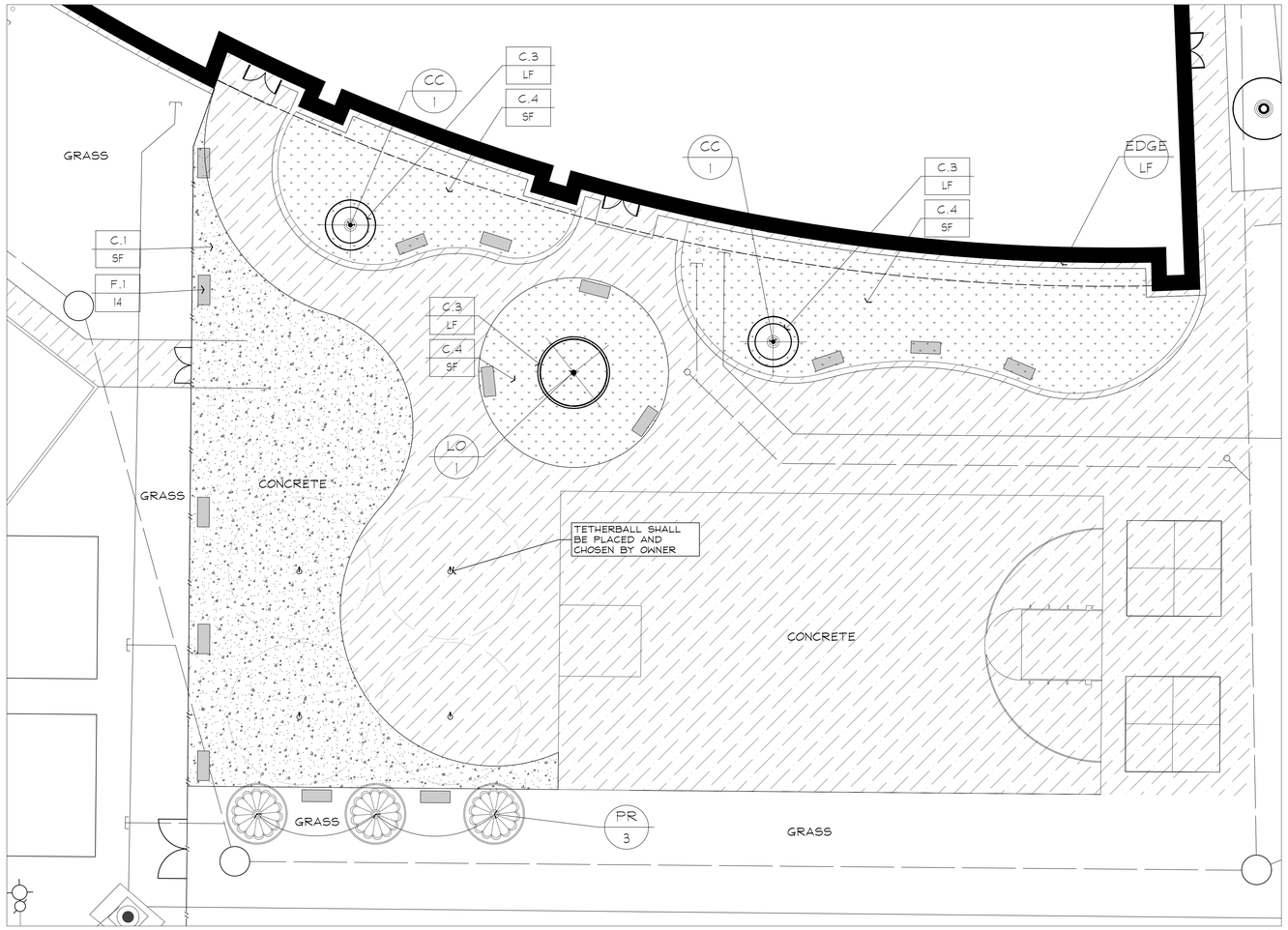


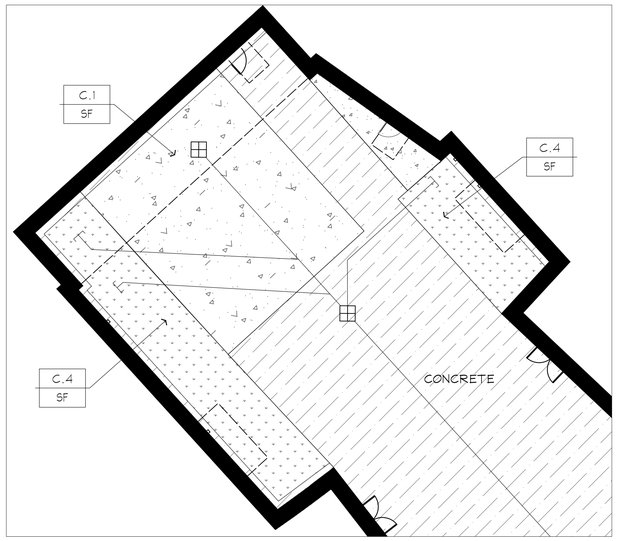
A L1.2 **LIMESTONE BLOCK BENCH**
SCALE: NOT TO SCALE

NOTE
1. FOOTING TO BEAR ON SOIL OR ROCK EXCAVATION WITH BEARING CAPACITY OF 1500 PSF. FOOTING SHALL BE PLACED WITHIN 48 HOURS AFTER EXCAVATION AND PREPARATION OF BASE. SATURATED SOIL MUST BE REMOVED PRIOR TO PLACING FOOTING. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION
2. PROVIDE VERTICAL CONTROL JOINTS AT 10'-0" ON CENTER
3. REFERENCE STRUCTURAL CONCRETE NOTES ON SHEET S1.0 FOR CONCRETE MIX DESIGN INFORMATION

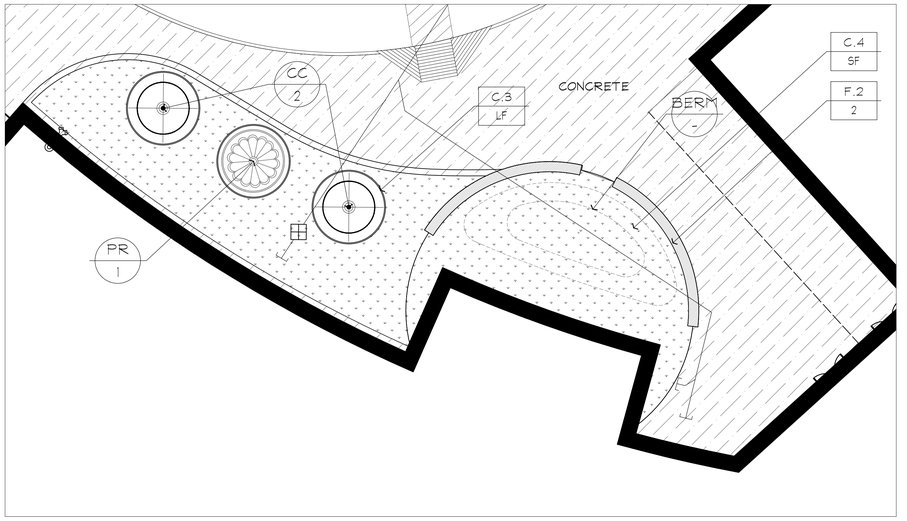
F L1.2 **BLOCK WALL BENCH - COORDINATE WITH ARCH**
SCALE: NOT TO SCALE



2 L1.2 **ENLARGEMENT OF PLAYGROUND LANDSCAPE PLAN**
SCALE: 1" = 10'-0"
01' 5' 10' 20'
SCALE: 1"=10'



3 L1.1 **ENLARGEMENT OF COURTYARD**
SCALE: 1" = 10'-0"
01' 5' 10' 20'
SCALE: 1"=10'



1 L1.1 **ENLARGEMENT OF ENTRANCE LANDSCAPE**
SCALE: 1" = 10'-0"
01' 5' 10' 20'
SCALE: 1"=10'

Owner's Responsibility For Maintenance
Client acknowledges and agrees that proper Project maintenance is required after the Project is complete. A lack of or improper maintenance in areas such as, but not limited to, operation and maintenance of automatic irrigation system, all site drainage and all planting materials maintenance may result in damage to property or persons. Client further acknowledges that he is solely responsible for the results of any lack of or improper maintenance.

Landscape Contractor's Responsibilities:
All drainage (surface and subsurface) of all landscape areas within the project limits shall be the responsibility of the installing landscape contractor and landscape maintenance company. All grading of areas along all building areas must absolutely have positive slope away from building. In no case shall any plant bed be constructed along edge of building that will impede water flow away from building. If planting beds are located at edges of building, landscape contractor shall make sure that these areas drain properly (surface and subsurface-wise). Contractor shall install moisture barrier along building as necessary to keep water from penetrating underneath building slab.

"REFER TO FINISHED GRADES SHOWN ON PROJECT CIVIL GRADING PLAN. IT WILL REPRESENT FINAL ELEVATIONS. CARE SHOULD BE TAKEN BY THE LANDSCAPE CONTRACTOR NOT TO INCREASE THESE FINISHED GRADES WITH LANDSCAPING OR OTHER ALTERATIONS. THE THICKNESS OF SOD, GRASS AND LANDSCAPING MATERIALS SHOULD BE DEDUCTED FROM THE FINISHED GRADE ELEVATIONS IN THESE CIVIL GRADING PLANS IN ORDER TO DETERMINE THE GROUND ELEVATIONS DURING CONSTRUCTION."

Revision / Addendum 01 — Date 07.24.26

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

Wong & Associates, Inc.
P.O. Box 2028 Bellaire, Texas 77402-2028
Tel: 713-777-9198 Cell: 713-557-9298
Member: American Society of Landscape Architects
JOSHUA COGBURN
TX 2623

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ENLARGEMENT LANDSCAPE PLAN

VOLUME 01

Job No.	Sheet No.
00802-04-01	L1.2
Drawn By: EW/SR	
Date: 07.15.26	

DD QC

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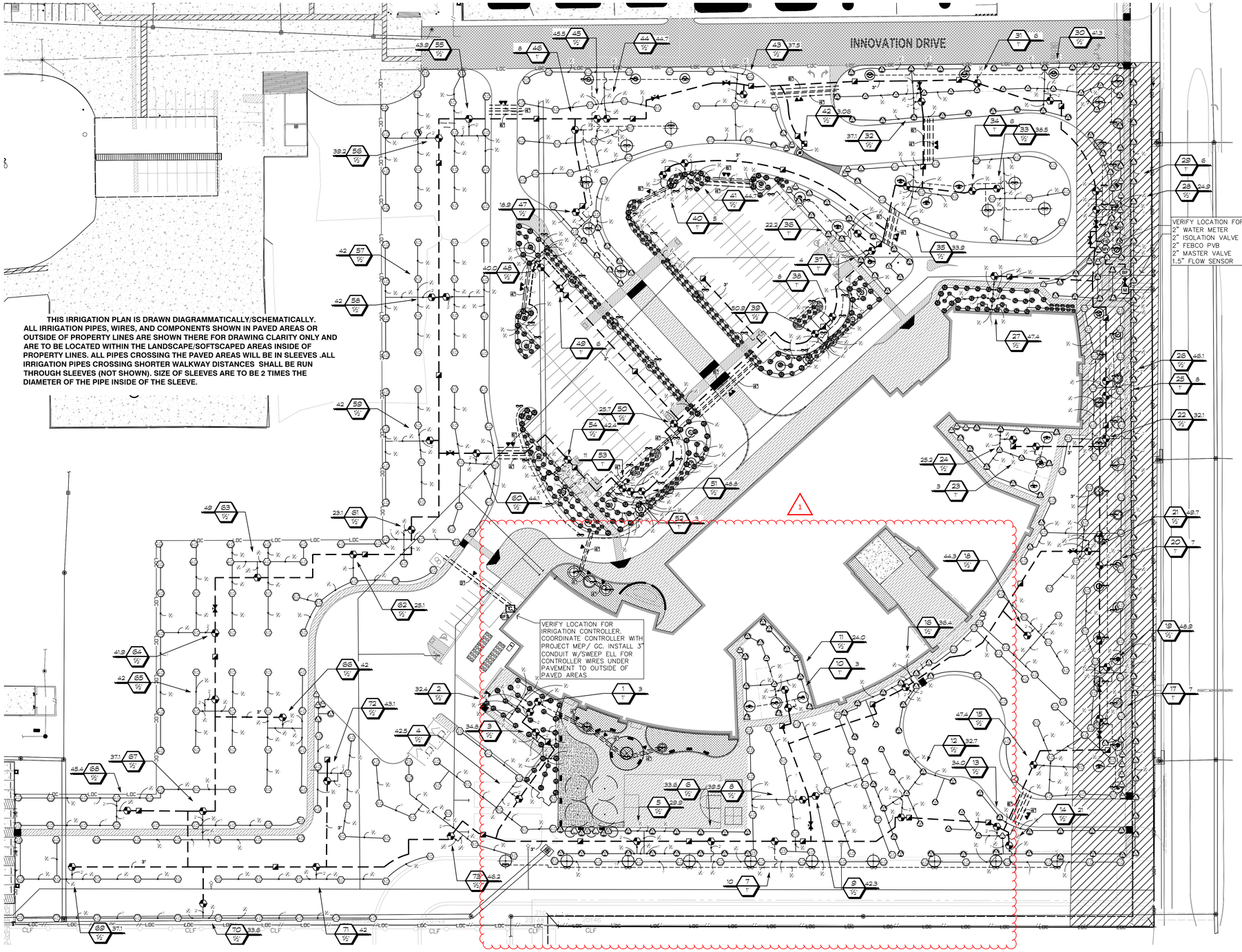
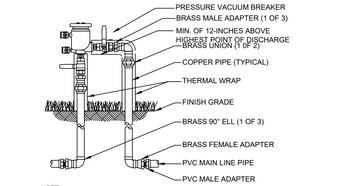
Irrigation General Notes:

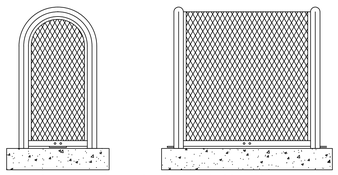
1. ALL materials and equipment shall conform to all applicable State of Texas, City and County codes.
2. The irrigation contractor shall be responsible for securing all permits prior to actual work on site.
3. The intent of the 100% coverage of all landscape areas.
4. Prior to commencement of work, the irrigation contractor shall contact the Owner to coordinate all required inspections.
5. Extreme care shall be exercised in excavating and working near existing utility easements. The irrigation contractor shall be responsible for the verification of all utility locations (telephone, TV, gas electrical, water, cable, etc.). The irrigation contractor shall be responsible for all damages inflicted on any and all utility lines.
6. The Irrigation contractor shall at all times protect his work from damage and theft and replace all damaged or stolen parts at his expense until receipt of the Certificate of Substantial Completion from the Owner.
   The Irrigation contractor shall flush and adjust the system for optimum performance. This shall include regulating the pressure at each valve to obtain the optimum operating pressure for each system.
7. Use glue joints in mainline passing through sleeves under pavement. PVC sleeves shall be Schedule 40 and shall extend 24" out of the nearest existing pavement areas for easy location. The irrigation contractor shall be responsible for coordinate all sleeve locations on the project site with the Owner and/or general contractor.
8. The irrigation contractor shall also comply to these additional special requirements to the irrigation system shall include the following.
   a. All mainlines shall have a minimum of 18" of cover **(Sch. 40 PVC Pipe.)**
   b. All lateral and sub-main pipe to have a minimum of 12" of cover **(Class 200 PVC Pipe.)**.
   c. No rocks, boulders or other extraneous materials shall be used for backfilling of trenches.
   d. All pipes to be installed as per manufacturer's specifications.
   e. All threaded joints to be coated with Teflon tape or Liquid Teflon.
   f. All lines to be thouroughly flushed before installation of any sprinkler heads.
   g. Sprinkler and related equipments shall be installed as per manufacturer's specification.
   h. No electrical connections shall be made in the field except at a valve control box or another valve box specifically for connections.
   i. All 24 volt control wire shall be No. 14/UF/UL AWG 2 - Wire Cable for Zone Wires per controller manufacturer's recommendations, direct burial .
   j. The irrigation contractor shall be responsible for proper coverage of areas to be watered; i.e. adjust heads with insufficient coverage due to blockage by existing or proposed site features or sizing down sprinkler heads to avoid excessive overthrow.
   k. The irrigation contractor shall refer to landscape planting plan to keep sprinkler equipments and accessory materials from interfering with proper planting; i.e. Verify rootball size for planting; configuration of shrub/groundcover beds, etc.
   l. The irrigation contractor shall provide expansion coils at each wire connection in valve box (wrap around 3/4" pipe 12 times).
   m. The irrigation contractor shall utilize appropriate automatic drain device where low head drainage may occur.
   n. All sprinkler heads shall be mounted on swing joints unless otherwise noted.
   o. The irrigation contractor shall install a separate common for each controller.
   p. The irrigation contractor shall install manufacturer's recommended grounding equipment for power supply and valve output with (2) 5/8" copper clad ground rods.
   q. The irrigation contractor shall install manufacturer's recommendation on fault ground and lightning protection.
   r. The irrigation contractor shall furnish the owner with the following : 2 wrenches for disassembling and adjusting each type of sprinkler heads and valves + 2 keys for the automatic controller +2 quick coupler keys with matching hose swivels.
   s. The irrigation contractor shall add extension risers to pop up sprinklers when needed for proper coverage. Coordinate with landscape contractor as to where risers for sprinkler heads are required.
   t. The irrigation contractor shall install sprinkler equipments 12" from all buildings foundations and install sprinklers 4" from any curbs or walkways.
   u. The irrigation backflow prevention device shall be installed within areas of proposed shrub plantings. The purpose of this is to keep the device screened from view.
9. The entire irrigation system (labor and materials) shall be guaranteed and warranted for a period of one year. The warranty period shall commenced upon final acceptance by Owner of all landscape and irrigation works.
10. The irrigation contractor for the project must be licensed to do business within the State of Texas , as required by TCEQ."
11. This irrigation plan is diagrammatic only. Irrigation contractor shall provide final irrigation design layout plan complete with licensed irrigator's seal and signature. All applicable design calculations shall be shown on their irrigation plan to comply with all TCEQ requirements.
12. **Irrigation Contractor to confirm static water pressure at Point of Connection before starting work. If static water pressure is below "Critical Station Pressure at P.O.C." on the "Critical Analysis" on Sht. IR1.2 contact Landscape Architect before proceeding with work.**
13. **Trenching within the drip-line of existing trees shall not employ the use of mechanical trenching devices. Hand dig without severing roots which exceed 1/2" in diameter. It is the Irrigation Contracors responsibility to protect all existing trees from damages from all work involved with the installation of the irrigation system. Irrigation plan is diagramatic, Irrigation Contractor to confirm routing of trenching with owners representative and get their approval before any trenching begins. Irrigation contractor is ultimately responsible for preventing damage to existing trees from system installation .**





NOTE:
1. INSTALL BACK FLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION. DOUBLE CHECK VALVE ASSEMBLY MAY BE REQUIRED

A IR1.1 **FEBCO 2" PRESSURE VACUUM BREAKER**
SCALE: NOT TO SCALE



STANDARD GUARDSHACK™ ENCLOSURES
INSTALL PER GUARDSHACK GUIDELINES AND SPECIFICATIONS

B IR1.1 **GUARDSHACK BACKFLOW ENCLOSURE**
SCALE: NOT TO SCALE

IRRIGATION IN TEXAS IS REGULATED BY:
THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
MC-178 / PO BOX 180B7
AUSTIN, TEXAS 78711-3087
WWW.TCEQ.STATE.TX.US.

811 Know what's below. Call before you dig.

CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURRED DURING CONSTRUCTION. CALL UTILITY LOCATES AND REFER TO CIVIL AND MEP PLANS

DESIGN DISCLAIMER:

This irrigation drawing is a preliminary layout. It is a diagrammatic representation for purpose of providing a basic depiction of the scope of coverage, initial valve zoning, with head type and placement. The Irrigation drawing does not provide necessary zone flow, hydraulic calculations to determine Design Pressure. These are defined in Texas Administrative Code*§§344.61 Minimum Standards for Design of the Irrigation Plan*, and required by the T.C.E.Q for a complete Irrigation Plan and for Permit and Construction. It will be the responsibility of the installing licensed irrigator or irrigator-in-charge, to use information provided on this Preliminary Irrigation drawing, to provide a final Irrigation Plan meeting all standards as required by T.C.E.Q, Signed and Sealed.

Wong & Associates, Inc. shall not be responsible and accepts no liability for design failure, inaccurate head layout, incorrect hydro-zoning, pipe sizing, zone flow or hydraulic calculations, irrigation equipment, or aspects of the preliminary design drawing not in compliance with local irrigation regulations. The irrigation contractor shall be ultimately responsible for the final design, installation and proper operation of the irrigation system.

Disclaimer

Wong & Associates, Inc. shall not be responsible for the operation and/or maintenance of this irrigation system, once the date of final acceptance by the owner is established. All grades and elevations on the project shall be set by the project civil engineer. The Owner shall be responsible for the monitoring and the maintaining of the irrigation system. Monthly moisture sensor tests of all sprinkler zones around all building pads and on entire property, shall be performed by the Owner to ensure that no over-watering and/or any irrigation system leaks are present. The irrigation contractor shall be responsible for providing all guarantee and warranties for the irrigation system. The irrigation contractor shall be ultimately responsible for the installation and proper operation of the irrigation system.

1 L2.1 **IRRIGATION PLAN**
SCALE: 1" = 40'-0"
0 10' 20' 40' 80'
SCALE: 1" = 40'

N

Revision / Addendum 01 — Date 07.24.26

06/15/2026

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

Wong & Associates, Inc.
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IRRIGATION PLAN

VOLUME 01

Job No.	Sheet No.
00802-04-01	IR1.1
Drawn By: EW/SR	
Date:	

DD QC

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IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	ARC	PSI	GPM	RADIUS
6	Rain Bird 1804-SAM-PRS 05H Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	180	30	0.2	5'
6	Rain Bird 1804-SAM-PRS 05Q Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	90	30	0.1	5'
8	Rain Bird 1804-SAM-PRS 08F Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	360	30	1.05	8'
8	Rain Bird 1804-SAM-PRS 08H Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	180	30	0.52	8'
8	Rain Bird 1804-SAM-PRS 08Q Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	90	30	0.26	8'
8	Rain Bird 1804-SAM-PRS 08T Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	120	30	0.35	8'
10	Rain Bird 1804-SAM-PRS 10F Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	360	30	1.58	10'
10	Rain Bird 1804-SAM-PRS 10H Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	180	30	0.79	10'
10	Rain Bird 1804-SAM-PRS 10Q Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	90	30	0.39	10'
12	Rain Bird 1804-SAM-PRS 12F Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	360	30	2.37	12'
12	Rain Bird 1804-SAM-PRS 12H Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	180	30	1.3	12'
12	Rain Bird 1804-SAM-PRS 12Q Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	90	30	0.65	12'
12	Rain Bird 1804-SAM-PRS 12TQ Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	270	30	1.95	12'
15	Rain Bird 1804-SAM-PRS 15F Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	360	30	3.7	15'
15	Rain Bird 1804-SAM-PRS 15H Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	180	30	1.85	15'
15	Rain Bird 1804-SAM-PRS 15Q Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	90	30	0.92	15'
12	Rain Bird 1804-SAM-PRS 12V Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	Adj	30	≤ 2.38	12'
15	Rain Bird 1804-SAM-PRS 15V Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	Adj	30	≤ 3.67	15'
18	Rain Bird 1804-SAM-PRS 18V Turf Spray 4.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2in. NPT Female Threaded Inlet. With Seal-A-Matic Check Valve. Pressure Regulating.	Adj	30	≤ 5.33	18'
	Hunter MP Corner PROS-04-PRS40-CV T Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle. T=Turquoise adj arc 45-105 on PRS40 body.	Adj	40		14'
	Hunter MP Strip PROS-04-PRS40-CV LCS Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LCS=Ivory left strip, SS=Brown side strip, RCS=Copper right strip.	LCS	40	0.22	5'x15'
	Hunter MP1000 PROS-04-PRS40-CV M Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	90-210	40		14'
	Hunter MP1000 PROS-04-PRS40-CV O Turf Rotator, 4in. pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	360	40	0.84	14'
	Hunter MP2000 PROS-04-PRS40-CV G Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	210-270	40		19'
	Hunter MP2000 PROS-04-PRS40-CV K Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	90-210	40		19'
	Hunter MP2000 PROS-04-PRS40-CV R Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	360	40	1.48	19'
30	Hunter MP3000 PROS-04-PRS30-CV (2) A Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 30 psi, MP Rotator nozzle on PRS30 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	360	30	3.15	27'
	Hunter MP3000 PROS-04-PRS40-CV A Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	360	40	3.64	30'
	Hunter MP3000 PROS-04-PRS40-CV B Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	90-210	40		30'
	Hunter MP3000 PROS-04-PRS40-CV Y Turf Rotator, 4in. pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	210-270	40		30'
	Hunter MP3500 PROS-04-PRS40-CV LB Turf Rotator, 4in. Pop-up with factory installed check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LB=light brown adjustable arc, 90-210.	90-210	40		35'
	Rain Bird 1804-SAM-1400 Flood 1402 Flood Bubbler 4.0in. popup with check valve. Install w/ PA-80 adapter.	360	20	0.5	3'

IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION		PSI	GPM	RADIUS
	Hunter I-20-04 (2) 2.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	1.7	33'
	Hunter I-20-04 (2) 2.5 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	2.1	35'
	Hunter I-20-04 (2) 3.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	2.7	36'
	Hunter I-20-04 (2) 4.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	3.5	39'
	Hunter I-20-04 (2) 5.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	4.5	39'
	Hunter I-20-04 (2) 6.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	5.6	40'
	Hunter I-20-04 (2) 8.0 Turf Rotor, 4in. Pop-Up. Adjustable and Full Circle. Plastic Riser. Drain Check Valve. Standard Nozzle.		35	7	41'
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION				
	Rain Bird XCZ-100-PRB-COM 1" Wide Flow Drip Control Kit for Commercial Applications. 1in. Ball Valve with 1in. PESB Valve and 1in. Pressure Regulating 40psi Quick-Check Basket Filter. 5 GPM-20 GPM.				
	Pipe Transition Point in Drip Box Pipe transition point from PVC lateral to drip tubing with riser in 6in. drip box.				
BED	Area to Receive Dripline Rain Bird XFS-CV-06-12 XFS-CV Sub-Surface and On-Surface Landscape Dripline with a				
GRASS	Heavy-Duty 4.3 psi Check Valve. 0.6 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. Specify XF insert fittings.				
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION				
	Rain Bird PEB-IVM (2) 1-1/2" 1in., 1-1/2in., 2in. Plastic Industrial Smart Valves w/ Factory Installed IVM-SOL. Low Flow Operating Capability, Globe Configuration.				
	Rain Bird PEB-IVM (2) 1" 1in., 1-1/2in., 2in. Plastic Industrial Smart Valves w/ Factory Installed IVM-SOL. Low Flow Operating Capability, Globe Configuration.				
	Rain Bird 33-DNP 3/4" 3/4in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Thermoplastic Non-Potable Purple Rubber Cover, and 2-Piece Body.				
	Landscape Products Inc. BGV 1/2in., 3/4in., 1in., 1-1/4in., 1-1/2in., 2in., 2-1/2in., 3in., 4in. Brass Gate Valve. Threaded bonnet, Non-rising stem, Pressure rated to 200 psi. Same size as mainline.				
MV	Superior 3200 2" Normally Closed Brass Master Valve that Provides Dirty Water Protection and No Minimum Flow Feature, which ensures reliable opening and closing of the valve in extreme high or low flow scenarios. Available in 3/4in.,1in.1-1/2in.,2in.,2-1/2in. and 3in..				
BF	Febco 765 2" Pressure Vacuum Breaker, brass with ball valve SOV. Install 12in. above highest downstream outlet and the highest point in the downstream piping.				
C	Rain Bird ESPLXIVM 60 Station, 2-Wire Controller w/ Smart Valve Technology. (1) ESPLXIVM 60-Station, Indoor/Outdoor, Plastic Wall-Mount Cabinet. System Requirements: Rain Bird LXIVM-XXX Integrated Valve Modules & 2-Wire Devices. Use Paige Electric Cable P70720 & Rain Bird WC20 Dry Splices ONLY. Ground System w/ (X) LXIVMSD Surge Device in Rain Bird Round Valve Boxes. Install Per Manufacturers Recommendations.				
RFS	Rain Bird WR2-RFS Wireless Rain/Freeze Sensor.				
FS	Rain Bird UFS-150 (2) 1-1/2in. Ultrasonic Flow Sensors, with Glass Filled Nylon Body. Operating Range 0.5 GPM to 100 GPM Size for Flow Not According to Pipe Size.				
M	Water Meter 2"				
	Irrigation Lateral Line: PVC Class 200 SDR 21				
	Irrigation Lateral Line: PVC Class 200 SDR 21 3/4"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/4"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 2"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 2 1/2"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 3/4"				
	Irrigation Lateral Line: PVC Class 200 SDR 21 1"				
	Irrigation Mainline: PVC Schedule 40				
	Irrigation Mainline: PVC Schedule 40 3"				
	Pipe Sleeve: PVC Schedule 40				

Valve Callout
Valve Number
Valve Flow
Valve Size

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	DESIGN PSI	VELOCITY	FRICTION LOSS	VALVE LOSS	PSI	PSI LESS VALVE LOSS	PSI @ POC	RESIDUAL PSI	PRECIP
1	Rain Bird PEB-IVM (2)	1"	Bubbler	3	20	4 Ft.sec.	0.49	1.5	22.0	20.5	26.1	32.9	2.01 in/h
2	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	32.43	30	4 Ft.sec.	0.48	3.58	34.1	30.5	39.6	19.4	1.47 in/h
3	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	34.79	30	4 Ft.sec.	1.33	3.55	34.9	31.3	40.6	18.5	1.41 in/h
4	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42.5	35	4 Ft.sec.	1.83	3.53	40.4	36.8	46.8	12.2	0.55 in/h
5	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	29.94	40	4 Ft.sec.	1.4	3.6	45.0	41.4	50.1	8.92	0.59 in/h
6	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	33.6	35	4 Ft.sec.	2.64	3.56	41.2	37.6	46.5	12.5	0.5 in/h
7	Rain Bird PEB-IVM (2)	1"	Bubbler	10	20	4 Ft.sec.	1.99	1.8	23.8	22.0	28.0	31.0	2.01 in/h
8	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	39.5	35	4 Ft.sec.	2.16	3.51	40.7	37.2	46.5	12.5	0.56 in/h
9	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42.3	35	4 Ft.sec.	1.21	3.52	39.7	36.2	45.9	13.1	0.51 in/h
10	Rain Bird PEB-IVM (2)	1"	Bubbler	3	20	4 Ft.sec.	0.14	1.5	21.6	20.1	25.8	33.2	2.01 in/h
11	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	24.05	40	4 Ft.sec.	1.34	3.78	45.1	41.3	49.8	9.22	0.5 in/h
12	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	32.73	40	4 Ft.sec.	1.2	3.57	44.8	41.2	50	9	0.39 in/h
13	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	34.0	40	4 Ft.sec.	1.6	3.56	45.2	41.6	50.5	8.52	0.35 in/h
14	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	21	35	3.5 Ft.sec.	2.06	3.87	40.9	37.1	45.4	13.6	0.59 in/h
15	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	47.4	35	4 Ft.sec.	1.89	3.57	40.5	36.9	47.2	11.8	0.63 in/h
16	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	36.44	35	4 Ft.sec.	3.11	3.54	41.6	38.1	47.2	11.8	0.54 in/h
17	Rain Bird PEB-IVM (2)	1"	Bubbler	7	20	4 Ft.sec.	0.47	1.74	22.2	20.5	26.4	32.6	2.02 in/h
18	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	44.32	35	4 Ft.sec.	1.82	3.54	40.4	36.8	46.8	12.2	0.57 in/h
19	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	48.89	35	4 Ft.sec.	1.65	3.59	40.2	36.6	47.2	11.8	0.59 in/h
20	Rain Bird PEB-IVM (2)	1"	Bubbler	7	20	4 Ft.sec.	0.42	1.74	22.2	20.4	26.3	32.7	2.02 in/h
21	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	49.74	35	4 Ft.sec.	1.29	3.6	39.9	36.3	46.8	12.2	0.51 in/h
22	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	32.09	40	2 Ft.sec.	1.7	3.58	45.3	41.7	50.4	8.63	0.22 in/h
23	Rain Bird PEB-IVM (2)	1"	Bubbler	3	20	4 Ft.sec.	0.12	1.5	21.6	20.1	25.8	33.3	2.02 in/h
24	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	25.19	40	4 Ft.sec.	1.3	3.74	45.0	41.3	49.8	9.23	0.52 in/h
25	Rain Bird PEB-IVM (2)	1"	Bubbler	8	20	4 Ft.sec.	0.58	1.76	22.3	20.6	26.5	32.5	2.02 in/h
26	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	46.1	35	4 Ft.sec.	1.91	3.56	40.5	36.9	46.8	12.2	0.83 in/h
27	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	47.41	30	4 Ft.sec.	1.76	3.57	35.3	31.8	41.8	17.2	1.85 in/h
28	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	24.87	40	3.5 Ft.sec.	1.93	3.75	45.7	41.9	50.2	8.82	0.43 in/h
29	Rain Bird PEB-IVM (2)	1"	Bubbler	7	20	4 Ft.sec.	0.29	1.72	22.0	20.3	26.1	32.9	2.02 in/h
30	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	41.31	40	4 Ft.sec.	1.32	3.51	44.8	41.3	50.6	8.39	0.5 in/h
31	Rain Bird PEB-IVM (2)	1"	Bubbler	6	20	4 Ft.sec.	1.32	1.72	23.0	21.3	27.2	31.8	2.02 in/h
32	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotary	37.11	40	4 Ft.sec.	1.34	3.53	44.9	41.3	50.4	8.61	0.43 in/h
33	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	38.5	35	4 Ft.sec.	2	3.52	40.5	37.0	46.4	12.7	0.54 in/h
34	Rain Bird PEB-IVM (2)	1"	Bubbler	6	20	4 Ft.sec.	0.32	1.72	22.0	20.3	26.2	32.8	2.02 in/h
35	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	33.91	40	4 Ft.sec.	1.24	3.56	44.8	41.2	50.1	8.87	0.53 in/h
36	Rain Bird PEB-IVM (2)	1"	Turf Rotary	22.23	40	4 Ft.sec.	1.73	3.5	45.2	41.7	49.8	9.23	0.5 in/h
37	Rain Bird PEB-IVM (2)	1"	Bubbler	4	20	4 Ft.sec.	0.42	1.6	22.0	20.4	26.2	32.8	2.01 in/h
38	Rain Bird PEB-IVM (2)	1"	Bubbler	8	20	4 Ft.sec.	0.73	1.76	22.5	20.7	26.7	32.3	2.01 in/h
39	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	50.9	30	4 Ft.sec.	1.48	3.66	35.1	31.5	42.6	16.5	1.93 in/h
40	Rain Bird PEB-IVM (2)	1"	Bubbler	5	20	4 Ft.sec.	0.62	1.7	22.3	20.6	26.5	32.5	2.01 in/h
41	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	44.66	30	3.7 Ft.sec.	2.74	3.55	36.3	32.7	43.2	15.8	1.72 in/h
42	Rain Bird XCZ-150-LCS	1-1/2"	Area for Dripline	3.06	30	4 Ft.sec.	0.06	5	35.1	30.1	39.2	19.8	1.5 in/h
43	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	37.46	35	4 Ft.sec.	1.43	3.53	40.0	36.4	45.6	13.4	0.48 in/h
44	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	44.7	35	4 Ft.sec.	2.05	3.55	40.6	37.0	47.2	11.8	0.68 in/h
45	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	45.5	35	4 Ft.sec.	1.91	3.56	40.5	36.9	47.2	11.9	0.57 in/h
46	Rain Bird PEB-IVM (2)	1"	Bubbler	8	20	4 Ft.sec.	0.86	1.76	22.6	20.9	26.8	32.2	2.01 in/h
47	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	18.87	40	4 Ft.sec.	0.7	3.9	44.6	40.7	49.0	9.99	0.58 in/h
48	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	39.99	30	4 Ft.sec.	1.73	3.5	35.2	31.7	41.6	17.4	1.97 in/h
49	Rain Bird PEB-IVM (2)	1"	Bubbler	6	20	4 Ft.sec.	0.77	1.72	22.5	20.8	26.7	32.4	2.01 in/h
50	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	25.67	30	4 Ft.sec.	2.29	3.73	36.0	32.3	40.8	18.2	1.68 in/h
51	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	48.78	30	4 Ft.sec.	1.55	3.59	35.1	31.6	42.3	16.7	1.82 in/h
52	Rain Bird PEB-IVM (2)	1"	Bubbler	3	20	4 Ft.sec.	0.73	1.5	22.2	20.7	26.4	32.6	2.01 in/h
53	Rain Bird PEB-IVM (2)	1"	Bubbler	11	20	4 Ft.sec.	1.39	1.91	23.3	21.4	27.5	31.5	2.01 in/h
54	Rain Bird PEB-IVM (2)	1-1/2"	Turf Spray	42.35	30	4 Ft.sec.	1.2	3.52	34.7	31.2	41.0	18.0	1.82 in/h
55	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	43.9	35	4 Ft.sec.	1.75	3.54	40.3	36.8	46.8	12.2	0.57 in/h
56	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	39.2	35	4 Ft.sec.	2.06	3.51	40.6	37.1	46.5	12.5	0.61 in/h
57	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	1.2	3.52	39.7	36.2	46.0	13.0	0.58 in/h
58	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	1.26	3.52	39.8	36.3	46.1	13.0	0.56 in/h
59	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	1.32	3.52	39.8	36.3	46.1	12.9	0.54 in/h
60	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	44.1	35	4 Ft.sec.	1.77	3.54	40.3	36.8	46.8	12.2	0.6 in/h
61	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	23.1	35	4 Ft.sec.	1.12	3.81	39.9	36.1	44.6	14.5	0.71 in/h
62	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	25.1	35	4 Ft.sec.	1.85	3.75	40.6	36.8	45.4	13.6	0.54 in/h
63	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	49	35	4 Ft.sec.	1.91	3.59	40.5	36.9	47.8	11.2	0.59 in/h
64	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	41.9	35	4 Ft.sec.	2.85	3.52	41.4	37.8	47.8	11.2	0.54 in/h
65	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	1.75	3.52	40.3	36.8	46.7	12.3	0.52 in/h
66	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	1.57	3.52	40.1	36.6	46.7	12.3	0.53 in/h
67	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	37.1	35	4 Ft.sec.	2.13	3.53	40.7	37.1	46.6	12.5	0.48 in/h
68	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	45.4	35	4 Ft.sec.	2.31	3.55	40.9	37.3	48.0	11.1	0.63 in/h
69	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	37.1	35	4 Ft.sec.	1.96	3.53	40.5	37.0	46.5	12.5	0.46 in/h
70	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	33.6	35	4 Ft.sec.	2.61	3.56	41.2	37.6	46.7	12.3	0.47 in/h
71	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	42	35	4 Ft.sec.	2.33	3.52	40.9	37.3	47.2	11.8	0.42 in/h
72	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	43.13	35	4 Ft.sec.	2.21	3.53	40.7	37.2	47.4	11.6	0.58 in/h
73	Rain Bird PEB-IVM (2)	1-1/2"	Turf Rotor	46.2	35	4 Ft.sec.	1.75	3.56	40.3	36.8	47.1	11.9	0.54 in/h

CRITICAL ANALYSIS

Generated: 2026-07-23 16:13

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Water Meter Size: 2"
Flow Available 70.55 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 60 PSI
Elevation Change: 0.00 ft
Service Line Size: 2"
Length of Service Line: 15 ft
Pressure Available: 59 PSI

DESIGN ANALYSIS
Flow Velocity: 5 Ft.sec.
Maximum Station Flow: 50.9 GPM
Flow Available at POC: 70.55 GPM
Residual Flow Available: 19.65 GPM

Critical Station: 30
Design Pressure: 40 PSI
Friction Loss: 1.2 PSI
Fittings Loss: 0.12 PSI
Elevation Loss: 0 PSI
Loss through Valve: 3.51 PSI
Pressure Req. at Critical Station: 44.8 PSI
Loss for Fittings: 0.04 PSI
Loss for Main Line: 0.39 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 3.4 PSI
Loss for Master Valve: 0.57 PSI
Loss for Water Meter: 1.38 PSI
Critical Station Pressure at POC: 50.6 PSI
Pressure Available: 59 PSI
Residual Pressure Available: 8.39 PSI

IRRIGATION IN TEXAS IS REGULATED BY:
THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
MC-178 / PO BOX 18087
AUSTIN, TEXAS 78711-3087
WWW.TCEQ.STATE.TX.US.

811 Know what's below. Call before you dig.

CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURRED DURING CONSTRUCTION. CALL UTILITY LOCATES AND REFER TO CIVIL AND MEP PLANS

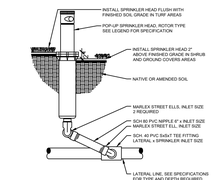
DESIGN DISCLAIMER:

This irrigation drawing is a preliminary layout. It is a diagrammatic representation for purpose of providing a basic depiction of the scope of coverage, initial valve zoning, with head type and placement. The Irrigation drawing does not provide necessary zone flow, hydraulic calculations to determine Design Pressure. These are defined in Texas Administrative Code,*§§344.61 Minimum Standards for Design of the Irrigation Plan* , and required by the T.C.E.Q.for a complete Irrigation Plan and for Permit and Construction. It will be the responsibility of the installing licensed irrigator or irrigator-in-charge, to use information provided on this Preliminary Irrigation drawing, to provide a final Irrigation Plan meeting all standards as required by T.C.E.Q, Signed and Sealed.

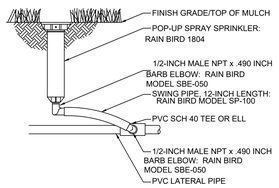
Wong & Associates, Inc. shall not be responsible and accepts no liability for design failure, inaccurate head layout, incorrect hydro-zoning, pipe sizing, zone flow or hydraulic calculations, irrigation equipment, or aspects of the preliminary design drawing not in compliance with local irrigation regulations. The irrigation contractor shall be

Irrigation General Notes:

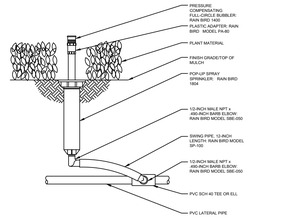
1. ALL materials and equipment shall conform to all applicable State of Texas, City and County codes.
2. The irrigation contractor shall be responsible for securing all permits prior to actual work on site.
3. The intent of the 100% coverage of all landscape areas.
4. Prior to commencement of work, the irrigation contractor shall contact the Owner to coordinate all required inspections.
5. Extreme care shall be exercised in excavating and working near existing utility easements. The irrigation contractor shall be responsible for the verification of all utility locations (telephone, TV, gas electrical, water, cable, etc.). The irrigation contractor shall be responsible for all damages inflicted on any and all utility lines.
6. The Irrigation contractor shall at all times protect his work from damage and theft and replace all damaged or stolen parts at his expense until receipt of the Certificate of Substantial Completion from the Owner.
   The Irrigation contractor shall flush and adjust the system for optimum performance. This shall include regulating the pressure at each valve to obtain the optimum operating pressure for each system.
7. Use glue joints in mainline passing through sleeves under pavement. PVC sleeves shall be Schedule 40 and shall extend 24" out of the nearest existing pavement areas for easy location. The irrigation contractor shall be responsible for coordinate all sleeve locations on the project site with the Owner and/or general contractor.
8. The irrigation contractor shall also comply to these additional special requirements to the irrigation system shall include the following.
   a. All mainlines shall have a minimum of 18" of cover **(Sch. 40 PVC Pipe.)**.
   b. All lateral and sub-main pipe to have a minimum of 12" of cover **(Class 200 PVC Pipe.)**.
   c. No rocks, boulders or other extraneous materials shall be used for backfilling of trenches.
   d. All pipes to be installed as per manufacturer's specifications.
   e. All threaded joints to be coated with Teflon tape or Liquid Teflon.
   f. All lines to be thouroughly flushed before installation of any sprinkler heads.
   g. Sprinkler and related equipments shall be installed as per manufacturer's specification.
   h. No electrical connections shall be made in the field except at a valve control box or another valve box specifically for connections.
   i. All 24 volt control wire shall be No. 14/UF/UL AWG 2 - Wire Cable for Zone Wires per controller manufacturer's recommendations, direct burial .
   j. The irrigation contractor shall be responsible for proper coverage of areas to be watered; i.e. adjust heads with insufficient coverage due to blockage by existing or proposed site features or sizing down sprinkler heads to avoid excessive overthrow.
   k. The irrigation contractor shall refer to landscape planting plan to keep sprinkler equipments and accessory materials from interfering with proper planting; i.e. Verify rootball size for planting; configuration of shrub/groundcover beds, etc.
   l. The irrigation contractor shall provide expansion coils at each wire connection in valve box (wrap around 3/4" pipe 12 times).
   m. The irrigation contractor shall utilize appropriate automatic drain device where low head drainage may occur.
   n. All sprinkler heads shall be mounted on swing joints unless otherwise noted.
   o. The irrigation contractor shall install a separate common for each controller.
   p. The irrigation contractor shall install manufacturer's recommended grounding equipment for power supply and valve output with (2) 5/8" copper clad ground rods.
   q. The irrigation contractor shall install manufacturer's recommendation on fault ground and lightning protection.
   r. The irrigation contractor shall furnish the owner with the following : 2 wrenches for disassembling and adjusting each type of sprinkler heads and valves + 2 keys for the automatic controller +2 quick coupler keys with matching hose swivels.
   s. The irrigation contractor shall add extension risers to pop up sprinklers when needed for proper coverage. Coordinate with landscape contractor as to where risers for sprinkler heads are required.
   t. The irrigation contractor shall install sprinkler equipments 12" from all buildings foundations and install sprinklers 4" from any curbs or walkways.
   u. The irrigation backflow prevention device shall be installed within areas of proposed shrub plantings. The purpose of this is to keep the device screened from view.
9. The entire irrigation system (labor and materials) shall be guaranteed and warranted for a period of one year. The warranty period shall commenced upon final acceptance by Owner of all landscape and irrigation works.
10. The irrigation contractor for the project must be licensed to do business within the State of Texas , as required by TCEQ.*.
11. This irrigation plan is diagrammatic only. Irrigation contractor shall provide final irrigation design layout plan complete with licensed irrigator's seal and signature. All applicable design calculations shall be shown on their irrigation plan to comply with all TCEQ requirements.
12. **Irrigation Contractor to confirm static water pressure at Point of Connection before starting work. If static water pressure is below "Critical Station Pressure at P.O.C." on the "Critical Analysis" on Sht. IR1.2 contact Landscape Architect before proceeding with work.**
13. **Trenching within the drip-line of existing trees shall not employ the use of mechanical trenching devices. Hand dig without severing roots which exceed 1/2" in diameter. It is the Irrigation Contracors responsibility to protect all existing trees from damages from all work involved with the installation of the irrigation system. Irrigation plan is diagramatic, Irrigation Contractor to confirm routing of trenching with owners representative and get their approval before any trenching begins. Irrigation contractor is ultimately responsible for preventing damage to existing trees from system installation .**



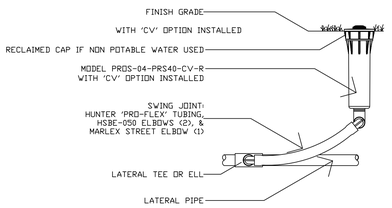
A IR1.3 **POP-UP SPRINKLER ROTOR TYPE (4")**
SCALE: NOT TO SCALE



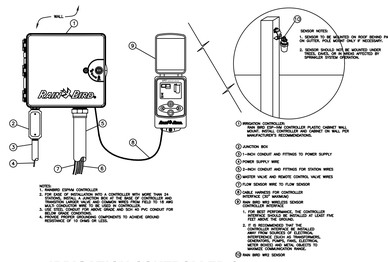
B IR1.3 **POP UP SPRAY HEAD (4")**
SCALE: NOT TO SCALE



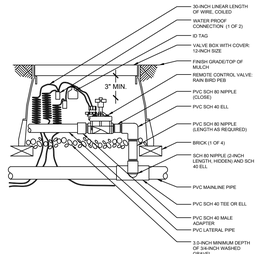
C IR1.3 **PRESSURE COMPENSATING FULL-CIRCLE BUBBLER**
SCALE: NOT TO SCALE RAIN BIRD 1400 ON 1804 POP-UP



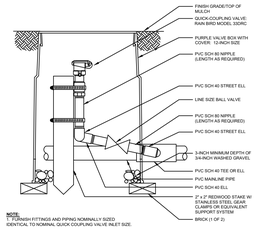
D IR1.3 **HUNTER 4" SPRAY POP-UP W/ MP-ROTATOR**
SCALE: NOT TO SCALE



E IR1.3 **IRRIGATION CONTROLLER & RAIN/FREEZE SENSOR**
SCALE: NOT TO SCALE

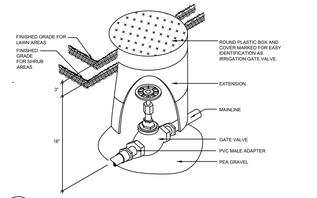


F IR1.3 **REMOTE CONTROL VALVE**
SCALE: NOT TO SCALE

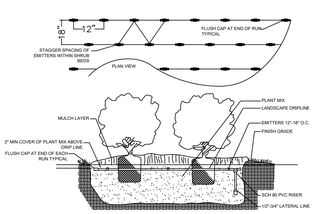


NOTE:
1. FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

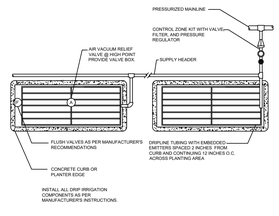
G IR1.3 **QUICK COUPLING VALVE**
SCALE: NOT TO SCALE



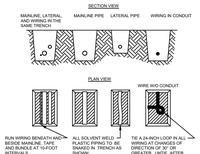
H IR1.3 **GATE VALVE**
SCALE: NOT TO SCALE



I IR1.3 **SHRUB DRIP IRRIGATION DETAIL**
SCALE: NOT TO SCALE

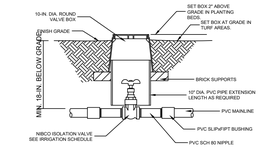


J IR1.3 **MULTIPLE BED DRIP IRRIGATION**
SCALE: NOT TO SCALE

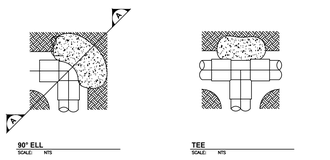


NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 200 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. MAINLINE PIPES BURIED MIN. 18" COVER, MEASURED FROM TOP.
3. LATERAL PIPES BURIED MIN. 12" COVER. MAINLINE PIPES BURIED MIN. 18" COVER

K IR1.3 **TRENCH DETAIL**
SCALE: NOT TO SCALE



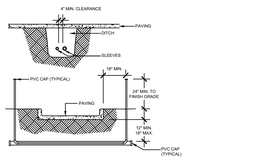
L IR1.3 **ISOLATION/SHUT-OFF VALVE**
SCALE: NOT TO SCALE



PIPE SIZE	MINIMUM THRUST BLOCK AREA (SQ. FT.) AT VARIOUS OPERATING PRESSURES (PSI)	
	150 PSI AND LESS	OVER 150 PSI
1"	1 SQ. FT.	2 SQ. FT.
1-1/2"	2 SQ. FT.	3 SQ. FT.
2"	3 SQ. FT.	4 SQ. FT.
3"	5 SQ. FT.	7 SQ. FT.
4"	8 SQ. FT.	11 SQ. FT.

NOTES:
1. MINIMUM THRUST BLOCK AREAS ARE BASED ON A 500L BEARING CAPACITY OF 2000 LBS/SF
2. THRUST BLOCK SHALL EXTEND INTO UNDISTURBED SOIL.

M IR1.3 **THRUST BLOCK DETAIL**
SCALE: NOT TO SCALE



NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE CLASS 200 PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE TWO PIPES ARE INSTALLED IN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.

N IR1.3 **SLEEVING**
SCALE: NOT TO SCALE

IRRIGATION IN TEXAS IS REGULATED BY:
THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
MC-178 / PO BOX 18087
AUSTIN, TEXAS 78711-3087
WWW.TCEQ.STATE.TX.US.

811 Know what's below. Call before you dig.

CAUTION!!

EXISTING UNDERGROUND UTILITIES IN THE AREA CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO EXISTING UTILITIES DUE TO DAMAGE INCURRED DURING CONSTRUCTION. CALL UTILITY LOCATES AND REFER TO CIVIL AND MEP PLANS

DESIGN DISCLAIMER:

This irrigation drawing is a preliminary layout. It is a diagrammatic representation for purpose of providing a basic depiction of the scope of coverage, initial valve zoning, with head type and placement. The Irrigation drawing does not provide necessary zone flow, hydraulic calculations to determine Design Pressure. These are defined in Texas Administrative Code*§344.61 Minimum Standards for Design of the Irrigation Plan* , and required by the T.C.E.Q for a complete Irrigation Plan and for Permit and Construction. It will be the responsibility of the installing licensed irrigator or irrigator-in-charge, to use information provided on this Preliminary Irrigation drawing, to provide a final Irrigation Plan meeting all standards as required by T.C.E.Q, Signed and Sealed.

Wong & Associates, Inc. shall not be responsible and accepts no liability for design failure, inaccurate head layout, incorrect hydro-zoning, pipe sizing, zone flow or hydraulic calculations, irrigation equipment, or aspects of the preliminary design drawing not in compliance with local irrigation regulations. The irrigation contractor shall be ultimately responsible for the final design, installation and proper operation of the irrigation system.

Disclaimer

Wong & Associates, Inc. shall not be responsible for the operation and/or maintenance of this irrigation system, once the date of final acceptance by the owner is established. All grades and elevations on the project shall be set by the project civil engineer. The Owner shall be responsible for the monitoring and the maintaining of the irrigation system. Monthly moisture sensor tests of all sprinkler zones around all building pads and on entire property, shall be performed by the Owner to ensure that no over-watering and/or any irrigation system leaks are present. The irrigation contractor shall be responsible for providing all guarantee and warranties for the irrigation system. The irrigation contractor shall be ultimately responsible for the installation and proper operation of the irrigation system.

1 IR1.3 **IRRIGATION DETAILS**
SCALE: N.T.S.

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Revision / Addendum 01 — Date 07.24.26

06/15/2026

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

Wong & Associates, Inc.
P.O. Box 2026 Bellaire, Texas 77402-2026
Tel: 713.777.5198 Cell: 713.757.5198
Member: American Society of Landscape Architects
JOSHUA COGBURN
TX 28423

www.huckabee-inc.com
800.687.1229

IRRIGATION DETAILS

VOLUME 01

Job No. 00802-04-01	Sheet No. IR1.3
Drawn By: EW/SR	
Date:	

DD QC

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TREE (TYP) - REF. LANDSCAPE

11 AS2.05

6' SIDEWALK - REF CIVIL

ONLY

HUFFSMITH KOHRVILLE

(11) SPACES

(17) SPACES

(18) SPACES

(18) SPACES

(2) FLAG POLES - REF. ELEC FOR UPLIGHTING

1 AS2.0

EG7 HW: J705

ART COURTYARD

EG8 HW: J705

(21) SPACES

VISITOR PARKING

PARENT DROP OFF

(18) SPACES

(18) SPACES

LIGHT POLES (TYP) - REF. ELEC.

EG1 HW: J705

6' HIGH BLACK VINYL FENCE

(6) SPACES

STAFF PARKING

BUS DROP OFF

TOMBALL INTERMEDIATE SCHOOL
ARCH FFE = 100'-00"
CIVIL FFE = 177.50

LP

EG2 HW: J704

SEMI-RECESSED KNOX BOX

24" WIDE POLE MOUNTED VEHICULAR SWING SECURITY GATE - PROVIDE KNOX BOX

EG12 HW: J002 DETAILS

BICYCLE RACK (4)

KNOX BOX

PROPOSED PAD MOUNTED ELEC TRANSFORMER - REF. ELECTRICAL

TYPE A BOLLARDS AT SURROUND OF TRANSFORMER

WALL MOUNTED FDC

*NOTE AT POTENTIAL FUTURE ADDITIONS:

1. GENERAL CONTRACTOR SHALL COORDINATE ANY AND ALL SUBCONTRACTOR WORK TO PREVENT ANY PATHWAYS WITHIN THE AREA SHOWN, AND NOTED, FOR FUTURE ADDITION.

2. ALL UNDERGROUND UTILITIES THAT CAN NOT AVOID THIS AREA ARE TO HAVE THEIR LOCATIONS, INCLUDING DEPTH BELOW GRADE, CLEARLY DOCUMENTED AND PROVIDED TO THE OWNER AS PART OF THE AS-BUILT SET

COURTYARD - REF. LANDSCAPE

1 AS2.02

EG18 HW: J704

(19) SPACES

BICYCLE RACK

GAS METER - REF PLUMB

UP

PRE-MANUF. FABRIC SHADE CANOPIES. REF. SPEC SECT 10 7340

EG17 HW: J704

EG3 HW: J704

6' DECORATIVE METAL FENCE & GATES

EG4 HW: J704

SERVICE YARD

EG15 HW: J705

2 AS2.01

2 AS2.02

6' HIGH BLACK VINYL FENCE

GREASE TRAP

FIRE LANE

EG20

EG19

7 AS2.05

6' HIGH BLACK VINYL FENCE

EG11 HW: J704

KNOX BOX

*NOTE AT POTENTIAL FUTURE ADDITIONS:

1. GENERAL CONTRACTOR SHALL COORDINATE ANY AND ALL SUBCONTRACTOR WORK TO PREVENT ANY PATHWAYS WITHIN THE AREA SHOWN, AND NOTED, FOR FUTURE ADDITION.

2. ALL UNDERGROUND UTILITIES THAT CAN NOT AVOID THIS AREA ARE TO HAVE THEIR LOCATIONS, INCLUDING DEPTH BELOW GRADE, CLEARLY DOCUMENTED AND PROVIDED TO THE OWNER AS PART OF THE AS-BUILT SET

7 AS2.06

6' SIDEWALK - REF CIVIL

FIRE LANE

EG13 HW: J002 DETAILS

24" WIDE POLE MOUNTED VEHICULAR SWING GATE - PROVIDE KNOX BOX

KNOX BOX

6' SIDEWALK - REF CIVIL

FUTURE TEMPORARY CLASSROOM

FUTURE TEMPORARY CLASSROOM

PAINTED FOUR SQUARE COURT

EG10 HW: J002

TETHER BALL SET - OFCI

EXTERIOR POLE MOUNTED BASKETBALL GOAL

6' HIGH BLACK VINYL FENCE

EXISTING OVERFLOW WEIR TO REMAIN

1 ARCHITECTURAL SITE PLAN - OVERALL
1" = 30'-0"

GRAPHIC SCALE
0 30 60 90 120

N TRUE

PLAN

Revision /	Date	
1	07/24/26	ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT CAITLIN MUNCH 29402 STATE OF TEXAS

07/24/2026

Huckabee
www.huckabee-inc.com
800.687.1229

ENLARGED ARCHITECTURAL SITE PLAN

VOLUME 01

Job No.	Sheet No.
00802-04-01	AS1.02
Drawn By: CB	
Date: 07.15.26	

Autodesk Docs://TOMBALL ISD - IS REPLACEMENT/00802-04-01 Tomball ISD IS Replacement_ARCH.rvt

7/24/2026 9:07:29 AM

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GENERAL NOTES:

1. REFER TO THE PROJECT MANUAL FOR GOVERNING JOB REQUIREMENTS AND MATERIAL SPECIFICATIONS. THE FOLLOWING NOTES ARE SUPPLEMENTAL TO THE ABOVE REQUIREMENTS.
2. ALL DIMENSIONS ASSOCIATED WITH EXISTING STRUCTURES SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE SEOR.
3. DO NOT CHANGE THE SIZE OR SPACING OF STRUCTURAL ELEMENTS WITHOUT THE APPROVAL OF THE SEOR.
4. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS, AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
5. DETAILS SHOWN AS TYPICAL APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
6. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
7. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SPECIFICALLY STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED BRACING OF THE BUILDING - INCLUDING ELEMENTS REQUIRED TO RESIST LATERAL LOADS - AND ANY OTHER STRUCTURES REQUIRED FOR STABILITY OF THE BUILDING DURING CONSTRUCTION UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED.
8. THE DESIGN IS BASED ON 2021 INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE SEOR APPROVAL.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE AND COORDINATE THEIR WORK WITH THE WORK OF OTHERS.
12. PRINCIPAL OPENINGS ARE INDICATED ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR SLEEVES, BLOCKOUTS, INSERTS, CURBS, OPENINGS, AND SLAB DEPRESSIONS THAT ARE REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS. VERIFY SIZE AND LOCATION OF OPENINGS PRIOR TO BEGINNING WORK. FOR DIMENSIONS NOT SHOWN REFER TO MEP, CIVIL, AND ARCHITECTURAL DRAWINGS.
13. VERIFY SIZE AND LOCATION OF EQUIPMENT PADS WITH MECHANICAL AND/OR ELECTRICAL CONTRACTOR AND EQUIPMENT MANUFACTURER.
14. THE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR ANY PURPOSE. SEOR IS NOT RESPONSIBLE FOR DETERMINATION OF QUANTITY, LENGTH, OR FIT OF MATERIALS RESULTING FROM SCALING THE STRUCTURAL DRAWINGS.
15. CONTRACTOR SHALL COMPARE STRUCTURAL AND ARCHITECTURAL DRAWINGS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
16. CONTRACTOR SHALL ENSURE THAT CONSTRUCTION MATERIALS WHOSE WEIGHT EXCEEDS THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON STRUCTURALLY SUPPORTED FLOOR OR ROOF FRAMING.
17. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCH/ SEOR OF ANY CONDITION WHICH THEY BELIEVE MAY RESULT IN INSTABILITY AND/ OR DISTRESS IN THE STRUCTURE.
18. REFER TO SECTION 01 4533 OF THE PROJECT SPECIFICATIONS FOR QUALITY ASSURANCE PLAN AND SPECIAL INSPECTION REQUIREMENTS.
19. PRIOR TO SUBMITTING PROPOSALS, BIDS, OR GUARANTEED MAXIMUM PRICE (GMP) FOR THIS PROJECT - AS PART OF THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS - IT SHALL BE REQUIRED THAT THE CONTRACTOR REVIEW THE GEOTECHNICAL REPORT FOR THIS PROJECT; ALONG WITH ALL SUPPORTING DOCUMENTS TO THE REPORT SUCH AS SUPPLEMENTS AND ADDENDUMS, AND COMPARE THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT TO THE BUILDING PAD PREPARATION REQUIREMENTS (E.G. FILL MATERIAL REQUIREMENTS, COMPACTION REQUIREMENTS, EXTENTS OF EXCAVATION, ETC.) SPECIFIED IN THE CONSTRUCTION DOCUMENTS (BOTH DRAWINGS AND SPECIFICATIONS). IF THE CONTRACTOR BELIEVES THERE IS A DISCREPANCY BETWEEN THE GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS, THE MOST STRINGENT OF THOSE REQUIREMENTS SHALL GOVERN UNLESS OTHERWISE APPROVED BY THE SEOR. ADDITIONALLY, IF THE CONTRACTOR BELIEVES THERE IS A DISCREPANCY BETWEEN THE GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL SUBMIT AN RFI REQUESTING CLARIFICATION REGARDING ANY POTENTIAL DISCREPANCIES THE CONTRACTOR HAS IDENTIFIED.

FOUNDATION AND SOIL PREPARATION NOTES:

1. THE FOUNDATION DESIGN IS BASED ON THE FOLLOWING AS RECOMMENDED IN THE GEOTECHNICAL REPORT NO. 92245559.REVISION 1, DATED MAY 4, 2026 BY TERRACON;

BEARING STRATA:	NATURAL, UNDISTURBED SOILS
ALLOWABLE END BEARING PRESSURE	
0 FT TO 13 FT BELOW EXISTING GRADE;	DISREGARD
13 FT TO 23 FT BELOW EXISTING GRADE;	6,000 PSF
23 FT TO 30 FT BELOW EXISTING GRADE;	8,000 PSF
SKIN FRICTION VALUES:	
IN COMPRESSION & TENSION (0' TO 13' PENETRATION):	DISREGARD
IN COMPRESSION & TENSION (13' TO 23' PENETRATION):	700 PSF
IN COMPRESSION & TENSION (23' TO 30' PENETRATION):	780 PSF
UPLIFT SOIL PRESSURE:	CAPACITY OF UPPER 4 FT OF THE ON-SITE SOILS SHOULD BE DISREGARDED DUE SURFACE PRESENCE OF FILL AND EXPANSIVE SOIL

2. THE CONTRACTOR AND DRILLER SHALL REVIEW THE REPORT AND BORING LOGS DURING THE BIDDING PHASE OF THE PROJECT. IF THE CONTRACTOR BELIEVES DISCREPANCIES EXIST BETWEEN THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND THESE DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCH/ SEOR OF SUCH DISCREPANCIES PRIOR TO BIDDING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INCLUDE THE DIFFERENCE BETWEEN FINAL AND EXISTING GRADES IN THEIR BID. ADDITIONAL COST WILL NOT BE ALLOWED FOR FAILURE TO ACCOUNT FOR THE DIFFERENCE BETWEEN FINAL AND EXISTING GRADES. REFER TO THE CIVIL SITE GRADING PLAN FOR FINAL AND EXISTING GRADES.
3. PROVIDE POSITIVE DRAINAGE FOR ALL TRENCHES DURING CONSTRUCTION. DO NOT ALLOW ANY PONDING OF WATER DURING CONSTRUCTION.
4. THE SOIL BENEATH THE BUILDING AND SERVICE YARD, AND SITE STRUCTURES AND A MINIMUM OF 5 FEET AROUND THE PERIMETER OF THESE ELEMENTS SHALL BE TREATED AS FOLLOWS:
   A. STRIP ALL VEGETATION, TOPSOIL, AND UNSUITABLE MATERIALS AS REQUIRED. PROVIDE A MINIMUM 48-INCH-THICK SELECT FILL PAD BENEATH THE BUILDING, EXTENDING A MINIMUM OF 5 FEET BEYOND THE BUILDING PERIMETER.
   B. PROOFROLL THE EXPOSED SUBGRADE AFTER SITE PREPARATION AND PRIOR TO FILL PLACEMENT USING A 20-TON PNEUMATIC-TIRED ROLLER OR OTHER EQUIPMENT APPROVED BY THE GEOTECHNICAL ENGINEER. PROOFROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. REMOVE WEAK OR PUMPING AREAS IDENTIFIED DURING PROOFROLLING, AS WELL AS FILL CONTAINING ORGANIC MATERIAL OR DEBRIS, AND REPLACE WITH COMPACTED SOIL MATCHING THE CLASSIFICATION, MOISTURE CONTENT, AND DENSITY OF THE ADJACENT IN-SITU SOIL.
   C. SCARIFY THE UPPER 6 INCHES OF SUBGRADE, MOISTURE CONDITION, AND COMPACT TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY PRIOR TO PLACEMENT OF FILL.
   D. ALL FILL WITHIN AND SURROUND THE BUILDING PAD SHALL BE A SELECT FILL MATERIAL MEETING CL OR SC CLASSIFICATION WITH PLASTICITY INDEX BETWEEN 10 AND 20 FOR ALL BUILDING PAD AND GRADE ADJUSTMENTS.
   E. PLACE SELECT FILL IN LIFTS NOT EXCEEDING 8 INCHES LOOSE (6 INCHES COMPACTED) AND COMPACT EACH LIFT TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AT MOISTURE CONTENT WITHIN ±2 PERCENT OF OPTIMUM. PERFORM IN-PLACE DENSITY TESTING AT A MINIMUM FREQUENCY OF ONE (1) TEST PER LIFT FOR EACH 2,500 SQ. FT. OF BUILDING PAD AREA, WITH A MINIMUM OF THREE (3) TESTS PER LIFT PER DAY. ADDITIONAL TESTING SHALL BE PERFORMED AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR GEOTECHNICAL TESTING AGENCY.
   F. ALL FINISH GRADES ADJACENT TO THE BUILDING SHALL PROVIDE EFFECTIVE DRAINAGE AWAY FROM THE BUILDING DURING AND AFTER CONSTRUCTION. EXPOSED GROUND SHALL BE SLOPED AWAY FROM THE BUILDING FOR A MINIMUM OF 10 FEET BEYOND THE BUILDING PERIMETER. WATER SHALL NOT BE PERMITTED TO POND ADJACENT TO THE BUILDING. COLLECT ROOF RUNOFF IN GUTTERS OR ROOF DRAINS AND DISCHARGE ONTO PAVEMENT OR FLATWORK SLOPING AWAY FROM THE BUILDING, OR EXTEND DOWNSPOUTS A MINIMUM OF 10 FEET FROM THE BUILDING. WHERE PAVING OR FLATWORK ABUTS THE BUILDING, JOINTS SHALL BE EFFECTIVELY SEALED AND MAINTAINED TO PREVENT SURFACE WATER INFILTRATION.
   G. ALL UTILITY TRENCHES THAT PENETRATE BENEATH THE BUILDING SHALL BE EFFECTIVELY SEALED TO RESTRICT WATER INTRUSION AND MIGRATION BENEATH THE STRUCTURE. PROVIDE A COMPACTED CLAY TRENCH PLUG EXTENDING A MINIMUM OF 5'-0" BEYOND THE EXTERIOR FACE OF THE BUILDING. THE CLAY PLUG SHALL COMPLETELY SURROUND THE UTILITY LINE AND SHALL BE COMPACTED AT A MOISTURE CONTENT AT OR ABOVE OPTIMUM IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
   H. REFER TO SHEET S3.01 FOR AUGER CAST-IN-PLACE (ACIP) PILE NOTES.

CAST-IN-PLACE CONCRETE NOTES:

1. REFER TO SECTION 03 3000 OF THE PROJECT SPECIFICATIONS FOR CONCRETE MIX DESIGN REQUIREMENTS.
2. IF THE AIR TEMPERATURE IS GREATER THAN 90 DEGREES WITHIN 24 HOURS AFTER PLACEMENT, HOT WEATHER CONCRETE PROCEDURES SHALL BE USED. THE CONTRACTOR SHALL SUBMIT A PROCEDURE TO THE SEOR FOR APPROVAL. THESE PROCEDURES MAY INCLUDE THE FOLLOWING:
   A. PLACING THE CONCRETE DURING EARLY MORNING
   B. USE OF EVAPORATION REDUCER (REF BELOW)
   C. USE OF MISTING AS A CURING METHOD
   D. USE OF WET BLANKETS AS A CURING METHOD
3. CONCRETE CYLINDERS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS FOR EACH DAY'S POUR. THE CONCRETE SLUMP, TEMPERATURE, AND AIR CONTENT SHALL BE MEASURED EACH TIME A SET OF FOUR CYLINDERS IS MADE.
4. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR CONCRETE CONSTRUCTION FOR BUILDINGS" (ACI 301) PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE.
5. UNLESS NOTED OTHERWISE, IT SHALL BE ASSUMED THAT CONCRETE REINFORCEMENT BE SPLICED WITH "TYPE B" SPLICES PER ACI 318.
6. COVER FOR ALL REINFORCEMENT SHALL MEET THE COVERAGE REQUIREMENTS of THE LATEST EDITION OF ACI 318 AS NOTED BELOW; OR AS SHOWN ON THE DETAILS. COVER DIMENSIONS SHOWN ON THE DETAILS CONTROL OVER THOSE REQUIRED BY ACI 318 AND THOSE NOTED BELOW:
   A. CAST AGAINST FORMED SURFACES: 1 1/2"
   B. CAST AGAINST EARTH: 3"
   C. BETWEEN REBAR: 1 1/2"
   D. TOP OF SLAB ON GROUND: 1 1/2"
   E. TOP OF SLAB OVER METAL DECK: 1"

BEAM CLASS OR SIZE	MINIMUM FACTORED END SHEAR REACTION FOR CONNECTION DESIGN (KIPS)
W8	14
W10,W12	25
W14	44
W16	63
W18	82
W21	100
W24	125
W27	137
W30, W33, W40	137

1

UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD, BEAM CONNECTIONS SHALL BE DESIGNED BY THE CONNECTION ENGINEER TO RESIST THE MINIMUM FACTORED END SHEAR REACTIONS SHOWN IN THE TABLE TO THE LEFT OR THE FACTORED END REACTIONS INDICATED ON THE PLANS, SECTIONS, OR DETAILS, WHICHEVER IS GREATER.

7. ANY CONCRETE TO BE PLACED FURTHER THAN 16 FEET FROM THE END OF A CONCRETE TRUCK SHALL BE PUMPED WITH A COMMERCIAL CONCRETE PUMPING TRUCK OR OTHER PLACEMENT METHOD APPROVED BY THE SEOR. THE CONCRETE TRUCK SHALL NOT BE ALLOWED TO DRIVE OVER THE PREPARED SUBGRADE OR THE CONCRETE REINFORCEMENT.
8. REINFORCING STEEL SHALL BE NEW, DOMESTIC, DEFORMED BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60. ANY BAR MAY BE FIELD BENT ONE TIME WITHOUT NOTIFYING THE SEOR UNLESS NOTED OTHERWISE. REINFORCEMENT SMALLER THAN #4 BARS SHALL BE COLD BENT. REINFORCEMENT GREATER THAN A #4 BAR SHALL BE BENT WITH HEAT IN THE FIELD. HEATING SHALL BE CONTROLLED BY TEMPERATURE INDICATING CRAYONS AND SHALL REACH A MAXIMUM TEMPERATURE OF 1500 DEG FAHRENHEIT. REINFORCEMENT SHALL NOT BE ARTIFICIALLY COOLED UNTIL TEMPERATURE HAS REDUCED NATURALLY TO BELOW 600 DEG FAHRENHEIT. BENDS SHALL BE GRADUAL AND CARE SHALL BE TAKEN TO PREVENT HEATING OR CRACKING OF CONCRETE. IF REINFORCEMENT MUST BE FIELD BENT MORE THAN ONCE, THE CONTRACTOR SHALL ISSUE AN RFI INDICATING WHICH BARS NEED TO BE FIELD BENT.
9. DOWEL CONCRETE AND CMU WALLS, PILASTERS AND PIERS INTO GRADE BEAMS WITH DOWELS THE SAME SIZE AND SPACING AS VERTICAL REINFORCEMENT. EXTEND DOWELS TO WITHIN 3" OF BOTTOM OF GRADE BEAMS, TERMINATED WITH ACI STD. 90 DEGREE HOOK, UNLESS SPECIFICALLY NOTED OTHERWISE.
10. PROVIDE A ROUGH CONCRETE SURFACE (1/4" MINIMUM AMPLITUDE) AT THE INTERSECTION OF CONCRETE WALLS, STEM WALLS, AND PILASTERS WITH THE TOP OF GRADE BEAMS, DO NOT PROVIDE A KEYWAY UNLESS SHOWN OR NOTED ON THE DRAWINGS
11. NO HOLES OR OPENINGS ARE PERMITTED THROUGH CONCRETE SLABS, BEAMS, OR WALLS EXCEPT AS FOLLOWS:
   A. WHERE SPECIFICALLY DETAILED ON DRAWINGS
   B. MISCELLANEOUS HOLES THROUGH SLABS OR WALLS WHICH DO NOT DISPLACE MORE THAN ONE BAR. THESE DO NOT REQUIRE ADDITIONAL REINFORCEMENT.
12. LOCATE ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITATE CONSTRUCTION AS ACCEPTABLE TO ENGINEER. LOCATE WALL CONSTRUCTION JOINTS AT MASONRY CONTROL JOINTS WHERE POSSIBLE. PLACE REINFORCEMENT CONTINUOUSLY THROUGH JOINT. DETAIL JOINT AND SHOW ON SHOP DRAWINGS.
13. SAW-CUTS IN CONCRETE SLABS SHALL BE MADE USING EARLY-ENTRY EQUIPMENT AS SOON AS THE CONCRETE IS OF SUFFICIENT STRENGTH TO SAW WITHOUT RAVELING THE AGGREGATE. ANY TIME LAPSE GREATER THAN 4 HOURS AFTER PLACING THE CONCRETE SHALL BE PERMITTED ONLY IF APPROVED BY THE ENGINEER. IF NOT INDICATED OTHERWISE, FOR PROPOSAL PURPOSES THE CONTRACTOR SHALL ASSUME THAT SAW-CUTS OF SLABS-ON-GRADE SHALL BE REQUIRED BETWEEN ALL COLUMNS, AT CORNERS IN THE SLABS, AND AT 12'-0" ON-CENTER MAX BETWEEN. SAW-CUTS SHALL OCCUR IN BOTH PLAN DIRECTIONS AND PANELS SHALL HAVE ASPECT RATIOS OF A MAXIMUM 1.5:1. THE CONTRACTOR SHALL ISSUE A PROPOSED LAYOUT TO THE SEOR AND ARCHITECT FOR APPROVAL PRIOR TO PLACING SLABS. REFERENCE PROJECT SPECIFICATIONS FOR ADDITIONAL SAW-CUTTING INFORMATION.
14. WHERE MASONRY VENEER IS LOCATED ADJACENT GRADE BEAMS GREATER THAN 24 INCHES HIGH, PROVIDE VENEER TIES IN ACCORDANCE WITH SECTION 04 2000 OF THE PROJECT MANUAL.
15. PLACE INTERMEDIATE HORIZONTAL BARS (#4 AT 12" MAXIMUM) ON EACH VERTICAL FACE OF ALL BEAMS GREATER THAN 36" IN DEPTH UNLESS NOTED OTHERWISE.
16. CAST CONCRETE ON SLOPED SURFACES BEGINNING AT LOWEST ELEVATION AND CONTINUING MONOLITHICALLY TOWARD HIGHER ELEVATIONS UNTIL INTENDED POUR IS COMPLETED.
17. REINFORCING BARS, BAR SUPPORTS, AND SPACERS SHALL BE DETAILED AND PROVIDED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL. PROVIDE DAYTON SUPERIOR (800-745-3700) OR EQUAL WIRE-BAR SUPPORTS COMPLYING WITH CRSI SPECIFICATIONS NO FURTHER THAN 4 FEET APART UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS. BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING AND FASTENING REINFORCING BARS AND WELDED WIRE REINFORCEMENT SHALL BE MANUFACTURED FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE," AND AS FOLLOWS:
   A. FOR CONCRETE SURFACES EXPOSED TO VIEW WHERE LEGS OF WIRE BAR SUPPORTS CONTACT FORM, USE CRSI CLASS 1 PLASTIC-PROTECTED STEEL WIRE OR CRSI CLASS 2 STAINLESS-STEEL BAR SUPPORTS.
   B. FOR SLABS ON GRADE, PROVIDE SAND PLATES OR HORIZONTAL RUNNERS ON BOTTOM WHERE BASE MATERIAL WILL NOT SUPPORT CHAIR LEGS OR WHERE VAPOR BARRIER HAS BEEN SPECIFIED. CONCRETE BLOCK OR CLAY MASONRY SHALL NOT BE USED.
18. ALL GRADE BEAM STEEL SHALL BE CONTINUOUS WHERE POSSIBLE. TOP BARS SHALL BE SPLICED AT THE CENTER OF THE SPAN, BOTTOM BARS OVER THE SUPPORTS, AND OTHER HORIZONTAL AND TEMPERATURE BARS AS REQUIRED. REFER TO THE DETAILS AND SCHEDULES FOR SPLICE LENGTHS.
19. SEE ARCHITECTURAL AND MECHANICAL/ELECTRICAL DRAWINGS FOR EXACT LOCATIONS AND DETAILS OF DEPRESSED SLABS, FLOOR DRAIN LOCATIONS, PLATFORMS, CURBS, AND PADS.
20. NO PIPING OR CONDUITS SHALL BE INSTALLED IN ANY CONCRETE WITHOUT THE APPROVAL OF THE ENGINEER. IN GENERAL, IF APPROVED BY THE ENGINEER, ANY PIPING OR CONDUITS MUST BE LOCATED IN THE MIDDLE OF THE SLAB AND NOT BE OVER ONE INCH IN DIAMETER. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR PENETRATIONS.
21. EXPANDED POLYSTYRENE FILL SHOWN ON THE PLANS AND SECTIONS SHALL BE CAPABLE OF WITHSTANDING A 40 PSI UNIFORM LOAD WITH A MAXIMUM COMPRESSION RESISTANCE OF 1 PERCENT DEFORMATION AT THAT LOAD WHEN MEASURED IN ACCORDANCE WITH ASTM D6817.
22. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, PIPING, WATERSTOPS, INSERTS, GROUNDS, AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT. FOR EMBEDDED ITEMS AND REQUIRED DETAILS, SEE MECHANICAL, ELECTRICAL, AND ARCHITECTURAL DRAWINGS. VERIFY SIZE AND LOCATION OF ALL OPENINGS.
23. ALL PIPING AND DUCT PENETRATIONS THROUGH NEW STRUCTURAL SLABS ARE TO BE SLEEVED OR CHASED. NO CORING OF SLAB IS PERMITTED. ALL PIPING THROUGH EXISTING STRUCTURAL SLABS MAY BE CORED IF APPROVED BY ENGINEER.
24. THE CONTRACTOR SHALL VERIFY VAPOR BARRIER IS PROVIDED UNDER ALL SLAB AREAS WITH TILE, CARPET OR OTHER MOISTURE SENSITIVE COVERINGS PER THE FLOOR FINISH SCHEDULE (AFTER ALL ADDENDA).

STEEL NOTES:

1. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION.
2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY.
3. ANY CONNECTIONS WITHOUT WELD SYMBOLS SHALL BE AT A MINIMUM WELDED ALL AROUND WITH THE MINIMUM FILLET, FLARE BEVEL OR BUTT WELD SIZE.
4. WELDS THAT ARE INDICATED AS FIELD WELDS MAY BE SHOP WELDED AT THE CONTRACTOR'S OPTION.
5. WELDING ELECTRODE MATERIAL SHALL BE MATCHED TO THE BASED METAL PER TABLE 3.1 OF AWS D1.1 AND SHALL BE A MINIMUM E70XX (Fu = 70 KSI).
6. STRUCTURAL STEEL AT M-, S- AND L-SHAPES SHALL CONFORM TO ASTM A572/A572M GRADE 50. STRUCTURAL STEEL AT C-SHAPES AND MC-SHAPES SHALL CONFORM TO ASTM A992/A992M GRADE 50. STRUCTURAL STEEL AT PLATES AND BARS (UP TO 4-INCHES THICK), SHALL CONFORM TO ASTM A572/A572M GRADE 50. STRUCTURAL HSS SQUARE AND RECTANGULAR SECTIONS SHALL CONFORM TO ASTM A500/A500M GRADE C (50 KSI YIELD STRESS). STRUCTURAL HSS ROUND SECTIONS SHALL CONFORM TO ASTM A500/A500M GRADE C (50 KSI YIELD STRESS). STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B (35 KSI YIELD STRESS).
7. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
8. CONNECTIONS:
   A. ALL STEEL CONNECTIONS SHALL BE DESIGNED BY A CONNECTION ENGINEER TO BE HIRED BY THE CONTRACTOR. THE CONTRACTOR'S CONNECTION ENGINEER RESPONSIBLE FOR THE CONNECTION DESIGN SHALL BE A PROFESSIONAL ENGINEER FAMILIAR WITH THE DESIGN OF SUCH ELEMENTS AND SHALL BE LICENSED TO PRACTICE ENGINEERING IN THE STATE OF TEXAS. CONNECTION DESIGNS AND DETAILS SHOWN ON THE DRAWINGS SHALL BE CONSIDERED MINIMUMS. FINAL CONFIGURATION, PLATE AND ANGLE THICKNESSES, NUMBER OF BOLTS, BOLT DIAMETERS, AND WELD DESIGNS SHALL BE DESIGNED BY THE CONTRACTOR'S CONNECTION ENGINEER. CONNECTION DESIGN WILL BE SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
   B. TYPE OF REQUIRED CONNECTION (BOLT BEARING, PRE-TENSIONED, OR SLIP-CRITICAL) SHALL BE DETERMINED BY THE CONTRACTOR'S CONNECTION ENGINEER, HOWEVER, BOLT BEARING TYPE IN A SNUG-TIGHT CONDITION SHALL BE USED WHERE PRE-TENSIONED OR SLIP-CRITICAL IS NOT REQUIRED.
   C. CONNECTIONS DESIGNED AS PRE-TENSIONED OR SLIP-CRITICAL SHALL BE CLEARLY INDICATED ON THE SHOP DRAWINGS SUBMITTED BY THE CONTRACTOR'S CONNECTION ENGINEER.
   D. BOLT TYPES:
      1. ALL BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO 3/4" (MINIMUM) DIAMETER A325 TYPE N OR A325 SC BOLTS IN STANDARD HOLES UNLESS NOTED OTHERWISE OR AS DETERMINED BY THE CONTRACTOR'S CONNECTION ENGINEER.
      2. PRE-TENSIONED AND SLIP-CRITICAL BOLTS SHALL BE INDICATOR TYPE BOLTS EQUAL TO TENSION CONTROLLED BOLTS OF THE LeJEUNE COMPANY OF LAKEVILLE, MINNESOTA (800-872-2658).
   E. LOADS PROVIDED ON PLAN ARE LRFD FACTORED REACTIONS UNLESS NOTED OTHERWISE.
   F. WHERE A DESIGN SHEAR REACTION IS NOT PROVIDED ON PLAN, IN SECTION, OR IN PLAN NOTES,THE DESIGN SHEAR FOR THE CONNECTION SHALL BE AS FOLLOWS, WITH A MINIMUM FACTORED REACTION OF 14 KIPS:
      1. AT ROOF AND NON-COMPOSITE FLOOR BEAMS: 110% OF THE REACTION FROM THE MAXIMUM TOTAL UNIFORM LOAD PER TABLE 3-6 THROUGH TABLE 3-9 IN THE AISC STEEL CONSTRUCTION MANUAL.
      2. AT COMPOSITE FLOOR BEAMS: 180% OF THE REACTION FROM THE MAXIMUM TOTAL UNIFORM LOAD PER TABLE 3-6 THROUGH TABLE 3-9 IN THE AISC STEEL CONSTRUCTION MANUAL
      3. CONCENTRATED LOADS WITHIN A DISTANCE OF THE BEAM DEPTH FROM THE END OF THE BEAM SHALL BE ADDED TO THE MINIMUM ROOF AND FLOOR BEAM REACTIONS NOTED ABOVE
   G. THE DESIGN AXIAL LOAD FOR BRACE CONNECTIONS AT BRACED FRAMES SHALL BE AS NOTED ON THE DRAWINGS. WHERE NO REACTION IS PROVIDED, THE BRACE CONNECTION SHALL BE DESIGNED FOR A COMPRESSIVE LOAD EQUAL TO THE MAXIMUM AVAILABLE STRENGTH IN AXIAL COMPRESSION PER TABLE 4-1 THROUGH TABLE 4-12 IN THE 14TH EDITION OF THE AISC STEEL MANUAL AND FOR A TENSILE LOAD EQUAL TO 75 % OF THE MAXIMUM AVAILABLE STRENGTH IN AXIAL TENSION PER TABLES 5-1 THROUGH 5-8 IN THE 14TH EDITION OF THE AISC STEEL MANUAL.
9. ALL STEEL BEAMS TO RECEIVE SHEAR CONNECTORS SHALL HAVE NO PAINTING ON THE TOP FLANGES.
10. SHEAR CONNECTORS (SC) SHOWN ON THE PLAN SHALL BE 3/4" DIAMETER EQUAL TO NELSON FLUXED SHEAR CONNECTOR STUDS (UNO) WITH LENGTH EQUAL TO THE SLAB THICKNESS MINUS 1". STUDS SHALL BE CAPABLE OF DEVELOPING 17.2 KIPS IN SHEAR PER CONNECTOR WHEN INSTALLED. STUDS SHALL BE AUTOMATICALLY END WELDED IN THE FIELD. EQUALLY SPACE STUDS AND STAGGER ON BEAMS PARALLEL TO THE DECK UNLESS DETAILED OTHERWISE. ON BEAMS PERPENDICULAR TO THE DECK, PLACE ONE STUD IN EACH RIB AND DOUBLE UP REMAINING REQUIRED ON EACH END. CLEAN OFF ALL WELD FLUX AND WELDING FERRULES FROM SHEAR CONNECTORS BEFORE PLACING CONCRETE. THE ENGINEER SHALL APPROVE ALL STUD PLACEMENT OPERATIONS.
11. PROVIDE 3/8" STIFFENER PLATES ON EACH SIDE OF THE WEB OF ALL BEAMS AT ALL SUPPORTS THAT ARE BELOW THE BEAM, AND AT ALL COLUMNS THAT ARE ABOVE THE BEAM, OMITTING WHERE BEAMS INTERSECT.
12. FOR PROPOSAL PURPOSES, STEEL FABRICATORS WITH NON-AISC SHOPS SHALL ASSUME THAT THE FULL SCOPE OF INSPECTION AND TESTING FOR ON-SITE STEEL CONSTRUCTION WILL APPLY TO ALL STEEL FABRICATED IN THE NON-AISC-CERTIFIED SHOP CONSTRUCTION.
13. UNLESS NOTED OTHERWISE, WHERE SLOTTED HOLES ARE DETAILED, PROVIDE LONG-SLOT HOLES AS DIMENSIONED IN THE NOMINAL HOLE DIMENSIONS TABLE IN CHAPTER J OF THE APPLICABLE AISC STEEL CONSTRUCTION MANUAL.
14. TOP OF BEAMS ELEVATIONS ARE DELIBERATELY NOT PROVIDED ON THE FRAMING PLANS BECAUSE THE TOP OF BEAM ELEVATION SHALL BE ESTABLISHED BY THE STEEL DETAILER BASED ON THE GEOMETRIC ROOF REQUIREMENTS DEFINED BY THE CONSTRUCTION DRAWINGS AND BOTTOM OF DECK ELEVATIONS. THE TOP OF BEAM ELEVATIONS SHALL ACCOUNT FOR THE ACTUAL JOIST SEAT DEPTHS, AS ESTABLISHED ON THE STEEL JOIST SHOP DRAWINGS.
15. ALL STRUCTURAL STEEL MEMBERS, JOISTS, AND METAL DECKS SHALL BE CONSIDERED AS PRIMARY FRAMING FOR FIREPROOFING PURPOSES UNLESS NOTED OTHERWISE.

STEEL JOIST AND ROOF DECK NOTES:

1. STEEL JOISTS SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS FOR OPEN WEB JOISTS. MATERIAL SHALL BE DOMESTIC STEEL WITH ANGLES FOR BOTTOM CHORDS. BRIDGING SHALL BE PROVIDED FOR ALL JOISTS IN ACCORDANCE WITH SJI REQUIREMENTS.
2. METAL ROOF DECK SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND AS INDICATED ON THE PLANS. METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS PER THE PROJECT SPECIFICATIONS.
3. THE JOIST GIRDERS SHALL BE DESIGNED AS A SIMPLE SPAN WITH THE UNFACTORED JOIST REACTIONS INDICATED BY THE JOIST GIRDER DESIGNATION (DEAD LOAD AND LIVE LOAD).
4. ALL JOISTS SHALL HAVE BOTTOM CHORD UPLIFT BRIDGING AT EACH END AND BE DESIGNED FOR C&C UPLIFT W

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NOTE TO JOIST ENGINEER: THE ADDITIONAL LOADS SHOWN ON THIS SHEET SHALL BE INCLUDED IN THE DESIGN OF THE INDICATED OPEN WEB STEEL JOISTS. THESE LOADS ARE IN ADDITION TO A UNIFORM ROOF DESIGN LOAD OF 50 PSF TOTAL DEAD LOAD AND 20 PSF ROOF LIVE LOAD, PLUS ALL APPLICABLE WIND LOADS REQUIRED BY THE CONTRACT DOCUMENTS. THE JOIST MANUFACTURER SHALL DESIGN THE JOISTS, BRIDGING, AND CONNECTIONS FOR THE COMBINED EFFECTS OF ALL APPLICABLE LOADS. ALL WIND LOADS AT ULTIMATE (1.0W) UNLESS NOTED OTHERWISE.

+/- 2.3 KIP VERTICAL WIND LOAD FROM KICKERS & HIP VERTICAL WIND LOAD FROM KICKERS AT EACH JOIST

+/- 2.5 KIP VERTICAL WIND LOAD FROM KICKERS AT EACH JOIST

+/- 2.5 KIP VERTICAL WIND LOAD FROM KICKERS AT 6'-0" FROM GL A

BRACE FORCE AT 5'-0" FROM GL PER T/S5.11

+/- 2 KIP VERTICAL WIND LOAD FROM KICKERS AT 4'-0" OC

+/- 2 KIP VERTICAL WIND LOAD FROM KICKERS AT 6'-0" OC

DL = -0.29k, LL = -0.42k, 1.0W = -0.125+ -29k AT EACH OUTRIGGER

0.15 K.L.F WALL LOAD

POSITIVE LOADS ACT DOWNWARD (TYP)

DL = -0.34k, LL = -0.16k, 1.0W = -0.27+-0.62k AT EACH OUTRIGGER

DL = -0.68k, LL = -0.32k, 1.0W = -0.34+-1.24k AT EACH OUTRIGGER

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT 3'-0" OC

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT 5'-0" OC

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT 2'-0" OC

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT EACH JOIST, 6'-0" FROM GRID RK

0.5 HALF DEAD LOAD FROM WALL ALONG JOIST

BRACE FORCE AT 5'-0" FROM GL PER T/S5.11

+/- 2.0 KIP VERT WIND LOAD

+/- 2 KIP VERT WIND LOAD AT 5'-0" FROM BEAM

+/- 2 KIP VERT WIND LOAD AT 5'-0" FROM BEAM

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT 5'-0" FROM GL RE

+/- 1 KIP VERT WIND LOAD AT 5'-0" OC

+/- 1 KIP VERT WIND LOAD AT 5'-0" OC

+/- 1.5 KIP VERT WIND LOAD AT 3'-3" FROM BEAM LINE

1.6 KIP WALL LOAD @ EACH JOIST

0.63 KIP WALL LOAD @ EACH JOIST

1.35KIP WALL LOAD ON JOIST

REFER TO SHEET S6.14 FOR ROOF SCREEN LOADS ON JOIST

MAU-1 11'-5#

MAU-2 11'-5#

+/- 1 KIP VERTICAL WIND LOAD FROM KICKERS AT 5'-8" FROM BEAM LINE

+/- 2 KIP VERTICAL WIND LOAD FROM KICKERS AT EACH JOIST, 6'-0" FROM GRID RK

REFER TO 2/S7.20 FOR KICKER REACTIONS AT 6'-0" FROM GRID RK

1 MASTER PLAN - JOIST LOADING PLAN
S1.11 1/16" = 1'-0"

N
PLAN

KEY PLAN - 2ND FLOOR
N.T.S.

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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STATE OF TEXAS
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REGISTERED PROFESSIONAL ENGINEER
7.24.2026
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MASTER PLAN - JOIST LOADING
VOLUME 01

Job No.	Sheet No.
20802-04-01	S1.11
Drawn By: IEG	
Date: 07.15.26	

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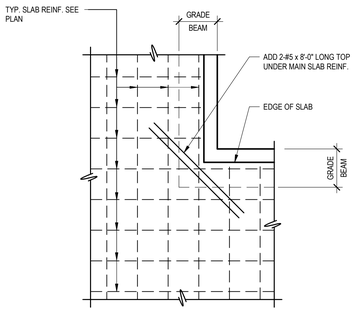
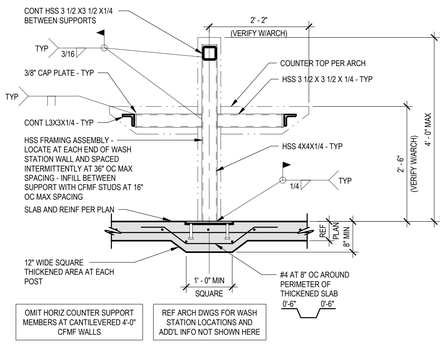
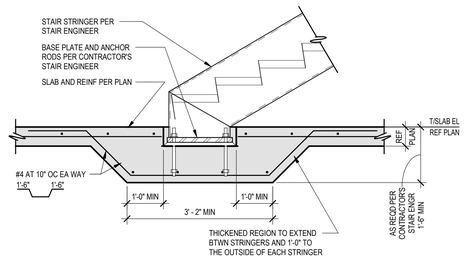


TYPICAL INSIDE SLAB CORNER

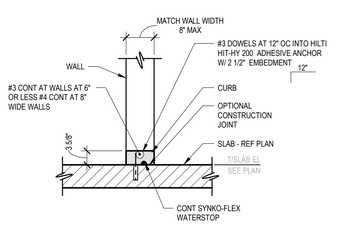
15 TYPICAL DETAIL
S3.03 3/4" = 1'-0"



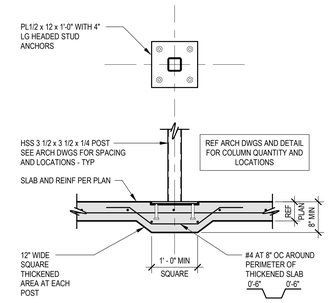
14 SUPPORT FRAMING AT CANTILEVERED CFMF WALLS AT WASH STATIONS
S3.03 3/4" = 1'-0"



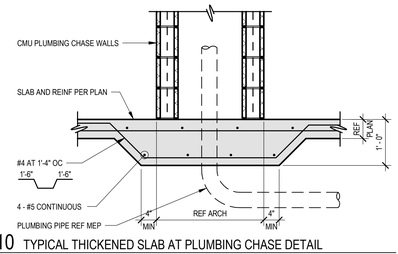
13 TYPICAL STAIR STRINGER TO FOUNDATION CONNECTION
S3.03 3/4" = 1'-0"



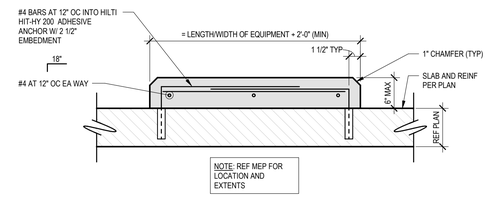
12 TYPICAL CONCRETE CURB
S3.03 3/4" = 1'-0"



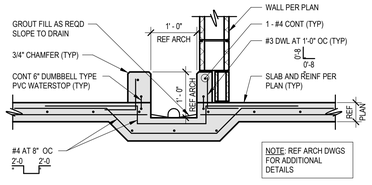
11 TYPICAL COMPUTER LAB TABLE BASE CONN DETAIL
S3.03 3/4" = 1'-0"



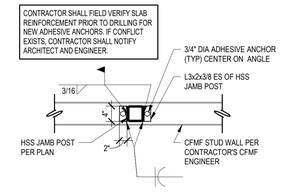
10 TYPICAL THICKENED SLAB AT PLUMBING CHASE DETAIL
S3.03 3/4" = 1'-0"



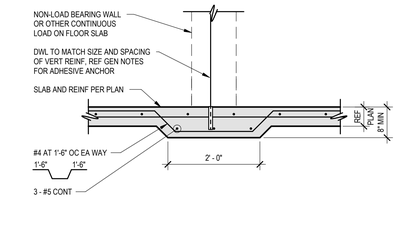
9 TYPICAL OVERBUILT PAD DETAIL
S3.03 1 1/2" = 1'-0"



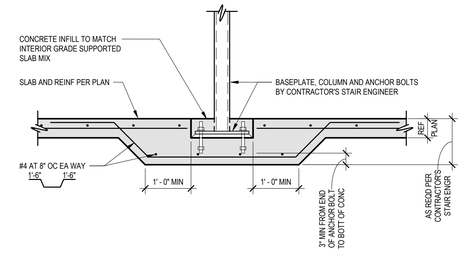
8 TYPICAL LAUNDRY DRAIN DETAIL
S3.03 3/4" = 1'-0"



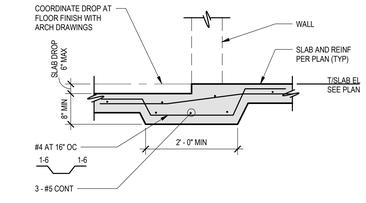
7 JAMB POST TO FOUNDATION CONNECTION DETAIL
S3.03 3/4" = 1'-0"



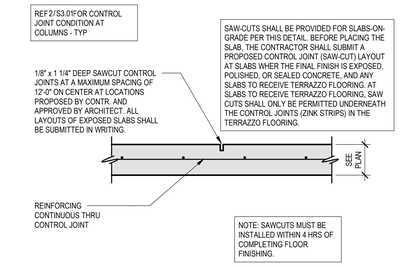
6 TYPICAL THICKENED SLAB AT INTERIOR NON-LOAD BEARING WALL DETAIL
S3.03 3/4" = 1'-0"



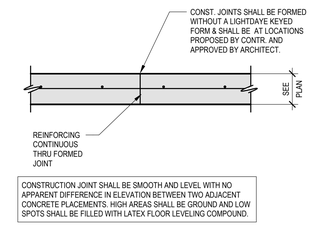
5 TYPICAL THICKENED SLAB AT STAIR SUPPORT
S3.03 3/4" = 1'-0"



4 TYPICAL SLAB DEPRESSION 6" OR LESS
S3.03 3/4" = 1'-0"



2 TYPICAL SLAB CONTROL JOINT DETAIL
S3.03 3/4" = 1'-0"



1 TYPICAL SLAB CONSTRUCTION JOINT DETAIL
S3.03 3/4" = 1'-0"

Revision / 1 — Date 07.24.26 — ADDENDUM 01

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

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7.24.2026

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TYPICAL FOUNDATION DETAILS
VOLUME 01

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Sheet No. S3.03
Drawn By: IEG
Date: 07.15.26

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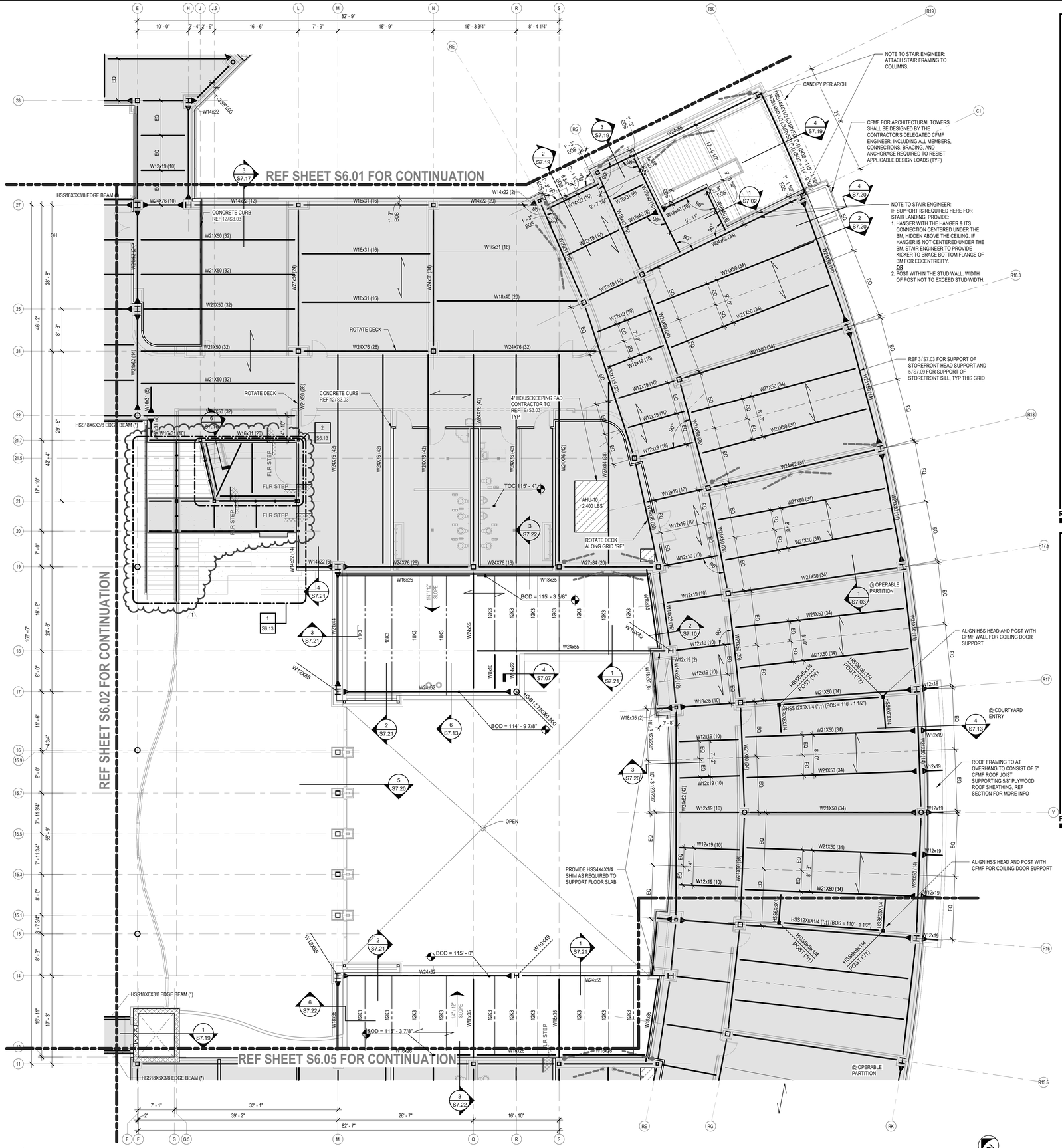
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REF SHEET S6.02 FOR CONTINUATION
REF SHEET S6.05 FOR CONTINUATION
NOTE TO STAIR ENGINEER: ATTACH STAIR FRAMING TO COLUMNS.
CANOPY PER ARCH
CFMF FOR ARCHITECTURAL TOWERS SHALL BE DESIGNED BY THE CONTRACTOR'S DELEGATED CFMF ENGINEER, INCLUDING ALL MEMBERS, CONNECTIONS, BRACING, AND ANCHORAGE REQUIRED TO RESIST APPLICABLE DESIGN LOADS (TYP)
NOTE TO STAIR ENGINEER:
1. SUPPORT IS REQUIRED HERE FOR STAIR LANDING, PROVIDE:
HANGER WITH THE HANGER & ITS CONNECTION CENTERED UNDER THE BM, HIDDEN ABOVE THE CEILING. IF HANGER IS NOT CENTERED UNDER THE BM, STAIR ENGINEER TO PROVIDE KICKER TO BRACE BOTTOM FLANGE OF BM FOR ECCENTRICITY.
OR
2. POST WITHIN THE STUD WALL. WIDTH OF POST NOT TO EXCEED STUD WIDTH.
REF 3/S7.03 FOR SUPPORT OF STOREFRONT HEAD SUPPORT AND 5/S7.09 FOR SUPPORT OF STOREFRONT SILL, TYP THIS GRID
CONCRETE CURB REF 12/S3.03
ROTATE DECK
4" HOUSEKEEPING PAD CONTRACTOR TO REF: 9/S3.03 TYP
AHU-10 2,400 LBS
TOC 115' - 4"
FLR STEP
ROTATE DECK ALONG GRID "RE"
@ OPERABLE PARTITION
ALIGN HSS HEAD AND POST WITH CFMF WALL FOR COILING DOOR SUPPORT
@ COURTYARD ENTRY
ROOF FRAMING TO AT OVERHANG TO CONSIST OF 6" CFMF ROOF JOIST SUPPORTING 5/8" PLYWOOD ROOF SHEATHING, REF SECTION FOR MORE INFO
ALIGN HSS HEAD AND POST WITH CFMF FOR COILING DOOR SUPPORT
OPEN
PROVIDE HSS4X4X1/4 SHIM AS REQUIRED TO SUPPORT FLOOR SLAB
HSS18X6X3/8 EDGE BEAM (*)
BOD = 115' - 3 5/8"
BOD = 114' - 9 7/8"
BOD = 115' - 0"
BOD = 115' - 3 7/8"
HSS12X6X1/4 (*.1) (BOS = 110' - 1 1/2")
HSS6X6X1/4 POST (*1)
W12X65
W10X49
W24X55
W24X62
W24X76
W21X50
W12X19
W16X31
W18X35
W14X22

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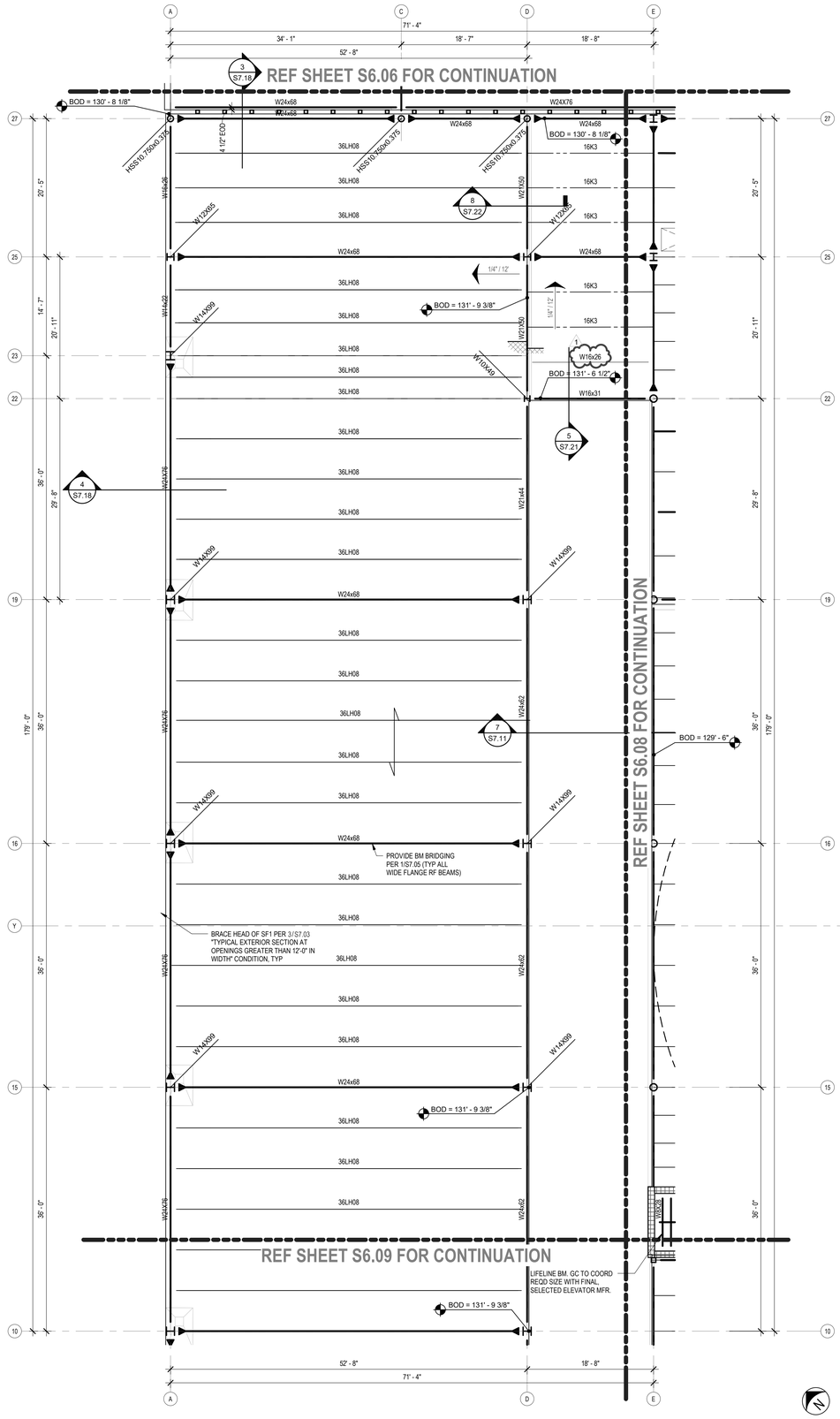
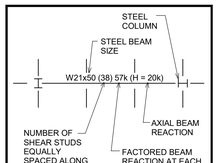


1 ROOF FRAMING PLAN - AREA B
S6.07 1/8" = 1'-0"

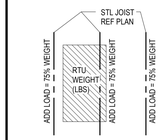
	INT NON LOAD-BEARING STUD WALL
	INT NON LOAD-BEARING CMU OR STUD WALL
	LOAD BEARING OR EXTERIOR NON-LOAD BEARING CMU
	BUILDING LINE
	CMU LINTEL SEE TYPICAL DETAILS
	STEEL JOIST
	STRUCTURAL STEEL COLUMN
	STEEL BEAM
	STEEL BEAM SPLICE
	MOMENT CONNECTION
BOL = 107'-4"	BOT OF LINTEL ELEVATION
TOW = 116'-8"	TOP OF WALL ELEVATION
	DECK SPAN DIRECTION, REF PLAN NOTES FOR TYPE
RTU 1000#	RTU - REFER TO PLAN AND GENERAL NOTES FOR ADDITIONAL INFORMATION
BOD = XX'-XX"	BOTTOM OF DECK ELEVATION MARK
	BUILDING LINE

ROOF FRAMING PLAN LEGEND



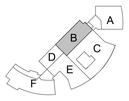
STEEL BEAM LEGEND

1. FOR GENERAL NOTES, REF DWGS S0.01.
2. BRIDGING FOR ROOF JOISTS IS NOT SHOWN ON THIS PLAN FOR CLARITY. BRIDGING FOR ROOF JOISTS SHALL BE PROVIDED FOR ALL JOISTS PER SJI SPECIFICATIONS.
3. REFERENCE CMU WALL PLAN FOR BOTTOM OF LINTEL ELEVATIONS AT LOAD BEARING WALLS.
4. REFERENCE CMU WALL PLAN FOR ALL TOP OF WALL ELEVATIONS.
5. REF APPROVED MECHANICAL SHOP DRAWINGS FOR EXACT LOCATIONS OF RTU UNITS.
6. REFER TO ROOF DECK NOTES ON S0.01 FOR REQUIRED FRAMING AT OPENINGS IN METAL ROOF DECK. SEE TYPICAL FRAME DETAIL AT A/C UNITS. PROVIDE ANGLE FRAMES AT ALL ROOF DRAINS.
7. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED (6'-0" OC MAX) BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS, AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
8. JOIST SEAT DEPTHS FOR OPEN WEB STEEL JOIST SHALL BE AS DETERMINED BY THE CONTRACTOR'S JOIST ENGINEER WITH THE FOLLOWING MINIMUM DEPTHS (UNO IN DETAILS):
   A. K-SERIES JOIST: 5 INCHES
   B. LH-SERIES JOIST: 7 ½ INCHES
   C. DLH-SERIES JOIST: 7 ½ INCHES
9. JOISTS SUPPORTING MECHANICAL EQUIPMENT (RTU, ETC) SHALL HAVE ADDITIONAL "ADD LOAD" APPLIED TO THE JOIST DESIGN PER BELOW PARTIAL PLAN. VERIFY WEIGHT WITH APPROVED MECHANICAL SHOP DRAWINGS PRIOR TO CONSTRUCTION.



10. FOR CURVED AREAS, SEE S1 SERIES DRAWINGS FOR EOD AND GRID DIMENSIONS.
11. ROOF DECK IS 1.5B GA 20 METAL DECK UNO - TYP.
12. AT TYPICAL "WEDGE" BAY IN CURVED AREAS, LAYOUT PURLINS PER 2/S1.04 - TYP.
13. MEMBERS MARKED WITH AN ASTERISK (*) ARE SECONDARY FRAMING AND DO NOT REQUIRE FIREPROOFING
14. MEMBERS MARKED WITH A DAGGER (†) ARE SECONDARY MISCELLANEOUS FRAMING. MEMBERS MAY BE SUBSTITUTED WITH COLD-FORMED METAL FRAMING (CFMF) DESIGNED BY THE CONTRACTOR'S DELEGATED CFMF ENGINEER. SUBSTITUTED MEMBERS SHALL PROVIDE EQUIVALENT STRENGTH, STIFFNESS, AND CONNECTIONS, AND SHALL SUPPORT ALL DESIGN LOADS INDICATED IN THE CONTRACT DOCUMENTS.

ROOF PLAN NOTES



KEY PLAN - 2ND FLOOR
N.T.S.

Revision /	Date
1	07.24.26 ADDENDUM 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

IEG
Innovative Engineering Group
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STATE OF TEXAS
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ROOF FRAMING PLAN - AREA B

VOLUME 01

Job No. 00802-04-01	Sheet No. S6.07
Drawn By: IEG	
Date: 07.15.26	

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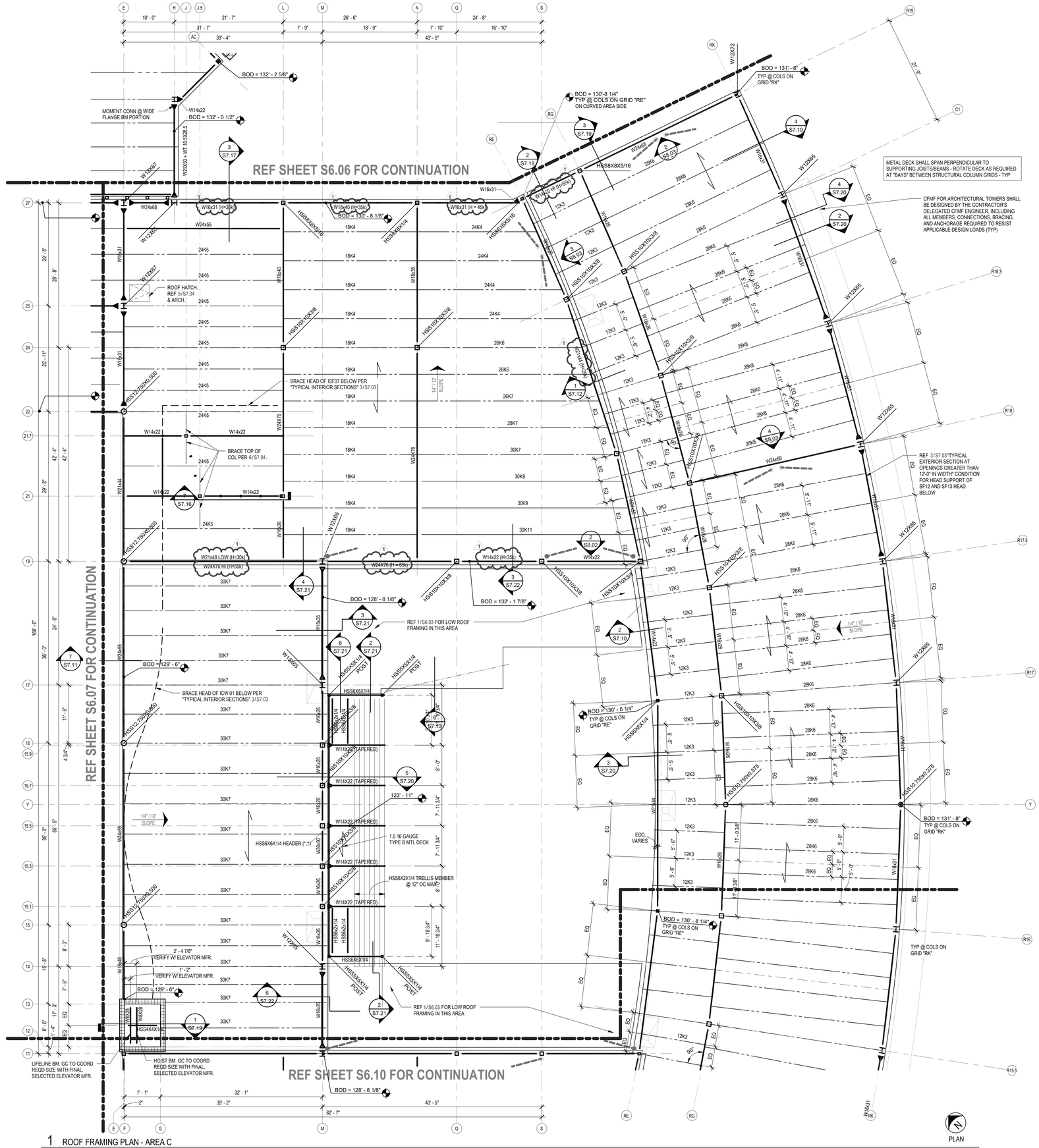
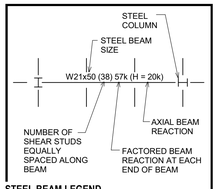


1 ROOF FRAMING PLAN - AREA C
S6.08 1/8" = 1'-0"

ROOF FRAMING PLAN LEGEND

- INT NON LOAD-BEARING STUD WALL
- INT NON LOAD-BEARING CMU OR STUD WALL
- LOAD BEARING OR EXTERIOR NON-LOAD BEARING CMU
- BUILDING LINE
- CMU LINTEL SEE TYPICAL DETAILS
- STEEL JOIST
- STRUCTURAL STEEL COLUMN
- STEEL BEAM
- STEEL BEAM SPLICE
- MOMENT CONNECTION
- BOL = 107'-4" — BOT OF LINTEL ELEVATION
- TOW = 116'-8" — TOP OF WALL ELEVATION
- DECK SPAN DIRECTION, REF PLAN NOTES FOR TYPE
- RTU 1000# — RTU - REFER TO PLAN AND GENERAL NOTES FOR ADDITIONAL INFORMATION
- BOD = XX'-XX" — BOTTOM OF DECK ELEVATION MARK
- BUILDING LINE

STEEL BEAM LEGEND



ROOF PLAN NOTES

1. FOR GENERAL NOTES, REF DWGS S0.01.
2. BRIDGING FOR ROOF JOISTS IS NOT SHOWN ON THIS PLAN FOR CLARITY. BRIDGING FOR ROOF JOISTS SHALL BE PROVIDED FOR ALL JOISTS PER SJI SPECIFICATIONS.
3. REFERENCE CMU WALL PLAN FOR BOTTOM OF LINTEL ELEVATIONS AT LOAD BEARING WALLS.
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6. REFER TO ROOF DECK NOTES ON S0.01 FOR REQUIRED FRAMING AT OPENINGS IN METAL ROOF DECK. SEE TYPICAL FRAME DETAIL AT A/C UNITS. PROVIDE ANGLE FRAMES AT ALL ROOF DRAINS.
7. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED (F-0" OC MAX) BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS, AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
8. JOIST SEAT DEPTHS FOR OPEN WEB STEEL JOIST SHALL BE AS DETERMINED BY THE CONTRACTOR'S JOIST ENGINEER WITH THE FOLLOWING MINIMUM DEPTHS (UNO IN DETAILS):
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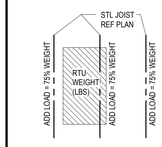

10. FOR CURVED AREAS, SEE S1 SERIES DRAWINGS FOR EOD AND GRID DIMENSIONS.
11. ROOF DECK IS 1.5B GA 20 METAL DECK UNO - TYP.
12. AT TYPICAL "WEDGE" BAY IN CURVED AREAS, LAYOUT PURLINS PER 2/S1.04 - TYP.
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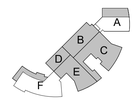

KEY PLAN - 1ST FLOOR
N.T.S.

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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ROOF FRAMING PLAN - AREA C

VOLUME 01

Job No.	Sheet No.
0/0802-04-01	S6.08
Drawn By: IEG	
Date: 07.15.26	

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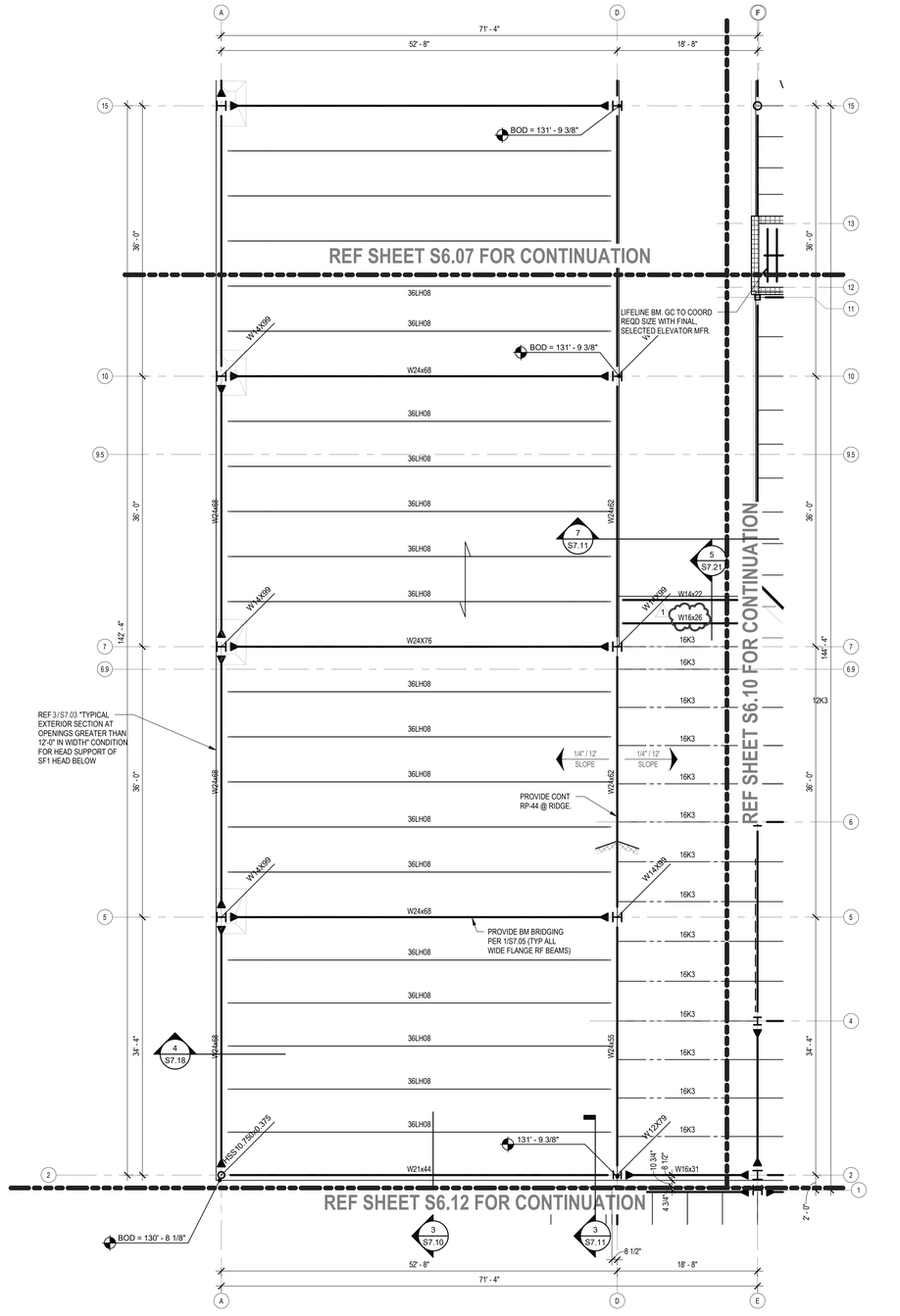
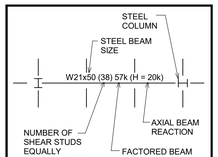


1 ROOF FRAMING PLAN - AREA D
S6.09 1/8" = 1'-0"

INT NON LOAD-BEARING STUD WALL
INT NON LOAD-BEARING CMU OR STUD WALL
LOAD BEARING OR EXTERIOR NON-LOAD BEARING CMU
BUILDING LINE
CMU LINTEL SEE TYPICAL DETAILS
STEEL JOIST
STRUCTURAL STEEL COLUMN
STEEL BEAM
STEEL BEAM SPLICE
MOMENT CONNECTION
BOL = 107'-4" — BOT OF LINTEL ELEVATION
TOW = 116'-8" — TOP OF WALL ELEVATION
DECK SPAN DIRECTION, REF PLAN NOTES FOR TYPE
RTU 1000# — RTU - REFER TO PLAN AND GENERAL NOTES FOR ADDITIONAL INFORMATION
BOD = XX'-XX" — BOTTOM OF DECK ELEVATION MARK
BUILDING LINE

ROOF FRAMING PLAN LEGEND



STEEL BEAM LEGEND

1. FOR GENERAL NOTES, REF DWGS S0.01.
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7. STRUCTURAL MEMBERS SHALL BE EQUALLY SPACED (6'-0" OC MAX) BETWEEN MAJOR SUPPORT POINTS SUCH AS COLUMN GRIDS, DFE GRIDS, WALLS, AND GIRDERS UNLESS DIMENSIONED OTHERWISE.
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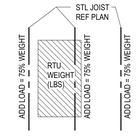

10. FOR CURVED AREAS, SEE S1 SERIES DRAWINGS FOR EOD AND GRID DIMENSIONS.
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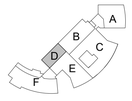
ROOF PLAN NOTES



KEY PLAN - 2ND FLOOR
N.T.S.

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
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TOMBALL, TEXAS

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7.24.2026

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ROOF FRAMING PLAN - AREA D

VOLUME 01

Job No.	Sheet No.
00802-04-01	S6.09
Drawn By: IEG	
Date: 07.15.26	

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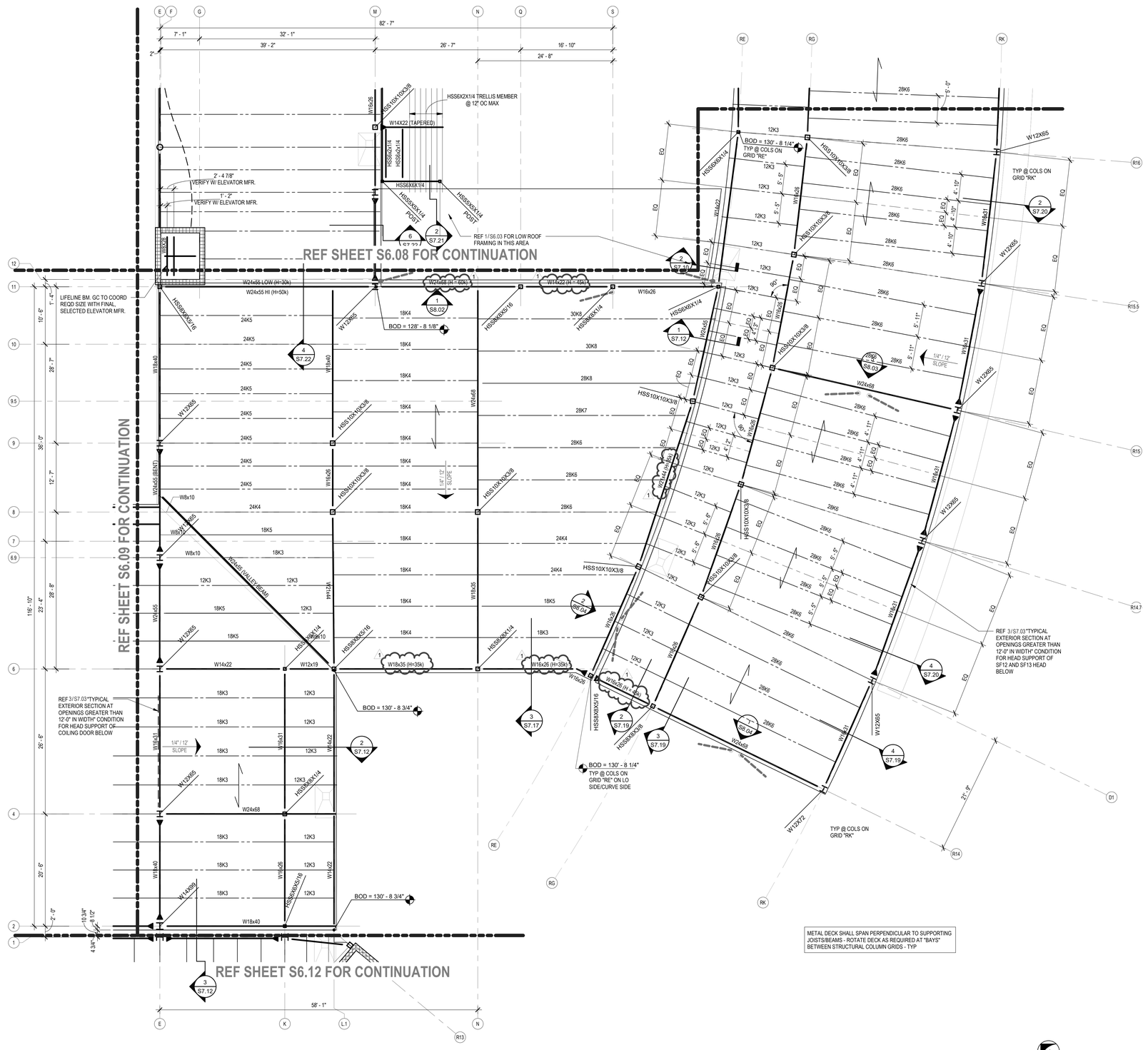

1 ROOF FRAMING PLAN - AREA E
S6.10 1/8" = 1'-0"

PLAN

INT NON LOAD-BEARING STUD WALL
INT NON LOAD-BEARING CMU OR STUD WALL
LOAD BEARING OR EXTERIOR NON-LOAD BEARING CMU
BUILDING LINE
CMU LINTEL SEE TYPICAL DETAILS
STEEL JOIST
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STEEL BEAM
STEEL BEAM SPLICE
MOMENT CONNECTION
BOL = 107'-4" BOT OF LINTEL ELEVATION
TOW = 116'-8" TOP OF WALL ELEVATION
DECK SPAN DIRECTION, REF PLAN NOTES FOR TYPE
RTU 1000# RTU - REFER TO PLAN AND GENERAL NOTES FOR ADDITIONAL INFORMATION
BOD = XX'-XX" BOTTOM OF DECK ELEVATION MARK
BUILDING LINE

ROOF FRAMING PLAN LEGEND

STEEL COLUMN
STEEL BEAM SIZE
W21x50 (38) 57k (H = 20k)
NUMBER OF SHEAR STUDS EQUALLY SPACED ALONG BEAM
AXIAL BEAM REACTION
FACTORED BEAM REACTION AT EACH END OF BEAM

STEEL BEAM LEGEND

1. FOR GENERAL NOTES, REF DWGS S0.01.
2. BRIDGING FOR ROOF JOISTS IS NOT SHOWN ON THIS PLAN FOR CLARITY. BRIDGING FOR ROOF JOISTS SHALL BE PROVIDED FOR ALL JOISTS PER SJI SPECIFICATIONS.
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   B. LH-SERIES JOIST: 7 ½ INCHES
   C. DLH-SERIES JOIST: 7 ½ INCHES
9. JOISTS SUPPORTING MECHANICAL EQUIPMENT (RTU, ETC) SHALL HAVE ADDITIONAL "ADD LOAD" APPLIED TO THE JOIST DESIGN PER BELOW PARTIAL PLAN. VERIFY WEIGHT WITH APPROVED MECHANICAL SHOP DRAWINGS PRIOR TO CONSTRUCTION.

STL JOIST REF PLAN
ADD LOAD = 75% WEIGHT
RTU WEIGHT (LBS)
ADD LOAD = 75% WEIGHT
ADD LOAD = 75% WEIGHT

10. FOR CURVED AREAS, SEE S1 SERIES DRAWINGS FOR EOD AND GRID DIMENSIONS.
11. ROOF DECK IS 1.5B GA 20 METAL DECK UNO - TYP.
12. AT TYPICAL "WEDGE" BAY IN CURVED AREAS, LAYOUT PURLINS PER 2/S1.04 - TYP.
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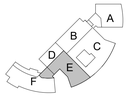
ROOF PLAN NOTES



KEY PLAN - 2ND FLOOR
N.T.S.

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
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ROOF FRAMING PLAN - AREA E

VOLUME 01

Job No.	Sheet No.
00802-04-01	S6.10
Drawn By: IEG	
Date: 07.15.26	

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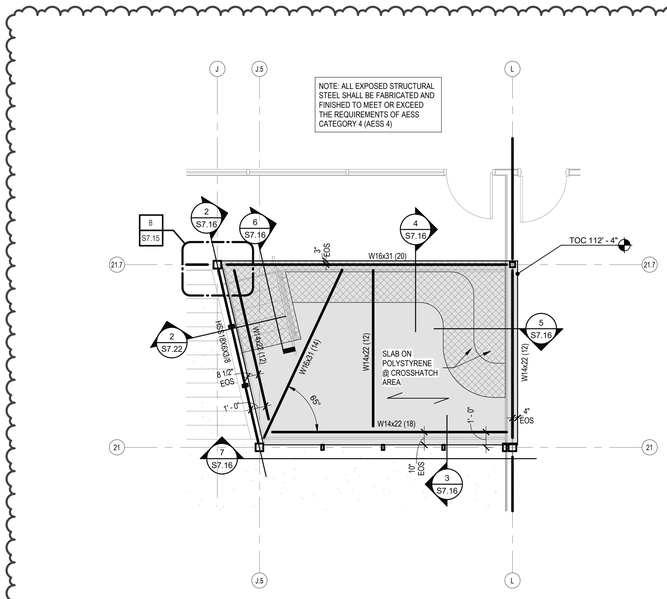
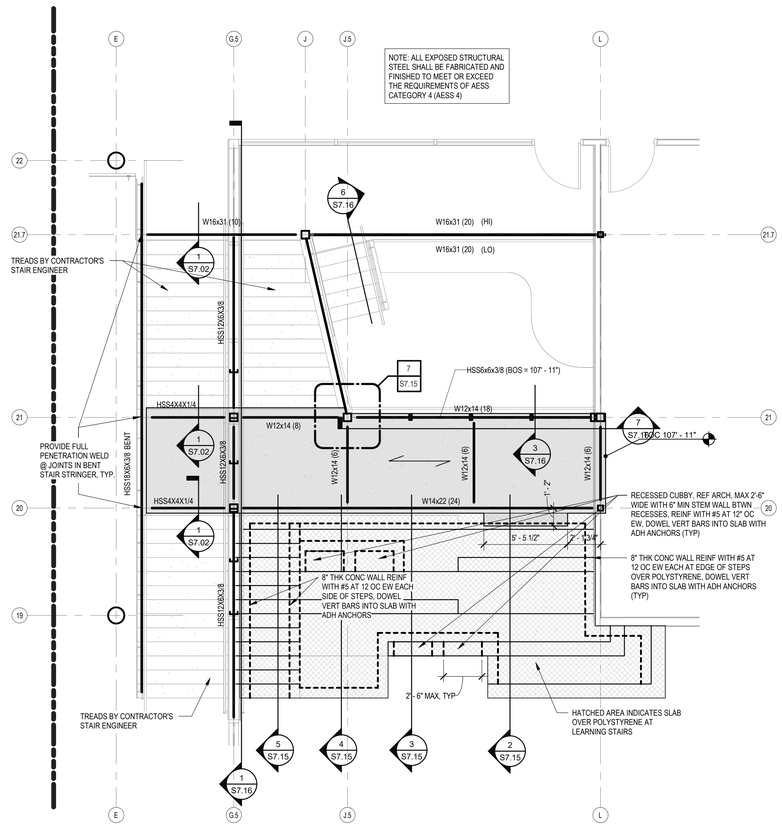


2 ENLARGED FRAMING PLAN - NEST LANDING
S6.13 1/4" = 1'-0"



1 ENLARGED FRAMING PLAN - LEARNING STAIR MID-LANDING
S6.13 1/4" = 1'-0"

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:
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FOR
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ENLARGED FLOOR FRAMING PLANS

VOLUME 01

Job No.	Sheet No.
00802-04-01	S6.13
Drawn By: IEG	
Date: 07.15.26	

7/24/2026 8:40:40 AM
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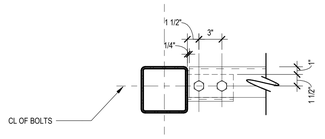
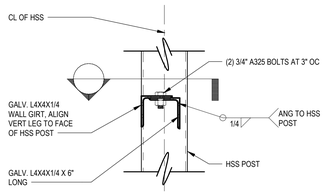
MARK	DEAD	VERTICAL WIND (1.0W)	AXIAL WIND (1.0W)
P1	325#	+/- 4,460#	+/-310#
P2	205#	+/- 1,520#	+/- 681#
P3	230#	+/- 4,100#	+/- 1,650#
P4	225#	+/- 2,530#	+/- 1,150#

NOTES:
1. REFER TO PLAN FOR MARK LOCATIONS.
2. POSITIVE (+) LOADS ACT DOWNWARD. ALL LOADS ARE POSITIVE UNLESS NOTED OTHERWISE.
3. SCHEDULED LOADS ARE CONCENTRATED LOADS AND ARE IN ADDITION TO THE UNIFORM DESIGN LOADS ON THE JOISTS.
4. AXIAL LOADING APPLIES PARALLEL TO THE LENGTH OF THE ROOF JOIST.

7 JOIST REACTIONS AT ROOF SCREEN
S6.14 12" = 1'-0"

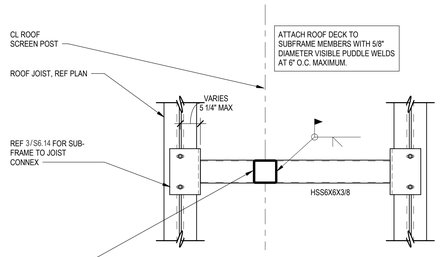


PLAN VIEW

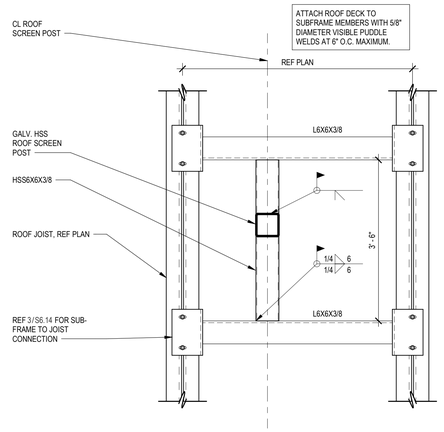


SECTION

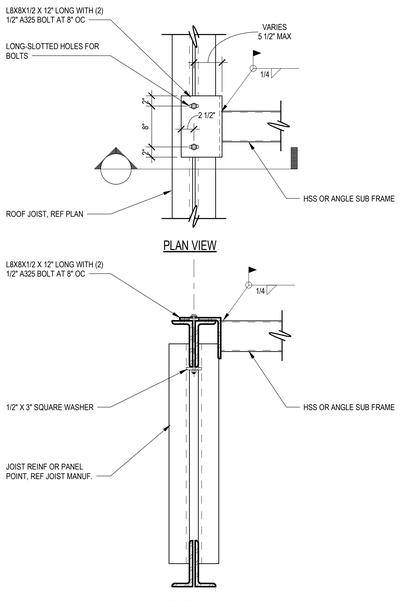
6 ROOF SCREEN GIRT TO POST
S6.14 1 1/2" = 1'-0"



5 ROOF SCREEN POST SUB FRAME (TYPE 2)
S6.14 3/4" = 1'-0"



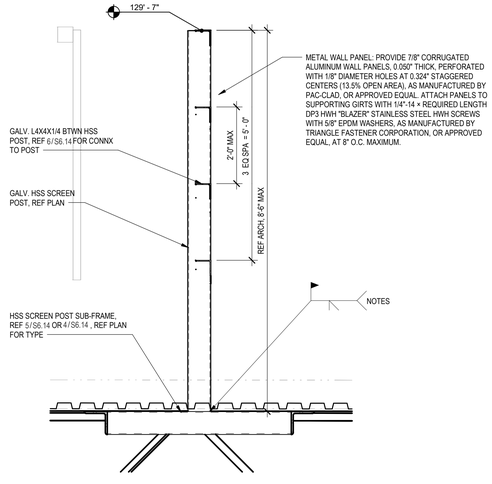
4 ROOF SCREEN POST SUB FRAME (TYPE 1)
S6.14 3/4" = 1'-0"



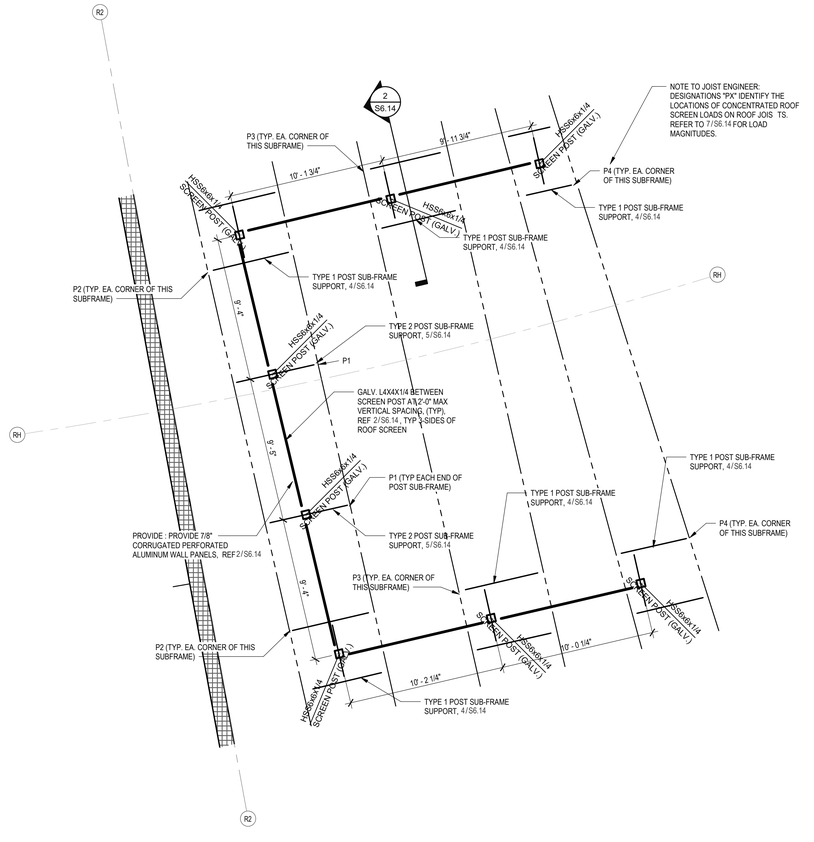
PLAN VIEW

SECTION

3 ROOF SCREEN POST TO JOIST CONNECTION
S6.14 1" = 1'-0"



2 TYPICAL SECTION AT ROOF SCREEN
S6.14 3/4" = 1'-0"



1 ENLARGED PLAN - ROOF SCREEN
S6.14 1/4" = 1'-0"

Revision / Date
1 ADDENDUM 01 07.24.26

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ROOF SCREEN PLANS AND DETAILS
VOLUME 01

Job No.	Sheet No.
00802-04-01	S6.14
Drawn By: IEG	
Date: 07.15.26	

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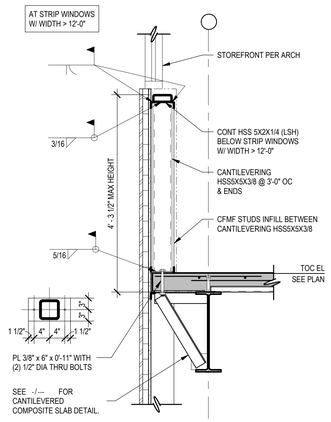
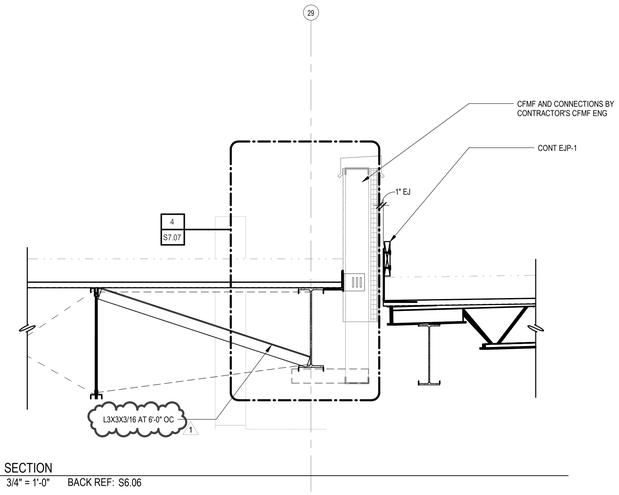
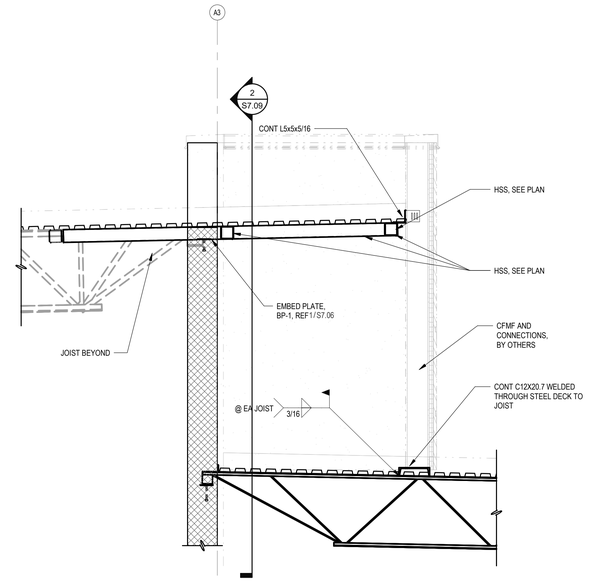


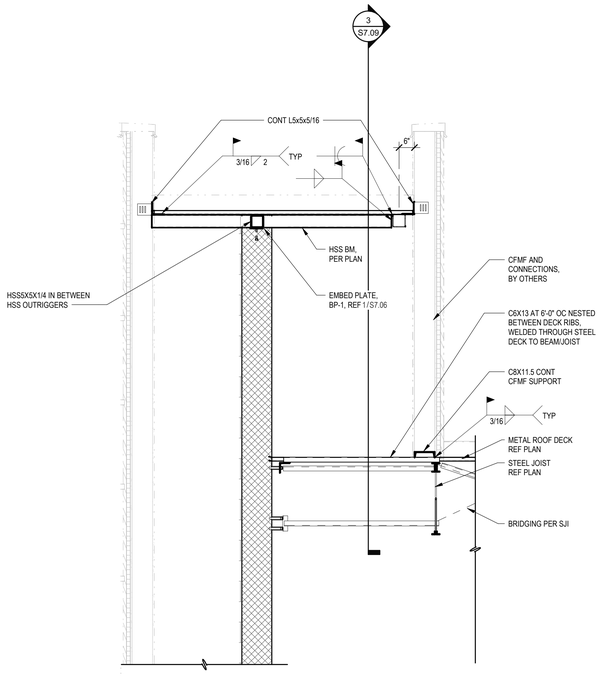
5 SECTION
S7.09 3/4" = 1'-0"



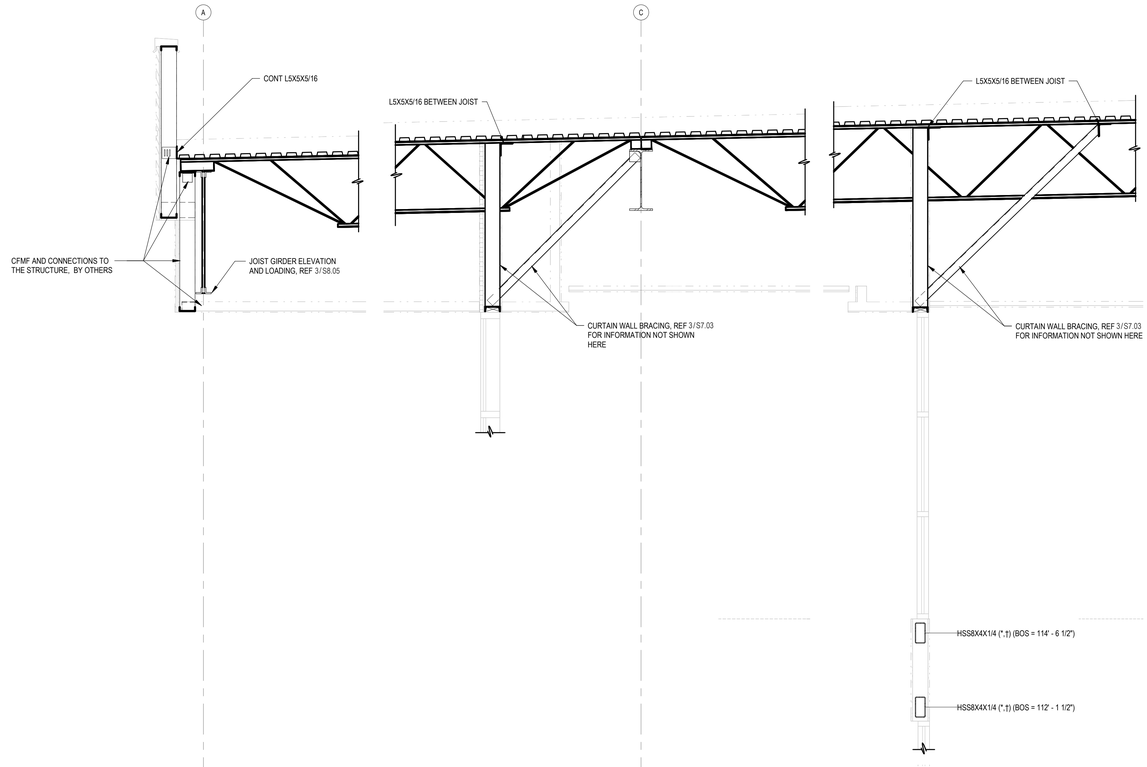
4 SECTION
S7.09 3/4" = 1'-0" BACK REF: S6.06



3 SECTION
S7.09 1/2" = 1'-0" BACK REF: S6.06



2 SECTION
S7.09 1/2" = 1'-0" BACK REF: S6.06



1 SECTION
S7.09 1/2" = 1'-0"

Revision / 1 — Date 07.24.26 — ADDENDUM 01

Project:
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FRAMING DETAILS

VOLUME 01

Job No. 00802-04-01	Sheet No. S7.09
Drawn By: IEG	
Date: 07.15.26	

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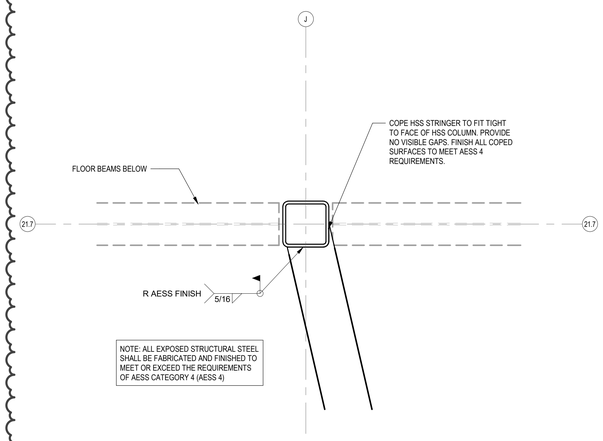
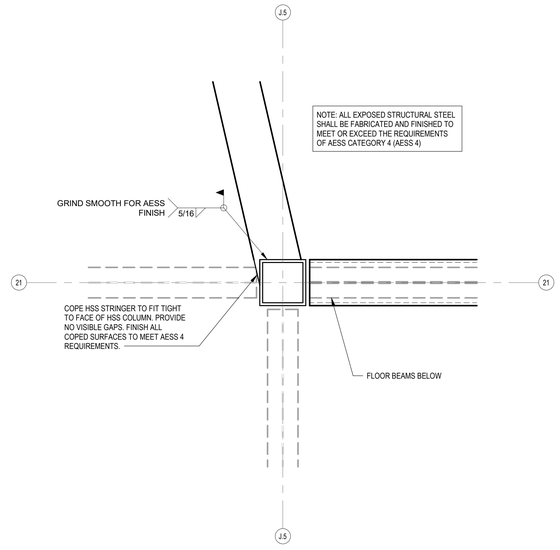
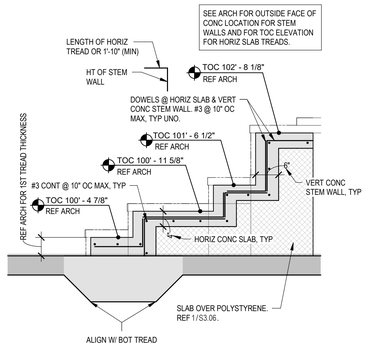


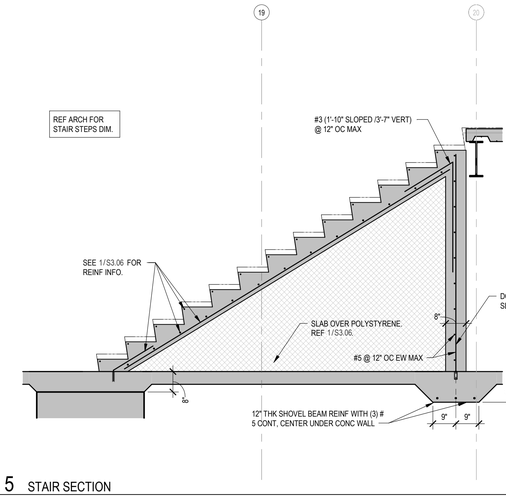
8 ENLARGED FRAMING PLAN - TOP END COL
S7.15 1 1/2" = 1'-0"



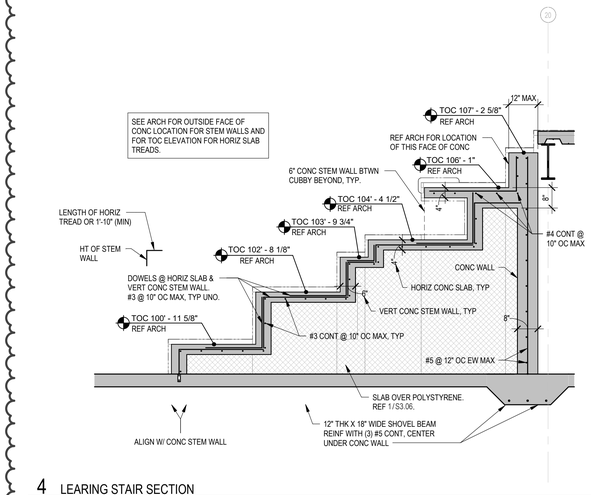
7 ENLARGED FRAMING PLAN - CORNER COL
S7.15 1 1/2" = 1'-0"



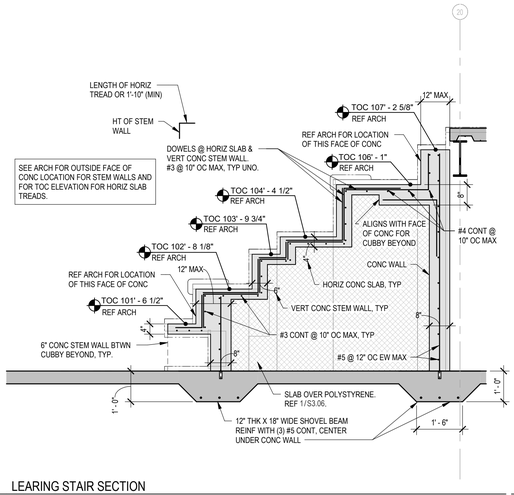
6 LEARING STAIR SECTION
S7.15 3/4" = 1'-0"



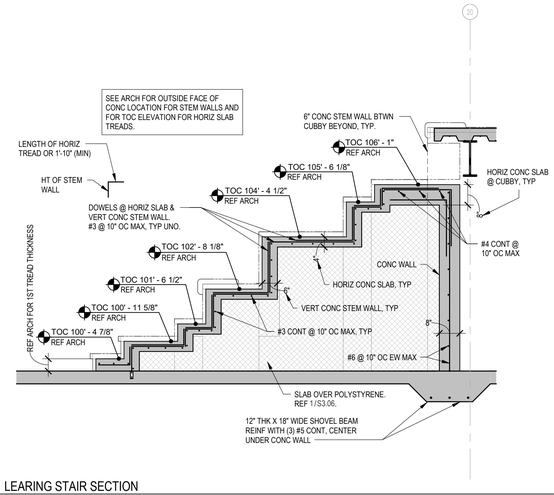
5 STAIR SECTION
S7.15 1/2" = 1'-0"



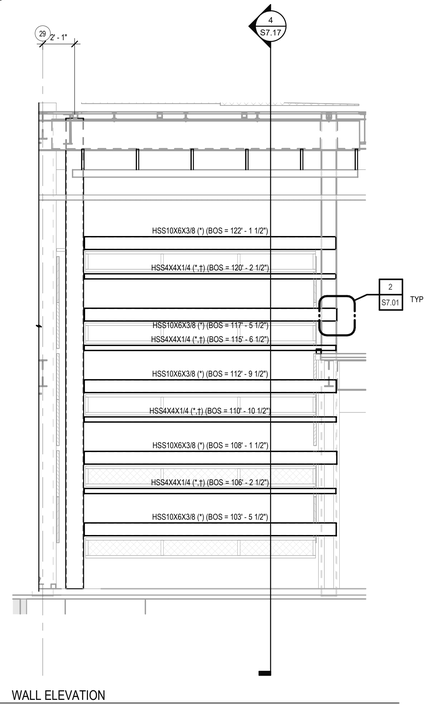
4 LEARING STAIR SECTION
S7.15 1/2" = 1'-0"



3 LEARING STAIR SECTION
S7.15 1/2" = 1'-0"



2 LEARING STAIR SECTION
S7.15 1/2" = 1'-0"



1 WALL ELEVATION
S7.15 1/4" = 1'-0"

Revision /	Date	
1	07.24.26	ADDENDUM 01

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FRAMING SECTIONS

VOLUME 01

Job No.	Sheet No.
00802-04-01	S7.15
Drawn By: IEG	
Date: 07.15.26	

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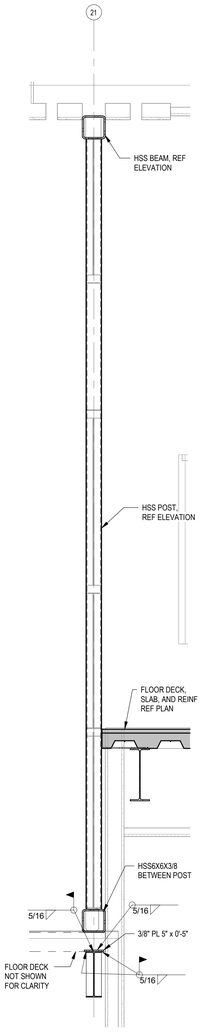
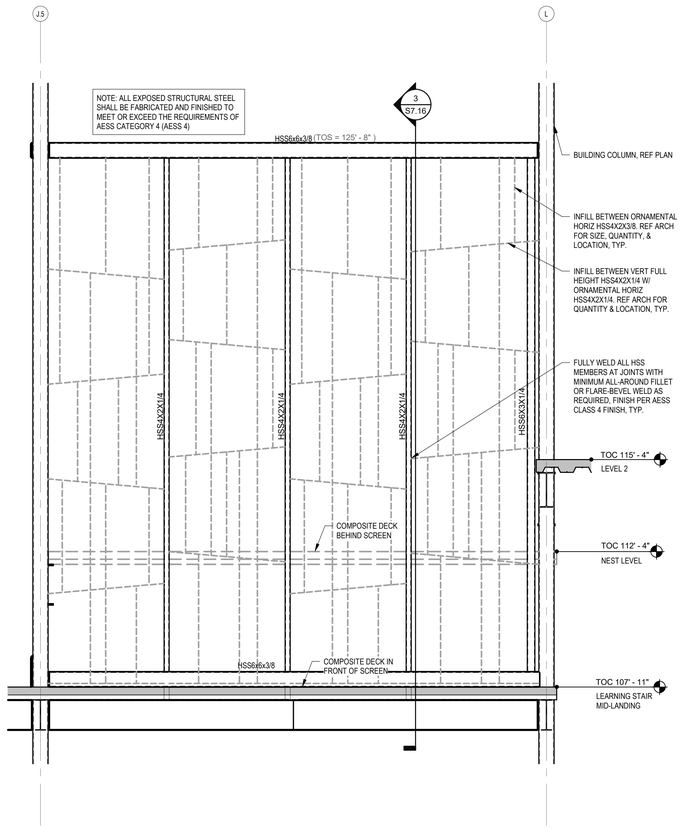
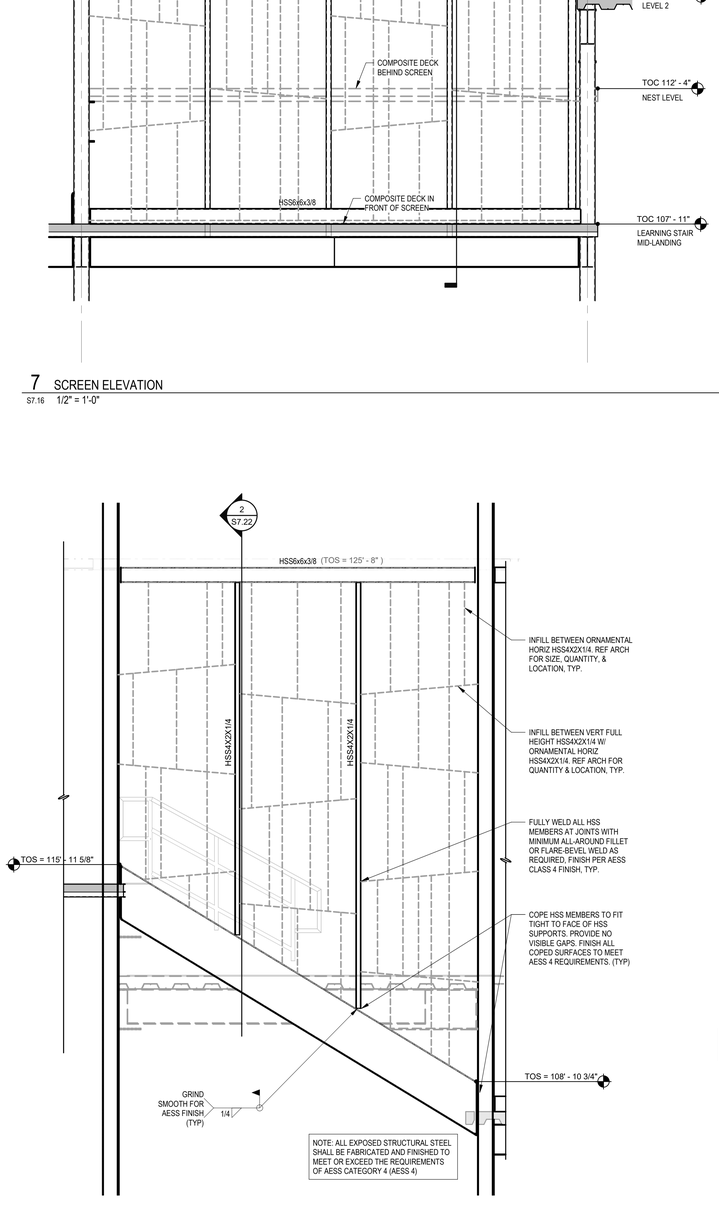


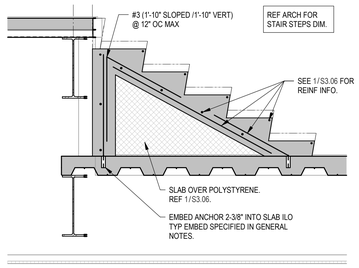
3 SECTION
S7.16 3/4" = 1'-0"



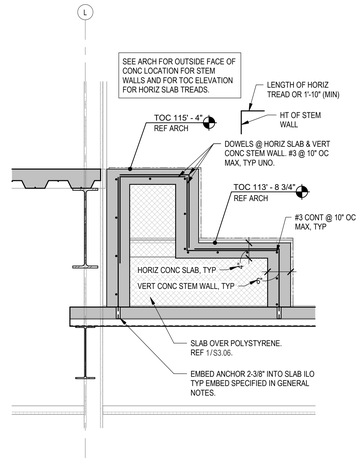
7 SCREEN ELEVATION
S7.16 1/2" = 1'-0"



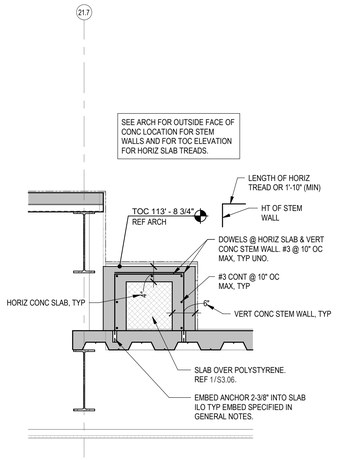
2 SCREEN ELEVATION
S7.16 1/2" = 1'-0"



6 NEST STAIR SECTION
S7.16 3/4" = 1'-0"



5 SECTION
S7.16 3/4" = 1'-0"



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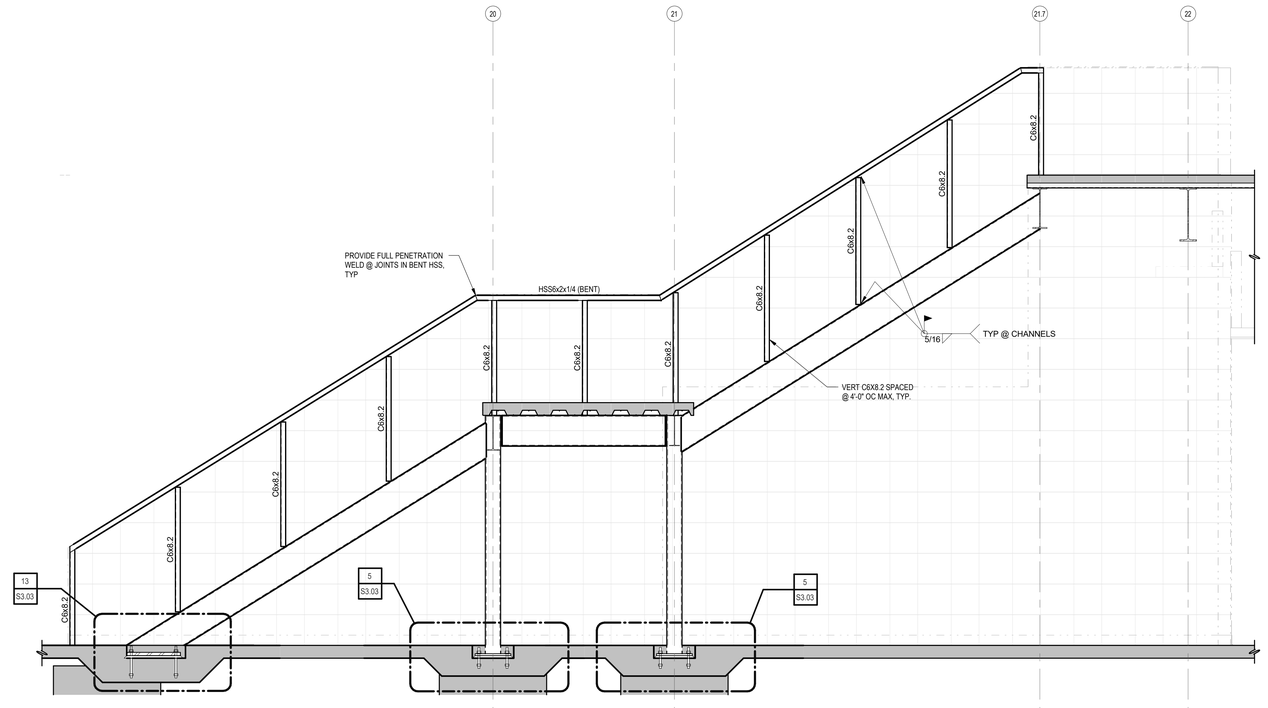

1 SECTION
S7.16 1/2" = 1'-0"

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Revision / 1 — Date 07.24.26 — ADDENDUM 01

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VOLUME 01

Job No. 00802-04-01
Drawn By: IEG
Date: 07.15.26
Sheet No. S7.16

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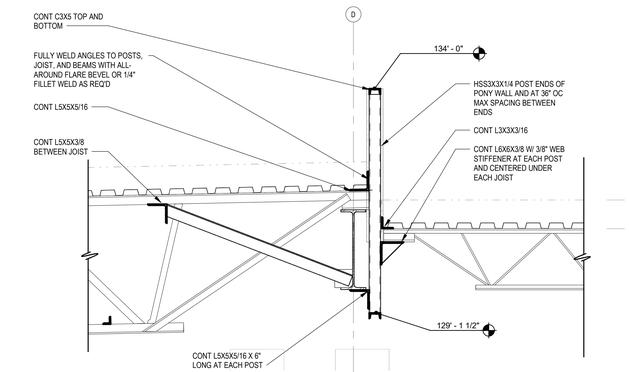
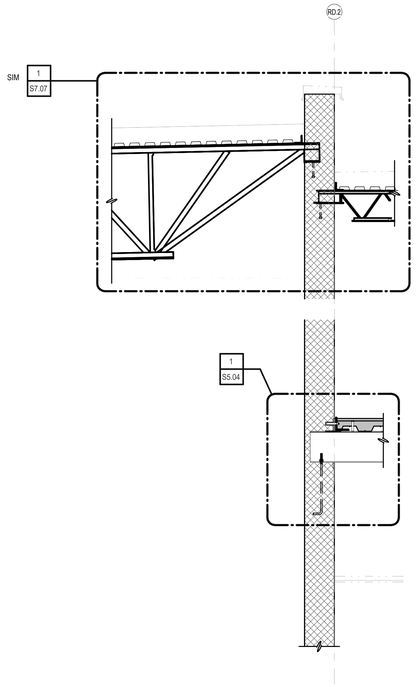
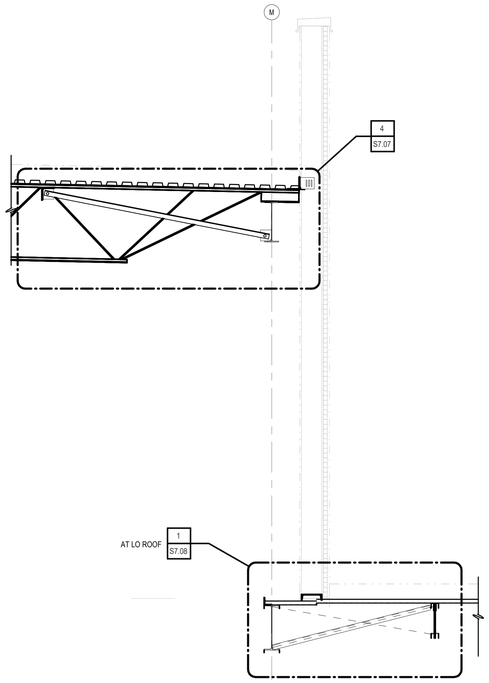


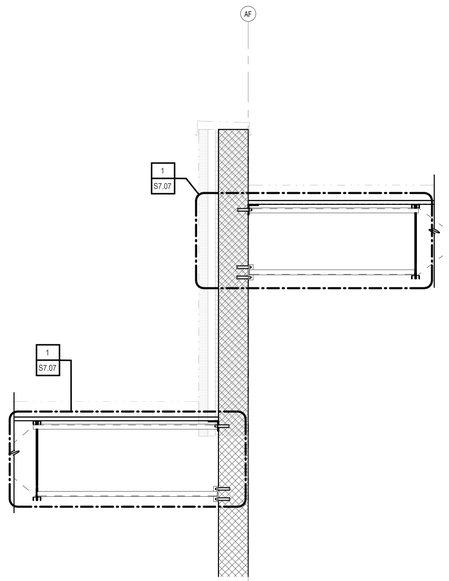
8 SECTION
S7.22 3/4" = 1'-0"



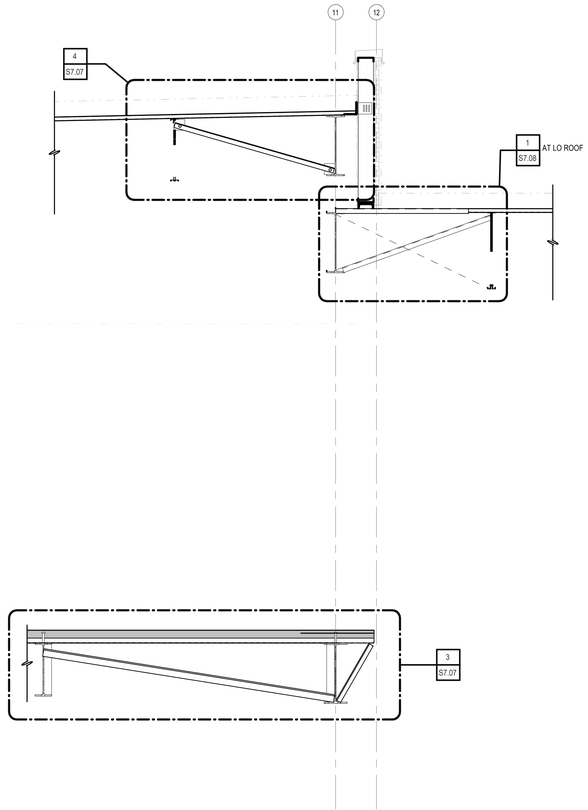
7 SECTION
S7.22 1/2" = 1'-0" BACK REF: S6.11



6 SECTION
S7.22 1/2" = 1'-0" BACK REF: S6.03

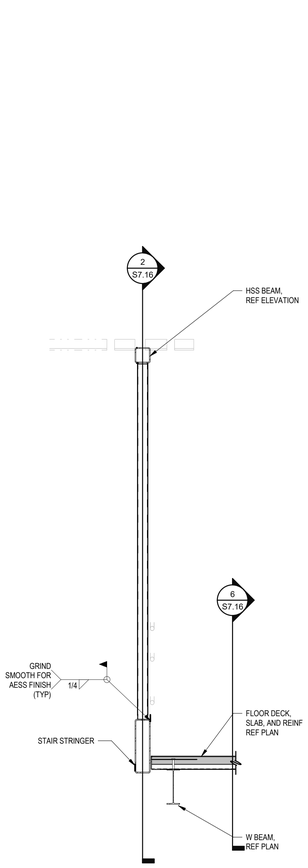


5 SECTION
S7.22 1/2" = 1'-0"



4 SECTION
S7.22 1/2" = 1'-0" BACK REF: S6.05

3 SECTION
S7.22 1/2" = 1'-0" BACK REF: S6.01



2 SECTION
S7.22 1/2" = 1'-0" BACK REF: S6.13

Revision / Date
1 07.24.26 ADDENDUM 01

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FRAMING SECTIONS
VOLUME 01

Job No. 00803-04-01
Drawn By: IEG
Date: 07.15.26
Sheet No. S7.22

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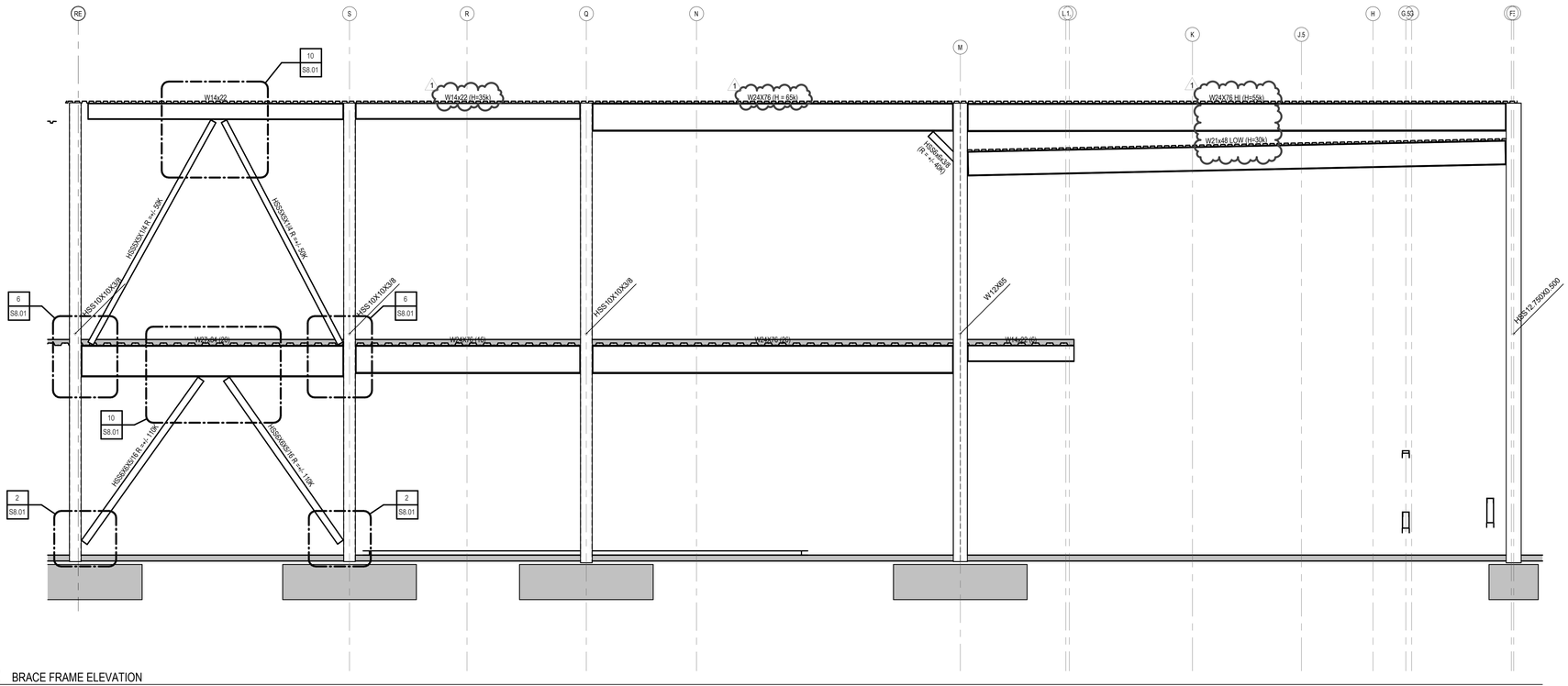
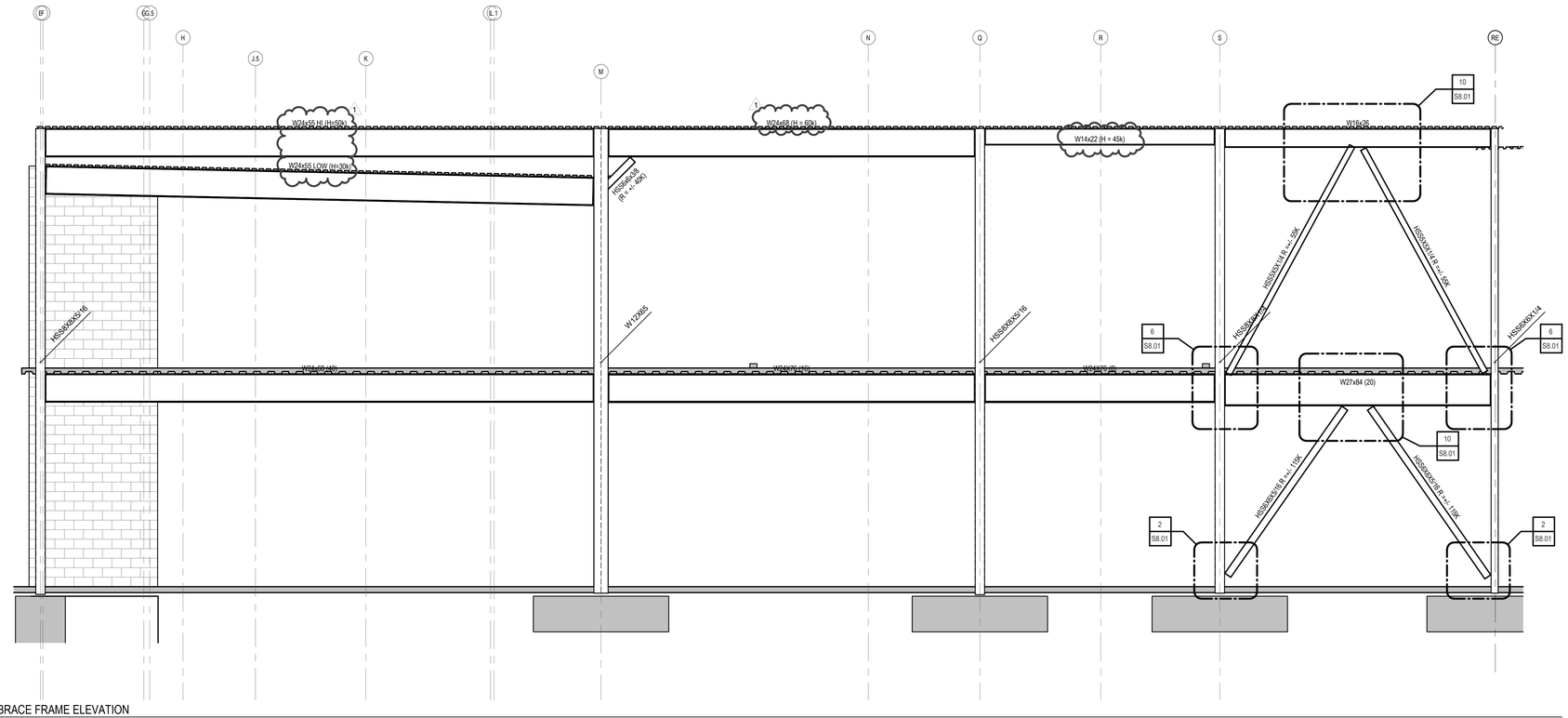


2 BRACE FRAME ELEVATION

S8.02 1/4" = 1'-0"



1 BRACE FRAME ELEVATION

S8.02 1/4" = 1'-0"

Revision /	Date	
1	07.24.26	ADDENDUM 01

Project:

TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

IEG
Innovative Engineering Group
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817.410.2858
TBPELS Firm No. F-5923

STATE OF TEXAS
R. CRAIG McKEE
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LICENSED PROFESSIONAL ENGINEER
7.24.2026
F-1252
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BRACED FRAME ELEVATIONS

VOLUME 01

Job No.	Sheet No.
00802-04-01	S8.02
Drawn By: IEG	
Date: 07.15.26	

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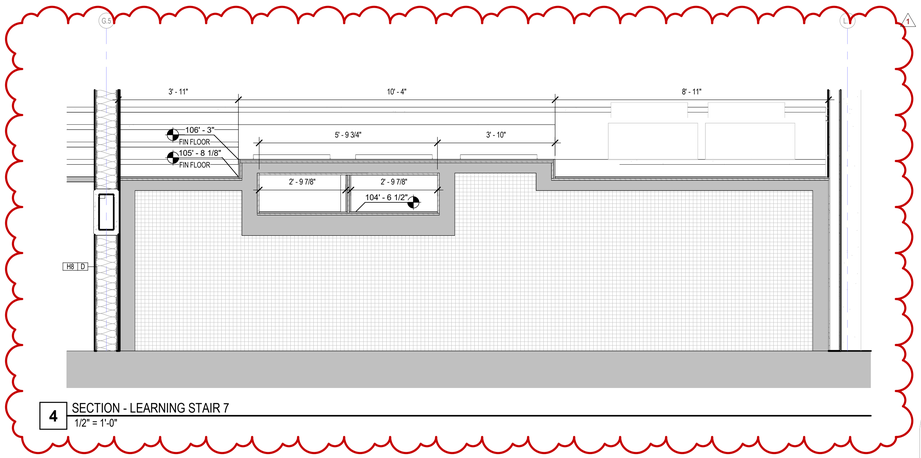
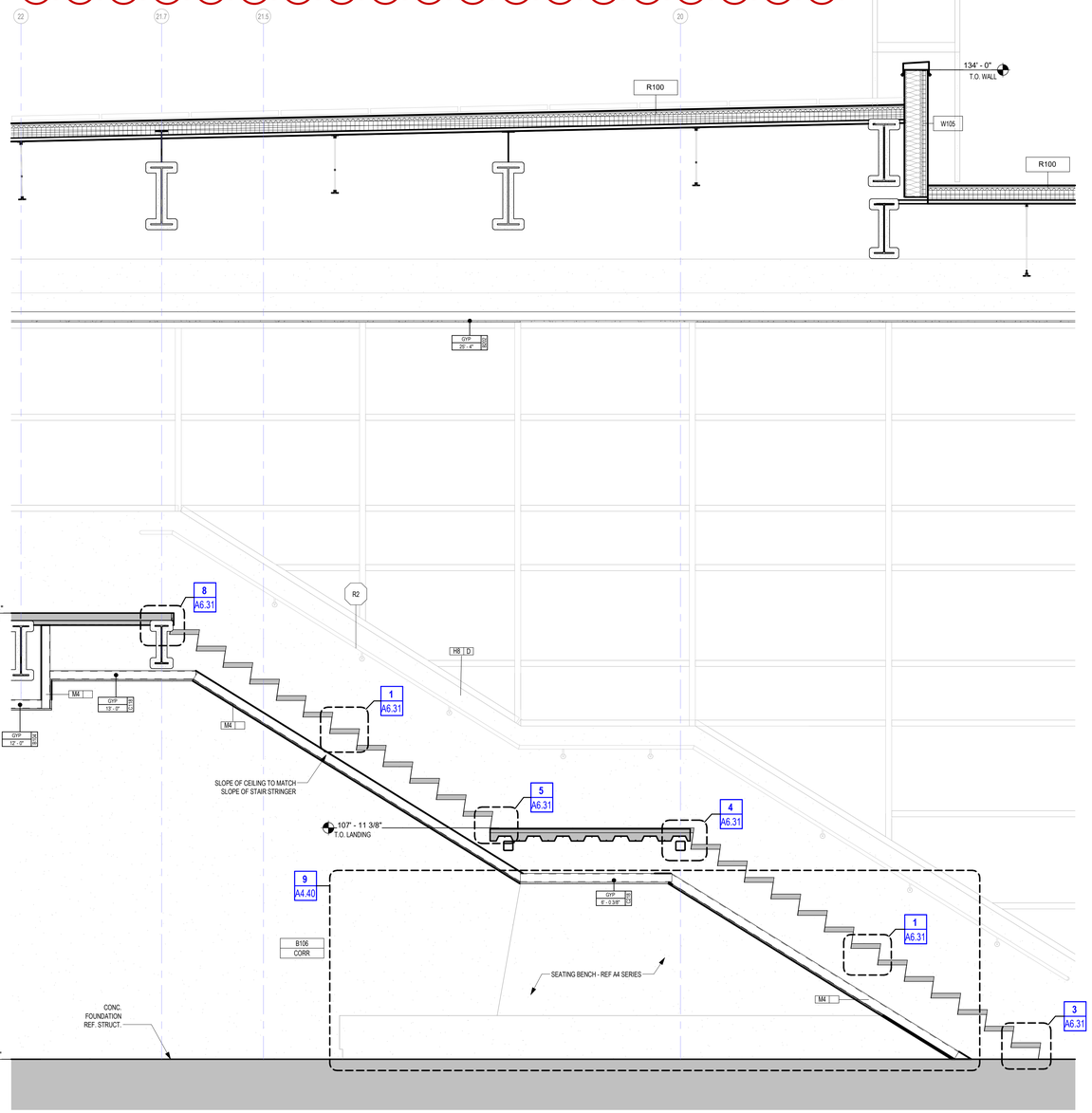


4 SECTION - LEARNING STAIR 7
1/2" = 1'-0"



2 SECTION - LEARNING STAIR
1/2" = 1'-0"

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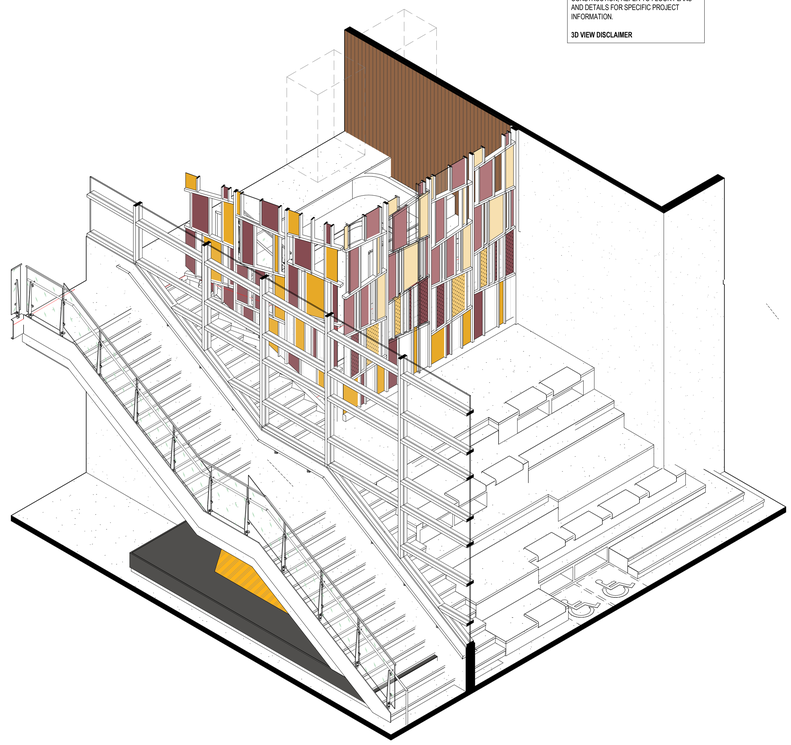
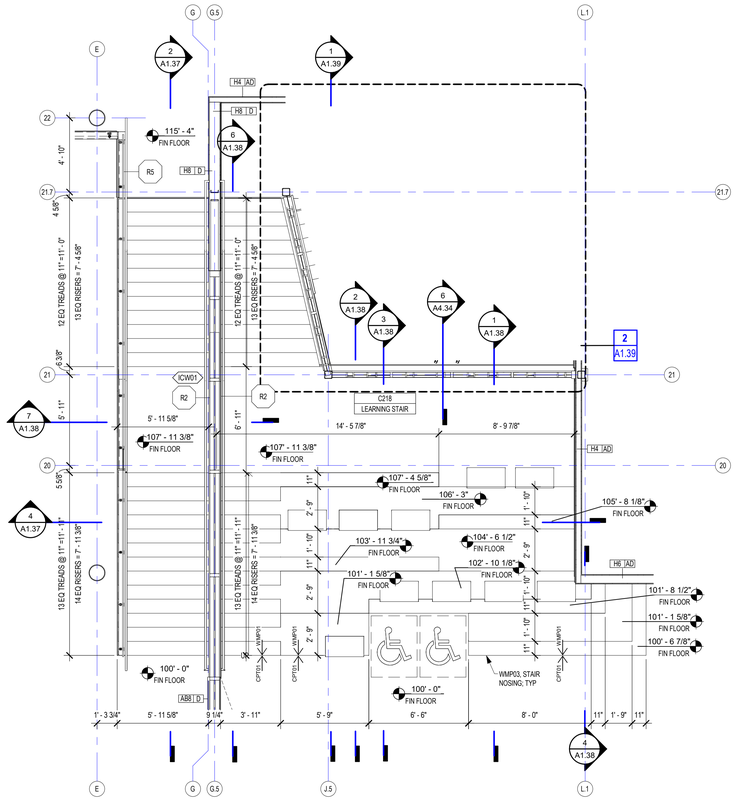
3D VIEW DISCLAIMER



3 LEARNING STAIR 3D VIEW



1 ENLARGED PLAN - LEARNING STAIR - LEVEL 1
1/4" = 1'-0" BACK REF: A1.1C

Revision /	Date	
1	07/24/26	ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT
CAITLIN MUNCH
STATE OF TEXAS
07/24/2026

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ENLARGED PLANS - LEARNING STAIRS

VOLUME 01

Job No.	Sheet No.
00802-04-01	A1.37
Drawn By: CB, CI, MA, MF	
Date: 07.15.26	

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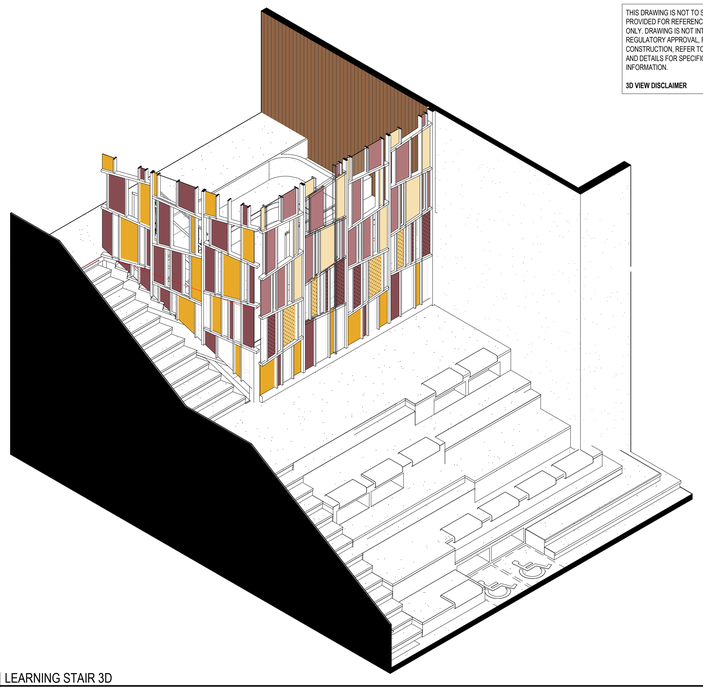
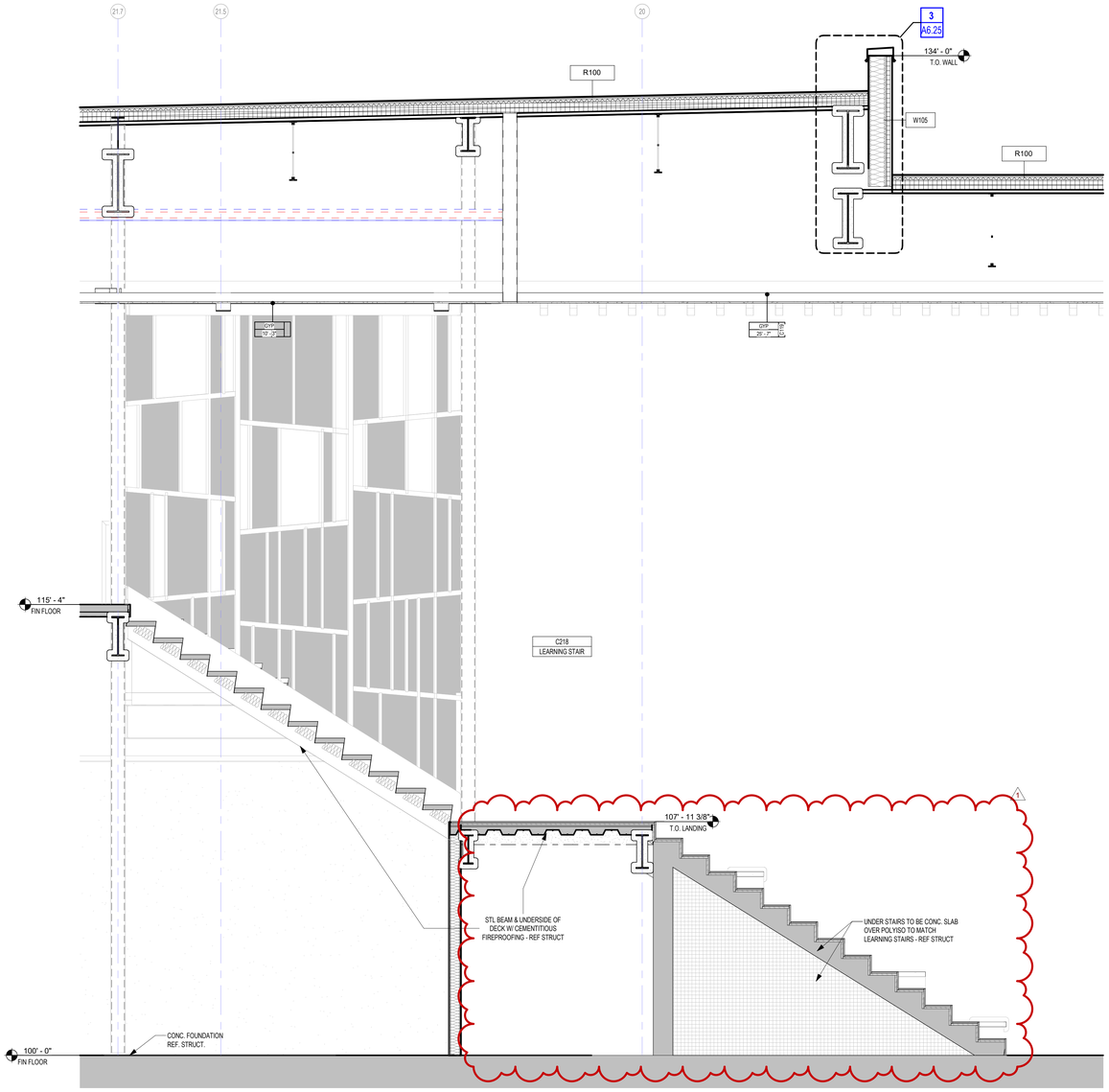
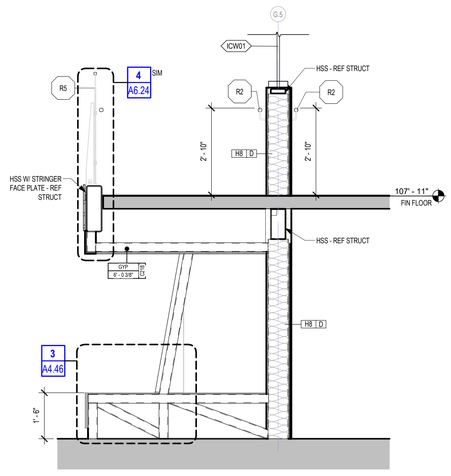
3D VIEW DISCLAIMER



5 LEARNING STAIR 3D
N.T.S.



6 SECTION - LEARNING STAIR 6
1/2" = 1'-0"



7 SECTION - LEARNING STAIRS 6
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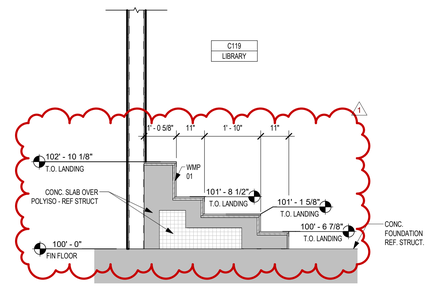

4 SECTION - LEARNING STAIR 5
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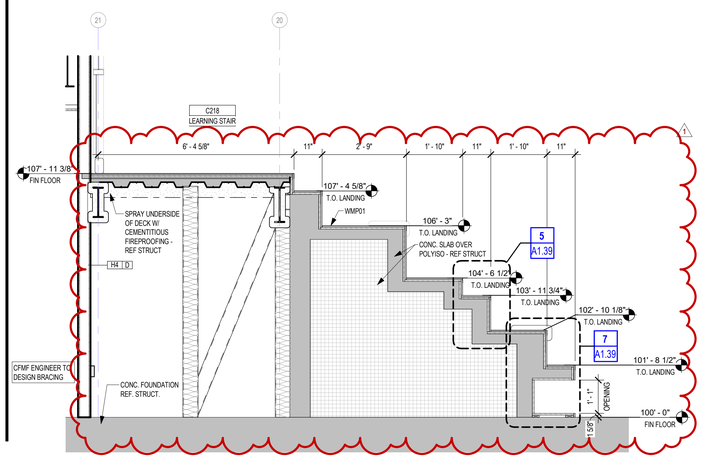

3 SECTION - LEARNING STAIR 4
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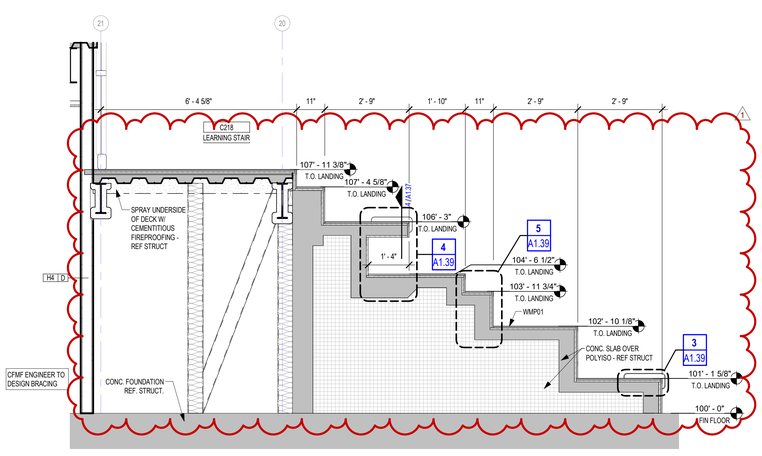

2 SECTION - LEARNING STAIR 3
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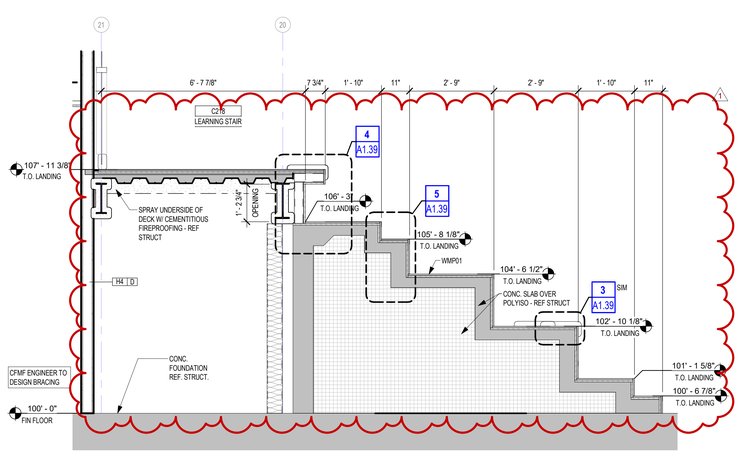

1 SECTION - LEARNING STAIR 2
1/2" = 1'-0"

Revision /	Date	
1	07/24/26	ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT
CAITLIN MUNSON
STATE OF TEXAS
Caitlin Munson
07/24/2026

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ENLARGED PLANS - LEARNING STAIRS

VOLUME 01

Job No. 00802-04-01	Sheet No. A1.38
Drawn By: CB, CI, MF	
Date: 07.15.26	

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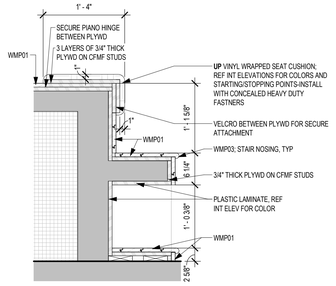
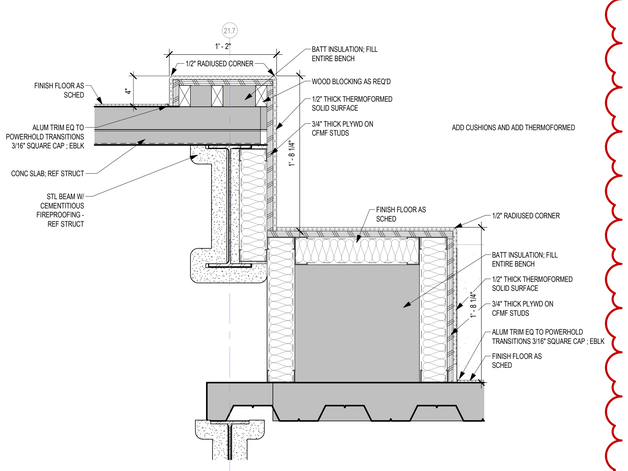
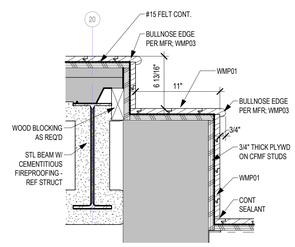


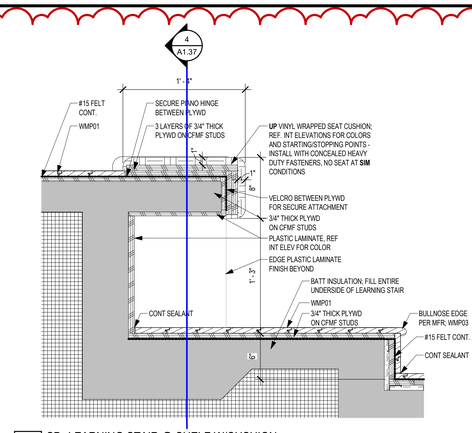
7 SECTION - LEARNING STAIR AT SHELF
1" = 1'-0" BACK REF: A1.38



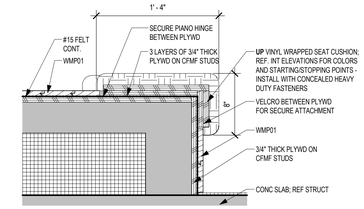
6 SD - LEARNING STAIR STEPS - LEVEL 2
1 1/2" = 1'-0" BACK REF: A1.39



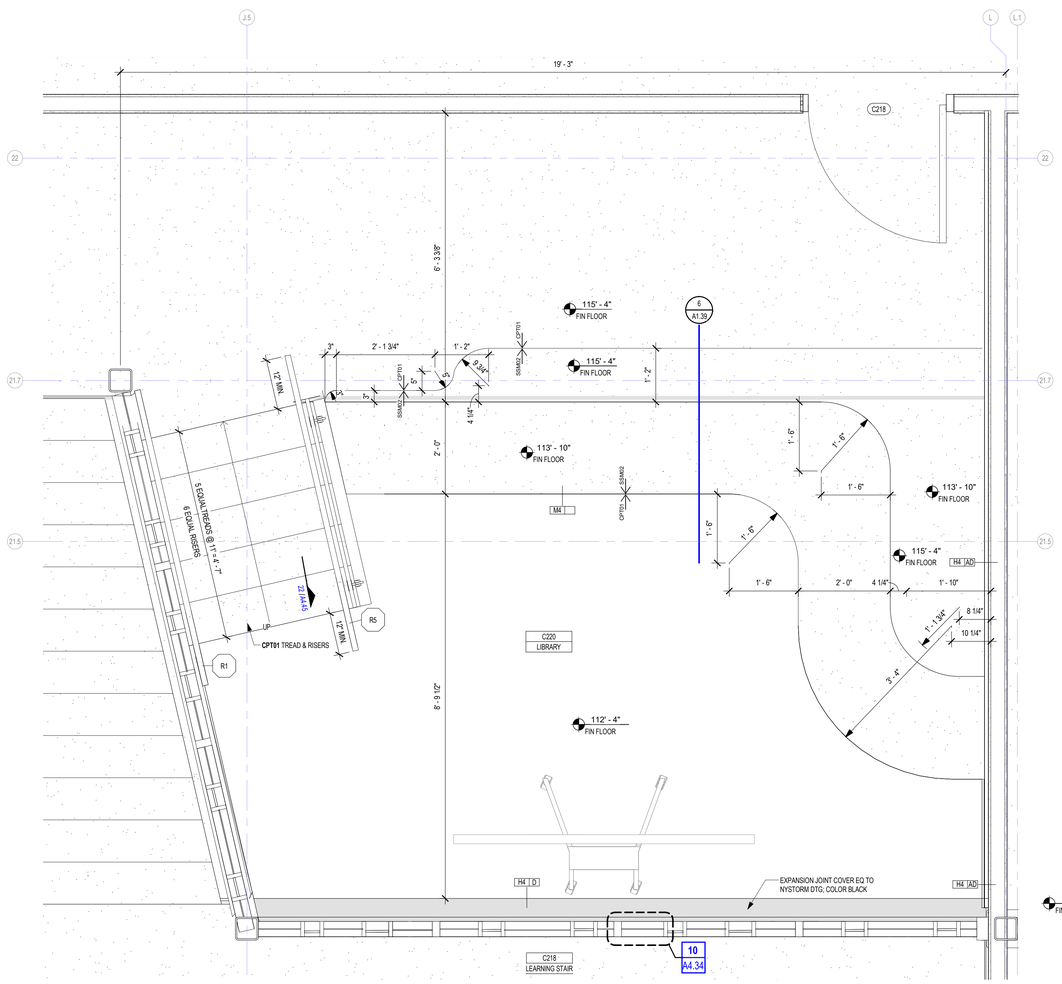
5 SD - LEARNING STAIR @ STEPS
1 1/2" = 1'-0" BACK REF: A1.38



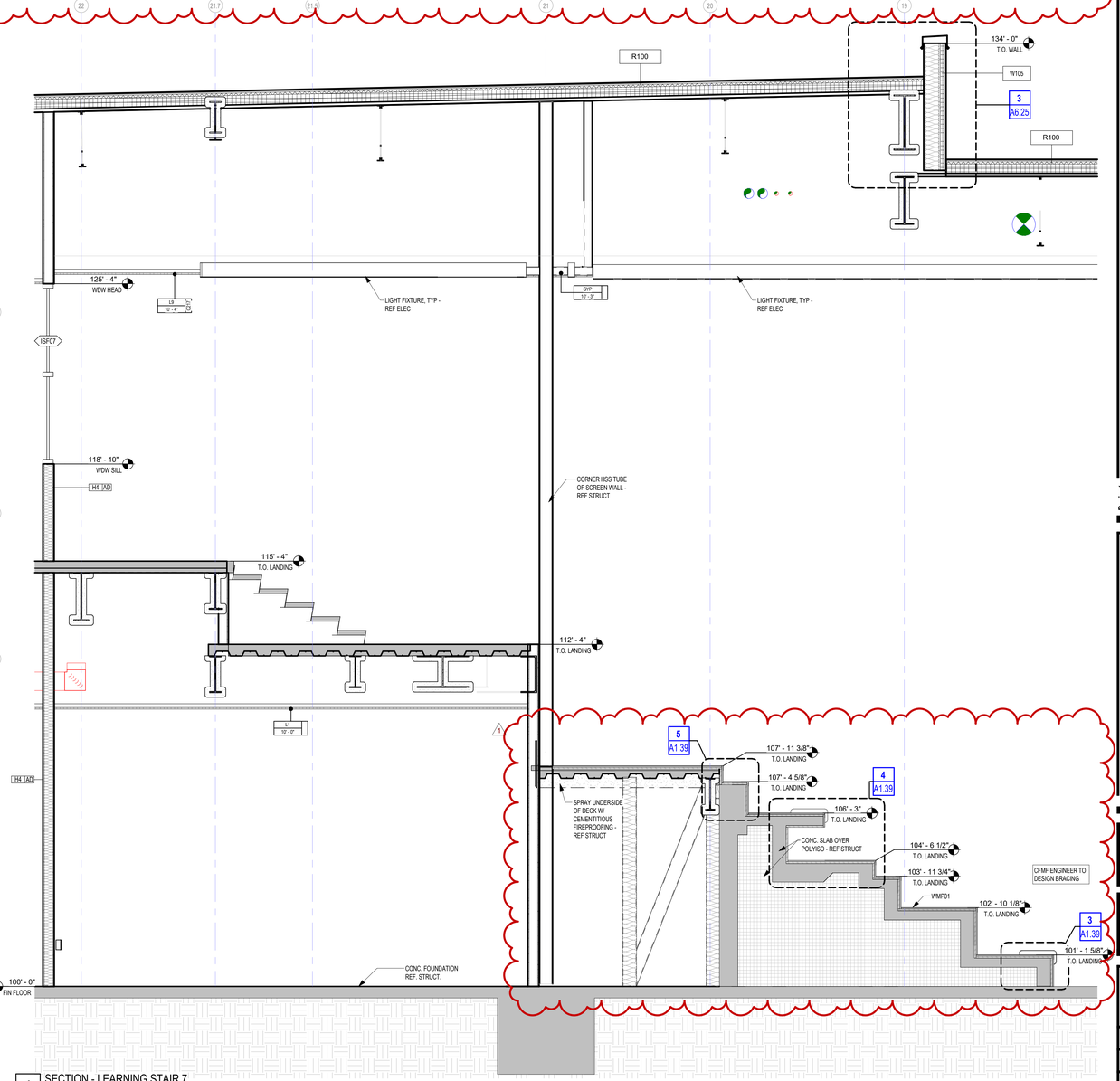
4 SD- LEARNING STAIR @ SHELF W/CUSHION
1 1/2" = 1'-0" BACK REF: A1.38



3 SD - LEARNING STAIR AT CUSHION
1 1/2" = 1'-0" BACK REF: A1.38



2 EP-S - LEARNING STAIR LEVEL 01
3/4" = 1'-0" BACK REF: A1.2C



1 SECTION - LEARNING STAIR 7
1/2" = 1'-0" BACK REF: A1.37

Revision / 1 — Date 07/24/26 — ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT CARL UNMUNCH STATE OF TEXAS 29484
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ENLARGED PLANS - LEARNING STAIRS
VOLUME 01

Job No.	Sheet No.
0/2602-04-01	A1.39
Drawn By: CB, CI, MA, MF	
Date: 07.15.26	

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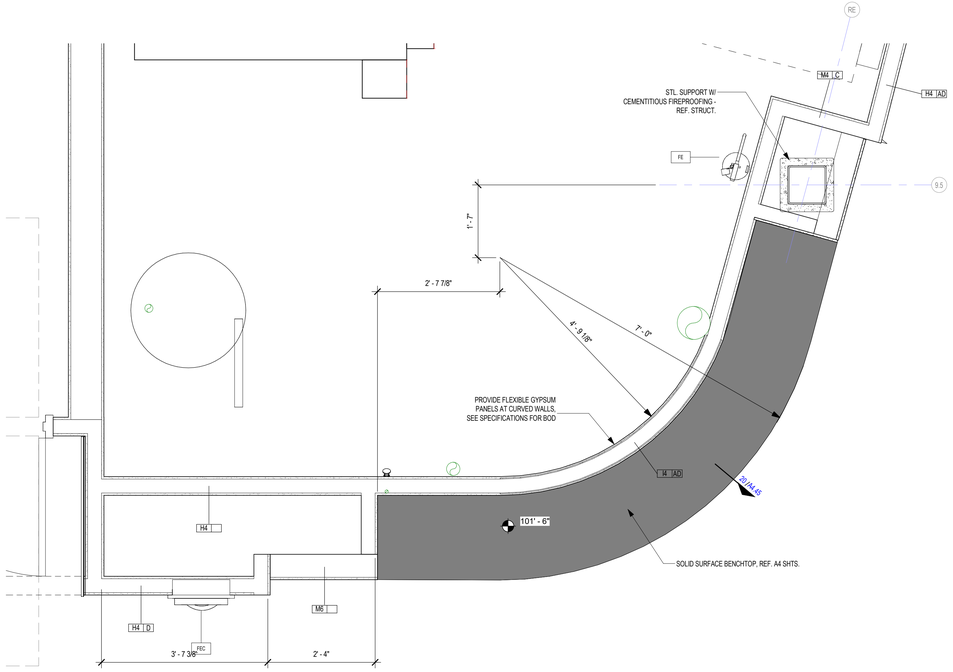
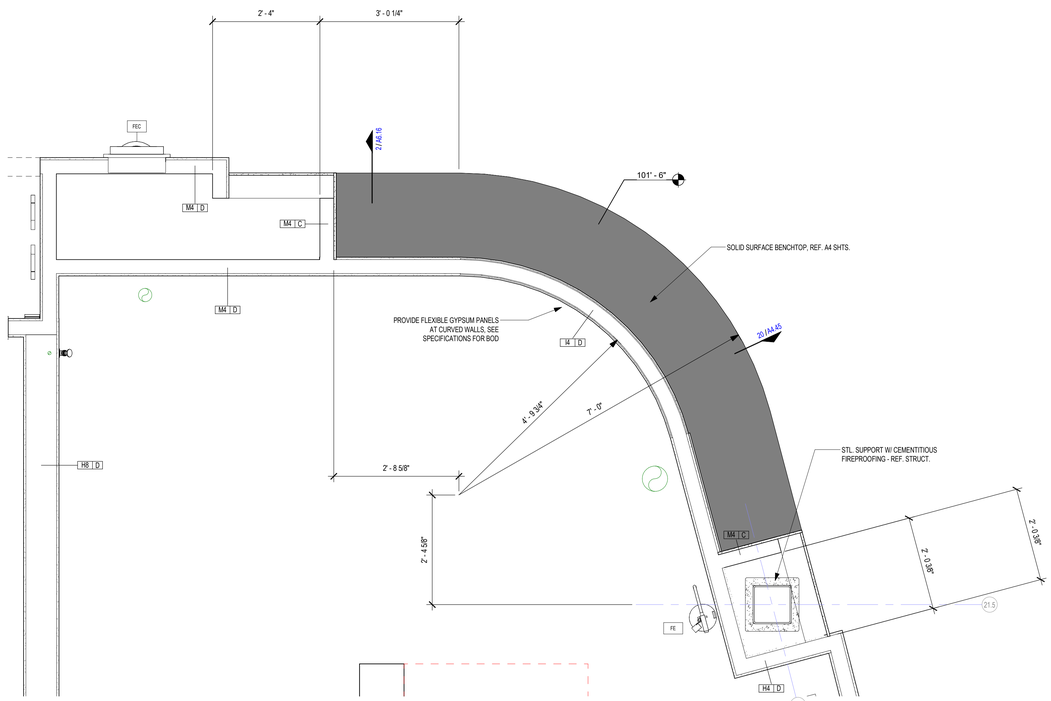


2 FLOOR PLAN - LEVEL 1 - AREA E - BENCH
3/4" = 1'-0" BACK REF: A1.1E



1 FLOOR PLAN - LEVEL 1 - AREA C - BENCH
3/4" = 1'-0" BACK REF: A1.1C

Revision / Date
1 07/24/26 ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT
CARL UNMUTH
STATE OF TEXAS
29484
07/24/2026

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PLAN DETAILS
VOLUME 01

Job No.	Sheet No.
0/2602-04-01	A1.45
Drawn By: CB, CI, MF	
Date: 07.15.26	

1

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1. COORDINATE REFLECTED CEILING PLANS WITH MECHANICAL, ELECTRICAL AND AV/TECHNOLOGY PLANS. NOTIFY ARCHITECT OF CONFLICTS PRIOR TO PROCEEDING WITH THE WORK.

2. DIMENSIONS ARE FROM FACE OF FINISH, U.N.O.

3. MOUNT LIGHT FIXTURES IN SPACES EXPOSED TO STRUCTURE AT 9' - 0" A.F.F. TO B.O. FIXTURE, U.N.O.

4. HARD-CEILING PLENUM ACCESS:
   A. MECHANICAL: PROVIDE 24" x 24" MIN. ACCESS PANELS. MATCH ACCESS PANEL PAINT TO ADJACENT CEILING.
   B. ELECTRICAL: MINIMIZE SIZE AND QUANTITY TO THE EXTENT FEASIBLE. LOCATING CONCEALED BOXES ABOVE READILY-ACCESSIBLE CEILINGS WHERE PRACTICAL. INDICATE ACCESS PANEL LOCATIONS ON SHOP DRAWING SUBMITTAL.

5. TOILET PARTITIONS SHALL BE CEILING-MOUNTED. COORDINATE ALL CEILING-MOUNTED MECHANICAL, LIGHTING FIRE SPRINKLER, AND TECHNOLOGY DEVICES PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH PARTITIONS.

6. PROVIDE TRIM AT ALL LOCATIONS WHERE GYP BD AND LAY-IN CEILINGS ARE AT THE SAME ELEVATION. REFER TO DETAIL 7/A2.31 .

REFLECTED CEILING PLAN GENERAL NOTES

REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CEILING TYPE — CX — ROOM NUMBER
CEILING HEIGHT — 9' -0"

CEILING

ACB - ACOUSTICAL CEILING BAFFLE

ES - EXPOSED DECK AND STRUCTURE

ESF - EXPOSED DECK AND STRUCTURE (FINISHED)

GYP - 5/8" GYPSUM BOARD

L1 - TYPE I 24" x 24" LAY-IN SUSPENDED CEILING TILE (STANDARD)

L4 - TYPE IV 24" x 24" LAY-IN SUSPENDED CEILING TILE (VINYL COVERED) (FOODSERVICE)

L6 - TYPE VI 24" x 24" LAY-IN SUSPENDED CEILING TILE (ACOUSTICAL 'ABSORPTIVE') (GLASS FIBER)

L9 - TYPE IX LARGE FORMAT LAY-IN SUSPENDED CEILING TILE (24" x 72" MINERAL FIBER)

L10 - TYPE X LARGE FORMAT LAY-IN SUSPENDED CEILING TILE (30" x 60" MINERAL FIBER)

L11 - TYPE XI 24" x 24" LAY-IN SUSPENDED CEILING TILE (STANDARD), HIGH NRC)

LCS - LINEAR CEILING SYSTEM

MS - METAL SOFFIT PANEL (EXTERIOR)

DEFAULT FINISHES

IF ANY ROOM IS NOT IDENTIFIED BY A ROOM FINISH TAG, THE FOLLOWING FINISHES SHALL BE USED AS "TYPICAL" OR "DEFAULT" FINISHES FOR BIDDING PURPOSES. VERIFY FINISHES WITH ARCHITECT BEFORE INSTALLATION.

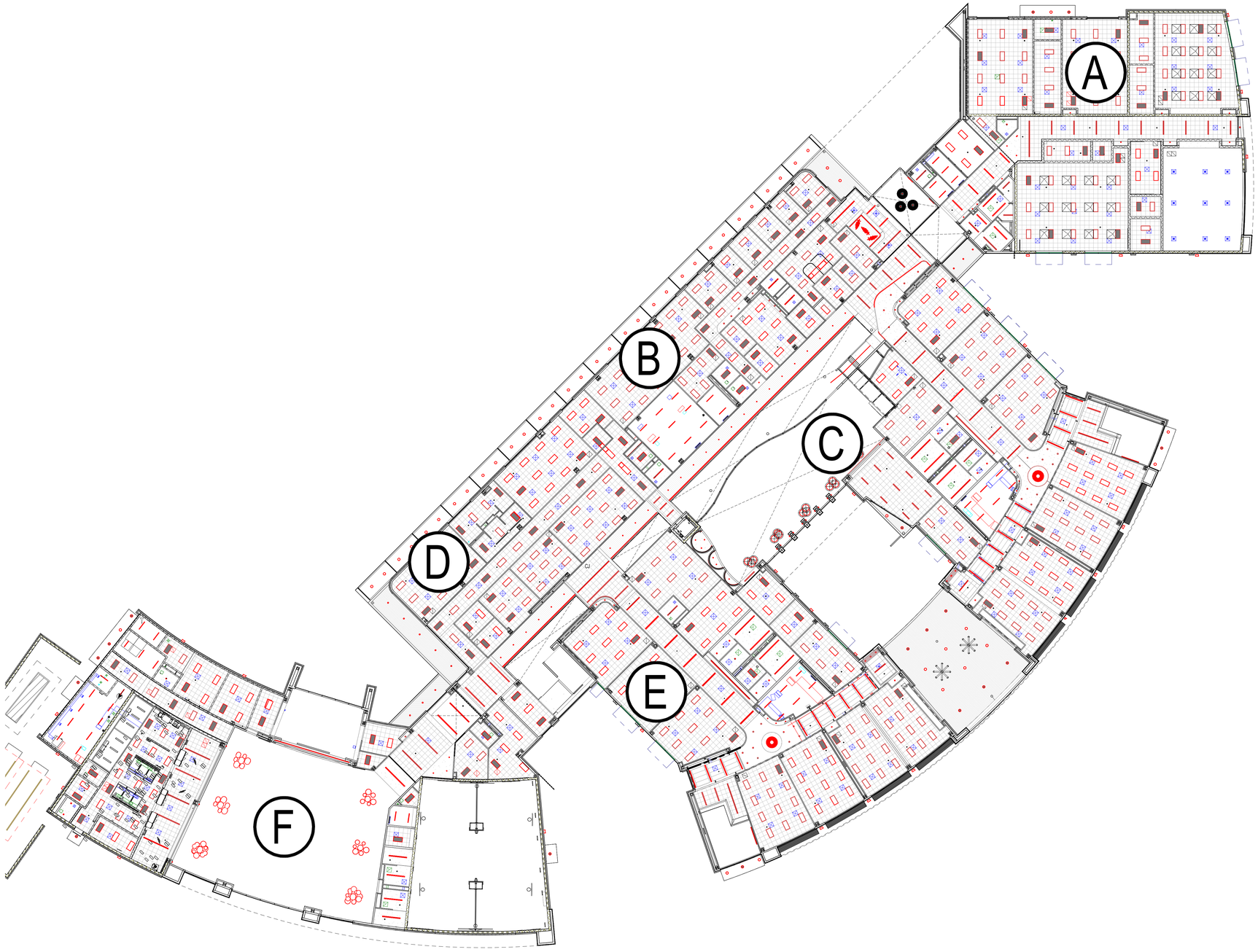
CEILING - L1
CEILING HEIGHT - 10' - 0" A.F.F.

CEILING FINISH LEGEND

- **LAY-IN CEILING**
- C.J. **GYPSUM BOARD CEILING** WITH CONTROL JOINTS . FINISH AS INDICATED
- **METAL SOFFIT PANELS**
- **PYRAMIDAL CEILING DIFFUSER**
- **LIGHT FIXTURES** - REF. ELECTRICAL
- **EMERGENCY LIGHT FIXTURE** - REF. ELECTRICAL
- P.S. **PROJECTION SCREENS** - REF. A4 SHEETS
- **HVAC GRILLE, DIFFUSER** - REF. MECHANICAL DRAWINGS.
- **SOUND BATT ABOVE CEILING**
  WHERE THIS HATCH IS SHOWN, PROVIDE FULL COVERAGE ACOUSTICAL BATT INSULATION ABOVE FINISHED CEILING.
- **FIRE RATED CEILING ASSEMBLY**

WHERE THIS HATCH IS SHOWN, PROVIDE A FIRE-RATED CEILING ASSEMBLY AS DETAILED AND NOTED. REFER TO PLAN NOTES AND CONSTRUCTION DETAILING FOR TERMINATION POINT OF ADJACENT FIRE-RATED WALL ASSEMBLIES. RATING SHALL EQUAL THAT OF SURROUNDING WALLS.

REFLECTED CEILING LEGEND



1 MASTER REFLECTED CEILING PLAN - LEVEL 01
1" = 20'-0"

Revision / Date
1 07/24/26 ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT CAITLIN MUNCH STATE OF TEXAS
07/24/2026

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MASTER REFLECTED CEILING PLAN - LEVEL 01

VOLUME 01

Job No.	Sheet No.
00802-04-01	A2.01
Drawn By: MA	
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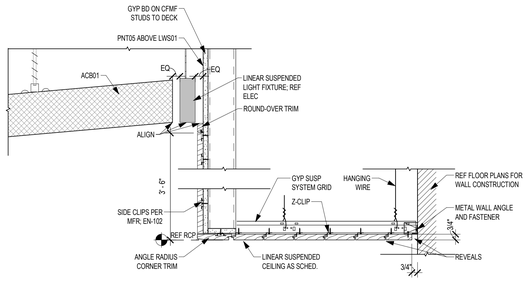
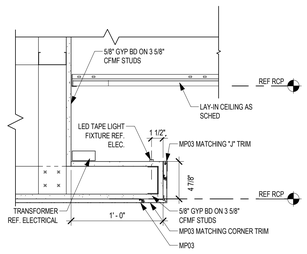
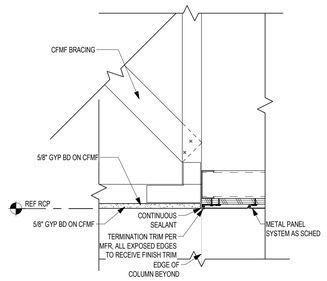


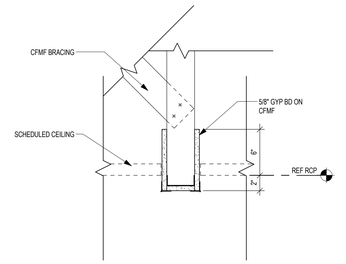
18 LINEAR SUSPENDED CEILING + LINEAR WALL SYSTEM
1 1/2" = 1'-0"



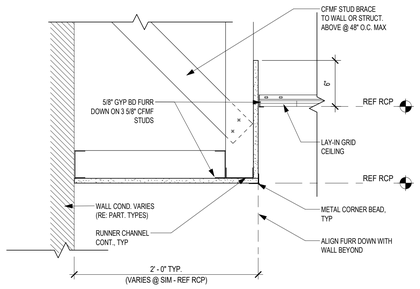
17 COVE BULKHEAD W/ LIGHTING
1 1/2" = 1'-0"



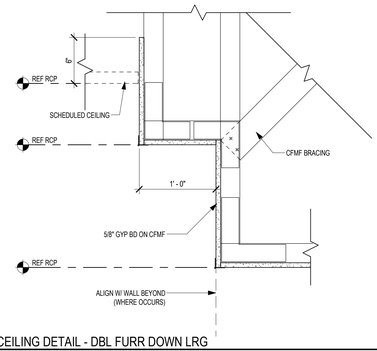
16 CEILING DETAIL - GYP FURR DOWN AT MTL CEILING
1 1/2" = 1'-0"



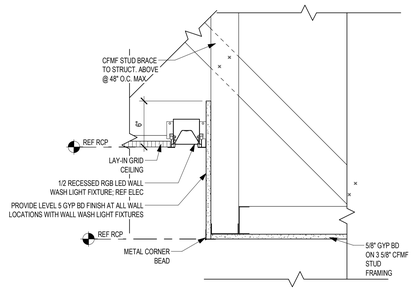
15 CEILING DETAIL - GYP DIVIDER
1 1/2" = 1'-0"



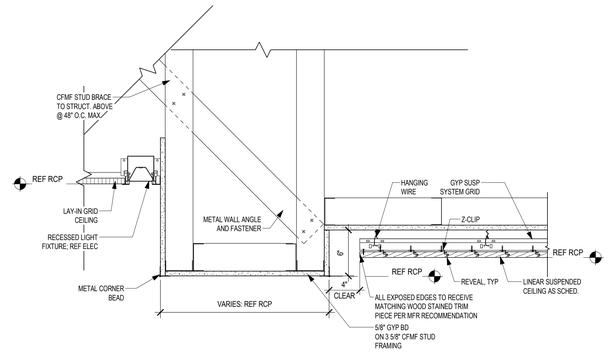
14 CEILING DETAIL - FURR DOWN TO LAY-IN
N.T.S.



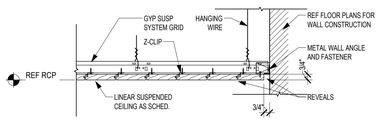
13 CEILING DETAIL - DBL FURR DOWN LRG
1 1/2" = 1'-0"



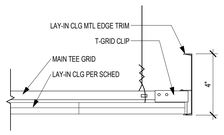
12 CEILING DETAIL - LAY-IN W/ PERIMETER LIGHT TO BULK HEAD TO GYP
1 1/2" = 1'-0"



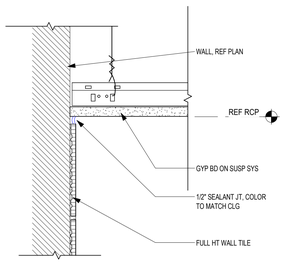
11 CEILING DETAIL - LAY-IN TO BULK HEAD TO GYP
N.T.S.



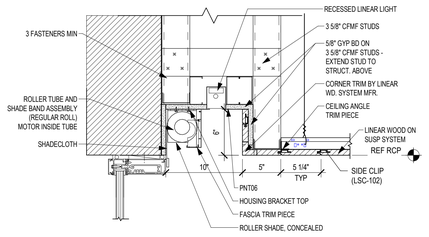
10 LINEAR SUSPENDED CEILING
1 1/2" = 1'-0"



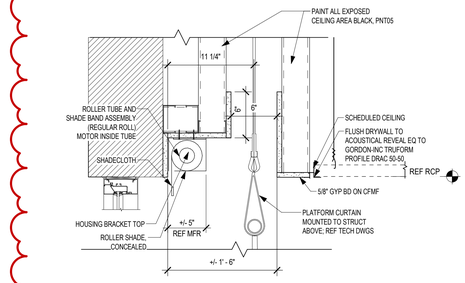
9 LAY-IN MTL EDGE DETAIL
3" = 1'-0"



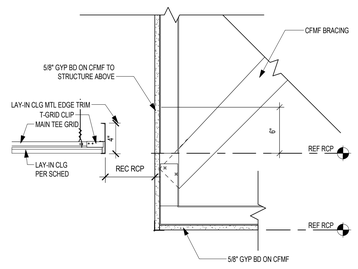
8 CEILING DETAIL - WALL TILE TO GYP CLG
N.T.S.



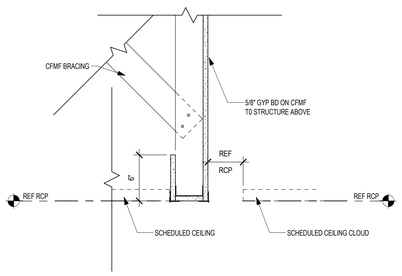
7 ROLLER SHADES AT SPECIALITY CEILING
N.T.S.



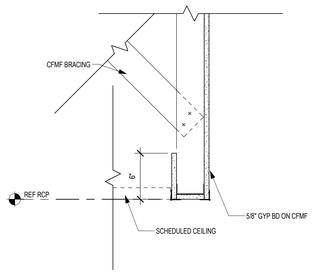
6 TYP. ROLLER SHADES DETAIL
1 1/2" = 1'-0"



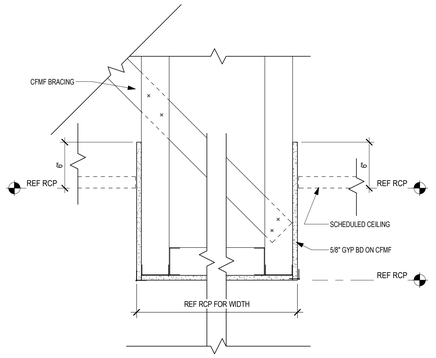
5 CEILING DETAIL - GYP FURR DOWN
1 1/2" = 1'-0"



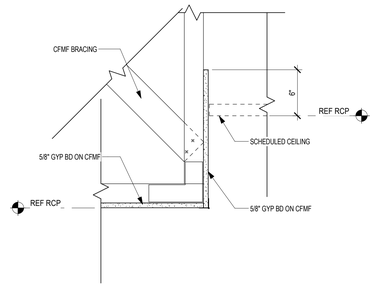
4 CEILING DETAIL - GYP HEADER AT CLG CLOUD
1 1/2" = 1'-0"



3 CEILING DETAIL - GYP HEADER
1 1/2" = 1'-0"



2 CEILING DETAIL - WIDE BULK HEAD
1 1/2" = 1'-0"



1 CEILING DETAIL - GYP FURR DOWN
1 1/2" = 1'-0"

Date 07/24/26 — Revision / 1 — ADDENDUM 01

Project: TOMBALL INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

REGISTERED ARCHITECT CAITLIN MUNCH STATE OF TEXAS
07/24/2026

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CEILING DETAILS

VOLUME 01

Job No. 00802-04-01
Drawn By: MA
Date: 07.15.26
Sheet No. A2.30

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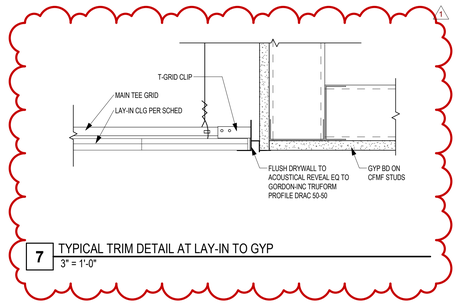
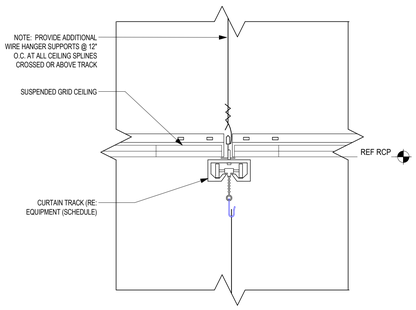
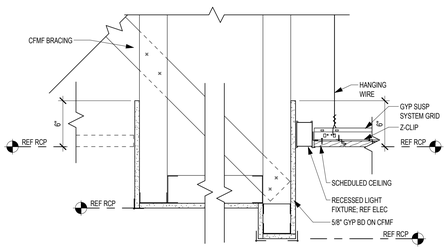


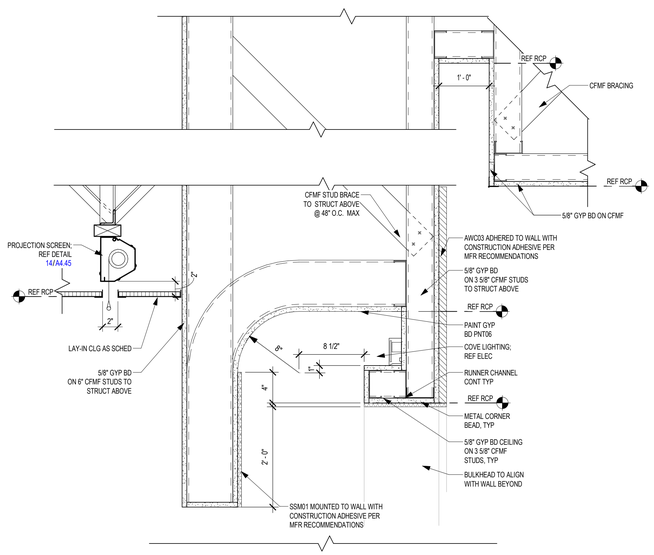
7 TYPICAL TRIM DETAIL AT LAY-IN TO GYP
3" = 1'-0"



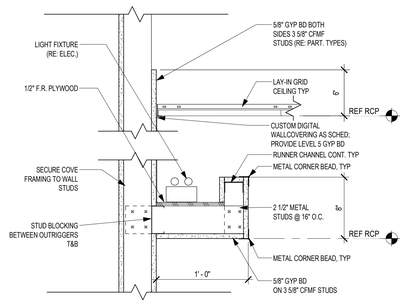
6 CEILING DETAIL - CYRTAIN TRACK AT LAY-IN
3" = 1'-0"



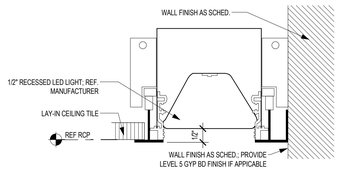
5 CEILING DETAIL - WIDE BULK HEAD
1 1/2" = 1'-0"



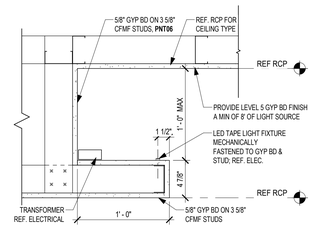
4 CEILING DETAIL - COVE LIGHTING AT PLATFORM OPENING HEAD
1 1/2" = 1'-0"



3 CEILING DETAIL - LIGHT COVE "UP" AT LAY-IN
1 1/2" = 1'-0"



2 COVE LIGHT DETAIL AT LAY-IN TILE
6" = 1'-0"



1 COVE BULKHEAD W/ LIGHTING
1 1/2" = 1'-0"

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Revision / Date
1 07/24/26 ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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CEILING DETAILS

VOLUME 01

Job No. 00802-04-01
Drawn By: MA
Date: 07.15.26
Sheet No. A2.31

1 FINISH PLAN - LEVEL 01 - AREA E
1/8" = 1'-0"

PLAN N

A1.1 1 — ELEVATION REFERENCE

1 / A1.1 — CALLOUT REFERENCE

SIM 1 / A101 — WALL SECTION REFERENCE

B — B - HORIZONTAL BLINDS; S - WINDOW SHADES; SB - WINDOW SHADES - BLACKOUT; SM - MOTORIZED SHADES; SMB - MOTORIZED SHADES - BLACKOUT

FLOOR INSTALLATION DIRECTION

FLOOR TRANSITION

FINISH — WALL FINISH TAG

8' MB — EQUIPMENT TAG

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. **REF. INTERIOR ELEVATIONS FOR ADDITIONAL WALL FINISHES INFORMATION.**
2. **FRP PANEL BEHIND MOPSINK. REF. SHEET A1.31**

FINISH REMARKS

1. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O.
2. PROVIDE **PNT** AND **TP** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.
3. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE)
4. PROVIDE SEALANT JTS @ INSIDE CORNERS OF TILED WALLS
5. VERIFY EXACT FLOOR TILE PATTERN FOR ALL TOILET ROOMS. COORDINATE WITH ARCHITECT.
6. FLOOR FINISH TRANSITION TO BE LOCATED AT THE MIDDLE OF THE DOOR THRESHOLD.
7. WALLS BEARING THIS DESIGNATION SHALL HAVE CONCRETE CURBS IN LOCATIONS AS SHOWN ON THE PLAN. REF 15/A9.01 AND 16/A9.01 FOR DETAILS.
8. PROVIDE CORNER GUARDS AT ALL MAIN CORRIDOR WALKWAYS AT GYP BD CORNERS. REF. DTL. 18/A4.44 INSTALL RUBBER BASE CONTINUOUS OVER THE BOTTOM OF CORNER GUARDS.
9. PROVIDE CORNER GUARDS AT ALL TILED WALL OUTSIDE CORNERS. REF. DTL. 17/A4.44
10. AT ALL BLIND LOCATIONS PROVIDE PUSH/PULL OPERATED. PROVIDE ADDITIONAL BLINDS AT ANY HORIZONTAL MULLION.
11. PROVIDE MOISTURE BASE GUARD TRIM AT ALL INTERIOR GYPSUM WALLS. REF. DTL. 11/A4.45
12. REFER TO DTL. 21/A4.44 AND 23/A4.44 FOR FLOOR TRANSITION THRESHOLD

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

REFER TO G5.01 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CLASSROOM — ROOM NAME
025 — ROOM NUMBER

TYP FLOOR FINISH	LVT01
WALL BASE FINISH	BR01
TYP WALL FINISH	PNT01
REMARKS	1

*REMARKS NUMBERS COORDINATED WITH FINISH REMARKS LEGEND LOCATED ON ALL FINISH FLOOR PLAN SHEETS

REFER TO PROJECT SPECIFICATIONS SECTION 01 6210 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

XY — MATERIAL TYPE; ## — FINISH COLOR AND MATERIAL SIZE AS NOTED IN SPEC. SECTION 01 6210

ACMU - ARCHITECTURAL CONCRETE MASONRY UNIT

ACB - ACOUSTICAL CEILING BAFFLE

AL - ALUMINUM

AP - ACOUSTICAL PANELS

AWB - ACOUSTICAL WALL BAFFLE

AWC - ACOUSTICAL WALLCOVERING

BP - BASE, PORCELAIN TILE

BRES - BASE, RESINOUS INTEGRAL

BRK - BRICK

BR - BASE, RUBBER

BRV - BASE, RUBBER VENTED

BTC - BASE, TILE, CERAMIC

BTZ - BASE, TERRAZZO PRECAST

BWD - BASE, WOOD

CCPS - CERAMIC CLADDING PANEL SYSTEM

CDAP - CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL

CDW - CUSTOM DIGITAL WALLCOVERINGS

CG - CORNER GUARD

COP - CONCRETE POLISHED

COS - CONCRETE SEALED

CPT - CARPET, SHEET

CS - CAST STONE

CSM - CONCRETE STONE MASONRY

CT - CARPET, TILED

CWF - CUSTOM WINDOW FILM

EBWS - EPOXY BASED WALL SYSTEM

EPNT - EPOXY PAINT

FRP - FIBERGLASS REINFORCED PLASTIC PANEL SYSTEM

GFRC - GLASS FIBER REINFORCED CONCRETE

GRF - GROUND FACE CMU (BURNISHED)

LVT - LUXURY VINYL TILE

LWS - LINEAR WALL SYSTEM

MB - MARKER BOARD

MCM - METAL COMPOSITE MATERIAL

MP - METAL WALL PANEL

MS - METAL SOFFIT

NB - NO BASE

NS - NATURAL STONE

PL - PLASTIC LAMINATE

PLP - PLASTIC LAMINATE PANEL SYSTEM

PNT - PAINT

QTZ - QUARTZ SURFACING

RAFF - RESILIENT ATHLETIC FLUID FLOORING

RAFP - RESILIENT ATHLETIC FLOORING POLYURETHANE

RAFS - RUBBER FLOORING SHEET

RAFV - RESILIENT ATHLETIC FLOORING VINYL

RES - RESINOUS FLOORING

RT - RUBBER TILE

RTR - RUBBER TREADS

SPEC - SPECIAL FINISHES, REF. ROOM FINISH SCHEDULE & INTERIOR ELEVATIONS

SPF - SPLIT-FACE CONCRETE MASONRY UNIT

SSM - SOLID SURFACE MATERIAL

STG - STAGE CURTAIN

SVT - SOLID VINYL TILE

TB - TACK BOARD

TC - TILE, CERAMIC

TP - TILE, PORCELAIN

TQ - TILE, QUARRY

TS - TACKABLE SURFACE

TZ - TERRAZZO

TZP - TERRAZZO, PRECAST STAIR TREADS AND RISERS

TZT - TERRAZZO TILE

UP - UPHOLSTERY

VCT - TILE, VINYL, COMPOSITION

VSF - VINYL SHEET FLOORING

WMP - WOOD (MAPLE) STRIP AND PLANK FLOORING

WMS - MASONITE WOOD FLOORING

WOC - WALK-OFF CARPET

WP - WALL PADDING

(NOT ALL ABBREVIATIONS MAY BE USED)

FINISH KEY

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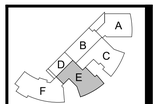
Revision / 1 — Date 07/24/26 — ADDENDUM 01

Project: TOMBALL INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS

KEY PLAN - LEVEL 1
N.T.S.



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FINISH PLAN - LEVEL 01 - AREA E

VOLUME 01

Job No. 00802-04-01	Sheet No. A4.1E
Drawn By: MA, AS	
Date: 07.15.26	

7/24/2026 9:07:59 AM
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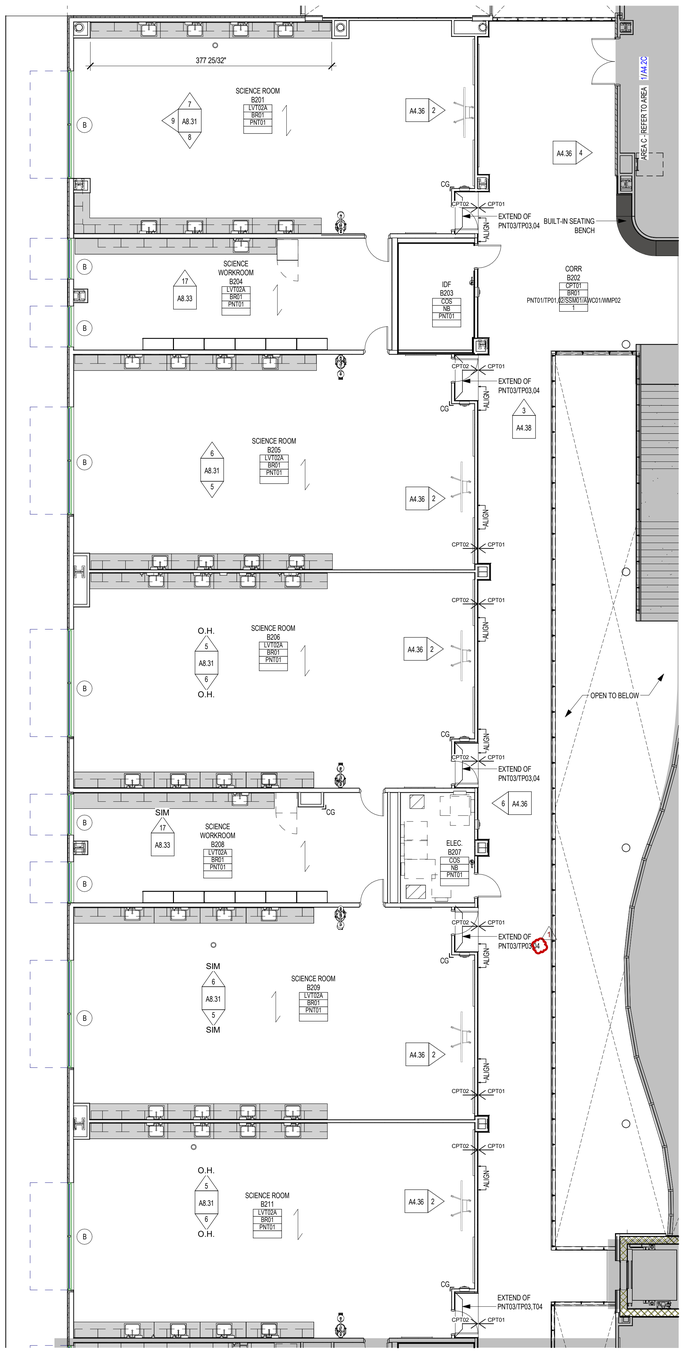


1 FINISH PLAN - LEVEL 02 - AREA B
1/8" = 1'-0"

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

- A1.1 / 1 — ELEVATION REFERENCE
- 1 / A1.1 — CALLOUT REFERENCE
- SIM / 1 / A101 — WALL SECTION REFERENCE
- B — B - HORIZONTAL BLINDS; S - WINDOW SHADES; SB - WINDOW SHADES - BLACKOUT; SM - MOTORIZED SHADES; SMB - MOTORIZED SHADES - BLACKOUT
- FLOOR INSTALLATION DIRECTION
- FLOOR TRANSITION
- FINISH — WALL FINISH TAG
- 8' MB — EQUIPMENT TAG

FINISH REMARKS

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. REF. INTERIOR ELEVATIONS FOR ADDITIONAL WALL FINISHES INFORMATION.
2. FRP PANEL BEHIND MOPSINK. REF. SHEET A1.31

FINISH PLAN GENERAL NOTES

1. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O.
2. PROVIDE **PNT** AND **TP** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.
3. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE)
4. PROVIDE SEALANT JTS @ INSIDE CORNERS OF TILED WALLS
5. VERIFY EXACT FLOOR TILE PATTERN FOR ALL TOILET ROOMS. COORDINATE WITH ARCHITECT.
6. FLOOR FINISH TRANSITION TO BE LOCATED AT THE MIDDLE OF THE DOOR THRESHOLD.
7. WALLS BEARING THIS DESIGNATION SHALL HAVE CONCRETE CURBS IN LOCATIONS AS SHOWN ON THE PLAN. REF 15/A9.01 AND 16/A9.01 FOR DETAILS.
8. PROVIDE CORNER GUARDS AT ALL MAIN CORRIDOR WALKWAYS AT GYP BD CORNERS. REF. DTL. 18/A4.44 INSTALL RUBBER BASE CONTINUOUS OVER THE BOTTOM OF CORNER GUARDS.
9. PROVIDE CORNER GUARDS AT ALL TILED WALL OUTSIDE CORNERS. REF. DTL. 17/A4.44
10. AT ALL BLIND LOCATIONS PROVIDE PUSH/PULL OPERATED PROVIDE ADDITIONAL BLINDS AT ANY HORIZONTAL MULLION.
11. PROVIDE MOISTURE BASE GUARD TRIM AT ALL INTERIOR GYPSUM WALLS. REF. DTL. 11/A4.45
12. REFER TO DTL. 21/A4.44 AND 23/A4.44 FOR FLOOR TRANSITION THRESHOLD

ALL SCHEDULED WALL FINISH DIRECTIONS ARE DIRECTIONS PER PLAN NORTH OF THE FINISH PLANS, NOT TRUE NORTH OF THE PROJECT SITE

REFER TO G5.01 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CLASSROOM — ROOM NAME
025 — ROOM NUMBER

TYP FLOOR FINISH	LVT01
WALL BASE FINISH	BR01
TYP WALL FINISH	PNT01
REMARKS	1

*REMARKS NUMBERS COORDINATED WITH FINISH REMARKS LEGEND LOCATED ON ALL FINISH FLOOR PLAN SHEETS

REFER TO PROJECT SPECIFICATIONS SECTION 01 6210 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

XY — MATERIAL TYPE; ## — FINISH COLOR AND MATERIAL SIZE AS NOTED IN SPEC. SECTION 01 6210

FINISH KEY

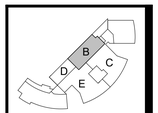
ACMU - ARCHITECTURAL CONCRETE MASONRY UNIT
ACB - ACOUSTICAL CEILING BAFFLE
AL - ALUMINUM
AP - ACOUSTICAL PANELS
AWB - ACOUSTICAL WALL BAFFLE
AWC - ACOUSTICAL WALLCOVERING
BP - BASE, PORCELAIN TILE
BRES - BASE, RESINOUS INTEGRAL
BRK - BRICK
BR - BASE, RUBBER
BRV - BASE, RUBBER VENTED
BTC - BASE, TILE, CERAMIC
BTZ - BASE, TERRAZZO PRECAST
BWD - BASE, WOOD
CCPS - CERAMIC CLADDING PANEL SYSTEM
CDAP - CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL
CDW - CUSTOM DIGITAL WALLCOVERINGS
CG - CORNER GUARD
COP - CONCRETE POLISHED
COS - CONCRETE SEALED
CPT - CARPET, SHEET
CS - CAST STONE
CSM - CONCRETE STONE MASONRY
CT - CARPET, TILED
CWF - CUSTOM WINDOW FILM
EBWS - EPOXY BASED WALL SYSTEM
EPNT - EPOXY PAINT
FRP - FIBERGLASS REINFORCED PLASTIC PANEL SYSTEM
GFRC - GLASS FIBER REINFORCED CONCRETE
GRF - GROUND FACE CMU (BURNISHED)
LVT - LUXURY VINYL TILE
LWS - LINEAR WALL SYSTEM
MB - MARKER BOARD
MCM - METAL COMPOSITE MATERIAL
MP - METAL WALL PANEL
MS - METAL SOFFIT
NB - NO BASE
NS - NATURAL STONE
PL - PLASTIC LAMINATE
PLP - PLASTIC LAMINATE PANEL SYSTEM
PNT - PAINT
QTZ - QUARTZ SURFACING
RAFF - RESILIENT ATHLETIC FLUID FLOORING
RAFP - RESILIENT ATHLETIC FLOORING POLYURETHANE
RAFS - RUBBER FLOORING SHEET
RAFV - RESILIENT ATHLETIC FLOORING VINYL
RES - RESINOUS FLOORING
RT - RUBBER TILE
RTR - RUBBER TREADS
SPEC - SPECIAL FINISHES, REF. ROOM FINISH SCHEDULE & INTERIOR ELEVATIONS
SPF - SPLIT-FACE CONCRETE MASONRY UNIT
SSM - SOLID SURFACE MATERIAL
STG - STAGE CURTAIN
SVT - SOLID VINYL TILE
TB - TACK BOARD
TC - TILE, CERAMIC
TP - TILE, PORCELAIN
TQ - TILE, QUARRY
TS - TACKABLE SURFACE
TZ - TERRAZZO
TZP - TERRAZZO, PRECAST STAIR TREADS AND RISERS
TZT - TERRAZZO TILE
UP - UPHOLSTERY
VCT - TILE, VINYL COMPOSITION
VSF - VINYL SHEET FLOORING
WMP - WOOD (MAPLE) STRIP AND PLANK FLOORING
WMS - MASONITE WOOD FLOORING
WOC - WALK-OFF CARPET
WP - WALL PADDING

(NOT ALL ABBREVIATIONS MAY BE USED)

PLAN N

Revision / 1 — Date 07/24/26 — ADDENDUM 01

Project: TOMBALL INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL INDEPENDENT SCHOOL DISTRICT TOMBALL, TEXAS



KEY PLAN - LEVEL 2
N.T.S.

REGISTERED ARCHITECT CHRISTIN MARCUM STATE OF TEXAS 29484
07/24/2026

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FINISH PLAN - LEVEL 02 - AREA B

VOLUME 01

Job No. 0/0802-04-01	Sheet No. A4.2B
Drawn By: MA, AS	
Date: 07.15.26	

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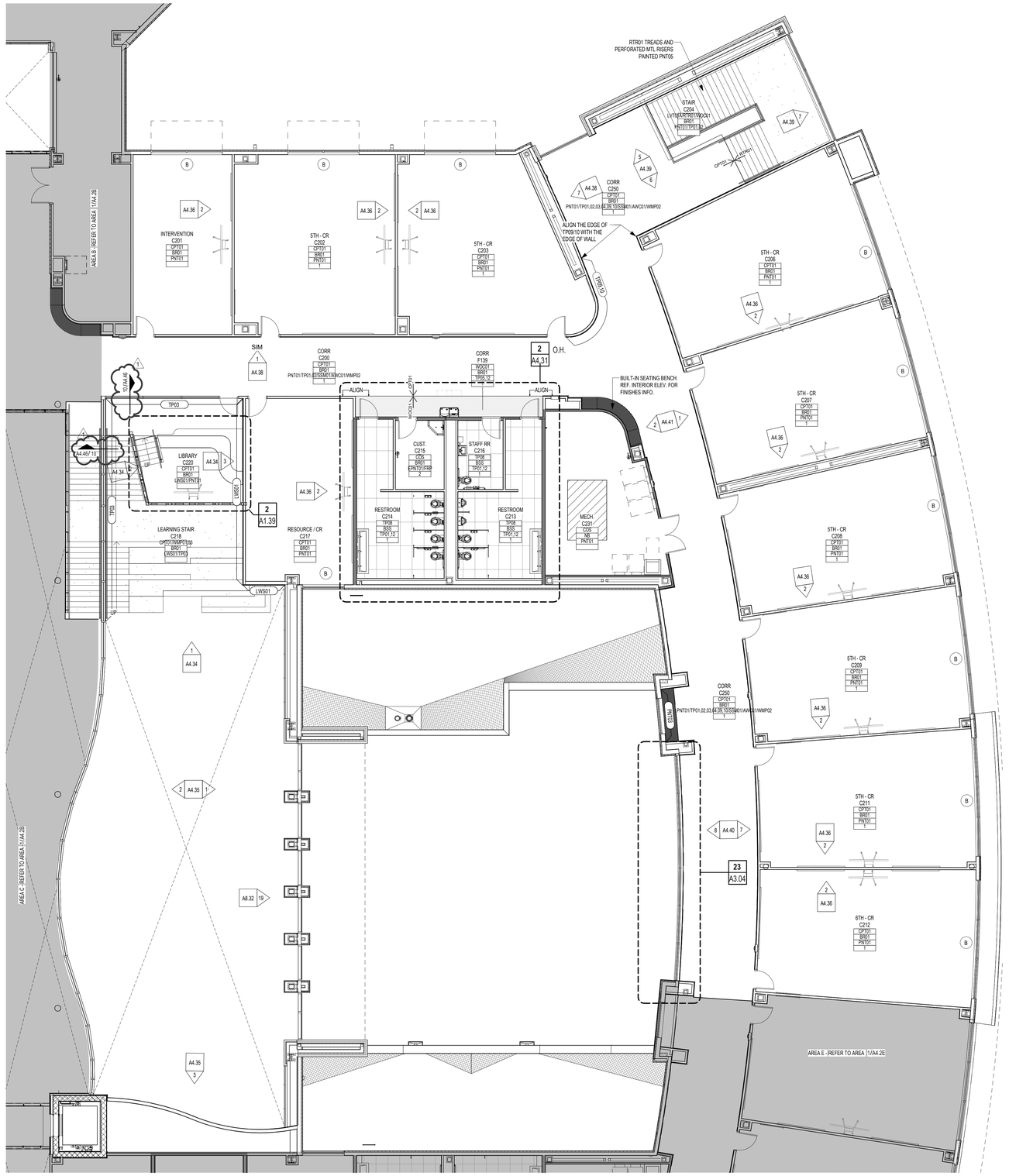

1 FINISH PLAN - LEVEL 02 - AREA C
1/8" = 1'-0"

FINISH PLAN LEGEND

APPLIES TO SECTION PLANS

- ELEVATION REFERENCE
- CALLOUT REFERENCE
- WALL SECTION REFERENCE
- B - HORIZONTAL BLINDS
  S - WINDOW SHADES
  SB - WINDOW SHADES - BLACKOUT
  SM - MOTORIZED SHADES
  SMB - MOTORIZED SHADES - BLACKOUT
- FLOOR INSTALLATION DIRECTION
- FLOOR TRANSITION
- WALL FINISH TAG
- EQUIPMENT TAG

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. **REF. INTERIOR ELEVATIONS FOR ADDITIONAL WALL FINISHES INFORMATION.**
2. **FRP PANEL BEHIND MOPSINK. REF. SHEET A1.31**

FINISH REMARKS

1. ALL DIMENSIONS SHOW ON FINISH FLOOR PLAN DRAWINGS ARE FROM FACE OF FINISH, U.N.O.
2. PROVIDE **PNT** AND **TP** (WAINSCOT) WALL FINISHES AS DEFINED ABOVE AND DETAILED ON INTERIOR ELEVATIONS.
3. PROVIDE 3/8" MIN SEALANT JOINT WHERE FULL HT TILE MEETS GYP CLG (MATCH CLG COLOR) OR LAY-IN GRID (WHITE)
4. PROVIDE SEALANT JTS @ INSIDE CORNERS OF TILED WALLS
5. VERIFY EXACT FLOOR TILE PATTERN FOR ALL TOILET ROOMS. COORDINATE WITH ARCHITECT.
6. FLOOR FINISH TRANSITION TO BE LOCATED AT THE MIDDLE OF THE DOOR THRESHOLD.
7. WALLS BEARING THIS DESIGNATION SHALL HAVE CONCRETE CURBS IN LOCATIONS AS SHOWN ON THE PLAN. REF 15/A9.01 AND 16/A9.01 FOR DETAILS.
8. PROVIDE CORNER GUARDS AT ALL MAIN CORRIDOR WALKWAYS AT GYP BD CORNERS. REF. DTL. 18/A4.44 INSTALL RUBBER BASE CONTINUOUS OVER THE BOTTOM OF CORNER GUARDS.
9. PROVIDE CORNER GUARDS AT ALL TILED WALL OUTSIDE CORNERS. REF. DTL. 17/A4.44
10. AT ALL BLIND LOCATIONS PROVIDE PUSH/PULL OPERATED. PROVIDE ADDITIONAL BLINDS AT ANY HORIZONTAL MULLION.
11. PROVIDE MOISTURE BASE GUARD TRIM AT ALL INTERIOR GYPSUM WALLS. REF. DTL. 11/A4.45
12. REFER TO DTL. 21/A4.44 AND 23/A4.44 FOR FLOOR TRANSITION THRESHOLD

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

REFER TO G5.01 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

CLASSROOM — ROOM NAME
025 — ROOM NUMBER

TYP FLOOR FINISH	LVT01
WALL BASE FINISH	BR01
TYP WALL FINISH	PNT01
REMARKS	1

*REMARKS NUMBERS COORDINATED WITH FINISH REMARKS LEGEND LOCATED ON ALL FINISH FLOOR PLAN SHEETS

REFER TO PROJECT SPECIFICATIONS SECTION 01 6210 FOR ADDITIONAL INFORMATION REGARDING FINISH MATERIALS AND PAINT FINISH CODES.

XY ## — XY: MATERIAL TYPE; ##: FINISH COLOR AND MATERIAL SIZE AS NOTED IN SPEC. SECTION 01 6210

ACMU - ARCHITECTURAL CONCRETE MASONRY UNIT
ACB - ACOUSTICAL CEILING BAFFLE
AL - ALUMINUM
AP - ACOUSTICAL PANELS
AWB - ACOUSTICAL WALL BAFFLE
AWC - ACOUSTICAL WALLCOVERING
BP - BASE, PORCELAIN TILE
BRES - BASE, RESINOUS INTEGRAL
BRK - BRICK
BR - BASE, RUBBER
BRV - BASE, RUBBER VENTED
BTC - BASE, TILE, CERAMIC
BTZ - BASE, TERRAZZO PRECAST
BWD - BASE, WOOD
CCPS - CERAMIC CLADDING PANEL SYSTEM
CDAP - CUSTOM DIGITALLY PRINTED ACOUSTIC PANEL
CDW - CUSTOM DIGITAL WALLCOVERINGS
CG - CORNER GUARD
COP - CONCRETE POLISHED
COS - CONCRETE SEALED
CPT - CARPET, SHEET
CS - CAST STONE
CSM - CONCRETE STONE MASONRY
CT - CARPET, TILED
CWF - CUSTOM WINDOW FILM
EBWS - EPOXY BASED WALL SYSTEM
EPNT - EPOXY PAINT
FRP - FIBERGLASS REINFORCED PLASTIC PANEL SYSTEM
GFRC - GLASS FIBER REINFORCED CONCRETE
GRF - GROUND FACE CMU (BURNISHED)
LVT - LUXURY VINYL TILE
LWS - LINEAR WALL SYSTEM
MB - MARKER BOARD
MCM - METAL COMPOSITE MATERIAL
MP - METAL WALL PANEL
MS - METAL SOFFIT
NB - NO BASE
NS - NATURAL STONE
PL - PLASTIC LAMINATE
PLP - PLASTIC LAMINATE PANEL SYSTEM
PNT - PAINT
QTZ - QUARTZ SURFACING
RAFF - RESILIENT ATHLETIC FLUID FLOORING
RAFP - RESILIENT ATHLETIC FLOORING POLYURETHANE
RAFS - RUBBER FLOORING SHEET
RAFV - RESILIENT ATHLETIC FLOORING VINYL
RES - RESINOUS FLOORING
RT - RUBBER TILE
RTR - RUBBER TREADS
SPEC - SPECIAL FINISHES, REF. ROOM FINISH SCHEDULE & INTERIOR ELEVATIONS
SPF - SPLIT-FACE CONCRETE MASONRY UNIT
SSM - SOLID SURFACE MATERIAL
STG - STAGE CURTAIN
SVT - SOLID VINYL TILE
TB - TACK BOARD
TC - TILE, CERAMIC
TP - TILE, PORCELAIN
TQ - TILE, QUARRY
TS - TACKABLE SURFACE
TZ - TERRAZZO
TZP - TERRAZZO, PRECAST STAIR TREADS AND RISERS
TZT - TERRAZZO TILE
UP - UPHOLSTERY
VCT - TILE, VINYL, COMPOSITION
VSF - VINYL SHEET FLOORING
WMP - WOOD (MAPLE) STRIP AND PLANK FLOORING
WMS - MASONITE WOOD FLOORING
WOC - WALK-OFF CARPET
WP - WALL PADDING

(NOT ALL ABBREVIATIONS MAY BE USED)

FINISH KEY

PLAN
N

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Revision / Date
1 Addendum 2
Date 2

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

KEY PLAN - LEVEL 2
N.T.S.

REGISTERED ARCHITECT CAITLIN MUNCH STATE OF TEXAS 29153
07/24/2026

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FINISH PLAN - LEVEL 02 - AREA C

VOLUME 01

Job No. 00802-04-01	Sheet No. A4.2C
Drawn By: MA, AS	
Date: 07.15.26	

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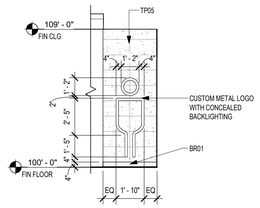
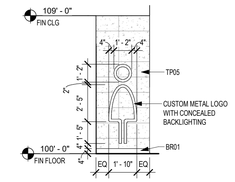
XXX **EQUIPMENT NUMBER**
REF. SCHEDULE ON A6 SHTS. FOR DESCRIPTION

COMMENTS:
1. REF. A6 EQUIPMENT PLANS FOR ALL EQUIPMENT TYPES AND SCHEDULES.

INTERIOR ELEVATION LEGEND



12 INTERIOR ELEVATION
1/4" = 1'-0"



11 INTERIOR ELEVATION
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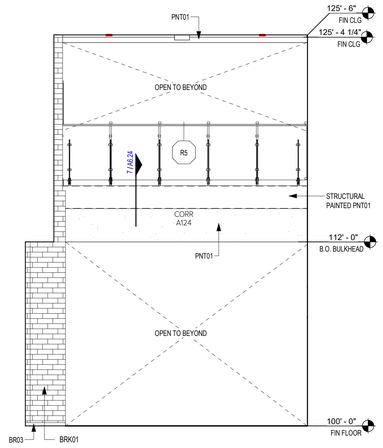
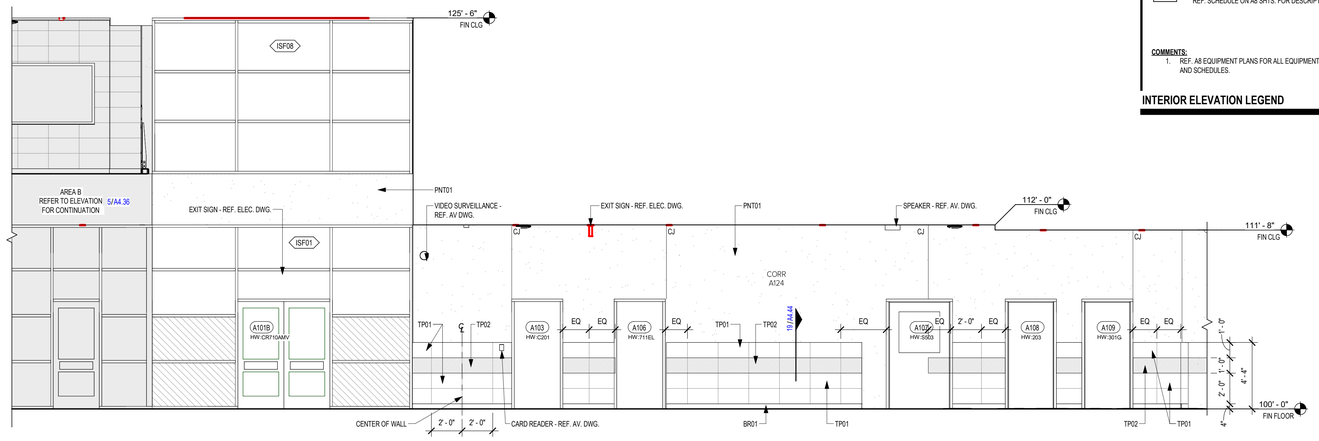
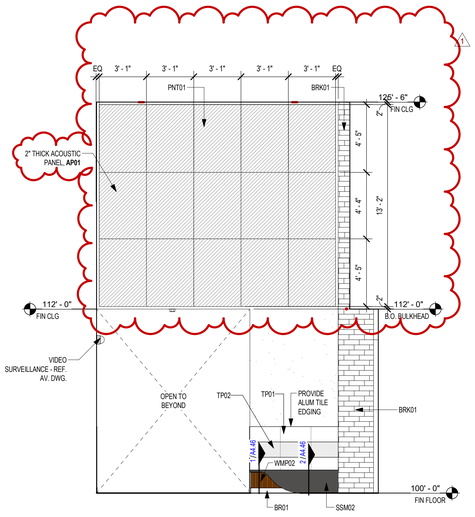


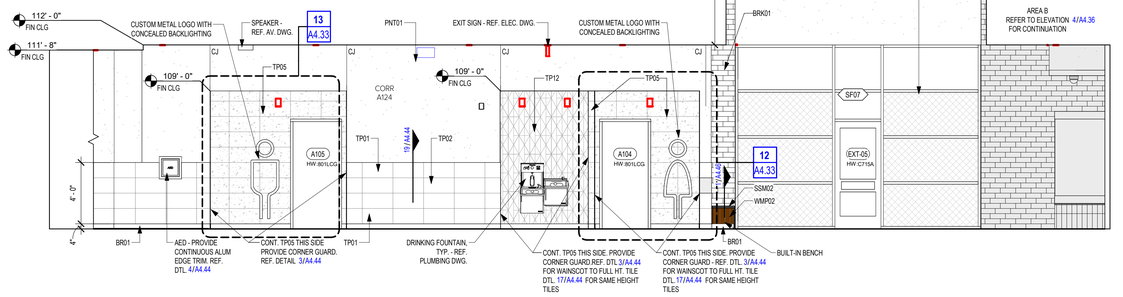
10 INTERIOR ELEVATION - CORRIDOR - SOUTH
1/4" = 1'-0"



9 INTERIOR ELEVATION - CORRIDOR - WEST
1/4" = 1'-0"

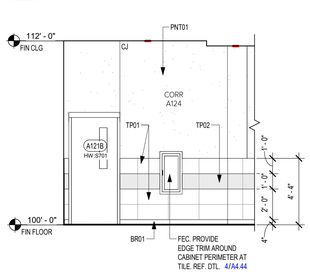


8 INTERIOR ELEVATION - CORRIDOR 124 AT BENCH
1/4" = 1'-0"



7 INTERIOR ELEVATION - CORRIDOR - EAST
1/4" = 1'-0"

6 INTERIOR ELEVATION - CORRIDOR - NORTH
1/4" = 1'-0"



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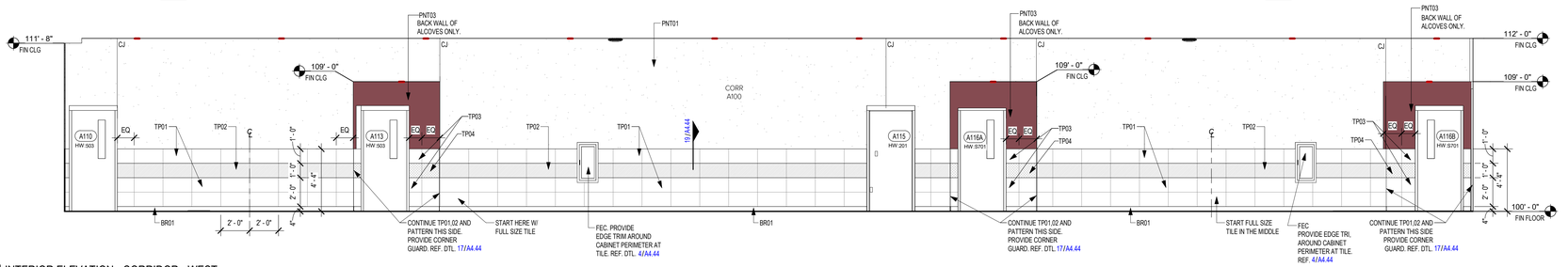
1/4" = 1'-0"



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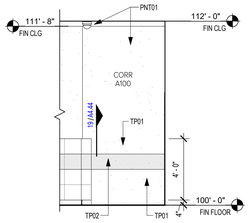
1/4" = 1'-0"



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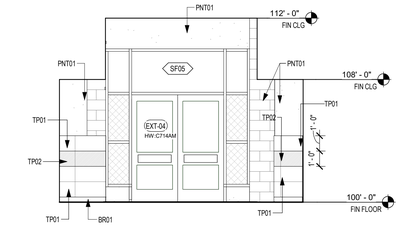
1/4" = 1'-0"



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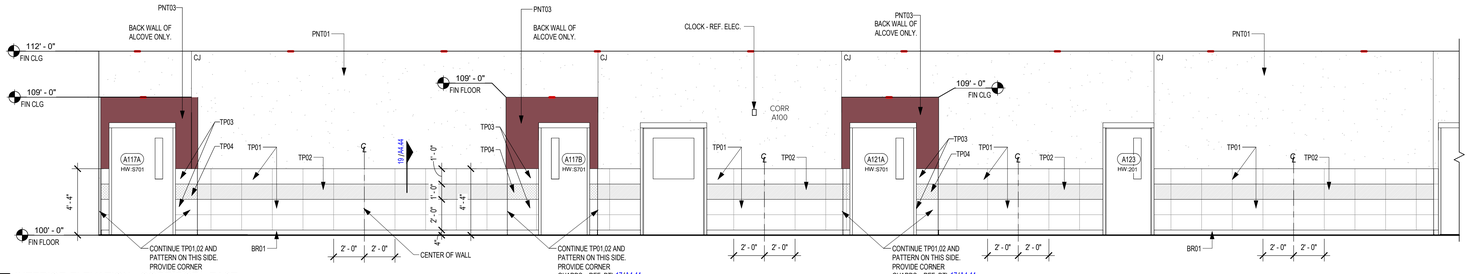
1/4" = 1'-0"



1 INTERIOR ELEVATION - CORRIDOR - EAST
1/4" = 1'-0"

Revision /	Date	
1	07/24/26	ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED ARCHITECT
CHRISTIN MINCHEW
STATE OF TEXAS
29454
07/24/2026

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INTERIOR ELEVATIONS

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Job No. 0/2602-04-01	Sheet No. A4.32
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Date: 07.15.26	

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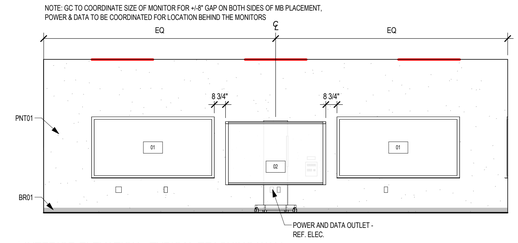

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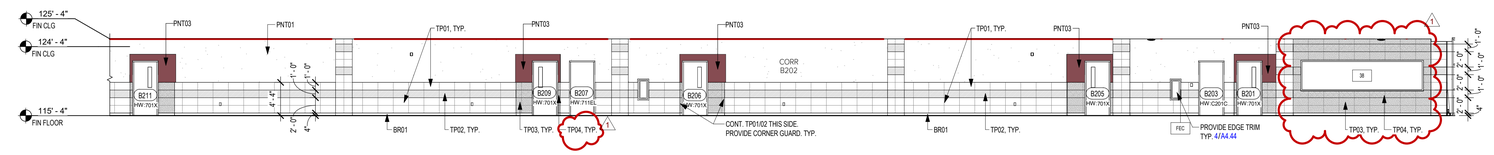
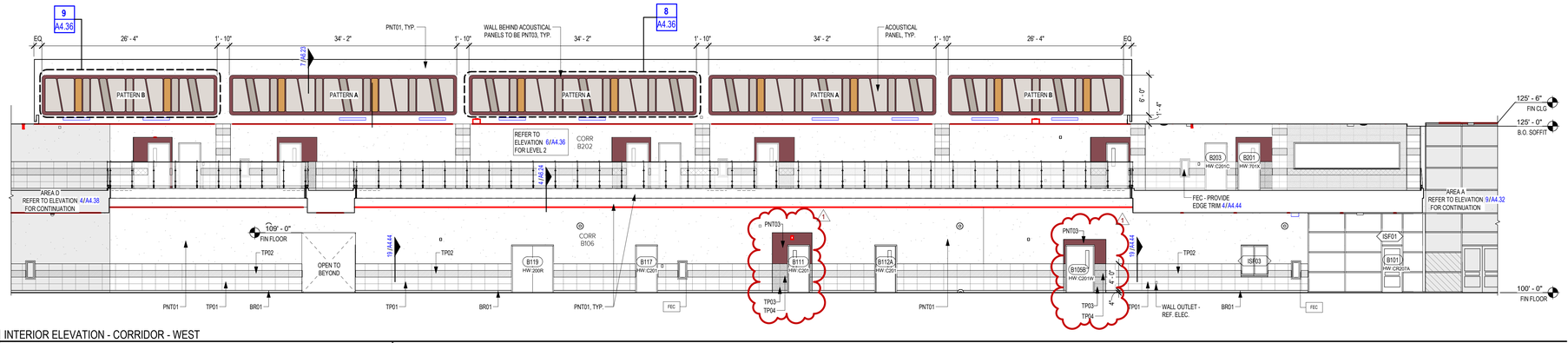
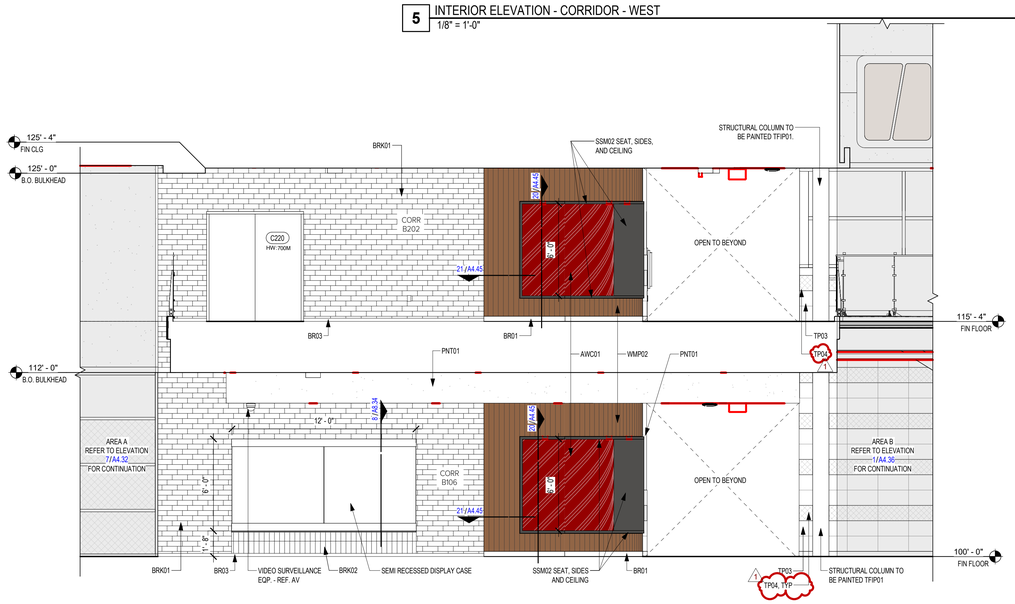


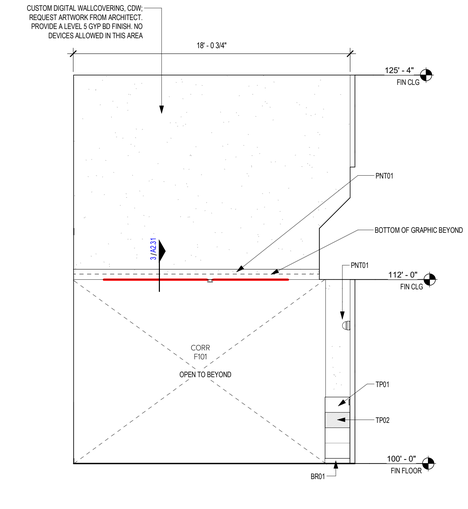
6 INTERIOR ELEVATION - CORRIDOR - WEST
1/8" = 1'-0"



5 INTERIOR ELEVATION - CORRIDOR - WEST
1/8" = 1'-0"



4 INTERIOR ELEVATION - CORRIDOR - EAST AT BENCH
1/4" = 1'-0"



7 INTERIOR ELEVATION - GRAPHIC
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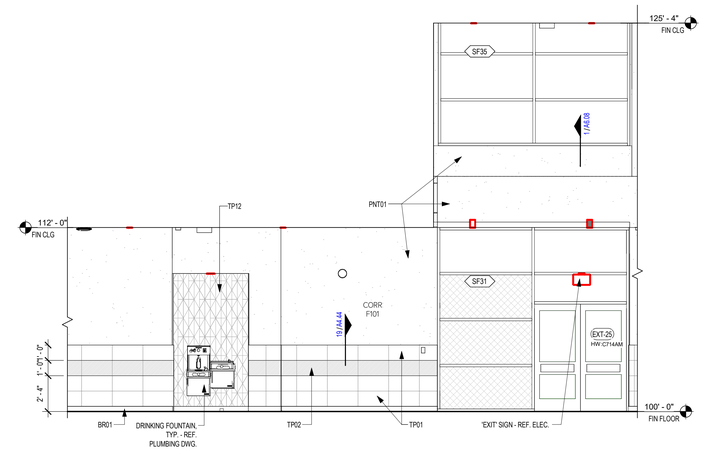
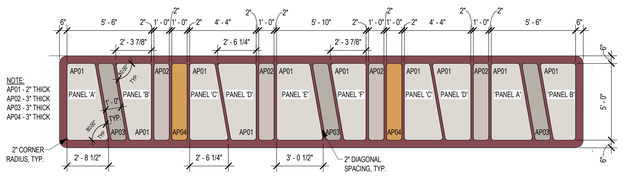
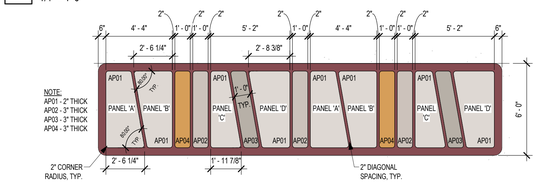


3 INTERIOR ELEVATION
1/4" = 1'-0"



8 ENLARGED ACOUSTICAL PANELS - PATTERN A
1/4" = 1'-0"



9 ENLARGED ACOUSTICAL PANELS - PATTERN B
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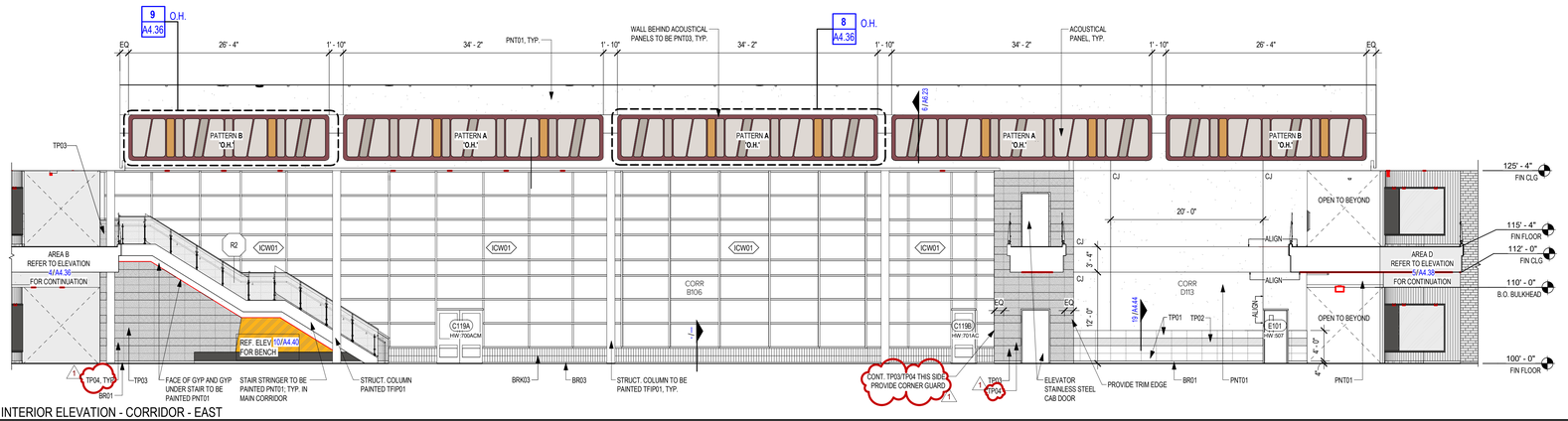

1 INTERIOR ELEVATION - CORRIDOR - EAST
1/8" = 1'-0"

Revision / 1 — Date 07/24/26 — ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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INTERIOR ELEVATIONS
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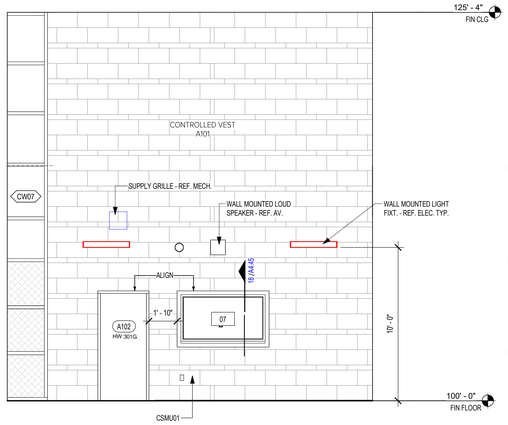

8 INTERIOR ELEVATION - VESTIBULE - NORTH
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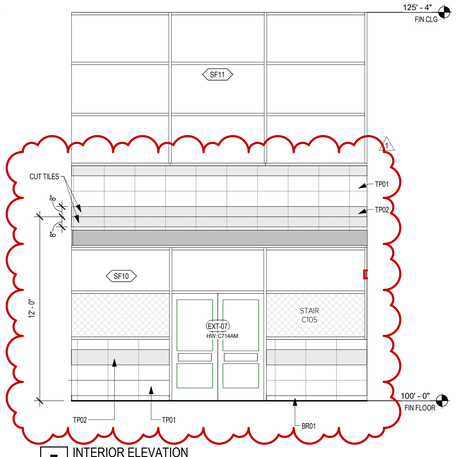

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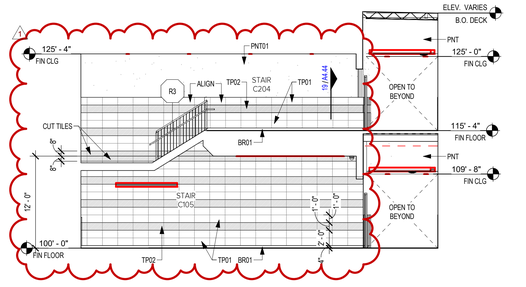
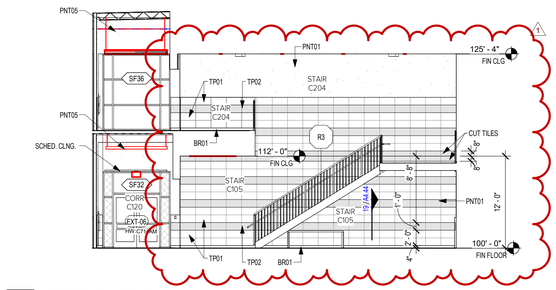
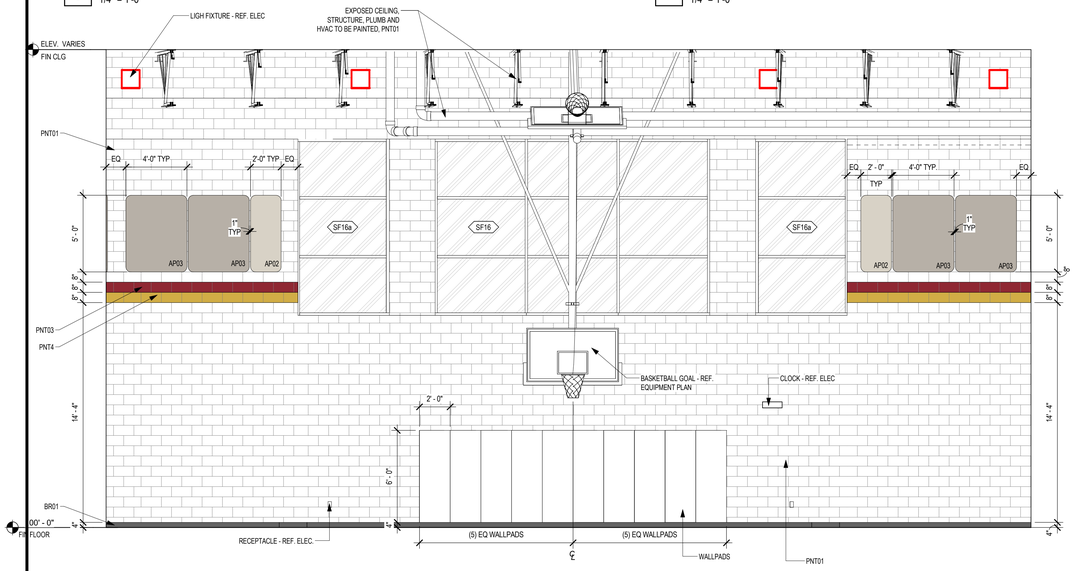
1/4" = 1'-0"



6 INTERIOR ELEVATION
1/8" = 1'-0"



5 INTERIOR ELEVATION
1/8" = 1'-0"



4 INTERIOR ELEVATION - GYM
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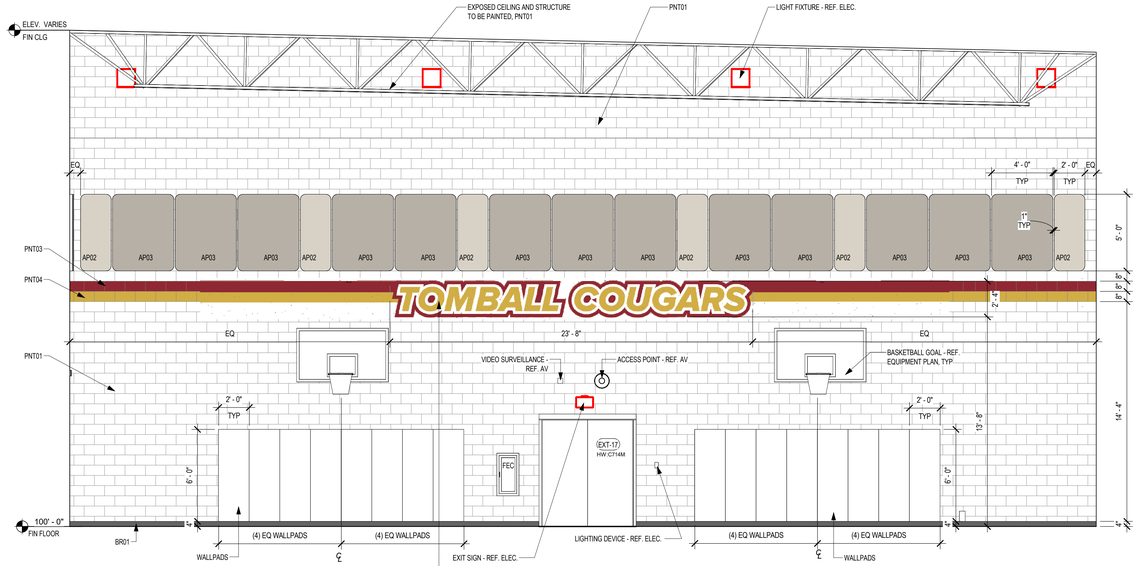

3 INTERIOR ELEVATION - GYM
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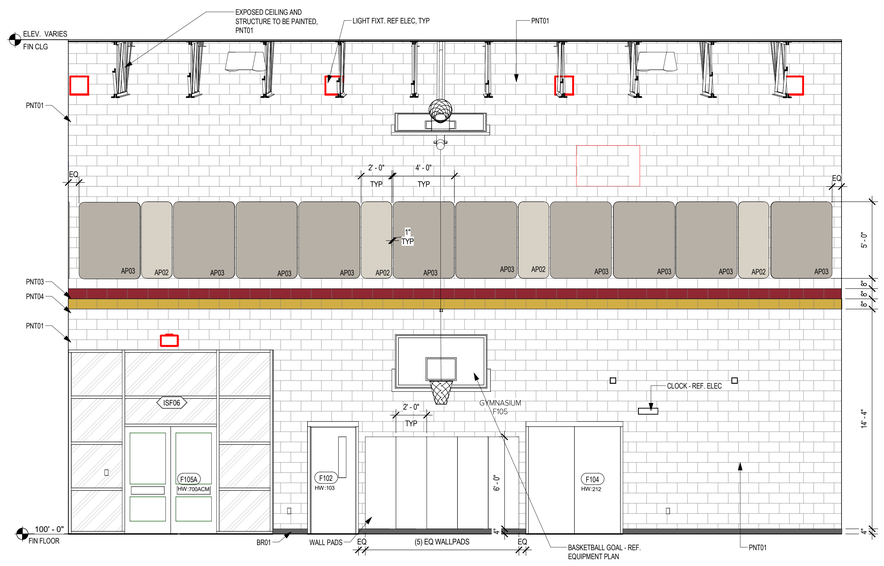

2 INTERIOR ELEVATION - GYM
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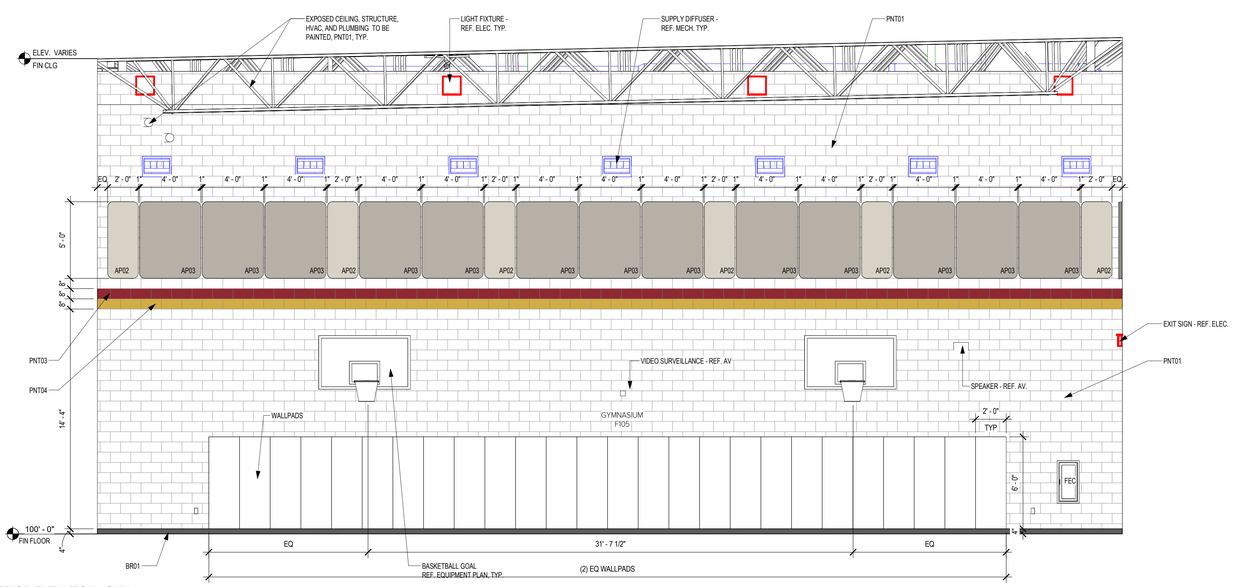

1 INTERIOR ELEVATION - GYM
1/4" = 1'-0"

Revision / 1 — Date 07/24/26 — ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
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TOMBALL, TEXAS

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29457
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INTERIOR ELEVATIONS
VOLUME 01

Job No. 03802-04-01	Sheet No. A4.39
Drawn By: MA, AS	
Date: 07.15.26	

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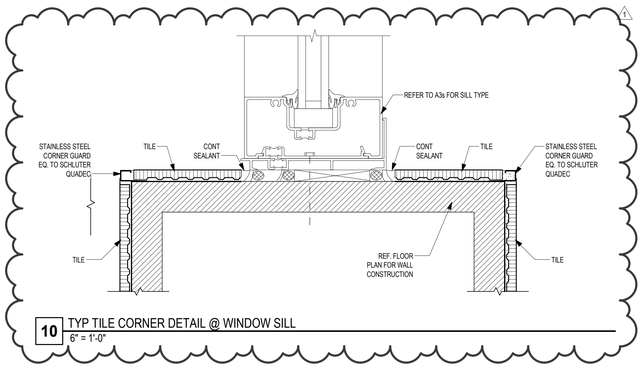
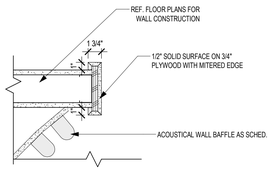
3D VIEW DISCLAIMER

Revision /	Date	
1	Date 2	Addendum 2

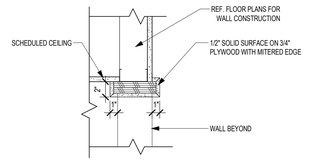
Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS



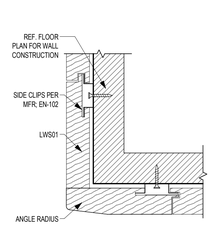
10 TYP TILE CORNER DETAIL @ WINDOW SILL
6" = 1'-0"



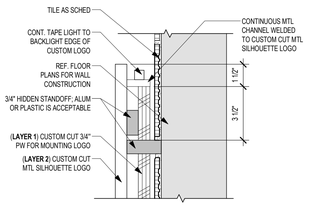
8 BENCH DETAIL WITH SOLID SURFACE
1 1/2" = 1'-0"



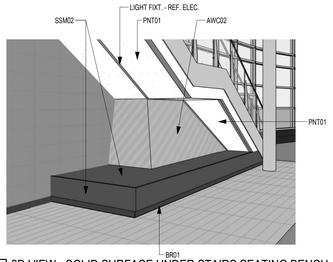
7 BENCH DETAIL WITH SOLID SURFACE
1 1/2" = 1'-0"



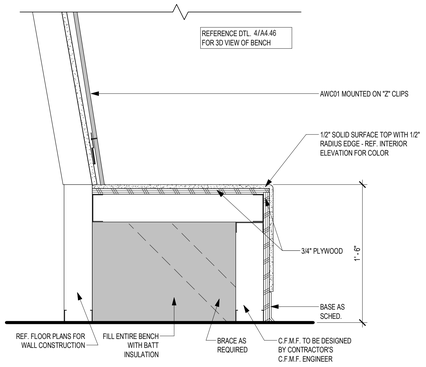
6 TYP LWS CORNER DETAIL
6" = 1'-0"



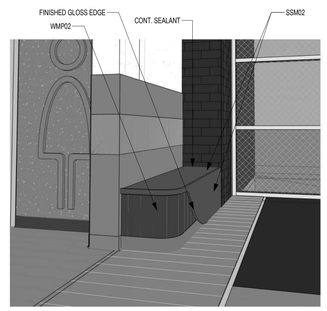
5 SECTION DTL - CUSTOM LOGO
3" = 1'-0"



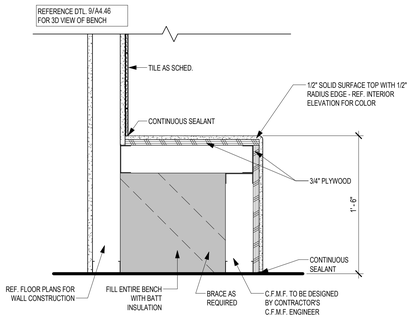
4 3D VIEW - SOLID SURFACE UNDER STAIRS SEATING BENCH



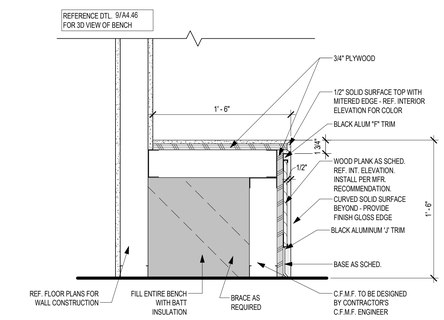
3 UNDER STAIRS SOLID SURFACE SEATING BENCH DETAIL
1 1/2" = 1'-0"



9 3D VIEW - SOLID SURFACE SEATING BENCH AREA A



2 BENCH DETAIL WITH SOLID SURFACE
1 1/2" = 1'-0"



1 BENCH DETAIL WITH SOLID SURFACE
1 1/2" = 1'-0"

REGISTERED ARCHITECT CAITLIN MUNCH STATE OF TEXAS
Caitlin Munch
07/24/2026

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INTERIOR FINISH DETAILS

VOLUME 01

Job No. 00802-04-01	Sheet No. A4.46
Drawn By: MA, AS	
Date: 07.15.26	

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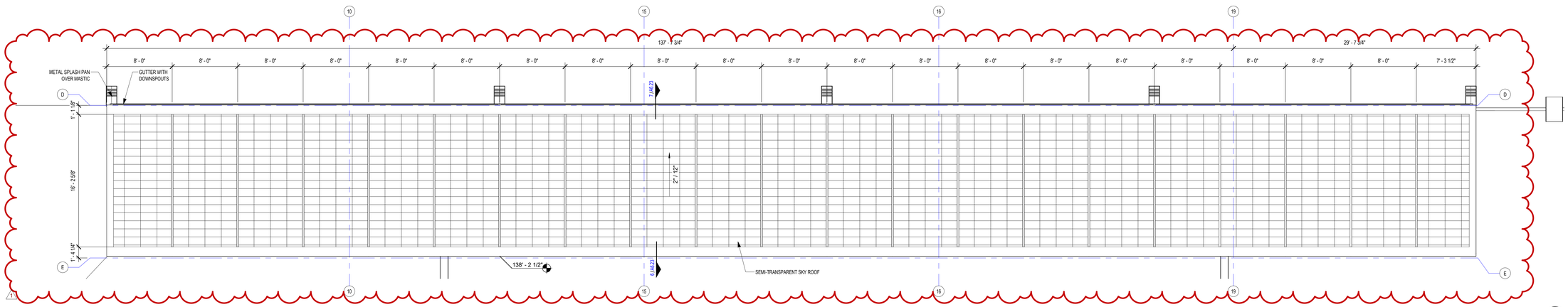
Revision /	Date	
1	07/24/26	ADDENDUM 01

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS



1 FLOOR PLAN - MAIN CLERESTORY
3/16" = 1'-0"

PLAN
N
TRUE

REGISTERED ARCHITECT
CAITLIN MUNCH
STATE OF TEXAS
07/24/2026

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ENLARGED PLAN - SKYLIGHT

VOLUME 01

Job No.	Sheet No.
00802-04-01	A7.02
Drawn By: MF	
Date: 07.15.26	

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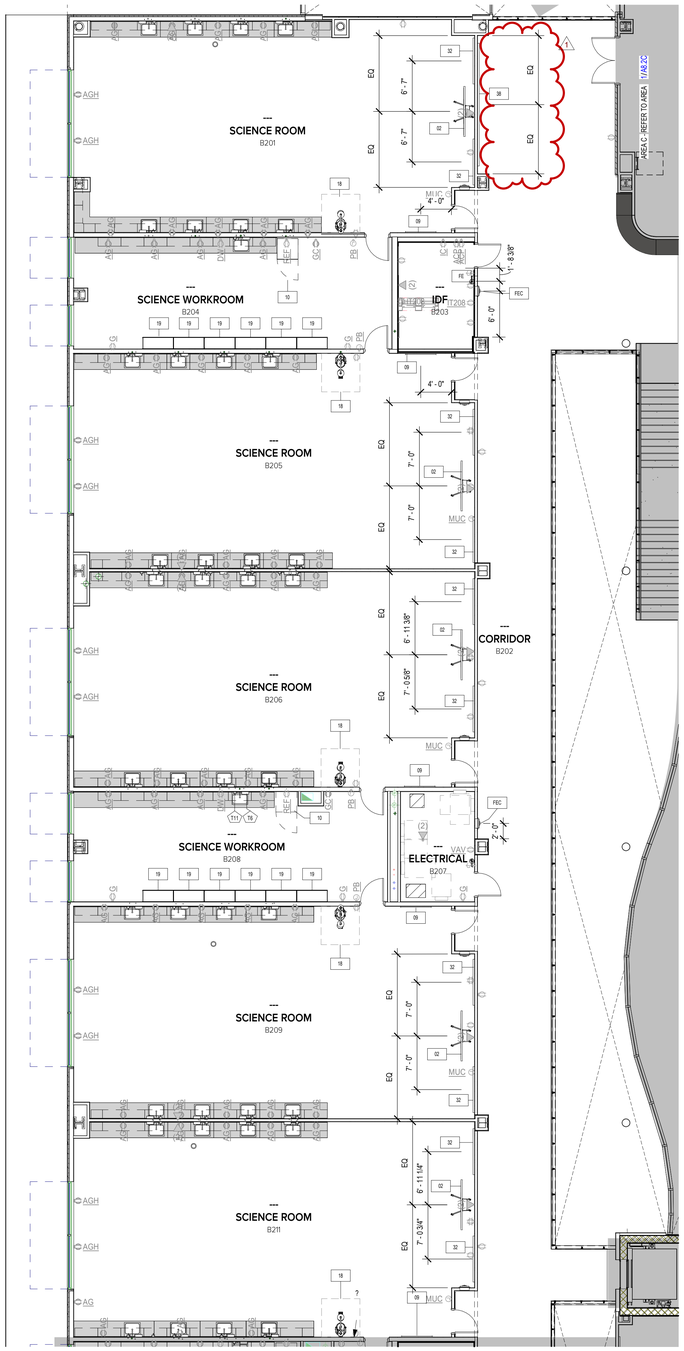
EQUIPMENT SCHEDULE - AREA B LEVEL 02

NUMBER	DESCRIPTION	MANUFACTURER	MODEL NO.	RESPONSIBILITY	COMMENTS
02	INTERACTIVE MONITOR ON WHEELS			OFOI	
10	REFRIGERATOR			OFCI	
18	BARRIER-FREE EMERGENCY SHOWER & EYEWASH	HAWS	8309WC	CFCI	
19	METAL UTILITY SHELVING			OFOI	48"W x 18"D x 84"H
32	6' MARKER BOARD			CFCI	
38	16' MARKER BOARD			CFCI	
FEC	RECESSED FIRE EXTINGUISHER			CFCI	



1 EQUIPMENT PLAN - LEVEL 02 - AREA B
1/8" = 1'-0"

EQUIPMENT PLAN LEGEND

XXX — **EQUIPMENT NUMBER** REF. SCHEDULE ON A8 SHTS. FOR DESCRIPTION

FB — **FLOOR BOX** REF. ELECTRICAL DRAWINGS

XX — **TOILET ACCESSORY NUMBER** REF. SCHEDULE ON A1.31 & A1.32 FOR DESCRIPTION

1.01 ROOM NAME 101 — **DISTRICT ROOM NUMBER** **DISTRICT ROOM NAME** CONSTRUCTION ROOM NUMBER

COMMENTS:
1. REF. ELECTRICAL SHEETS FOR POWER.
2. REF. FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT.
3. REF. THEATRICAL FOR PLATFORM EQUIPMENT.

GENERAL EQUIPMENT PLAN NOTES

1) TYPICAL PLUMBING FIXTURES & TOILET ACCESSORIES NOT NOTED ON THESE PLANS. SEE PLUMBING PLANS AND ENLARGED FLOOR PLANS FOR EXACT LOCATIONS AND TYPES OF TYPICAL PLUMBING FIXTURES & TOILET ACCESSORIES.

2) ALL N.I.C. TVS TO HAVE FIRE-RETARDANT TREATED PLYWOOD BLOCKING MOUNTED AT 60" O.C. A.F.F. REFER TO MEP FOR POWER AND DATA

3) REF. ENLARGED FLOOR PLANS FOR ALL RESTROOM FIXTURES AND ACCESSORIES.

4) ALL SHORT THROW PROJECTORS TO HAVE FIRE-RETARDANT TREATED PLYWOOD BLOCKING MOUNTED AT 8'-0" O.C. A.F.F. REFER TO MEP FOR POWER AND DATA MOUNTING HEIGHT.

5) REF. MEP SHEETS FOR ALL EQUIPMENT POWER, DATA, PLUMBING, AND MECHANICAL NEEDS.

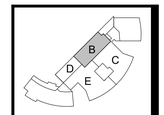
6) ALL METAL SHELVING TO BE OFOI.

7) GC TO PROVIDE INSTALLATION FOR (5) O.F.C.I. AED RECESSED CABINETS. OWNER TO CONFIRM LOCATIONS PRIOR TO WALL ERECTION.

8) GC TO PROVIDE INSTALLATION PROPER LOCATION AND CAVITY FOR SEMI - RECESSED CABINETS. OWNER TO CONFIRM LOCATIONS PRIOR TO WALL ERECTION.

Revision / Date
1 — ADDENDUM 01 — 07/24/26

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS



KEY PLAN - LEVEL 2
N.T.S.

07/24/2026

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SIGNAGE & EQUIPMENT PLAN - LEVEL 02 - AREA B

VOLUME 01

Job No.	Sheet No.
0/2602-04-01	A8.2B
Drawn By: CB	
Date: 07.15.26	

PLAN

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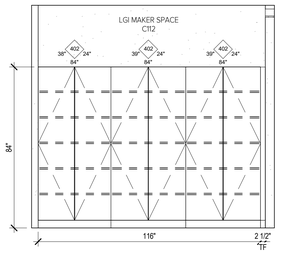
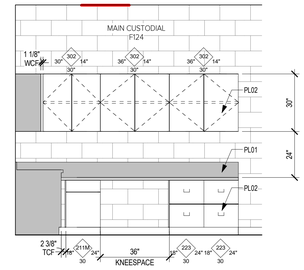


21 CASEWORK ELEVATION
3/8" = 1'-0"



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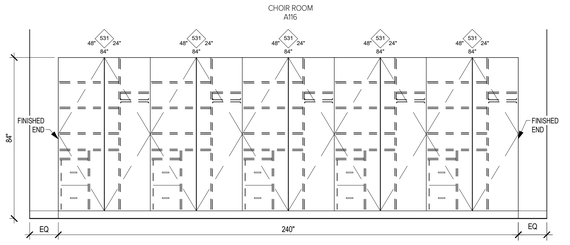

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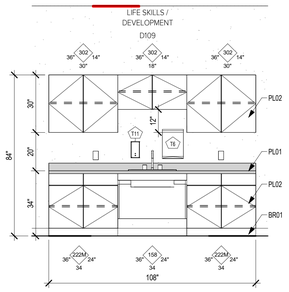
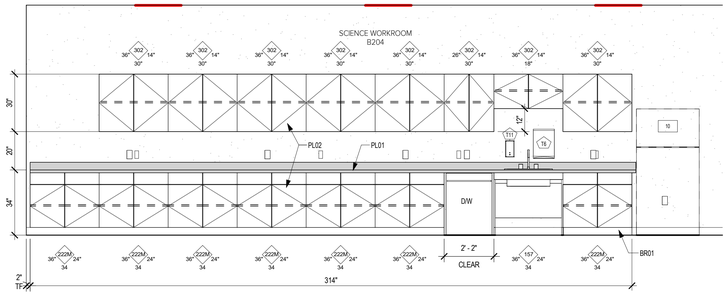
3/8" = 1'-0"



18 CASEWORK ELEVATION NORTH
3/8" = 1'-0"



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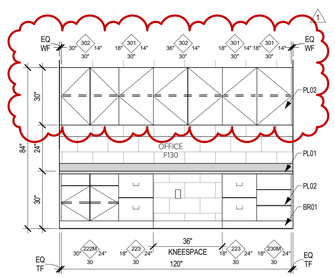

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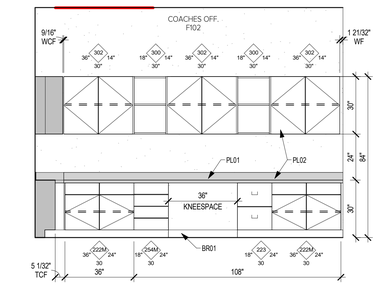
3/8" = 1'-0"



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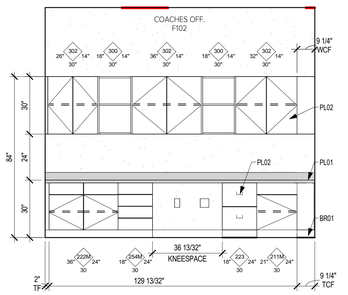

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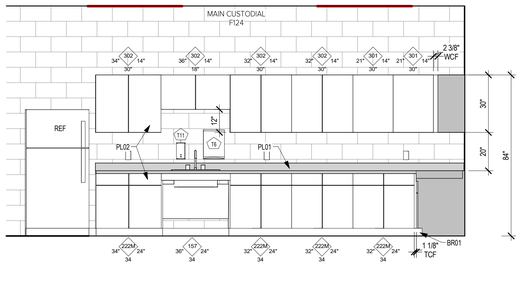

13 CASEWORK ELEVATION EAST
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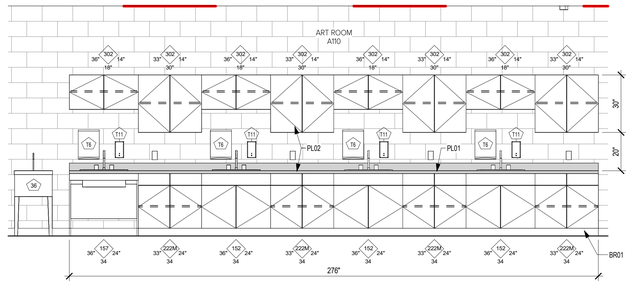

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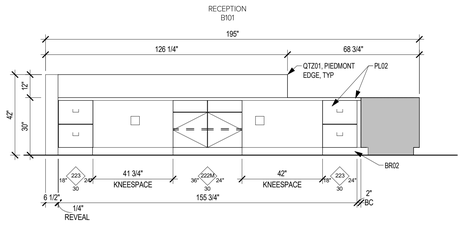
3/8" = 1'-0"



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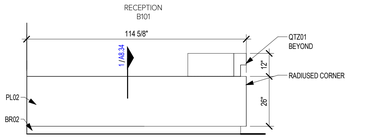

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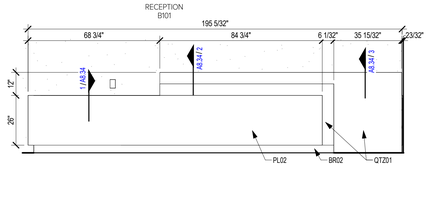

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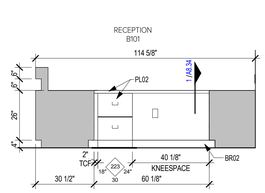

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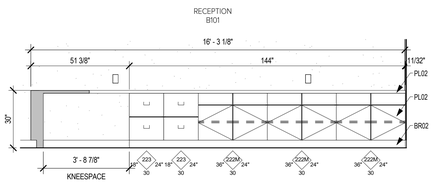

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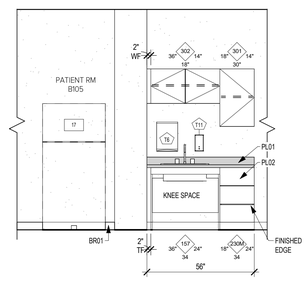
3/8" = 1'-0"



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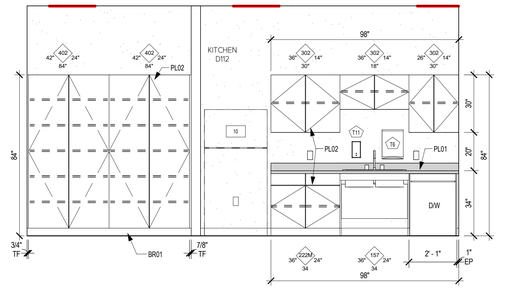

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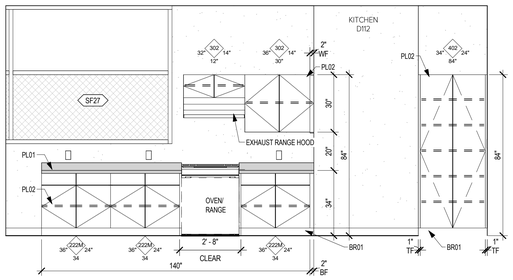

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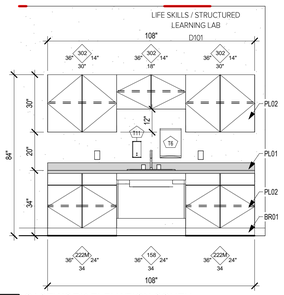

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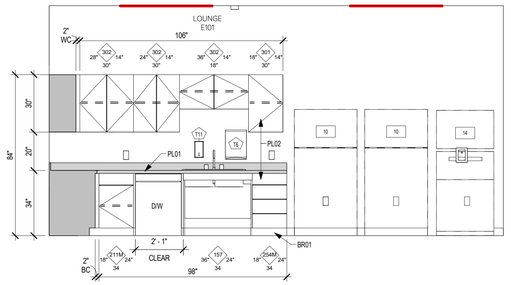

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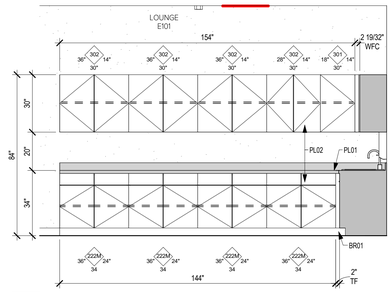

1 CASEWORK ELEVATION NORTH
3/8" = 1'-0"

Project:
TOMBALL INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

Revision / Date
1 ADDENDUM 01 07/24/26

REGISTERED ARCHITECT
CAITLIN MUNSON
STATE OF TEXAS
07/24/2026

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CASEWORK LEGENDS AND ELEVATIONS

VOLUME 01

Job No.	Sheet No.
00802-04-01	A8.33
Drawn By: CB, RS	
Date: 07.15.26	

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PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ROUGH-IN (MINIMUM) WASTE	VENT	DCW	DHW	ELEC	MANUFACTURER & MODEL NUMBER	ADA/TAS
WC1	WATERCLOSET, WALL MOUNT, FLUSHOMETER VALVE, TOP SPUD, ELONGATED, SIPHON ACTION JETTED BOWL, RATED FOR 1,000 LB STATIC LOAD, VITREOUS CHINA, WHITE, ASME A112.19.2M, 2" FULLY GLAZED TRAPWAY, 1.28 GPF.	4"	2"	-	-	-	AMERICAN STANDARD - 2257.101; OR EQUAL IN KOHLER OR SLOAN	
	FLUSHOMETER VALVE, 1.28 GPF, EXPOSED DIAPHRAGM TYPE, CHROME PLATED, 1 1/2" TOP SPUD, SPUD COUPLING AND FLANGE, OSCILLATING NON-HOLDING OPEN HANDLE, CHROME PLATED ANGLE STOP WITH STOP CAP, VACUUM BREAKER FLUSH CONNECTION, CAST WALL FLANGE WITH SET SCREW, ANSI/ASME 112.19.6. PROVIDE TRAP PRIMER ACCESSORY FOR FLUSH VALVES SERVING FLOOR DRAIN...	-	-	1-1/2"	-	-	SLOAN - 111-1.28-TP; OR EQUAL IN ZURN OR CHICAGO	
	SEAT, EXTRA HEAVY WEIGHT, POSTURE MOLDED SOLID PLASTIC, ELONGATED, OPEN FRONT, LESS...	-	-	-	-	-	CHURCH - 9500SSCT; OR EQUAL IN BEMIS OR OLSONITE	
	FIXTURE CARRIER, ADJ HEIGHT, FOOT/ANCHOR LEG SUPPORT, VERTICAL DISCHARGE, SINGLE/BACK TO BACK, RATED FOR 1000 LB STATIC LOAD	-	-	-	-	-	WATTS - ISCA-132/ISCA-132-D; ZURN - Z1202-N-XB/Z1202-ND-XB	
WC2	WATERCLOSET, WALL MOUNT, ACCESSIBLE MOUNTING HEIGHT, FLUSHOMETER VALVE, TOP SPUD, ELONGATED, SIPHON ACTION JETTED BOWL, RATED FOR 1,000 LB STATIC LOAD, VITREOUS CHINA, WHITE, ASME A112.19.2M, 2" FULLY GLAZED TRAPWAY, 1.28 GPF.	4"	2"	-	-	-	AMERICAN STANDARD - 2257.101; OR EQUAL IN KOHLER OR SLOAN	
	FLUSHOMETER VALVE, 1.28 GPF, EXPOSED DIAPHRAGM TYPE, CHROME PLATED, 1 1/2" TOP SPUD, SPUD COUPLING AND FLANGE, OSCILLATING NON-HOLDING OPEN HANDLE, CHROME PLATED ANGLE STOP WITH STOP CAP, VACUUM BREAKER FLUSH CONNECTION, CAST WALL FLANGE WITH SET SCREW, ANSI/ASME 112.19.6. PROVIDE TRAP PRIMER ACCESSORY FOR FLUSH VALVES SERVING FLOOR DRAIN...	-	-	1-1/2"	-	-	SLOAN - 111-1.28-TP; OR EQUAL IN ZURN OR CHICAGO	X
	SEAT, EXTRA HEAVY WEIGHT, POSTURE MOLDED SOLID PLASTIC, ELONGATED, OPEN FRONT, LESS...	-	-	-	-	-	CHURCH - 9500SSCT; OR EQUAL IN BEMIS OR OLSONITE	
	FIXTURE CARRIER, ADJ HEIGHT, FOOT/ANCHOR LEG SUPPORT, VERTICAL DISCHARGE, SINGLE/BACK TO BACK, RATED FOR 1000 LB STATIC LOAD	-	-	-	-	-	WATTS - ISCA-132/ISCA-132-D; ZURN - Z1202-N-XB/Z1202-ND-XB	
U1	URINAL, 0.125 GPF, WALL MOUNT, VITREOUS CHINA, 14" EXTENDED FLUSHING RIM, WASHOUT FLUSHING ACTION, 3/4" INLET SPUD, INLET AND OUTLET SPUDS AND HANGERS, ASME/ANSI A112.19.2. REFER TO ARCHITECTURAL DRAWING FOR MOUNTING HEIGHT.	2"	2"	-	-	-	AMERICAN STANDARD - 6590.001; ZURN - Z5755-U	
	FLUSHOMETER VALVE, 0.5 GPF, EXPOSED DIAPHRAGM-TYPE, CHROME PLATED, 3/4" TOP SPUD, SPUD COUPLING AND FLANGE, NON-HOLD OPEN HANDLE, CHROME PLATED ANGLE STOP WITH STOP CAP, VACUUM BREAKER FLUSH CONNECTION, CAST WALL FLANGE WITH SET SCREW, ANSI/ASME 112.19.6. PROVIDE TRAP PRIMER ACCESSORY FOR FLUSH VALVES SERVING FLOOR DRAIN TRAP (REFER TO FLOOR PLANS FOR EXACT LOCATION/QUANTITY).	-	-	3/4"	-	-	SLOAN, 186-0.5-TP; OR EQUAL IN ZURN OR CHICAGO	X
	FIXTURE CARRIER, HANGER AND BEARING PLATES, ADJ. SUPPORTING RODS, UPRIGHTS, WELDED FEET	-	-	-	-	-	JOSAM - 17560-UR; OR EQUAL IN WATTS OR ZURN	
L1	LAVATORY, 20"X18" VITREOUS CHINA WALL MOUNT, 4" CENTER FAUCET HOLES, FRONT OVERFLOW, CONCEALED ARM CARRIER SYSTEM, DECK MOUNTED FAUCET, INTEGRAL 4" BACKSPLASH, ANSI A112.19.2. REFER TO ARCHITECTURAL DRAWING FOR MOUNTING HEIGHT.	2"	1 1/2"	-	-	-	AMERICAN STANDARD, 0355.012; KOHLER, K-2005	
	FAUCET, DECK MOUNT, BATTERY PROXIMITY WITH DUAL BEAM INFRARED SENSOR, CHROME PLATED FINISH, CAST BRASS SPOUT, SINGLE CENTER HOLE INSTALLATION, CONCEALED INTERNAL TEMPERATURE CONTROL MIXER	-	-	-	1/2"	-	SLOAN SF-2350-EAF-15; OR EQUAL IN ZURN OR CHICAGO	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LF2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE - 8902C; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	OFFSET TAILPIECE AND STRAINER, CHROME PLATED CAST BRASS	-	-	-	-	-	MCGUIRE - 155WC; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	FIXTURE CARRIER, CONCEALED ARMS, LEVELING AND SECURING SCREWS, UPRIGHTS, WELDED FEET	-	-	-	-	-	JOSAM - 17100; OR EQUAL IN WATTS OR ZURN	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
WS1	WALL MOUNTED LAVATORY SYSTEM, 2-STATION, SOLID SURFACE SINK, COORDINATE FINISH WITH ARCHITECT PRIOR TO ORDERING	2"	1 1/2"	-	-	-	SLOAN - SLOANSTONE ELRF-82000	
	DECK MOUNTED FAUCET, AUTOMATIC, HARDWIRED-POWERED, .5 GPM	-	-	-	1/2"	110V	SLOAN - EAF-100	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LF2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE - 8902C; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	OFFSET TAILPIECE AND STRAINER, CHROME PLATED CAST BRASS	-	-	-	-	-	MCGUIRE - 155WC; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
WS2	WALL MOUNTED LAVATORY SYSTEM, 3-STATION, SOLID SURFACE SINK, COORDINATE FINISH WITH ARCHITECT PRIOR TO ORDERING	2"	1 1/2"	-	-	-	SLOAN - SLOANSTONE ELRF-83000	
	DECK MOUNTED FAUCET, AUTOMATIC, HARDWIRED-POWERED, .5 GPM	-	-	-	1/2"	110V	SLOAN - EAF-100	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LF2165CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE - 8902C; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	OFFSET TAILPIECE AND STRAINER, CHROME PLATED CAST BRASS	-	-	-	-	-	MCGUIRE - 155WC; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
S1	CHROMIUM PLATED BRASS ANGLE SUPPLY WITH 1/2" OD X 12" FLEXIBLE RISER, 3/8" IPS X 1/2" OD QUARTER TURN STOP, ESCUTCHEON; CHROMIUM PLATE ALL METAL PARTS	2"	1 1/2"	-	-	-	ELKAY - 14-1C16X20-0X; OR APPROVED EQUAL	
	FAUCET, CHROME PLATED SWING SPOUT, 1/2" IPS INLETS, 6" WRIST BLADES	-	-	1/2"	1/2"	-	T&S BRASS - 0331-BWH6; OR APPROVED EQUAL	
	CHROMIUM PLATED BRASS ANGLE SUPPLY WITH 1/2" OD X 12" FLEXIBLE RISER, 3/8" IPS X 1/2" OD QUARTER TURN STOP, ESCUTCHEON; CHROMIUM PLATE ALL METAL PARTS	-	-	-	-	-	MCGUIRE - LFBV02; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, 17 GA., END-OUTLET CONTINUOUS WASTE	-	-	-	-	-	MCGUIRE - 8912C/111C16G20; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST - J-ADA-35; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS, LFUSG-B; LEONARD, 270-LF; OR APPROVED EQUAL	
	PLASTER TRAP, CAST IRON, 2-INCH INLET AND OUTLET, SCREENED OUTLET	-	-	-	-	-	ZURN - Z1180; OR APPROVED EQUAL	
S2	SINK, SINGLE COMPARTMENT, 25"x19-1/2"x6", ACCESSIBLE, DROP-IN, #18 GAUGE TYPE 304 STAINLESS STEEL, VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, BOTTOM SOUND DEADENING PADS, ANSI A112.19.3M, REAR CENTER DRAIN	2"	1 1/2"	-	-	-	ELKAY - LFRAD251960; OR EQUAL IN JUST MFG	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, RIGID SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4 TURN 4" WRIST BLADE HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 2.2 GPM MAX. FLOW RATE	-	-	1/2"	1/2"	-	T&S BRASS - B-0892; OR APPROVED EQUAL	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LFH2167CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, 17 GA., END-OUTLET CONTINUOUS WASTE	-	-	-	-	-	MCGUIRE - 8912C/111C16G20; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST - J-ADA-35; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
S3	SINK, SINGLE COMPARTMENT, 25"x19-1/2"x6", ACCESSIBLE, DROP-IN, #18 GAUGE TYPE 304 STAINLESS STEEL, VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, BOTTOM SOUND DEADENING PADS, ANSI A112.19.3M, REAR CENTER DRAIN	2"	1 1/2"	-	-	-	ELKAY - LFRAD251960; OR EQUAL IN JUST MFG	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, RIGID SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4 TURN 4" WRIST BLADE HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 2.2 GPM MAX. FLOW RATE	-	-	1/2"	1/2"	-	T&S BRASS - B-0892; OR APPROVED EQUAL	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LFH2167CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, 17 GA., END-OUTLET CONTINUOUS WASTE	-	-	-	-	-	MCGUIRE - 8912C/111C16G20; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST - J-ADA-35; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
S4	SINK, DOUBLE COMPARTMENT, 29"x22"x6", ACCESSIBLE, DROP-IN, #18 GAUGE TYPE 304 STAINLESS STEEL, VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, BOTTOM SOUND DEADENING PADS, 3-FAUCET HOLES, 8-INCH CENTERS, ANSI A112.19.3M, REAR CENTER DRAIN	2"	1 1/2"	-	-	-	ELKAY - LRADQ292260; OR EQUAL IN JUST MFG	
	FAUCET, DECK MOUNT, CHROME PLATED BRASS, RIGID SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4 TURN 4" WRIST BLADE HANDLES, 4" CENTERS, NSF 61 COMPLIANT, ANSI A112.18.1M, 2.2 GPM MAX. FLOW RATE	-	-	1/2"	1/2"	-	T&S BRASS - B-0892; OR APPROVED EQUAL	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LFH2167CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, 17 GA., END-OUTLET CONTINUOUS WASTE	-	-	-	-	-	MCGUIRE - 8912C/111C16G20; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST - J-ADA-35; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
S5	SINK, SINGLE COMPARTMENT, 25"x19-1/2"x6", ACCESSIBLE, DROP-IN, #18 GAUGE TYPE 304 STAINLESS STEEL, VERTICAL AND HORIZONTAL RADIUS BASIN CORNERS, BOTTOM SOUND DEADENING PADS, ANSI A112.19.3M, REAR CENTER DRAIN	2"	1 1/2"	-	-	-	ELKAY - LFRAD251960; OR EQUAL IN JUST MFG	
	MIXING FAUCET, DECK MOUNT, CHROME PLATED BRASS, 6" RIGID SWING GOOSENECK SPOUT, TWO-HANDLE, 1/4-TURN 4" WRIST BLADE HANDLES, VACUUM BREAKER, ASME A112.18.1M	-	-	1/2"	1/2"	-	WATER SAVER - LF414VB-BH	
	SUPPLY AND STOPS, LOOSE KEY, CHROME PLATED BRASS VALVES AND CHROME PLATED COPPER RISERS, LEAD FREE	-	-	-	-	-	MCGUIRE - LFH2167CCLK; OR EQUAL IN T&S BRASS OR BRASSCRAFT	X
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, 17 GA., END-OUTLET CONTINUOUS WASTE	-	-	-	-	-	MCGUIRE - 8912C/111C16G20; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	TAILPIECE AND FORGED STAINLESS STEEL BASKET STRAINER	-	-	-	-	-	JUST - J-ADA-35; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	THERMOSTATIC MIXING VALVE, 0.25 GPM MINIMUM FLOW, INTEGRAL INLET CHECK VALVES AND STRAINER, SET TEMPERATURE TO 105°, ASSE 1070.	-	-	1/2"	1/2"	-	WATTS - LFUSG-B; LEONARD - 270-LF; OR APPROVED EQUAL	
MSB1	MOP SINK BASIN, ONE PIECE-PRECAST TERRAZZO 32"x32"x12" NEO-CORNER SINK (1 1/4" WALL THICKNESS WITH MINIMUM 9.75" INSIDE DEPTH), 6" DROP FRONT, STAINLESS STEEL WALL GUARDS, STAINLESS STEEL DRAIN ASSEMBLY AND STRAINER PLATE	3"	2"	-	-	-	FIAT - TSBC1611; OR APPROVED EQUAL	
	FAUCET, EXPOSED YOKE, WALL MOUNTED UTILITY FAUCET, VACUUM BREAKER, 6"THREADED SPOUT	-	-	3/4"	3/4"	-	FIAT - 830-AA; OR APPROVED EQUAL	
	24"x3" STAINLESS STEEL MOP BRACKET WITH THREE RUBBER TOOL GRIPS	-	-	-	-	-	FIAT - 889-CC; OR APPROVED EQUAL	
	30" RUBBER HOSE (5/8"), CHROME COUPLING 1 END, 5"x3" STAINLESS STEEL BRACKET W/ RUBBER GRIP	-	-	-	-	-	FIAT - 832-AA; OR APPROVED EQUAL	
	ALUMINUM BUMPER GUARD ON LEADING EDGE OF MOP SINK BASIN	-	-	-	-	-	FIAT - E-77-AA; OR APPROVED EQUAL	
MSB2	MOP SINK BASIN, ONE PIECE-PRECAST TERRAZZO 24"x24"x12" (1 1/4" WALL THICKNESS WITH MINIMUM 9.75" INSIDE DEPTH) 6" DROP FRONT, STAINLESS STEEL EDGE CAPS ON ALL SIDES, STAINLESS STEEL WALL GUARDS, CAST BRASS DRAIN WITH STAINLESS STEEL STRAINER	3"	2"	-	-	-	FIAT - TSB3000; OR APPROVED EQUAL	
	FAUCET, EXPOSED YOKE, WALL MOUNTED UTILITY FAUCET, VACUUM BREAKER, 6"THREADED SPOUT	-	-	1/2"	1/2"	-	FIAT - 830-AA; OR APPROVED EQUAL	
	24"x3" STAINLESS STEEL MOP BRACKET WITH THREE RUBBER TOOL GRIPS	-	-	-	-	-	FIAT - 889-CC; OR APPROVED EQUAL	
	30" RUBBER HOSE (5/8"), CHROME COUPLING 1 END, 5"x3" STAINLESS STEEL BRACKET W/ RUBBER GRIP	-	-	-	-	-	FIAT - 832-AA; OR APPROVED EQUAL	
	ALUMINUM BUMPER GUARD ON LEADING EDGE OF MOP SINK BASIN	-	-	-	-	-	FIAT - E-77-AA; OR APPROVED EQUAL	
EWS1	EMERGENCY EYEWASH/SHOWER COMBINATION, RECESSED, BARRIER FREE, WALL MOUNTED WITH EXPOSED SHOWER HEAD, DRAIN PAN WITH DIRECT DRAIN, TSMV, SCHEDULE 40 GALVANIZED STEEL PIPING AND FITTINGS, 10" DIA. STAINLESS STEEL DELUGE SHOWER HEAD, STAINLESS STEEL EYEWASH BOWL, PULL ROD OPERATED, ANTI SQUIRT EYEWASH HEADS, PUSH FLAG, STAY OPEN BALL VALVES, ELECTRIC LIGHT AND ALARM HORN.	-	-	1 1/4"	1"	-	GUARDIAN - GBF2170-G6044-AP250-018SS-AP280-235; OR APPROVED EQUAL	X
HS1	COMMERCIAL HAND SINK, WALL MOUNTED, 14"X10"X5", STAINLESS STEEL WITH BASKET DRAIN, GOOSENECK FAUCET	2"	1 1/2"	3/4"	3/4"	-	ADVANCE TABCO - 7-PS-54; OR APPROVED EQUAL	

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ROUGH-IN (MINIMUM) WASTE	VENT	DCW	DHW	ELEC	MANUFACTURER & MODEL NUMBER	ADA/TAS
EWC1	TWO STATION WATER COOLER WITH BOTTLE FILLER ON LOW SIDE, INDOOR BI-LEVEL WALL MOUNTED, SELF-CONTAINED ELECTRIC REFRIGERATION, STAINLESS STEEL BASIN AND CABINET WITH ANTI-SPLASH RIDGE, INTEGRAL DRAIN STRAINER, NON-SQUIRT BUBBLER, PUSH BAR ACTIVATION ON FRONT AND SIDES OF WATER COOLER. REFRIGERATION SYSTEM SERVING BOTH BI-LEVELS TO INCLUDE HIGH EFFICIENCY COMPRESSOR, R-134A, FULLY INSULATED STAINLESS STEEL TANK, 8 GPH WITH 50°F SUPPLY TEMPERATURE AND 80°F AMBIENT, 115VOLT. ANSI 117.1, NFS/ANSI 61, ARI STANDARD 1010	2"	1-1/2"	1/2"	-	120V	HALSEY TAYLOR - HTHBHVR8BL; OR APPROVED EQUAL	X
	ACCESSIBLE APRON, MOLDED STAINLESS STEEL SKIRT KIT FOR INSTALLATION ON THE HIGH UNIT	-	-	-		-	ELKAY - 98324C; OR APPROVED EQUAL	
	FIXTURE CARRIER, STEEL TOP AND BOTTOM PLATES W/ ADJ. HOLES, CHROME PLATED CAP NUTS/WASHERS	-	-	-	-	-	ELKAY - MLP200; OR APPROVED EQUAL	
	SUPPLY AND STOP, LOOSE KEY, CHROME PLATED BRASS VALVE AND 12-INCH STAINLESS STEEL BRAIDED RISER, LEAD FREE	-	-	-	-	-	MCGUIRE - LF2165CCLKSS12; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
	P-TRAP, CHROME PLATED CAST BRASS BODY WITH CLEANOUT, SEAMLESS WALL BEND, 17 GA.	-	-	-	-	-	MCGUIRE - 8902C; OR EQUAL IN T&S BRASS OR BRASSCRAFT	
WMB1	WASHING MACHINE CONNECTION BOX, STAINLESS STEEL WITH CENTER DRAIN, 1/2" HALF TURN VALVES	2"	1-1/2"	-	-	-	GUY GRAY - SSWB; OR APPROVED EQUAL	
IMB1	ICE MACHINE BOX, 1/4 TURN BALL VALVE, PROVIDE FIRE RATED OUTLET BOX IF PLACING IN FIRE RATED WALL	-	-	1/2"	-	-	OATEY ICE MAKER OUTLET BOXES: OR APPROVED EQUAL	
HB	HOSE BIBB, BRASS WITH CHROME FINISH, VACUUM BREAKER, 3/4" MALE N.H.T. OUTLET, WALL FLANGE, METAL HANDLE	-	-	3/4"	-	-	WOODFORD - 24; OR EQUAL IN ZURN, JOSAM, OR MIFAB	
NFWH1	NON-FREEZE WALL HYDRANT, CONCEALED WALL TYPE, CHROME FINISH ON BRASS CASTINGS, VACUUM BREAKER, LOOSE KEY HANDLE, 3/4" MALE HOSE THREAD NOZZLE. PROVIDE SAMPLES OF MATERIAL AND FINISHES FOR THE EXTERIOR HOSE CONNECTION FOR ARCHITECTURAL SELECTION OF FINISH.	-	-	3/4"	-	-	WOODFORD - B67; OR EQUAL IN ZURN, JOSAM, OR MIFAB	
NFWH2	NON-FREEZE WALL HYDRANT, HOT & COLD WATER SERVICE, CONCEALED WALL TYPE, CHROME FINISH ON BRASS CASTINGS, VACUUM BREAKER, LOOSE KEY HANDLE, 3/4" MALE HOSE THREAD NOZZLE. PROVIDE SAMPLES OF MATERIAL AND FINISHES FOR THE EXTERIOR HOSE CONNECTION FOR ARCHITECTURAL SELECTION OF FINISH.	-	-	3/4"	3/4"	-	WOODFORD - B22; OR EQUAL IN ZURN, JOSAM, OR MIFAB	
1	WALL HYDRANT, BACKFLOW PREVENTER, ASSE 1052 APPROVED, VANDAL PROOF, AUTOMATIC DRAINING, FREEZELESS, SELF-CLOSING	-	-	3/4"	-	-	WOODFORD - SRH-M5; OR EQUAL IN ZURN, JOSAM, OR MIFAB	
FD1	FLOOR DRAIN, CAST IRON BODY, ANCHOR FLANGE, WEEPHOLES FOR DOUBLE DRAINAGE, 5" SQUARE STAINLESS STEEL FLAT STRAINER. ADJUSTABLE DRAIN HEAD W/ MACHINED INTEGRAL BODY THREADS, ASME A112.21.1	3"	2"	-	-	-	JOSAM - 30000-5S-SS; OR EQUAL IN ZURN OR MIFAB	
FD2	FLOOR DRAIN, CAST IRON BODY, ANCHOR FLANGE, WEEPHOLES FOR DOUBLE DRAINAGE, 5" ROUND STAINLESS STEEL FLAT STRAINER. ADJUSTABLE DRAIN HEAD W/ MACHINED INTEGRAL BODY THREADS, ASME A112.21.1	4"	3"	-	-	-	JOSAM - 30000-5A-SS; OR EQUAL IN ZURN OR MIFAB	
	FUNNEL ASSEMBLY, ROUND	-	-	-	-	-	JOSAM - F6; OR EQUAL IN ZURN OF MIFAB	
FS1	FLOOR SINK, 12"x12"x8", CI BODY, DBL DRAINAGE FLANGE, STAINLESS STEEL DOME STRAINER, 3/4 GRATE, NON-PUNCTURING FLASHING COLLAR, PORCELAIN ENAMEL OR EPOXY COATED INTERIOR, REMOVABLE SEDIMENT BUCKET	4"	3"	-	-	-	JOSAM - 49340-4-33; OR EQUAL IN ZURN OR MIFAB	
TP1	TRAP PRIMER (PROVIDED FOR ALL FLOOR DRAINS), DIAPHRAGM OPERATED BASED ON PRESSURE SPIKES OR PRESSURE DROPS, OPERATING RANGE BETWEEN 30 TO 70 PSIG. PROVIDE WITH DISTRIBUTION UNIT SERVING MULTIPLE DRAINS (UP TO 4). PROVIDE ACCESS PANEL FOR TRAP PRIMER MAINTENANCE.	-	-	1/2"	-	-	PPP - CPO-500; OR APPROVED EQUAL	
TP2	TRAP PRIMER (PROVIDED FOR ALL FLOOR DRAINS), DIAPHRAGM OPERATED BASED ON PRESSURE SPIKES OR PRESSURE DROPS, OPERATING RANGE BETWEEN 30 TO 70 PSIG. PROVIDE WITH DISTRIBUTION UNIT SERVING MULTIPLE DRAINS (UP TO 13-20). PROVIDE ACCESS PANEL FOR TRAP PRIMER MAINTENANCE.	-	-	1/2"	-	120V	PPP - PT-1320; OR APPROVED EQUAL	
LT	STAINLESS STEEL LINT TROUGH, TYPE 304, 4-FEET LONG, REMOVABLE PRIMARY AND SECONDARY STAINLESS STEEL FILTER SCREENS, PERFORATED STAINLESS STEEL DOME BOTTOM STRAINER, 4-INCH NO-HUB BOTTOM OUTLET.	4"	-	-	-	-	WATTS - LI-LT; OR APPROVED EQUAL	
WCO	WALL CLEANOUT, CI BODY, RECESSED, THREADED BRASS PLUG, STAINLESS STEEL ACCESS COVER	-	-	-	-	-	JOSAM - 56680-5-26-VP; OR EQUAL IN ZURN OR MIFAB	
FCO	FLOOR CLEANOUT, COATED CAST IRON BODY, COMBINATION ADJUSTABLE ROUND STAINLESS STEEL COVER AND PLUG TOP ASSEMBLY, GASKET SEAL, ASME 112.36.2	-	-	-	-	-	JOSAM - 58360; OR EQUAL IN ZURN OR MIFAB	
GCO	GRADE CLEANOUT, HEAVY DUTY COATED CAST IRON ACCESS BODY WITH ANCHOR FLANGES, HEAVY DUTY DUCTILE IRON ACCESS COVER WITH VANDAL RESISTANT STAINLESS STEEL SCREWS	-	-	-	-	-	JOSAM - 56680-5-26-VP; OR EQUAL IN ZURN OR MIFAB	
DCO	2-WAY GRADE CLEANOUT, TWO-RISER CLEANOUT BODY WITH HEAVY DUTY COATED CAST IRON ACCESS BODY WITH ANCHOR FLANGES, HEAVY DUTY DUCTILE IRON ACCESS COVER WITH VANDAL RESISTANT STAINLESS STEEL SCREWS	-	-	-	-	-	JOSAM - 56680-5-26-VP; OR EQUAL IN ZURN OR MIFAB	
RD1	ROOF DRAIN: LARGE GALVANIZED CAST IRON BODY, DECK CLAMP; SIZE AS INDICATED ON DRAWINGS	-	-	-	-	-	ZURN - Z100F-G; OR EQUAL BY SMITH, WATTS	
OD1	OVERFLOW DRAIN: SAME AS ROOF DRAIN RD1 WITH 2-INCH OVERFLOW DAM	-	-	-	-	-	ZURN - Z100F-G-89; OR EQUAL BY SMITH, WATTS	
DSN	DOWNSPOUT NOZZLE, 2-PIECE, BRONZE, WALL FLANGE AND THREADED INLET. PROVIDE SAMPLES OF MATERIAL AND FINISHES FOR EXTERIOR DOWNSPOUT NOZZLE FOR ARCHITECTURAL SELECTION OF FINISH.	-	-	-	-	-	JOSAM - 25010; OR EQUAL IN ZURN OR MIFAB	

NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL SUPPLIES, STOPS, TRAPS, TAILPIECES AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION OF ALL FIXTURES.
2. ALL ACCESSIBLE SINKS AND LAVATORIES SHALL BE EQUIPPED WITH TRUEBRO #103 UNDER SINK PROTECTIVE PIPE COVERS WHERE NOT CONCEALED BY MILLWORK.
3. PLUMBING CONTRACTOR SHALL PROVIDE PLUMBING FIXTURES WITH FLUSH VALVE HANDLES LOCATED ON THE WIDE SIDE OF EACH STALL OR ROOM.
4. CONTRACTOR SHALL VERIFY FIXTURE SUPPLIES AND APPURTENANCES FOR EACH FIXTURE PRIOR TO BIDDING AND PURCHASING.
5. ALL FLOOR MOUNTED WATER CLOSETS SHALL HAVE 10" ROUGH-IN LESS OTHERWISE NOTED.
6. CONTRACTOR SHALL VERIFY PLUMBING FIXTURES PROVIDED COMPLY WITH HANDICAPPED ACCESSIBILITY STANDARDS INCLUDING HEIGHT AND CLEARANCE REQUIREMENTS.
7. COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY'S STANDARD (TAS).

GAS-FIRED DOMESTIC WATER HEATER SCHEDULE

MARK	SERVICE	GAS INPUT (MBH)	STORAGE CAPACITY (GAL)	RECOVERY RATE (60 TO 140 DEG F) (GPH)	STORED WATER TEMPERATURE (DEG F)	POWER REQUIREMENTS VOLTAGE	AMPS	PHASE	HZ	THERMAL EFFICIENCY (%)	MANUFACTURER / MODEL SERIES	REMARKS
WH1	DOMESTIC HOT WATER	199	90	290	140	120	2	1	60	99	LOCHINVAR / SWR200N	1,2,3,4
WH2	DOMESTIC HOT WATER	199	90	290	140	120	2	1	60	99	LOCHINVAR /

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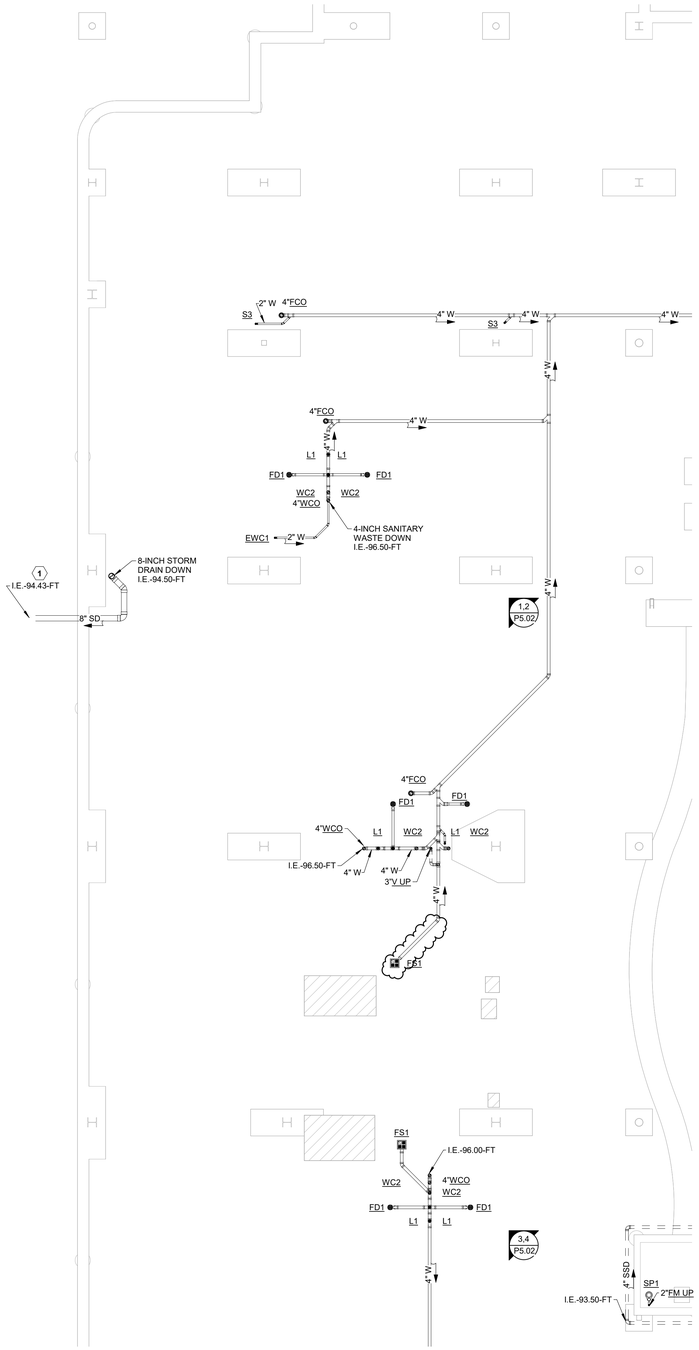
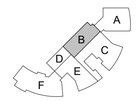
NOTES BY SYMBOL

1 REFER TO CIVIL FOR CONTINUATION.



1 PLUMBING PLAN - BELOW SLAB - AREA B
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN
N

Revision / Date
1 07/24/26 ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
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TOMBALL, TEXAS

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PLUMBING PLAN - BELOW SLAB - AREA B

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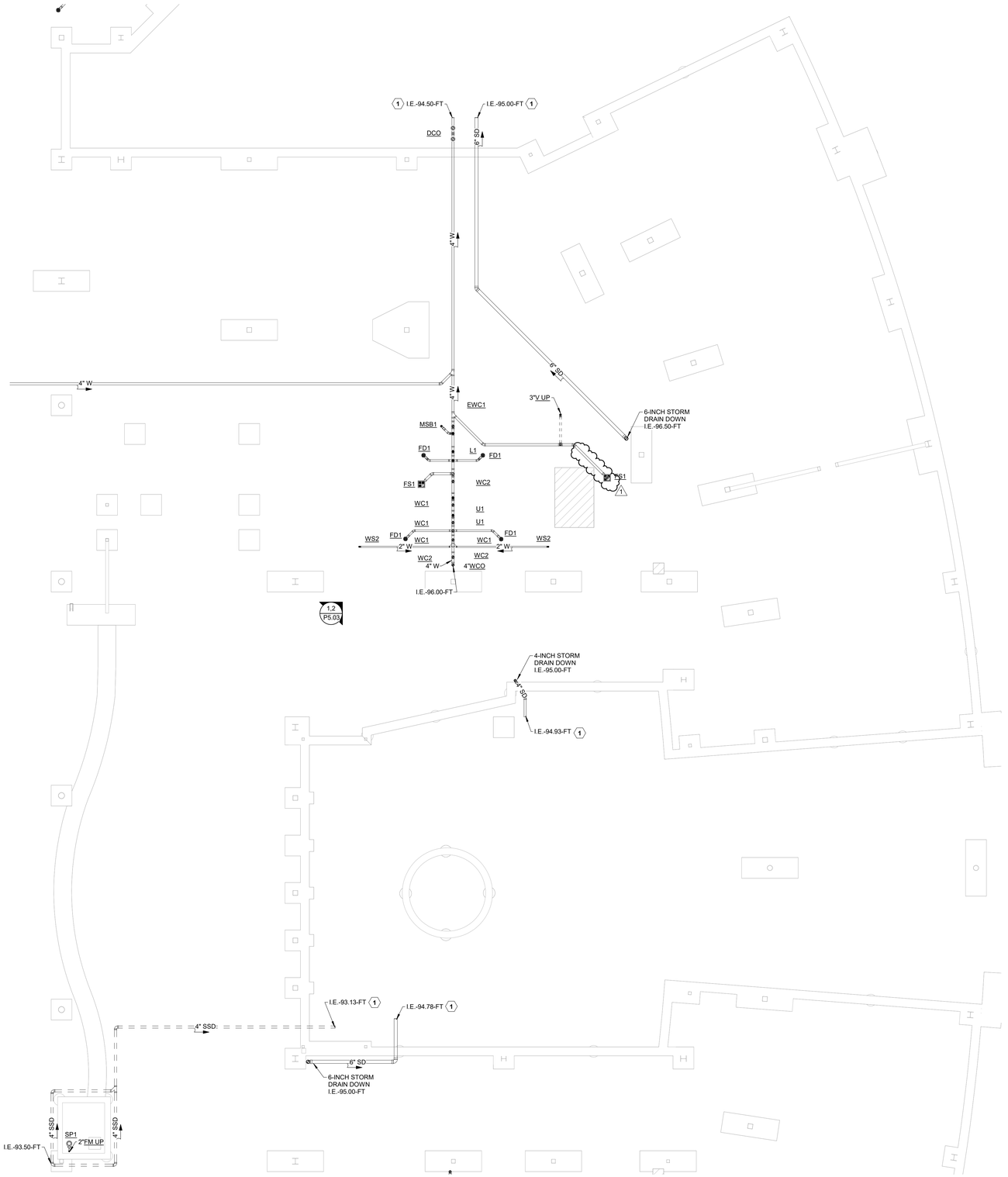
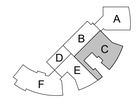


1 PLUMBING PLAN - BELOW SLAB - AREA C
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
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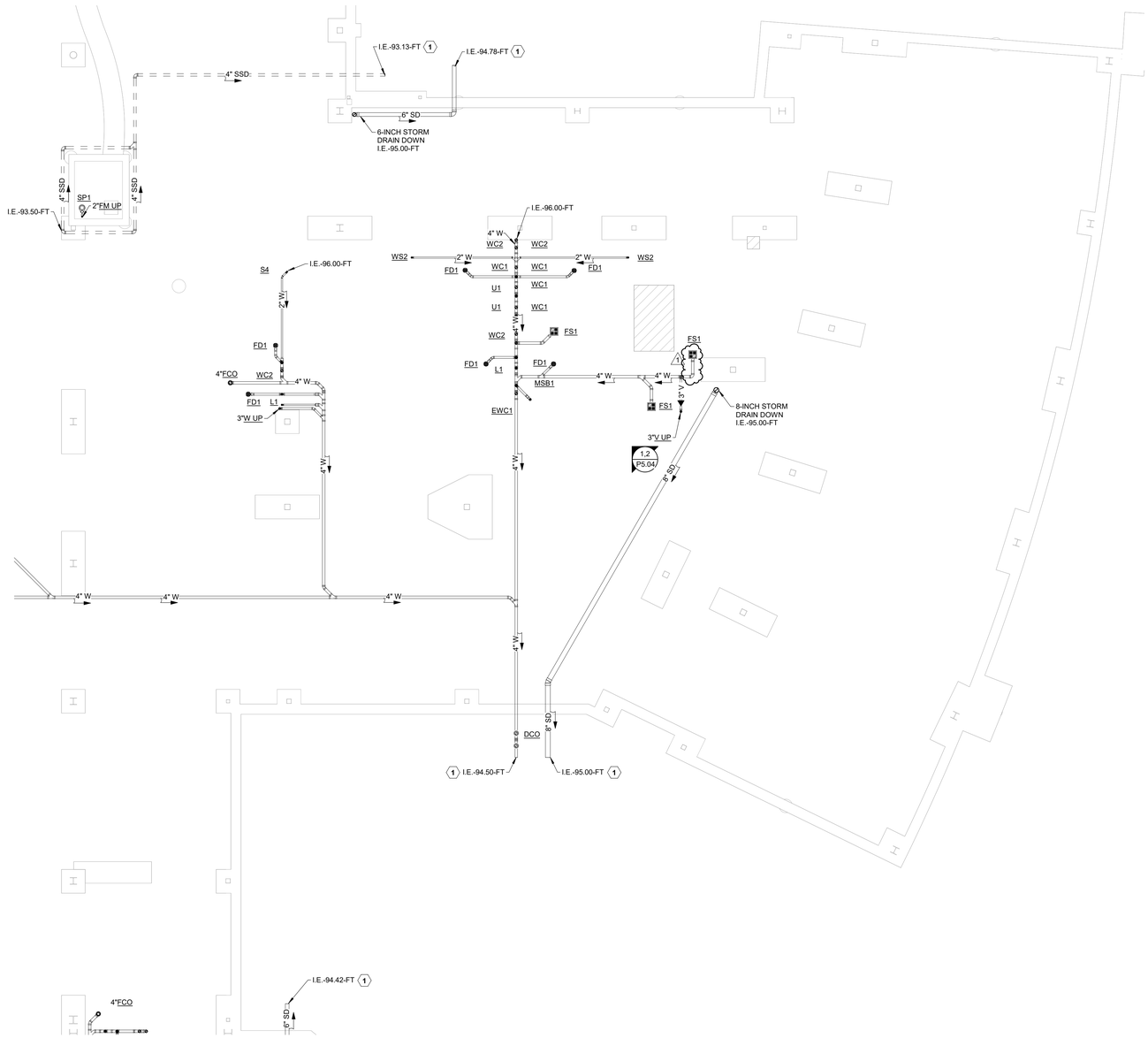
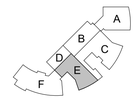


1 PLUMBING PLAN - BELOW SLAB - AREA E
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

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NOTES BY SYMBOL

1. RUN PIPING BELOW SECOND FLOOR, WITHIN THE BUILDING/SOFFIT.
2. 3/4-INCH DOMESTIC COLD WATER UP TO HOSE BIBB ON SECOND FLOOR.
3. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
4. PROVIDE DRAIN PAN BELOW ALL PIPING OVER IDF ROOM. PROVIDE WATER SENSING DISK IN BOTTOM OF PAN INTEGRATED INTO BAS SYSTEM TO SIGNAL ALARM IF WATER IS SENSED IN DRAIN PAN.
5. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
6. PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1 PLUMBING PLAN - LEVEL 01 - AREA A
1/8" = 1'-0"

KEY PLAN - 1ST FLOOR
N.T.S.

PLAN

Revision /	Date	
1	07/24/26	ADDENDUM 1

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NOTES BY SYMBOL

1. 1-1/4-INCH DOMESTIC COLD WATER UP TO EMERGENCY EYEWASH STATIONS ON SECOND FLOOR.
2. RUN PIPING BELOW SECOND FLOOR, WITHIN THE BUILDING/SOFFIT.
3. PENETRATION OF STRUCTURE APPROXIMATELY AS LOCATED ABOVE CEILING. COORDINATE WITH STRUCTURAL.
4. 8-INCH STORM DRAIN DOWN TO BELOW GRADE.
5. 1/2-INCH DOMESTIC COLD WATER SUPPLY TO REFRIGERATOR.
6. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
7. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.
8. 3/4-INCH CONDENSATE PUMPED ABOVE CEILING AND GRAVITY DRAINED TO POINT OF DISCHARGE.
9. CONDENSATE DOWN TO FLOOR SINK.

Revision /	Date	
1	07/24/26	ADDENDUM 1

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TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
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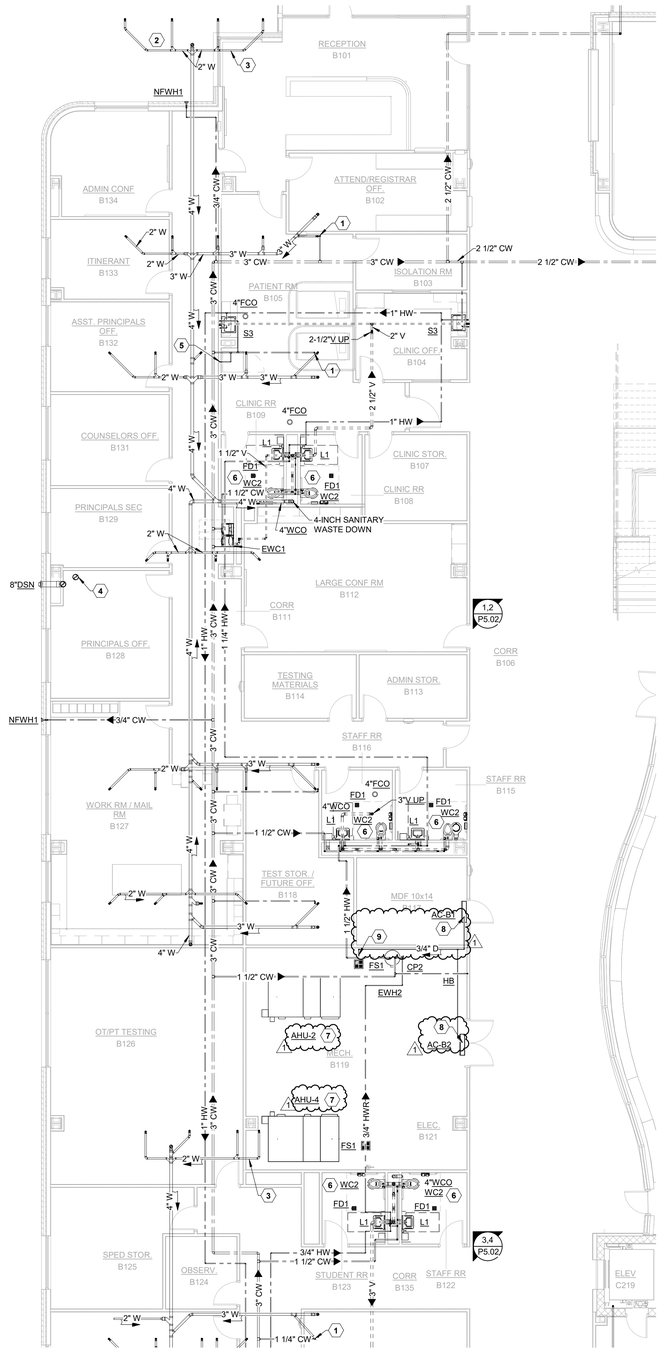
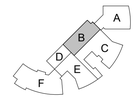


1 PLUMBING PLAN - LEVEL 01 - AREA B
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

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PLUMBING PLAN - LEVEL 01 - AREA B

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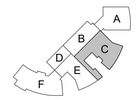
NOTES BY SYMBOL

1. 3/4-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
2. 2-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
3. 3/4-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
4. 3/4-INCH DOMESTIC HOT WATER DOWN TO FIRST FLOOR.
5. 1-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
6. 4-INCH STORM DRAIN DOWN TO BELOW GRADE.
7. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
8. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
9. SECOND FLOOR WS2 SANITARY PLUMBING NOT SHOWN FOR DRAWING CLARITY. REFER TO SCHEDULE FOR WS2 INFORMATION.
10. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.
11. 3/4-INCH CONDENSATE PUMPED ABOVE CEILING AND GRAVITY DRAINED TO POINT OF DISCHARGE.
12. CONDENSATE DOWN TO BRANCH TAILPIECE CONNECTION AT LAV/SINK. REFER TO DETAIL 9/P6.02 FOR ADDITIONAL INFORMATION.
13. PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1 PLUMBING PLAN - LEVEL 01 - AREA C
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

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NOTES BY SYMBOL

1 3/4-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.

2 2-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.

3 3/4-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.

4 3/4-INCH DOMESTIC HOT WATER DOWN TO FIRST FLOOR.

5 1-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.

6 8-INCH STORM DRAIN DOWN TO BELOW GRADE.

7 6-INCH STORM DRAIN DOWN TO BELOW GRADE.

8 REFER TO DETAIL 8/P6.02 FOR DISHWASHER CONNECTION DETAILS.

9 1/2-INCH DOMESTIC COLD WATER SUPPLY TO REFRIGERATOR.

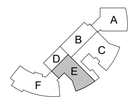
10 PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.

11 SECOND FLOOR WS2 SANITARY PLUMBING NOT SHOWN FOR DRAWING CLARITY. REFER TO SCHEDULE FOR WS2 INFORMATION.

12 RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.

13 PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1 PLUMBING PLAN - LEVEL 01 - AREA E
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN
N

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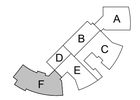
NOTES BY SYMBOL

1. 2-1/2-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR TO SUPPLY SCIENCE LABS.
2. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
3. 4-INCH STORM DRAIN DOWN TO BELOW GRADE.
4. PROVIDE DRAIN PAN BELOW ALL PIPING OVER IDF ROOM. PROVIDE WATER SENSING DISK IN BOTTOM OF PAN INTEGRATED INTO BAS SYSTEM TO SIGNAL ALARM IF WATER IS SENSED IN DRAIN PAN.
5. 1-INCH MAKE-UP WATER TO HEATING WATER LOOP. REF MECHANICAL DRAWING AND PLUMBING DETAIL 6/P6.01.
6. 1-INCH MAKE-UP WATER TO CHILLED WATER LOOP. REF MECHANICAL DRAWING AND PLUMBING DETAIL 6/P6.01.
7. PROVIDE WATER METER INTEGRATED INTO BMS SYSTEM TO RECORD WATER USAGE IN KITCHEN.
8. 1/2-INCH DOMESTIC COLD WATER SUPPLY TO REFRIGERATOR.
9. 3-INCH GAS UP TO ROOF. LOCATE APPROXIMATELY AS SHOWN. PROVIDE GAS TEST PORT 18-INCHES ABOVE FINISHED FLOOR.
10. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
11. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.
12. PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1 PLUMBING PLAN - LEVEL 01 - AREA F
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

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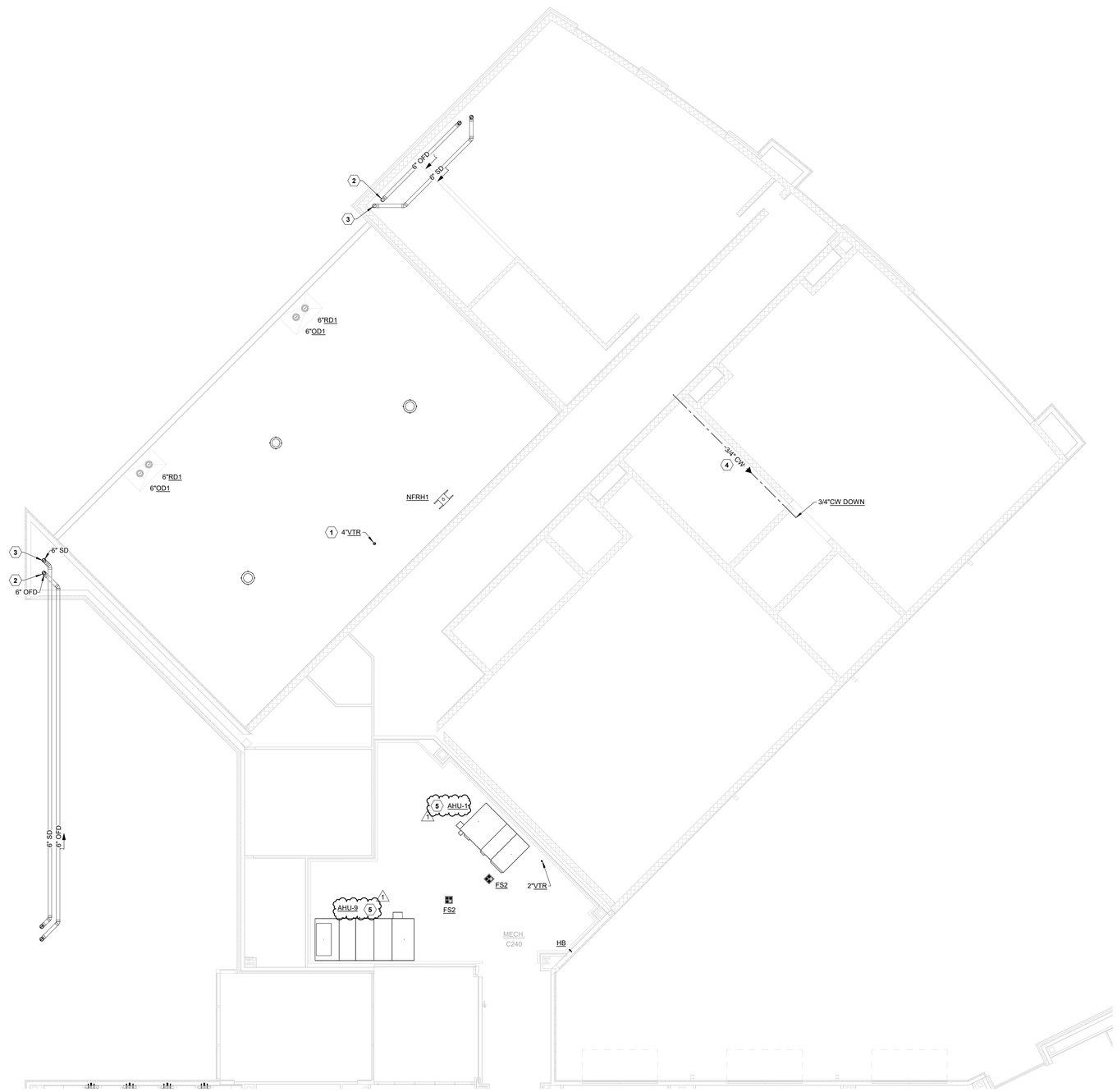
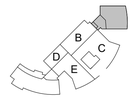
NOTES BY SYMBOL

1. MAINTAIN A MINIMUM OF 10-FOOT FROM VENT THRU ROOF TO FRESH AIR INTAKES.
2. 6-INCH OVERFLOW DRAIN DOWN TO FIRST FLOOR.
3. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
4. RUN DOMESTIC COLD WATER PIPING WITHIN PLENUM, ABOVE RAISED CEILING.
5. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.



1 PLUMBING PLAN - LEVEL 02 - AREA A
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN
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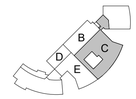
NOTES BY SYMBOL

1. 3/4-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
2. 2-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
3. 3/4-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
4. 3/4-INCH DOMESTIC HOT WATER DOWN TO FIRST FLOOR.
5. 1-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
6. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
7. 6-INCH OVERFLOW DRAIN DOWN TO FIRST FLOOR.
8. 1-INCH DOMESTIC COLD WATER LINE UP TO NON-FREEZE ROOF HYDRANT.
9. 6-INCH STORM DRAIN DOWN TO FIRST FLOOR PLENUM.
10. 3/4-INCH CONDENSATE PUMPED ABOVE CEILING AND GRAVITY DRAINED TO POINT OF DISCHARGE.
11. CONDENSATE DOWN TO FLOOR SINK.
12. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
13. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.
14. PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1 PLUMBING PLAN - LEVEL 02 - AREA C
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

IEG
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TBPELS Firm No. F-5923
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PLUMBING PLAN - LEVEL 02 - AREA C

VOLUME 02

Job No.	Sheet No.
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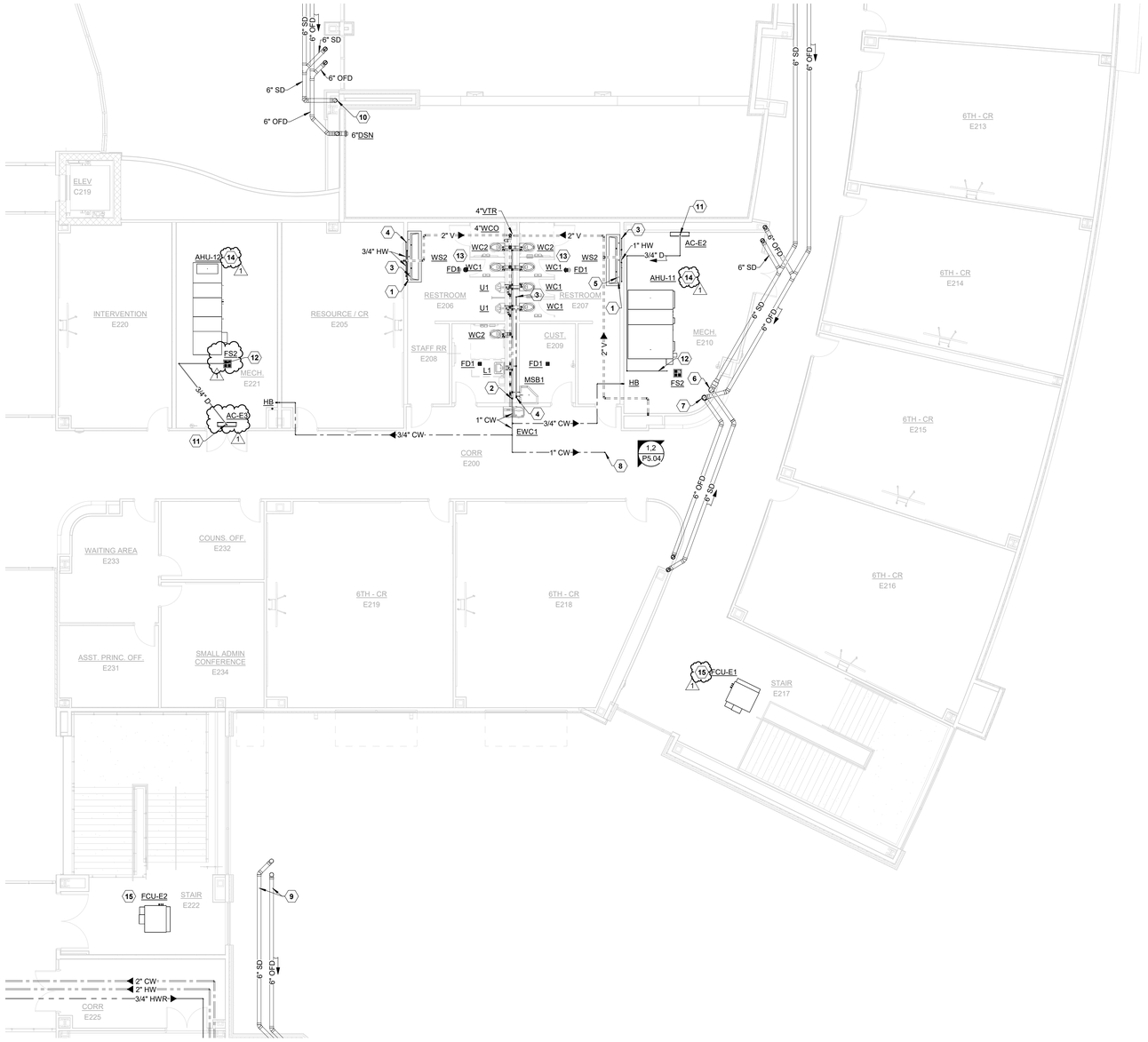
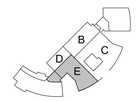
NOTES BY SYMBOL

1. 3/4-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
2. 2-INCH DOMESTIC COLD WATER UP TO SECOND FLOOR.
3. 3/4-INCH DOMESTIC HOT WATER DOWN TO FIRST FLOOR.
4. 3/4-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
5. 1-INCH DOMESTIC HOT WATER UP TO SECOND FLOOR.
6. 8-INCH STORM DRAIN DOWN TO BELOW GRADE.
7. 8-INCH OVERFLOW DRAIN DOWN TO FIRST FLOOR.
8. 1-INCH DOMESTIC COLD WATER LINE UP TO NON-FREEZE ROOF HYDRANT.
9. PENETRATION OF STRUCTURE WILL BE REQUIRED IN ORDER TO PLUMB INTERNAL ROOF DRAINS.
10. 6-INCH STORM DRAIN DOWN TO FIRST FLOOR PLENUM.
11. 3/4-INCH CONDENSATE PUMPED ABOVE CEILING AND GRAVITY DRAINED TO POINT OF DISCHARGE.
12. CONDENSATE DOWN TO FLOOR SINK.
13. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
14. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.
15. PROVIDE CONDENSATE DRAINAGE LINE FOR UNIT.

1



1 PLUMBING PLAN - LEVEL 02 - AREA E
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
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PLUMBING PLAN - LEVEL 02 - AREA E

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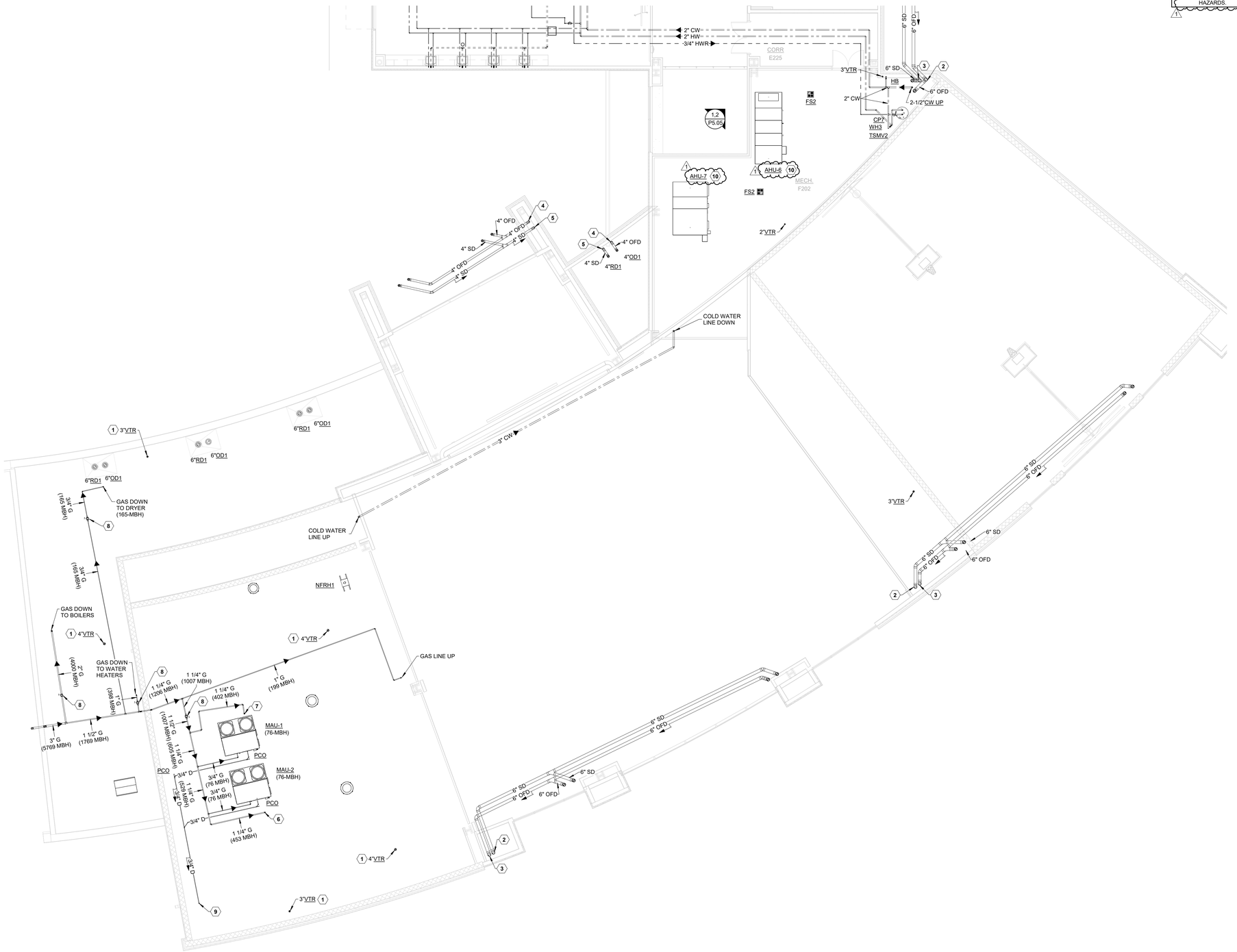
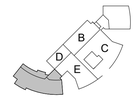
NOTES BY SYMBOL

1. MAINTAIN A MINIMUM OF 10-FOOT FROM VENT THRU ROOF TO FRESH AIR INTAKES.
2. 6-INCH STORM DRAIN DOWN TO BELOW GRADE.
3. 6-INCH OVERFLOW DRAIN DOWN TO FIRST FLOOR.
4. 4-INCH OVERFLOW DRAIN DOWN TO FIRST FLOOR.
5. 4-INCH STORM DRAIN DOWN TO BELOW GRADE.
6. 1-1/4-INCH NATURAL GAS DOWN INTO KITCHEN.
7. 1-INCH NATURAL GAS DOWN INTO KITCHEN.
8. 5-PSI TO <2-PSI REGULATOR. CONTRACTOR TO SET DISCHARGE PRESSURE AT REGULATOR, AS REQUIRED, TO ENSURE GAS PRESSURE IS DELIVERED TO ALL GAS-FIRE EQUIPMENT BEING SERVED PER MANUFACTURER'S PUBLISHED IOM.
9. 3/4-INCH CONDENSATE DOWN THRU ROOF.
10. RUN CONDENSATE PIPING FROM AHU UNIT TO NEAREST FLOOR SINK. POSITION FLOOR SINK AS CLOSE TO DISCHARGE AREA OF UNIT TO REDUCE TRIPPING HAZARDS.



1 PLUMBING PLAN - LEVEL 02 - AREA F
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

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PLUMBING PLAN - LEVEL 02 - AREA F

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GENERAL KITCHEN NOTES

1. PLUMBING CONTRACTOR TO PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT/FIXTURES.
2. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL ALL INDIRECT WASTE PIPING FROM FIXTURES/EQUIPMENT TO FLOOR SINKS VIA AIR GAP. REFER TO FOOD SERVICE PLANS FOR ADDITIONAL INFORMATION.
3. PROVIDE POINT OF USE THERMOSTATIC MIXING VALVES AT ALL DOMESTIC HOT WATER CONNECTIONS THAT DO NOT REQUIRE 140-DEGREE HOT WATER. LEONARD 270-LF OR APPROVED EQUAL.
   A. ALL HAND WASH SINKS AND LAVATORIES SHALL BE TEMPERED TO 105-DEGREES (110-DEGREES MAX).
   B. ALL OTHER SINKS/FAUCETS SHALL BE TEMPERED PER FOOD SERVICE CONSULTANTS SPECIFICATIONS. REFER TO FOOD SERVICE PLANS FOR ADDITIONAL INFORMATION.
4. PROVIDE QUICK-DISCONNECTS AND BALL VALVE W/UNION FITTINGS AT EACH GAS CONNECTION TO EQUIPMENT.
5. PROVIDE SOLENOID VALVE IN GAS LINE AHEAD OF COOKING EQUIPMENT FOR AUTO GAS SHUTOFF. SEE HOOD FIRE SUPPRESSION DRAWINGS FOR INTERLOCK REQUIREMENTS. COORDINATE REQUIREMENTS WITH FIRE ALARM CONTRACTOR.
6. ALL DOMESTIC WATER CONNECTIONS TO FOOD SERVICE EQUIPMENT TO BE PROVIDED WITH INLINE BACKFLOW PREVENTION DEVICE ANSI/ASSE RATED FOR INTENDED USE AS REQUIRED BY CODE.
7. PROVIDE SUPPLY STOPS FOR ALL DOMESTIC COLD AND HOT WATER CONNECTIONS TO KITCHEN FIXTURES/EQUIPMENT.
8. PROVIDE INLINE BOOSTER PUMP ON UPSTREAM SIDE OF WATER FILTERS SERVING KITCHEN EQUIPMENT AS REQUIRED BY FOOD SERVICE CONSULTANT.

NOTES BY SYMBOL

1. 1-1/4-INCH NATURAL GAS DOWN INTO KITCHEN.
2. PROVIDE FIXTURE FLUSH VALVE WITH OPTIONAL TRAP PRIMER ACCESSORY. EXTEND PIPING FROM TRAP PRIMER TAP TO FLOOR DRAIN TAP.
3. 3/4-INCH CONDENSATE DOWN THRU ROOF.
4. CONDENSATE DOWN TO BRANCH TAILPIECE CONNECTION AT LAV/SINK. REFER TO DETAIL 9/P6.02 FOR ADDITIONAL INFORMATION.

1 ENLARGED KITCHEN PLUMBING PLAN - LEVEL 01 - AREA F
1/4" = 1'-0" BACK REF: P2.1F

Revision / 1 | Date 07/24/26 | ADDENDUM 1

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

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PLUMBING ENLARGED PLAN - KITCHEN

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HYDRONIC AIR HANDLER SCHEDULE

MARK AHU-	SERVES	ARRANGEMENT	S/A CFM	MIN S/A CFM	O/A CFM	MIN O/A CFM	EXT. S.P. IN WG	FANS QTY	FANS HP	COOLING DATA ENT AIR DEG. F. DB	ENT AIR DEG. F. WB	LAT	MIN. CAP. MBH TOTAL	MIN. CAP. MBH SENS	WATER GPM	WATER ENT. DEG. F.	WATER LVG. DEG. F.	MAX. PD FT WG	PRE HEATING DATA HEATING CFM	PRE HEATING DATA ENT AIR DEG. F. DB	LV AIR DEG. F. DB	CAP. MBH TOTAL	WATER GPM	WATER ENT. DEG. F.	WATER LVG. DEG. F.	MAX. PD FT WG	RE-HEATING DATA HEATING CFM	RE-HEATING DATA ENT AIR DEG. F. DB	LV AIR DEG. F. DB	CAP. MBH TOTAL	WATER GPM	WATER ENT. DEG. F.	WATER LVG. DEG. F.	MAX. PD FT WG	VFD ELEC. DATA MCA	MOCP	VOLTS	PH	MANUFACTURER AND MODEL NO.	WEIGHT LBS	REMARKS
1	FINE ARTS	TOP DISCHARGE, REAR RETURN, TOP OA	6,660	2,700	2,565	1,200	2.5	1	10	83.9	68.4	55	300.3	203.5	50.1	42.0	54.0	10	3340	30	55	89.8	4.5	140.0	100.0	10	--	--	--	--	--	--	--	--	14	30	480	3	TRANE UCCA	2,050	1-13
2	ADMIN	TOP DISCHARGE, TOP RETURN, REAR OA	4,325	1,400	850	475	2.5	1	5	79.5	65.8	55	134.5	101.9	22.4	42.0	54.0	10	2170	45	55	24.6	1.2	140.0	100.0	10	--	--	--	--	--	--	--	--	8	15	480	3	TRANE UCCA	1675	1-13
3	CLASSROOM	TOP DISCHARGE, TOP RETURN, REAR OA	7,145	3,400	3,350	1,300	2.5	1	10	85.8	69.6	55	342.9	229.9	57.2	42.0	54.0	10	3575	29	55	101.9	5.1	140.0	100.0	10	--	--	--	--	--	--	--	--	14	30	480	3	TRANE UCCA	2,275	1-13
4	LIFE SKILLS	TOP DISCHARGE, TOP RETURN, REAR OA	5,625	1,800	1,800	1,150	2.5	1	7.5	82.4	67.5	55	208.9	148.4	34.8	42.0	54.0	10	2815	28	55	82.1	4.1	140.0	100.0	10	--	--	--	--	--	--	--	--	8	15	480	3	TRANE UCCA	1,900	1-13
5	CLASSROOM	TOP DISCHARGE, TOP RETURN, REAR OA	6,505	3,060	3,000	1,350	2.5	1	10	85.6	69.5	55	308.5	206.4	51.4	42.0	54.0	10	3255	29	55	92.0	4.6	140.0	100.0	10	--	--	--	--	--	--	--	--	14	30	480	3	TRANE UCCA	2,100	1-13
6	GYM	TOP DISCHARGE, TOP RETURN, REAR OA	4,900	2,765	2,765	700	1	1	7.5	88.0	70.9	55	263.6	160.6	43.9	42.0	54.0	10	4900	28	95	354.6	17.7	140.0	100.0	10	4900	55	75	105.8	5.3	140.0	100.0	10	8	15	480	3	TRANE CSAA	2,100	1-13
7	DINING	TOP DISCHARGE, REAR RETURN, TOP PA	10,330	4,770	4,000	700	2.5	2	7.5	83.9	68.4	55	436.2	278.6	72.7	42.0	54.0	10	5190	35	55	113.3	5.7	140.0	100.0	10	--	--	--	--	--	--	--	--	27	40	480	3	TRANE UCCA	2,750	1-13
8	KITCHEN	TOP DISCHARGE, REAR RETURN, TOP OA	4,275	1,285	1,250	1,250	1	1	5	81.7	67.1	55	200.0	150.0	33.3	42.0	54.0	10	4275	29	95	304.1	15.2	140.0	100.0	10	4275	55	75	92.3	4.6	140.0	100.0	10	8	15	480	3	TRANE CSAA	2,050	1-13
9	SCIENCE	TOP DISCHARGE, REAR RETURN, REAR OA	11,200	5,875	5,000	1,850	2.5	1	15	85.3	69.3	55	552.4	389.3	92.1	42.0	54.0	10	5600	34	55	125.5	6.3	140.0	100.0	10	--	--	--	--	--	--	--	--	27	40	480	3	TRANE CSAA	3,650	1-13
10	CLASSROOM	TOP DISCHARGE, TOP RETURN, REAR OA	7,225	3,350	3,350	1,300	2.5	1	15	85.7	69.5	55	370.0	240.0	61.7	42.0	54.0	10	3615	28	55	105.4	5.3	140.0	100.0	10	--	--	--	--	--	--	--	--	14	30	480	3	TRANE UCCA	2,400	1-13
11	CLASSROOM	TOP DISCHARGE, TOP RETURN, REAR OA	7,500	3,230	3,000	1,350	2.5	1	10	84.2	68.6	55	330.0	220.0	55.0	42.0	54.0	10	3890	31	55	100.9	5.0	140.0	100.0	10	--	--	--	--	--	--	--	--	14	30	480	3	TRANE UCCA	2,275	1-13
12	LIBRARY	TOP DISCHARGE, REAR RETURN, TOP OA	4,000	1,200	950	250	1	1	5	80.5	66.3	55	143.9	114.0	24.0	42.0	54.0	10	4000	37	95	251.6	12.6	140.0	100.0	10	4000	55	75	86.4	4.3	140.0	100.0	10	8	15	480	3	TRANE CSAA	1,900	1-13

1. ESP DOES NOT INCLUDE FILTER OR UNIT LOSSES
2. REFER TO CONTROLS DOCUMENTS FOR CONTROL REQUIREMENTS.
3. ALL ACCESS TO BE PROVIDED FROM SINGLE SIDE OF UNIT. VERIFY UNIT HANDEDNESS PRIOR TO ORDERING EQUIPMENT.
4. PROVIDE WITH DOUBLE-WALL CONSTRUCTION WITH CLOSED CELL FOAM INNER LINER AND THERMAL BREAK, DOUBLE-WALL ACCESS DOOR WITH QUARTER TURN DOOR HANDLES
5. PROVIDE WITH CORROSION RESISTANT CONDENSATE PAN
6. CAPACITIES LISTED ARE NET FROM UNIT DISCHARGE
7. PROVIDE WITH DIRECT DRIVE SUPPLY FAN(S) WITH PREMIUM EFFICIENCY MOTOR.
8. PROVIDE FILTER RACK SECTION WITH 2" PLEATED MERV 13 FILTERS.
9. PROVIDE WITH DUCT SMOKE DETECTOR IN RETURN DUCT INTERLOCKED WITH SUPPLY FAN FOR SHUTDOWN UPON DETECTION
10. BASIS OF DESIGN IS TRANE. CONTRACTOR RESPONSIBLE FOR VARIATIONS IN FIT AND ELECTRICAL SERVICE.
11. PROVIDE WITH SINGLE POINT OF POWER CONNECTION.
12. PROVIDE WITH DEMAND CONTROL VENTILATION. REFER TO CONTROL DIAGRAMS.
13. PROVIDE WITH COATED COILS RATED FOR COASTAL ENVIRONMENT.

HYDRONIC FAN COIL UNIT SCHEDULE

MARK FCU-	SERVES	ARRANGEMENT	SUPPLY FAN DES CFM	SUPPLY FAN O/A CFM	SUPPLY FAN EXT. S.P.	SUPPLY FAN EAT	SUPPLY FAN LAT	HOT WATER HEATING CAP MBH	HOT WATER HEATING WATER EWT	HOT WATER HEATING WATER LWT	HOT WATER HEATING WATER GPM	HOT WATER HEATING WATER MAX P.D.	NET COOLING PERFORMANCE DATA CAPACITY (MBH) TOTAL	CAPACITY (MBH) SENS	CAPACITY (MBH) LAT	ENTERING AIR D.B.	ENTERING AIR W.B.	WATER LAT D.B.	WATER EWT	WATER LWT	WATER GPM	WATER MAX P.D.	POWER CONN. V	PH	MCA	MOCP	MANUFACTURER MAKE AND MODEL	REMARKS
A1	ART	HORIZONTAL	1,600	420	0.50	61	90	51.0	140	100	2.5	10	54.3	38.9	15.4	81	66	55	42	54	9.1	10	277	1	7.2	15	TRANE BCHE	1-10
A2	ART	HORIZONTAL	1,400	450	0.50	58	90	48.2	140	100	2.4	10	50.4	34.1	16.3	82	67	55	42	54	8.4	12	277	1	7.2	15	TRANE BCHE	1-10
C1	STAIR	HORIZONTAL	500	50	0.25	67	90	12.4	140	100	0.6	10	15.0	12.0	3.0	77	64	55	42	54	2.5	10	277	1	7.2	15	TRANE BCHE	1-10
E1	STAIR	HORIZONTAL	500	50	0.25	67	90	12.4	140	100	0.6	10	15.0	12.0	3.0	77	64	55	42	54	2.5	10	277	1	7.2	15	TRANE BCHE	1-10
E2	STAIR	HORIZONTAL	500	50	0.25	67	90	12.4	140	100	0.6	10	15.0	12.0	3.0	77	64	55	42	54	2.5	10	277	1	7.2	15	TRANE BCHE	1-10
F1	MECH	HORIZONTAL	600	0	0.25	71	90	12.3	140	100	0.6	10	15.0	12.0	3.0	74	63	55	42	54	2.5	10	277	1	7.2	15	TRANE BCHE	1-10

1. EXTERNAL STATIC PRESSURE ("WG") INCLUDES DUCTWORK, BALANCING DAMPERS AND AIR DEVICES ONLY
2. UNITS SHALL PERFORM TO LISTED CAPACITIES. UNIT PERFORMANCE MUST SATISFY BOTH SENSIBLE AND LATENT CAPACITY REQUIREMENTS.
3. DESIGN BASIS IS TRANE. CONTRACTOR IS RESPONSIBLE FOR VARIATIONS IN FIT AND ELECTRICAL SERVICE.
4. PROVIDE WITH 2" MERV 11 FILTERS.
5. PROVIDE WITH STAINLESS STEEL OR CORROSION RESISTANT CONDENSATE DRAIN PAN
6. PROVIDE WITH AN END RETURN AIR CONNECTION AND AN END SUPPLY AIR CONNECTION
7. REFER TO CONTROL DIAGRAMS.
8. PROVIDE SINGLE POINT POWER CONNECTION
9. PROVIDE WITH ELECTRONICALLY COMMUTATED MOTOR
10. PROVIDE WITH COATED COILS RATED FOR COSTAL ENVIRONMENT

PACKAGED MAKEUP AIR UNIT WITH NATURAL GAS HEAT SCHEDULE

MARK MAU-	ARRANGEMENT	SUPPLY FAN SUPPL Y CFM	SUPPLY FAN O/A CFM	SUPPLY FAN EXT. S.P.	SUPPLY FAN QTY	SUPPLY FAN HP	NATURAL GAS HEATING EAT	NATURAL GAS HEATING LAT	NET COOLING PERFORMANCE DATA CAP. MBH	NET COOLING PERFORMANCE DATA INPUT MBH	NET COOLING PERFORMANCE DATA NO. STAGES	CAPACITY (MBH) TOTAL	CAPACITY (MBH) SENS.	CAPACITY (MBH) LAT.	O.D. D.B.	ENTERING D.B.	ENTERING W.B.	MIN. IEER	COMPRESSOR QTY	COMPRESSOR REF. TYPE	POWER CONN. V	POWER CONN. PH	POWER CONN. MCA	POWER CONN. MOCP	MANUFACTURE MAKE AND MODEL	UNIT WEIGHT (LBS.)	REMARKS
1	DOWNFLOW	1250	1250	1.5	1	1	28	80	61.0	76.0	MOD	70	35	35	100	105	78	12.6	1	454B	480	3	30	40	CAPTIVEAIRE CAS	1115	1-9
2	DOWNFLOW	1275	1275	1.5	1	1	28	80	61.0	76.0	MOD	70	35	35	100	105	78	12.6	1	454B	480	3	30	40	CAPTIVEAIRE CAS	1115	1-9

1. EXTERNAL STATIC PRESSURE ("WG") INCLUDES DUCTWORK, BALANCING DAMPERS AND AIR DEVICES ONLY.
2. UNITS SHALL PERFORM TO LISTED CAPACITIES. UNIT PERFORMANCE MUST SATISFY BOTH SENSIBLE AND LATENT CAPACITY REQUIREMENTS.
3. DESIGN BASIS IS CAPTIVEAIRE. CONTRACTOR IS RESPONSIBLE FOR VARIATIONS IN FIT AND ELECTRICAL SERVICE.
4. PROVIDE GALVANIZED INSULATED FACTORY ROOF CURB TO MATCH ROOF SLOPE.
5. PROVIDE WITH HAIL GUARDS.
6. INTERLOCK WITH TOGGLE SWITCH FOR ASSOCIATED KITCHEN HOODS AND KITCHEN EXHAUST FANS.
7. PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER.
8. PROVIDE WITH INTEGRAL DISCONNECT AND UNPOWERED GFCI RECEPTACLE
9. PROVIDE WITH STAINLESS STEEL OR CORROSION RESISTANT CONDENSATE DRAIN PAN

AIR COOLED CHILLER SCHEDULE

MARK CH-	NOMINAL TONS	O.D. D.B.	TYPE	EWT DEG F	LWT DEG F	FLOW (GPM) MIN	FLOW (GPM) DESIGN	WPD FT WG	FOULING FACTOR	EER	IPLV	REF. TYPE	UNIT ELECTRICAL VOLTS	UNIT ELECTRICAL PH.	UNIT ELECTRICAL HZ	UNIT ELECTRICAL MCA	UNIT ELECTRICAL MOCP	WEIGHT (LBS)	MANUFACTURER AND MODEL NO.	REMARKS
1	350	98	SCREW	54	42	367	625	8.4	0.0001	10.1	15.98	R454B	460	3	60	675	800	19,050	TRANE RTAF	1-11
2	350	98	SCREW	54	42	367	625	8.4	0.0001	10.1	15.98	R454B	460	3	60	675	800	19,050	TRANE RTAF	1-11

1. ALL PIPING (AND CHILLER WATER-SIDE COMPONENTS) EXPOSED TO AMBIENT CONDITIONS SHALL BE HEAT TRACED AND INSULATED TO PREVENT FREEZING, DOWN TO 0 DEG F. MINIMUM
2. PROVIDE LOW AMBIENT HEAD PRESSURE CONTROLS TO ALLOW OPERATION DOWN TO 0 DEG F. AMBIENT
3. PROVIDE SINGLE POINT POWER CONNECTION WITH NON-FUSED DISCONNECT SWITCH AND HIGH SCCR RATING
4. PROVIDE SUCTION ACCUMULATOR, WATER FLOW SWITCH AND PUMP DIFFERENTIAL SENSOR
5. PROVIDE PACKAGED UNIT FOR OUTDOOR APPLICATION
6. PROVIDE A MINIMUM OF TWO VARIABLE VOLUME RATIO SCROLL COMPRESSORS
7. PROVIDE WITH E-COATED ALUMINUM MICROCHANNEL COILS FOR COASTAL ENVIRONMENT APPLICATIONS
8. PROVIDE 115V NEMA 3R SERVICE OUTLET
9. PROVIDE WATER PRESSURE GAUGE SET
10. PROVIDE VARIABLE SPEED CONDENSER FANS WITH LOW SOUND KIT AND SOUND OPTIMIZATION
11. PROVIDE FULL HAIL GUARD COIL PROTECTION PACKAGE

GAS FIRED HYDRONIC BOILER

MARK B-	TYPE	HEATING CAPACITY... INPUT	HEATING CAPACITY... OUTPUT	TURNDOWN	MIN. EFF. (%)	FLUE SIZE	WATER TEMP. ENT.	WATER TEMP. LVG.	GPM	VOLT	PHASE	MCA	MANUFACTURER AND MODEL NUMBER	REMARKS
1	CONDENSING	2,000	1,800	10:1	90	6"	100	140	90	208	3	7.8	HYDROTHERM KN	1-6
2	CONDENSING	2,000	1,800	10:1	90	6"	100	140	90	208	3	7.8	HYDROTHERM KN	1-6

1. PROVIDE COMBINATION WATER FEEDER AND LOW WATER CUT-OFF
2. PROVIDE VERTICAL DRAFT DIVERTER
3. PROVIDE CAST IRON HEAT EXCHANGER
4. PROVIDE WITH MANUFACTURER CONTROLLER FOR CASCADING CONTROL OF ALL BOILERS. CONTROLLER TO INCLUDE BACNET CAPABILITY FOR CONNECTION TO CAMPUS BMS SYSTEM.
5. PROVIDE FACTORY MOUNTED 100 PSI PRESSURE RELIEF VALVE
6. PROVIDE WITH MANUFACTURER'S CIRCULATION PUMP CONTROLLER

PUMP SCHEDULE

MARK -	SERVES	TYPE	GPM	TOTAL HEAD FT. W.G.	PUMP EFF..	MOTOR DATA HP	MOTOR DATA RPM	MOTOR DATA V	MOTOR DATA PH	MANUFACTURER MAKE AND MODEL	REMARKS
CHWP-1	PRIMARY CHILLER LOOP	END SUCTION	625	120	77	25	3500	460	3	ARMSTRONG	1-8
CHWP-2	PRIMARY CHILLER LOOP	END SUCTION	625	120	77	25	3500	460	3	ARMSTRONG	1-8
BP-1	BOILER CIRCULATION	IN-LINE	90	20	80	3.0	3675	208	3	ARMSTRONG	1-7
BP-2	BOILER CIRCULATION	IN-LINE	90	20	80	3.0	3675	208	3	ARMSTRONG	1-7
HWP-1	HEATING WATER LOOP	END SUCTION	200	100	62	7.5	3200	460	3	ARMSTRONG	1-8
HWP-2	HEATING WATER LOOP	END SUCTION	200	100	62	7.5	3200	460	3	ARMSTRONG	1-8

1. PROVIDE STAINLESS STEEL FITTED IMPELLER
2. PROVIDE WITH A NEMA MG 1 PART 31 - PREMIUM EFFICIENCY MOTOR IN ACCORDANCE WITH NEMA STANDARDS. PROVIDE WITH SHAFT GROUNDING RINGS
3. PUMP SUBMITTED MUST MEET STATED PUMP EFFICIENCY AT CONDITIONS SPECIFIED
4. PUMP MOTOR SHALL BE INVERTER DUTY RATED.
5. PROVIDE WITH ODP MOTOR
6. PROVIDE WITH ANSI CLASS 125 FLANGES
7. PROVIDE WITH ABB VARIABLE FREQUENCY DRIVE TO BE MOUNTED ON WALL.
8. PROVIDE WITH END SUCTION DIFFUSER

EXPANSION TANK / AIR SEPARATOR SCHEDULE

MARK	SYSTEM	LOCATION	SYSTEM TEMP RANGE (DEG. F.)	TANK TYPE	TANK SIZE (GAL.)	TANK ACCEPTANCE...	TANK AIR CHARGE (PSIG)	TANK ASME RATING...	TANK MFG. / MODEL	TANK FLOODED WEIGHT...	TANK NOTES	AIR SEPARATOR MARK	AIR SEPARATOR CAP. GPM	AIR SEPARATOR CONN. PIPE...	AIR SEPARATOR MFG. / MODEL	AIR SEPARATOR FLOODED WEIGHT...	AIR SEPARATOR NOTES
ET-1	CHILLED WATER	MECH	42-70	DIAPHRAGM/FLOOR MNT	65	36	12	100	B&G / D120	842	1-4	AS-1	1900	8	B&G / RL-8F	1200	1,5,6,7
ET-2	HEATING WATER	MECH	100-140	DIAPHRAGM/FLOOR MNT	65	36	12	100	B&G / D120	842	1-4	AS-2	300	4	B&G / RL-4F	800	1,5,6,7

1. BELL & GOSSETT IS THE BASIS OF DESIGN.
2. ASME RATED, PRE-CHARGED BLADDER TYPE, CARBON STEEL SHELL TANK.
3. PROVIDE HEAVY DUTY BUTYL RUBBER BLADDER.
4. PROVIDE WITH BLADDER CONDITION MONITOR AND PRESSURE GAUGE.
5. ASME CERTIFIED, CARBON STEEL BODY.
6. PROVIDE WITH FLANGED CONNECTIONS.
7. CENTRIFUGAL SEPARATOR WITHOUT STRAINER.

1

SILENCER SCHEDULE (VIBRO-ACOUSTICS)

TAG	SYSTEM	TYPE	DIMENSIONS DUCT WIDTH, IN.	DIMENSIONS DUCT HEIGHT, IN.	DIMENSIONS LENGTH IN.	AIRFLOW, CFM	VELOCITY, FPM (NOTE 2)	IDEAL DP IN.W.G. (NOTE 3)	MAX.DP W/SYS EFF IN.W.G. (NOTE 4)	MINIMUM DYNAMIC INSERTION LOSS, dB (NOTE 5) / MAXIMUM AIRFLOW GENERATED NOISE, dB (NOTE 6) / OCTAVE BAND CENTER FREQUENCY, HZ 63	125	250	500	1000	2000	4000	8000	BASIS OF DESIGN VIBRO-ACOUSTICS MODEL NUMBER	NOTES
		(NOTE 1)	IN.	IN.	IN.														
AHU-3 Elbow Attenuator	C103 Supply	RED	32	16	60	7145	+1786	0.34	UNKNOWN	5	8	15	19	31	20	20	18	RED-UHV-F9	7
										64	53	44	43	43	44	37	34		

Notes:
1. TYPE RE - RECTANGULAR ELBOW D - DISSIPATIVE
2. VELOCITY SHOWN IS + (FORWARD FLOW) OR - (REVERSE FLOW) AS DEFINED BY ASTM E477-20.
3. IDEAL PRESSURE DROP AS DETERMINED PER ASTM E477-20 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
4. PRESSURE DROP PER ASTM E477-20 PLUS SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.
5. MINIMUM DYNAMIC INSERTION LOSS DETERMINED PER ASTM E477-20 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
6. MAXIMUM SELF GENERATED NOISE DETERMINED PER ASTM E477-20 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
7. FIBERGLASS CLOTH MEDIA PROTECTION.

Addendum 01
Date 07/24/26
Revision / 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

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Innovative Engineering Group
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LICENSED PROFESSIONAL ENGINEER
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MECHANICAL SCHEDULES

VOLUME 2

Job No. 0/2602-04-01
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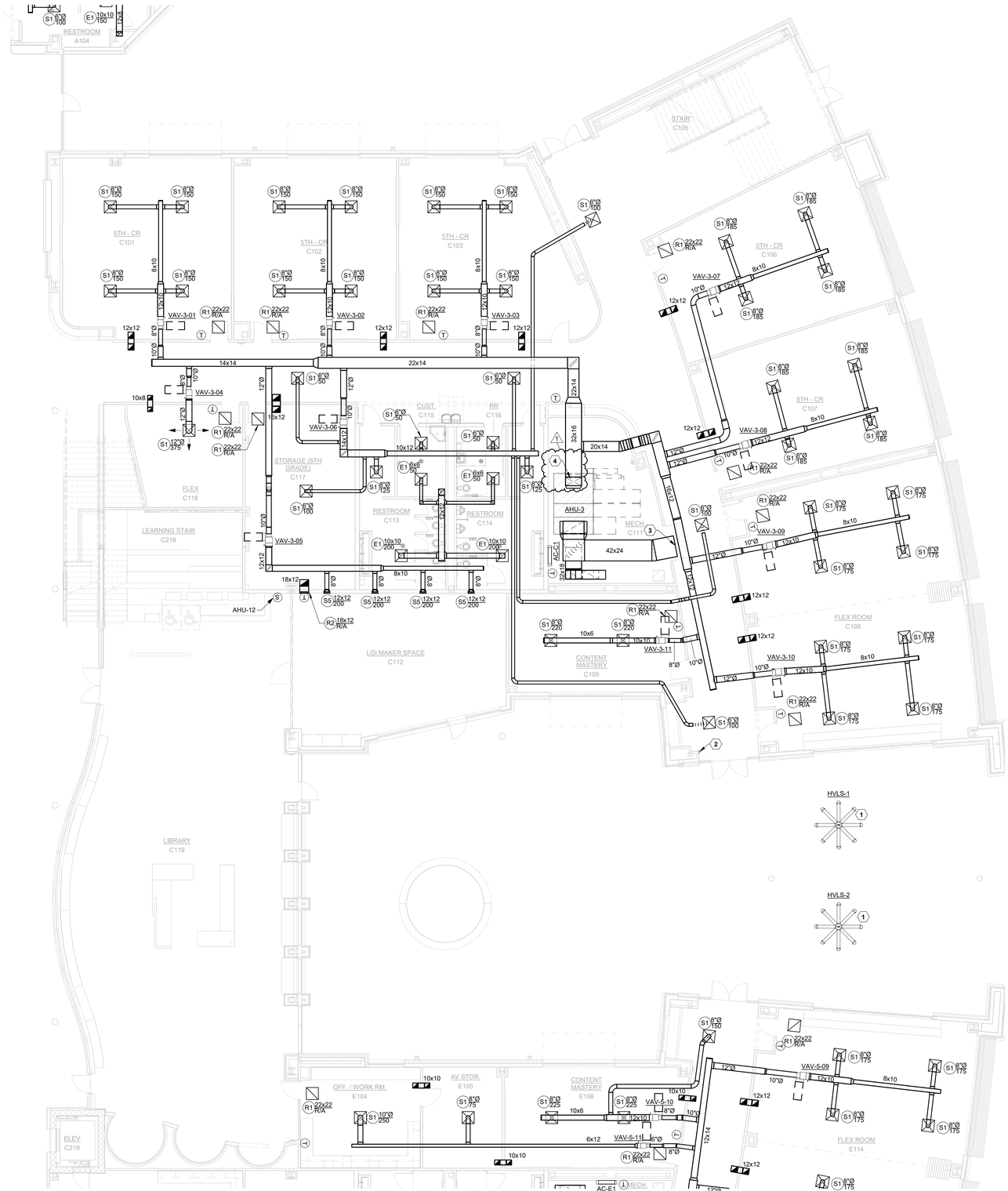
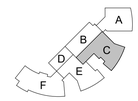
NOTES BY SYMBOL

1. HVLS FAN MOUNTED WITHIN EXTERIOR COVERED CANOPY. COORDINATE MOUNTING HEIGHT WITH ARCHITECT AND MANUFACTURER'S IOM. PROVIDE WITH EXTENSION KIT AS REQUIRED. COORDINATE EXACT COLOR/FINISH WITH ARCHITECT/OWNER PRIOR TO ORDER.
2. PROVIDE WALL MOUNTED HVLS CONTROL STATION. COORDINATE CONTROLLER ROUGH-IN LOCATION WITH ARCHITECT AND OWNER.
3. RETURN AIR DUCT TERMINATED WITHIN PLENUM. COVER DUCT OPENING WITH 1/4" BY 1/4" WIRE MESH.
4. PROVIDE ELBOW SOUND ATTENUATOR/DUCT SILENCER AT THIS APPROXIMATE LOCATION. REFER TO SILENCER SCHEDULE FOR SPECIFIC DIMENSIONS.



1 MECHANICAL PLAN - LEVEL 01 - AREA C
M2.1C 1/8" = 1'-0"



KEY PLAN - LEVEL 1
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	Addendum 01

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

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MECHANICAL PLAN - LEVEL 01 - AREA C

VOLUME 2

Job No.	Sheet No.
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LIGHT FIXTURE SCHEDULE

MARK	MANUFACTURER AND MODEL #1 (BASIS OF DESIGN) CW Lighting	MANUFACTURER AND MODEL #2 Lesco	MANUFACTURER AND MODEL #3 Bell and Mccoy	VOLTAGE	REF. NOTE	MOUNTING	WATTAGE	REMARKS
A	DAY-BRITE CFI 2CAZ-G-43L-840-4-DS-UNV-DIM	LITHONIA STAK-2X4-4000LM-80CRI-40K-COL-MIN1-EZT-MVOLT	WILLIAMS AT2-2-4-L40-8-40-D-DIM-UNV	UNV	3,6,7	RECESSED	33	
AE	SAME AS A, BACKUP IS FED THROUGH GENERATOR	SAME AS A, BACKUP IS FED THROUGH GENERATOR	SAME AS A, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	33	
A2	DAY-BRITE CFI 2CAZ-G-38L-840-4-DS-UNV-DIM	LITHONIA STAK-2X4-3000LM-80CRI-40K-COL-MIN1-EZT-MVOLT	WILLIAMS AT2-2-4-L40-8-40-D-DIM-UNV	UNV	3,6,7	RECESSED	24	
A2E	SAME AS A2, BACKUP IS FED THROUGH GENERATOR	SAME AS A2, BACKUP IS FED THROUGH GENERATOR	SAME AS A2, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	24	
A3	DAY-BRITE CFI 2FPZ-43L-840-4-DS-UNV-DIM	LITHONIA CPX-2X4-4000LM-80CRI-40K-SWL-MIN10-MVOLT	WILLIAMS BP-2-4-LS-8-CS-DIM-UNV	UNV	3,6,7	RECESSED	37	
A3E	SAME AS A3, BACKUP IS FED THROUGH GENERATOR	SAME AS A3, BACKUP IS FED THROUGH GENERATOR	SAME AS A3, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	37	
A4	PINNACLE AD24-A-MOD(RGB-WLED)-G1-U-MOD(EC1)-1-0-W-MOD(DMX)	MARK WHSPR-2X4-ARTC-RGBW-11000LM-MIN1-MVOLT-SWC-DMX	WILLIAMS AT2-2-4-L84-RGB8-40-D-DMX-UNV	UNV	3,6,7	RECESSED	45	
A4E	SAME AS A4, BACKUP IS FED THROUGH GENERATOR	SAME AS A4, BACKUP IS FED THROUGH GENERATOR	SAME AS A4, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	45	
C	DAY-BRITE CFI LBX-55L-840-UNV-W	LITHONIA CSS-L48-5000LM-MVOLT-MIN10-ZT-40K-80CRI-ZACVH-M100	WILLIAMS 75W-4-L50-8-40-ACF/D-24-DIM-UNV	UNV	2,3,6,7	SUSPENDED	38	
CE	SAME AS C, BACKUP IS FED THROUGH GENERATOR	SAME AS C, BACKUP IS FED THROUGH GENERATOR	SAME AS C, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	38	
D	LITELINE GEN06-IS-40-W-BK-S-N-X-N	GOTHAM - IVO6-D-20LM-40K-80CRI-55D-MIN10-MVOLT-ZT-NCH-P-BRS-SLG-BR-LSS-FBL	WILLIAMS 6LDR-L20-6-40-BLK-DIM-UNV-N-F1	UNV	3,6,7	RECESSED	43	
DE	SAME AS D, BACKUP IS FED THROUGH GENERATOR	SAME AS D, BACKUP IS FED THROUGH GENERATOR	SAME AS D, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	43	
D2	LITELINE GEN04-20-40-W-BH-S-N-X-N	GOTHAM - IVO4-D-20LM-40K-80CRI-55D-MIN10-MVOLT-ZT-NCH-P-BRS-SLG-AR-LSS-FBL	WILLIAMS 4LDR-L20-8-40-BLK-DIM-UNV-N-F1	UNV	3,6,7	RECESSED	20	
D2E	SAME AS D2, BACKUP IS FED THROUGH GENERATOR	SAME AS D2, BACKUP IS FED THROUGH GENERATOR	SAME AS D2, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	20	
D3	LITELINE GEN04-20-40-W-WH-S-N-X-N	GOTHAM - IVO4-D-20LM-40K-80CRI-55D-MIN10-MVOLT-ZT-NCH-WL-P-BRS-SLG-AR-LSS-FBL	WILLIAMS 4LDR-L20-8-40-CS-DIM-UNV-N-F1	UNV	3,6,7	RECESSED	20	
D3E	SAME AS D2, BACKUP IS FED THROUGH GENERATOR	SAME AS D3, BACKUP IS FED THROUGH GENERATOR	SAME AS D3, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	20	
D4	LITELINE GEN04-IB-40-W-BK-S-N-X-N	GOTHAM - IVO4-D-15LM-40K-80CRI-60D-MIN10-MVOLT-ZT-NCH-P-BRS-SLG-AR-LSS-FBL	WILLIAMS 4LDR-L15-8-40-BLK-DIM-UNV-N-F1	UNV	3,6,7	RECESSED	20	
FL	HADCO SL43-C--ADA-N-N-N	HYDREL M9420C-LED-P2-40K-MVOLT-MFL-FLC-12B-LDIM	KIM LIGHTING LTV82SS-NF-18L-4K-UV-SRRCA82	UNV	1,6,7	IN-GRADE	20	
FP6	PINNACLE EX4D-A-N-840SO-6-U-FSD-1-BL	MARK S4PD-LLP-6FT0-MSL8-80CRI-40K-600LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX4D-6'00-L4-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	28	
FP8	PINNACLE EX4D-A-N-840SO-8-U-FSD-1-BL	MARK S4PD-LLP-8FT0-MSL8-80CRI-40K-600LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX2D-8'00-L4-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	37	
FP8E	SAME AS FP8, BACKUP IS FED THROUGH GENERATOR	SAME AS FP8, BACKUP IS FED THROUGH GENERATOR	SAME AS FP8, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	37	
FP10	PINNACLE EX4D-A-N-840SO-10-U-FSD-1-BL	MARK S4PD-LLP-10FT0-MSL8-80CRI-40K-600LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX4D-10'00-L4-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	47	
FP10E	SAME AS FP10, BACKUP IS FED THROUGH GENERATOR	SAME AS FP10, BACKUP IS FED THROUGH GENERATOR	SAME AS FP10, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	47	
FP12	PINNACLE EX4D-A-N-840SO-12-U-FSD-1-BL	MARK S4PD-LLP-12FT0-MSL8-80CRI-40K-600LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX4D-12'00-L4-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	56	
FP12E	SAME AS FP12, BACKUP IS FED THROUGH GENERATOR	SAME AS FP12, BACKUP IS FED THROUGH GENERATOR	SAME AS FP12, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	56	
FP98	PINNACLE EX4D-A-N-840VHO-98-U-FSD-1-BL	MARK S4PD-LLP-98FT0-MSL8-80CRI-40K-1000LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX4D-98'00-L12-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	459	FIXTURE SHALL INCLUDE REMOTE, ACCESSIBLE DRIVERS IN HIGH VOLUME SPACES. CONTRACTOR SHALL COORDINATE EACT LOCATIONS WITH MANUFACTURER PRIOR TO INSTALLATION.
FP98E	SAME AS FP98, BACKUP IS FED THROUGH GENERATOR	SAME AS FP98, BACKUP IS FED THROUGH GENERATOR	SAME AS FP98, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	459	FIXTURE SHALL INCLUDE REMOTE, ACCESSIBLE DRIVERS IN HIGH VOLUME SPACES. CONTRACTOR SHALL COORDINATE EACT LOCATIONS WITH MANUFACTURER PRIOR TO INSTALLATION.
FP99E	PINNACLE EX4D-A-N-840VHO-99-U-FSD-1-BL, BACKUP FED THROUGH GENERATOR	MARK S4PD-LLP-99FT0-MSL8-80CRI-40K-1000LMF-SCT-MIN10-FLL-BLKT-GTD-MVOLT-ZT-F1/	WILLIAMS MX4D-99'00-L12-8-40-F-AC/D48-BLACK-GEN-DIM-UNV	UNV	2,3,6,7	SUSPENDED	463	FIXTURE SHALL INCLUDE REMOTE, ACCESSIBLE DRIVERS IN HIGH VOLUME SPACES. CONTRACTOR SHALL COORDINATE EACT LOCATIONS WITH MANUFACTURER PRIOR TO INSTALLATION.
FP102	PINNACLE EX4D-A-N-840VHO-102-U-FSD-1-BL	MARK S4PD-LLP-102FT0-MSL8-80CRI-40K-1000LMF-SCT-MIN10-FLL-BLKT-MVOLT-ZT-F1/	WILLIAMS MX4D-102'00-L12-8-40-F-AC/D48-BLACK-DIM-UNV	UNV	2,3,6,7	SUSPENDED	477	FIXTURE SHALL INCLUDE REMOTE, ACCESSIBLE DRIVERS IN HIGH VOLUME SPACES. CONTRACTOR SHALL COORDINATE EACT LOCATIONS WITH MANUFACTURER PRIOR TO INSTALLATION.
FR4	PINNACLE ET4D-A-840-4-G9-U-FSD-1-BL	MARK SL4L-LOP-4FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-4-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	24	
FR4E	SAME AS FR4, BACKUP IS FED THROUGH GENERATOR	SAME AS FR4, BACKUP IS FED THROUGH GENERATOR	SAME AS FR4, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	24	
FR6	PINNACLE ET4D-A-840-6-G9-U-FSD-1-BL	MARK SL4L-LOP-6FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-4640-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	36	
FR6E	SAME AS FR6, BACKUP IS FED THROUGH GENERATOR	SAME AS FR6, BACKUP IS FED THROUGH GENERATOR	SAME AS FR6, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	36	
FR8	PINNACLE ET4D-A-840-8-G9-U-FSD-1-BL	MARK SL2L-LOP-8FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-8-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	48	
FR8E	SAME AS FR8E, BACKUP IS FED THROUGH GENERATOR	SAME AS FR8, BACKUP IS FED THROUGH GENERATOR	SAME AS FR8, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	48	
FR12	PINNACLE ET4D-A-840-12-G9-U-FSD-1-BL	MARK SL2L-LOP-12FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-12-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	72	
FR12E	SAME AS FR12, BACKUP IS FED THROUGH GENERATOR	SAME AS FR12, BACKUP IS FED THROUGH GENERATOR	SAME AS FR12, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	72	
FR14E	SAME AS FR12, BACKUP IS FED THROUGH GENERATOR	SAME AS FR14, BACKUP IS FED THROUGH GENERATOR	SAME AS FR14, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	84	
FR16	PINNACLE ET4D-A-840-16-G9-U-FSD-1-BL	MARK SL2L-LOP-16FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-16-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	96	
FR16E	SAME AS FR16, BACKUP IS FED THROUGH GENERATOR	SAME AS FR16, BACKUP IS FED THROUGH GENERATOR	SAME AS FR16, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	96	
FR20	PINNACLE ET4D-A-840-20-G9-U-FSD-1-BL	MARK SL2L-LOP-20FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-20-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	108	
FR20E	SAME AS FR20, BACKUP IS FED THROUGH GENERATOR	SAME AS FR20, BACKUP IS FED THROUGH GENERATOR	SAME AS FR20, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	108	
FR24	PINNACLE ET4D-A-840-24-G9-U-FSD-1-BL	MARK SL2L-LOP-24FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-24-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	144	
FR25	PINNACLE ET4D-A-840-25-G9-U-FSD-1-BL	MARK SL2L-LOP-25FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-25-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	150	
FR29	PINNACLE ET4D-A-840-29-G9-U-FSD-1-BL	MARK SL2L-LOP-29FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-29-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	174	
FR30	PINNACLE ET4D-A-840-30-G9-U-FSD-1-BL	MARK SL2L-LOP-30FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-30-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	150	
FR30E	SAME AS FR30, BACKUP IS FED THROUGH GENERATOR	SAME AS FR30, BACKUP IS FED THROUGH GENERATOR	SAME AS FR30, BACKUP IS FED THROUGH GENERATOR	UNV	3,6,7	RECESSED	174	
FR46	PINNACLE ET4D-A-840-46-G9-U-FSD-1-BL	MARK SL2L-LOP-46FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-46-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	276	
1 FR47	PINNACLE ET4D-A-840-47T-G9-U-FSD-1-BL	MARK SL2L-LOP-47FT0-FLP-TG/BLKT-80CRI-40K-600LMF-MIN10-277-ZT	CORONET LSR4-47T-40-MED-UNV-DB-BLK-T-AV1.BWG	UNV	3,6,7	RECESSED	702	
FS8E	DAYOLITE PRFL-24-D-FL-40-HO-8-WM-DIM10-GTD, BACKUP IS FED THROUGH THROUGH GENERATOR	MARK S2WD-LLP-8FT-MSL8-80CRI-40K-800LMF-SCT-MIN10-FLL-MVOLT-GTD, BACKUP IS FED THROUGHT GENERATOR	WILLIAMS LRX2-S-8'-L16-8-40-DMA, BACKUPS IS FED THROUGH GENERATOR	UNV	3,6,7	WALL	45	
G	ALS CSB-230SC-3-BK-DB	LITHONIA RELI-AL016-MD-277-SWW3-80CRI	WILLIAMS GNR4-3'0-8-40-F-DIM-UNV	UNV	2,3,6,7	SUSPENDED	190	
GE	SAME AS G, BACKUP IS FED THROUGH GENERATOR	SAME AS G, BACKUP IS FED THROUGH GENERATOR	SAME AS G, BACKUP IS FED THROUGH GENERATOR	UNV	2,3,6,7	SUSPENDED	190	
H	LIGHTOLOGY POPPY PENDANT	SLAMP VELI FOLIAGE VELSL00FLG01T00000US	HINKLEY FANTINE FR46895UB	UNV	2,3,6,7	SUSPENDED	17	
J1	DAY-O-LITE APL-1999-D-SI-RGB-LO-LENGTH-G-W-DIM10	MARK SPRLED-LOP-LENGTH-RLP-G0-80CRI-40K-450LMF-MIN10	WILLIAMS MX2R-TR-LENGTH-L4-8-40-F-DIM-UNV	UNV	2,3,6,7	COVE	35	
1 J2	COVE PERFEKT C-CH-[LENGTH]-500-8-40-TW2750-W-UNV-DP-1	MARK MCV504-LLP-LENGTH-MSL4-40K-400LMF-ASYM-MIN1-MVOLT-SCW-ZT	WILLIAMS CXC-LENGTH-L4-8-40-D-DIM-UNV	UNV	2,3,6,7	COVE	36	
J3	NOVA FLEX NF-NEON-W-DUAL-24V-4000K	MARK MCV102-LLP-LENGTH-MSL4-M100FMC-80CRI-40K-500LMF-120X120DEG-MIN1-MVOLT-ZT	TWICE BRIGHT TL24-HO-NEON-40-10	UNV	2,3,6,7	COVE	35	
K	REGION 18IS-OPU-L8-48-UNV-F18D8	LUMENARE LED-ARK12-MIN10-25W-40K-MVOLT-OD	KIM LIGHTING CVALTR-18-38-40K8-D01-UNV	UNV	2,3,6,7	SURFACE	25	
KE	SAME AS K, BACKUP IS FED THROUGH GENERATOR	SAME AS K, BACKUP IS FED THROUGH GENERATOR	SAME AS K, BACKUP IS FED THROUGH GENERATOR	UNV	2,5,6,7	SURFACE	25	
L	LIGHTOLOGY KINA PENDANT	BRUCK WEP-EML-60-LLED-35K-PBK	WAKANINE KINA	UNV	2,5,6,7	SURFACE	15	
N1	BETACALCO TRPE1W29-LMA0090-CR80-CTA40-V1-DA01	STICKBULB RAY-SCNC-3FT-WAL-4000-UNI-SB	SISTEMALUX S2280-N-JB-UNV-D10	UNV	2,5,6,7	SURFACE	20	
N2	BETACALCO TRPE1W53-LMA0090-CR80-CTA40-V1-DA02	STICKBULB RAY-SCNC-5FT-WAL-4000-UNI-SB	SISTEMALUX S2281-N-JB-UNV-D10	UNV	2,5,6,7	SURFACE	20	
O	CURREY AND COMPANY LUNARIA SILVER OVAL CHANDELIER	SCHONBEK S2456-32	HINKLEY AUDRA FR41938DG	UNV	2,5,6,7	SURFACE	62	
P1	TEGAN LIGHTING KAQP-SPG-RDE-CSJ-BS-LED-120/277V-DSO-DM-0-10V-LB-O-30-NC	EI TORRENT TUS-BM-S080-02	BOVER S/60 30906204169U	UNV	2,3,6,7	SUSPENDED	13	
P2	TEGAN LIGHTING KAQP-SPG-RDE-CSJ-BS-LED-120/277V-DSO-DM-0-10V-LB-O-24-NC	EI TORRENT TUS-BM-S060-02	BOVER S/60 30906204169U	UNV	2,5,6,7	SURFACE	13	
P3	TEGAN LIGHTING KAQP-SPG-RDE-CSJ-BS-LED-120/277V-DSO-DM-0-10V-LB-O-18-NC	EI TORRENT TUS-BM-S040-02	BOVER S/60 30906204169U	UNV	2,5,6,7	SURFACE	13	
Q	DAY-O-LITE VLL-1644-DI-PF-40-SO-8-WM-DIM10	LITHONIA MLX-L8-8000LM-80CRI-40K-WGDL-MD-MIN10-ZT-MVOLT-WH	LITCONTROL 67L-W-D-8'-8-BL-40K9-D075-D01-1C-UNV	UNV	2,5,6,7	SURFACE	49	
QE	SAME AS Q, BACKUP IS FED THROUGH GENERATOR	SAME AS Q, BACKUP IS FED THROUGH GENERATOR	SAME AS Q, BACKUP IS FED THROUGH GENERATOR	UNV	2,5,6,7	SURFACE	49	
R14	AXIS LIGHTING EX4R-500-80-40-SO-14-W-UNV-DP-1-D	MARK SL2L-LOP-14FT0-FLP-FL-80CRI-40K-600LMF-MIN1-277-ZT-WL	LITECONTROL 2W-DW-D-14'-3-08-SOFW-40K9-D060-D01-1C-UNV	UNV	2,5,6,7	SURFACE	84	
R16	AXIS LIGHTING EX4R-500-80-40-SO-16-W-UNV-DP-1-D	MARK SL2L-LOP-16FT0-FLP-FL-80CRI-40K-600LMF-MIN1-277-ZT-WL	LITECONTROL 2W-DW-D-16'-3-08-SOFW-40K9-D060-D01-1C-UNV	UNV	2,5,6,7	SURFACE	96	
R16E	SAME AS R16, BACKUP IS FED THROUGH GENERATOR	SAME AS R16, BACKUP IS FED THROUGH GENERATOR	SAME AS R16, BACKUP IS FED THROUGH GENERATOR	UNV	2,5,6,7	SURFACE	96	
R28	AXIS LIGHTING EX4R-500-80-40-SO-28-W-UNV-DP-1-D	MARK SL2L-LOP-28FT0-FLP-FL-80CRI-40K-600LMF-MIN1-277-ZT-WL	LITECONTROL 2W-DW-D-28'-3-08-SOFW-40K9-D060-D01-1C-UNV	UNV	2,5,6,7	SURFACE	168	
R72	AXIS LIGHTING EX4R-500-80-40-SO-72-W-UNV-DP-1-D	MARK SL2L-LOP-72FT0-FLP-FL-80CRI-40K-600LMF-MIN1-277-ZT-WL	LITECONTROL 2W-DW-D-72'-3-08-SOFW-40K9-D060-D01-1C-UNV	UNV	2,5,6,7	SURFACE	432	
S1	GARDCO OPF-M-A13-740-T4W-AR1-UNV-WIAP	LITHONIA RSX2 LED-P4-40K-R4-MVOLT-SPA-NLTAIR2 PIRHN	WILLIAMS VA2-L330-8-40-T4-F-S-DIM-UNV	UNV	1,6,7	POLE	187	25' POLE
S2	SAME AS S1, WITH 2 FIXTURES MOUNTED 180 DEGREES OF EACH OTHER	SAME AS S1, WITH 2 FIXTURES MOUNTED 180 DEGREES OF EACH OTHER	SAME AS S1, WITH 2 FIXTURES MOUNTED 180 DEGREES OF EACH OTHER	UNV	1,6,7	POLE	374	25' POLE
S3	GARDCO OPF-M-A13-740-T2M-AR1-UNV-WIAP	LITHONIA RSX2 LED-P4-40K-R2-MVOLT-SPA-NLTAIR2 PIRHN	WILLIAMS VA2-L330-8-40-T2-F-S-DIM-UNV	UNV	1,6,7	POLE	187	25' POLE
T	LUMINART SOL-L72-RD1500L-48W-4000K-BLACK-277-0-10V	FOCAL POINT DLIA-60S-CRV1-12-FSDL-44-CX-7000L-40K-1C-UNV-C-DLIA-BKCD-BK	CORONET PRD.STFU.4-4-40-MED-UNV-DB-FHD-AC.CENT-SD	UNV	1,6,7	POLE	60	
U2	AXIS BMRLED-300-80-40-TW2750-FL-2--UNV-DO-1-TB9	FINELITE HP-3-R-D-2-S-840-F-277-SC-FC-10%-C1-FE	CORONET LSR3-2-40-LOW-UNV-DB-T-AV1.BWG	UNV	3,6,7	RECESSED	16	
U12	AXIS BMRLED-300-80-40-TW2750-FL-12--UNV-DO-1-TB9	FINELITE HP-3-R-D-12-S-840-F-277-SC-FC-10%-C1-FE	CORONET LSR3-12-40-LOW-UNV-DB-T-AV1.BWG	UNV	3,6,7	RECESSED	96	
U13	AXIS BMRLED-300-80-40-TW2750-FL-13--UNV-DO-1-TB9	FINELITE HP-3-R-D-13-S-840-F-277-SC-FC-10%-C1-FE	CORONET LSR3-13-40-LOW-UNV-DB-T-AV1.BWG	UNV	3,6,7	RECESSED	104	
U15	AXIS BMRLED-300-80-40-TW2750-FL-15--UNV-DO-1-TB9	FINELITE HP-3-R-D-15-S-840-F-277-SC-FC-10%-C1-FE	CORONET LSR3-15-40-LOW-UNV-DB-T-AV1.BWG	UNV	3,6,7	RECESSED	120	
U16	AXIS BMRLED-300-80-40-TW2750-FL-16--UNV-DO-1-TB9	FINELITE HP-3-R-D-16-S-840-F-277-SC-FC-10%-C1-FE	CORONET LSR3-16-40-LOW-UNV-DB-T-AV1.BWG	UNV	3,6,7	RECESSED	128	
W	GARDCO 16L-700-NW-G2-4-UNV-DD	LITHONIA WDGE2 LED-P3-40K-80CRI-T4M-MVOLT-SRM	WILLIAMS VWPV-L30-8-40-T3-CGL-DIM-UNV	UNV	1,5,6,7	WALL	32	
X1	CHLORIDE CE-1-RW-W	EXITRONIX 902EX-R-LB-RC-WH	MULE LIGHTING CEL-1-A-RC-WH-R	UNV	3,6,7	CEILING	5	
X2	CHLORIDE CE-1-RW-W	EXITRONIX 902EX-U-LB-RC-WH	MULE LIGHTING CEL-1-A-RC-WH-U	UNV	3,6,7	SURFACE	5	
X3	CHLORIDE ER46L-1-W-R-WG4	EXITRONIX VEX-U-LB-WH-WG-S	MULE LIGHTING MX-A-R-U-BPG2	UNV	3,6,7	SURFACE	5	

LIGHT FIXTURE SCHEDULE NOTES

1	'ON' 'OFF' TO BE THRU TIMECLOCK.
2	COORDINATE WITH ARCHITECT DRAWINGS FOR EXACT LENGTHS, IN ONE FOOT INCREMENTS, PRIOR TO BIDDING AND ORDERING FIXTURES. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
3	PROVIDE CEILING TYPE MOUNTING AS REQUIRED, REF. ARCH. DRAWINGS.
4	PROVIDE CHAIN HANGER IN AREAS WITHOUT CEILING, REF. ARCH. DRAWINGS.
5	PROVIDE WALL OR COLUMN TYPE MOUNTING AS REQUIRED, REF. ARCH. DRAWINGS.
6	VERIFY EXACT LOCATION AND HEIGHT W/ ARCH. PRIOR TO ROUGH-IN - REF. ARCH'S ELEVS FOR MORE INFORMATION. ADVISE ARCHITECT WHERE FIXTURES ARE SHOWN IN ARCHITECTURAL FEATURE.
7	VERIFY COLOR/FINISH WITH ARCHITECT PRIOR TO ORDERING.
8	PROVIDE WITH ADJUSTABLE CEILING ADAPTER OPTION FOR ALL FIXTURES INSTALLED IN SLOPED CEILING. EC TO VERIFY DEGREE OF SLOPE WITH ARCHITECT PRIOR TO ORDERING FIXTURES.

Revision / 1 — ADDENDUM 1 — Date 07/24/26

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

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ELECTRICAL SCHEDULES

VOLUME 2

Job No. 00802-04-01 | Sheet No. E0.02
Drawn By: MH
Date: 07.15.2026

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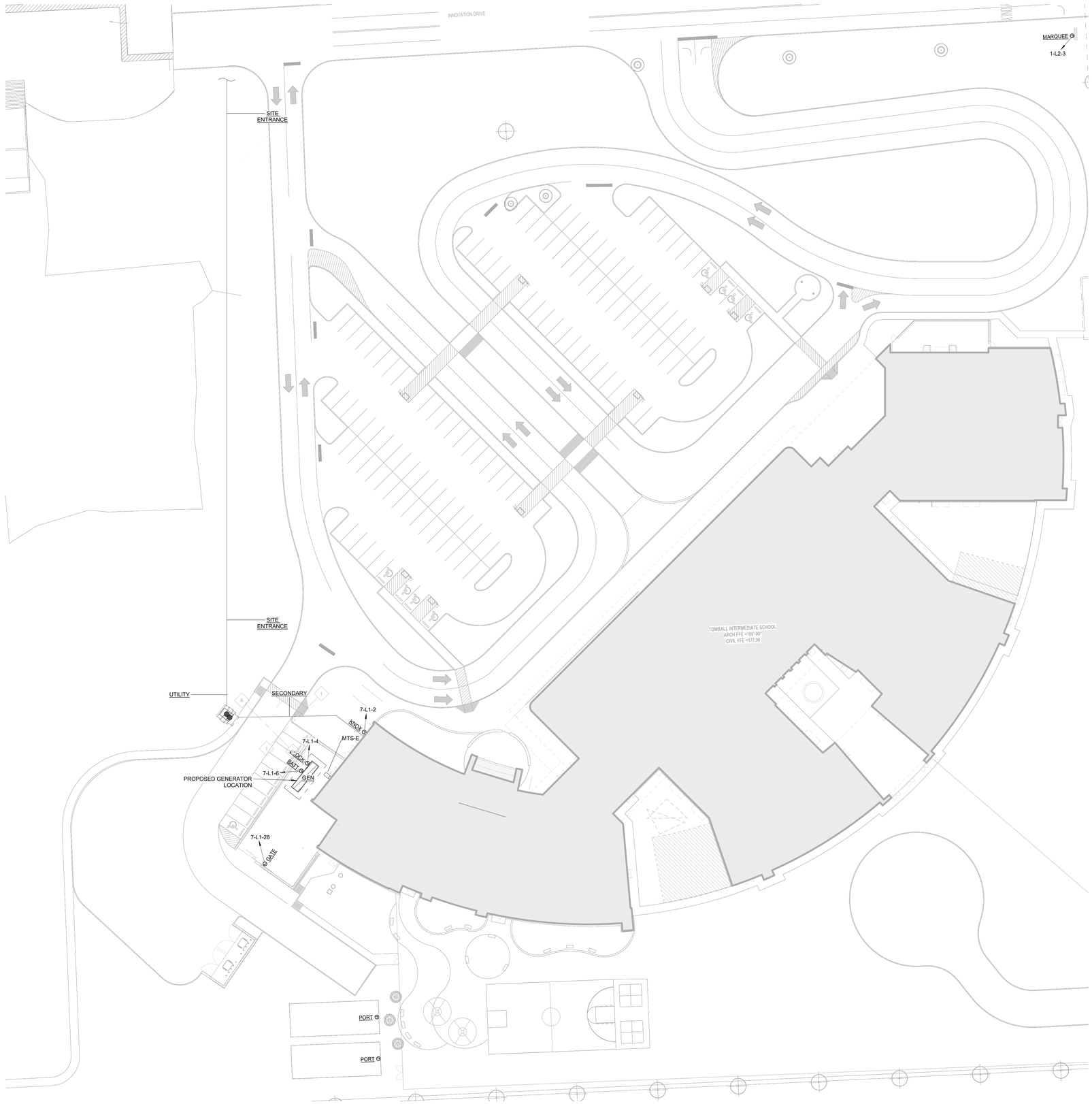

1 E1.00 ELECTRICAL POWER SITE PLAN
1" = 30'-0"

N TRUE

PLAN

ELECTRICAL GENERAL NOTES

NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E., BOTH TOP AND BOTTOM RECEPTACLES).

ELECTRICAL UNDERLINED NOTES _

KEY	DESCRIPTION
BATT	J-BOX FOR GENERATOR BATTERY CHARGER. COORDINATE EXACT LOCATION WITH MANUFACTURER OF GEN-SET.
BLOCK	J-BOX FOR GENERATOR BLOCK HEATER. COORDINATE EXACT LOCATION WITH MANUFACTURER OF GEN-SET.
GATE	MOTORIZED GATE OPERATOR. PROVIDE TWO(2) 2"C TO COMPUTER ROOM FOR DIGITAL CONTROL. PROVIDE 1"C FROM GATE CONTROLLER TO ENTRANCE CARD READER POLE FOR ENTRANCE ACCESS. EXIT LANE PROVIDE 1"C TO LOOP DETECTOR. COORDINATE EXACT LOCATIONS WITH GATE INSTALLER.
GEN	NEW 125KW NATURAL GAS 480Y/277V GENERATOR.
KNOX	PROPOSED LOCATION FOR BUILDING MAIN SHUNT TRIP DEVICE TO DE-ENERGIZE ELECTRICAL SERVICE. COORDINATE FINAL INSTALL LOCATION WITH AHJ.
MARQUEE	J-BOX FOR MARQUEE SITE SIGNAGE. PROVIDE TWO (2) 2" CONDUITS FROM ELECTRICAL ROOM TO MARQUEE/SIGN. PROVIDE PULL STRING AND CAP.
PORT	PROVIDE (2) 4" CONDUITS WITH PULL STRING TO THE MDP FOR FUTURE PORTABLE BUILDING POWER. PROVIDE JUNCTION BOX ON THE SITE TAGGED WITH ELECTRICAL AND NOTED FOR PORTABLE BUILDINGS. SWITCHBOARD DIRECTORY SHALL BE TAGGED FOR FUTURE PORTABLE BUILDINGS AT THE 400A BREAKER. CONDUIT SHALL BE TAGGED AND LABELED ON BOTH ENDS FOR FUTURE IDENTIFICATION OF THE START/END OF THE CONDUITS.
SECONDARY	APPROXIMATE ROUTING OF SECONDARYUTILITY CONDUITS. EXACT ROUTING TO BE FIELD DETERMINED. REFER TO ONE-LINE AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
SITE ENTRANCE	COORDINATE CONNECTION LOCATION WITH UTILITY COMPANY.
UTILITY	PROPOSED LOCATION OF UTILITY DISTRIBUTION TRANSFORMER. REFER TO ONE-LINE AND SERVICE ENTRANCE SPECIFICAITONS FOR ADDITIONAL INFORMATION AND DIVISION OF LABOR FOR ELECTRIC UTILITY SERVICE ENTRANCE. COORDINATE EXACT LOCATION WITH CIVIL AND UTILITY PROVIDER PRIOR TO INSTALLATION OF TRANSFORMER PAD.

GENERATOR NOTE

NUMBER	NOTE
1	NATURAL GAS GENERATORS TO BE PERMITTED SEPARATELY BY GENERATOR INSTALLERS. SUBJECT TO REVIEW AND INSPECTORS OF 2021 IFC, 2021 IMC AND APPILCABLE NFPA PROVISIONS

Revision / 1 — Date 07/24/26 — ADDENDUM 1

Project:
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ELECTRICAL POWER SITE PLAN

VOLUME 2

Job No. 00803-04-01	Sheet No. E1.00
Drawn By: MH	
Date: 07.15.2026	

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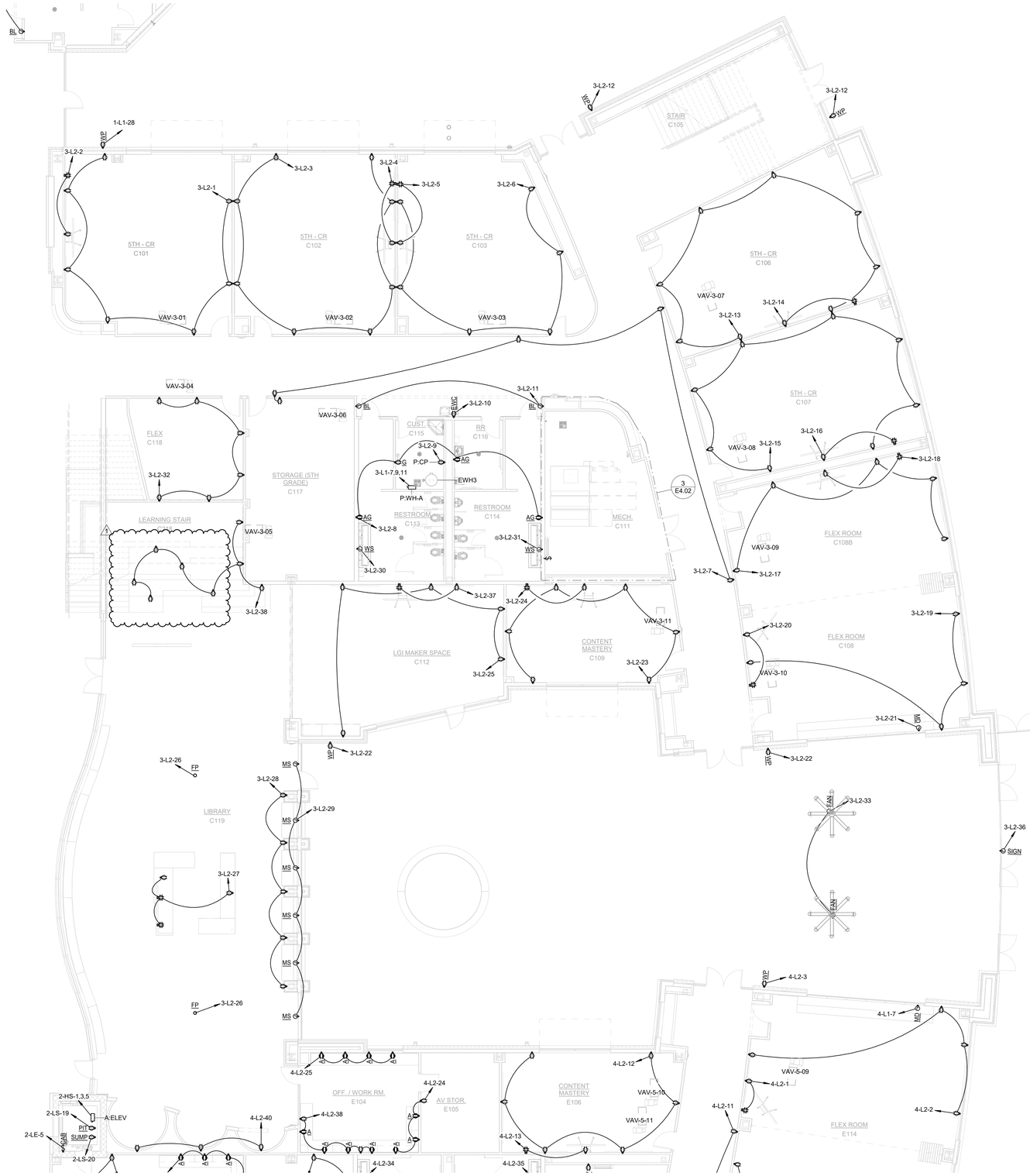


1 POWER PLAN - LEVEL 01 -'AREA C
1/8" = 1'-0"

ELECTRICAL GENERAL NOTES

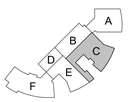
NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E., BOTH TOP AND BOTTOM RECEPTACLES).

ELECTRICAL UNDERLINED NOTES _

KEY	DESCRIPTION
A	ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
AG	GFCI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
BL	J-BOX FOR BACKLIT SIGNAGE TAPE LIGHTING. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER OF SIGNAGE. BASIS OF DESIGN OF TAPE LIGHTING: NOVA FLEX NF-LINE2-IP65-80-120V-4000K
CEL	LOCATE E-MERGENCY CALL BUTTON CAB LIGHTING SCANNER. COORDINATE EXACT LOCATION WITH INSTALLER OF ELEVATOR.
EWC	RECEPTACLE OUTLET FOR ELECTRIC WATER COOLER, COORDINATE EXACT ELEVATION WITH INSTALLER OF EWC. REFER TO DETAIL 4/E6.02.
FAN	J-BOX FOR CEILING MOUNTED FAN. COORDINATE EXACT MOUNTING WITH INSTALLER OF FAN.
FP	FLOOR BOX WITH TWO DUPLEX POWER RECEPTACLES AND SEPARATE DATA COMPARTMENTS. FINISH TO BE SELECTED BY ARCHITECT. PROVIDE WIREMOLD #RFBA4R25-OG FOR SLAB ON-GRADE LOCATIONS AND ##RFBA4R25 FOR ABOVE-GRADE LOCATIONS. PROVIDE 1-1/4"C FOR COMMUNICATIONS TO ACCESSIBLE AREA ABOVE CEILING.
G	GFCI DUPLEX RECEPTACLE AT 18"ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
MD	J-BOX FOR MOTOR OPERATED DOOR OPEN/CLOSE. COORDINATE EXACT LOCATION WITH INSTALLER OF DOOR AND PROVIDE CONTROL WIRING TO LOCATION REQUIRED BY INSTALLER OF DOOR.
MS	J-BOX FOR MOTOR OPERATED SHADE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLTION.
PIT	GFI RECEPTACLE IN ELEVATOR PIT. REFER TO ELEVATOR DETAILS FOR ADDITIONAL INFORMATION
SIGN	J-BOX FOR BACKLIT EXTERIOR SIGNAGE. COORDINATE EXACT MOUNTING WITH INSTALLER OF BACKLIT SIGNAGE.
SUMP	GFI RECEPTACLE IN ELEVATOR PIT FOR SUMP PUMP. REFER TO ELEVATOR DETAILS FOR ADDITIONAL INFORMATION
VAV	DUPLEX RECEPTACLE FOR VAV CONTROLS. COORDINATE LOCATION WITH INSTALLER OF HVAC CONTROLS.
WP	WEATHER RESISTANT GFCI RECEPTACLE IN WEATHERPROOF, EXTRA DUTY TYPE ENCLOSURE.
WS	J-BOX FOR ELECTRIC WASH STATION. COORDINATE EXACT MOUNTING WITH INSTALLER OF WASH STATION.

NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
A:ELEV	100/3/NF/NEMA 1 DISCONNECT FOR ELEVATOR. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER. PROVIDE SHUNT TRIP PROTECTION FOR ELEVATOR UNLESS NOT REQUIRED BY LOCAL JURISDICTION.	22437 VA	480 V	3
M:AC	MOTOR RATED SWITCH FOR INDOOR UNIT. INDOOR UNIT IS POWERED THROUGH THE ASSOCIATED OUTDOOR UNIT.	1 VA	208 V	2
P:CP	DUPLEX RECEPTACLE FOR CIRCULATION PUMP AND ASSOCIATED DIGITAL THERMOSTATIC MIXING VALVE.	240 VA	120 V	1
P:WH-A	60/3/NF NEMA 1 DISCONNECT FOR WATER HEATER.	9000 VA	208 V	3



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
Innovative Engineering Group
www.iegengineers.com
817.410.2858
TBPELS Firm No. F-5923
B. KYLE HASKOVEC
143448
LICENSED
PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B. KYLE HASKOVEC, PE #143448 ON 07/31/2026

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POWER PLAN - LEVEL 01 - AREA C
VOLUME 2

Job No.	Sheet No.
00802-04-01	E2.1C
Drawn By: MH	
Date: 07.15.2026	

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ELECTRICAL GENERAL NOTES

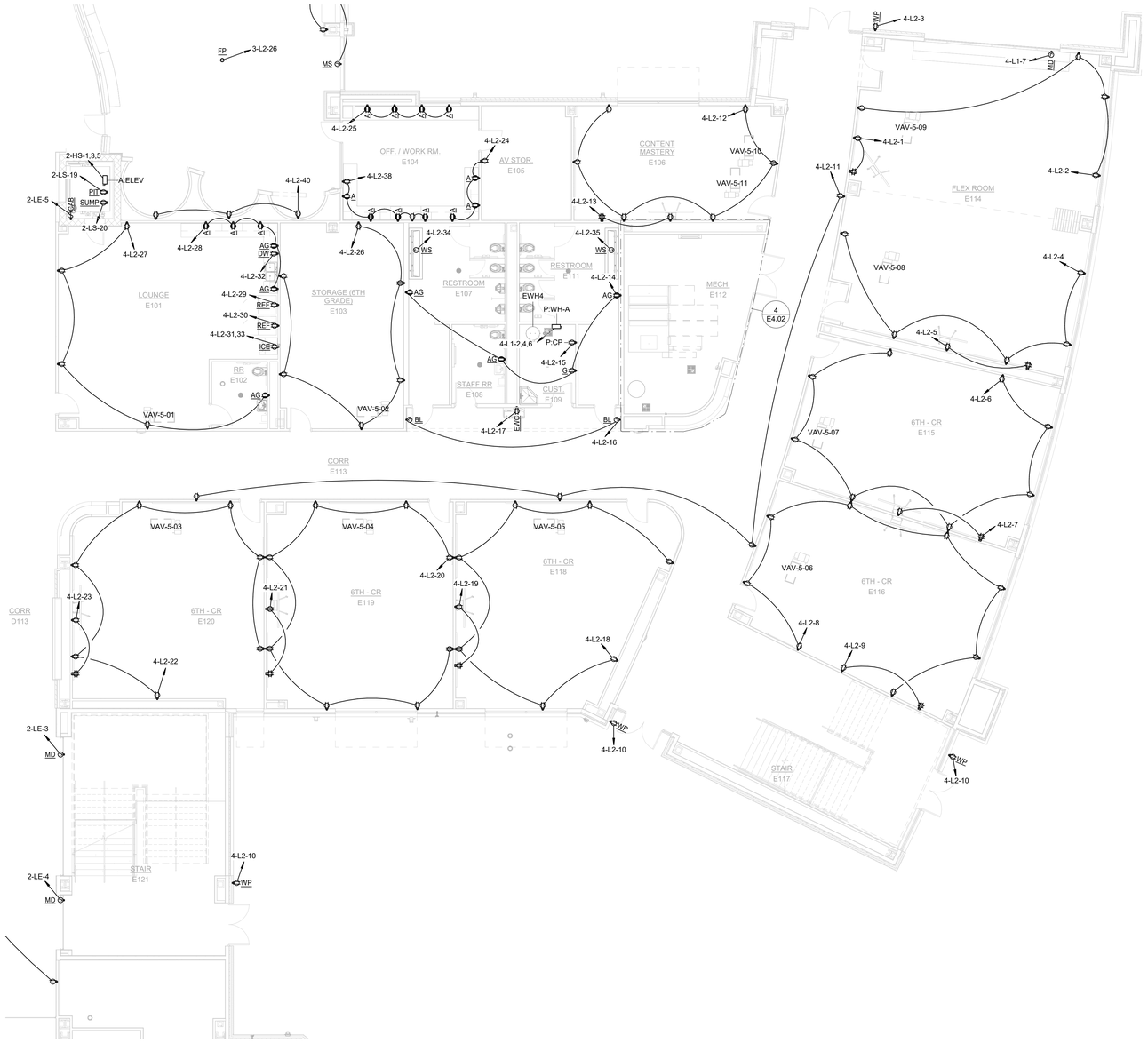
NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E., BOTH TOP AND BOTTOM RECEPTACLES).

ELECTRICAL UNDERLINED NOTES _

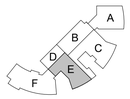
KEY	DESCRIPTION
A	ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
AG	GFCI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
BL	J-BOX FOR BACKLIT SIGNAGE TAPE LIGHTING. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER OF SIGNAGE. BASIS OF DESIGN OF TAPE LIGHTING: NOVA FLEX NF-LINE2-IP65-80-120V-4000K
CAB	HOOKABLE PATCH FOR ELEVATOR CAB LIGHTING POWER. COORDINATE EXACT LOCATION WITH INSTALLER OF ELEVATOR.
DW	DEDICATED GFI RECEPTACLE FOR DISHWASHER. MOUNT IN MILLWORK ADJACENT TO DISHWASHER SO GFI IS ACCESSABLE WITHOUT MOVING DISHWASHER.
EWC	RECEPTACLE OUTLET FOR ELECTRIC WATER COOLER, COORDINATE EXACT ELEVATION WITH INSTALLER OF EWC. REFER TO DETAIL 4/E6.02.
FP	FLOOR BOX WITH TWO DUPLEX POWER RECEPTACLES AND SEPARATE DATA COMPARTMENTS. FINISH TO BE SELECTED BY ARCHITECT. PROVIDE WIREMOLD #RFBA4R25-OG FOR SLAB ON-GRADE LOCATIONS AND ##RFBA4R25 FOR ABOVE-GRADE LOCATIONS. PROVIDE 1-1/4"C FOR COMMUNICATIONS TO ACCESSIBLE AREA ABOVE CEILING.
G	GFCI DUPLEX RECEPTACLE AT 18"ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
ICE	GFI RECEPTACLE FOR ICE MACHINE. COORDINATE LOCATION WITH INSTALLER OF MACHINE.
MD	J-BOX FOR MOTOR OPERATED DOOR OPEN/CLOSE. COORDINATE EXACT LOCATION WITH INSTALLER OF DOOR AND PROVIDE CONTROL WIRING TO LOCATION REQUIRED BY INSTALLER OF DOOR.
MS	J-BOX FOR MOTOR OPERATED SHADE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLTION.
PIT	GFI RECEPTACLE IN ELEVATOR PIT. REFER TO ELEVATOR DETAILS FOR ADDITIONAL INFORMATION.
REF	GFI RECEPTACLE FOR REFRIGERATOR. COORDINATE LOCATION WITH INSTALLER OF REFRIGERATOR.
SUMP	GFI RECEPTACLE IN ELEVATOR PIT FOR SUMP PUMP. REFER TO ELEVATOR DETAILS FOR ADDITIONAL INFORMATION
WP	WEATHER RESISTANT GFCI RECEPTACLE IN WEATHERPROOF, EXTRA DUTY TYPE ENCLOSURE.
WS	J-BOX FOR ELECTRIC WASH STATION. COORDINATE EXACT MOUNTING WITH INSTALLER OF WASH STATION.

NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
A:ELEV	100/3/NF/NEMA 1 DISCONNECT FOR ELEVATOR. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER. PROVIDE SHUNT TRIP PROTECTION FOR ELEVATOR UNLESS NOT REQUIRED BY LOCAL JURISDICTION.	22437 VA	480 V	3
P:CP	DUPLEX RECEPTACLE FOR CIRCULATION PUMP AND ASSOCIATED DIGITAL THERMOSTATIC MIXING VALVE.	240 VA	120 V	1
P:WH-A	60/3/NF NEMA 1 DISCONNECT FOR WATER HEATER.	9000 VA	208 V	3



1 POWER PLAN - LEVEL 01 - AREA E
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN

Revision /	Date
1	07/24/26

ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

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POWER PLAN - LEVEL 01 - AREA E

VOLUME 2

Job No.	Sheet No.
00802-04-01	E2.1E
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NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
K:STROBE	J-BOX FOR EMERGENCY STROBE BEACON. VERIFY EXACT LOCATION OF STROBE WITH OWNER. REFER TO FOOD SERVICE DRAWINGS FOR EXACT REQUIREMENTS.	1920 VA	120 V	1
M:AHU-C	INTEGRAL DISCONNECT FOR AIR HANDLER UNIT	5320 VA	480 V	3
M:BCP	30/3/20A NEMA 1 DISCONNECT FOR BOILER CIRCULATION PUMP.	2766 VA	208 V	3
M:BOIL	30/3/20A NEMA 1 DISCONNECT FOR BOILER.	2246 VA	208 V	3
M:CHILL	600/3/NF NEMA 3R DISCONNECT FOR AIR COOLED CHILLER	448947 VA	480 V	3

NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
M:CHWP	60/3/NF NEMA 1 DISCONNECT FOR CHILLER LOOP.	17949 VA	480 V	3
M:EF-A	MOTOR RATED SWITCH FOR EXHAUST FAN.	528 VA	120 V	1
M:FCU-A	DISCONNECT INTEGRAL TO FAN COIL UNIT.	1800 VA	277 V	1
M:HWP	30/3/NF NEMA 1 DISCONNECT FOR HEATING WATER LOOP.	9141 VA	480 V	3
M:UH-1	MOTOR RATED SWITCH FOR INDOOR UNIT HEATER.	3000 VA	208 V	2
P:CP	DUPLEX RECEPTACLE FOR CIRCULATION PUMP AND ASSOCIATED DIGITAL THERMOSTATIC MIXING VALVE.	240 VA	120 V	1
P:WH-A	60/3/NF NEMA 1 DISCONNECT FOR WATER HEATER.	9000 VA	208 V	3
P:WH-B	MOTOR RATED SWITCH FOR GAS WATER HEATER.	240 VA	120 V	1

ELECTRICAL UNDERLINED NOTES _

KEY	DESCRIPTION
A	ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
AG	GFCI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT.
CDP	DUPLEX RECEPTACLE FOR CONTROL DISTRIBUTION PANEL. REFER TO THEATRICAL DRAWINGS FOR FURTHER INFORMATION AND EXACT LOCATION.
DRY	OUTLET FOR CLOTHES DRYER COORDINATE EXACT NEMA CONFIGURATION WITH ITEM PURCHASED BY OTHERS MOUNT AT 36" AFF. PROVIDE GFI BREAKER.
EQR	DUPLEX RECEPTACLE FOR AV EQUIPMENT RACK. REFER TO THEATRICAL DRAWINGS FOR FURTHER INFORMATION.
EWC	RECEPTACLE OUTLET FOR ELECTRIC WATER COOLER, COORDINATE EXACT ELEVATION WITH INSTALLER OF EWC. REFER TO DETAIL 4/E6.02.
G	GFCI DUPLEX RECEPTACLE AT 18"ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
IRR	GFI OUTLET FOR IRRIGATION CONTROLLER. COORDINATE MOUNTING LOCATION WITH INSTALLER OF IRRIGATION SYSTEM.
MD	J-BOX FOR MOTOR OPERATED DOOR OPEN/CLOSE. COORDINATE EXACT LOCATION WITH INSTALLER OF DOOR AND PROVIDE CONTROL WIRING TO LOCATION REQUIRED BY INSTALLER OF DOOR.

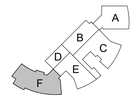
ELECTRICAL UNDERLINED NOTES _

KEY	DESCRIPTION
MGL	J-BOX FOR MOTOR OPERATED GOAL LIFT. COORDINATE EXACT LOCATION WITH INSTALLER OF DOOR AND PROVIDE CONTROL WIRING TO LOCATION REQUIRED BY INSTALLER OF GOAL OPERATOR.
MP	DUPLEX RECEPTACLE FOR MICROPHONE PLATE. REFER TO AV DRAWINGS FOR FURTHER INFORMATION.
MPS	J-BOX FOR MOTOR OPERATED PROJECTOR SCREEN MOUNTED ABOVE CEILING. COORDINATE EXACT LOCATION WITH A/V DRAWINGS AND PROVIDE CONTROL WIRING TO LOCATION REQUIRED BY INSTALLER OF MOTOR OPERATOR.
MS	J-BOX FOR MOTOR OPERATED SHADE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLTION.
NET	DUPLEX RECEPTACLE FOR NETWORK CONTROL STATION. REFER TO THEATRICAL DRAWINGS FOR FURTHER INFORMATION AND EXACT LOCATION.
PB	PROVIDE 3/4" CONDUIT FOR DUPLEX RECEPTACLE TYPE L5-20R FOR MULTI-CIRCUIT PLUGGING BOX. REFER TO THEATRICAL DRAWINGS FOR EXACT LOCATION AND CONNECTION DESIGNATIONS.
PRJ	CEILING MOUNTED DUPLEX OUTLET FOR PROJECTOR. MOUNT FACING DOWN AT CEILING LEVEL.
REF	GFI RECEPTACLE FOR REFRIGERATOR. COORDINATE LOCATION WITH INSTALLER OF REFRIGERATOR.
RP	DUPLEX RECEPTACLE FOR RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR FURTHER INFORMATION AND EXACT LOCATION.
TV	RECESSED DUPLEX RECEPTACLE FOR TELEVISION OR DISPLAY. COORDINATE EXACT ELEVATION WITH ARCHITECT. RECEPTACLE SHALL HAVE INTEGRAL SURGE PROTECTION. PROVIDE DEDICATED GROUND IN ADDITION TO EQUIPMENT GROUND BACK TO PANEL SERVING OUTLET.
WASH	OUTLET FOR CLOTHES WASHING MACHINE COORDINATE EXACT NEMA CONFIGURATION WITH ITEM PURCHASED BY OTHERS MOUNT AT 36" AFF. PROVIDE GFI BREAKER.
WP	WEATHER RESISTANT GFCI RECEPTACLE IN WEATHERPROOF, EXTRA DUTY TYPE ENCLOSURE.
WS	J-BOX FOR ELECTRIC WASH STATION. COORDINATE EXACT MOUNTING WITH INSTALLER OF WASH STATION.

ELECTRICAL GENERAL NOTES

NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E.. BOTH TOP AND BOTTOM RECEPTACLES).

1 POWER PLAN - LEVEL 01 - AREA F
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

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POWER PLAN - LEVEL 01 - AREA F

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Job No. 03802-04-01	Sheet No. E2.1F
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Date: 07.15.2026	

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ELECTRICAL GENERAL NOTES

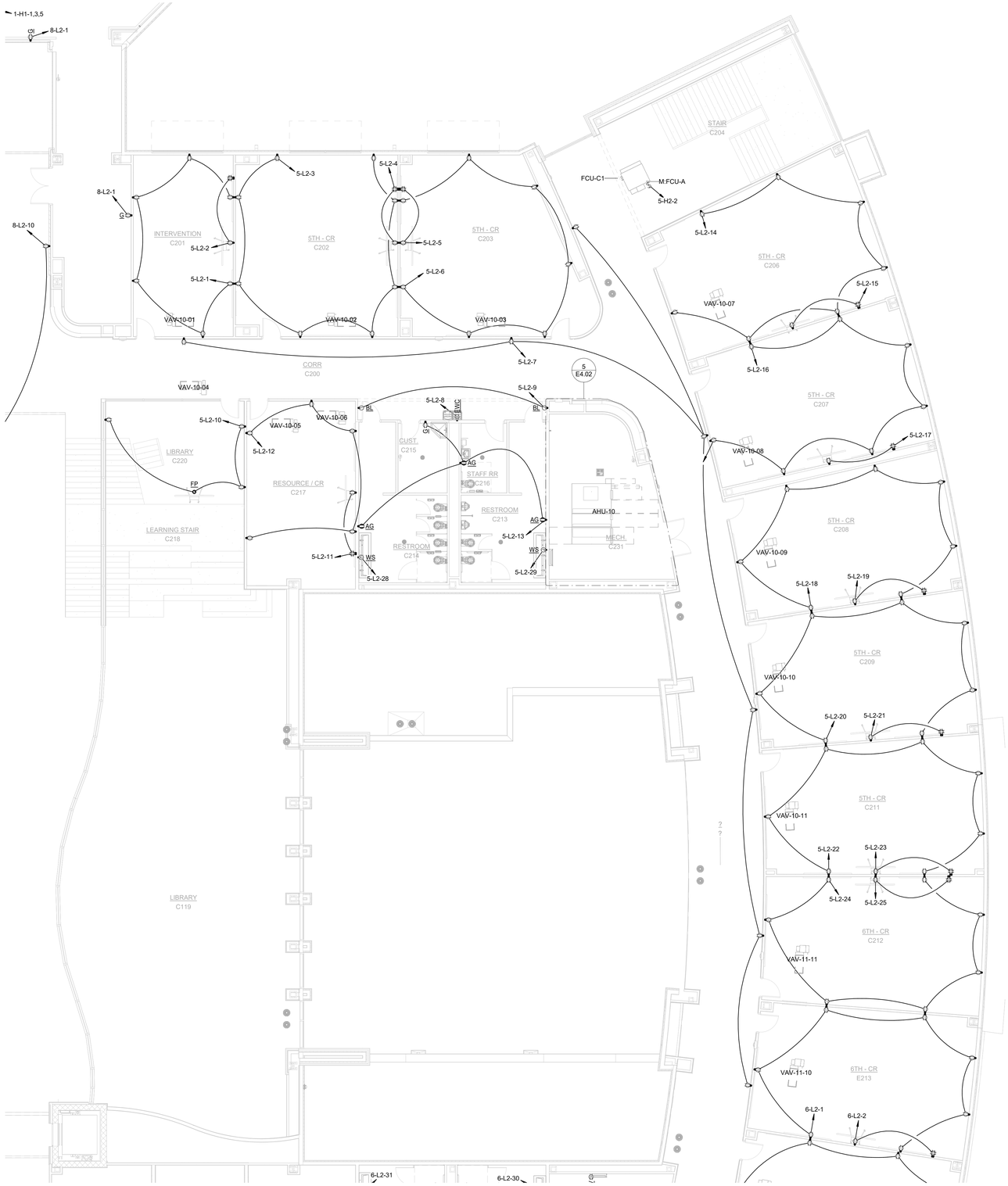
NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E., BOTH TOP AND BOTTOM RECEPTACLES).

ELECTRICAL UNDERLINED NOTES _

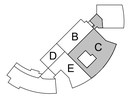
KEY	DESCRIPTION
AG	GFCI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT.
BL	J-BOX FOR BACKLIT SIGNAGE TAPE LIGHTING. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER OF SIGNAGE. BASIS OF DESIGN OF TAPE LIGHTING: NOVA FLEX NF-LINE2-IP65-80-120V-4000K
EWC	RECEPTACLE AND AT FCU ELECTRIC HEATING COIL. COORDINATE EXACT ELEVATION WITH INSTALLER OF EWC. REFER TO DETAIL 4/E6.02.
FP	FLOOR BOX WITH TWO DUPLEX POWER RECEPTACLES AND SEPARATE DATA COMPARTMENTS. FINISH TO BE SELECTED BY ARCHITECT. PROVIDE WIREMOLD #RFBA4R25-OG FOR SLAB ON-GRADE LOCATIONS AND ##RFBA4R25 FOR ABOVE-GRADE LOCATIONS. PROVIDE 1-1/4"C FOR COMMUNICATIONS TO ACCESSIBLE AREA ABOVE CEILING.
G	GFCI DUPLEX RECEPTACLE AT 18"ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
VAV	DUPLEX RECEPTACLE FOR VAV CONTROLS. COORDINATE LOCATION WITH INSTALLER OF HVAC CONTROLS.
WS	J-BOX FOR ELECTRIC WASH STATION. COORDINATE EXACT MOUNTING WITH INSTALLER OF WASH STATION.

NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
M:FCU-A	DISCONNECT INTEGRAL TO FAN COIL UNIT.	1800 VA	277 V	1



1 POWER PLAN - LEVEL 02 - AREA C
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
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STATE OF TEXAS
B. KYLE HASKOVEC
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LICENSED PROFESSIONAL ENGINEER
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POWER PLAN - LEVEL 02 - AREA C

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ELECTRICAL GENERAL NOTES

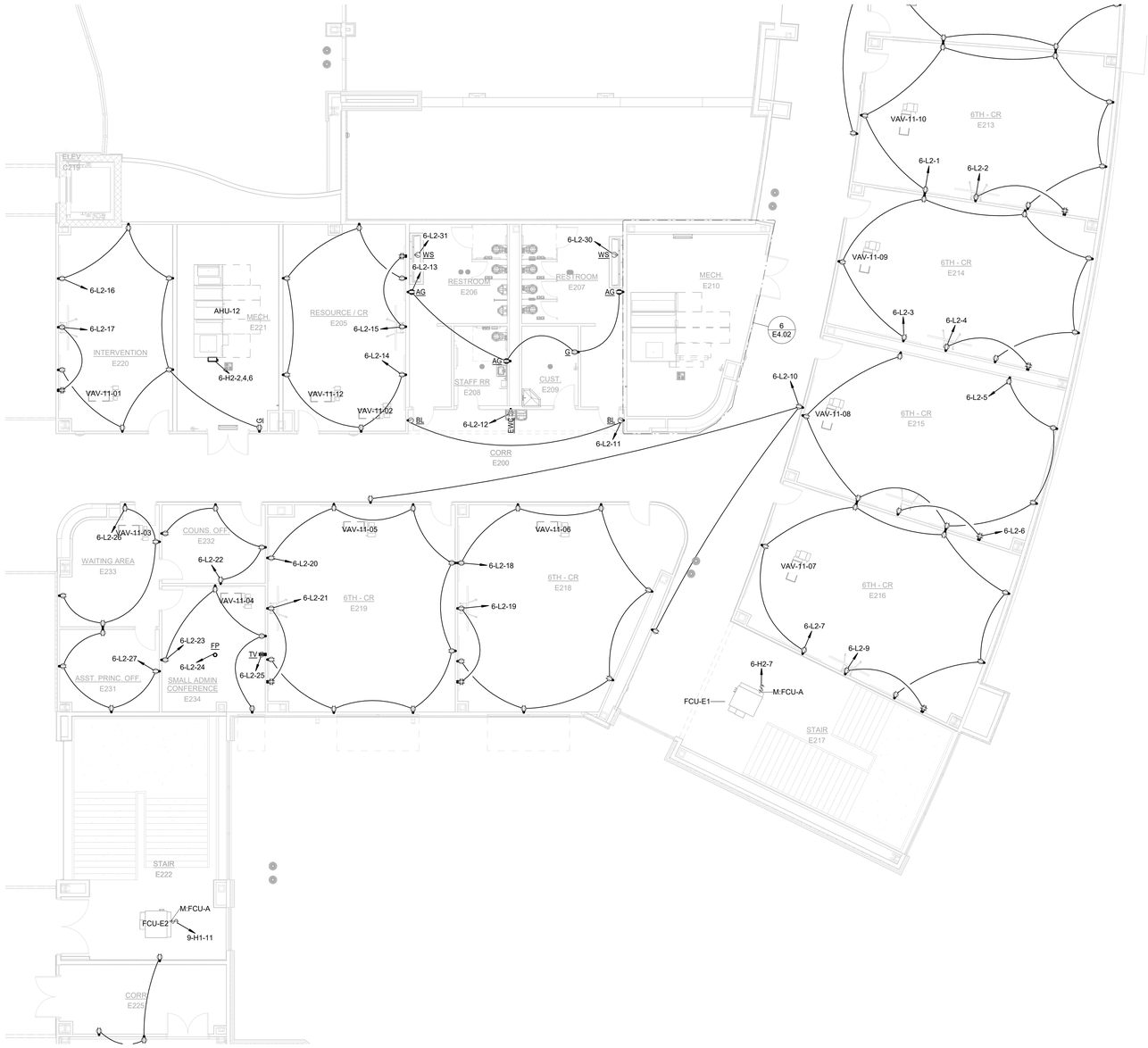
NUMBER	NOTE
1	ALL EQUIPMENT IS TO BE LABELED WITH THE FOLLOWING WHEN APPLICABLE: NAME, VOLTAGE, PHASE, FUSE SIZE, INCOMING CABLE SIZE, FEED FROM NAME.
2	PROVIDE SEALING FITTINGS AT ALL PENETRATIONS THRU WALLS OF DIFFERENT TEMPERATURE SPACES.
3	PROVIDE TAMPER RESISTANT RECEPTACLES PER N.E.C. ARTICLE 406.12.
4	RECEPTACLES SHOWN FOR MAINTENANCE OF ROOF EQUIPMENT LOCATIONS ARE APPROXIMATE. CONTRACTOR TO ROUTE CIRCUIT INSIDE OF EQUIPMENT CURB IF POSSIBLE TO REDUCE THE NUMBER OF ROOF PENETRATIONS.
5	BELOW GRADE CONDUIT SHALL BE RUN UNDER CONCRETE SLAB, AND TURNED UP, USING A 90-DEGREE FACTORY ELBOW. CONDUIT SHALL STUB UP 6" ABOVE TOP OF CONCRETE.
6	ALL DEVICES/DISCONNECTS MOUNTED EXTERIOR TO BUILDING SHALL WP AND OR NEMA 3R RATED DEVICES/DISCONNECTS.
7	IN ALL ENCLOSED OFFICES, CLASSROOMS, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, TRAINING ROOMS AND INDIVIDUAL WORKSTATIONS, "ALL RECEPTACLES SHALL BE CONTROLLED (I.E. TOP CONTROLLED AND BOTTOM UNCONTROLLED UNLESS NOTED OTHERWISE. (I.E., BOTH TOP AND BOTTOM RECEPTACLES).

ELECTRICAL UNDERLINED NOTES _

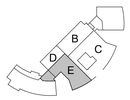
KEY	DESCRIPTION
AG	GFCI ABOVE COUNTER RECEPTACLE, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT PLACEMENT
BL	J-BOX FOR BACKLIT SIGNAGE TAPE LIGHTING. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER OF SIGNAGE. BASIS OF DESIGN OF TAPE LIGHTING: NOVA FLEX NF-LINE2-IP65-80-120V-4000K
EWC	RECEPTACLE LOCATED FOR ELECTRIC WATER COOLER. COORDINATE EXACT ELEVATION WITH INSTALLER OF EWC. REFER TO DETAIL 4/E6.02.
FP	FLOOR BOX WITH TWO DUPLEX POWER RECEPTACLES AND SEPARATE DATA COMPARTMENTS. FINISH TO BE SELECTED BY ARCHITECT. PROVIDE WIREMOLD #RFBA4R25-OG FOR SLAB ON-GRADE LOCATIONS AND ###RFBA4R25 FOR ABOVE-GRADE LOCATIONS. PROVIDE 1-1/4"C FOR COMMUNICATIONS TO ACCESSIBLE AREA ABOVE CEILING.
G	GFCI DUPLEX RECEPTACLE AT 18"ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
TV	RECESSED DUPLEX RECEPTACLE FOR TELEVISION OR DISPLAY, COORDINATE EXACT ELEVATION WITH ARCHITECT. RECEPTACLE SHALL HAVE INTEGRAL SURGE PROTECTION. PROVIDE DEDICATED GROUND IN ADDITION TO EQUIPMENT GROUND BACK TO PANEL SERVING OUTLET.
WS	J-BOX FOR ELECTRIC WASH STATION. COORDINATE EXACT MOUNTING WITH INSTALLER OF WASH STATION.

NAMED EQUIPMENT

KEY	TYPE COMMENTS	LOAD VA	VOLTAGE	#POLE
M:AHU-A	INTEGRAL DISCONNECT FOR AIR HANDLER UNIT	9311 VA	480 V	3
M:FCU-A	DISCONNECT INTEGRAL TO FAN COIL UNIT.	1800 VA	277 V	1



1 POWER PLAN - LEVEL 02 - AREA E
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN
N

Revision /	Date	
1	07/24/26	ADDENDUM 1

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FOR
TOMBALL ISD
TOMBALL, TEXAS

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POWER PLAN - LEVEL 02 - AREA E

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Date: 07.15.2026	

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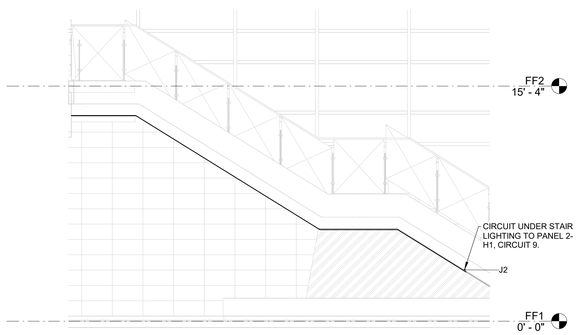
LIGHTING PLAN GENERAL NOTES

NUMBER	NOTE
1	ALL EXIT SIGNS SHALL BE POWERED FROM UNSWITCHED LEG OF LOCAL EMERGENCY CIRCUIT.

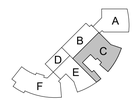
ELECTRICAL UNDERLINED NOTES _

KEY	DESCRIPTION
$f	LINE VOLTAGE FULL ON SENSOR(ON/OFF,RAISE/LOWER)USED TO DETECT OCCUPANCY INTO ROOM AND ACTIVATE LIGHTS TO 100% LIGHT LEVEL IN AREAS ALLOWED BY ENERGY CODE. AFTER ROOM IS VACATED LIGHTING WILL TURN OFF AUTOMATICALLY.
$sr	LINE VOLTAGE TOGGLE SWITCH FOR LOCATIONS WHERE AUTOMATIC OFF WOULD ENDANGER LIFE SAFETY.
$UL	UL LISTED TRANSFER DEVICE FOR EMERGENCY LIGHTING. PROVIDE ONE DEVICE PER CONTROL ROOM OR ZONE. DEVICE SHALL BYPASS LOCAL CONTROL AND FORCE EMERGENCY CIRCUITED LIGHTING ON. OCCUPANTS SHALL NOT HAVE CONTROL OF LIGHTING DURING EMERGENCY CONDITION. CONTRA
$v	LINE VOLTAGE VACANCY SENSOR(ON/OFF,RAISE/LOWER) USED TO ALLOW OCCUPANTS TO MANUALLY TURN LIGHTS ON WHEN THEY ENTER THE ROOM AND HAVE LIGHTS TURN OFF AUTOMATICALLY WHEN ROOM IS VACANT.
Bdt	DUAL TECHNOLOGY SENSOR COORDINATED WITH ASSOCIATED SWITCHING SYSTEM
Bk	DIGITAL LOW VOLTAGE KEY OPERATED SWITCH, COORDINATE KEYS FOR FACILITY TO MATCH PER OWNERS REQUIREMENTS.
Bv	DIGITAL LOW VOLTAGE BUTTON PROGRAMMED TO VACANCY SENSOR(ON/OFF) USED TO ALLOW OCCUPANTS TO MANUALLY TURN LIGHTS ON WHEN THEY ENTER THE ROOM AND HAVE LIGHTS TURN OFF AUTOMATICALLY WHEN ROOM IS VACANT

1 LIGHTING RCP - LEVEL 01 - AREA C
1/8" = 1'-0"



2 CORRIDOR B106 STAIR LIGHTING
1/4" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
Innovative Engineering Group
www.iegengineers.com
817.410.2856
TBPELS Firm No. F-5923
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LIGHTING RCP - LEVEL 01 - AREA C

VOLUME 2

Job No.	Sheet No.
00802-04-01	E3.1C
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LIGHTING PLAN GENERAL NOTES

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ELECTRICAL UNDERLINED NOTES _

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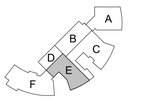
1 LIGHTING RCP - LEVEL 01 - AREA E
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
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LIGHTING RCP - LEVEL 01 - AREA E

VOLUME 2

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LIGHTING PLAN GENERAL NOTES

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ELECTRICAL UNDERLINED NOTES _

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16510	Wall Surface Luminaire
X1	DECORATIVE EXIT LIGHT CEILING MOUNTED. FACE AND CHEVRONS AS SHOWN IN PLAN LOCATION
Bdt	DUAL TECHNOLOGY SENSOR COORDINATED WITH ASSOCIATED SWITCHING SYSTEM
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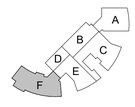
1 LIGHTING RCP - LEVEL 01 - AREA F
1/8" = 1'-0"



KEY PLAN - 1ST FLOOR
N.T.S.

PLAN N

Revision / Date
1 ADDENDUM 1 07/24/26

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
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LIGHTING RCP - LEVEL 01 - AREA F
VOLUME 2

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LIGHTING PLAN GENERAL NOTES

NUMBER	NOTE
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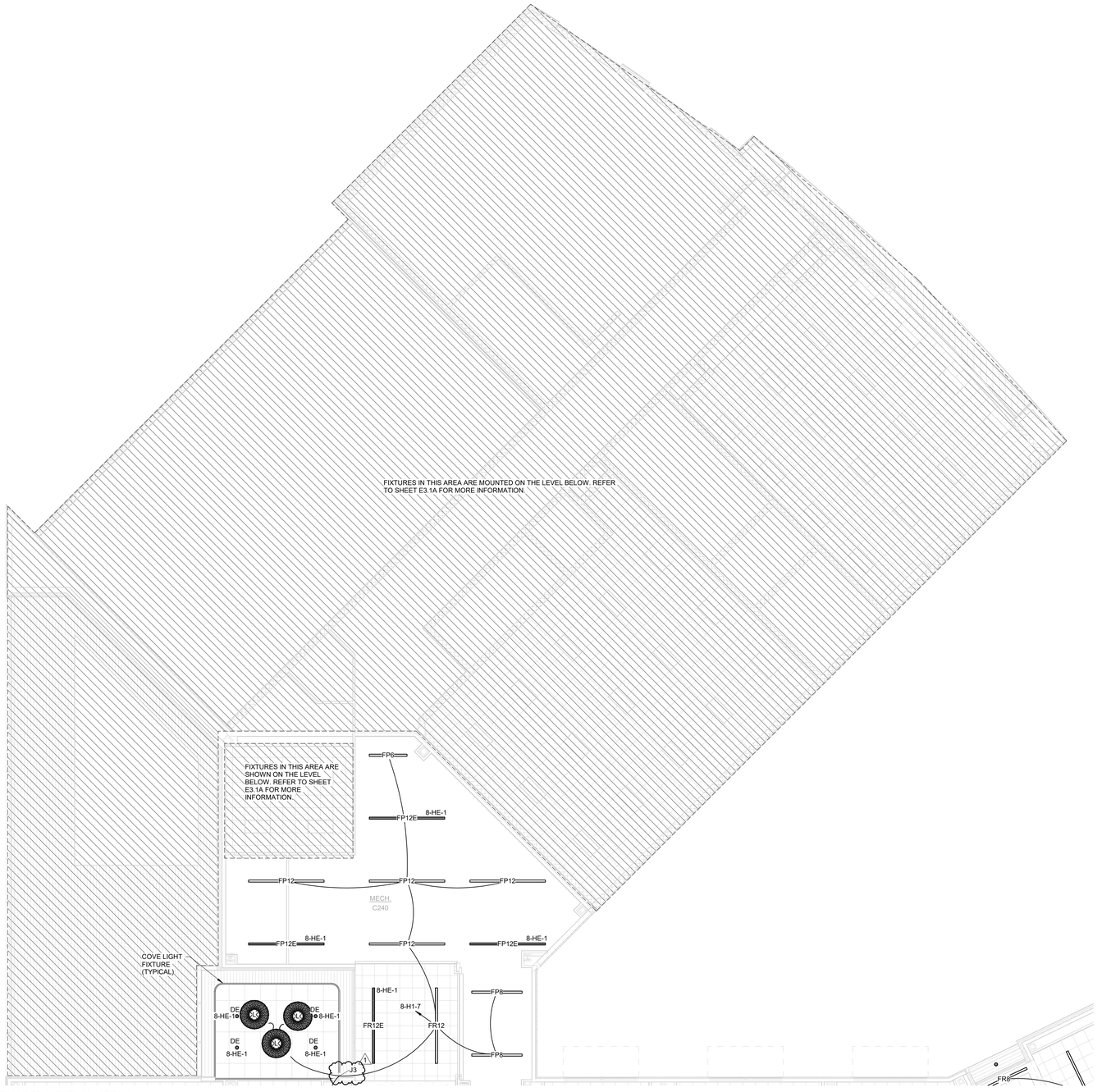
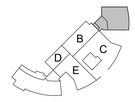


1 LIGHTING RCP - LEVEL 02 - AREA A
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

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TBPELS Firm No. F-5923

STATE OF TEXAS
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LIGHTING RCP - LEVEL 02 - AREA A

VOLUME 2

Job No.	Sheet No.
00802-04-01	E3.2A
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LIGHTING PLAN GENERAL NOTES

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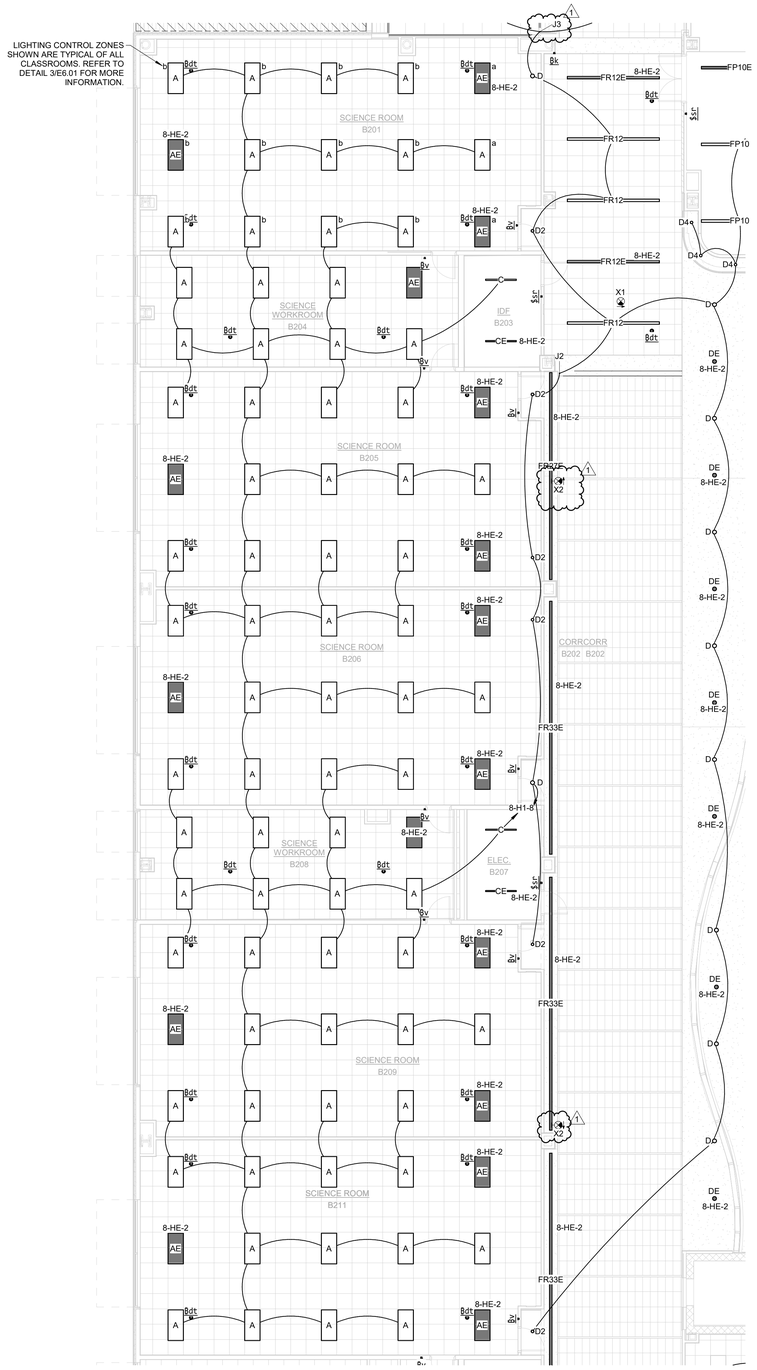
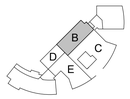


1 LIGHTING RCP - LEVEL 02 - AREA B
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN N

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

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LIGHTING RCP - LEVEL 02 - AREA B

VOLUME 2

Job No.	Sheet No.
00802-04-01	E3.2B
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LIGHTING PLAN GENERAL NOTES

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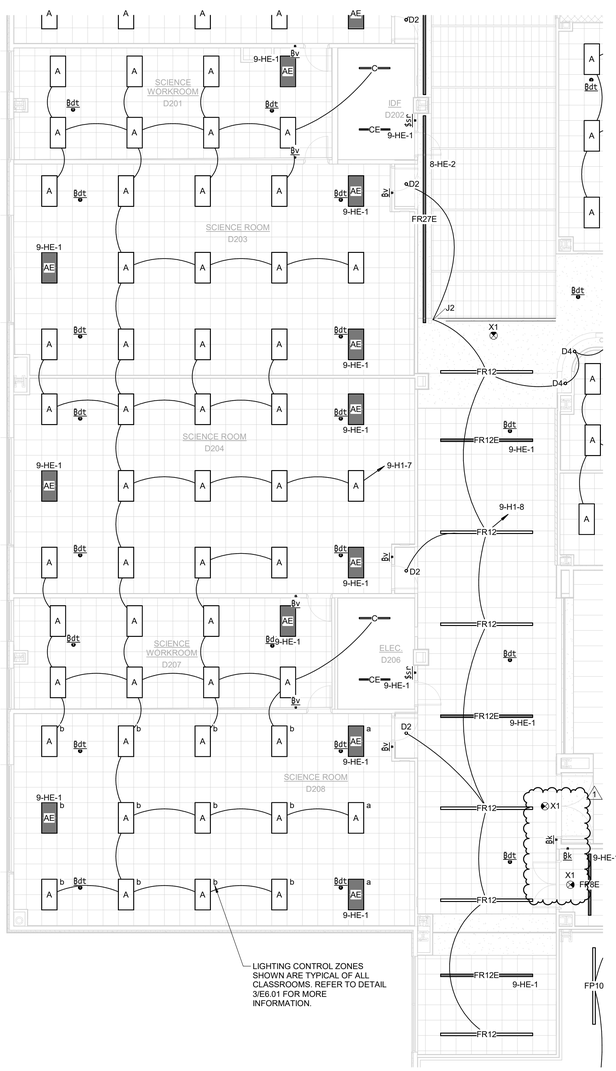
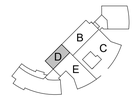


1 LIGHTING RCP - LEVEL 02 - AREA D
1/8" = 1'-0"



KEY PLAN - 2ND FLOOR
N.T.S.

PLAN

Revision /	Date	
1	07/24/26	ADDENDUM 1

Project: TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT FOR TOMBALL ISD TOMBALL, TEXAS

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LIGHTING RCP - LEVEL 02 - AREA D

VOLUME 2

Job No.	Sheet No.
00803-04-01	E3.2D
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Panel: 7-H1

Location: MAIN ELECTRICAL F125 | **Volts:** 480Y/277V WYE | **A.I.C. Rating:** 42,000
Supply From: MDP1 | **Phas...** 3 | **Mains Rating:** 150 A
Mounting: SURFACE | **Wires:** 4 | **Mains Type:** MLO

NO...	C...	CIRCUIT DESCRIPTION	WIRE	BRKR	#	A	B	C	#	BRKR	WIRE	CIRCUIT DESCRIPTION	C...	NO...
--	1	AHU-8 MECH F121	12	20	3	1773			125	RISER	RISER	7-T1	2	
--	3	--	--	--	--		1773		--	--	--	--	4	--
--	5	--	--	--	--			1773	--	--	--	--	6	--
(E)	7	SITE LIGHTS	4	20	1	2992			1	20	12	LIGHTS F106, F108, F109	8	(L)
(L)	9	LIGHTS F105	10	20	1		2280		1	20	10	LIGHTS F112	10	(L)
(L)	11	LIGHTS F114, F116, F118	12	20	1			1904	1	20	12	EXTERIOR LIGHTS	12	(L)
(H)	13	FCU-F1	12	20	1	1800			1	20	--	SPARE	14	
	15	SPARE	--	20	1		0		1	20	--	SPARE	16	
	17	SPARE	--	20	1			0	1	20	--	SPARE	18	
	19	SPARE	--	20	1	0			1	20	--	SPARE	20	
	21	SPARE	--	20	1		0		1	20	--	SPARE	22	
	23	SPARE	--	20	1			0	1	20	--	SPARE	24	
	25	SPARE	--	20	1	0			1	20	--	SPARE	26	
	27	SPARE	--	20	1		0		1	20	--	SPARE	28	
	29	SPARE	--	20	1			0	1	20	--	SPARE	30	
	31	SPARE	--	20	1	0			1	20	--	SPARE	32	
	33	SPARE	--	20	1		0		1	20	--	SPARE	34	
	35	SPARE	--	20	1			0	1	20	--	SPARE	36	
	37	SPARE	--	20	1	0			1	20	--	SPARE	38	
	39	SPARE	--	20	1		0		1	20	--	SPARE	40	
	41	SPARE	--	20	1			0	1	20	--	SPARE	42	
		Total Load:				41066 W	44793 W	37612 W						
		Total Amps:				150 A	164 A	136 A						

NOTES:
1. Provide GFCI Breaker
2. Circuit Via Energy Management System
3. Circuit Via Photo Cell Operation / DDC Controller
4. Provide Breaker and Fuses Per Manufacturers Recommendation
5. Provide H.A.C.R. Breaker
6. Provide a Lock on Breaker

PANEL TOTALS
Total Conn. Load: 123467 VA
Total Est. Demand: 115201 VA
Total Conn.: 149 A
Total Est. Demand: 139 A

Panel: 7-L1

Location: MAIN ELECTRICAL F125 | **Volts:** 208Y/120V WYE | **A.I.C. Rating:** 42,000
Supply From: 7-T1 | **Phas...** 3 | **Mains Rating:** 400 A
Mounting: SURFACE | **Wires:** 4 | **Mains Type:** MCB

NO...	C...	CIRCUIT DESCRIPTION	WIRE	BRKR	#	A	B	C	#	BRKR	WIRE	CIRCUIT DESCRIPTION	C...	NO...
(R)	1	7-L2	RISER	150	3	18360		600			1	20	12	MISCELLANEOUS	2	(R)
--	3	--	--	--	--		20928			1500	1	20	12	MISCELLANEOUS	4	(R)
--	5	--	--	--	--			17880			1500	1	20	12	MISCELLANEOUS	6	(R)
(H)	7	EXHAUST FAN	10	20	1	528		3000			3	35	8	WATER HEATER CUST. F111	8	
(H)	9	EXHAUST FAN	12	20	1		528		3000		--	--	--	--	10	--
(R)	11	RECEPTS.	12	20	1	180				3000	--	--	--	--	12	--
	13	WH1	12	20	1	240		240			1	20	12	WH2	14	
(H)	15	BOILER 1	12	20	3		749			749	3	20	12	BOILER 2	16	(H)
--	17	--	--	--	--			749			749	--	--	--	18	--
--	19	--	--	--	--	749				749		--	--	--	20	--
(H)	21	EXHAUST FAN	10	20	1		528			728	2	20	12	A/C EQUIPMENT	22	(H)
(H)	23	A/C EQUIPMENT	12	20	2			728			728	--	--	--	24	--
--	25	--	--	--	--	728				540		1	20	10	RECEPTS. ROOF	26	(R)
(R)	27	RECEPTS. ROOF	12	20	1		360			1500	1	20	6	MISCELLANEOUS	28	
	29	CLOTHES DRYER	8	40	2			2500			180	1	20	12	RECEPTS.	30	(R)
--	31	--	--	--	--	2500				240		1	20	12	RECEPTS. F124	32	(R)
	33	CLOTHES WASHER	12	20	1		1200				180	1	20	12	RECEPTS. MAIN CUSTODIAL-1 F124-1	34	(R)
(R)	35	IRRAGATION CONTROLLER	12	20	1			180			180	1	20	12	RECEPTS. MAIN CUSTODIAL-1 F124-1	36	(R)
(R)	37	RECEPTS.MECHANICAL F121	12	20	1	240				180		1	20	12	RECEPTS. MAIN CUSTODIAL-1 F124-1	38	(R)
	39	EWH6	8	35	3		3000				528	1	20	12	EXHAUST FAN	40	(H)
--	41	--	--	--	--			3000				922	3	20	A/C EQUIPMENT BOILER-1 F126-1	42	
--	43	--	--	--	--	922				922		--	--	--	--	44	--
(R)	45	RECEPTS.	12	20	1		180				922	--	--	--	--	46	--
(R)	47	RECEPTS.	12	20	1	180				922		922	3	20	A/C EQUIPMENT	48	
--	49	--	--	--	--		922					--	--	--	--	50	--
	51	SPARE	--	20	1		0			922		--	--	--	--	52	--
	53	SPARE	--	20	1			0			0	1	20	--	SPARE	54	
	55	SPARE	--	20	1	0			0			1	20	--	SPARE	56	
	57	SPARE	--	20	1		0			0		1	20	--	SPARE	58	
	59	SPARE	--	20	1			0			0	1	20	--	SPARE	60	
		Total Load:				33737 W	37501 W	33577 W									
		Total Amps:				281 A	313 A	280 A									

NOTES:
1. Provide GFCI Breaker
2. Circuit Via Energy Management System
3. Circuit Via Photo Cell Operation / DDC Controller
4. Provide Breaker and Fuses Per Manufacturers Recommendation
5. Provide H.A.C.R. Breaker
6. Provide a Lock on Breaker

PANEL TOTALS
Total Conn. Load: 104816 VA
Total Est. Demand: 93666 VA
Total Conn.: 291 A
Total Est. Demand: 260 A

Panel: 7-L2

Location: MAIN ELECTRICAL F125 | **Volts:** 208Y/120V WYE | **A.I.C. Rating:** 42,000
Supply From: 7-T1 | **Phas...** 3 | **Mains Rating:** 150 A
Mounting: SURFACE | **Wires:** 4 | **Mains Type:** MLO

NO...	C...	CIRCUIT DESCRIPTION	WIRE	BRKR	#	A	B	C	#	BRKR	WIRE	CIRCUIT DESCRIPTION	C...	NO...
	1	RECEPTS. F138, F104	10	20	1	360		180			1	20	12	RECEPTS. WP	2	
	3	RECEPTS. OFFICE-1 F130-1	8	20	1		1800				1	20	6	MISCELLANEOUS GYMNASIUM F105	4	
	5	MISCELLANEOUS GYMNASIU...	6	20	1			1200			1	20	12	RECEPTS. CUST. F111	6	
	7	RECEPTS. F111	12	20	1	180		720			1	20	6	RECEPTS. COACHES OFF. F102	8	
	9	RECEPTS. COACHES OFF. F102	4	20	1		1800			180	1	20	12	RECEPTS. F101	10	
	11	MISCELLANEOUS CORR F101	6	20	1			1200			540	1	20	10	RECEPTS. Room F108-1, F106-1	12	
	13	MISCELLANEOUS	6	20	1	1200				360		1	20	12	RECEPTS. WP	14	
	15	RECEPTS. F125	12	20	1		180				180	1	20	12	MISCELLANEOUS	16	
	17	RECEPTS. F104	4	20	1			1800			720	1	20	1	MISCELLANEOUS Space 221	18	
	19	RECEPTS. TABLE+CHAIR...	12	20	1	180				360		1	20	12	RECEPTS. MAIN CUSTODIAL-1 F124-1	20	
	21	RECEPTS. Room F134	12	20	1		360				540	1	20	12	RECEPTS. WP	22	
	23	RECEPTS. CIRC. F105	12	20	1			720			600	1	20	12	MISCELLANEOUS MAIN CUSTODIAL	24	
	25	RECEPTS. MAIN MECHANICAL...	12	20	1	900				1080		1	20	12	RECEPTS.	26	
	27	MISCELLANEOUS	10	20	1		1200				1200	1	20	12	MISCELLANEOUS	28	
	29	RECEPTS. Room F114	8	20	1			900			540	1	20	12	RECEPTS. Room F102	30	
	31	RECEPTS. F104	4	20	1	1800				180		1	20	12	RECEPTS. PLATFORM F114	32	
	33	RECEPTS. F114	6	20	1		1800				1800	1	20	6	RECEPTS. PLATFORM F114	34	
	35	MISCELLANEOUS DINING ARE...	8	20	1			1200			1800	1	20	8	RECEPTS. F115	36	
	37	RECEPTS. F115	8	20	1	1800				1800		1	20	8	RECEPTS. SOUND F115	38	
	39	RECEPTS. F105	4	20	1		1800				1800	1	20	4	RECEPTS. CIRC.-1 F105.1-1	40	
	41	RECEPTS. SOUND F115	8	20	1			1800			180	1	20	12	RECEPTS. F112	42	
	43	RECEPTS. SOUND F115	8	20	1	1800				180		1	20	12	RECEPTS. F112	44	
	45	MISCELLANEOUS DINING ARE...	12	20	1		180				1800	1	20	4	RECEPTS. F105	46	
	47	RECEPTS. F105	4	20	1			1800			1800	1	20	8	RECEPTS. F112	48	
	49	RECEPTS. F112	8	20	1	1800				1800		1	20	8	RECEPTS. SOUND F115	50	
	51	RECEPTS. F112	12	20	1		720				360	1	20	12	RECEPTS. F112	52	
	53	MISCELLANEOUS	12	20	1			120			720	1	20	12	MISCELLANEOUS	54	
	55	ELEC. HEATING EQUIP. RISER...	12	20	2	1500				180		1	20	12	RECEPTS. MAIN CUSTODIAL-1 F124-1	56	
--	57	--	--	--	--		1500				528	1	20	12	EXHAUST FAN TOILET F131	58	
	59	SPARE	--	20	1			0			0	1	20	--	SPARE	60	
		Total Load:				18360 W	20928 W	17880 W									
		Total Amps:				154 A	175 A	149 A									

NOTES:
1. Provide GFCI Breaker
2. Circuit Via Energy Management System
3. Circuit Via Photo Cell Operation / DDC Controller
4. Provide Breaker and Fuses Per Manufacturers Recommendation
5. Provide H.A.C.R. Breaker
6. Provide a Lock on Breaker

PANEL TOTALS
Total Conn. Load: 57168 VA
Total Est. Demand: 41558 VA
Total Conn.: 159 A
Total Est. Demand: 115 A

Panel: 7-LS

Location: MAIN ELECTRICAL F125 | **Volts:** 208Y/120V WYE | **A.I.C. Rating:** 42,000
Supply From: 7-T5 | **Phas...** 3 | **Mains Rating:** 150 A
Mounting: SURFACE | **Wires:** 4 | **Mains Type:** MCB

NO...	C...	CIRCUIT DESCRIPTION	WIRE	BRKR	#	A	B	C	#	BRKR	WIRE	CIRCUIT DESCRIPTION	C...	NO...
(R)	1	RECEPTS. Room F110-1	8	20	1	720		2496			2	30	10	RECEPTS. F110	2	(R)
(R)	3	RECEPTS. F110	4	20	1		1800			2496	--	--	--	--	4	--
(R)	5	RECEPTS. F110	4	20	1			1800			360	1	20	12	RECEPTS. IDF-1 F110-1	6	(R)
(R)	7	RECEPTS. IDF-1 F110-1	12	20	1	360		2496			2	30	10	RECEPTS. IDF-1 F110-1	8	(R)
(R)	9	RECEPTS. F110	4	20	1		1800			2496	--	--	--	--	10	--
(L)	11	LIGHTS FREEZER F129	10	20	1			1200			1800	1	20	8	LIGHTS FREEZER F129	12	(L)
	13	KITCHEN EQUIP. FREEZER...	12	20	1	600				1800		1	20	8	A/C EQUIPMENT FREEZER F129	14	(H)
(H)	15	A/C EQUIPMENT FREEZER F129	10	20	2		1664			600		1	20	12	KITCHEN EQUIP. FREEZER F129	16	
--	17	--	--	--	--			1664			4803	3	50	6	A/C EQUIPMENT	18	(H)
	19	KITCHEN EQUIP. COOLER F128	12	20	1	600				4803		--	--	--	--	20	--
	21	KITCHEN EQUIP. COOLER F128	12	20	1		600				4803	--	--	--	--	22	--
(L)	23	LIGHTS COOLER F128	12	20	1			1200			1800	1	20	10	LIGHTS COOLER F128	24	(L)
(H)	25	A/C EQUIPMENT COOLER F128	12	20	1	1200				0		1	20	--	SPARE	26	
	27	SPARE	--	20	1		0				0	1	20	--	SPARE	28	
	29	SPARE	--	20	1			0			0	1	20	--	SPARE	30	
	31	SPARE	--	20	1	0				0		1	20	--	SPARE	32	
	33	SPARE	--	20	1		0				0	1	20	--	SPARE	34	
	35	SPARE	--	20	1			0			0	1	20	--	SPARE	36	
	37	SPARE	--	20	1	0				0		1	20	--	SPARE	38	
	39	SPARE	--	20	1		0				0	1	20	--	SPARE	40	
	41	SPARE	--	20	1			0			0	1	20	--	SPARE	42	
		Total Load:				15075 W	16259 W	14627 W									
		Total Amps:				126 A	136 A	122 A									

NOTES:
1. Provide GFCI Breaker
2. Circuit Via Energy Management System
3. Circuit Via Photo Cell Operation / DDC Controller
4. Provide Breaker and Fuses Per Manufacturers Recommendation
5. Provide H.A.C.R. Breaker
6. Provide a Lock on Breaker

PANEL TOTALS
Total Conn. Load: 45962 VA
Total Est. Demand: 43210 VA
Total Conn.: 128 A
Total Est. Demand: 120 A

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Revision / 1 — Date 07/24/26 — ADDENDUM 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL ISD
TOMBALL, TEXAS

IEG
Innovative Engineering Group
www.iegengineers.com
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TBPELS Firm No. F-5923

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LICENSED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B. KYLE HASKOVEC, PE 7/24/26

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ELECTRICAL PANEL SCHEDULES

VOLUME 2

Job No.	Sheet No.
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Date: 07.15.2026	

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GENERAL ABBREVIATIONS

--	NOT APPLICABLE
@	AT
3DC	3D CONTROLLER
A/C	AIR CONDITIONING
ABV	ABOVE
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BFC	BELOW FINISHED CEILING
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BOH	BACK OF HOUSE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
C	CONDUIT
CAT	CATEGORY CABLE
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CTRL	CONTROL
D	DEPTH, DEEP
DC	DIRECT CURRENT
DC	DOWNSTAGE CENTER
DEG	DEGREES
DEMO	DEMOLITION
DFP	DIRECTOR'S FLOOR POCKET
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DS	DOWNSTAGE
DSL	DOWNSTAGE LEFT
DSR	DOWNSTAGE RIGHT
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EQUIPMENT RACK
ESW	ETHERNET SWITCH
EXIST	EXISTING
FA	FIRE ALARM
FB	FLOOR BOX
FLEX	FLEXIBLE
FLR	FLOOR
FO	FINISHED OPENING
FOH	FRONT OF HOUSE
FPB	FIBER OPTIC PATCHBAY
FPM	FEET PER MINUTE
FT	FOOT, FEET
FV	FIELD VERIFY
GND	GROUND
GA	GAUGE
H	HEIGHT
HL	HOUSE LEFT
HMP	HOUSE MANAGER POSITION
HOR	HORIZONTAL
HP	HORSEPOWER
HR	HOUSE RIGHT
HZ	HERTZ
I/O	INPUT/OUTPUT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
ISO	ISOLATED
JB	JUNCTION BOX
JBD	JUNCTION BOX - DATA
JP	JUNCTION BOX - SYSTEM POWER
KPD	KEYPAD
KW	KILOWATT
L	LENGTH, LEFT
L/R	LEFT/RIGHT
LAN	LOCAL AREA NETWORK
LB	POUNDS
LF	LINEAR FEET
LTG	LIGHTING
MAX	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MIN	MINIMUM
MMFO	MULTIMODE FIBER OPTIC CABLE
MTD	MOUNTED
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFE	OWNER FURNISHED EQUIPMENT
OFOI	OWNER FURNISHED OWNER INSTALLED
P	PRIMARY
P/O	PART OF
PC	PERSONAL COMPUTER
PDU	POWER DISTRIBUTION UNIT
PGM	PROGRAM
PH	PHASE
PNL	PANEL
PROC	PROCESSOR
PRH	PROJECT RECEPTACLE HEIGHT
PRX	PROXIMITY SENSOR
PS	POWER SUPPLY
PSF	POUNDS PER SQUARE FOOT
PSH	PROJECT SWITCH HEIGHT
PSI	POUNDS PER SQUARE INCH
PT	PASS THROUGH
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
R	RIGHT
RCP	REFLECTED CEILING PLAN
REF	REFERENCE, REFER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RM	ROOM
RO	ROUGH OPENING
RPM	REVOLUTIONS PER MINUTE
S	SURFACE, SECONDARY
SCS	STRUCTURED CABLING SYSTEM
SQFT	SQUARE FEET
SIM	SIMILAR
SL	STAGE LEFT
SMFO	SINGLE MODE FIBER OPTIC CABLE
SMP	STAGE MANAGER POSITION
SPEC	SPECIFICATION
SQ	SQUARE
SR	STAGE RIGHT
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SURF	SURFACE
SUSP	SUSPEND
TBD	TO BE DETERMINED
THRU	THROUGH
TYP	TYPICAL
UC	UPSTAGE CENTER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
US	UPSTAGE
USL	UPSTAGE LEFT
USR	UPSTAGE RIGHT
USB	UNIVERSAL SERIAL BUS
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VA	VOLT-AMPERE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WT	WEIGHT

STRUCTURED CABLING ABBREVIATIONS

DAS	DISTRIBUTED ANTENNA SYSTEM
ER	EQUIPMENT ROOM
TBB	TELECOMMUNICATIONS BONDING BACKBONE
PBB	PRIMARY BONDING BUSBAR
SBB	SECONDARY BONDING BUSBAR
TR	TELECOMMUNICATIONS ROOM

CABLE TYPE LEGEND

	TYPE	DESCRIPTION	NOTES
SECURITY	A	18AWG, 6 CONDUCTOR, STRANDED, OVERALL SHIELD	REFERENCE SPECIFICATION 28 0513
	B	18AWG, 4 CONDUCTOR, STRANDED, UNSHIELDED	REFERENCE SPECIFICATION 28 0513
	C	18AWG, 2 CONDUCTOR, STRANDED, UNSHIELDED	REFERENCE SPECIFICATION 28 0513
	E	22AWG, 4 CONDUCTOR, STRANDED, UNSHIELDED	REFERENCE SPECIFICATION 28 0513
	F	COMPOSITE ACCESS CONTROLLED DOOR CABLE	REFERENCE SPECIFICATION 28 0513
	J	COMPOSITE COPPER FIBER CABLE	REFERENCE SPECIFICATION 27 1000
STRUCTURED CABLING	M	CATEGORY 6, BLUE - DATA	REFERENCE SPECIFICATION 27 1000
	N	CATEGORY 6, GREEN - SECURITY CAMERAS	REFERENCE SPECIFICATION 27 1000
	R	CATEGORY 6A, YELLOW - APs	REFERENCE SPECIFICATION 27 1000

NOTES:
1. PROVIDE CABLE RATED FOR ENVIRONMENTAL AIR TYPE PLENUM WHERE REQUIRED.
2. PROVIDE CABLE RATED FOR WET APPLICATIONS FOR USE IN PATHWAYS BELOW GRADE AND FOR USE IN PATHWAYS IN SLAB ON GRADE.

CAMERA TYPES

TYPE	DESCRIPTION
IN	INFRASTRUCTURE ONLY CAMERA

NOTE:

ROUGH-IN BOX SCHEDULE

TYPE 10

RECESSED: 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/ RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 2-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED (INDOOR): 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE.

SURFACE MOUNTED (OUTDOOR / WEATHER PROOF): 2-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 11

RECESSED: 5" SQUARE BOX. 2 7/8" DEEP. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/ RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 2-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED (INDOOR): 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE.

SURFACE MOUNTED (OUTDOOR / WEATHER PROOF): 2-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 12

RECESSED: 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/ RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 1-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED (INDOOR): 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE.

SURFACE MOUNTED (OUTDOOR / WEATHER PROOF): 1-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE A — JUNCTION BOX (HxWxD) WITH SCREW COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS.

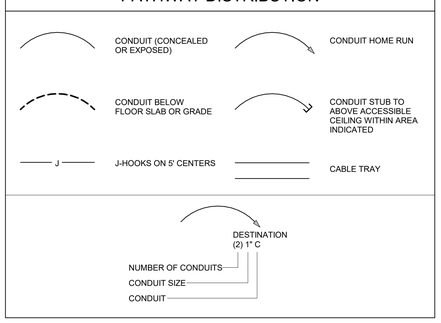
TYPE B — JUNCTION BOX (HxWxD) WITH HINGED COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS.

TYPE C — JUNCTION BOX (HxWxD) WITH LOCKING HINGED COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS

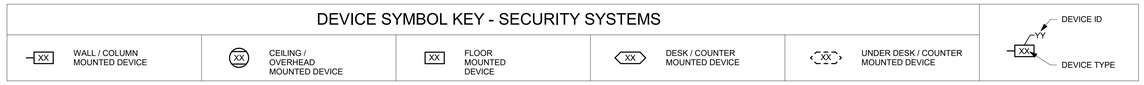
CONDUIT AND PATHWAY NOTES

1. COORDINATE LOCATION OF EQUIPMENT, JUNCTION BOXES, OUTLETS, CONDUIT, ETC. ACCORDING TO THE PROJECT GENERAL CONDITIONS.
2. PROVIDE A COMPLETE RACEWAY SYSTEM TO CONSIST OF METALLIC CONDUIT (EXCLUDING IN-GROUND PATHWAY), JUNCTION BOXES, DEVICE BACK BOXES, AND FITTINGS UNLESS NOTED OTHERWISE.
3. THE DRAWINGS INDICATE ONE ROUTING METHOD OF THE CABLING PATHWAY. CHANGES MAY BE MADE TO THE PATHWAY SYSTEM ROUTING TO ACCOMMODATE SITE CONDITIONS OR TO SIMPLIFY INSTALLATION PROVIDING THAT NOTED CONDUIT SIZE OR LARGER IS MAINTAINED AND DISTANCE LIMITATIONS LISTED BELOW ARE NOT EXCEEDED.
4. CONDUIT STUBS FROM DEVICES TO THE NEAREST CABLE TRAY OR OTHER NOTED DESTINATIONS SHALL BE CONTINUOUS.
5. UNLESS NOTED OTHERWISE, CONDUIT IS 1 INCH TRADE SIZE.
6. CONDUIT BODIES (LB'S) ARE NOT PERMITTED.
7. CONDUITS SHALL BE REAMED TO ELIMINATE SHARP EDGES. METALLIC CONDUITS SHALL BE TERMINATED WITH AN INSULATED BUSHING. PULL STRINGS WITH A MINIMUM PULL RATING OF 400 POUNDS SHALL BE PROVIDED.
8. MAINTAIN PROPER CONDUIT BEND RADIUS. FOR CONDUIT WITH AN INTERNAL DIAMETER OF 2" OR LESS, MAINTAIN A BEND RADIUS OF AT LEAST SIX (6) TIMES THE INTERNAL CONDUIT DIAMETER. FOR CONDUIT WITH AN INTERNAL DIAMETER GREATER THAN 2", MAINTAIN A BEND RADIUS OF AT LEAST TEN (10) TIMES THE INTERNAL CONDUIT DIAMETER.
9. BENDS IN THE CONDUIT SHALL NOT CONTAIN ANY KINKS OR OTHER DISCONTINUITIES. FLEX IS NOT PERMITTED UNLESS NOTED OTHERWISE.
10. NO SECTION OF CONDUIT SHALL EXCEED 100 FEET. RUNS IN EXCESS OF 100 FEET REQUIRE A PULL BOX / HANDHOLE / VAULT.
11. NO SECTION OF CONDUIT SHALL CONTAIN MORE THAN TWO 90 DEGREE BENDS, OR EQUIVALENT 180 DEGREES, BETWEEN PULL BOXES.
12. PULL BOX SHALL NOT BE USED IN LIEU OF A BEND. CONDUITS MUST RUN STRAIGHT THROUGH A PULL BOX WITH THE BEND LOCATED EITHER BEFORE OR AFTER THE PULL BOX.
13. REFER TO PULL BOX SIZING TABLE FOR REQUIRED PULL BOX DIMENSIONS.
14. PROVIDE COVERS WITH LABELING FOR JUNCTION BOXES, BACK BOXES WITHOUT FACEPLATES AND PULL BOXES. LABELING SHALL INCLUDE THE CABLE TYPES AND THE APPLICABLE NUMBERING SCHEME FOR EACH CABLE CONTAINED WITHIN THE BOX.
15. PROVIDE CONDUIT TO CROSS INACCESSIBLE CEILINGS OR IN AREAS WITHOUT CEILINGS UNLESS NOTED OTHERWISE.
16. PROVIDE CONDUIT IN EXPOSED AREAS, MECHANICAL SPACES, AND ELEVATOR CONTROL ROOMS.
17. REGARDLESS OF PATHWAY TYPE, CABLING SHALL BE SUPPORTED AT 5 FEET MAXIMUM INTERVALS UTILIZING INDEPENDENT MOUNTING METHODS IN ACCORDANCE WITH MANUFACTURER INSTALLATION REQUIREMENTS. J-HOOK PATHWAYS SHALL BE ESTABLISHED TO SUPPORT EXPOSED CABLING AND PREVENT PHYSICAL CONTACT OF THE CABLING WITH BUILDING STRUCTURE AND OTHER MECHANICAL AND ELECTRICAL SYSTEMS INCLUDING MECHANICAL AND ELECTRICAL SYSTEMS MOUNTING PRODUCTS.
18. ROUTE CONDUIT WITH OTHER BUILDING SERVICES AND CONCEAL WHENEVER POSSIBLE. GROUP AND RUN PARALLEL ALONG A SINGLE BUILDING COLUMN LINE, HOLD TIGHT TO STRUCTURE AND PAINT AS DIRECTED BY THE ARCHITECT.
19. IF SCS AND POWER CONDUITS MUST CROSS, CROSS AT RIGHT ANGLES.
20. FOR IN-SLAB OR UNDERGROUND CONDUIT ENTERING A BUILDING, TRANSITION BACK TO METALLIC CONDUIT WITHIN 3 FEET OF THE ENTRY POINT.
21. REFER TO ELECTRICAL DRAWINGS AND PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.
22. PROVIDE SPECIFIED FIRE-STOPPING PRODUCTS AT FIRE-RATED WALL AND FLOOR PENETRATIONS IN ORDER TO MAINTAIN THE FIRE RATING OF THE MEMBRANE.
23. PROVIDE THROUGH-WALL ACOUSTICAL PATHWAY PRODUCTS IN ORDER TO MAINTAIN THE ACOUSTIC RATING OF A WALL.

PATHWAY DISTRIBUTION



DEVICE SYMBOL KEY - SECURITY SYSTEMS



SYMBOL LEGEND - SECURITY SYSTEMS

SIZES, DIMENSIONS AND NOTES DESCRIBE TYPICAL REQUIREMENTS. IF APPLICABLE, VARIATIONS AND/OR ADDITIONAL REQUIREMENTS WILL BE NOTED ON THE DRAWINGS.
UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE TO CENTER OF ROUGH-IN BOX.

TYPE	DEVICE	ROUGH-IN BOX (H"xW"xD")	DEVICE COVER SIZE	MOUNTING HEIGHT			CABLE (QTY) TYPE	DEVICE NOTES	CONDUIT NOTES
				WALL/COLUMN	CEILING/OVERHEAD	FLOOR			
ACP	ACCESS CONTROL PANEL	--	--	4'-6" AFF TO CENTER OF PANEL	--	--	(1)M	INCLUDES ENCLOSURE, ACCESS CONTROL PANELS, AND ELECTRIC LOCK POWER SUPPLY.	REF DETAIL
CRS	CARD READER SYSTEM	REF DETAIL	REF DETAIL	BUILDING SWITCH HEIGHT	--	--	(1)F	SYSTEM INCLUDES MULTIPLE DEVICES; REF DETAIL AND SPECIFICATIONS.	REF DETAIL
CS	IP CEILING SPEAKER	TYPE 10	--	--	FLUSH IN CEILING	--	(1)M	CEILING MOUNTED IP SPEAKER THAT CONNECTS TO THE VIDEO INTERCOM SYSTEM FOR AUDIBLE ALERTS UPON VIDEO INTERCOM ACTIVATION.	REF DETAIL
DR	DOOR RELEASE	--	--	--	--	--	(1)B	INTERFACE TO THE ACCESS CONTROL SYSTEM TO RELEASE ASSOCIATED DOOR.	REF DETAIL
MVI	MASTER VIDEO OR AUDIO ONLY INTERCOM STATION	--	--	--	--	--	(1)M	DESK OR WALL MOUNTED MASTER INTERCOM THAT CONNECTS TO LOCAL OR POE POWER TO COMMUNICATE WITH INTERCOM DOOR STATIONS.	--
PB	PANIC BUTTON	TYPE 12	1-GANG	BUILDING SWITCH HEIGHT	--	--	(1)B	INCLUDES A PANIC BUTTON.	REF DETAIL
VIC	VIDEO INTERCOM DOOR STATION	CUSTOM	--	4'-6" AFF	--	--	(1)M	INTERCOM THAT PROVIDES AUDIO AND VIDEO TO THE MASTER INTERCOM STATION.	REF DETAIL

LEGEND NOTES - SECURITY SYSTEMS

1 CATEGORY CABLING PROVIDED BY DIVISION 27.

2 PROVIDE QTY. (2) ADDITIONAL 18/6 CABLES FROM ACP TO ACCESS CONTROLLED DOOR LOCATIONS TO AUTO DOOR MOTOR. COORDINATE TERMINATIONS WITH DIVISION 08.

3 REFERENCE SCHEDULES FOR ADDITIONAL INFORMATION.

4 REFERENCE DIVISION 26 FOR ALL ELECTRICAL POWER AND CONDUIT.

5 REFER TO DIVISION 08 7100 FOR DOOR HARDWARE SPECIFICATIONS. COORDINATE ELECTRIC LOCK POWER AND CABLE PATHWAY REQUIREMENTS WITH DIVISION 08 AND DIVISION 26.

DEVICE SYMBOL KEY - VIDEO SURVEILLANCE SYSTEMS

SYMBOL LEGEND - VIDEO SURVEILLANCE SYSTEMS

SIZES, DIMENSIONS AND NOTES DESCRIBE TYPICAL REQUIREMENTS. IF APPLICABLE, VARIATIONS AND/OR ADDITIONAL REQUIREMENTS WILL BE NOTED ON THE DRAWINGS.
UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE TO CENTER OF ROUGH-IN BOX.

TYPE	DEVICE	ROUGH-IN BOX (H"xW"xD")	DEVICE COVER SIZE	MOUNTING HEIGHT			CABLE (QTY) TYPE	DEVICE NOTES	CONDUIT NOTES
				WALL/COLUMN	CEILING/OVERHEAD	FLOOR			
IN	CAMERA - INFRASTRUCTURE ONLY	TYPE 12	1-GANG	REF SCHEDULE	REF SCHEDULE	--	(1)N	--	REF DETAIL
INP	CAMERA - INFRASTRUCTURE ONLY	CUSTOM	CUSTOM	REF SCHEDULE	REF SCHEDULE	--	(1)J	-- /1	REF DETAIL

LEGEND NOTES - VIDEO SURVEILLANCE SYSTEMS

1 CATEGORY CABLING PROVIDED BY DIVISION 27.

2 REFERENCE SCHEDULES FOR ADDITIONAL INFORMATION.

3 PROVIDE CONDUIT PATHWAYS, BACK BOXES, CABLING, AND FLUSH WALL COVER PLATES FOR SECURITY CAMERAS NOTED AS INFRASTRUCTURE ONLY.

4 SECUIRTY CAMERAS SHALL BE OWNER FURNISHED - CONTRACTOR INSTALLED. COORDINATE WITH OWNER FOR THE PROVISIONING OF SECURITY CAMERAS AND MOUNTING HARDWARE.

5 COORDINATE COMPOSITE FIBER/COPPER CABLE LOCATION WITH DIVISION 27. COMPOSITE FIBER CABLING REQUIRED FOR VIDEO SURVEILLANCE CAMERAS LOCATED ON LIGHT POLES AND AT LOCATIONS EXCEEDING 100 METERS FROM IDF/TELECOM ROOMS.

SYMBOL LEGEND - STRUCTURED CABLING SYSTEMS

SIZES, DIMENSIONS AND NOTES DESCRIBE TYPICAL REQUIREMENTS. IF APPLICABLE, VARIATIONS AND/OR ADDITIONAL REQUIREMENTS WILL BE NOTED ON THE DRAWINGS.
UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE TO CENTER OF ROUGH-IN BOX.

TYPE	DEVICE	ROUGH-IN BOX (H"xW"xD")	DEVICE COVER SIZE	MOUNTING HEIGHT			CABLE TYPE	DEVICE NOTES	CONDUIT NOTES
				WALL/COLUMN	CEILING/OVERHEAD	FLOOR			
(#)	COMMUNICATIONS WALL OUTLET	TYPE 10	REF DETAILS	BUILDING OUTLET HEIGHT	--	--	(#)M	--	--
(#)	COMMUNICATIONS FLOOR OUTLET	SEE NOTE 2	--	--	--	COORDINATE WITH ELECTRICAL REQUIREMENTS	(#)M	REF ARCHITECTURAL FOR EXACT LOCATION	--
(#)	COMMUNICATIONS CEILING OUTLET	TYPE 10	REF DETAILS	--	FLUSH IN CEILING (UNLESS IN ACCESSIBLE CEILING)	--	(#)M	--	--
(#) ADM	COMMUNICATIONS WALL OUTLET, CAMPUS INTERCOM ADMINISTATION CONSOLE	REF AV	REF AV	REF AV	--	--	(#)M	--	--
(#) AP	COMMUNICATIONS WALL OUTLET, WIRELESS ACCESS POINT	TYPE 10	REF DETAILS	10'-0" AFF	--	--	(#)R	ACCESS POINT DEVICE TO BE OWNER FUNISHED, CONTRACTOR INSTALLED	--
(#) AP	COMMUNICATIONS CEILING OUTLET, WIRELESS ACCESS POINT	TYPE 10	REF DETAILS	--	FLUSH WITH CEILING (UNLESS IN ACCESSIBLE CEILING)	--	(#)R	ACCESS POINT DEVICE TO BE OWNER FUNISHED, CONTRACTOR INSTALLED	--
(#) ER	COMMUNICATIONS WALL AOUTLET, AV RACK	TYPE 10	2 GANG	PROJECT WALL OUTLET HEIGHT	--	--	(#)M	--	--
(#) FB	FLOOR OUTLET	REF AV	REF AV	--	--	COORDINATE WITH AV AND ELECTRICAL REQUIREMENTS	(#)M	REF ARCHITECTURAL FOR EXACT LOCATION	
HH	HANDHOLE	REF DETAILS	REF DETAILS	--	--	FLUSH WITH GRADE	--	--	REF PLANS
MH	MH	MANHOLE	EXISTING, FIELD VERIFY	EXISTING	--	--	FLUSH WITH GRADE	--	--
(#) TE1	TELECOM ENCLOSURE - TE1	--	--	--	SEE DRAWINGS	--	--	--	--
(#) TV	COMMUNICATIONS WALL OUTLET, TELEVISION	TYPE 10	REF DETAILS	COORDINATE WITH ARCHITECT	--	--	(1)M	--	--
(#) WC1	COMMUNICATIONS WALL OUTLET, WALL CLOCK	REF AV	REF AV	REF AV	--	--	(#)M	--	--
(#) WC2	COMMUNICATIONS WALL OUTLET, WALL CLOCK	REF AV	REF AV	REF AV	--	--	(#)M	--	--

LEGEND NOTES - STRUCTURED CABLING SYSTEMS

1 (#) REPRESENTS THE NUMBER OF CABLES FOR THAT LOCATION. IF NO NUMBER SHOWN, PROVIDE (1).

2 PROVIDE NECESSARY ADAPTER, BEZELS, OR MODULES TO ACCOMODATE THE STRUCTURED CABLING SYSTEM WITH THE FLOOR OUTLET SYSTEM. REFERENCE ELECTRICAL DRAWING FOR FLOOR BOX INFORMATION.

3 PROVIDE NECESSARY ADAPTER, BEZELS, OR MODULES TO ACCOMODATE THE STRUCTURED CABLING SYSTEM WITH THE RACEWAY SYSTEM. REFERENCE ELECTRICAL DRAWING FOR RACEWAY INFORMATION.

PULL BOX SIZING

TRADE SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE FOR ADDITIONAL CONDUIT
1	4"	16"	3"	2"
1-1/4	6"	20"	3"	3"
1-1/2	8"	27"	4"	4"
2	8"	36"	4"	5"
2-1/2	10"	42"	5"	6"
3	12"	48"	5"	6"
3-1/2	12"	54"	6"	6"
4	15"	60"	8"	8"

Revision / 1 — Addendum 01 — Date 07.24.26

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Joshua Thomas
BICSI ID # 160773
EXPIRES 12-31-27
RCDD
07.24.2026

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GENERAL NOTES AND LEGENDS

VOLUME 2

Job No. 00802-04-01
Sheet No. T0.00
Drawn By: W.JHW
Date: 07.15.26

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1 TECHNOLOGY SITE PLAN
1" = 100'-0"

PLAN
N

320 (1) 2" C
321 (1) 2" C. COORDINATE WITH MARQUEE SIGN.
322 EXISTING TELECOMMUICATIONS MANHOLE LOCATION SHOWN FOR REFERENCE. FIELD VERIFY EXACT LOCATION AND CONDITION. EXTEND NEW TELECOMMUNICATIONS PATHWAY INFRASTRUCTURE AND PROVIDE TIE-IN TO EXISTING MANHOLE.
323 (3) 4" C
324 (4) 4" C STUBBED UP IN MDF, REFER TO ENLARGED PLAN, DETAIL 1, SHEET T3.1.
329 STUB AT PROPERTY LINE, CAP CONDUITS.

KEYNOTES

OUTSIDE PLANT STRUCTURED CABLING PATHWAYS GUIDELINES - REFER TO CIVIL FOR OSP PATHWAY ROUTING AND EXACT HAND HOLE PLACEMENT.

1. UTILIZE MIN. SCHEDULE 40 PVC CONDUIT FOR UNDERGROUND INSTALLATIONS IN SIZE AND QTY SHOWN ON DRAWINGS.
2. PVC CONDUIT RUNS SHALL HAVE PVC COATED RIGID STEEL STUB OUTS FROM THE GROUND, INCLUDING THE LAST 90-DEGREE BEND.
3. ELBOWS FOR CONDUIT INSTALLED BELOW GRADE SHALL BE RIGID STEEL CONDUIT WITH TWO COATS OF CORROSION-RESISTANT PAINT.
4. UNDERGROUND CONDUIT SHALL SLOPE AWAY FROM THE BUILDING, DESIGNED TO DRAIN TOWARD A MANHOLE/HANDHOLE TO PREVENT THE ACCUMULATION OF WATER IN THE PATHWAY. DRAIN SLOPE SHALL BE NO LESS THAN 0.1% (1/8" PER FOOT).
5. PATHWAYS SHALL MAINTAIN A SEPARATION FROM SUBSURFACE STRUCTURES/UNDERGROUND UTILITIES
   a. CROSSING IT SHALL BE NO LESS THAN 6 INCHES
   b. PARALLEL TO IT SHALL BE NO LESS THAN 12 INCHES
6. PATHWAYS AT ROAD CROSSING SHALL BE ENCASED IN CONCRETE.
7. BEND RADIUS OF CONDUIT
   a. 6 TIMES FOR 2" OR SMALLER CONDUIT
   b. 10 TIMES FOR GREATER THAN 2" CONDUIT
8. HANDHOLE SHALL BE USED FOR PULLING AND TO CHANGE DIRECTION. JACKET CONDUITS FOR A PATHWAY STRAIGHT THROUGH WITH THE BEND AT EITHER BEFORE OR AFTER THE HANDHOLE/MANHOLE.
9. CONDUITS RUNS SHALL NOT EXCEED 600 CONTINUES FEET. FOR RUNS MORE THAN 600 FEET, PLACE HANDHOLES/MANHOLES AS REQUIRED TO MAINTAIN THE 600 CONTINUOUS FEET REQUIREMENT.
10. FOR RUNS GREATER THAN 180 DEGREE OF DEFLECTION, I.E. (2) 90-DEGREEELBOWS, PLACE HANDHOLE/MANHOLE IN SECTION OF THE PATHWAY.
11. IF CONDUIT RUN REQUIRES A REVERSE BEND, BETWEEN 100 AND 180 DEGREES, PLACE A HANDHOLE/MANHOLE AT EACH BEND HAVING AN ANGLE FROM 100 TO 180 DEGREES.
12. DEPTH OF CONDUITS CAN VARY BETWEEN 24 TO 30 INCHES. DEPTHS GREATER THE 30 INCHES WILL BE REQUIRED TO BE ENCASED IN CONCRETE.

GENERAL NOTES

Revision /	Date	
1	07.24.26	Addendum 01

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TECHNOLOGY OVERALL SITE PLAN

VOLUME 2

Job No.	Sheet No.
03802-04-01	T1.0
Drawn By: W.JHW	
Date: 07.15.26	

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ACCESS CONTROL SCHEDULE

DESIGNATOR	TYPE	NAME	DETAIL	PANEL LOCATION	COMMENTS
FF1					
A101A	CRS	RECEPTION	2/T19.70	IDF A103	
A101B	CRS	CORRIDOR	2/T19.71	IDF A103	
A103	CRS	IDF	1/T19.70	IDF A103	
B101	CRS	RECEPTION	2/T19.70	MDF B117	
B105A	CRS	PATIENT ROOM	1/T19.70	MDF B117	
B105B	CRS	CORRIDOR	1/T19.70	MDF B117	
B111	CRS	ADMIN	1/T19.70	MDF B117	
B112A	CRS	LARGE CONFERENCE ROOM	1/T19.70	MDF B117	
B117	CRS	MDF	1/T19.70	MDF B117	
B135	CRS	ADMIN	1/T19.70	MDF B117	
CS.T1.1F.01	CS	KITCHEN		IDF F110	
DR.01	DR	RECEPTION	1/T19.72	MDF B117	
DR.02	DR	PATIENT ROOM	1/T19.72	MDF B117	
EXT-01	VIC	CONTROLLED VESTIBULE	3/T19.71	IDF A103	
EXT-01	CRS	CONTROLLED VESTIBULE	3/T19.71	IDF A103	
EXT-02	CRS	ART ROOM	1/T19.70	IDF A103	
EXT-03	CRS	ART ROOM	1/T19.70	IDF A103	
EXT-04	CRS	CORRIDOR	2/T19.71	IDF A103	
EXT-05	CRS	CORRIDOR	2/T19.70	IDF A103	
EXT-06	CRS	CORRIDOR	2/T19.71	MDF B117	
EXT-07	CRS	STAIRS	2/T19.71	MDF B117	
EXT-09	CRS	CORRIDOR	2/T19.71	MDF B117	
EXT-10	CRS	LGI MAKER SPACE	2/T19.70	MDF B117	
EXT-11	CRS	LIBRARY	2/T19.70	MDF B117	
EXT-12	CRS	CORRIDOR	2/T19.71	MDF B117	
EXT-14	CRS	STAIRS	3/T19.71	MDF B117	
EXT-15	CRS	CORRIDOR	3/T19.71	MDF B117	
EXT-16	CRS	STAIRS	3/T19.71	MDF B117	
EXT-17	CRS	GYMNASIUM	1/T19.71	IDF F110	
EXT-18	CRS	DINING AREA	2/T19.71	IDF F110	
EXT-19	CRS	DINING AREA	2/T19.71	IDF F110	
EXT-20	CRS	KITCHEN	3/T19.70	IDF F110	
EXT-20	VIC	KITCHEN	3/T19.70	IDF F110	
EXT-21	CRS	MAIN MECHANICAL	1/T19.71	IDF F110	
EXT-22	CRS	CORRIDOR	1/T19.71	IDF F110	
EXT-23	CRS	MAIN ELECTRICAL	1/T19.71	IDF F110	
EXT-24	CRS	RISER	1/T19.70	IDF F110	
EXT-25	CRS	CORRIDOR	2/T19.71	IDF F110	
EXT-26	CRS	CORRIDOR	2/T19.71	IDF F110	
F110	CRS	IDF	1/T19.70	IDF F110	
F120B	CRS	SERVERY	1/T19.70	IDF F110	
F124	CRS	MAIN CUSTODIAL	1/T19.70	IDF F110	
GATE.01	CRS	COURTYARD	3/T19.72	IDF A103	
GATE.02	CRS	COURTYARD	3/T19.72	IDF A103	
MVI.01	MVI	RECEPTION	--	MDF B117	
MVI.02	MVI	OFFICE	--	IDF F110	
PB.01	PB	RECEPTION	2/T19.72	MDF B117	
FF2					
B203	CRS	IDF	1/T19.70	MDF B210	
D202	CRS	IDF	1/T19.70	MDF B210	

VIDEO SURVEILLANCE SCHEDULE

DESIGNATOR	TYPE	DEVICE MOUNTING DETAIL	MOUNTING HEIGHT	PANEL LOCATION	COMMENTS
T1.0.01	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.02	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.03	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.04	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.05	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.06	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.07	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.08	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.09	INP	1/T19.81	14' 0" AFG		MDF B117
T1.0.10	INP	1/T19.81	14' 0" AFG		MDF B117
T1.1A.01	IN	2/T19.80	10' 0" AFF	IDF A103	
T1.1A.02	IN	2/T19.80	10' 0" AFF	IDF A103	
T1.1A.03	IN	2/T19.80	9' 0" AFF	IDF A103	
T1.1A.04	IN	2/T19.80	8' 6" AFG	IDF A103	
T1.1A.05	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.06	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.07	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.08	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.09	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.10	IN	4/T19.80	10' 0" AFG	IDF A103	
T1.1A.11	IN	3/T19.80	10' 0" AFG	IDF A103	
T1.1B.01	IN	3/T19.80	10' 0" AFF	MDF B117	
T1.1B.02	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1B.03	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1C.01	IN	4/T19.80	10' 0" AFG	MDF B117	
T1.1C.02	IN	3/T19.80	8' 6" AFF	MDF B117	
T1.1C.03	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.04	IN	2/T19.80	9' 0" AFF	MDF B117	
T1.1C.05	IN	2/T19.80	9' 0" AFF	MDF B117	
T1.1C.06	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.07	IN	3/T19.80	10' 6" AFG	MDF B117	
T1.1C.08	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.09	IN	4/T19.80	10' 0" AFG	MDF B117	
T1.1C.10	IN	4/T19.80	10' 0" AFG	MDF B117	
T1.1C.11	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.11	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.12	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.13	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1C.14	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1C.15	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1D.01	IN	2/T19.80	9' 0" AFF	IDF F110	
T1.1D.02	IN	2/T19.80	9' 0" AFF	IDF F110	
T1.1D.03	IN	3/T19.80	9' 6" AFG	IDF F110	
T1.1D.04	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1D.05	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1D.06	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1E.01	IN	3/T19.80	8' 6" AFF	MDF B117	
T1.1E.02	IN	4/T19.80	10' 6" AFG	MDF B117	
T1.1E.03	IN	3/T19.80	9' 6" AFG	MDF B117	
T1.1E.04	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1E.05	IN	3/T19.80	10' 0" AFG	MDF B117	
T1.1F.01	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1F.02	IN	2/T19.80	9' 6" AFF	IDF F110	
T1.1F.03	IN	2/T19.80	9' 6" AFF	IDF F110	
T1.1F.04	IN	3/T19.80	9' 0" AFF	IDF F110	
T1.1F.05	IN	3/T19.80	9' 0" AFF	IDF F110	
T1.1F.06	IN	3/T19.80	9' 0" AFF	IDF F110	
T1.1F.07	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1F.08	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1F.09	IN	4/T19.80	10' 0" AFG	IDF F110	
T1.1F.10	IN	4/T19.80	10' 0" AFG	IDF F110	
T1.1F.11	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1F.12	IN	4/T19.80	10' 0" AFG	IDF F110	
T1.1F.13	IN	3/T19.80	10' 0" AFG	IDF F110	
T1.1F.14	IN	4/T19.80	10' 0" AFG	IDF F110	
T1.1F.15	IN	4/T19.80	10' 0" AFG	IDF F110	
T1.2B.01	IN	3/T19.80	11' 0" AFF	MDF B210	
T1.2D.01	IN	3/T19.80	9' 6" AFF	MDF B210	
T2.1A.50	IN	1/T19.80	CEILING	IDF A103	
T2.1A.51	IN	1/T19.80	CEILING	IDF A103	
T2.1B.50	IN	1/T19.80	CEILING	MDF B117	
T2.1B.51	IN	1/T19.80	CEILING	MDF B117	
T2.1B.52	IN	1/T19.80	CEILING	MDF B117	
T2.1B.53	IN	1/T19.80	CEILING	MDF B117	
T2.1B.54	IN	1/T19.80	CEILING	MDF B117	
T2.1B.55	IN	1/T19.80	CEILING	MDF B117	
T2.1B.56	IN	1/T19.80	CEILING	MDF B117	
T2.1B.57	IN	1/T19.80	CEILING	MDF B117	
T2.1B.58	IN	1/T19.80	CEILING	MDF B117	
T2.1C.50	IN	1/T19.80	CEILING	MDF B117	
T2.1C.51	IN	1/T19.80	CEILING	MDF B117	
T2.1C.53	IN	1/T19.80	CEILING	MDF B117	
T2.1D.50	IN	1/T19.80	CEILING	MDF B117	
T2.1D.51	IN	1/T19.80	CEILING	MDF B117	
T2.1D.52	IN	1/T19.80	CEILING	MDF B117	
T2.1D.53	IN	1/T19.80	CEILING	MDF B117	
T2.1D.54	IN	1/T19.80	CEILING	MDF B117	
T2.1D.55	IN	1/T19.80	CEILING	MDF B117	
T2.1D.56	IN	1/T19.80	CEILING	MDF B117	
T2.1D.57	IN	1/T19.80	UNDERSIDE OF AWNING	IDF F110	
T2.1D.58	IN	1/T19.80	CEILING	IDF F110	
T2.1D.59	IN	1/T19.80	CEILING	MDF B117	
T2.1D.60	IN	1/T19.80	CEILING	MDF B117	
T2.1D.61	IN	1/T19.80	CEILING	MDF B117	
T2.1D.62	IN	1/T19.80	CEILING	MDF B117	
T2.1D.63	IN	1/T19.80	CEILING	MDF B117	
T2.1D.64	IN	1/T19.80	CEILING	MDF B117	
T2.1D.65	IN	1/T19.80	CEILING	MDF B117	
T2.1D.66	IN	1/T19.80	CEILING	MDF B117	
T2.1D.67	IN	1/T19.80	CEILING	MDF B117	
T2.1D.68	IN	1/T19.80	CEILING	MDF B117	
T2.1E.50	IN	1/T19.80	CEILING	MDF B117	
T2.1E.51	IN	1/T19.80	CEILING	MDF B117	
T2.1E.52	IN	1/T19.80	CEILING	MDF B117	
T2.1F.50	IN	1/T19.80	CEILING	IDF F110	
T2.1F.51	IN	1/T19.80	UNDERSIDE OF AWNING	IDF F110	
T2.1F.52	IN	1/T19.80	UNDERSIDE OF AWNING	IDF F110	
T2.1F.53	IN	1/T19.80	CEILING	IDF F110	
T2.1F.54	IN	1/T19.80	CEILING	IDF F110	
T2.1F.55	IN	1/T19.80	CEILING	IDF F110	
T2.1F.56	IN	1/T19.80	CEILING	IDF F110	
T2.1F.57	IN	1/T19.80	CEILING	IDF F110	
T2.1F.58	IN	1/T19.80	CEILING	IDF F110	
T2.2B.50	IN	1/T19.80	CEILING	MDF B210	
T2.2C.50	IN	1/T19.80	CEILING	MDF B210	
T2.2C.51	IN	1/T19.80	CEILING	MDF B210	
T2.2C.52	IN	1/T19.80	CEILING	MDF B210	
T2.2D.50	IN	1/T19.80	CEILING	MDF B210	
T2.2E.50	IN	1/T19.80	CEILING	MDF B210	
T2.2E.51	IN	1/T19.80	CEILING	MDF B210	

Revision / Date
1 Addendum 01 07.24.26

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Joshua Thornes
BICSI ID # 160773
EXPIRES 12-31-27
RCDD
07.24.2026

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SECURITY DEVICE SCHEDULE

VOLUME 2

Job No. 00802-04-01
Sheet No. T19.10
Drawn By: WJHW
Date: 07.15.26

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GENERAL ABBREVIATIONS

--	NOT APPLICABLE
@	AT
3DC	3D CONTROLLER
A/C	AIR CONDITIONING
ABV	ABOVE
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BFC	BELOW FINISHED CEILING
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BOH	BACK OF HOUSE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
C	CONDUIT
CAT	CATEGORY CABLE
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CTRL	CONTROL
D	DEPTH, DEEP
DC	DIRECT CURRENT
DC	DOWNSTAGE CENTER
DEG	DEGREES
DEMO	DEMOLITION
DFP	DIRECTOR'S FLOOR POCKET
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DS	DOWNSTAGE
DSL	DOWNSTAGE LEFT
DSR	DOWNSTAGE RIGHT
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
ENCL	ENCLOSURE
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EQUIPMENT RACK
ESW	ETHERNET SWITCH
EXIST	EXISTING
FA	FIRE ALARM
FB	FLOOR BOX
FLEX	FLEXIBLE
FLR	FLOOR
FO	FINISHED OPENING
FOH	FRONT OF HOUSE
FPB	FIBER OPTIC PATCHBAY
FPM	FEET PER MINUTE
FT	FOOT, FEET
FV	FIELD VERIFY
GND	GROUND
GA	GAUGE
H	HEIGHT
HL	HOUSE LEFT
HMP	HOUSE MANAGER POSITION
HOR	HORIZONTAL
HP	HORSEPOWER
HR	HOUSE RIGHT
HZ	HERTZ
I/O	INPUT/OUTPUT
ID	INSIDE DIAMETER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
ISO	ISOLATED
JB	JUNCTION BOX
JBD	JUNCTION BOX - DATA
JP	JUNCTION BOX - SYSTEM POWER
KPD	KEYPAD
KW	KILOWATT
L	LENGTH, LEFT
L/R	LEFT/RIGHT
LAN	LOCAL AREA NETWORK
LB	POUNDS
LF	LINEAR FEET
LTG	LIGHTING
MAX	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MIN	MINIMUM
MMFO	MULTIMODE FIBER OPTIC CABLE
MTD	MOUNTED
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC. NETWORK
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFE	OWNER FURNISHED EQUIPMENT
OFOI	OWNER FURNISHED OWNER INSTALLED
P	PRIMARY
P/O	PART OF
PC	PERSONAL COMPUTER
PDU	POWER DISTRIBUTION UNIT
PGM	PROGRAM
PH	PHASE
PNL	PANEL
PROC	PROCESSOR
PRH	PROJECT RECEPTACLE HEIGHT
PRX	PROXIMITY SENSOR
PS	POWER SUPPLY
PSF	POUNDS PER SQUARE FOOT
PSH	PROJECT SWITCH HEIGHT
PSI	POUNDS PER SQUARE INCH
PT	PASS THROUGH
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
R	RIGHT
RCP	REFLECTED CEILING PLAN
REF	REFERENCE, REFER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RM	ROOM
RO	ROUGH OPENING
RPM	REVOLUTIONS PER MINUTE
S	SURFACE, SECONDARY
SCS	STRUCTURED CABLING SYSTEM
SQFT	SQUARE FEET
SIM	SIMILAR
SL	STAGE LEFT
SMFO	SINGLE MODE FIBER OPTIC CABLE
SMP	STAGE MANAGER POSITION
SPEC	SPECIFICATION
SQ	SQUARE
SR	STAGE RIGHT
STD	STANDARD
STP	SHIELDED TWISTED PAIR
SURF	SURFACE
SUSP	SUSPEND
TBD	TO BE DETERMINED
THRU	THROUGH
TYP	TYPICAL
UC	UPSTAGE CENTER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
US	UPSTAGE
USL	UPSTAGE LEFT
USR	UPSTAGE RIGHT
USB	UNIVERSAL SERIAL BUS
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VA	VOLT-AMPERE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WT	WEIGHT

AUDIO VISUAL ABBREVIATIONS

--	NOT APPLICABLE
ADA	AUDIO DISTRIBUTION AMPLIFIER
AES	AUDIO ENGINEERING SOCIETY
ALS	ASSISTED LISTENING SYSTEM
AMP	AMPLIFIER
ANT	ANTENNAE
ANT DA	ANTENNA DISTRIBUTION AMPLIFIER
APB	AUDIO PATCH BAY
AV	AUDIO VIDEO
AVS	AUDIO VIDEO SWITCHER
BR	BLU-RAY DISC PLAYER
BDR	BLU-RAY DISC RECORDER
BGM	BACKGROUND MUSIC PLAYER
CAM	CAMERA
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CCU	CAMERA CONTROL UNIT
CDP	COMPACT DISC PLAYER
CG	CHARACTER GENERATOR
CONV	CONVERTER
CU	COLLABORATION UNIT
DA	DISTRIBUTION AMPLIFIER
DAN	DIGITAL AUDIO NETWORK
DM	DIGITAL MEDIA
DM-MTX	DIGITAL MEDIA MATRIX
DMP	DIGITAL MEDIA PLAYER
DMPS	DIGITAL MEDIA PRESENTATION SWITCHER
DMR	DIGITAL MEDIA RECORDER
DMRX	DIGITAL MEDIA RECEIVER / DECODER
DMTX	DIGITAL MEDIA TRANSMITTER / ENCODER
DMU	DIGITAL MESSAGE UNIT
DOC CAM	DOCUMENT CAMERA
DP	DISPLAY PORT
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DSP	DIGITAL SIGNAL PROCESSOR
DVE	DIGITAL VIDEO EFFECTS
DVR	DIGITAL VIDEO RECORDER
EBU	EUROPEAN BROADCASTING UNION
EQ	EQUALIZER
FC	FORMAT CONVERTER
FPM	FLAT PANEL MONITOR
FORX	FIBER OPTIC RECEIVER
FOTX	FIBER OPTIC TRANSMITTER
HDMI	HIGH DEFINITION MULTIMEDIA INTERFACE
HDRX	HDMI RECEIVER
HDSDI	HD SERIAL DIGITAL INTERFACE
HDTX	HDMI TRANSMITTER
ICOM	INTERCOM
IFB	INTERRUPTED FOLDBACK
IPTV	INTERNET PROTOCOL TELEVISION
JBA	JUNCTION BOX - AUDIO
JBC	JUNCTION BOX - CONTROL
JBE	JUNCTION BOX - ENG TRUCKS
JBL	JUNCTION BOX - AUDIO LINE LEVEL
JBM	JUNCTION BOX - AUDIO MIC LEVEL
JBR	JUNCTION BOX - RADIO
JBS	JUNCTION BOX - SPEAKER
JBT	JUNCTION BOX - BROADCAST
JBV	JUNCTION BOX - VIDEO
KVM	KEYBOARD VIDEO MOUSE
LA	LINE AMPLIFIER
LIM	LIMITER
LL	LINE LEVEL
MATV	MASTER ANTENNA TELEVISION
MIC	MICROPHONE
MICPRE	MICROPHONE PREAMP
MIX	MIXER
ML	MICROPHONE LEVEL
MOD	MODULATOR
MON	MONITOR / VIDEO DISPLAY
MTR	MULTITRACK PLAYER/RECORDER
MTX	MATRIX
NG	NOISE GENERATOR
PA	PUBLIC ADDRESS
PAD	AUDIO ATTENUATOR
PEQ	PARAMETRIC EQUALIZER
PSP	POWERED SPEAKER
PTZ	PAN/TILT/ZOOM
REC	RECORDER
SATRX	SATELLITE RECEIVER
SB	SCOREBOARD
SC	SCAN CONVERTER
SDI	SERIAL DIGITAL INTERFACE
SPDT	SINGLE POLE DOUBLE THROW
SPG	SYNC PULSE GENERATOR
SPL	SPLITTER
SPK	SPEAKER
SPLIT	MICROPHONE SPLITTER
SPST	SINGLE POLE SINGLE THROW
STREAM	DIGITAL VIDEO STREAMING
SUM	AUDIO SUMMING DEVICE
SW	SWITCHER
TD	THROW DISTANCE
TP	TOUCH PANEL
TV	TELEVISION
VBS	VIDEO BURST SYNC
VC	VOLUME CONTROL
VCA	VOLTAGE CONTROLLED AMPLIFIER
VDA	VIDEO DISTRIBUTION AMPLIFIER
VGA	VIDEO GRAPHICS ARRAY
VP	VIDEO PROJECTOR
VPB	VIDEO PATCH BAY
VS	VECTOR SCOPE
VSG	VIDEO SYNC GENERATOR
VSR	VIDEO SERVER
VSW	VIDEO SWITCH
VTC	VIDEO TELECONFERENCING SYSTEM
VWP	VIDEO WALL PROCESSOR
WFM	WAVEFORM MONITOR
WMS	WIRELESS MICROPHONE SYSTEM
WTX	WIRELESS TRANSMITTER
XFMR	TRANSFORMER
XOVR	CROSSOVER

ROUGH-IN BOX SCHEDULE

TYPE 1 — RECESSED: 1-GANG BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 1-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED: 1-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 2 — RECESSED: 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/ RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 2-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED: 2-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 3 — RECESSED: 3-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 3-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED: 3-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 4 — RECESSED: 4-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 4-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED: 4-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE 5 — RECESSED: 5" SQUARE BOX. 2 1/2" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/RING EDGE TO BE FLUSH WITH FINISHED WALL.

TYPE 12 — RECESSED: 4 11/16" SQUARE BOX. 2 1/8" DEEP WITH KNOCKOUTS. PROVIDE DEVICE EXTENSION AS REQUIRED TO ACCOMMODATE DEVICE COVER SIZE. DEVICE COVER/ RING EDGE TO BE FLUSH WITH FINISHED WALL.

MASONRY: 1-GANG BOX. 2 1/2" DEEP WITH KNOCKOUTS IN 4" CMU/BRICK/CONCRETE; 3 1/2" DEEP WITH KNOCKOUTS IN 6" OR 8" CMU/CONCRETE. COVER EDGE TO BE FLUSH WITH FINISHED WALL.

SURFACE MOUNTED: 1-GANG DIE CAST BOX. 2 5/8" DEEP WITH THREADED OUTLETS.

TYPE A — JUNCTION BOX (HxWxD) WITH SCREW COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS.

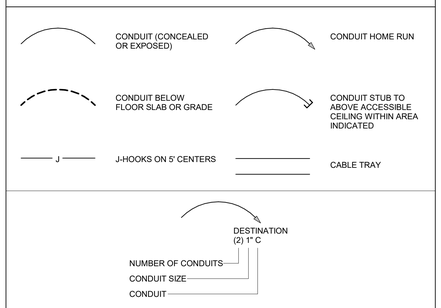
TYPE B — JUNCTION BOX (HxWxD) WITH HINGED COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS.

TYPE C — JUNCTION BOX (HxWxD) WITH LOCKING HINGED COVER. PROVIDE NEMA TYPE 1 AT INDOOR LOCATIONS; PROVIDE NEMA TYPE 3R AT OUTDOOR LOCATIONS. PAINTED AT EXPOSED LOCATIONS

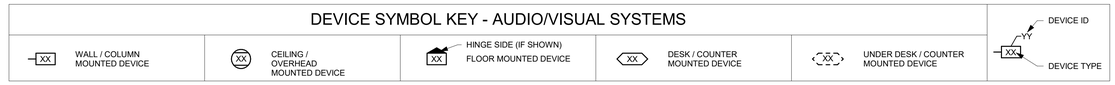
CONDUIT AND PATHWAY NOTES

1. COORDINATE LOCATION OF EQUIPMENT, JUNCTION BOXES, OUTLETS, CONDUIT, ETC. ACCORDING TO THE PROJECT GENERAL CONDITIONS.
2. PROVIDE A COMPLETE RACEWAY SYSTEM TO CONSIST OF METALLIC CONDUIT (EXCLUDING IN-GROUND PATHWAY), JUNCTION BOXES, DEVICE BACK BOXES, AND FITTINGS UNLESS NOTED OTHERWISE.
3. THE DRAWINGS INDICATE ONE ROUTING METHOD OF THE CABLING PATHWAY. CHANGES MAY BE MADE TO THE PATHWAY SYSTEM ROUTING TO ACCOMMODATE SITE CONDITIONS OR TO SIMPLIFY INSTALLATION PROVIDING THAT NOTED CONDUIT SIZE OR LARGER IS MAINTAINED AND DISTANCE LIMITATIONS LISTED BELOW ARE NOT EXCEEDED.
4. CONDUIT STUBS FROM DEVICES TO THE NEAREST CABLE TRAY, ACCESSIBLE CEILING, OR OTHER DESTINATIONS SHALL BE CONTINUOUS.
5. UNLESS NOTED OTHERWISE, CONDUIT IS 3/4 INCH TRADE SIZE.
6. SHOULD ROUGH-IN BOX DEVICE EXIST WITH NO CONDUIT INDICATED TO OR FROM, PROVIDE ¾ INCH TRADE SIZE CONDUIT FROM DEVICE TO ACCESSIBLE CEILING.
7. CONDUIT BODIES (LB'S) ARE NOT PERMITTED.
8. CONDUITS SHALL BE REAMED TO ELIMINATE SHARP EDGES. METALLIC CONDUITS SHALL BE TERMINATED WITH AN INSULATED BUSHING. PULL STRINGS WITH A MINIMUM PULL RATING OF 400 POUNDS SHALL BE PROVIDED.
9. FOR CONDUIT WITH AN INTERNAL DIAMETER GREATER THAN 2 INCHES, MAINTAIN A BEND RADIUS OF AT LEAST 10 TIMES THE INTERNAL CONDUIT DIAMETER.
10. BENDS IN THE CONDUIT SHALL NOT CONTAIN ANY KINKS OR OTHER DISCONTINUITIES. FLEX IS NOT PERMITTED UNLESS NOTED OTHERWISE.
11. NO SECTION OF CONDUIT SHALL EXCEED 100 FEET. RUNS IN EXCESS OF 100 FEET REQUIRE A PULL BOX / HANDHOLE / VAULT.
12. NO SECTION OF CONDUIT SHALL CONTAIN MORE THAN TWO 90 DEGREE BENDS, OR EQUIVALENT 180 DEGREES, BETWEEN PULL BOXES.
13. PULL BOX SHALL NOT BE USED IN LIEU OF A BEND. CONDUITS MUST RUN STRAIGHT THROUGH A PULL BOX WITH THE BEND LOCATED EITHER BEFORE OR AFTER THE PULL BOX.
14. PULL BOX LENGTH TO BE NO LESS THAN 8 TIMES THE DIAMETER OF THE LARGEST TERMINATING CONDUIT. PULL BOX WIDTH TO BE NO LESS ¼ THE LENGTH.
15. PROVIDE COVERS WITH LABELING FOR JUNCTION BOXES. BACK BOXES AND PULL BOXES WITHOUT FACEPLATES. LABELING MATCHES DEVICE NAME AS INDICATED ON DRAWINGS, FOR EXAMPLE "AV1", "ML".
16. ALL CONDUITS ENTERING OR EXITING EQUIPMENT RACKS TO BE ISOLATED WITH A NON-METALLIC SPACER OR FITTING.
17. PROVIDE CONDUIT TO CROSS INACCESSIBLE CEILINGS OR IN AREAS WITHOUT CEILINGS UNLESS NOTED OTHERWISE.
18. PROVIDE CONDUIT IN EXPOSED AREAS, MECHANICAL SPACES, FOOD SERVICES AREAS, AND ELEVATOR CONTROL ROOMS.
19. REGARDLESS OF PATHWAY TYPE, ALL CABLING SHALL BE SUPPORTED AT 4 FEET MAXIMUM INTERVALS. CABLES SHALL NOT BE LAID DIRECTLY ON THE CEILING TILE OR RAILS OR STRAPPED TO CONDUIT.
20. ROUTE CONDUIT WITH OTHER BUILDING SERVICES AND CONCEAL WHENEVER POSSIBLE. GROUP AND RUN PARALLEL ALONG A SINGLE BUILDING COLUMN LINE, HOLD TIGHT TO STRUCTURE AND PAINT AS DIRECTED BY THE ARCHITECT.
21. IF AV AND POWER CONDUITS MUST CROSS, CROSS AT RIGHT ANGLES.
22. FOR IN-SLAB OR UNDERGROUND CONDUIT ENTERING A BUILDING, TRANSITION BACK TO METALLIC CONDUIT WITHIN 3 FEET OF THE ENTRY POINT.
23. REFER TO PROJECT MANUAL FOR FIRE STOPPING REQUIREMENTS.
24. REFER TO ELECTRICAL DRAWINGS AND PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

PATHWAY DISTRIBUTION



DEVICE SYMBOL KEY - AUDIO/VISUAL SYSTEMS



SYMBOL LEGEND - AUDIO/VISUAL SYSTEMS

SIZES, DIMENSIONS AND NOTES DESCRIBE TYPICAL REQUIREMENTS. IF APPLICABLE, VARIATIONS AND/OR ADDITIONAL REQUIREMENTS WILL BE NOTED ON THE DRAWINGS. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE TO CENTER OF ROUGH-IN BOX.

TYPE	DEVICE	ROUGH-IN BOX (H"xW"xD")	DEVICE COVER SIZE	MOUNTING HEIGHT			DEVICE NOTES	CONDUIT NOTES
				WALL/COLUMN	CEILING/OVERHEAD	FLOOR		
ACP	ATHLETIC CONTROL PANEL	TYPE C (12"x12"x6")	ALDF1212W	4'-0" TO TOP OF BOX; REF DETAIL	--	--	REF DETAILS IN AV11 SERIES	REF PLANS
ANT	ANTENNA PLATE	TYPE 2	2-GANG	REF ELEVATIONS	--	--	--	REF PLANS
AV2	AV PLATE	TYPE 2	2-GANG	BUILDING OUTLET HEIGHT	--	--	--	REF PLANS
AV4	AV PLATE	TYPE 4	4-GANG	BUILDING OUTLET HEIGHT	--	--	--	REF PLANS
DB	DISPLAY LOCATION	TYPE 2	2-GANG	5'-0" TO CENTER OF BOX	-- /1	--	PROVIDE BRUSH GROMMET FOR CABLE PASS THROUGH	REF PLANS AND DETAILS
FB	FLOOR BOX	CUSTOM	--	--	--	--	COORDINATE WITH ELECTRICAL REQUIREMENTS	REF PLANS
JBR	JUNCTION BOX - RACK	TYPE A (12"x12"x4")	--	REF ELEVATIONS/DETAILS	--	--	--	REF PLANS
M1	MICROPHONE PLATE	TYPE 1	1-GANG	BUILDING OUTLET HEIGHT	--	--	--	REF PLANS
M2	MICROPHONE PLATE	TYPE 2	2-GANG	BUILDING OUTLET HEIGHT	--	--	--	REF PLANS
PS	PROJECTION SCREEN	TYPE 1	1-GANG	REF ELEVATIONS/DETAILS	FLUSH IN CEILING	--	--	REF PLANS
TFP	TECHNICAL FACILITY PANEL	TYPE A (10"x10"x4")	--	2'-0" AFF	--	--	--	REF PLANS
VP	VIDEO PROJECTOR LOCATION	SEE DEVICE NOTES	--	--	FLUSH IN CEILING	--	PROVIDE NIGEL B DESIGN NB-PEBPM POLE MOUNT PLENUM ENCLOSURE	

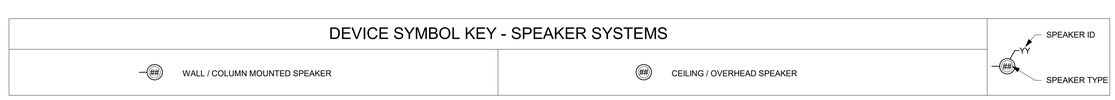
LEGEND NOTES - AUDIO/VIDEO SYSTEMS

1 PROVIDE HOFFMAN PAINTED STEEL TYPE 1 SCREW COVER PULL BOX NO LESS THAN 12" W X 12" H X 4" D UNLESS NOTED OTHERWISE. SIZE JUNCTION BOX TO NUMBER AND SIZE OF CONDUIT. PROVIDE 3/4" VOID FREE AC PLYWOOD WITH TWO COATS FIRE RETARDANT WHITE PAINT ON BACK WALL OF JUNCTION BOX FROM SIDEWALL TO SIDEWALL. A SINGLE WIRING TROUGH WILL NOT BE ACCEPTABLE AS A REPLACEMENT TO/FOR INDIVIDUAL JUNCTION BOXES.

2 CRITICAL DIMENSIONS ARE NOTED IN DOCUMENTATION. FOR ANY DIMENSION THAT IS NOT PROVIDED, FIELD COORDINATE FINAL LOCATION.

3 FIELD COORDINATE PLATE/PANEL COVER SIZE BASED ON MOUNTING CONDITIONS. SURFACE MOUNTED ROUGH-IN PLATE/PANEL SHALL NOT EXTEND BEYOND THE ROUGH-IN BOX.

DEVICE SYMBOL KEY - SPEAKER SYSTEMS



SYMBOL LEGEND - SPEAKER SYSTEMS

SIZES, DIMENSIONS AND NOTES DESCRIBE TYPICAL REQUIREMENTS. IF APPLICABLE, VARIATIONS AND/OR ADDITIONAL REQUIREMENTS WILL BE NOTED ON THE DRAWINGS. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE TO CENTER OF ROUGH-IN BOX.

TYPE	DEVICE	ROUGH-IN BOX (H"xW"xD")	DEVICE COVER SIZE	MOUNTING HEIGHT			DEVICE NOTES	CONDUIT NOTES
				WALL/COLUMN	CEILING/OVERHEAD	FLOOR		
11	SPEAKER	TYPE 2	--	--	24' - 0" AFF TO SPEAKER GRILLE	--	--	REF PLANS
21	SPEAKER	TYPE 2	--	REF ELEVATIONS	--	--	--	REF PLANS
31	SPEAKER	TYPE 2	--	--	SURFACE MOUNT TO STRUCTURE	--	PROVIDE PROTECTIVE SPEAKER GUARD. REF. SPEC 27 41 16	REF PLANS

LEGEND NOTES - SPEAKER SYSTEMS

1 PROVIDE HOFFMAN PAINTED STEEL TYPE 1 SCREW COVER PULL BOX NO LESS THAN 12" W X 12" H X 4" D UNLESS NOTED OTHERWISE. SIZE JUNCTION BOX TO NUMBER AND SIZE OF CONDUIT. PROVIDE 3/4" VOID FREE AC PLYWOOD WITH TWO COATS FIRE RETARDANT WHITE PAINT ON BACK WALL OF JUNCTION BOX FROM SIDEWALL TO SIDEWALL. A SINGLE WIRING TROUGH WILL NOT BE ACCEPTABLE AS A REPLACEMENT TO/FOR INDIVIDUAL JUNCTION BOXES.

2 CRITICAL DIMENSIONS ARE NOTED IN DOCUMENTATION. FOR ANY DIMENSION THAT IS NOT PROVIDED, FIELD COORDINATE FINAL LOCATION.

3 FIELD COORDINATE PLATE/PANEL COVER SIZE BASED ON MOUNTING CONDITIONS. SURFACE MOUNTED ROUGH-IN PLATE/PANEL SHOULD NOT EXTEND BEYOND THE ROUGH-IN BOX.

5 COORDINATE EXACT LOCATION OF ALL CEILING LOUDSPEAKERS WITH ARCHITECTURAL DRAWINGS.

Revision / 1 — Date 07.24.26 — Addendum 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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GENERAL NOTES AND LEGENDS

VOLUME 2

Job No. 0/0802-04-01	Sheet No. AV0.00
Drawn By: WJHW	
Date: 07.15.26	

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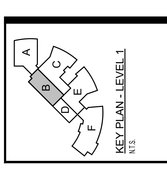
Revision /	Date	
1	07.24.26	Addendum 01

Project:

TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

KEY PLAN - LEVEL 1
NTS



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FLOOR PLAN - LEVEL 01 - AREA B

VOLUME 2

Job No.
2025-0401

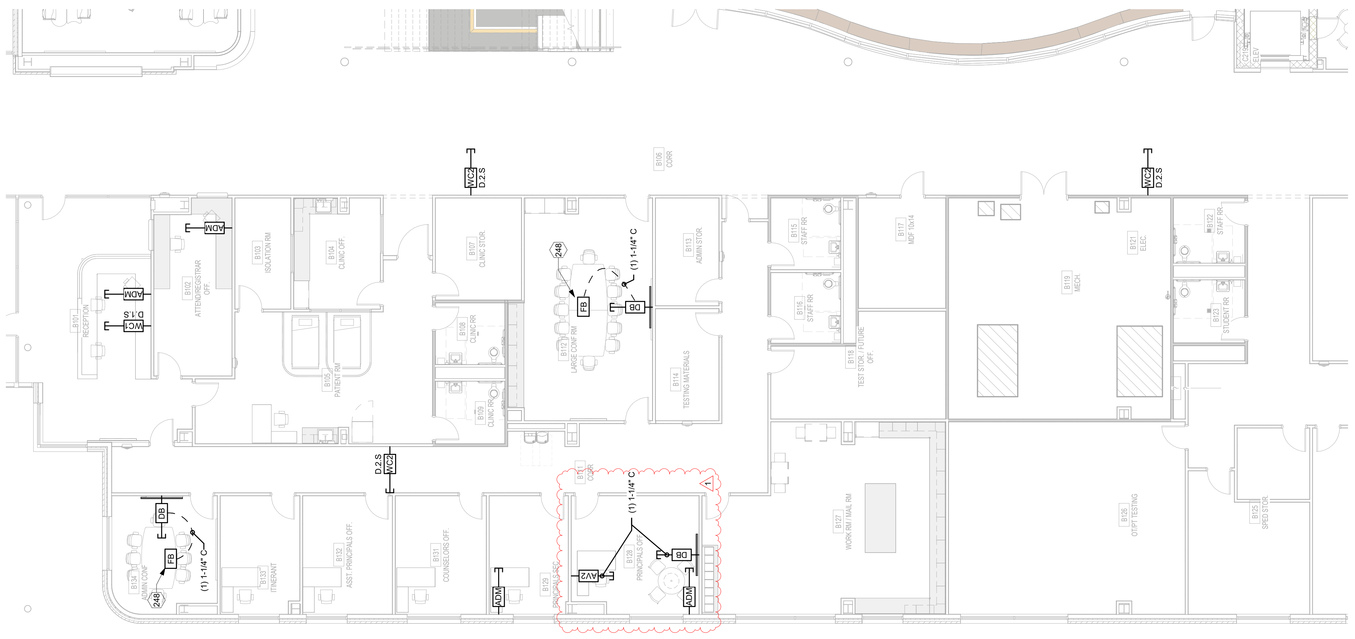
Sheet No.
A1.1B

Drawn By:
VJ/BV

Date:
07.15.26

248 FLOORBOX PROVIDED BY DIVISION 26-0000

KEYNOTES



1 FLOOR PLAN - LEVEL 01 - AREA B
1/8" = 1'-0"

PLAN

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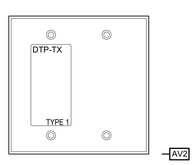
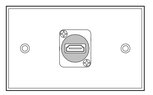


4 PRINCIPALS OFFICE AV2 PLATE DETAILS
NTS

3 PRINCIPALS OFFICE B128 FUNCTIONAL DIAGRAM
NTS



2 FLOORBOX DETAIL
NTS

1 MEETING ROOMS B112, B134, E234 FUNCTIONAL DIAGRAM
NTS

Revision / 1
Date: Date 1
Revision 1

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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OFFICE AND MEETING ROOMS FUNCTIONAL DIAGRAMS AND DETAILS

VOLUME 2

Job No.	Sheet No.
00802-04-01	AV11.13
Drawn By: WJHW	
Date: 07.15.26	

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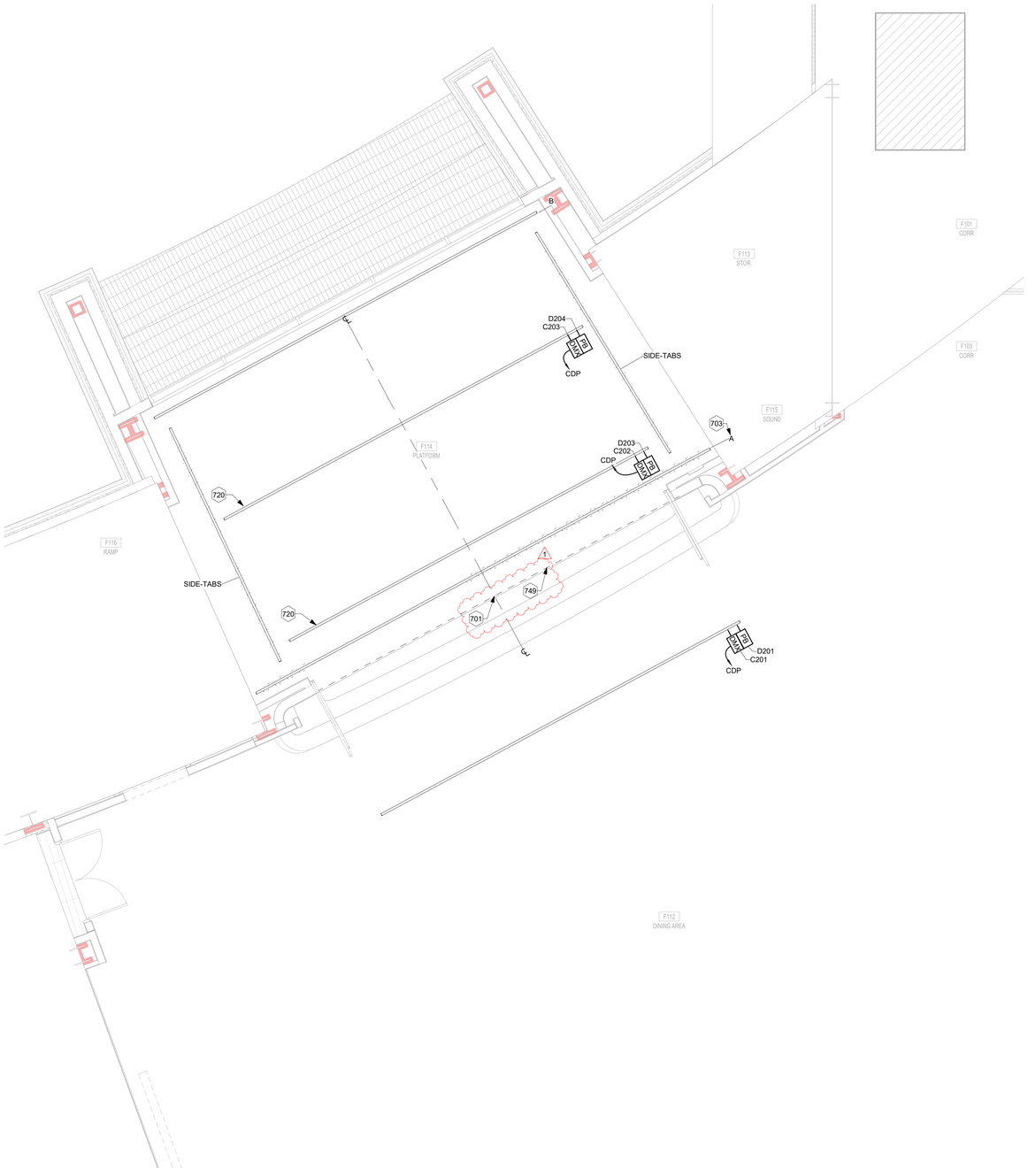

1 TS_FLOOR PLAN - LEVEL 01 - AREA F -ENLARGED PLAN
1/4" = 1'-0"

701 DATUM ORIGIN: THE DATUM FOR THEATRICAL RIGGING IS DEFINED AS: (1) THE STAGE CENTER-LINE, (2) THE REAR/ BACKSTAGE FINISH WALL OF THE PROSCENIUM ARCH (I.E. PLASTER-LINE), (3) THE FINISH ELEVATION OF THE STAGE FLOOR.
703 DRAPERY I.D.: Ref DRAPERY SCHEDULE, TYP
720 FURNISH PLATFORM ELECTRIC BATTEN AT 18'-0" AFF.
749 PLASTER LINE

KEYNOTES

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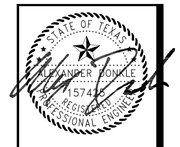
Revision /	Date	
1	07.24.26	Addendum 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS



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ENLARGED PLAN - UPPER LEVEL - AREA F

VOLUME 2

Job No.	Sheet No.
00802-04-01	TS1.2F
Drawn By: WJHW	
Date: 07.15.26	

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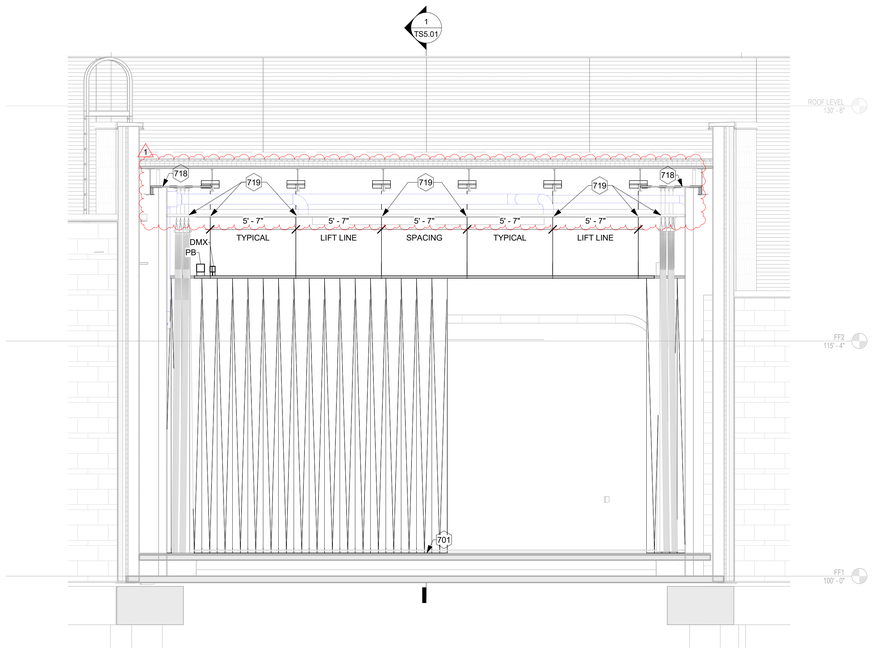
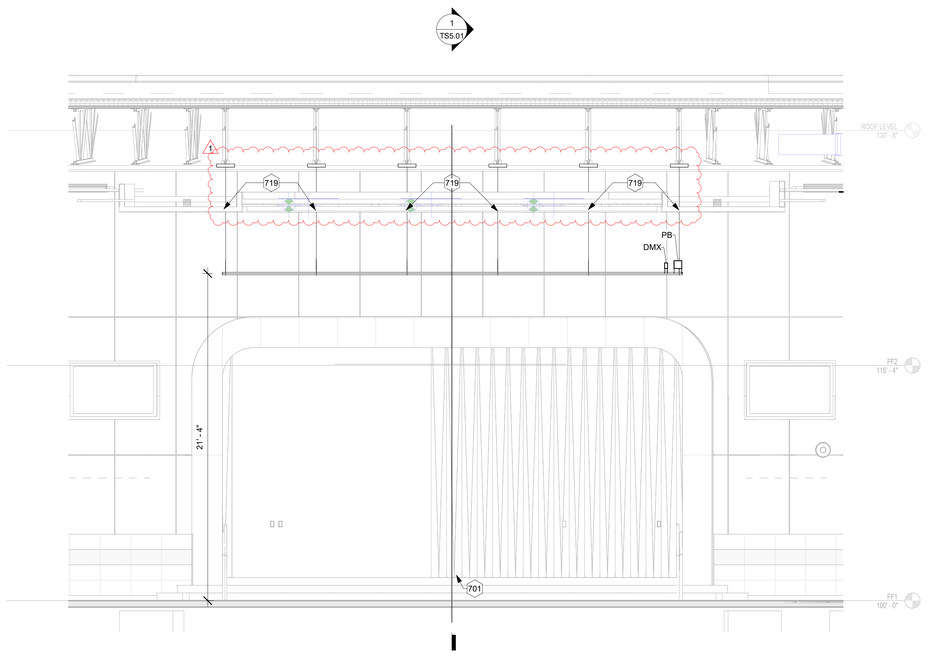
DRAPERY SCHEDULE											
Drapery ID	Description	Location	Quantity	Size	Fabric Type	Color	Weight	Fullness	Hem	Bottom	Comments
A	MAIN DRAPE	PLATFORM	1	20'-0" W X 18'-0" H	IFR VELOUR	by ARCHITECT	25 OZ	100%	FABRIC HALF-WIDTH	CHAIN	HANG FROM BI-PARTING TRACK HARDWARE; 3'-0" CL OVERLAP; PULL SL ; PROVIDE LINER
B	US TRAVELER WITH REAR LINER	PLATFORM	1	17'-0" W X 22'-0" H	IFR VELOUR	BLACK	25 OZ	100%	STANDARD HEM	CHAIN	HANG FROM BI-PARTING TRACK HARDWARE; 3'-0" CL OVERLAP; PULL SL ; PROVIDE WITH REAR-FACING LINER TO PREVENT LIGHT BLEED FROM UPSTAGE WINDOW.
SIDE-TABS	MASKING	PLATFORM	4	9'-6" W X 21'0" H	IFR VELOUR	BLACK	25 OZ	100%	4-INCH	CHAIN	HANG ON WALK-ALONG TRACK HARDWARE; (1) PAIR PER BATTEN

CONTRACTOR SHALL FIELD VERIFY ALL DRAPERY DIMENSIONS PRIOR TO FABRICATION

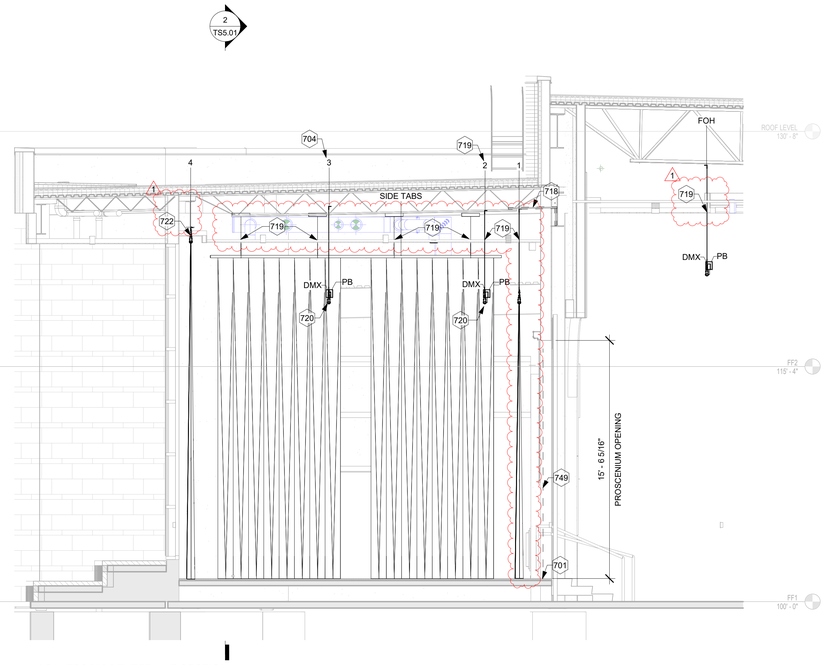
LINESET SCHEDULE - DIMENSIONS FROM DATUM						
Lineset ID	Description	Offset	Capacity	Batten Length	Class	Comments
1	MAIN DRAPE	0' - 9"	500 LBS	38' - 0"	DEAD-HUNG	PROVIDE BI-PARTING TRACK HARDWARE; 3'-0" CL OVERLAP; PULL SL
2	1ST ELECTRIC	3' - 0"	1000 LBS	30' - 0"	DEAD-HUNG	--
3	2ND ELECTRIC	13' - 2"	1000 LBS	30' - 0"	DEAD-HUNG	--
4	TRAVELER	22' - 2"	500 LBS	32' - 0"	DEAD-HUNG	PROVIDE BI-PARTING TRACK HARDWARE; 3'-0" CL OVERLAP; PULL SL
FOH	FOH ELECTRIC	11' - 6"	1000 LBS	30' - 0"	DEAD-HUNG	--
SIDE TABS	MASKING	0' - 0"	300 LBS	19' - 0"	DEAD-HUNG	PROVIDE WALK-ALONG TRACK HARDWARE
SIDE TABS	MASKING	0' - 0"	300 LBS	19' - 0"	DEAD-HUNG	PROVIDE WALK-ALONG TRACK HARDWARE



2 FOH FACING TRANSVERSE SECTION
1/4" = 1'-0"



3 STAGE FACING TRANSVERSE ELEVATION
1/4" = 1'-0"



1 PLATFORM CENTERLINE SECTION
1/4" = 1'-0"

701 DATUM ORIGIN: THE DATUM FOR THEATRICAL RIGGING IS DEFINED AS: (1) THE STAGE CENTER-LINE. (2) THE REAR/ BACKSTAGE FINISH WALL OF THE PROSCENIUM ARCH [I.E. PLASTER-LINE]. (3) THE FINISH ELEVATION OF THE STAGE FLOOR

704 LINESET I.D. Ref. LINESET SCHEDULE - TYP.

718 PROVIDE SUPPLEMENTARY STRUT AS REQUIRED TO COMPLETE INSTALLATION. TYP.

719 COORDINATE PENETRATIONS THROUGH ACOUSTICAL CEILING TILE. INSTALLER SHALL VALIDATE THE PENETRATION/MOUNTING REQUIREMENTS WITH THE ARCHITECT. INCLUDE ASSOCIATED TRIM RINGS, FINISH-OUT, PAINT, PATCH; AND PROVIDE DETAILS IN SUBMITTAL FOR REVIEW; TYP.

720 FURNISH PLATFORM ELECTRIC BATTEN AT 18'-0" AFF.

1 722 COORDINATE PENETRATIONS THROUGH COMPOUND CEILING. INSTALLER SHALL VALIDATE THE PENETRATION/MOUNTING REQUIREMENTS WITH THE ARCHITECT. INCLUDE ASSOCIATED TRIM RINGS, FINISH-OUT, PAINT, PATCH; AND PROVIDE DETAILS IN SUBMITTAL FOR REVIEW, TYP.

749 PLASTER LINE

KEYNOTES

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Revision /	Date	
1	07.24.26	Addendum 01

Project:
TOMBALL ISD INTERMEDIATE SCHOOL REPLACEMENT
FOR
TOMBALL INDEPENDENT SCHOOL DISTRICT
TOMBALL, TEXAS

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SECTIONS AND RIGGING SCHEDULES

VOLUME 2

Job No.	Sheet No.
00802-04-01	TS5.01
Drawn By: WJHW	
Date: 07.15.26	

7/22/2026 8:57:12 PM
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00802-04-01 Tomball ISD Intermediate School Replacement							
Date Received	From:	Issue	Completed?	Coorespondance:	Spec. / Sheets Affected	Date issued:	Correspondence
7/20/2026	Stewart Builders	"On Googlemaps there appears to be an existing detention pond that overlaps the new proposed site as shown on C7.1. In addition, is the detention pond shown south of the new site existing?"	Yes	Phone	N/A	N/A	Response: "Googlemaps is outdatted. The pond shown on Googlemaps has since been moved to the south, as captured within the site plan shown on C7.1. This work was previously done by the district as part of an older project scope. The detention pond shown on C7.1 is existing and sized to accomodate the new IS facility, without additional rework to the pond." - Caitlin Munch
7/20/2026	RPC/ Gamma	"I have a question about the skylight size. Can you submit this for me for clarification? The skylight scope is large enough that this will affect the price. Sheet A7.02 shows the outside dimension of the skylight at 18'-6 5/8" wide between column lines D&E. Sheet A614, detail 3 indicates the skylight would be smaller and 17'-10" wide in the flat dimension – outside curb dimension. Which dimension is correct?"	YES	Add 1	A6.14, A7.02		The flat opening dimension of the skylight has been added to 3/A6.14 - 16' - 2 5/8". The dimension on A7.02 has been updated to reflect the same opening dimensions. Perimeter framing graphically updated to match detailing.
7/20/2026	Gamma	"Caitlin, could you please tell me where the permitting is being completed?"	Yes	Email	N/A	N/A	"The main permitting for the building and main site will be through City of Tomball, the left turn lane and traffic signal off Hufsmith Korville will be Harris County." - Caitlin Munch
7/20/2026	Stewart Builders	The spec book is not including any spec for Div 33 (Site Utilities). Please Provide.	Yes				Site utility details found on C9.1 - C10.1.
7/20/2026	Stewart Builders	The Spec book is not including any spec for Landscaping. Please Provide	Yes				Landscape specifications found on sheet within current drawing set.
7/21/2026	Stewart Builders	The spec section for the alternates, the bid form and the list of alternate on sheet G1.22 are all list differently. Which is correct?					
7/21/2026	Stewart Builders	the AIA contract documents and the list of allowance in the spec do not match. Will we need to carry $500k or $15k for traffic signage?	YES				$500k allowance is to be carried for the traffic signal. $15k allowance is to be carrie
7/21/2026	Stewart Builders	Sheet E6.04, the notes boxes (Note #5) is calling for an allowance for 2 coordination meetings? How much should be carried for this?	YES				It is up to the contractor to determine the amount for the allowance.
7/21/2026	Stewart Builders	Sheet AS1.02 is showing at the gates EG10 & EG11 side to run the fence through the playground surface area. Is this to be done?	YES	Add 1	AS1.02		Surface area to be updated to run parallel with west fence.
7/21/2026	Stewart Builders	Spec 01 4516 could you please clarify which testing and inspection services will need to be provided by the GC	YES	Email	N/A	N/A	"This specification section is in regard to what the GC needs to test on their own for quality control before the owner's testing agency will come out as per the 01 4533 section. Third Party Material Testing, Commissioning, and Test & Balance services shall be performed by the Owner's consultants and coordinated by the General Contractor who shall assist these consultants as required.All test reports, reports showing deficiencies and their corrections shall be copied to the owner and provided in the closeout documents." - Caitlin Munch

7/21/2026	Gamma	Caitlin is there a specific manufacturer that you want to use for the glass railing? Question below: I see there are a few pages in the spec section pertaining to the glass railing, but there's no manufacturer listed. While we typically fabricate all glass railing we sell, if there's a specific manufacturer that the architect wants to use, I would like to carry their materials number with our installation. If the architect is allowing alternates or substitutions without a substitution request procedure, then we would be interested in pricing a substitution.	YES	Email	N/A	N/A	"The basis of design for the glass railings was the Viva Solo line however, we detailed out this railing to open it up for a fabrication bid. We often see better pricing utilizing fabrication within this market." - Caitlin Munch
7/21/2026	Stewart Builders	Please provide a spec section for pavement markings.	Yes	Email	C8.1 & C8.3		Site utility details found on C8.1 & C8.3.
7/21/2026	Stewart Builders	The fence going around the back side of the building is calling to be 6' High but the far left side is calling to be 8' high. Can you confirm this is correct?	YES	Add 1	AS1.02		Fencing to be at perimeter to be 6' High. Drawings to be updated in Addendum 01.
7/21/2026	Stewart Builders	Can we add the Kitchen Hand Sink and the Freeze Proof Hose Bib to the Plumbing Schedule?	No				We will have these added to the schedule for Addendum 2, as NFWH2 (outside
7/21/2026	Stewart Builders	Sheet S3.03 is calling for volleyball sleeves however it is not calling this anywhere else. Please confirm if there is to be sleeves or not.	YES	Add 1	S3.03		There will not be volleyball sleeves within this project.
7/22/2026	SCI	(A101) Exhibit A, Insurance and Bond Requirements, requires umbrella or excess liability coverage equal to the Contract Sum, subject to a $25 million maximum. Please confirm that $25 million per occurrence and aggregate is required for the New Tomball Intermediate School project and advise whether a project-specific excess policy or other evidence of equivalent coverage would be acceptable.	YES	Email	N/A	N/A	"The insurance listed in the RFP is what is required for the project." - Scotty Lewis
7/22/2026	SCI	Sections VII.D.2 and VII.D.3 require respondents to use the Microsoft Excel file provided with the RFP. The completed file is due by email on July 31, 2026, at 2:00 p.m. We have reviewed the procurement documents available on our drive and followed the RFP link to the Tomball ISD bid and proposal documents, but we have been unable to locate the referenced Excel file. Please provide the required Microsoft Excel file or advise where it is available for download.	YES	Add 1	N/A	N/A	"It will be included in the First Addendum." - Scotty Lewis

00802-04-01 Tomball ISD Intermediate School Replacement							
Spec Number	**Item**	**Basis of Design**	**Substituted product**	**Date Received**	**From**	**Response**	**Comments**
10 5100	Lockers		Duralife Lockers	7/21/2026	Courtney Smith	Reviewing	
10 2113.17	Toilet Partitions		Toilet Partitions	7/21/2026	Courtney Smith	Declined	Warranty and panel thickness does not meet specified requirements
07 2700	Air / Weather Barrier		TK-AirMax 2104	7/21/2026		Reviewing	
10 1100	Visual Display Units	Claridge / Table Ticket	Platnium Visual	7/22/2026		Accepted	
			PSA	7/23/2026	Keith Patterson	Accepted	
			Elevate SBS	7/24/2026	Peter Saker	Reviewing	
07 4213.16			Laminator's AdaptaClad RS	7/24/2026	Peter Saker	Reviewing	

Sign-In Sheet

Date:	28 July 2026	**Owner:**	Tomball ISD
Location:	1110 Baker Rd., Tomball, TX 77375	**Project:**	New Tomball Intermediate School
Meeting Purpose:	Pre-Proposal Conference	**Reference:**	RFP-CSP 1003-26

Chris Huntsinger	SCI Construction	903-592-9311	Davidt@scitx.com
Noah Choi	Brookstone	346-833-0738	nchoi@brookstone-tx.com
Jason Glasscock	Multivista	713-514-3282	j.glasscock@multivista.com
Cristian Rodriguez	Drymalla	979-732-5731	bid@drymalla.com
Robin Robertson	Stewart Builders	936-355-5977	robinr@stewartbuildersgc.com
Eman Hindic	Stewart Builders	832-282-4481	eman6@stewartbuildersgc.com
KRIS LYNN	STEWART BUILDERS	281-795-2775	kris@stewartbuildersgc.com
Korbin Mullinax	Stewart Builders	832-405-8252	Korbin@stewartbuildersgc.com
CHARLES VOJTECH	RPC, INC	832-527-7175	charles@rpcinc.com

Sign-In Sheet

Date:	28 July 2026	**Owner:**	Tomball ISD
Location:	1110 Baker Rd., Tomball, TX 77375	**Project:**	New Tomball Intermediate School
Meeting Purpose:	Pre-Proposal Conference	**Reference:**	RFP-CSP 1003-26

Name	Company/Organization	Phone	Email
Michael Grindel	Satterfield & Pontikes	281-702-5665	mgrindel@satpon.com
Victoria Lee	GTT	281 894 4424	estimating@gttconstruction.com
Rebekah Canary	S & P	7139961300	Houstonbids@satpon.com
Josh Mitchell	Sterling Structures	832-969-2957	bids@sterlingstructures.com
Anthony Karels	Pogue	832-246-2906	bids@pogueconstruction.com
Tessa Montes	Millemium PS	281-328-2100	estimating@mps-team.com
Ted Gray	DSC	936 203 3289	tgray@thinkdsc.com
Jeff Schafer	ICI Construction	281 355 5151	bids@iciconstructioninc.com

Sign-In Sheet

Date:	28 July 2026	**Owner:**	Tomball ISD
Location:	1110 Baker Rd., Tomball, TX 77375	**Project:**	New Tomball Intermediate School
Meeting Purpose:	Pre-Proposal Conference	**Reference:**	RFP-CSP 1003-26

Pam Haynes	Gamma Const.	713 963 0086	PHaynes@GammaConst.com
Elizabeth Stemac	Satterfield+Pontikes	7139961300	houstonbids@satpon.com

Sign-In Sheet

Date:	28 July 2026	**Owner:**	Tomball ISD
Location:	1110 Baker Rd., Tomball, TX 77375	**Project:**	New Tomball Intermediate School
Meeting Purpose:	Pre-Proposal Conference	**Reference:**	RFP-CSP 1003-26

Brandon Watson	Division One Construction	713.688.7330	bid@d1construction.com