TREASURE HILLS ELEMENTARY SCHOOL

2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

BOARD OF TRUSTEES

GEORGE MCSHAN	PRESIDENT
JAVIER DE LEON	VICE PRESIDENT
GREG POWERS	SECRETARY
ELADIO JAIMEZ	MEMBER
DR. NOLAN PEREZ	MEMBER
GERRY FLEURIET	MEMBER
DR. BOBBY MUÑIZ	MEMBER
DR. ART CAVAZOS	SUPERINTENDENT OF SCHOOLS

rike • ogden • figueroa • allex architects inc.

ARCHITECT OF RECORD:

ROFA ARCHITECTS, INC

Michael E. Allex, AIA
1007 WALNUT AVENUE
MCALLEN, TEXAS 78501
TEL.: 956.686.7771
FAX.: 956.687.3433

CIVIL ENGINEERS:

M Garcia Engineering, LLC

Mariano Garcia, P.E.
400 W. NOLANA SUITE H.2
MCALLEN, TEXAS 78504
TEL.: 956.687.9421
FAX.: 956.687.3211

STRUCTURAL ENGINEERS:

Green, Rubiano & Associates, Inc

Heriberto Cavazos
1220 WEST HARRISON AVENUE
HARLINGEN, TEXAS 78550
TEL.: 956.428.4461
FAX.: 956.428.0287

M.E.P. ENGINEERS:

Trinity MEP Engineering, LLC

Leonardo Munoz, P.E., R.M.E.
3533 MORELAND DR. SUITE A
WESLACO, TEXAS 78596
TEL.: 956.973.0500
FAX.: 956.351.5750

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

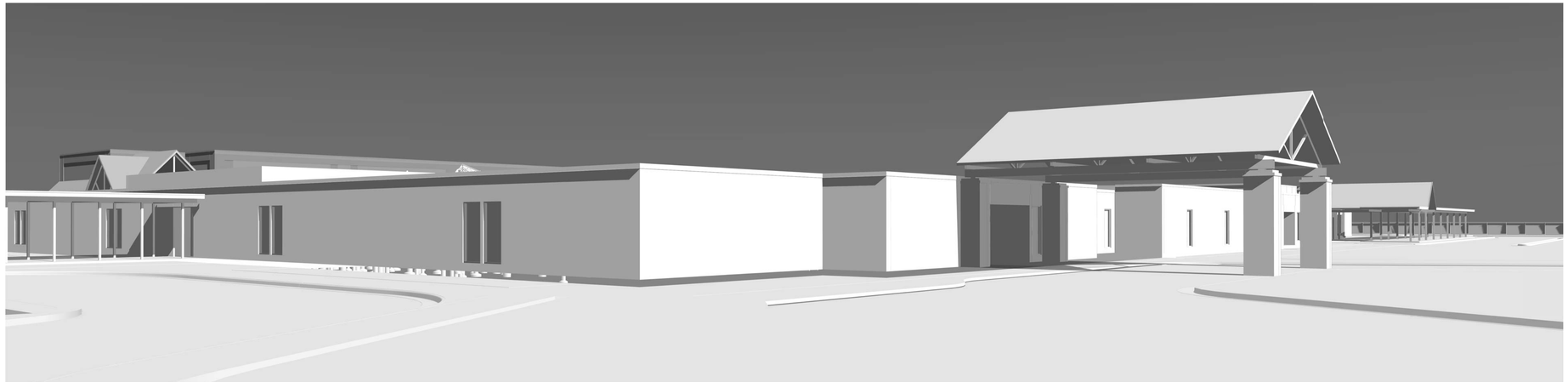
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:50:57 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

COVER SHEET

CS1.0



TREASURE HILLS ELEMENTARY SCHOOL

2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

INDEX OF DRAWINGS

SHEET INDEX-COVER SHEET

CS1.0	COVER SHEET
CS1.1	INDEX OF DRAWINGS

SHEET INDEX-CIVIL

C1.0	GENERAL NOTES
C2.0	EXISITNG CONDITION
C2.1	EXISITNG CONDITION
C2.2	EXISITNG CONDITION
C3.0	UTILITY LAYOUT
C3.1	UTILITY DETAILS
C4.0	PAVING & GRADING LAYOUT
C4.1	PAVING & GRADING DETAILS
C5.0	EROSION & SEDIMENT CONTROL PLAN
C5.1	EROSION & SEDIMENT CONTROL DETAILS

SHEET INDEX-LANDSCAPE

SHEET INDEX-STRUCTURAL

S1.1	GENERAL STRUCTURAL NOTES
S1.2	GENERAL STRUCTURAL NOTES
S1.3	GENERAL STRUCTURAL DETAILS
S1.4	GENERAL STRUCTURAL DETAILS
S2.1	FOUNDATION PLAN
S2.1C	CONTROL JOINT PLAN
S2.1P	PIER PLAN
S2.2	FOUNDATION PLAN
S2.2C	CONTROL JOINT PLAN
S2.2P	PIER PLAN
S2.3	FOUNDATION DETAILS
S2.4	FOUNDATION DETAILS
S2.5	CHILLER PLANT FOUNDATION PLAN
S3.1	2nd FLOOR FRAMING
S3.2	2nd FLOOR FRAMING
S3.3	ROOF FRAMING PLAN
S3.4	ROOF FRAMING PLAN
S3.5	STAIR PLANS
S4.1	FRAMING DETAILS
S4.2	FRAMING DETAILS
S4.3	FRAMING DETAILS
S4.4	FRAMING DETAILS
S4.5	FRAMING DETAILS

SHEET INDEX-ARCHITECTURAL

ASD1.1	DEMOLITION SITE PLAN
AS1.1	ARCHITECTURAL SITE PLAN
AS1.2	PARTIAL ARCHITECTURAL SITE PLAN
AS1.3	ENLARGED MECHANICAL YARD AND DETAILS
AS1.4	MECHANICAL YARD ELEVATIONS
AS1.5	SITE DETAILS
A1.1	FIRE PROTECTION PLAN - 1ST FLOOR
A1.2	FIRE PROTECTION PLAN - 2ND FLOOR
A1.3	CODE ANAYSIS
A1.4	OVERALL FLOOR PLAN - 1ST FLOOR
A1.5	OVERALL FLOOR PLAN - 2ND FLOOR
A1.6	PARTIAL FLOOR PLAN "A" - 1ST FLOOR
A1.7	PARTIAL FLOOR PLAN "B" - 1ST FLOOR
A1.8	PARTIAL FLOOR PLAN "A" - 2ND FLOOR
A1.9	PARTIAL FLOOR PLAN "B" - 2ND FLOOR
A1.10	REFELECTED CEILING PLAN - 1ST FLOOR
A1.11	REFELECTED CEILING PLAN - 2ND FLOOR
A1.12	ROOF PLAN
A2.1	ENLARGED MEN/WOMEN FLOOR PLAN - 1ST PLAN
A2.2	ENLARGED BOYS/GIRLS FLOOR PLAN - 2ND FLOOR
A2.3	ENLARGED PRE-K/ KINDER/1ST GRADE TYP. CLASSROOM
A2.4	ENLARGED 2ND/3RD GRADE TYP. CLASSROOM
A2.5	ENLARGED COMPUTER LAB FLR. PLAN - 1ST FLOOR
A2.6	ENLARGED COMPUTER LAB FLR. PLAN - 2ND FLOOR
A3.1	EXTERIOR BUILDING ELEVATIONS
A4.1	BUILDING SECTIONS
A5.1	WALL SECTIONS
A5.2	WALL SECTIONS
A5.3	WALL SECTIONS
A5.4	WALL SECTIONS
A5.5	WALL SECTIONS
A6.1	WALL DETAILS
A6.2	WALL DETAILS
A6.3	WALL DETAILS
A7.1	EAST/WEST LOBBY INTERIOR ELEVATIONS
A7.2	1ST FLOOR CORRIDOR INTERIOR ELEVATIONS
A7.3	1ST/2ND FLOOR CORRIDOR INTERIOR ELEVATIONS
A7.4	EAST/WEST STUDENT COLLABORATION INT. ELEVATIONS
A7.5	2ND FLOOR CORRIDOR INTERIOR ELEVATIONS
A8.1	MILLWORK SECTIONS
A9.1	ENLARGED ELEV./ STAIRS FLOOR PLANS - 1ST/2ND FLOOR
A9.2	STAIRS INTERIOR ELEVATIONS
A9.3	ENLARGED NORTH STAIRS AND INTERIOR ELEVATIONS
A10.1	ROOM FINISH SCHEDULES AND FINISHES KEYS
A10.2	DOOR ELEVATIONS / SCHEDULES

SHEET INDEX-MECHANICAL

M0.0	MECHANICAL NOTES AND LEGEND
MS1.1	MECHANICAL SITE PLAN
M1.1	MECHANICAL FLOOR PLAN 1ST FLOOR
M1.2	MECHANICAL FLOOR PLAN 2ND FLOOR
M1.3	PARTIAL MECHANICAL PLAN "A" - 1ST FLOOR
M1.4	PARTIAL MECHANICAL PLAN "B" - 1ST FLOOR
M1.5	PARTIAL MECHANICAL PLAN "A" - 2ND FLOOR
M1.6	PARTIAL MECHANICAL PLAN "B" - 2ND FLOOR
M1.7	MECHANICAL CHILLER YARD ENLARGEMENT
M1.8	A136 ENLARGED MECHANICAL ROOMS
M1.9	A203 ENLARGED MECHANICAL ROOM
M1.10	B143 ENLARGED MECHANICAL ROOM
M1.11	B229 ENLARGED MECHANICAL ROOM
M2.1	MECHANICAL CONTROLS
M3.1	MECHANICAL DETAILS
M3.2	MECHANICAL DETAILS
M3.3	MECHANICAL DETAILS
M4.1	MECHANICAL SCHEDULES
M4.2	MECHANICAL SCHEDULES

SHEET INDEX-ELECTRICAL

E0.0	ELECTRICAL
ES1.1	ELECTRICAL OVERALL - SITE PLAN
E1.1	ELECTRICAL LIGHTING FLOOR PLAN 1ST FLOOR
E1.2	ELECTRICAL LIGHTING FLOOR PLAN 2ND FLOOR
E1.3	PARTIAL LIGHTING PLAN "A" - 1ST FLOOR
E1.4	PARTIAL LIGHTING PLAN "B" - 1ST FLOOR
E1.5	PARTIAL LIGHTING PLAN "A" - 2ND FLOOR
E1.6	PARTIAL LIGHTING PLAN "B" - 2ND FLOOR
E2.1	ELECTRICAL POWER FLOOR PLAN 1ST FLOOR
E2.2	ELECTRICAL POWER FLOOR PLAN 2ND FLOOR
E2.3	PARTIAL POWER PLAN "A" - 1ST FLOOR
E2.4	PARTIAL POWER PLAN "B" - 1ST FLOOR
E2.5	PARTIAL POWER PLAN "A" - 2ND FLOOR
E2.6	PARTIAL POWER PLAN "B" - 2ND FLOOR
E3.1	ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN 1ST FLOOR
E3.2	ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN 2ND FLOOR
E3.3	PARTIAL SPECIAL SYSTEMS PLAN "A" - 1ST FLOOR
E3.4	PARTIAL SPECIAL SYSTEMS PLAN "B" - 1ST FLOOR
E3.5	PARTIAL SPECIAL SYSTEMS PLAN "A" - 2ND FLOOR
E3.6	PARTIAL SPECIAL SYSTEMS PLAN "B" - 2ND FLOOR
E4.0	ELECTRICAL EQUIPMENT FLOOR PLAN 1ST FLOOR
E4.1	ELECTRICAL EQUIPMENT FLOOR PLAN 2ND FLOOR
E5.0	ELECTRICAL PANELS
E5.1	ELECTRICAL PANELS
E5.2	ELECTRICAL PANELS
E6.0	ELECTRICAL
E8.0	ELECTRICAL
E8.1	ELECTRICAL
E8.2	ELECTRICAL

SHEET INDEX-PLUMBING

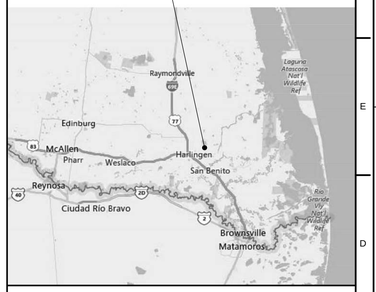
P1.1	PLUMBING SEWER & VENT FLOOR PLAN 1ST FLOOR
P1.2	PLUMBING SEWER & VENT FLOOR PLAN 2ND FLOOR
P1.3	PARTIAL SEWER & VENT PLAN "A" - 1ST FLOOR
P1.4	PARTIAL SEWER & VENT PLAN "B" - 1ST FLOOR
P1.5	PARTIAL SEWER & VENT PLAN "A" - 2ND FLOOR
P1.6	PARTIAL SEWER & VENT PLAN "B" - 2ND FLOOR
P1.7	PLUMBING SEWER & VENT OVERALL 1ST. FLOOR RISER
P1.8	PLUMBING SEWER & VENT OVERALL 2ND FLOOR RISER
P2.1	PLUMBING DOMESTIC WATER FLOOR PLAN 1ST FLOOR
P2.2	PLUMBING DOMESTIC WATER FLOOR PLAN 2ND FLOOR
P2.3	PARTIAL DOMESTIC WATER PLAN "A" - 1ST FLOOR
P2.4	PARTIAL DOMESTIC WATER PLAN "B" - 1ST FLOOR
P2.5	PARTIAL DOMESTIC WATER PLAN "A" - 2ND FLOOR
P2.6	PARTIAL DOMESTIC WATER PLAN "B" - 2ND FLOOR
P2.7	PLUMBING DOMESTIC WATER 1ST FLOOR RISER
P2.8	PLUMBING DOMESTIC WATER 2ND FLOOR RISER
P3.1	PLUMBING LEGEND
P4.1	PLUMBING SCHEDULE
P5.1	PLUMBING DETAILS
P5.2	PLUMBING DETAILS

SHEET INDEX-FIRE PROTECTION

FP1.1	FIRE PROTECTION SITE PLAN

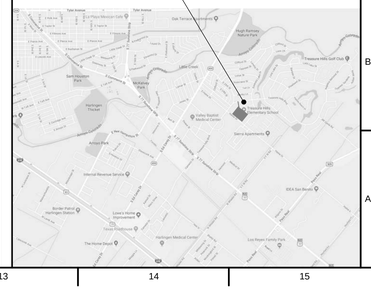
LOCATION MAP

PROJECT LOCATED IN THE CITY OF HARLINGEN



VICINITY MAP

TREASURE HILLS ELEMENTARY SCHOOL PROJECT SITE LOCATION



rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:51:41 AM	
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

INDEX OF DRAWINGS

CS1.1

SITE PLAN NOTES

GENERAL SITE NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY, COUNTY, STATE, FEDERAL AND OSHA REGULATIONS.
2. CONTRACTOR SHALL REFER TO THE DIMENSIONAL SITE PLAN FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, RAMPS, SIDEWALKS, EXIT PORCHES, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS, AND TOTAL NUMBER, LOCATION, AND SIZE OF DOWNSPOUTS.
3. ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
4. ALL ISLANDS WITH CURB & GUTTER SHALL BE LANDSCAPED. THOSE ISLANDS ARE TO HAVE 18" CURB & GUTTER. ALL REMAINING ISLANDS ARE TO BE STRIPPED AS SHOWN.
5. ALL DIMENSIONS AND RADII ARE TO THE BACK OF CURB, EDGE OF PAVEMENT, CENTER OF STRIPE OR OBJECT, OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
6. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS THAT ARE TO BE ABANDONED, REMOVED OR RELOCATED, SHALL BE DONE IN A PROPER MANNER OFFSITE, AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
8. THE SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED "THE CITY STANDARD SITE WORK SPECIFICATIONS".
9. CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND REPLACEMENT OF PROPERTY CORNERS.
10. CONTRACTOR SHALL MATCH EXISTING CURB & GUTTER IN GRADE, SIZE, TYPE AND ALIGNMENT WHERE APPLICABLE.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO DAMAGE OF ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING.

DEMOLITION PLAN NOTES

"CAUTION" - NOTICE TO CONTRACTOR:

THE CONTRACTOR IS PUT ON NOTICE THAT THERE ARE NUMEROUS UNDERGROUND UTILITIES IN THE LINE OF WORK, INCLUDING WATER, SEWER, GAS, TELEPHONE IRRIGATION (CONCRETE PIPE) AND ELECTRIC. THERE MAY BE OTHER UTILITIES INCLUDING CABLE TELEVISION, TELECOMMUNICATIONS AND OTHERS, SOME OF THESE UTILITIES MAY BE ABANDONED, WHILE MANY ARE ACTIVE.

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN CONDUCTING EXCAVATION OPERATIONS, AND IF ANY EXISTING UTILITIES ARE DAMAGED, THEY SHALL BE REPAIRED IMMEDIATELY AT NO COST TO THE OWNER. THE CONTRACTOR IS TO BE AWARE THAT IF ANY EXISTING UTILITIES ARE SHOWN ON THE PLANS THEY ARE SHOWN IN THEIR APPROXIMATE LOCATION ONLY AND THAT THE EXISTING UTILITIES SHOWN REPRESENT ONLY A DILIGENT EFFORT TO SHOW THE APPROXIMATE LOCATION OF SOME OF THE UTILITIES.

THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST FILED LOCATION OF UTILITIES.

"NOTICE TO CONTRACTOR" - TEXAS ONE CALL SYSTEM:

AS REQUIRED BY THE "TEXAS UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT" TEXAS ONE CALL SYSTEM MUST BE CONTACTED (800-245-4545) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATIONS PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT TEXAS ONE CALL SYSTEM.

GENERAL DEMOLITION NOTES:

1. NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLAN.
2. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL OF ALL DEMOLITION DEBRIS.
3. THE CONTRACTOR SHALL LOCATE AND REMOVE ALL UNDERGROUND UTILITY PIPING, IRRIGATION PIPING, AND CONDUIT ON EXISTING SITE AS PART OF THE BASE BID, UP TO A DEPTH OF 24 INCHES BELOW EXISTING GRADES.
4. CONTRACTOR SHALL LOCATE AND REMOVE ALL UNDERGROUND UTILITY CABLES (ELECTRIC, TELEPHONE, ETC.) ON THIS SITE UP TO A DEPTH OF 24 INCHES BELOW EXISTING GRADES AS PART OF BASE BID.
5. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATING AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
6. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
7. NOTES SHOWN HERE ON REGARDING SPECIFIC ITEMS OF DEMOLITION ARE GENERAL IN NATURE, AND ARE NOT INTENDED TO BE WHOLLY INCLUSIVE. THE CONTRACTOR SHALL DEMOLISH AND REMOVE ALL EXISTING IMPROVEMENTS TO THE EXTENT AS NOTED IN THE SPECIFICATIONS, TO THE SATISFACTION OF THE OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DISCONNECTION OF ALL UTILITIES SERVING THE EXISTING SITE WITH THE APPROPRIATE UTILITY COMPANY, AND SHALL OBTAIN APPROVAL FROM SAME TO COMMENCE DEMOLITION ACTIVITIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLUGGING, CAPPING, OR OTHERWISE TERMINATING UTILITY SERVICE LINES AT EXISTING METER LOCATIONS, CLEANOUTS, ETC.

INSPECTIONS/CERTIFICATIONS NOTE:

ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.

STORM SEWER PLAN NOTES

STORM SEWER NOTES:

1. IF THE CONTRACTOR RELOCATES BENCHMARK WITH A NEW BENCHMARK, IT SHALL BE LOCATED WITHIN A TOLERANCE OF 0.10'.
2. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES AND BE CONSTRUCTED TO SAME.
3. SEE SPECIFICATIONS FOR BACKFILLING AND COMPACTION REQUIREMENTS OF STORM SEWER TRENCHES.
4. ALL PIPES ENTERING STORM SEWER STRUCTURES SHALL BE GROUTED WITH NON-SHRINK GROUT TO ASSURE A WATERTIGHT FIT.
5. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING LIDS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISHED GRADE. LIDS SHALL BE LABELED "STORM SEWER".
6. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS OUTLINED IN THE T.P.D.E.S. PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SWPPP AND REQUIRED PERMITS.
7. CONTRACTOR SHALL UTILIZE PREFABRICATED BENDS, FIELD FABRICATED BENDS OR RADIUS PIPE TO ACCOUNT FOR DEFLECTIONS IN STORM SEWER PIPE WHERE SHOWN HEREON.
8. PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.
9. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED TO REMOVE ALL SILT AND DEBRIS.
10. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
11. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR FROM INVERT IN TO INVERT OUT.
12. REINFORCED CONCRETE PIPE SHALL BE CLIII RUBBER GASKET.
13. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
14. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURE. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS OUTLINED BY OSHA.

GRADING PLAN NOTES

GENERAL GRADING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY.
2. ALL CUT OR FILL SLOPES SHALL BE 3:1 UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE SMOOTH FIT AND CONTINUOUS GRADE.
4. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
5. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPED 3:1 OR STEEPER.
6. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
7. STRIP THE TOP 6" OF TOPSOIL AND VEGETATION FROM PROPOSED PAVING AND SIDEWALKS. STRIPPED TOPSOIL MAY BE STOCKPILED AND USED FOR FILL IN LANDSCAPE AND LAWN AREAS PROVIDED IT IS FREE OF ROCKS AND TRASH.
8. FILL BELOW PROPOSED PAVEMENT AREAS MAY BE SELECT FILL WITH PLASTICITY INDEX RANGING FROM 5-17%.
9. ALL SIDEWALKS SHALL HAVE A MINIMUM SLOPE OF 1/4" PER FOOT. ELEVATIONS OF TOP OF CURB NEAR BUILDING ASSUME 1/4" PER FOOT SLOPE ACROSS COVERED ENTRY AND SIDEWALK.
10. EXPANSION JOINTS TO BE PLACED WHERE BUILDING FOUNDATION MEETS CONCRETE PAVEMENT OR SIDEWALK.
11. ALL REQUIRED SELECT FILL TO BE PLACED IN 6" LIFTS WITH COMPACTION TO 95% PROCTOR.
12. ALL CURB AND GUTTER TO BE BACKFILLED AND STABILIZED AS REQUIRED.
13. ALL GRADING TO BE ESTABLISHED TO PROVIDE SURFACE TO DRAINAGE.
14. ALL OBSTRUCTIONS BUILDINGS, POLES, WIRES, SLABS, FENCING, OR GUARD RAILS CONFLICTING WITH THE PROPOSED IMPROVEMENTS TO BE REMOVED, RELOCATED AND OR DISPOSED OF BY CONTRACTOR AS PER ENGINEERS WRITTEN INSTRUCTIONS.
15. HANDICAP SIGNAGE TO CONFORM WITH FEDERAL REGULATIONS (A.D.A.).
16. CONTRACTOR TO INCLUDE ALL STRIPING FOR PARKING LOTS, STREETS & ROADWAYS.
17. CIVIL ENGINEER WILL NOT PROVIDE CONSTRUCTION STAKING ON (ON-SITE) IMPROVEMENTS.
18. CONTRACTOR TO GRADE SWALES AS REQUIRED FROM SIDEWALK DRAINAGE OPENINGS, FIRE LANES, CULVERTS AND CURB SLOTS TO INLETS.
19. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL THROUGHOUT THE DURATION OF THE CONSTRUCTION.
20. CONTRACTOR SHALL PROVIDE SWPPP AS PART OF PERMITTING PROCESS.

UTILITY PLAN NOTES

GENERAL UTILITY NOTES:

1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
3. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED, THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50). CONTRACTOR SHALL BE RESPONSIBLE FOR ADDING 45° BENDS WHERE NECESSARY TO ROUTE PROPOSED WATER LINES AROUND PROPOSED STORM SEWER.
4. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE CITY UTILITY DEPARTMENT AS TO LOCATION AND SCHEDULING OF TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
5. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
6. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO BACKFILLING.
7. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
8. DRAWINGS TO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
9. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
10. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
11. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURE. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS OUTLINED BY OSHA.
12. CONTRACTOR SHALL REFER TO ARCHITECTS PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE: SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE.
13. ALL STEEL ENCASEMENT PIPE SHALL HAVE A WALL THICKNESS OF 0.25 INCHES.
14. ALL SANITARY SEWER AND WATER LINES SHALL COMPLY WITH THE REQUIREMENTS AS SPECIFIED IN THE SITE WORK SPECIFICATIONS.
15. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING, TO CENTERLINE OF MANHOLE, FACE OF BUILDING, OR BACK OF CURB UNLESS OTHERWISE NOTED.
16. IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER SHOWN OR NOT SHOWN IN THE DRAWINGS, THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS TO PLACE THE FACILITIES BACK IN SERVICE AT NO INCREASE IN THE CONTRACTOR'S PRICE, AND ALL SUCH REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE COMPANY OR AGENCY SERVICING THE FACILITY.
17. THE CONTRACTOR SHALL EXERCISE EXTRA CARE TO PREVENT DAMAGE TO ALL OTHER STRUCTURES IN THE AREA INCLUDING BUILDINGS, FENCES, ROADS, PIPELINES, UTILITIES, ETC., WHETHER PUBLICLY OR PRIVATELY OWNED.
18. UNTIL ACCEPTANCE BY THE ENGINEER OF ANY PART OR ALL OF THE CONSTRUCTION, AS PROVIDED FOR IN THE PLANS AND SPECIFICATIONS, IT SHALL BE UNDER THE CHARGE AND CARE OF THE CONTRACTOR, AND HE SHALL TAKE EVERY NECESSARY PRECAUTION AGAINST INJURY OR DAMAGE TO ANY PART OF THE WORK. THE CONTRACTOR SHALL REBUILD REPAIRS, RESTORE AND MAKE GOOD, AT HIS OWN EXPENSE, ALL INJURIES OR DAMAGE TO ANY PORTION OF THE WORK BEFORE ITS COMPLETION AND ACCEPTANCE.
19. COORDINATE ALL UTILITY WORK WITH PLUMBING PLANS BEFORE COMMENCING ANY UTILITY WORK. REFER TO PLUMBING PLANS FOR CONTINUATION.
20. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY FOR ANY CONSTRUCTION DONE ON PUBLIC R.O.W. AND SHALL INCLUDE TRAFFIC CONTROL AS REQUIRED.
21. NOTICE TO CONTRACTOR: TEXAS ONE CALL SYSTEM AS REQUIRED BY "THE TEXAS UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT" TEXAS ONE CALL SYSTEM MUST BE CONTACTED (800-245-4545) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATIONS PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT TEXAS ONE CALL SYSTEM.
22. CONTRACTOR SHALL VISIT EXISTING CONDITIONS OF THE SITE.
23. CONTRACTOR SHALL IDENTIFY ALL UNDERGROUND LINES BEFORE COMMENCING WORK.CONTRACTOR SHALL ADJUST ANY ELECTRICAL LINES THAT CONFLICT WITH CONSTRUCTION OF THESE IMPROVEMENTS.

TRAFFIC CONTROL NOTE:

GUIDELINES SET FORTH IN PART IV "STANDARDS AND GUIDES FOR TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS" OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MOST RECENT EDITION AS REVISED) SHALL BE OBSERVED.

UTILITY PLAN DETAIL NOTES

GENERAL NOTES FOR WATER CONSTRUCTION:

1. DISINFECTION OF NEW WATER MAINS SHALL BE IN CONFORMANCE WITH AWWA C601 & 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.
2. ALL WATER LINE PIPE FURNISHED SHALL MEET THE REQUIREMENTS OF AWWA C900. LATEST REVISION. HYDROSTATIC TEST SPEC. SHALL BE 150 P.S.I FOR 8 HOURS OR 180 P.S.I. FOR 4 HOURS.
3. DUCTILE IRON PIPE SHALL CONFORM TO AWWA C110 STANDARDS..
4. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND THRUST PRESSURE. NO SEPARATE PAY.
5. WATER LINE TRENCHES INSIDE STREET RIGHT OF WAY SHALL HAVE SAND BEDDING TO THE SPRINGLINE OF THE PIPE AND THEN BACKFILLED WITH SELECT FILL IN MAX 8" LIFTS AND COMPACTED TO A MINIMUM OF 95% STD. DENSITY, AT +/-3% OF OPTIMUM MOISTURE CONTENT.
6. MAINTAIN A MINIMUM OF 18 INCHES VERTICAL CLEARANCE BETWEEN WATER LINES AND ALL OTHER UTILITIES.
7. UNLESS OTHERWISE APPROVED, ALL WATER MAINS SHALL BE PLACED A MINIMUM DEPTH OF 4'-6' BELOW TOP OF PROPOSED STREET CURBS OR 48" OF COVER ABOVE PIPE LOCATED IN STREET RIGHT OF WAY OR EASEMENTS.
8. ALL CONCRETE BLOCKING SHALL CONSIST OF 3000-P.S.I. CONCRETE.
9. ALL WORK AND MATERIAL SHALL BE SUBJECT TO CITY ENGINEERS APPROVAL DURING CONSTRUCTION AND UPON COMPLETION.
10. ALL WATER SERVICE LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH GOVERNING REGULATIONS.
11. TRACER WIRE SHALL BE INSTALLED ON ALL PUBLIC WATER LINES.

MANHOLE TESTING:

MANHOLES SHALL BE TESTED FOR LEAKAGE SEPARATELY AND INDEPENDENTLY OF THE WASTEWATER LINES BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING OR OTHER METHODS ACCEPTABLE TO THE COMMISSION. IF A MANHOLE FAILS A LEAK TEST, THE MANHOLE MUST BE MADE WATER TIGHT AND RETESTED. THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING SHALL BE 0.025 GALLONS PER FOOT DIAMETER PER FOOT ON MANHOLE DEPTH PER HOUR.

SEWER PIPE TESTING:

EXFILTRATION TESTS SHALL BE PERFORMED ON ALL SEWER PIPE USING LOW PRESSURE AIR TEST. THE PROCEDURE FOR THE LOW PRESSURE AIR TEST SHALL CONFORM TO THE PROCEDURE DESCRIBED IN ASTM C-924, ASTM F-1417, OR OTHER APPROPRIATE PROCEDURES.

DEFLECTION TESTING:

DEFLECTION TEST SHALL BE PERFORMED ON ALL FLEXIBLE PIPES. FOR PIPE WITH INSIDE DIAMETERS LESS THAN 27 INCHES, A RIGID MANDREL SHALL BE USED TO MEASURE DEFLECTION. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%.

GENERAL NOTES FOR SEWER CONSTRUCTION:

1. THE TOP ELEVATION OF MANHOLES AND CLEANOUTS CONSTRUCTED IN PAVED AREAS SHALL MATCHED FINISHED PAVEMENT GRADE. THE TOP ELEVATION OF MANHOLES CONSTRUCTED IN GRASSED AREAS SHALL BE SIX (6) INCHES ABOVE FINISHED GRADE (UNLESS OTHERWISE NOTED).
2. SEWER PIPE DIAMETERS AND MATERIAL SHALL BE AS INDICATED ON PLANS AND SPECIFICATIONS.
3. IN THE EVENT PLANS OR STANDARD DETAILS CONFLICT WITH THE CITY PLUMBING ORDINANCES, CITY ORDINANCES SHALL CONTROL AND BE ADHERED TO IN ALL CASES.
4. CONTRACTOR MUST BE LICENSED AND BONDED BY THE CITY.
5. PIPE SHALL BE BURIED A MINIMUM OF 4'.
6. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE.
7. REPAIR OF ALL EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL MAKE EVERY EFFORT POSSIBLE TO MINIMIZE THE DISTURBANCE OF ALL EXISTING SHRUBS, LAWNS, AND OTHER LANDSCAPING FEATURES AND SHALL COORDINATE REMOVAL OF TREES WITH OWNERS OR ENGINEER.
9. PLUGS BETWEEN THE EXISTING AND PROPOSED SYSTEM SHALL BE REMOVED ONLY WHEN THE PROPOSED SANITARY SEWERS HAVE BEEN COMPLETED, TESTED AND ACCEPTED. NO PLUG SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
10. SEWER SERVICE SHALL BE MAINTAINED TO ALL RESIDENCES AT ALL TIMES. IF FOR ANY REASON, THE CONTRACTOR NEEDS TO INTERRUPT SERVICE, HE SHALL FIRST OBTAIN APPROVAL FROM ENGINEER.
11. ALL CUT & PLUG OF SEWER LINES SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS. NO SEPARATE PAY WILL BE ALLOWED.
12. WHENEVER SANITARY SEWER CROSSES WITHIN 10 FEET ABOVE OR BELOW A WATER LINE, THE SANITARY SEWER SHALL BE CONSTRUCTED OF D.I., CLASS 50, PRESSURE PIPE OR AWWA C900 PVC FOR A MINIMUM DISTANCE OF 10 FEET ON EITHER SIDE OF THE WATER LINE.
13. ALL SANITARY SEWER MAINS SHALL BE SDR-26 PVC WITH 4' MINIMUM BURY, PIPE PER THE CITY REQUIREMENTS.
14. P.V.C. PIPE SHALL HAVE BELL AND SPIGOT JOINTS. NO CHEMICALLY WELDED JOINTS SHALL BE PERMITTED.
15. GRADES FOR SEWER MAINS MAY BE VARIED FROM ELEVATIONS INDICATED ON THE PLANS ONLY ON THE DIRECTION AND APPROVAL OF THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, AND BY THE CITY.
16. ALL UTILITIES MAY BE OPEN-CUT UNLESS SPECIFICALLY NOTED OTHERWISE. REPAIR OF ALL EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
17. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE LINED.

GENERAL NOTES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

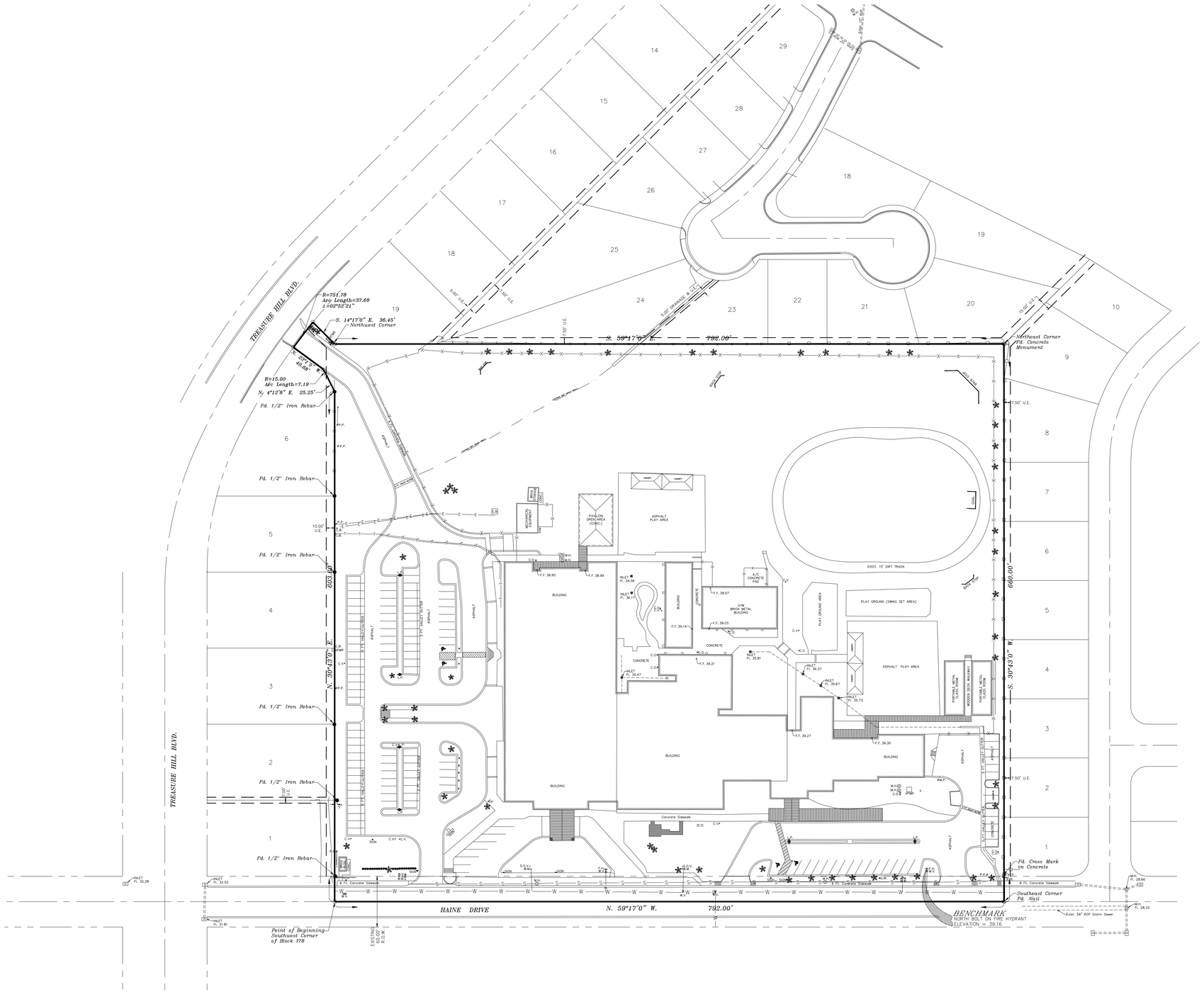
STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
P.E.
05/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 11:41:56 AM
STARTING DATE: 09/05/2017
CK BY: MG DWN BY: AG
GENERAL NOTES

C1.0



EXISTING CONDITION

SCALE:1":60'

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

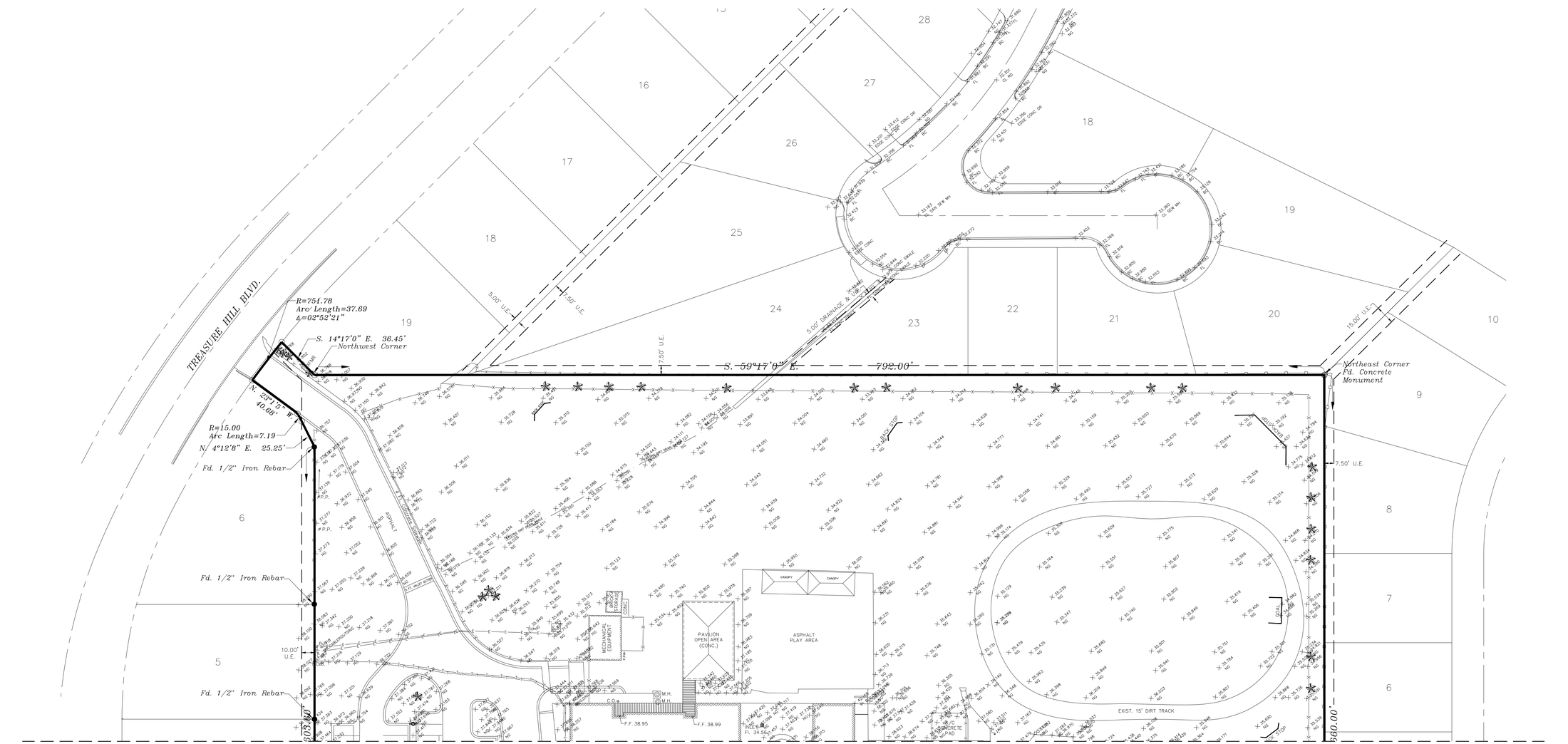
STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED
PROFESSIONAL ENGINEER
05/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/21/2018 11:41:56 AM	
STARTING DATE: 09/05/2017	
CK BY: MG	DWN BY: AG

C2.0



EXISTING CONDITION

SCALE: 1":40'

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER

P.E.
05/21/18

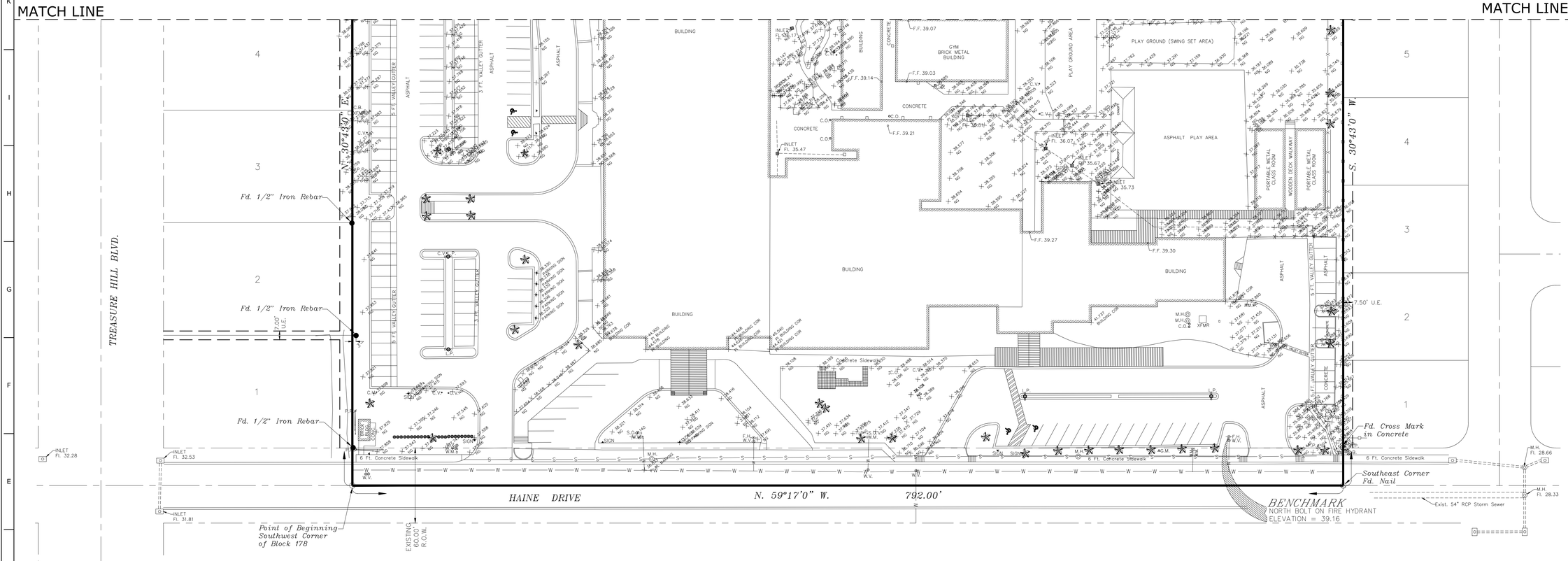
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 11:41:56 AM
STARTING DATE: 09/05/2017
CK BY: MG | DWN BY: AG

C2.1



EXISTING CONDITION

SCALE:1":40'

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

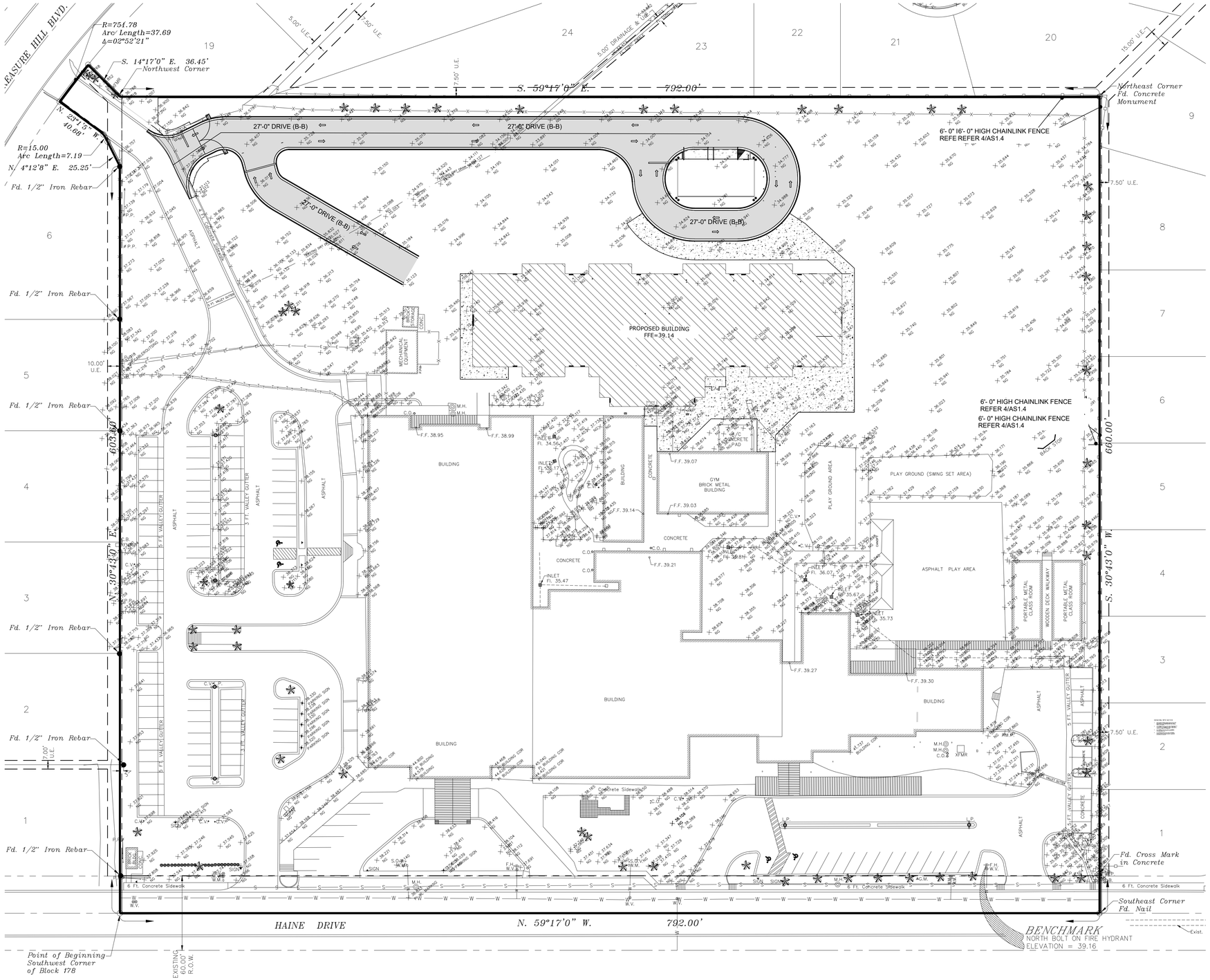
STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED
PROFESSIONAL ENGINEER
05/21/18

NO.	DATE	DESCRIPTION
REVISIONS		

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12	
DATE: 5/21/2018 11:41:56 AM	
STARTING DATE: 09/05/2017	
CK BY: MG	DWN BY: AG

C2.2



NOTE:

1. THIS DRAWING IS DIAGRAMMATIC AND SHOULD BE USED AS REFERENCE FOR BIDDING PURPOSES ONLY. THIS DRAWING SHALL NOT BE USE FOR PERMIT OR CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE NEW FIRE SPRINKLER SYSTEM. ALL NFPA CODES APPLICABLE SHALL BE USED AND FOLLOWED.

2. CONTRACTOR SHALL TIE-IN SANITARY SEWER SERVICE AS PER HARLINGEN WATER WORKS STANDARDS AND SPECIFICATIONS. FIELD VERIFY EXACT DEPTH AND LOCATION PRIOR TO COMMENCEMENT OF ANY WORK.

3. FIRE DEPARTMENT CONNECTION SHALL BE AS REQUIRED BY LOCAL FIRE MARSHALL.

4.PROVIDE SIGNS FOR FDC, ALL VALVES, AND RISER.

5. FIRE PROTECTION SYSTEM TO BE DESIGNED TO MEET CITY OF HARLINGEN AND FIRE MARSHALL CODES. PLANS SHALL BE SUBMITTED TO THE CITY OF HARLINGEN FOR REVIEW AND APPROVAL. FIRE MARSHALL TO BE THE FINAL APPROVING AUTHORITY FOR ALL FIRE PROTECTION WORK.

KEYED NOTES	
1	REFER TO PLUMBING PLANS FOR CONTINUATION

LEGEND	
WL	PROPOSED WATER LINE
SS	PROPOSED SANITARY SEWER LINE

UTILITY LAYOUT

1":40'

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
05/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

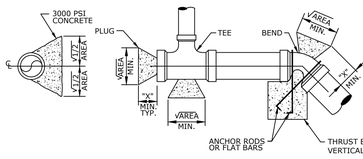
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/21/2018 11:41:56 AM	
STARTING DATE:	09/05/2017
CK BY: MG	DWN BY: AG

UTILITY LAYOUT

C3.0

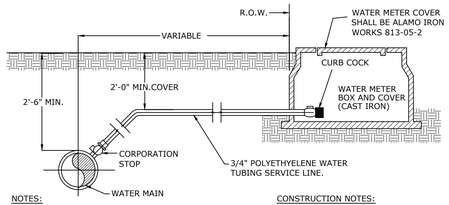


THRUST BLOCK REQUIREMENTS VS. FITTING TYPE										
DIAMETER	"X"	END/TEE	90° BEND		45° BEND		22.5° BEND		11.25° BEND	
(IN.)	(FT.)	(S.F.)	(S.F.)	(LB.)	(S.F.)	(LB.)	(S.F.)	(LB.)	(S.F.)	(LB.)
4	1	1.4	1.9	3839	1.0	2077	0.5	1059	0.3	532
6	1	2.8	4.0	7932	2.1	4293	1.1	2188	0.5	1100
8	1.25	4.8	6.8	13646	3.7	7385	1.9	3765	0.9	1892
10	1.25	7.3	10.3	20528	5.6	11110	2.8	5664	1.4	2846
12	1.50	10.3	14.5	29030	7.9	15711	4.0	8009	2.0	4024
14	1.75	13.8	19.5	39001	10.6	21107	5.4	10760	2.7	5406
16	2	17.8	25.2	50442	13.6	27299	7.0	13917	3.5	6992

NOTES:

1. THRUST BLOCKING TO BE PLACED AT ALL DEAD ENDS, TEES, BENDS, WYES, AND REDUCERS AND OTHER AREAS THAT REQUIRE THRUST RESISTANCE.
2. MINIMUM AREAS SHOWN ARE IN SQUARE FEET, BLOCK WEIGHTS FOR VERTICAL BENDS ARE IN POUNDS.
3. THRUST BLOCK AREAS SHOWN ARE BASED ON A TEST PRESSURE OF 150 P.S.I., SOIL BEARING PRESSURE OF 2000 PSF, AND MINIMUM 30" COVER. IF REQUIRED TEST PRESSURE IS LESS OR THE SOIL BEARING CAPACITY IS GREATER, THE CONTRACTOR MAY, AFTER APPROVAL BY THE ENGINEER, REDUCE THE THRUST BLOCK AREA SHOWN. THRUST BLOCKING AREA SHALL BE INCREASED IF SOIL BEARING CAPACITY IS LESS THAN 2000 PSI.
4. AT DOWNWARD VERTICAL BENDS, PIPING SHALL BE RESTRAINED BY THRUST BLOCK AS SHOWN WITH WEIGHT INDICATED IN THE TABLE. ANCHOR RODS OR FLAT BARS SHALL BE STAINLESS STEEL.
5. BEARING MUST BE ON UNDISTURBED EARTH.
6. USE 3000 PSI CONCRETE.
7. RESTRAINING JOINTS MAY BE REQUIRED AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER
8. THRUST BLOCK SHALL BEAR ON FULL 180° OF CIRCUMFERENCE OF PIPE.

THRUST BLOCK DETAILS 1



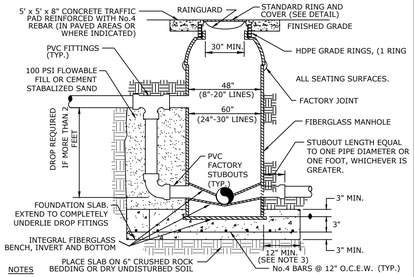
NOTES:

1. ALL SERVICE CONNECTIONS NEED TO HAVE A MIN. 2'-0" COVER FROM FINISHED GRADE.
2. WATER METER COVER SHALL BE ALAMO IRON WORKS 813-05-2.
3. ALL WATER MAINS HAVE 30 INCHES OF COVER FROM FINISHED GRADE.
4. METER BOX SHALL BE CAST IRON.
5. ALL CONCRETE TO HAVE A MIN. 28 DAYS COMPRESSIVE STRENGHT OF 3,000 P.S.I.
6. 2" GATE VALVE ONLY REQUIRED FOR 2" SERVICE.
7. POLYETHYLENE TUBING ACCEPTABLE FOR LINE SIZES 1" OR LESS, SCHEDULE 40 PVC REQUIRED FOR LINE SERVICES GREATER THAN 1".

CONSTRUCTION NOTES:

A. WATER VALVE COVER
B. CURB COCK
C. METER BOX & METER PROVIDED
D. WATER TUBING SERVICE LINE
E. CORPORATION STOP
F. WATER MAIN

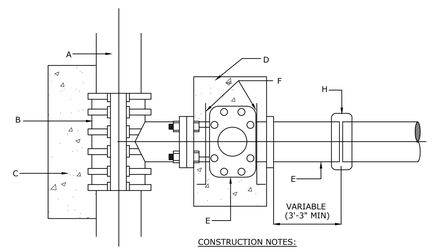
TYP. SERVICE CONNECTION W/ METER BOX 2



NOTES

1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. BACKFILL SHALL BE SAND COMPACTED TO 95% STANDARD PROCTOR.
3. BASE SLAB SHALL BE 4 FT. LARGER THAN MANHOLE DIAMETER WHERE SOIL BEARING CAPACITY < 2000 PSF. WATER TABLE < 5 FT., OR DEPTH > 20 FT. SLAB SHALL BE DESIGNED TO PREVENT FLOTATION OF MANHOLE.
4. COAT ALL INTERNAL CEMENTITIOUS AND METALLIC SURFACES WITH COAL TAR EPOXY.
5. OUTLET STUBOUT SHALL BE SPIGOT END. INLET STUBOUTS SHALL BE BELL END EXCEPT FOR DROP CONNECTIONS.

TYPICAL FIBERGLASS MANHOLE 6



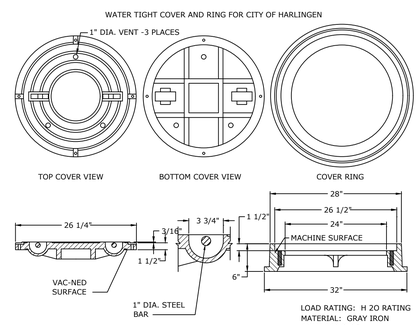
GENERAL NOTES:

1. ALL CONCRETE TO HAVE A MINIMUM OF 28 DAYS COMPRESSIVE STRENGTH OF 3,000 P.S.I.

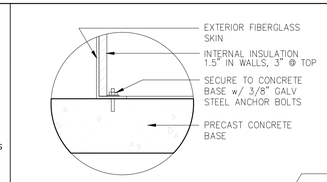
CONSTRUCTION NOTES:

A. WATER MAIN. (SEE PLANS AND SPECIFICATION)
B. TAPPING SLEEVE (SIZE AS REQUIRED).
C. CONCRETE SUPPORT UNDER TAPPING SLEEVE AND BEHIND.
D. THRUST BLOCK AS PER SPECIFICATIONS.
E. FLANGED AND HUB ENDS "O" RING SEALS WITH 2" SQUARE WRENCH NUT GATE VALVE.
F. ANCHOR RODS.
G. PVC PIPE.
H. SIMPLEX COUPLING.

WATER TAPPING SLEEVE & VALVE INSTALLATION 3

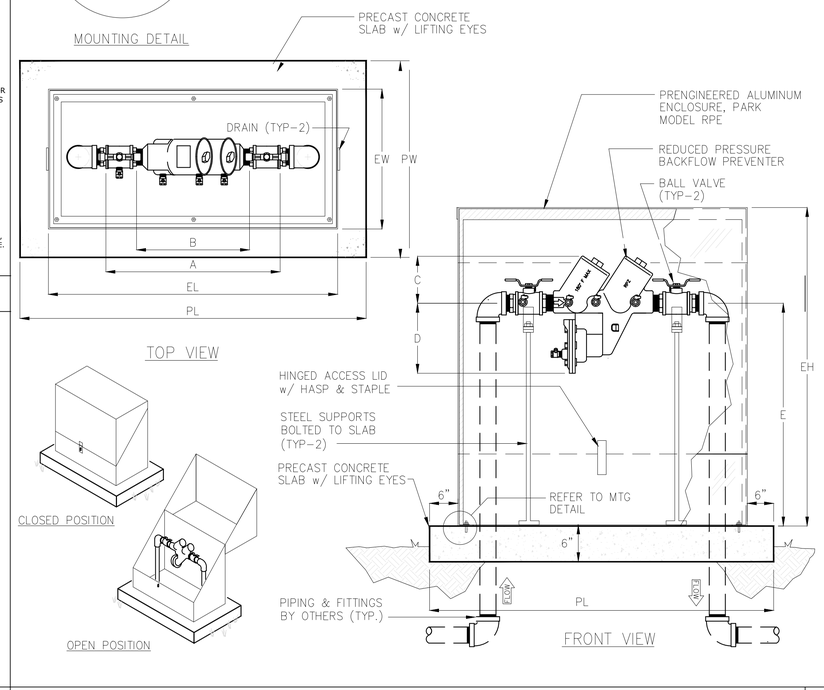


SANITARY SEWER MANHOLE COVER 7

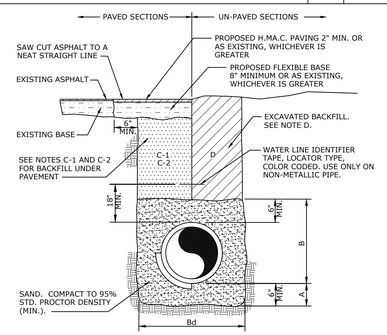


MOUNTING DETAIL

MODEL NO.	BFP SIZE	BACKFLOW DIMENSIONS					ENCLOSURE DIMENSIONS			PAD DIMENSIONS	
		A	B	C	D	E	EL	EW	EH	PL	PW
RPBPAE34	¾"	12¼"	7¾"	4⅛"	3¼"	28"	27"	13"	35"	42"	28"
RPBPAE10	1"	13⅜"	7¾"	4⅛"	3¼"	28"	27"	13"	35"	42"	28"
RPBPAE14	1¼"	14½"	7¾"	4⅛"	3¼"	28"	39"	13"	35"	54"	28"
RPBPAE15	1½"	18¼"	10⅝"	5¼"	4½"	28"	39"	13"	35"	54"	28"
RPBPAE20	2"	19"	10⅝"	5¼"	3¼"	28"	39"	13"	35"	54"	28"



3/4" thru 2" REDUCED PRESSURE BACKFLOW PREVENTER ON PRECAST CONCRETE PAD 8



NOTES:

A. SAND BEDDING PLACED, HAND LEVELED, AND COMPACTED BEFORE PIPE IS LAID, UP TO BOTTOM OF PIPE (MIN. THICKNESS = 6").
B. SAND BACKFILL PLACED AND COMPACTED AFTER PIPE IS LAID, FROM BOTTOMOF PIPE TO 6" ABOVE THE TOP OF PIPE. WORK IN UNDER PIPE HAUNCHES AND COMPACT BY HAND TO SPRING LINE. USE VIBRATORY-TYPE COMPACTORS FOR LIFTS ABOVE THE SPRING LINE. MAXIMUM 6" LIFTS.
Bd. MINIMUM TRENCH WIDTH: PIPE O.D. + 16" (FOR 16" PIPE AND SMALLER) OR PIPE O.D. X 1.25 + 12" (FOR 18" PIPE AND LARGER)
C-1. (CITY STREETS, PARKING AREA, AND DRIVEWAYS) SELECT EXCAVATED BACKFILL MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 8" MAX. LIFTS.
C-2 (STATE MAINTAINED ROADWAY) SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED TO 95% STANDARD PROCTOR DENSITY.
D. EXCAVATED EARTH BACKFILL MECHANICALLY COMPACTED IN 12" MAX. LIFTS. MINIMUM STANDARD PROCTOR DENSITY: 90% OUTSIDE RIGHT OF WAY; 95% INSIDE RIGHT OF WAY

EMBEDMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D 2321. EMBEDMENT MATERIAL SHALL BE CLASS II OR III WITH < 50% PASSING A No. 200 SIEVE AND PLASTICITY INDEX < 7.

WHERE THIS STANDARD CONFLICTS WITH THE RECOMMENDATION OF ANY GEOTECHNICAL REPORT, OBTAIN WRITTEN CLARIFICATION FROM THE UTILITY ENGINEER PRIOR TO CONSTRUCTION.

FOUNDATION PREPARATION USING COBBLES, GRAVEL, CEMENT STABILIZATION, OR OTHER METHODS AS DIRECTED BY THE ENGINEER SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

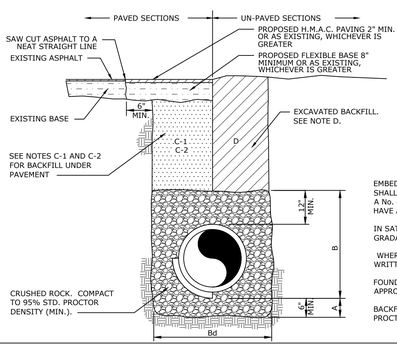
BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAXIMUM LIFTS. STRUCTURE BACKFILL MATERIAL SHALL BE SAND.

WATER LINE AND SEWER FORCEMAIN BEDDING DETAIL 4

NOT USED

NOT USED

NOT USED



GENERAL NOTES:

A. CRUSHED ROCK BEDDING PLACED, HAND LEVELED, AND COMPACTED BEFORE PIPE IS LAID, UP TO BOTTOM OF PIPE (MIN. THICKNESS = 6").
B. CRUSHED ROCK BACKFILL PLACED AND COMPACTED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO 12" ABOVE THE TOP OF PIPE. WORK IN UNDER PIPE HAUNCHES AND COMPACT BY HAND TO SPRING LINE. USE VIBRATORY-TYPE COMPACTORS FOR LIFTS ABOVE THE SPRING LINE. MAXIMUM 6" LIFTS.
Bd. MINIMUM TRENCH WIDTH: PIPE O.D. + 16" (FOR 16" PIPE AND SMALLER); PIPE O.D. X 1.25 + 12" (FOR 18" PIPE AND LARGER)
C-1. (CITY STREETS, PARKING AREA, AND DRIVEWAYS) SELECT EXCAVATED BACKFILL MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 8" MAX. LIFTS.
C-2 (STATE MAINTAINED ROADWAY) SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED TO 95% STANDARD PROCTOR DENSITY.
D. EXCAVATED EARTH BACKFILL MECHANICALLY COMPACTED IN 12" MAX. LIFTS. MINIMUM STANDARD PROCTOR DENSITY: 90% OUTSIDE RIGHT OF WAY; 95% INSIDE RIGHT OF WAY

EMBEDMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D 2321. EMBEDMENT MATERIAL SHALL BE CLASS 1A (CRUSHED ROCK) OR 1B (CRUSHED ROCK-SAND MIXTURE) WITH LESS THAN 50% PASSING A No. 4 SIEVE. MAXIMUM 3/4 SIZE FOR PIPE SIZE ≤ 15". GREATER THAN 90% OF CRUSHED ROCK SHALL HAVE AT LEAST THREE BROKEN FACES. NO MORE THAN 2% UNBROKEN FRACTION ALLOWED.

IN SATURATED OR UNSTABLE SOILS, EMBEDMENT SHALL BE CLASS 1B ONLY (SEE SPECIFICATIONS FOR GRADATION REQUIREMENTS).

WHERE THIS STANDARD CONFLICTS WITH THE RECOMMENDATION OF ANY GEOTECHNICAL REPORT, OBTAIN WRITTEN CLARIFICATION FROM THE UTILITY ENGINEER PRIOR TO CONSTRUCTION.

FOUNDATION PREPARATION USING COBBLES, GRAVEL, CEMENT STABILIZATION, OR OTHER METHODS AS APPROVED BY THE ENGINEER SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAXIMUM LIFTS. STRUCTURE BACKFILL MATERIAL SHALL BE SAND.

SANITARY SEWER (NON-FORCEMAIN) PIPE BEDDING DETAIL 5

NOT USED

NOT USED

NOT USED

UTILITY DETAILS

SCALE:NTS

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
05/21/18

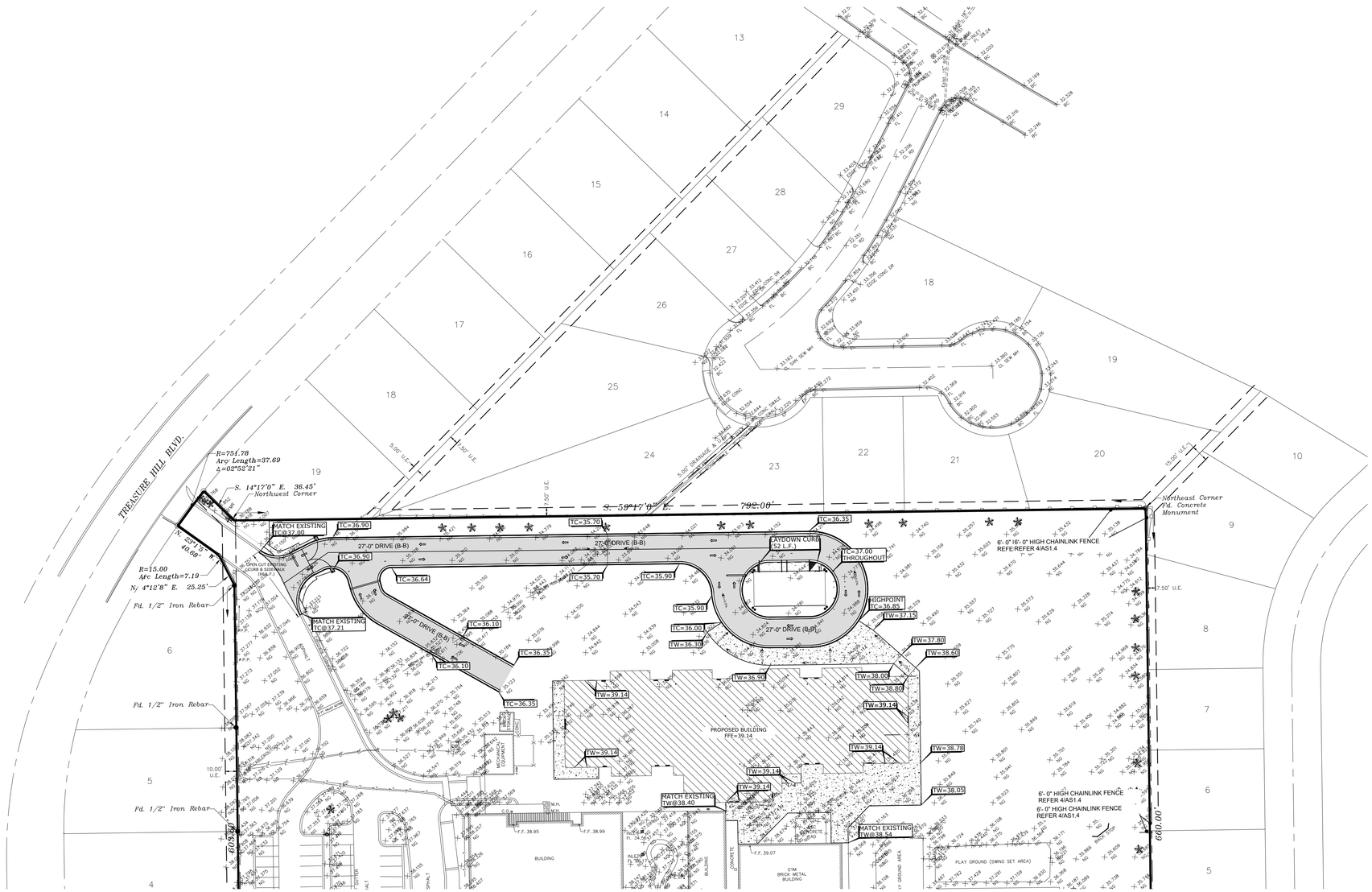
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 11:41:56 AM
STARTING DATE:	09/05/2017
CK BY: MG	DWN BY: AG

UTILITY DETAILS

C3.1



NOTES:

1. PROPOSED CLASSROOM BUILDING FINISH FLOOR TO MATCH EXISTING ADJACENT BUILDING.

2. IMPERVIOUS SURFACES WITHIN 10 FT OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2 FT AWAY FORM THE BUILDING

3. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE

LEGEND

	NEW LIGHT DUTY ASPHALT PAVEMENT
	NEW CONCRETE SIDEWALK
TC=100.00	NEW TOP OF CURB ELEVATION
TW=100.00	NEW TOP OF WALK ELEVATION

PAVING & GRADING LAYOUT

1":50'

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
05/21/18

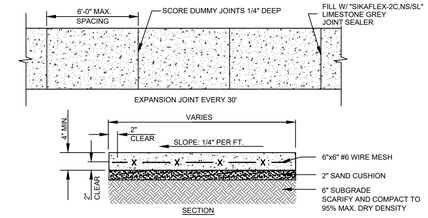
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 11:41:56 AM
STARTING DATE:	09/05/2017
CK BY: MG	DWN BY: AG

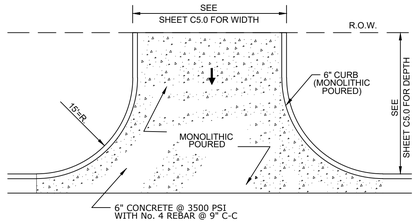
PAVING & GRADING LAYOUT

C4.0

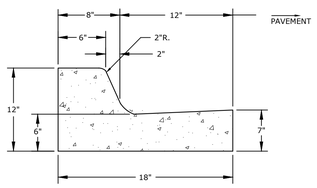


SIDEWALK NOTES:
1. MINIMUM 5'-0" WIDE SIDEWALK.
2. SIDEWALK GRADIENT SHALL NOT EXCEED 1:20.
3. SIDEWALK CONCRETE SHALL BE 5 SACK CEMENT MIX AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi.
4. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF EXISTING UTILITY LINES WITH APPROPRIATE COMPANIES TO AVOID PLACING SIDEWALKS ON TOP OF LINES.
5. PROVIDE DROP CURBS AT INTERSECTIONS.
6. CONTRACTOR SHALL COMPLY WITH LATEST REGULATIONS AS SET FORTH IN AMERICANS WITH DISABILITIES ACT (ADA).
7. WHERE ADJACENT TO PAVEMENT, PROVIDE A THICKENED EDGE 8 (EIGHT) INCHES DEEP AND 6 (SIX) INCHES WIDE REINFORCED WITH NO. 3 REBAR.
8. PROVIDE EXPANSION JOINT MATERIAL WHERE SIDEWALK MEETS NEW AND EXISTING BUILDING.
9. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED EVERY 10' WITH EXPANSION JOINTS EVERY 40'

SIDEWALK DETAIL 1

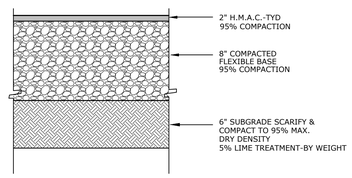


CONCRETE DRIVEWAY APRON 4



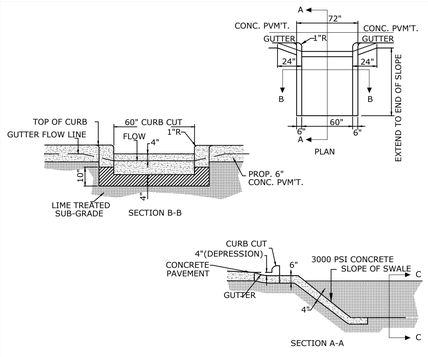
NOTE:
TRANSVERSE CONCRETE JOINTS SHALL BE CONSTRUCTED THROUGH TO BACK OF ALL CURBS

CURB & GUTTER 2

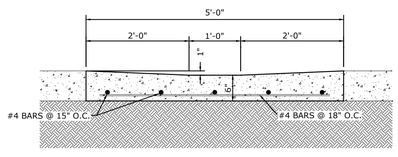


NOTE:
1. HMAC SHALL CONFORM TO TXDOT 2004 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES, ITEM 340, TY D
2. FLEXIBLE BASE MATERIAL SHALL CONFORM TO TXDOT 2004 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES, ITEM 247, TYPES A, B, OR C, GRADES 1 THROUGH 3

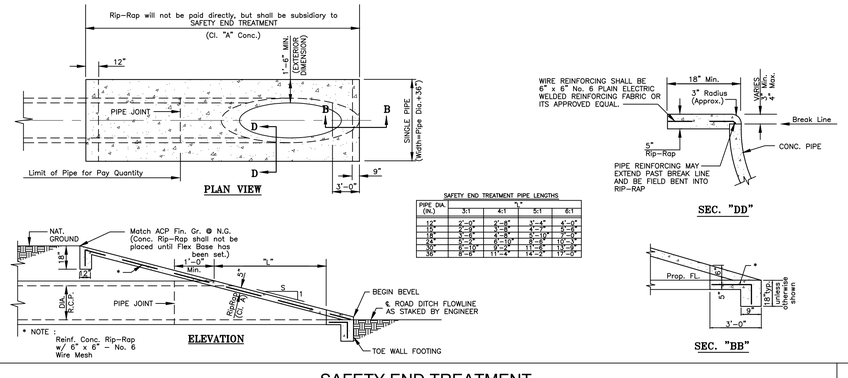
LIGHT DUTY H.M.A.C. 5



TYP. CURB CUT W/ SPILLWAY 3



TYPICAL VALLEY GUTTER SECTION 6



SAFETY END TREATMENT PIPE LENGTHS

PIPE DIA. (IN.)	"L" 3:1	4:1	5:1	6:1
12"	2'-0"	2'-8"	3'-4"	4'-0"
15"	2'-6"	3'-4"	4'-2"	5'-0"
18"	3'-0"	4'-0"	5'-0"	6'-0"
24"	4'-0"	5'-4"	6'-8"	8'-0"
30"	5'-0"	6'-8"	8'-4"	10'-0"
36"	6'-0"	8'-0"	10'-0"	12'-0"
42"	7'-0"	9'-4"	11'-8"	14'-0"
48"	8'-0"	10'-8"	13'-4"	16'-0"
54"	9'-0"	12'-0"	15'-0"	18'-0"
60"	10'-0"	13'-4"	16'-8"	20'-0"
66"	11'-0"	14'-8"	18'-4"	22'-0"
72"	12'-0"	16'-0"	20'-0"	24'-0"

SAFETY END TREATMENT 7

PAVING & GRADING DETAILS
SCALE:NTS

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
P.E.
05/21/18

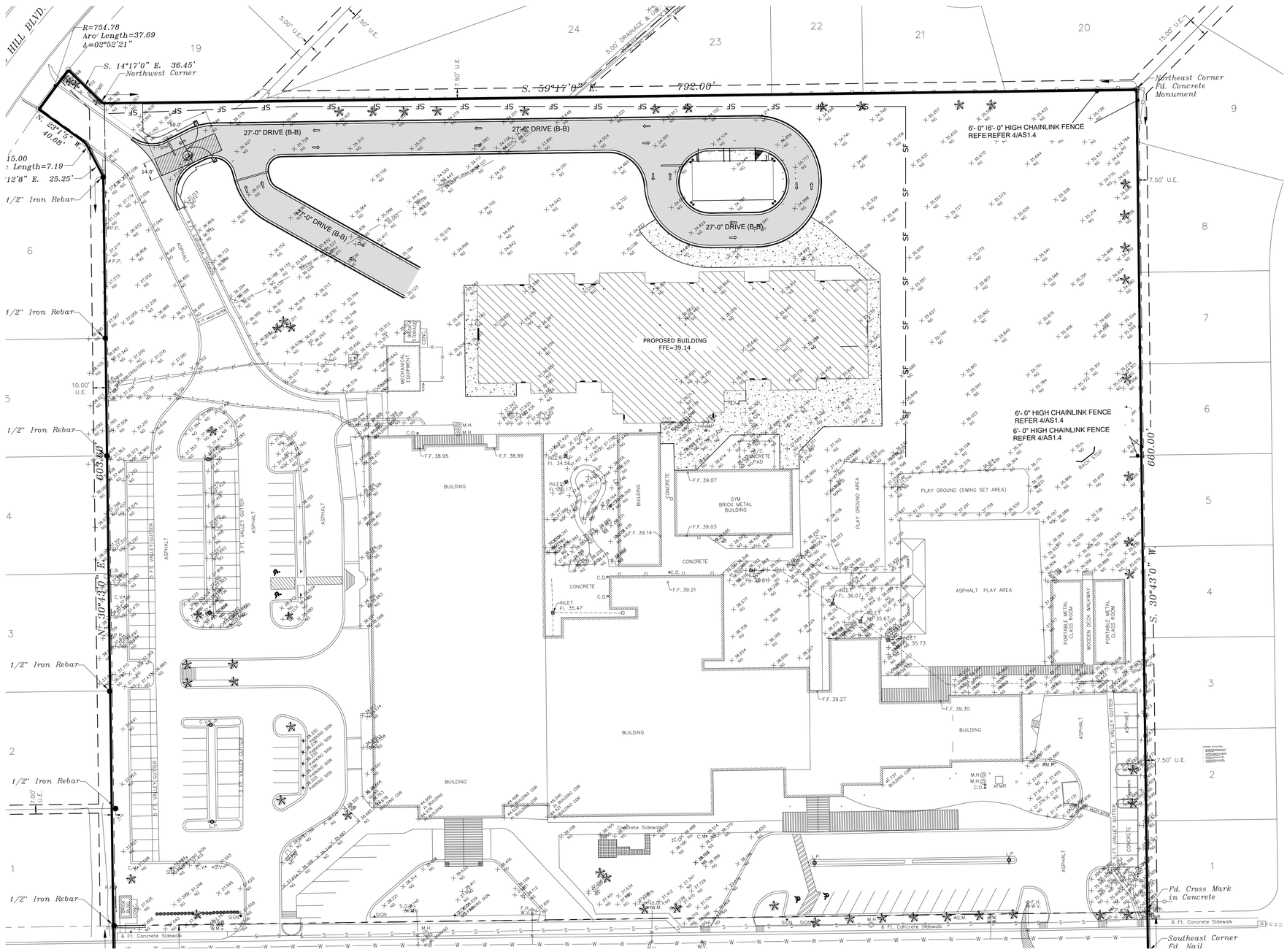
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 11:41:56 AM
STARTING DATE: 09/05/2017
CK BY: MG DWN BY: AG

PAVING & GRADING DETAILS

C4.1



LEGEND

SF	SEDIMENT CONTROL FENCE
CE	CONSTRUCTION ENTRANCE

EROSION & SEDIMENT CONTROL PLAN

1":40'

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3833
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

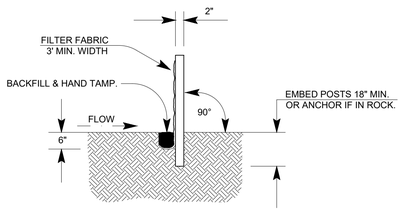
STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
P.E.
05/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 11:41:56 AM
STARTING DATE: 09/05/2017
CK BY: MG | DWN BY: AG
EROSION & SEDIMENT CONTROL PLAN

C5.0



SECTION A-A

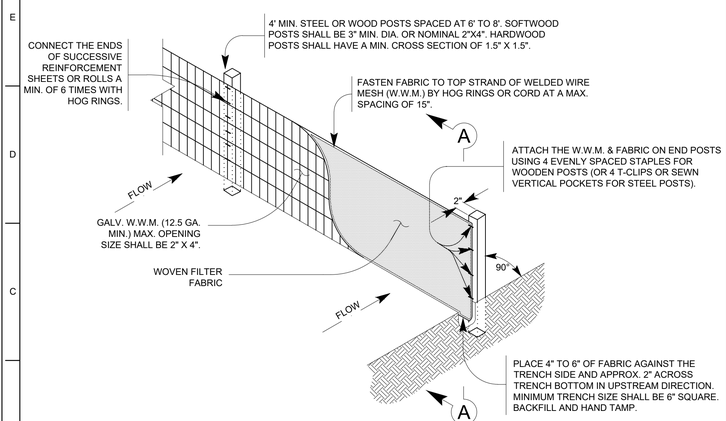
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2-YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

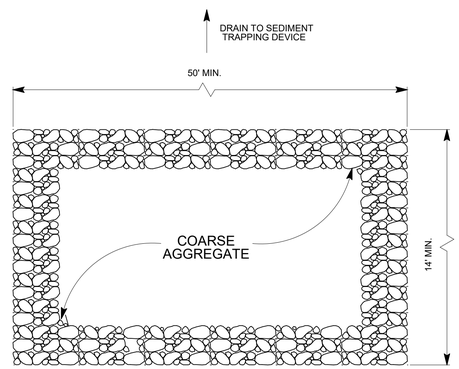
SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAX. FLOW THROUGH RATE OF 100 GPM/FT . SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN TWO ACRES.

GENERAL NOTES :

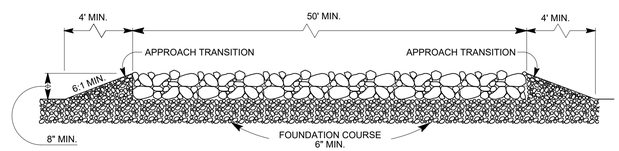
1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.



TEMPORARY SEDIMENT CONTROL FENCE | 1



PLAN



PROFILE

GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT | 2

NOT USED

EROSION & SEDIMENT CONTROL DETAILS

NOT TO SCALE

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:
M GARCIA ENGINEERING LLC
CIVIL ENGINEERING
400 W. Nolana Suite H.2
McAllen, Texas 78504
Bus. 956.687.9421
Fax 956.687.3211
www.mgarciaengineering.com

STATE OF TEXAS
MARIANO GARCIA
90956
LICENSED PROFESSIONAL ENGINEER
05/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 11:41:56 AM
STARTING DATE:	09/05/2017
CK BY: MG	DWN BY: AG

EROSION & SEDIMENT CONTROL DETAILS

C5.1

GENERAL STRUCTURAL NOTES

THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS OR DETAILS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL COORDINATE ALL STRUCTURAL PLANS AND DETAILS WITH ARCHITECTURAL & MECHANICAL DRAWINGS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR CONTRACTOR MEANS AND METHODS OF CONSTRUCTION OR SITE SAFETY. DESIGN, CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE CONTROLLING PROVISIONS OF THE 2012 EDITION OF THE **INTERNATIONAL BUILDING CODE (IBC).**

DESIGN CRITERIA

1. BASIS FOR DESIGN AND CODE COMPLIANCE

A. GOVERNING BUILDING CODE...IBC 2012 EDITION

2. WIND DESIGN BASED ON THE GREATER OF:

A. ASCE 7-10 REQUIREMENTS

ULTIMATE DESIGN WIND SPEED...149 MPH (Vasd = 115 MPH)
RISK CATEGORY...III
WIND EXPOSURE CATEGORY...B
INTERNAL PRESSURE COEFFICIENT (GCpi)...+/-0.18
Kzt...1.0
Kd...0.85

B. ASCE 7-05 REQUIREMENTS

DESIGN WIND SPEED...110 MPH
IMPORTANCE FACTOR...1.0
WIND EXPOSURE CATEGORY...B
INTERNAL PRESSURE COEFFICIENT (GCpi)...+/-0.18
Kzt...1.0
Kd...0.85

3. GRAVITY DESIGN
ROOF:
DEAD LOAD...SELF-WEIGHT OF STRUCTURE & ROOFING SYSTEM
LIVE LOAD...20 PSF
ADDITIONAL POINT LOADS...AS NOTED AS DRAWINGS

FLOOR:
CLASSROOMS...40 PSF
2ND FLOOR CORRIDORS...80 PSF
MECHANICAL...125 PSF

4. THESE BUILDINGS ARE DESIGNED TO MEET ASCE 7-05 & ASCE 7-10 WIND PRESSURES. ALL COMPONENTS AND CLADDINGS (E.G. WINDOWS, DOORS, ARCHITECTURAL SIDINGS AND ROOFING); MUST MEET MINIMUM WIND CODE REQUIREMENTS. IN ADDITION, GLAZED EXTERIOR OPENINGS IN THE LOWER 60 FEET OF THE BUILDING SHALL BE IMPACT RESISTANT MEETING ASTM E 1996 FOR LARGE MISSILES OR PROTECTED WITH AN IMPACT RESISTANT COVERING.

5. THE GENERAL CONTRACTOR MUST SUBMIT COMPONENT AND CLADDING WIND PRESSURE RATINGS AND REQUIRED ATTACHMENT PROCEDURES TO THE STRUCTURAL ENGINEER FOR REVIEW. SUBMITTAL INFORMATION SHALL INCLUDE A THIRD PARTY TESTING REPORT OF THE SUBMITTED ASSEMBLY; REFERENCE EXTERIOR COMPONENTS & CLADDINGS NOTES FOR ADDITIONAL REQUIREMENTS. THE GENERAL CONTRACTOR SHALL CONTACT THE STRUCTURAL ENGINEER TO COORDINATE AND SCHEDULE REQUIRED PERIODIC INSPECTION OF EXTERIOR COMPONENTS AND CLADDINGS.

6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION SERVICES AS NEEDED TO SATISFY THE REQUIREMENTS OF THE DRAWINGS, THE SPECIFICATIONS, THE REFERENCED BUILDING CODE AND THE TEXAS DEPARTMENT OF INSURANCE WINDSTORM INSPECTION PROGRAM. ALL CONSTRUCTION ADMINISTRATION COSTS ASSOCIATED WITH SUBMITTAL PREPARATION, SUBMITTAL REVIEW, INSPECTION COORDINATION, INCLUDING ALL GENERAL CONDITIONS, OVERHEAD AND PROFIT, SHALL BE INCLUDED IN THE GENERAL CONTRACTOR'S BID.

FOUNDATION DESIGN CRITERIA

1. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, AND IS BASED ON THE GEOTECHNICAL REPORT NO. ABA18-003-00 PREPARED BY RABA-KISTNER CONSULTANTS, INC., McALLEN, TEXAS, DATED FEBRUARY 20, 2018, AND SUPPLEMENTAL RECOMMENDATIONS LETTER DATED MAY 21, 2018.

A. BEARING CAPACITY:
GRADE BEAMS (TOTAL LOAD)...1.7 KSF
FOOTINGS (TOTAL LOAD)...2.1 KSF
UNDERREAMED PIERS (TOTAL LOAD)...5.0 KSF

B. POTENTIAL VERTICAL RISE (PVR)...1.0 INCH

2. GROUNDWATER WAS ENCOUNTERED AT 28.0 FT. BELOW THE GROUND SURFACE ELEVATION DURING DRILLING OPERATIONS (MAY FLUCTUATE WITH SEASON). CONTRACTOR SHALL DETERMINE ACTUAL GROUNDWATER LEVELS JUST PRIOR TO CONSTRUCTION EXCAVATION ACTIVITIES.

3. THE GEOTECHNICAL ENGINEER OF RECORD SHALL BE RETAINED TO PERFORM TESTING AND INSPECTIONS DURING SITE PREPARATION AND PLACEMENT OF BUILDING PAD FILL AS REQUIRED BY SPECIFICATIONS AND GENERAL STRUCTURAL NOTES.

FOUNDATION NOTES

1. REMOVE THE EXISTING SITE SOIL, VEGETATION, TREE ROOTS, DEBRIS, ETC., AS REQUIRED TO REACH AN **ELEVATION OF 33.70 FT.,** FROM THE PROPOSED BUILDING AREA TO A DISTANCE OF 5'-0" OUTSIDE THE BUILDING AREA (EXTERIOR OF THE FOUNDATION, INCLUDING ATTACHED IMPROVEMENTS SUCH AS SIDE WALKS AND CANOPIES). DEPTH OF REMOVAL SHALL BE VERIFIED BY THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.

2. AFTER TOP SOIL HAS BEEN REMOVED, THE SUBGRADE SHALL BE PROOF-ROLLED WITH APPROPRIATE CONSTRUCTION EQUIPMENT WEIGHING AT LEAST 20 TONS UNTIL THE GRADE OFFERS A RELATIVELY UNYIELDING SURFACE. SOFT SOIL AND YIELDING AREAS, AND AREAS WHERE TREE ROOTS HAVE BEEN REMOVED, SHALL BE OVER EXCAVATED AND REPLACED WITH COMPACTED SELECT FILL IN ACCORDANCE WITH THE REQUIREMENTS BELOW. ALTERNATIVELY, SOFT SOIL AND YIELDING AREAS MAY BE TREATED WITH HYDRATED LIME OR PORTLAND CEMENT PER THE GEOTECHNICAL REPORT REQUIREMENTS.

3. PROOFROLLING OPERATIONS AND EXCAVATION/BACKFILL ACTIVITIES SHOULD BE PERFORMED DURING A PERIOD OF DRY WEATHER AND OBSERVED BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE TO DOCUMENT SUBGRADE CONDITIONS AND PREPARATION. IF SUBGRADE SOILS ARE ALLOWED TO BECOME WET OR SATURATED, REMOVAL AND REPLACEMENT OF SOFT SOILS OR LIME STABILIZATION PROCEDURES SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE. THE GEOTECHNICAL ENGINEER SHALL BE CONTACTED FOR ADDITIONAL RECOMMENDATIONS, IF REQUIRED.

4. SCARIFY, MOISTURE CONDITION, AND COMPACT THE TOP 6" OF THE EXPOSED SUBGRADE TO 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM TO +3% ABOVE THE OPTIMUM MOISTURE CONTENT, IN ACCORDANCE WITH TEST METHOD ASTM D-698. MOISTURE CONTENT SHALL BE AS NOTED IMMEDIATELY PRIOR TO PLACING SELECT FILL.

5. RESTORE GRADE USING SELECT FILL, **MINIMUM OF 60 INCHES** OR AS REQUIRED TO PROVIDE THE SPECIFIED **FINISH FLOOR ELEVATION OF 39.14 FT.**, WHICHEVER IS GREATER, AND PROPER SITE DRAINAGE, COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS BELOW. FINISH FLOOR ELEVATIONS SHALL BE VERIFIED WITH ARCHITECT AND CIVIL ENGINEER.

6. SELECT FILL SHALL BE COMPACTED IN THE FIELD IN LIFTS NOT TO EXCEED 8" LOOSE MEASURE (6" COMPACTED LIFT) TO A MINIMUM OF 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY AT -2% TO +2% OF THE OPTIMUM MOISTURE CONTENT, AS EVALUATED BY ASTM D-698.

7. SELECT FILL MATERIALS SHALL BE CLAYEY SAND (SC), CLAYEY GRAVEL (GC) OR LEAN CLAY (CL), AND COMBINATIONS OF THESE SOILS, WHEN CLASSIFIED IN ACCORDANCE WITH USCS ASTM D2487. SELECT FILL SHALL HAVE A LIQUID LIMIT (LL) LESS THAN 40%, A PLASTICITY INDEX (PI) BETWEEN 7-18 AND NO PARTICLES LARGER THAN 4" IN DIAMETER. IF BLENDED OR MIXED SOILS ARE INTENDED FOR USE, THE GEOTECHNICAL ENGINEER SHOULD BE CONTACTED TO PROVIDE ADDITIONAL RECOMMENDATIONS AND REQUIREMENTS, INCLUDING APPROVAL TO UTILIZE BLENDED OR MIXED SOILS.

8. FOUNDATION CONCRETE SHALL NOT BE PLACED ON SELECT FILL SOILS THAT HAVE BEEN DISTURBED BY RAINFALL OR WATER SEEPAGE. IF BEARING SOILS ARE SOFTENED BY WATER INTRUSION, OR BY DESICCATION, THE UNSUITABLE SOILS SHALL BE REMOVED FROM THE FOUNDATION EXCAVATION AND BE REPLACED WITH PROPERLY COMPACTED SELECT FILL PRIOR TO PLACEMENT OF FOUNDATION CONCRETE. ALL SOIL REMOVAL AND REPLACEMENT COSTS, INCLUDING ASSOCIATED COSTS TO REMOVE AND REINSTALL REINFORCEMENT AND VAPOR BARRIER MATERIALS, SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. DEPTH OF SOIL REMOVAL AND RECOMPACTION REQUIREMENTS SHALL BE COORDINATED WITH THE GEOTECHNICAL ENGINEER.

9. SAMPLES OF PROPOSED SELECT FILL SHALL BE FURNISHED TO THE TESTING LABORATORY 7 DAYS PRIOR TO INSTALLATION TO PERMIT TIME FOR SPECIFICATION COMPLIANCE INSPECTION AND REVIEW BY THE GEOTECHNICAL ENGINEER.

10. LABORATORY MOISTURE-DENSITY CURVES SHALL BE DEVELOPED FOR SUBGRADE AND FILL. PROCTOR CURVES AND FIELD DENSITY TESTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. A MINIMUM OF ONE (1) IN PLACE DENSITY TEST PER 2,000 SQUARE FEET OF SLAB AREA SHALL BE TAKEN ON EACH LIFT DURING PLACEMENT OF SELECT FILL. DENSITY REPORTS SHALL BE TRANSMITTED TO ENGINEER WITHIN 3 DAYS AFTER TESTS ARE MADE.

FOUNDATION NOTES CONTINUED:

11. GRAIN SIZE ANALYSIS AND ATTERBERG LIMITS TESTS SHALL BE PERFORMED DURING FILL PLACEMENT AT A RATE OF ONE TEST PER 2,000 CUBIC YARDS OF FILL BROUGHT TO THE SITE. SAMPLES FOR TEST SHALL BE TAKEN FROM JOBSITE MATERIALS.

12. SITE SHALL BE GRADED SO THAT WATER DOES NOT POND WITHIN 10 FEET OF THE PERIMETER FOUNDATION BEAM DURING OR AFTER CONSTRUCTION. THE SLOPE OF THE GROUND SURFACE AWAY FROM THE STRUCTURE SHOULD BE A MINIMUM OF FIVE (5%) PERCENT FOR A DISTANCE OF AT LEAST TEN (10') FEET. ELEVATION OF GROUND SURFACE ADJACENT TO THE FOUNDATION SHOULD BE AT LEAST 6 INCHES BELOW FINISH FLOOR.

13. FINAL DRAINAGE IS VERY IMPORTANT TO THE PERFORMANCE OF THE FOUNDATION. LANDSCAPING, PLUMBING, AND DOWNSPOUT DRAINAGE ARE ALSO VERY IMPORTANT. IT IS VITAL THAT ALL ROOF DRAINAGE BE TRANSPORTED AWAY FROM BUILDINGS SO THAT NO AREAS OF WATER POND AROUND BUILDINGS, WHICH CAN RESULT IN SOIL VOLUME CHANGE UNDER THE FOUNDATION. PLUMBING LEAKS SHOULD BE REPAIRED AS SOON AS POSSIBLE IN ORDER TO MINIMIZE THE MAGNITUDE OF MOISTURE CHANGE UNDER THE SLAB. LARGE TREES AND SHRUBS SHOULD NOT BE PLANTED IN THE IMMEDIATE VICINITY OF THE STRUCTURE, SINCE THE ROOT SYSTEMS CAN CAUSE A SUBSTANTIAL REDUCTION IN SOIL VOLUME IN THE VICINITY OF THE TREE DURING DRY PERIODS. BUSHES AND TREES SHOULD BE PLANTED A REASONABLE DISTANCE AWAY FROM THE STRUCTURE SO THAT THEIR CANOPY OR "DRIP LINE" DOES NOT EXTEND BEYOND THE PERIMETER OF THE FOUNDATION. WATERING OF VEGETATION SHOULD BE PERFORMED IN A TIMELY AND CONTROLLED MANNER. PROLONGED WATERING SHOULD BE AVOIDED.

DRILLED PIERS

1. CONCRETE MIX FOR ALL DRILLED PIERS SHALL BE DESIGNED TO ACHIEVE MINIMUM OF 4,000 PSI 28-DAY COMPRESSIVE STRENGTH WHEN PLACED WITH A SEVEN (7) INCH (±1) INCH SLUMP.

2. INSTALL ALL PIERS AT THE LOCATIONS AND TO THE DEPTHS INDICATED ON THE DRAWINGS. BID SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND GENERAL CONDITIONS REQUIRED FOR INSTALLATION OF UNDERREAMED (BELLED) DRILLED PIERS, AS SHOWN ON THE DRAWINGS.

3. IF DIRECTED BY THE ARCHITECT/ENGINEER, PIERS SHALL BE ADJUSTED IN THE FIELD AS REQUIRED TO MEET DESIGN REQUIREMENTS.

4. PRIOR TO DEVELOPMENT OF THE PIER REINFORCEMENT SUBMITTALS, THE GENERAL CONTRACTOR, FOUNDATION CONTRACTOR, DRILLER, AND THE GEOTECHNICAL ENGINEER SHALL HAVE A PRE-CONSTRUCTION MEETING TO DISCUSS THE CONTRACTOR'S PROPOSED PIER INSTALLATION PROCEDURES. AT THE MEETING, THE CONTRACTOR NEEDS TO PERFORM A "TEST" PIER TO DETERMINE CURRENT SUBSURFACE WATER LEVELS AND THE CONSTRUCTABILITY OF THE UNDERREAMED DRILLED PIERS SPECIFIED. THE TEST PIER WILL NEED TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER OF RECORD FOR APPROVAL OF THE PROPOSED INSTALLATION PROCEDURES AND/OR ISSUANCE OF ADDITIONAL RECOMMENDATIONS, AS REQUIRED.

5. ALL PIERS SHALL BE CENTERED ON BEAMS UNLESS OTHERWISE SHOWN.

6. DRILL PIER SHAFTS AND REAMS TO THE EXACT SIZE SHOWN. SHAFTS SHALL BE BORED PLUMB WITH A TOLERANCE OF TWO INCHES (2"). INSTALL OFFSET STAKES ON OPPOSITE SIDES OF THE PIER AND USE TO MAINTAIN THE PIER CENTERS AND TO CHECK THE PIER PLUMBNESS. EXCAVATION BOTTOMS SHALL HAVE A MAXIMUM OF ONE INCH (1") OF LOOSE DIRT AND TWO INCHES (2") OF GROUND WATER IMMEDIATELY PRIOR TO PLACING CONCRETE. IF MACHINE CLEANING IS NOT SATISFACTORY TO GEOTECHNICAL ENGINEER, HAND CLEANING WILL BE REQUIRED.

7. EACH PIER SHAFT AND DRILLING OPERATIONS SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO ENSURE PROPER BEARING AT SCHEDULED ELEVATION AND TO VERIFY STRATAS NOTED IN THE GEOTECHNICAL REPORT. INSPECTIONS SHALL ALSO VERIFY PIER SHAFT AND REAM (BELL) DIAMETERS, DEPTH, REINFORCEMENT SIZE, QUANTITIES AND LOCATIONS. INSPECTION REPORTS SHALL BE TRANSMITTED TO ENGINEER WITHIN 3 DAYS OF INSPECTION.

8. PROVIDE SUITABLE ACCESS AND LIGHTING FOR INSPECTION OF THE EXCAVATIONS FOR CLEANLINESS AND FOR CORRECTNESS OF DIMENSIONS AND ALIGNMENT.

9. DUE TO SUBSURFACE STRATIGRAPHY AND POTENTIAL FOR WATER LEVELS ENCOUNTERED DURING DRILLING OPERATIONS, IF THE CONTRACTOR CANNOT INSTALL A PIER AT THE SPECIFIED LOCATION OR DEPTH, THE ENGINEER MUST BE CONTACTED IMMEDIATELY FOR FURTHER INSTRUCTIONS.

10. FOR UNDERREAMED PIERS, CASINGS MAY BE NEEDED FOR USE TO CONTROL THE EXCAVATION PROCESS. THE CONTRACTOR SHALL BE PREPARED TO USE CASINGS AND INCLUDE ALL ADDITIONAL COSTS IN THEIR BID. CASING MUST TERMINATE IN CLAYEY SOILS, SHOULD BE METAL WITH AMPLE STRENGTH TO WITHSTAND HANDLING STRESSES, CONCRETE AND EARTH PRESSURES, AND SHALL BE WATERTIGHT.

11. PRECAUTIONS SHOULD BE TAKEN DURING THE PLACEMENT OF THE PIER REINFORCEMENT AND CONCRETE TO PREVENT LOOSE EXCAVATED MATERIAL FROM FALLING INTO THE EXCAVATION.

12. PLACEMENT OF CONCRETE SHALL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER EXCAVATION IS COMPLETE, REINFORCING CAGE IS PLACED AND INSPECTED, AND APPROVED. THE CONCRETE SHOULD NOT BE ALLOWED TO RICOCHET OFF THE WALLS OF THE PIER EXCAVATION NOR OFF OF THE REINFORCING STEEL. PLACEMENT OF CONCRETE SHALL COMPLY WITH LATEST EDITION OF AMERICAN CONCRETE INSTITUTE (ACI) 318 CODE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 336.3R-14 ENTITLED "SUGGESTED DESIGN AND CONSTRUCTION PROCEDURES FOR PIER FOUNDATIONS", U.S. DEPARTMENT OF TRANSPORTATION-FEDERAL HIGHWAY ADMINISTRATION PUB. NO. FHWA-IF-99-025 "MANUAL ON DRILLED SHAFTS: CONSTRUCTION PROCEDURES AND DESIGN METHODS" AND ADSC: THE INTERNATIONAL ASSOCIATION OF FOUNDATION DRILLING CONTRACTORS PUB. NO. ADSC-TL-4, AUGUST 1999.

13. NO PIER EXCAVATION SHALL BE LEFT OPEN OVERNIGHT WITHOUT CONCRETING.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE SPECIFICATION, A.C.I. # 301 AND BUILDING CODE REQUIREMENTS, A.C.I. #318, LATEST EDITION.

2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I. #315, LATEST EDITION.

3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 4,000 PSI AT 28 DAYS.

4. A MAXIMUM OF 25% FLYASH MAY BE USED AS A CEMENT SUBSTITUTE AND SHALL CONFORM TO ASTM C618, CLASS C. THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.6 AND SLUMPS SHALL BE 5 INCHES (±1 INCH). CONCRETE FOR PIERS SHALL BE DESIGNED TO ACHIEVE SPECIFIED STRENGTH WHEN PLACED WITH A SEVEN (7) INCH (±1) SLUMP. AGGREGATE SHALL BE WELL-GRADED, 1" MAXIMUM. COARSE AGGREGATE SHALL MEET ASTM C33, GRADATION #57. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO FURNISH MIX DESIGNS FOR ALL CLASSES OF CONCRETE. A SAMPLE OF FOUR CYLINDERS SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 50 YD3 OF CONCRETE. ONE CYLINDER SHALL BE TESTED AT 7 DAYS AND TWO AT 28 DAYS. THE FOURTH CYLINDER MAY BE DISPOSED OF AFTER 45 DAYS IF NOT USED.

5. ADMIXTURES CONTAINING WATER SOLUBLE CHLORIDE IONS GREATER THAN 0.06% BY WEIGHT OF CEMENT SHALL NOT BE USED.

6. REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60. #3 BARS MAY BE GRADE 40.

7. WELDED WIRE FABRIC MATS SHALL BE ASTM A185.

8. STANDARD PROTECTIVE COVER OF REINFORCING BARS UNLESS OTHERWISE NOTED SHALL BE:

WHERE CAST AGAINST DIRT OR FILL ... 3 IN.
EXPOSED TO EARTH OR WEATHER ... 2 IN.
SLABS AND WALLS ... 1 IN.
OTHER ... 1-1/2 IN.

9. ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI 315, LATEST EDITION.

10. REINFORCEMENT SHALL BE CHAIRED AND TIED TO PROHIBIT MOVEMENT DURING CONCRETE PLACEMENT.

11. VERTICAL CONSTRUCTION JOINTS IN FLOOR SHALL BE COORDINATED WITH STRUCTURAL ENGINEER PRIOR TO FORMING SLAB. NO HORIZONTAL JOINTS WILL BE PERMITTED IN SLABS OR BEAMS UNLESS APPROVED BY THE ENGINEER.

12. PROVIDE 2 TOP & BOTTOM CORNER BARS AT ALL DISCONTINUOUS BEAMS AND FOUNDATION CORNERS. CORNER BARS SHALL BE 6'-0" IN LENGTH (3'-0" LEGS). SIZE OF THE CORNER BARS SHALL MATCH THE SIZE OF THE GRADE BEAM REINFORCING AS SHOWN BY STRUCTURAL DRAWINGS.

13. MAINTAIN A MINIMUM OF ONE AND ONE-HALF (1-1/2) TIMES THE MAXIMUM COARSE AGGREGATE SIZE BETWEEN ALL REINFORCING BARS (EXCEPT AT LAPS).

14. BARS SCHEDULED OR DETAILED "CONT" SHALL BE LAPPED 62 BAR DIAMETERS (24 INCHES MINIMUM) UNLESS OTHERWISE NOTED.

15. WHERE CONCRETE IS TO HAVE UNEXPOSED SURFACES, THE FORMS MAY BE CONSTRUCTED OF #2 LUMBER OR BETTER. WHERE SURFACES ARE EXPOSED, SUCH AS FOR FINISH PAINTING OR STUCCO DASH, THE FORMS SHALL BE COMMERCIAL STANDARD DOUGLAS FIR, MOISTURE-RESISTANT CONCRETE FORM PLYWOOD; MINIMUM 5-PLY AND AT LEAST 9/16" THICK, OR FORMS LINED WITH COMMERCIAL STANDARD DOUGLAS FIR, CONCRETE FORM EXTERIOR, 3-PLY, NOT LESS THAN 1/4" THICK.

16. EXPOSED SURFACES OF CONCRETE AT THE PERIMETER OF THE FOUNDATION SHALL BE FORMED WITH 2X10 #2 LUMBER OR BETTER. A SMOOTH SURFACE IS REQUIRED, FREE FROM FINS, HONEYCOMB, FORM MARKS OR OTHER DEFECTS.

CONCRETE CONTINUED:

17. CONSTRUCT FORMS SO THAT JOINTS ARE LEAKPROOF. MAINTAIN FORMS SUFFICIENTLY RIGID TO PREVENT DEFORMATION UNDER LOAD.

18. CONCRETE MAY BE PLACED WITH CHUTES UP TO 25' MAXIMUM. SLUMP SHALL NOT EXCEED 6" AT TRUCK DISCHARGE POINT.

19. CONCRETE PLACED BY PUMPING SHALL MEET THE FOLLOWING REQUIREMENTS:

A. COARSE AGGREGATE SHALL BE GRADED FROM A MAXIMUM OF 1" DOWN

B. MAXIMUM ALLOWABLE INCREASE IN CEMENT FACTOR SHALL BE 1/2 SACK PER CUBIC YARD OVER NORMAL MIX DESIGN.

C. MAXIMUM WATER CEMENT RATIO SHALL BE 7-1/2 GALLONS PER SACK OF CEMENT. IF MORE WORKABILITY IS
REQUIRED, AN ADMIXTURE MAY BE USED.

D. MAXIMUM WEIGHT RATIO OF FINE AGGREGATES TO COARSE AGGREGATES SHALL NOT EXCEED 2/3.

E. REFER TO A.C.I. #301, LATEST EDITION, SECTION 800, FOR OTHER PUMPING REQUIREMENTS.

F. IN NO CASE SHALL CONCRETE BE PUMPED THROUGH AN ALUMINUM TUBE.

G. SLUMP SHALL NOT EXCEED 6" AT TRUCK DISCHARGE POINT.

20. FLOOR FINISH (TOLERANCES)

A. STEEL TROWEL FINISH 1/8" IN 10'

B. FLOAT FINISH 1/4" IN 10'

C. SCRATCH FINISH 1/2" IN 10'

21. CONCRETE TO BE CURED IN ACCORDANCE WITH ACI RECOMMENDATIONS. PROPOSED METHOD OF CURING TO BE COORDINATED WITH ENGINEER PRIOR TO CONCRETE PLACEMENT.

22. SHOP DRAWINGS SHALL BE PREPARED FOR ALL REINFORCING STEEL AND SUBMITTED FOR REVIEW BY ENGINEER. SUBMITTALS SHALL BE TRANSMITTED AS A SINGLE ELECTRONIC FILE (PDF FORMAT). ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.

23. THE CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.

24. ENGINEER TO BE NOTIFIED 48 HOURS PRIOR TO PLACEMENT OF CONCRETE TO SCHEDULE REQUIRED OBSERVATIONS.

25. INCLUDE IN BID AN ALLOWANCE FOR **2.5 TON** OF REINFORCING BARS TO BE USED AS DIRECTED IN FIELD FOR SPECIAL CONDITIONS AT A COST OF **$2,000.00 PER TON** (LABOR FOR PLACING SAME TO BE INCLUDED). ANY UNUSED ALLOWANCE WILL BE CREDITED TO THE OWNER AT THE END OF THE PROJECT.

STRUCTURAL STEEL

1. TOP OF BEAM/PLATE (TOB OR TOP) IS USED INTERCHANGEABLY ON PLANS. REFERENCE APPLICABLE SECTION FOR CLARIFICATION.

2. STRUCTURAL STEEL WIDE FLANGE AND CHANNEL MEMBERS SHALL CONFORM TO ASTM SPECIFICATION A 572 AND/OR ASTM A 992 (Fy = 50 KSI) UNLESS OTHERWISE SHOWN OR NOTED. PLATE AND ANGLES MAY BE A36 (Fy = 36 KSI).

3. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A-500, GRADE B (Fy = 46 KSI). STEEL PIPE SHALL COMPLY WITH ASTM A53 TYPE E OR S (Fy = 35 KSI).

4. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND STEEL JOIST INSTITUTE.

5. ALL STEEL BAR JOISTS SHALL BE DESIGNED AND FABRICATED BY A MEMBER OF THE STEEL JOIST INSTITUTE. IF REQUESTED BY THE A/E, THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATE OF FABRICATOR'S MEMBERSHIP TO THE STEEL JOIST INSTITUTE AT TIME OF SHOP DRAWING SUBMITTAL.

6. BAR JOISTS SHALL BE BOLTED WHERE COLUMNS ARE FRAMED WITH STRUCTURAL STEEL MEMBERS IN ONLY ONE DIRECTION TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION/ERECTION AS REQUIRED BY OSHA.

7. TOTAL LOAD DEFLECTION OF SPECIAL BAR JOIST SHALL NOT EXCEED L/240, UNLESS NOTED OTHERWISE.

8. JOIST MANUFACTURER SHALL PROVIDE BRIDGING AS REQUIRED TO ADEQUATELY BRACE JOISTS AGAINST LATERAL MOVEMENT AND NET UPLIFT OF 25 PSF.

9. ALL BOLTS SHALL BE 3/4 DIAMETER ASTM A325. WASHERS SHALL BE PROVIDED AT OVERSIZED HOLES AND AT SLOTTED CONNECTIONS AT EXPANSION JOINTS. A325 CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE. ANCHOR BOLTS MAY BE ASTM A307 UNLESS NOTED OTHERWISE.

10. REFER TO ARCHITECTURAL & MECHANICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING ANCHORS, ETC., FOR THE ANCHORAGE OF THEIR RESPECTIVE ITEMS.

11. ALL BEAMS AND COLUMNS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS INDICATED ON PLANS OR APPROVED BY THE ENGINEER IN WRITING.

12. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS (A.W.S. D-1.1).

13. WELDS SHALL BE MADE WITH COVERED MILD STEEL ELECTRODES COMPLYING WITH AWS D1-72 CODE AND SERIES E 70XX.

14. ERECTION CONNECTORS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN AND BE TRUE AND PLUMB WHEN WELDS ARE MADE.

15. ALL COMPLETE PENETRATION WELDS, BOTH SHOP AND FIELD, SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY UTILIZING ULTRA SONIC TESTING PROCEDURES IN ACCORDANCE WITH AWSD1.1 ANY WELDS FOUND DEFECTIVE SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. ALL X-RAYED WELDS SHALL BE GROUND SMOOTH.

16. THE FABRICATOR SHALL SUPPLY BACK-UP PLATES AND EXTENSION TABS FOR ALL COMPLETE PENETRATION WELDS.

17. ALL STEEL MEMBERS, INCLUDING BAR JOISTS, UNLESS NOTED OTHERWISE, SHALL BE PAINTED W/ ONE COAT OF SHOP PRIMER. DO NOT PRIME ITEMS TO BE EMBEDDED IN CONCRETE OR FIRE PROOFED W/ SPRAY ON MATERIAL WITHOUT COORDINATION W/ THE ARCHITECT. GALVANIZED DECK SHALL BE CONFORM TO ASTM A525, G60 (MINIMUM).

18. REINFORCE STEEL DECK OPENINGS (FLOOR & ROOF) FROM 6" TO 18" WITH 2 X 2 X 1/4 STEEL ANGLES. PLACE ANGLES PERPENDICULAR TO FLUTES, EXTEND MINIMUM OF TWO FLUTES BEYOND EACH SIDE OF OPENING AND WELD DECK AT EACH FLUTE. OPENINGS LARGER THAN 18" SHALL BE REINFORCED WITH 3 X 3 X 1/4 STEEL ANGLES WELDED TO TOP CHORD OF BAR JOISTS UNLESS SHOWN OTHERWISE ON PLANS. WELD DECK TO ANGLE AT 6" O/C AT PERIMETER OF OPENINGS.

19. STEEL LINTELS SUPPORTING BRICK VENEER AT EXTERIOR WALLS SHALL BE HOT-DIPPED GALVANIZED, UNLESS NOTED OTHERWISE.

20. WELDED HEADED STUDS (WHS) SHALL BE "NELSON ANCHORS", OR EQUAL, Fs = 60 KSI, DIAMETER AND LENGTH AS SHOWN ON PLANS. STUDS TO BE WELDED& SHOP TESTED IN ACCORDANCE W/ THE MANUFACTURER'S RECOMMENDATIONS.

21. AFTER ERECTION, PRIME WELDS, ABRASIONS AND SURFACES NOT PRIMED. USE PRIMER CONSISTENT WITH SHOP COAT. GALVANIZED SURFACES (HOT DIPPED OR COLD) SHALL BE CLEANED AND PAINTED WITH "ZRC". WELDING WASHERS SHALL BE PAINTED WITH "ZRC" PRIOR TO PLACING FLOOR STRUCTURAL CONCRETE. ROOF DECK WELDS TO BE CLEANED AND PAINTED PRIOR TO INSTALLING ROOF INSULATION.

22. FIELD WELDS AND BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED BY A QUALIFIED INDEPENDENT INSPECTOR. THE INSPECTOR SHALL PROVIDE A WRITTEN REPORT TO THE STRUCTURAL ENGINEER.

23. A SINGLE ELECTRONIC FILE (PDF FORMAT) SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL STEEL COMPONENTS AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.

24. THE CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.

25. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR A FRAMING OBSERVATIONS IMMEDIATELY AFTER DECKING IS INSTALLED AND BEFORE INSTALLATION OF THE CEILING.

26. INCLUDE IN BID AN ALLOWANCE FOR **5.0 TON** OF FABRICATED AND PRIMED STRUCTURAL STEEL TO BE USED AS DIRECTED IN THE FIELD FOR SPECIAL CONDITIONS AT A COST OF **$4,000.00 PER TON** (LABOR FOR ERECTING SAME TO BE INCLUDED). ANY UNUSED ALLOWANCE WILL BE CREDITED TO THE OWNER AT THE END OF THE PROJECT.

FASTENERS

1. CAST-IN-PLACE AND POST-INSTALLED ANCHORS SHALL BE PER ANCHOR DIAMETER AND EMBEDMENT DEPTH NOTED ON THE DRAWINGS. POST-INSTALLED ANCHORS SHALL BE UTILIZED ONLY WHERE SPECIFIED. ALL ANCHORS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.

2. ALL ANCHORS NOTED BELOW SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS, AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY.

3. SPECIAL INSPECTIONS SHALL BE PROVIDED FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE EVALUATION REPORT NOTED BELOW. SPECIAL INSPECTIONS SHALL BE PERFORMED BY INDEPENDENT TESTING LABORATORY PERFORMING QA/QC SERVICES ON PROJECT.

4. EXPANSION BOLTS (EB) IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:

A. KWIK BOLT III (ICC-ES ESR-2302) BY HILTI (CONCRETE)

B. KWIK BOLT III (ICC-ES-ESR-1385) BY HILTI (MASONRY)

C. STRONG-BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG-TIE (CONCRETE)

D. WEDGE-ALL ANCHOR (ICC-ES ESR-1396) BY SIMPSON STRONG-TIE (MASONRY)

5. HEAVY DUTY SLEEVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED OR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. EXPANSION BOLTS (EB) SHALL NOT BE SUBSTITUTED FOR SLEEVE ANCHORS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER. ACCEPTABLE PRODUCTS:

A. HSL-3 (ICC-ES ESR-1545) BY HILTI (CONCRETE)

6. SCREW ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:

A. KWIK HUS-EZ (ICC-ES ESR-3027) BY HILTI (CONCRETE)

B. KWIK HUS-EZ (ICC-ES ESR-3056) BY HILTI (MASONRY)

C. TITEN HD (ICC-ES ESR-2713) BY SIMPSON STRONG-TIE (CONCRETE)

D. TAPCON ANCHORS (ICC-ES ESR-1671) (MASONRY)

E. POWERS WEDGE BOLT (ICC-ES ESR-1678) (MASONRY)

7. UNDERCUT ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:

A. HDA (ICC-ES ESR-1546) BY HILTI (CONCRETE)

B. TORQ-CUT (ICC-ES ESR-2705) BY SIMPSON STRONG-TIE (CONCRETE)

8. POWDER ACTUATED FASTENERS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:

A. X-U (ICC-ES ESR-2269) BY HILTI (CONCRETE/MASONRY)

B. POWDER ACTUATED FASTENERS (ICC-ES ESR-2138) BY SIMPSON STRONG TIE (CONCRETE/MASONRY)

9. ADHESIVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308. ACCEPTABLE PRODUCTS:

A. HIT-RE 500-V3 (ICC-ES ESR-3814) BY HILTI (CONCRETE)

B. HIT-HY 70 (ICC-ES ESR-2682) BY HILTI (MASONRY)

C. SET-XP (ICC-ES ESR-2508) BY SIMPSON STRONG-TIE (CONCRETE)

D. SET (ICC-ES ESR-1772) BY SIMPSON STRONG-TIE (MASONRY)

10. J-BOLTS SHALL BE FABRICATED FROM ASTM A36/A307 ROD. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. EXPANSION BOLTS/SLEEVE ANCHORS SHALL NOT BE SUBSTITUTED FOR J-BOLTS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER.

11. HEADED ANCHOR RODS SHALL BE FABRICATED FROM ASTM F1554 MATERIAL, FY=36 KSI.

12. SUBSTITUTION REQUESTS FOR PRODUCTS LISTED ABOVE SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS. SUBSTITUTED ANCHORS SHALL HAVE A VALID CURRENT EVALUATION (ICC-ES OR IAPMO-ES) REPORT.

13. REFERENCE STRUCTURAL STEEL NOTES FOR BOLTS CONNECTING STRUCTURAL STEEL COMPONENTS.

CONCRETE MASONRY

1. THE **GENERAL CONTRACTOR, PROJECT SUPERINTENDENT, TESTING LABORATORY AND THE MASONRY FOREMAN** SHALL MEET WITH THE STRUCTURAL ENGINEER PRIOR TO THE START OF MASONRY WORK TO REVIEW PROJECT REQUIREMENTS AND PROCEDURES.

2. AN INDEPENDENT TESTING LAB SHALL VERIFY PLACEMENT OF VERTICAL REINFORCING IN WALLS AND HORIZONTAL REINFORCING IN BOND BEAMS AND LINTELS PRIOR TO PLACEMENT OF GROUT. INDEPENDENT TESTING LAB SHALL PROVIDE CONTINUOUS VISUAL OBSERVATIONS OF GROUTING PROCEDURES, REBAR PLACEMENT, SITE MIXING OF MORTAR, INSTALLATION OF EMBEDED STEEL CONNECTORS, AND GENERAL PLACEMENT OF MASONRY UNITS AND MORTAR JOINTS. INSPECTION REPORTS ARE TO BE GENERATED DAILY BY THE TESTING LAB. INSPECTION SUMMARY REPORTS SHALL BE EMAILED TO THE STRUCTURAL ENGINEER IN ELECTRONIC (PDF) FORMAT.

3. ALL CONCRETE MASONRY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODES AND THE AMERICAN CONCRETE INSTITUTE (ACI 530-02/ ASCE 5-02/ TMS 402-02). DESIGN IS BASED ON MASONRY COMPRESSIVE STRENGTH (f'm) OF 2,150 PSI.

4. HOT AND COLD WEATHER CONSTRUCTION PROCEDURES SHALL BE UTILIZED AS REQUIRED BY THE SPECIFICATIONS AND ACI 530.1.

5. HOLLOW CONCRETE MASONRY UNITS SHALL BE DOMESTIC LIGHTWEIGHT MOISTURE CONTROLLED TYPE I UNITS, CONFORMING TO ASTM C-90-97.

6. MASONRY UNITS SHALL HAVE A MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 1,900 PSI (NET AREA) WHEN TESTED IN ACCORDANCE WITH ASTM C-140, "METHODS OF SAMPLING AND TESTING CONCRETE MASONRY UNITS".

7. MORTAR PROPORTIONS FOR REINFORCED MASONRY SHALL BE ESTABLISHED PER ASTM C270 PROPORTION SPECIFICATIONS, TYPE S USING MASONRY CEMENT. FIELD TESTS OF MORTAR SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY IN ACCORDANCE WITH ASTM C780 AT A RATE OF ONE TEST PER 2,000 SF OF WALL SURFACE TO DETERMINE BATCH-TO-BATCH UNIFORMITY OF MORTAR. REFERENCE SPECIFICATIONS FOR NON REINFORCED MASONRY.

8. GROUT FOR ALL REINFORCED HOLLOW MASONRY UNIT WALLS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI WITH A MAXIMUM 3/8" AGGREGATE. A MID RANGE WATER REDUCING AGENT SUCH AS "POLYHEED" (MASTER BUILDERS) SHALL BE USED. SLUMP TO BE BETWEEN 8 AND 11 INCHES. **ALL GROUT SHALL BE PUMPED.** PLACING OF GROUT TO FOLLOW AMERICAN CONCRETE INSTITUTE (ACI) RECOMMENDATIONS REGARDING **LOW & HIGH LIFT GROUTING.** MAXIMUM LIFT OF GROUT SHALL NOT EXCEED 5'-0" UNLESS APPROVED BY THE ENGINEER PRIOR TO START OF GROUTING. GROUT TO BE TESTED BY A QUALIFIED TESTING LABORATORY AT A RATE OF ONE TEST PER 25 CY OF GROUT IN ACCORDANCE WITH ASTM C1019.

9. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60. ALL BAR REINFORCING SHALL BE LAPPED 48 BAR DIAMETERS (MIN). BARS SHALL BE PLACED WITHIN 1/2" (CENTERLINE OF BAR TO FACE OF MASONRY) OF LOCATION SHOWN IN STRUCTURAL PLANS. BARS SHALL BE HELD IN POSITION DURING GROUTING WITH BAR POSITIONERS. POSITIONERS SHALL BE LOCATED AT THE BOTTOM AND TOP OF THE WALL AND AT 8 TO 10 FOOT INTERVALS. BARS SPLICED BY NON-CONTACT LAP SPLICES SHALL NOT BE SPACED TRANSVERSELY FARTHER APART THAN ONE-FIFTH THE REQUIRED LENGTH OF LAP NOR MORE THAN 8 INCHES.

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION

REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
Enter address here

PROJECT NO: 775-47
DATE: 05/08/18
STARTING DATE:
CK BY: JS | DWN BY: AV,IG

GENERAL STRUCTURAL NOTES

S1.1

GENERAL STRUCTURAL NOTES

CONCRETE MASONRY CONTINUED:

10. VERTICAL BARS SHALL EXTEND TO THE TOP OF THE PARAPET WALL OR BOND BEAM WHEN A 16" DEEP BEAM IS SPECIFIED. HOOKED DOWELS SHALL BE PROVIDED AT ROOF BOND BEAMS (W/O PARAPETS) LESS THAN 16" DEEP. DOWELS SHALL BE 30" LONG WITH 12" HOOKS.

11. ALL EXTERIOR MASONRY WALLS SHALL BE REINFORCED WITH 9 GA. HOT DIPPED GALVANIZED HORIZONTAL WIRE REINFORCEMENT (LADDER TYPE) EMBEDDED IN MORTAR JOINTS AT 16" O.C. NOMINAL WIDTH OF JOINT REINFORCING SHALL EQUAL WALL THICKNESS. (INTERIOR WALLS MAY BE MILL GALVANIZED). WIRE REINFORCEMENT SHALL CONFORM TO ASTM DESIGNATION A-82, AND SHALL BE LAPPED AT LEAST 8" WITH AT LEAST ONE CROSS WIRE WITHIN THE LAP. JOINT REINFORCING SHALL BE INSTALLED IN THE FIRST AND SECOND MORTAR BED JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS. WIRE REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS.

12. EXTERIOR WALLS SHALL BE BONDED WITH CONCRETE MASONRY UNITS AT BUILDING CORNERS.

13. ONE GROUTED #5 BAR SHALL BE PROVIDED AROUND THE PERIMETER OF ALL WALL OPENINGS AND AT BUILDING CORNERS UNLESS NOTED OTHERWISE ON THE STRUCTURAL PLANS.

14. NEATLY TOOL INTERIOR AND EXTERIOR JOINTS IN MASONRY TO FORM A SLIGHTLY CONCAVE PROFILE WHEN MORTAR IS THUMBPRINT HARD UNLESS SHOWN OTHERWISE. ALL MORTAR JOINTS SHALL BE TOOLED THE ENTIRE HEIGHT OF WALL.

15. BOND BEAMS SHALL BE REINFORCED WITH TWO CONTINUOUS #5 BARS UNLESS NOTED OTHERWISE ON THE STRUCTURAL PLANS. REINFORCING SHALL BE CONTINUOUS AT ALL CORNERS AND INTERSECTING WALLS. (PROVIDE CORNER BARS). WHERE SIDE WALL AND END WALL BOND BEAMS DO NOT COURSE CONTINUE THE LOWER BOND BEAM AROUND THE BUILDING CORNER TO THE FIRST VERTICAL REINFORCED CELL.

16. CONTROL JOINTS SHALL BE CONSTRUCTED WITH SLOTTED MASONRY UNITS AND FACTORY MOLDED JOINT FILLER. JOINTS SHALL BE CAULKED WITH AN APPROVED MATERIAL. JOINTS SHALL BE PROVIDED AT MAXIMUM SPACING OF 22 FT. AND AT ALL LOCATIONS WHERE COLUMNS ARE PLACED IN CMU CELLS. (EXTERIOR AND INTERIOR WALLS). JOINT LOCATIONS, IF NOT SHOWN ON PLANS, SHALL BE COORDINATED WITH ARCHITECT.

17. CONTROL JOINTS **SHALL NOT** EXTEND THROUGH BOND BEAMS UNLESS INDICATED ON THE STRUCTURAL PLANS.

18. CONTROL JOINTS IN CMU WALLS SHALL NOT BE LOCATED CLOSER THAN 2'-0" FROM AN EDGE OF OPENING WITHOUT REVIEW OF STRUCTURAL ENGINEER.

19. COLUMNS WHICH EXTEND THROUGH BOND BEAMS SHALL BE WRAPPED WITH 2 LAYERS OF 30# BUILDING PAPER. REINFORCING SHALL BE CONTINUOUS PAST COLUMNS WHEN ADEQUATE CLEARANCE EXISTS.

20. LINTELS OVER ALL OPENINGS IN INTERIOR MASONRY PARTITIONS, NOT OTHERWISE COVERED, ARE TO BE OF STANDARD CMU LINTEL BLOCK WITH THICKNESS EQUAL TO WALL THICKNESS. DEPTH SHALL BE 8" FOR OPENINGS UP TO 6'-0", REINFORCED WITH TWO #5's, LOCATED 2-1/2" ABOVE THE BOTTOM EXTERIOR FACE OF THE UNIT.

21. AN L8x6x7/16 (LLH) CONT. (HD GALV) WITH 3/4"øx6" LONG EXP. BOLTS AT ALL FILLED CELLS (40" ON CENTER MAXIMUM) STEEL SHELF ANGLE SHOULD BE PROVIDED AT VENEER TRANSITION LOCATIONS AS REQUIRED BY THE ARCHITECT (COORDINATE SHELF ANGLE HEIGHTS AND LOCATIONS WITH ARCHITECT).

22. INCLUDE IN BID AN ALLOWANCE OF **2.5 TONS** OF REINFORCING BARS TO BE USED AS DIRECTED IN FIELD FOR SPECIAL CONDITIONS AT A COST OF **$2,000.00 PER TON** (LABOR AND GROUT FOR PLACING SAME TO BE INCLUDED). ANY UNUSED ALLOWANCE WILL BE CREDITED TO THE OWNER AT THE END OF THE PROJECT.

LIGHTWEIGHT STEEL FRAMING (STEEL STUDS)

1. THE **GENERAL CONTRACTOR, PROJECT SUPERINTENDENT AND THE LIGHTWEIGHT STEEL FRAMING FOREMAN** SHALL MEET WITH THE STRUCTURAL ENGINEER PRIOR TO THE START OF LIGHTWEIGHT STEEL FRAMING WORK TO REVIEW PROJECT REQUIREMENTS AND PROCEDURES.

2. ALL STUDS AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, GAUGE AND SPACING SHOWN ON THE DRAWINGS.

3. ALL STUDS AND JOIST MEMBERS 16 GAUGE AND HEAVIER SHALL BE FORMED FROM STEEL CORRESPONDING TO A TYPE LISTED IN THE A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", WITH A MINIMUM YIELD STRENGTH OF 33 KSI UNLESS SPECIFICALLY NOTED OTHERWISE.

4. ALL 18 GAUGE AND LIGHTER MEMBERS, TRACK, BRIDGING, AND ACCESSORY ITEMS SHALL BE FORMED FROM STEEL "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", WITH A MINIMUM YIELD STRENGTH OF 33 KSI UNLESS SPECIFICALLY NOTED OTHERWISE.

5. ALL FRAMING PRODUCTS SHALL BE FORMED FROM STEEL POSSESSING A COATING CORRESPONDING TO THE MINIMUM REQUIREMENTS OF ASTM C955.

6. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR EMBERS, OR, AS REQUIRED, FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.

7. ALL FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD FORMED MEMBERS IS UNACCEPTABLE.

8. WHEN REQUIRED FOR BRIDGING PURPOSES, THE FRAMING FABRICATOR IS TO ENSURE PUNCH OUT ALIGNMENT WHEN ASSEMBLING FRAMING AND FIELD CUTTING STUDS TO LENGTH. REFER TO TYPICAL STUD/TRACK CONNECTION AND INDEXING DETAILS.

9. NO SPLICES IN STUDS, JOISTS, OR OTHER LOAD CARRYING MEMBERS MAY BE MADE WITHOUT PRIOR ENGINEERING REVIEW AND SPECIFIC DETAILS FOR ANY SUCH SPLICE(S).

10. NO NOTCHING OR COPING OF STUDS, JOISTS OR RAFTERS IS ALLOWED, UNLESS STATED WITHIN THIS DRAWING PACKAGE.

11. WHERE SPLICING OF WALL TRACK IS NECESSARY BETWEEN STUDS, A PIECE OF STUD SHALL BE PLACED IN THE ADJOINING TRACK SECTIONS AND FASTENED TO THE TRACK FLANGES AT BOTH SIDES OF THE WALL OR THE TRACKS SHALL BE BUTTED TIGHT TOGETHER AND FASTENED TO STRUCTURE EITHER SIDE OF THE JOINT.

12. FOR ALL TRACKS USED IN COMPOSITE MEMBERS SUCH AS TRUSSES, POSTS, HEADERS AND JAMBS, THE TRACK MUST BE INSTALLED AS A SINGLE PIECE; NO SPLICING IS PERMITTED.

13. ALL SCREWS SHALL BE OF THE DIAMETER AND SIZE INDICATED ON THE DRAWINGS, AND SHALL BE THOSE MANUFACTURED AND TESTED BY ITW BUILDEX OR EQUIVALENT. A MINIMUM ½ INCH EDGE DISTANCE AND 1/2 INCH SCREW SPACING IS REQUIRED, UNLESS NOTED OTHERWISE ON THE DRAWINGS. SCREW PENETRATION THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN THREE EXPOSED THREADS. SCREW DESIGN IS BASED ON A TYPE 'T3' SCREW. (UNLESS NOTED OTHERWISE)

14. ALL POWDER ACTUATED FASTENERS (P.A.F.) SUBJECTED TO TENSION SHALL HAVE A 15MM (MINIMUM) DIAMETER STEEL WASHERS. THE FOLLOWING MINIMUM EDGE DISTANCES AND FASTENER SPACING APPLY:

	EDGE DISTANCE		MINIMUM SPACING		PENETRATION	
PIN DIAMETER	STEEL	CONCRETE	STEEL	CONCRETE	STEEL	CONCRETE
0.157"ø	1/2"	3"	1"	4"	FULL	1.1/4"

EXTERIOR COMPONENTS & CLADDINGS

ALL EXTERIOR COMPONENT AND CLADDING SYSTEMS (E.G. WINDOWS, CURTAIN WALLS, STOREFRONTS, DOORS, ARCHITECTURAL SIDINGS, METAL WALL AND ROOF PANELS, ROOFING SYSTEMS, SKYLIGHTS) MUST MEET MINIMUM WIND CODE REQUIREMENTS. CONTRACTOR MUST SUBMIT COMPONENT AND CLADDING ASSEMBLY WIND PRESSURE AND IMPACT RESISTANCE TESTING RATINGS AND REQUIRED ATTACHMENT PROCEDURES TO STRUCTURAL ENGINEER FOR REVIEW. ROOF TOP MECHANICAL EQUIPMENT AND THEIR SUPPORT COMPONENTS, AND ANCHORING OF THESE ITEMS TO THE STRUCTURE, SHALL BE DELEGATED DESIGN TO BE PERFORMED BY THE EQUIPMENT'S MANUFACTURER, TO MEET THE WIND PRESSURES CALCULATED PER ASCE 7-10 SECTION 29.5.1 AND ASCE 7-05 SECTION 6.5.15.1, WHICHEVER PRODUCES GREATER WIND LOADS BY USING THE WIND DESIGN PARAMETERS LISTED ON THE GENERAL STRUCTURAL NOTES DESIGN CRITERIA.

1. TESTED ASSEMBLIES

A. THE CONTRACTOR SHALL INSTALL PROJECT SPECIFIC ASSEMBLIES THAT HAVE BEEN TESTED AND MEET THE APPLICABLE PERFORMANCE REQUIREMENTS LISTED BELOW. PROJECT ASSEMBLIES SHALL BE INSTALLED IN SAME MANNER AS TESTED ASSEMBLIES INCLUDING SYSTEM COMPONENTS, REINFORCEMENT, GLAZING, HARDWARE, ANCHORS AND FASTENING LOCATIONS, SEALANTS & ALL ACCESSORIES, AS APPLICABLE.

2. ASSEMBLY PERFORMANCE REQUIREMENTS

A. STRUCTURAL PERFORMANCE: TESTED ASSEMBLY THAT PASSES STRUCTURAL PERFORMANCE REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH THE APPLICABLE PERFORMANCE STANDARD(S) LISTED BELOW, AT A MINIMUM OF THE POSITIVE AND NEGATIVE DESIGN WIND-LOAD PRESSURES INDICATED ON THE STRUCTURAL DRAWINGS. TESTED ASSEMBLY SHALL BE NO SMALLER IN WIDTH AND LENGTH THAN ASSEMBLY INDICATED FOR USE ON THE PROJECT AND SHALL MATCH PROJECT ASSEMBLY INCLUDING ALL COMPONENTS AND SUBSTRATE(S).

B. WINDBORNE-DEBRIS-IMPACT RESISTANCE: TESTED ASSEMBLY THAT PASSES LARGE-MISSILE IMPACT PROTECTION TESTING REQUIREMENTS ACCORDING TO ASTM E 1996 WHEN TESTED ACCORDING TO ASTM E 1886. TESTED ASSEMBLY SHALL BE NO SMALLER IN WIDTH AND LENGTH THAN ASSEMBLY INDICATED FOR USE ON THE PROJECT AND SHALL MATCH PROJECT ASSEMBLY INCLUDING ALL COMPONENTS AND SUBSTRATE(S).

3. ASSEMBLY PERFORMANCE STANDARDS

A. ASTM E 330 - STANDARD TEST METHOD FOR STRUCTURAL PERFORMANCE OF EXTERIOR WINDOWS, DOORS, SKYLIGHTS AND CURTAIN WALLS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE

EXTERIOR COMPONENTS & CLADDINGS CONTINUED:

B. ASTM E 1592 - STANDARD TEST METHOD FOR STRUCTURAL PERFORMANCE OF SHEET METAL ROOF AND SIDING SYSTEMS BY UNIFORM STATIC AIR PRESSURE DIFFERENCE

C. ASTM E 1886 - STANDARD TEST METHOD FOR PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, DOORS, AND STORM SHUTTERS IMPACTED BY MISSILE(S) AND EXPOSED TO CYCLIC PRESSURE DIFFERENTIALS

D. ASTM E 1996 - STANDARD SPECIFICATION FOR PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, DOORS AND IMPACT PROTECTIVE SYSTEMS IMPACTED BY WINDBORNE DEBRIS IN HURRICANES

E. FM 4450 - APPROVAL STANDARD FOR CLASS 1 INSULATED STEEL DECK ROOFS

F. FM 4470 - APPROVAL STANDARD FOR SINGLE-PLY, POLYMER-MODIFIED BITUMEN SHEET, BUILT-UP ROOF (BUR) AND LIQUID APPLIED ROOF ASSEMBLIES FOR USE IN CLASS 1 AND NONCOMBUSTIBLE ROOF DECK CONSTRUCTION

G. FM 4474 - AMERICAN NATIONAL STANDARD FOR EVALUATING THE SIMULATED WIND UPLIFT RESISTANCE OF ROOF ASSEMBLIES USING STATIC POSITIVE AND/OR NEGATIVE DIFFERENTIAL PRESSURES

H. UL 580 - STANDARD FOR TESTS FOR UPLIFT RESISTANCE OF ROOF ASSEMBLIES

I. UL 1897 - STANDARD FOR UPLIFT TESTS FOR ROOF COVERING SYSTEMS

4. ASSEMBLY SUBMITTALS

A. SUBMITTALS SHALL CONSIST OF PROJECT SPECIFIC SHOP DRAWINGS AND ASSEMBLY TEST REPORTS, AS DESCRIBED BELOW. SUBMITTALS SHALL BE COMPLETE, CLEAR AND LEGIBLE; INCOMPLETE SUBMITTALS WILL BE REJECTED.

B. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING ITEMS:

1) SYSTEM DESCRIPTION INCLUDING MANUFACTURER'S NAME AND SPECIFIC PRODUCT MODEL NUMBER, NAME OR DESIGNATION.

2) MANUFACTURER'S PRODUCT DATA/TECHNICAL INFORMATION AND DETAILS.

3) SYSTEM LAYOUT PLANS, ELEVATIONS, CROSS-SECTIONS AND DETAILS AS APPLICABLE TO THE PROJECT.

4) DESCRIPTION OF SYSTEM'S ASSEMBLY COMPONENTS (E.G. ROOF LAYERS, FRAME MEMBERS, REINFORCEMENT, DOOR TYPE, GLAZING, HARDWARE, ANCHORS AND FASTENING LOCATIONS, SEALANTS, ACCESSORIES). ALL COMPONENTS SHALL MATCH THOSE SPECIFIED ON ASSEMBLY TEST REPORTS.

5) SHOP DRAWINGS SHALL INDICATE THE SYSTEM ATTACHMENT METHOD INCLUDING ANCHOR TYPE AND FASTENER LOCATIONS FOR EACH DIFFERENT TYPE OF SUBSTRATE. SYSTEM ATTACHMENT SHALL BE PER ASSEMBLY TEST REPORTS.

6) ASSEMBLY TEST REPORTS OFTEN PROVIDE OPTIONS FOR MATERIALS AND FASTENING METHODS. SHOP DRAWINGS SHALL BE SPECIFIC TO THE MATERIAL OR METHOD THAT THE CONTRACTOR IS PROPOSING TO INSTALL ON THE PROJECT.

7) CROSS-REFERENCING BETWEEN THE SHOP DRAWINGS AND THE ASSEMBLY TEST REPORTS IS ENCOURAGED, BUT THE SHOP DRAWINGS SHALL BE DETAILED ENOUGH TO STAND INDEPENDENT OF THE TEST REPORTS.

C. ASSEMBLY TEST REPORTS SHALL INCLUDE THE FOLLOWING ITEMS:

1) PERFORMANCE RATINGS BASED ON EVALUATION OF COMPREHENSIVE TESTING IN ACCORDANCE WITH THE APPLICABLE PERFORMANCE STANDARD(S) LISTED ABOVE.

2) TESTING AND DEVELOPMENT OF REPORTS SHALL BE PERFORMED BY A QUALIFIED THIRD-PARTY TESTING AGENCY.

3) TEST REPORTS SHALL BE SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

4) TEST REPORTS SHALL BE RECENT TO INCLUDE THE MOST CURRENT SYSTEM MANUFACTURER'S COMPONENTS AND AVAILABLE FASTENERS AND ACCESSORIES. EXPIRED TEST REPORTS SHALL BE REJECTED.

5) TEST REPORTS SHALL BE SUBMITTED FOR EACH DIFFERENT TYPE OF ASSEMBLY ON THE PROJECT INCLUDING VARIATIONS OF SYSTEM COMPONENTS AND SUBSTRATES.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS INDEPENDENT OF THE CONTRACTOR, THE ARCHITECT, OR THE ENGINEER, SHALL BE PROVIDED BY A SPECIAL INSPECTOR EMPLOYED BY THE OWNER ACCORDING TO CHAPTER 17 OF THE IBC 2012. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SEND WRITTEN REPORTS TO THE OWNER, THE ARCHITECT, THE ENGINEER AND THE CONTRACTOR. THE REPORTS SHALL INDICATE IF WORK INSPECTED WAS DONE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR SHALL BRING THE DISCREPANCIES TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE SPECIAL INSPECTION WORK WAS, TO THE BEST OF THEIR KNOWLEDGE, IN OR NOT IN CONFORMANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC 2012.

CONTINUOUS OR PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK:

REQUIRED VERIFICATION AND INSPECTION OF SOIL

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
VERIFY SOILS BELOW SHALLOW FOUNDATIONS ARE SUITABLE TO ACHEIVE THE BEARING CAPACITY FOR WHICH THEY WERE DESIGNED		X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
PERFORM CLASSIFICATION AND TESTING OF COMPACTED SELECT FILL MATERIALS		X
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF SELECT FILL	X	
PRIOR TO PLACEMENT OF COMPACTED SELECT FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X

REQUIRED VERIFICATION AND INSPECTION OF PIER FOUNDATION

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS OF EACH PIER	X	
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM PIER DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END BEARING STRATA CAPACITY	X	
FOR CONCRETE PIERS, PERFORM ADDITIONAL INSPECTIONS AS REQUIRED FOR CONCRETE CONSTRUCTION		

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT		X
INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE	X	
VERIFY USE OF REQUIRED DESIGN MIX		X
PERFORM SLUMP AND AIR CONTENT TEST, AND DETERMINE THE TEMPERATURE OF THE CONCRETE AT THE TIME OF SAMPLING FRESH CONCRETE FOR MAKING SPECIMENS FOR STRENGTH TESTS PER ACI 318	X	
INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECTION OF PRESTRESSED CONCRETE APPLICATION OF PRESTRESSING FORCES	X	
VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
ERECTION OF PRECAST CONCRETE MEMBERS		X
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X

REQUIRED VERIFICATION AND INSPECTION OF ANCHORS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
CAST-IN-PLACE, POST-INSTALLED, MECHANICAL AND EPOXY SET ANCHORS: AS APPLICABLE, THE INSPECTION PROGRAM SHALL VERIFY THE ANCHOR TYPE, EMBEDMENT, TIGHTENING TORQUE, DIMENSIONS, HOLE DEPTH & DIAMETER AND CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE CURRENT ICC-ES EVALUATION REPORT		FREQUENCY OF INSPECTION SHALL BE IN ACCORDANCE WITH THE CURRENT ICC-ES EVALUATION REPORT, OR PER THE SPECIAL INSPECTION REQUIREMENTS OF THE ANCHOR SUBSTRATE, WHICHEVER IS MORE STRINGENT

REQUIRED VERIFICATION AND INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
INSPECT THE INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS		X
INSPECT WELDED OR BOLTED END CONNECTIONS		X
INSPECT HORIZONTAL OR DIAGONAL STANDARD BRIDGING AND BRIDGING THAT DIFFERS FROM SJI SPECIFICATIONS		X

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

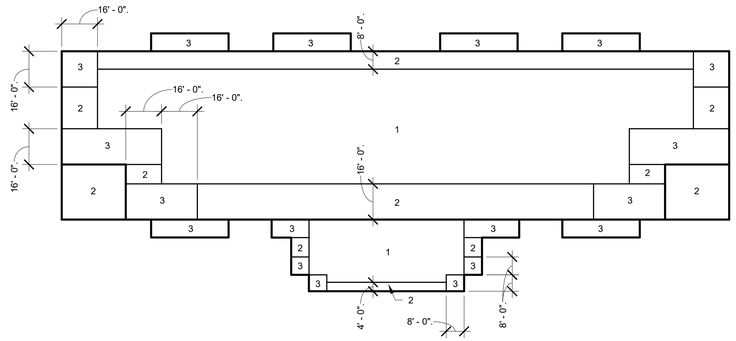
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X
INSPECTION OF HIGH STRENGTH BOLTING		X
INSPECTION OF WELDING:		
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X	
MULTIPASS FILLET WELDS	X	
SINGLE-PASS FILLET WELDS		X
FLOOR AND ROOF DECK WELDS		X
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS		X

REQUIRED VERIFICATION AND INSPECTIONS COLD-FORMED LIGHTWEIGHT STEEL FRAME CONSTRUCTION (EXTERIOR METAL STUDS)

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
MATERIAL VERIFICATION OF COLD-FORMED LIGHTWEIGHT FRAMING MEMBERS AND ACCESSORIES		X
TYPE, SIZE AND GAGE OF FRAMING MEMBERS AND ACCESSORIES (AS PER SHOP DRAWINGS)		X
SPACING OF FRAMING MEMBERS, BRACING, BLOCKING, AND BRIDGING (AS PER SHOP DRAWINGS)		X
INSPECTION OF WELDING; TYPE, LENGTH, SPACING (AS PER SHOP DRAWINGS)		X
INSPECTION OF FASTENER ATTACHMENT: BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS.		X

REQUIRED LEVEL 1 SPECIAL INSPECTION OF MASONRY CONSTRUCTION (OCCUPANCY CATEGORY I, II, III)

INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
PROPORTIONS OF SITE-PREPARED MORTAR		X
PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS		X
LOCATION OF REINFORCEMENT, CONNECTORS AND ANCHORAGES		X
THE INSPECTION PROGRAM SHALL VERIFY:		
SIZE AND LOCATION OF STRUCTURAL ELEMENTS		X
TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION		X
SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT		X
PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)		X
PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:		
GROUT SPACE IS CLEAN		X
PLACEMENT OF REINFORCEMENT, CONNECTORS AND ANCHORAGES		X
CONSTRUCTION OF MORTAR JOINTS		X
GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS	X	
PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED	X	
COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBITTALS SHALL BE VERIFIED		X



HCISD TREASURE HILLS ELEMENTARY SCHOOL
2018-2019 CLASSROOM ADDITIONS & RENOVATIONS
ROOF DESIGN WIND PRESSURE DIAGRAM

DESIGN WIND PRESSURE FOR ROOF COMPONENTS & CLADDING	
ZONE	P- (UPLIFT)
1	-31 PSF
2	-40 PSF
3	-63 PSF

DOORS, WINDOWS, & EXTERIOR CLADDING
MAXIMUM DESIGN WIND PRESSURES
P+ = +24 PSF TOWARDS THE SURFACE
P- = -32 PSF AWAY FROM THE SURFACE

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

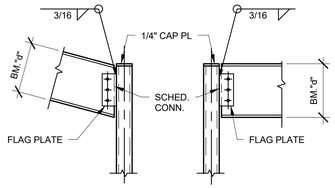
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
Enter address here

PROJECT NO: 775-47
DATE: 05/08/18
STARTING DATE:
CK BY: JS DWN BY: AV,IG

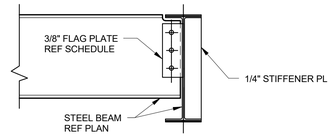
GENERAL STRUCTURAL NOTES

S1.2



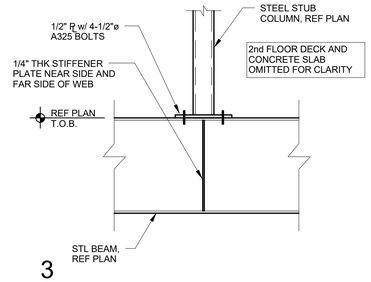
BEAM TO TUBE COLUMN CONNECTION SCHEDULE		
BEAM SIZE	PL SIZE	BOLTS
W8 & W10	PL 3/8x3.1/2x0'-6"	2-3/4"DIA.
W12 & W14	PL 3/8x3.1/2x0'-9"	3-3/4"DIA.
W16	PL 3/8x3.1/2x1'-0"	4-3/4"DIA.
W18	PL 3/8x3.1/2x1'-3"	5-3/4"DIA.
W21	PL 3/8x3.1/2x1'-6"	6-3/4"DIA.
W24	PL 3/8x3.1/2x1'-9"	7-3/4"DIA.
W27	PL 3/8x3.1/2x1'-10"	8-3/4"DIA.
W30	PL 3/8x3.1/2x2'-2"	9-3/4"DIA.

1

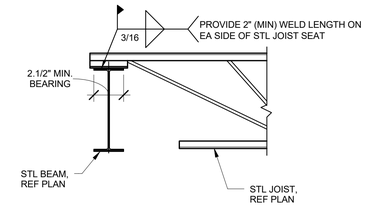


BEAM TO BEAM CONNECTION SCHEDULE		
BEAM SIZE	PL SIZE	BOLTS
W8 & W10	PL 3/8x3.1/2x0'-6"	2-3/4"DIA.
W12 & W14	PL 3/8x3.1/2x0'-9"	3-3/4"DIA.
W16	PL 3/8x3.1/2x1'-0"	4-3/4"DIA.
W18	PL 3/8x3.1/2x1'-3"	5-3/4"DIA.
W21	PL 3/8x3.1/2x1'-6"	6-3/4"DIA.

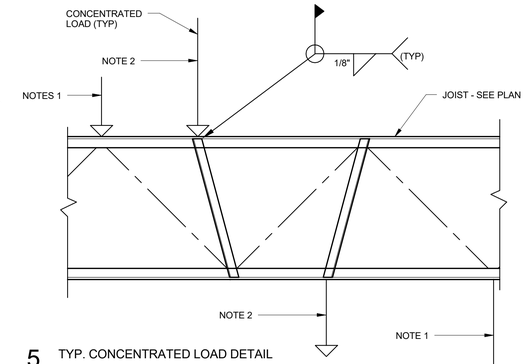
2 TYPICAL BEAM TO BEAM CONNECTION



3



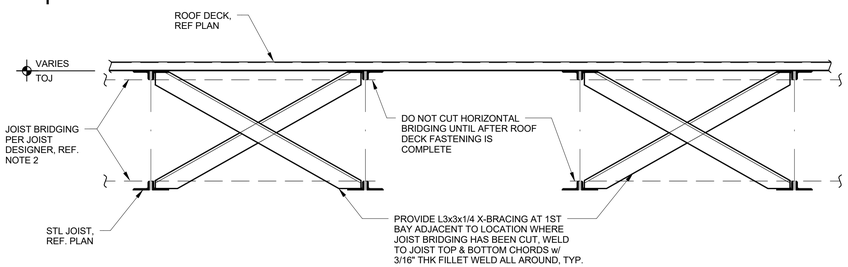
4 TYPICAL WELD LENGTH ON STL JOIST TO STL BEAM/STL PLATE CONNECTION



5 TYP. CONCENTRATED LOAD DETAIL

NOTES:

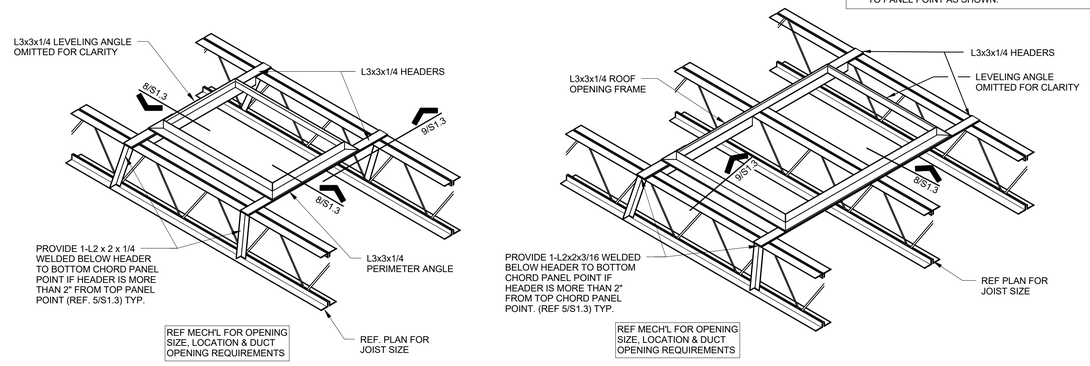
1. CONCENTRATED LOAD LOCATED AT JOIST PANEL POINT LOCATION - NO ADDTIONAL ANGLES REQUIRED.
2. CONCENTRATED LOAD (100 LBS. OR HEAVIER) NOT LOCATED AT JOIST PANEL POINT LOCATION - PROVIDE L2x2x3/16 TO PANEL POINT AS SHOWN.



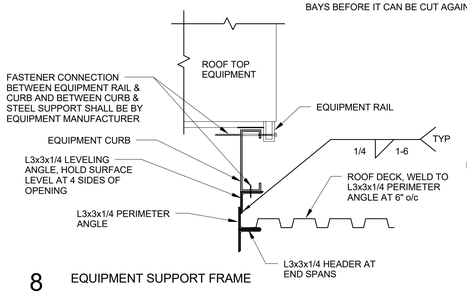
6 JOIST BRIDGING REPAIR DETAIL

NOTES:

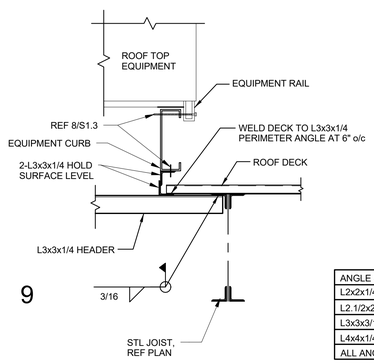
1. AT LOCATIONS WHERE JOIST BRIDGING IS TO BE CUT FOR MECHANICAL DUCT RUNS, CONTRACTOR SHALL PROVIDE X-BRACING REPAIR AS DETAILED.
2. JOIST BRIDGING SHALL RUN CONTINUOUS FOR THREE (3) CONSECUTIVE JOIST BAYS BEFORE IT CAN BE CUT AGAIN.



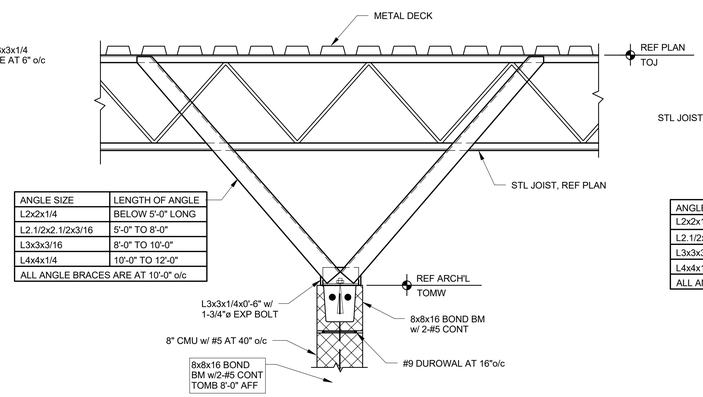
7 ROOF OPENING FRAME DETAIL



8 EQUIPMENT SUPPORT FRAME

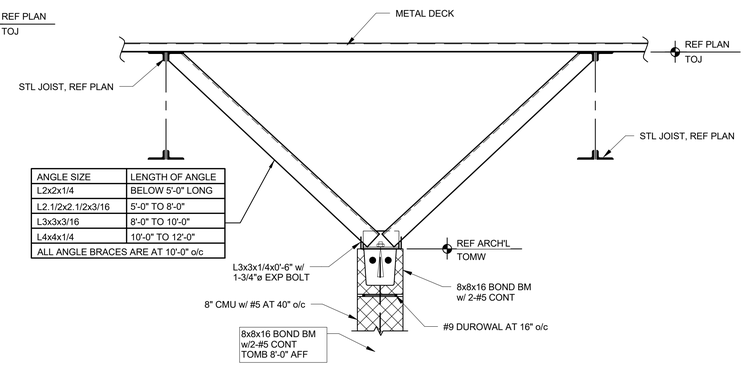


9



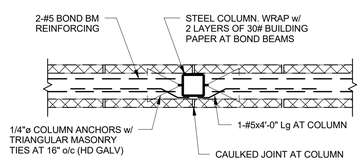
ANGLE SIZE	LENGTH OF ANGLE
L2x2x1/4	BELOW 5'-0" LONG
L2.1/2x2.1/2x3/16	5'-0" TO 8'-0"
L3x3x3/16	8'-0" TO 10'-0"
L4x4x1/4	10'-0" TO 12'-0"
ALL ANGLE BRACES ARE AT 10'-0" o/c	

10 TYPICAL CMU WALL BRACE PERPENDICULAR TO WALL



ANGLE SIZE	LENGTH OF ANGLE
L2x2x1/4	BELOW 5'-0" LONG
L2.1/2x2.1/2x3/16	5'-0" TO 8'-0"
L3x3x3/16	8'-0" TO 10'-0"
L4x4x1/4	10'-0" TO 12'-0"
ALL ANGLE BRACES ARE AT 10'-0" o/c	

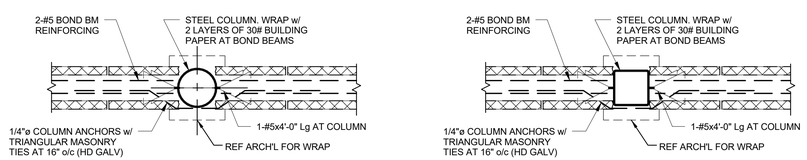
11 TYPICAL CMU WALL BRACE PARALLEL TO WALL



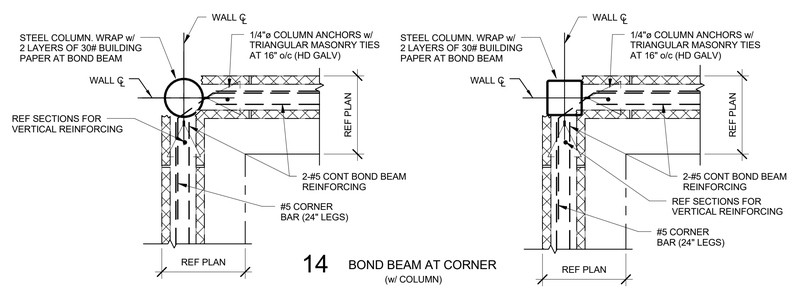
12 TYPICAL JOINT AT COLUMN IN WALL

NOTE:

HSS3.5x3.5 COLUMN MAX SIZE TO FIT INSIDE 8" CMU WALL.



13 TYPICAL JOINT AT COLUMN IN WALL w/ WRAP



14 BOND BEAM AT CORNER (w/ COLUMN)

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

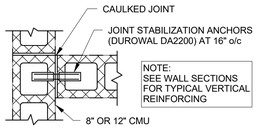
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

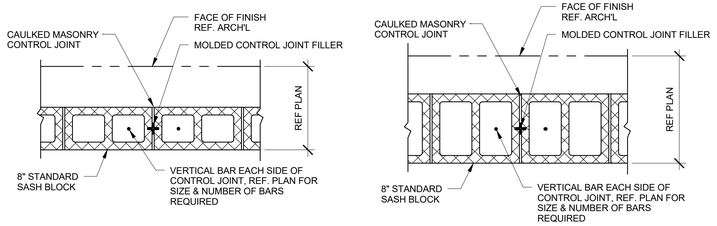
PROJECT NO:	775-47
DATE:	05/08/18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

GENERAL STRUCTURAL DETAILS

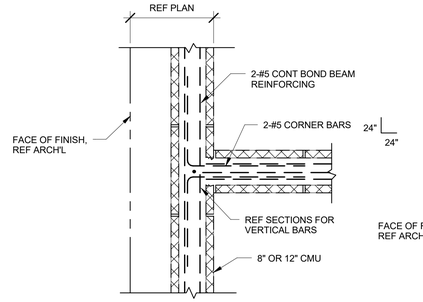
S1.3



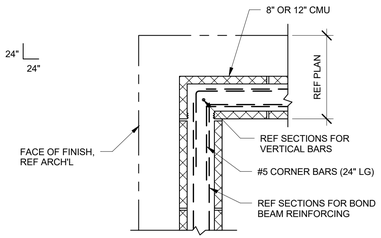
1 TYPICAL UNBONDED WALL INTERSECTION



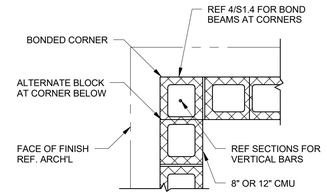
2 TYPICAL CRACK CONTROL JOINT



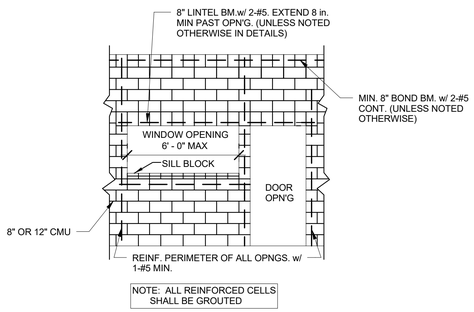
3 TYPICAL BOND BEAM AT INTERSECTING WALL



4 BOND BEAM AT EXTERIOR CORNERS

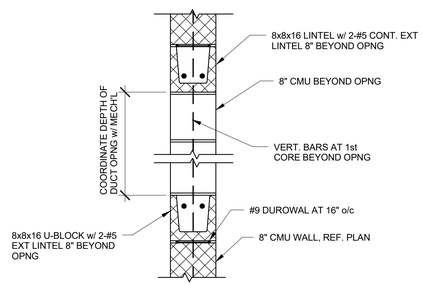


5 BONDED CORNER

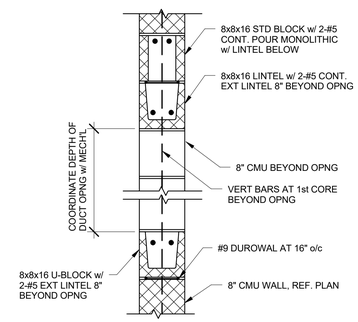


6 TYPICAL REINFORCING AT OPENINGS (U.N.O.)

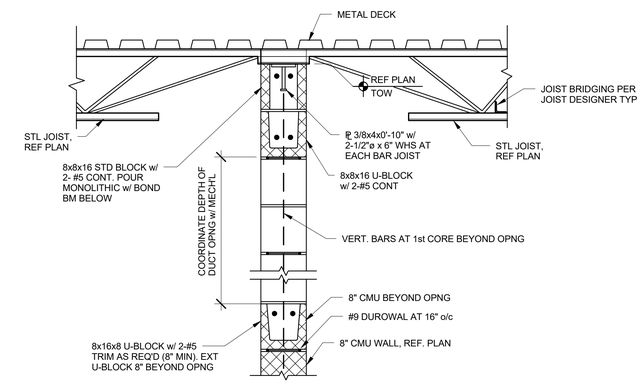
(NON-LOAD-BEARING WALLS ONLY)



7 DUCT OPENING 4'-0" OR SMALLER THRU NON-LOAD-BEARING 8" CMU WALL



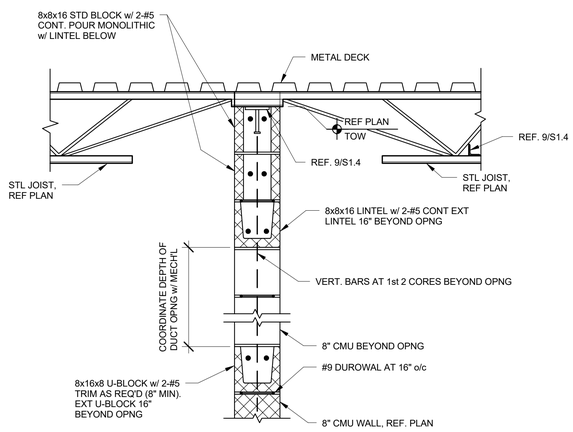
8 DUCT OPENING 4'-0" TO 8'-0" THRU NON-LOAD-BEARING 8" CMU WALL



9 TYPICAL DUCT OPENING 4'-0" OR SMALLER THRU LOAD-BEARING 8" CMU WALL

NOTES:

1. COORDINATE DUCT OPENING LOCATION w/ MECHANICAL.

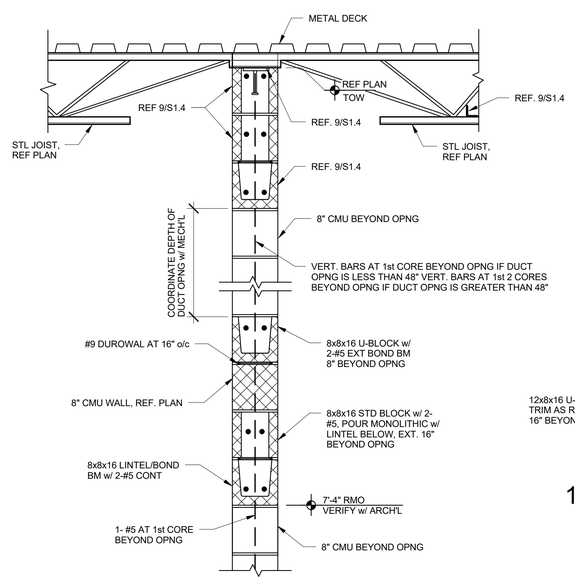


10 TYPICAL DUCT OPENING 4'-0" TO 6'-0" THRU LOAD-BEARING 8" CMU WALL

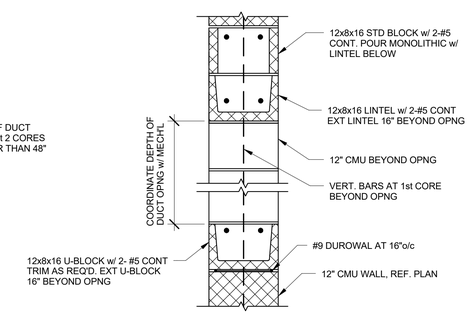
NOTES:

1. ALL DUCTS PENETRATING CORRIDOR WALLS MUST START 24" BELOW JOIST BEARING.

2. COORDINATE DUCT OPENING LOCATION w/ MECHANICAL.

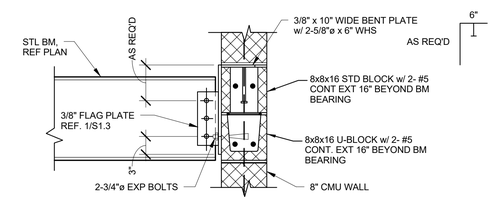


11 TYPICAL DUCT OPENING THRU LOAD BEARING 8" CMU WALL ABOVE DOOR



12 TYPICAL DUCT OPENING THRU 12" CMU NON-LOAD-BEARING WALL (10'-0" MAX OPENING)

COORDINATE DUCT OPENING LOCATION w/ MECHANICAL.



STEEL BEAM TO MASONRY WALL CONNECTION SCHEDULE		
BEAM SIZE	PL SIZE	BOLTS
W8 & W10	PL 3/8x3.1/2x0'-6"	2-3/4"DIA.
W12 & W14	PL 3/8x3.1/2x0'-9"	3-3/4"DIA.
W16	PL 3/8x3.1/2x1'-0"	4-3/4"DIA.
W18	PL 3/8x3.1/2x1'-3"	5-3/4"DIA.
W21	PL 3/8x3.1/2x1'-6"	6-3/4"DIA.

13 TYPICAL STEEL BEAM TO 8" CMU WALL CONNECTION

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78501
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

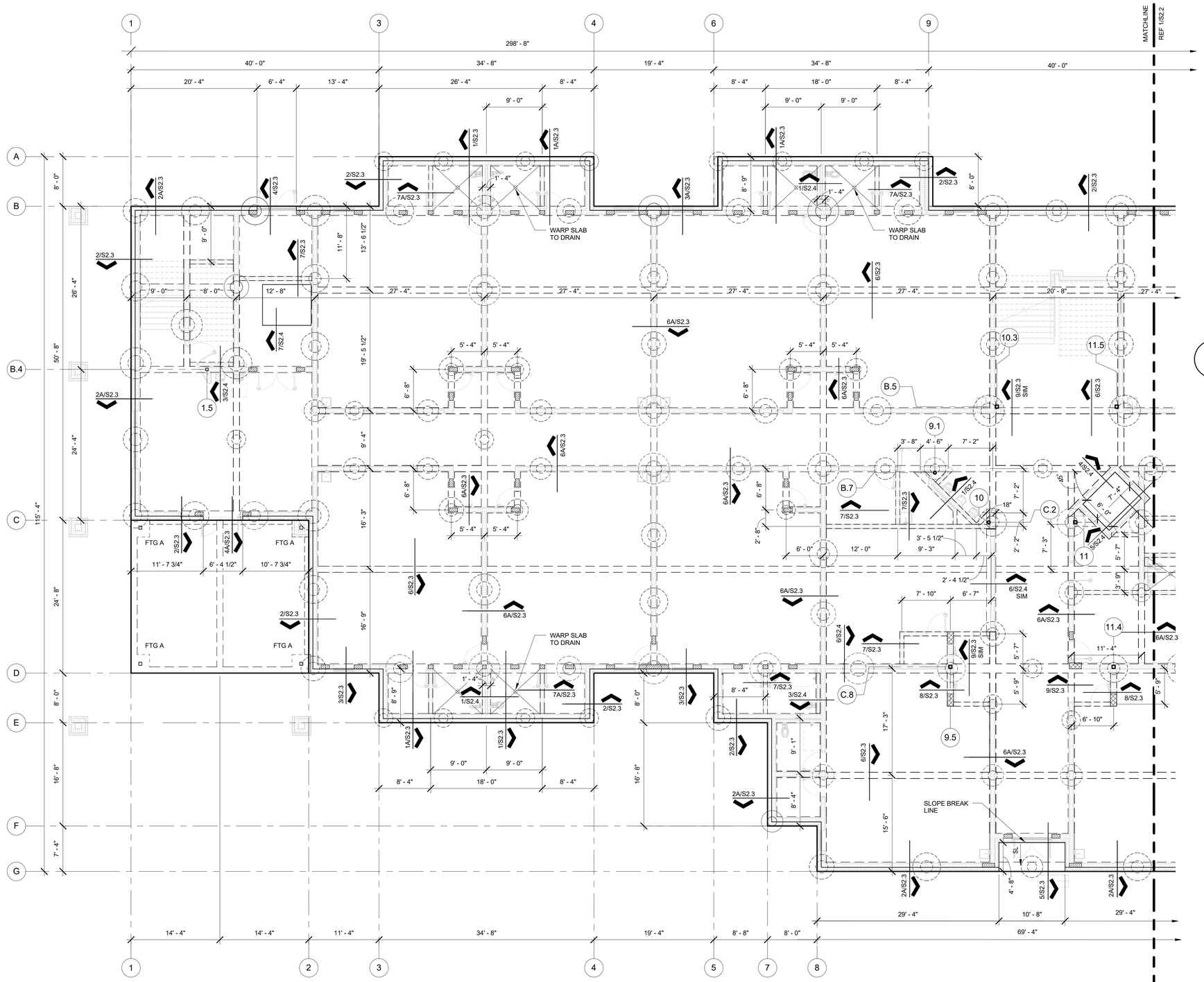
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05/08/18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

GENERAL STRUCTURAL DETAILS

S1.4



1 FOUNDATION PLAN

1/8" = 1'-0"

N

PLAN NORTH

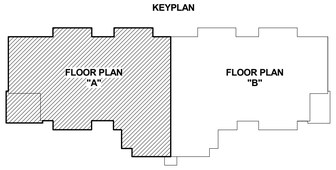
NOTES:

1. REFERENCE ROOF FRAMING PLAN FOR COLUMN/BASEPLATE LOCATIONS. FOUNDATION PLAN DIMENSIONS GENERALLY DENOTES GRADE BEAM CENTERLINE AND OUTSIDE FACE OF CONCRETE.
2. ALL CONDUIT GREATER THAN 3/4" IN DIAMETER (O.D.) SHALL BE RECESSED TO PROVIDE 1.1/2" CLEAR DISTANCE BETWEEN SLAB REBAR & CONDUIT.
3. MAINTAIN 2" MINIMUM CLEAR DISTANCE BETWEEN ALL CONDUIT IN SLAB.
4. A SINGLE CONDUIT (MAX 3" O.D.) MAY BE PLACED WITHIN THE BEAM CAGE. ALL CONDUIT IN BEAM CAGES TO BE TIED TO STIRRUPS MINIMUM OF 4" FROM HORIZONTAL BARS.
5. CRACK CONTROL JOINTS ARE NOTED ON THE PLANS. CONTRACTOR TO COORDINATE CHANGES WITH THE ENGINEER PRIOR TO FORMING FOUNDATION.
6. PLUMBING LINES SHALL NOT BE PLACED IN BOTTOM OF GRADE BEAM TRENCHES.
7. PLUMBING LINES PASSING THROUGH GRADE BEAMS SHALL BE SLEEVED. BEAMS SHALL BE DEEPENED AND BENT REBAR PROVIDED IF LOCATION OF DRAIN LINES REQUIRES CUTTING BOTTOM BARS. REFERENCE DETAIL 8/S2.4.
8. ALL JOINTS TO BE CLEANED AND FILLED w/ SONOLASTIC SL1 (SONNEBORN).
9. INDICATES 8" CMU w/ #5 VERTICAL BARS AT 8" o/c.
10. REFERENCE 1/S2.1C FOR CONTROL JOINT PLAN.
11. REFERENCE 1/S2.1P FOR PIER PLAN.
12. COORDINATE ALL FLOOR DRAIN LOCATIONS WITH PLUMBING AND ARCHITECTURAL.
13. INDICATES 12" CMU w/ #5 VERTICAL BARS AT 8" o/c.

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
FTG.A	3'-0" x 3'-0"	#5 AT 12" O.C.E.W.

BASEPLATE SCHEDULE		
MARK	PLATE TxWxL	ANCHORS
HSS5 x 5	3/4 x 9 x 9	4-3/4" DIA x 8" WHS
HSS6 x 6	1 x 10 x 10	4-3/4" DIA x 8" WHS
5" DIA STD PIPE	1 x 10 x 10	4-3/4" DIA x 8" WHS

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78550
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

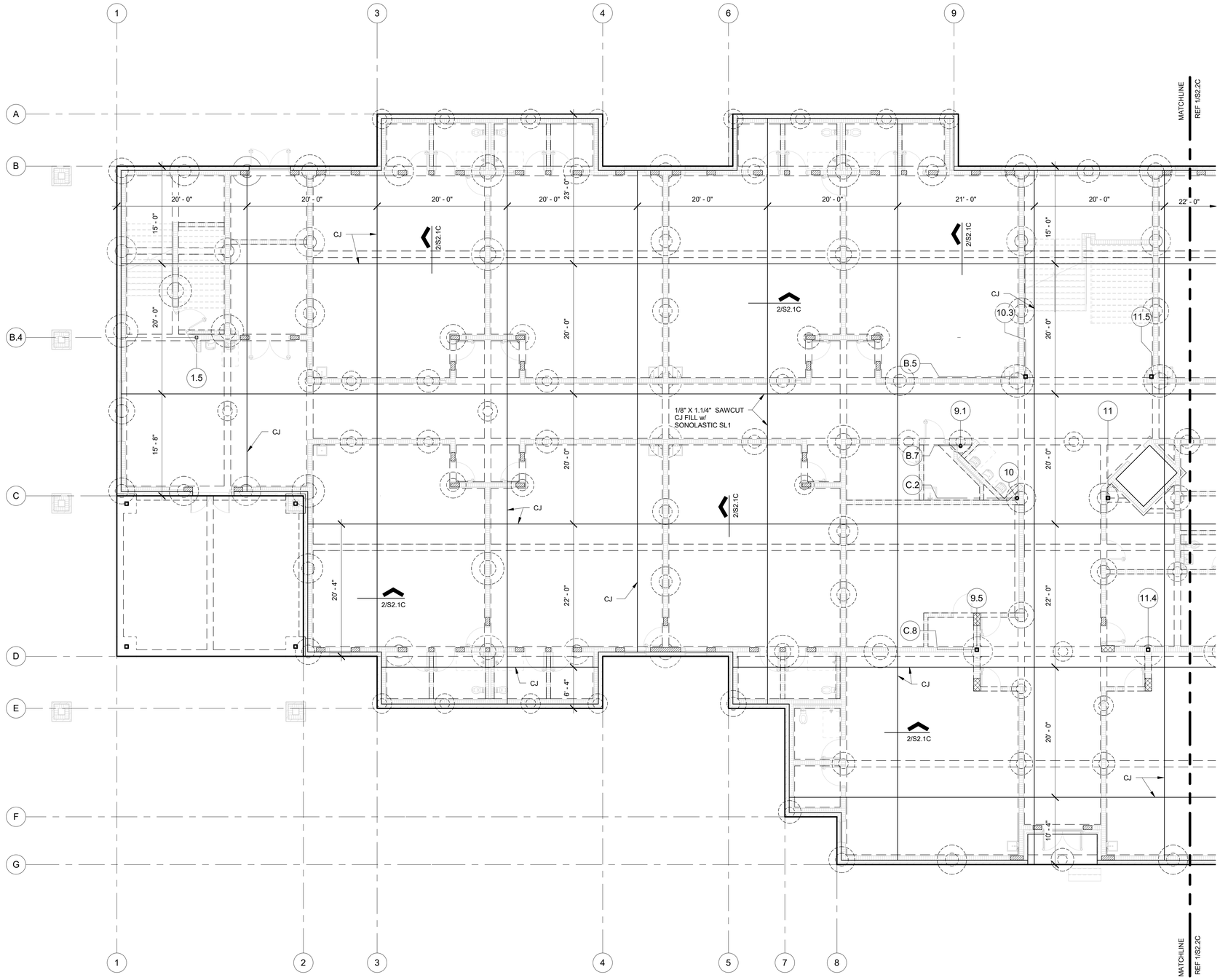
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FOUNDATION PLAN

S2.1



1 CONTROL JOINT PLAN

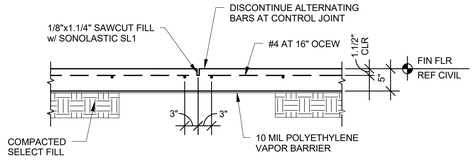
1/8" = 1'-0"

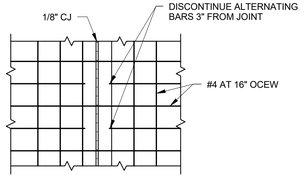
N

PLAN NORTH

NOTES:

1. CRACK CONTROL JOINTS ARE NOTED ON THE PLANS. CONTRACTOR TO COORDINATE CHANGES WITH THE ENGINEER PRIOR TO FORMING FOUNDATION.
2. ALL JOINTS TO BE CLEANED AND FILLED w/ SONOLASTIC SL1 (SONNEBORN).
3. REFERENCE 1/S2.1 FOR ADDITIONAL FOUNDATION NOTES AND REFERENCES.
4. REFERENCE 2/S2.1C FOR TYPICAL CONTROL JOINT DETAIL.





2 CONTROL JOINT

NOTE: ALL JOINTS ARE TO BE CLEANED AND FILLED WITH SONOLASTIC SL1 (SONNEBORN).

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

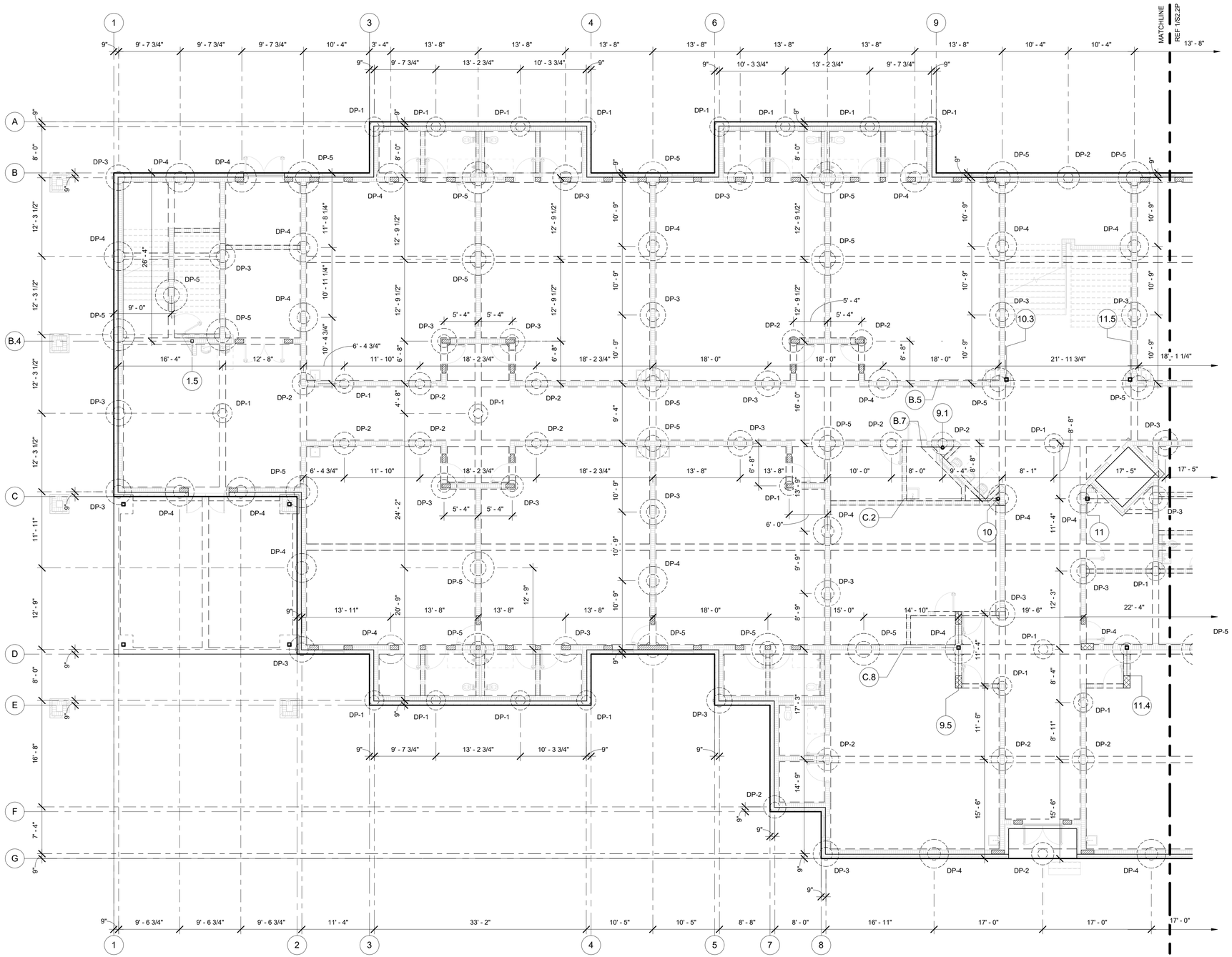
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

CONTROL JOINT PLAN

S2.1C

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

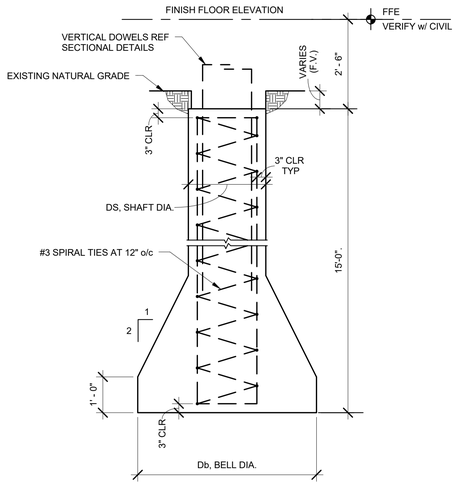


1 PIER PLAN

1/8" = 1'-0"

N

PLAN NORTH



2 UNDERREAMED PIER PROFILE

1/2" = 1'-0"

UNDERREAMED DRILLED PIER SCHEDULE			
MARK	SHAFT DIA. DS. FT.	BELL DIA. Db. FT.	VERTICAL REINFORCING
DP-1	1'-6"	3'-0"	6-#6
DP-2	1'-6"	3'-6"	6-#6
DP-3	2'-0"	4'-0"	8-#7
DP-4	2'-0"	4'-6"	8-#7
DP-5	2'-6"	5'-0"	12-#7

NOTES:

1. RERERENCE 1/S2.1 FOR FOUNDATION PLAN.
2. REFERENCE 2/S2.1P FOR UNDERREAMED DRILLED PIER SCHEDULE AND UNDERREAMED DRILLED PIER PROFILE.

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

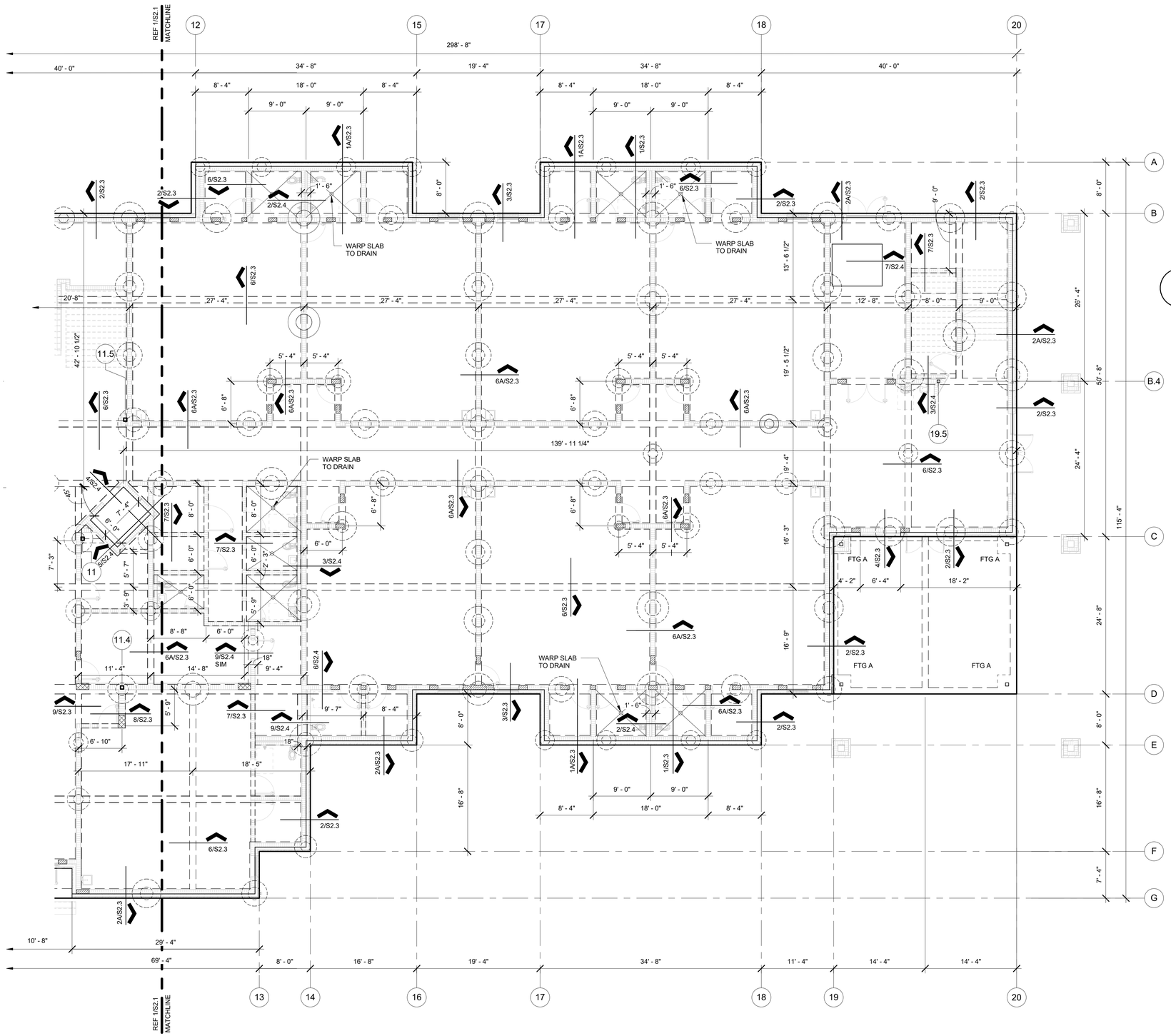
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

PIER PLAN

S2.1P



1 FOUNDATION PLAN

1/8" = 1'-0"

N

PLAN NORTH

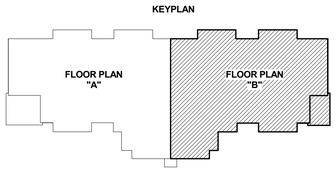
NOTES:

1. REFERENCE ROOF FRAMING PLAN FOR COLUMN/BASEPLATE LOCATIONS. FOUNDATION PLAN DIMENSIONS GENERALLY DENOTES GRADE BEAM CENTERLINE AND OUTSIDE FACE OF CONCRETE.
2. ALL CONDUIT GREATER THAN 3/4" IN DIAMETER (O.D.) SHALL BE RECESSED TO PROVIDE 1.1/2" CLEAR DISTANCE BETWEEN SLAB REBAR & CONDUIT.
3. MAINTAIN 2" MINIMUM CLEAR DISTANCE BETWEEN ALL CONDUIT IN SLAB.
4. A SINGLE CONDUIT (MAX 3" O.D.) MAY BE PLACED WITHIN THE BEAM CAGE. ALL CONDUIT IN BEAM CAGES TO BE TIED TO STIRRUPS MINIMUM OF 4" FROM HORIZONTAL BARS.
5. CRACK CONTROL JOINTS ARE NOTED ON THE PLANS. CONTRACTOR TO COORDINATE CHANGES WITH THE ENGINEER PRIOR TO FORMING FOUNDATION.
6. PLUMBING LINES SHALL NOT BE PLACED IN BOTTOM OF GRADE BEAM TRENCHES.
7. PLUMBING LINES PASSING THROUGH GRADE BEAMS SHALL BE SLEEVED. BEAMS SHALL BE DEEPENED AND BENT REBAR PROVIDED IF LOCATION OF DRAIN LINES REQUIRES CUTTING BOTTOM BARS. REFERENCE DETAIL 8/S2.4.
8. ALL JOINTS TO BE CLEANED AND FILLED w/ SONOLASTIC SL1 (SONNEBORN).
9. INDICATES 8" CMU w/ #5 VERTICAL BARS AT 8" o/c.
10. REFERENCE 1/S2.2C FOR CONTROL JOINT PLAN.
11. REFERENCE 1/S2.2P FOR PIER PLAN.
12. COORDINATE ALL FLOOR DRAIN LOCATIONS WITH PLUMBING AND ARCHITECTURAL.
13. INDICATES 12" CMU w/ #5 VERTICAL BARS AT 8" o/c.

FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
FTG.A	3'-0" x 3'-0"	#5 AT 12" O.C.E.W.

BASEPLATE SCHEDULE		
MARK	PLATE TxWxL	ANCHORS
HSS5 x 5	3/4 x 9 x 9	4-3/4" DIA x 8" WHS
HSS6 x 6	1 x 10 x 10	4-3/4" DIA x 8" WHS
5" DIA STD PIPE	1 x 10 x 10	4-3/4" DIA x 8" WHS

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

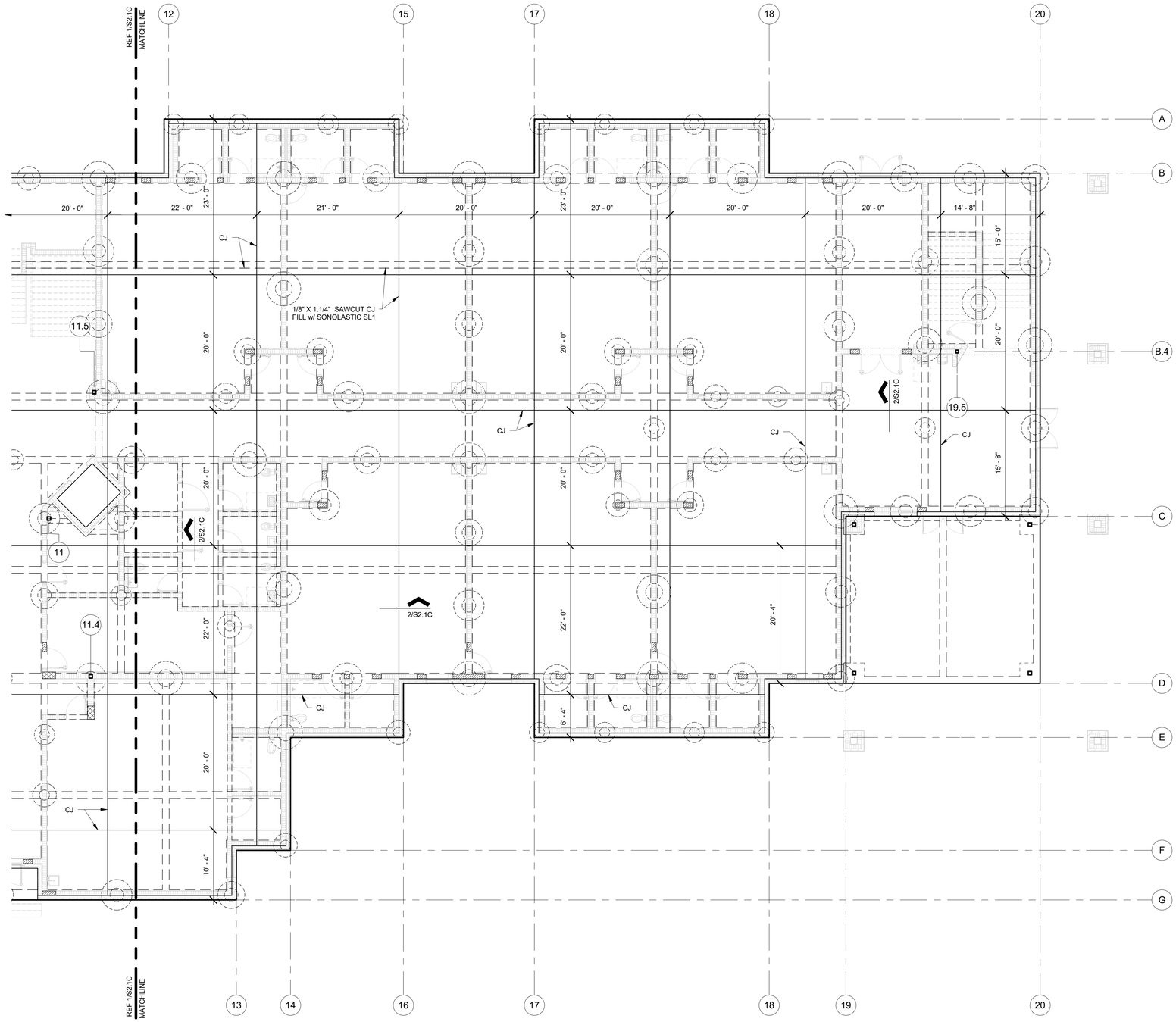
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FOUNDATION PLAN

S2.2



1 CONTROL JOINT PLAN

1/8" = 1'-0"

N

PLAN NORTH

NOTES:

1. CRACK CONTROL JOINTS ARE NOTED ON THE PLANS. CONTRACTOR TO COORDINATE CHANGES WITH THE ENGINEER PRIOR TO FORMING FOUNDATION.
2. ALL JOINTS TO BE CLEANED AND FILLED w/ SONOLASTIC SL1 (SONNEBORN).
3. REFERENCE 1/S2.2 FOR ADDITIONAL FOUNDATION NOTES AND REFERENCES.
4. REFERENCE 2S/2.1C FOR TYPICAL CONTROL JOINT DETAIL.

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

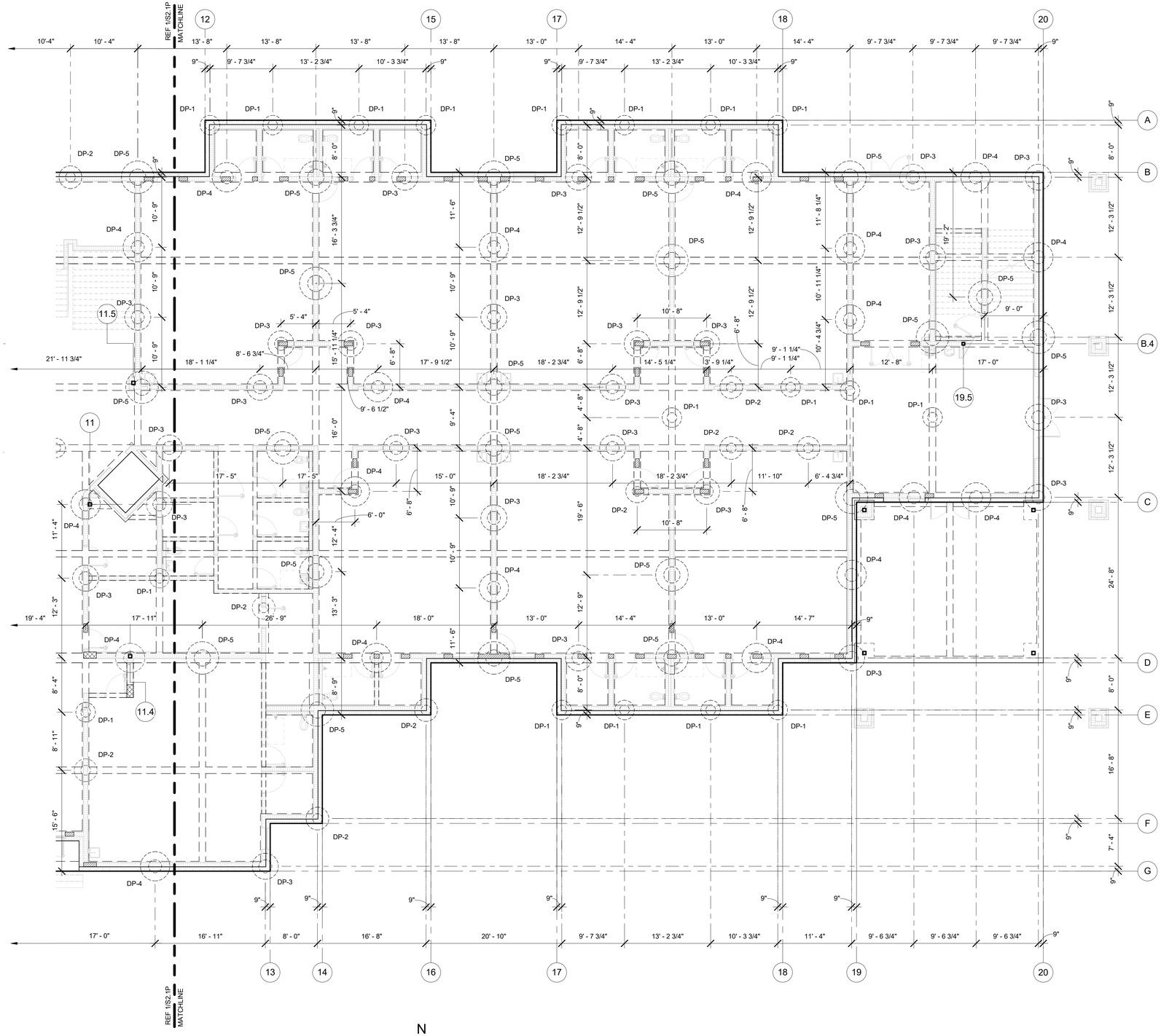
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

CONTROL JOINT PLAN

S2.2C



1 PIER PLAN

1/8" = 1'-0"

N

PLAN NORTH

NOTES:

1. RERERENCE 1/S2.2 FOR FOUNDATION PLAN.

2. REFERENCE 2/S2.1P FOR UNDERREAMED DRILLED PIER SCHEDULE AND UNDERREAMED DRILLED PIER PROFILE.

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

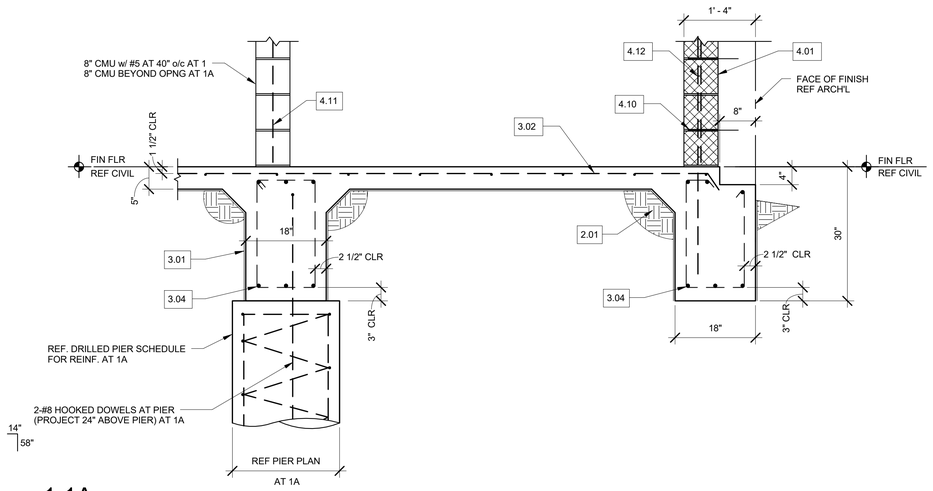
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

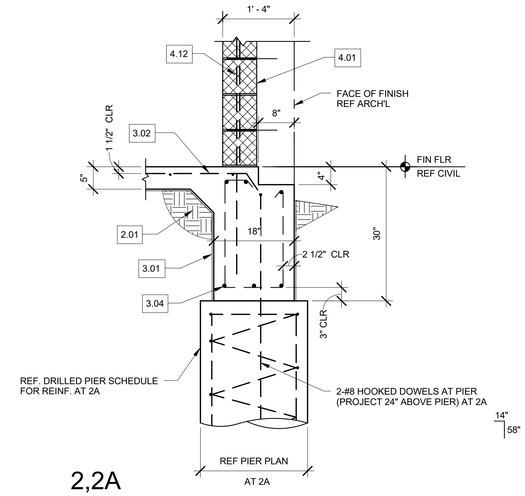
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

PIER PLAN

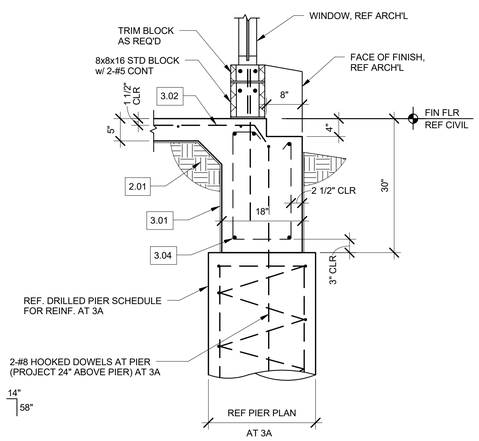
S2.2P



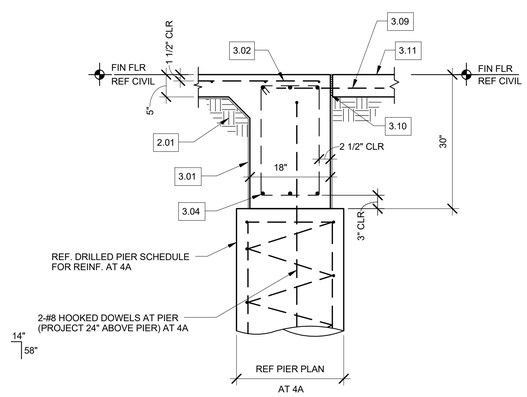
1,1A



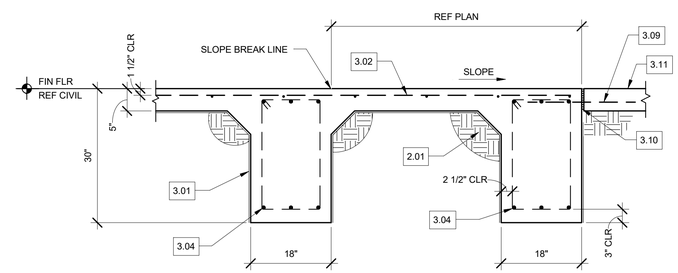
2,2A



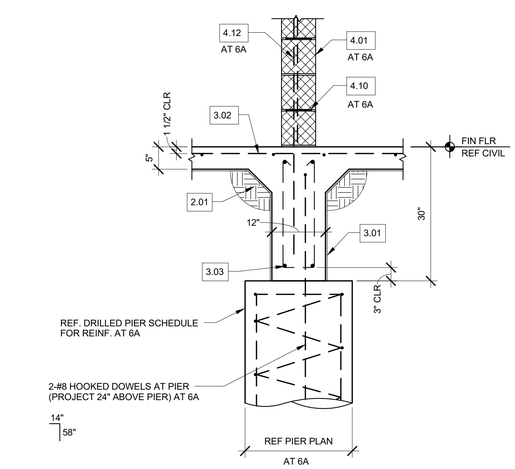
3,3A



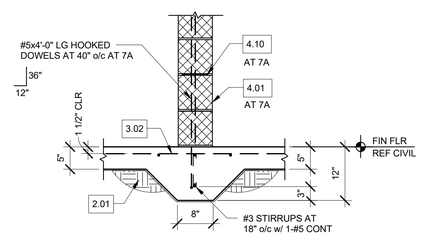
4,4A



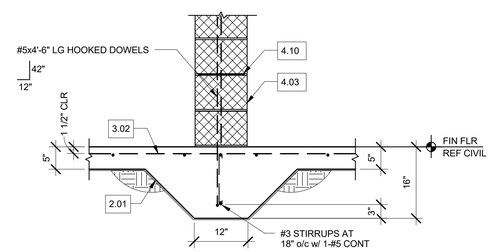
5



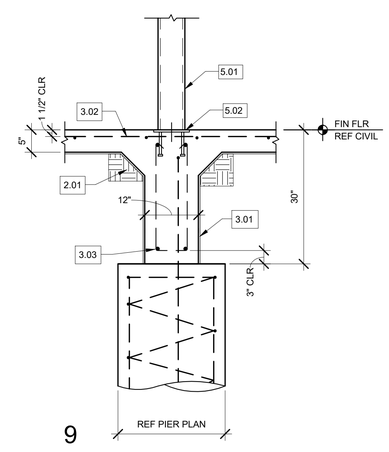
6,6A



7,7A



8



9

FOUNDATION KEY NOTES

DIVISION 2 EARTH WORK	
2.01	COMPACTED SELECT FILL
DIVISION 3 CONCRETE	
3.01	10 MIL POLYETHYLENE VAPOR BARRIER (CLEAR)
3.02	#4 AT 16" OCEW
3.03	2-#7 TOP & BOTTOM w/ #3 STIRRUPS AT 24" o/c
3.04	3-#7 TOP & BOTTOM w/ #3 STIRRUPS AT 24" o/c
3.05	1-#5 CONTINUOUS w/ #3 STIRRUPS AT 18" o/c
3.06	#5 AT 12" OCEW
3.07	EDGE OF FOOTING AT COLUMN
3.08	EDGE OF GRADE BEAM BEYOND FOOTING
3.09	5/8"ø x 24" Lg SMOOTH DOWELS AT 18" o/c (SLEEVE FREE END) LOCATE DOWELS AT MID-DEPTH AT OF SIDEWALK
3.10	1/2" EXPANSION JOINT FILLER w/ SEALANT
3.11	REFERENCE CIVIL FOR FLATWORK
3.12	1" CONSTRUCTION JOINT FILLER w/ SEALANT
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL COLUMN, REFERENCE PLAN
5.02	REFERENCE BASEPLATE SCHEDULE
DIVISION 6 WOOD	
6.01	REFERENCE TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

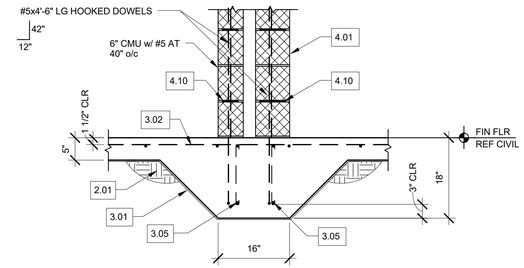
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FOUNDATION DETAILS

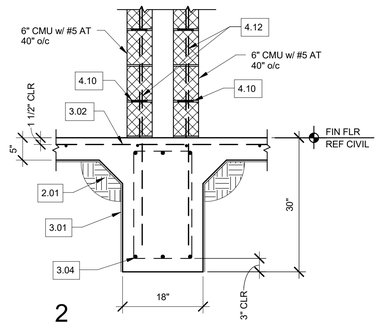
S2.3

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

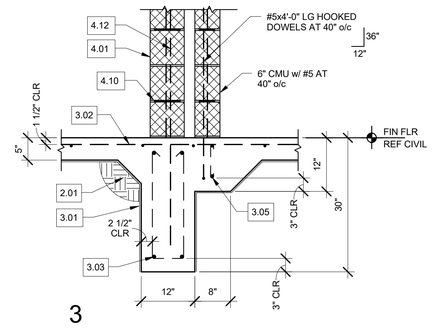
COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES



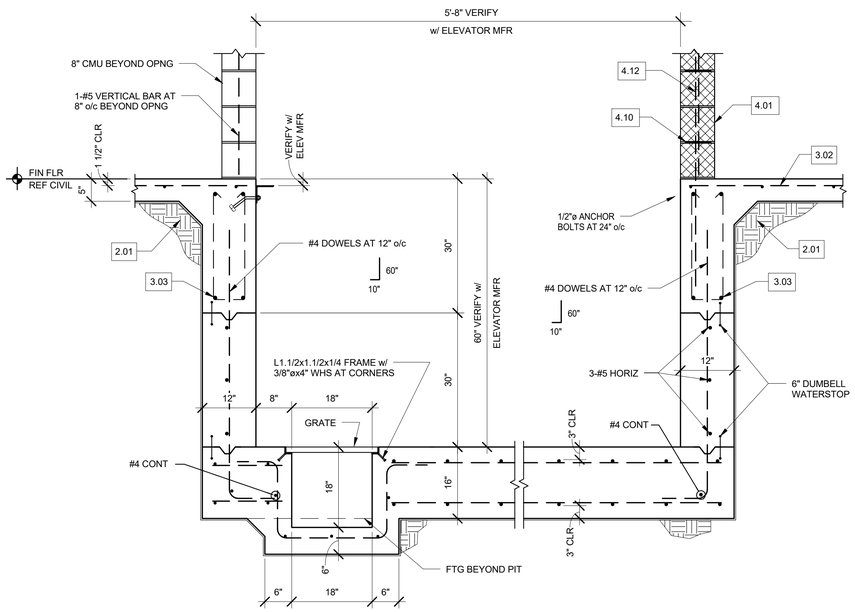
1



2

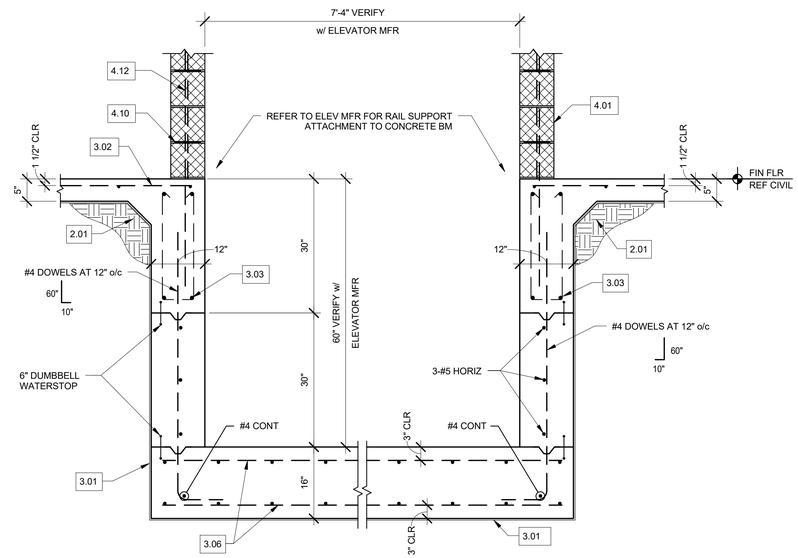


3

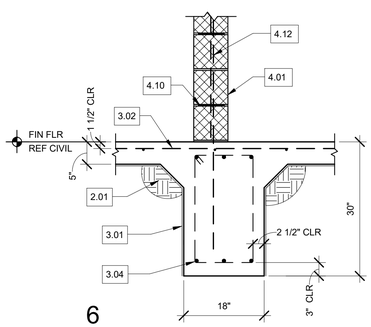


4 ELEVATOR PIT FRONT/REAR WALL

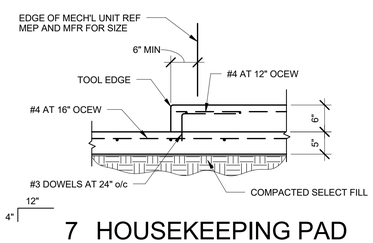
NOTE:
1. VERIFY SUMP PIT SIZE AND LOCATION WITH ELEVATOR MANUFACTURER PRIOR TO POURING CONCRETE.



5 ELEVATOR PIT SIDE WALLS

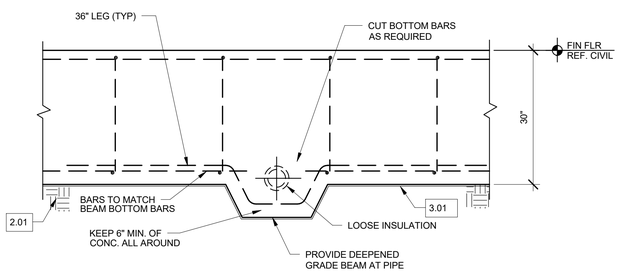


6

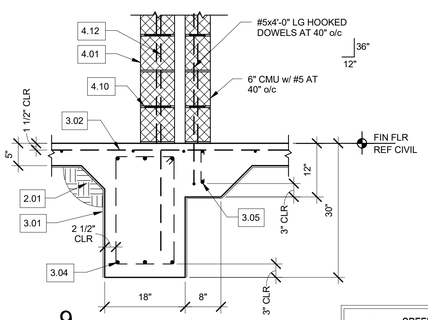


7 HOUSEKEEPING PAD

NOTE:
1. COORDINATE SIZE, LOCATION AND QUANTITIES OF HOUSEKEEPING PADS WITH MEP.



8 TOP OF SLEEVE INTERRUPTS REINFORCING



9

FOUNDATION KEY NOTES

DIVISION 2 EARTH WORK	
2.01	COMPACTED SELECT FILL
DIVISION 3 CONCRETE	
3.01	10 MIL POLYETHYLENE VAPOR BARRIER (CLEAR)
3.02	#4 AT 16" OCEW
3.03	2-#7 TOP & BOTTOM w/ #3 STIRRUPS AT 24" o/c
3.04	3-#7 TOP & BOTTOM w/ #3 STIRRUPS AT 24" o/c
3.05	1-#5 CONTINUOUS w/ #3 STIRRUPS AT 18" o/c
3.06	#5 AT 12" OCEW
3.07	EDGE OF FOOTING AT COLUMN
3.08	EDGE OF GRADE BEAM BEYOND FOOTING
3.09	5/8"ø x 24" Lg SMOOTH DOWELS AT 18" o/c (SLEEVE FREE END) LOCATE DOWELS AT MID-DEPTH AT OF SIDEWALK
3.10	1/2" EXPANSION JOINT FILLER w/ SEALANT
3.11	REFERENCE CIVIL FOR FLATWORK
3.12	1" CONSTRUCTION JOINT FILLER w/ SEALANT
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL COLUMN, REFERENCE PLAN
5.02	REFERENCE BASEPLATE SCHEDULE
DIVISION 6 WOOD	
6.01	REFERENCE TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

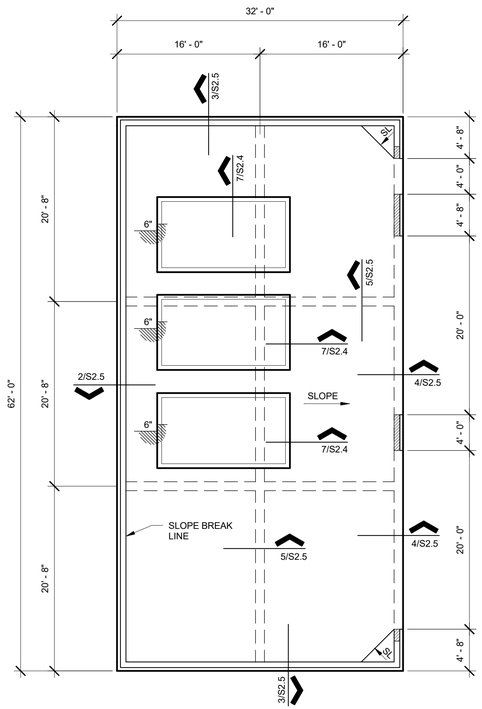
PROJECT NO:	775-47
DATE:	05/21/18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FOUNDATION DETAILS

S2.4

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES



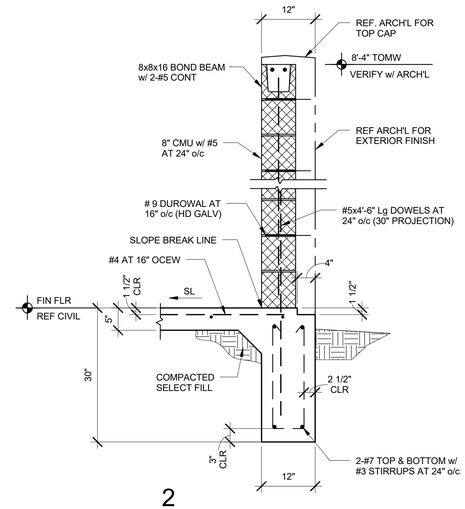
CHILLER PLANT FOUNDATION PLAN

1 — 1/8" = 1'-0"

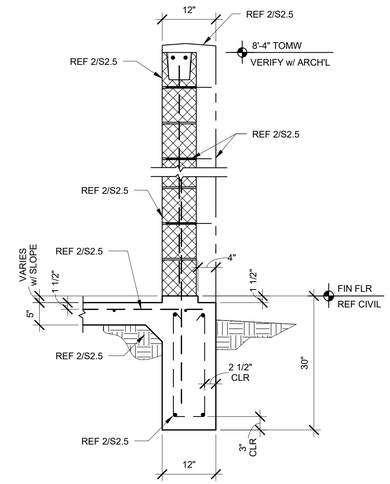
N — PLAN NORTH

NOTES:

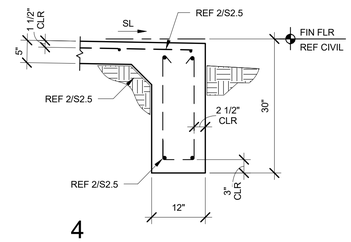
1. COORDINATE LOCATION & ORIENTATION OF DUMPSTER ENCLOSURE WITH ARCHITECTURAL AND CIVIL.
2. ▨ INDICATES 8" CMU w/ #5 VERTICAL BARS AT 8" o/c.
3. REFERENCE SHEET S2.1 FOR PLAN NOTES.



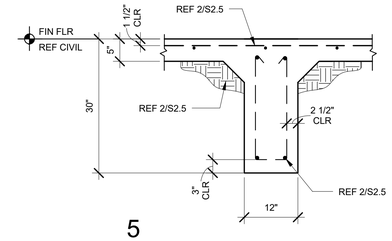
2



3



4



5

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

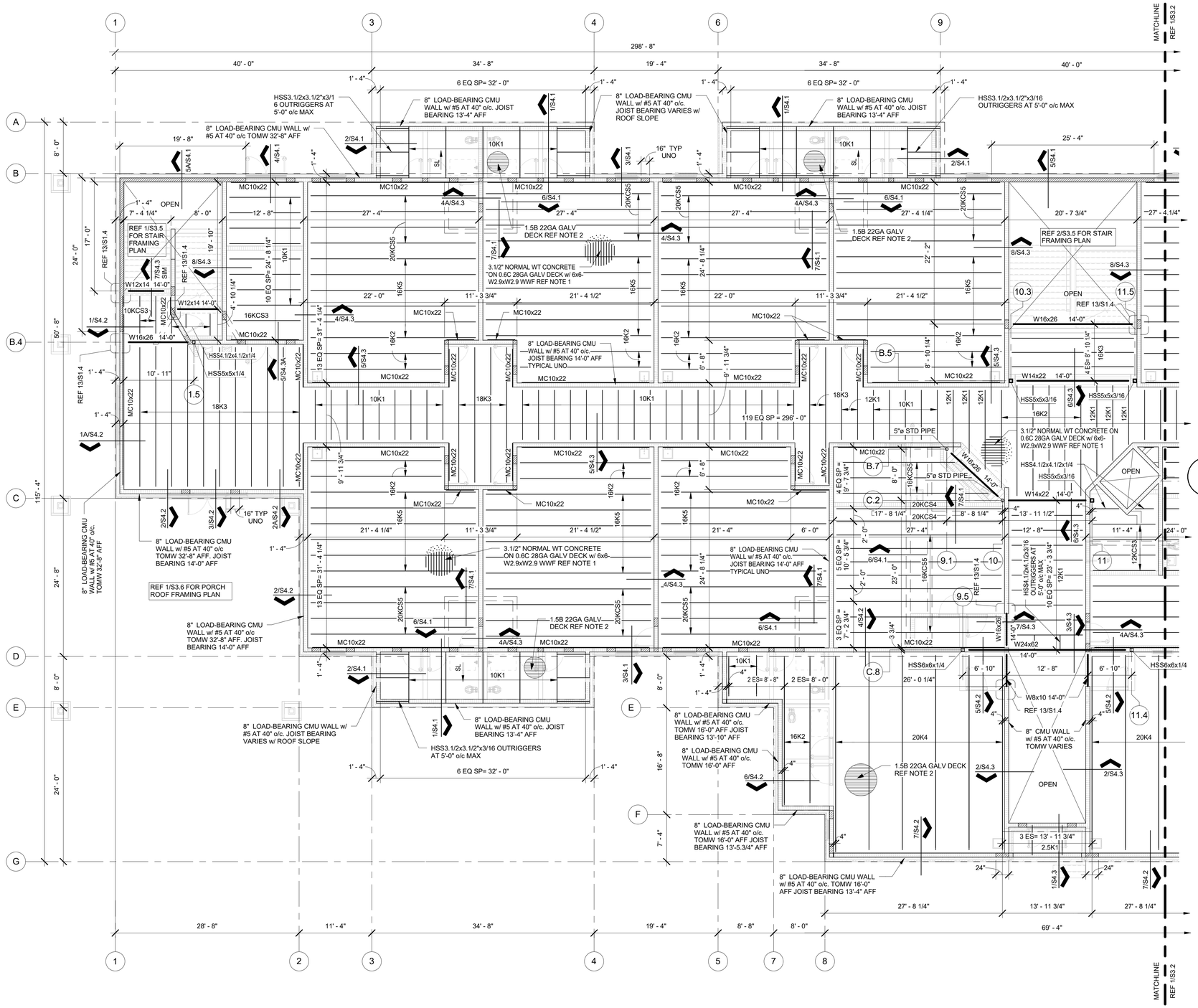
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

CHILLER PLANT FOUNDATION PLAN

S2.5



1 SECOND FLOOR FRAMING PLAN

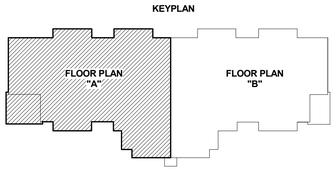
1/8" = 1'-0"

N
PLAN NORTH

NOTES:

1. 2ND FLOOR DECK SHALL BE 0.6C 28GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.012 IN/FT; Sp=0.035 IN/FT; Sn=0.036 IN/FT; Fy=60KSI). ATTACH DECK TO SUPPORTERS USING 5/8" PUDDLE WELDS ON 30/4 PATTERN, AND 2-#10 TEK SCREW SIDE LAP FASTENERS WELD WASHERS REQUIRED.
2. ROOF DECK SHALL BE 1.5B 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.155 IN/FT; In= 0.183 IN/FT; Sp=0.186 IN/FT; Sn=0.192 IN/FT; Fy=33KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/5 PATTERN AND 3-#10 TEK SCREW SIDE LAP FASTENERS.
3. TOP OF BEAM SHALL BE 14'-0" UNLESS NOTED OTHERWISE.
4. FLOOR PENETRATIONS THROUGH SECOND FLOOR ARE BASED ON M.E.P. & ARCHITECTURAL DRAWINGS. CONTRACTOR SHOULD CONTACT ENGINEER IF THERE IS A CONFLICT BETWEEN FLOOR PENETRATIONS & FRAMING.
5. ▨ INDICATES 8" CMU WALL w/ #5 VERTICAL BARS AT 8" o/c, REFERENCE PLAN FOR LIMIT.
6. PROVIDE A BRACE ON TOP OF ALL CMU WALLS LONGER THAN 10'-0" BETWEEN INTERSECTING CMU WALLS. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4.
7. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4 FOR TYPICAL DUCT OPENINGS THROUGH CMU WALLS.

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

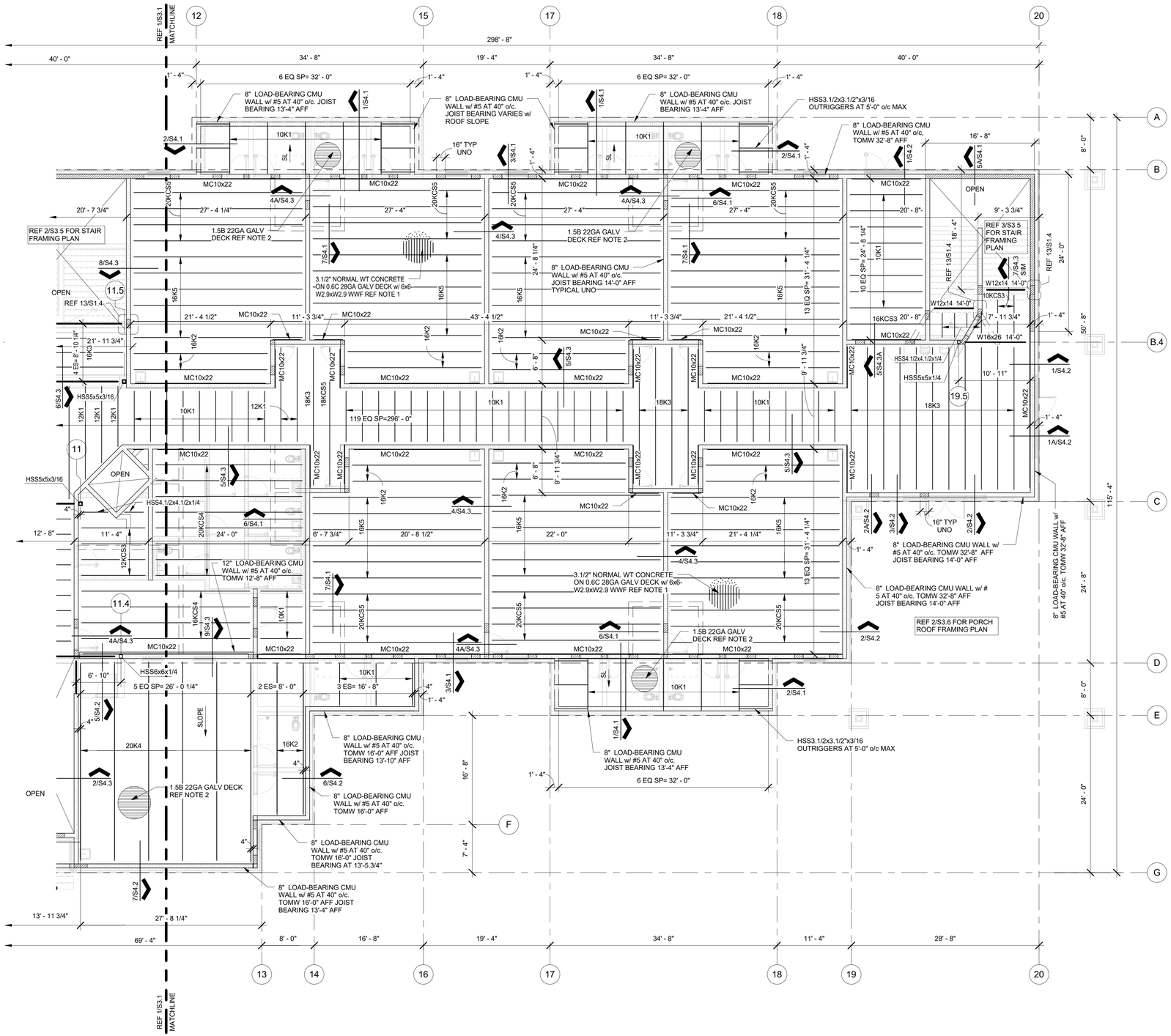
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

2nd FLOOR FRAMING

S3.1



1 SECOND FLOOR FRAMING PLAN

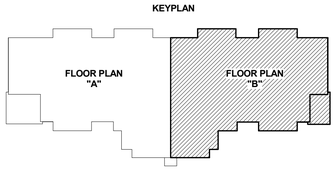
1/8" = 1'-0"

N
PLAN NORTH

NOTES:

1. 2ND FLOOR DECK SHALL BE 0.6C 28GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.012 IN/FT; Sp=0.035 IN/FT; Sn=0.036 IN/FT; Fy=60KSI). ATTACH DECK TO SUPPORTERS USING 5/8" PUDDLE WELDS ON 30/4 PATTERN, AND 2-#10 TEK SCREW SIDE LAP FASTENERS WELD WASHERS REQUIRED.
2. ROOF DECK SHALL BE 1.5B 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.155 IN/FT; In= 0.183 IN/FT; Sp=0.186 IN/FT; Sn=0.192 IN/FT; Fy=33KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/5 PATTERN AND 3-#10 TEK SCREW SIDE LAP FASTENERS.
3. TOP OF BEAM SHALL BE 14'-0" UNLESS NOTED OTHERWISE.
4. FLOOR PENETRATIONS THROUGH SECOND FLOOR ARE BASED ON M.E.P. & ARCHITECTURAL DRAWINGS. CONTRACTOR SHOULD CONTACT ENGINEER IF THERE IS A CONFLICT BETWEEN FLOOR PENETRATIONS & FRAMING.
5. INDICATES 8" CMU WALL w/ #5 VERTICAL BARS AT 8" o/c, REFERENCE PLAN FOR LIMIT.
6. PROVIDE A BRACE ON TOP OF ALL CMU WALLS LONGER THAN 10'-0" BETWEEN INTERSECTING CMU WALLS. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4.
7. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4 FOR TYPICAL DUCT OPENINGS THROUGH CMU WALLS.

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

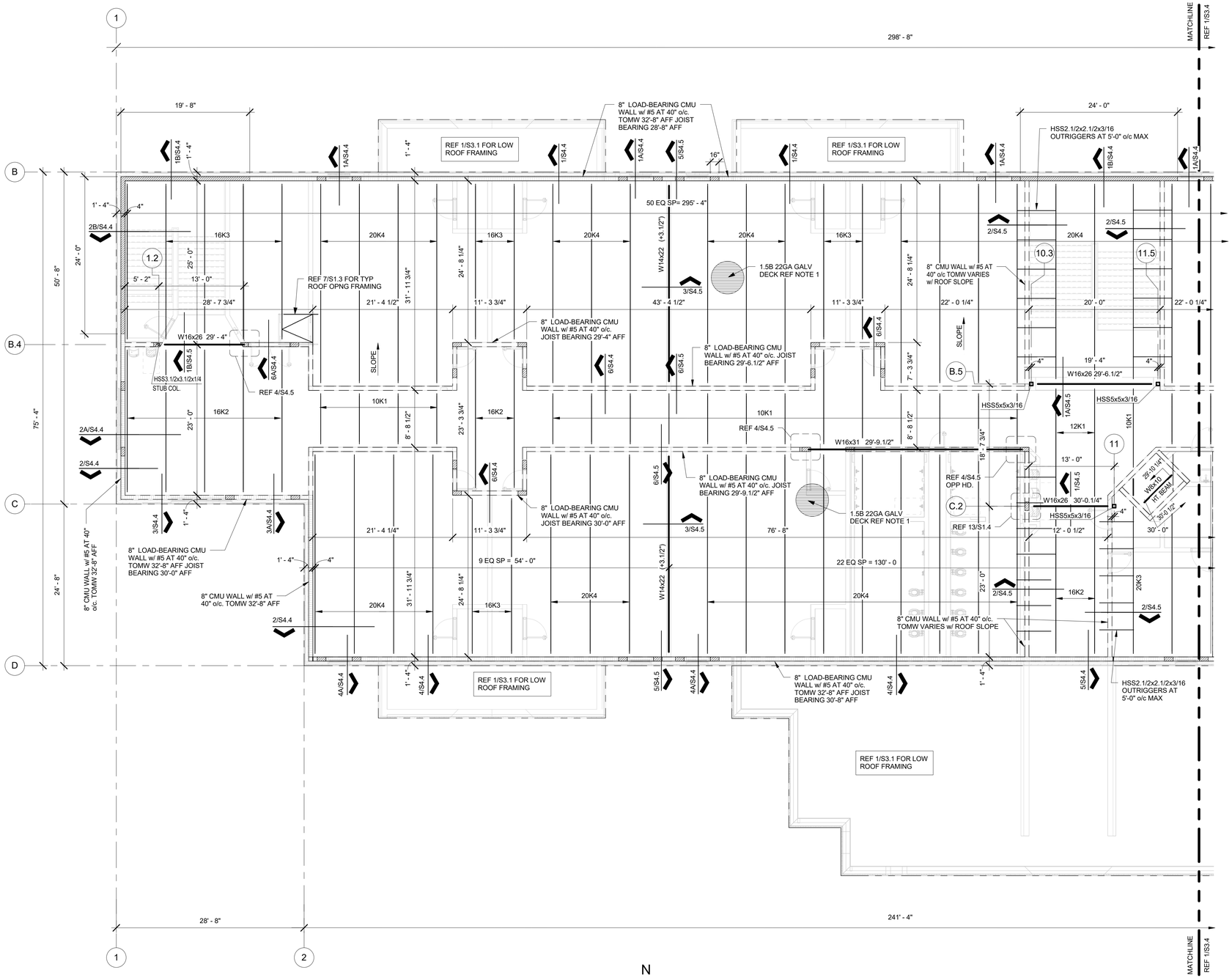
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

2nd FLOOR FRAMING

S3.2



1 ROOF FRAMING PLAN

1/8" = 1'-0"

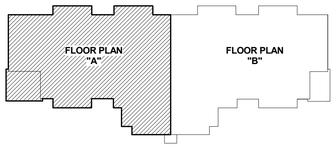
N

PLAN NORTH

NOTES:

1. ROOF DECK SHALL BE 1.5B 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.155 IN/FT; In= 0.183 IN/FT; Sp=0.186 IN/FT; Sn=0.192 IN/FT; Fy=33KSI), ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/5 PATTERN AND 3-#10 TEK SCREW SIDE LAP FASTENERS.
2. INDICATES 8" CMU WALL w/ #5 VERTICAL BARS AT 8" o/c.
3. PROVIDE A BRACE ON TOP OF ALL CMU WALLS LONGER THAN 10'-0" BETWEEN INTERSECTING CMU WALLS. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4.
4. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4 FOR TYPICAL DUCT OPENINGS THROUGH CMU WALLS.
5. MECHANICAL OPENINGS IN CMU MUST BE COORDINATE WITH STRUCTURAL ENGINEER.

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

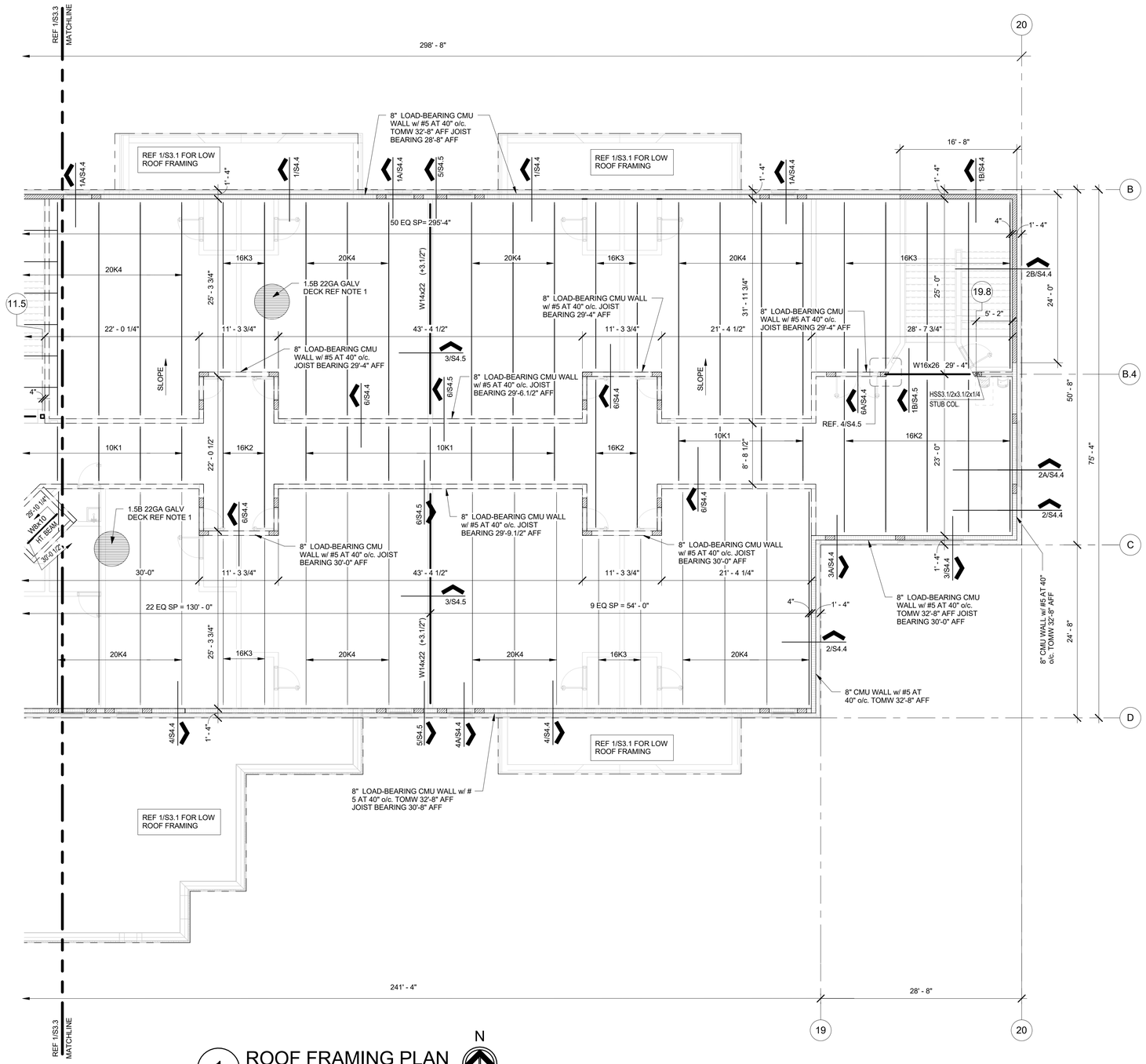
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

ROOF FRAMING PLAN

S3.3



1 ROOF FRAMING PLAN

1/8" = 1'-0"

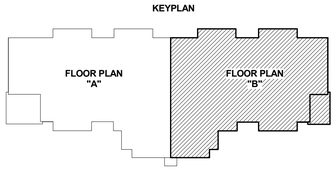
N

PLAN NORTH

NOTES:

1. ROOF DECK SHALL BE 1.5B 22GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.155 IN⁴/FT; In= 0.183 IN⁴/FT; Sp=0.186 IN³/FT; Sn=0.192 IN³/FT; Fy=33KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 36/5 PATTERN AND 3-#10 TEK SCREW SIDE LAP FASTENERS.
2. INDICATES 8" CMU WALL w/ #5 VERTICAL BARS AT 8" o/c.
3. PROVIDE A BRACE ON TOP OF ALL CMU WALLS LONGER THAN 10'-0" BETWEEN INTERSECTING CMU WALLS. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4.
4. REFERENCE DETAILS ON SHEETS S1.3 AND S1.4 FOR TYPICAL DUCT OPENINGS THROUGH CMU WALLS.
5. MECHANICAL OPENINGS IN CMU MUST BE COORDINATE WITH STRUCTURAL ENGINEER.

KEYPLAN



GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

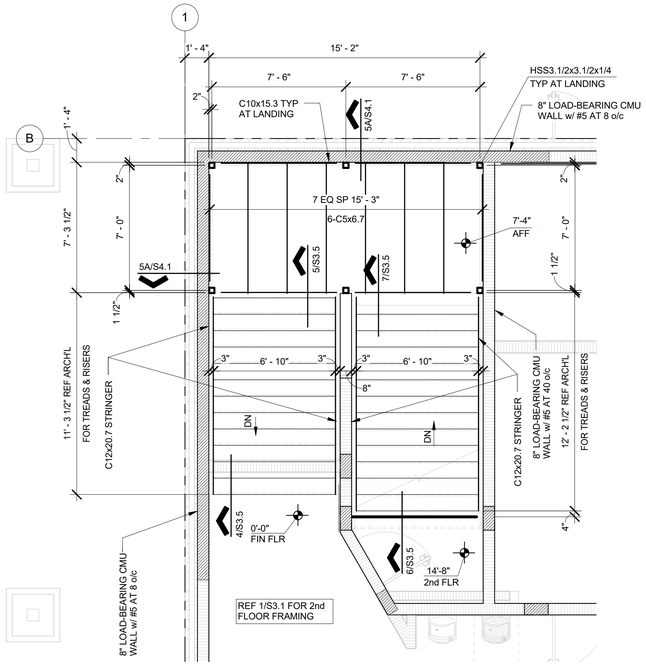
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

ROOF FRAMING PLAN

S3.4



1 STAIR FRAMING PLAN

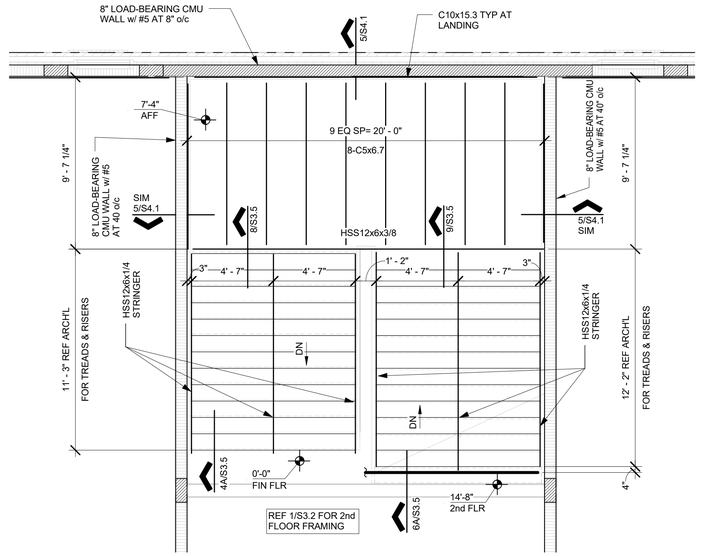
1/4" = 1'-0"

N

PLAN NORTH

NOTES:

1. FLOOR DECK SHALL BE 0.6C 28GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.012 IN/FT; SP=0.035 IN/FT; SN=0.036 IN/FT; FY=60KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON 30/4 PATTERN WELDING WASHERS REQUIRED, AND 2-#10 TEK SCREW SIDE LAP FASTENERS.



2 STAIR FRAMING PLAN

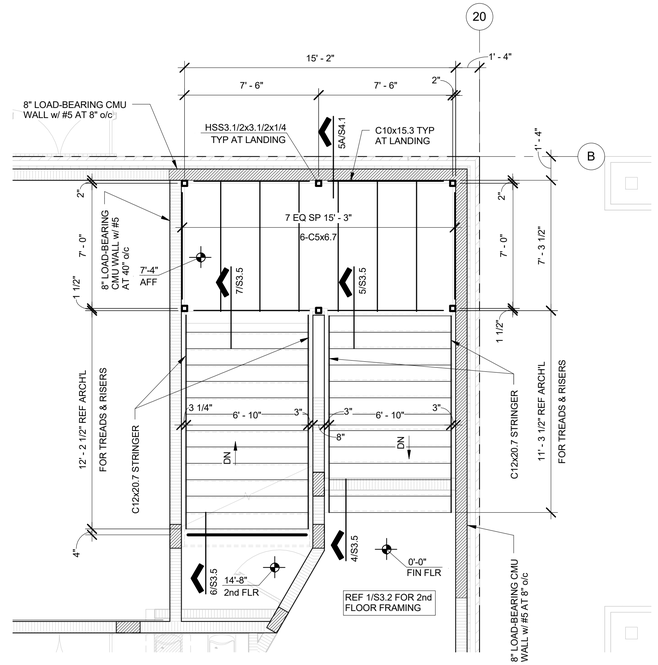
1/4" = 1'-0"

N

PLAN NORTH

NOTES:

1. FLOOR DECK SHALL BE 0.6C 28GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.012 IN/FT; SP=0.035 IN/FT; SN=0.036 IN/FT; FY=60KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON 30/4 PATTERN WELDING WASHERS REQUIRED, AND 2-#10 TEK SCREW SIDE LAP FASTENERS.



3 STAIR FRAMING PLAN

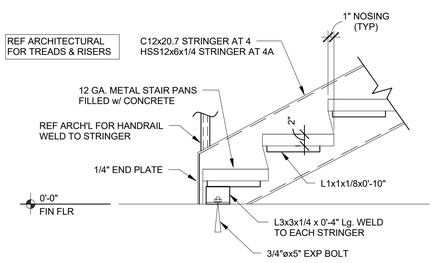
1/4" = 1'-0"

N

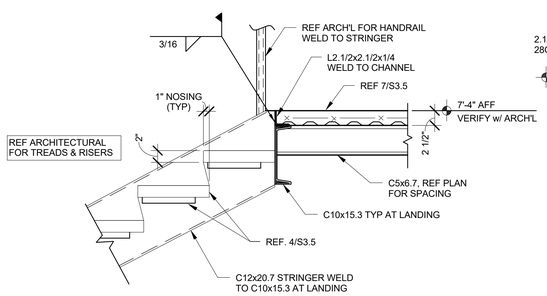
PLAN NORTH

NOTES:

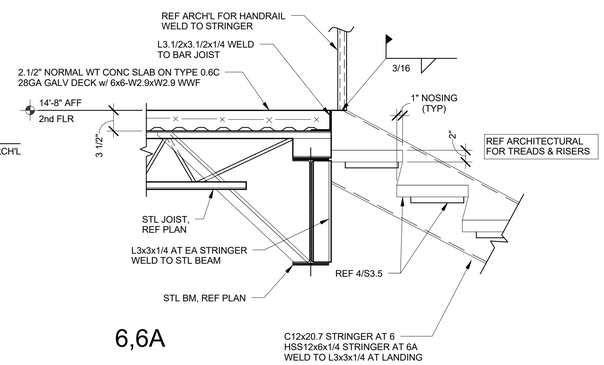
1. FLOOR DECK SHALL BE 0.6C 28GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.012 IN/FT; SP=0.035 IN/FT; SN=0.036 IN/FT; FY=60KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON 30/4 PATTERN WELDING WASHERS REQUIRED, AND 2-#10 TEK SCREW SIDE LAP FASTENERS.



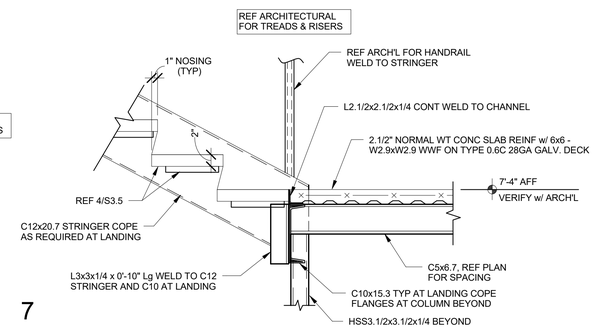
4,4A BASE OF STAIRWAY



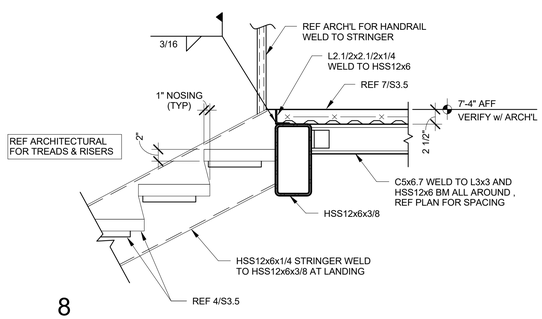
5



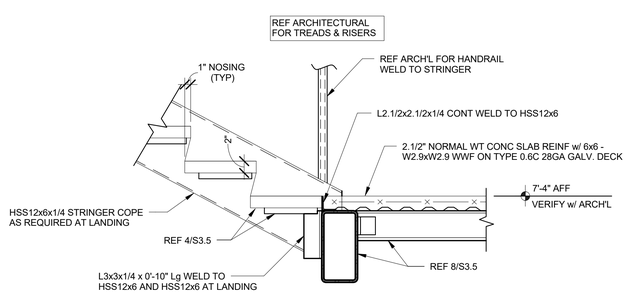
6,6A



7



8



9

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	REVISIONS DESCRIPTION

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

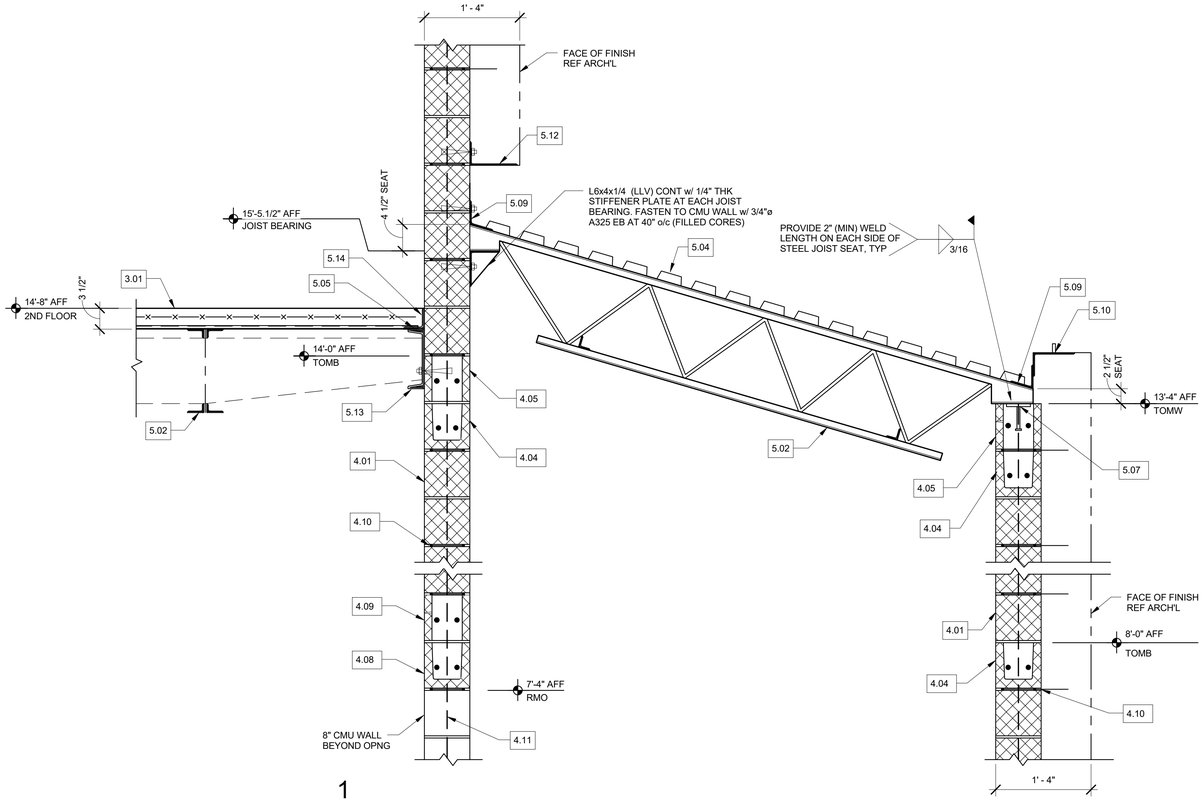
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

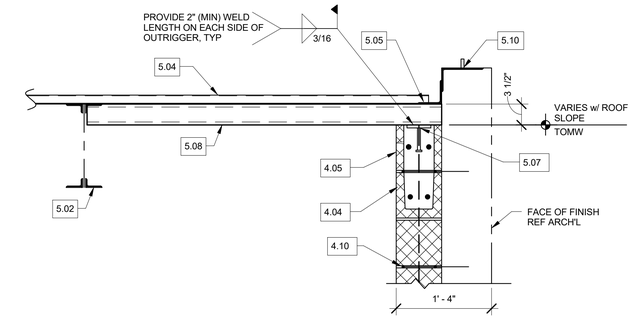
PROJECT NO:	775-47
DATE:	05/21/18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

STAIR PLANS

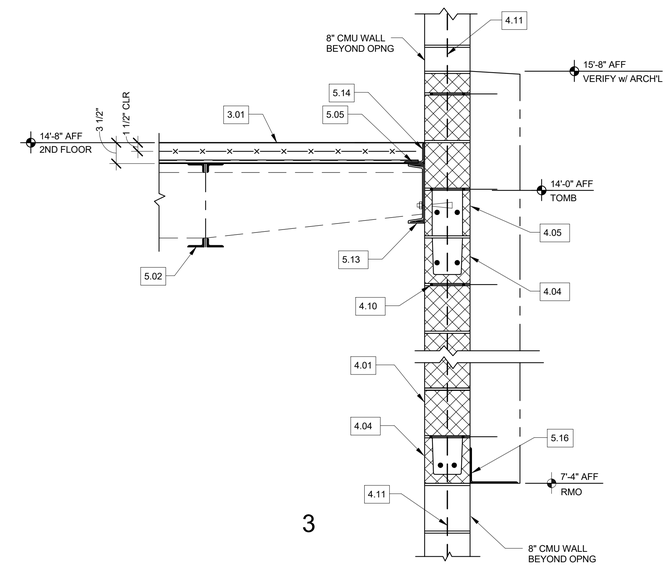
S3.5



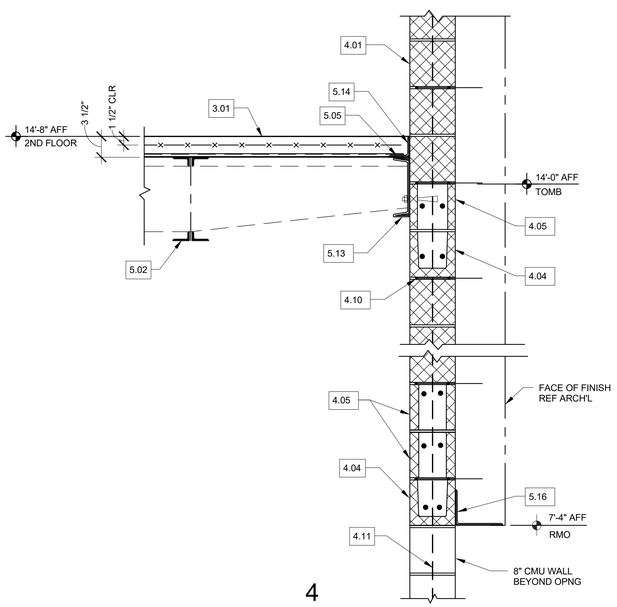
1



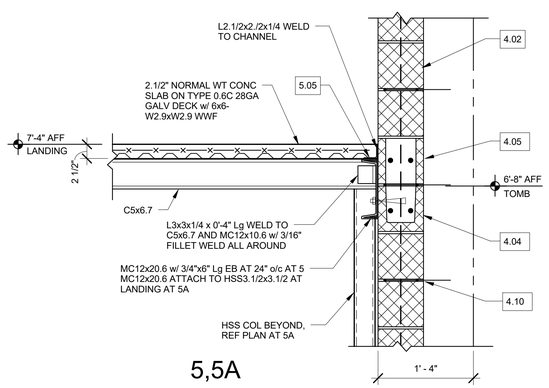
2



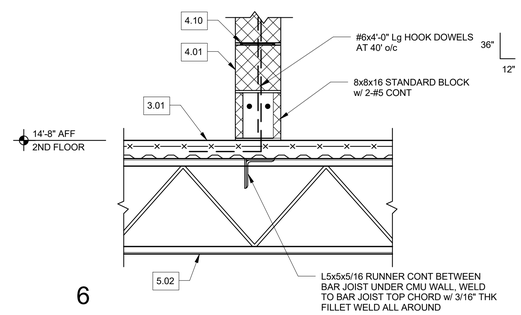
3



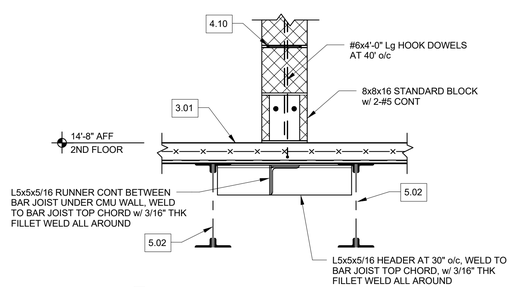
4



5,5A



6



7

FRAMING KEY NOTES

DIVISION 3 CONCRETE	
3.01	3.1/2" NORMAL WT CONC SLAB ON TYPE 0.6C 28GA GALV. DECK w/ 6x6-2.9xW2.9 WWF
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL BEAM, REFERENCE PLAN
5.02	STEEL JOIST w/ JOIST BRIDGING PER JOIST DESIGNER, REFERENCE PLAN
5.03	STEEL COLUMN, REFERENCE PLAN.
5.04	1.5B 22 GA GALVANIZED DECK, WELD DECK TO PERIMETER ANGLE AT 6" o/c
5.05	WELD DECK TO PERIMETER ANGLE AT 6" o/c, TYPICAL
5.06	L3x3x1/4 CONTINUOUS, WELD TO STEEL SUPPORT w/ 3/16" THICK FILLET WELD ALL AROUND. FASTEN TO CMU w/ 3/4" ø x 6" Lg EB AT 40" o/c (FILLED CORES).
5.07	PL. 3/8"x5"x0'-10" w/ 2-1/2"ø x 5" Lg WHS AT EACH BAR JOIST/OUTRIGGER
5.08	STEEL OUTRIGGERS AT 5'-0" o/c MAX, REFERENCE PLAN
5.09	1/4" THK BENT PLATE CONT w/ 4" LEGS. WELD TO EACH BAR JOIST w/ 3/16" THK FILLET WELD, FASTEN TO CMU w/ 3/4"ø A352 EB AT 40" o/c (FILLED CORES)
5.10	L7x4x1/4 CONT w/ 1/2"øx1.1/2" Lg THREADED STUDS AT 36" o/c WELD TO 1/4" BENT PLATE w/ 3/16" THK FILLET WELD ALL AROUND
5.11	L4x4x1/4 CONT w/ 1/4" THK STIFFENER PLATE AT EACH JOIST BEARING. FASTEN TO CMU WALL w/ 3/4"ø A325 EB AT 40" o/c (FILLED CORES)
5.12	L8x6x7/16 (LLH) (HD GALV) w/ 3/4"øx6" Lg EXP. BOLT
5.13	MC10x22 CONT w/ 3/4"ø EXP BOLTS AT 36" o/c (MAX)
5.14	L3.1/2x3.1/2x1/4 CONT WELD TO CHANNEL
5.15	L3.1/2x3.1/2x1/4 CONT WELD TO BAR JOISTS
5.16	L8x6x7/16 LLH (HD GALV) EXTEND 8" BEYOND OPENING
5.17	3/8" FLAG PLATE, REFERENCE1/S1.3
5.18	3/8" FLAG PLATE REFERENCE 2/S1.3
5.19	STEEL BEAM w/ 1/2" ø x8" LONG WELDED HEADED STUDS AT 24" o/c ALONG TOP FLANGE, REFERENCE PLAN
5.20	L6x6x1/4 CONTINUOUS WITH 1/4" THICK STIFFENER PLATES AT 24" o/c. WELD ANGLE TO WEB OF STEEL BEAM.
DIVISION 6 WOOD	
6.01	REFERENCE 7/S4.5 FOR TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

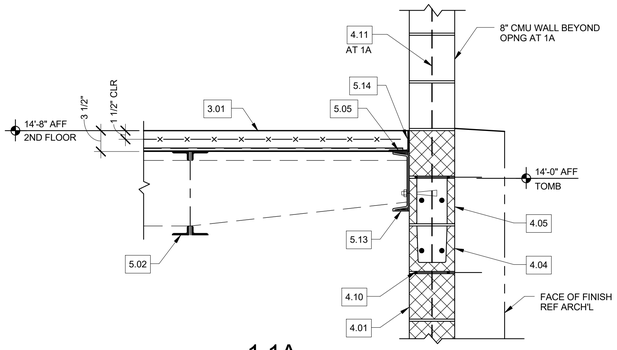
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

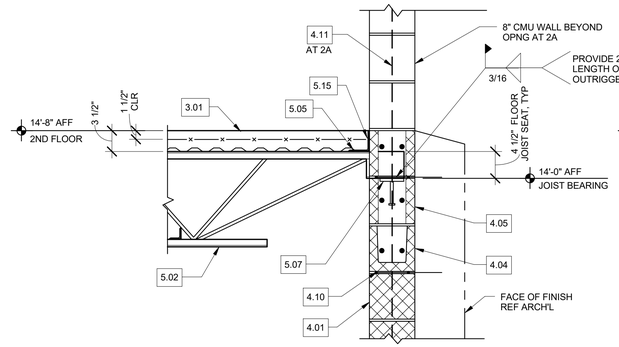
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FRAMING DETAILS

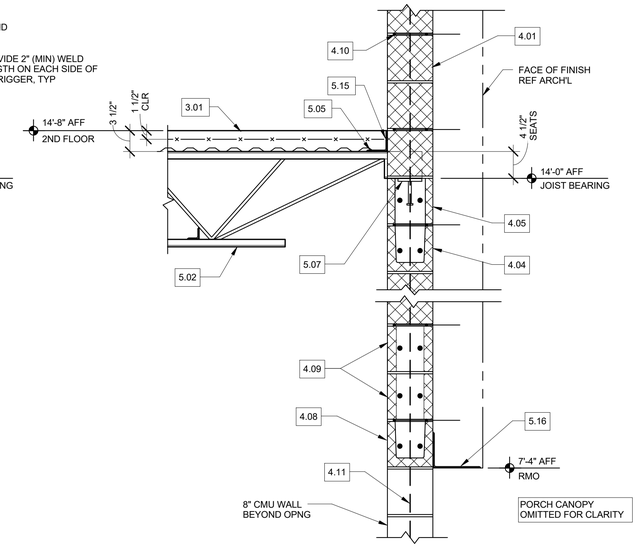
S4.1



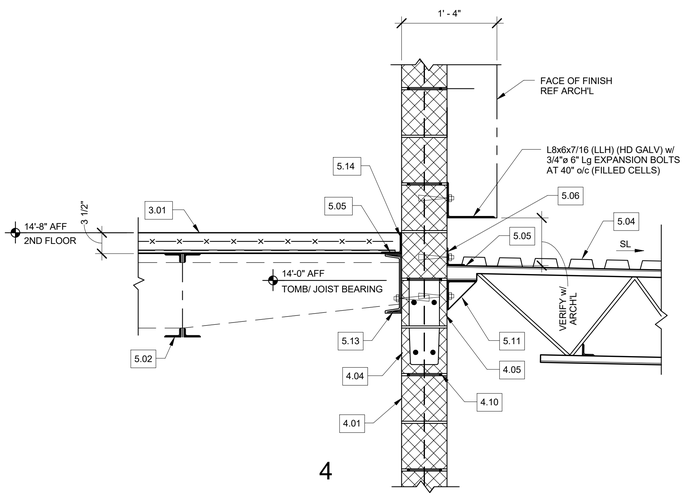
1,1A



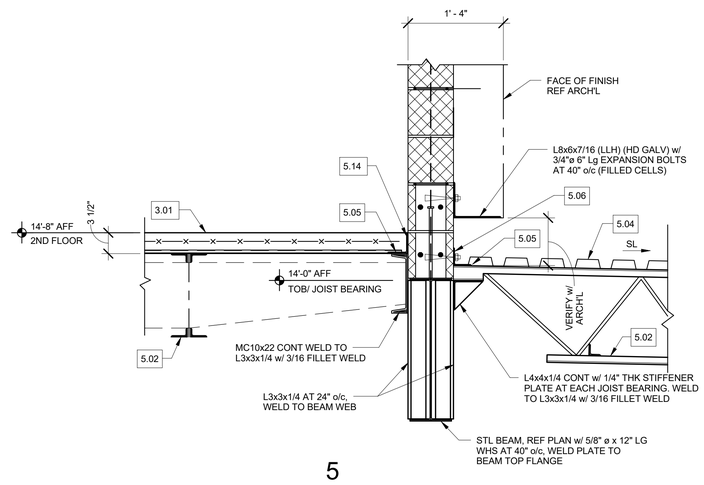
2,2A



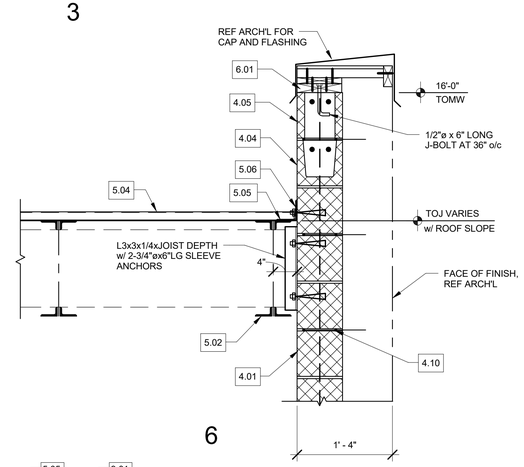
3



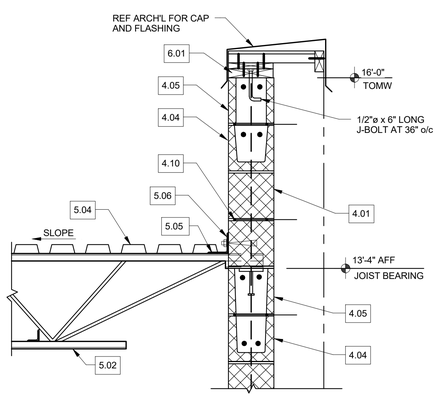
4



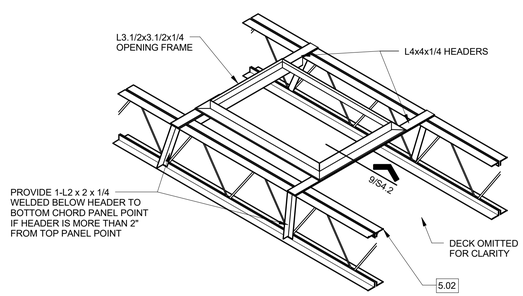
5



6

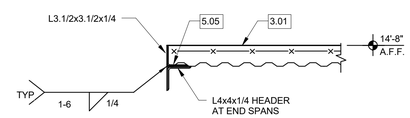


7

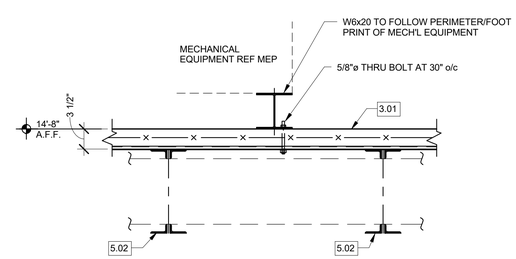


8 FLOOR OPENING FRAME DETAIL

REF ARCH'L & MECH'L FOR
OPENING SIZE & LOCATION



9 OPENING SUPPORT FRAME



NOTE:
REFERENCE MEP FOR REQUIRED
LOCATION OF SUPPORT

10 TYPICAL MECHANICAL
EQUIPMENT SUPPORT

FRAMING KEY NOTES

DIVISION 3 CONCRETE	
3.01	3.1/2" NORMAL WT CONC SLAB ON TYPE 0.6C 28GA GALV. DECK w/ 6x6-2.9xW2.9 WWF
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL BEAM, REFERENCE PLAN
5.02	STEEL JOIST w/ JOIST BRIDGING PER JOIST DESIGNER, REFERENCE PLAN
5.03	STEEL COLUMN, REFERENCE PLAN.
5.04	1.5B 22 GA GALVANIZED DECK, WELD DECK TO PERIMETER ANGLE AT 6" o/c
5.05	WELD DECK TO PERIMETER ANGLE AT 6" o/c, TYPICAL
5.06	L3x3x1/4 CONTINUOUS, WELD TO STEEL SUPPORT w/ 3/16" THICK FILLET WELD ALL AROUND. FASTEN TO CMU w/ 3/4" ø x 6" Lg EB AT 40" o/c (FILLED CORES).
5.07	PL, 3/8"x5"x0'-10" w/ 2-1/2"ø x 5" Lg WHS AT EACH BAR JOIST/OUTRIGGER
5.08	STEEL OUTRIGGERS AT 5'-0" o/c MAX, REFERENCE PLAN
5.09	1/4" THK BENT PLATE CONT w/ 4" LEGS. WELD TO EACH BAR JOIST w/ 3/16" THK FILLET WELD, FASTEN TO CMU w/ 3/4"ø A352 EB AT 40" o/c (FILLED CORES)
5.10	L7x4x1/4 CONT w/ 1/2"øx1.1/2" Lg THREADED STUDS AT 36" o/c WELD TO 1/4" BENT PLATE w/ 3/16" THK FILLET WELD ALL AROUND
5.11	L4x4x1/4 CONT w/ 1/4" THK STIFFENER PLATE AT EACH JOIST BEARING. FASTEN TO CMU WALL w/ 3/4"ø A325 EB AT 40" o/c (FILLED CORES)
5.12	L8x6x7/16 (LLH) (HD GALV) w/ 3/4"øx6" Lg EXP. BOLT
5.13	MC10x22 CONT w/ 3/4"ø EXP BOLTS AT 36" o/c (MAX)
5.14	L3.1/2x3.1/2x1/4 CONT WELD TO CHANNEL
5.15	L3.1/2x3.1/2x1/4 CONT WELD TO BAR JOISTS
5.16	L8x6x7/16 LLH (HD GALV) EXTEND 8" BEYOND OPENING
5.17	3/8" FLAG PLATE, REFERENCE1/S1.3
5.18	3/8" FLAG PLATE REFERENCE 2/S1.3
5.19	STEEL BEAM w/ 1/2" ø x8" LONG WELDED HEADED STUDS AT 24" o/c ALONG TOP FLANGE, REFERENCE PLAN
5.20	L6x6x1/4 CONTINUOUS WITH 1/4" THICK STIFFENER PLATES AT 24" o/c. WELD ANGLE TO WEB OF STEEL BEAM.
DIVISION 6 WOOD	
6.01	REFERENCE 7/S4.5 FOR TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78550
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

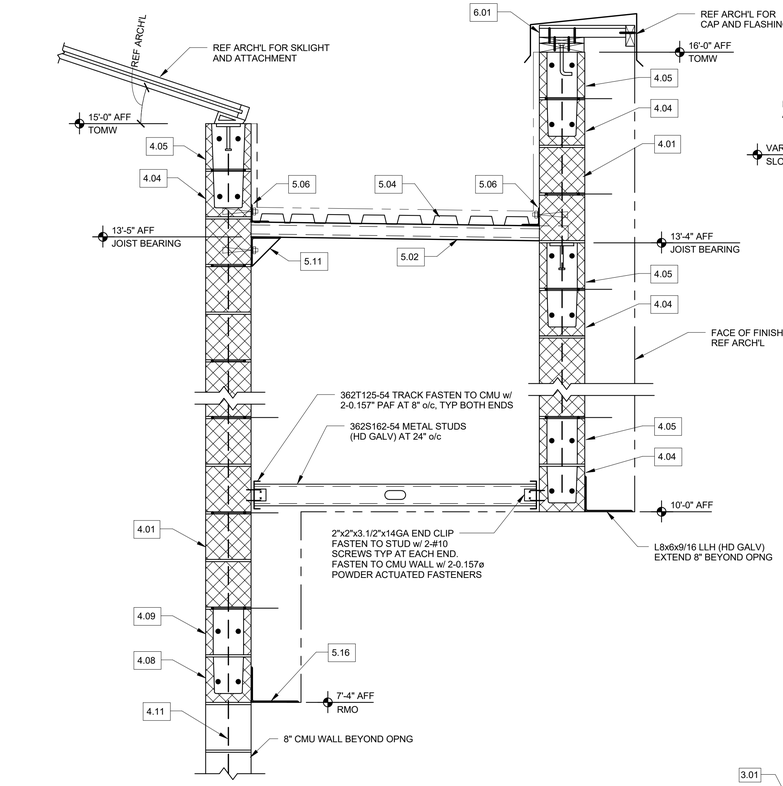
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

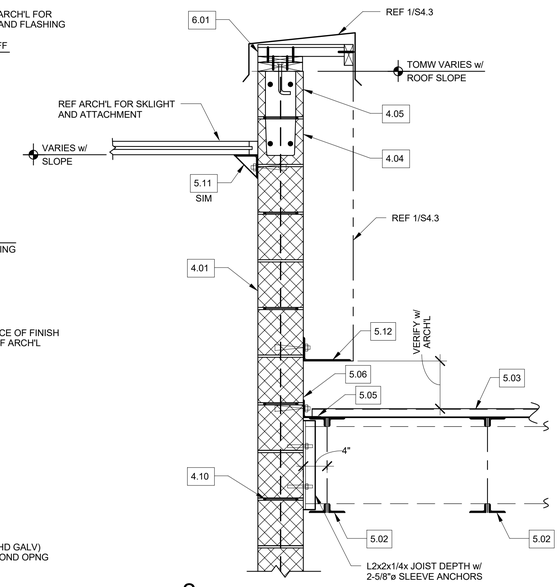
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FRAMING DETAILS

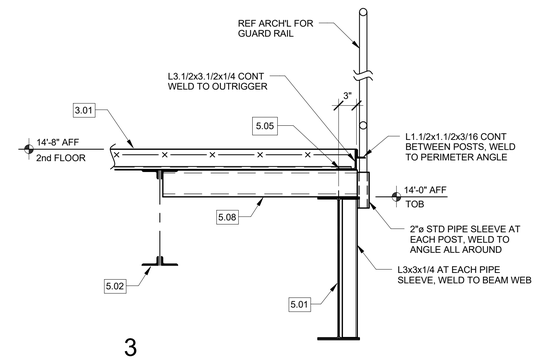
S4.2



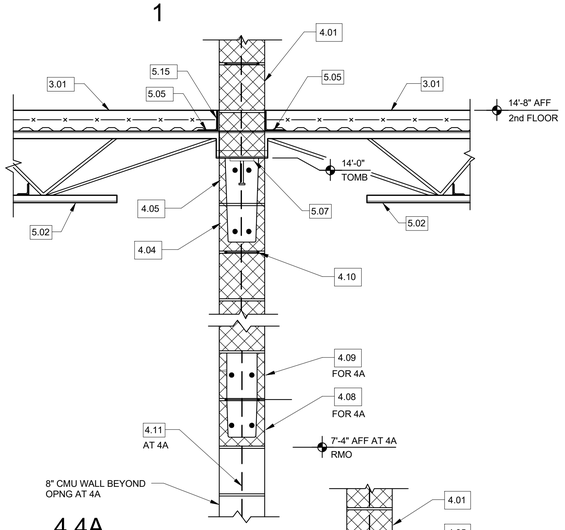
1



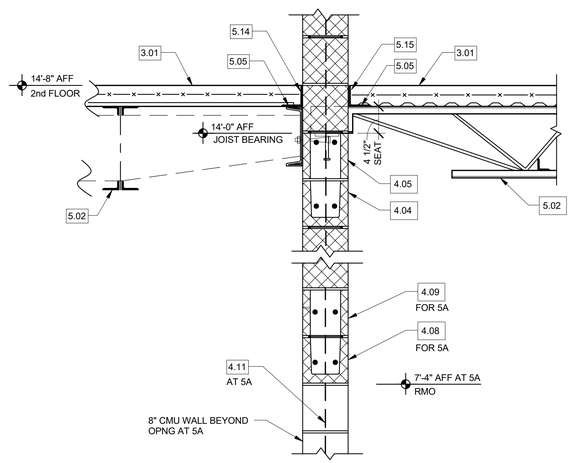
2



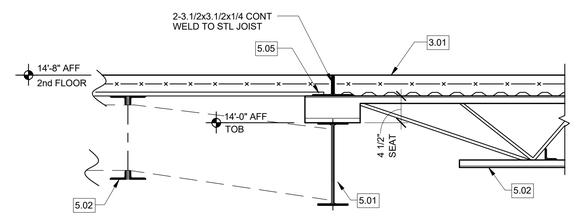
3



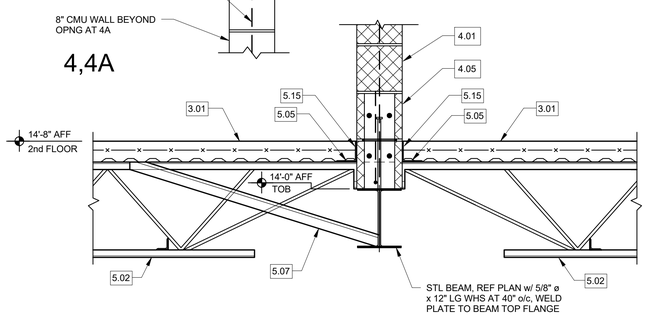
4,4A



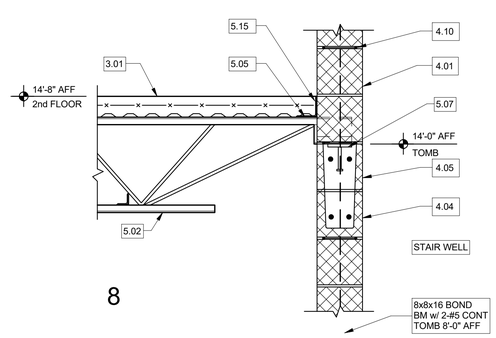
5,5A



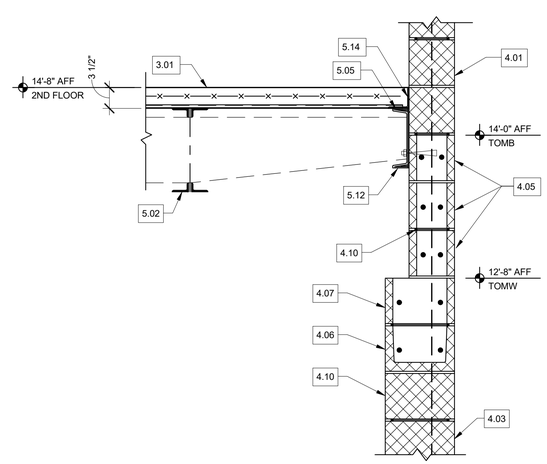
6



7



8



9

FRAMING KEY NOTES

DIVISION 3 CONCRETE	
3.01	3.1/2" NORMAL WT CONC SLAB ON TYPE 0.6C 28GA GALV. DECK w/ 6x6-2.9xW2.9 WWF
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL BEAM, REFERENCE PLAN
5.02	STEEL JOIST w/ JOIST BRIDGING PER JOIST DESIGNER, REFERENCE PLAN
5.03	STEEL COLUMN, REFERENCE PLAN.
5.04	1.5B 22 GA GALVANIZED DECK, WELD DECK TO PERIMETER ANGLE AT 6" o/c
5.05	WELD DECK TO PERIMETER ANGLE AT 6" o/c, TYPICAL
5.06	L3x3x1/4 CONTINUOUS, WELD TO STEEL SUPPORT w/ 3/16" THICK FILLET WELD ALL AROUND. FASTEN TO CMU w/ 3/4" ø x 6" Lg EB AT 40" o/c (FILLED CORES).
5.07	PL. 3/8"x5"x0'-10" w/ 2-1/2"ø x 5" Lg WHS AT EACH BAR JOIST/OUTRIGGER
5.08	STEEL OUTRIGGERS AT 5'-0" o/c MAX, REFERENCE PLAN
5.09	1/4" THK BENT PLATE CONT w/ 4" LEGS. WELD TO EACH BAR JOIST w/ 3/16" THK FILLET WELD, FASTEN TO CMU w/ 3/4"ø A352 EB AT 40" o/c (FILLED CORES)
5.10	L7x4x1/4 CONT w/ 1/2"øx1.1/2" Lg THREADED STUDS AT 36" o/c WELD TO 1/4" BENT PLATE w/ 3/16" THK FILLET WELD ALL AROUND
5.11	L4x4x1/4 CONT w/ 1/4" THK STIFFENER PLATE AT EACH JOIST BEARING. FASTEN TO CMU WALL w/ 3/4"ø A325 EB AT 40" o/c (FILLED CORES)
5.12	L8x6x7/16 (LLH) (HD GALV) w/ 3/4"øx6" Lg EXP. BOLT
5.13	MC10x22 CONT w/ 3/4"ø EXP BOLTS AT 36" o/c (MAX)
5.14	L3.1/2x3.1/2x1/4 CONT WELD TO CHANNEL
5.15	L3.1/2x3.1/2x1/4 CONT WELD TO BAR JOISTS
5.16	L8x6x7/16 LLH (HD GALV) EXTEND 8" BEYOND OPENING
5.17	3/8" FLAG PLATE, REFERENCE1/S1.3
5.18	3/8" FLAG PLATE REFERENCE 2/S1.3
5.19	STEEL BEAM w/ 1/2" ø,x8" LONG WELDED HEADED STUDS AT 24" o/c ALONG TOP FLANGE, REFERENCE PLAN
5.20	L6x6x1/4 CONTINUOUS WITH 1/4" THICK STIFFENER PLATES AT 24" o/c. WELD ANGLE TO WEB OF STEEL BEAM.
DIVISION 6 WOOD	
6.01	REFERENCE 7/S4.5 FOR TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

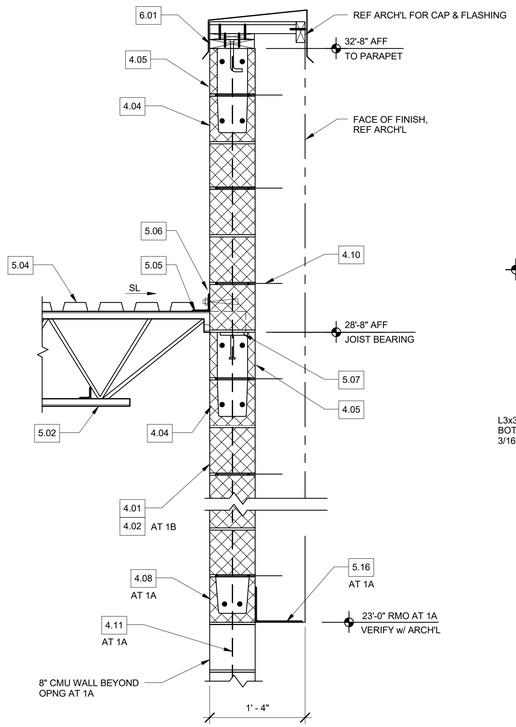
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

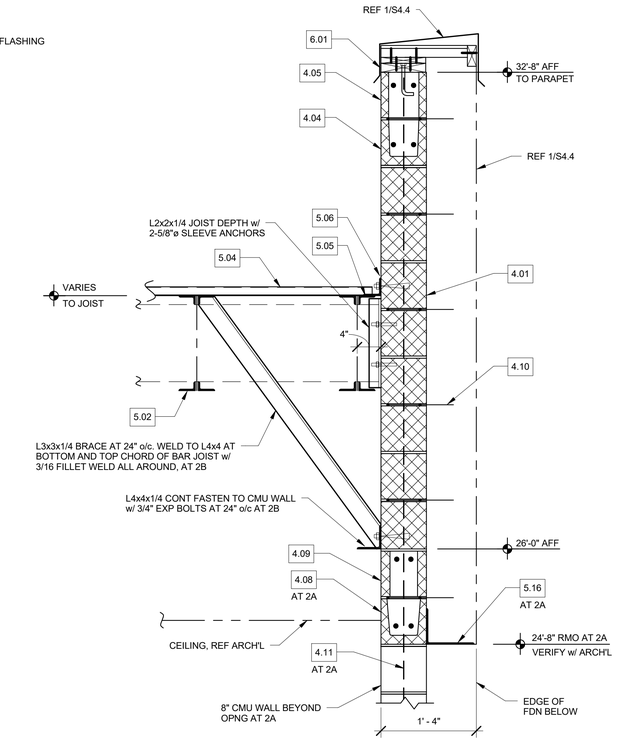
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FRAMING DETAILS

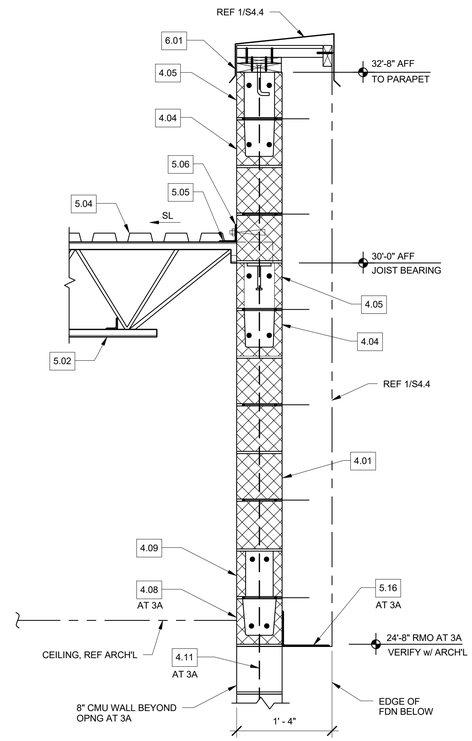
S4.3



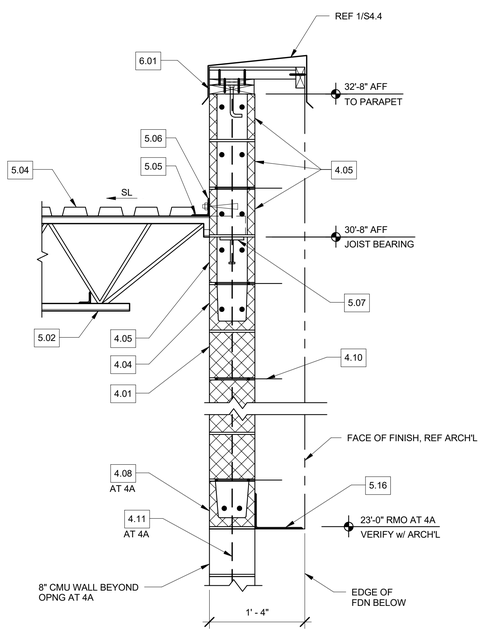
1,1A,1B



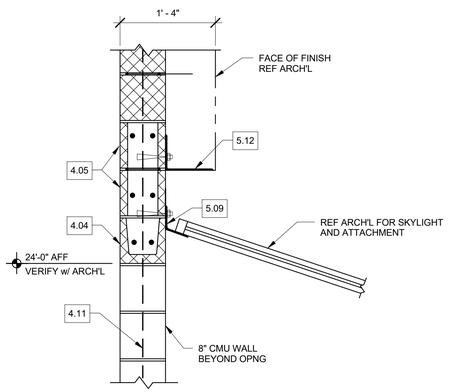
2,2A,2B



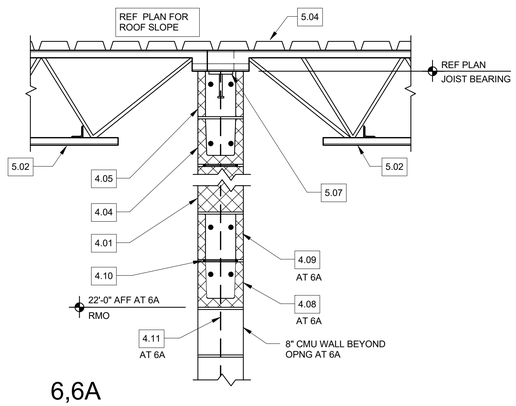
3,3A



4,4A



5



6,6A

FRAMING KEY NOTES

DIVISION 3 CONCRETE	
3.01	3.1/2" NORMAL WT CONC SLAB ON TYPE 0.6C 28GA GALV. DECK w/ 6x6-2.9xW2.9 WWF
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL BEAM, REFERENCE PLAN
5.02	STEEL JOIST w/ JOIST BRIDGING PER JOIST DESIGNER, REFERENCE PLAN
5.03	STEEL COLUMN, REFERENCE PLAN.
5.04	1.5B 22 GA GALVANIZED DECK, WELD DECK TO PERIMETER ANGLE AT 6" o/c
5.05	WELD DECK TO PERIMETER ANGLE AT 6" o/c, TYPICAL
5.06	L3x3x1/4 CONTINUOUS, WELD TO STEEL SUPPORT w/ 3/16" THICK FILLET WELD ALL AROUND. FASTEN TO CMU w/ 3/4" ø x 6" Lg EB AT 40" o/c (FILLED CORES).
5.07	PL. 3/8"x5"x0'-10" w/ 2-1/2"ø x 5" Lg WHS AT EACH BAR JOIST/OUTRIGGER
5.08	STEEL OUTRIGGERS AT 5'-0" o/c MAX, REFERENCE PLAN
5.09	1/4" THK BENT PLATE CONT w/ 4" LEGS. WELD TO EACH BAR JOIST w/ 3/16" THK FILLET WELD, FASTEN TO CMU w/ 3/4"ø A352 EB AT 40" o/c (FILLED CORES)
5.10	L7x4x1/4 CONT w/ 1/2"øx1.1/2" Lg THREADED STUDS AT 36" o/c WELD TO 1/4" BENT PLATE w/ 3/16" THK FILLET WELD ALL AROUND
5.11	L4x4x1/4 CONT w/ 1/4" THK STIFFENER PLATE AT EACH JOIST BEARING. FASTEN TO CMU WALL w/ 3/4"ø A325 EB AT 40" o/c (FILLED CORES)
5.12	L8x6x7/16 (LLH) (HD GALV) w/ 3/4"øx6" Lg EXP. BOLT
5.13	MC10x22 CONT w/ 3/4"ø EXP BOLTS AT 36" o/c (MAX)
5.14	L3.1/2x3.1/2x1/4 CONT WELD TO CHANNEL
5.15	L3.1/2x3.1/2x1/4 CONT WELD TO BAR JOISTS
5.16	L8x6x7/16 LLH (HD GALV) EXTEND 8" BEYOND OPENING
5.17	3/8" FLAG PLATE, REFERENCE1/S1.3
5.18	3/8" FLAG PLATE REFERENCE 2/S1.3
5.19	STEEL BEAM w/ 1/2" ø x8" LONG WELDED HEADED STUDS AT 24" o/c ALONG TOP FLANGE, REFERENCE PLAN
5.20	L6x6x1/4 CONTINUOUS WITH 1/4" THICK STIFFENER PLATES AT 24" o/c. WELD ANGLE TO WEB OF STEEL BEAM.
DIVISION 6 WOOD	
6.01	REFERENCE 7/S4.5 FOR TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1220 WEST HARRISON
HARLINGEN, TEXAS 78551
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

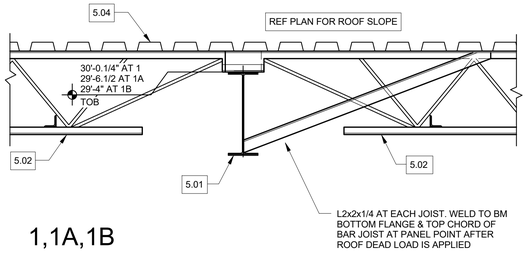
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

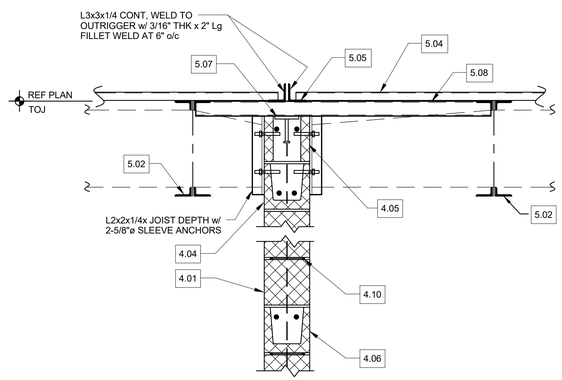
PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FRAMING DETAILS

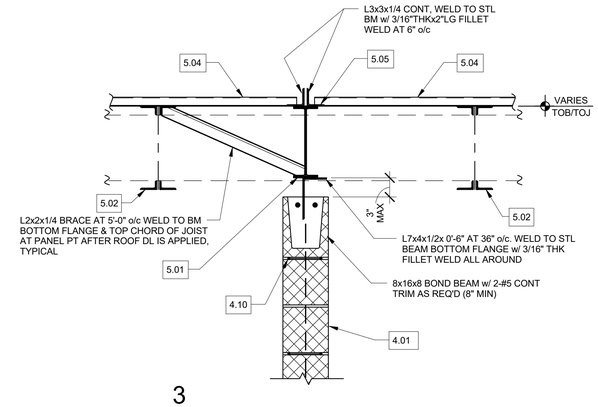
S4.4



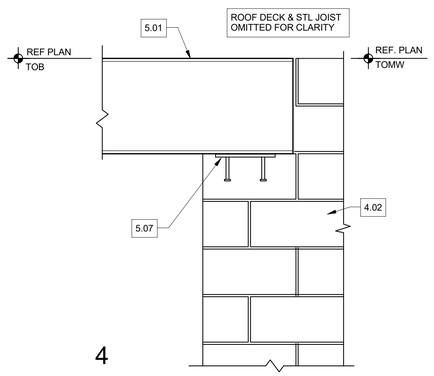
1,1A,1B



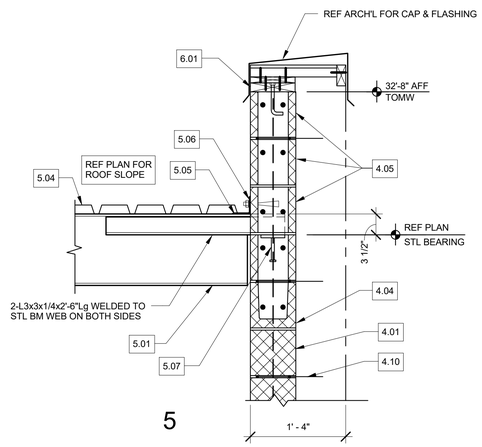
2



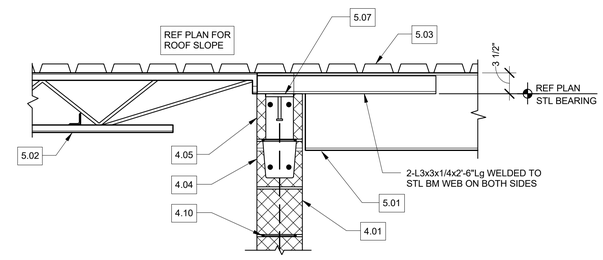
3



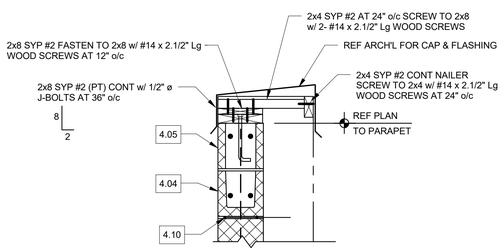
4



5



6



7 TYPICAL PARAPET CAP ASSEMBLY DETAIL

FRAMING KEY NOTES

DIVISION 3 CONCRETE	
3.01	3.1/2" NORMAL WT CONC SLAB ON TYPE 0.6C 28GA GALV. DECK w/ 6x6-2.9xW2.9 WWF
DIVISION 4 MASONRY	
4.01	8" CMU w/ #5 AT 40" o/c
4.02	8" CMU w/ #5 AT 8" o/c
4.03	12" CMU w/ #5 AT 40" o/c
4.04	8x8x16 BOND BM w/ 2-#5 CONT
4.05	8x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.06	12x8x16 BOND BM w/ 2-#5 CONT.
4.07	12x8x16 STD BLOCK w/ 2-#5 CONT. POUR MONOLITHIC w/ BOND BM BELOW
4.08	8x8x16 U-BLOCK/LINTEL w/ 2-#5, EXTEND 16" BEYOND OPNG
4.09	8x8x16 STD BLOCK w/ 2-#5, POUR MONOLITHIC w/ LINTEL BELOW
4.10	#9 DUROWAL AT 16" o/c (HD GALV)
4.11	VERTICAL BARS AT 8" o/c BEYOND OPNG, REF PLAN FOR LIMIT
4.12	#5 x 4'-6" Lg DOWELS AT 40" o/c (30" PROJECTION)
DIVISION 5 METALS	
5.01	STEEL BEAM, REFERENCE PLAN
5.02	STEEL JOIST w/ JOIST BRIDGING PER JOIST DESIGNER, REFERENCE PLAN
5.03	STEEL COLUMN, REFERENCE PLAN.
5.04	1.5B 22 GA GALVANIZED DECK, WELD DECK TO PERIMETER ANGLE AT 6" o/c
5.05	WELD DECK TO PERIMETER ANGLE AT 6" o/c, TYPICAL
5.06	L3x3x1/4 CONTINUOUS, WELD TO STEEL SUPPORT w/ 3/16" THICK FILLET WELD ALL AROUND. FASTEN TO CMU w/ 3/4" ø x 6" Lg EB AT 40" o/c (FILLED CORES).
5.07	PL. 3/8"x5"x0'-10" w/ 2-1/2"ø x 5" Lg WHS AT EACH BAR JOIST/OUTRIGGER
5.08	STEEL OUTRIGGERS AT 5'-0" o/c MAX, REFERENCE PLAN
5.09	1/4" THK BENT PLATE CONT w/ 4" LEGS. WELD TO EACH BAR JOIST w/ 3/16" THK FILLET WELD, FASTEN TO CMU w/ 3/4"ø A352 EB AT 40" o/c (FILLED CORES)
5.10	L7x4x1/4 CONT w/ 1/2"øx1.1/2" Lg THREADED STUDS AT 36" o/c WELD TO 1/4" BENT PLATE w/ 3/16" THK FILLET WELD ALL AROUND
5.11	L4x4x1/4 CONT w/ 1/4" THK STIFFENER PLATE AT EACH JOIST BEARING. FASTEN TO CMU WALL w/ 3/4"ø A325 EB AT 40" o/c (FILLED CORES)
5.12	L8x6x7/16 (LLH) (HD GALV) w/ 3/4"øx6" Lg EXP. BOLT
5.13	MC10x22 CONT w/ 3/4"ø EXP BOLTS AT 36" o/c (MAX)
5.14	L3.1/2x3.1/2x1/4 CONT WELD TO CHANNEL
5.15	L3.1/2x3.1/2x1/4 CONT WELD TO BAR JOISTS
5.16	L8x6x7/16 LLH (HD GALV) EXTEND 8" BEYOND OPENING
5.17	3/8" FLAG PLATE, REFERENCE1/S1.3
5.18	3/8" FLAG PLATE REFERENCE 2/S1.3
5.19	STEEL BEAM w/ 1/2" ø.x8" LONG WELDED HEADED STUDS AT 24" o/c ALONG TOP FLANGE, REFERENCE PLAN
5.20	L6x6x1/4 CONTINUOUS WITH 1/4" THICK STIFFENER PLATES AT 24" o/c. WELD ANGLE TO WEB OF STEEL BEAM.
DIVISION 6 WOOD	
6.01	REFERENCE 7/S4.5 FOR TYPICAL PARAPET CAP ASSEMBLY DETAIL FOR WOOD CAP FRAMING & FASTENING OF COMPONENTS

GREEN, RUBIANO & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
1230 WEST HARRISON
HARLINGEN, TEXAS 78550
(956)428-4461 (956)428-0287 FAX
FIRM REGISTRATION # F-4145

COPYRIGHT 2018 BY GREEN, RUBIANO & ASSOCIATES

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED PROFESSIONAL ENGINEER
5/21/18

NO.	DATE	DESCRIPTION

REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

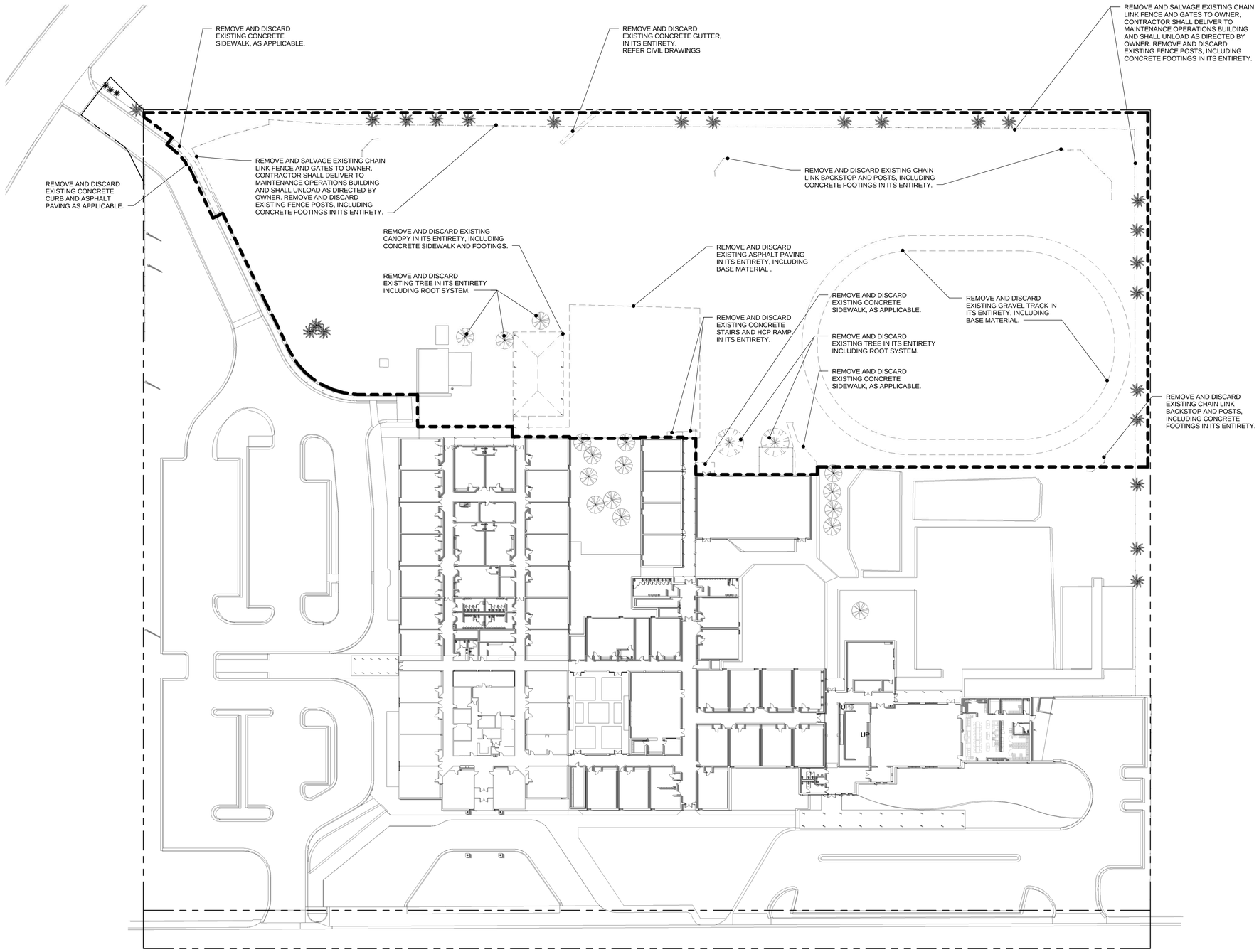
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Enter address here

PROJECT NO:	775-47
DATE:	05-21-18
STARTING DATE:	
CK BY: JS	DWN BY: AV,IG

FRAMING DETAILS

S4.5



DEMOLITION SITE PLAN

1" = 40'-0"

1

N

GENERAL DEMOLITION SITE NOTES

A. REFER TO CIVIL DRAWINGS FOR SITE WORK. CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ARCHITECT IN CASE OF DISCREPANCIES AND COORDINATING WITH CIVIL ENGINEER PRIOR TO PROCEEDING.

B. CONTRACTOR MUST VERIFY ALL EXISTING UTILITY LINES PRIOR TO STARTING ANY WORK.

D. CONTRACTOR TO FILL AND RE-GRADE DEMOLITION AREAS WITH SELECT FILL TO MEET EXISTING ADJACENT UNDISTURBED GRADES, AFTER DEMOLITION OF EXISTING BUILDINGS, CANOPIES, ASPHALT PAVING, SIDEWALK, SIGNAGE AND UTILITIES REFER TO MEP DRAWINGS FOR MEP UTILITY DEMOLITION WORK.

E. CONTRACTOR TO PROTECT AND KEEP ALL TREES TO REMAIN IN GOOD CONDITION DURING DURATION OF THE PROJECT.

F. CONTRACTOR SHALL PROVIDE A 6' HIGH SECURITY FENCE WITH A FABRIC SCREEN TO PREVENT DEBRI AND DUST FROM LEAVING THE PORJECT CONSTRUCTION LIMITS AREA DURING THE DURATION OF THE PROJECT.

G. CONTRACTOR SHALL REMOVE ANY AND ALL CONSTRUCTION MATERIAL WASTE DURING THE DURATION OF THE PROJECT AND DISPOSED OF APPROPRIATELY OFF SITE.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

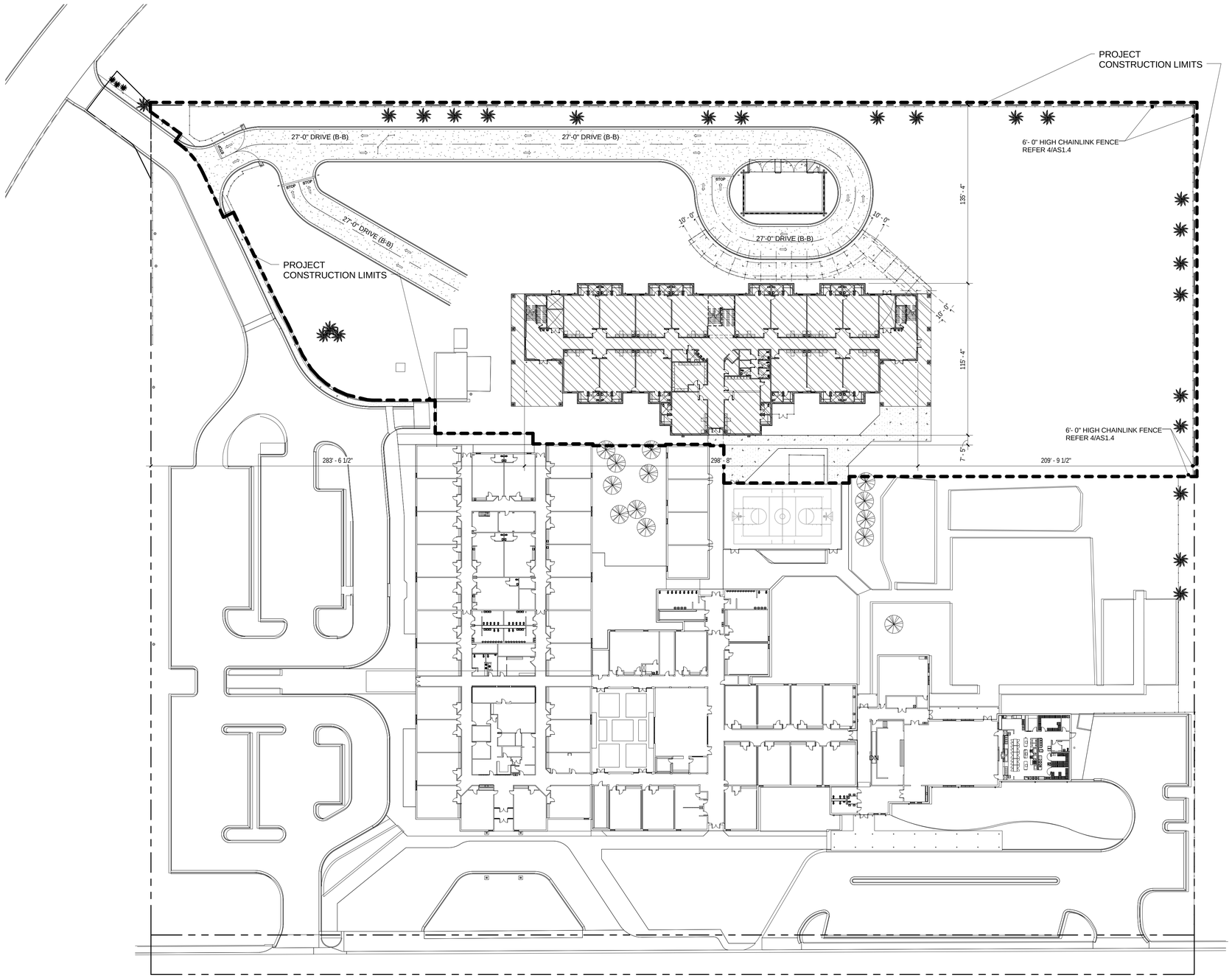
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:50:57 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

DEMOLITION SITE PLAN

ASD1.1



ARCHITECTURAL SITE PLAN

1" = 40'-0"

1

N

GENERAL SITE NOTES

1. REFER TO CIVIL DRAWINGS FOR SITE WORK. CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ARCHITECT IN CASE OF DISCREPANCIES AND COORDINATING WITH CIVIL ENGINEER PRIOR TO PROCEEDING.
2. ALL EXTERIOR DOORS SHALL HAVE A LEVEL AREA IN FRONT OF THE DOOR WITH A 1:50 MAXIMUM SLOPE IN ALL DIRECTIONS. THE AREA SHALL BE A MINIMUM OF 5 FT. IN THE DIRECTION OF TRAVEL BY THE WIDTH OF THE SIDEWALK.
3. ALL EXTERIOR ALCOVES SHALL HAVE A 1:50 MAXIMUM SLOPE AND SHALL HAVE NO DROPS AT DOORS NOR AT CONNECTING SIDEWALKS.
4. ALL COVERED WALKWAYS SHALL HAVE 1:50 MAXIMUM CROSS SLOPE.THERE SHALL BE NO ABRUPT CHANGE IN ELEVATION ALONG ACCESSIBLE ROUTES AT SIDEWALKS AND COVERED WALKWAYS.

rofa
architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT
MICHAEL E. ALLEN
15101
STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

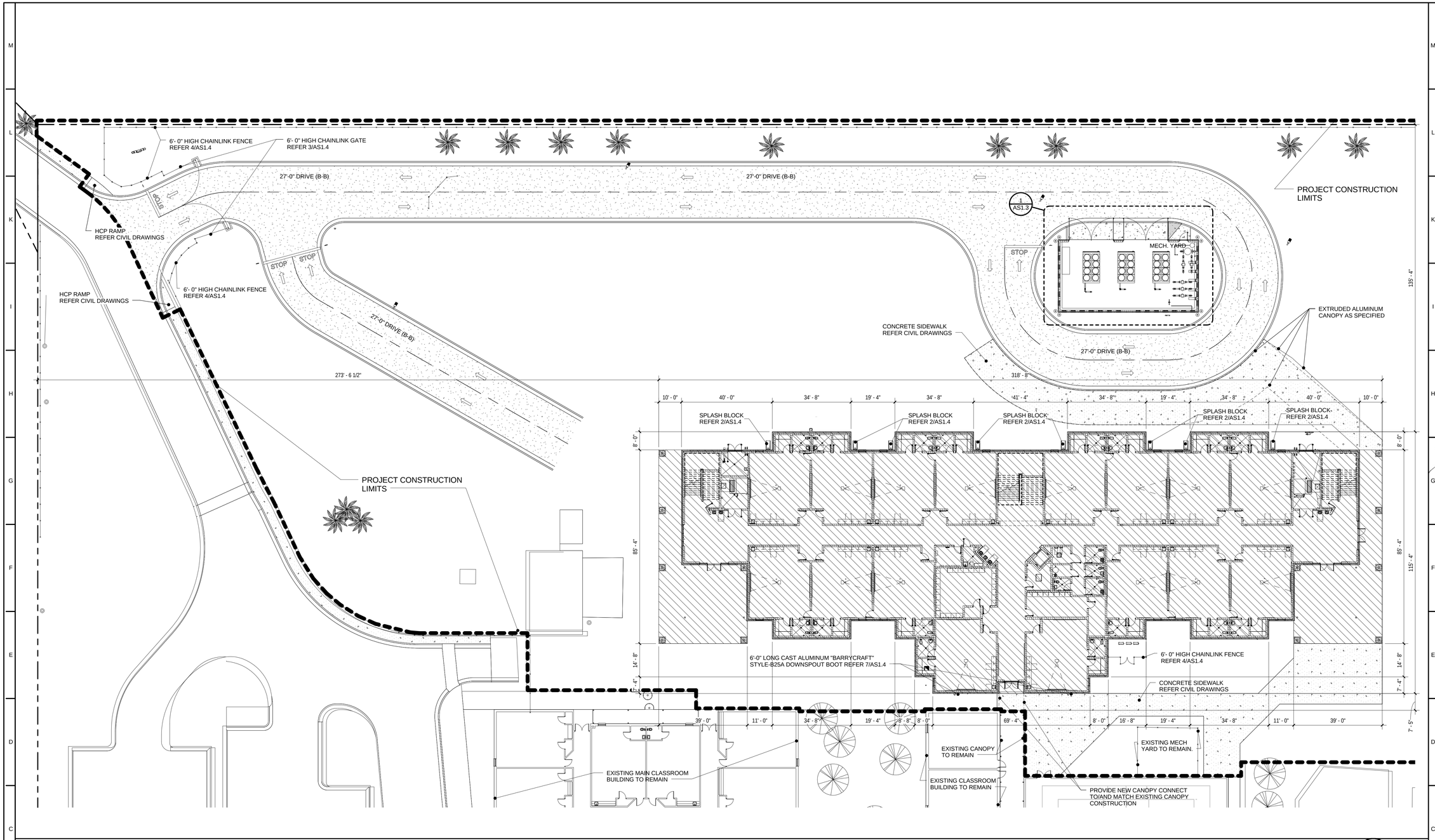
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:49:37 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ARCHITECTURAL SITE PLAN

AS1.1



PARTIAL ARCHITECTURAL SITE PLAN

1" = 20'-0"

1

N

GENERAL SITE NOTES

1. REFER TO CIVIL DRAWINGS FOR SITE WORK. CONTRACTOR IS RESPONSIBLE FOR CONTRACTING ARCHITECT IN CASE OF DISCREPANCIES AND COORDINATING WITH CIVIL ENGINEER PRIOR TO PROCEEDING.
2. ALL EXTERIOR DOORS SHALL HAVE A LEVEL AREA IN FRONT OF THE DOOR WITH A 1:50 MAXIMUM SLOPE IN ALL DIRECTIONS. THE AREA SHALL BE A MINIMUM OF 5 FT. IN THE DIRECTION OF TRAVEL BY THE WIDTH OF THE SIDEWALK.
3. ALL EXTERIOR ALCOVES SHALL HAVE A 1:50 MAXIMUM SLOPE AND SHALL HAVE NO DROPS AT DOORS NOR AT CONNECTING SIDEWALKS.
4. ALL COVERED WALKWAYS SHALL HAVE 1:50 MAXIMUM CROSS SLOPE.THERE SHALL BE NO ABRUPT CHANGE IN ELEVATION ALONG ACCESSIBLE ROUTES AT SIDEWALKS AND COVERED WALKWAYS.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

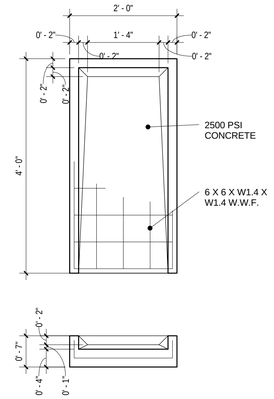
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:50:11 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

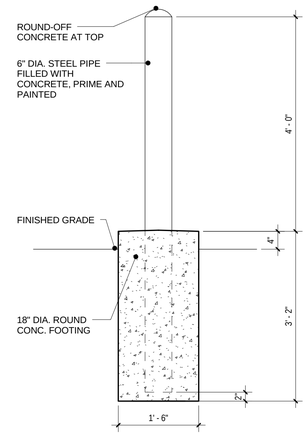
PARTIAL ARCHITECTURAL SITE PLAN

AS1.2



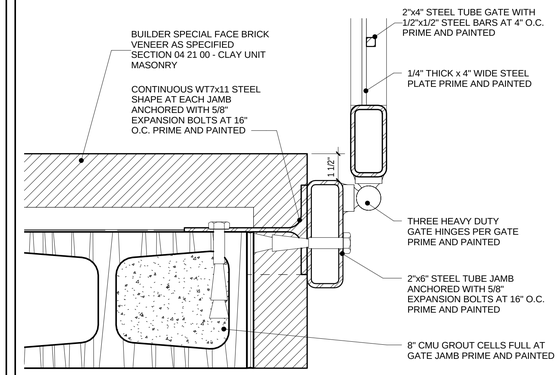
SPLASH BLOCK DETAIL 4

3/4" = 1'-0"



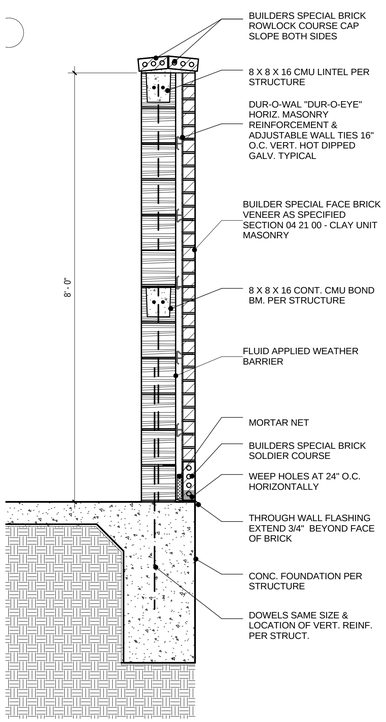
PIPE BOLLARD DETAIL 2

3/4" = 1'-0"



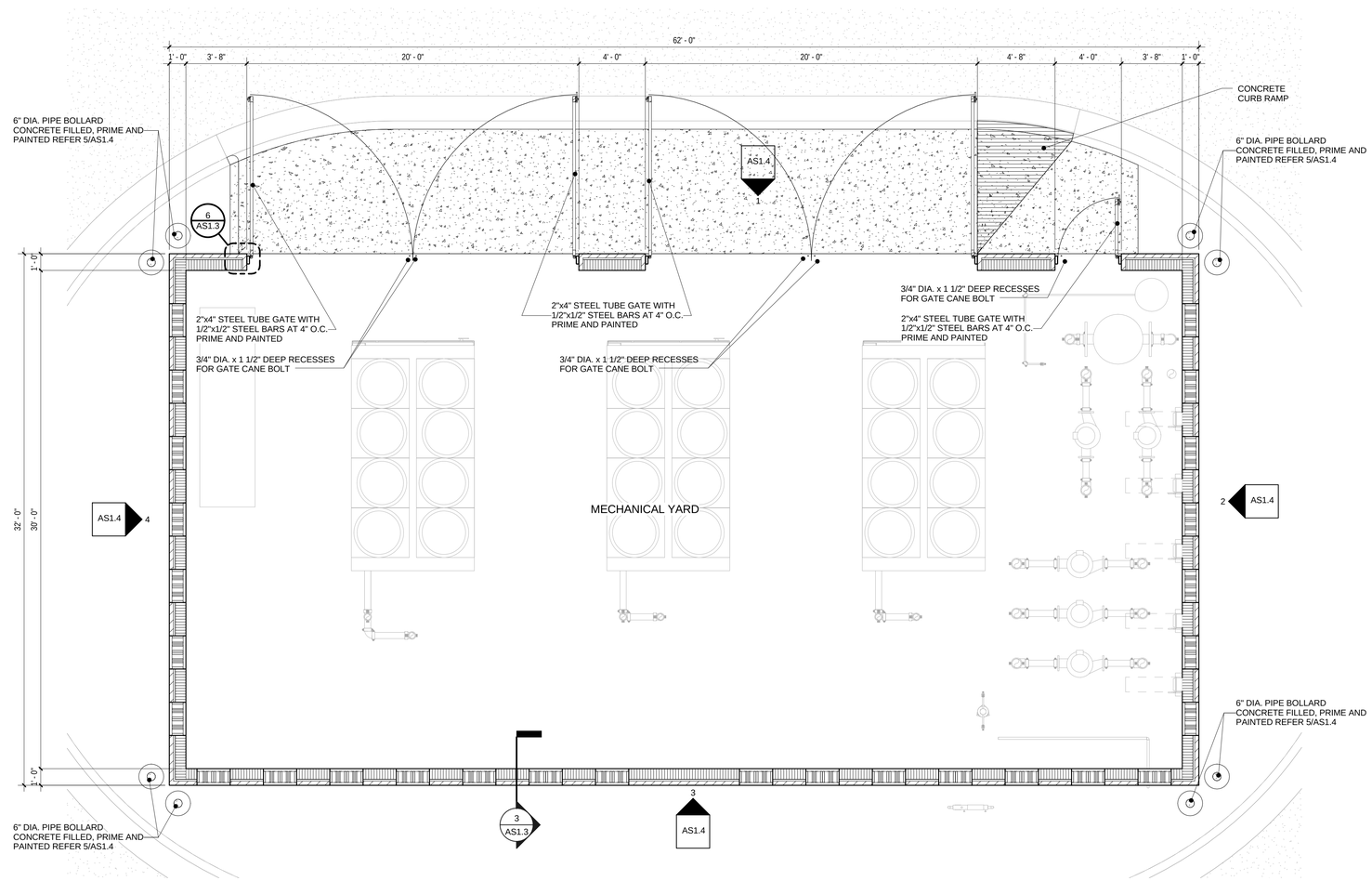
TYPICAL GATE JAMB DETAIL 6

3" = 1'-0"



MECH. YARD SCREEN WALL SECTION 3

3/4" = 1'-0"



ENLARGED MECHANICAL YARD - FLOOR PLAN 1

1/4" = 1'-0"

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

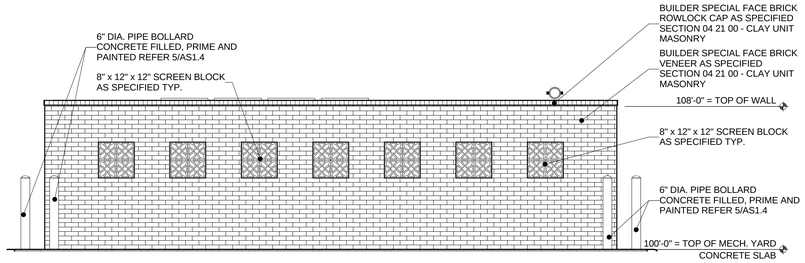
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:50:18 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ENLARGED MECHANICAL YARD AND DETAILS

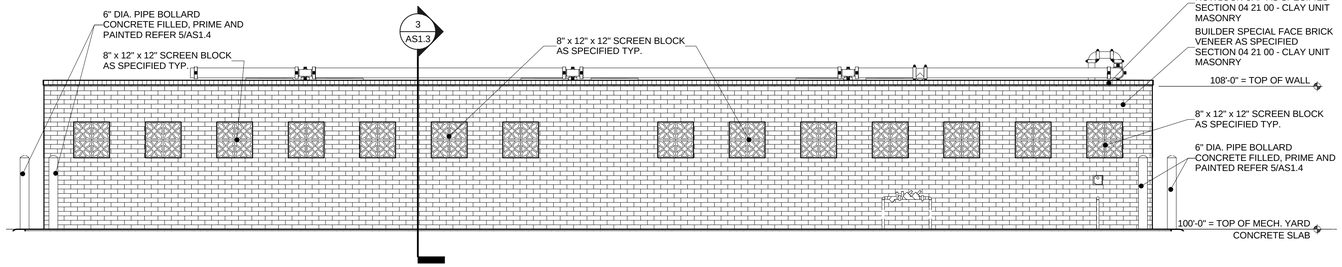
AS1.3



MECHANICAL YARD WEST ELEVATION

1/4" = 1'-0"

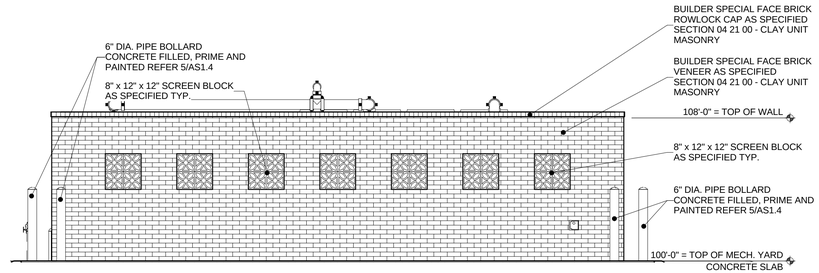
4



MECHANICAL YARD SOUTH ELEVATION

1/4" = 1'-0"

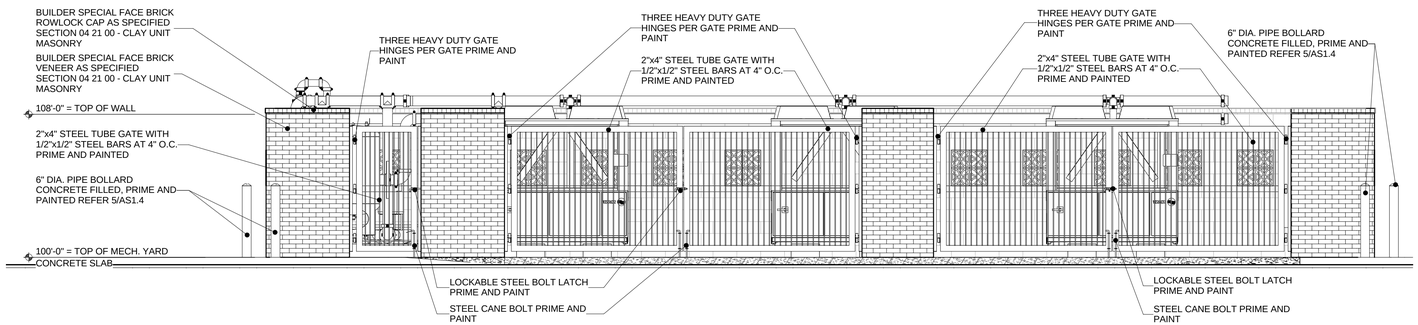
3



MECHANICAL YARD EAST ELEVATION

1/4" = 1'-0"

2



MECHANICAL YARD NORTH ELEVATION

1/4" = 1'-0"

1

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT
MICHAEL E. ALLEN
15101
STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

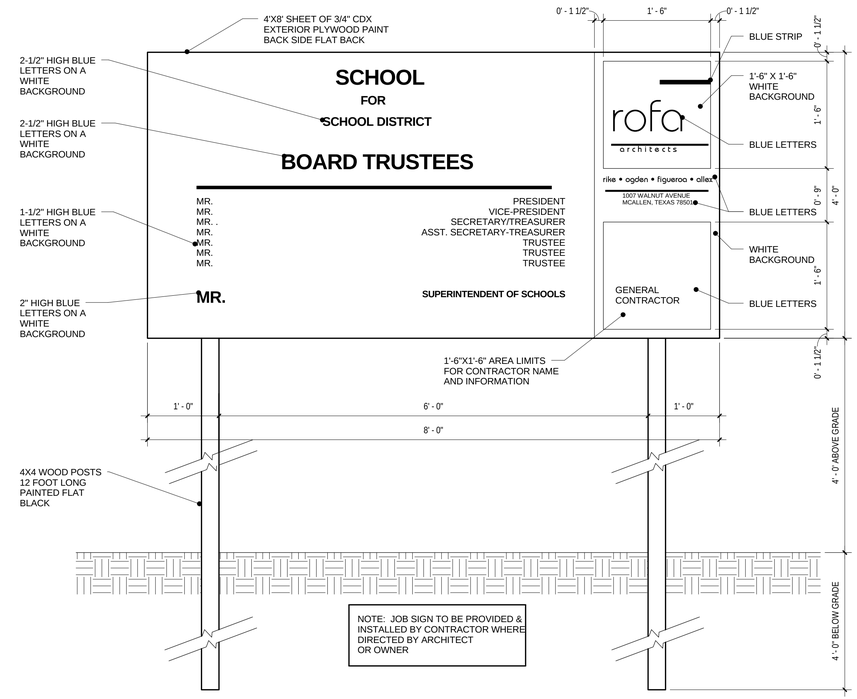
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:50:27 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL YARD ELEVATIONS

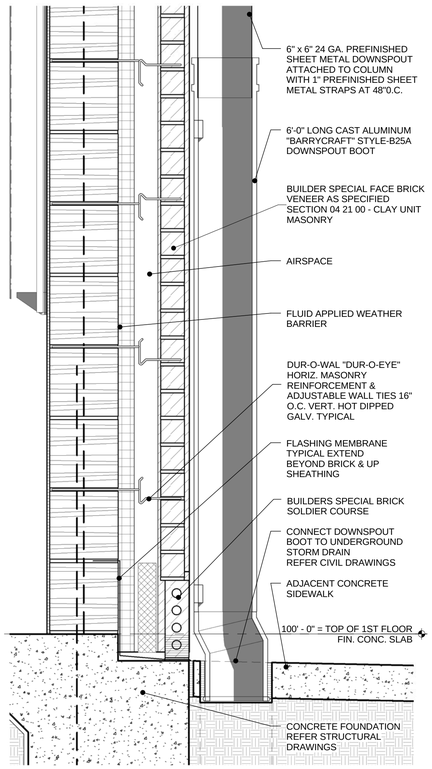
AS1.4



JOB SIGN DETAIL

1" = 1'-0"

3



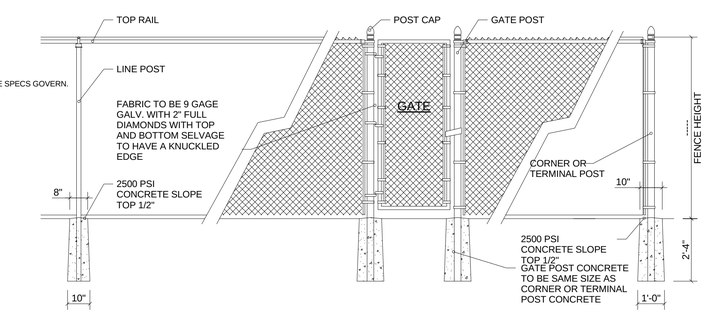
DOWNSPOUT BOOT DETAIL

1 1/2" = 1'-0"

4

POST SCHEDULE IF THE SPECS DIFFER FROM THIS SCHEDULE THE SPECS GOVERN.

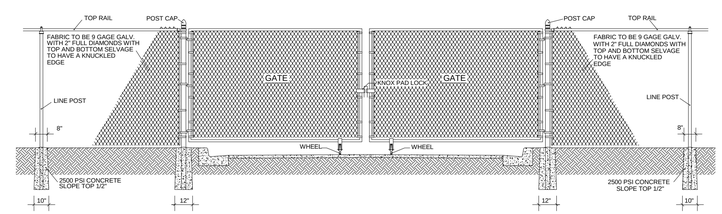
POST USE	FABRIC HT.	POST O.D.
TERMINAL OR CORNER	72" OR LESS	2.375"
TERMINAL OR CORNER	MORE THAN 72"	2.875"
GATE 72" OR LESS WIDE		2.875"
GATE 6 FT. TO 13 FT. WIDE		4.000"
GATE 13 FT. TO 18 FT. WIDE		6.625"
GATE OVER 18 FT. WIDE		8.625"
TOP RAIL		1.660"
LINE POST	72" OR LESS	1.900"
LINE POST	MORE THAN 72"	2.375"



TYPICAL CHAIN LINK FENCE DETAIL

3/8" = 1'-0"

2



1/4" = 1'-0"

CHAIN LINK GATE DETAIL

1/4" = 1'-0"

1

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

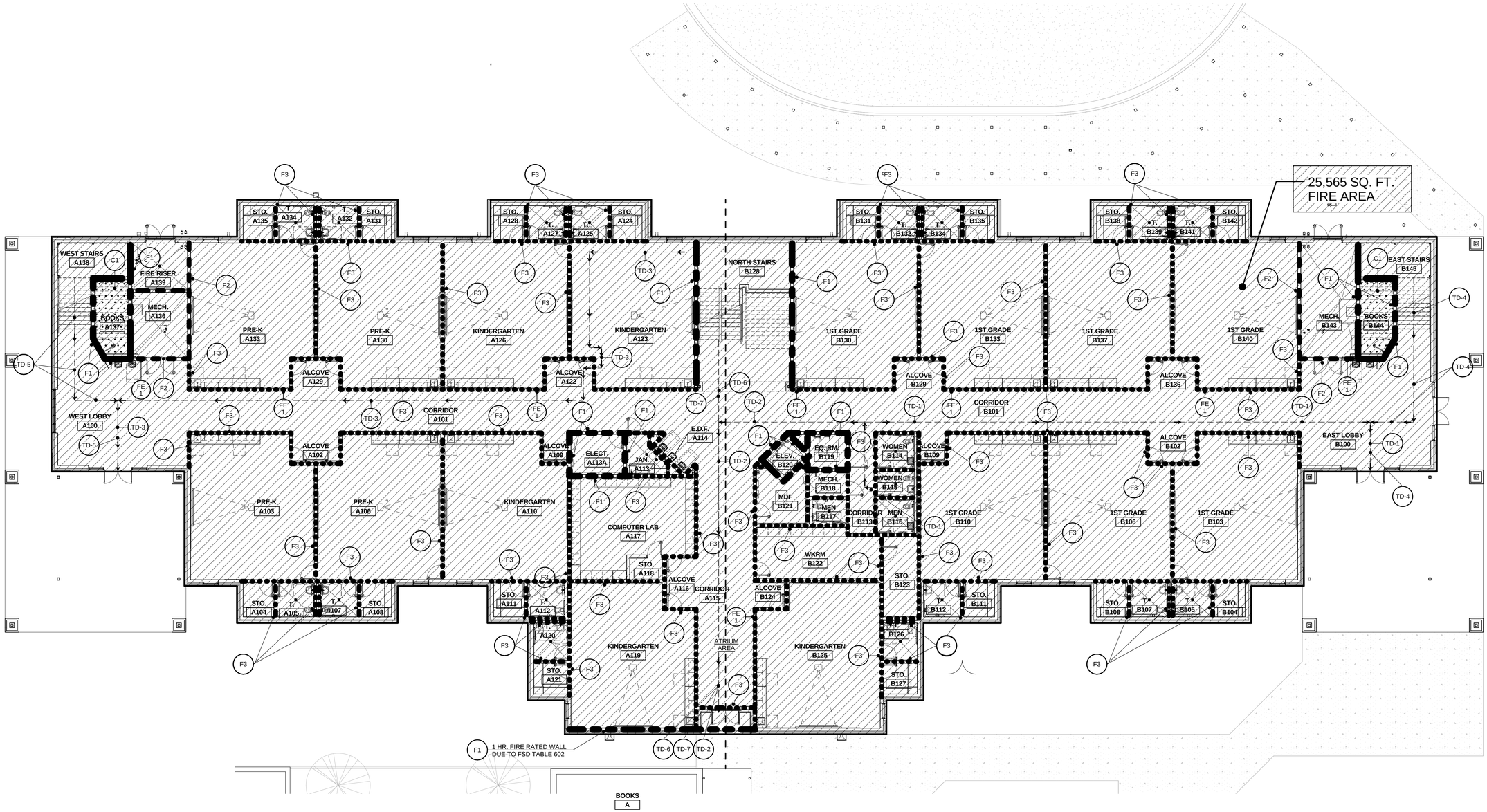
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:50:34 AM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

SITE DETAILS

AS1.5



FIRE PROTECTION PLAN - 1ST FLOOR

3/32" = 1'-0"

1

N

FIRE RATED WALL LEGEND

F1 — 1 HR. FIRE RATED CMU WALL TO BOTTOM OF ROOF OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323. PROVIDE 1 HR. FIRE RATED DOORS WITH SMOKE SEALS. PROVIDE FIRE/SMOKE DAMPERS ON DUCTS PENETRATING THESE WALLS.

F2 — SMOKE RESISTANT WALLS TO BOTTOM OF ROOF DECK OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323. PROVIDE NON-RATED DOORS WITH SMOKE SEALS. PROVIDE SMOKE DAMPERS ON DUCTS PENETRATING THESE WALLS.

F3 — NON-RATED WALLS TO BOTTOM OF ROOF DECK OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323.

FIRE RATED CEILING LEGEND

C1 — 1 HR. FIRE RATED CEILING. REFER TO ROOM FINISH SCHEDULE FOR MATERIALS. PROVIDE FIRE/SMOKE CEILING DAMPERS.

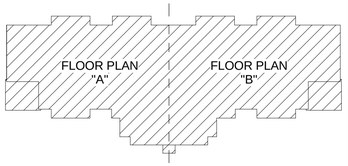
FIRE EXTINGUISHER TYPE

FE 1 — SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH EXTINGUISHER AS SPECIFIED. INSTALL AT 48" A.F.F. TO CONTROL (MID-SPAN OF HANDLE).

EXIT ACCESS TRAVEL DISTANCES

TABLE 1016.2: GROUP "E": 250 FT. MAX. TRAVEL DISTANCE

TD-1	EXIT ACCESS TRAVEL DISTANCE = 133'-8" FIRST FLOOR TO EXIT
TD-2	EXIT ACCESS TRAVEL DISTANCE = 116'-6" FIRST FLOOR TO EXIT
TD-3	EXIT ACCESS TRAVEL DISTANCE = 172'-10" FIRST FLOOR TO EXIT
TD-4	EXIT ACCESS TRAVEL DISTANCE = 208'-11" SECOND FLOOR TO FIRST FLOOR EXIT
TD-5	EXIT ACCESS TRAVEL DISTANCE = 202'-7" SECOND FLOOR TO FIRST FLOOR EXIT
TD-6	EXIT ACCESS TRAVEL DISTANCE = 231'-9" SECOND FLOOR TO FIRST FLOOR EXIT
TD-7	EXIT ACCESS TRAVEL DISTANCE = 242'-1" SECOND FLOOR TO FIRST FLOOR EXIT



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

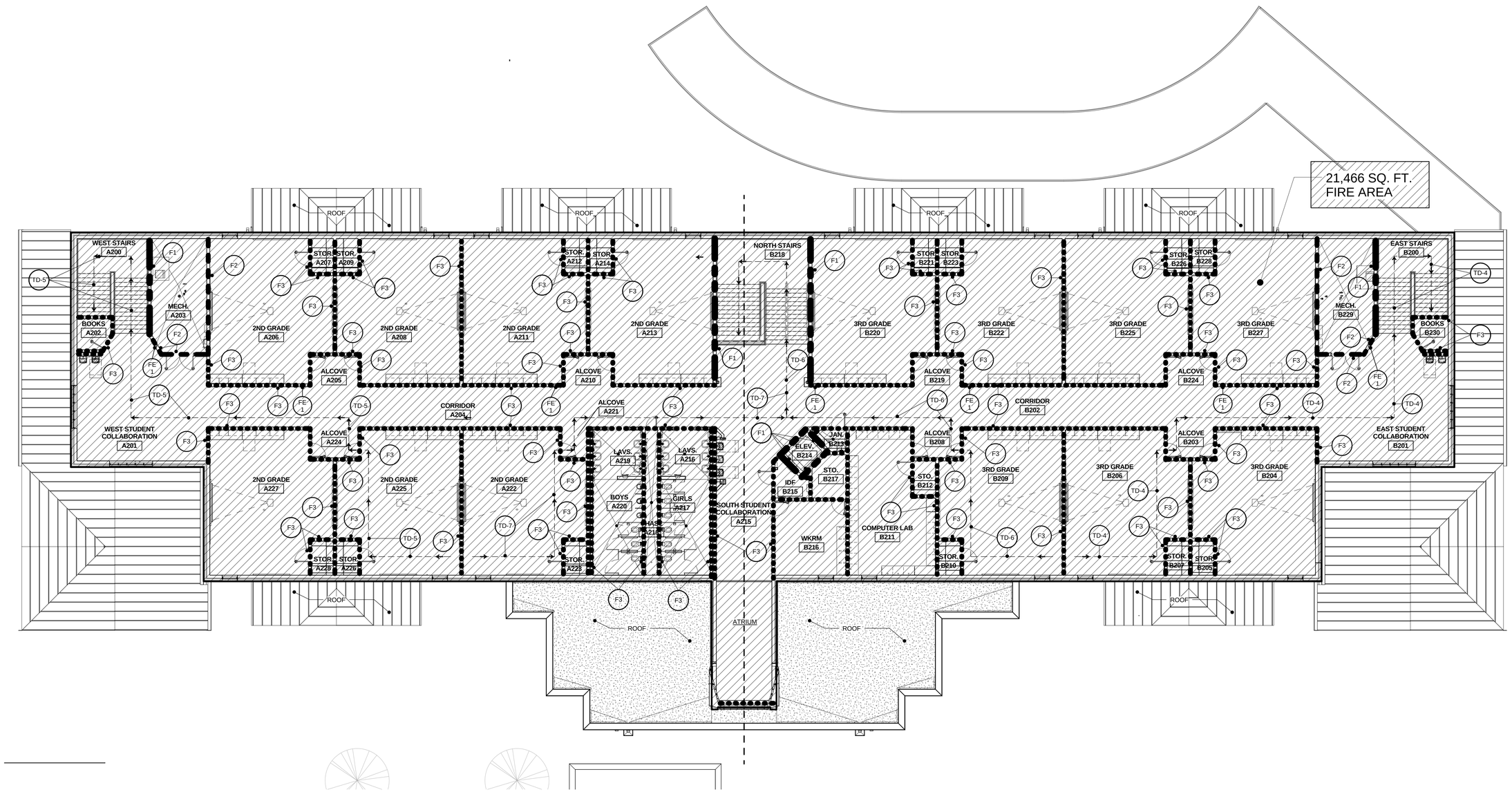
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:39:45 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

FIRE PROTECTION PLAN - 1ST FLOOR

A1.1



FIRE PROTECTION PLAN - 2ND FLOOR

3/32" = 1'-0"

1

N

FIRE RATED WALL LEGEND

F1 — 1 HR. FIRE RATED CMU WALL TO BOTTOM OF ROOF OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323. PROVIDE 1 HR. FIRE RATED DOORS WITH SMOKE SEALS. PROVIDE FIRE/SMOKE DAMPERS ON DUCTS PENETRATING THESE WALLS.

F2 — SMOKE RESISTANT WALLS TO BOTTOM OF ROOF DECK OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323. PROVIDE NON-RATED DOORS WITH SMOKE SEALS. PROVIDE SMOKE DAMPERS ON DUCTS PENETRATING THESE WALLS.

F3 — NON-RATED WALLS TO BOTTOM OF ROOF DECK OR FLOOR DECK: SEAL TOP OF WALLS AIRTIGHT WITH UL SYSTEM NO. HW-D-0323.

FIRE RATED CEILING LEGEND

C1 — 1 HR. FIRE RATED CEILING. REFER TO ROOM FINISH SCHEDULE FOR MATERIALS. PROVIDE FIRE/SMOKE CEILING DAMPERS.

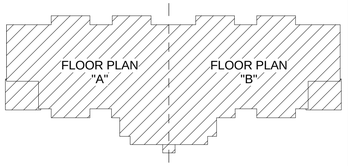
FIRE EXTINGUISHER TYPE

FE 1 — SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH EXTINGUISHER AS SPECIFIED. INSTALL AT 48" A.F.F. TO CONTROL (MID-SPAN OF HANDLE).

EXIT ACCESS TRAVEL DISTANCES

TABLE 1016.2: GROUP "E": 250 FT. MAX. TRAVEL DISTANCE

TD-1	EXIT ACCESS TRAVEL DISTANCE = 133'-8" FIRST FLOOR TO EXIT
TD-2	EXIT ACCESS TRAVEL DISTANCE = 116'-6" FIRST FLOOR TO EXIT
TD-3	EXIT ACCESS TRAVEL DISTANCE = 172'-10" FIRST FLOOR TO EXIT
TD-4	EXIT ACCESS TRAVEL DISTANCE = 208'-11" SECOND FLOOR TO FIRST FLOOR EXIT
TD-5	EXIT ACCESS TRAVEL DISTANCE = 202'-7" SECOND FLOOR TO FIRST FLOOR EXIT
TD-6	EXIT ACCESS TRAVEL DISTANCE = 231'-9" SECOND FLOOR TO FIRST FLOOR EXIT
TD-7	EXIT ACCESS TRAVEL DISTANCE = 242'-1" SECOND FLOOR TO FIRST FLOOR EXIT



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:40:10 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

FIRE PROTECTION PLAN - 2ND FLOOR

A1.2

TYPE II (B) CONSTRUCTION (UNPROTECTED - SPRINKLERED)

INTERNATIONAL BUILDING CODE 2012 (NOTE: ENTIRE BUILDINGS SHALL BE SPRINKLERED WITH A SUPERVISED SYSTEM)

GROUP "E" OCCUPANCY : 1ST. FLOOR — 305.1 EDUCATIONAL GROUP "E"
GROUP "E" OCCUPANCY : 2ND. FLOOR

TWO STORY BUILDING

FIRST STORY FIRE AREA — "E" — 697 OCCUPANTS

1ST. STORY — 25,565 SQ. FT.

305.1 EDUCATIONAL GROUP "E"
EDUCATIONAL GROUP "E" OCCUPANCY INCLUDES, AMONG OTHERS, THE USE OF A BUILDING OR STRUCTURE, OR A PORTION THEREOF, BY SIX OR MORE PERSONS AT ANY ONE TIME FOR EDUCATIONAL PURPOSES THROUGH THE 12TH GRADE.

404.1.1 ATRIUM DEFINITION: AN OPENING CONNECTING TWO OR MORE STORIES OTHER THAN ENCLOSED STAIRWAYS, ELEVATORS, HOISTWAYS, ESCALATORS, PLUMBING, ELECTRICAL, AIR-CONDITIONING OR OTHER EQUIPMENT, WHICH IS CLOSED AT THE TOP AND NOT DEFINED AS A MALL. STORIES AS USED IN THIS DEFINITION, DO NOT INCLUDE BALCONIES WITHIN ASSEMBLY GROUPS OR MEZZANINES THAT COMPLY WITH SECTION 505.

404.2 USE: THE FLOOR OF THE ATRIUM SHALL NOT BE USED FOR OTHER THAN LOW FIRE HAZARD USES AND ONLY APPROVED MATERIALS AND DECORATIONS IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE SHALL BE USED IN THE ATRIUM SPACE.

EXCEPTION: THE ATRIUM FLOOR AREA IS PERMITTED TO BE USED FOR ANY APPROVED USE WHERE THE INDIVIDUAL SPACE IS PROVIDED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1.

404.3 AUTOMATIC SPRINKLER PROTECTION: AN APPROVED AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED THROUGHOUT THE ENTIRE BUILDING.

404.4 FIRE ALARM SYSTEM: A FIRE ALARM SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 907.2.14.

404.5 SMOKE CONTROL: A SMOKE CONTROL SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 909.

EXCEPTION: SMOKE CONTROL IS NOT REQUIRED FOR ATRIUMS THAT CONNECT ONLY TWO STORIES.

404.6 ENCLOSURE OF ATRIUMS: ATRIUM SPACES SHALL BE SEPARATED FROM ADJACENT SPACES BY A 1-HOUR FIRE BARRIER CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR A HORIZONTAL ASSEMBLY CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH.

EXCEPTION: 3. A FIRE BARRIER IS NOT REQUIRED BETWEEN THE ATRIUM AND THE ADJOINING SPACES OF ANY THREE FLOORS OF THE ATRIUM PROVIDED SUCH SPACES ARE ACCOUNTED FOR IN THE DESIGN OF THE SMOKE CONTROL SYSTEM. NO SMOKE CONTROL SYSTEM REQUIRED PER SECTION 404.5 SMOKE CONTROL.

TABLE 503

ALLOWABLE AREA FOR GROUP "E" — 14,500 SQ. FT.

ALLOWABLE STORIES: GROUP "E" — 2 STORIES (INCREASE TO 3 STORIES PER SECTION 504.2)

MAXIMUM BUILDING HEIGHT — 55 FT. + 20 (INCREASE) = 75 FT. (STORIES INCREASED BY ONE)

AREA INCREASE PER SECTION 506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE FOR 2 STORIES — 29,000 SQ. FT. = (14,500 X 2) GROUP "E"

TOTAL MODIFIED ALLOWABLE AREA PER STORY — 53,215 SQ. FT. = (14,500 + 9,715 + 29,000) GROUP "E"

SECOND STORY FIRE AREA — "E" — 581 OCCUPANTS

2ND. STORY — 21,466 SQ. FT.

TABLE 503

ALLOWABLE AREA FOR GROUP "E" — 14,500 SQ. FT.

AREA INCREASE PER SECTION 506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE — 29,000 SQ. FT. = (14,500 X 2) GROUP "E"

TOTAL MODIFIED ALLOWABLE AREA PER STORY WITH FRONTAGE INCREASE & AUTOMATIC SPRINKLER SYSTEM INCREASE — 53,215 SQ. FT. = (14,500 + 9,715 + 29,000) GROUP "E"

504.2 AUTOMATIC SPRINKLER SYSTEM INCREASE
20' BLDG. HEIGHT INCREASED IF SPRINKLERED AND INCREASE NUMBER OF STORIES BY ONE

506.1 GENERAL: THE BUILDING AREAS LIMITED BY TABLE 503 (*At*) SHALL BE PERMITTED TO BE INCREASED DUE TO FRONTAGE (*If*) AND AUTOMATIC SPRINKLER SYSTEM PROTECTION (*Is*) IN ACCORDANCE WITH EQUATION 5-1: *Aa* = {*At* + [*At x If*] + [*At x Is*]}

Aa = ALLOWABLE BUILDING AREA PER STORY
At = TABULAR BUILDING AREA PER STORY IN ACCORDANCE WITH TABLE 503
If = AREA INCREASE FACTOR DUE TO FRONTAGE AS CALCULATED IN ACCORDANCE WITH SECTION 506.2
Is = AREA INCREASE FACTOR DUE TO SPRINKLER SYSTEM PROTECTION AS CALCULATED IN ACCORDANCE WITH SECTION 506.3

GROUP "E"
Aa = {14,500 + [14,500 x .67] + [14,500 x 2]}
Table 503 + Frontage Inc. + Sprinkler Inc.
Aa = {14,500 + 9,715 + 29,000}
Aa = 53,215 SQ. FT. (TOTAL ALLOWABLE AREA)

506.2 FRONTAGE INCREASE: *If* = [F/P - .25] *W*/30 — GROUP "E" INCREASE = 14,500 X .67 = 9,715 SQ. FT.
If = [835' - 9 7/8"/908' - 0" - .25] 30/30
If = [.92- .25]
If = .67

If = AREA INCREASE DUE TO FRONTAGE
F = BUILDING PERIMETER THAT FRONTS ON A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET OPEN MINIMUM WIDTH
P = PERIMETER OF ENTIRE BUILDING.
W= WIDTH OF PUBLIC WAY OR OPEN SPACE IN ACCORDANCE WITH SECTION 506.2.1.

506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE:
(1 STORY) MULTIPLY ALLOWABLE AREA X 300 % (*Is = 3*)
(2 STORIES) MULTIPLY ALLOWABLE AREA X 200 % (*Is = 2*)

506.4 SINGLE OCCUPANCY BUILDINGS WITH MORE THAN ONE STORY: AREA DETERMINATION:
THE TOTAL ALLOWABLE BUILDING AREA OF A SINGLE OCCUPANCY BUILDING WITH MORE THAN ONE STORY ABOVE GRADE PLANE SHALL BE DETERMINED BY MULTIPLYING THE ALLOWABLE BUILDING AREA PER STORY (Aa), AS DETERMINED IN SECTION 506.1, BY THE NUMBER OF STORIES ABOVE GRADE PLANE AS LISTED BELOW:

1. FOR BUILDINGS WITH TWO STORIES ABOVE GRADE PLANE, MULTIPLY BY 2;
2. FOR BUILDINGS WITH THREE OR MORE STORIES ABOVE GRADE PLANE, MULTIPLY BY 3; AND
3. NO STORY SHALL EXCEED THE ALLOWABLE BUILDING AREA PER (Aa), AS DETERMINED IN SECTION 506.1, FOR THE OCCUPANCIES ON THAT STORY.

GROUP "E" TOTAL ALLOWABLE AREA = 53,215 X 2 = 106,430 SQ. FT.
ACTUAL TOTAL BUILDING AREA = 25,565 + 21,466 = 47,031 SQ. FT.

TABLE 509 INCIDENTAL USES:
REFRIGERANT MACHINERY ROOM (MECHANICAL ROOMS) — 1 HOUR OR PROVIDE AUTOMATIC SPRINKLER SYSTEM

509.4.2 PROTECTION:
WHERE TABLE 509 PERMITS AN AUTOMATIC SPRINKLER SYSTEM WITHOUT A FIRE BARRIER, THE INCIDENTAL USES SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING BY CONSTRUCTION CAPABLE OF RESISTING THE PASSAGE OF SMOKE. THE WALLS SHALL EXTEND FROM THE TOP OF THE FOUNDATION OR FLOOR ASSEMBLY BELOW TO THE UNDERSIDE OF THE CEILING THAT IS A COMPONENT OF A FIRE-RESISTANCE-RATED FLOOR ASSEMBLY OR ROOF ASSEMBLY ABOVE OR TO THE UNDERSIDE OF THE FLOOR OR ROOF SHEATHING, DECK OR SLAB ABOVE.

TABLE 601
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) TYPE II B

STRUCTURAL FRAME — 0 HR

BEARING WALLS

EXTERIOR — 0 HR

INTERIOR — 0 HR

NONBEARING WALLS AND PARTITIONS EXTERIOR — SEE TABLE 602

NONBEARING WALLS AND PARTITIONS INTERIOR — 0 HR

FLOOR CONSTRUCTION AND ASSOCIATED MEMBERS — 0 HR

ROOF CONSTRUCTION AND ASSOCIATED MEMBERS — 0 HR

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE

FIRE SEPARATION DISTANCE= X (FEET)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U
X < 5	ALL	1 (HR)

TABLE 705.8: MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION:

FIRE SEPARATION DISTANCE (FT.)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA
3 TO LESS THAN 5	UNPROTECTED, SPRINKLERED (UP, NS)	15%

705.11.1 PARAPET CONSTRUCTION:
PARAPETS SHALL HAVE THE SAME FIRE-RESISTANCE-RATING AS THAT REQUIRED FOR THE SUPPORTING WALL, AND ON ANY SIDE ADJACENT TO A ROOF SURFACE, SHALL HAVE NONCOMBUSTIBLE FACES FOR THE UPPERMOST 18 INCHES, INCLUDING COUNTERFLASHING AND COPING MATERIALS. THE HEIGHT OF THE PARAPET SHALL NOT BE LESS THAN 30 INCHES ABOVE THE POINT WHERE THE ROOF SURFACE AND THE WALL INTERSECT.

906.1 PORTABLE FIRE EXTINGUISHERS: WHERE REQUIRED:
PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS
IN GROUP A,B,E,F,H,I,M,R-1,R-2,R-4 AND S OCCUPANCIES
SPECIAL HAZARD AREAS - LABORATORIES

MANUAL FIRE ALARM: TABLE 907.2

907.2.1 GROUP E:
A MANUAL FIRE ALARM SYSTEM THAT INITIATES THE OCCUPANT NOTIFICATION SIGNAL UTILIZING AN EMERGENCY VOICE/ALARM COMMUNICATIONS SYSTEM MEETING THE REQUIREMENTS OF SECTION 907.5.2.2 AND INSTALLED IN ACCORDANCE WITH SECTION 907.6 SHALL BE INSTALLED IN GROUP "E" OCCUPANCIES. WHEN AUTOMATIC SPRINKLER SYSTEMS OR DETECTORS SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.

EXCEPTION:
3. MANUAL FIRE ALARM BOXES SHALL NOT BE REQUIRED IN GROUP "E"OCCUPANCIES WHERE THE BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1, THE EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM WILL ACTIVATE ON SPRINKLER WATER FLOW AND MANUAL ACTIVATION IS PROVIDED FOR A NORMALLY OCCUPIED LOCATIONS.

TABLE 1004.1.2: MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300 (FT.) GROSS
BUSINESS AREAS	100 (FT.) GROSS
EDUCATIONAL: CLASSROOM	20 (FT.) NET

1005.3.1. STAIRWAYS:
THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAY BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.3 INCH PER OCCUPANT.

EXCEPTION: FOR OTHER THAN GROUP "H" AND "I-2" OCCUPANCIES, THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAY BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

THE MINIMUM CLEAR WIDTH REQUIREMENTS ARE MORE RESTRICTIVE AND THEREFORE, THE MINIMUM REQUIRED WIDTH FOR EACH STAIRWAY IS 44 INCHES.

2ND FLOOR OCCUPANT LOAD = 581
3 STAIRWAYS: 581/3 = 193.66 OCCUPANTS PER STAIRWAY
STAIRWAY WIDTH = 194 X 0.2(IN.) = 38.8 IN. = 3'-2 13/16" (LESS THAN 44" DOES NOT COMPLY)
STAIRWAY WIDTH = 194 X 0.3(IN.) = 58.2 IN. = 4'-10 3/16" MINIMUM

1005.3.2 OTHER EGRESS COMPONENTS:
THE CAPACITY, IN INCHES OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENTS BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.2 INCH PER OCCUPANT.

EXCEPTION: FOR OTHER THAN GROUP H AND I-2 OCCUPANCIES THE CAPACITY, IN INCHES, OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OF 0.15 INCH PER OCCUPANT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 AND AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5.2.2.

1007.3 STAIRWAYS:
IN ORDER TO BE CONSIDERED PART OF AN ACCESSIBLE MEANS OF EGRESS, A STAIRWAY BETWEEN STORIES SHALL HAVE A CLEAR WIDTH OF 48 INCHES MINIMUM BETWEEN HANDRAILS AND SHALL EITHER INCORPORATE AN AREA OF REFUGE WITHIN AN ENLARGED FLOOR-LEVEL LANDING OR SHALL BE ACCESS FROM EITHER AN AREA OF REFUGE COMPLYING WITH SECTION 1007.6 OR A HORIZONTAL EXIT. EXIT ACCESS STAIRWAYS THAT CONNECT LEVELS IN THE SAME STORY ARE NOT PERMITTED AS PART OF AN ACCESSIBLE MEANS OF EGRESS.

EXCEPTIONS:
1. THE CLEAR WIDTH OF 48" BETWEEN HANDRAILS IS NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM ...
2. AREAS OF REFUGE ARE NOT REQUIRED AT STAIRWAYS IN BUILDINGS EQUIPPED THROUGHOUT BY AN AUTOMATIC SPRINKLER SYSTEM.

1009.2 INTERIOR EXIT STAIRWAY:
INTERIOR EXIT STAIRWAYS SHALL LEAD DIRECTLY TO THE EXTERIOR OF THE BUILDING OR SHALL BE EXTENDED TO THE EXTERIOR OF THE BUILDING WITH AN EXIT PASSAGEWAY CONFORMING TO THE REQUIREMENTS OF SECTION 1023, EXCEPT AS PERMITTED IN SECTION 1027.1.
NONE PROVIDED

1009.3 EXIT ACCESS STAIRWAYS:
FLOOR OPENINGS BETWEEN STORIES CREATED BY EXIT ACCESS STAIRWAYS SHALL BE ENCLOSED.
(THREE PROVIDED - NORTH WALL)
OPEN PER SECTION 1009.3 EXCEPTION (1)

EXCEPTION:
1. IN OTHER THAN GROUP I-2 AND I-3 OCCUPANCIES, EXIT ACCESS STAIRWAYS THAT SERVE, OR ATMOSPHERICALLY COMMUNICATE BETWEEN, ONLY TWO STORIES ARE NOT REQUIRED TO BE ENCLOSED.

EXIT ACCESS STAIRWAYS ARE NOT REQUIRED TO DISCHARGE DIRECTLY TO THE EXTERIOR AS ARE INTERIOR EXIT STAIRWAYS. THE EXIT ACCESS TRAVEL DISTANCE INCLUDES TRAVEL ALONG THE SLOPE OF THE EXIT ACCESS STAIRWAY.

1009.3.1.2 FIRE RESISTANCE RATING: EXIT ACCESS STAIRWAY ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES.

1009.9.3 ENCLOSURES UNDER INTERIOR STAIRWAYS: THE WALLS AND SOFFITS WITHIN ENCLOSED AND UNENCLOSED STAIRWAYS SHALL BE PROTECTED BY 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION OR THE FIRE-RESISTANCE RATING OF THE STAIRWAY ENCLOSURE, WHICHEVER IS GREATER. ACCESS TO THE ENCLOSED SPACE SHALL NOT BE DIRECTLY FROM WITHIN THE STAIR ENCLOSURE.

1009.4 WIDTH: THE WIDTH OF STAIRWAYS SHALL BE DETERMINED AS SPECIFIED IN SECTION IN SECTION 1005.1, BUT SUCH WIDTH SHALL NOT BE LESS THAN 44 INCHES.

GENERAL CODE INFORMATION

Building: TREASURE HILLS ELEMENTARY
Adopted Codes: (City of Harlingen)

2012 International Building Code
2012 International Existing Building Code
2012 International Fire Code
2012 International Mechanical Code
2012 International Energy Conservation Code
2012 International Plumbing Code
2012 Uniform Plumbing Code
2012 International Fuel Gas Code
2011 National Electrical Code (NFPA 70)
CABO ANSI/117.1-1998

Reference Documents:

2012 Texas Accessibility Standards, Effective March 15, 2012
Type of Construction: IIB
Fire Sprinklered Throughout: Yes, NFPA 13-2016 Edition per Section 903.3.1.1
Floor Levels: Two
Basement: None
Hazardous Materials: None
Flood Hazard Area: No
Design Flood Elevation: ??
Climate Zone: Zone-2A
Occupancy Classifications: (non-separated)
Group-E: Educational occupancy

1014.3 COMMON PATH OF EGRESS TRAVEL: THE COMMON PATH OF TRAVEL IS THE DISTANCE MEASURED FROM THE MOST REMOTE POINT IN A SPACE TO THE POINT IN THE EXIT PATH WHERE THE OCCUPANT HAS ACCESS TO TWO REQUIRED EXITS IN SEPARATE DIRECTIONS.

TABLE 1014.3: COMMON PATH OF EGRESS TRAVEL:
EDUCATIONAL OCCUPANCY - OCCUPANTS >30 (75 FT. WITH SPRINKLER SYSTEM)

1015.1 EXITS OR EXIT ACCESS DOORWAYS FROM SPACE:
TWO EXITS OR EXIT ACCESS DOORWAYS FROM ANY SPACE SHALL BE PROVIDED WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS:

1. THE OCCUPANT LOAD OF THE SPACE EXCEEDS ONE OF THE VALUES IN TABLE 1015.1
2. THE COMMON PATH OF EGRESS TRAVEL EXCEEDS ONE OF THE LIMITATIONS OF SECTION 1014.3.

TABLE 1015.1: SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY:
OCCUPANCY: A,B,E,F,M,U — MAXIMUM OCCUPANT LOAD: 49

1015.2.1 TWO EXITS OR EXIT ACCESS DOORWAYS:
WHERE TWO EXITS OR EXIT ACCESS DOORWAYS ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS. THE EXIT DOORS OR EXIT ACCESS DOORWAYS SHALL BE PLACED A DISTANCE APART EQUAL TO NOT LESS THAN ONE HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN EXIT DOORS OR EXIT ACCESS DOORWAYS.

EXCEPTION: (2) WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE OF THE EXIT DOORS OR EXIT ACCESS DOORWAYS SHALL NOT BE LESS THAN ONE-THIRD OF THE LENGTH.

1016 EXIT ACCESS TRAVEL DISTANCE:
"EXIT ACCESS" IS DEFINED AS THAT PORTION OF A MEANS OF EGRESS SYSTEM THAT LEADS FROM ANY OCCUPIED PORTION OF A BUILDING OR STRUCTURE TO AN EXIT.

1016.2 EXIT ACCESS TRAVEL DISTANCE: LIMITATIONS:
EXIT ACCESS TRAVEL DISTANCE SHALL NOT EXCEED THE VALUES GIVEN IN TABLE 1016.2
OCCUPANCY GROUP "E" = 250 FT. WITH SPRINKLER SYSTEM

1016.3.1 EXIT ACCESS STAIRWAYS AND RAMPS:
TRAVEL DISTANCE ON EXIT ACCESS STAIRWAYS OR RAMPS SHALL BE INCLUDED IN THE EXIT ACCESS TRAVEL DISTANCE MEASUREMENT.

TABLE 1018.1: CORRIDOR FIRE-RESISTANCE RATING:
OCCUPANCY: A, B, E, F, M, S, U (0 HR) WITH SPRINKLER SYSTEM

1018.4 DEAD ENDS:
WHERE MORE THAN ONE EXIT OR EXIT ACCESS DOORWAY IS REQUIRED, THE EXIT ACCESS SHALL BE ARRANGED SUCH THAT THERE ARE NO DEAD ENDS IN CORRIDORS MORE THAN 20 FT. IN LENGTH.

EXCEPTION (2) GROUP B, E, F, I-1, M, R-1, R-2, R-4, S AND U 50 FT. MAX. WITH SPRINKLER SYSTEM

1021.1 NUMBER OF EXITS AND EXIT CONFIGURATION: GENERAL:
EACH STORY AND OCCUPIED ROOF SHALL HAVE THE MINIMUM NUMBER OF EXITS, OR ACCESS TO EXITS, AS SPECIFIED IN THIS SECTION. THE REQUIRED NUMBER OF EXITS, OR EXIT ACCESS STAIRWAYS OR RAMPS PROVIDING ACCESS TO EXITS, FROM ANY STORY SHALL BE MAINTAINED UNTIL ARRIVAL AT GRADE OR A PUBLIC WAY. EACH STORY ABOVE THE SECOND STORY OF A BUILDING SHALL HAVE A MINIMUM OF ONE INTERIOR OR EXTERIOR EXIT STAIRWAY, OR INTERIOR OR EXTERIOR EXIT RAMP. THE SECOND FLOOR OF A BUILDING CAN USE TWO EXIT ACCESS STAIRWAYS OR RAMPS. STARTING AT THE THIRD FLOOR, AND FOR ALL UPPER FLOORS, AT LEAST 50 PER CENT, BUT NOT LESS THAN ONE MEANS OF EGRESS MUST BE PROVIDED BY DIRECT ACCESS TO AN EXIT STAIRWAY OR RAMP.

1021.2 EXITS FROM STORIES:
TWO EXITS, OR EXIT ACCESS STAIRWAYS OR RAMPS PROVIDING ACCESS TO EXITS, FROM ANY STORY OR OCCUPIED ROOF SHALL BE PROVIDED WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS.
1. THE OCCUPANT LOAD EXCEEDS ONE OF THE VALUES IN TABLE 1021.2(2)
2. THE EXIT ACCESS TRAVEL DISTANCE EXCEEDS THAT SPECIFIED IN TABLE 1021.2(1) OR 1021.2(2) AS DETERMINED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1016.1

TABLE1021.2(2): STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES:

FIRST STORY OR BASEMENT: OCCUPANCY A,B,E,F,M,U,S ..... MAXIMUM EXIT ACCESS TRAVEL DISTANCE: 75 FT.
OCCUPANCY LOAD 1ST. FLOOR >49
SECOND STORY: OCCUPANCY E ..... ONE EXIT NOT ALLOWED

1021.2.4 THREE OR MORE EXITS:
THREE EXITS, OR EXIT ACCESS STAIRWAYS OR RAMPS PROVIDING ACCESS TO EXITS AT OTHER STORIES SHALL BE PROVIDED FROM ANY STORY OR OCCUPIED ROOF WITH AN OCCUPANT LOAD FROM 501 TO AND INCLUDING 1,000. FOUR EXITS, OR EXIT ACCESS STAIRWAYS OR RAMPS PROVIDING ACCESS TO EXITS AT OTHER STORIES SHALL BE PROVIDED FROM ANY STORY OR OCCUPIED ROOF WITH AN OCCUPANT LOAD GREATER THAN 1,000.

1022.22 CONSTRUCTION:
INTERIOR EXIT STAIRWAY AND RAMP ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES.

3002.2 NUMBER OF ELEVATOR CARS IN A HOISTWAY:
THE NUMBER OF ELEVATORS PROVIDED IN A BUILDING IS NOT MANDATED BY THE CODE, BUT IS A DESIGN DECISION. THE CODE DOES LIMIT THE MAXIMUM NUMBER OF ELEVATOR CARS IN A SINGLE HOISTWAY TO FOUR.

3002.4 ELEVATOR CAR TO ACCOMMODATE AMBULANCE STRETCHER:
WHERE ELEVATORS ARE PROVIDED IN BUILDINGS FOUR OR MORE STORIES ABOVE, OR FOUR OR MORE STORIES BELOW, GRADE PLANE, AT LEAST ONE ELEVATOR SHALL BE PROVIDED FOR FIRE DEPARTMENT EMERGENCY ACCESS TO ALL FLOORS. THE ELEVATOR CAR SHALL BE OF SUCH A SIZE AND ARRANGEMENT TO ACCOMMODATE AN AMBULANCE STRETCHER 24" X 84".

3002.7 COMMON ENCLOSURE WITH STAIRWAY: ELEVATORS SHALL NOT BE IN A COMMON SHAFT ENCLOSURE WITH A STAIRWAY.

2012 TEXAS ACCESSIBILITY STANDARDS: 206.2.3 MULTI-STORY BUILDINGS AND FACILITIES:
AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT EACH STORY AND MEZZANINE IN MULTI-STORY BUILDINGS AND FACILITIES.

FIRST FLOOR: 697 OCCUPANTS: 349 MALE, 349 FEMALE
SECOND FLOOR: 581 OCCUPANTS: 291 MALE, 291 FEMALE

TABLE 2902.3
WATER CLOSETS: 1 PER 50 (MALE OR FEMALE)
LAVATORIES: 1 PER 50 (MALE OR FEMALE)
DRINKING FOUNTAINS: 1 PER 100

OCCUPANCY	MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES PER TABLE 2902.1					
EDUCATIONAL	WATER CLOSETS		LAVATORIES		DRINKING FOUNTAINS	OTHERS
FIRST FLOOR	MALE 349	FEMALE 349	MALE 349	FEMALE 349		
NO. OF FIXTURES	7	7	7	7	7	1 SERVICE SINK
SECOND FLOOR	MALE 291	FEMALE 291	MALE 291	FEMALE 291		
NO. OF FIXTURES	6	6	6	6	6	1 SERVICE SINK

INTERNATIONAL PLUMBING CODE

419.2 SUBSTITUTION FOR WATER CLOSETS:
IN EACH BATHROOM OR TOILET ROOM, URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 67 PER CENT OF THE REQUIRED WATER CLOSETS.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E ALLEN 15101 STATE OF TEXAS
05.21.2018

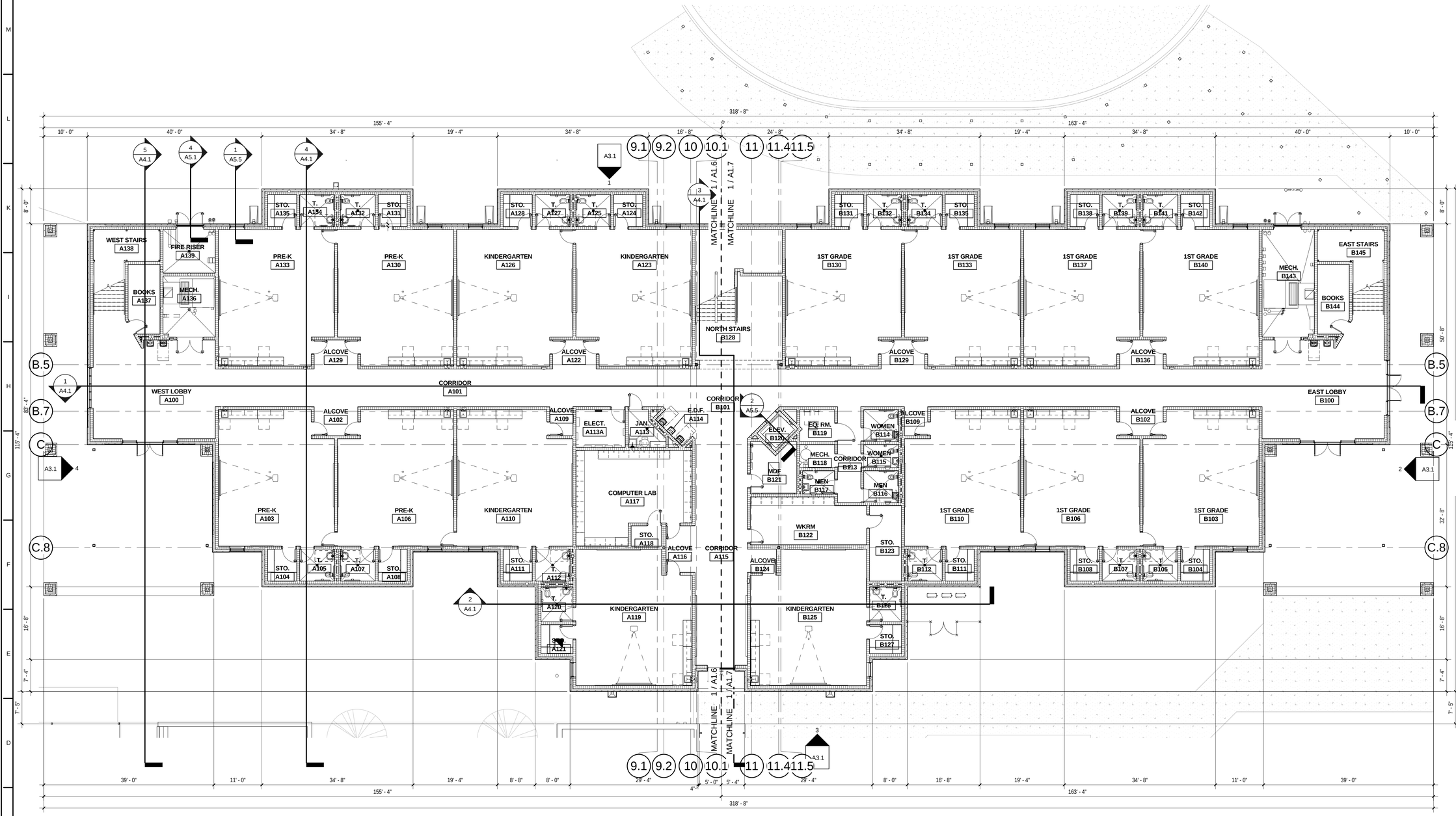
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:40:12 AM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

CODE ANAYSIS

A1.3



OVERALL FLOOR PLAN - 1ST FLOOR

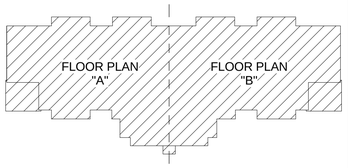
3/32" = 1'-0"

GENERAL BUILDING NOTES

1. REFER TO FIRE PROTECTION PLANS AND BUILDING SECTIONS FOR LOCATION AND HEIGHT OF FIRE RATED WALLS, UNLESS OTHERWISE NOTED.
2. ALL EXPOSED WALL CORNERS SHALL HAVE BULLNOSE EDGE TYPICAL.
3. PAINT, CAULK AND SEAL AT ALL DISSIMLAR WALL MATERIAL INTERSECTIONS.

SYMBOL LEGEND

1 A101 SIM	CALLOUT HEAD SYMBOL	NAME ELEVATION	LEVEL SYMBOL	Room name 101	ROOM TAG SYMBOL	1i	WALL TAG SYMBOL
101	DOOR TAG SYMBOL	N	NORTH ARROW SYMBOL	1 A101 SIM	SECTION HEAD SYMBOL	1 / A101	VIEW REFERENCE SYMBOL
0	GRID HEAD SYMBOL	1	REVISION TAG SYMBOL	1t	WINDOW TAG SYMBOL	1 Ref A101 1 Ref 1 Ref 1 Ref	BUILDING ELEVATION REFERENCE SYMBOL



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

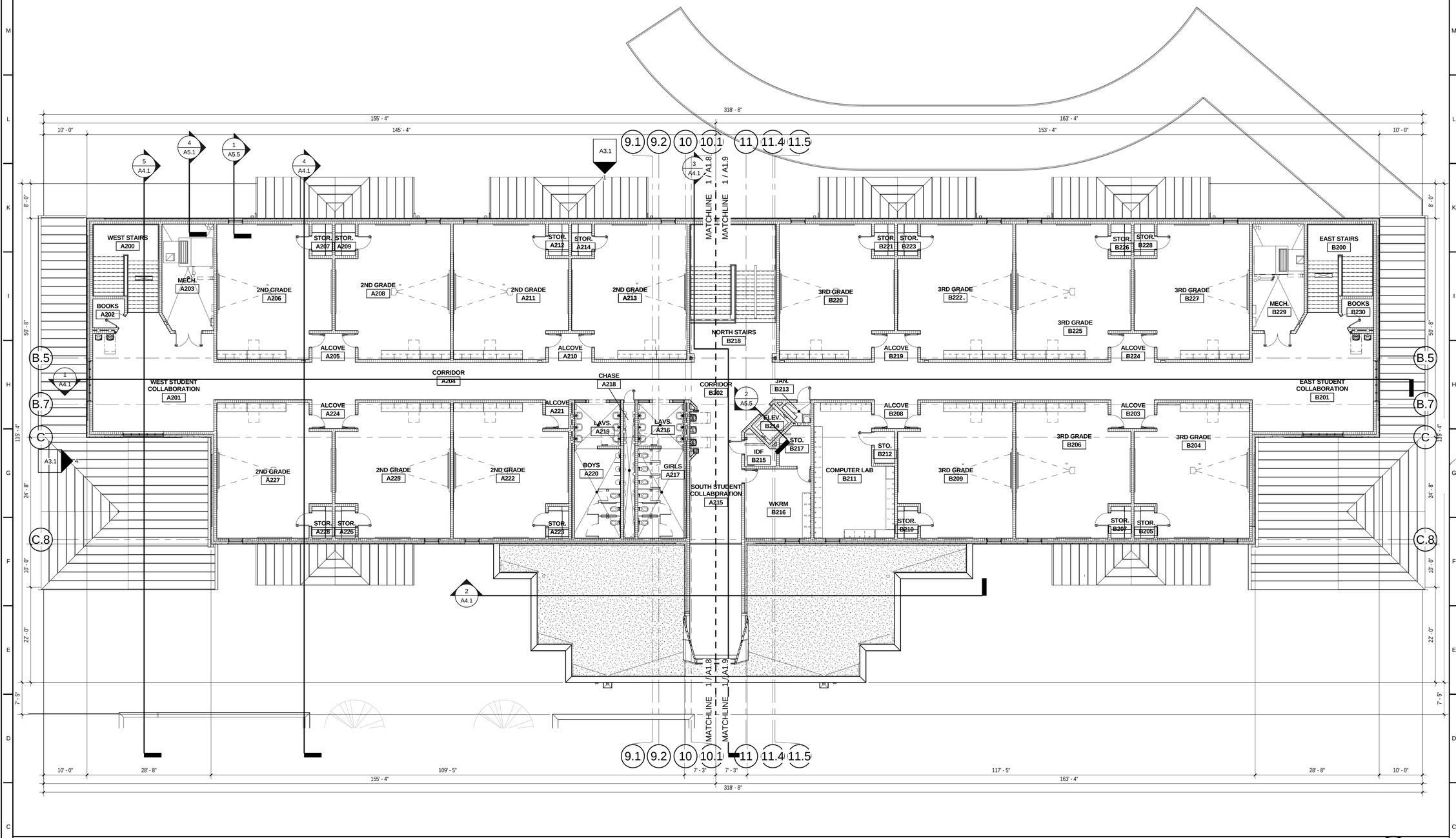
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:40:41 AM	
STARTING DATE: 09/05/2017	
CK BY:Checker	DWN BY: Author

OVERALL FLOOR PLAN - 1ST FLOOR

A1.4



OVERALL FLOOR PLAN - 2ND FLOOR

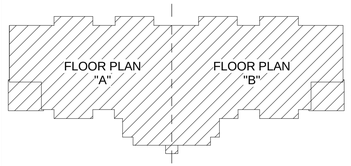
1 — 3/32" = 1'-0"

GENERAL BUILDING NOTES

1. REFER TO FIRE PROTECTION PLANS AND BUILDING SECTIONS FOR LOCATION AND HEIGHT OF FIRE RATED WALLS, UNLESS OTHERWISE NOTED.
2. ALL EXPOSED WALL CORNERS SHALL HAVE BULLNOSE EDGE TYPICAL.
3. PAINT, CAULK AND SEAL AT ALL DISSIMLAR WALL MATERIAL INTERSECTIONS.

SYMBOL LEGEND

1 A101 SIM	CALLOUT HEAD SYMBOL	NAME ELEVATION	LEVEL SYMBOL	Room name 101	ROOM TAG SYMBOL	1i	WALL TAG SYMBOL
101	DOOR TAG SYMBOL	N	NORTH ARROW SYMBOL	1 A101 SIM	SECTION HEAD SYMBOL	1 / A101	VIEW REFERENCE SYMBOL
0	GRID HEAD SYMBOL	1	REVISION TAG SYMBOL	1t	WINDOW TAG SYMBOL	1 Ref / 1 Ref / A101 / 1 Ref / 1 Ref	BUILDING ELEVATION REFERENCE SYMBOL



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS
05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

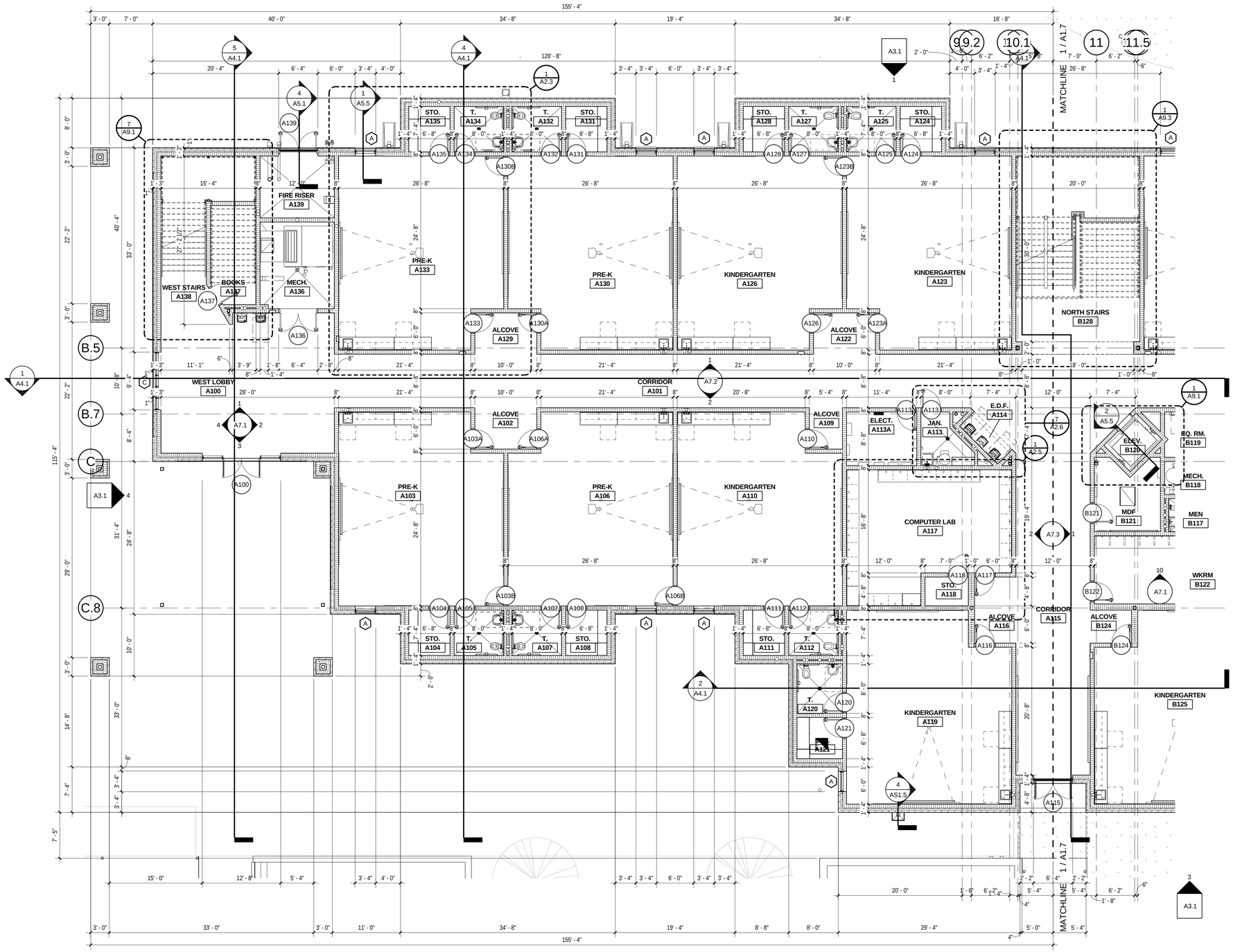
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:40:59 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

OVERALL FLOOR PLAN - 2ND FLOOR

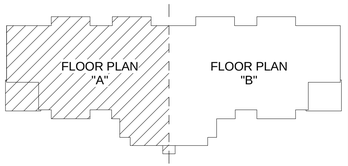
A1.5



PARTIAL FLOOR PLAN "A" - 1ST FLOOR

1

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

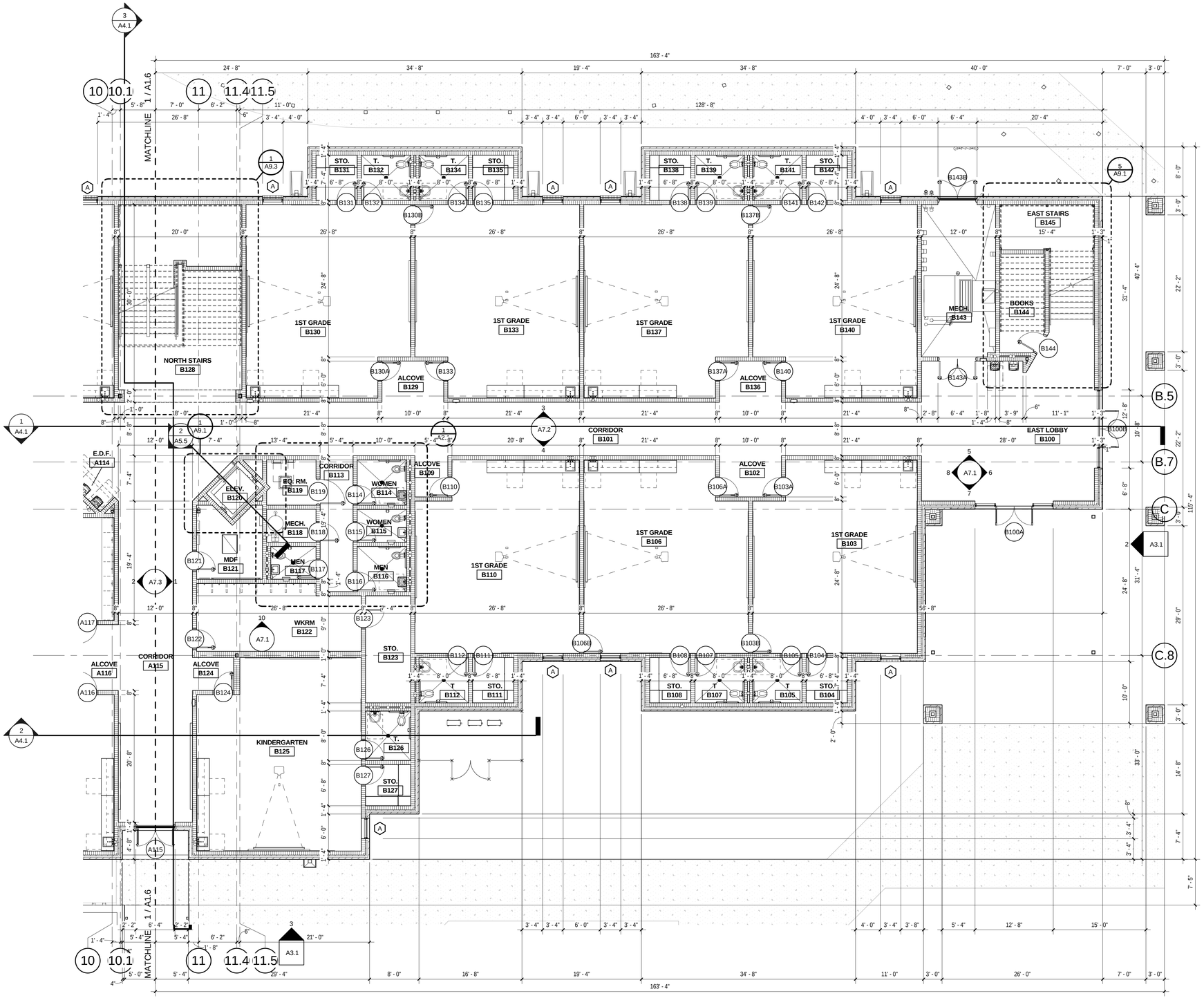
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:41:07 AM	
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL FLOOR PLAN "A" - 1ST FLOOR

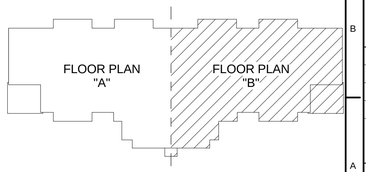
A1.6



PARTIAL FLOOR PLAN "B" - 1ST FLOOR

1/8" = 1'-0"

1



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

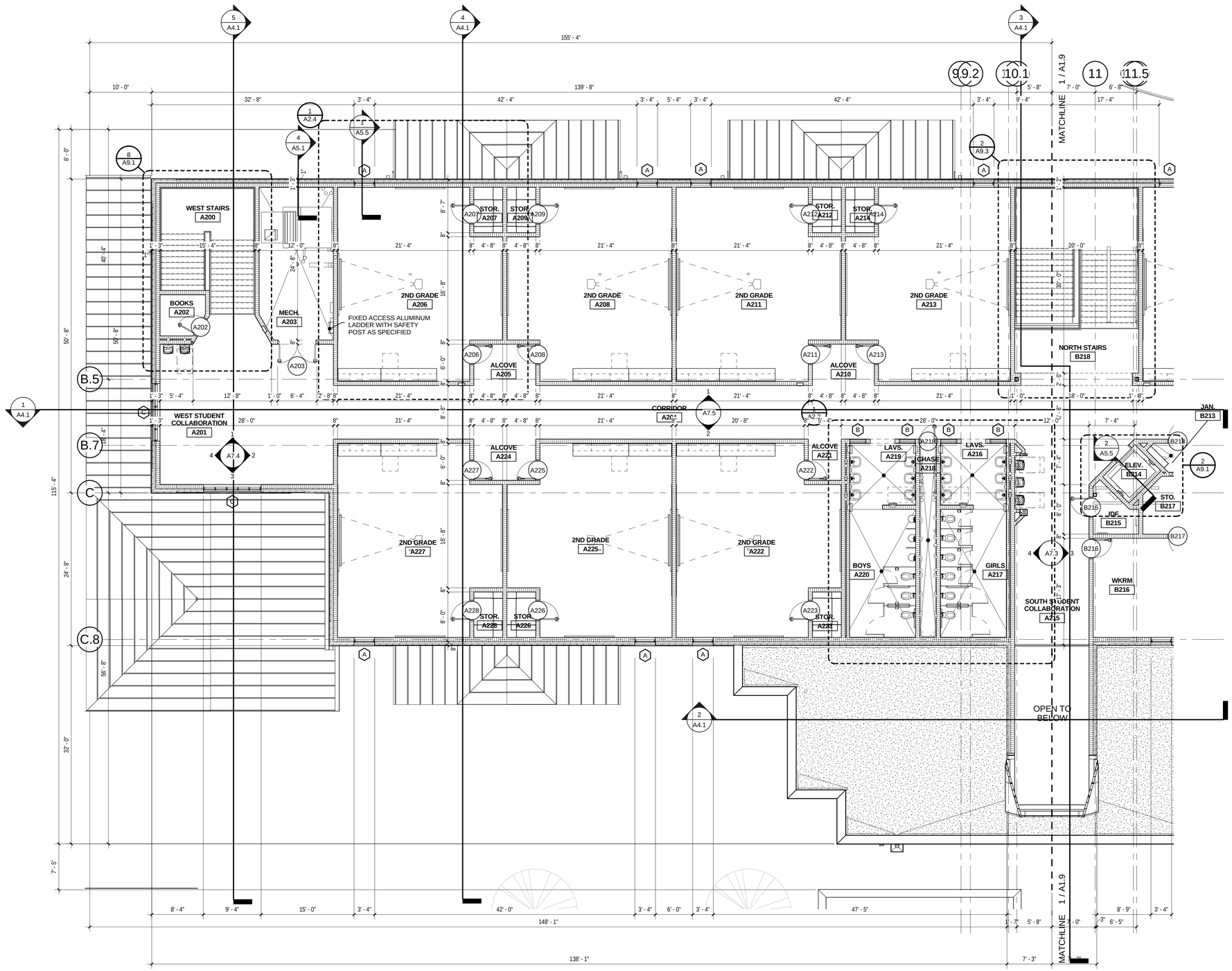
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:41:15 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL FLOOR PLAN "B" - 1ST FLOOR

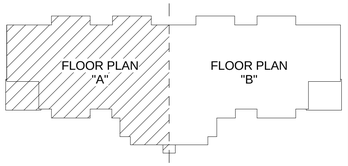
A1.7



PARTIAL FLOOR PLAN "A" - 2ND FLOOR

1

1/8" = 1'-0"



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

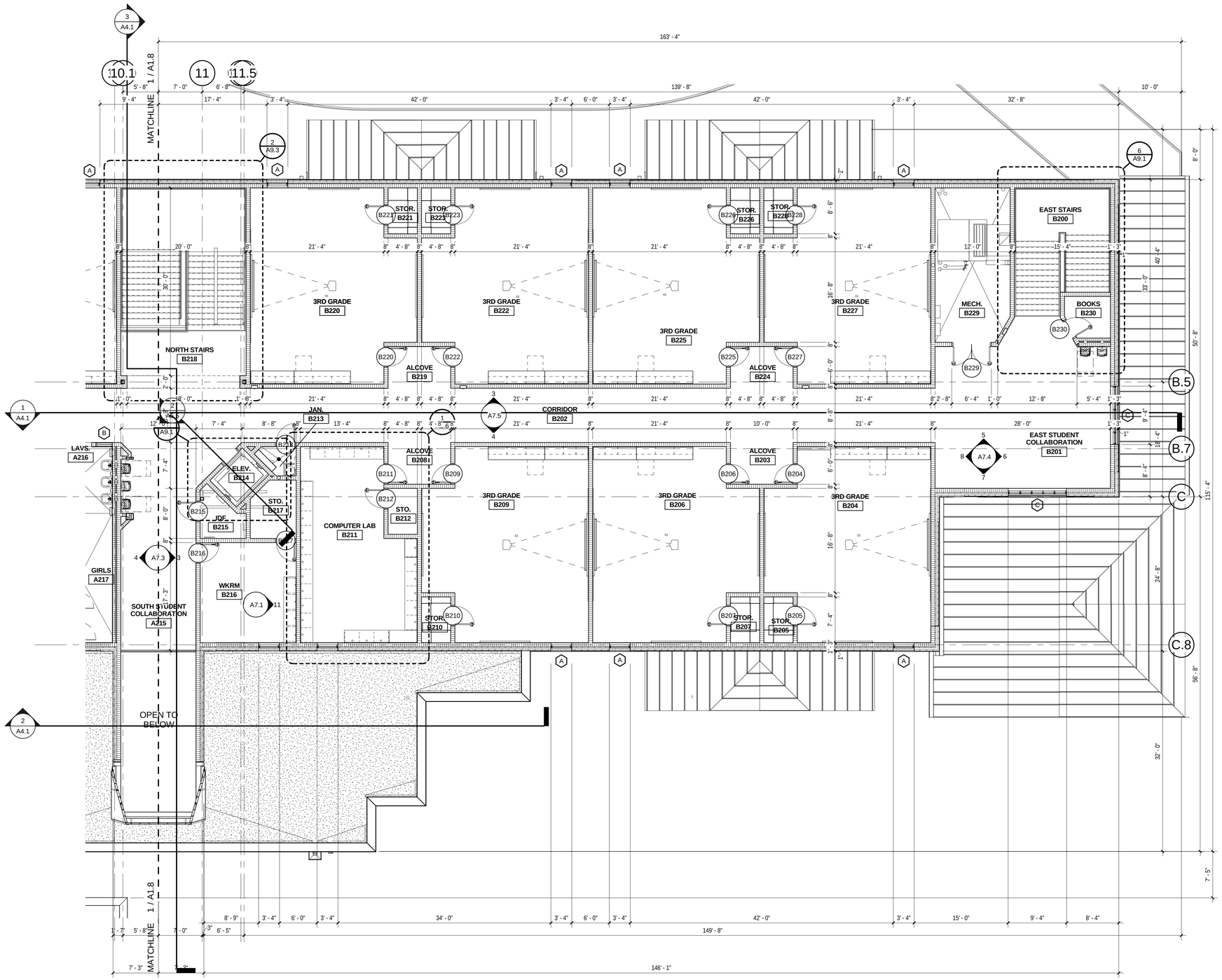
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:41:31 AM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

PARTIAL FLOOR PLAN "A" - 2ND FLOOR

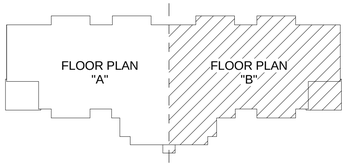
A1.8



PARTIAL FLOOR PLAN "B" - 2ND FLOOR

1

1/8" = 1'-0"



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO: 2017.12

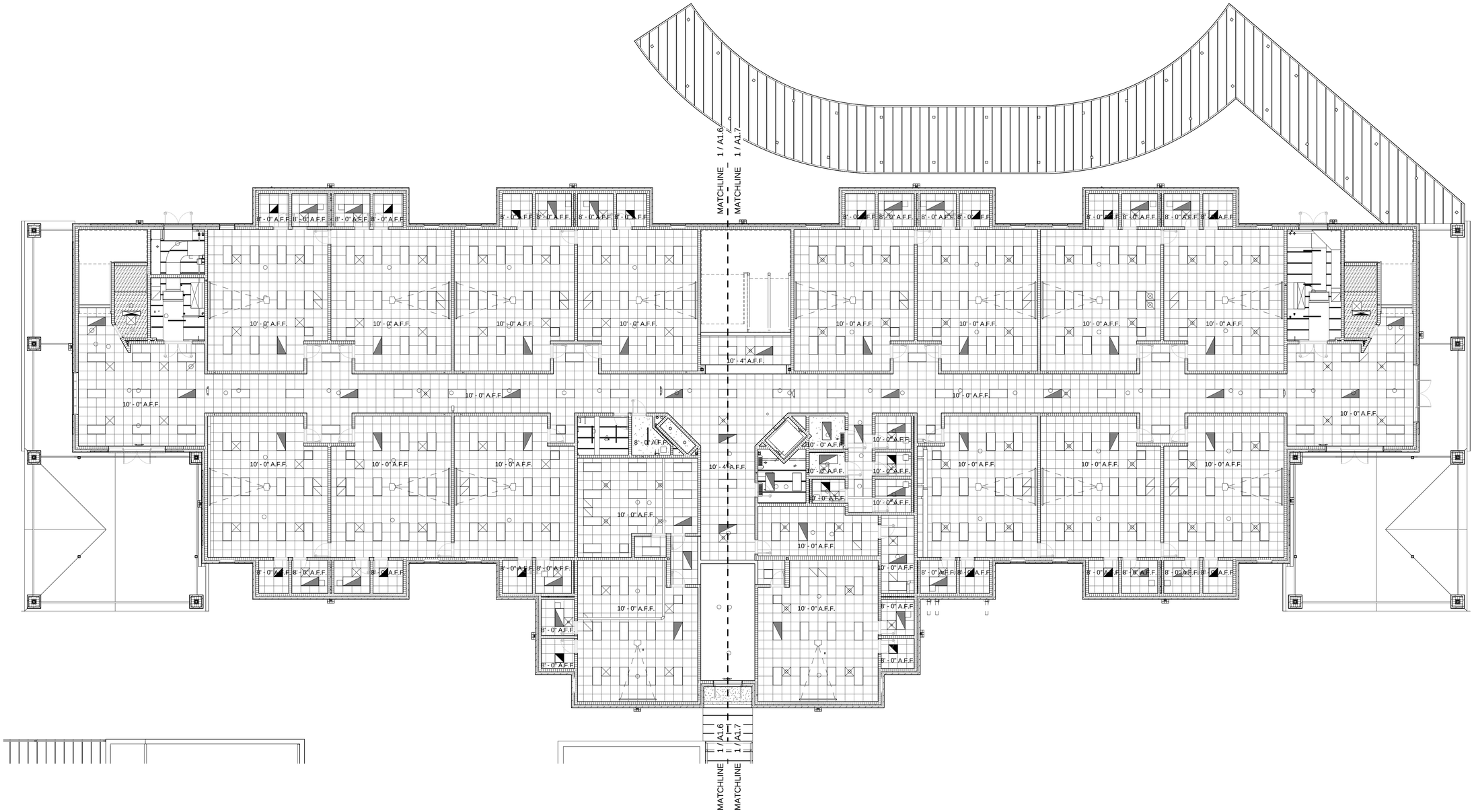
DATE: 5/22/2018 10:41:41 AM

STARTING DATE: 09/05/2017

CK BY:Checker | DWN BY: Author

PARTIAL FLOOR PLAN "B" - 2ND FLOOR

A1.9



REFELECTED CEILING PLAN - 1ST FLOOR

1 — 3/32" = 1'-0"

N

REFLECTED CEILING PLAN GENERAL NOTES

1. GENERAL CONTRACTOR TO VERIFY LIGHT FIXTURE LOCATIONS, TYPES AND QUANTITES WITH MEP DRAWINGS.
2. COMMON CEILING HEIGHT TO 10'-0" UNLESS OTHERWISED NOTED.
3. GENERAL CONTRACTOR TO REVIEW ALL CEILING HEIGHTS AND CEILING MATERIALS WITH ALL DRAWINGS AND SPECIFICATIONS, SHOULD A CONFLICT ARISE CONSULT ARCHITECT BEFORE COMMENCING CEILING WORK.
4. REFER TO MEP ENGINEER DRAWINGS FOR EMERGENCY LIGHT FIXTURE AND EXIT LIGHT FIXTURE LOCATIONS, TYPES AND QUANTITES.
5. REFER TO MEP ENGINEER DRAWINGS FOR LIGHTING SPECIFICATIONS, CIRCUITING AND SWITCHING CONTROLS.

REFLECTED CEILING TYPE LEGEND

SUSPENDED ACOUSTICAL CEILINGS
ACOUSTICAL UNITS AND SUSPENSION SYSTEM(S) 2'-0" x 2'-0" SUSPENDED ACOUSTICAL CLING SYSTEM.

SUSPENDED GYPSUM BOARD ASSEMBLIES
5/8" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE AND PAINT) ON DRYWALL GRID SYSTEM SUSPEND FROM STRUCTURE.

SUSPENDED GYPSUM BOARD ASSEMBLIES
2- LAYERS OF 5/8" TYPE "X" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE AND PAINT) ON DRYWALL GRID SYSTEM SUSPEND FROM STRUCTURE.

SUSPENDED STUCCO FINISH ASSEMBLIES
3/4" STUCCO FINISH (PAINT), ON METAL LATH SYSTEM SUSPEND FROM 1-1/2" METAL STUD STRUCTURE.

EXPOSED STRUCTURE
OPEN TO BUILDING STRUCTURE ABOVE (PAINT) JOISTS, BEAMS AND UNDERSIDE OF METAL DECKING.

EXTERIOR WALL LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

STRIP LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

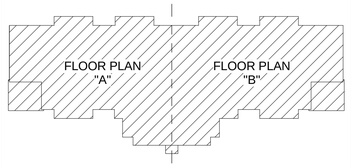
LAY-IN LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

LAY-IN LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

A/C DIFFUSERS
AS SCHEDULE. REFER MEP DRAWINGS.

RETURN AIR DIFFUSERS
AS SCHEDULE. REFER MEP DRAWINGS.

EXHAUST AIR GRILLE
AS SCHEDULE. REFER MEP DRAWINGS.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEY 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

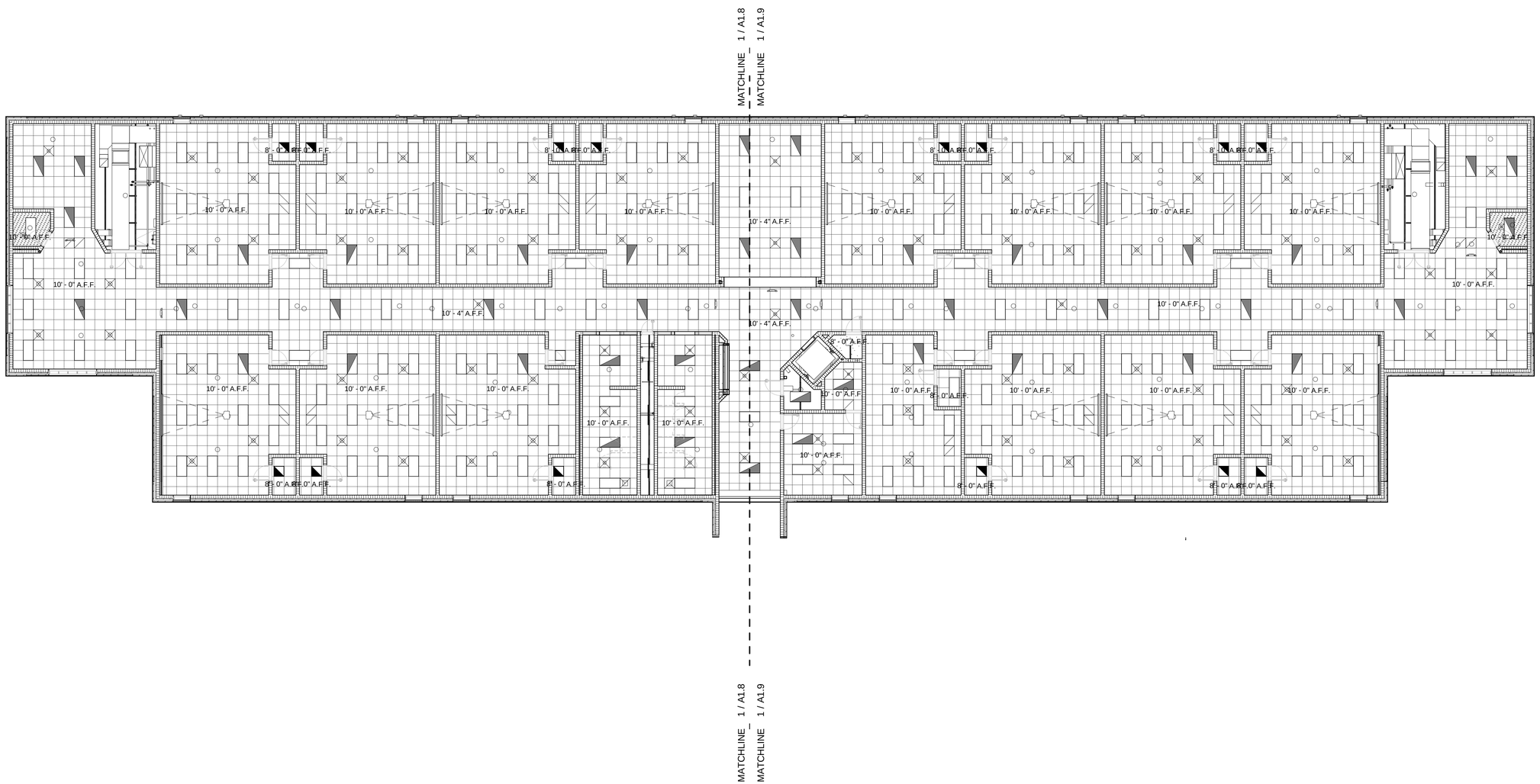
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:41:57 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

REFELECTED CEILING PLAN - 1ST FLOOR

A1.10



REFELECTED CEILING PLAN - 2ND FLOOR

1 — 3/32" = 1'-0"

N

REFLECTED CEILING PLAN GENERAL NOTES

1. GENERAL CONTRACTOR TO VERIFY LIGHT FIXTURE LOCATIONS, TYPES AND QUANTITES WITH MEP DRAWINGS.
2. COMMON CEILING HEIGHT TO 10'-0" UNLESS OTHERWISED NOTED.
3. GENERAL CONTRACTOR TO REVIEW ALL CEILING HEIGHTS AND CEILING MATERIALS WITH ALL DRAWINGS AND SPECIFICATIONS, SHOULD A CONFLICT ARISE CONSULT ARCHITECT BEFORE COMMENCING CEILING WORK.
4. REFER TO MEP ENGINEER DRAWINGS FOR EMERGENCY LIGHT FIXTURE AND EXIT LIGHT FIXTURE LOCATIONS, TYPES AND QUANTITES.
5. REFER TO MEP ENGINEER DRAWINGS FOR LIGHTING SPECIFICATIONS, CIRCUITING AND SWITCHING CONTROLS.

REFLECTED CEILING TYPE LEGEND

SUSPENDED ACOUSTICAL CEILINGS
ACOUSTICAL UNITS AND SUSPENSION SYSTEM(S) 2'-0" x 2'-0" SUSPENDED ACOUSTICAL CLING SYSTEM.

SUSPENDED GYPSUM BOARD ASSEMBLIES
5/8" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE AND PAINT) ON DRYWALL GRID SYSTEM SUSPEND FROM STRUCTURE.

SUSPENDED GYPSUM BOARD ASSEMBLIES
2- LAYERS OF 5/8" TYPE "X" GYPSUM BOARD, (TAPE, FLOAT, TEXTURE AND PAINT) ON DRYWALL GRID SYSTEM SUSPEND FROM STRUCTURE.

SUSPENDED STUCCO FINISH ASSEMBLIES
3/4" STUCCO FINISH (PAINT), ON METAL LATH SYSTEM SUSPEND FROM 1-1/2" METAL STUD STRUCTURE.

EXPOSED STRUCTURE
OPEN TO BUILDING STRUCTURE ABOVE (PAINT) JOISTS, BEAMS AND UNDERSIDE OF METAL DECKING.

EXTERIOR WALL LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

STRIP LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

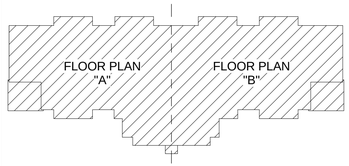
LAY-IN LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

LAY-IN LIGHT FIXTURE
AS SCHEDULE. REFER MEP DRAWINGS.

A/C DIFFUSERS
AS SCHEDULE. REFER MEP DRAWINGS.

RETURN AIR DIFFUSERS
AS SCHEDULE. REFER MEP DRAWINGS.

EXHAUST AIR GRILLE
AS SCHEDULE. REFER MEP DRAWINGS.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

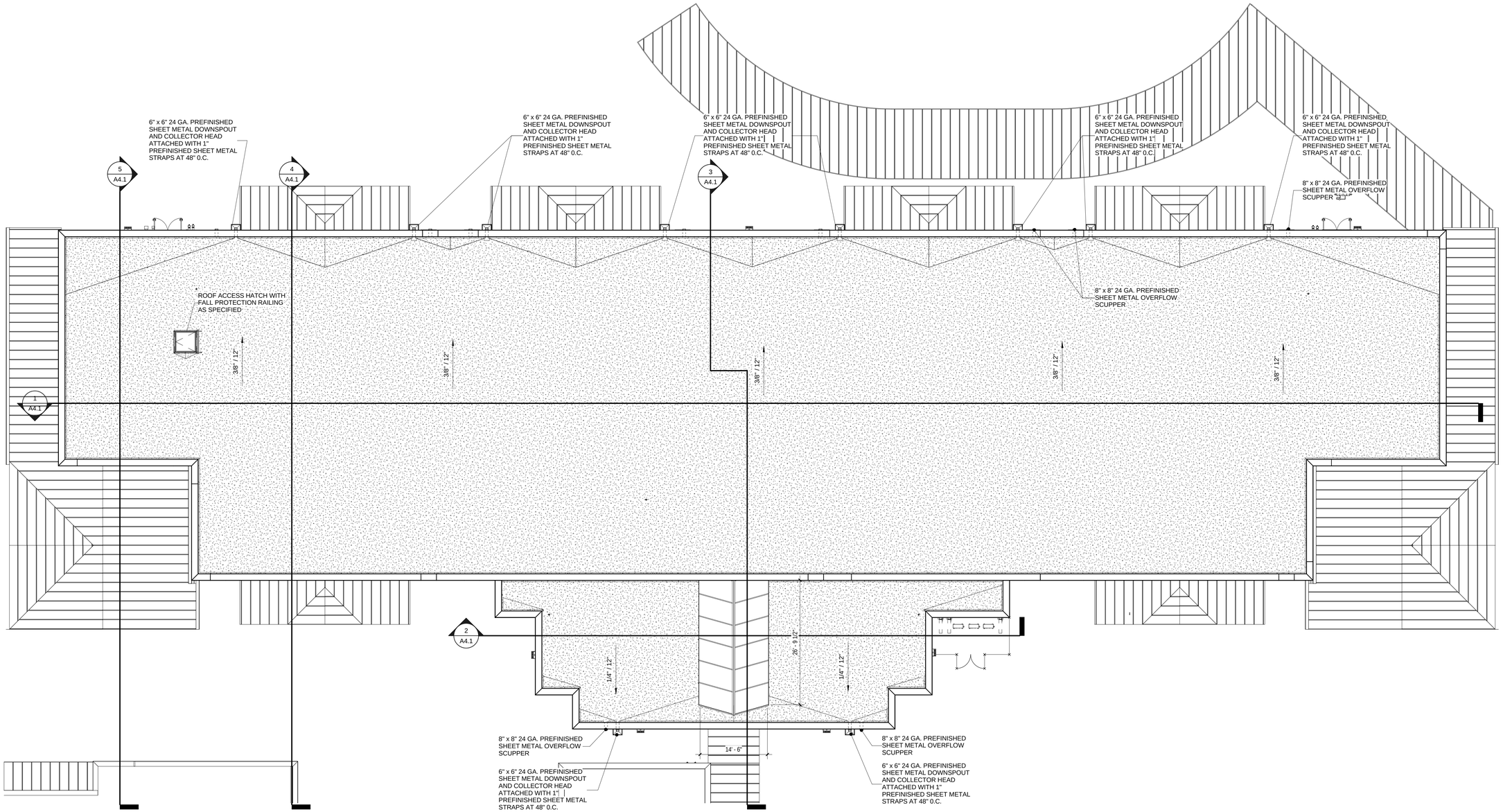
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:42:09 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

REFELECTED CEILING PLAN - 2ND FLOOR

A1.11

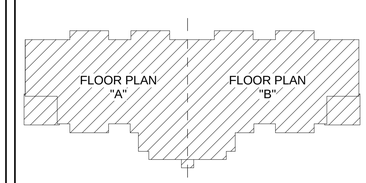


ROOF PLAN

3/32" = 1'-0"

1

N



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

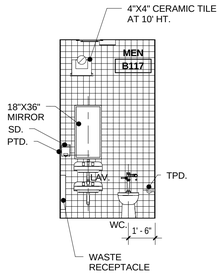
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

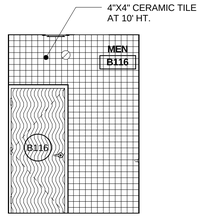
PROJECT NO:	2017.12
DATE:	5/22/2018 10:42:29 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ROOF PLAN

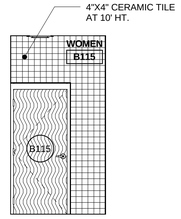
A1.12



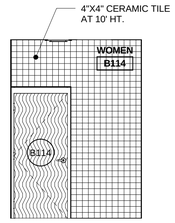
MEN B117 - WEST INT. ELEV. 1/4" = 1'-0" 17



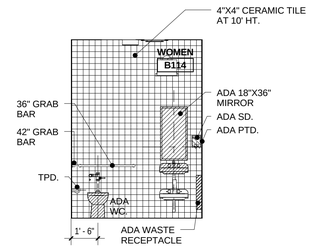
MEN B116 - WEST INT. ELEV. 1/4" = 1'-0" 13



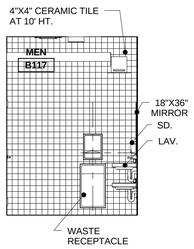
WOMEN B115 - WEST INT. ELEV. 1/4" = 1'-0" 9



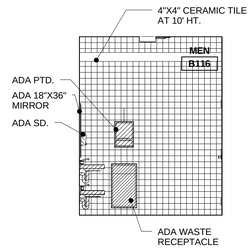
WOMEN B114 - WEST INT. ELEV. 1/4" = 1'-0" 5



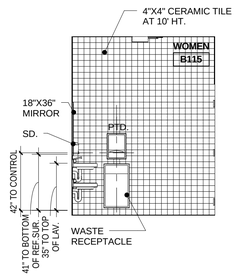
WOMEN B114 - EAST INT. ELEV. 1/4" = 1'-0" 3



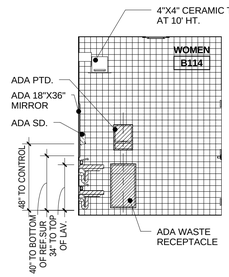
MEN B117 - SOUTH INT. ELEV. 1/4" = 1'-0" 16



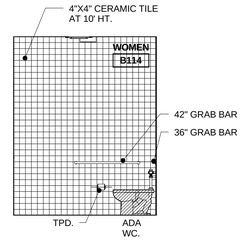
MEN B116 - SOUTH INT. ELEV. 1/4" = 1'-0" 12



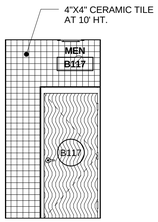
WOMEN B115 - SOUTH INT. ELEV. 1/4" = 1'-0" 8



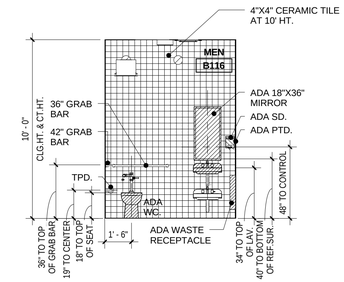
WOMEN B114 - SOUTH INT. ELEV. 1/4" = 1'-0" 4



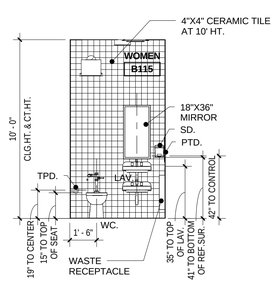
WOMEN B114 - NORTH INT. ELEV. 1/4" = 1'-0" 2



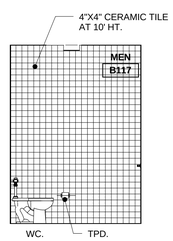
MEN B117 - EAST INT. ELEV. 1/4" = 1'-0" 15



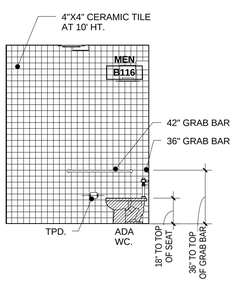
MEN B116 - EAST INT. ELEV. 1/4" = 1'-0" 11



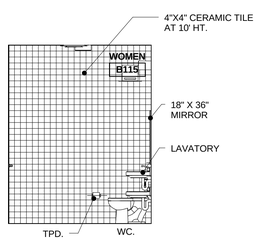
WOMEN B115 - EAST INT. ELEV. 1/4" = 1'-0" 7



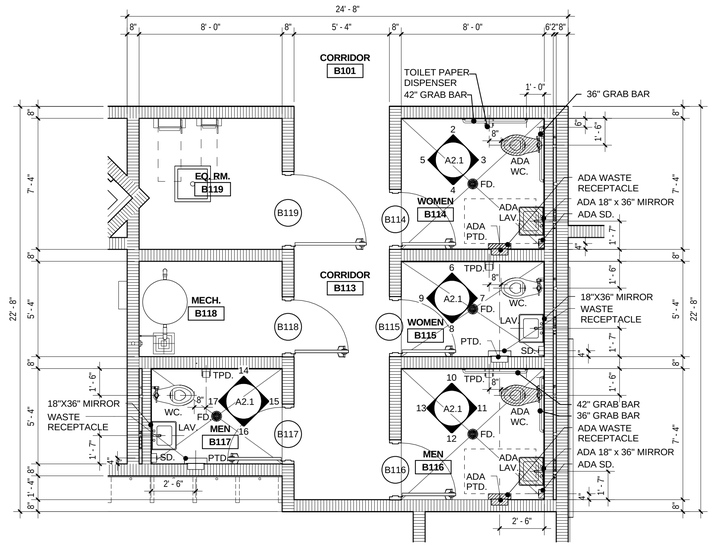
MEN B117 - NORTH INT. ELEV. 1/4" = 1'-0" 14



MEN B116 - NORTH INT. ELEV. 1/4" = 1'-0" 10



WOMEN B115 - NORTH INT. ELEV. 1/4" = 1'-0" 6



ENLARGED MEN/WOMEN FLOOR PLAN - 1ST FLOOR 1/4" = 1'-0" 1

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

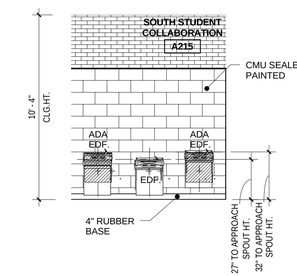
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

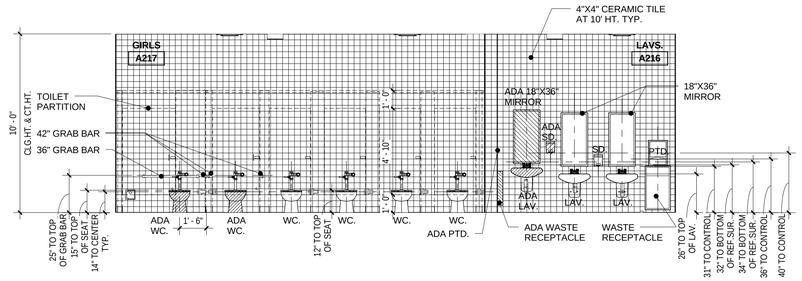
PROJECT NO:	2017.12
DATE:	5/22/2018 10:42:48 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

ENLARGED MEN/WOMEN FLOOR PLAN - 1ST PLAN

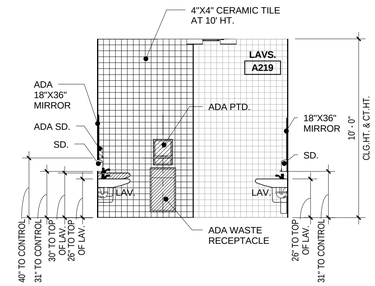
A2.1



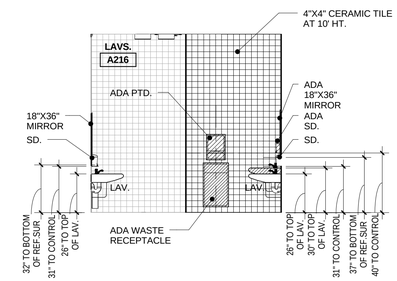
EDF - INTERIOR ELEVATION 14
1/4" = 1'-0"



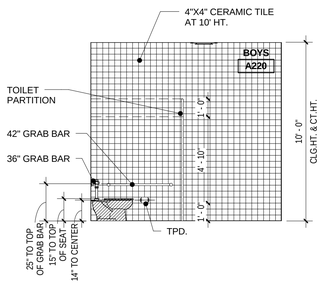
GIRLS A217 - WEST INT. ELEV. 9
1/4" = 1'-0"



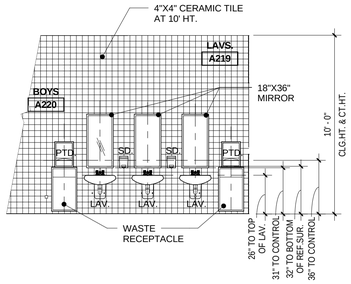
LAVS. A219 - WEST INT. ELEV. 5
1/4" = 1'-0"



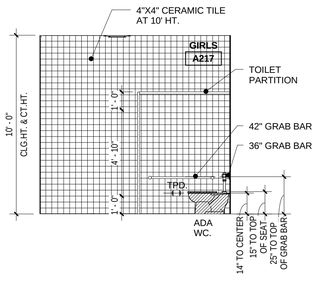
LAVS. A216 - SOUTH INT. ELEV. 3
1/4" = 1'-0"



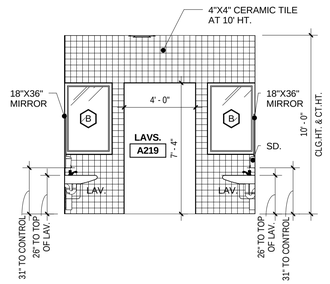
BOYS A220 - SOUTH INT. ELEV. 13
1/4" = 1'-0"



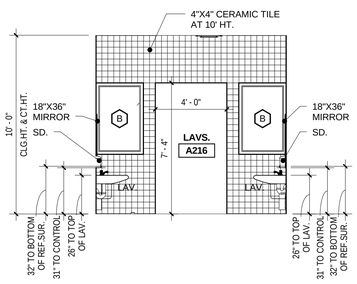
BOYS A220 - WEST INT. ELEV. 12
1/4" = 1'-0"



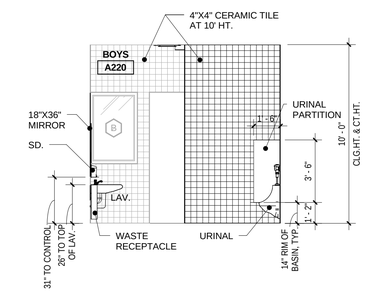
GIRLS A217 - SOUTH INT. ELEV. 8
1/4" = 1'-0"



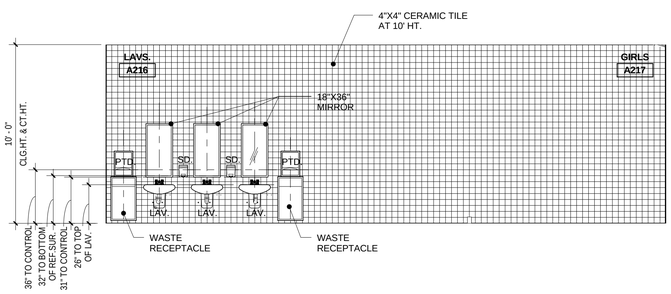
LAVS. A219 - NORTH INT. ELEV. 4
1/4" = 1'-0"



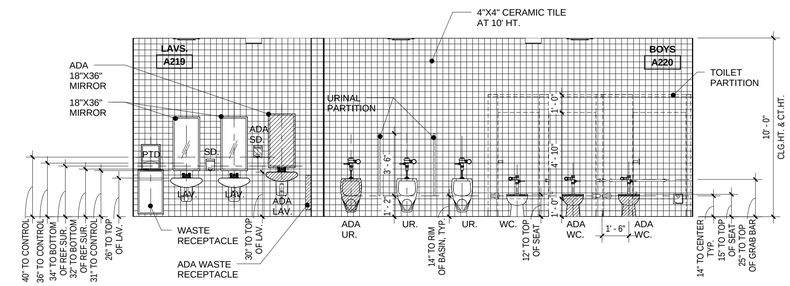
LAVS. A216 - NORTH INT. ELEV. 2
1/4" = 1'-0"



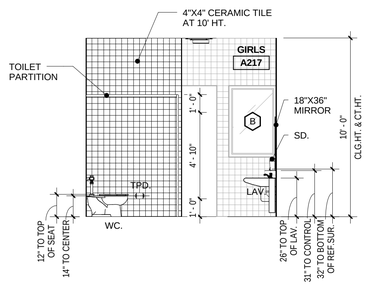
BOYS A220 - NORTH INT. ELEV. 11
1/4" = 1'-0"



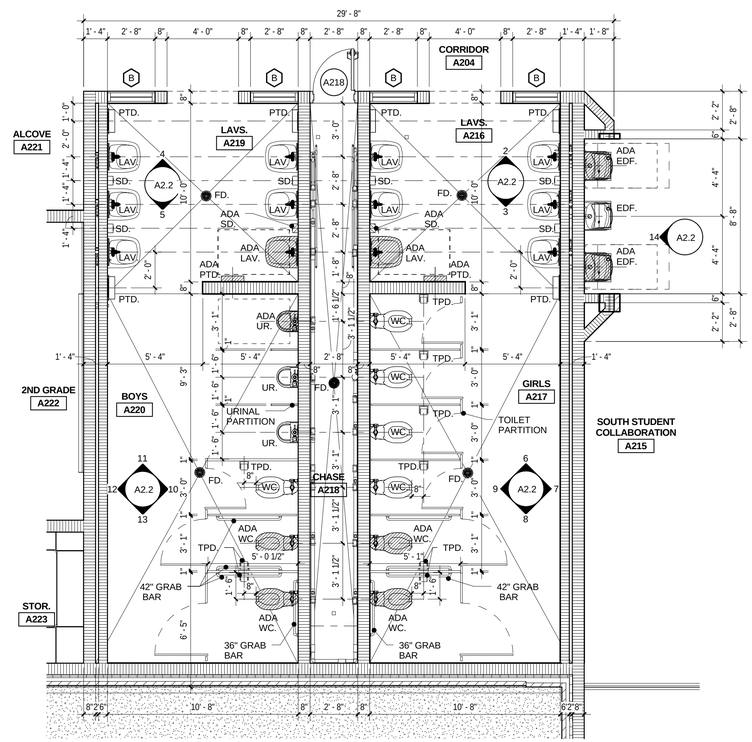
GIRLS A217 - EAST INT. ELEV. 7
1/4" = 1'-0"



BOYS A220 - EAST INT. ELEV. 10
1/4" = 1'-0"



GIRLS A217 - NORTH INT. ELEV. 6
1/4" = 1'-0"



ENLARGED BOYS/GIRLS FLOOR PLAN - 2ND FLOOR 1
1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS
05.21.2018

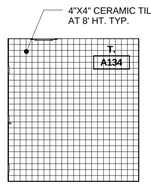
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:43:26 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

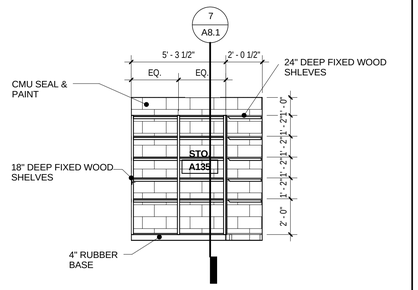
ENLARGED BOYS/GIRLS FLOOR PLAN - 2ND FLOOR

A2.2



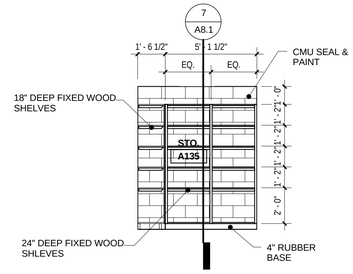
T. - WEST INT. ELEV. (11)

1/4" = 1'-0"



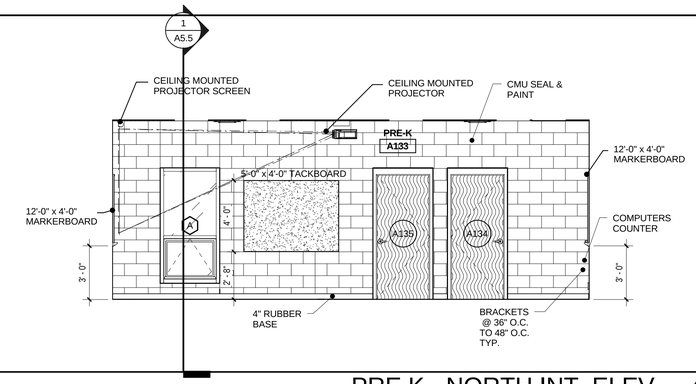
STOR. - WEST INT. ELEV. (7)

1/4" = 1'-0"



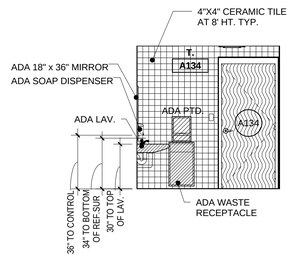
STOR. - NORTH INT. ELEV. (6)

1/4" = 1'-0"



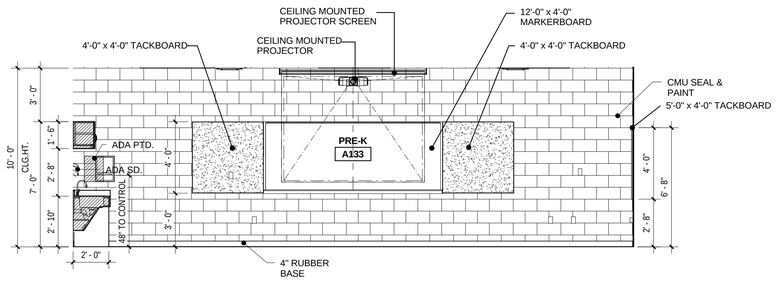
PRE K - NORTH INT. ELEV. (2)

1/4" = 1'-0"



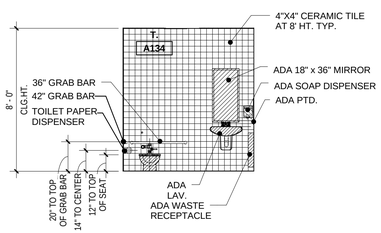
T. - SOUTH INT. ELEV. (10)

1/4" = 1'-0"



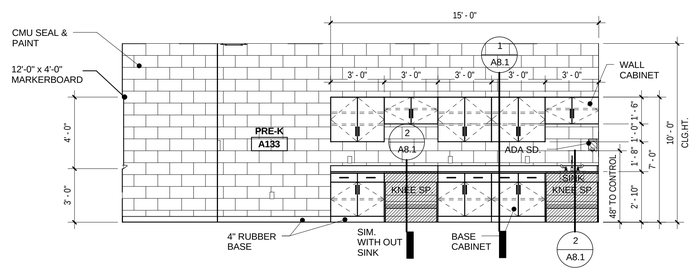
PRE K - WEST INT. ELEV. (5)

1/4" = 1'-0"



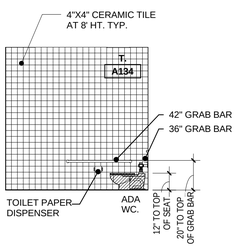
T. - EAST INT. ELEV. (9)

1/4" = 1'-0"



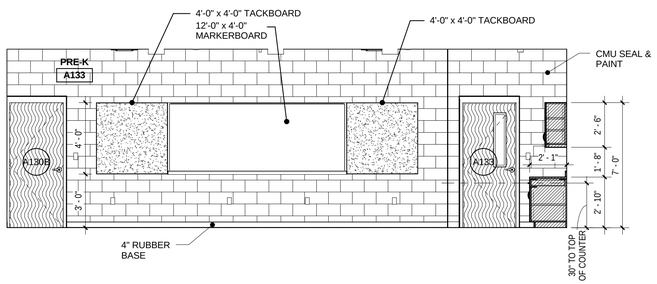
PRE K - SOUTH INT. ELEV. (4)

1/4" = 1'-0"



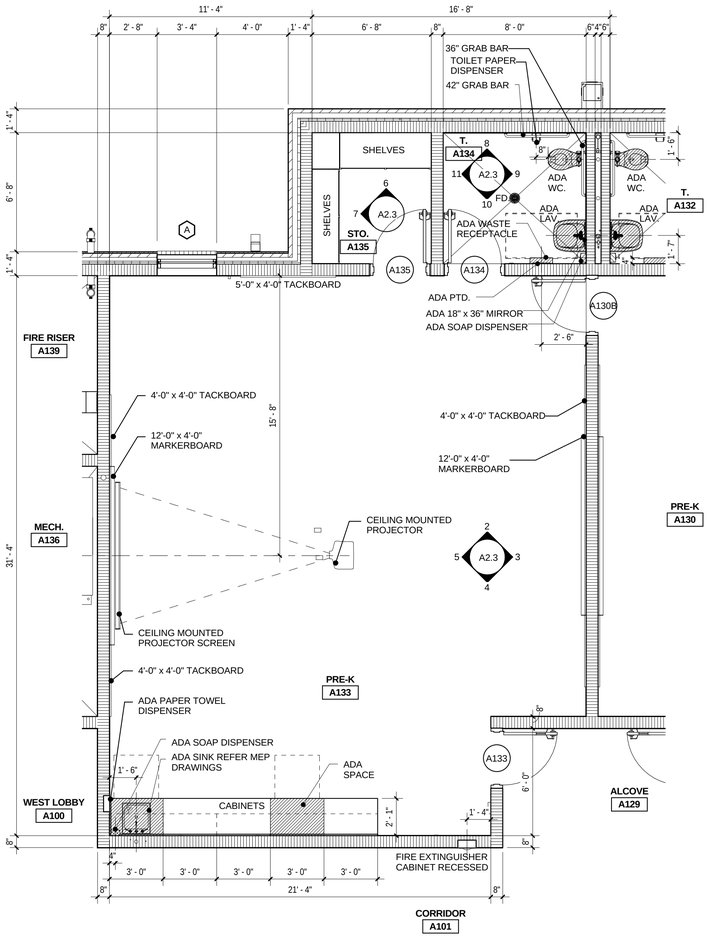
T. - NORTH INT. ELEV. (8)

1/4" = 1'-0"



PRE K - EAST INT. ELEV. (3)

1/4" = 1'-0"



ENLARGED PRE-K/KINDER/1ST GRADE TYP. CLASSROOM FLOOR PLAN - 1ST FLOOR (1)

1/4" = 1'-0"

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

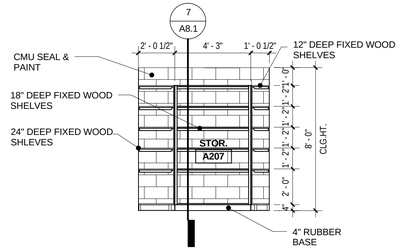
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:43:47 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

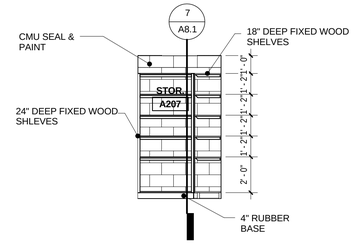
ENLARGED PRE-K/ KINDER/1ST GRADE TYP. CLASSROOM

A2.3



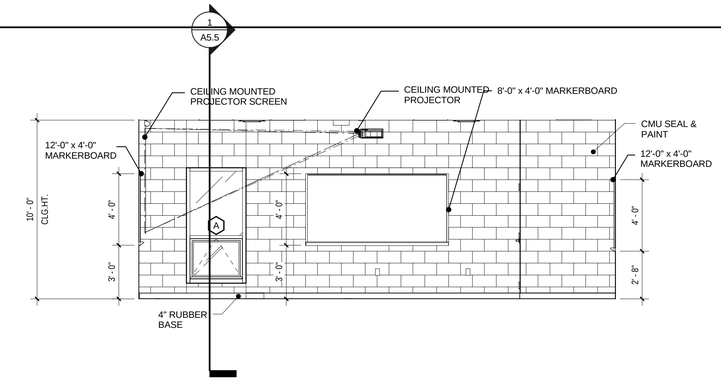
STO.2 - EAST INT. ELEV. 7

1/4" = 1'-0"



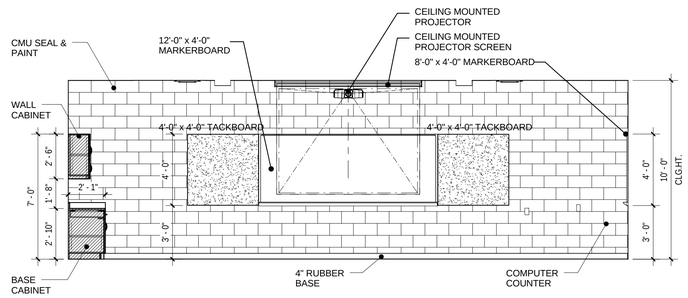
STO.2 - NORTH INT. ELEV. 6

1/4" = 1'-0"



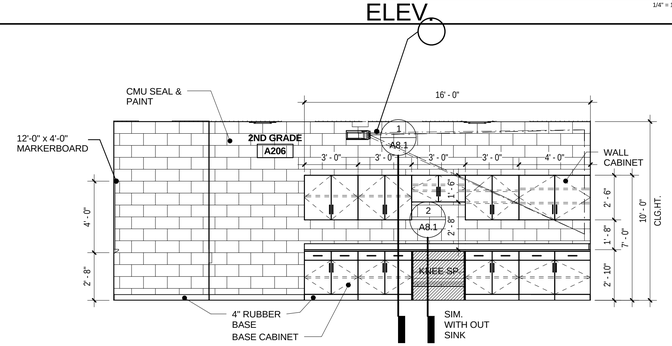
2ND GRADE - NORTH INT. ELEV. 2

1/4" = 1'-0"



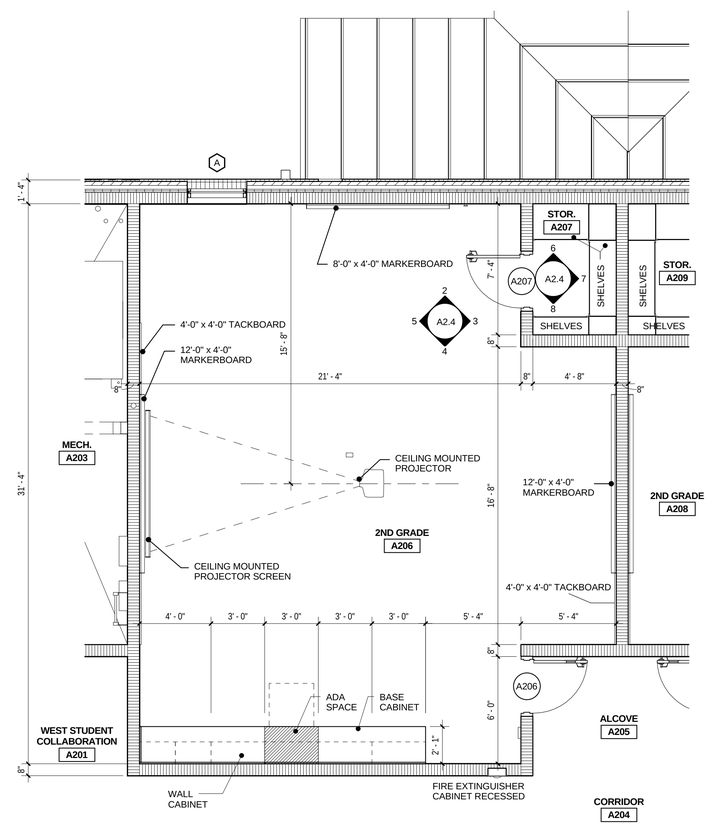
2ND GRADE - WEST INT. ELEV. 5

1/4" = 1'-0"



2ND GRADE - SOUTH INT. ELEV. 4

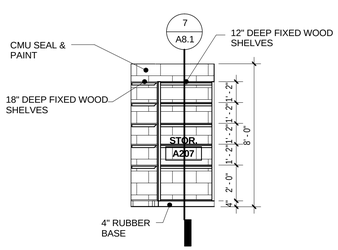
1/4" = 1'-0"



ENLARGED 2ND/3RD GRADE TYP. CLASSROOM FLOOR PLAN - 2ND FLOOR 1

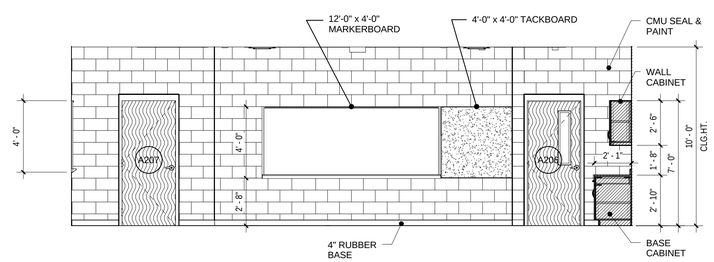
1/4" = 1'-0"

N



STO.2 - SOUTH INT. ELEV. 8

1/4" = 1'-0"



2ND GRADE - EAST INT. ELEV. 3

1/4" = 1'-0"

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

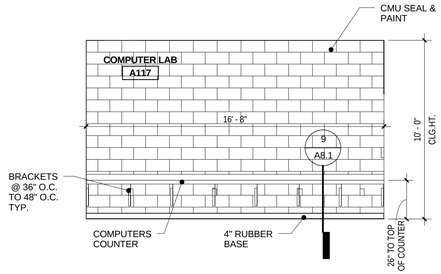
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

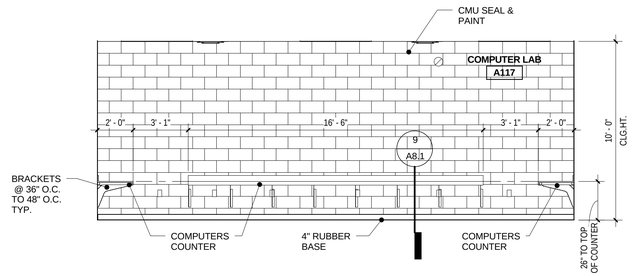
PROJECT NO: 2017.12
DATE: 5/22/2018 10:44:09 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

ENLARGED 2ND/3RD GRADE TYP. CLASSROOM

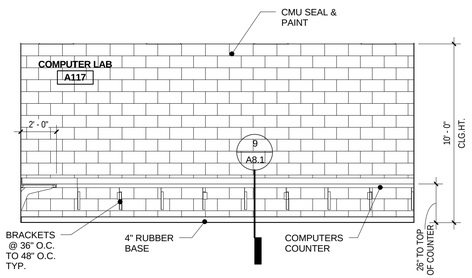
A2.4



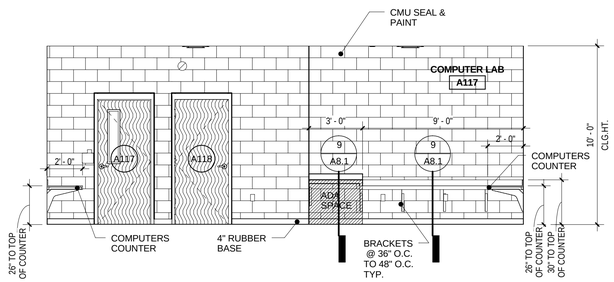
COMPUTER LAB A117 - EAST INT. ELEV. 1/4" = 1'-0" 3



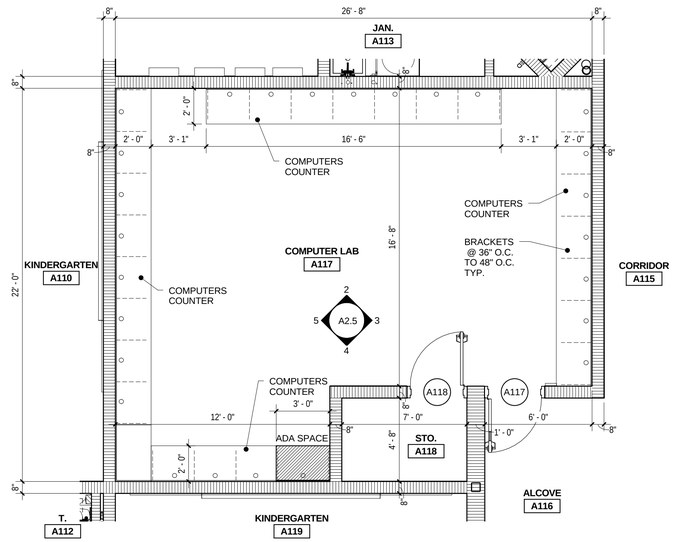
COMPUTER LAB A117 - NORTH INT. ELEV. 1/4" = 1'-0" 2



COMPUTER LAB A117 - WEST INT. ELEV. 1/4" = 1'-0" 5



COMPUTER LAB A117 - SOUTH INT. ELEV. 1/4" = 1'-0" 4



ENLARGED COMPUTER LAB FLOOR PLAN - 1ST FLOOR 1/4" = 1'-0" 1

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

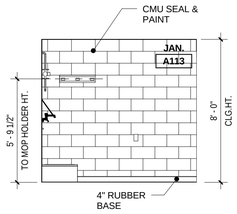
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

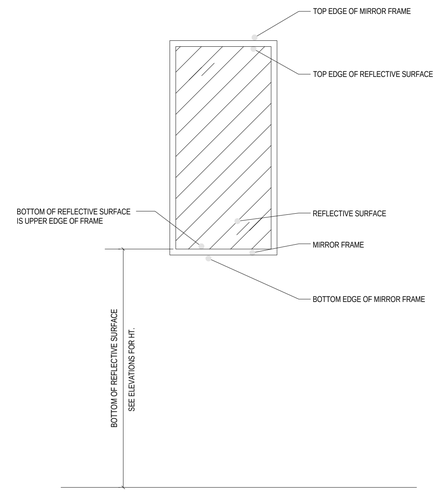
PROJECT NO:	2017.12
DATE: 5/22/2018 10:44:15 AM	
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

ENLARGED COMPUTER LAB FLR. PLAN - 1ST FLOOR

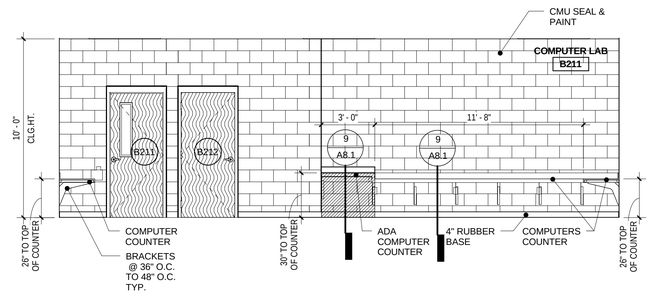
A2.5



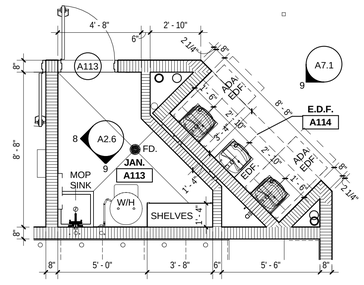
INTERIOR ELEVATION 8
1/4" = 1'-0"



MIRROR MOUNTING HEIGHT DETAIL 6
1" = 1'-0"

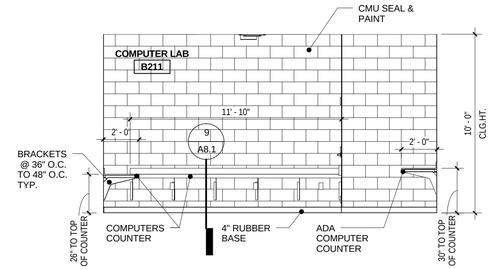


COMPUTER LAB B211 - EAST INT. ELEV. 3
1/4" = 1'-0"

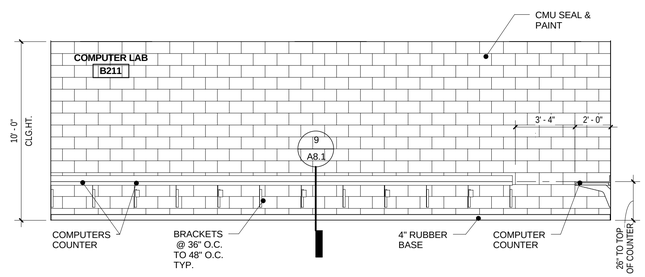


ENLARGED JANITOR 7
1/4" = 1'-0"

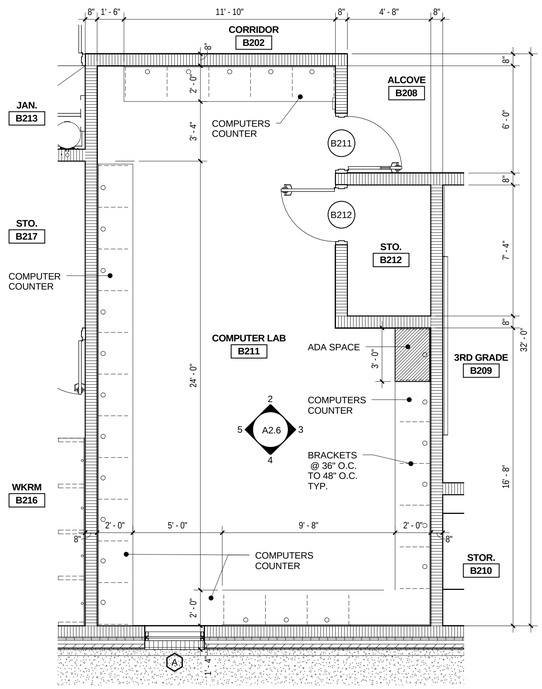
N



COMPUTER LAB B211 - NORTH INT. ELEV. 2
1/4" = 1'-0"

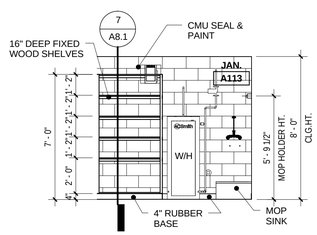


COMPUTER LAB B211 -WEST INT. ELEV. 5
1/4" = 1'-0"

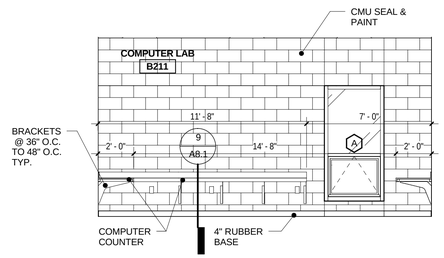


ENLARGED COMPUTER LAB FLOOR PLAN - 2ND FLOOR 1
1/4" = 1'-0"

N



INTERIOR ELEVATION 9
1/4" = 1'-0"



COMPUTER LAB B211 - SOUTH INT. ELEV. 4
1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

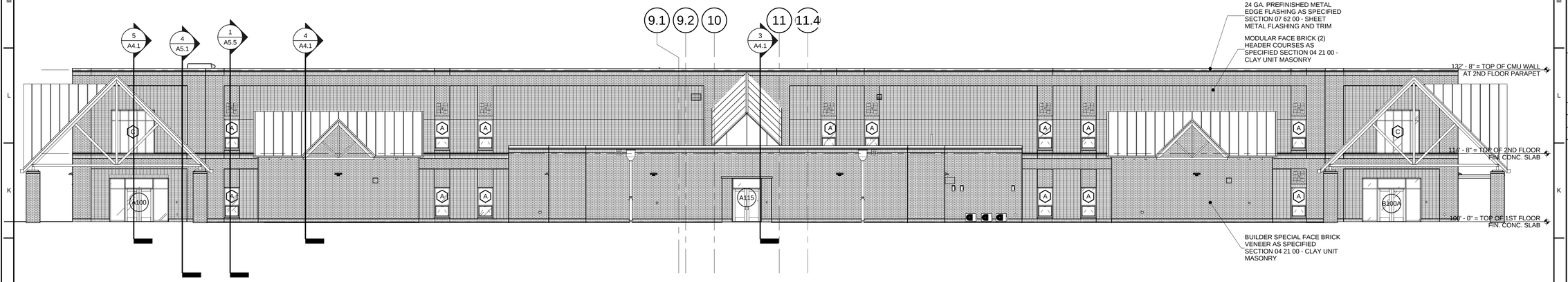
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:44:25 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

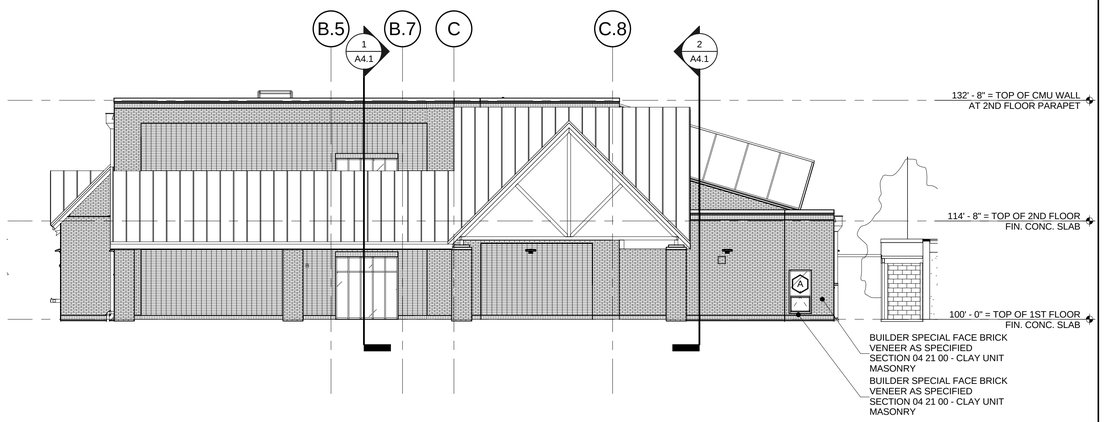
ENLARGED COMPUTER LAB FLR. PLAN - 2ND FLOOR

A2.6



OVERALL SOUTH ELEVATION 3

3/32" = 1'-0"

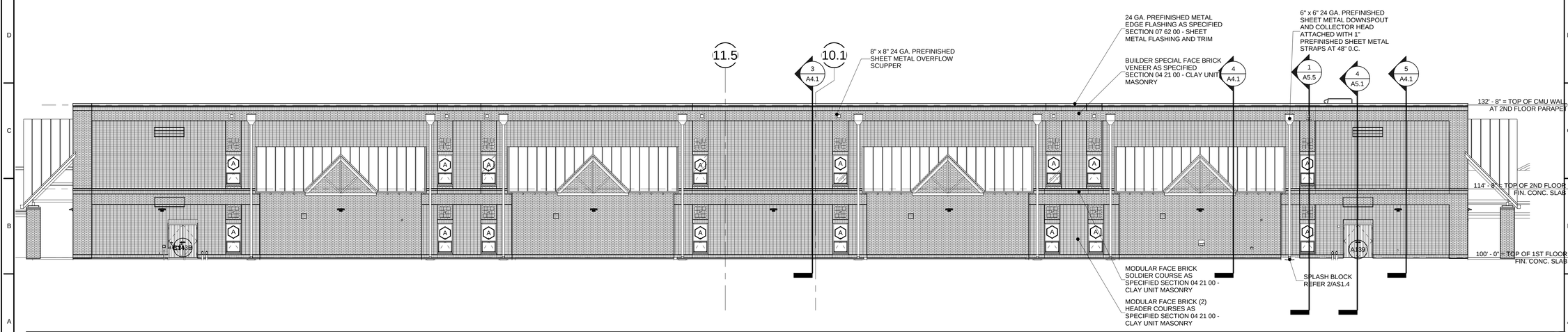


OVERALL WEST ELEVATION 4

3/32" = 1'-0"

OVERALL EAST ELEVATION 2

3/32" = 1'-0"



OVERALL NORTH ELEVATION 1

3/32" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

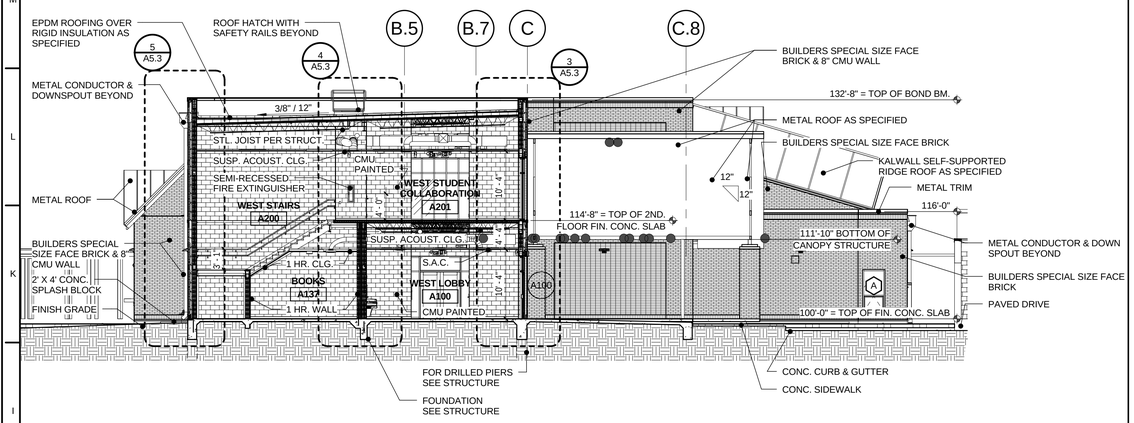
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:45:32 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

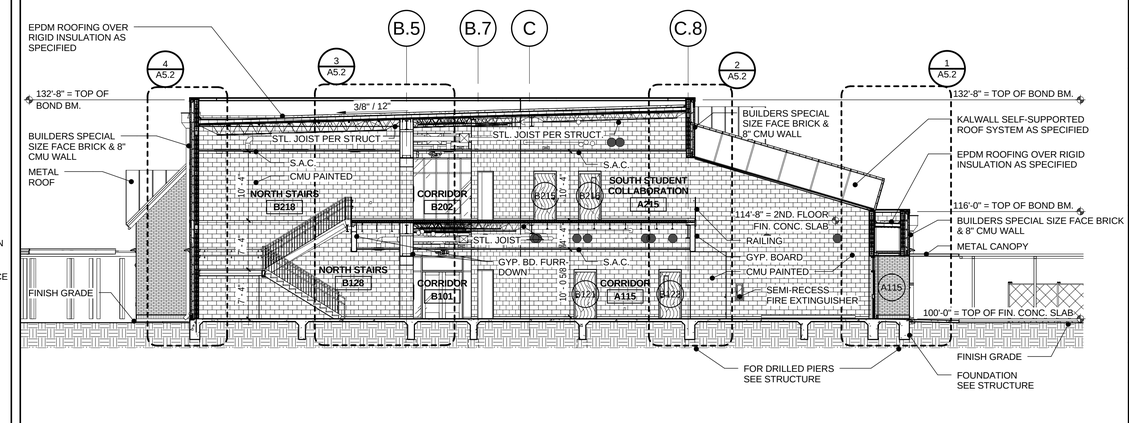
EXTERIOR BUILDING ELEVATIONS

A3.1



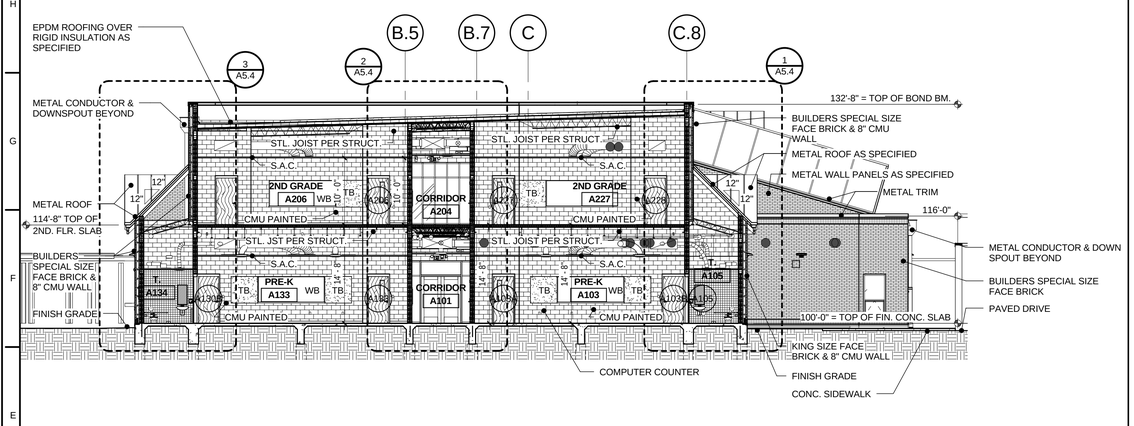
BUILDING CROSS SECTION 5

3/32" = 1'-0"



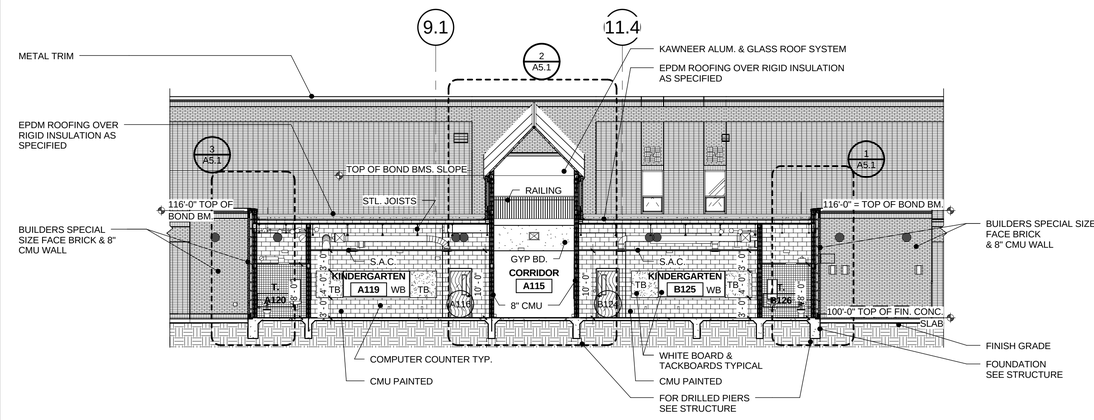
BUILDING CROSS SECTION 3

3/32" = 1'-0"



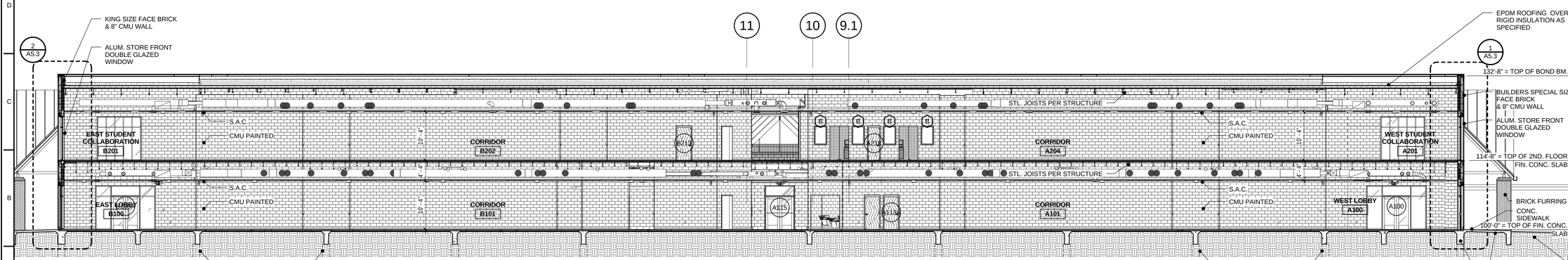
BUILDING CROSS SECTION 4

3/32" = 1'-0"



BUILDING CROSS SECTION 2

3/32" = 1'-0"



BUILDING LONGITUDINAL SECTION 1

3/32" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

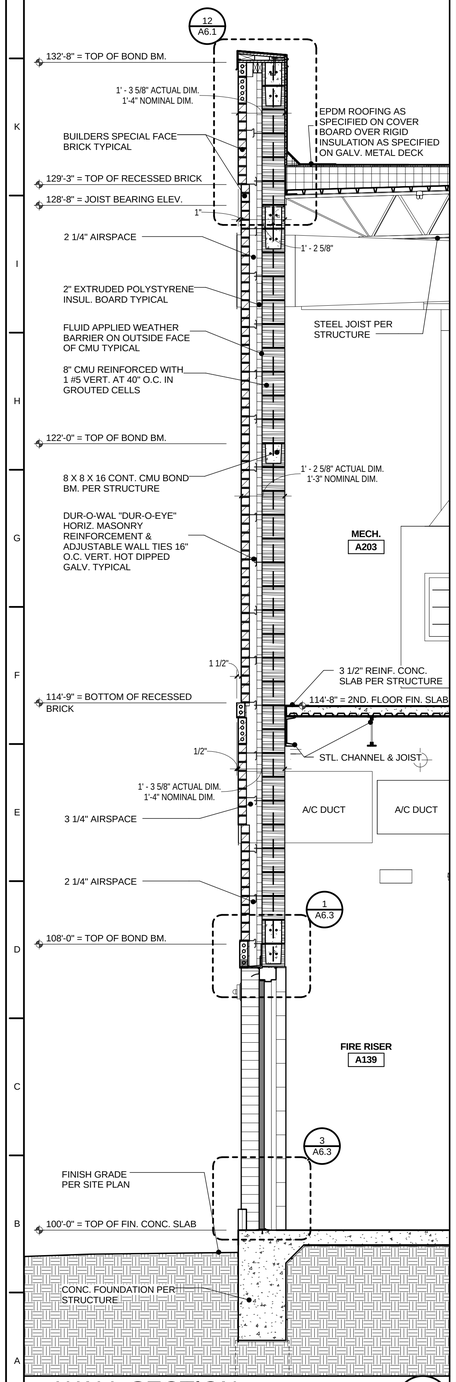
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:46:11 AM	
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

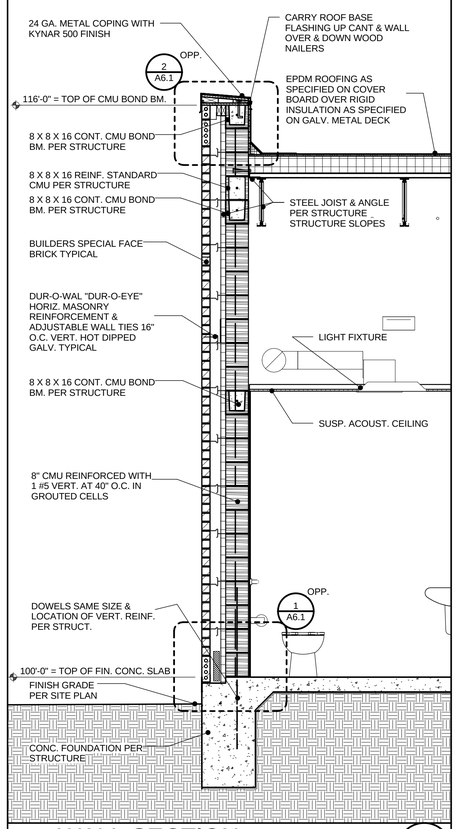
BUILDING SECTIONS

A4.1



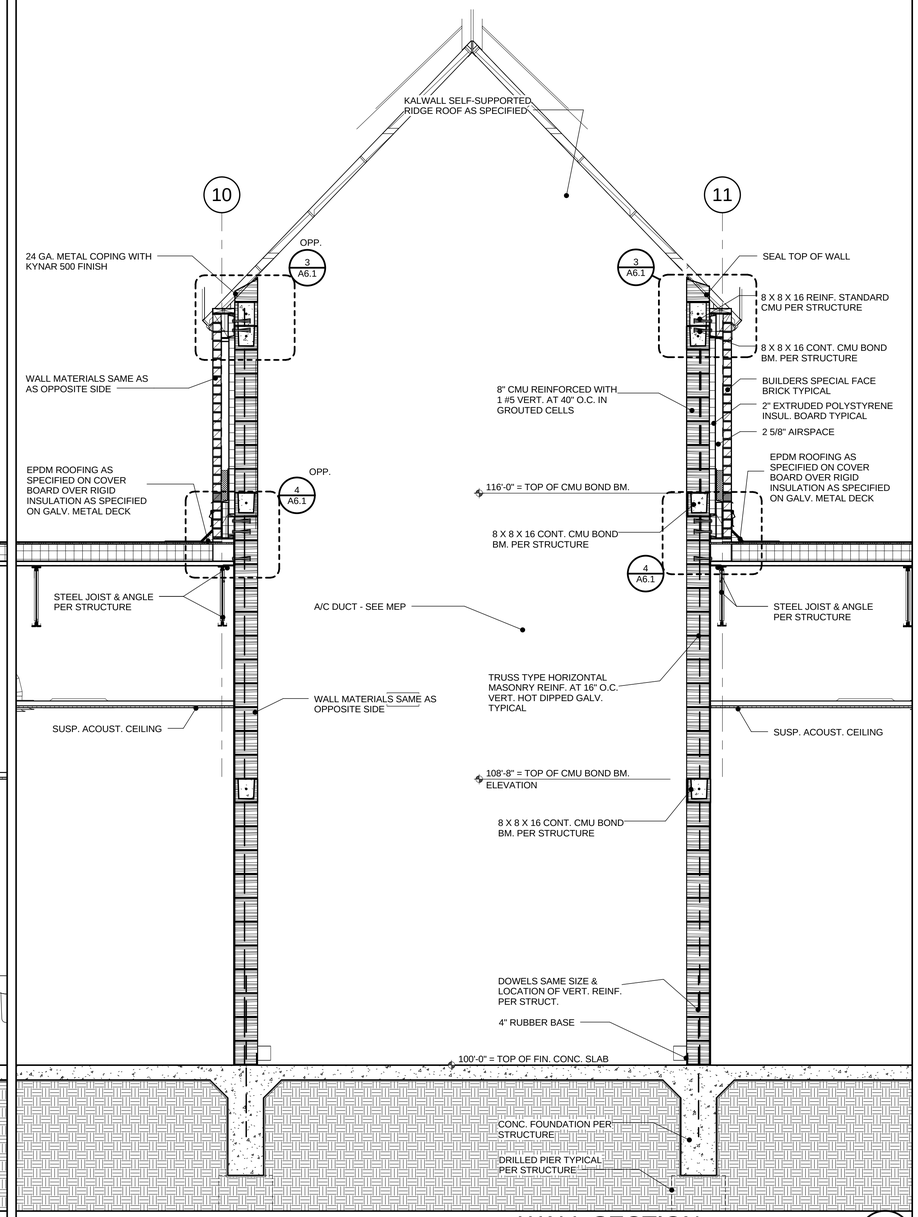
WALL SECTION 4

1/2" = 1'-0"



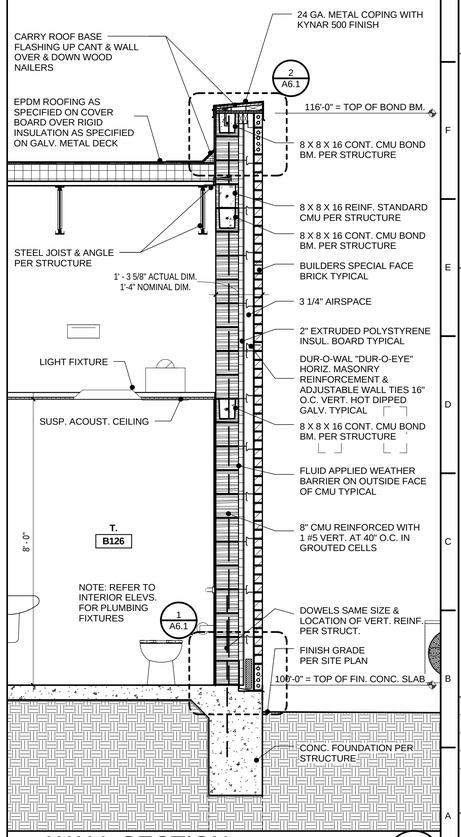
WALL SECTION 3

1/2" = 1'-0"



WALL SECTION 2

1/2" = 1'-0"



WALL SECTION 1

1/2" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

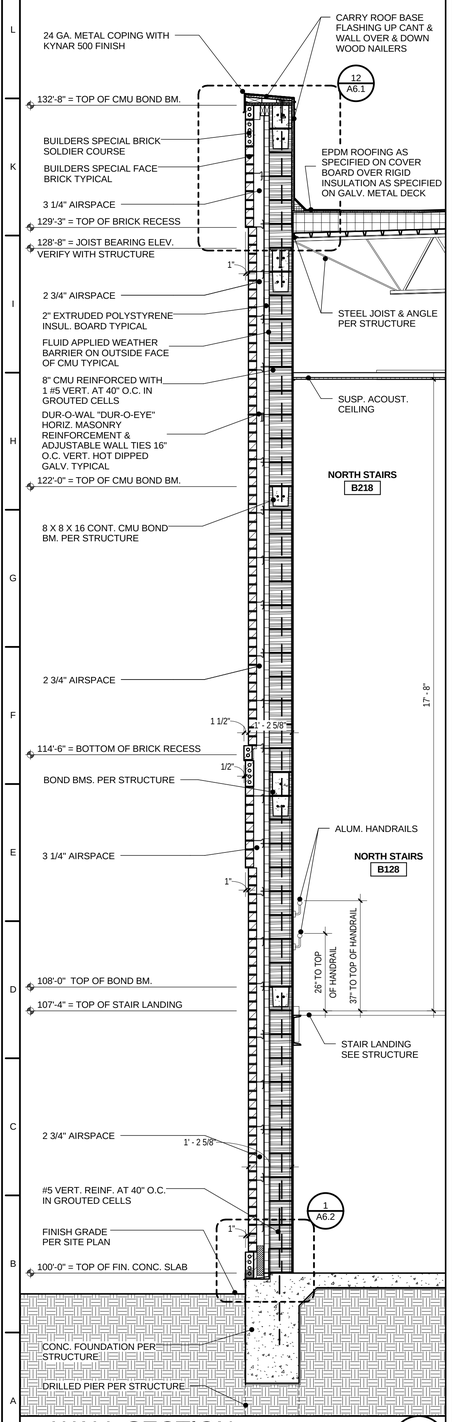
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

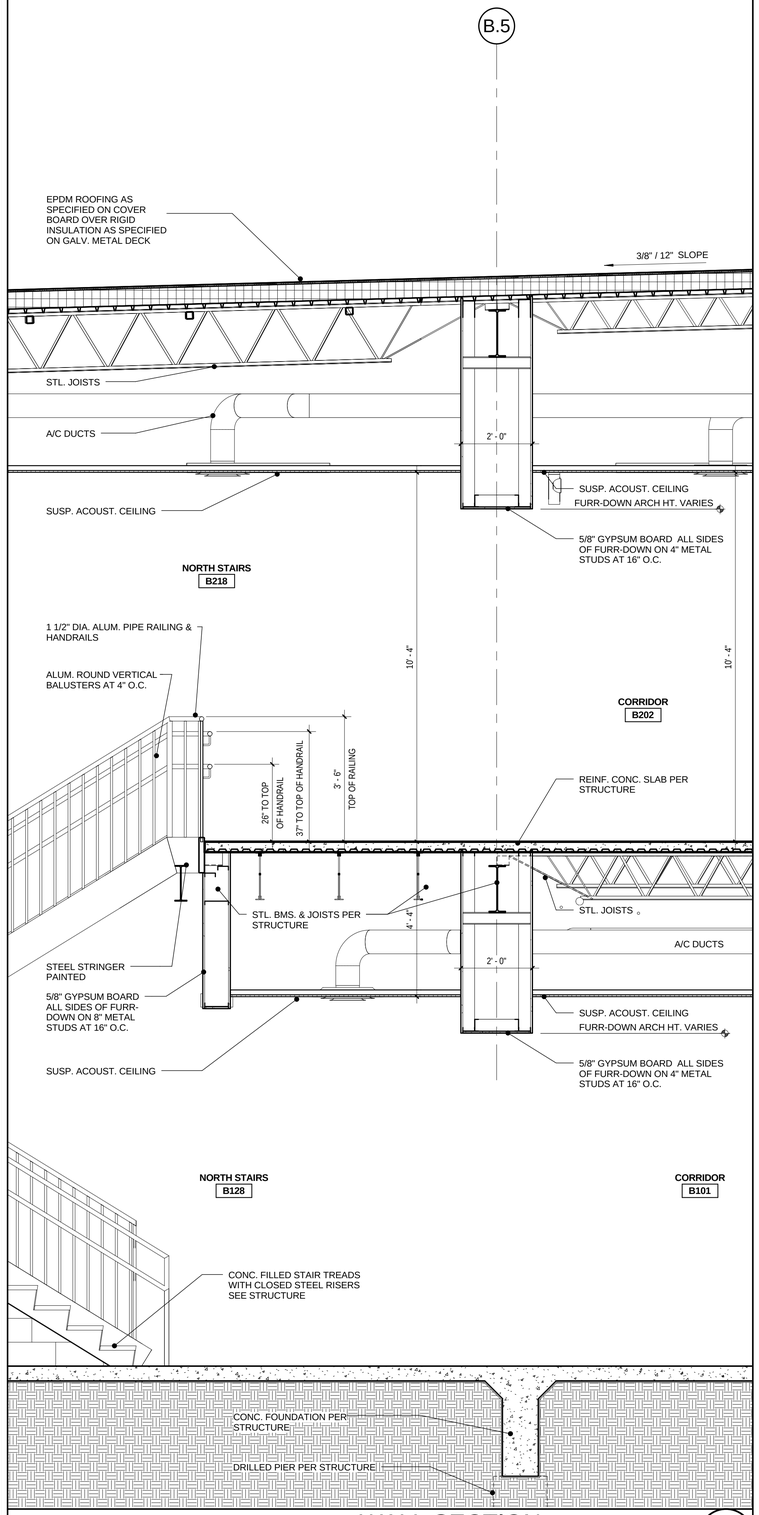
PROJECT NO:	2017.12
DATE:	5/22/2018 10:46:18 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

WALL SECTIONS

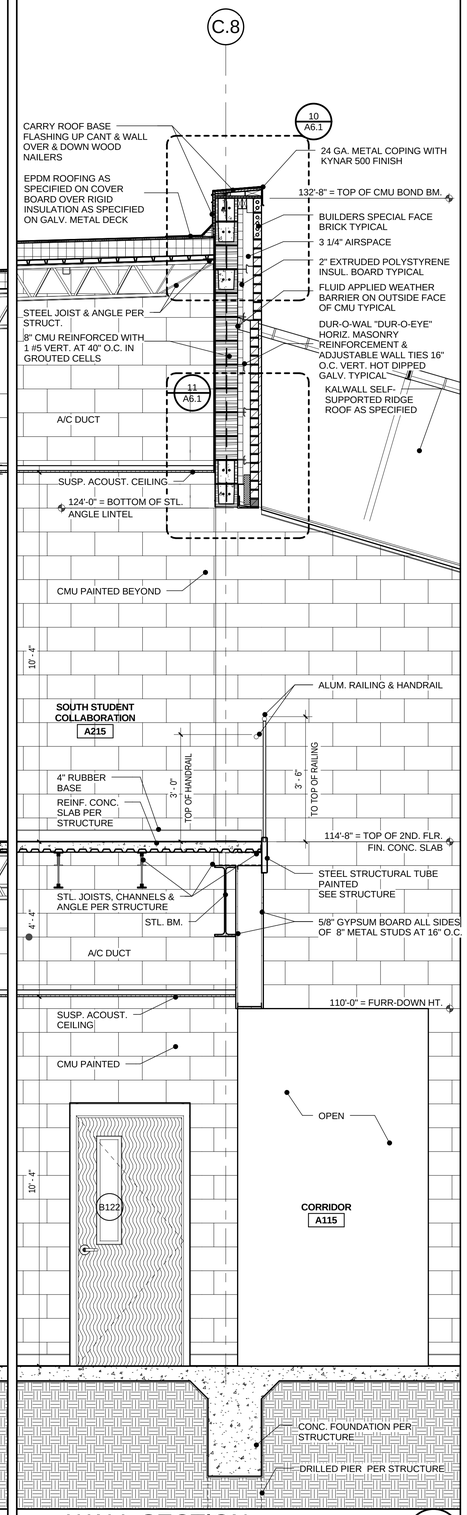
A5.1



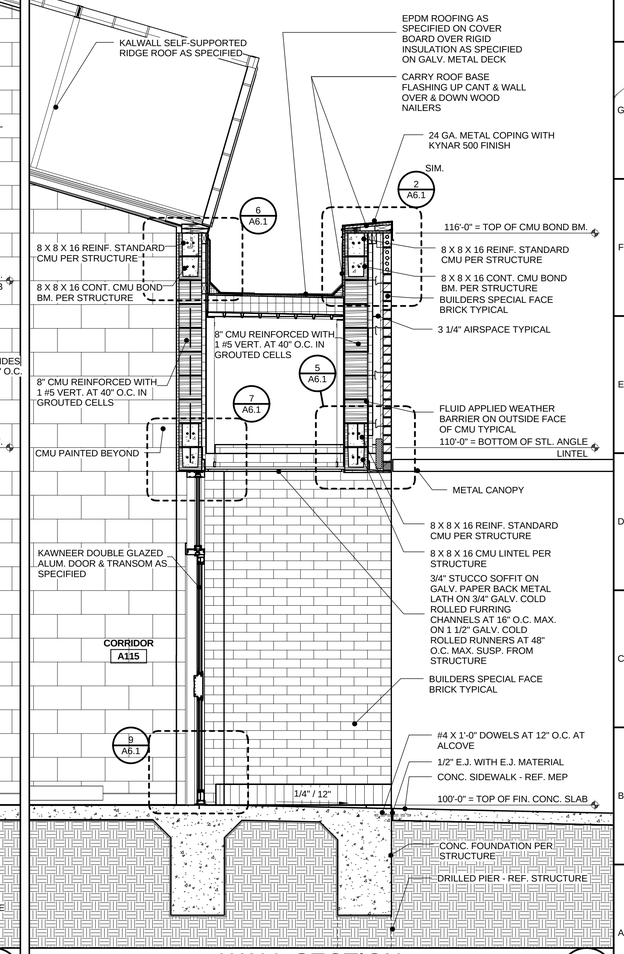
WALL SECTION 4
1/2" = 1'-0"



WALL SECTION 3
1/2" = 1'-0"



WALL SECTION 2
1/2" = 1'-0"



WALL SECTION 1
1/2" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS
05.21.2018

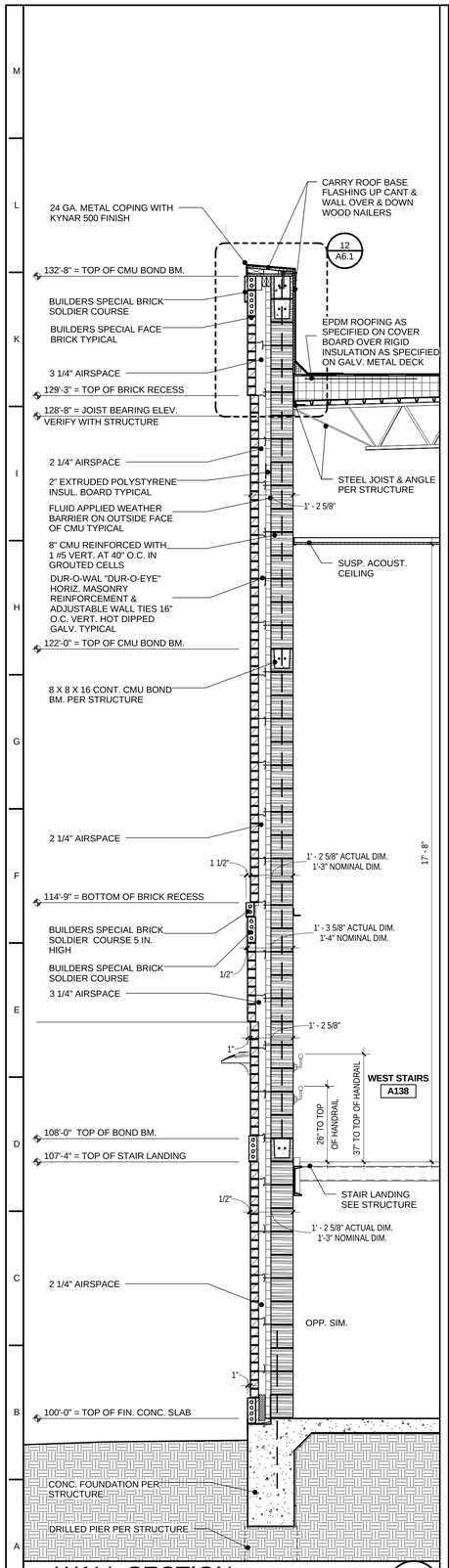
NO.	DATE	DESCRIPTION
		REVISIONS

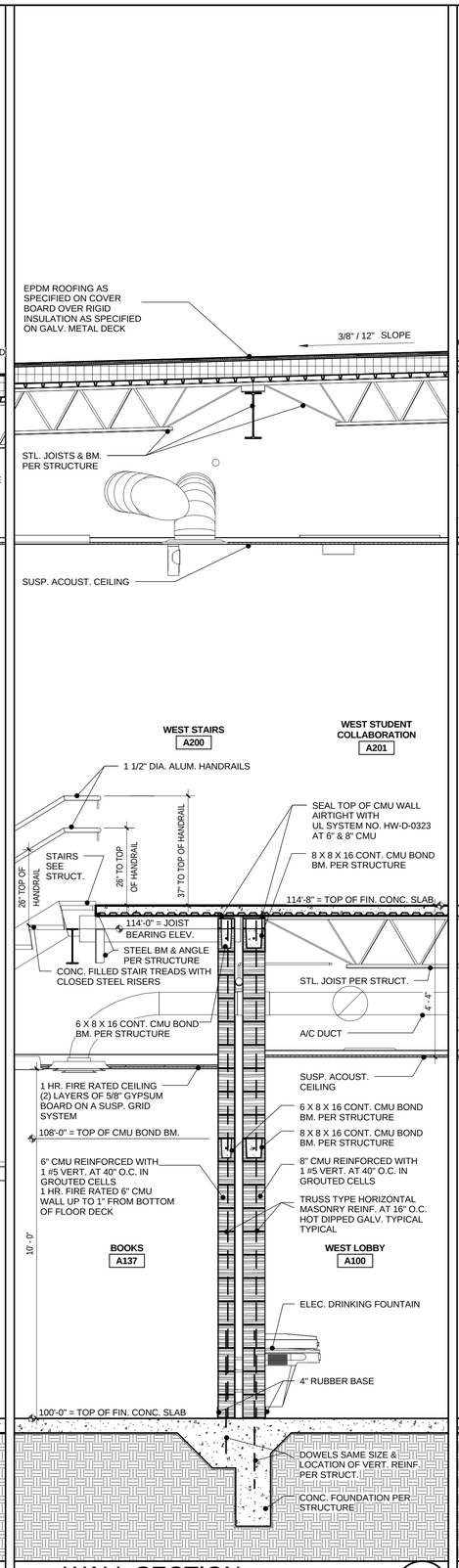
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

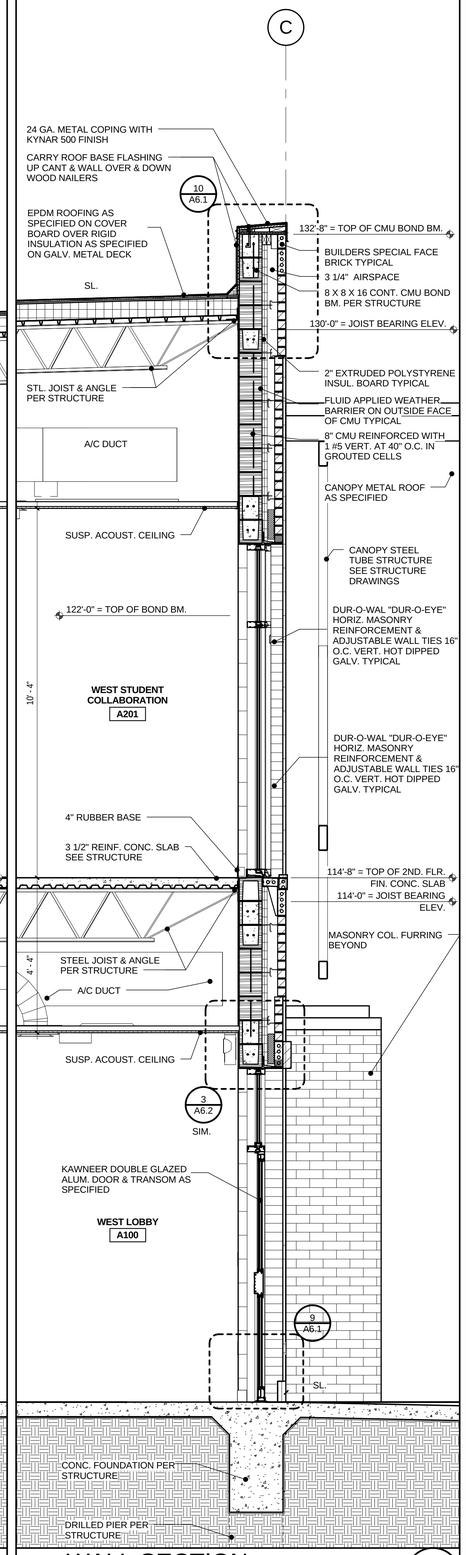
PROJECT NO:	2017.12
DATE:	5/22/2018 10:46:25 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: C.A.

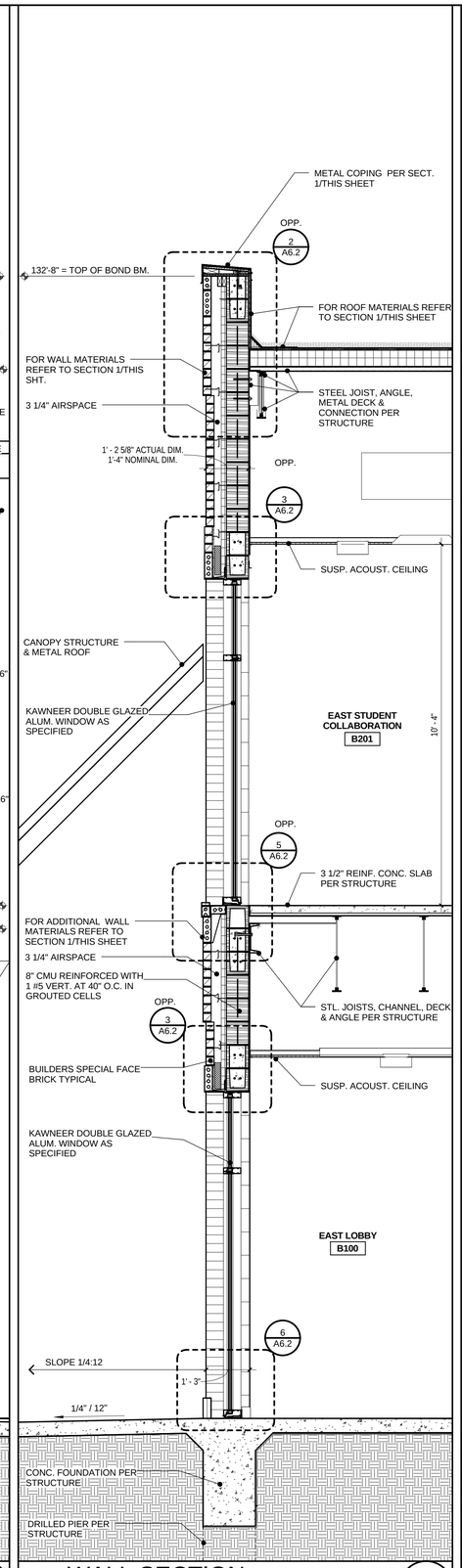
WALL SECTIONS

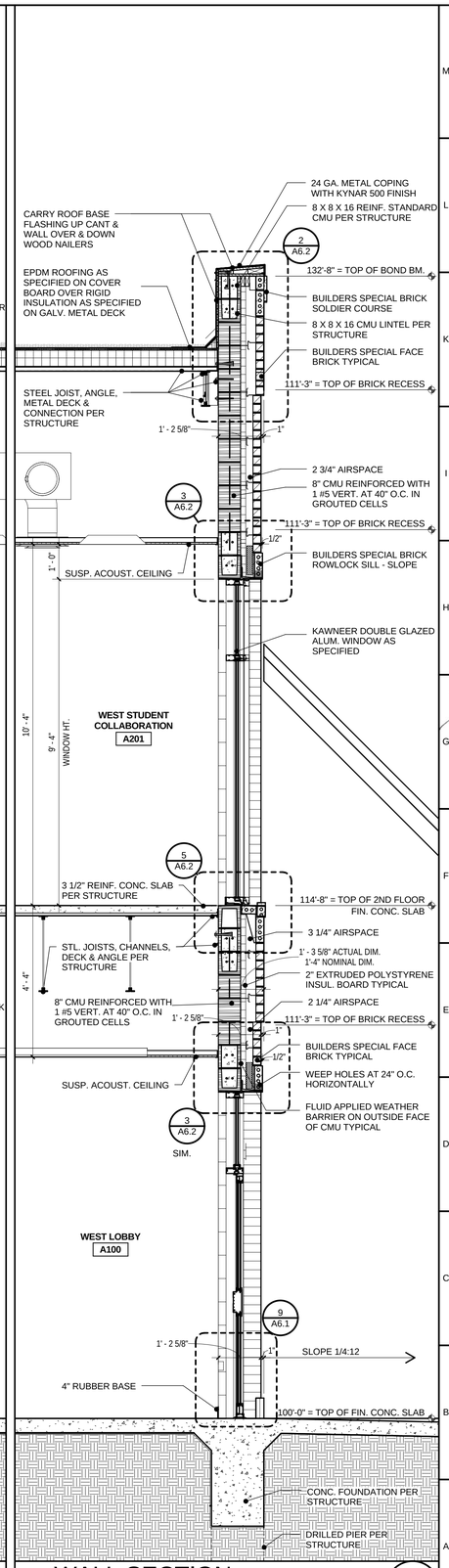
A5.2











rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

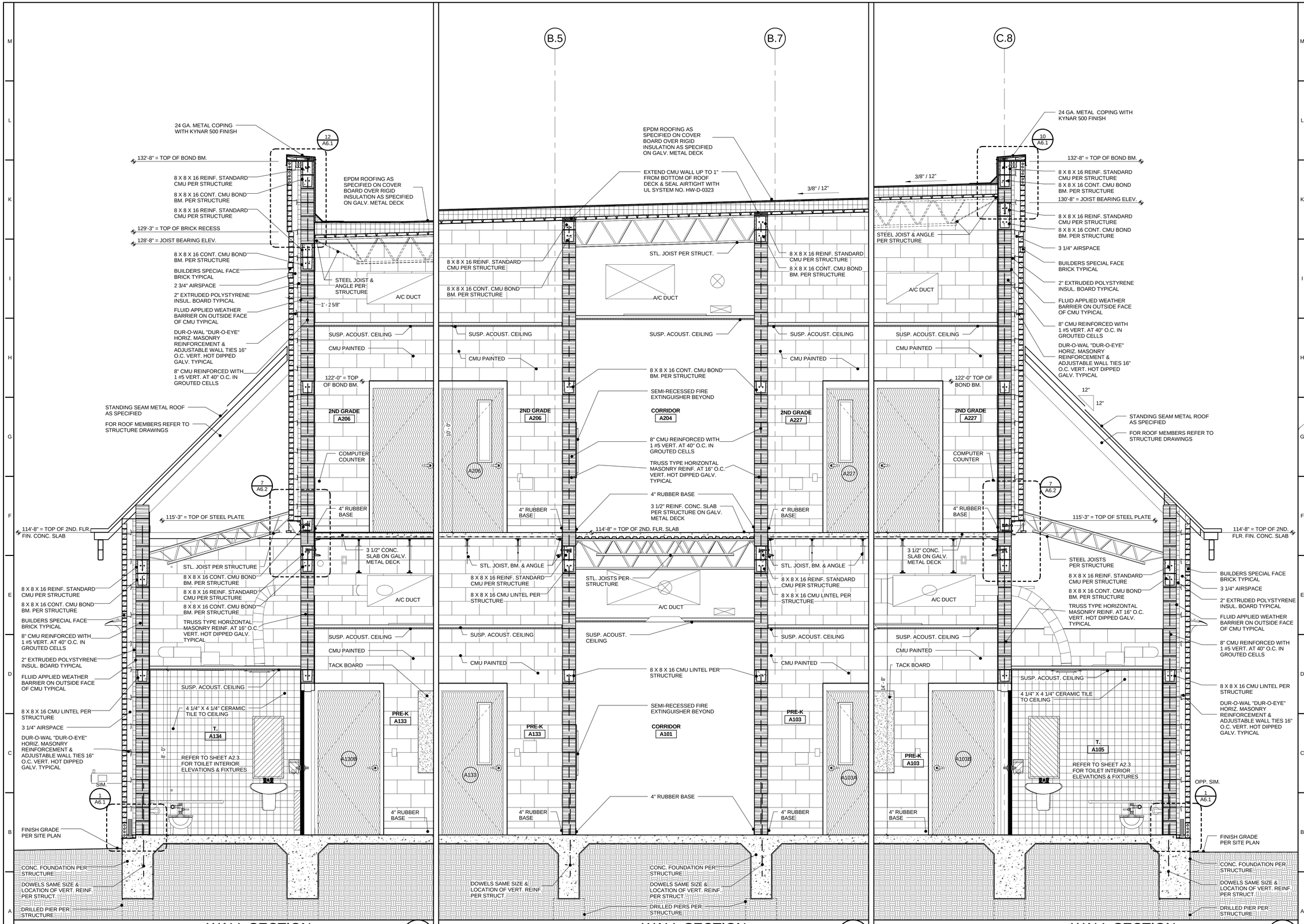
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:46:33 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

WALL SECTIONS

A5.3



rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

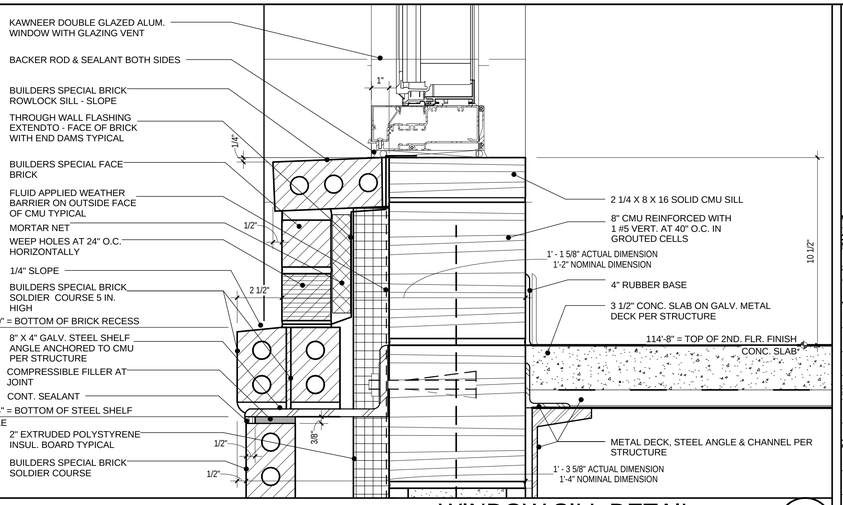
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:46:43 AM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

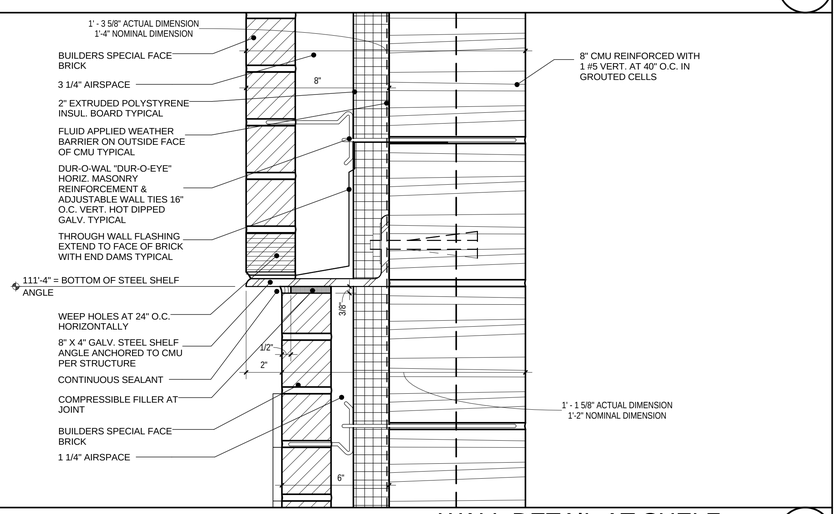
WALL SECTIONS

A5.4



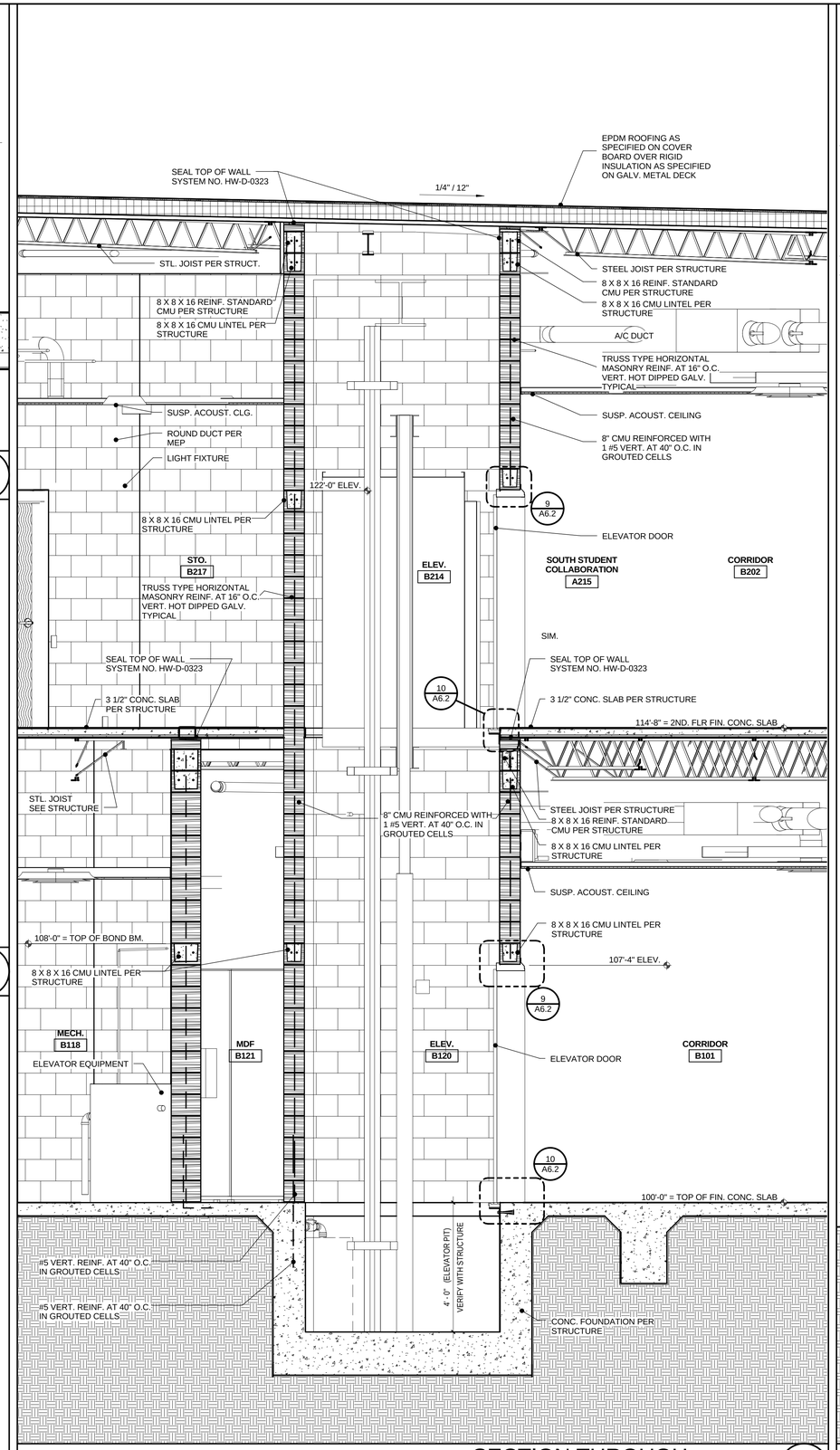
WINDOW SILL DETAIL 3

3" = 1'-0"



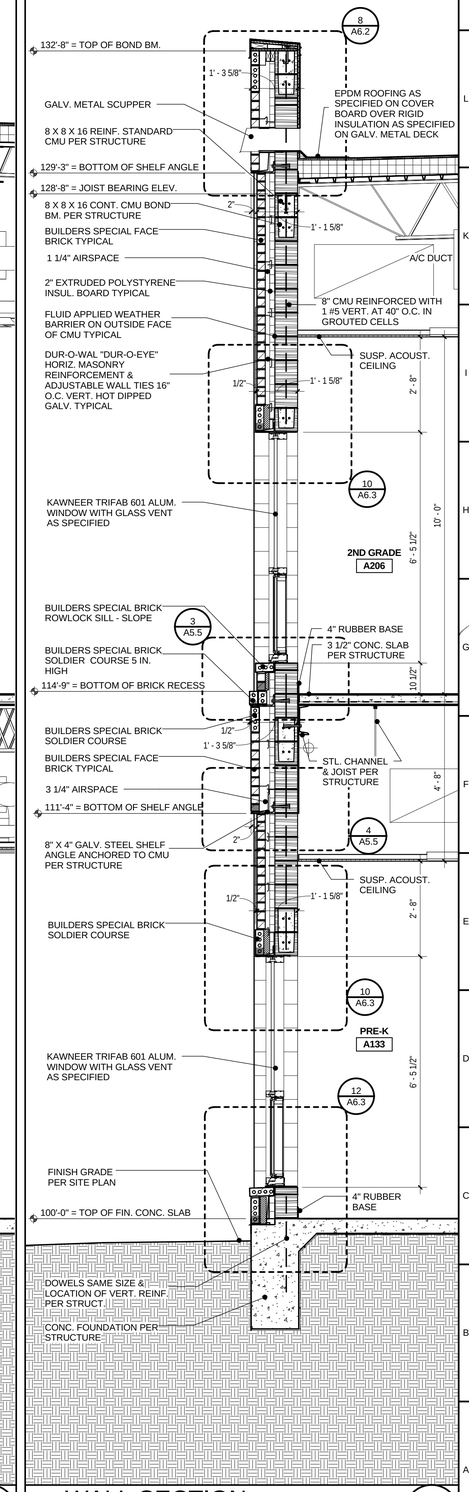
WALL DETAIL AT SHELF ANGLE 4

3" = 1'-0"



SECTION THROUGH ELEVATOR 2

1/2" = 1'-0"



WALL SECTION 1

1/2" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

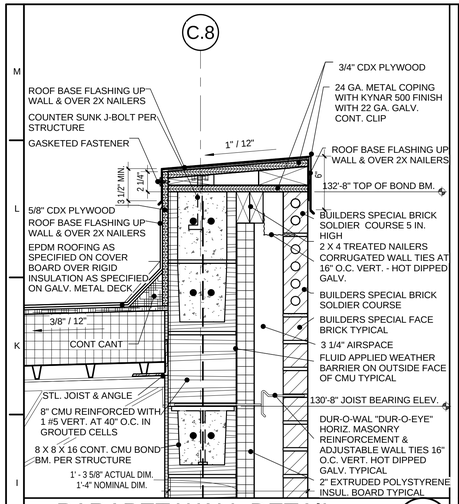
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:46:52 AM	
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

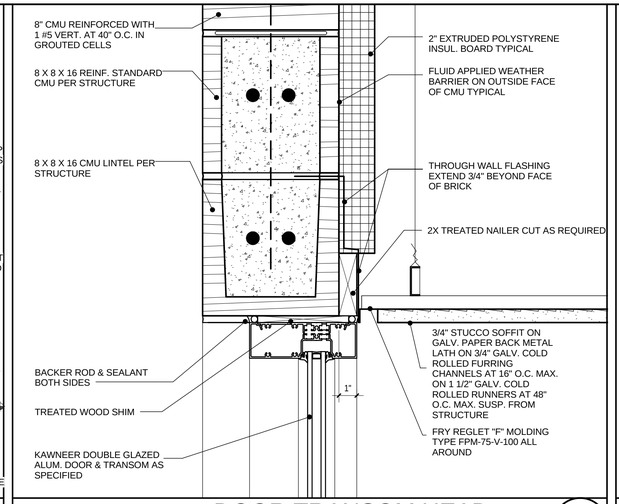
WALL SECTIONS

A5.5



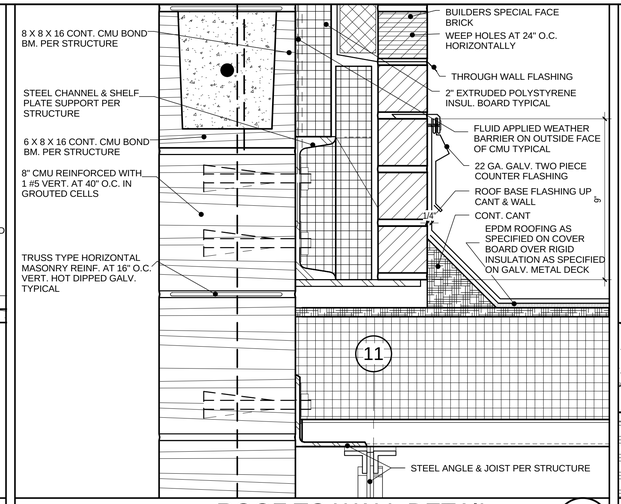
PARAPET WALL DETAIL 10

1 1/2" = 1'-0"



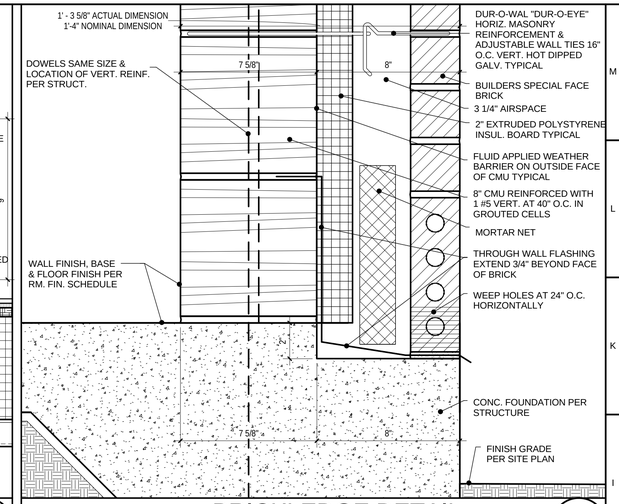
DOOR TRANSOM HEAD DETAIL 7

3" = 1'-0"



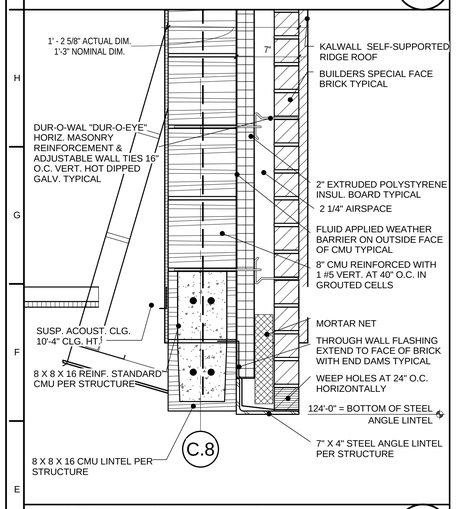
ROOF TO WALL DETAIL 4

3" = 1'-0"



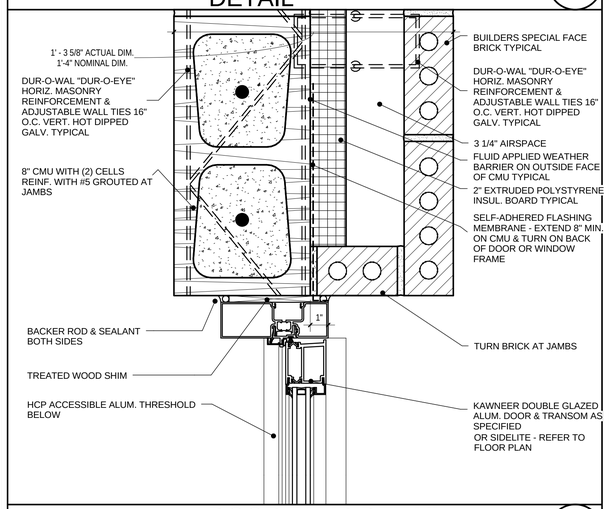
BRICKLEDGE DETAIL 1

3" = 1'-0"



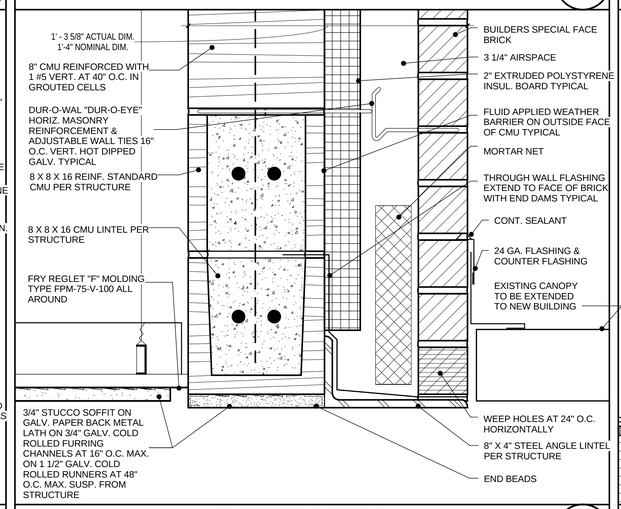
ROOF TO WALL DETAIL 11

1 1/2" = 1'-0"



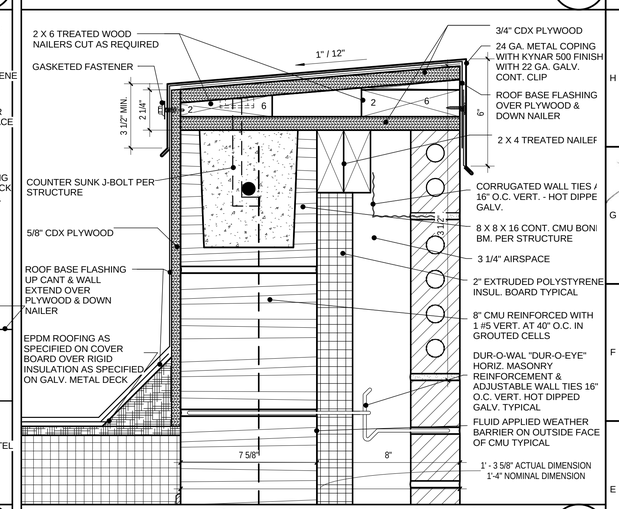
DOOR JAMB DETAIL 8

3" = 1'-0"



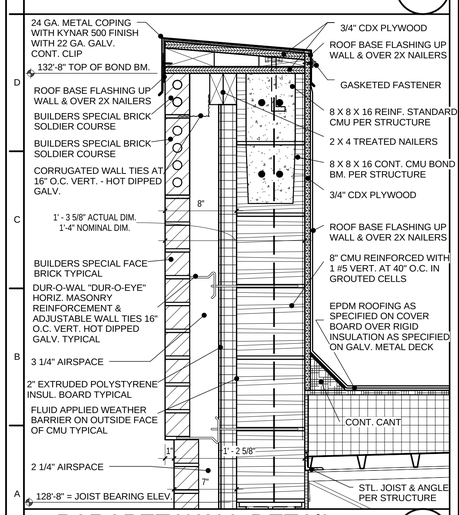
SOFFIT DETAIL 5

3" = 1'-0"



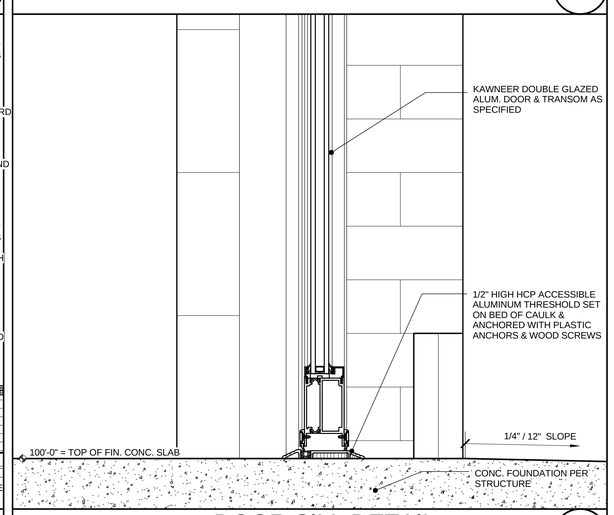
PARAPET WALL DETAIL 2

3" = 1'-0"



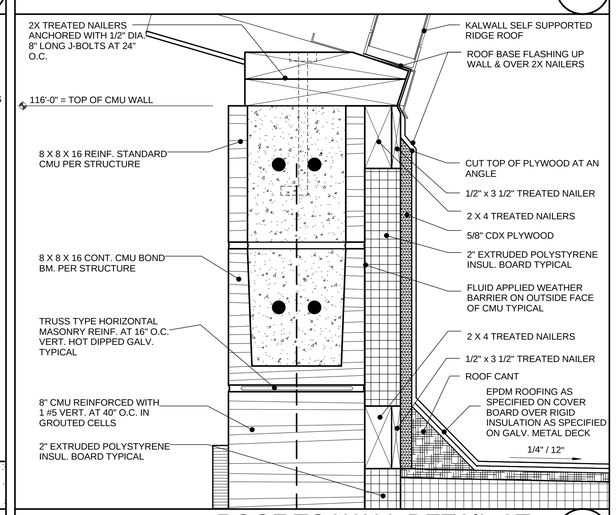
PARAPET WALL DETAIL 12

1 1/2" = 1'-0"



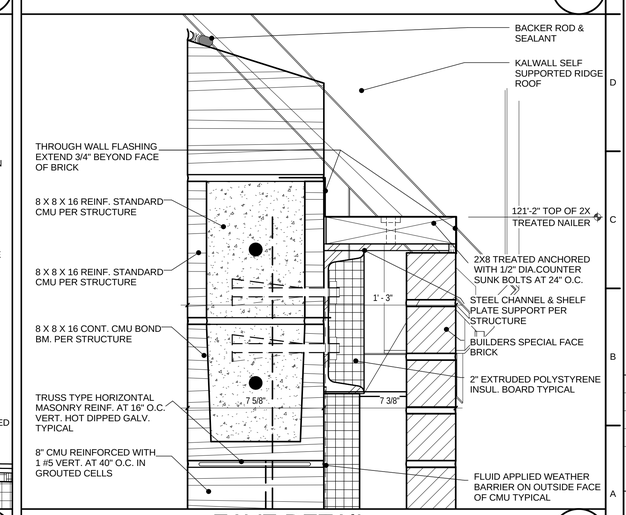
DOOR SILL DETAIL 9

3" = 1'-0"



ROOF TO WALL DETAIL AT RAKE 6

3" = 1'-0"



EAVE DETAIL 3

3" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

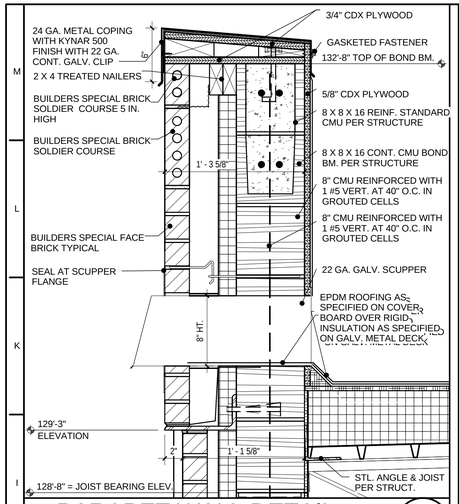
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:47:03 AM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: C.A.

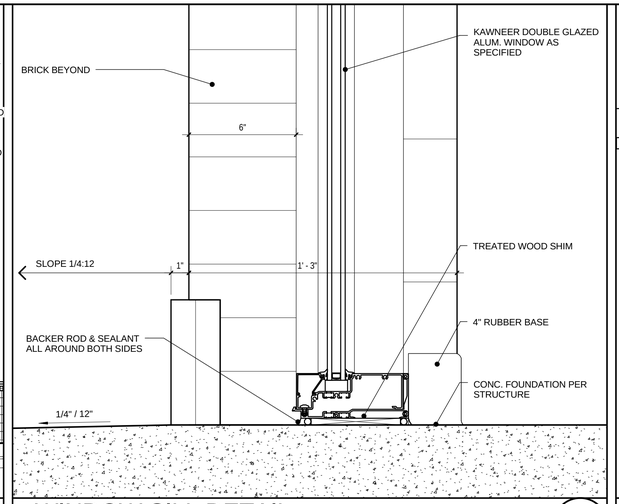
WALL DETAILS

A6.1



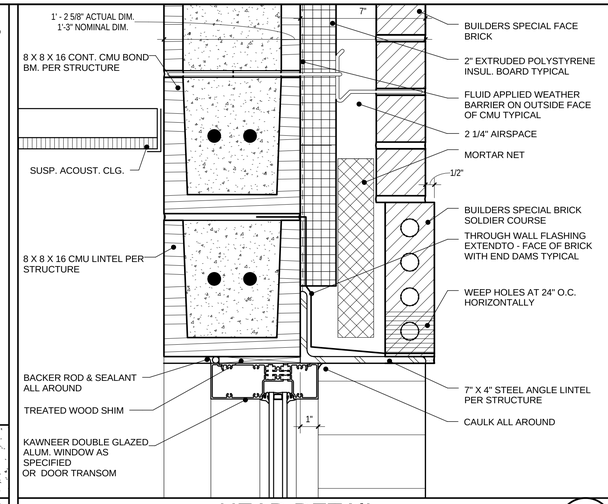
PARAPET WALL DETAIL 8

1 1/2" = 1'-0"



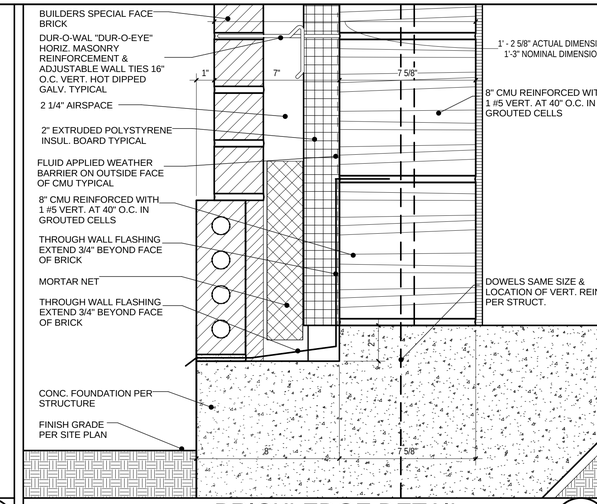
WINDOW SILL DETAIL 6

3" = 1'-0"



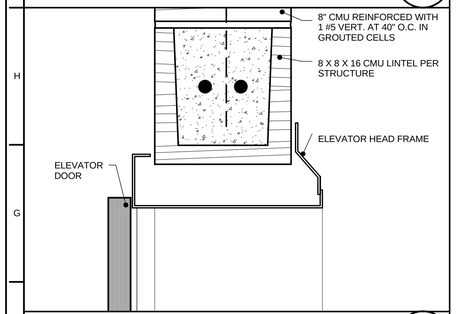
HEAD DETAIL 3

3" = 1'-0"



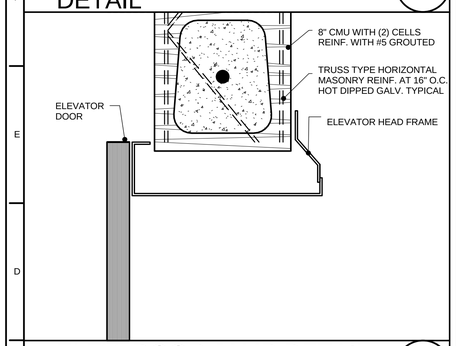
BRICKLEDGE DETAIL 1

3" = 1'-0"



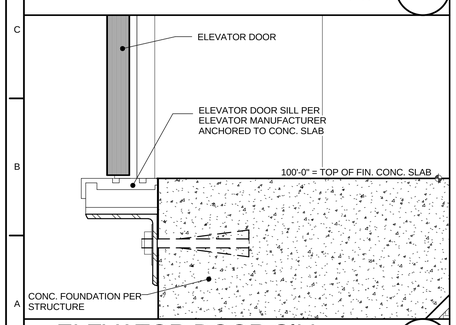
ELEVATOR DOOR HEAD DETAIL 9

3" = 1'-0"



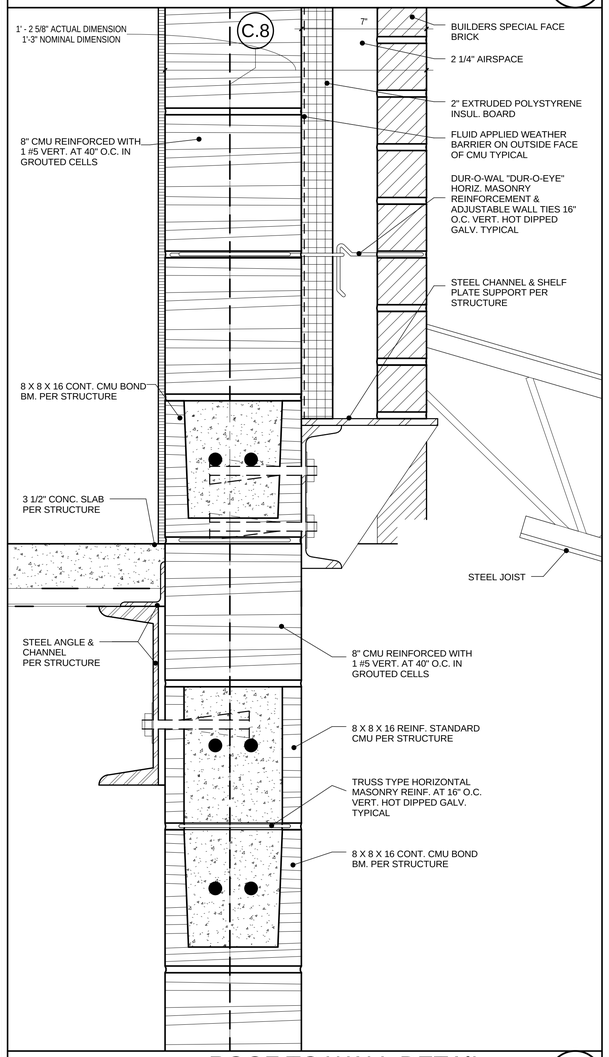
ELEV. DOOR JAMB DETAIL 11

3" = 1'-0"



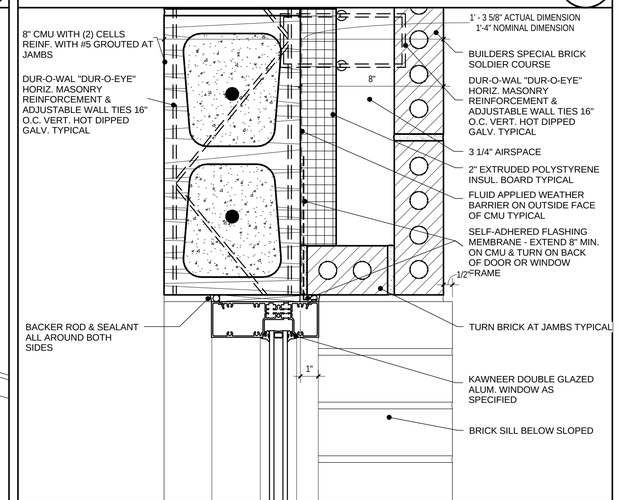
ELEVATOR DOOR SILL DETAIL 10

3" = 1'-0"



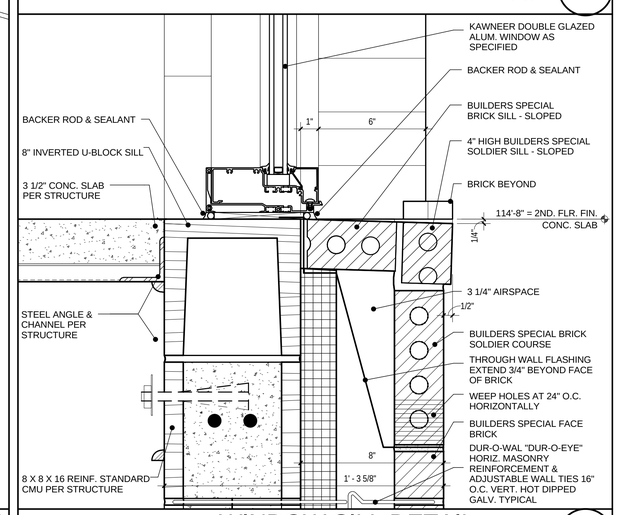
ROOF TO WALL DETAIL 7

3" = 1'-0"



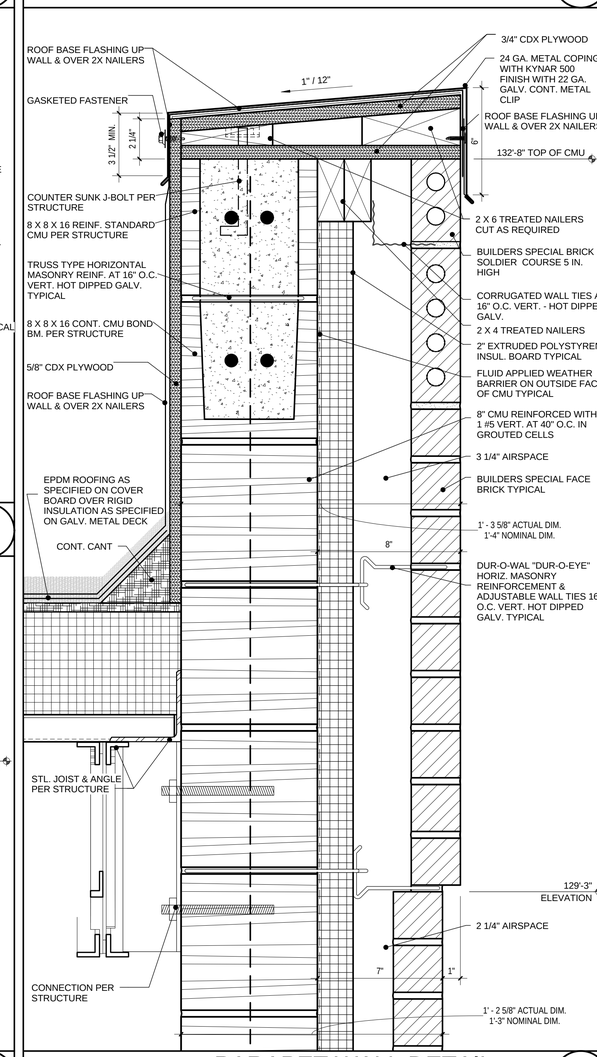
WINDOW JAMB DETAIL 4

3" = 1'-0"



WINDOW SILL DETAIL 5

3" = 1'-0"



PARAPET WALL DETAIL 2

3" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

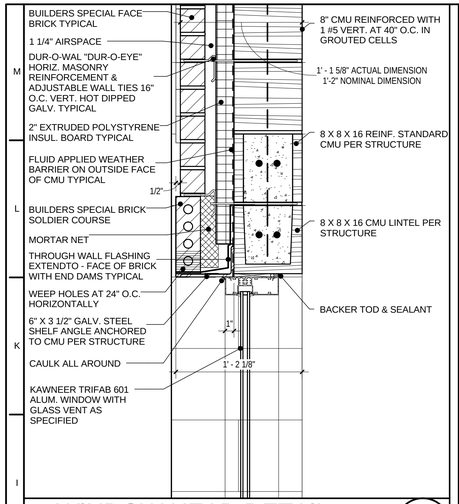
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

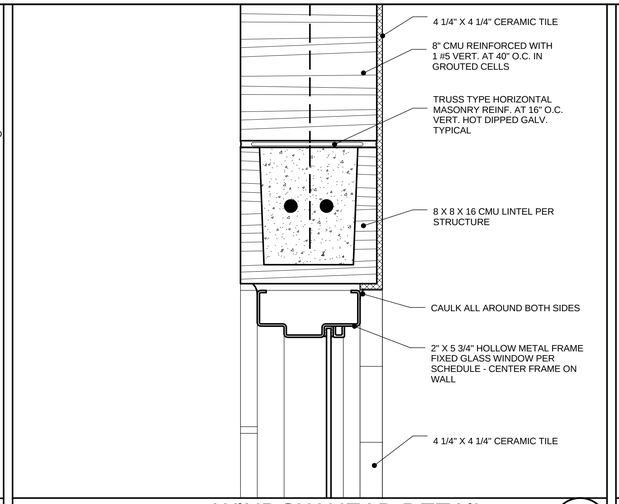
PROJECT NO:	2017.12
DATE:	5/22/2018 10:47:13 AM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: C.A.

WALL DETAILS

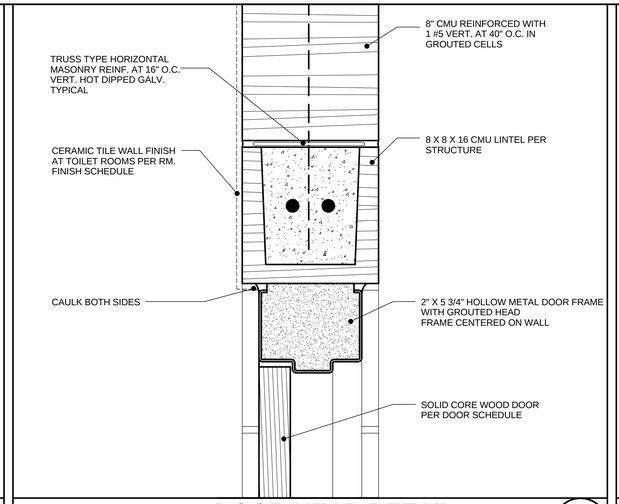
A6.2



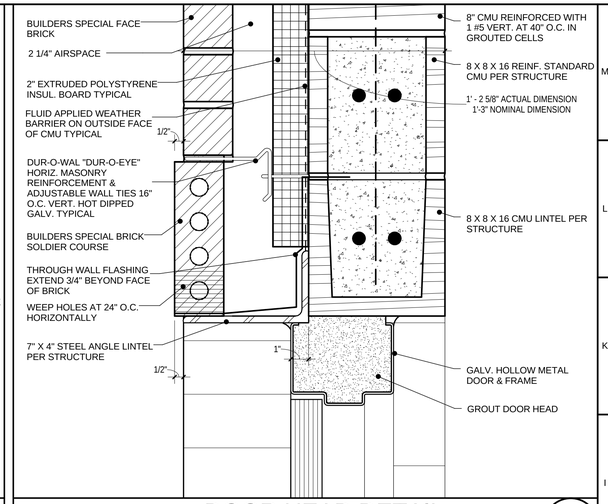
WINDOW HEAD DETAIL 10
1 1/2" = 1'-0"



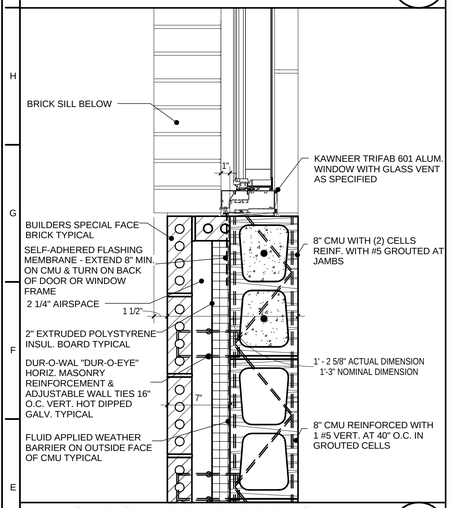
WINDOW HEAD DETAIL 7
3" = 1'-0"



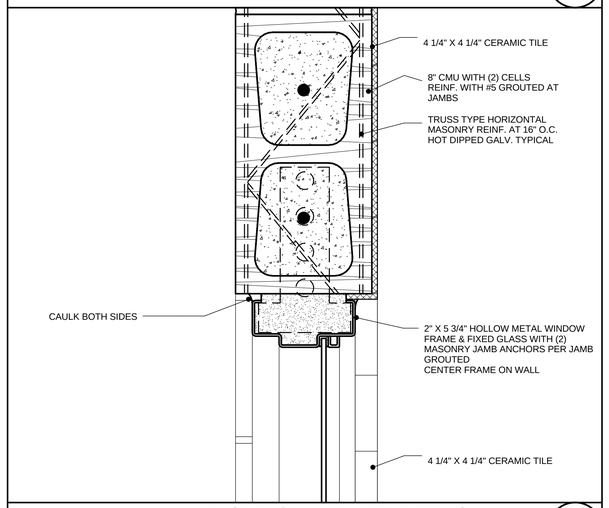
DOOR HEAD DETAIL 4
3" = 1'-0"



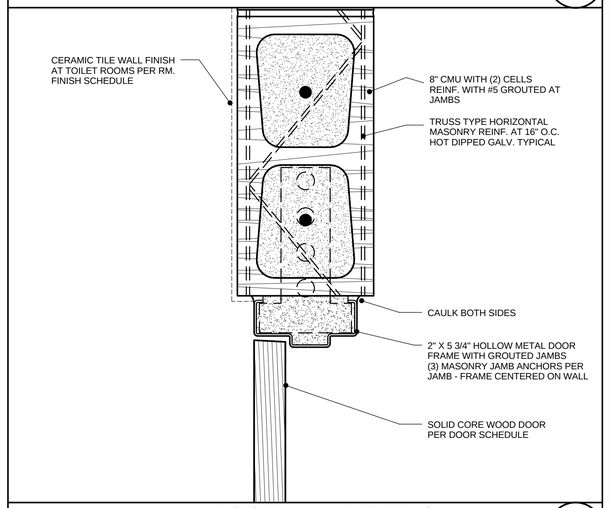
DOOR HEAD DETAIL 1
3" = 1'-0"



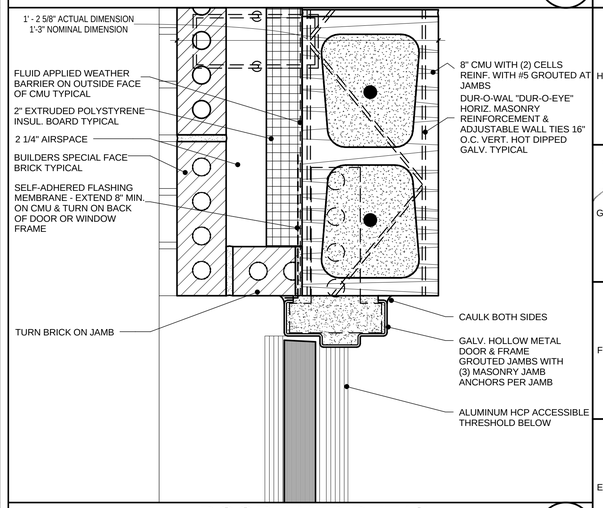
WINDOW JAMB DETAIL 11
1 1/2" = 1'-0"



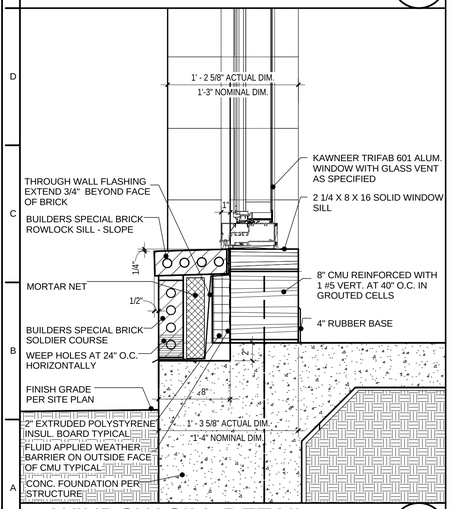
WINDOW JAMB DETAIL 8
3" = 1'-0"



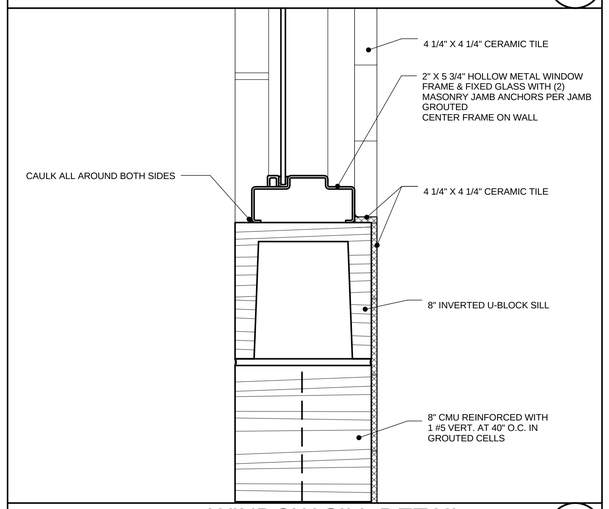
DOOR JAMB DETAIL 5
3" = 1'-0"



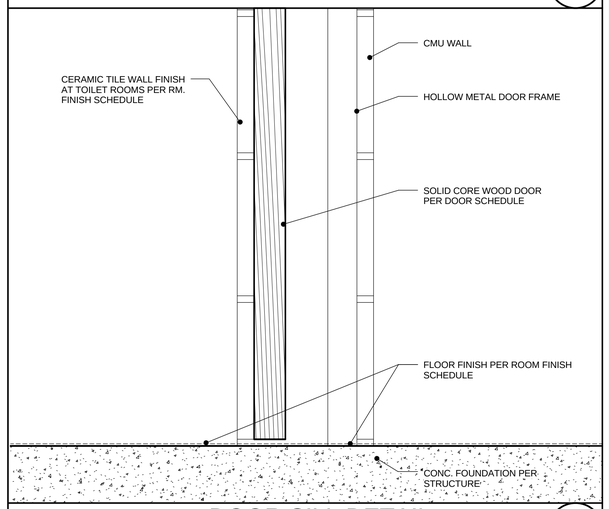
DOOR JAMB DETAIL 2
3" = 1'-0"



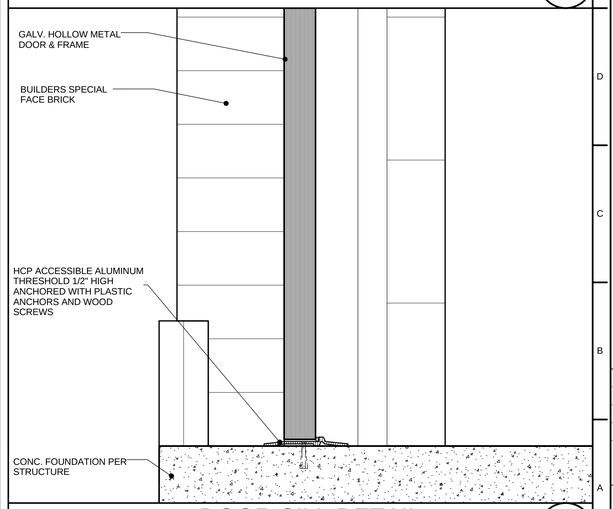
WINDOW SILL DETAIL 12
1 1/2" = 1'-0"



WINDOW SILL DETAIL 9
3" = 1'-0"



DOOR SILL DETAIL 6
3" = 1'-0"



DOOR SILL DETAIL 3
3" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS
05.21.2018

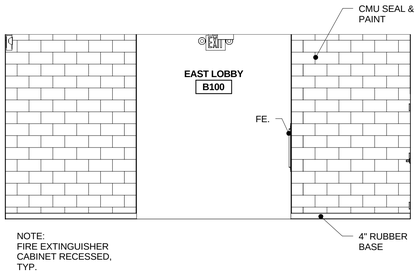
NO.	DATE	REVISIONS DESCRIPTION

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

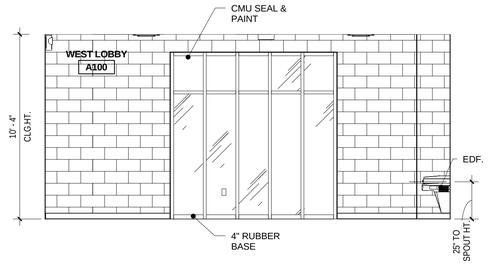
PROJECT NO: 2017.12
DATE: 5/22/2018 10:47:21 AM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

WALL DETAILS

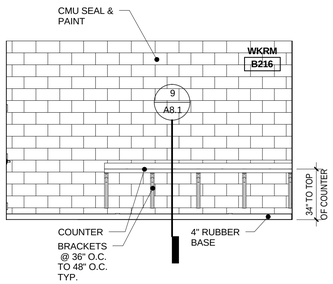
A6.3



EAST LOBBY B100 - WEST INT. ELEV. 8
1/4" = 1'-0"



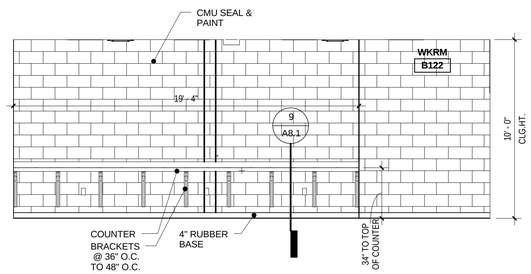
WEST LOBBY A100 - WEST INT. ELEV. 4
1/4" = 1'-0"



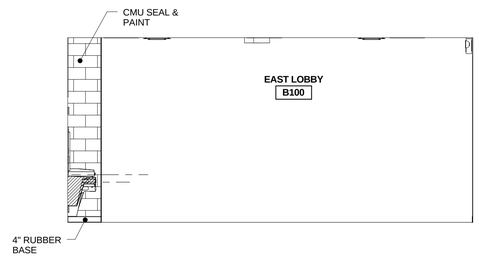
INTERIOR ELEVATION - WORK ROOM B216 11
1/4" = 1'-0"

EAST LOBBY B100 - SOUTH INT. ELEV. 7
1/4" = 1'-0"

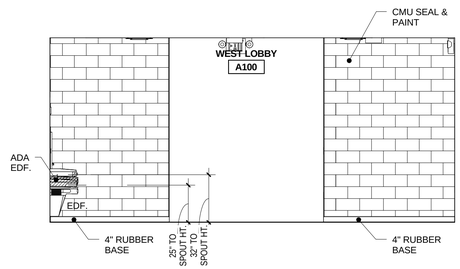
WEST LOBBY A100 - SOUTH INT. ELEV. 3
1/4" = 1'-0"



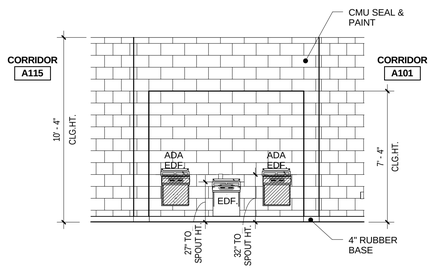
INTERIOR ELEVATION - WORK ROOM B122 10
1/4" = 1'-0"



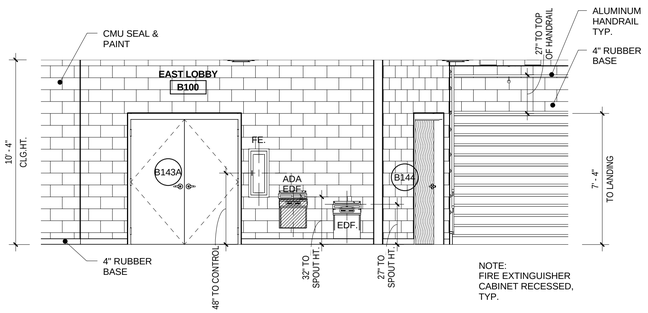
EAST LOBBY B100 - EAST INT. ELEV. 6
1/4" = 1'-0"



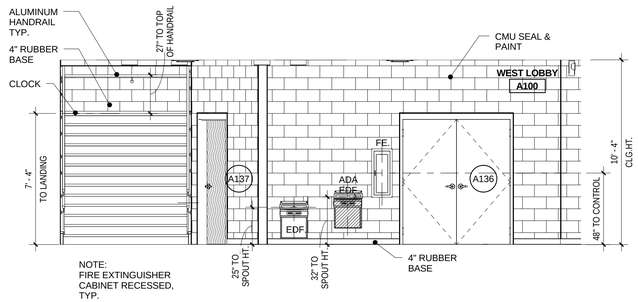
WEST LOBBY A100 - EAST INT. ELEV. 2
1/4" = 1'-0"



E.D.F. A114 - WEST INT. ELEV. 9
1/4" = 1'-0"



EAST LOBBY B100 - NORTH INT. ELEV. 5
1/4" = 1'-0"



WEST LOBBY A100 - NORTH INT. ELEV. 1
1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS
05.21.2018

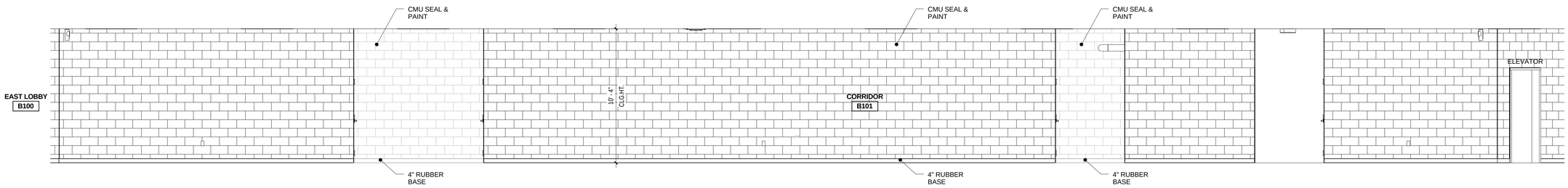
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:47:32 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

EAST/WEST LOBBY INTERIOR ELEVATIONS

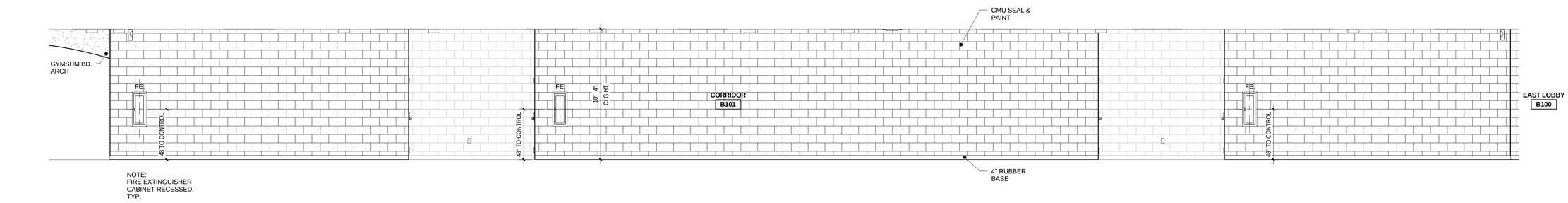
A7.1



CORRIDOR B101 - SOUTH INT. ELEV.

1/4" = 1'-0"

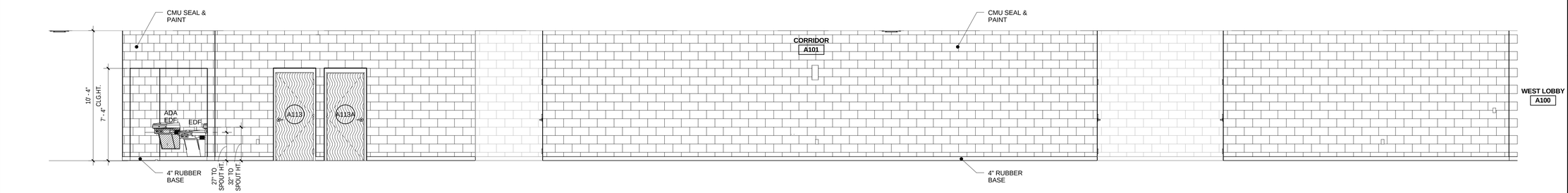
4



CORRIDOR B101 - NORTH INT. ELEV.

1/4" = 1'-0"

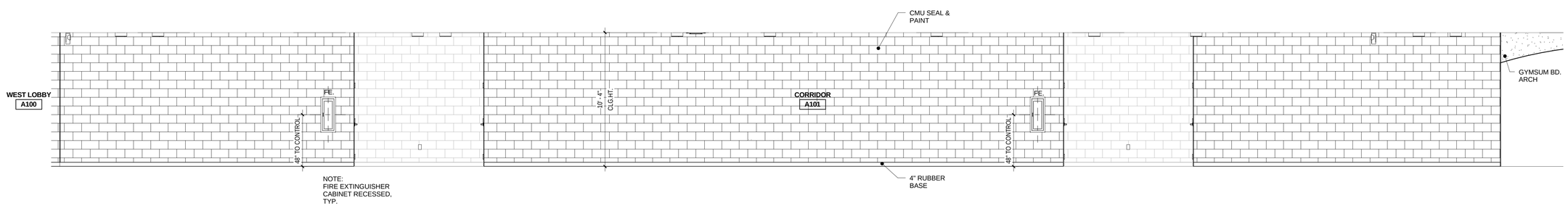
3



CORRIDOR A101 - SOUTH INT. ELEV.

1/4" = 1'-0"

2



CORRIDOR A101 - NORTH INT. ELEV.

1/4" = 1'-0"

1

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

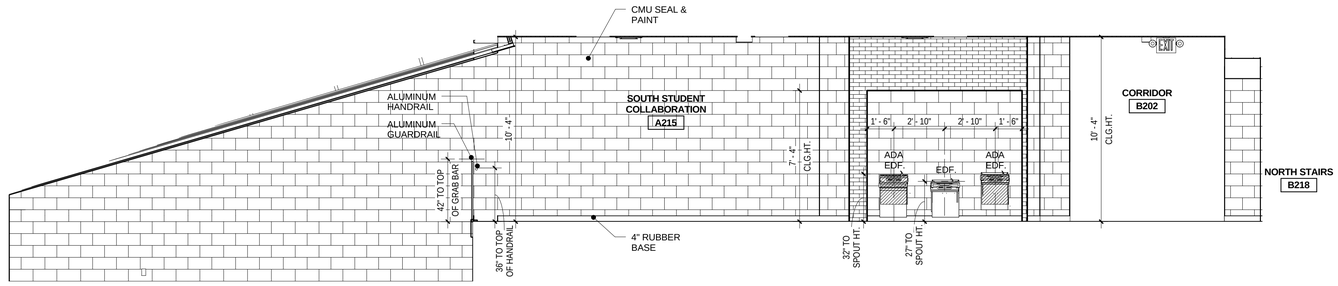
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:47:38 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

1ST FLOOR CORRIDOR INTERIOR ELEVATIONS

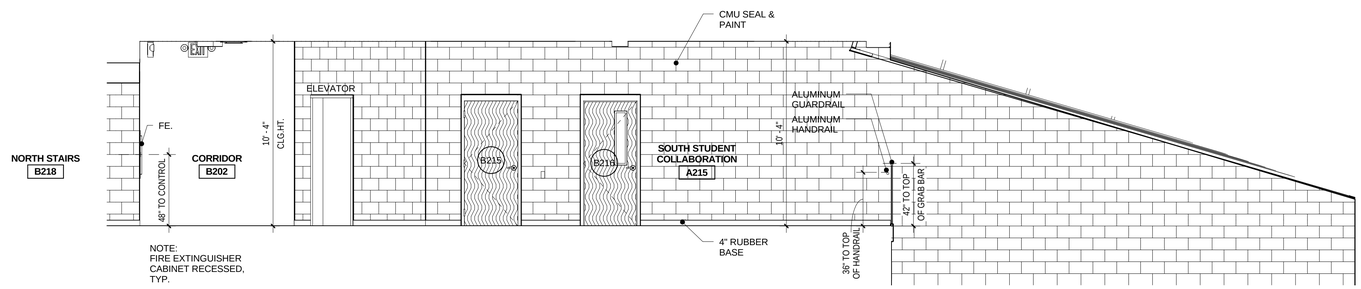
A7.2



CORRIDOR A215 - WEST INT. ELEV.

1/4" = 1'-0"

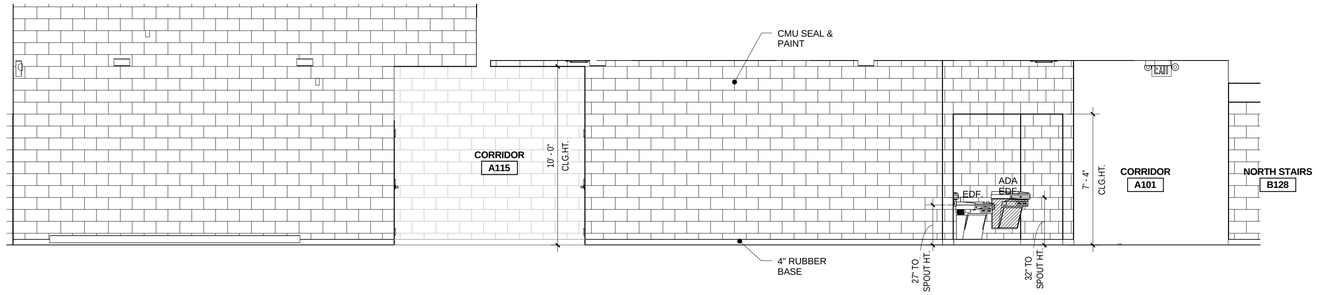
4



CORRIDOR A215 - EAST INT. ELEV.

1/4" = 1'-0"

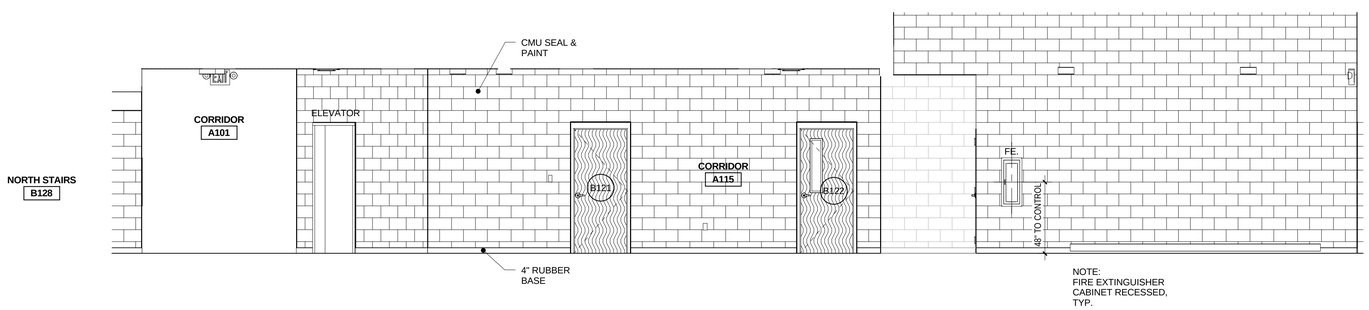
3



CORRIDOR A115 - WEST INT. ELEV.

1/4" = 1'-0"

2



CORRIDOR A115 - EAST INT. ELEV.

1/4" = 1'-0"

1

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

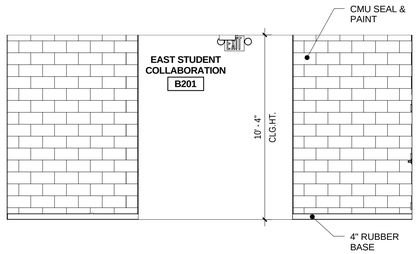
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:47:47 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

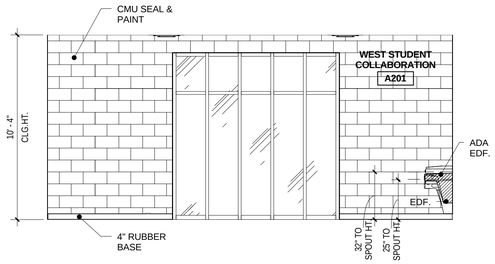
1ST/2ND FLOOR CORRIDOR INTERIOR ELEVATIONS

A7.3



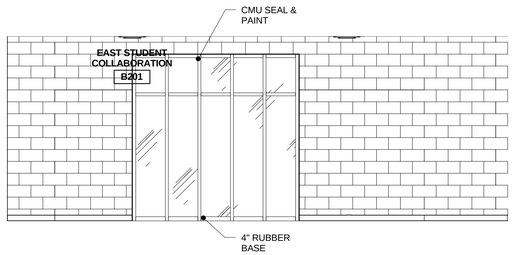
EAST STUDENT COLLABORATION B201 - WEST INT. ELEV. 8

1/4" = 1'-0"



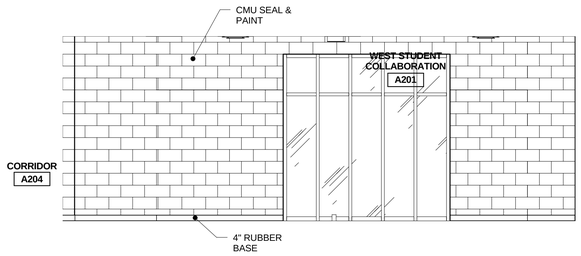
WEST STUDENT COLLABORATION A201 - WEST INT. ELEV. 4

1/4" = 1'-0"



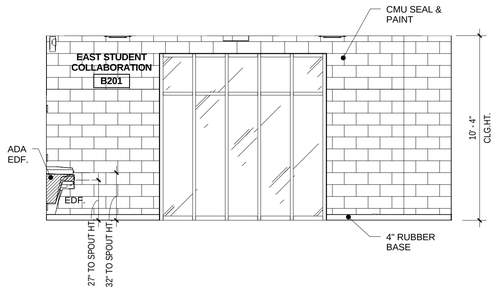
EAST STUDENT COLLABORATION B201 - SOUTH INT. ELEV. 7

1/4" = 1'-0"



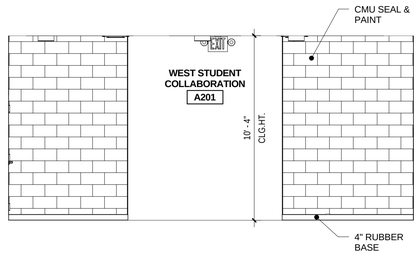
WEST STUDENT COLLABORATION A201 - SOUTH INT. ELEV. 3

1/4" = 1'-0"



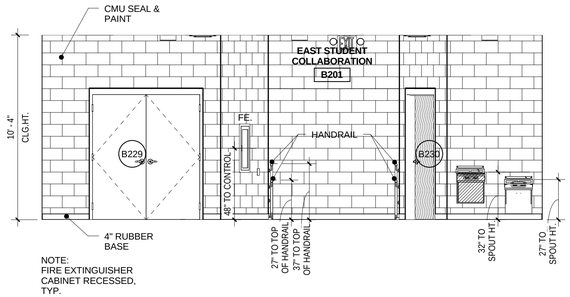
EAST STUDENT COLLABORATION B201 - EAST INT. ELEV. 6

1/4" = 1'-0"



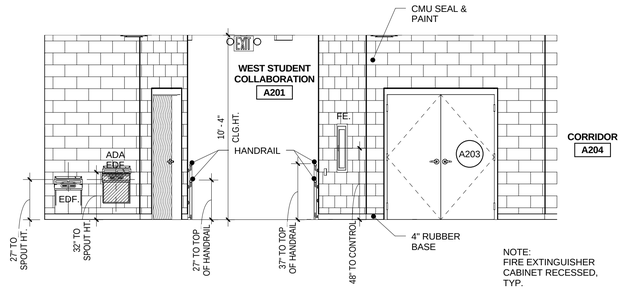
WEST STUDENT COLLABORATION A201 - EAST INT. ELEV. 2

1/4" = 1'-0"



EAST STUDENT COLLABORATION B201 - NORTH INT. ELEV. 5

1/4" = 1'-0"



WEST STUDENT COLLABORATION A201 - NORTH INT. ELEV. 1

1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT
MICHAEL E. ALLEX
15101
STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

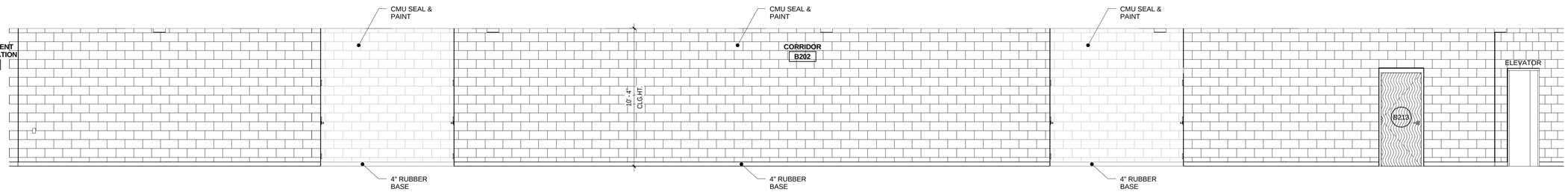
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:47:55 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

EAST/WEST STUDENT COLLABORATION INT. ELEVATIONS

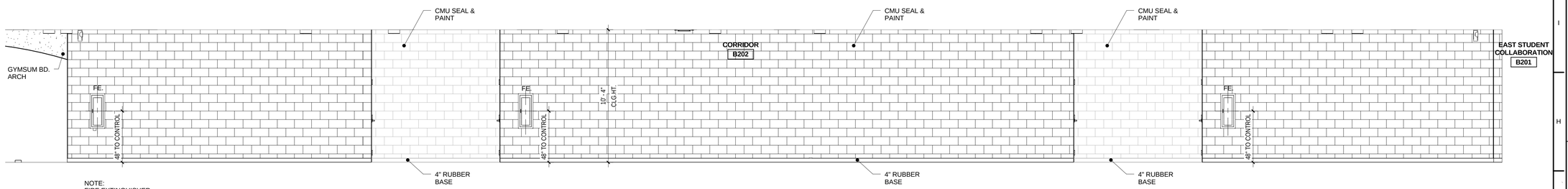
A7.4



CORRIDOR B202 - SOUTH INT. ELEV.

1/4" = 1'-0"

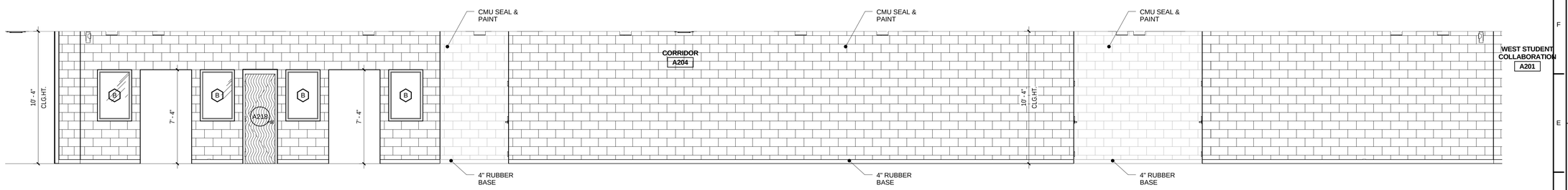
4



CORRIDOR B202 - NORTH INT. ELEV.

1/4" = 1'-0"

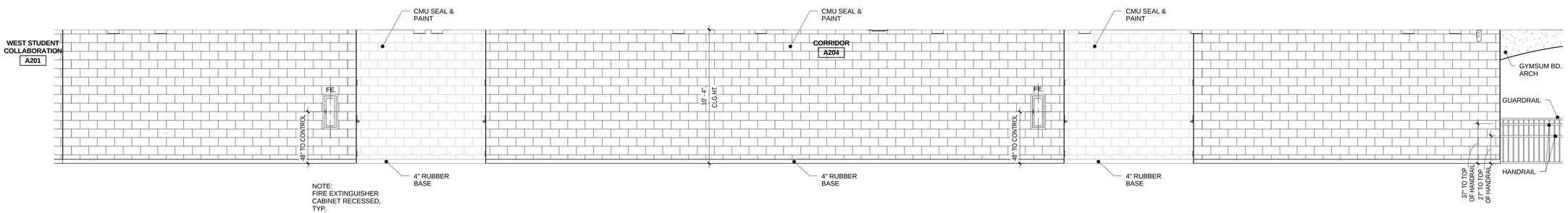
3



CORRIDOR A204 - SOUTH INT. ELEV.

1/4" = 1'-0"

2



CORRIDOR A204 - NORTH INT. ELEV.

1/4" = 1'-0"

1

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

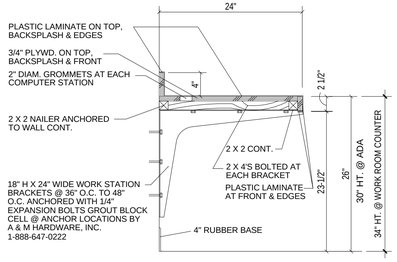
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:48:01 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

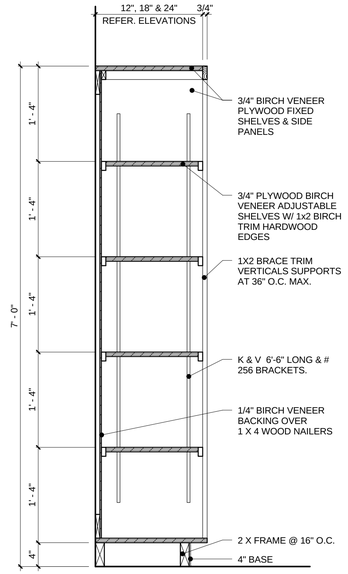
2ND FLOOR CORRIDOR INTERIOR ELEVATIONS

A7.5



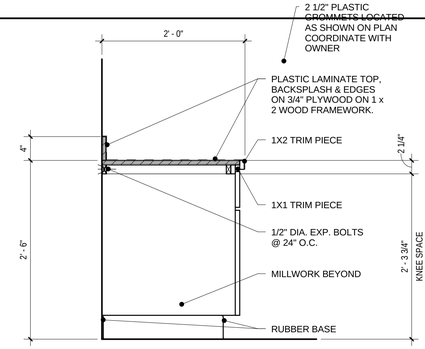
SEC. 24" COUNTER DETAIL 9

1" = 1'-0"



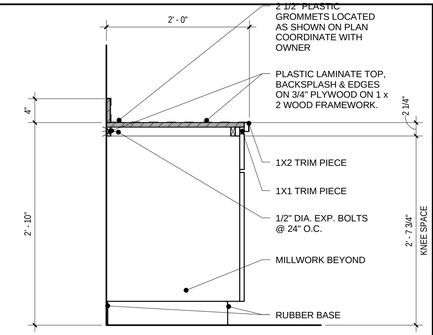
SEC. - 18" ADJ. SHELVES 8

1" = 1'-0"



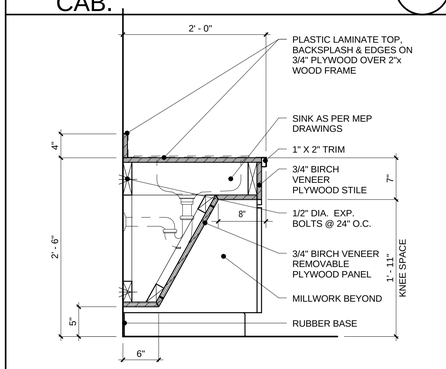
SEC. - 30" KNEE SPACE CAB. 6

1" = 1'-0"



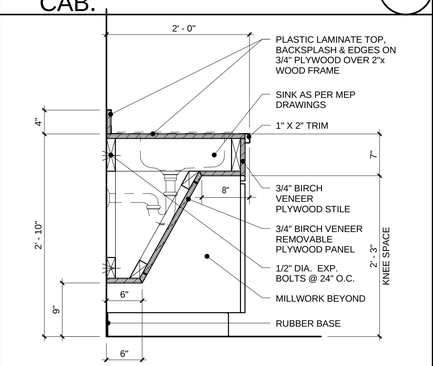
SEC. - 34" KNEE SPACE CAB. 3

1" = 1'-0"



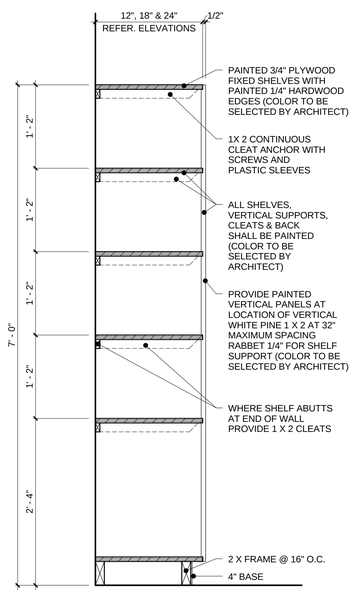
SEC. - SINK CAB. 5

1" = 1'-0"



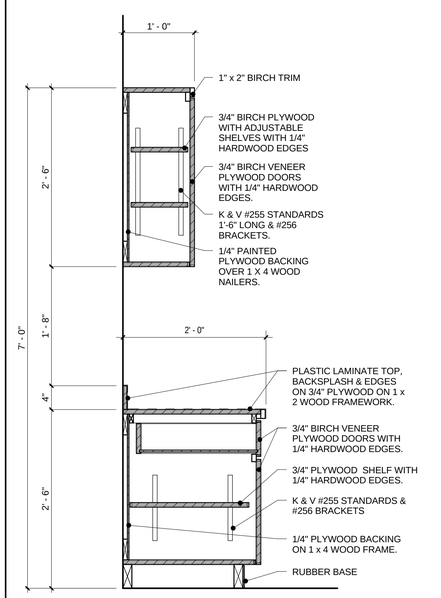
SEC. - SINK CAB. 2

1" = 1'-0"



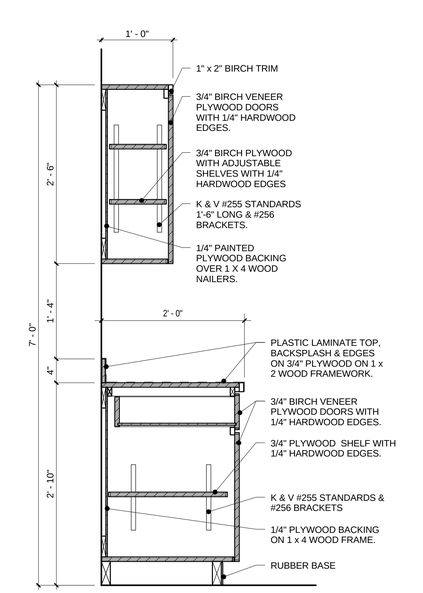
SEC. - 18" FIXED SHELVES 7

1" = 1'-0"



SEC. - 30" BASE/30" UPPER CAB. 4

1" = 1'-0"



SEC. - BASE / UPPER CAB. 1

1" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEX 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

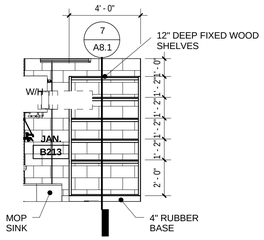
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

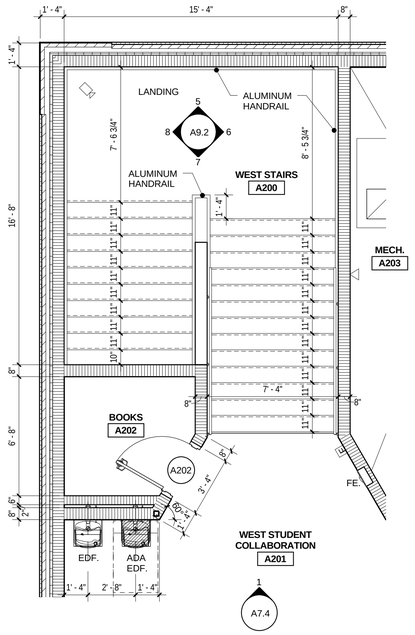
PROJECT NO:	2017.12
DATE: 5/22/2018 10:48:03 AM	
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MILLWORK SECTIONS

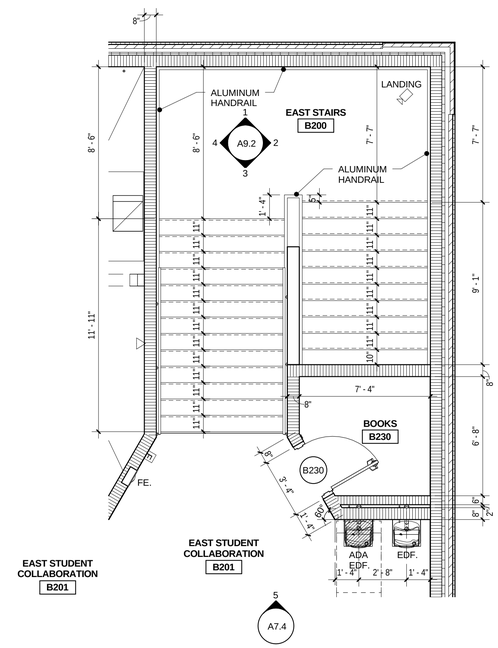
A8.1



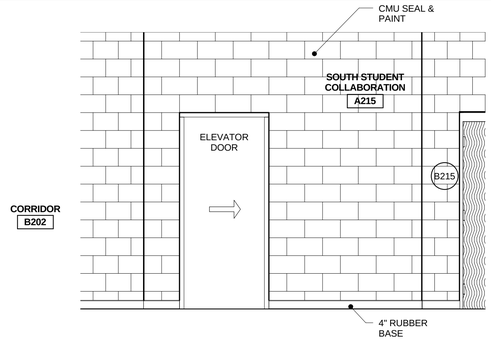
INT. ELEV. - JANITOR B213 9
1/4" = 1'-0"



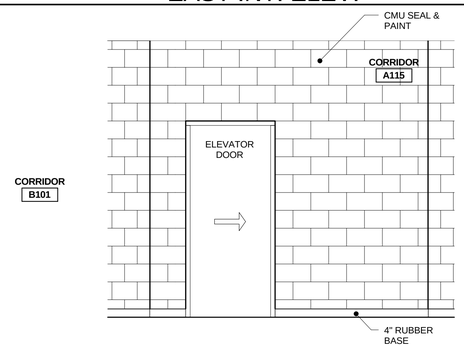
ENLARGED WEST STAIRS FLOOR PLAN - 2ND FLOOR 8
1/4" = 1'-0"



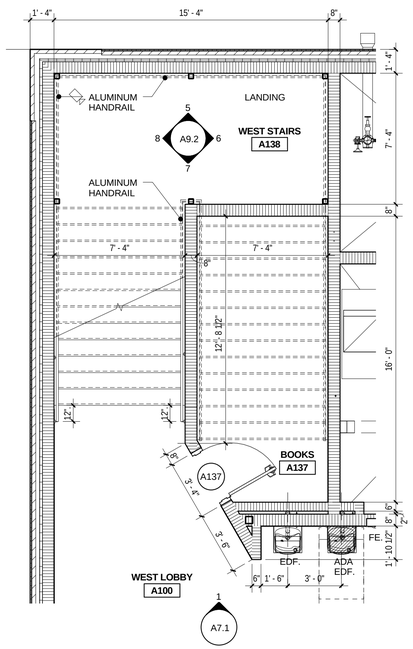
ENLARGED EAST STAIRS FLOOR PLAN - 2ND FLOOR 6
1/4" = 1'-0"



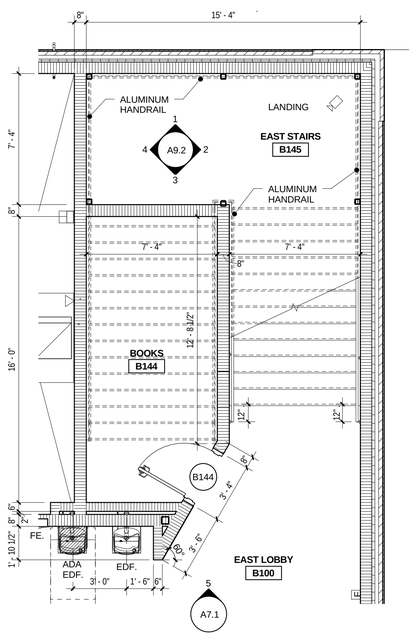
CORRIDOR A215 - PARTIAL EAST INT. ELEV. 4
3/8" = 1'-0"



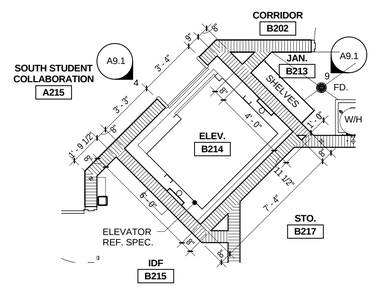
CORRIDOR A115 - PARTIAL EAST INT. ELEV. 3
3/8" = 1'-0"



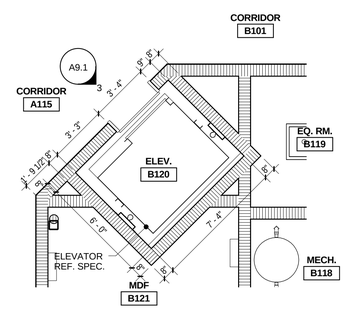
ENLARGED WEST STAIRS FLOOR PLAN - 1ST FLOOR 7
1/4" = 1'-0"



ENLARGED EAST STAIRS FLOOR PLAN - 1ST FLOOR 5
1/4" = 1'-0"



ENLARGED ELEVATOR FLOOR PLAN - 2ND FLOOR 2
1/4" = 1'-0"



ENLARGED ELEVATOR FLOOR PLAN - 1ST FLOOR 1
1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS
05.21.2018

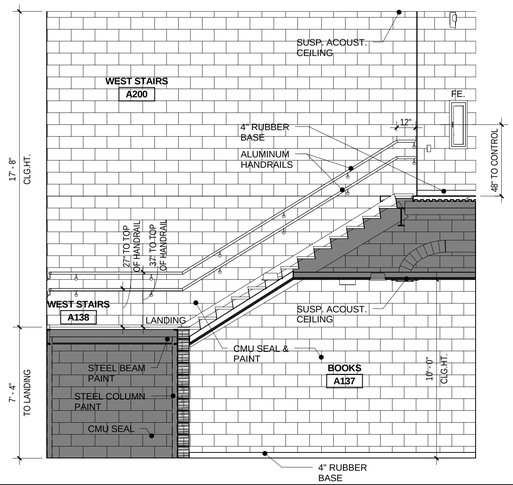
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:48:13 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

ENLARGED ELEV./ STAIRS FLOOR PLANS - 1ST/2ND FLOOR

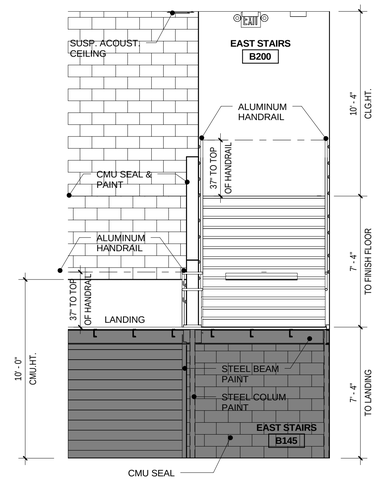
A9.1



WEST STAIRS - EAST INT. ELEV.

1/4" = 1'-0"

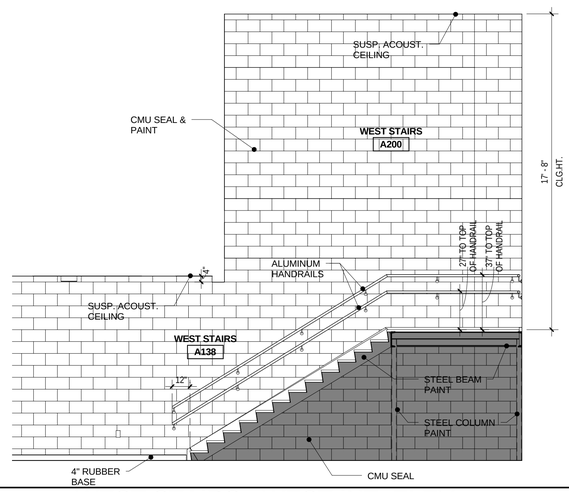
6



EAST STAIRS - SOUTH INT. ELEV.

1/4" = 1'-0"

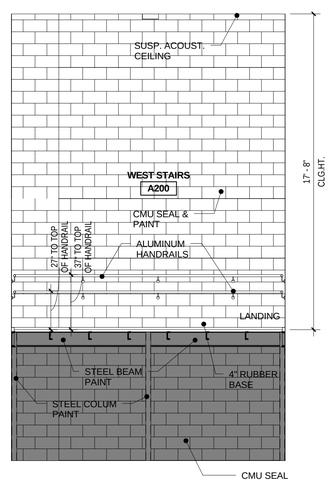
3



WEST STAIRS - WEST INT. ELEV.

1/4" = 1'-0"

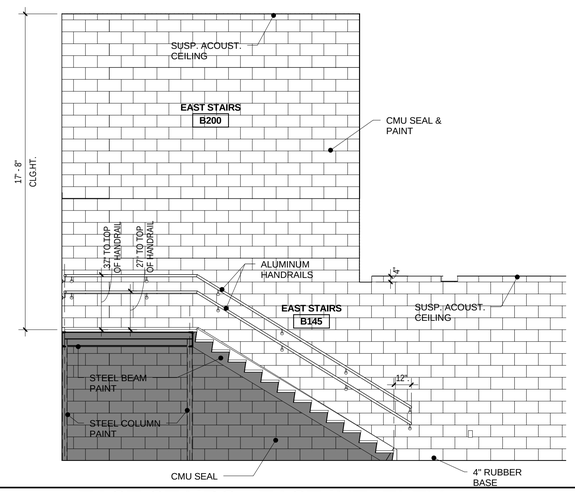
8



WEST STAIRS - NORTH INT. ELEV.

1/4" = 1'-0"

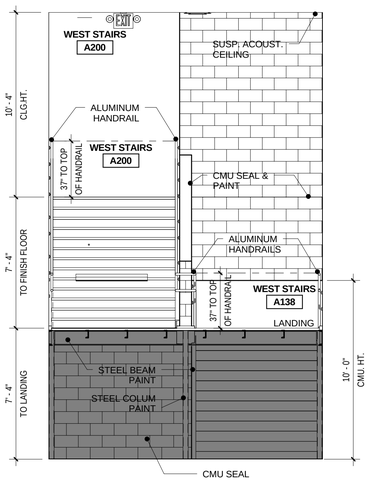
5



EAST STAIRS - EAST INT. ELEV.

1/4" = 1'-0"

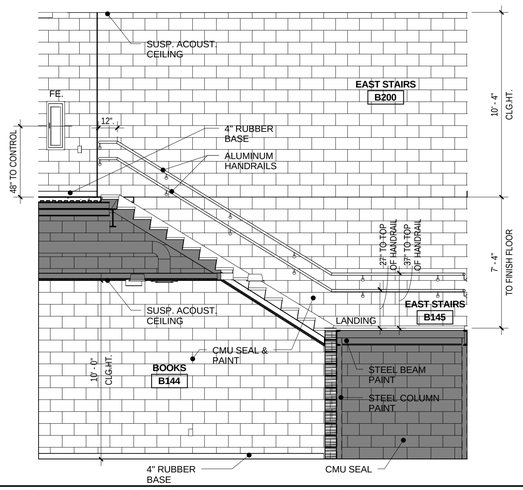
2



WEST STAIRS - SOUTH INT. ELEV.

1/4" = 1'-0"

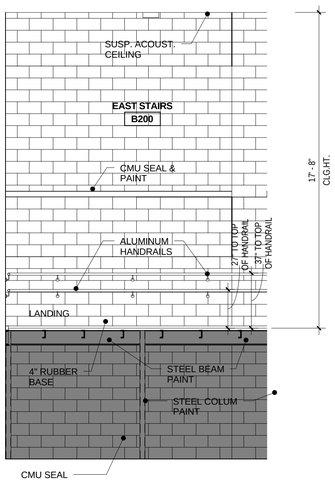
7



EAST STAIRS - WEST INT. ELEV.

1/4" = 1'-0"

4



EAST STAIRS - NORTH INT. ELEV.

1/4" = 1'-0"

1

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

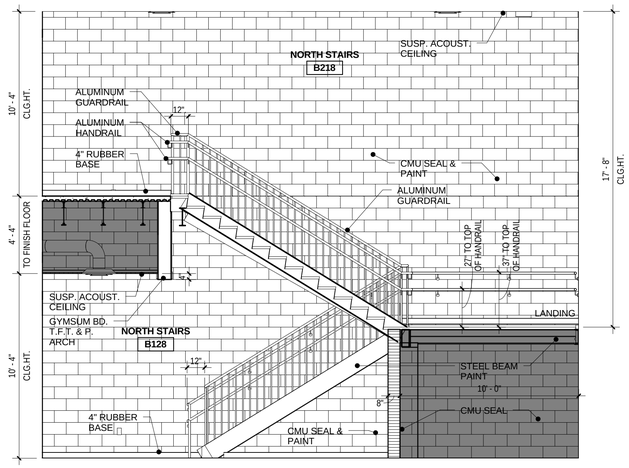
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE: 5/22/2018 10:48:26 AM	
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

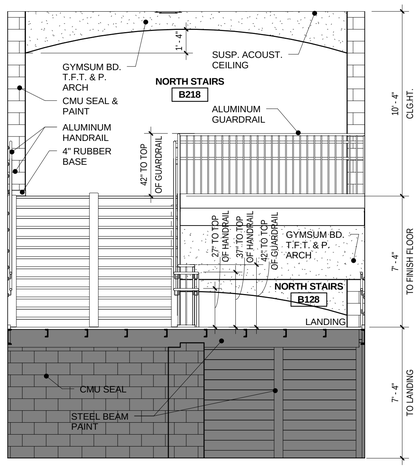
STAIRS INTERIOR ELEVATIONS

A9.2



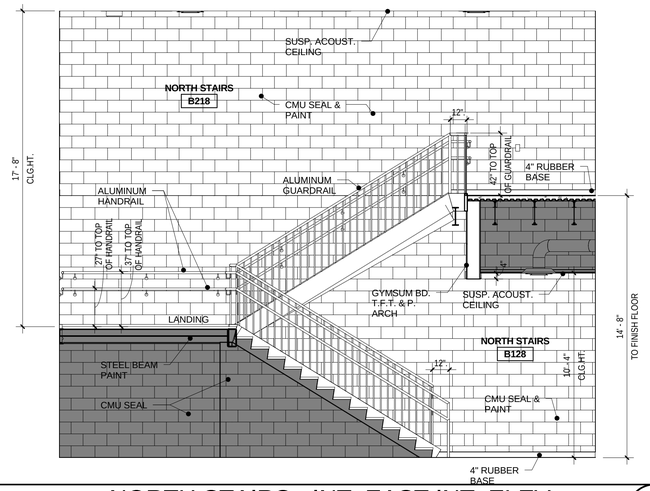
NORTH STAIRS - INT. WEST INT. ELEV. 8

1/4" = 1'-0"



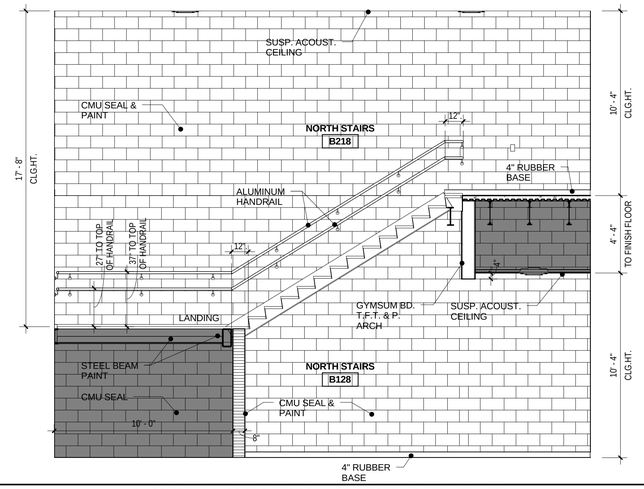
NORTH STAIRS - SOUTH INT. ELEV. 5

1/4" = 1'-0"



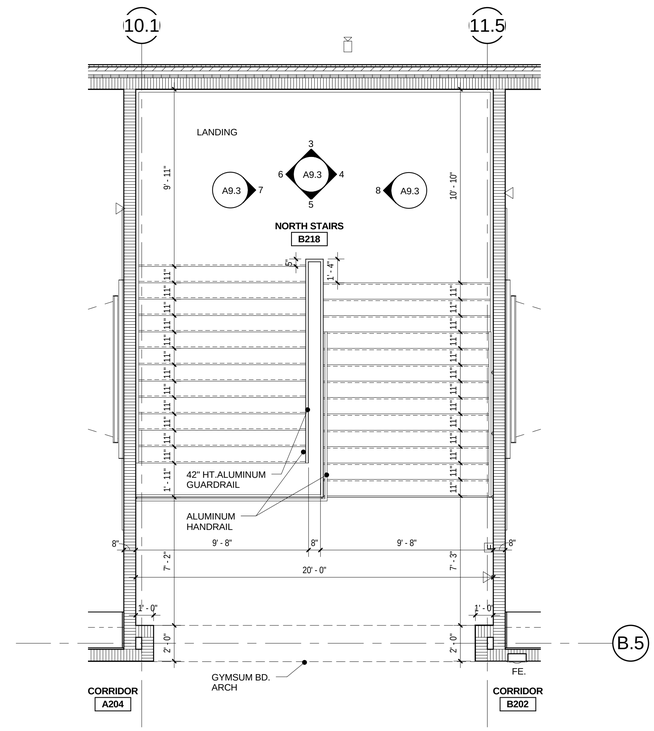
NORTH STAIRS - INT. EAST INT. ELEV. 7

1/4" = 1'-0"



NORTH STAIRS - EAST INT. ELEV. 4

1/4" = 1'-0"



ENLARGED NORTH STAIRS FLOOR PLAN - 2ND FLOOR 2

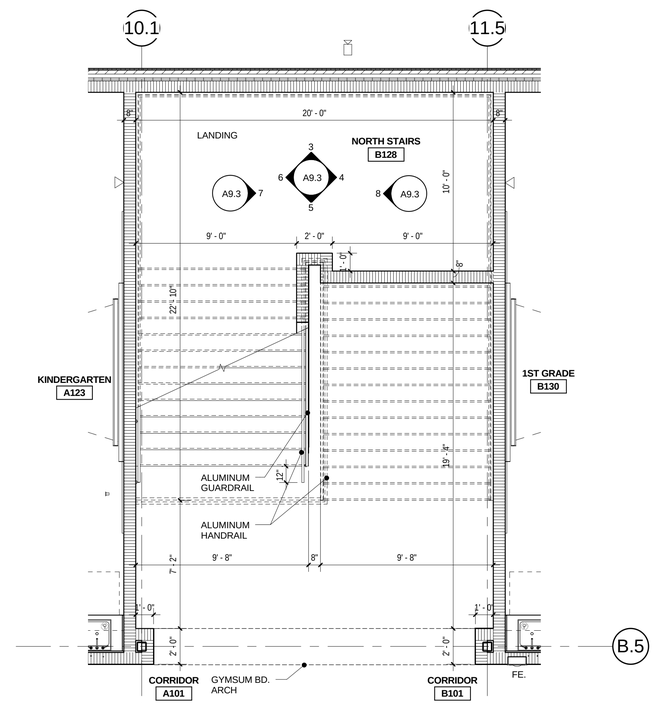
1/4" = 1'-0"

NORTH STAIRS - WEST INT. ELEV. 6

1/4" = 1'-0"

NORTH STAIRS - NORTH INT. ELEV. 3

1/4" = 1'-0"



ENLARGED NORTH STAIRS FLOOR PLAN - 1ST FLOOR 1

1/4" = 1'-0"

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/22/2018 10:48:44 AM
STARTING DATE:	09/05/2017
CK BY: ELI	DWN BY: VDV

ENLARGED NORTH STAIRS AND INTERIOR ELEVATIONS

A9.3

ROOM FINISH SCHEDULE - PARTIAL FLOOR PLAN - AREA "A" - 1ST FLOOR

A	NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING FINISH	CEILING HEIGHT	COUNTERTOP	REMARKS
A100	WEST LOBBY	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-4"		
A101	CORRIDOR	F.8	B.1	W.1	---	W.1	---	C.1	10'-4"		
A102	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A103	PRE-K	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A104	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A105	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A106	PRE-K	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A107	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A108	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A109	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A110	KINDERGARTEN	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A111	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A112	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A113	JAN.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A113A	ELECT.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
A114	E.D.F.	F.8	B.1	W.1	---	W.1	W.4	C.1	7'-4"		
A115	CORRIDOR	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A116	ALCOVE	F.8	B.1	W.1	---	W.1	W.1	C.1	10'-4"		
A117	COMPUTER LAB	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A118	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A119	KINDERGARTEN	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A120	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A121	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A122	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
A123	KINDERGARTEN	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A124	STO.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A125	T.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A126	KINDERGARTEN	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A127	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A128	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A129	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
A130	PRE-K	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A131	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A132	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A133	PRE-K	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A134	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
A135	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A136	MECH.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
A137	BOOKS	F.1	B.1	W.1	W.1	W.1	W.1	C.6	VARIES		
A138	WEST STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		
A139	FIRE RISER	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		

ROOM FINISH SCHEDULE - PARTIAL FLOOR PLAN - AREA "A" - 2ND FLOOR

NUMBER	NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING FINISH	CEILING HEIGHT	COUNTERTOP	REMARKS
A200	WEST STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		
A201	WEST STUDENT COLLABORATION	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-4"		
A202	BOOKS	F.1	B.1	W.1	W.1	W.1	W.1	C.6	VARIES		
A203	MECH.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
A204	CORRIDOR	F.8	B.1	W.1	---	W.1	---	C.1	10'-4"		
A205	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
A206	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A207	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A208	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A209	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A210	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
A211	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A212	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A213	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A214	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A215	SOUTH STUDENT COLLABORATION	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A216	LAVS.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
A217	GIRLS	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
A218	CHASE	F.5	B.6	W.5	W.5	W.5	W.5	C.10	VARIES		
A219	LAVS.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
A220	BOYS	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
A221	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A222	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A223	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A224	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
A225	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A226	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
A227	2ND GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
A228	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		

ROOM FINISH SCHEDULE - PARTIAL FLOOR PLAN - AREA "B" - 1ST FLOOR

A	NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING FINISH	CEILING HEIGHT	COUNTERTOP	REMARKS
B100	EAST LOBBY	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-4"		
B101	CORRIDOR	F.8	B.1	W.1	---	W.1	---	C.1	10'-4"		
B102	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
B103	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B104	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B105	T	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B106	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B107	T	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B108	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B109	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
B110	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B111	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B112	T	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B113	CORRIDOR	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
B114	WOMEN	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
B115	WOMEN	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
B116	MEN	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
B117	MEN	F.3	B.4	W.3	W.3	W.3	W.3	C.4	10'-0"		
B118	MECH.	F.1	B.1	W.1	W.1	W.1	W.1	C.9	10'-0"		
B119	EQ. RM.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
B120	ELEV.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
B121	MDF	F.1	B.1	W.1	W.1	W.1	W.1	C.6	VARIES		
B122	WKRM	F.8	B.2	W.1	W.1	W.1	W.1	C.1	10'-0"		
B123	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B124	ALCOVE	F.8	B.1	W.1	W.1	W.1	---	C.1	10'-4"		
B125	KINDERGARTEN	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B126	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B127	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B128	NORTH STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		
B129	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
B130	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B131	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B132	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B133	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B134	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B135	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B136	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
B137	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B138	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B139	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B140	1ST GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B141	T.	F.3	B.4	W.3	W.3	W.3	W.3	C.4	8'-0"		
B142	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B143	MECH.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
B144	BOOKS	F.1	B.1	W.1	W.1	W.1	W.1	C.6	VARIES		
B145	EAST STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		

ROOM FINISH SCHEDULE - PARTIAL FLOOR PLAN - AREA "B" - 2ND FLOOR

NUMBER	NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING FINISH	CEILING HEIGHT	COUNTERTOP	REMARKS
B200	EAST STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		
B201	EAST STUDENT COLLABORATION	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-4"		
B202	CORRIDOR	F.8	B.1	W.1	---	W.1	---	C.1	10'-4"		
B203	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
B204	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B205	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B206	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B207	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B208	ALCOVE	F.8	B.1	---	W.1	W.1	W.1	C.1	10'-4"		
B209	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B210	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B211	COMPUTER LAB	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B212	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B213	JAN.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B214	ELEV.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
B215	IDF	F.1	B.1	W.1	W.1	W.1	W.1	C.9	10'-0"		
B216	WKRM	F.8	B.2	W.1	W.1	W.1	W.1	C.1	10'-0"		
B217	STO.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B218	NORTH STAIRS	F.7	B.5	W.1	W.1	W.1	W.1	C.1	VARIES		
B219	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
B220	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B221	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B222	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B223	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B224	ALCOVE	F.8	B.1	W.1	W.1	---	W.1	C.1	10'-4"		
B225	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B226	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B227	3RD GRADE	F.8	B.1	W.1	W.1	W.1	W.1	C.1	10'-0"		
B228	STOR.	F.1	B.1	W.1	W.1	W.1	W.1	C.1	8'-0"		
B229	MECH.	F.5	B.6	W.5	W.5	W.5	W.5	C.9	VARIES		
B230	BOOKS	F.1	B.1	W.1	W.1	W.1	W.1	C.6	VARIES		

SCHEDULE FINISHES KEY-FLOOR FINISH

Key	Floor Finish
F.1	V.C.T.
F.2	CARPET
F.3	CERAMIC MOSAIC TILE (2" X 2")
F.4	QUARRY TILE
F.5	SEALED CONCRETE
F.6	EXPOSED CONCRETE (TROWEL FINISH)
F.7	RUBBER TREADS AND RISERS
F.8	STAINED CONCRETE

SCHEDULE FINISHES KEY-BASE FINISH

Key	Base Finish
B.1	4" RUBBER COVE BASE
B.2	4" RUBBER STRAIGHT BASE
B.3	QUARRY TILE COVE BASE
B.4	4-1/4" CERAMIC TILE COVE BASE
B.5	RUBBER STRINGERS
B.6	NONE

SCHEDULE FINISHES KEY-WALL FINISH

Key	Wall Finish
W.1	CMU SEALED & PAINTED
W.2	CERAMIC TILE 4-1/4" X 4-1/4" WAINSCOT UP TO 48" HIGH WITH CMU SEALED & PAINTED ABOVE
W.3	CERAMIC TILE 4-1/4" X 4-1/4" WAINSCOT UP TO 6' 10-3/4" HIGH WITH CMU SEALED & PAINTED ABOVE
W.4	CERAMIC TILE 4-1/4" X 4-1/4" WAINSCOT UP TO FULL HEIGHT
W.5	CMU SEALED
W.6	5/8" GYPSUM BOARD TAPE, FLOAT, TEXTURE & PAINTED
W.7	FACE BRICK

SCHEDULE FINISHES KEY-CEILING FINISH

Key	Ceiling Finish
C.1	2' X 2' LAY-IN ACOUSTICAL CEILING TILE SYSTEM
C.2	2' X 2' LAY-IN ACOUSTICAL 1HR. FIRE RATED ASSEMBLY
C.3	2' X 2' CERAMA GUARD (MOISTURE RESISTANT) LAY-IN CEILING TILE
C.4	5/8" THICK GYP. BD. TAPE, FLOAT, TEXTURE & PAINT ON 3-5/8" MTL. STUDS @ 16" O.C.
C.5	5/8" THICK, MOISTURE RESISTANT GYP. BD. ON SUSPENDED GRID SYSTEM
C.6	5/8" THICK, MOISTURE RESISTANT GYP. BD. ON SUSPENDED GRID SYSTEM (2 LAYERS)
C.7	3/4" PLASTER ON STUCCO/PLASTER SUSPENDED GRID SYSTEM, PAINTED
C.8	METAL SOFFIT
C.9	EXPOSED STRUCTURE PAINTED
C.10	EXPOSED STRUCTURE

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:48:51 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

ROOM FINISH SCHEDULES AND FINISHES KEYS

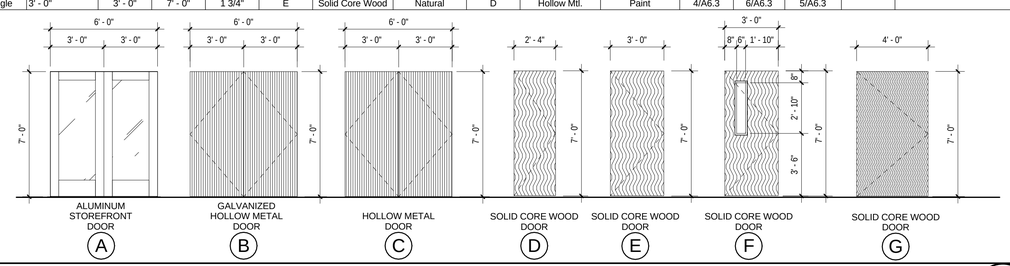
A10.1

DOOR SCHEDULE - First Floor Area "A"

Mark	Pair or Single	Opening Width	DOOR DIMENSIONS Width	Height	Thick-ness	DOOR Door Type	Door Material	Door Finish	DOOR FRAME Frame Type	Frame Material	Frame Finish	DOOR DETAILS Head	Sill	Jamb	Fire Rating	Remarks
A100	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	A	Aluminum	Bronze Anodized	G	Aluminum	Bronze Anodized	3/A6.2	9/A6.1	8/A6.1		
A103A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A103B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A104	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A105	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A106A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A106B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A107	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A108	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A110	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A111	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A112	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A113	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A113A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		3/4 HR. FIRE LABEL
A115	Pair	6' - 4"	3' - 0"	7' - 0"	1 3/4"	A	Aluminum	Bronze Anodized	F	Aluminum	Bronze Anodized	7/A6.1	8/A6.1	9/A6.1		
A116	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A117	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A118	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A120	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A121	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A123A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A123B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A124	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A125	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A126	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A127	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A128	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A130A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A130B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A131	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A132	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A133	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A134	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A135	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
A136	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	C	Hollow Mtl.	Paint	B	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		SMOKE SEALS
A137	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		1 HR. FIRE LABEL
A139	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	B	Galv. Hollow Metal	Paint	A	Galv. Hollow Mtl.	Paint	1/A6.3	3/A6.3	2/A6.3		

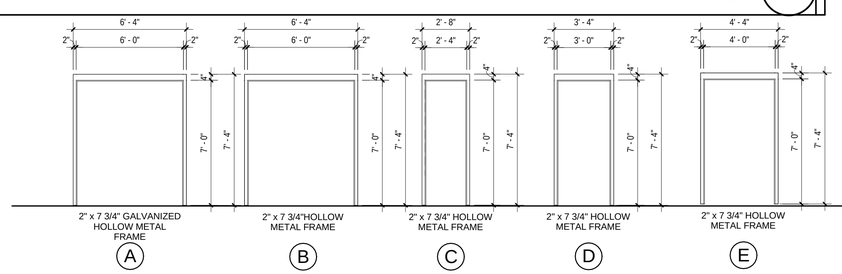
DOOR SCHEDULE - First Floor Area "B"

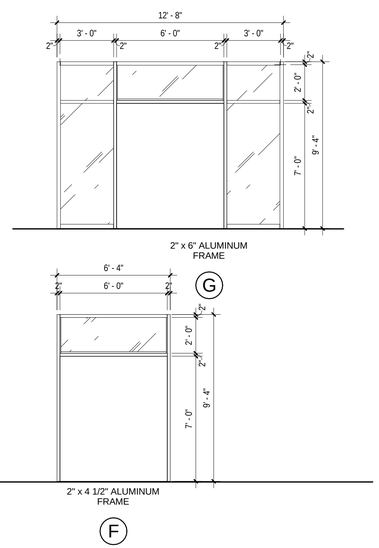
Mark	Pair or Single	Opening Width	DOOR DIMENSIONS Width	Height	Thick-ness	DOOR Door Type	Door Material	Door Finish	DOOR FRAME Frame Type	Frame Material	Frame Finish	DOOR DETAILS Head	Sill	Jamb	Fire Rating	Remarks
B100A	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	A	Aluminum	Bronze Anodized	G	Aluminum	Bronze Anodized	3/A6.2 SIM.	9/A6.1	8/A6.1		
B100B	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	A	Aluminum	Bronze Anodized	G	Aluminum	Bronze Anodized	3/A6.2 SIM.	9/A6.1	8/A6.1		
B103A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B103B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B104	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B105	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B106A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B106B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B107	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B108	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B110	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B111	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B112	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B114	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B115	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B116	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B117	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B118	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	C	Solid Core Wood	Natural	C	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B119	Single	4' - 0"	4' - 0"	7' - 0"	1 3/4"	G	Solid Wood Core	Natural	E	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B121	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B122	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B123	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B124	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B126	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		



DOOR TYPE ELEVATIONS

1/4" = 1'-0"





DOOR FRAME ELEVATIONS

1/4" = 1'-0"

DOOR SCHEDULE - First Floor Area "B"

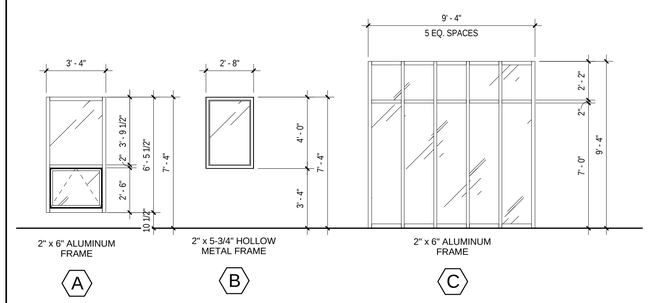
Mark	Pair or Single	Opening Width	DOOR DIMENSIONS Width	Height	Thick-ness	DOOR Door Type	Door Material	Door Finish	DOOR FRAME Frame Type	Frame Material	Frame Finish	DOOR DETAILS Head	Sill	Jamb	Fire Rating	Remarks
B127	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B130A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B130B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B131	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B132	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B133	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B134	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B135	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B137A	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B137B	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B138	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B139	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B140	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B141	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B142	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		
B143A	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	C	Hollow Mtl.	Paint	B	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		SMOKE SEALS
B143B	Pair	6' - 0"	3' - 0"	7' - 0"	1 3/4"	B	Galv. Hollow Metal	Paint	A	Galv. Hollow Mtl.	Paint	1/A6.3	3/A6.3	2/A6.3		
B144	Single	3' - 0"	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint	4/A6.3	6/A6.3	5/A6.3		1 HR. FIRE LABEL

DOOR SCHEDULE - Second Floor Area "A"

Mark	Pair or Single	DOOR DIMENSIONS Width	Height	Thick-ness	DOOR Door Type	Door Material	Door Finish	DOOR FRAME Frame Type	Frame Material	Frame Finish	DOOR DETAILS Head	Sill	Jamb	Fire Rating	Remarks
A202	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A203	Pair	3' - 0"	7' - 0"	1 3/4"	C	Hollow Mtl.	Paint	B	Hollow Mtl.	Paint					
A206	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A207	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A208	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A209	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A211	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A212	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A213	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A214	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A218	Single	2' - 4"	7' - 0"	1 3/4"	D	Solid Core Wood	Natural	C	Hollow Mtl.	Paint					
A222	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A223	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A225	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A226	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A227	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
A228	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					

DOOR SCHEDULE - Second Floor Area "B"

Mark	Pair or Single	DOOR DIMENSIONS Width	Height	Thick-ness	DOOR Door Type	Door Material	Door Finish	DOOR FRAME Frame Type	Frame Material	Frame Finish	DOOR DETAILS Head	Sill	Jamb	Fire Rating	Remarks
B204	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B205	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B206	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B207	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B209	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B210	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B211	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B212	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B213	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B215	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B216	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B217	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B220	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B221	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B222	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B223	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B225	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B226	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B227	Single	3' - 0"	7' - 0"	1 3/4"	F	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B228	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					
B229	Pair	3' - 0"	7' - 0"	1 3/4"	C	Hollow Mtl.	Paint	B	Hollow Mtl.	Paint					
B230	Single	3' - 0"	7' - 0"	1 3/4"	E	Solid Core Wood	Natural	D	Hollow Mtl.	Paint					



WINDOW TYPES

1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2018

CONSULTANTS:

REGISTERED ARCHITECT MICHAEL E. ALLEN 15101 STATE OF TEXAS

05.21.2018

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/22/2018 10:49:05 AM
STARTING DATE: 09/05/2017
CK BY: ELI DWN BY: VDV

DOOR ELEVATIONS / SCHEDULES

A10.2

GENERAL NOTES - MECHANICAL:

(1) THE MECHANICAL CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING THE WORK IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES UNDER THIS SECTION OF THE CONTRACT. IF THE CONTRACTOR DETERMINES THAT THE CONTRACT DOCUMENTS AND PLANS ARE NOT IN COMPLIANCE WITH THE APPLICABLE LOCAL CODES, HE/SHE SHALL INFORM THE ARCHITECT PRIOR TO CONSTRUCTION START FOR DIRECTION. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO MEET APPLICABLE LOCAL CODES, AND RE-WORK SHALL BE AT CONTRACTOR'S EXPENSE.

(2) CONTRACTOR SHALL HANG AND INSTALL ALL DUCTWORK FLUSH WITH THE BUILDING STRUCTURE TO ACCOMMODATE NEW CEILINGS. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH ARCHITECTURAL AND ELECTRICAL DESIGN. ALL DUCTWORK SHALL BE MODIFIED AS NECESSARY AND REQUIRED TO FIT AROUND BUILDING STRUCTURES, ARCHITECTURAL BUILD-OUT AND ELECTRICAL CABLE TRAY INSTALLATIONS. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.

(3) CONNECT EACH DIFFUSER TO THE MAIN DISTRIBUTION DUCTS WITH A FLEX-DUCT SECTION; CONNECTIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAIL. EACH FLEX-DUCT CONNECTION SHALL INCLUDE A BUTTERFLY DAMPER TO BE INSTALLED AT THE TRUNK DUCT.

(4) CONTRACTOR SHALL PROVIDE ALL DUCTWORK REQUIRED TO COMPLETE THE HVAC SYSTEM. TIE IN BRANCH DUCTS TO MAIN DUCTS WITH SHEET METAL FLANGES. FLANGE CONNECTION SHALL BE FASTENED WITH CRIMPED SHEET METAL STRIPS AND SEALED WITH SILICONE CAULK.

(5) CONTRACTOR SHALL SUPPLY AND INSTALL FIRE DAMPERS AND ACCESS DOORS IN THE HORIZONTAL DUCTS WHERE THEY PENETRATE FIRE WALLS & BARRIERS.

(6) ALL OPENINGS CUT IN MASONRY AND PLASTER WALLS OR CONCRETE FLOORS SHALL BE CORE DRILLED OR SAWED WHEN POSSIBLE. CONTRACTOR SHALL CHECK BUILDING CONSTRUCTION BEFORE MAKING PENETRATIONS TO AVOID CUTTING THROUGH STRUCTURAL BEAMS AND REINFORCING. CONTRACTOR SHALL INFORM THE ENGINEER IF REINFORCING IS CUT OR DAMAGED WHILE MAKING OPENINGS. CONTRACTOR SHALL REINFORCE ALL OPENINGS AS REQUIRED BY DRAWINGS AND SPECIFICATIONS. PATCH AND SEAL OPENINGS WITH 8000 PSI CEMENT GROUT. INSTALL DECORATIVE TRIM (EQUIPMENT FLANGES, FRAMING OR ESCUTCHEONS) AROUND OPENINGS IN FINISHED AREAS. COORDINATE ALL CUTTING AND PATCHING WITH THE OTHER TRADES

(7) ON ANY WORK SHOWN ON MECHANICAL DRAWINGS REQUIRING DEMOLITION OF EXISTING OR NEW BUILDING STRUCTURES AND FINISHES, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE THE NECESSARY DEMOLITION. CONTRACTOR SHALL PATCH AND REPAIR ALL DEMOLITION WORK. PATCHING SHALL BE COMPLETED WITH THE SAME MATERIALS AS THE SURROUNDING AREAS, OR WITH ARCHITECT-APPROVED PATCHING MATERIALS. REPAIRS SHALL BE COMPLETED ACCORDING TO ARCHITECTURAL SPECIFICATIONS. ALL REFINISHING SHALL BE APPROVED BY THE ARCHITECT.

(8) CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE INSTALLATION OF THE AIR DISTRIBUTION SYSTEM SHOWN. DUCTWORK, DUCT ACCESSORIES AND CONTROLS SHOWN AND REQUIRED SHALL BE SUPPLIED AND INSTALLED. ALL INSTALLATION WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES, INCLUDING NFFA 90A AND 90B.(NFPA 90A: STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS)(NFPA 90B: STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS)

(9) CONTRACTOR SHALL BALANCE ALL AIR DISTRIBUTION SYSTEMS TO ACHIEVE THE AIR VOLUME REQUIREMENTS INDICATED. BALANCING SHALL INCLUDE ADJUSTMENT OF ALL MANUAL VOLUME DAMPERS, SPLITTER DAMPERS, ZONE DAMPERS (IF REQUIRED), BUTTERFLY DAMPERS AND INDIVIDUAL DIFFUSER VOLUME DAMPERS (FINAL BALANCING ONLY). CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A COMPLETE BALANCING REPORT WHICH INCLUDES, VOLUME, ROOM REFERENCE AND ZONE VOLUME TOTALS.

(10) MOUNT ALL THERMOSTATS (SENSORS) 48" ABOVE THE FINISHED FLOOR LEVEL. THERMOSTATS SHOWN SHALL BE IN CONTROL OF THE ZONE SYSTEM WHICH IS SUPPLYING AIR TO THE AREA WHERE THE THERMOSTAT IS LOCATED. CONTRACTOR SHALL SUPPLY AND INSTALL ALL CONTROL VOLTAGE WIRING AND CONDUIT FOR THERMOSTAT (DDC CONTROL) INSTALLATION.

(11) CONTRACTOR SHALL INSTALL NEW REFRIGERANT PIPING FLUSH WITH THE BUILDING STRUCTURE AND MECHANICAL ROOM BOUNDARIES AS SHOWN. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WORK WITH DUCTS AND ELECTRICAL CONDUIT. MECHANICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE WORK SCOPE OF OTHER TRADES AND PARTICIPATE IN COORDINATING ALL CONSTRUCTION EFFORTS.

(12) ALL PIPING SHALL BE INSULATED AND JACKETED. REFER TO THE SPECIFICATIONS. THE CONDENSING AND ROOF TOP CONDENSER COILS ARE TO BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

(13) PROVIDE SMOKE DETECTOR AND SHUTDOWN CONTROLS ON AIR HANDLERS AND SUPPLY FANS. SMOKE DETECTORS SHALL BE PROVIDED BY ELECTRICAL AND INSTALLED BY MECHANICAL. COORDINATE TO PROVIDE A COMPLETE SYSTEM. PROVIDE BOTH SUPPLY AND RETURN SIDE DEVICES.

(14) PROVIDE SEVEN DAY PROGRAMMABLE THERMOSTAT. 24 HOUR SINGLE/MULTI STAGE COMMERCIAL THERMOSTAT. DUAL SET POINTS, OCCUPIED AND UNOCCUPIED PERIODS. UNIT OPTIMIZATION. AUTO HEATING/COOLING AND AUTO CHANGE OVER. SUB-BASE BACK-UP BATTERY AND TEMPORARY OVER-RIDE. 24 VAC CONTROL VOLTAGE. PROVIDE PLASTIC SEE THRU PROTECTIVE COVER WITH KEY LOCK.

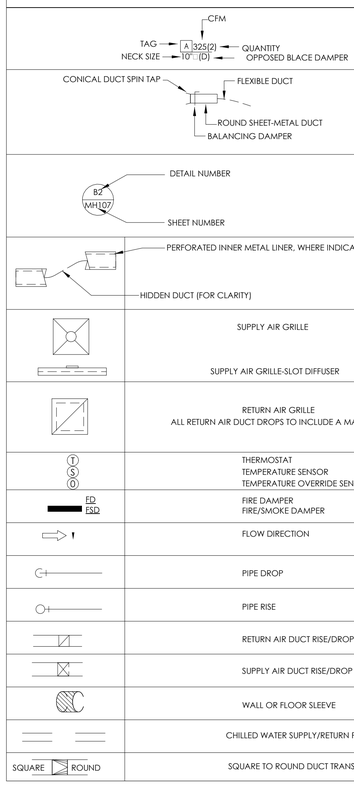
(15) **FILTER INSTALLATION AND REPLACEMENT**

A. INSTALL CONSTRUCTION RETURN FILTER AT EACH RETURN GRILLE BEFORE OPERATING PERMANENT AIR HANDLERS DURING CONSTRUCTION.

B. REPLACE FILTERS AFTER COMPLETING CONSTRUCTION AND BEFORE CONDUCTING BUILDING FLUSH-OUT.

1. REPLACE CONSTRUCTION RETURN FILTERS WITH FLUSH-OUT RETURN FILTERS.
2. REPLACE SUPPLY FILTERS.

MECHANICAL SYMBOL LEGEND



MECHANICAL ABBREVIATIONS

A/C	AIR CONDITIONED	MAX	MAXIMUM
AD	ACCESS DOOR	MBD	MANUAL BALANCING DAMPER
AFF	ABOVE FINISHED FLOOR	MD	MOTORIZED DAMPER
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
APPROX	APPROXIMATE	MIN	MINIMUM
ARCH	ARCHITECTURAL	MS	MOTOR STARTER
BDD	BACK DRAFT DAMPER	NA	NOT APPLICABLE
BHP	BRAKE HORSEPOWER	NC	NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NORMALLY OPEN
CH	CHILLER	NTS	NOT TO SCALE
CHP	CHILLED WATER PUMP		
CLG	CEILING	OA	OUTSIDE AIR
CWP	CONDENSER WATER PUMP	OAH	OUTSIDE AIR INTAKE HOOD
CO	CLEANOUT	OBD	OPPOSED BLADE DAMPER
CT	COOLING TOWER	OC	ON CENTER
CU	CONDENSING UNIT		
CW	COLD WATER	P	PUMP
CL	CENTER LINE	PBD	PARALLEL BLADE DAMPER
		PP	PRIMARY CHILLED WATER PUMP
DB	DRY BULB	PRESS	PRESSURE
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE
DN	DOWN	PSIG	POUNDS PER SQUARE INCH (GAUGE)
DWG	DRAWING		
DX	DIRECT EXPANSION		
		R	RETURN (AIR DEVICE)
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EDH	ELECTRIC DUCT HEATER	RE: 4M7.01	REFER TO DETAIL 4, SHEET M7.01
EF	EXHAUST FAN	RET	RETURN
ELEC	ELECTRICAL	RH	RELATIVE HUMIDITY
ELEV	ELEVATION	RHD	RELIEF HOOD
		RPM	REVOLUTIONS PER MINUTE
F	DEGREES FAHRENHEIT	RTU	ROOF TOP UNIT
FC	FAN COIL		
FD	FIRE DAMPER		
FLEX	FLEXIBLE	S	SUPPLY (AIR DEVICE)
FLG	FLANGE	SA	SUPPLY AIR
FLR	FLOOR	SCH	SCHEDULE
FPM	FEET PER MINUTE	SCHP	SECONDARY CHILLED WATER PUMP
FT	FEET, FOOT	SD	SMOKE DAMPER
FS	FLOW SWITCH	SEC	SECOND
		SF	SUPPLY FAN
GAL	GALLON	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
GALV	GALVANIZED		
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
		SPEC	SPECIFICATION
HB	HOSE BIBB	SF	SQUARE FOOT
HP	HORSEPOWER	STD	STANDARD
HR	HEAT PUMP (WATER SOURCE)		
HR	HOUR	TEMP	TEMPERATURE
HVAC	HEATING/VENTILATING/ AIR CONDITIONING	TSTAT	THERMOSTAT
		TYP	TYPICAL
HWP	HOT WATER PUMP		
HZ	HERTZ	UF	UNDER FLOOR
		UH	UNIT HEATER
ID	INSIDE DIAMETER	UL	UNDERWRITERS LABORATORIES
IE	INVERT ELEVATION (FLOW LINE)		
IN	INCHES	VEL	VELOCITY
INSUL	INSULATION	VENT	VENTILATE
IN WG	INCHES OF WATER	VF	VENTILATION FAN
		VOL	VOLUME
KW	KILOWATT(S)	VOLT	VOLTAGE
LAT	LEAVING AIR TEMPERATURE	W	WIDE, WIDTH
LB	POUND	W/	WITH
L	LOUVER	WB	WET BULB
		W/O	WITHOUT

H.V.A.C. SYSTEM SECTION 15500

THE WORK INCLUDES PROVIDING THE HVAC SYSTEMS, INCLUDING DUCTWORK, DIFFUSERS AND GRILLES, INSULATION, CONTROLS, AND ALL OTHER EQUIPMENT NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM. HVAC SYSTEM SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

- HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) UNITS.
- SUPPLY AND RETURN DUCTWORK SYSTEMS WITH GRILLES, DIFFUSERS, FILTERS, AND DAMPERS.
- TEMPERATURE CONTROL SYSTEM INCLUDING LOW VOLTAGE WIRING AND CONDUIT.
- DUCT, PIPING, AND EQUIPMENT INSULATION, WHERE INDICATED HEREIN.
- CONTROLS AND WIRING FOR CONNECTION TO LANDLORD'S FIRE-SMOKE ALARM SYSTEM (WHERE APPLICABLE).

THE CONTRACTOR SHALL COORDINATE ALL NEW DUCTWORK INCLUDING DUCTWORK INSULATION AND REINFORCING WITH EXISTING DUCTWORK AND DUCTWORK ANGLE BRACING SUCH THAT THE NEW DUCTWORK WILL FIT WITHIN THE SPACE LIMITATIONS OF THE PROJECT.

CONDENSATE PIPING: CONDENSATE PIPING SHALL BE A MINIMUM OF 3/4" COPPER TYPE "L" PIPE. ALL CONDENSATE DRAINS SHALL BE INSULATED WITH 1/2" THICK CLOSED CELL INSULATION SIMILAR TO ARMAFLEX 2000.

THE DESIGN, SELECTION, SPACING AND APPLICATION OF HORIZONTAL PIPE HANGERS, SUPPORTS, RESTRAINTS, ANCHORS AND GUIDES SHALL BE IN ACCORDANCE WITH THE STANDARD CODE FOR PRESSURE PIPING ANSI B31.1 AND THE LATEST EDITION OF THE MANUFACTURERS' STANDARDIZATION SOCIETY STANDARDS MSS SP- 69, "PIPE HANGERS AND SUPPORTS--SELECTION AND APPLICATION".

PROVIDE PIPE COVERING PROTECTION SHIELDS AND SADDLES FOR ALL INSULATED PIPING AT THE LOCATIONS OF ALL SUPPORTS. THE PROTECTION SHIELD LENGTH AND GAUGE THICKNESS FOR USE AT EACH CLEVIS HANGER SHALL BE AS SPECIFIED FOR TYPE 40 PROTECTION SHIELDS IN THE CURRENT EDITION OF MSS SP-69. PROTECTION SHIELDS SHALL BE GALVANIZED AND SHALL BE ARRANGED TO COVER ONE-HALF OF THE CIRCUMFERENCE OF THE INSULATION AND SHALL BE MOUNTED ON THE OUTSIDE OF THE INSULATION WITH INSULATION BLOCKING BETWEEN THE PIPE AND SADDLE TO PREVENT CRUSHING OF THE INSULATION. INSULATION BLOCKING SHALL BE UP JOHN 2 POUND HIGH DENSITY MOLDED URETHANE OR SEGMENTED MACHINERY CORK DIPPED IN HOT ASPHALT VAPOR SEAL OF NOT LESS THAN THE SAME LENGTH AND CIRCUMFERENCE AS THE PIPE PROTECTION SHIELD.

ALL HANGERS, HARDWARE, RODS, CLAMPS, CHANNELS, BASE PLATES, ANGLES, BOLTS, NUTS AND OTHER FACTORY-BUILT OR SHOP FABRICATED PIPE SUPPORT DEVICES SHALL BE GALVANIZED OR CADMIUM PLATED UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL SHOP FABRICATED AND WELDED STEEL SUPPORTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

ALL CONCRETE INSERTS FOR HANGER RODS SHALL BE NATIONAL PIPE HANGERS CORPORATION FIGURE 606 WITH FIGURE 607, OR GRINNELL FIGURE 282, FIGURE 152, OR APPROVED EQUAL. METAL DECK CONCRETE INSERT SHALL BE F & S MANUFACTURING CORPORATION FIGURE 282, GALVANIZED FABRICATED STEEL METAL DECK CEILING BOLT, PHILLIPS RED HEAD, OR APPROVED EQUAL. HANGER RODS, INSERTS, ETC., SHALL BE SIZED AND INSTALLED AS RECOMMENDED BY THE HANGER MANUFACTURER FOR THE SERVICE INTENDED.

FIELD VERIFY THE EXACT SIZES AND LOCATIONS OF ALL EXISTING DUCTWORK AND PIPING PRIOR TO DEMOLITION OF ANY EXISTING WORK. THE DEMOLITION WORK SHALL BE COORDINATED WITH THE NEW WORK TO ASSURE PROPER LIMITS OF DEMOLITION.

DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS, AS REQUIRED. PROVIDE ALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE SYSTEM FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. THE WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES OR ORDINANCES AND SUBJECT TO INSPECTION.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE LANDLORD, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON DRAWING ARE SHEET METAL DIMENSIONS ON UNLINED DUCTS (INTERIOR DIMENSIONS).

SHEET METAL DUCTWORK: SHEET METAL DUCTWORK SHALL BE FABRICATED AND INSTALLED TO MEET ASHRAE AND SMACNA STANDARDS. FOR 1" W.G. PRESSURE CLASS. SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY. ASTM A-525. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 30°.

RIGID ROUND GALVANIZED DUCT SHALL BE SPIRAL OR SNAP LOCK GALVANIZED SHEETMETAL COMPLYING WITH SMACNA.

FIBERGLASS DUCT BOARD IS AN ACCEPTABLE W/ PRIOR WRITTEN OWNER PERMISSION. MINIMUM R-VALUE OF 5 REQUIRED FOR CONDITIONED SPACES AND MINIMUM R-VALUE OF 8 FOR UNCONDITIONED SPACES.

GRILLES AND DIFFUSERS: PROVIDE GRILLES, DIFFUSERS, AND DAMPERS IN SIZES, CAPACITIES, MATERIALS, AND PATTERN INDICATED ON THE DRAWINGS.

ACCESS PANELS: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.

PROVIDE WHERE APPLICABLE, DUCT MOUNTED SUPPLY AND/OR RETURN AIR PHOTOELECTRIC TYPE UL LISTED SMOKE DETECTORS. DETECTORS SHALL BE LISTED FOR THE AIR VELOCITIES ENCOUNTERED. PROVIDE INTERLOCK WIRING AND RELAYS FOR UNIT SHUT DOWN. ON ACTIVATION OF ANY DETECTOR, ALL HVAC UNIT FANS SHALL STOP.

TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER BALANCE AND OPERATION. TEST AND BALANCE SHALL BE PERFORMED BY AN INDEPENDENT NEBB OR AABC REGISTERED CONTRACTOR. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE, AND OPERATION. BALANCE MECHANICAL SYSTEM, AND SUBMIT COMPLETED TEST

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

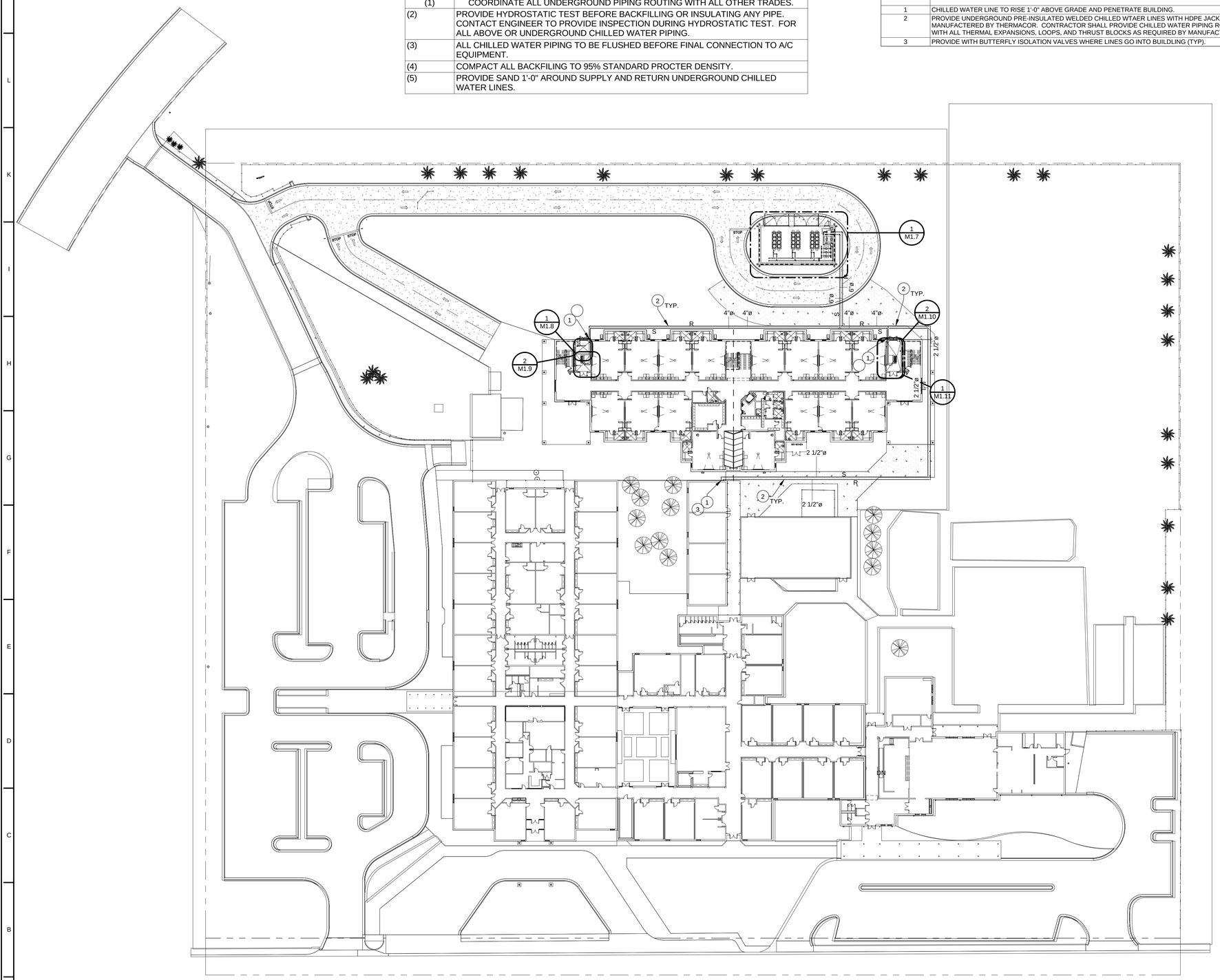
PROJECT NO:	2017.12
DATE:	5/21/2018 4:34:36 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL NOTES AND LEGEND

M0.0

GENERAL NOTES MECHANICAL	
(1)	COORDINATE ALL UNDERGROUND PIPING ROUTING WITH ALL OTHER TRADES.
(2)	PROVIDE HYDROSTATIC TEST BEFORE BACKFILLING OR INSULATING ANY PIPE. CONTACT ENGINEER TO PROVIDE INSPECTION DURING HYDROSTATIC TEST. FOR ALL ABOVE OR UNDERGROUND CHILLED WATER PIPING.
(3)	ALL CHILLED WATER PIPING TO BE FLUSHED BEFORE FINAL CONNECTION TO A/C EQUIPMENT.
(4)	COMPACT ALL BACKFILING TO 95% STANDARD PROCTER DENSITY.
(5)	PROVIDE SAND 1'-0" AROUND SUPPLY AND RETURN UNDERGROUND CHILLED WATER LINES.

MECHANICAL KEYED NOTES	
1	CHILLED WATER LINE TO RISE 1'-0" ABOVE GRADE AND PENETRATE BUILDING.
2	PROVIDE UNDERGROUND PRE-INSULATED WELDED CHILLED WTAER LINES WITH HDPE JACKET, EQUAL TO FERRO-THERM MANUFACTERED BY THERMACOR. CONTRACTOR SHALL PROVIDE CHILLED WATER PIPING ROUTING SHOP DRAWINGS WITH ALL THERMAL EXPANSIONS, LOOPS, AND THRUST BLOCKS AS REQUIRED BY MANUFACTURER.
3	PROVIDE WITH BUTTERFLY ISOLATION VALVES WHERE LINES GO INTO BUILDLING (TYP).



MECHANICAL SITE PLAN

1" = 40'-0"

1

WEIGHT OF CHILLED WATER PIPING	
Key Name	WEIGHT OF PIPE FILLED WITH WATER (LBS/SF)
1/2" IN.	5 LBS
1" IN.	3 LBS
1 1/2" IN.	2 LBS
2" IN.	9 LBS
2 1/2" IN.	6 LBS
3" IN.	12 LBS
4" IN.	17 LBS
6" IN.	33 LBS
8" IN.	55 LBS

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121939

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

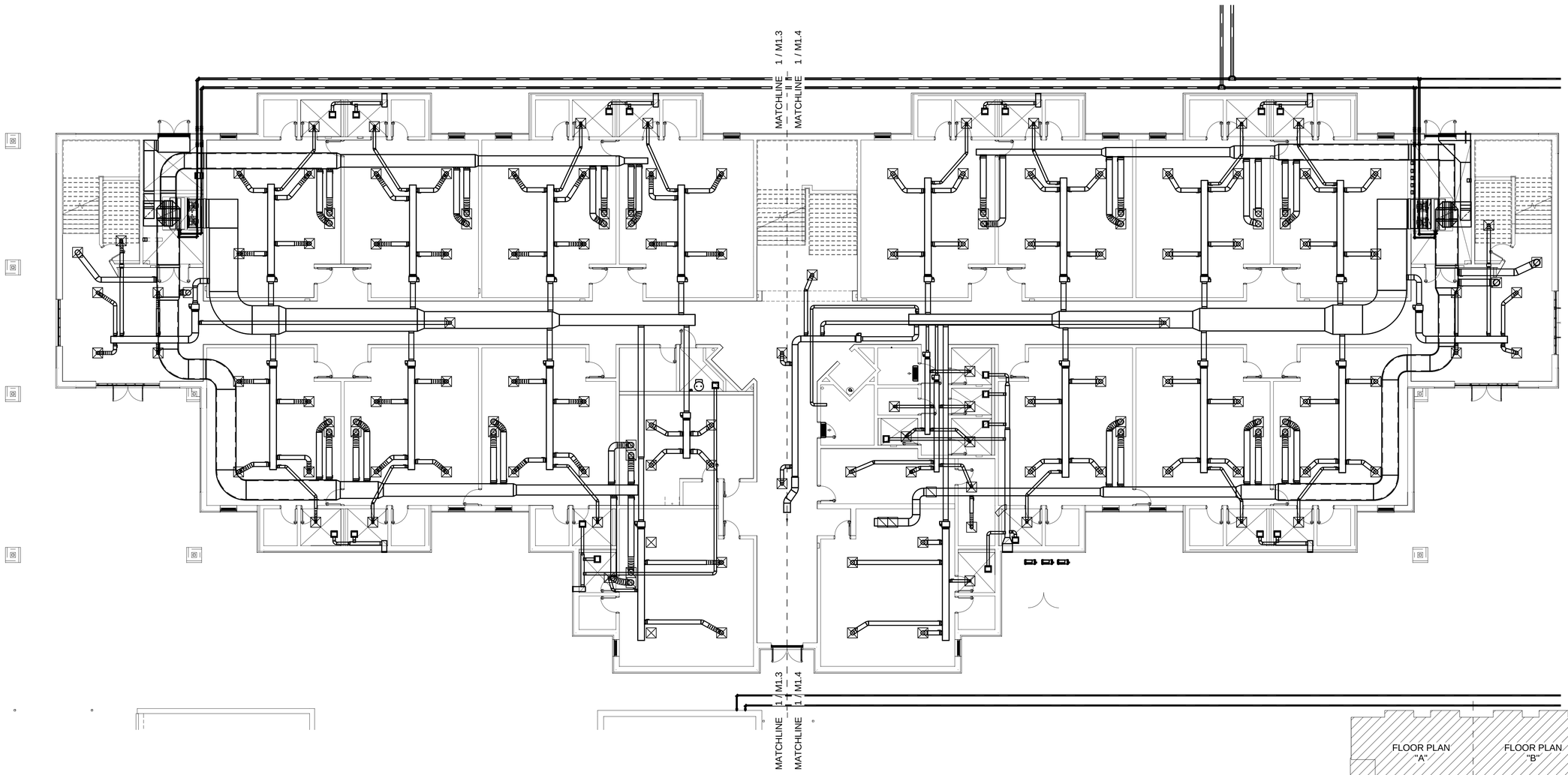
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

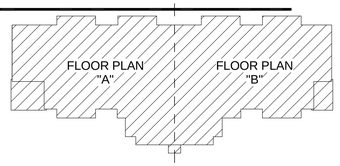
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:36:01 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL SITE PLAN

MS1.1





KEY PLAN

MECHANICAL FLOOR PLAN - OVERALL 1ST FLOOR

1

3/32" = 1'-0"

N

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

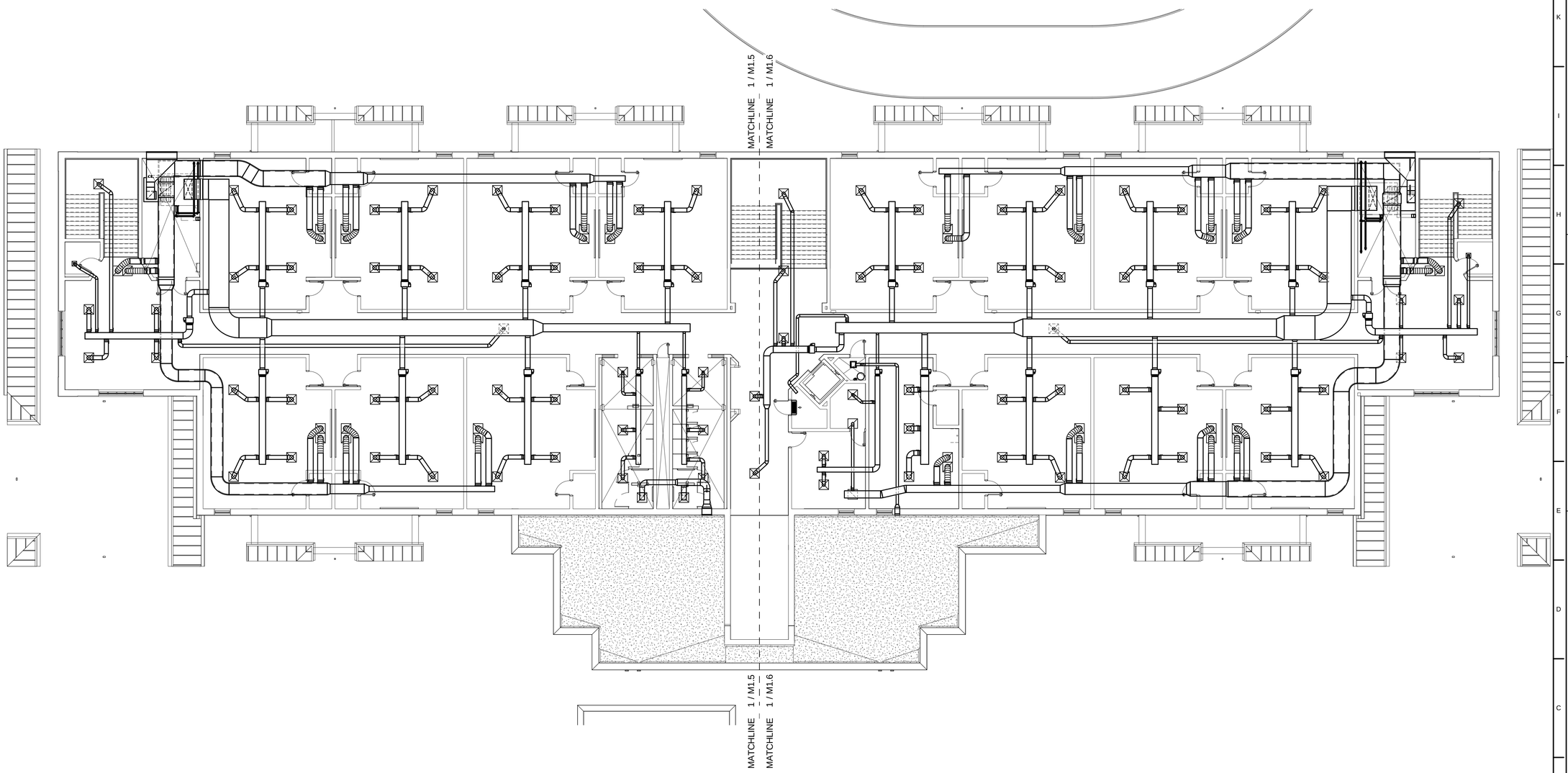
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

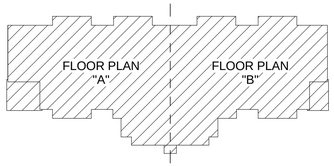
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:34:54 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL FLOOR PLAN 1ST FLOOR

M1.1





KEY PLAN

MECHANICAL FLOOR PLAN- OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

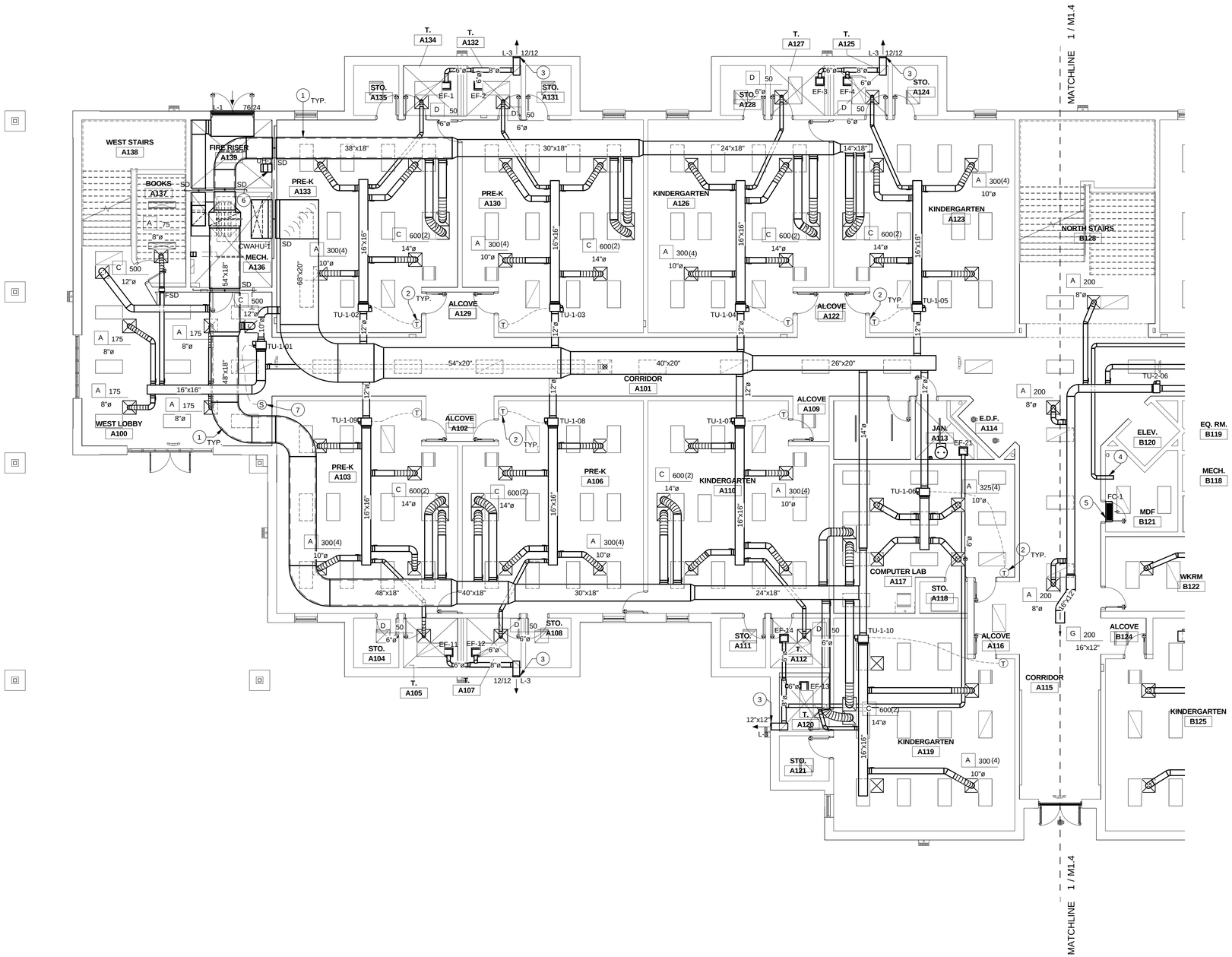
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:00 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL FLOOR PLAN 2ND FLOOR

M1.2



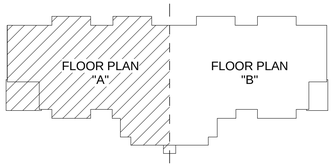
MECHANICAL KEYED NOTES

1	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
2	PROVIDE CONTROLS THERMOSTAT AT THIS LOCATION. MOUNT THERMOSTAT 48" A.F.F. PROVIDE LED BACK LIT THERMOSTATS. PROVIDE KEYED PLASTIC COVER.
3	COORDINATE LOCATION OF LOUVERS TO NOT CONFLICT WITH CONTROL JOINTS AND DOWNSPOUTS.
4	6" TAP OFF UNIT SUPPLY TO BE BALANCED AT 100 CFM.
5	MOUNT AIR CONDITIONING UNIT CENTERED ABOVE DOOR. PROVIDE WITH SINGLE POINT WIRED CONDENSATE PUMP. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING. TIE INTO CONTROLS.
6	SUSPEND VIA 1/4" ALL THREAD ROD AND PROVIDE WITH SPRING VIBRATION ISOLATORS IN RUBBER SPRING CUPS.
7	REMOTE TEMPERATURE SENSOR TO BE MOUNTED AT THIS LOCATION @ 48" A.F.F.

MECHANICAL FLOOR PLAN - 1ST FLOOR "A"

1/8" = 1'-0"

1



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

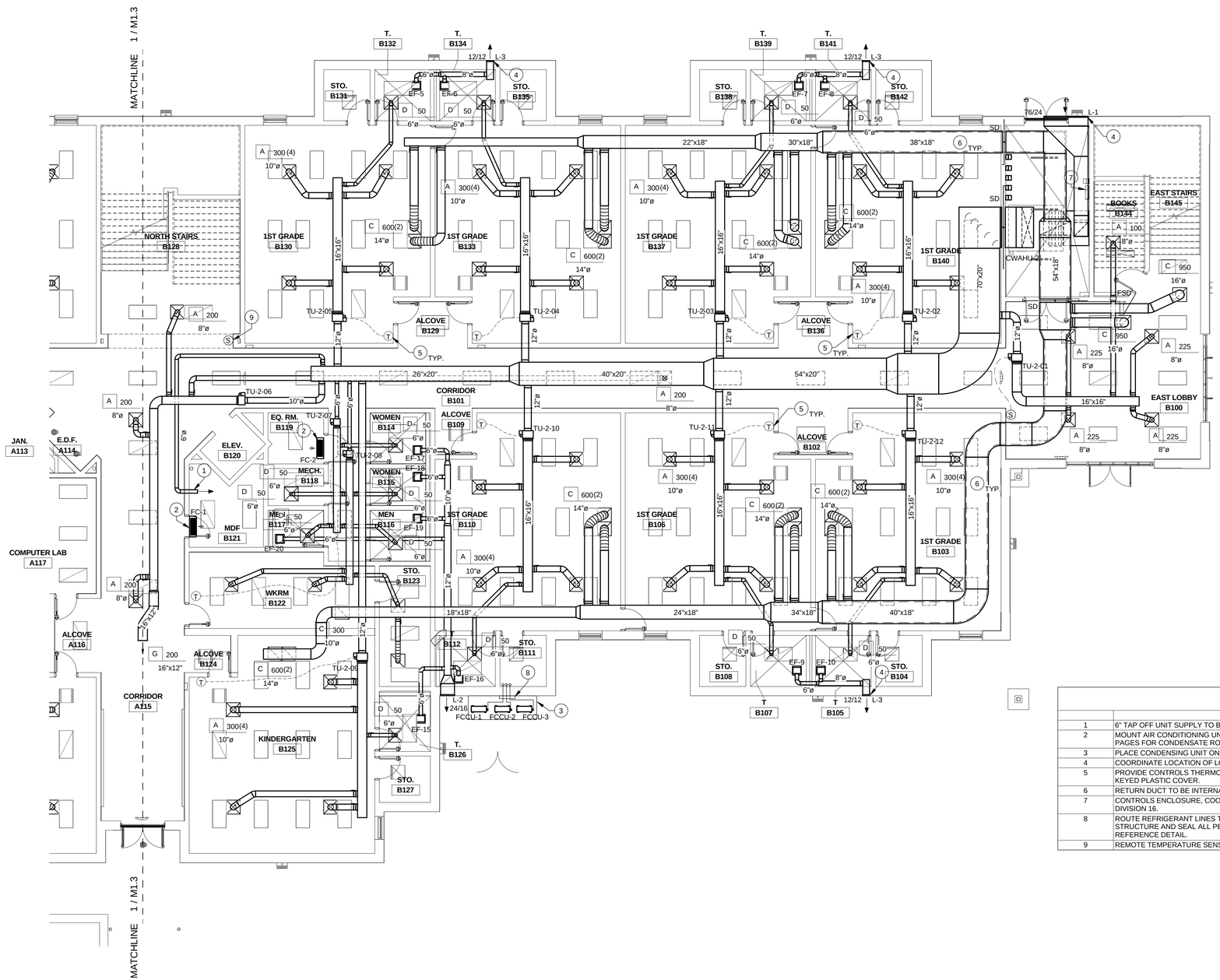
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:05 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL MECHANICAL PLAN "A" - 1ST FLOOR

M1.3

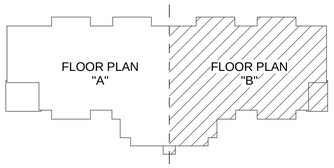


MECHANICAL KEYED NOTES

1	6" TAP OFF UNIT SUPPLY TO BE BALANCED AT 100 CFM.
2	MOUNT AIR CONDITIONING UNIT CENTERED ABOVE DOOR. PROVIDE WITH SINGLE POINT WIRED CONDENSATE PUMP. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING. TIE INTO CONTROLS.
3	PLACE CONDENSING UNIT ON 6" CONCRETE PAD.
4	COORDINATE LOCATION OF LOUVERS TO NOT CONFLICT WITH CONTROL JOINTS AND DOWNSPOUTS.
5	PROVIDE CONTROLS THERMOSTAT AT THIS LOCATION. MOUNT THERMOSTAT 48" A.F.F. PROVIDE LED BACK LIT THERMOSTATS. PROVIDE KEYED PLASTIC COVER.
6	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" "SONIC XP DUCT LINER".
7	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
8	ROUTE REFRIGERANT LINES THROUGH EXTERIOR WALL AND UP INTERIOR WALL OVER TO RESPECTIVE AIR HANDLER. ANCHOR LINES TO STRUCTURE AND SEAL ALL PENETRATIONS WATER TIGHT. PROVIDE GALVANIZED SHEET METAL HOOD OVER REFRIGERANT LINES. REFERENCE DETAIL.
9	REMOTE TEMPERATURE SENSOR TO BE MOUNTED AT THIS LOCATION @ 48" A.F.F.

MECHANICAL FLOOR PLAN - 1ST FLOOR "B"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121939

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750 www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

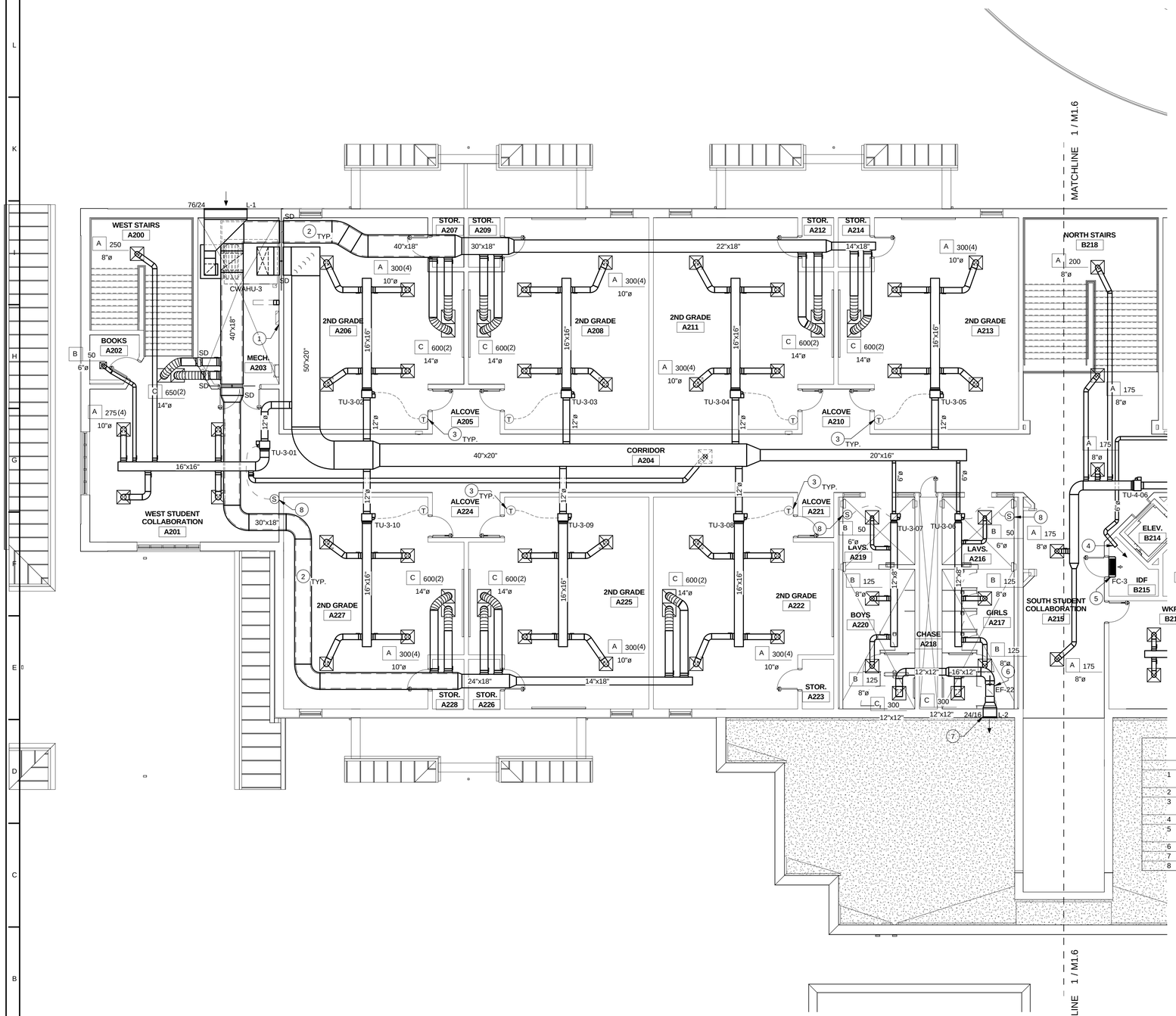
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:10 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL MECHANICAL PLAN "B" - 1ST FLOOR

M1.4

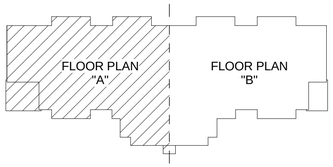


MECHANICAL KEYED NOTES

1	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
2	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
3	PROVIDE CONTROLS THERMOSTAT AT THIS LOCATION. MOUNT THERMOSTAT 48" A.F.F. PROVIDE LED BACK LIT THERMOSTATS. PROVIDE KEYED PLASTIC COVER.
4	6" TAP OFF UNIT SUPPLY TO BE BALANCED AT 100 CFM.
5	MOUNT AIR CONDITIONING UNIT CENTERED ABOVE DOOR. PROVIDE WITH SINGLE POINT WIRED CONDENSATE PUMP. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING. TIE INTO CONTROLS.
6	SUSPEND VIA 1/4" ALL THREAD ROD AND PROVIDE WITH SPRING VIBRATION ISOLATORS IN RUBBER SPRING CUPS.
7	COORDINATE LOCATION OF LOUVERS TO NOT CONFLICT WITH CONTROL JOINTS AND DOWNSPOUTS.
8	REMOTE TEMPERATURE SENSOR TO BE MOUNTED AT THIS LOCATION @ 48" A.F.F.

MECHANICAL FLOOR PLAN- 2ND FLOOR "A"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121939

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

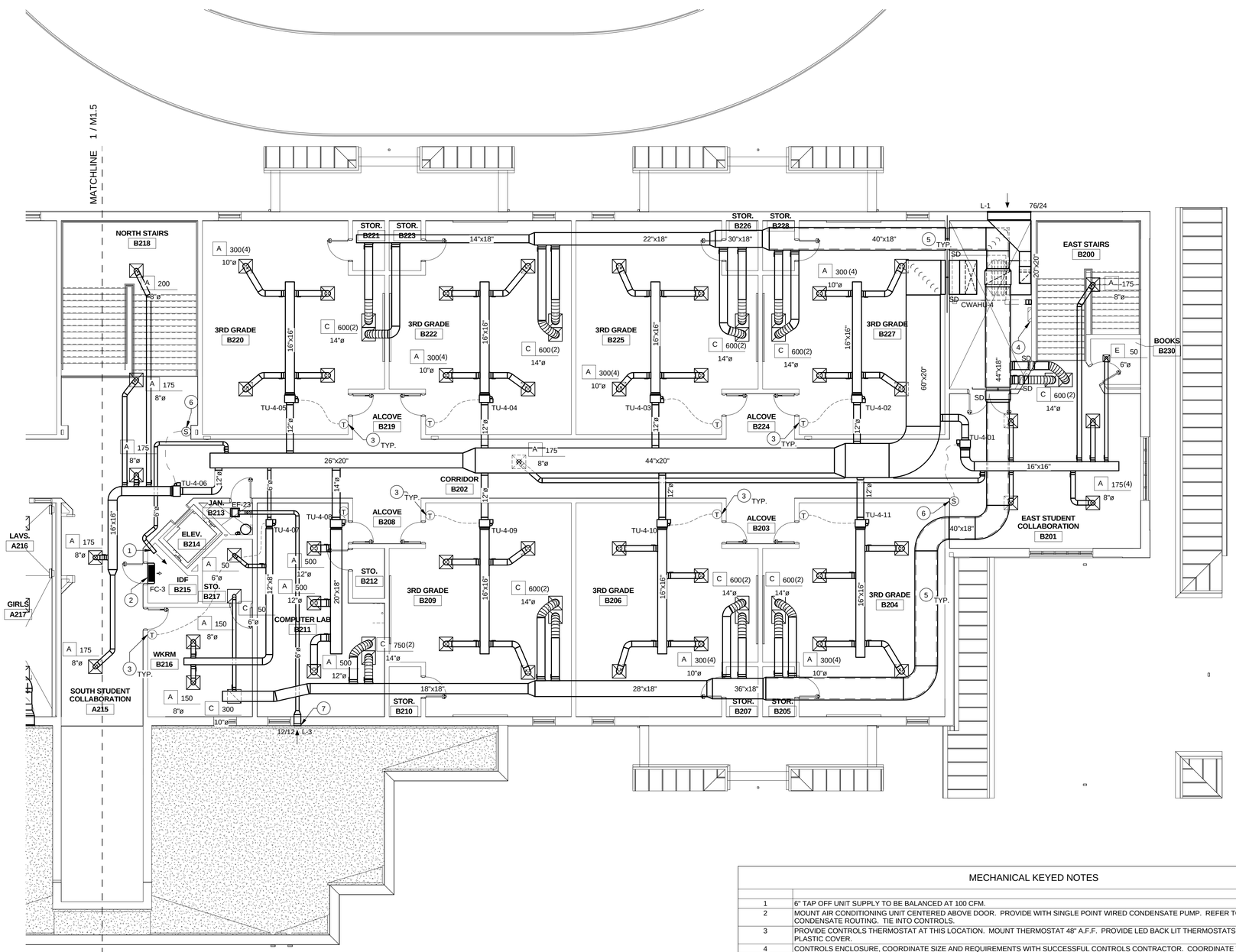
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:14 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

PARTIAL MECHANICAL PLAN "A" - 2ND FLOOR

M1.5



MECHANICAL KEYED NOTES

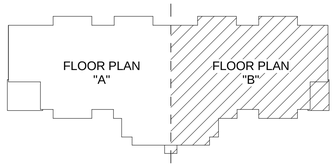
1	6" TAP OFF UNIT SUPPLY TO BE BALANCED AT 100 CFM.
2	MOUNT AIR CONDITIONING UNIT CENTERED ABOVE DOOR. PROVIDE WITH SINGLE POINT WIRED CONDENSATE PUMP. REFER TO PLUMBING PAGES FOR CONDENSATE ROUTING. TIE INTO CONTROLS.
3	PROVIDE CONTROLS THERMOSTAT AT THIS LOCATION. MOUNT THERMOSTAT 48" A.F.F. PROVIDE LED BACK LIT THERMOSTATS. PROVIDE KEYED PLASTIC COVER.
4	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
5	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
6	REMOTE TEMPERATURE SENSOR TO BE MOUNTED AT THIS LOCATION @ 48" A.F.F.
7	COORDINATE LOCATION OF LOUVERS TO NOT CONFLICT WITH CONTROL JOINTS AND DOWNSPOUTS.

MECHANICAL FLOOR PLAN- 2ND FLOOR "B"

1/8" = 1'-0"

1

N



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

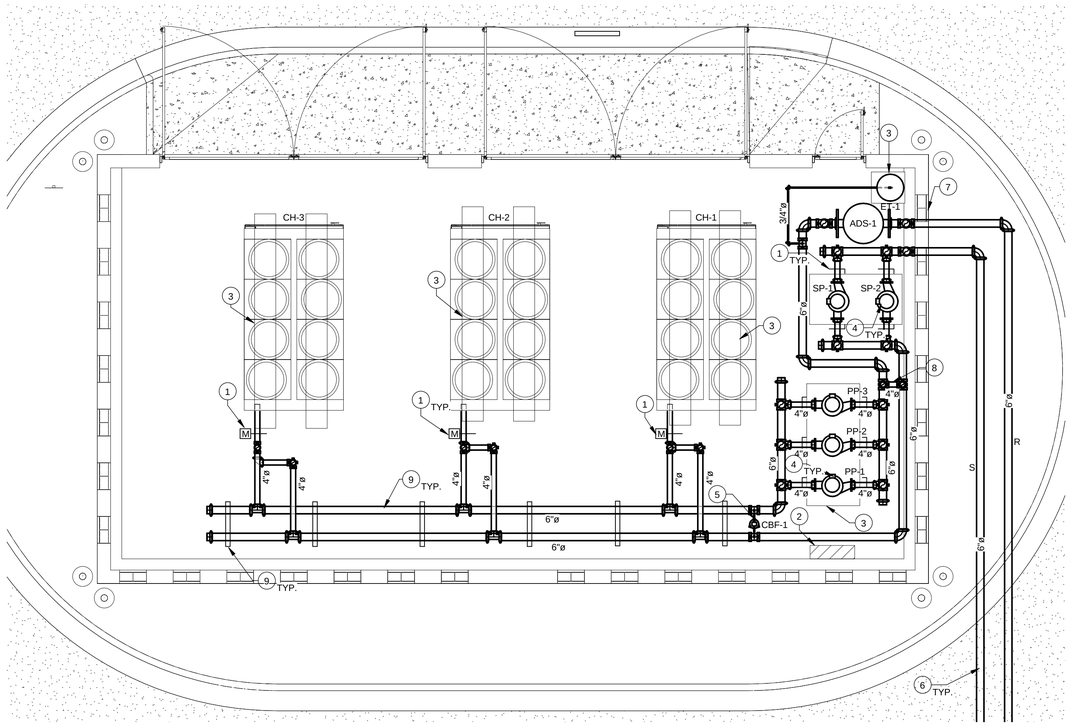
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:16 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL MECHANICAL PLAN "B" - 2ND FLOOR

M1.6



MECHANICAL CHILLER YARD ENLARGEMENT PLAN

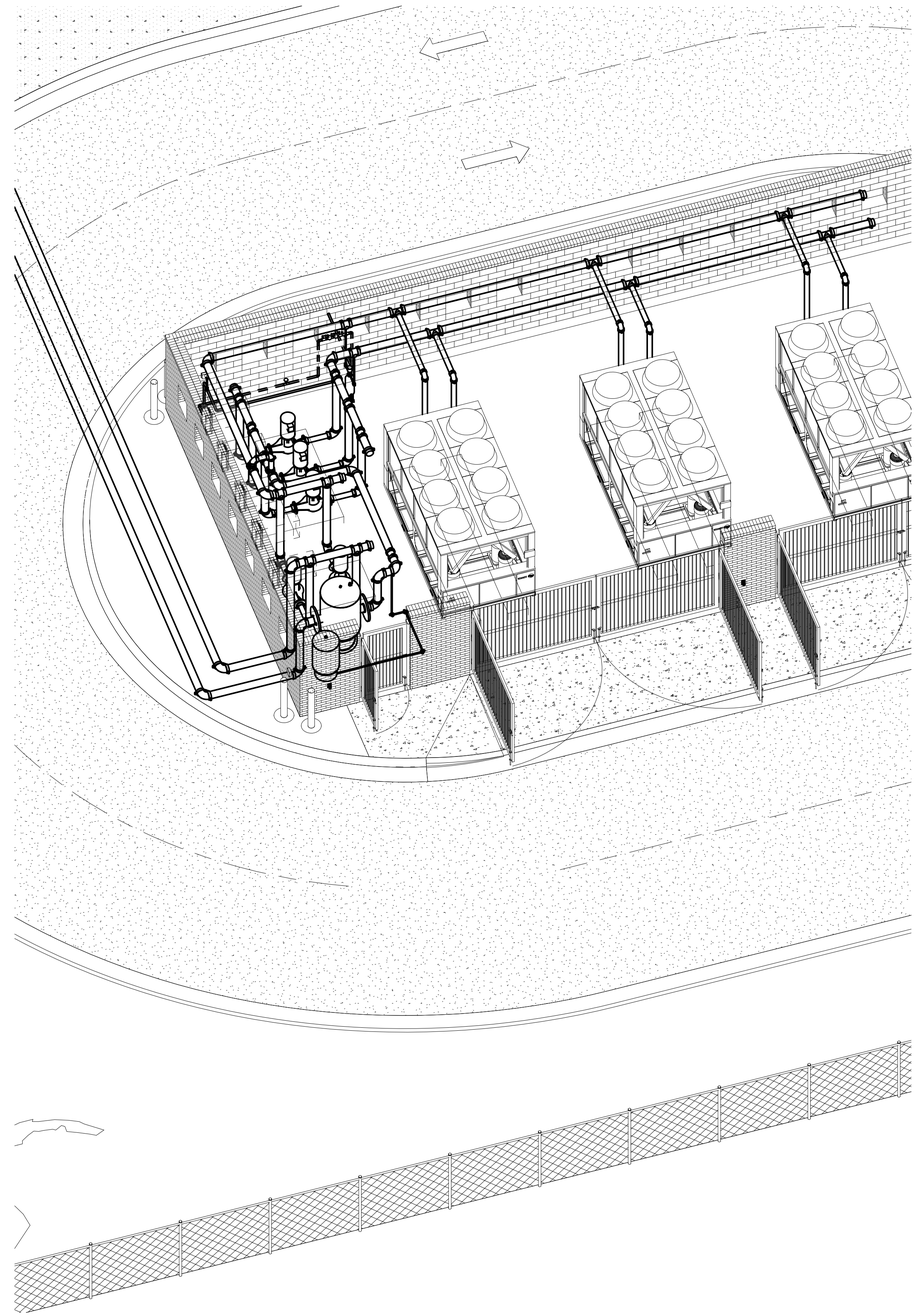
3/16" = 1'-0"

1

N

MECHANICAL KEYED NOTES	
1	PROVIDE CHILLED WATER SUPPLY AND RETURN LINEW /W BUTTERFLY ISOLATION VALVES FOR EACH PIECE OF EQUIPMENT.
2	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
3	PROVIDE WITH 6" CONCRETE HOUSEKEEPING PAD.
4	PROVIDE PUMPS WITH ALL ACCESSORIES AS SHOWN IN DETAILS.
5	PROVIDE WITH BYPASS CHEMICAL POT FEEDER.
6	PROVIDE UNDERGROUND PRE-INSULATED WELDED CHILLED WTAER LINES WITH HDPE JACKET, EQUAL TO FERRO-THERM MANUFACTERED BY THERMACOR. CONTRACTOR SHALL PROVIDE CHILLED WATER PIPING ROUTING SHOP DRAWINGS WITH ALL THERMAL EXPANSIONS, LOOPS, AND THRUST BLOCKS AS REQUIRED BY MANUFACTURER.
7	CHILLED WATER MAKE-UP WATER LINE, REFER TO DETAILS FOR CONFIGURATION.
8	CHILLED WATER BYPASS LINE. REFERENCE DETAILS FOR ALL GAUGES, POTS, AND SENSORS REQUIRED.
9	PROVIDE PIPE SUPPORTS AT EVERY 8'. LINES TO RUN AT 8' MINIMUM ABOVE FINISHED GRADE. COORDINATE WITH ARCHITECT FOR COLOR OF PIPE SUPPORTS.

WEIGHT OF CHILLED WATER PIPING	
Key Name	WEIGHT OF PIPE FILLED WITH WATER (LBS/SF)
1/2" IN.	5 LBS
1" IN.	3 LBS
1 1/2" IN.	2 LBS
2" IN.	9 LBS
2 1/2" IN.	6 LBS
3" IN.	12 LBS
4" IN.	17 LBS
6" IN.	33 LBS
8" IN.	55 LBS



3D CHILLER YARD

2

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

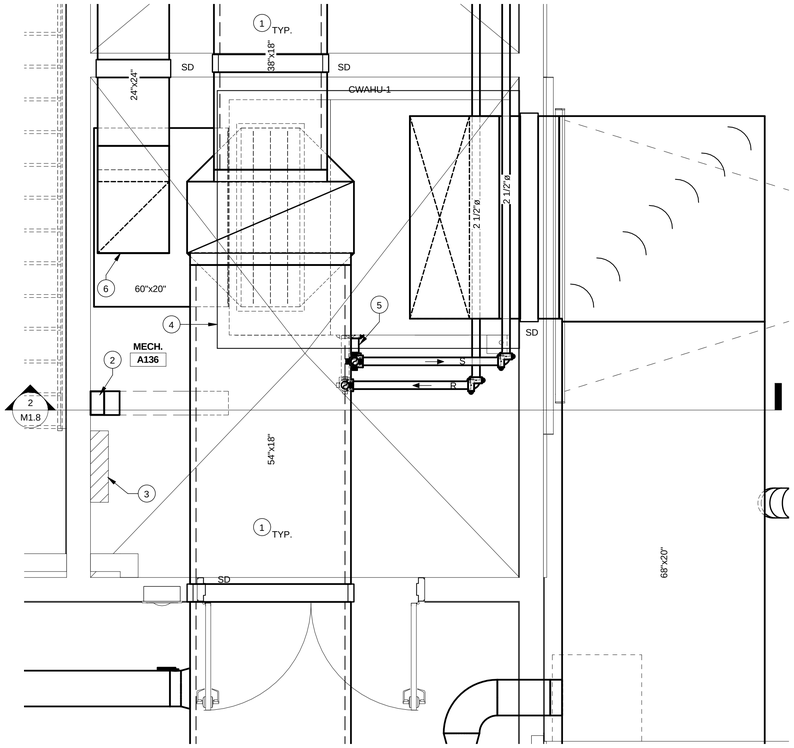
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:23 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL CHILLER YARD ENLARGEMENT

M1.7

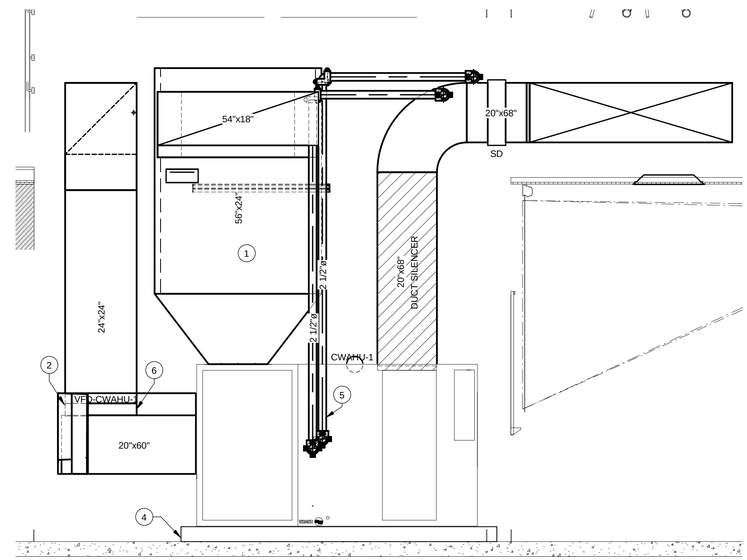
MECHANICAL KEYED NOTES	
1	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" "SONIC XP DUCT LINER".
2	UNIT VFD, REFER TO SCHEDULES. VFD FOR HVAC EQUIPMENT TO BE PROVIDED AND MOUNTED BY MECHANICAL AND WIRED BY ELECTRICAL.
3	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
4	PROVIDE WITH 6" CONCRETE HOUSEKEEPING PAD.
5	PROVIDE CHILLED WATER SUPPLY AND RETURN LINEW /W BUTTERFLY ISOLATION VALVES FOR EACH PIECE OF EQUIPMENT.
6	DROP OUTSIDE AIR DUCT INTO OUTSIDE AIR INLET OF UNIT.



MECHANICAL ROOM ENLARGEMENT

1/2" = 1'-0"

1



MECHANICAL ROOM A136

1/2" = 1'-0"

2

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

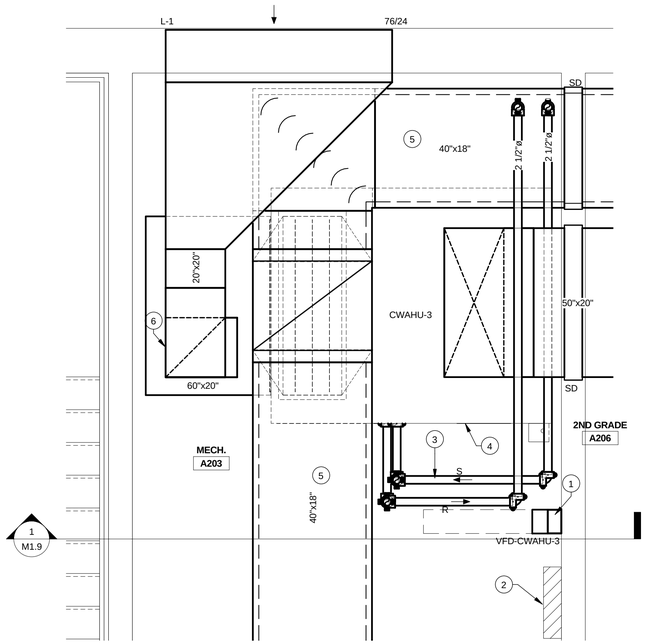
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:25 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

A136 ENLARGED
MECHANICAL ROOMS

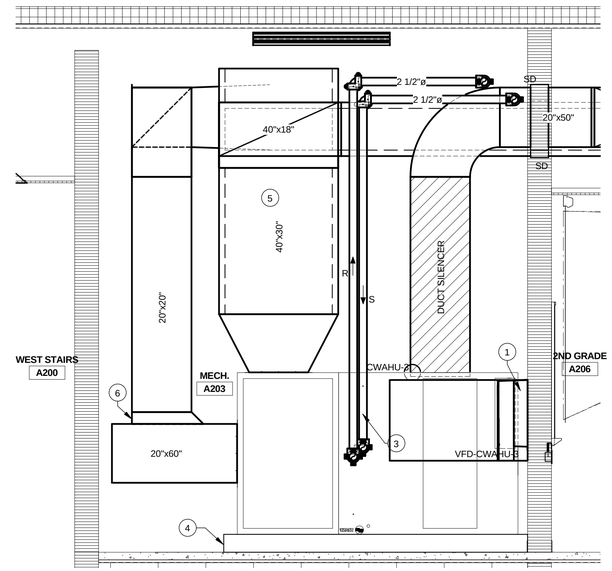
M1.8



MECHANICAL ROOM ENLARGEMENT 4

1/2" = 1'-0"

2



MECHANICAL ROOM A203

1/2" = 1'-0"

1

MECHANICAL KEYED NOTES	
1	UNIT VFD. REFER TO SCHEDULES. VFD FOR HVAC EQUIPMENT TO BE PROVIDED AND MOUNTED BY MECHANICAL AND WIRED BY ELECTRICAL.
2	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
3	PROVIDE CHILLED WATER SUPPLY AND RETURN LINEW /W BUTTERFLY ISOLATION VALVES FOR EACH PIECE OF EQUIPMENT.
4	PROVIDE WITH 6" CONCRETE HOUSEKEEPING PAD.
5	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
6	DROP OUTSIDE AIR DUCT INTO OUTSIDE AIR INLET OF UNIT.

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121939

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

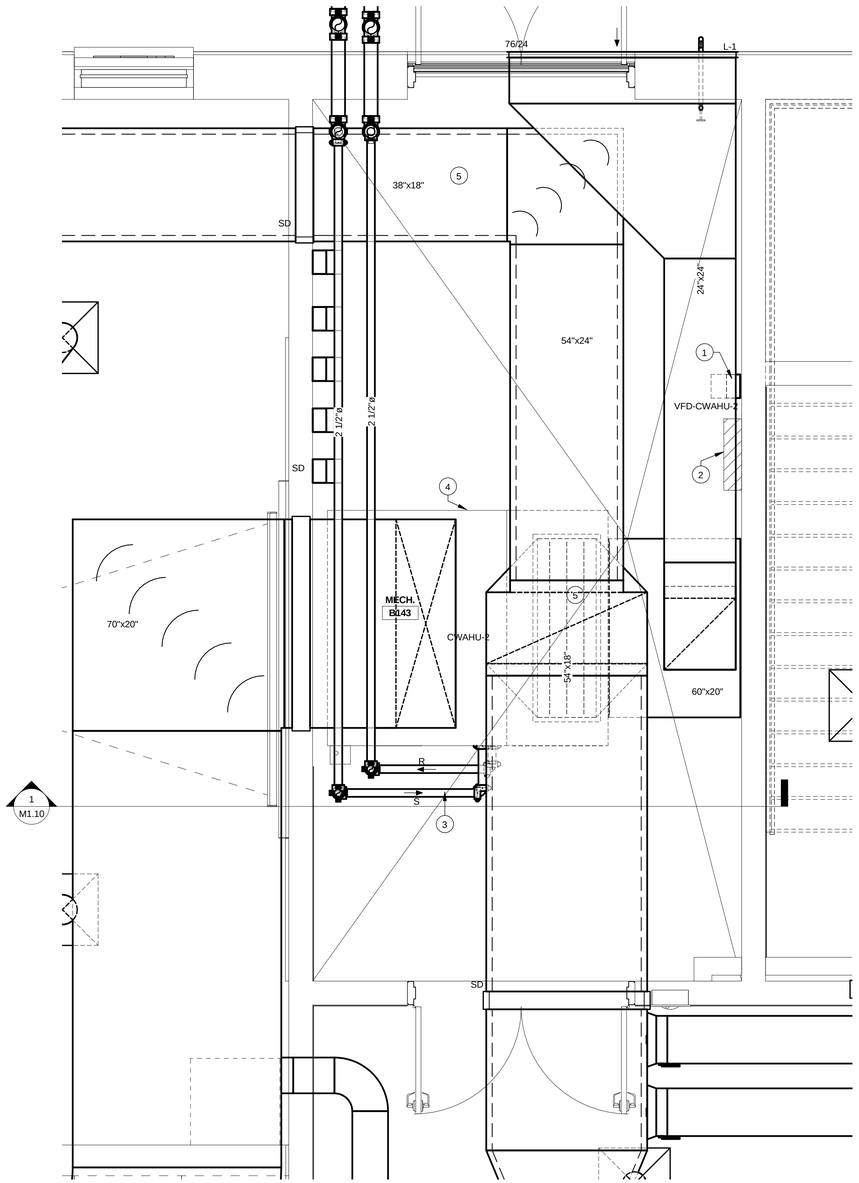
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:27 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

A203 ENLARGED MECHANICAL ROOM

M1.9

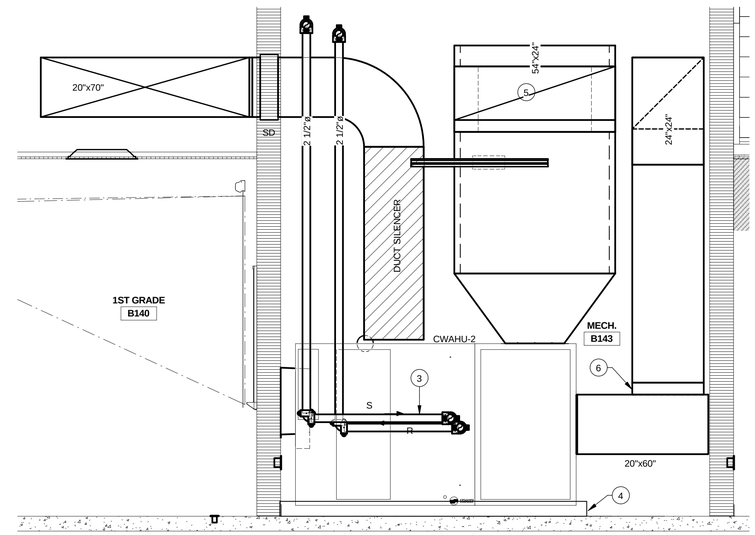


MECHANICAL ROOM ENLARGMENT 2

1/2" = 1'-0"

2

N



MECHANICAL ROOM B143

1/2" = 1'-0"

1

MECHANICAL KEYED NOTES	
1	UNIT VFD, REFER TO SCHEDULES. VFD FOR HVAC EQUIPMENT TO BE PROVIDED AND MOUNTED BY MECHANICAL AND WIRED BY ELECTRICAL.
2	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
3	PROVIDE CHILLED WATER SUPPLY AND RETURN LINEW /W BUTTERFLY ISOLATION VALVES FOR EACH PIECE OF EQUIPMENT.
4	PROVIDE WITH 6" CONCRETE HOUSEKEEPING PAD.
5	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
6	DROP OUTSIDE AIR DUCT INTO OUTSIDE AIR INLET OF UNIT.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

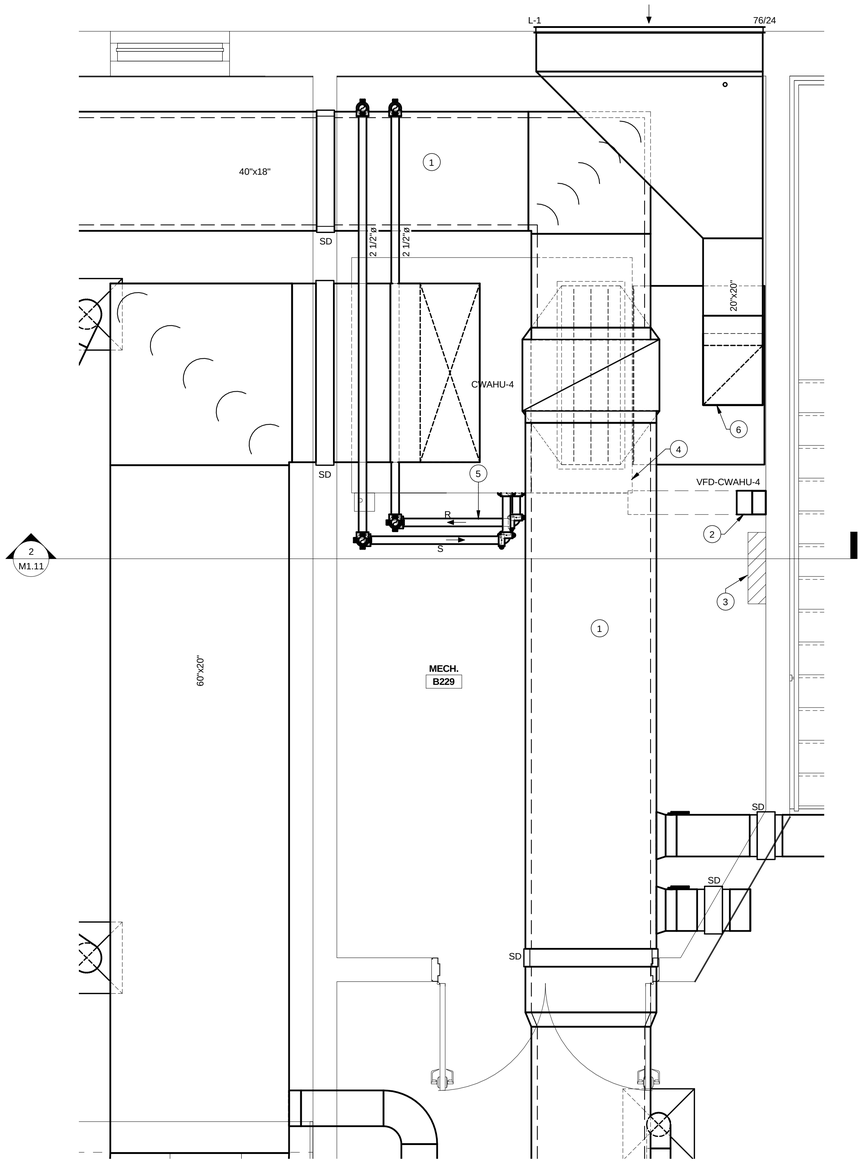
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:30 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

B143 ENLARGED MECHANICAL ROOM

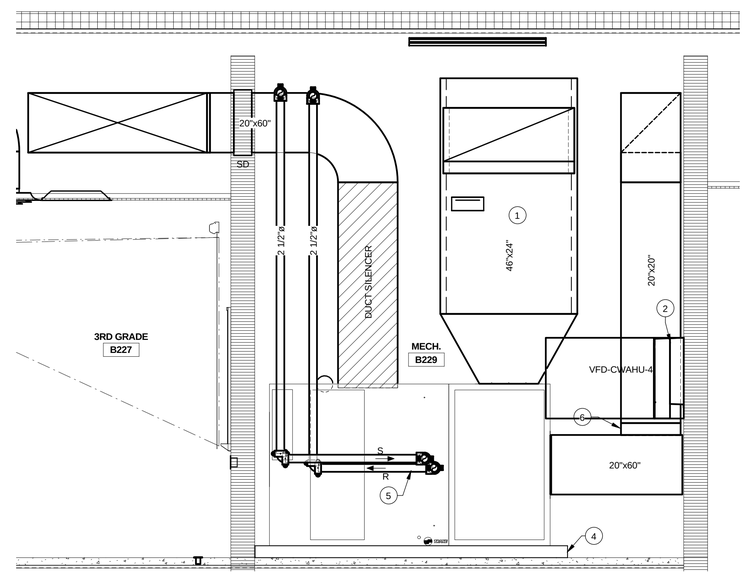
M1.10



MECHANICAL ROOM ENLARGEMENT 3

1/2" = 1'-0"

1



MECHANICAL ROOM B229

1/2" = 1'-0"

2

MECHANICAL KEYED NOTES	
1	RETURN DUCT TO BE INTERNALLY LINED WITH 2" ACOUSTICAL LINER EQUAL TO "KNAUF INSULATION" 'SONIC XP DUCT LINER'.
2	UNIT VFD, REFER TO SCHEDULES. VFD FOR HVAC EQUIPMENT TO BE PROVIDED AND MOUNTED BY MECHANICAL AND WIRED BY ELECTRICAL.
3	CONTROLS ENCLOSURE, COORDINATE SIZE AND REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR. COORDINATE WITH DIVISION 16.
4	PROVIDE WITH 6" CONCRETE HOUSEKEEPING PAD.
5	PROVIDE CHILLED WATER SUPPLY AND RETURN LINEW /W BUTTERFLY ISOLATION VALVES FOR EACH PIECE OF EQUIPMENT.
6	DROP OUTSIDE AIR DUCT INTO OUTSIDE AIR INLET OF UNIT.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121939

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

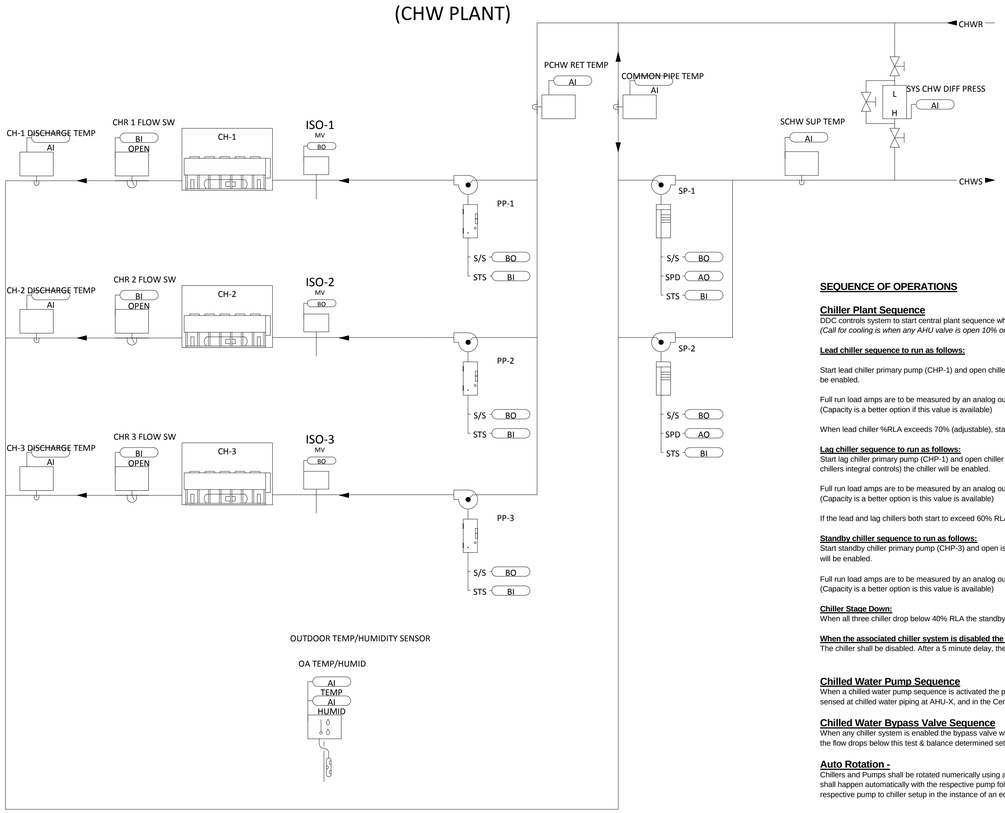
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:32 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

B229 ENLARGED MECHANICAL ROOM

M1.11

(CHW PLANT)



OUTDOOR TEMP/HUMIDITY SENSOR

OA TEMP/HUMID

SEQUENCE OF OPERATIONS

Chiller Plant Sequence

DDC controls system to start central plant sequence when a call for cooling is available, and the outside air temperature is above 50°F (adjustable).
(Call for cooling is when any AHU valve is open 10% or greater and there unit is occupied)

Lead chiller sequence to run as follows:

Start lead chiller primary pump (CHP-1) and open chiller isolation valve (ISO-1). After a 5 minute delay and proof of flow (via chillers integral controls) the chiller will be enabled.

Full run load amps are to be measured by an analog output (0-10vdc or 4-20mA) received from the chiller integral controller, or communication card where applicable. (Capacity is a better option if this value is available)

When lead chiller %RLA exceeds 70% (adjustable), start lag chiller system.

Lag chiller sequence to run as follows:
Start lag chiller primary pump (CHP-1) and open chiller isolation valve (ISO-1), and start condenser pump (CWP-1). After a 5 minute delay and proof of flow (via chillers integral controls) the chiller will be enabled.

Full run load amps are to be measured by an analog output (0-10vdc or 4-20mA) received from the chiller integral controller, or communication card where applicable. (Capacity is a better option is this value is available)

If the lead and lag chillers both start to exceed 60% RLA (adjustable), start the standby chiller.

Standby chiller sequence to run as follows:
Start standby chiller primary pump (CHP-3) and open isolation valve (ISO-3). After a 5 minute delay and proof of flow (via chillers integral controls) the standby chiller will be enabled.

Full run load amps are to be measured by an analog output (0-10vdc or 4-20mA) received from the chiller integral controller, or communication card where applicable. (Capacity is a better option is this value is available)

Chiller Stage Down:
When all three chiller drop below 40% RLA the standby chiller shall be disabled. When two chillers drop below 35% RLA, the lag chiller shall be disabled.

When the associated chiller system is disabled the following shall occur:
The chiller shall be disabled. After a 5 minute delay, the ISO valve and chilled water pump shall be disabled.

Chilled Water Pump Sequence

When a chilled water pump sequence is activated the pumps will be energized and will modulate to maintain a differential pressure setpoint (determined by T&B) and sensed at chilled water piping at AHU-X, and in the Central Plant. When multiple pumps are running the pumps shall modulate in tandem.

Chilled Water Bypass Valve Sequence

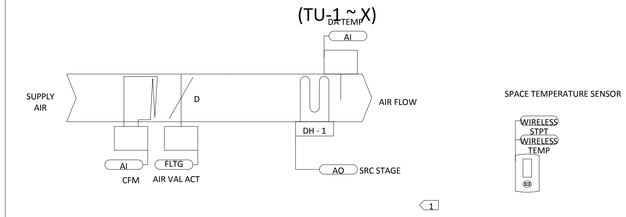
When any chiller system is enabled the bypass valve will modulate as necessary to maintain a minimum GPM sensed by an Badger flow meter located in the plant. If the flow drops below this test & balance determined setpoint the bypass valve shall begin to modulate open and increase GPM.

Auto Rotation -

Chillers and Pumps shall be rotated numerically using a "1-2-3" configuration for each system to enable equal run time of the mechanical equipment. The rotation shall happen automatically with the respective pump following each chiller. The user shall also have the capability to manually override the sequence and also the respective pump to chiller setup in the instance of an equipment failure.

TYPICAL FOR ALL

(TU-1 ~ X)



1 REFER TO MECHANICAL SCHEDULES FOR NUMBER OF STAGES

Sequence of Operations
SDVAV

Building Automation System Interface:
The Building Automation System (BAS) shall send the controller Occupied and Unoccupied commands. The BAS may also send a Heat/Cool mode, priority shutdown commands, space temperature and/or space temperature setpoint. If communication is lost with the BAS, the VAV controller shall operate using its local setpoints.
Occupancy Mode:
The occupancy mode shall be communicated or hardwired to the VAV via a binary input. Valid Occupancy modes for the VAV shall be:

Occupied:
Normal operating mode for occupied spaces or daytime operation. When the unit is in the occupied mode the VAV shall maintain the space temperature at the active occupied heating or cooling setpoint. Applicable ventilation and airflow setpoints shall be enforced. The occupied mode shall be the default mode of the VAV.
Unoccupied:
Normal operating mode for unoccupied spaces or nighttime operation. When the unit is in unoccupied mode the VAV controller shall maintain the space temperature at the stored unoccupied heating or cooling setpoint regardless of the presence of a hardwired or communicated setpoint. When the space temperature exceeds the active unoccupied setpoint the VAV shall modulate fully closed.
Occupied Bypass:
Mode used to temporarily place the unit into the occupied operation. Tenants shall be able to override the unoccupied mode from the space sensor. The override shall last for a maximum of 4 hours (adj.). The tenants shall be able to cancel the override from the space sensor at any time. During the override the unit shall operate in occupied mode.
Heat/Cool Mode:
The Heat/Cool mode shall be set by a communicated value or automatically by the VAV. In standalone or auto mode the VAV shall compare the primary air temperature with the configured auto changeover setpoint to determine if the air is "hot" or "cold".
Heating mode it implies the primary air temperature is hot. Cooling mode it implies the primary air temperature is cold.
Heat/Cool Setpoint:
The space temperature setpoint shall be determined either by a local (e.g., thumbwheel) setpoint, the VAV default setpoint or a communicated value. The VAV shall use the locally stored default setpoints when neither a local setpoint nor communicated setpoint is present. If both a local setpoint and communicated setpoint exist, the VAV shall use the communicated value.
Cooling Mode:
When the unit is in cooling mode, the VAV controller shall maintain the space temperature at the active cooling setpoint by modulating the airflow between the active cooling minimum airflow setpoint to the maximum cooling airflow setpoint. Based on the VAV controller occupancy mode, the active cooling setpoint shall be one of the following:
Setpoint
Default Value
Occupied Cooling Setpoint 74.0 deg. F
Unoccupied Cooling Setpoint 85.0 deg. F
Occupied Standby Cooling Setpoint 78.0 deg. F
Occupied Min Cooling Airflow Setpoint See VAV Schedule
Occupied Max Cooling Airflow Setpoint See VAV Schedule
The VAV shall use the measured space temperature and the active cooling setpoint to determine the requested cooling capacity
of the unit. The outputs will be controlled
based on the unit configuration and the requested cooling capacity.

Heating Mode:
When the unit is in heating mode, the VAV controller shall maintain the space temperature at the active heating setpoint by modulating the airflow between the active heating minimum airflow setpoint to the maximum heating airflow setpoint. Based on the VAV controller occupancy mode, the active heating setpoint shall be one of the following:
Setpoint
Default Value
Occupied Heating Setpoint 71.0 deg. F
Unoccupied Heating Setpoint 60.0 deg. F
Occupied Standby Heating Setpoint 67.0 deg. F
Occupied Min Heating Airflow Setpoint See VAV Schedule
Occupied Max Heating Airflow Setpoint See VAV Schedule
The VAV controller shall use the measured space temperature and the active heating setpoint to determine the requested heating capacity of the unit
. The outputs will be
controlled based on the unit configuration and the requested heating capacity.
Reheat Control:
Reheat will only be allowed when the primary air temperature is 5.0 deg. F below the configured reheat enable setpoint of 70.0 deg. F (adj.). The reheat shall be enabled when the space temperature drops below the active heating setpoint and the minimum airflow requirements are met. During reheat the VAV shall operate at its minimum heating airflow setpoint and energize the heat as follows:
Electric Staged
:
Stage 1 is energized when the space temperature falls below the active heating setpoint and minimum airflow requirements are met. When the zone temperature rises above the active heating setpoint by 0.5 deg. F, stage 1 is de-energized.
Stage
2 energizes when the space temperature is 1.0 deg. F or more below the active heating setpoint, and is de-energized when the space temperature is 0.5 deg. F below the active heating setpoint.
Stage
3 energizes when the zone temperature is 2.0 deg. F or more below the active heating setpoint, and de-energizes when the space temperature is 1.5 deg. F below the active heating setpoint.
Space Sensor Failure:
If there is a fault with the operation of the zone sensor an alarm shall be annunciated at the BAS. Space sensor failure shall cause the VAV to drive the damper to minimum air flow if the VAV is in the occupied mode, or drive it closed if the VAV is in the unoccupied mode.

Sequence of Operations
CW VAV RTU 1 ~ 7 Flow

Building Automation System Interface:
The Building Automation System (BAS) shall send the controller Occupied Bypass, Morning Warm-up/Pre-Cool, Occupied/Unoccupied and Heat/Cool modes. The BAS shall also send the discharge air temperature setpoint and the duct static pressure setpoint. If a BAS is not present, or communication is lost with the BAS the controller shall operate using default modes and setpoints.
Occupied:
During occupied periods, the supply fan shall run continuously and the outside air damper shall open to maintain minimum ventilation requirements. The chilled water valve shall modulate and the electric heat shall stage to maintain the discharge air temperature setpoint. If economizing is enabled the outside air damper shall modulate to maintain the discharge air temperature setpoint. If the discharge air temperature sensor fails the chilled water valve shall close and electric heat shall be disabled and an alarm shall be annunciated at the BAS.
Unoccupied:
When the space temperature is below the unoccupied heating setpoint of 60.0 deg. F (adj.) the supply fan shall start, the outside air damper shall remain closed and the electric heat shall be enabled. When the space temperature rises above the unoccupied heating setpoint of 60.0 deg. F (adj.) plus the unoccupied differential of 4.0 deg. F (adj.) the supply fan shall stop and the electric heat shall be disabled.
When the space temperature is above the unoccupied cooling setpoint of
85.0 deg. F
(adj.) the supply fan shall start, the outside air damper shall open if economizing is enabled and remain closed if economizing is disabled and the chilled water valve shall open. When the space temperature falls below the unoccupied cooling setpoint of 85.0 deg. F (adj.) minus the Unoccupied differential of4.0 deg. F (adj.) the supply fan shall stop, the chilled water valve shall close and the outside air damper shall close.
Optimal Start:
The BAS shall monitor the scheduled occupied time, occupied space setpoints and space temperature to calculate when the optimal start occurs.

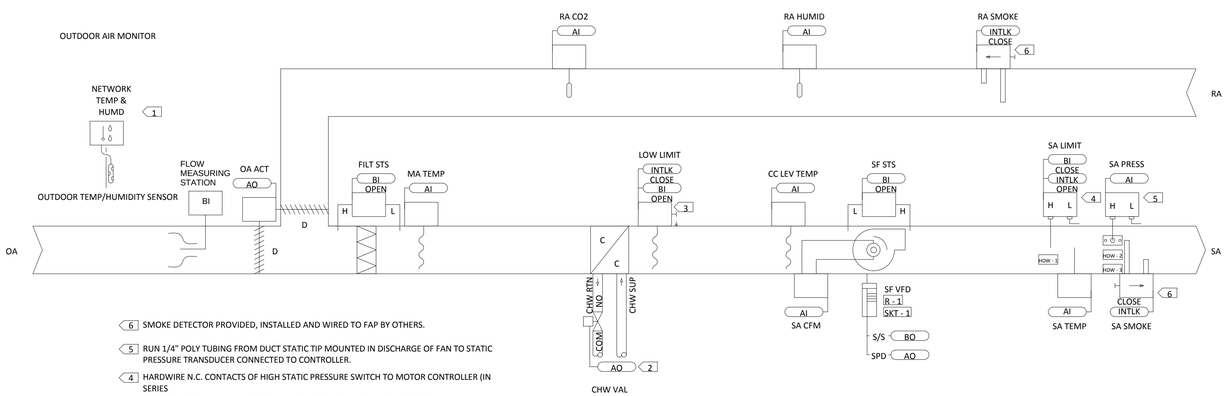
Morning Warm-Up Mode:
During optimal start, if the average space temperature is below the occupied heating setpoint a morning warm-up mode shall be activated. When morning warm-up is initiated the unit shall enable the heating and supply fan. The outside air damper shall remain closed. When the space temperature reaches the occupied heating setpoint (adj.), the unit shall transition to the occupied mode.
Pre-Cool Mode:
During optimal start, if the average space temperature is above the occupied cooling setpoint, pre-cool mode shall be activated. When pre-cool is initiated the unit shall enable the fan and cooling or economizer. The outside air damper shall remain closed, unless economizing. When the space temperature reaches occupied cooling setpoint (adj.), the unit shall transition to the occupied mode.
Optimal Stop:
The BAS shall monitor the scheduled unoccupied time, occupied setpoints and space temperature to calculate when the optimal stop occurs. When the optimal stop mode is active the unit controller shall maintain the space temperature to the space temperature offset setpoint. Outside air damper shall remain enabled to provide minimum ventilation.
Occupied Bypass:
The BAS shall monitor the status of the "on" and "cancel" buttons of the space temperature sensors. When an occupied bypass request is received from a space sensor, the unit shall transition from its current occupancy mode to occupied bypass mode and the unit shall maintain the space temperature to the occupied setpoints (adj.).

Economizer:
The discharge air temperature sensor shall measure the dry bulb temperature of the air leaving the cooling coil while economizing. When economizing is enabled and the unit is operating in the cooling mode, the economizer damper shall be modulated between its minimum position and 100% to maintain the discharge air temperature setpoint. The economizer damper shall modulate toward minimum position in the event the mixed air temperature falls below the low temperature limit setting.
Reference Enthalpy
:
Outside air (OA) enthalpy shall compared with the reference enthalpy control setpoint. The economizer shall enable when OA enthalpy is 2.0 BTU/LB less than enthalpy control setpoint. The economizer shall disable when OA enthalpy is greater than enthalpy control setpoint.

Supply Fan:
The fan shall be off in the unoccupied mode. When the unit controller is in the occupied mode, the supply fan shall operate continuously and its speed shall be modulated to maintain the duct static pressure setpoint. The duct static pressure setpoint shall be sent by the BAS and shall be reset between the minimum and maximum static pressure limits to maintain the critical zone VAV air damper in a position between 65% and 75% open.
If the supply fan fails to prove status for
30 seconds (adj.), the fan shall be commanded
off, the outside air damper shall close, chilled water valve shall close, electric heat shall be disabled and an alarm shall be annunciated at the BAS. A manual reset shall be required to restart the fan. A hardwired, high static pressure cut-off switch shall be electrically interlocked with the variable speed drive. If the high static pressure cut-off switch is tripped the fan shall stop, the outside air damper shall close, chilled water valve shall close, electric heat shall be disabled and an alarm shall be annunciated at the BAS. A manual reset of the high static pressure cut-off switch shall be required to restart the fan.
Mixed Air Low Limit:
The initial damper opening rate shall be limited to 2% per minute (adj.) until the damper has reached its minimum ventilation position. The outside air damper shall modulate to a position less than the minimum damper position if the mixed air temperature drops below 50.0 deg. F (adj.). If the mixed air temperature sensor fails an alarm shall be annunciated at the BAS and the outside air damper shall return to the minimum position.
Freeze Protection:
A hardwired, low limit temperature switch shall be electrically interlocked with the variable speed drive. If the low limit temperature switch is tripped 38.0 deg. F (adj.), the outside air damper shall close, all valves shall open to 100% (adjust per climate), the electric heat shall be disabled and an alarm shall be annunciated at the BAS. A manual reset of the low limit temperature switch shall be required to restart the fan.
Smoke Detector Shutdown: The unit shall shut down in response to a signal from either
smoke detector indicating the presence of smoke. The smoke detectors shall be interlocked to the unit through the dry contacts of the smoke detectors. A manual reset shall be required to restart the unit.
Filter Status:
A differential pressure switch shall monitor the differential pressure across the filter when the fan is running. If the switch closes during normal operation a dirty filter alarm shall be annunciated at the BAS.

TYPICAL FOR 4

(CWAHU- 1 ~ 4)



6 SMOKE DETECTOR PROVIDED, INSTALLED AND WIRED TO FAP BY OTHERS.

5 RUN 1/4" POLY TUBING FROM DUCT STATIC TIP MOUNTED IN DISCHARGE OF FAN TO STATIC PRESSURE TRANSDUCER CONNECTED TO CONTROLLER.

4 HARDWIRE N.C. CONTACTS OF HIGH STATIC PRESSURE SWITCH TO MOTOR CONTROLLER (IN SERIES
WITH N.C. LOW LIMIT THERMOSTAT) AND INDEPENDENT OF H-O-A POSITION.

3 HARDWIRE INTERLOCK N.C. CONTACTS OF LOW LIMIT THERMOSTAT TO MOTOR CONTROLLER. WIRE INTERLOCK TO SHUT DOWN UNIT INDEPENDENT OF H-O-A POSITION.

2 VALVE SHIPPED LOOSE. FIELD INSTALL VALVE AND CONNECT CABLE. FOLLOW MANUFACTURER'S PIPING INSTRUCTIONS.

1 MOUNT OUTDOOR AIR SENSOR ON NORTHERN EXPOSURE USING A NON-CONDENSATING CONDUIT CONNECTION. MOUNT AWAY FROM EXHAUST VENTS AND OTHER HEAT SOURCES. CONSULT WITH PROJECT MANAGER BEFORE MOUNTING.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx
78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:36 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

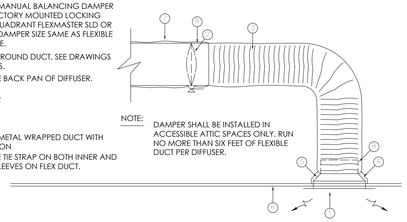
MECHANICAL CONTROLS

M2.1

01

1. CEILING DIFFUSER
2. ROUND MANUAL BALANCING DAMPER WITH FACTORY MOUNTED LOCKING HAND QUADRANT FLEXMASTER SLD OR EQUAL. DAMPER SIZE SAME AS FLEXIBLE DUCT SIZE.
3. FLEXIBLE ROUND DUCT. SEE DRAWINGS FOR SIZES.
4. INSULATE BACK PAN OF DIFFUSER.
5. DIFFUSER
6. CEILING
7. ROUND METAL WRAPPED DUCT WITH INSULATION
8. PROVIDE TIE STRAP ON BOTH INNER AND OUTER SLEEVES ON FLEX DUCT.

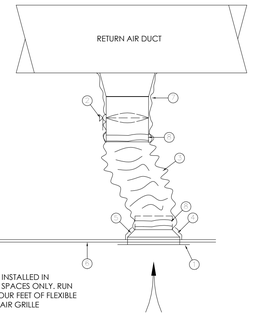
NOTE: DAMPER SHALL BE INSTALLED IN ACCESSIBLE ATTIC SPACES ONLY. RUN NO MORE THAN SIX FEET OF FLEXIBLE DUCT PER DIFFUSER.



DIFFUSER RUN OUT DETAIL
NO SCALE

02

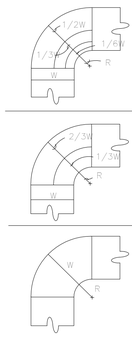
1. RETURN AIR GRILLE
2. ROUND MANUAL BALANCING DAMPER WITH FACTORY MOUNTED LOCKING HAND QUADRANT FLEXMASTER SLD OR EQUAL. DAMPER SIZE SAME AS FLEXIBLE DUCT SIZE.
3. FLEXIBLE ROUND DUCT, FOUR FEET OR LESS. SEE DRAWINGS FOR SIZES.
4. INSULATE BACK PAN OF GRILLE.
5. FIELD FABRICATED SQUARE TO ROUND TRANSITION, FROM NECK OF GRILLE TO SIZE INDICATED ON PLAN.
6. CEILING (SEE PLANS FOR CEILING TYPE)
7. ROUND METAL WRAPPED DUCT WITH INSULATION
8. PROVIDE TIE STRAP ON BOTH INNER AND OUTER SLEEVES ON FLEX DUCT.



NOTE: DAMPER SHALL BE INSTALLED IN ACCESSIBLE ATTIC SPACES ONLY. RUN NO MORE THAN FOUR FEET OF FLEXIBLE DUCT PER RETURN AIR GRILLE

RETURN AIR GRILLE ATTACHMENT DETAIL
NO SCALE

03



R SHALL EQUAL OR BE GREATER THAN 1/6W.

R SHALL EQUAL OR BE GREATER THAN 1/3W.

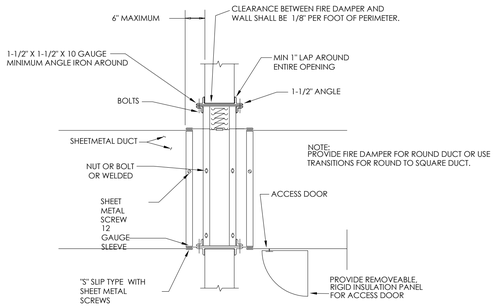
R SHALL EQUAL OR BE GREATER THAN W.

NOTES:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND
2. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

SQUARE 90° FITTING WILL NOT BE ALLOWED.

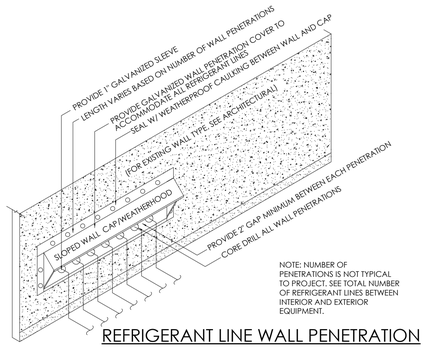
RADIUS DUCT ELBOW DETAIL
NO SCALE

04



FUSIBLE LINK FIRE DAMPER DETAIL
NO SCALE

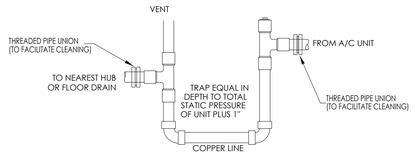
05



NOTE: NUMBER OF PENETRATIONS IS NOT TYPICAL TO PROJECT. SEE TOTAL NUMBER OF REFRIGERANT LINES BETWEEN INTERIOR AND EXTERIOR EQUIPMENT.

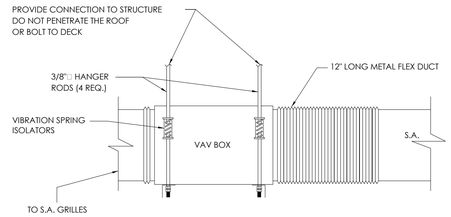
REFRIGERANT LINE WALL PENETRATION
NO SCALE

06



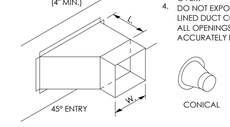
CONDENSATE TRAP DETAIL
NO SCALE

07



VAV BOX DETAIL
NO SCALE

08

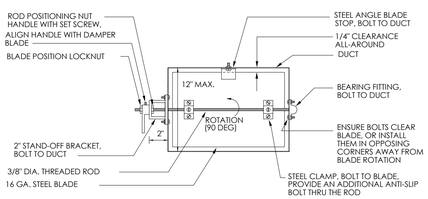


CONICAL

NOTES:
1. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS & SECURE SUITABLY FOR THE PRESSURE CLASS.
2. ADDITIONAL MECHANICAL FASTENERS REQ'D. FOR 4" W.G. & OVER.
3. DO NOT EXPOSE LINER EDGES ON LINED DUCT CONNECTIONS. ALL OPENINGS TO BE CUT ACCURATELY IN SHAPE & SIZE.

BRANCH CONN. DETAIL
NO SCALE

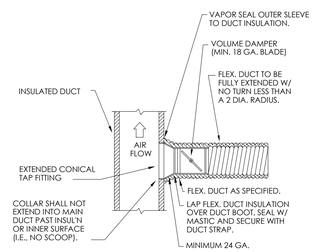
09



NOTES:
1. DAMPERS FOR ROUND DUCTS SHALL BE SIMILAR TO THE DAMPER SHOWN ABOVE.
2. ENSURE THAT FULL 90° DAMPER BLADE MOVEMENT IS UNOBSTRUCTED.
3. FOR DUCT HEIGHTS MORE THAN 12", PROVIDE FACTORY-FABRICATED OPPOSED BLADE DAMPERS

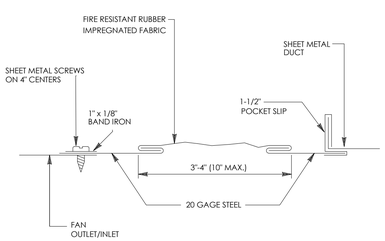
MANUAL DAMPER DETAIL
NO SCALE

10



SPIN TAP DETAIL
NO SCALE

11



FLEXIBLE CONNECTION
NO SCALE

12

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750 www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

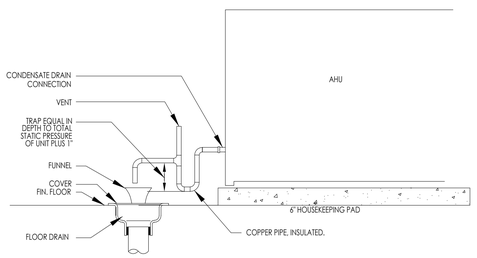
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:35:38 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

MECHANICAL DETAILS

M3.1

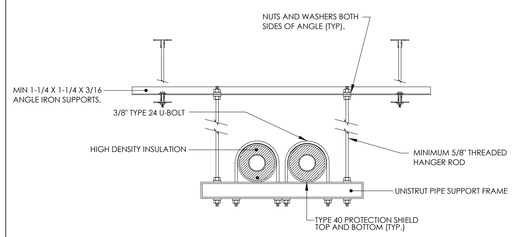
01



CONDENSATE DRAIN DETAIL

NO SCALE

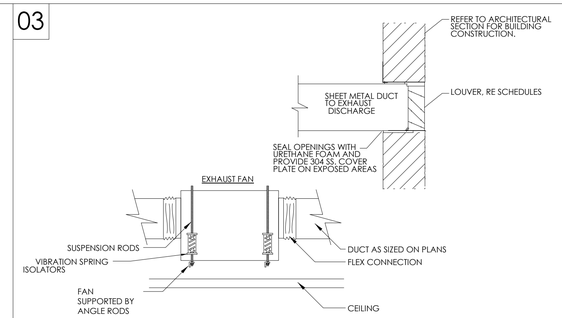
02



HORIZONTAL PIPE SUPPORT

NO SCALE

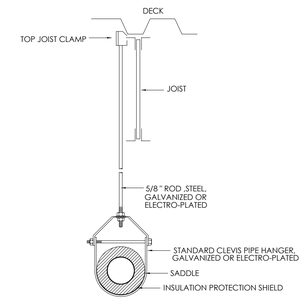
03



SUSPENDED EXHAUST FAN DETAIL

NO SCALE

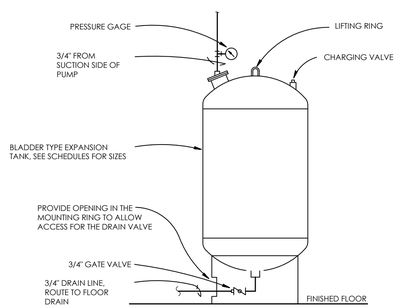
04



PIPE HANGER DETAIL

NO SCALE

05

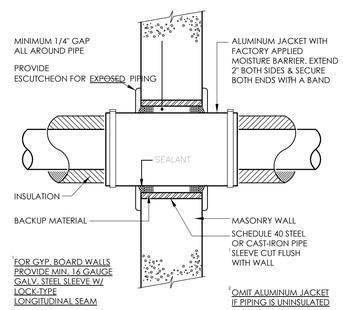


EXPANSION TANK DETAIL

NO SCALE

06

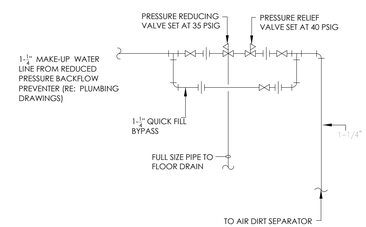
TYPICAL FOR ALL WALL PENETRATIONS



WALL PIPE PENETRATION DETAIL

NO SCALE

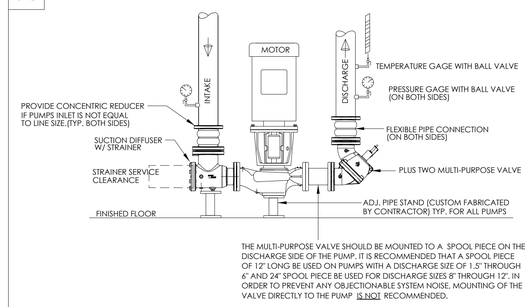
07



CHILLED WATER SYSTEM MAKE UP WATER

NO SCALE

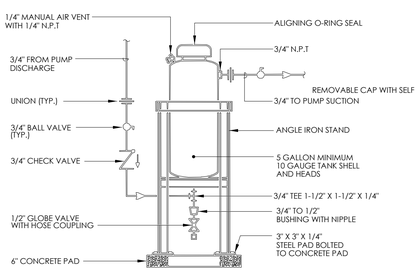
08



PUMP DETAIL(ALL PUMPS)

NO SCALE

09



CHEMICAL FEEDER

NO SCALE

10

11

12

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

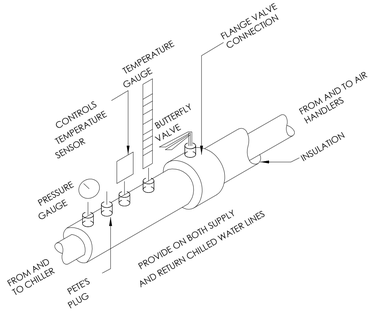
TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:39 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

MECHANICAL DETAILS

M3.2

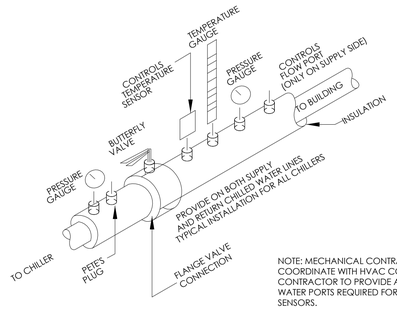
01



CHILLED WATER LINE AT EACH MECHANICAL ROOM

NO SCALE

02

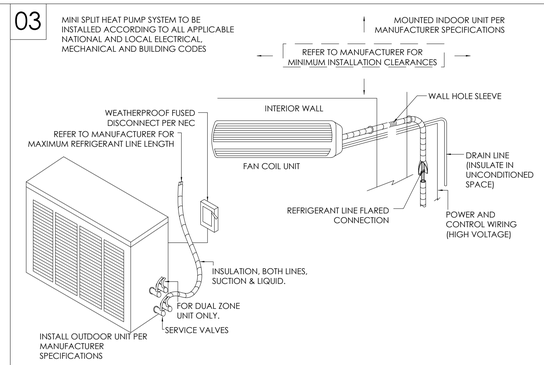


NOTE: MECHANICAL CONTRACTOR TO COORDINATE WITH HVAC CONTROLS CONTRACTOR TO PROVIDE ALL CHILLER WATER PORTS REQUIRED FOR CONTROL SENSORS.

CHILLED WATER LINE AT CHILLERS

NO SCALE

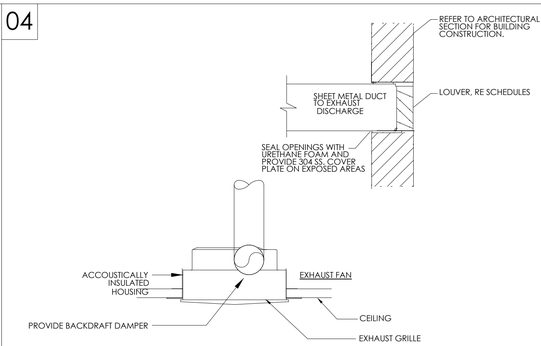
03



MINI SPLIT UNIT - CONDENSER AND EVAPORATOR

NO SCALE

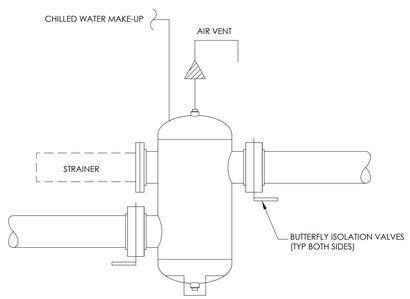
04



CEILING MOUNTED EXHAUST FAN

NO SCALE

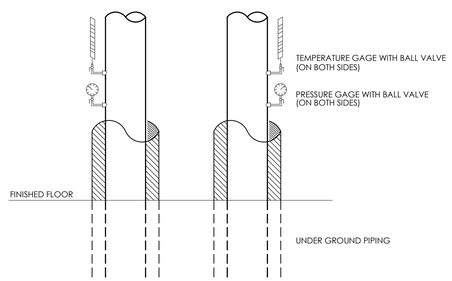
05



AIR-DIRT SEPARATOR

NO SCALE

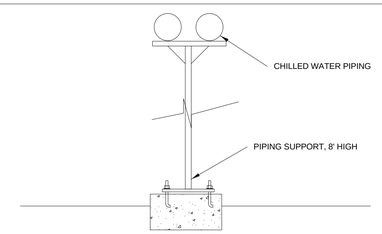
06



MECHANICAL YARD EXIT/ENTRANCE DETAIL

NO SCALE

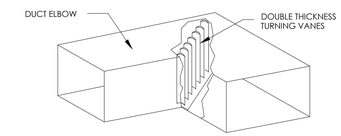
07



PIPE SUPPORT PIER

NO SCALE

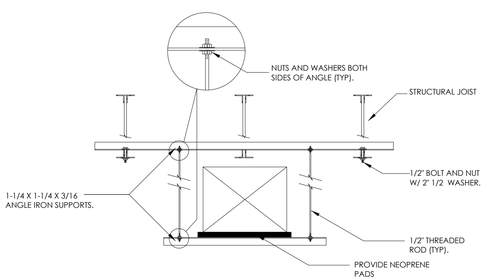
08



MILTERED ELBOW DETAIL

NO SCALE

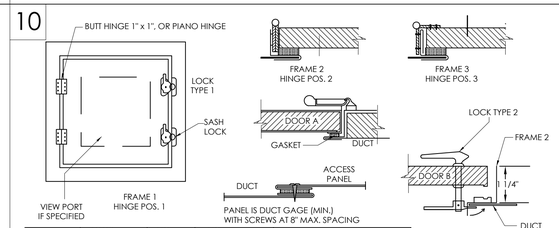
09



DUCT HANGER DETAIL

NO SCALE

10



	DOOR SIZE	NO. HINGES	NO. LOCKS	METAL GAGE FRAME	DOOR	BACK
2" W.G. STATIC AND LESS	12" x 12"	2	1-S	24	26	26
	16" x 20"	2	2-S	22	24	26
	24" x 24"	3	2-S	22	22	26
5" W.G. STATIC	12" x 12"	2	1-S	22	22	26
	16" x 20"	2	1-S,1-T,1-B	20	20	26
	24" x 24"	3	2-S,1-T,1-B	20	20	24
4" W.G. TO 10" W.G.	12" x 12"	2	1-S,1-T,1-B	20	20	26
	16" x 20"	3	2-S,1-T,1-B	18	18	24
	24" x 24"	3	2-S,2-T,2-B	18	18	24

S = SIDE OPPOSITE HINGES, T = TOP, B = BOTTOM

DUCT ACCESS DOORS

NO SCALE

11

12

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750 www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:41 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

MECHANICAL DETAILS

M3.3

CHILLER SCHEDULE

TAG	CH-1,2,3
TYPE	SCROLL
PHYSICAL PARAMETERS	
NOMINAL CAPACITY (TONS)	100
CAPACITY AT DESIGN CONDITIONS (TONS)	94.29
ENTERING WATER TEMP (DEG F)	56
LEAVING WATER TEMP (DEG F)	44
FOULING FACTOR	0.0001
EVAP CONFIG	2 PASS
DESIGN FLOW RATE (GPM)	188
MIN WATER FLOW RATE (GPM)	115.5
DESIGN PRESS. DROP FT. WATER	10.6
DETAILS AND ACCESSORIES	
AMBIENT DB (°F)	102
KW INPUT (MAX)	122.4 kW
VOLTS / PHASE	208/3
POWER CONNECTION	SINGLE POINT
CKT 1 MCA/MOCP	417.9/500
CKT 2 MCA/MOCP	-
SOUND POWER LEVEL dBA	95
MIN. FULL LOAD EFFICIENCY @ ARI (EER)	10.27
MIN. PART LOAD EFFICIENCY @ ARI (IPLV)	15.03
MANUFACTURER	TRANE
MODEL	CGAM100
MAX OPER. WEIGHT	6800 lbs
NOTES	ALL

NOTES:
01. SINGLE POINT POWER OF CONNECTION WITH FACTORY CIRCUIT BREAKER.
02. PROVIDE COMPLETE CONDENSER COIL COATING WITH MINIMUM 6,000 HR SALT SPRAY RATING PER ASTMB117. COATING TO BE UV RESISTANT.
03. PROVIDE BACNET COMMUNICATION INTERFACE CARD - COORDINATE REQUIREMENTS WITH SUCCESSFUL CONTROLS CONTRACTOR
04. PROVIDE WITH HIGH AMBIENT OPERATION TO 125°F
05. PROVIDE 5-YR ENTIRE UNIT PARTS, LABOR AND REFRIGERANT WARRANTY.
06. PROVIDE WITH HUMAN INTERFACE PANEL.
07. PROVIDE WITH FULL ARCHITECTURAL LOUVERS ON COILS AND BASE FRAME
08. PROVIDE WITH LOW NOISE FANS AND SOUND ENHANCMENT PACKAGE
09. PROVIDE PHASE LOSS AND UNDER/OVER VOLTAGE PROTECTION.
10. PROVIDE W/ HIGH EFFICIENCY CHILLERS.
11. PROVIDE W/ FACTORY INSTALLED FLOW SWITCHES AND STRAINER
12. PROVIDE W/ FACTORY 120V DUPLEX GFI RECEPTACLE, UNPOWERED. MECHANICAL SUBCONTRACTOR TO PROVIDE W/ STEP-DOWN TRANSFORMER FROM 277V/1P TO 120V/1P/15A & ADDITIONAL 15A FUSED DISCONNECT. TO BE CONNECTED TO THE LINE SIDE OF CHILLER DISCONNECT. TO BE MOUNTED & WIRED BY ELECTRICAL SUBCONTRACTOR.
13. APPROVED MANUFACTURE TO BE TRANE, DIKIN, CARRIER.

CW AIR HANDLING UNIT SCHEDULE

TAG	CWAHU-1-4
SERVES	
LOCATION	MECHANICAL
UNIT CONFIGURATION	HORIZONTAL
COOLING TYPE	CHILLED WATER
AIR VOLUME TYPE	VAV
SUPPLY DISCHARGE	TOP
DUAL/SINGLE PATH	SINGLE
SUPPLY FAN CFM	12000
OUTSIDE AIR CFM	3750
EXT. STATIC INCHES WC	2
MINIMUM HP PER FAN	7.5 HP (x2) - VFD
TOTAL BHP	9.656
FAN TYPE	DDP
VOLTAGE/PHASE	208/3
AMPACITY	55.2
MIXED AIR CW COOLING COIL	
COIL AIR VOLUME (CFM)	12000
ENTERING AIR DB/WB (°F)	82.06/68.24
LEAVING AIR DB/WB (°F)	54.98/54.54
ENTERING/LEAVING WATER TEMP (°F)	44/56
DESIGN FLUID FLOW RATE (GPM)	85.64
MIN. TOTAL/SENSIBLE CAPACITY (MBH)	515.63/358.48
MAX. WATER PRESSURE DROP (FT H2O)	9.3
MIN ROWS / MAX FPI	6/9
HEATING COIL SELECTION	
HEAT TYPE/AMBIENT DESIGN DB (°F)	NONE
INPUT CAPACITY/STAGES	-
ENTERING/LEAVING AIR TEMP DB (°F)	-
VOLTAGE/PHASE	-
AMPACITY	-
DETAILS	
VOLTAGE/PHASE	208/3
MCA/MOCP	70/110
MANUFACTURER	TRANE
MODEL NUMBER	UCCA025
INSTALLED UNIT MAX WT.	2300 LB
NOTES:	ALL

NOTES:
01. PROVIDE W/ FIELD MOUNTED & WIRED VFD. UNIT TO BE SINGLE POINT POWER.
02. MECHANICAL CONTRACTOR TO PROVIDE SMOKE DETECTOR TO BE MOUNTED IN RETURN AIR STREAM.
03. PROVIDE STAINLESS STEEL COIL CASINGS FOR CHW COILS AND A STAINLESS STEEL DRAINPAN
04. PROVIDE WITH 6" FACTORY MOUNTED BASE RAIL.
05. PROVIDE W/ MOTOR SHAFT GROUNDING RINGS.
06. PROVIDE WITH 2" DOUBLE WALL MODULAR CONSTRUCTION
07. PROVIDE WITH MIXING BOX, ANGLED MERV8 FITLERS, DAMPERS, ACCESS SECTIONS.
08. MARINE LIGHTS TO LIGHT ALL SECTIONS OF THE AHU, ACCESS SECTIONS BEFORE & AFTER THE COOLING COIL
09. PROVIDE WITH INTEGRAL OUTSIDE AIR FLOW MEASURING STATION AT UNITS MIXING BOX.
10. PROVIDE WITH FILTER FRAME.

DX MINI-SPLIT SCHEDULE

INDOOR UNIT TAG	FC-1,2	FC-3
SERVES	IDF B121,EQ. RM B119	IDF B215
LOCATION	WALL	WALL
UNIT TYPE	COOLING ONLY	COOLING ONLY
FAN PROPERTIES		
MIN SUPPLY (CFM)	400	400
MINIMUM O/A (CFM)	0	0
UNIT CAPACITIES		
ENTERING AIR (DB/WB)	74/62	74/62
TOTAL CAPACITY (BTUH	12,000	9,000
HEATING CAPACITY (BTUH)	0	0
UNIT DETAILS		
VOLTAGE/PHASE	208/1	208/1
MANUFACTURER	DAIKIN	DAIKIN
MODEL NO.	FTK12NM	FTK09NM
MAX WEIGHT (LBS)	25	25

CONDENSING UNIT TAG	FCCU-1,2	FCCU-3
DETAILS		
VOLTAGE/PHASE	208/1	208/1
MCA/MOCP	13/15	13/15
AMB. AIR TEMP. (CLG°F/HTG°F)	102/33	102/33
REFRIGERANT	R-410A	R-410A
COOLING MODE OPER. RANGE	15°F - 110°F	15°F - 110°F
HEATING MODE OPER. RANGE	N/A	N/A
MANUFACTURER	DAIKIN	DAIKIN
MODEL NO.	RK12NM	RK09NM
MAX WEIGHT (LBS)	75	75
MIN COOL/HEAT EFFICIENCY	19 SEER/-	19 SEER/-
MIN EQUIV. LINE LENGTH (FT)	65	65
MIN VERTICAL RISE (FT)	45	45
CONTROL TYPE	WL-RC	WL-RC
NOTES	ALL	ALL

NOTES:
01. ELECTRICAL CONTRACTOR TO PROVIDE SINGLE CIRCUIT POWER FROM SERVICE TO OUTDOOR UNIT & WIRE TO INDOOR UNIT.
02. WIRELESS REMOTE CONTROLLER.
03. PROVIDE INDOOR UNITS WITH MOUNTING BRACKETS IF REQUIRED.
04. SEE PLUMBING FOR CONDENSATE ROUTING.
05. CONTRACTOR TO PROVIDE CONCRETE PAD TO ANCHOR CONDENSER TO.
06. CONTRACTOR TO PROVIDE LINE SETS.
07. SIGHT GLASSES, FILTER DRYERS, & FIELD SUPPLIED EXPANSION VALVES ARE NOT TO BE USED ON THIS EQUIPMENT.
08. INSTALL PER MANUFACTURERS INSTRUCTIONS & PIPING RECOMMENDATIONS.
09. PROVIDE W/ OPTIONS/ACCESSORIES REQ. FOR LOW AMBIENT COOLING.

AIR DEVICE SCHEDULE

TAG	A	B	C	D
SERVICE TYPE	SUPPLY	SUPPLY	RETURN	RETURN
PHYSICAL PROPERTIES				
FACE SIZE	24"x24"	12"x12"	24"x24"	12"x12"
NECK SIZE	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS
MOUNTING SURFACE	CEILING	CEILING	CEILING	CEILING
DETAILS AND ACCESSORIES				
DAMPER TYPE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE	OPPOSED BLADE
ACCESSORY	INSUL BACKPAN	INSUL BACK PAN	INSUL BACKPAN	INSUL BACK PAN
COLOR FINISH	WHITE	WHITE	WHITE	WHITE
MATERIAL	STEEL	ALUMINUM	ALUMINUM	ALUMINUM
MANUFACTURER	PRICE	PRICE	PRICE	PRICE
MODEL	SCD	ASCD	80	80
NOTES				

NOTES:

FAN SCHEDULE

TAG	EF-1-16	EF-17-20	EF-21,23	EF-22
SERVICE	KINDER RRs	STAFF RRs	JANITOR	GANG RRs
LOCATION	CEILING	CEILING	CEILING	PLENUM
FAN PROPERTIES				
CFM	75	75	50	650
FAN RPM	900	681	613	1517
EXT SP (IN WG)	0.15	0.2	0.2	0.5
FAN POWER	18 W	19 W	12 W	1/4 HP - ECM
VOLTS/PHASE	120/1	120/1	120/1	120/1
SOUND LEVEL	0.6 SONE	1.0 SONE	0.7 SONES	11.8 SONES
MOUNTING	CEILING	CEILING	CEILING	SUSPENDED
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	SP-B80	SP-B90	SP-B70	SQ-99-VG
MAX WEIGHT	25 lbs	25 lbs	25 lbs	75 lbs
NOTES	1-5	1-5	1-5	1,3,4,6,7

NOTES:
01. PROVIDE WITH FACTORY INSTALLED DISCONNECT.
02. INTERLOCK FAN W/ LIGHTS, CONTROLS TO MONITOR.
03. PROVIDE W/ BACKDRAFT DAMPER.
04. PROVIDE W/ FAN SPEED CONTROLLER MOUNTED ON FAN.
05. PROVIDE W/ TIMED DELAY SHUTOFF
06. FAN TO BE SUSPENDED FROM STRUCTURE VIA SPRING VIBRATION ISOLATORS IN RUBBER SPRING CUPS.
07. FAN TO BE MONITORED & CONTROLLED VIA HVAC CONTROLS.

POT FEEDER SCHEDULE

TAG	CBF-1
TYPE	CHEMICAL BYPASS
TANK VOLUME (GAL)	5
CONSTRUCTION MATERIAL	CARBON STEEL
SUSPENDED/FLOOR MOUNTED	FLOOR MOUNTED
ASME PRESSURE RATING (PSI)	200
MAX DRY WEIGHT (LBS)	50
MANUFACTURER	GRISWOLD
MODEL	FB5

NOTES:
01. PROVIDE W/ GROOVED PIPE CAP CLOSURE (ON TOP)
02. PROVIDE W/ STAINLESS STEEL BASKET AND A MINIMUM QTY OF 25 POLYESTER FILTER BAGS (25 MICRONS MAX).
03. PROVIDE W/ (TWO) VALVES W/ 3/4" NPT CONNECTIONS AND (TWO) 3/4" FPT BRASS PLUGS.
04. INSULATE ALL BYPASS CHILLED WATER LINES AND ENTIRE POT FEEDER AS PER CHILLED WATER PIPING INSULATIONS SPECIFICATION.

EXPANSION TANK

TAG	ET-1
TYPE	BLADDER
TANK VOLUME (GAL)	57
DIMENSIONS	20"X64"
ACCEPTANCE VOLUME (GAL)	57
ASME PRESSURE RATING (PSI)	125
MAX OPERATING PRES. (PSI)	125
FACTORY PRE-CHARGED (PSI)	12
MANUFACTURER	TACO
MODEL	CA215

01. FULL ACCEPTANCE BLADDER, ASME CODE & STAMPED

PUMPS SCHEDULE

TAG	PP-1,2,3	SP-1,2
LOCATION	CHILLER YARD	CHILER YARD
SERVICE	CHILLERS	CWAHU's
TYPE	VERTICAL INLINE	VERTICAL INLINE
PUMP DETAILS AND ACCESSORIES		
FLOW (GPM)	190	380
DESIGN HEAD (FT.)	30	65
PUMP EFF. (%)	73%	77%
MOTOR TYPE	NEMA PREMIUM	NEMA PREMIUM
HP	3	10
RPM		
IMPELLER DIA. (IN.)		
SUCTION SIZE (IN.)	3	4
DISCHARGE (IN.)	3	4
VOLTS/PHASE	208/3	208/3
MANUFACTURER	TACO	TACO
MODEL	KV3007	KS4009
NOTES	1,2,3,4	ALL

NOTES:
01. PROVIDE W/ PREMIUM EFFICIENT MOTOR, EQUAL TO BALDOR SUPER E+.
02. PROVIDE W/ SHAFT GROUDING RINGS.
03. MECHANICAL CONTRACTOR TO PROVIDE VFD W/ MANUAL BYPASS AND DISCONNECT. ELECTRICAL CONTRACTOR TO MOUNT AND WIRE VFD.
04. MOTOR TO BE TEFC.
05. PROVIDE W/ SPLIT COUPLED VERTICAL INLINE PUMP.

VFD SCHEDULE

SERVES	CWAHU-1-4	PP-1,2,3	SP-1,2
QUANTITY	4	3	2
DETAILS AND ACCESSORIES			
HP	15	3	10
INPUT VOLTAGE	208/3	208/3	208/3
MOUNTING SURFACE	WALL	WALL	WALL
ENCLOSURE	NEMA 1	NEMA 4X	NEMA 4X
DDC SYSTEM INTERFACE	bacnet/lon	bacnet/lon	bacnet/lon
MANUFACTURER	DANFOSS	DANFOSS	DANFOSS
MODEL			
NOTES	1,2,3,4	1,2,3,4	1,2,3,4

NOTES:
01. PROVIDE VFD W/ INTEGRAL BYPASS AND DISCONNECT.
02. VFD SHALL BE PROVIDED BY MECHANICAL CONTRACTOR & WIRED BY ELECTRICAL CONTRACTOR.
03. PROVIDE W/ ONE EXTRA VFD FOR EACH NOMINAL SIZED VFD FOUND IN THIS SCHEDULE.
04. MOUNT VFD's ON MECH RM WALL.

LOUVER SCHEDULE

TAG	L-1	L-2	L-3
TYPE	INTAKE	EXHAUST	EXHAUST
SERVICE	CWAHU-1	RRs	RRs
DETAILS AND ACCESSORIES			
MAX CFM	3750	650	150
LENGTH/HEIGHT (IN)	76/24	24/16	12/12
FREE AREA (SQ FT)	5.41	0.97	0.26
MAX VELOCITY (FPM)	700	680	580
MAX PRESSURE DROP (IN. H2O)	0.1	0.075	0.05
FINISH	1.2 mils 70% PVDF	1.2 mils 70% PVDF	1.2 mils 70% PVDF
INCLUDED SCREENS	BIRD	BIRD	BIRD
ACTUATION TYPE	NONE	NONE	NONE
BORDER STYLE	2" FLANGE	2" FLANGE	2" FLANGE
MAUNUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL	EHH-601	EDJ-401	EDJ-401
NOTES	1,2	1,2	1,2

NOTES:
01. LOUVER OPENINGS TO BE SAW CUT.
02. SEAL OPENING WEATHER TIGHT.

SOUND ATTENUATOR SCHEDULE

Bank Information							Duct System Information				Dynamic Insertion Loss(dB)							
Tag	Qty	Model	Width	Height	Duct Dia.	Length	Direction	Velocity fpm	Flow cfm	PD(in. w.g.)	63	125	250	500	1K	2K	4K	8K
SA-1,2,3,4	4	RH48/6D			-	48	Forward	1500	5500	0.15	3	6	13	21	18	14	11	8
22 gauge galvanized casing, 22 gauge galvanized perforated liner, glass fiber acoustic media, 1" Slip connection											59	44	43	42	40	43	41	36

AIR/DIRT SEPARATOR

TAG	ADS-1
DESCRIPTION	AIR & DIRT SEPARATOR
MAX. PRESS DROP (FT HEAD)	2
MAX FLOW (GPM)	380
ASME DESIGN WORKING PRESS	125 PSIG
INLET	6"
MANUFACTURER	TACO
MODEL	4906AD

NOTES:
01. WITH AIR VENT
02. FLANGED CONNECTION, 125 PSI ASME CODE & STAMPED.
03. TACO, SPIROTHERM ARE ONLY ACCEPTABLES
04. HIGH EFF. AIR/DIRT SEPARATION, W/ COELESCING INT. MEDIA

BUFFER TANK

TAG	BT-1
TYPE	BAFFLED
TANK VOLUME (GAL)	450
DIMENSIONS	48"x72"
ASME PRESSURE RATING (PSI)	125
MAX OPERATING PRES. (PSI)	150
INLET/OUTLET	4"
MANUFACTURER	TACO
MODEL	BTH0450

01. PROVIDE W/ GROOVED CONNECTIONS.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:42 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

MECHANICAL SCHEDULES

M4.1

TERMINAL UNIT SCHEDULE - 1

TAG	TU-1-01	TU-1-02	TU-1-03	TU-1-04	TU-1-05	TU-1-06	TU-1-07	TU-1-08	TU-1-09	TU-1-10
TYPE	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT
AREA SERVED	WEST LOBBY A100	PRE-K A133	PRE-K A130	KINDER A126	KINDER A13	COMP LAB A117	KINDER A110	PRE-K A106	PRE-K A103	KINDER A119
LOCATION	WEST LOBBY A100	PRE-K A133	PRE-K A130	KINDER A126	KINDER A13	COMP LAB A117	KINDER A110	PRE-K A106	PRE-K A103	KINDER A119
AIR FLOW CHARACTERISTICS										
FAN FLOW (CFM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAX/MIN PRIMARY (CFM)	1000/300	1250/400	1250/400	1250/400	1250/400	1250/400	1250/400	1250/400	1250/400	1250/400
MAX/MIN REHEAT (CFM)	1000/300	900/400	900/400	900/400	900/400	900/400	900/400	900/400	900/400	900/400
MAX AIR PRESSURE DROP (in.wg)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
HEATING COIL PERFORMANCE										
HEAT TYPE	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
ENTERING/LEAVING AIR TEMP. (F°)	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°
VOLTS/PHASE	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3
HEAT INPUT/STAGES	10.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR
MCA/MOCP	38/40	34/35	34/35	34/35	34/35	34/35	34/35	34/35	34/35	34/35
PHYSICAL PROPERTIES & ACCESSORIES										
FAN MOTOR VOLTAGE/PHASE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INLET SIZE	12"□	12"□	12"□	12"□	12"□	12"□	12"□	12"□	12"□	12"□
OUTLET SIZE	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"
MAX RAD/DIS NOISE	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC
MAX WEIGHT	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
MODEL SIZE	12	12	12	12	12	12	12	12	12	12
NOTES	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3

NOTES
01. PROVIDE W/ FACTORY MATTE FACE INTERIOR LINER FOR ALL SECTIONS & ACCESSORY SECTIONS OF VAV BOX.
02. FACTORY INSTALLED 3RD PARTY CONTROLS. TERMINAL UNIT MFGR. SHALL PROVIDE CONTROLS TRANSFORMER.
03. PROVIDE POWER FOR TRANSFORMERS.

TERMINAL UNIT SCHEDULE - 2

TAG	TU-2-01	TU-2-02	TU-2-03	TU-2-04	TU-2-05	TU-2-06	TU-2-07	TU-2-08	TU-2-09	TU-2-10	TU-2-11	TU-2-12
TYPE	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT
AREA SERVED	EAST LOBBY B100	1ST GRD B140	1ST GRD B137	1ST GRD B133	1ST GRD B130	CORRIDOR A115	STAFF RRs	WKRM B122	KINDER B125	1ST GRD B110	1ST GRD B106	1ST GRD B103
LOCATION	EAST LOBBY B100	1ST GRD B140	1ST GRD B137	1ST GRD B133	1ST GRD B130	CORRIDOR A115	CORRIDOR B113	WKRM B122	KINDER B125	1ST GRD B110	1ST GRD B106	1ST GRD B103
AIR FLOW CHARACTERISTICS												
FAN FLOW (CFM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAX/MIN PRIMARY (CFM)	1000/300	1250/400	1250/400	1250/400	1250/400	800/250	300/75	300/75	1250/400	1250/400	1250/400	1250/400
MAX/MIN REHEAT (CFM)	1000/300	900/400	900/400	900/400	900/400	800/250	200/75	200/75	900/400	900/400	900/400	900/400
MAX AIR PRESSURE DROP (in.wg)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
HEATING COIL PERFORMANCE												
HEAT TYPE	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
ENTERING/LEAVING AIR TEMP. (F°)	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°
VOLTS/PHASE	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3
HEAT INPUT/STAGES	10.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	8.0 KW/SCR	2.0 KW/SCR	2.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR
MCA/MOCP	38/40	34/35	34/35	34/35	34/35	31/35	8/15	8/15	34/35	34/35	34/35	34/35
PHYSICAL PROPERTIES & ACCESSORIES												
FAN MOTOR VOLTAGE/PHASE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INLET SIZE	12"□	12"□	12"□	12"□	12"□	10"□	6"□	6"□	12"□	12"□	12"□	12"□
OUTLET SIZE	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	14"x12"	12"x8"	12"x8"	16"x16"	16"x16"	16"x16"	16"x16"
MAX RAD/DIS NOISE	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC
MAX WEIGHT	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	50 lbs	50 lbs	50 lbs	75 lbs	75 lbs	75 lbs	75 lbs
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
MODEL SIZE	12	12	12	12	12	10	6	6	12	12	12	12
NOTES	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3

NOTES
01. PROVIDE W/ FACTORY MATTE FACE INTERIOR LINER FOR ALL SECTIONS & ACCESSORY SECTIONS OF VAV BOX.
02. FACTORY INSTALLED 3RD PARTY CONTROLS. TERMINAL UNIT MFGR. SHALL PROVIDE CONTROLS TRANSFORMER.
03. PROVIDE POWER FOR TRANSFORMERS.

TERMINAL UNIT SCHEDULE - 3

TAG	TU-3-01	TU-3-02	TU-3-03	TU-3-04	TU-3-05	TU-3-06	TU-3-07	TU-3-08	TU-3-09	TU-3-10
TYPE	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT
AREA SERVED	WEST COLLAB A201	2ND GRD A206	2ND GRD A208	2ND GRD A211	2ND GRD A213	GIRLS A217	BOYS A220	2ND GRD A223	2ND GRD A225	2ND GRD A227
LOCATION	WEST COLLAB A201	2ND GRD A206	2ND GRD A208	2ND GRD A211	2ND GRD A213	GIRLS A217	BOYS A220	2ND GRD A223	2ND GRD A225	2ND GRD A227
AIR FLOW CHARACTERISTICS										
FAN FLOW (CFM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAX/MIN PRIMARY (CFM)	1300/300	1250/400	1250/400	1250/400	1250/400	300/75	300/75	1250/400	1250/400	1250/400
MAX/MIN REHEAT (CFM)	900/300	900/400	900/400	900/400	900/400	200/75	200/75	900/400	900/400	900/400
MAX AIR PRESSURE DROP (in.wg)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
HEATING COIL PERFORMANCE										
HEAT TYPE	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
ENTERING/LEAVING AIR TEMP. (F°)	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°
VOLTS/PHASE	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3
HEAT INPUT/STAGES	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	2.0 KW/SCR	2.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR
MCA/MOCP	34/35	34/35	34/35	34/35	34/35	8/15	8/15	34/35	34/35	34/35
PHYSICAL PROPERTIES & ACCESSORIES										
FAN MOTOR VOLTAGE/PHASE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INLET SIZE	12"□	12"□	12"□	12"□	12"□	6"□	6"□	12"□	12"□	12"□
OUTLET SIZE	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	12"x8"	12"x8"	16"x16"	16"x16"	16"x16"
MAX RAD/DIS NOISE	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC
MAX WEIGHT	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	50 lbs	50 lbs	75 lbs	75 lbs	75 lbs
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
MODEL SIZE	12	12	12	12	12	6	6	12	12	12
NOTES	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3

NOTES
01. PROVIDE W/ FACTORY MATTE FACE INTERIOR LINER FOR ALL SECTIONS & ACCESSORY SECTIONS OF VAV BOX.
02. FACTORY INSTALLED 3RD PARTY CONTROLS. TERMINAL UNIT MFGR. SHALL PROVIDE CONTROLS TRANSFORMER.
03. PROVIDE POWER FOR TRANSFORMERS.

TERMINAL UNIT SCHEDULE - 4

TAG	TU-4-01	TU-4-02	TU-4-03	TU-4-04	TU-4-05	TU-4-06	TU-4-07	TU-4-08	TU-4-09	TU-4-10	TU-4-11
TYPE	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT	SINGLE DUCT
AREA SERVED	EAST COLLAB B201	3RD GRD B227	3RD GRD B225	3RD GRD B222	3RD GRD B220	5TH COLLAB A215	WKRM B216	COMP LAB B211	3RD GRD B209	3RD GRD B206	3RD GRD B204
LOCATION	EAST COLLAB B201	3RD GRD B227	3RD GRD B225	3RD GRD B222	3RD GRD B220	5TH COLLAB A215	WKRM B216	COMP LAB B211	3RD GRD B209	3RD GRD B206	3RD GRD B204
AIR FLOW CHARACTERISTICS											
FAN FLOW (CFM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAX/MIN PRIMARY (CFM)	1300/300	1250/400	1250/400	1250/400	1250/400	1000/300	300/75	1550/450	1250/400	1250/400	1250/400
MAX/MIN REHEAT (CFM)	900/300	900/400	900/400	900/400	900/400	1000/300	200/75	900/450	900/400	900/400	900/400
MAX AIR PRESSURE DROP (in.wg)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
HEATING COIL PERFORMANCE											
HEAT TYPE	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
ENTERING/LEAVING AIR TEMP. (F°)	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°	55°/85°
VOLTS/PHASE	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3	208/3
HEAT INPUT/STAGES	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	10.0 KW/SCR	2.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR	9.0 KW/SCR
MCA/MOCP	34/35	34/35	34/35	34/35	34/35	38/40	8/15	34/35	34/35	34/35	34/35
PHYSICAL PROPERTIES & ACCESSORIES											
FAN MOTOR VOLTAGE/PHASE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INLET SIZE	12"□	12"□	12"□	12"□	12"□	12"□	6"□	14"□	12"□	12"□	12"□
OUTLET SIZE	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	16"x16"	12"x8"	20"x18"	16"x16"	16"x16"	16"x16"
MAX RAD/DIS NOISE	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC	-- NC
MAX WEIGHT	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	75 lbs	50 lbs	75 lbs	75 lbs	75 lbs	75 lbs
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
MODEL SIZE	12	12	12	12	12	12	6	14	12	12	12
NOTES	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3	1,2,3

NOTES
01. PROVIDE W/ FACTORY MATTE FACE INTERIOR LINER FOR ALL SECTIONS & ACCESSORY SECTIONS OF VAV BOX.
02. FACTORY INSTALLED 3RD PARTY CONTROLS. TERMINAL UNIT MFGR. SHALL PROVIDE CONTROLS TRANSFORMER.
03. PROVIDE POWER FOR TRANSFORMERS.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
Wilford L. McGee III
121539

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:35:43 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

MECHANICAL SCHEDULES

M4.2

ELECTRICAL LEGEND-LIGHTING

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	2'x4' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	2'X4' LIGHT FIXTURE W/EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
	2'x2' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	2'X2' LIGHT FIXTURE W/EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
	1'X4' LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	TRACK LIGHT WITH HEADS AS INDICATED
	INCANDESCENT, LED, FLUORESCENT, OR HID WALL WASHER LIGHT FIXTURE CEILING MTD, REFER TO LUMINAIRE SCHEDULE
	INCANDESCENT, LED, FLUORESCENT, OR HID FIXTURE CLG. OR WALL MTD, REFER TO LUMINAIRE SCHEDULE
	LED, FLUORESCENT, OR HID FIXTURE WITH EMERGENCY BATTERY PACK. CLG. OR WALL MTD, REFER TO LUMINAIRE SCHEDULE
	EXIT LIGHT, CEILING OR WALL MOUNTED - SHADING INDICATING SINGLE OR DOUBLE FACE; DIRECTIONAL ARROWS AS INDICATED REFER TO LUMINAIRE SCHEDULE
	EXIT LIGHT SAME AS ABOVE. EXCEPT WITH AN EMERGENCY UNIT AS A COMBO, REFER TO LUMINAIRE SCHEDULE
	CEILING FAN
	STRIP UTILITY LIGHT FIXTURE, REFER TO LUMINAIRE SCHEDULE
	STRIP UTILITY STRIP LIGHT WITH EMERGENCY BATTERY PACK, REFER TO LUMINAIRE SCHEDULE
$	WALL SWITCH SPST, 20A,120/277V
$2	DOUBLE POLE TOGGLE SWITCH, 20A/120/277V
$3	3-WAY WALL SWITCH, 20A,120/277V
$4	4-WAY WALL SWITCH, 20A,120/277V
$D	WALL DIMMER SWITCH
$P	WALL SWITCH SPST, 20A,120/277V - PILOT LIGHT SWITCH
$X K	WALL SWITCH SPST, 20A,120/277V - KEYED SWITCH, X = 3 OR 4 WAY

ELECTRICAL LEGEND-SPECIAL SYTEMS

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	
	WALL MOUNTED COMMUNICATION (TELEPHONE/DATA) OUTLET. FURNISH AND INSTALL 1.25"C., WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING. +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
	WALL MOUNTED TELEPHONE OUTLET. FURNISH AND INSTALL 1"C , WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING. +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
	WALL MOUNTED DATA OUTLET. FURNISH AND INSTALL 1.25"C , WITH PULLSTRING AND INSULATED BUSHING, STUBBED ABOVE CEILING. +24" UNLESS OTHERWISE NOTE. BOX TO BE MINIMUM 2 1/8" DEEP.	
P	PUBLIC TELEPHONE OUTLET.: J-BOX & 1"C	
TV TV	TELEVISION OUTLET. CLG. OR WALL MOUNTED - STUB 1" C. ABOVE CEILING FROM OUTLET BOX	
	PUSHBUTTON WALL MOUNTED.	
av	AUDIO VIDEO BOX AND CONDUIT. REFER TO DETAIL	
CS CS	INTERCOM - CALL SWITCH- JBOX WITH 3/4"C	
S	INTERCOM/PAGING LAY-IN SPEAKER - JBOX WITH 3/4"C	
P	PA EXTERIOR SPEAKER - JBOX WITH 3/4"C	10'-6" AFF
DC	SECURITY DOOR CONTACT SENSOR - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
MD	SECURITY MOTION DETECTOR SENSOR,MFR.DMP#MX-40 - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
G	SECURITY GLASS BREAK SENSOR - STUB 1/2"C ABOVE CEILING FROM OUTLET BOX	
KP	SECURITY KEY PAD, MFR.DMP#7070 - STUB 3/4"C ABOVE CEILING FROM OUTLET BOX	
SEC	SECURITY PANEL JUNCTION BOX	54"
ACS	ACCESS CONTROL PANEL,MFR.DMP#550N	54"
CR	CARD READER BOX, MFR.DMP#MP-5365 - STUB 3/4"C ABOVE CEILING LEVEL FROM OUTLET BOX SYSTEM BY OTHERS	----
ML	MAGNETIC LOCK BOX - STUB 3/4"C ABOVE CEILING LEVEL FROM OUTLET BOX SYSTEM BY OTHERS	----
S	INTRUSION EXTERIOR SPEAKER - JBOX WITH 3/4"C	10'-6" AFF
C	SINGLE SIDED CLOCK, DIGITAL CLOCK- J-BOX W/3/4"C	96" AFF MIN.
C	DOUBLE SIDED CLOCK,DIGITAL CLOCK -J-BOX W/3/4"C	96" AFF MIN.
	INTERIOR CAMERA J-BOX W/ 1" CONDUIT	----
WP	EXTERIOR CAMERA J-BOX W/ 1" CONDUIT	----
	360° CLG. MTD. CAMERA - J-BOX WITH 1"C	----
	TELEPHONE BOARD- 3/4"x8' FIRE RATED	----
WAP	WIRELESS ACCESS POINT BY OWNER	----
TCT	CLASSROOM AUDIO SYSTEM, RE: SPECIFICATIONS#17200	CLG.

ELECTRICAL LEGEND-FIRE ALARM

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
F	FIRE ALARM PULL STATION: STUB 3/4"C ABOVE CEILING FROM J-BOX
AV	FIRE ALARM AUDIBLE/VISUAL SIGNAL: STUB 3/4"C ABOVE CEILING FROM J-BOX
V	FIRE ALARM VISUAL SIGNAL: STUB 3/4"C ABOVE CEILING FROM J-BOX
V_S	FIRE ALARM CEILING MOUNT SPEAKER STROBE, UL LISTED, : J-BOX WITH 3/4"C
VS	FIRE ALARM CEILING WALL MOUNT OUTDOOR SPEAKER STROBE, UL LISTED, : J-BOX WITH 3/4"C
S S	FIRE ALARM SMOKE DETECTOR CEILING OR WALL MOUNTED: STUB 3/4"C ABOVE CEILING FROM J-BOX
H	HEAT DETECTOR CEILING OR WALL MOUNTED: STUB 3/4"C ABOVE CEILING FROM J-BOX
S D	DUCT SMOKE DETECTOR: STUB 3/4"C ABOVE CEILING FROM J-BOX
SD A	SMOKE DETECTOR WITH AN AUDIBLE BASE: STUB 3/4"C ABOVE CEILING FROM J-BOX
FACP	FIRE ALARM CONTROL PANEL, ADDRESSABLE, SURFACE MTD UNO, INCLUDE A FIRE DOCUMENT BOX EQUAL TO MFR. SPACE AGE ELECTRONICS #FDB-ACE-11.
FACP-EVS	FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE SYSTEM, ADDRESSABLE, FLUSH MTD UNO, INCLUDE A FIRE DOCUMENT BOX EQUAL TO MFR. SPACE AGE ELECTRONICS #FDB-ACE-11.
EVES	FIRE ALARM EMERGENCY VOICE EVACUATION SYSTEM, FLUSH OR SURFACE.
FAAP	FIRE ALARM REMOTE ANNUNCIATOR PANEL, FLUSH MOUNTED UNO
PAD-X	POWER SUPPLY, DEDICATED 110V
DH	DOOR HOLDER DEVICE: STUB 3/4"C ABOVE CEILING FROM J-BOX
TS	TAMPER SWITCH: STUB 3/4"C ABOVE CEILING FROM J-BOX
FS	FLOW SWITCH: STUB 3/4"C ABOVE CEILING FROM J-BOX
F	FIRE ALARM OUTDOOR SPEAKER, WEATHER PROOF: STUB 3/4"C ABOVE CEILING FROM J-BOX

ELECTRICAL LEGEND-GENERAL

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	HEAVY DUTY DISCONNECT SWITCH FUSED
	HEAVY DUTY DISCONNECT SWITCH NONFUSED
	HEAVY DUTY COMBINATION DISCONNECT/MOTOR STARTER
	HEAVY DUTY MOTOR STARTER
	ENCLOSED BREAKER, RE: TO SCH. FOR MORE INFO.
R	ROTARY TYPE DISCONNECT SWITCH
$M	120/277-208/480V,20AMP, MOTOR RATED SWITCH, NEMA-1(INTERIOR) ENCLOSURE, NEMA-3R(EXTERIOR) ENCLOSURE. VOLTAGE TO BE SELECTED PER EQUIPMENT CIRCUIT REQUIREMENTS.
	MOTOR
	PANELBOARD, CLEARANCE AS PER LATEST NEC
	SWITCH LEG
	ELECTRICAL CONDUIT
	UNDERGROUND ELECTRICAL CONDUIT
c	COMMUNICATION CONDUIT AND WIRING
X, X, X	MULTI-POLE DEVICE CIRCUIT NUMBERS
X/X/X	THREE SINGLE POLE DEVICE CIRCUIT NUMBERS
A-1	CONDUIT AND WIRE HOMERUN TO PANEL. SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATES OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
A-1	UNDERGROUND CONDUIT AND WIRE HOMERUN TO PANEL. SHORT HATCH INDICATES NEUTRAL CONDUCTOR, LONG HATCHES INDICATE PHASE CONDUCTORS, AND LONG HATCH WITH CIRCLE INDICATES ISOLATED OR INSULATED GROUND. ALPHANUMERIC DESCRIPTION INDICATES PANEL AND BREAKER.
#	DETAIL NUMBER
#	SHEET NUMBER
T S	THERMOSTAT WALL MOUNTED - STUB 3/4"C ABOVE CEILING FROM OUTLET BOX. COORDINATE EXACT LOCATION AND HEIGHT WITH MECHANCIAL DIVISION.
J J	JUNCTION BOX - SIZE & MOUNTING AS REQUIRED MINIMUM OF 4" SQUARE
PC	PHOTO CELL(MFR.INTERMATIC #K4136M)
LC	LIGHTING CONTACTOR, NEMA-1, W/H.O.A. SWITCH
TC	TIME CLOCK (MFR.TORK#7202Z)
CP-1	CIRCULATING PUMP
$	ELECTRICAL DEVICE AS SHOWN ON PLANS SURFACE MOUNT RACEWAY. SURFACE MOUNT RACEWAY SHALL BE WIREMOLD #V700 SERIES. PROVIDE ALL RELATED #V700 SERIES ACCESSORIES FOR AN OPERABLE SYSTEM.

ELECTRICAL ABBREVIATIONS:

ABBV:	DESCRIPTION	ABBV:	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	MFR. (S.C.)	MANUFACTURER SHARE CIRCUIT
BFC	BELOW FINISHED CEILING	QRCPT(S)	QUAD RECEPTACLE(S)
C	CONDUIT	RCPT(S)	DUPLEX RECEPTACLE(S)
CB	CIRCUIT BREAKER	CRCPT(S)	I.G. RECEPTACLE(S)
EC	EMPTY CONDUIT	QCRCPT(S)	QUAD I.G. RECEPTACLE(S)
EX	EXISTING	PNL	PANEL
F	FUSE	SO (S.O.)	SPACE ONLY
G	GROUND (EQUIPMENT)	SP	SPARE
GFI	GROUND FAULT INTERRUPTER	ST (S.T.)	SHUNT TRIP
MTD	MOUNT OR MOUNTED	SW	SWITCH
NF	NONFUSED	UF	UNDERFLOOR
NIC	NOT IN CONTRACT	UG	UNDERGROUND
H.D	HEAVY DUTY	UNO(U.N.O.)	UNLESS NOTED OTHERWISE
NL	NIGHT LIGHT	WG	WIRE GUARD
AC	ABOVE COUNTER	WP	WEATHERPROOF
HT.	HEIGHT	XFMR	TRANSFORMER
MTD.	MOUNTING	MB	MAIN BREAKER
FDR.	FEEDER	MLO	MAIN LUGS ONLY
CKT.	CIRCUIT	RMC	RIGID METAL CONDUIT
LTG.	LIGHTING	RNC	RIGID NONMETALLIC CONDUIT
LC	LIGHTING CONTACTOR	EMT	ELECTRICAL METALLIC TUBING CONDUIT
IG	ISOLATED GROUND	S/N	SOLID NEUTRAL
EA.	EACH	AC	ABOVE COUNTER
N1	NEMA-1	AHJ	AHUTHORITY HAVING JURISDICTION
N3R	NEMA-3R	T	TAMPER PROOF
N4X	NEMA-4X		
SS	STAINLESS STEEL		

NOTES:

1.) 48" AFF INDICATES TO TOP OF DEVICE:
15" AFF INDICATES TO BOTTOM OF DEVICE:
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.
AC INDICATES 6" ABOVE COUNTER TO BOTTOM OF DEVICE.

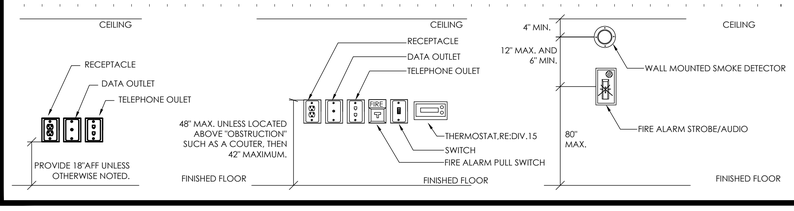
ELECTRICAL LEGEND - WIRING DEVICES

---ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

	SINGLE RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R
	DUPLEX RECEPTACLE - 20A/125V/2P/3W/G NEMA 5-20R
T	DUPLEX RECEPTACLE TAMPER RESISTANT - 20A/125V/2P/3W/G NEMA 5-20R
H / H	HOSPITAL GRADE DUPLEX RECEPTACLE/GFI - 20A/125V/2P/3W/G NEMA 5-20R
	DUPLEX RCPT, GFI - 20A/125V/2P/3W/G NEMA 5-20R
WP/ IN-USE	DUPLEX RCPT.,WEATHER RESISTANT "WR", GFI INSTALLED IN A "IN-USE" WEATHER PROOF STEEL ENCLOSURE- 20A/125V/2P/3W/G NEMA 5-20R WP/IN-USE SHALL BE EQUAL TO MFR. CARLON, METALLIC SERIES SINGLE GANG, VERTICAL MOUNT #ME9UVMG DOUBLE GANG, VERTICAL MOUNT #ME9U2VMG
	QUADRAPLEX RECEPTACLE
	ISOLATED GROUND QUADPLEX RECEPTACLE
	ISOLATED GROUND DUPLEX RECEPTACLE - 20A/125V NEMA 5-20R
	208V RECEPTACLE, VERIFY NEMA NO. WITH EQUIPMENT SUPPLIER
Y	SPECIAL PURPOSE RECEPTACLE (NEMA NO. AS INDICATED)
HD	J-BOX - AIR HAND DRYER: (RECESSED HAND DRYERS TO BE PROVIDED BY DIVISION 16, ELECTRICAL)#B-750 AUTOMATIC HANDCRAFT AS MANUFACTURER BY BOBBRICK. (COLOR WHITE) QUANTITY: REFER TO DRAWINGS (MIN. ONE PER LAV. COMPLETE W/ ELE. CONNECTIONS TYP.)
	4-GANG FLOOR MOUNTED BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)/2-GANG FOR DATA - FLUSH MOUNTED UNO FLOOR BOX = MFR.-HUBBELL MODEL#CFB4G30CR-24GCVRNK(COVER)-(2)FBMPDUP-FBMP6KS -CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6G	6-GANG FLOOR MOUNTED BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)/2-GANG FOR DATA - FLUSH MOUNTED UNO FLOOR BOX = MFR.-HUBBELL MODEL#CFB6G30CR-CFBS1R8CVRALU(COVER)-(3)FBMPDUP-FBMP6KS -CFBHB2(MULTISERVICE STEEL RECESSED FLOOR BOX-VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6P	6" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)- MFR.-HUBBELL MODEL#S1R6PTFIT-S1R6SPE-S1R6SPL-S1R6SPH(50/50 DEVICE PLATE COMBINATION)-S1R6CVRALU(COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.
6JP	6" FIRE RATED POKE-TRHOUGHS BOX, FURNITURE FEED,- MFR.-HUBBELL MODEL#S1R6PTFFALU(ALUMINUM COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER.
8P	8" FIRE RATED POKE-TRHOUGHS BOX, 2-DUPLEX RECEPTACLE(INCLUDE RECEPTACLE WITH COVER PLATE)- MFR.-HUBBELL MODEL#S1R8PTFIT3-S1R8CSPK-S1R8CSPK-S1R8PSP2(50/50 DEVICE PLATE COMBINATION)-S1R8CVRALU(COVER) -VERIFY FLOOR FINISH PRIOR TO ORDER SAME BOX FOR DATA OUTLETS.

MOUNTING HEIGHT DETAIL

NOTE: VERIFY WITH ARCHITECTURAL FOR **ADA REQUIREMENTS.**



GENERAL ELECTRICAL NOTES

1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.
2. USE DIRECTIONAL ARROW ON EXIT SIGNS AS REQUIRED.
3. IEEE STANDARD C37.2-1991, ELECTRICAL POWER SYSTEM DEVICE FUNCTION NUMBERS.
4. CONTRACTOR SHALL NOT INSTALL MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A COMMON RACEWAY. IF CONTRACTOR IS PLANNING ON GROUPING MULTIPLE CIRCUITS IN A SINGLE RACEWAY, THE CONTRCATOR MUST SUBMIT ALL DERATING CALCULATIONS FOR THE PROPOSED INSTALLATION IN ACCORDANCE WITH NEC ARTICLE 310.15 (B) (2) FOR APPROVAL PRIOR TO INSTALLATION. NON APPROVED INSTALLATIONS WILL BE REMOVED AND REINSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE NEC AT NO ADDITIONAL COST TO THE OWNER.
5. THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF THREE 90° BENDS (270 DEGREES TOTAL) BETWEEN PULL POINTS. WHERE THERE ARE MORE THAN THREE QUARTER BENDS, CONTRACTOR SHALL PROVIDE PULL BOXES AS SPECIFIED AND SIZED IN ACCORDANCE WITH NEC.
6. COMPLY WITH NEC REQUIREMENTS FOR ELECTRICAL INSTALLATIONS. ALL ELECTRICAL EQUIPMENT AND MATERIAL TO BE APPROVED, LISTED, LABELED, IDENTIFIED AND INSTALLED PER RECOGNIZED ELECTRICAL TESTING LABORATORY.
7. ALL RECEPTACLES, SWITCHES AND JUNCTION BOXES SERVED BY EMERGENCY BRANCH CIRCUITS SHALL BE "RED" IN COLOR. COVERPLATES SHALL BE LABELED IN ACCORDANCE WITH SPECIFICATIONS TO INDICATE PANELBOARD AND CIRCUIT NO. (IE: ET*LA-3).

ELECTRICAL: LIGHTING FUNCTIONAL TESTING / COMMISSIONING PLAN:

CONTRACTOR SHALL PERFORM THE TASK BELOW TO COMMISSION THE LIGHTING CONTROL SYSTEM. CONTRACTOR SHALL SUBMIT A DOCUMENTATION DETAILING THE LIGHTING CONTROL SYSTEM, SETTING/CONDITION, ACTIONS PERFORMED AND FINAL SETTING CONDITION. SUBMIT DOCUMENTATION AT OR BEFORE SUBSTANTIAL COMPLETION TO FACILITATE OBTAINING THE CERTIFICATE OF OCCUPANCY.

A. ENSURE ALL LIGHTING FIXTURES FIXTURES HAVE LAMPS INSTALLED AND ARE FUNCTIONAL.
B. TEST ALL EXIT SIGNS, EMERGENCY LIGHTING FIXTURES, AND EMERGENCY BALLASTS FURNISHED INTEGRAL TO FIXTURES.
C. ENSURE ALL OCCUPANCY SENSORS HAVE BEEN INSTALLED AND ARE OPERATIONAL.
D. VERIFY ALL WALLBOX AND SCENE CONTROLLERS ARE INSTALLED AND OPERATIONAL.
E. TEST EACH INDIVIDUAL DEVICE FOR OCCUPANCY SENSOR TYPES OS1, OS2 AND TEST THE LIGHTING CONTROL RELAY PANEL SYSTEM.
F. TEST 10% OF ALL THE DEVICES FOR OCCUPANCY SENSOR TYPE: WSX-PDT-SA.
G. VERIFY THE FOLLOWING:
1. ALL SENSORS ARE LOCATED AND AIMED PER THE MANUFACTURER'S RECOMMENDATIONS.
2. STATUS INDICATORS ON DEVICES ARE OPERATIONAL AND CORRECT.
3. DEVICES CONTROL LIGHTING FIXTURES AS INDICATED ON DRAWINGS.
4. TIME DELAYS HAVE BEEN SET AS PER CODE AND PER OWNERS DIRECTIONS.
5. MOVEMENT IN ADJACENT AREAS AND/ CYCLING OF HVAC SYSTEMS DOES NOT FALSE TRIGGER SENSORS.
6. PHOTOCELL LOCATION AND AIMED PER MANUFACTURERS RECOMMENDATIONS.
7. PROGRAM INTERIOR RELAYS WITH A TIME FUNCTION ACCEPTABLE TO OWNER.
8. PROGRAM INTERIOR OVERRIDE SWITCH WITH A TIME FUNCTIONAL ACCEPTABLE BY OWNER.

EXISTING SPECIAL SYSTEMS
FIRE ALARM SYSTEM - EDWARDS EST3 - NEW EST3 VOICE EVAC FIRE ALARM SYSTEM SHALL INTERFACE WITH EXSITING FIRE ALARM SYSTEM. INTERCOM/PA SYSTEM - DUKANE MCS350 - NEW INTERCOM SYSTEM SHALL INTERFACE WITH EXISTING. HVAC CONTROLS - REFER TO DIVISION -15 SECURITY INTRUSION SYSTEMS - DMP # XR500N - NEW SECURITY INTRUSION SYSTEM SHALL INTERFACE WITH EXISTING.
NOTES: 1. ALL SPECIAL SYSTEMS CONDUIT SHALL INCLUDE MULTIPLE PULLSTRINGS. 2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SPECIAL SYSTEMS CONDITIONS PRIOR TO BID DATE. INCLUDE ALL COST IN BID FOR A COMPLETE OPERABLE CODE COMPLIANT SYSTEMS. 3. SPECIAL SYSTEM CONTRACTORS SHALL BE CERTIFIED VENDOR/INSTALLER OF THE EXISTING MANUFACTURER. CONTRACTOR SHALL PROVIDE PROOF IN SUBMITTAL PHASE.

LIGHTING CONTROL SENSORS LEGEND

SYMBOL	ACUITY MODEL NUMBER	CONDUIT	COMMENTS
OS	NCM-PDT-9	3/4"C	PROVIDE POWER PACK POSITIONED AS DIRECTED BY MANUFACTURER. REFER TO PLANS FOR TYPE OF POWER PACK. REFER TO PLANS AND SCHEDULES FOR SWITCHING TYPES.
$OS2	WSX-PDT-SA	3/4"C	
nP	nPP16	3/4"C	POWER PACK, 120,240,277, VAC, 16AMPS/POLE, PLENUM RATED, RELAY CONTACT PROTECTION, RJ-45 PORT
nP D	nPP16 D	3/4"C	POWER PACK, 120,240,277, VAC, 16AMPS/POLE, 0-10VDC DIMMING, PLENUM RATED, RELAY CONTACT PROTECTION, RJ-45 PORT
$SW1	NPODM DX	3/4"C	
$SW2	NPODM 2P DX	3/4"C	
$ TS	NPODM 4S	3/4"C	
$ K	LEVITON KEYED SWITCH	3/4"C	VERIFY WITH DISTRICT STANDARDS
LCP	BLUE BOX LT	RE: PLANS	LIGHTING CONTROL RELAY PANEL, REFER TO RELAY PANEL SCHEDULE.

GENERAL NOTES:
A. CONTRACTOR SHALL REFER TO MANUFACTURERS INSTRUCTIONS AND WIRING DIAGRAMS PRIOR TO BID DATE.
B. CONTRACTOR SHALL INCLUDE ALL COST IN BID FOR AN OPERABLE LIGHTING SYSTEM.
NOTES:

1. All sensor locations are approximate, refer to manufacturers installation instructions prior to installation.
2. Ultrasonic ceiling mount sensors should be located a minimum of six feet from HVAC supply/return vents.
3. Contractor is responsible for: proper sensitivity & time delay settings (for non-adaptive products) recommended placement, and field verification of circuits with in respect to power placement.
4. Contractor is responsible for field verification of required number of power packs:
   - One power pack is required for each circuit to be controlled.
   - One power pack is required for every three sensors in the zone.
   - If multiple circuits are to be controlled by a sensor, an auxiliary relay can be used in conjunction with the power pack.
   - The maximum number of sensors that can be put on a power pack is to be reduced by one for each slave pack used.
5. Sensors mounted over the door must be placed one foot inside the threshold.
6. Contractor is responsible for ensuring that the sensor bill of materials complies with the sensor design and layout specifications.
7. Contractor is responsible for installing equipment in compliance with local code.
8. Refer to manufacturers wiring diagrams.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
REGISTERED PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

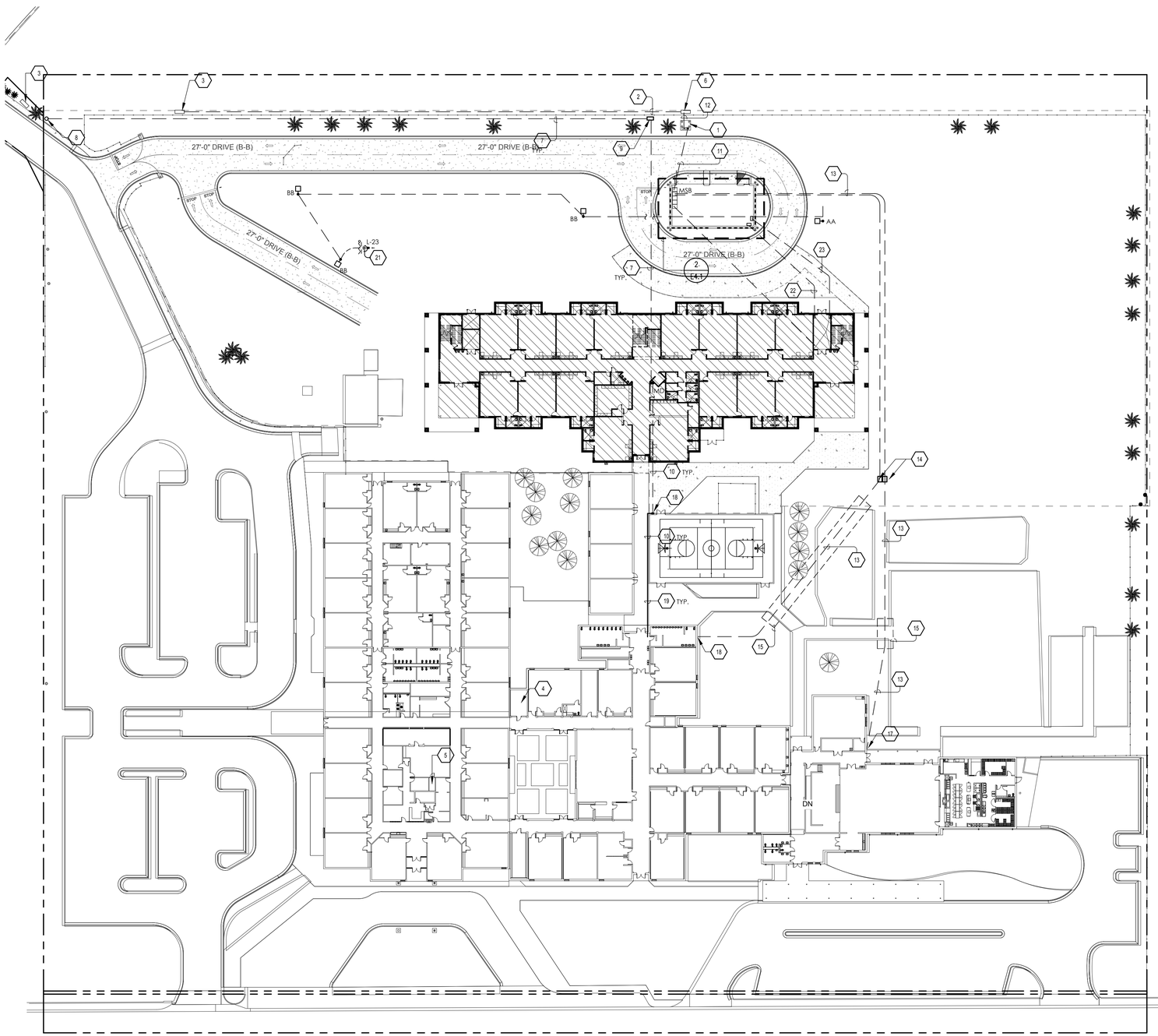
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:00:10 pm
STARTING DATE: 05/21/2018
CK BY: --- DWN BY: ---

ELECTRICAL

E0.0



ELECTRICAL OVERALL-SITE PLAN (1)

SCALE: 1" = 30'-0"

GENERAL ELECTRICAL NOTES (TO ALL SHEETS)

A. CONTRACTOR TO VERIFY ALL EXISTING MAIN POWER SERVICES AND COORDINATE WITH POWER COMPANY FOR ALL NEW REQUIREMENTS AND ALL COST ASSOCIATED. CONTRACTOR SHALL INCLUDE ANY COST FOR THE NEW TRANSFORMER AND OTHER ASSOCIATED FEES IN BID. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL FEES WITH POWER COMPANY AND TO INCLUDE IN BID. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH POWER COMPANY AS SOON THE CONTRACT IS AWARDED TO ORDER TRANSFORMER AND THE RELATED ELECTRICAL SERVICE EQUIPMENT AS SOON AS POSSIBLE.

B. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, TRENCHING AND BACKFILLING. COORDINATE WITH ALL UTILITIES PRIOR TO EXCAVATION.

C. CONTRACTOR TO VERIFY ALL EXISTING MAIN TELEPHONE SERVICES AND COORDINATE WITH TELEPHONE COMPANY FOR ALL REQUIREMENTS AND ALL COST ASSOCIATED, INCLUDE ALL COST IN BID. CONDUIT FROM MAIN TELEPHONE RISER SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

D. ALL ELECTRICAL EQUIPMENT OUTDOORS SHALL BE RATED TYPE NEMA 3R UNLESS OTHERWISE NOTED.

E. CONTRACTOR SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES. ALL WORK SHALL CONFORM TO NATIONAL ELECTRICAL CODES AND ALL OTHER AUTHORITY HAVING JURISDICTION. OBTAIN PERMITS AND PAY ALL FEES. PERFORM MODIFICATIONS TO MEET CODE AND ORDINANCE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER, ARCHITECT OR ENGINEER. VERIFY PRIOR TO BID DATE.

F. VERIFY AT JOB SITE THE EXACT LOCATIONS OF STRUCTURAL MEMBERS SUCH AS BEAMS, COLUMNS, ETC. TO LOCATE EQUIPMENT CONDUIT, PANELS AND DEVICES. IF DEVIATIONS FROM THE DRAWING ARE NECESSARY TO MEET STRUCTURAL CONDITIONS MAKE DEVIATIONS WITHOUT ADDITIONAL COST, TO OWNER, ARCHITECT, OR ENGINEER.

G. IN COOPERATION WITH OTHER CONTRACTORS, DETERMINE THE EXACT LOCATION OF EQUIPMENT AND DEVICES AND CONNECTIONS THERETO BY REFERENCE TO THE SUBMITTALS AND ROUGH-IN DRAWINGS, AND BY MEASUREMENTS AT THE SITE. REFER TO ALL OTHER TRADES SUBMITTAL FOR ELECTRICAL INFORMATION.

H. GROUND ENTIRE ELECTRICAL SYSTEM IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

I. VERIFY AT JOB SITE GENERAL WORK TO BE DONE AS SPECIFIED, AS NOTED, OR AS REQUIRED FOR INSTALLATION ELECTRICAL SYSTEMS PRIOR TO SUBMISSION OF BIDS.

J. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND EQUIPMENT TO BE REMOVED AND REPLACED BEFORE SUBMITTING HIS BID.

K. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SMALL SCALE ONLY. THEY CONVEY THE INTENT OF THE WORK BUT DO NOT SHOW DETAIL SUCH AS JUNCTION AND PULL BOXES REQUIRED BY THE SPECIFICATIONS AND THE NATIONAL ELECTRICAL CODE(NEC). PROVIDE ALL MATERIALS AND METHODS CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED IN THE NEC TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK.

L. ALL WIRING SHALL BE COPPER.

M. ALL SLEEVES, PENETRATIONS, ETC. SHALL BE SEALED SOLID NON-SHRINKING MATERIAL IMMEDIATELY UPON FILLING OF THE OPENING WITH PIPE OR CONDUIT.

N. ARRANGE FOR SOURCES OF TEMPORARY CONSTRUCTION SERVICES. SUCH SERVICES SHALL BE NOMINALLY 120/240V, 1-PHASE, 3-WIRE FROM WHICH A COMPLETE SYSTEM OF TEMPORARY POWER AND LIGHTING SHALL BE PROVIDED FOR ALL CONSTRUCTION NEEDS.

O. CONTRACTOR IS RESPONSIBLE TO VERIFY AND COORDINATE WITH EXISTING/NEW UNDERGROUND UTILITIES PRIOR TO ANY WORK.

P. CONTRACTOR IS RESPONSIBLE CALL DIG-TESS; 1-1800-DIG-TESS 2-BUSINESS DAYS IN ADVANCE.

KEYED NOTES: ELECTRICAL

1. NEW POWER COMPANY PAD MOUNTED TRANSFORMER. PROVIDE CONCRETE PAD PER POWER COMPANY STANDARDS. COORDINATE COST AND INSTALLATION WITH POWER COMPANY PRIOR TO BID DATE. COORDINATE EXACT LOCATION WITH POWER COMPANY PRIOR TO ANY ROUGH-IN.
2. CONTRACTOR TO PROVIDE AND INSTALL (1)-4" PVC CONDUIT FROM EXISTING POWER COMPANY PULLSTATION TO NEW PAD MOUNT TRANSFORMER. ALL UNDERGROUND WORK SHALL BE ACCORDING TO POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS WITH THE POWER COMPANY BEFORE ANY ROUGH-IN. COORDINATE LOCATION, COST, AND INSTALLATION WITH POWER COMPANY PRIOR TO BID.
3. EXISTING AEP PULLSTATION. FIELD VERIFY EXISTING CONDITIONS.
4. EXISTING MDF ROOM LOCATION.
5. EXISTING INTERCOM SYSTEM EXISTING LOCATION.
6. NEW POWER COMPANY PULLSTATION. COORDINATE EXACT LOCATION WITH AEP PRIOR TO ANY WORK.
7. CONTRACTOR TO PROVIDE AND INSTALL (3)-4"PVC CONDUIT FOR COMMUNICATION SERVICES(TELEPHONE, CABLE, FIBER, ETC...) EQUIPPED WITH PULLSTRING, AND TURNED UP AND CAPPED AT BOTH ENDS. DEPTH OF CONDUIT SHALL BE A MINIMUM OF 36". VERIFY ALL REQUIREMENTS WITH LOCAL UTILITIES BEFORE ROUGH-IN. COORDINATE EXACT LOCATION PRIOR TO ANY WORK.
8. NEW TELEPHONE PEDESTAL. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-INS.
9. PROVIDE NEW COMMUNICATION INGRADE PULLBOX. REFER TO DETAIL.
10. PROVIDE 3-2"C AND 1-4"C FOR COMMUNICATION.
11. CONTRACTOR TO PROVIDE AND INSTALL PVC CONDUIT FROM NEW UTILITY TRANSFORMER TO NEW ELECTRICAL SERVICE EQUIPMENT PER POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS PRIOR TO ANY ROUGH-IN. REFER TO ELECTRICAL RISER DIAGRAM.
12. CONTRACTOR TO PROVIDE AND INSTALL (1)-4" PVC CONDUIT FROM PROPOSED NEW UTILITY COMPANY POWER POLE WITH RISER DIP POLE TO NEW PAD MOUNT TRANSFORMER. ALL UNDERGROUND WORK SHALL BE ACCORDING TO POWER COMPANY STANDARDS. VERIFY ALL REQUIREMENTS WITH THE POWER COMPANY BEFORE ANY ROUGH-IN. COORDINATE LOCATION, COST, AND INSTALLATION WITH POWER COMPANY PRIOR TO BID.
13. CONTRACTOR TO PROVIDE AND INSTALL PVC CONDUIT FROM NEW ELECTRICAL SWITCHBOARD-MSB TO EXISTING BUILDINGS. REFER TO ELECTRICAL RISER DIAGRAM.
14. PROVIDE NEW INGRADE ELECTRICAL PULL BOX. SIZE BOX AS NEEDED FOR NUMBER OF CONDUITS.
15. CONTRACTOR SHALL INCLUDE ALL COST IN BID TO BORE UNDER EXISTING SURFACE FOR NEW CONDUITS.
16. CONDUITS STUB UP ALONG EXISTING WALL, LOCATION "A".
17. CONDUITS STUB UP ALONG EXISTING WALL, LOCATION "B".
18. STUB UP CONDUITS ALONG EXISTING WALL. PROVIDE J-BOXES AND ROUTE CONDUIT TO CANOPY CEILING LEVEL.
19. ROUTE CONDUITS BELOW CANOPY. PROVIDE CONDUIT SUPPORTS.
20. CORE DRILL EXISTING WALL FOR NEW CONDUITS SEAL AROUND CONDUIT OPENING.
21. SHALL BE CONTROLLED VIA LCP.
22. PROVIDE 2-2"C WITH PULLSTRINGS FOR HVAC CONTROLS. STUB UP ON BOTH ENDS 36"AFF AND PROVIDE J-BOXES FOR EACH RACEWAY LABELED FOR HVAC CONTROLS.
23. PROVIDE 2-2"C WITH PULLSTRINGS FOR COMMUNICATION. STUB UP ON BOTH ENDS 36"AFF AND PROVIDE J-BOXES FOR EACH RACEWAY LABELED FOR COMMUNICATION.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
REGISTERED PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:00:10 pM
STARTING DATE:	05/21/2018
CK BY: ---	DWN BY: ---

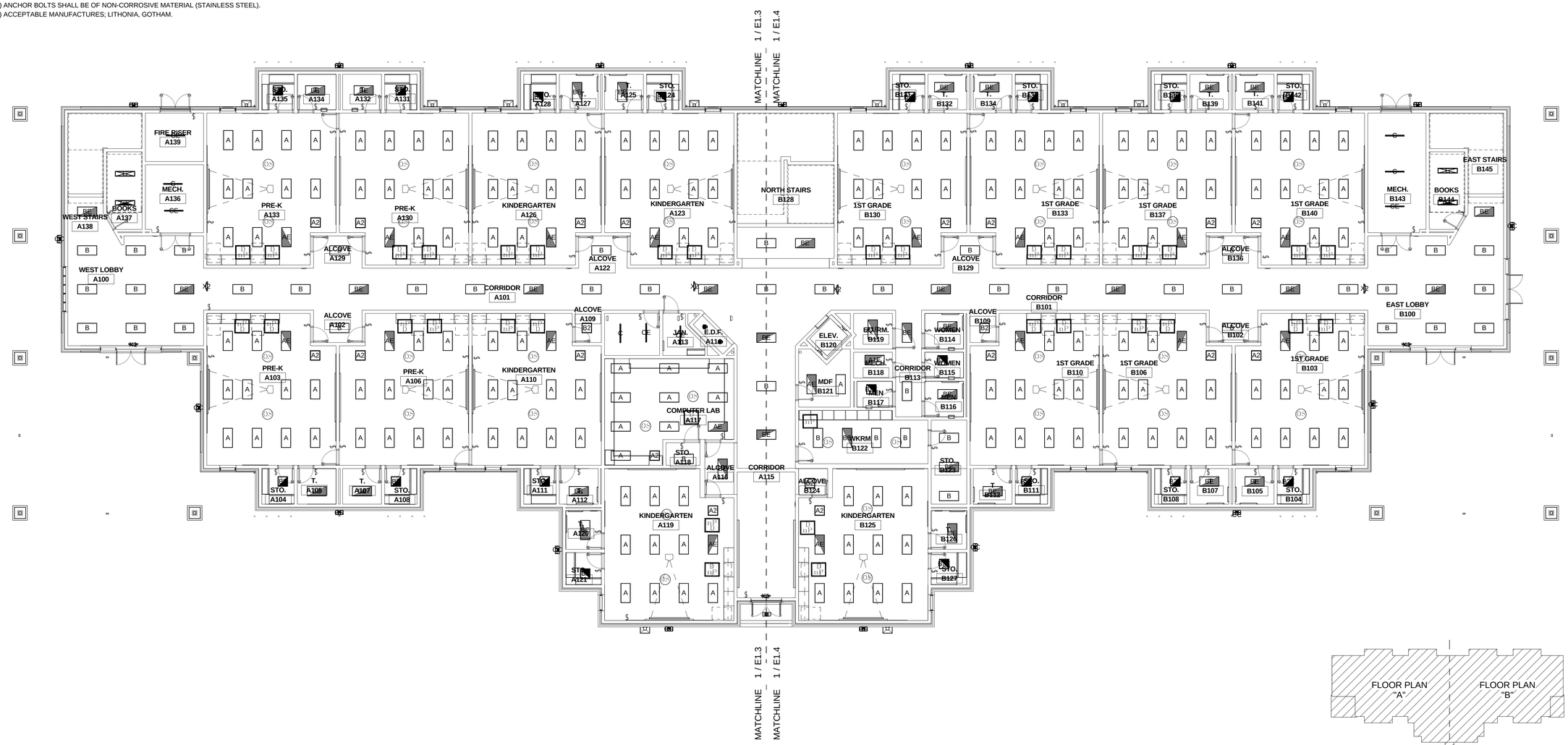
ELECTRICAL OVERALL- SITE PLAN

ES1.1

Light Fixture Schedule

Tag	Lamp	Voltage	Mounting	Description	Manufacturer	Model
A	LED (4327LM) (35W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL4-_-40L-_-MVOLT-EZ1-LP835-_-_
A1E	LED (4327LM) (35W)	120V	RECESSED	2X4 RECESSED LED TROFFER WITH LENS AND LED DRIVER AND EMERGENCY BATTERY BACKUP INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL4-_-40L-_-MVOLT-EZ1-LP835-_-EL14L-DGA24 FS/VT
A2	LED (4397LM) (39W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL2-_-40L-_-MVOLT-EZ1-LP835-_-_
A3E	LED (5474LM) (45W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER AND EMERGENCY BATTERY BACKUP INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL4-_-60L-_-MVOLT-EZ1-LP835-_-EL14L
AE	LED (4327LM) (35W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER AND EMERGENCY BATTERY BACKUP INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL4-_-40L-_-MVOLT-EZ1-LP835-_-EL14L
B	LED (4947LM) (40W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL4-_-48L-_-MVOLT-EZ1-LP835-_-_
B2	LED (4397LM) (39W)	120V	RECESSED	2X2 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES.	LITHONIA LIGHTING	2FSL2-_-40L-_-MVOLT-EZ1-LP835-_-_
B2E	LED (4397LM) (39W)	120V	RECESSED	2X2 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES. WITH EMERGENCY BATTERY BACKUP	LITHONIA LIGHTING	2FSL2-_-40L-_-MVOLT-EZ1-LP835-_-EL14L
BE	LED (4397LM) (40W)	120V	RECESSED	2X4 LAY-IN LED TROFFER WITH LENS AND LED DRIVER INCLUDE ALL NECESSARY MOUNTING ACCESSORIES. WITH EMERGENCY BATTERY BACKUP	LITHONIA LIGHTING	2FSL4-_-48L-_-MVOLT-EZ1-LP835-_-EL14L
C	LED (5047LM) (35W)	120V	SURFACE	4' LED STRIP LIGHT FIXTURE, 0-10V DRIVER, UL LISTED, WITH WIREGUARD	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MVOLT-GZ10-40K-80CRI
CE	LED (5047LM) (35W)	120V	SURFACE	4' LED STRIP LIGHT FIXTURE, 0-10V DRIVER, UL LISTED, WITH WIREGUARD WITH EMERGENCY BATTERY BACK UP.	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MVOLT-GZ10-40K-80CRI-PS1050-SPD
D	LED (1500LM) (XXW)	120V	RECESSED	6"LED OPEN DOWN- LUMINAIRE, SEMI-SPECULAR REFLECTOR, WITH 0-10V DRIVER	LITHONIA LIGHTING	LDN6_40/15_LO6AR_LSS-MVOLT-EZ10
F	LED (4500LM) (172W)	120V	SURFACE	14' LED WALL BRACKET SURFACE MOUNT LIGHT FIXTURE, 0-10V DRIVER, UL LISTED	FINELITE LIGHTING	HP-4-WM-ID-14'-H-H-840-F-F-120V-MB-SC-
FE	LED (4500LM) (172W)	120V	SURFACE	14' LED WALL BRACKET SURFACE MOUNT LIGHT FIXTURE, 0-10V DRIVER, UL LISTED. INCLUDE REMOTE BATTERY BACKUP	FINELITE LIGHTING	HP-4-WM-ID-14'-H-H-840-F-F-120V-MB-SC-(REMOTE BATTERY BACKUP)
G	LED (4799LM) (45W)	120V	SURFACE	4' LED WRAPAROUND FIXTURE WITH LENS AND LED DRIVER. COORDINATE ALL REQUIRED MOUNTING ACCESSORIES.	LITHONIA LIGHTING	LBL4-4000LM-80CRI-35K-MN1-GZT-MVOLT
GE	LED (4799LM) (45W)	120V	SURFACE	4' LED WRAPAROUND FIXTURE WITH LENS, LED DRIVER AND BATTERY BACKUP. COORDINATE ALL REQUIRED MOUNTING ACCESSORIES.	LITHONIA LIGHTING	LBL4-4000LM-80CRI-35K-MN1-GZT-MVOLT-EL14L
X1	INCLUDED	120V	SURFACE	THERMOPLASTIC EXIT/EMERGENCY UNIT WITH SELF-DIAGNOSTICS	DUAL-LITE	EVEURWEI-EVC
X2	INCLUDED	120V	SURFACE	THERMOPLASTIC EXIT/EMERGENCY UNIT WITH SELF-DIAGNOSTICS	LITHONIA LIGHTING	LHQM LED_-R SD
AA	1-LED (22513 LM) (207W)	208V	POLE	LED AREA POLE MOUNTED LIGHT FIXTURE, INCLUDE BASE COVER, RATED FOR WET LOCATIONS AND LOCAL EPA WIND RATINGS, INCLUDE ALL APPLICABLE MOUNTING ACCESSORIES AND LED DRIVERS. POLE AND FIXTURE EPA SHALL BE SIZED FOR 130MPH MINIMUM AND INCLUDE VIBRATION DAMPERS.	LITHONIA LIGHTING	FIXTURE MFR. LITHONIA DSX1-LED-P8-40K-TFTM-MVOLT-RPA--DNAXD POLE MFR. KW INDUSTRIES #RSP28-5.0-7-NA-DM10-BC-VD
BB	1-LED (17726 LM) (163W)	208V	POLE	LED AREA POLE MOUNTED LIGHT FIXTURE, INCLUDE BASE COVER, RATED FOR WET LOCATIONS AND LOCAL EPA WIND RATINGS, INCLUDE ALL APPLICABLE MOUNTING ACCESSORIES AND LED DRIVERS. POLE AND FIXTURE EPA SHALL BE SIZED FOR 130MPH MINIMUM AND INCLUDE VIBRATION DAMPERS.	LITHONIA LIGHTING	FIXTURE MFR. LITHONIA DSX1-LED-P6-40K-T2M-MVOLT-RPA--DNAXD POLE MFR. KW INDUSTRIES #RSP28-5.0-7-NA-DM10-BC-VD
CC	LED (3600LM) 4000K	120V	SURFACE	WALL MOUNTED FIXTURE RATED FOR WET LOCATION. FIXTURE SHALL BE MOUNTED 8'-0" A.F.F. COORDINATE WITH ALL DISCIPLINES AND ARCHITECTURAL DOCUMENTS PRIOR TO ROUGH-INS.	LITHONIA LIGHTING	TWR1-2-40K-MVOLT-_-_

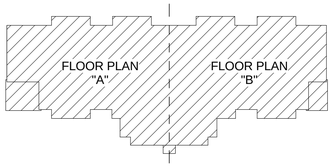
GENERAL NOTES:
1.) EQUAL MANUFACTURER SHALL BE ACCEPTABLE WITH EQUAL PERFORMANCE OF SPECIFIED EQUIPMENT AND APPROVED BY ENGINEER.
2.) SUBMIT EQUAL MANUFACTURERS TO ENGINEER 10 DAYS PRIOR TO BID DATE.
3.) SUBMIT LIGHT FIXTURES CUTSHEETS TO OWNER FOR APPROVAL PRIOR TO ORDER.
4.) CONTRACTOR SHALL VERIFY THAT ANY IRRIGATION SPRINKLER HEAD IS AWAY FROM ANY LIGHT POLE A MINIMUM OF 75' TO AVOID CONSISTENT WATER TO LIGHT POLE. COORDINATE WITH IRRIGATION CONTRACTOR PRIOR TO ANY WORK.
5.) ANCHOR BOLTS SHALL BE OF NON-CORROSIVE MATERIAL (STAINLESS STEEL).
6.) ACCEPTABLE MANUFACTURES; LITHONIA, GOTHAM.



ELECTRICAL LIGHTING PLAN - OVERALL 1ST FLOOR

3/32" = 1'-0"

1



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

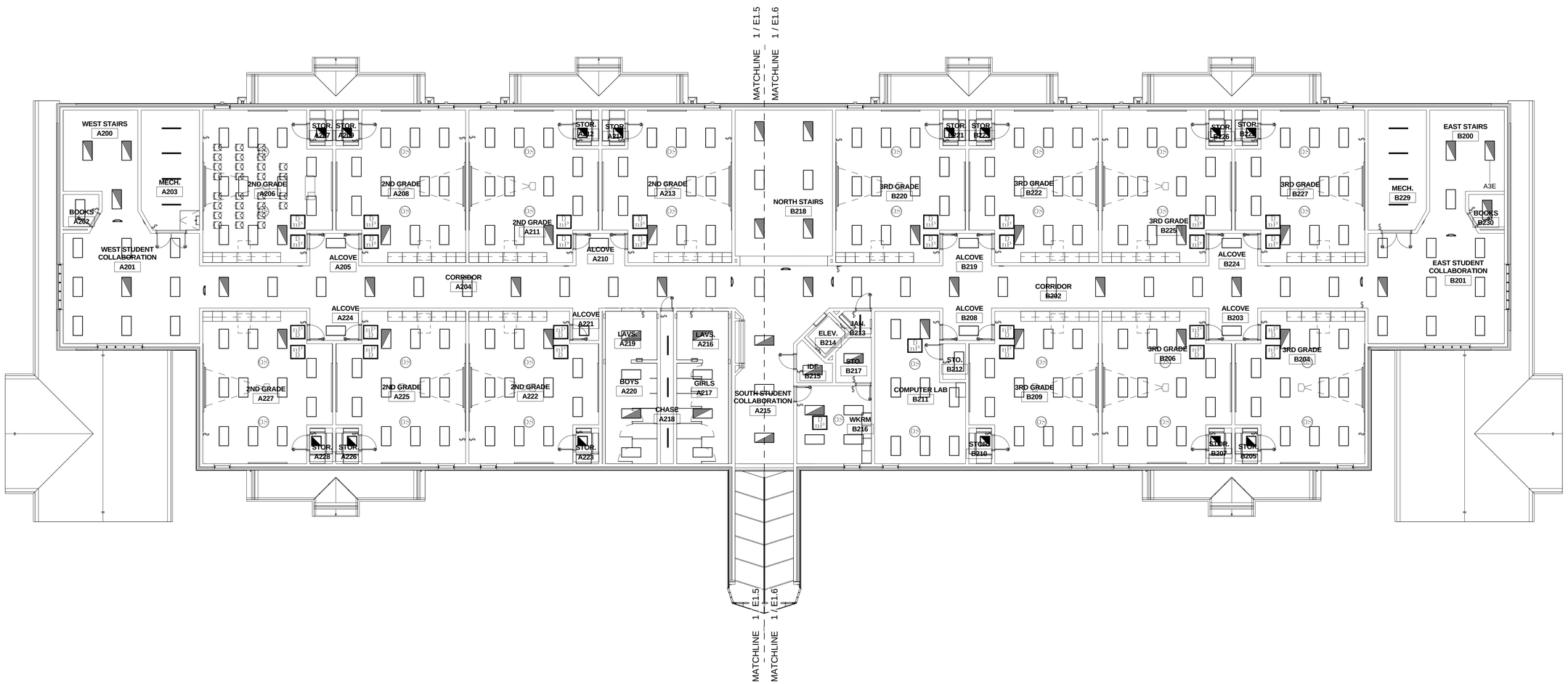
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:37:04 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

ELECTRICAL LIGHTING FLOOR PLAN 1ST FLOOR

E1.1



ELECTRICAL LIGHTING PLAN - OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:37:17 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ELECTRICAL LIGHTING FLOOR PLAN 2ND FLOOR

E1.2

GENERAL NOTES- LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.
A.ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.

B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.

C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.

D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.

E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

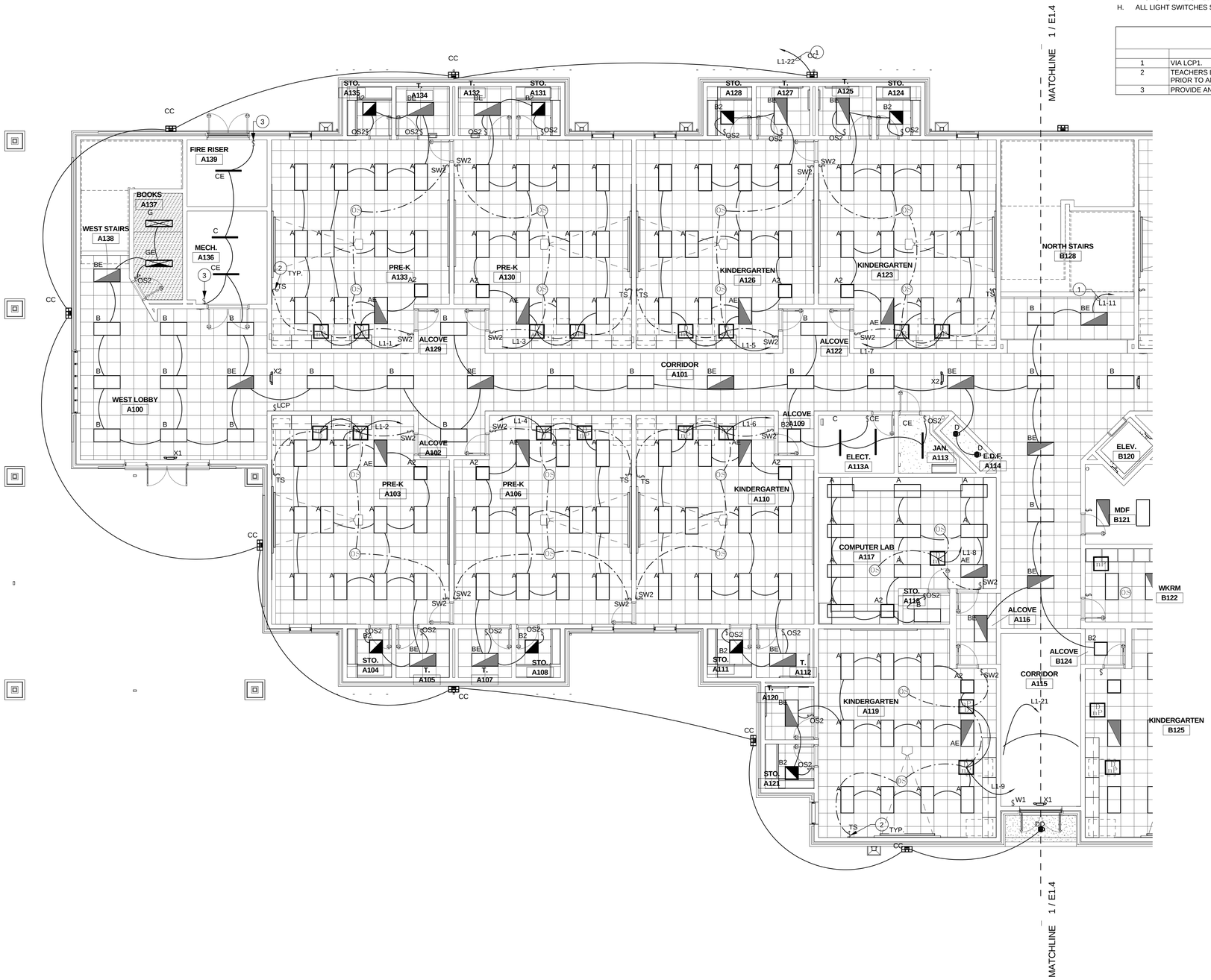
F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "L1-24" FOR ALL IN 1ST FLOOR AND "L2-22" FOR ALL ON 2ND FLOOR. FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.

G. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.

H. ALL LIGHT SWITCHES SHALL BE (10) TEN INCHES FROM DOOR OPENING.

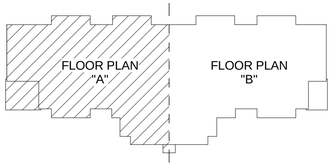
ELECTRICAL KEYNOTES

1	VIA LCP1.
2	TEACHERS LIGHTING WALL STATION LOCATION TO BE COORDINATED WITH ARCHITECT/OWNER PRIOR TO ANY ROUGH-IN.
3	PROVIDE AN OVERRIDE LIGHT SWITCH FOR LIGHTING CONTROL RELAY.



ELECTRICAL LIGHTING PLAN - 1ST FLOOR "A"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750 www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:37:29 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL LIGHTING PLAN "A" - 1ST FLOOR

E1.3

GENERAL NOTES- LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.
A.ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.

B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.

C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.

D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.

E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

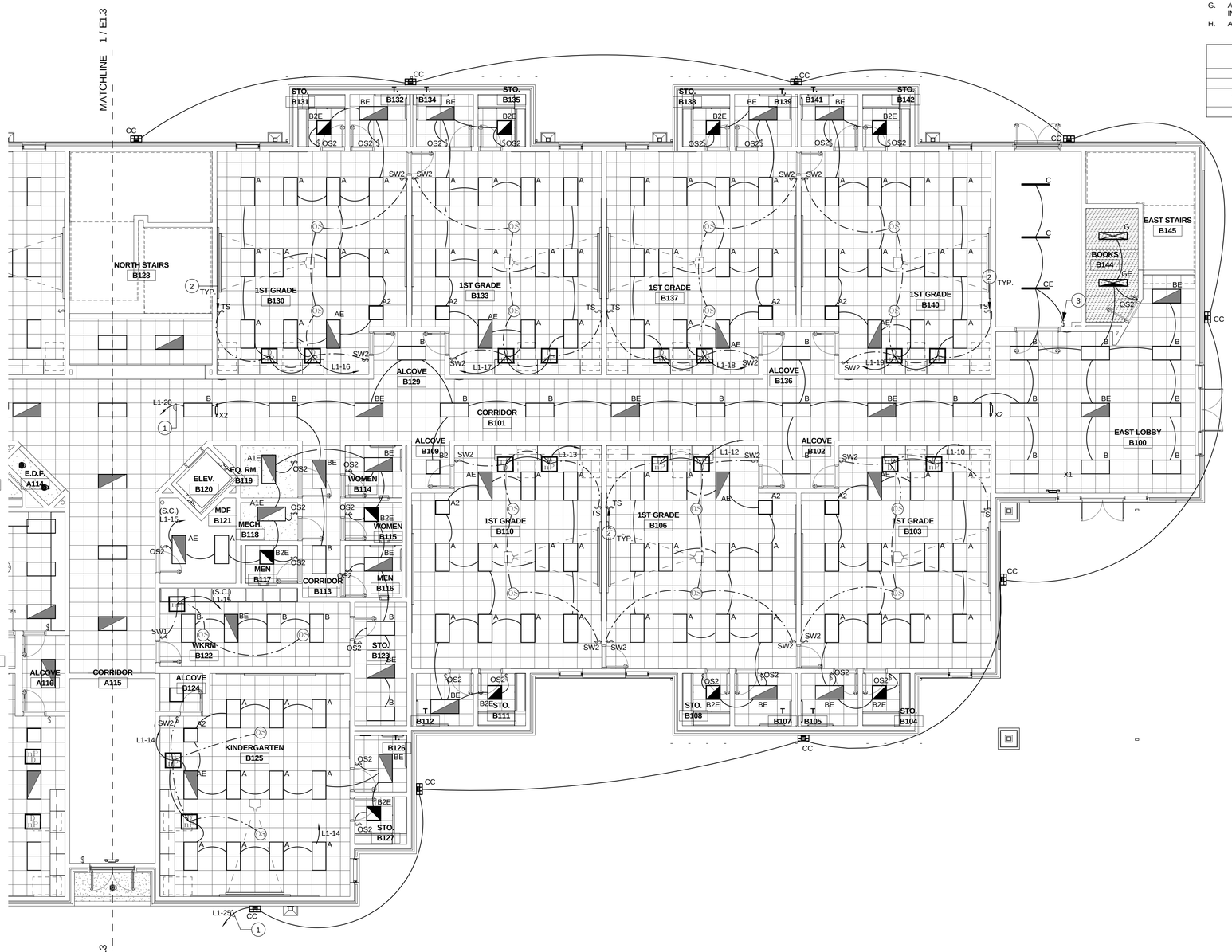
F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "L1-24" FOR ALL IN 1ST FLOOR AND "L2-22" FOR ALL ON 2ND FLOOR. FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.

G. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.

H. ALL LIGHT SWITCHES SHALL BE (10) TEN INCHES FROM DOOR OPENING.

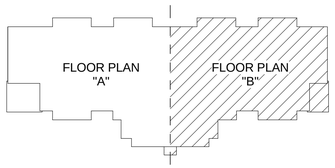
ELECTRICAL KEYNOTES

1	VIA LCP1.
2	TEACHERS LIGHTING WALL STATION LOCATION TO BE COORDINATED WITH ARCHITECT/OWNER PRIOR TO ANY ROUGH-IN.
3	PROVIDE AN OVERRIDE LIGHT SWITCH FOR LIGHTING CONTROL RELAY.



ELECTRICAL LIGHTING PLAN - 1ST FLOOR "B"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:37:34 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL LIGHTING PLAN "B" - 1ST FLOOR

E1.4

GENERAL NOTES- LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.
A.ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.

B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.

C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.

D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.

E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

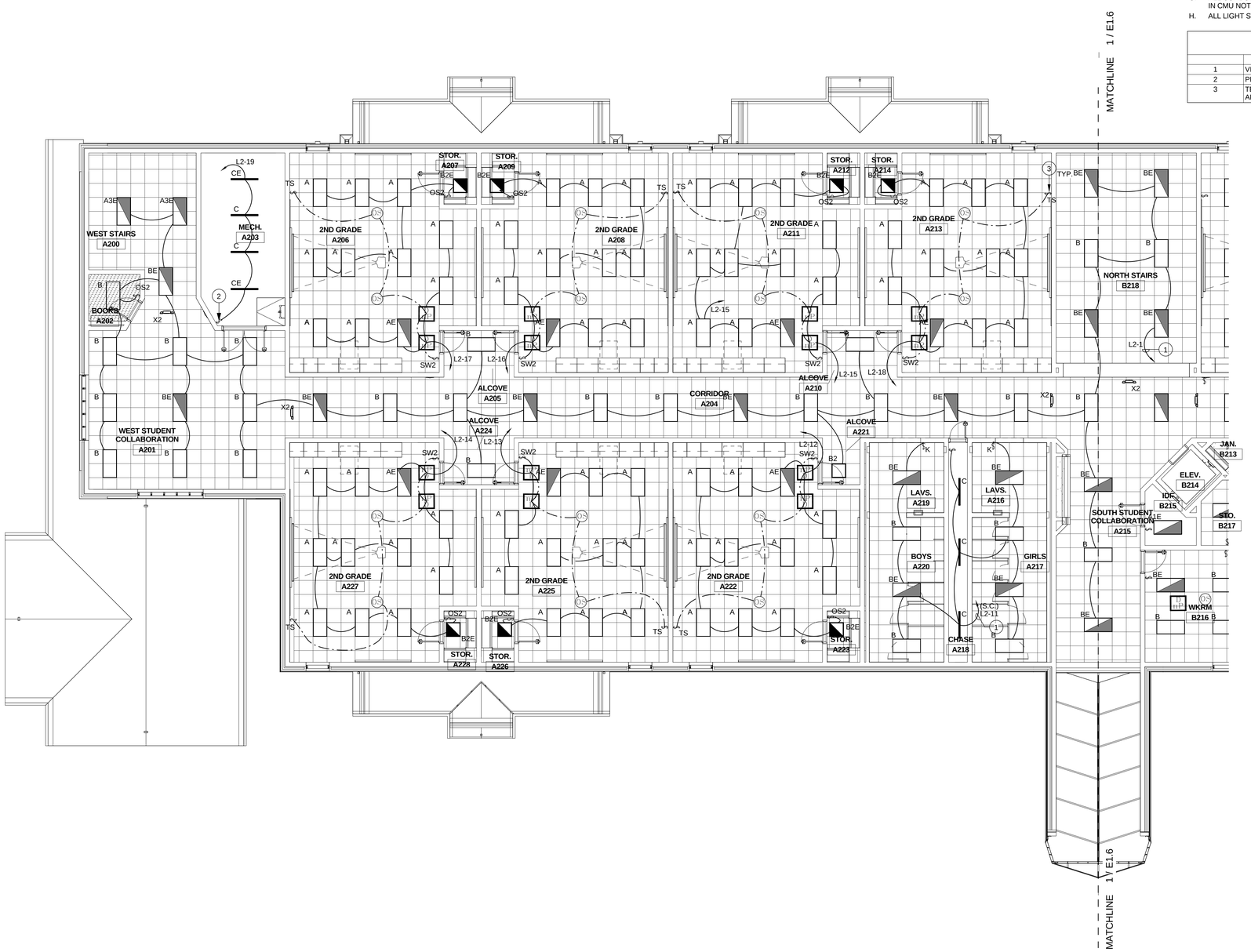
F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "L1-24" FOR ALL IN 1ST FLOOR AND "L2-22" FOR ALL ON 2ND FLOOR. FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.

G. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.

H. ALL LIGHT SWITCHES SHALL BE (10) TEN INCHES FROM DOOR OPENING.

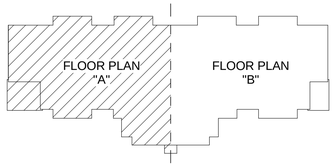
ELECTRICAL KEYNOTES

1	VIA LCP1.
2	PROVIDE AN OVERRIDE LIGHT SWITCH FOR LIGHTING CONTROL RELAY.
3	TEACHERS LIGHTING WALL STATION LOCATION TO BE COORDINATED WITH ARCHITECT/OWNER PRIOR TO ANY ROUGH-IN.



ELECTRICAL LIGHTING PLAN - 2ND FLOOR "A"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:37:38 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL LIGHTING PLAN "A" - 2ND FLOOR

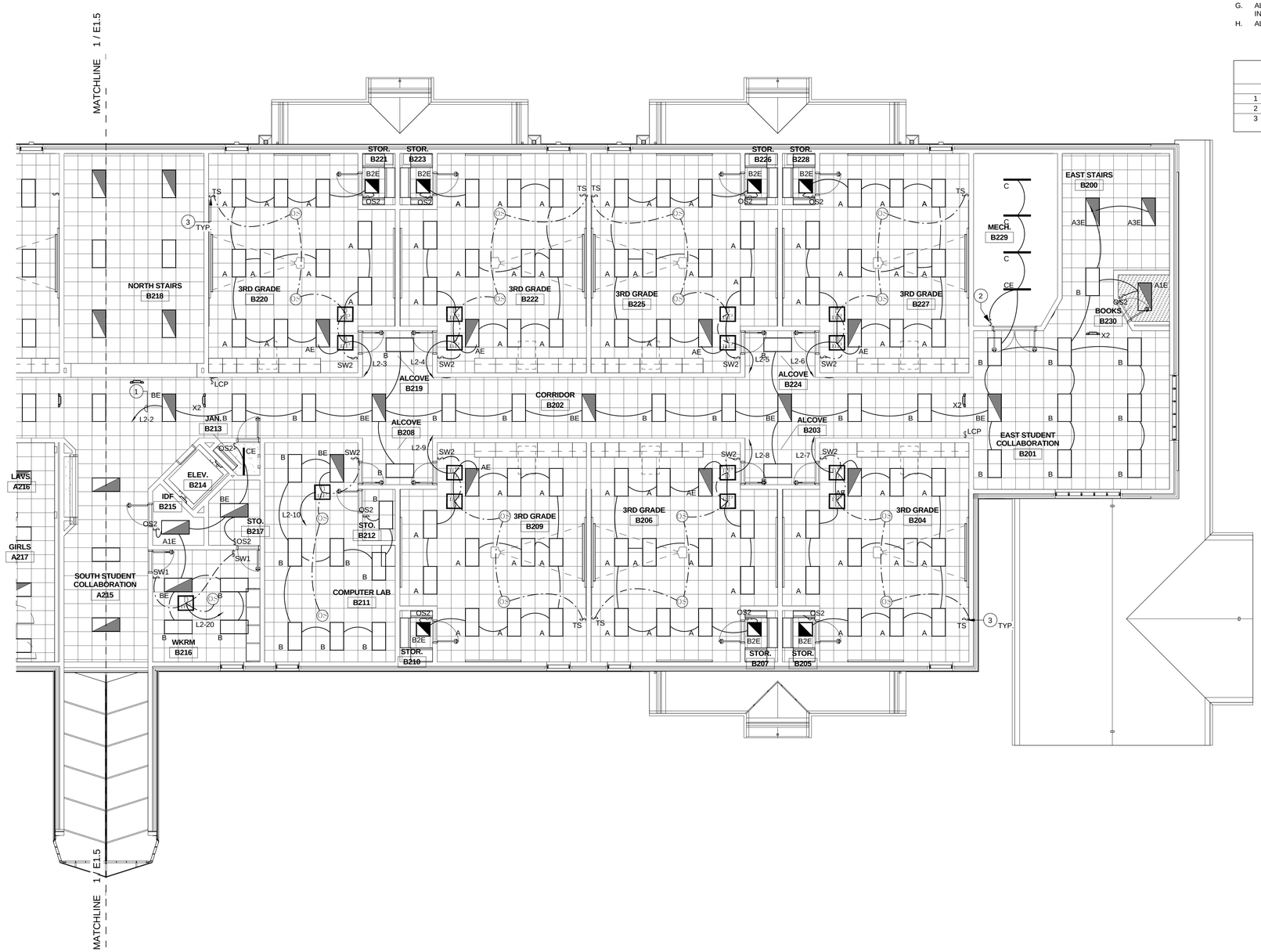
E1.5

GENERAL NOTES- LIGHTING

A. ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.
A.ALL EXIT FIXTURES/EMERGENCY BATTERY PACK LIGHT FIXTURE SHALL BE CONNECTED TO UNSWITCHED OR NON-DIMMING HOT LEG OF SAME VOLTAGE/PHASE OF LOCAL LIGHTING CIRCUIT IN SPACE.
B. VERIFY CEILING TYPES AND COORDINATE WITH FIXTURE TYPE LIGHT FIXTURE SHALL BE COMPATIBLE WITH CEILING TYPE AS INDICATED ON THE ARCHITECTURAL DOCUMENTS. NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO ORDERING FIXTURES.
C. COORDINATE EXACT ROUTING OF ALL CONDUIT ABOVE CEILING IN BUILDING. TYPICAL FOR ALL BUILDING EXTERIOR LIGHTING.
D. COORDINATE LOCATION OF LIGHTS WITH DIFFUSERS AND GRILLES.
E. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.
F. ALL EXIT FIXTURES TYPE-"X1 & X2", EMERGENCY LIGHT FIXTURE TYPE-"E" AND ALL EMERGENCY BALLAST SHALL BE ON CIRCUIT "L1-24" FOR ALL IN 1ST FLOOR AND "L2-22" FOR ALL ON 2ND FLOOR. FIXTURE TYPE LABEL WITH AN "_E" ARE LIGHT FIXTURES WITH EMERGENCY BALLAST. REFER TO LIGHT FIXTURE SCHEDULE.
G. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
H. ALL LIGHT SWITCHES SHALL BE (10) TEN INCHES FROM DOOR OPENING.

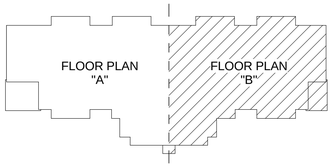
ELECTRICAL KEYNOTES

1	VIA LCP1.
2	PROVIDE AN OVERRIDE LIGHT SWITCH FOR LIGHTING CONTROL RELAY.
3	TEACHERS LIGHTING WALL STATION LOCATION TO BE COORDINATED WITH ARCHITECT/OWNER PRIOR TO ANY ROUGH-IN.



ELECTRICAL LIGHTING PLAN - 2ND FLOOR "B"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

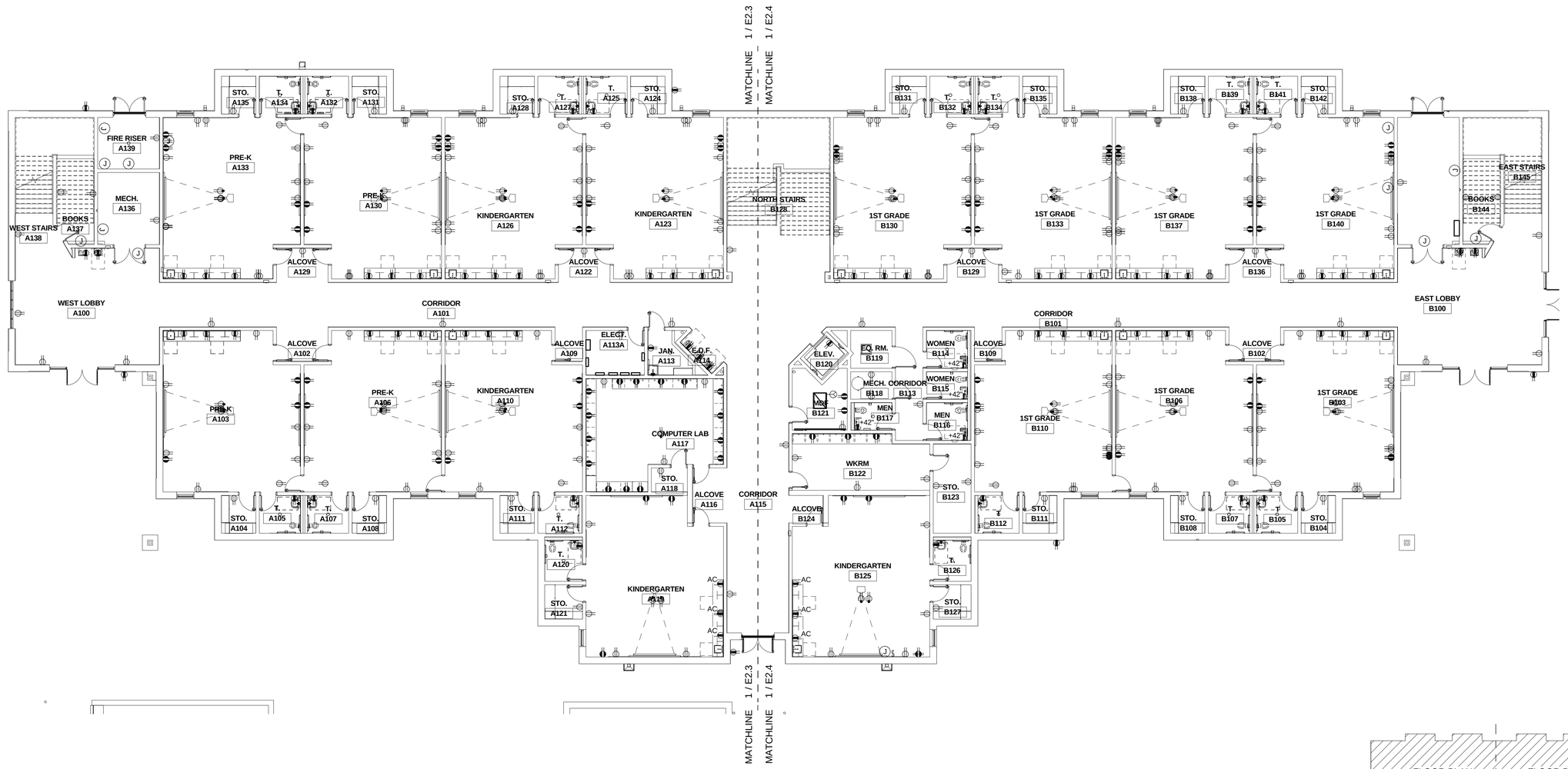
PROJECT NO:	2017.12
DATE:	5/21/2018 4:37:42 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL LIGHTING PLAN "B" - 2ND FLOOR

E1.6

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.



ELECTRICAL POWER FLOOR PLAN - OVERALL 1ST FLOOR

3/32" = 1'-0"

1

N

KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

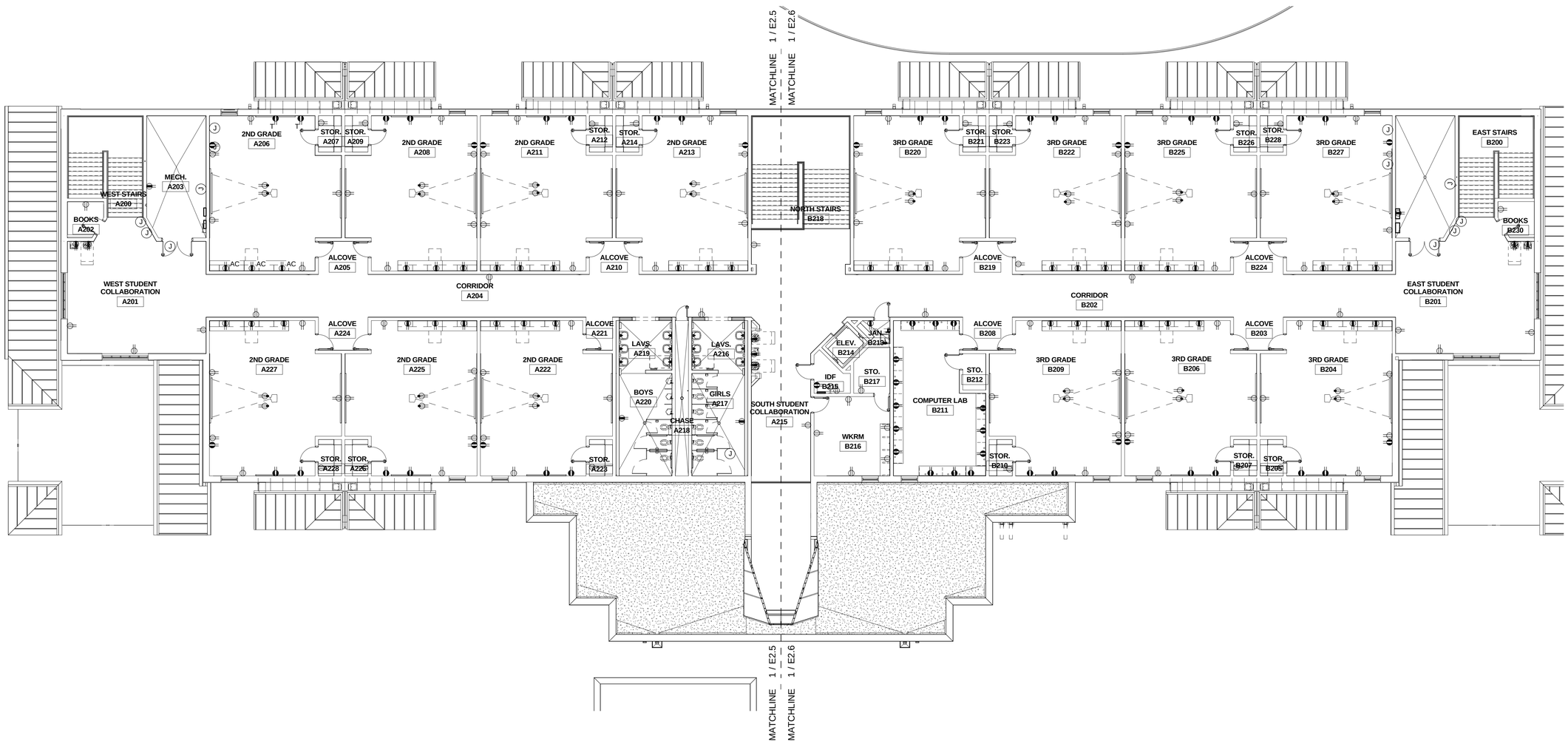
PROJECT NO: 2017.12
DATE: 5/21/2018 4:38:09 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

ELECTRICAL POWER FLOOR PLAN 1ST FLOOR

E2.1

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

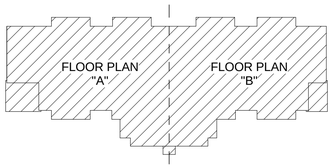


ELECTRICAL POWER FLOOR PLAN - OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:38:32 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

ELECTRICAL POWER FLOOR PLAN 2ND FLOOR

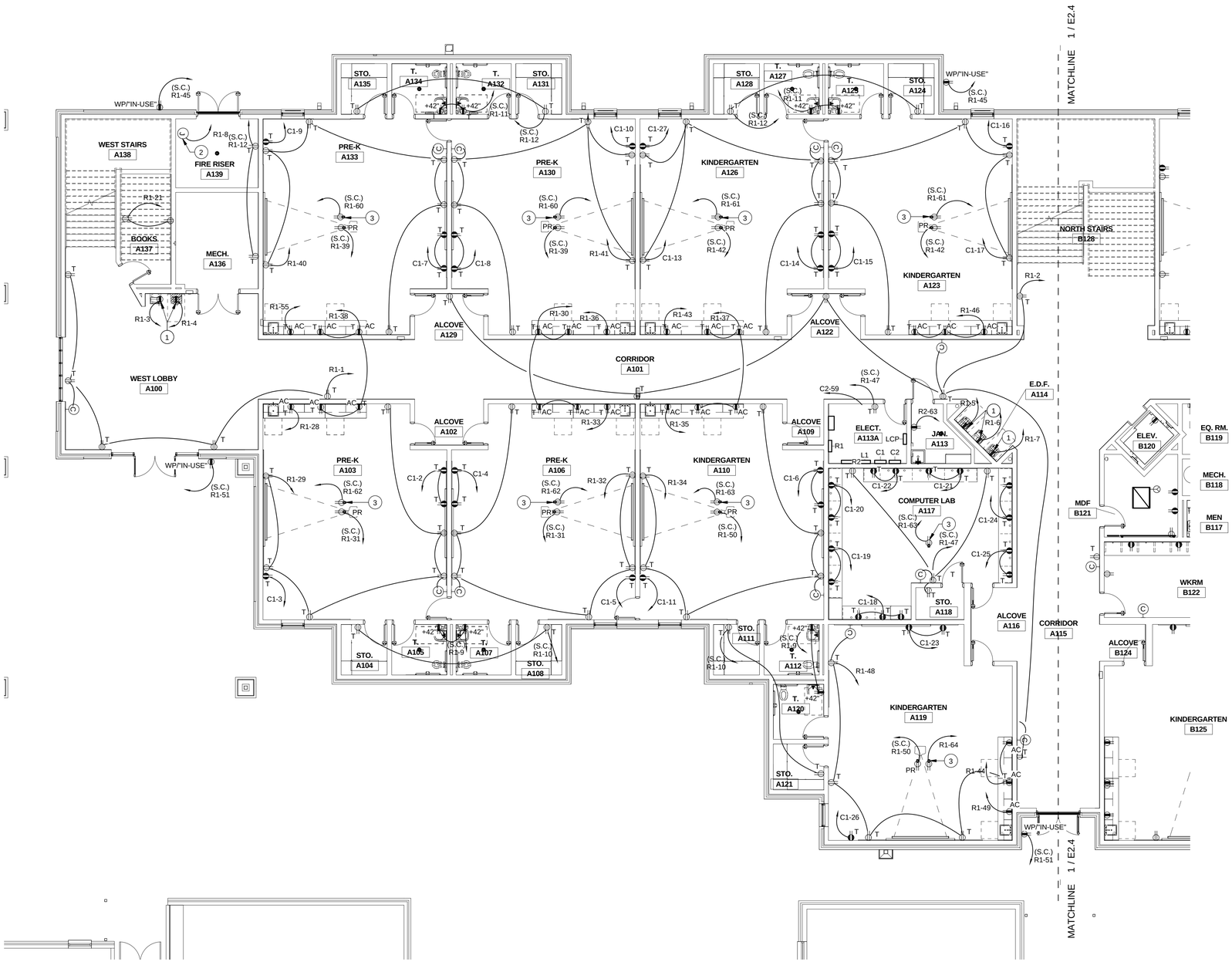
E2.2

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

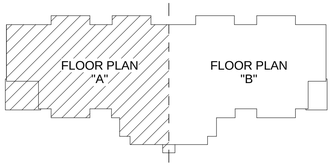
ELECTRICAL KEYNOTES

1	COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2	J-BOX FOR FIRE SPRINKLER SYSTEM.COORDINATE EXACT LOCATION AND ALL ELECTRICAL REQUIREMENTS WITH FIRE SPRINKLER CONTRACTOR PRIOR TO COMMENCING ANY WORK.
3	PROVIDE CIRCUIT FOR CLASSROOM AUDIO SYSTEM. REFER TO SPECIFICATION 17200.



ELECTRICAL POWER FLOOR PLAN - 1ST FLOOR "A"

1/8" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:39:04 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL POWER PLAN "A" - 1ST FLOOR

E2.3

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.

B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.

C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.

D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.

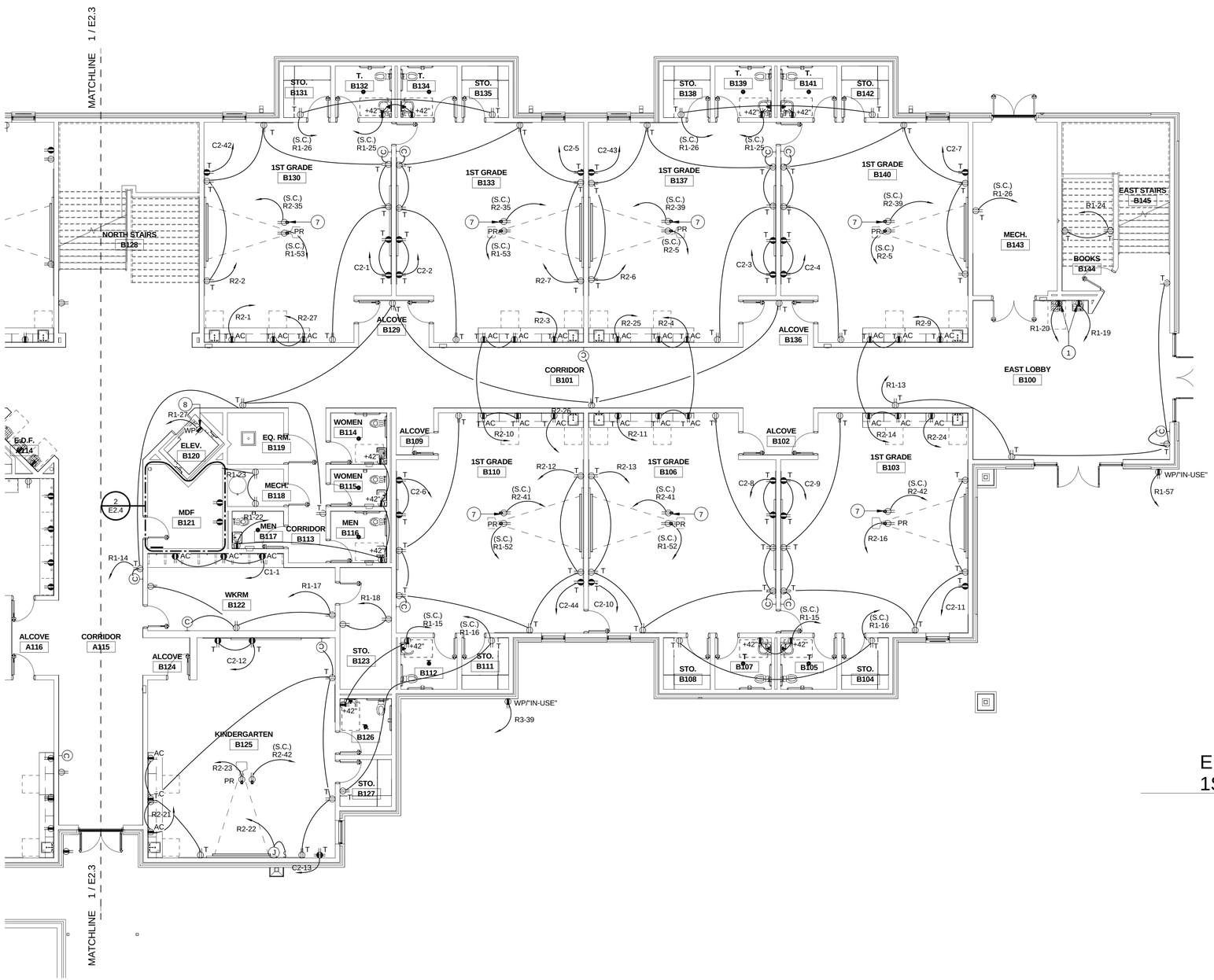
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.

F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.

G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

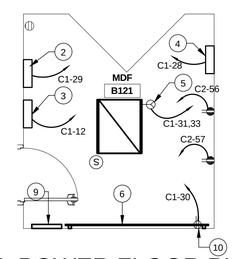
ELECTRICAL KEYNOTES

1	COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2	INTERCOM/PA SYSTEM CIRCUIT.
3	SECURITY ZONE EXPANDER CIRCUIT.
4	SECURITY PANEL CIRCUIT.
5	PROVIDE ISOLATED GROUND L5-30P FOR RACK CIRCUIT. COORDINATE EXACT LOCATION PRIOR TO ANY WORK.
6	3/4"X8'HX4'W PLYWOOD TELEPHONE BOARD FINISHED ONE SIDE. PROVIDE GROUND BAR AND TIE INTO ELECTRICAL GROUNDING SYSTEM VIA WIRE #4.
7	PROVIDE CIRCUIT FOR CLASSROOM AUDIO SYSTEM. REFER TO SPECIFICATION 17200.
8	RECEPTACLE LOCATED IN THE ELEVATOR PIT. LOCATE AT AN ACCESSIBLE LOCATION. MOUNT AT 36"AFF.
9	PROVIDE GROUND BAR 24"AFF, REFER TO DETAIL.
10	PROVIDE RECEPTACLE FOR AT&T SERVICES. VERIFY EXACT REQUIREMENTS PRIOR TO ANY WORK.



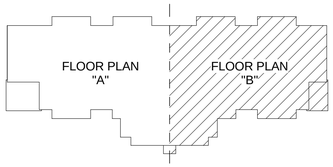
ELECTRICAL POWER FLOOR PLAN - 1ST FLOOR "B"

1 — 1/8" = 1'-0"



ELECTRICAL POWER FLOOR PLAN - 1ST FLOOR "B" - IDF

2 — 1/4" = 1'-0"



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:39:31 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

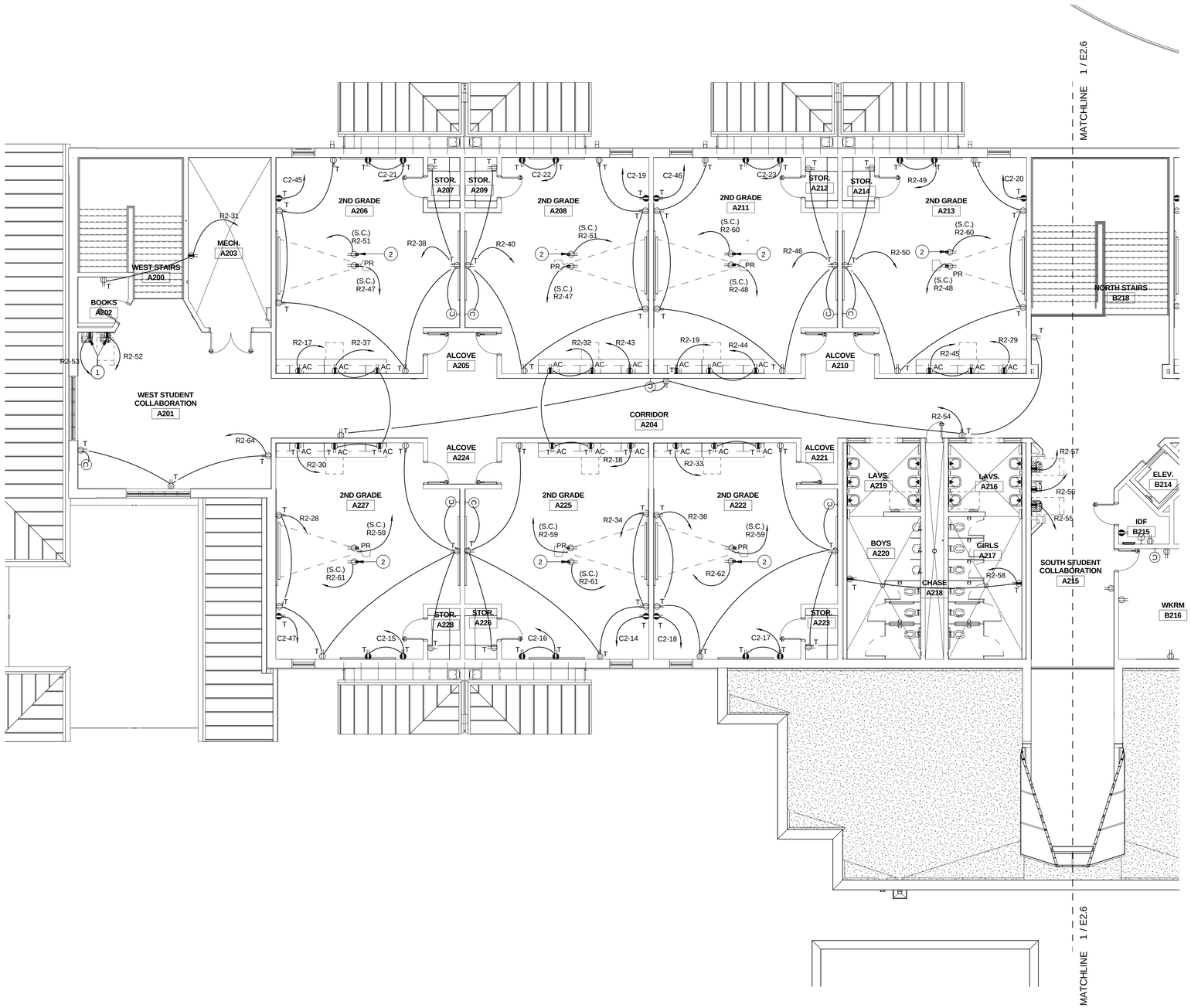
PARTIAL POWER PLAN "B" - 1ST FLOOR

E2.4

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

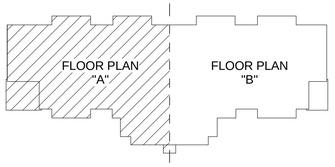
ELECTRICAL KEYNOTES	
1	COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2	PROVIDE CIRCUIT FOR CLASSROOM AUDIO SYSTEM. REFER TO SPECIFICATION 17200.



ELECTRICAL POWER FLOOR PLAN - 2ND FLOOR "A"

1/8" = 1'-0"

1



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:39:47 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL POWER PLAN "A" - 2ND FLOOR

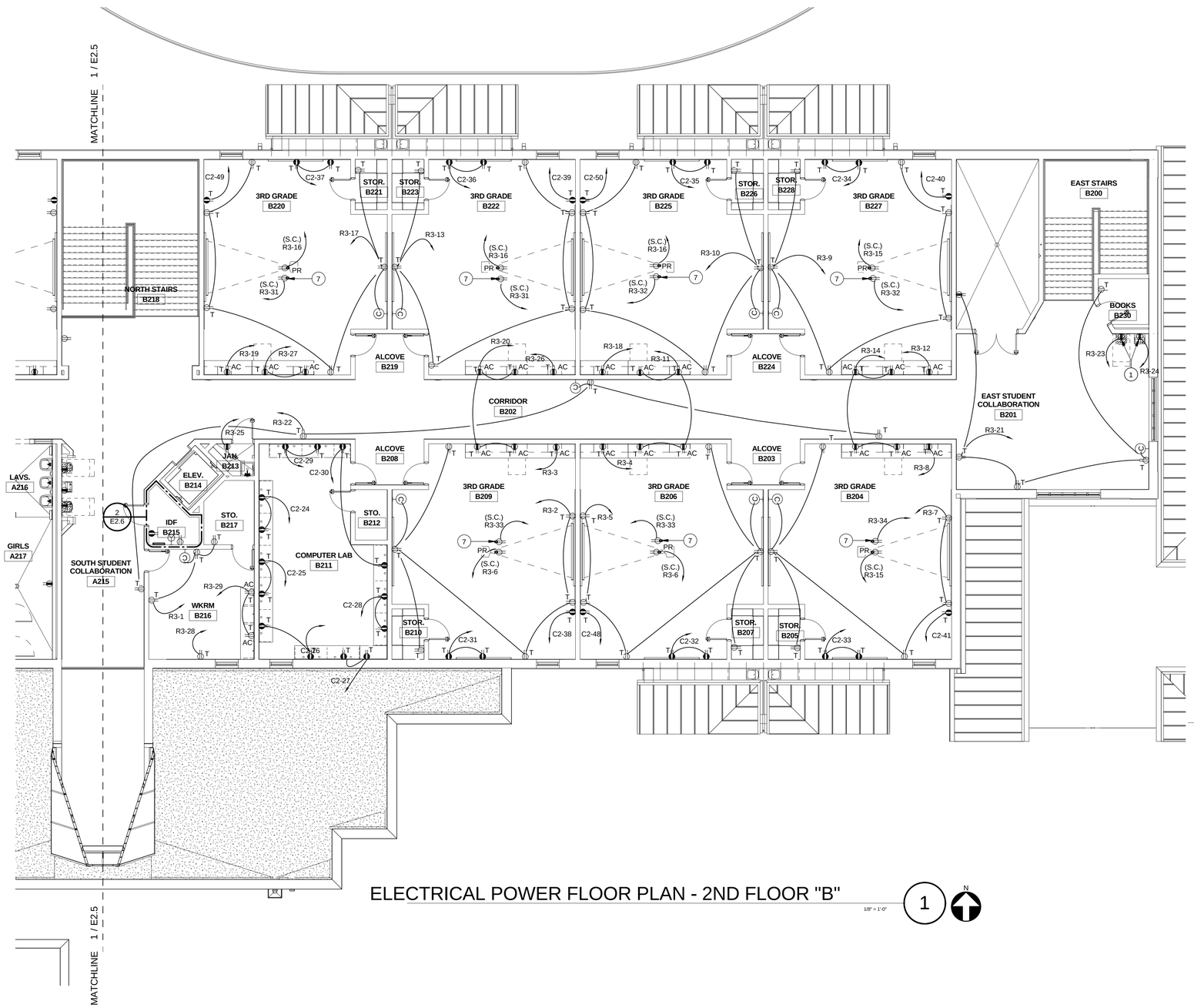
E2.5

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

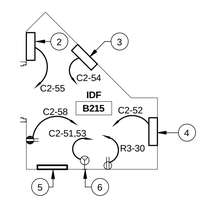
ELECTRICAL KEYNOTES

1	COORDINATE EXACT LOCATION WITH PLUMBER TO CONCEAL CORD BEHIND ELECTRIC DRINKING FOUNTAIN PRIOR TO ANY ROUGH-IN.
2	INTRUSION SECURITY PANEL CIRCUIT.
3	FIRE ALARM POWER SUPPLY CIRCUIT.
4	INTERCOM 2ND FLOOR CIRCUIT.
5	2ND FLOOR GROUND BAR, 24"AFF. REFER TO DETAIL.
6	PROVIDE ISOLATED GROUND L5-30P FOR RACK CIRCUIT. COORDINATE EXACT LOCATION PRIOR TO ANY WORK.
7	PROVIDE CIRCUIT FOR CLASSROOM AUDIO SYSTEM. REFER TO SPECIFICATION 17200.



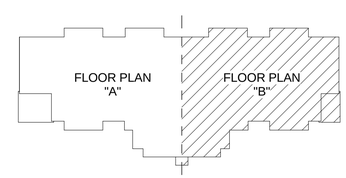
ELECTRICAL POWER FLOOR PLAN - 2ND FLOOR "B"

1/8" = 1'-0"



ELECTRICAL POWER FLOOR PLAN - 2ND FLOOR "B" -IDF

1/4" = 1'-0"



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:39:53 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL POWER PLAN "B" - 2ND FLOOR

E2.6

GENERAL NOTES - SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.

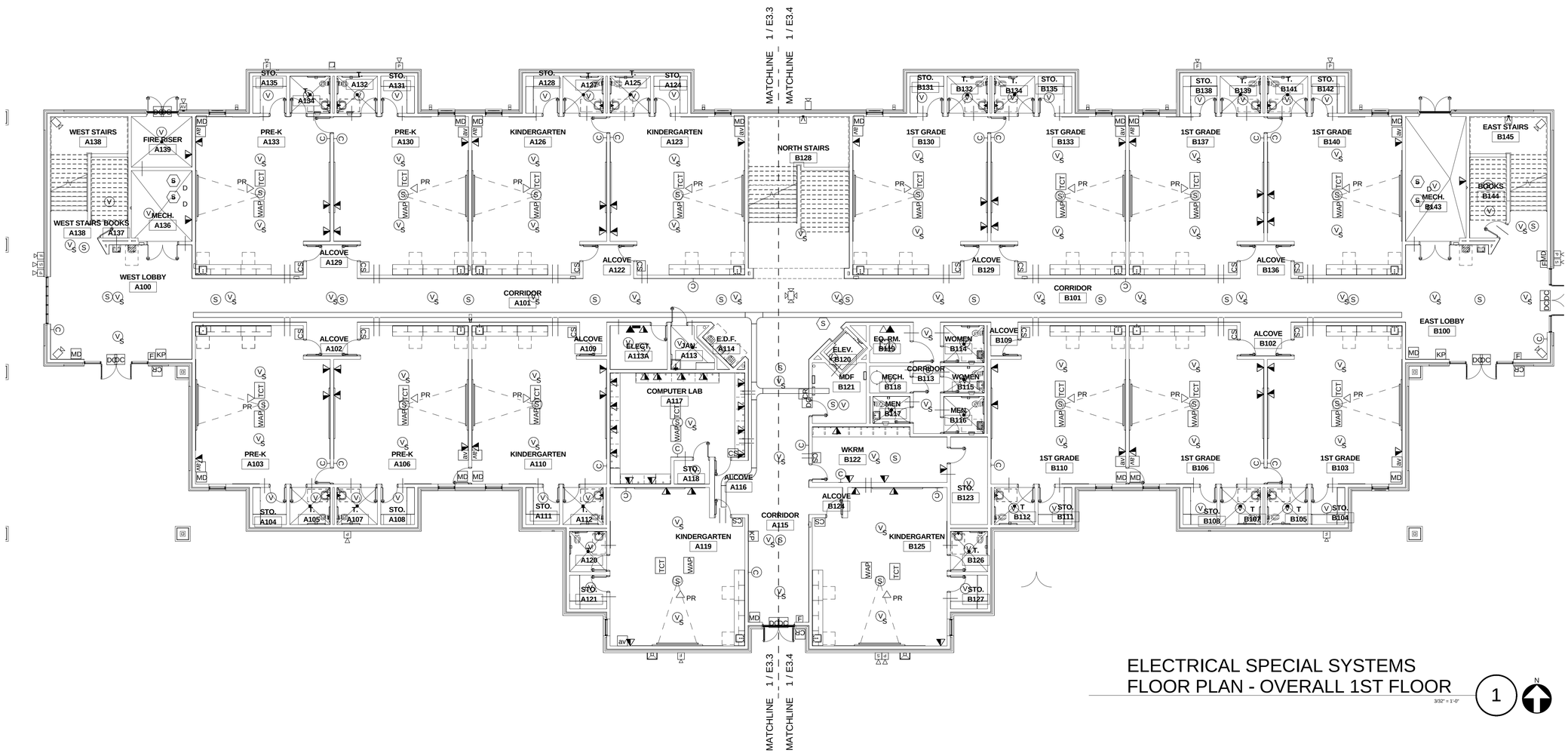
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.

D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.

E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.

F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.

G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.



ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN - OVERALL 1ST FLOOR

1

3/32" = 1'-0"

N

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

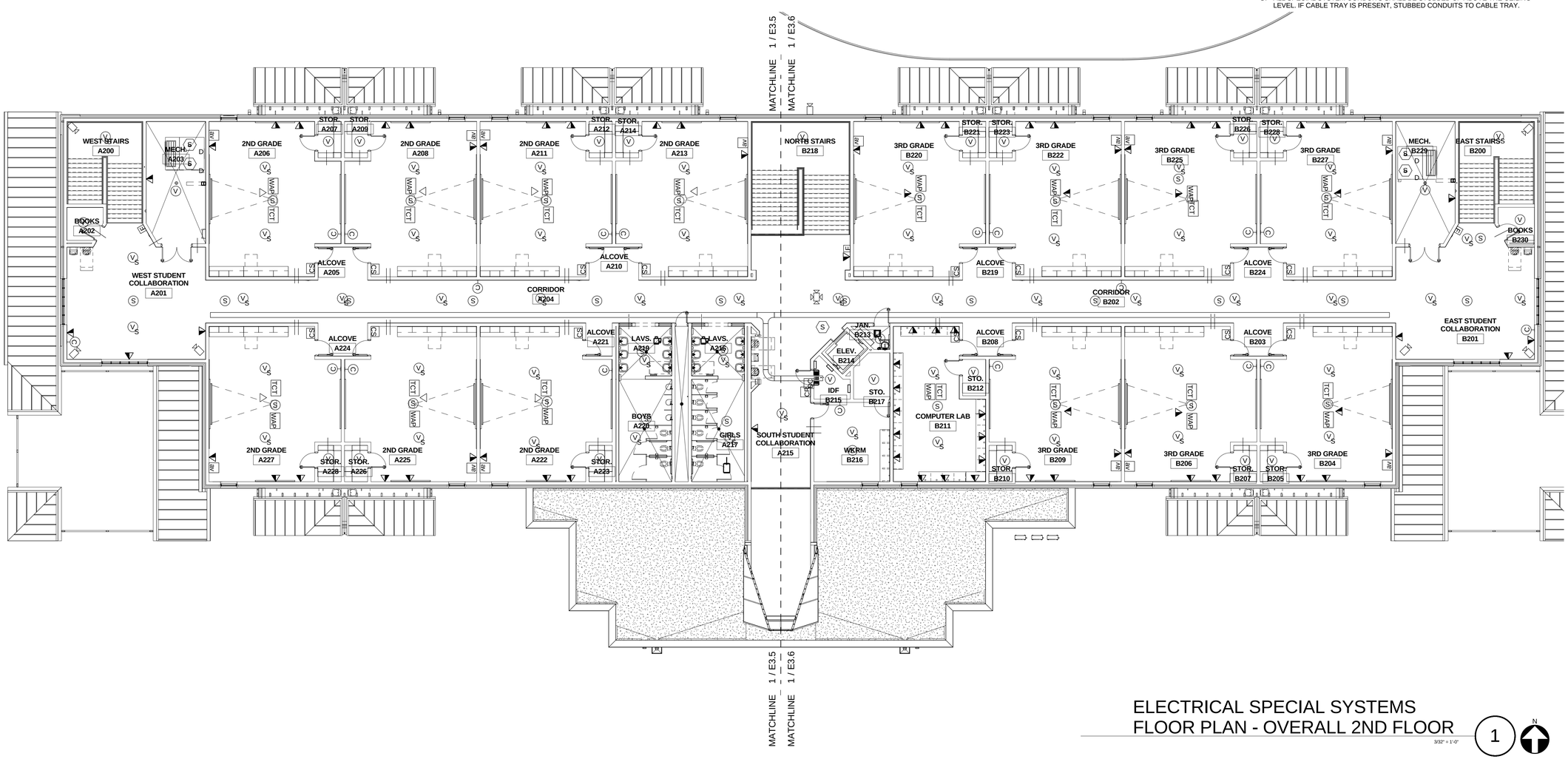
PROJECT NO:	2017.12
DATE:	5/21/2018 4:40:25 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN 1ST FLOOR

E3.1

GENERAL NOTES - SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.
B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.
D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.
E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY, ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.
F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.
G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.



ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN - OVERALL 2ND FLOOR

1

3/32" = 1'-0"

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97329
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

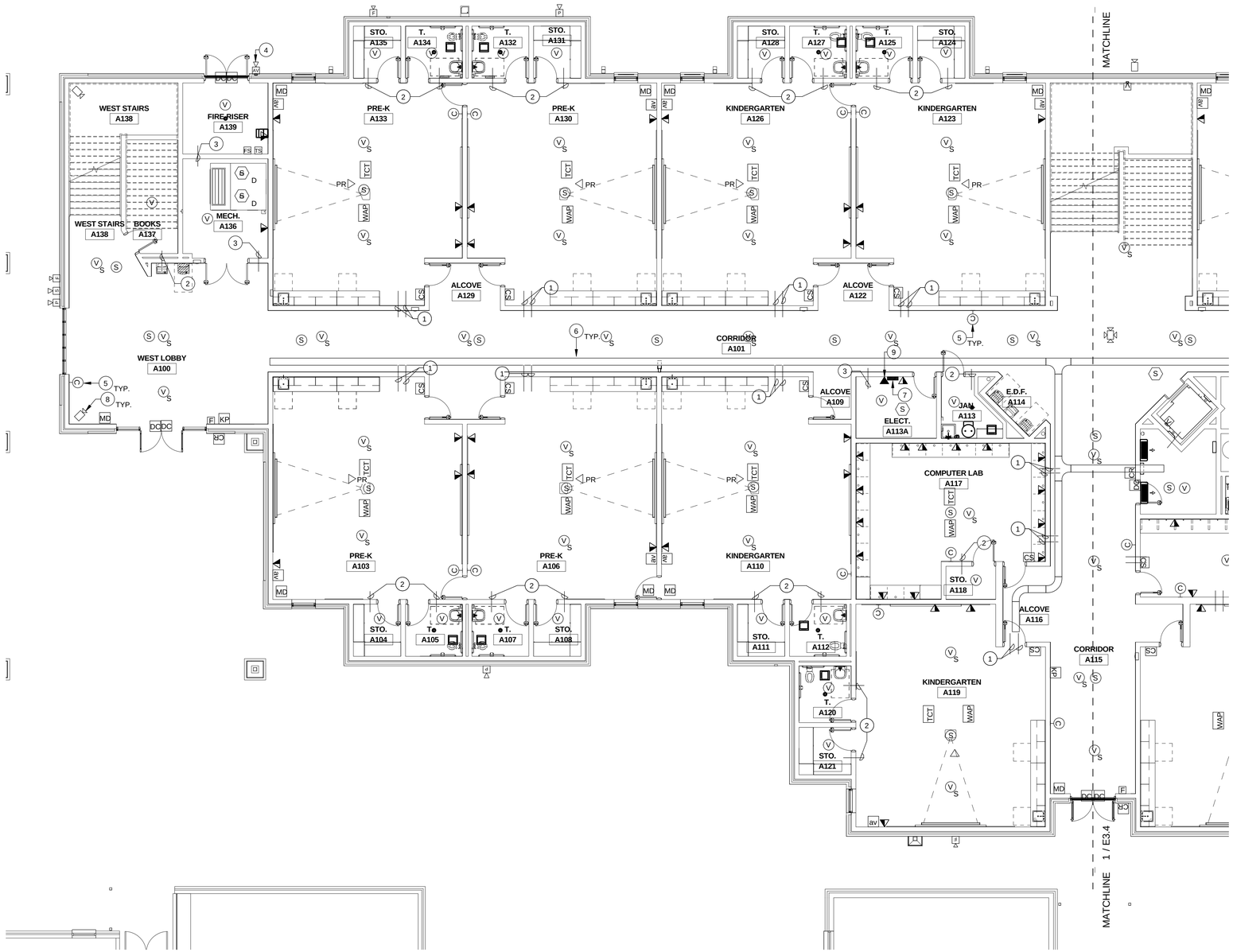
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:40:58 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN 2ND FLOOR

E3.2



ELECTRICAL SPECIAL SYSTEMS FLOOR PLAN - 1ST FLOOR "A"

1/8" = 1'-0"

1

N

GENERAL NOTES - SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.

B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.

C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.

D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.

E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.

F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.

G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.

ELECTRICAL KEYNOTES

1	PROVIDE 2-2"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
2	PROVIDE 1-1"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
3	PROVIDE A FIRE/SMOKE SEALING SYSTEM EQUAL TO MFR. EZ PATH # SERIES 33 PATHWAY. SEAL AROUND WITH FIRE/SMOKE RATED SEALANT. FIELD COORDINATE EXACT LOCATION.
4	FIRE SPRINKLER HORN/STROBE DEVICE.
5	COORDINATE WTIH OWNER ON FINAL CLOCK LOCATIONS.
6	PROVIDE CABLE TRAY AS SHOWN ABOVE THE CEILING. REFER TO SPECIFICATION. SUPPORT FROM STRUCTURE.
7	FIRE ALARM CONTROL PANEL LOCATION.
8	FINAL CAMERA LOCATIONS AND HEIGHTS TO BE COORDINATED WITH OWNER PRIOR TO ANY WORK.
9	PROVIDE TELEPHONE LINES FOR THE FIRE ALARM COMMUNICATION REQUIREMENTS. COORDINATE WITH OWNER/ARCHITECT.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97 REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:41:22 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL SPECIAL SYSTEMS PLAN "A" - 1ST FLOOR

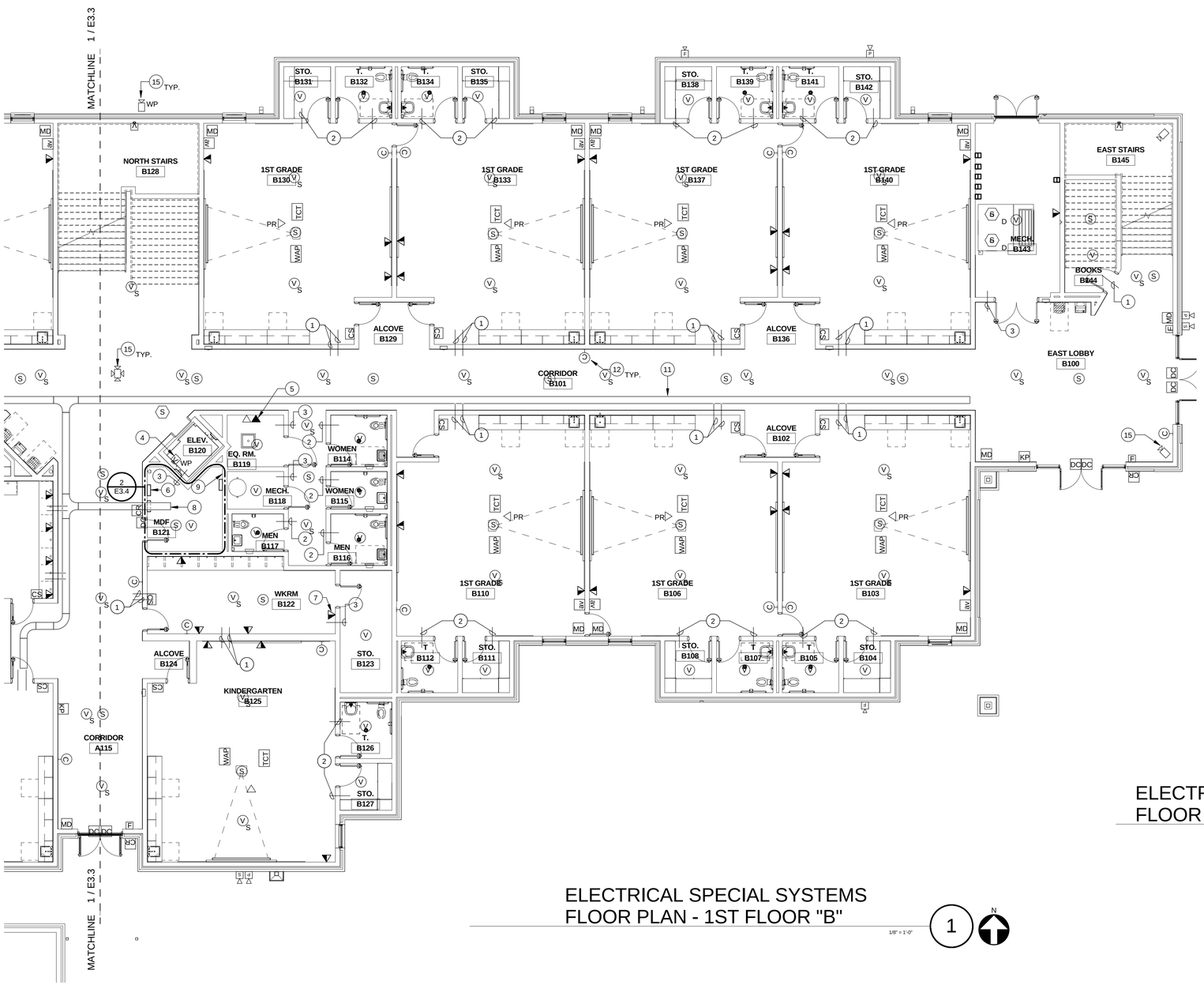
E3.3

GENERAL NOTES - SPECIAL SYSTEMS

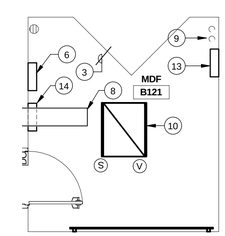
A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.
B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.
D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.
E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.
F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.
G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.

ELECTRICAL KEYNOTES

1	PROVIDE 2-2"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
2	PROVIDE 1-1"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
3	PROVIDE A FIRE/SMOKE SEALING SYSTEM EQUAL TO MFR. EZ PATH # SERIES 33 PATHWAY. SEAL AROUND WITH FIRE/SMOKE RATED SEALANT. FIELD COORDINATE EXACT LOCATION.
4	FIRE ALARM DEVICE IN THE ELEVATOR PIT.
5	PROVIDE TELEPHONE LINES FOR THE ELEVATOR COMMUNICATION REQUIREMENTS. COORDINATE WITH OWNER/ARCHITECT.
6	INTERCOM/PA SYSTEM LOCATION.
7	TIME CLOCK DATA OUTLET. COORDINATE EXACT LOCATION/HEIGHT WITH OWNER/ARCHITECT PRIOR TO ANY ROUGH-INS.
8	PROVIDE CABLE TRAY DROP OUT KIT.
9	PROVIDE (2) BLOCKOUTS FOR IDF TO IDF PATHWAYS. PROVIDE FIRE/SMOKE SEALING SYSTEM EQUAL TO MFR. EZ PATH SERIES 44 FOR EACH OPENING.
10	PROPOSED IDF RACK LOCATION. COORDINATE WITH OWNER.
11	PROVIDE CABLE TRAY AS SHOWN ABOVE THE CEILING. REFER TO SPECIFICATION. SUPPORT FROM STRUCTURE.
12	COORDINATE WTIH OWNER ON FINAL CLOCK LOCATIONS.
13	SECURITY PANEL LOCATION.
14	SECURITY ZONE EXPANDER LOCATION.
15	FINAL CAMERA LOCATIONS AND HEIGHTS TO BE COORDINATED WITH OWNER PRIOR TO ANY WORK.



ELECTRICAL SPECIAL SYSTEMS
FLOOR PLAN - 1ST FLOOR "B"
1/8" = 1'-0"



ELECTRICAL SPECIAL SYSTEMS
FLOOR PLAN - 1ST FLOOR "B" - IDF
1/4" = 1'-0"

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:41:48 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

PARTIAL SPECIAL SYSTEMS PLAN "B" - 1ST FLOOR

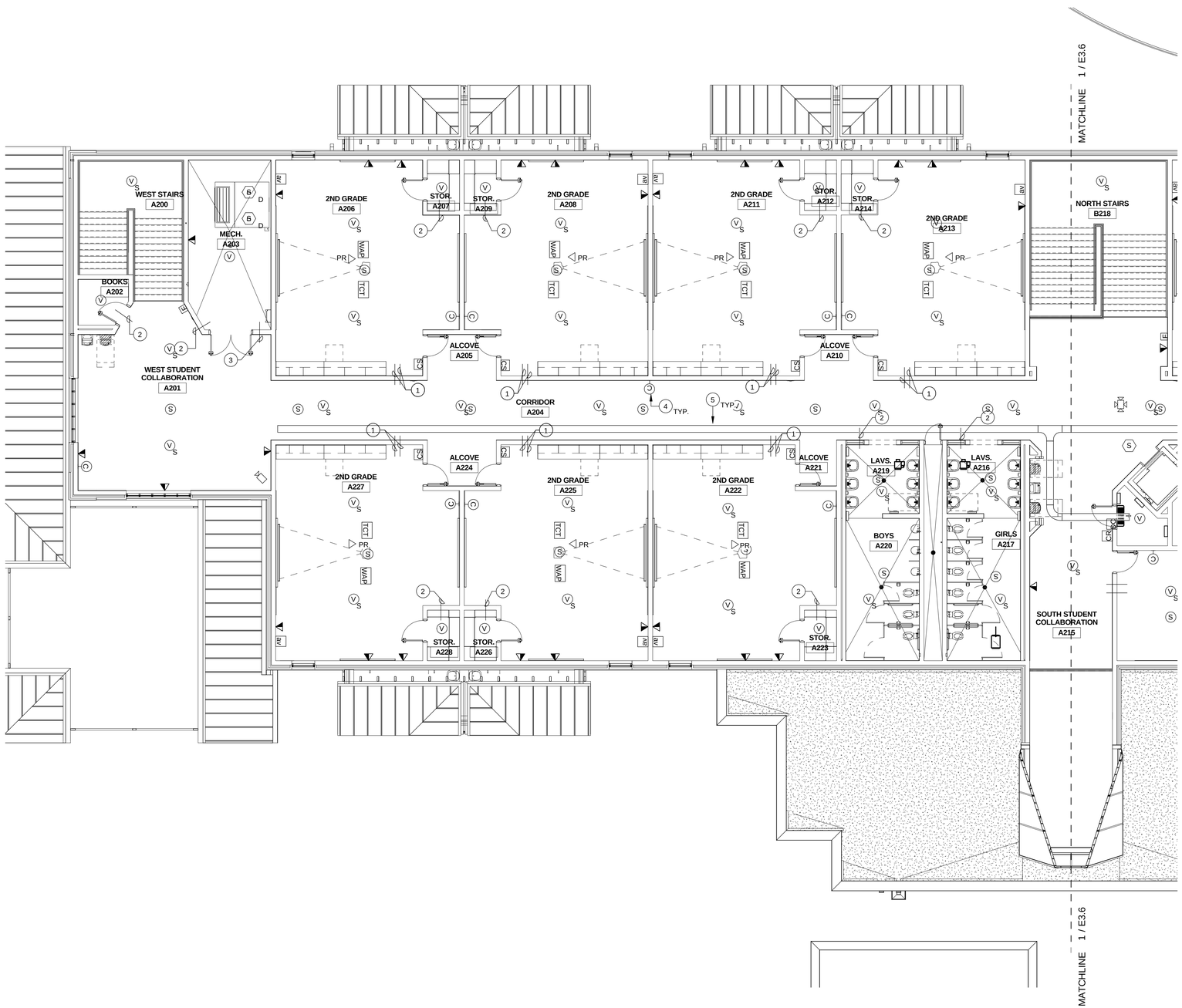
E3.4

GENERAL NOTES - SPECIAL SYSTEMS

A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.
B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.
D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.
E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.
F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.
G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.

ELECTRICAL KEYNOTES

1	PROVIDE 2-2"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
2	PROVIDE 1-1"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
3	PROVIDE A FIRE/SMOKE SEALING SYSTEM EQUAL TO MFR. EZ PATH # SERIES 33 PATHWAY. SEAL AROUND WITH FIRE/SMOKE RATED SEALANT. FIELD COORDINATE EXACT LOCATION.
4	COORDINATE WTIH OWNER ON FINAL CLOCK LOCATIONS.
5	PROVIDE CABLE TRAY AS SHOWN ABOVE THE CEILING. REFER TO SPECIFICATION. SUPPORT FROM STRUCTURE.



ELECTRICAL SPECIAL SYSTEMS
FLOOR PLAN - 2ND FLOOR "A"

1/8" = 1'-0"

1

N

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:42:05 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL SPECIAL SYSTEMS PLAN "A" - 2ND FLOOR

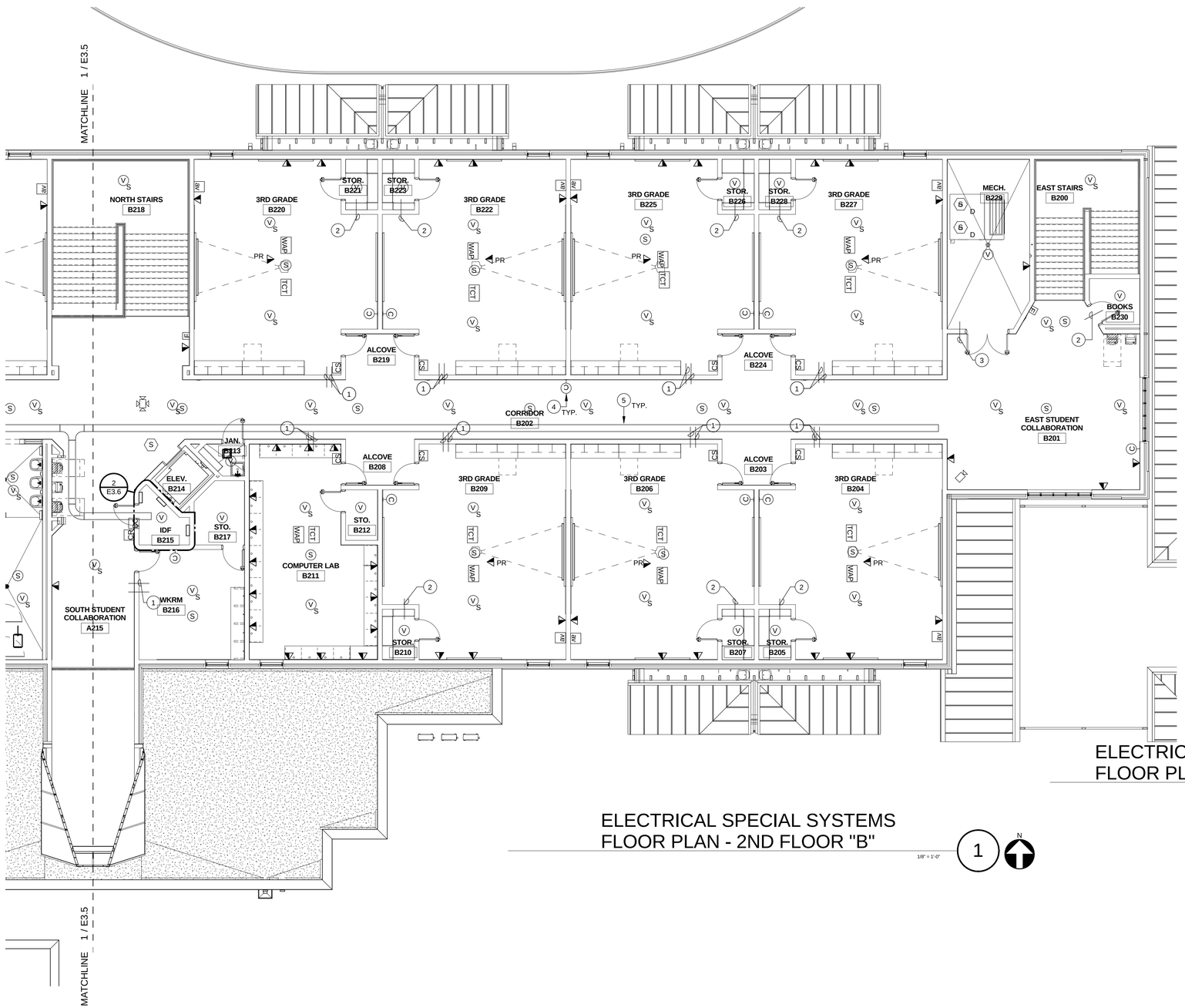
E3.5

GENERAL NOTES - SPECIAL SYSTEMS

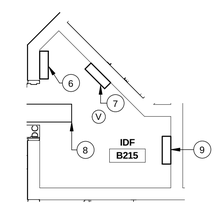
A. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL POWER SOURCE WIRING IN ACCORDANCE WITH ARCHITECTURAL MILLWORK.
B. PROVIDE CLEAR VANDAL COVER WITH STOPPER II OPTION FOR ALL FIRE ALARM PULL STATIONS.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE MECHANICAL DRAWINGS.
D. ALL CONDITS SHALL REAMED AND COMPLETE WITH CONNECTORS AND INSULATED BUSHINGS AT BOTH ENDS.
E. ALL DEVICES SHOWN ON DRAWINGS ARE SYMBOLIC ONLY. THE ENTIRE FIRE ALARM SYSTEM, SHALL BE IN FULL COMPLIANCE AND MEET ALL CODES AND EQUIREMENTS OF THE LOCAL ADMINISTRATIVE AUTHORITY. ANY MODIFICATIONS REQUIRED TO PROVIDE COMPLIANCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT/ ENGINEER.
F. FIRE ALARM LICENSE HOLDER SHALL ASSUME ALL RESPONSIBILITY FOR DESIGN AND SUBMIT DRAWGINGS TO JURISDICTION HAVING AUTHORITY AND ABIDE BY ALL OTHER REQUIREMENTS PER NFPA.
G. ALL SPECIAL SYSTEM CONDUITS SHALL BE STUBBED UP ABOVE THE CEILING LEVEL. IF CABLE TRAY IS PRESENT, STUBBED CONDUITS TO CABLE TRAY.

ELECTRICAL KEYNOTES

1	PROVIDE 2-2"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
2	PROVIDE 1-1"C WITH MULTIPLE PULLSTRINGS ABOVE CEILING FOR SPECIAL SYSTEMS PATHWAY. SEAL AROUND CONDUITS WITH FIRE RATED SEALANT. CONDUITS TO BE SUPPORTED FROM STRUCTURAL. FIELD COORDINATE EXACT LOCATION.
3	PROVIDE A FIRE/SMOKE SEALING SYSTEM EQUAL TO MFR. EZ PATH # SERIES 33 PATHWAY. SEAL AROUND WITH FIRE/SMOKE RATED SEALANT. FIELD COORDINATE EXACT LOCATION.
4	COORDINATE WTIH OWNER ON FINAL CLOCK LOCATIONS.
5	PROVIDE CABLE TRAY AS SHOWN ABOVE THE CEILING. REFER TO SPECIFICATION. SUPPORT FROM STRUCTURE.
6	INTRUSION PANEL LOCATION.
7	FIRE ALARM POWER SUPPLY LOCATION.
8	PROVIDE CABLE TRAY DROP OUT KIT.
9	INTERCOM/PA SYSTEM LOCATION.



ELECTRICAL SPECIAL SYSTEMS
FLOOR PLAN - 2ND FLOOR "B"
1/8" = 1'-0"
1



ELECTRICAL SPECIAL SYSTEMS
FLOOR PLAN - 2ND FLOOR "B" - IDF
1/4" = 1'-0"
2

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen
COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

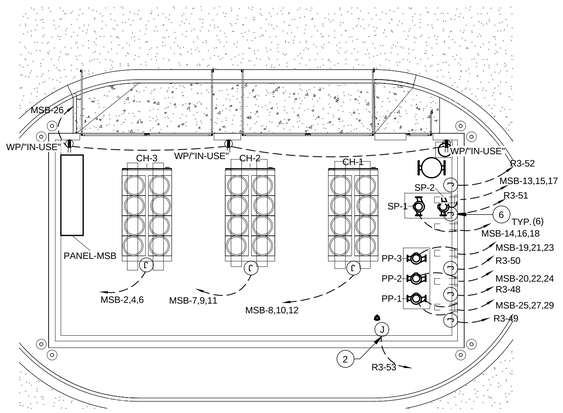
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:42:24 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

PARTIAL SPECIAL SYSTEMS PLAN "B" - 2ND FLOOR

E3.6



OVERALL ELECTRICAL SITE PLAN - MECHANICAL YARD

3/32" = 1'-0"

2

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.

B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.

C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.

D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.

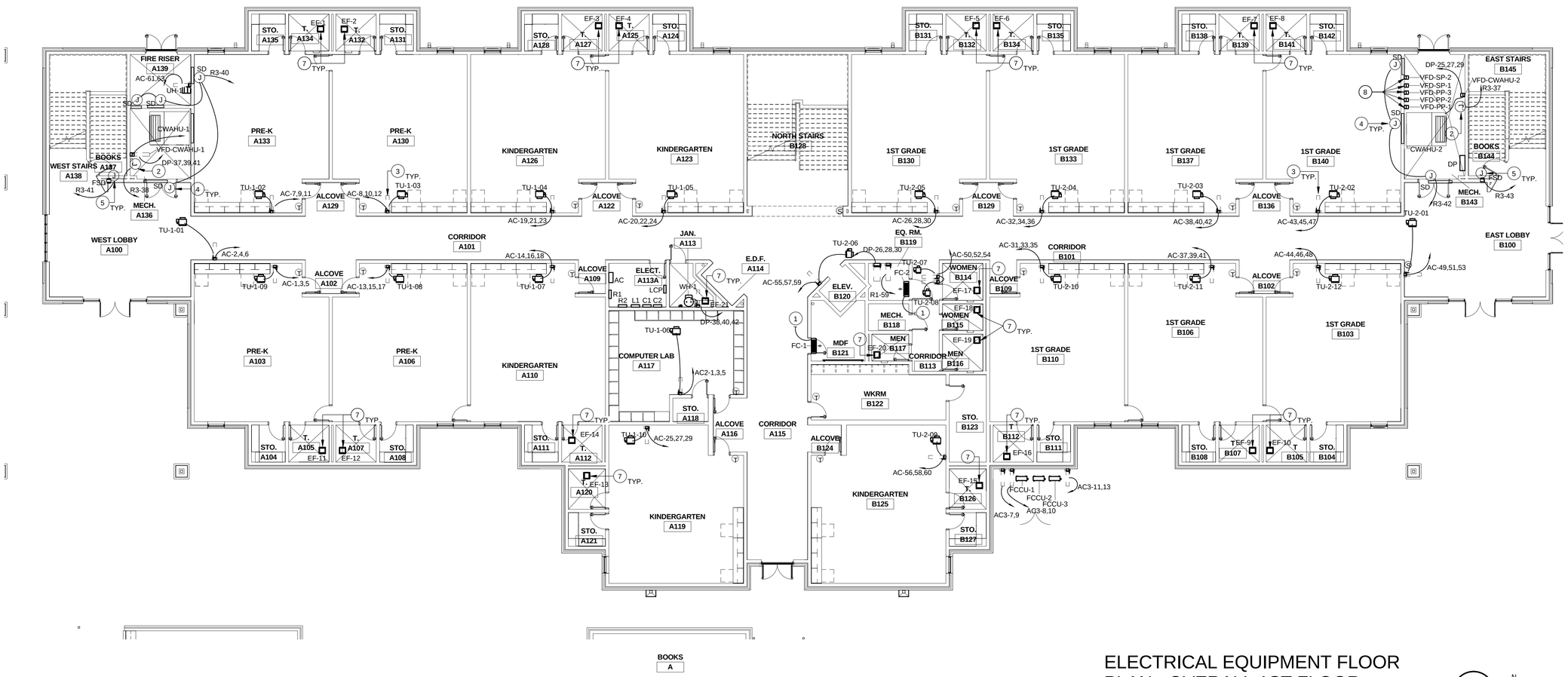
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.

F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.

G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

ELECTRICAL KEYNOTES

1	INTERLOCK FCCU WITH FC H.V.A.C. EQUIPMENT. WIRING SHALL BE 3#10, 1#10G, 3/4"C.
2	PROVIDE J-BOX FOR HVAC CONTROLS ENCLOSURE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR.
3	DISCONNECTS. REFER TO DISCONNECT SCHEDULE.
4	PROVIDE J-BOX FOR SMOKE DAMPER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR. INTERLOCK WITH FIRE ALARM SYSTEM.
5	PROVIDE J-BOX FOR FIRE DAMPER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR. INTERLOCK WITH FIRE ALARM SYSTEM.
6	VFD EMERGENCY STOP CIRCUIT. REFER TO DETAIL.
7	TIE INTO ROOMS LIGHTING CIRCUIT. WIRING SHALL BE 2#12, 1#12G, 1/2"C. FAN SHALL BE CONTROLLED BY BUILDING HVAC CONTROLS.
8	REFER TO VFD PUMP CONNECTION DETAIL.



ELECTRICAL EQUIPMENT FLOOR PLAN - OVERALL 1ST FLOOR

3/32" = 1'-0"

1

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:42:42 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ELECTRICAL EQUIPMENT FLOOR PLAN 1ST FLOOR

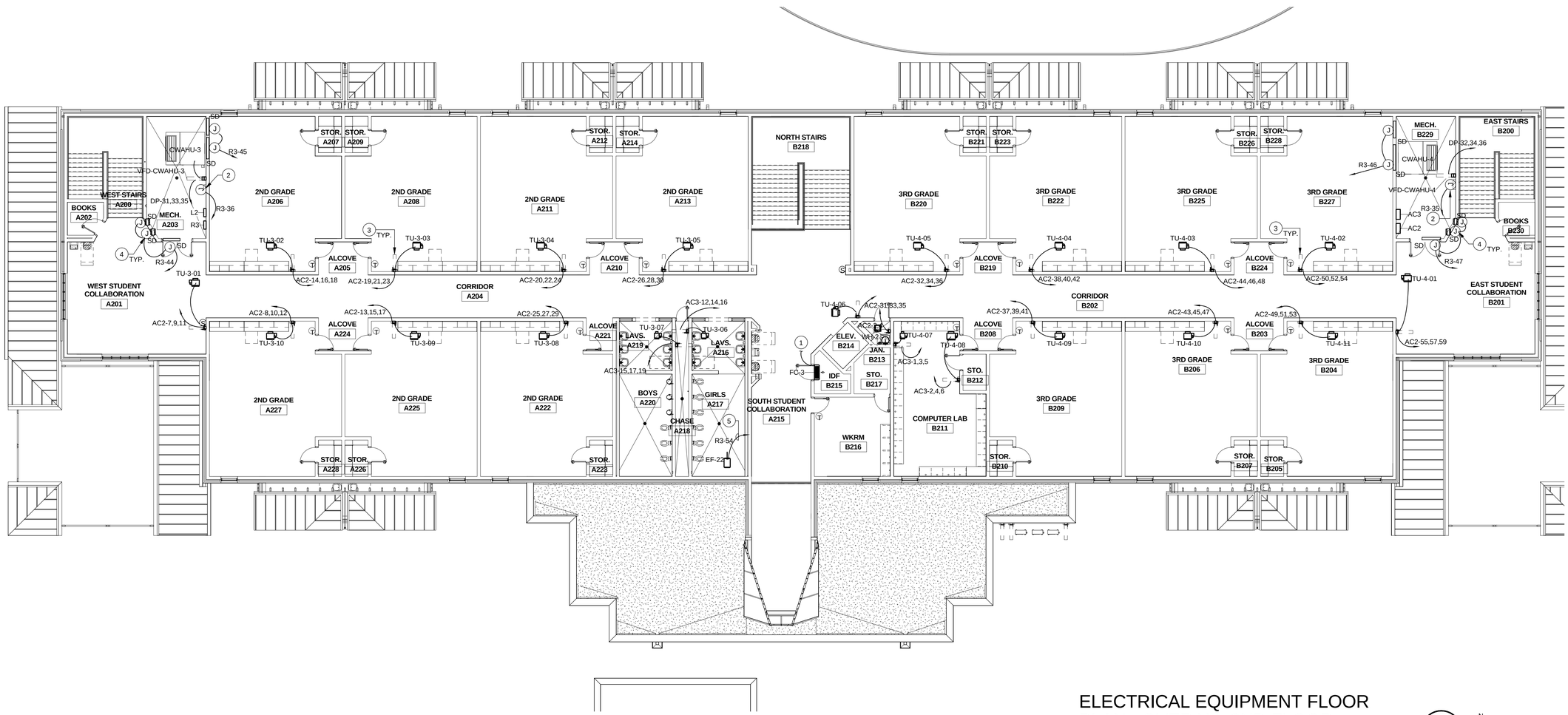
E4.0

GENERAL NOTES- POWER

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTION TO H.V.A.C EQUIPMENT, PLUMBING EQUIPMENT, REFER TO PANEL SCHEDULE FOR WIRE SIZE.
B. ELECTRICAL CONTRACTOR SHALL PROVIDE STARTERS, RELAYS, CONTACTORS AND THE REQUIRED ELECTRICAL ACCESSORIES FOR MECHANICAL SYSTEM AS REQUIRED.
C. COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT IN ACCORDANCE W/MECHANICAL DRAWINGS TO MEET ELECTRICAL AND MECHANICAL REQUIRED CLEARANCE BY THE LATEST CODE.
D. ELECTRICAL CONTRACTOR SHALL PROVIDE J-BOX AND CONDUIT FOR H.V.A.C. CONTROLS AND THERMOSTATS. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
E. NEMA RATED OUTLETS, REFER TO BREAKER SIZE AND COORDINATE WITH EQUIPMENT REQUIREMENTS PRIOR TO BID.
F. ALL CONDUITS CONCEALED IN CMU WALLS SHALL BE RUN VERTICALLY NOT HORIZONTALLY. HORIZONTAL RUNS IN CMU NOT ALLOWED.
G. ALL RECEPTACLES (SINGLE, DUPLEX, QUAD, GFI) SHALL BE TAMPER PROOF WHETHER SHOWN OR NOT SHOWN ON PLANS.

ELECTRICAL KEYNOTES

1	INTERLOCK FCCU WITH FC H.V.A.C. EQUIPMENT. WIRING SHALL BE 3#10, 1#10G, 3/4"C.
2	PROVIDE J-BOX FOR HVAC CONTROLS ENCLOSURE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR.
3	DISCONNECTS, REFER TO DISCONNECT SCHEDULE.
4	PROVIDE J-BOX FOR SMOKE DAMPER. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR. INTERLOCK WITH FIRE ALARM SYSTEM.
5	FAN SHALL BE CONTROLLED BY BUILDING HVAC CONTROLS.



ELECTRICAL EQUIPMENT FLOOR PLAN - OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:43:13 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

ELECTRICAL EQUIPMENT FLOOR PLAN 2ND FLOOR

E4.1

Branch Panel: PANEL-MSB

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 100
Supply From: | **Phases:** 3 | **Mains Type:** MB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 4000 A
Enclosure: Type 3R | | **MCB Rating:** 4000 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
MSB-1	PANEL-DP	1600 A	3	4-Runs Each Of 4#350KCMIL, 1#4/0G,4"C	266547 VA	0 VA					--	3	500 A	CH-3	MSB-2
MSB-3	--	--	--	--			268212 VA	0 VA			--	--	--	--	MSB-4
MSB-5	--	--	--	--					277878 VA	0 VA	--	--	--	--	MSB-6
MSB-7	CH-2	500 A	3	2-Runs Each Of 4#250KCMIL, 1#2G, 4"C	50148 VA	50148 VA					2-Runs Each Of 4#250KCMIL, 1#2G, 4"C	3	500 A	CH-1	MSB-8
MSB-9	--	--	--	--			50148 VA	50148 VA			--	--	--	--	MSB-10
MSB-11	--	--	--	--					50148 VA	50148 VA	--	--	--	--	MSB-12
MSB-13	(VFD) SP-2	60 A	3	4#4, 1#8G,1.5"C	3360 VA	3360 VA					4#4, 1#8G,1.5"C	3	60 A	(VFD) SP-1	MSB-14
MSB-15	--	--	--	--			3360 VA	3360 VA			--	--	--	--	MSB-16
MSB-17	--	--	--	--					3360 VA	3360 VA	--	--	--	--	MSB-18
MSB-19	(VFD) PP-3	20 A	3	4#12, 1#12G,1/2"C	1152 VA	1152 VA					4#12, 1#12G,1/2"C	3	20 A	(VFD) PP-2	MSB-20
MSB-21	--	--	--	--			1152 VA	1152 VA			--	--	--	--	MSB-22
MSB-23	--	--	--	--					1152 VA	1152 VA	--	--	--	--	MSB-24
MSB-25	(VFD) PP-1	20 A	3	4#12, 1#12G,1/2"C	1152 VA	4500 VA					2#4, 1#8G,1.5"C	1	20 A	Receptacle	MSB-26
MSB-27	--	--	--	--			1152 VA								MSB-28
MSB-29	--	--	--	--					1152 VA	0 VA	--	--	--	Space	MSB-30
MSB-31	Space	--	--	--	0 VA	0 VA					--	--	--	Space	MSB-32
MSB-33	Space	--	--	--			0 VA	0 VA			--	--	--	Space	MSB-34
MSB-35	Space	--	--	--					0 VA	0 VA	--	--	--	Space	MSB-36
MSB-37	Space	--	--	--	0 VA	0 VA					--	--	--	Space	MSB-38
MSB-39	Space	--	--	--			0 VA	0 VA			--	--	--	Space	MSB-40
MSB-41	Space	--	--	--					0 VA	0 VA	--	--	--	Space	MSB-42
				Total Load:	381519 VA		378684 VA		388350 VA						
				Total Amps:	3183 A		3156 A		3240 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Equipment	33080 VA	100.00%	33080 VA		
HVAC	492872 VA	100.00%	492872 VA	**Total Conn. Load:**	1140673 VA
Other	380618 VA	100.00%	380618 VA	**Total Est. Demand:**	1083811 VA
Receptacle	135780 VA	53.68%	72890 VA	**Total Conn.:**	3166 A
Power	71811 VA	100.00%	71811 VA	**Total Est. Demand:**	3008 A
Lighting	24112 VA	125.00%	30140 VA		
EMERGENCY LIGHTING	2400 VA	100.00%	2400 VA		

Notes:

1.) 100% RATED MAIN BREAKER.
2.) GROUND FAULT PROTECTION.
3.) PROVIDE SURGE PROTECTION DEVICE, WITH DISCONNECT, INTEGRAL, RATED 200KA.
4.) ARC ENERGY REDUCTION SWITCH.

Branch Panel: DP

Location: MECH. B143 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 45
Supply From: PANEL-MSB | **Phases:** 3 | **Mains Type:** MB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 3000 A
Enclosure: Type 1 | | **MCB Rating:** 3000 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
DP-1	PANE-R1	200 A	3	4#3/0, 1#6G,2"C	24740 VA	13840 VA					4#3/0, 1#6G,2"C	3	200 A	PANEL-R2	DP-2
DP-3	--	--	--	--			27280 VA	13380 VA			--	--	--	--	DP-4
DP-5	--	--	--	--					45960 VA	11680 VA	--	--	--	--	DP-6
DP-7	PANEL-L1	100 A	3	4#3, 1#6G,1.5"C	5476 VA	4825 VA					4#3, 1#6G,1.5"C	3	100 A	PANEL-L2	DP-8
DP-9	--	--	--	--			4253 VA	3605 VA			--	--	--	--	DP-10
DP-11	--	--	--	--					6114 VA	2510 VA	--	--	--	--	DP-12
DP-13	PANEL-C1	100 A	3	4#2, 1#8G,1.5"C	9840 VA	6400 VA					4#2, 1#8G,1.5"C	3	100 A	PANEL-C2	DP-14
DP-15	--	--	--	--			8240 VA	11400 VA			--	--	--	--	DP-16
DP-17	--	--	--	--					4800 VA	10603 VA	--	--	--	--	DP-18
DP-19	PANEL-AC	800 A	3	2-Runs Each Of 4#600KCMIL, 1#1/0G,4"C	81040 VA	86436 VA					2-Runs Each Of 4#600KCMIL, 1#1/0G,4"C	3	800 A	PANEL-AC2	DP-20
DP-21	--	--	--	--			81040 VA	85084 VA			--	--	--	--	DP-22
DP-23	--	--	--	--					80040 VA	82232 VA	--	--	--	--	DP-24
DP-25	CWAHU-2	80 A	3	4#4, 1#8G,1.5"C	6214 VA	5760 VA					4#4, 1#8G,1.5"C	3	60 A	ELEVATOR	DP-26
DP-27	--	--	--	--			6214 VA	5760 VA			--	--	--	--	DP-28
DP-29	--	--	--	--					6214 VA	5760 VA	--	--	--	--	DP-30
DP-31	CWAHU-3	80 A	3	4#1, 1#6G,2"C	6214 VA	6214 VA					4#4, 1#8G,1.5"C	3	80 A	CWAHU-4	DP-32
DP-33	--	--	--	--			6214 VA	6214 VA			--	--	--	--	DP-34
DP-35	--	--	--	--					6214 VA	6214 VA	--	--	--	--	DP-36
DP-37	CWAHU-1	80 A	3	4#1, 1#6G,2"C	6214 VA	3333 VA					4#4, 1#8G,1.5"C	3	40 A	WH-1	DP-38
DP-39	--	--	--	--			6214 VA	3333 VA			--	--	--	--	DP-40
DP-41	--	--	--	--					6214 VA	3333 VA	--	--	--	--	DP-42
				Total Load:	266547 VA		268232 VA		277889 VA						
				Total Amps:	2221 A		2237 A		2318 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Equipment	33080 VA	100.00%	33080 VA		
HVAC	492872 VA	100.00%	492872 VA	**Total Conn. Load:**	804757 VA
Other	79730 VA	100.00%	79730 VA	**Total Est. Demand:**	750145 VA
Receptacle	131280 VA	53.81%	70640 VA	**Total Conn.:**	2234 A
Power	41283 VA	100.00%	41283 VA	**Total Est. Demand:**	2082 A
Lighting	24112 VA	125.00%	30140 VA		
EMERGENCY LIGHTING	2400 VA	100.00%	2400 VA		

Notes:

1.) 100% RATED MAIN BREAKER.
2.) GROUND FAULT PROTECTION.
3.) PROVIDE SURGE PROTECTION DEVICE, WITH DISCONNECT, INTEGRAL, RATED 200KA.
4.) ARC ENERGY REDUCTION SWITCH.

Branch Panel: AC2

Location: MECH. B229 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 35
Supply From: DP | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 800 A
Enclosure: Type 1 | | **MCB Rating:** 800 A

CKT	Circuit Description	Trip	Pol...	Wire Size	A		B		C		Wire Size	Pol...	Trip	Circuit Description	CKT
AC2-1	TU-1-06	35 A	3	4#4, 1#8G,1.5"C	4080 VA	1500 VA					3#8, 1#10G,3/4"C	2	20 A	WH-2	AC2-2
AC2-3	--	--	--	--			4080 VA	1500 VA			--	--	--	--	AC2-4
AC2-5	--	--	--	--					4080 VA						AC2-6
AC2-7	TU-3-01	20 A	3	4#2, 1#8G,1.5"C	4080 VA	4080 VA					4#3, 1#6G,1.5"C	3	20 A	TU-3-10	AC2-8
AC2-9	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-10
AC2-11	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-12
AC2-13	TU-3-09	20 A	3	4#3, 1#6G,1.5"C	4080 VA	4080 VA					4#3, 1#6G,1.5"C	3	20 A	TU-3-02	AC2-14
AC2-15	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-16
AC2-17	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-18
AC2-19	TU-3-03	20 A	3	4#3, 1#6G,1.5"C	4080 VA	4080 VA					4#4, 1#8G,1.5"C	3	20 A	TU-3-04	AC2-20
AC2-21	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-22
AC2-23	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-24
AC2-25	TU-3-08	20 A	3	4#4, 1#8G,1.5"C	4080 VA	4080 VA					4#4, 1#8G,1.5"C	3	20 A	TU-3-05	AC2-26
AC2-27	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-28
AC2-29	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-30
AC2-31	TU-4-06	20 A	3	4#4, 1#8G,1.5"C	4560 VA	4080 VA					4#6, 1#10G,1"C	3	20 A	TU-4-05	AC2-32
AC2-33	--	--	--	--			4560 VA	4080 VA			--	--	--	--	AC2-34
AC2-35	--	--	--	--					4560 VA	4080 VA	--	--	--	--	AC2-36
AC2-37	TU-4-09	20 A	3	4#6, 1#10G,1"C	4080 VA	4080 VA					4#6, 1#10G,1"C	3	20 A	TU-4-04	AC2-38
AC2-39	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-40
AC2-41	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-42
AC2-43	TU-4-10	20 A	3	4#8, 1#10G,3/4"C	4080 VA	4080 VA					4#8, 1#10G,3/4"C	3	20 A	TU-4-03	AC2-44
AC2-45	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-46
AC2-47	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-48
AC2-49	TU-4-11	20 A	3	4#8, 1#10G,3/4"C	4080 VA	4080 VA					4#10, 1#10G,3/4"C	3	20 A	TU-4-02	AC2-50
AC2-51	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC2-52
AC2-53	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC2-54
AC2-55	TU-4-01	20 A	3	4#10, 1#10G,3/4"C	4080 VA	11016 VA					4#3, 1#6G,1.5"C	3	100 A	PANEL-AC3	AC2-56
AC2-57	--	--	--	--			4080 VA	9664 VA			--	--	--	--	AC2-58
AC2-59	--	--	--	--					4080 VA	8312 VA	--	--	--	--	AC2-60
AC2-61															AC2-62
AC2-63															AC2-64
				Total Load:	86436 VA		85084 VA		82232 VA						
				Total...	724 A		713 A		685 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Equipment	3000 VA	100.00%	3000 VA		
HVAC	250752 VA	100.00%	250752 VA	**Total Conn. Load:**	253752 VA
				Total Est. Demand:	253752 VA
				Total Conn.:	704 A
				Total Est. Demand:	704 A

Notes:

Branch Panel: AC

Location: ELECT. A113A | **Volts:** 120/208 Wye | **A.I.C. Rating:** 35
Supply From: DP | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 800 A
Enclosure: Type 1 | | **MCB Rating:** 800 A

CKT	Circuit Description	Trip	Pol...	Wire Size	A		B		C		Wire Size	Pol...	Trip	Circuit Description	CKT
AC-1	TU-1-09	35 A	3	4#3, 1#6G,1.5"C	4080 VA	4560 VA					4#2, 1#8G,1.5"C	3	40 A	TU-1-01	AC-2
AC-3	--	--	--	--			4080 VA	4560 VA			--	--	--	--	AC-4
AC-5	--	--	--	--					4080 VA	4560 VA	--	--	--	--	AC-6
AC-7	TU-1-02	35 A	3	4#3, 1#6G,1.5"C	4080 VA	4080 VA					4#3, 1#6G,1.5"C	3	35 A	TU-1-03	AC-8
AC-9	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-10
AC-11	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-12
AC-13	TU-1-08	35 A	3	4#3, 1#6G,1.5"C	4080 VA	4080 VA					4#4, 1#8G,1.5"C	3	35 A	TU-1-07	AC-14
AC-15	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-16
AC-17	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-18
AC-19	TU-1-04	35 A	3	4#4, 1#8G,1.5"C	4080 VA	4080 VA					4#4, 1#8G,1.5"C	3	35 A	TU-1-05	AC-20
AC-21	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-22
AC-23	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-24
AC-25	TU-1-06	35 A	3	4#3, 1#6G,1.5"C	4080 VA	4080 VA					4#6, 1#10G,1"C	3	35 A	TU-2-05	AC-26
AC-27	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-28
AC-29	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-30
AC-31	TU-2-10	35 A	3	4#6, 1#10G,1"C	4080 VA	4080 VA					4#6, 1#10G,1"C	3	35 A	TU-2-04	AC-32
AC-33	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-34
AC-35	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-36
AC-37	TU-2-11	35 A	3	4#8, 1#10G,3/4"C	4080 VA	4080 VA					4#8, 1#10G,3/4"C	3	35 A	TU-2-03	AC-38
AC-39	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-40
AC-41	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-42
AC-43	TU-2-02	35 A	3	4#8, 1#10G,3/4"C	4080 VA	4080 VA					4#8, 1#10G,3/4"C	3	35 A	TU-2-12	AC-44
AC-45	--	--	--	--			4080 VA	4080 VA			--	--	--	--	AC-46
AC-47	--	--	--	--					4080 VA	4080 VA	--	--	--	--	AC-48
AC-49	TU-2-01	40 A	3	4#8, 1#10G,3/4"C	4560 VA	1920 VA					4#2, 1#8G,1.5"C	3	30 A	TU-2-07&08	AC-50
AC-51	--	--	--	--			4560 VA	1920 VA			--	--	--	--	AC-52
AC-53	--	--	--	--					4560 VA	1920 VA	--	--	--	--	AC-54
AC-55	TU-2-06	40 A	3	4#4, 1#8G,1.5"C	3720 VA	4080 VA					4#4, 1#8G,1.5"C	3	35 A	TU-2-09	AC-56
AC-57	--	--	--	--			3720 VA	4080 VA			--	--	--	--	AC-58
AC-59	--	--	--	--					3720 VA	4080 VA	--	--	--	--	AC-60
AC-61	UH-1	20 A	2	3#8, 1#10G,3/4"C	1000 VA										AC-62
AC-63	--	--	--	--			1000 VA								AC-64
				Total Load:	81040 VA		81040 VA		80040 VA						
				Total...	677 A		677 A		667 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	242120 VA	100.00%	242120 VA		
				Total Conn. Load:	242120 VA
				Total Est. Demand:	242120 VA
				Total Conn.:	672 A
				Total Est. Demand:	672 A

Notes:

Electrical Disconnect Schedule

Mark	Description
ELEV.	60AMP, 3-PHASE, 4W, N1, 208V, S/N, H.D. FUSED DISCONNECT, @20AMPS SHUNT TRIP ENCLOSED BREAKER, SHUNT TRIP INTERLOCK WITH FIRE ALARM SYSTEM
ELEV. CAB	30AMP, 1-PHASE, 3W, N1,120V, S/N, N.F., H.D. DISCONNECT
FCCU-1	30AMP, 1-PHASE, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
FCCU-2	30AMP, 1-PHASE, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
FCCU-3	30AMP, 1-PHASE, 3W, N3R,208V, S/N, H.D. FUSED DISCONNECT
PP-1	30AMP, 3-PHASE, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
PP-2	30AMP, 3-PHASE, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
PP-3	30AMP, 3-PHASE, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
SP-1	60AMP, 3-PHASE, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
SP-2	60AMP, 3-PHASE, 4W, N3R,208V, S/N, H.D. FUSED DISCONNECT
TU-1-01	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-02	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-03	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-04	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-05	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-06	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-07	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-08	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-09	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-1-10	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-01	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-02	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-03	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-04	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-05	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-06	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-07	30AMP, 3-PHASE, 4W, N1, 208V, S/N, FUSED., H.D. DISCONNECT FUSED @ 20AMPS
TU-2-08	30AMP, 3-PHASE, 4W, N1, 208V, S/N, FUSED., H.D. DISCONNECT FUSED @ 20AMPS
TU-2-09	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-10	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-11	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-2-12	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-01	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-02	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-03	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-04	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-05	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-06	30AMP, 3-PHASE, 4W, N1, 208V, S/N, FUSED., H.D. DISCONNECT FUSED @ 20AMPS
TU-3-07	30AMP, 3-PHASE, 4W, N1, 208V, S/N, FUSED., H.D. DISCONNECT FUSED @ 20AMPS
TU-3-08	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-09	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-3-10	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-01	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-02	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-03	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-04	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-05	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-06	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-07	30AMP, 3-PHASE, 4W, N1, 208V, S/N, FUSED., H.D. DISCONNECT FUSED @ 20AMPS
TU-4-08	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-09	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-10	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-11	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. DISCONNECT
TU-4-18	30AMP, 1-PHASE, 3W, N1, 277V, S/N, N.F., H.D. DISCONNECT
WH-1	60AMP, 3-PHASE, 4W, N1, 208V, S/N, N.F., H.D. ROTARY TYPE DISCONNECT
WH-2	30AMP, 1-PHASE, 3W, N1, 208V, S/N, N.F., H.D. ROTARY TYPE DISCONNECT

GENERAL NOTES:
1.) REFER TO BREAKER SIZE FOR FUSE SIZE.
2.) REFER TO PANELBOARD FOR DISCONNECT PHASES AND VOLTAGE.

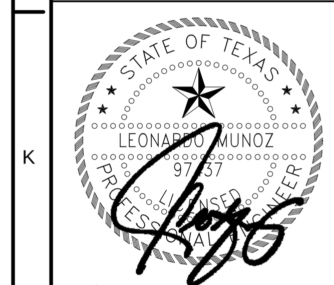
rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:



TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A | Weslaco, Tx 78596 p:956.973.0500 | f:956-351-5750
www.trinitymep.com | Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:43:15 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

ELECTRICAL PANELS

E5.0

Branch Panel: C1

Location: ELECT. A113A | Volts: 120/208 Wye | A.I.C. Rating: 12
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 100 A
Enclosure: Type 1 | | MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
C1-1	Receptacle	20 A	1	2#12, 1#12G,1/2"C	600 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-2
C1-3	Receptacle	20 A	1	2#12, 1#12G,1/2"C			200 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-4
C1-5	Receptacle	20 A	1	2#12, 1#12G,1/2"C					200 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-6
C1-7	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-8
C1-9	Receptacle	20 A	1	2#12, 1#12G,1/2"C			200 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-10
C1-11	Receptacle	20 A	1	2#12, 1#12G,1/2"C					200 VA	600 VA	2#12, 1#12G,1/2"C	1	20 A	Other	C1-12
C1-13	Receptacle	20 A	1	2#8, 1#10G,3/4"C	1200 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-14
C1-15	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-16
C1-17	Receptacle	20 A	1	2#8, 1#10G,3/4"C					1200 VA	600 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-18
C1-19	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-20
C1-21	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-22
C1-23	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-24
C1-25	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-26
C1-27	Receptacle	20 A	1	2#12, 1#12G,1/2"C			200 VA	600 VA			2#12, 1#12G,1/2"C	1	20 A	Other	C1-28
C1-29	Receptacle	20 A	1	2#12, 1#12G,1/2"C					600 VA	200 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C1-30
C1-31	Equipment	20 A	2	3#8, 1#10G,3/4"C	5040 VA										C1-32
C1-33	--	--	--	--			5040 VA								C1-34
C1-35															C1-36
C1-37															C1-38
C1-39															C1-40
C1-41															C1-42
	Total Load:				9840 VA		8240 VA		4800 VA						
	Total Amps:				86 A		73 A		40 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Equipment	10080 VA	100.00%	10080 VA		
Other	1800 VA	100.00%	1800 VA	Total Conn. Load:	22880 VA
Receptacle	11000 VA	95.45%	10500 VA	Total Est. Demand:	22380 VA
				Total Conn.:	64 A
				Total Est. Demand:	62 A

Notes:

Branch Panel: C2

Location: ELECT. A113A | Volts: 120/208 Wye | A.I.C. Rating: 12
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 100 A
Enclosure: Type 1 | | MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
C2-1	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-2
C2-3	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-4
C2-5	Receptacle	20 A	1	2#12, 1#12G,1/2"C					200 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-6
C2-7	Receptacle	20 A	1	2#12, 1#12G,1/2"C	200 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-8
C2-9	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-10
C2-11	Receptacle	20 A	1	2#10, 1#10G,3/4"C					200 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-12
C2-13	Receptacle	20 A	1	2#12, 1#12G,1/2"C	600 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-14
C2-15	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-16
C2-17	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	200 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-18
C2-19	Receptacle	20 A	1	2#12, 1#12G,1/2"C	200 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-20
C2-21	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-22
C2-23	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-24
C2-25	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-26
C2-27	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-28
C2-29	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-30
C2-31	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-32
C2-33	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	C2-34
C2-35	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-36
C2-37	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-38
C2-39	Receptacle	20 A	1	2#10, 1#10G,3/4"C			200 VA	200 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	C2-40
C2-41	Receptacle	20 A	1	2#12, 1#12G,1/2"C					200 VA	200 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	C2-42
	Total Load:				6400 VA		11400 VA		10603 VA						
	Total Amps:				53 A		100 A		94 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Equipment	10000 VA	100.00%	10000 VA		
Other	1800 VA	100.00%	1800 VA	Total Conn. Load:	28403 VA
Receptacle	16600 VA	80.12%	13300 VA	Total Est. Demand:	25103 VA
Power	3 VA	100.00%	3 VA	Total Conn.:	79 A
				Total Est. Demand:	70 A

Notes:

Branch Panel: L1

Location: ELECT. A113A | Volts: 120/208 Wye | A.I.C. Rating: 12
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 100 A
Enclosure: Type 1 | | MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
L1-1	Lighting	20 A	1	2#8, 1#10G,3/4"C	503 VA	503 VA					2#8, 1#10G,3/4"C	1	20 A	Lighting	L1-2
L1-3	Lighting	20 A	1	2#8, 1#10G,3/4"C			503 VA	503 VA			2#8, 1#10G,3/4"C	1	20 A	Lighting	L1-4
L1-5	Lighting	20 A	1	2#8, 1#10G,3/4"C					503 VA	503 VA	2#8, 1#10G,3/4"C	1	20 A	Lighting	L1-6
L1-7	Lighting	20 A	1	2#10, 1#10G,3/4"C	503 VA	429 VA					2#10, 1#10G,3/4"C	1	20 A	Lighting	L1-8
L1-9	Lighting	20 A	1	2#10, 1#10G,3/4"C			503 VA	503 VA			2#12, 1#12G,1/2"C	1	20 A	Lighting	L1-10
L1-11	Lighting	20 A	1	2#3, 1#8G,1.5"C					1548 VA	503 VA	2#12, 1#12G,1/2"C	1	20 A	Lighting	L1-12
L1-13	Lighting	20 A	1	2#12, 1#12G,1/2"C	503 VA	503 VA					2#12, 1#12G,1/2"C	1	20 A	Lighting	L1-14
L1-15	Lighting	20 A	1	2#10, 1#10G,3/4"C			578 VA	503 VA			2#12, 1#12G,1/2"C	1	20 A	Lighting	L1-16
L1-17	Lighting	20 A	1	2#12, 1#12G,1/2"C					503 VA	503 VA	2#12, 1#12G,1/2"C	1	20 A	Lighting	L1-18
L1-19	Lighting	20 A	1	2#12, 1#12G,1/2"C	503 VA	1129 VA					2#2, 1#8G,1.5"C	1	20 A	Lighting	L1-20
L1-21	Other	20 A	1	2#12, 1#12G,1/2"C			360 VA	800 VA			2#4, 1#8G,1.5"C	1	20 A	Lighting	L1-22
L1-23	Lighting	20 A	1	2#3, 1#8G,1.5"C					900 VA	1200 VA	2#8, 1#10G,3/4"C	1	20 A	EMERGENCY LIGHTING	L1-24
L1-25	Lighting	20 A	1	2#4, 1#8G,1.5"C	900 VA	0 VA					--	--	--	Space	L1-26
L1-27	Space	--	--	--			0 VA	0 VA			--	--	--	Space	L1-28
L1-29	Space	--	--	--					0 VA	0 VA	--	--	--	Space	L1-30
L1-31	Space	--	--	--	0 VA	0 VA					--	--	--	Space	L1-32
L1-33	Space	--	--	--			0 VA	0 VA			--	--	--	Space	L1-34
L1-35	Space	--	--	--					0 VA	0 VA	--	--	--	Space	L1-36
L1-37	Spare	20 A	1		0 VA	0 VA						1	20 A	Spare	L1-38
L1-39	Spare	20 A	1				0 VA	0 VA				1	20 A	Spare	L1-40
L1-41	Spare	20 A	1						0 VA	0 VA		1	20 A	Spare	L1-42
	Total Load:				5476 VA		4253 VA		6163 VA						
	Total Amps:				47 A		35 A		53 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	360 VA	100.00%	360 VA		
Lighting	14332 VA	125.00%	17915 VA	Total Conn. Load:	15892 VA
EMERGENCY LIGHTING	1200 VA	100.00%	1200 VA	Total Est. Demand:	19475 VA
				Total Conn.:	44 A
				Total Est. Demand:	54 A

Notes:

Branch Panel: L2

Location: MECH. A203 | Volts: 120/208 Wye | A.I.C. Rating: 12
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 100 A
Enclosure: Type 1 | | MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
L2-1	Lighting	20 A	1	2#8, 1#10G,3/4"C	1559 VA	1195 VA					2#2, 1#8G,1.5"C	1	20 A	Lighting	L2-2
L2-3	Lighting	20 A	1	2#12, 1#12G,1/2"C			424 VA	424 VA			2#12, 1#12G,1/2"C	1	20 A	Lighting	L2-4
L2-5	Lighting	20 A	1	2#12, 1#12G,1/2"C					424 VA	424 VA	2#12, 1#12G,1/2"C	1	20 A	Lighting	L2-6
L2-7	Lighting	20 A	1	2#12, 1#12G,1/2"C	424 VA	424 VA					2#12, 1#12G,1/2"C	1	20 A	Lighting	L2-8
L2-9	Lighting	20 A	1	2#12, 1#12G,1/2"C			424 VA	360 VA			2#12, 1#12G,1/2"C	1	20 A	Lighting	L2-10
L2-11	Lighting	20 A	1	2#12, 1#12G,1/2"C					425 VA	424 VA	2#10, 1#10G,3/4"C	1	20 A	Lighting	L2-12
L2-13	Lighting	20 A	1	2#4, 1#8G,1.5"C	424 VA	424 VA					2#8, 1#10G,3/4"C	1	20 A	Lighting	L2-14
L2-15	Lighting	20 A	1	2#10, 1#10G,3/4"C			389 VA	424 VA			2#8, 1#10G,3/4"C	1	20 A	Lighting	L2-16
L2-17	Lighting	20 A	1	2#10, 1#10G,3/4"C					389 VA	424 VA	2#10, 1#10G,3/4"C	1	20 A	Lighting	L2-18
L2-19	Lighting	20 A	1	2#12, 1#12G,1/2"C	140 VA	235 VA					2#12, 1#12G,1/2"C	1	20 A	Lighting	L2-20
L2-21	Space	--	--	--			0 VA	1200 VA			2#8, 1#10G,3/4"C	1	20 A	EMERGENCY LIGHTING	L2-22
L2-23	Space	--	--	--					0 VA	0 VA	--	--	--	Space	L2-24
L2-25	Space	--	--	--	0 VA	0 VA					--	--	--	Space	L2-26
L2-27	Space	--	--	--			0 VA	0 VA			--	--	--	Space	L2-28
L2-29	Space	--	--	--					0 VA	0 VA	--	--	--	Space	L2-30
L2-31	Space	--	--	--	0 VA	0 VA					--	--	--	Space	L2-32
L2-33	Space	--	--	--			0 VA	0 VA			--	--	--	Space	L2-34
L2-35	Space	--	--	--					0 VA	0 VA	--	--	--	Space	L2-36
L2-37	Spare	20 A	1		0 VA	0 VA						1	20 A	Spare	L2-38
L2-39	Spare	20 A	1				0 VA	0 VA				1	20 A	Spare	L2-40
L2-41	Spare	20 A	1						0 VA	0 VA		1	20 A	Spare	L2-42
	Total Load:				4825 VA		3645 VA		2510 VA						
	Total Amps:				42 A		32 A		21 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
Lighting	9780 VA	125.00%	12225 VA	Total Conn. Load:	10980 VA
EMERGENCY LIGHTING	1200 VA	100.00%	1200 VA	Total Est. Demand:	13425 VA
				Total Conn.:	30 A
				Total Est. Demand:	37 A

Notes:

Branch Panel: R1

Location: ELECT. A113A | Volts: 120/208 Wye | A.I.C. Rating: 18
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 200 A
Enclosure: Type 1 | | MCB Rating: 200 A

CKT	Circuit Description	Trip	Pol...	Wire Size	A		B		C		Wire Size	Pol...	Trip	Circuit Description	CKT
R1-1	Receptacle	20 A	1	2#8, 1#10G,3/4"C	1000 VA	1200 VA					2#4, 1#8G,1.5"C	1	20 A	Receptacle	R1-2
R1-3	1.) E.D.F.	20 A	1	2#12, 1#12G,1/2"C			600 VA	600 VA			2#12, 1#12G,1/2"C	1	20 A	1.) E.D.F.	R1-4
R1-5	1.) E.D.F.	20 A	1	2#12, 1#12G,1/2"C					600 VA	600 VA	2#12, 1#12G,1/2"C	1	20 A	1.) E.D.F.	R1-6
R1-7	1.) E.D.F.	20 A	1	2#12, 1#12G,1/2"C	600 VA	600 VA					2#10, 1#10G,3/4"C	1	20 A	Other	R1-8
R1-9	Receptacle	20 A	1	2#10, 1#10G,3/4"C			720 VA	800 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R1-10
R1-11	Receptacle	20 A	1	2#10, 1#10G,3/4"C					720 VA	1200 VA	2#6, 1#10G,1"C	1	20 A	Receptacle	R1-12
R1-13	Receptacle	20 A	1	2#8, 1#10G,3/4"C	800 VA	1200 VA					2#4, 1#8G,1.5"C	1	20 A	Receptacle	R1-14
R1-15	Receptacle	20 A	1	2#8, 1#10G,3/4"C			720 VA	800 VA			2#6, 1#10G,1"C	1	20 A	Receptacle	R1-16
R1-17	Receptacle	20 A	1	2#12, 1#12G,1/2"C					600 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-18
R1-19	1.) E.D.F.	20 A	1	2#10, 1#10G,3/4"C	600 VA	600 VA					2#10, 1#10G,3/4"C	1	20 A	1.) E.D.F.	R1-20
R1-21	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	720 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	R1-22
R1-23	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#10, 1#10G,3/4"C	1	20 A	Receptacle	R1-24
R1-25	Receptacle	20 A	1	2#8, 1#10G,3/4"C	720 VA	1000 VA					2#6, 1#10G,1"C	1	20 A	Receptacle	R1-26
R1-27	Receptacle	20 A	1	2#12, 1#12G,1/2"C			600 VA	180 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-28
R1-29	Receptacle	20 A	1	2#6, 1#10G,1"C					1200 VA	720 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-30
R1-31	Receptacle	20 A	1	2#12, 1#12G,1/2"C	800 VA	1200 VA					2#8, 1#10G,3/4"C	1	20 A	Receptacle	R1-32
R1-33	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	1200 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R1-34
R1-35	Receptacle	20 A	1	2#12, 1#12G,1/2"C					180 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-36
R1-37	Receptacle	20 A	1	2#12, 1#12G,1/2"C	720 VA	360 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-38
R1-39	Receptacle	20 A	1	2#10, 1#10G,3/4"C			800 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-40
R1-41	Receptacle	20 A	1	2#8, 1#10G,3/4"C					1200 VA	800 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-42
R1-43	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	180 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-44
R1-45	Receptacle	20 A	1	2#3, 1#8G,1.5"C			3000 VA	540 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-46
R1-47	Receptacle	20 A	1	2#10, 1#10G,3/4"C					1000 VA	1000 VA	2#10, 1#10G,3/4"C	1	20 A	Receptacle	R1-48
R1-49	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	800 VA					2#10, 1#10G,3/4"C	1	20 A	Receptacle	R1-50
R1-51	Receptacle	20 A	1				3000 VA	800 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	R1-52
R1-53	Receptacle	20 A	1	2#10, 1#10G,3/4"C					800 VA	9560 VA	4#3, 1#6G,1.5"C	3	100 A	R3	R1-54
R1-55	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	11020 VA					--	--	--	--	R1-56
R1-57	Receptacle	20 A	1	2#6, 1#10G,1"C			1500 VA	9320 VA			--	--	--	--	R1-58
R1-59	Power	20 A	1						24000 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-60
R1-61	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-62
R1-63	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R1-64
	Total Load:				24740 VA		27280 VA		45960 VA						
	Total...				206 A		231 A		386 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	600 VA	100.00%	600 VA		
Receptacle	65380 VA	57.65%	37690 VA	Total Conn. Load:	89980 VA
Power	24000 VA	100.00%	24000 VA	Total Est. Demand:	62290 VA
				Total Conn.:	250 A
				Total Est. Demand:	173 A

Notes:

Branch Panel: R2

Location: ELECT. A113A | Volts: 120/208 Wye | A.I.C. Rating: 18
Supply From: DP | Phases: 3 | Mains Type: MLO
Mounting: Surface | Wires: 4 | Mains Rating: 200 A
Enclosure: Type 1 | | MCB Rating: 200 A

CKT	Circuit Description	Trip	Pol...	Wire Size	A		B		C		Wire Size	Pol...	Trip	Circuit Description	CKT
R2-1	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	1200 VA					2#6, 1#10G,1"C	1	20 A	Receptacle	R2-2
R2-3	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	720 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	R2-4
R2-5	Receptacle	20 A	1	2#8, 1#10G,3/4"C					800 VA	1200 VA	2#6, 1#10G,1"C	1	20 A	Receptacle	R2-6
R2-7	Receptacle	20 A	1	2#6, 1#10G,1"C	1200 VA	1200 VA					2#6, 1#10G,1"C	1	20 A	Receptacle	R2-8
R2-9	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	720 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	R2-10
R2-11	Receptacle	20 A	1	2#12, 1#12G,1/2"C					180 VA	1200 VA	2#6, 1#10G,1"C	1	20 A	Receptacle	R2-12
R2-13	Receptacle	20 A	1	2#6, 1#10G,1"C	1200 VA	720 VA					2#10, 1#10G,3/4"C	1	20 A	Receptacle	R2-14
R2-15	Receptacle	20 A	1	2#6, 1#10G,1"C			1200 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-16
R2-17	Receptacle	20 A	1	2#12, 1#12G,1/2"C					180 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-18
R2-19	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	1000 VA					2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-20
R2-21	Receptacle	20 A	1	2#12, 1#12G,1/2"C			540 VA	600 VA			2#10, 1#10G,3/4"C	1	20 A	Other	R2-22
R2-23	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-24
R2-25	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	180 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-26
R2-27	Receptacle	20 A	1	2#12, 1#12G,1/2"C			360 VA	1200 VA			2#6, 1#10G,1"C	1	20 A	Receptacle	R2-28
R2-29	Receptacle	20 A	1	2#12, 1#12G,1/2"C					180 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-30
R2-31	Receptacle	20 A	1	2#12, 1#12G,1/2"C	380 VA	720 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-32
R2-33	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	1200 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-34
R2-35	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	1200 VA	2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-36
R2-37	Receptacle	20 A	1	2#12, 1#12G,1/2"C	360 VA	1200 VA					2#6, 1#10G,1"C	1	20 A	Receptacle	R2-38
R2-39	Receptacle	20 A	1	2#10, 1#10G,3/4"C			400 VA	1200 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-40
R2-41	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	400 VA	2#10, 1#10G,3/4"C	1	20 A	Receptacle	R2-42
R2-43	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	360 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-44
R2-45	Receptacle	20 A	1	2#12, 1#12G,1/2"C			360 VA	1200 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-46
R2-47	Receptacle	20 A	1	2#10, 1#10G,3/4"C					800 VA	800 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-48
R2-49	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	1200 VA					2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-50
R2-51	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	600 VA			2#10, 1#10G,3/4"C	1	20 A	1.) E.D.F.	R2-52
R2-53	1.) E.D.F.	20 A	1	2#10, 1#10G,3/4"C					600 VA	800 VA	2#8, 1#10G,3/4"C	1	20 A	Receptacle	R2-54
R2-55	1.) E.D.F.	20 A	1	2#12, 1#12G,1/2"C	600 VA	600 VA					2#12, 1#12G,1/2"C	1	20 A	1.) E.D.F.	R2-56
R2-57	1.) E.D.F.	20 A	1	2#12, 1#12G,1/2"C			600 VA	360 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-58
R2-59	Receptacle	20 A	1	2#10, 1#10G,3/4"C					1200 VA	400 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-60
R2-61	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R2-62
R2-63	Receptacle JAN. A113	20 A	1				180 VA	600 VA			2#10, 1#10G,3/4"C	1	20 A	Receptacle	R2-64
	Total Load:				13840 VA		13380 VA		11680 VA						
	Total...				118 A		114 A		97 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	600 VA	100.00%	600 VA		
Receptacle	38300 VA	63.05%	24150 VA	Total Conn. Load:	38900 VA
				Total Est. Demand:	24750 VA
				Total Conn.:	108 A
				Total Est. Demand:	69 A

Notes:

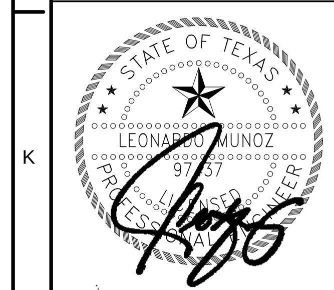
rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:



TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx
78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:43:16 PM
STARTING DATE: 09/05/2017
CK BY:Checker | DWN BY: Author

ELECTRICAL PANELS

E5.1

Branch Panel: AC3

Location: MECH. B229 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 35
Supply From: AC2 | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 200 A
Enclosure: Type 1 | **MCB Rating:** 200 A

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
AC3-1	TU-4-07	20 A	3	4#4, 1#8G,1.5"C	960 VA	4080 VA					4#4, 1#8G,1.5"C	3	20 A	TU-4-08	AC3-2
AC3-3	--	--	--	--			960 VA	4080 VA			--	--	--	--	AC3-4
AC3-5	--	--	--	--					960 VA	4080 VA	--	--	--	--	AC3-6
AC3-7	FCCU-1	20 A	2	3#8, 1#10G,3/4"C	1352 VA	1352 VA					3#8, 1#10G,3/4"C	2	20 A	FCCU-2	AC3-8
AC3-9	--	--	--	--			1352 VA	1352 VA			--	--	--	--	AC3-10
AC3-11	FCCU-3	20 A	2	3#10, 1#10G,3/4"C					1352 VA	960 VA		3	20 A	TU-3-06	AC3-12
AC3-13	--	--	--	--	1352 VA	960 VA					--	--	--	--	AC3-14
AC3-15	TU-3-07	20 A	3				960 VA	960 VA			--	--	--	--	AC3-16
AC3-17	--	--	--	--					960 VA	0 VA	--	--	--	Space	AC3-18
AC3-19	--	--	--	--	960 VA	0 VA					--	--	--	Space	AC3-20
AC3-21	Space	--	--	--			0 VA	0 VA			--	--	--	Space	AC3-22
AC3-23	Space	--	--	--					0 VA	0 VA	--	--	--	Space	AC3-24
AC3-25	Space	--	--	--	0 VA	0 VA					--	--	--	Space	AC3-26
AC3-27	Space	--	--	--			0 VA	0 VA			--	--	--	Space	AC3-28
AC3-29	Space	--	--	--					0 VA	0 VA	--	--	--	Space	AC3-30
AC3-31	Space	--	--	--	0 VA	0 VA					--	--	--	Space	AC3-32
AC3-33	Space	--	--	--			0 VA	0 VA			--	--	--	Space	AC3-34
AC3-35	Space	--	--	--					0 VA	0 VA	--	--	--	Space	AC3-36
AC3-37	Space	--	--	--	0 VA	0 VA					--	--	--	Space	AC3-38
AC3-39	Space	--	--	--			0 VA	0 VA			--	--	--	Space	AC3-40
AC3-41	Space	--	--	--					0 VA	0 VA	--	--	--	Space	AC3-42
				Total Load:	11016 VA		9664 VA		8312 VA						
				Total Amps:	94 A		82 A		69 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	28992 VA	100.00%	28992 VA		
				Total Conn. Load:	28992 VA
				Total Est. Demand:	28992 VA
				Total Conn.:	80 A
				Total Est. Demand:	80 A

Notes:

Branch Panel: R3

Location: MECH. A203 | **Volts:** 120/208 Wye | **A.I.C. Rating:** 18
Supply From: R1 | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: Type 1 | **MCB Rating:** 100 A

CKT	Circuit Description	Trip	Pol...	Wire Size	A		B		C		Wire Size	Pol...	Trip	Circuit Description	CKT
R3-1	Receptacle	20 A	1	2#12, 1#12G,1/2"C	600 VA	1200 VA					2#6, 1#10G,1"C	1	20 A	Receptacle	R3-2
R3-3	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	180 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-4
R3-5	Receptacle	20 A	1	2#6, 1#10G,1"C					1200 VA	800 VA	2#10, 1#10G,3/4"C	1	20 A	Receptacle	R3-6
R3-7	Receptacle	20 A	1	2#6, 1#10G,1"C	1200 VA	180 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-8
R3-9	Receptacle	20 A	1	2#4, 1#8G,1.5"C			1200 VA	1200 VA			2#6, 1#10G,1"C	1	20 A	Receptacle	R3-10
R3-11	Receptacle	20 A	1	2#12, 1#12G,1/2"C					360 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-12
R3-13	Receptacle	20 A	1	2#6, 1#10G,1"C	1200 VA	720 VA					2#8, 1#10G,3/4"C	1	20 A	Receptacle	R3-14
R3-15	Receptacle	20 A	1	2#8, 1#10G,3/4"C			800 VA	1200 VA			2#6, 1#10G,1"C	1	20 A	Receptacle	R3-16
R3-17	Receptacle	20 A	1	2#6, 1#10G,1"C					1200 VA	180 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-18
R3-19	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	720 VA					2#10, 1#10G,3/4"C	1	20 A	Receptacle	R3-20
R3-21	Receptacle	20 A	1	2#6, 1#10G,1"C			980 VA	800 VA			2#8, 1#10G,3/4"C	1	20 A	Receptacle	R3-22
R3-23	Receptacle	20 A	1	2#8, 1#10G,3/4"C					600 VA	600 VA	2#8, 1#10G,3/4"C	1	20 A	Receptacle	R3-24
R3-25	Receptacle	20 A	1	2#12, 1#12G,1/2"C	180 VA	180 VA					2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-26
R3-27	Receptacle	20 A	1	2#12, 1#12G,1/2"C			180 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-28
R3-29	Receptacle	20 A	1	2#12, 1#12G,1/2"C					400 VA	200 VA	2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-30
R3-31	Receptacle	20 A	1	2#12, 1#12G,1/2"C	400 VA	400 VA					2#10, 1#10G,3/4"C	1	20 A	Receptacle	R3-32
R3-33	Receptacle	20 A	1	2#12, 1#12G,1/2"C			400 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	Receptacle	R3-34
R3-35	HVAC Controls	20 A	1	2#10, 1#10G,3/4"C					600 VA	600 VA	2#12, 1#12G,1/2"C	1	20 A	HVAC Controls	R3-36
R3-37	HVAC Controls	20 A	1	2#10, 1#10G,3/4"C	600 VA	600 VA					2#12, 1#12G,1/2"C	1	20 A	HVAC Controls	R3-38
R3-39	Receptacle	20 A	1	2#6, 1#10G,1"C			1500 VA	800 VA			2#10, 1#10G,3/4"C	1	20 A	DAMPER J-BOX	R3-40
R3-41	DAMPER J-BOX	20 A	1	2#12, 1#12G,1/2"C					200 VA	600 VA	2#10, 1#10G,3/4"C	1	20 A	DAMPER J-BOX	R3-42
R3-43	DAMPER J-BOX	20 A	1	2#12, 1#12G,1/2"C	200 VA	600 VA					2#12, 1#12G,1/2"C	1	20 A	DAMPER J-BOX	R3-44
R3-45	DAMPER J-BOX	20 A	1	2#12, 1#12G,1/2"C			400 VA	400 VA			2#12, 1#12G,1/2"C	1	20 A	DAMPER J-BOX	R3-46
R3-47	DAMPER J-BOX	20 A	1	2#10, 1#10G,3/4"C					600 VA	200 VA	2#12, 1#12G,1/2"C	1	20 A	CONTROLS J-BOX	R3-48
R3-49	CONTROLS J-BOX	20 A	1	2#12, 1#12G,1/2"C	200 VA	200 VA					2#12, 1#12G,1/2"C	1	20 A	CONTROLS J-BOX	R3-50
R3-51	CONTROLS J-BOX	20 A	1	2#12, 1#12G,1/2"C			200 VA	200 VA			2#12, 1#12G,1/2"C	1	20 A	CONTROLS J-BOX	R3-52
R3-53	CONTROLS J-BOX	20 A	1	2#12, 1#12G,1/2"C					200 VA	600 VA		1	20 A	FAN	R3-54
R3-55															R3-56
R3-57															R3-58
R3-59															R3-60
R3-61															R3-62
R3-63															R3-64
				Total Load:	9560 VA		11020 VA		9320 VA						
				Total...	80 A		92 A		78 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	21900 VA	72.83%	15950 VA		
				Total Conn. Load:	21900 VA
				Total Est. Demand:	15950 VA
				Total Conn.:	61 A
				Total Est. Demand:	44 A

Notes:

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx
78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:43:17 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

ELECTRICAL PANELS

E5.2

GENERAL NOTES:

A. PROVIDE GROUND /BONDING AS INDICATED ON THE NATIONAL ELECTRICAL CODE.

B. NAME PLATES SHALL BE PROVIDED FOR ALL ELECTRICAL SWITCH GEAR, PANEL BOARDS, LIGHTING CONTACTORS, LIGHTING CONTROL PANELS, ETC.. BY ELECTRICAL CONTRACTOR.

C. NEW ELECTRICAL METERING AND SERVICE EQUIPMENT SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE LOCAL POWER UTILITY CO. AND CITY REQUIREMENTS. VERIFY AND COORDINATE WITH POWER UTILITY CO. AND AHJ BEFORE BID AND INSTALLATION.

D. COMPLY WITH NFPA 70E SAFETY REQUIREMENTS.

E. PANELBOARDS WITH MORE THAN 42 CIRCUITS SHALL BE IN ONE CABINET ENCLOSURE, UNLESS OTHERWISE NOTED.

F. PROVIDE 4"CONCRETE PAD FOR ALL DRY-TYPE TRANSFORMERS.

G. ALL TWO SECTION PANELBOARDS SHALL BE FEED THRU LUGS.

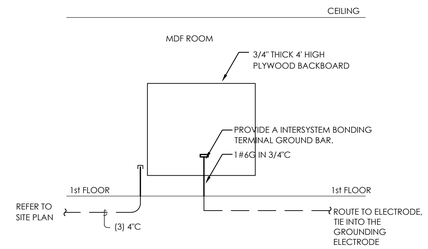
H. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY OF ELECTRICAL SERVICE TO THE NEW BUILDING WITHIN PROJECT SCHEDULE. COORDINATE ALL COST FOR LABOR AND MATERIALS WITH LOCAL ELECTRICAL UTILITY COMPANY PRIOR TO BID. ALL COST ASSOCIATED WITH THE DELIVERY OF ELECTRICAL SERVICE INCLUDING ALL MATERIALS SHALL BE INCLUDED IN BID. TRANSITION OF NEW ELECTRICAL SERVICE SHALL PROCEED IN WEEKENDS OR HOLIDAYS, INCLUDE ALL COST IN BID FOR OVERTIME FROM ELECTRIC UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE MADE FOR SERVICE DELIVERY COSTS AFTER CONTRACT HAS BEEN AWARDED.

I. THE CONTRACTOR SHALL FURNISH SHORT-CIRCUIT AND PROTECTION DEVICE COORDINATE STUDIES WHICH SHALL BE PREPARED BY THE EQUIPMENT GEAR MANUFACTURER AND SUBMITTED AS PART OF THE ELECTRICAL GEAR SUBMITTALS.

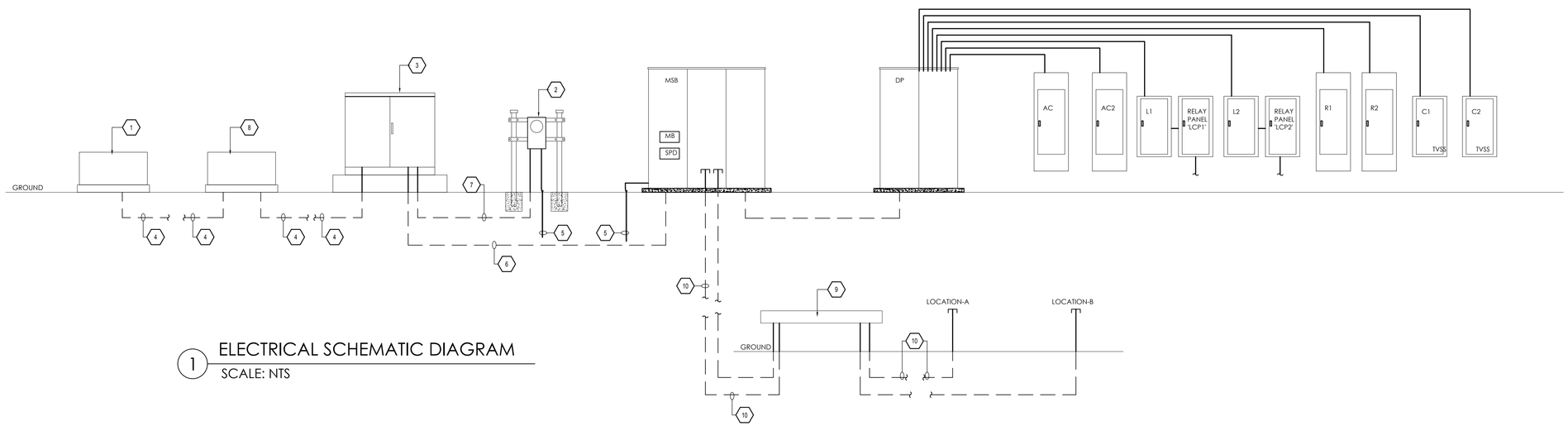
J. THE CONTRACTOR SHALL FURNISH AN ARC FLASH HAZARD ANALYSIS STUDY PER NFPA 70E-STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE, REFERENCE ARTICLE 130.3 AND ANEEX D.

ELECTRICAL RISER DIAGRAM KEYED NOTES:

1. EXISTING AEP PULL BOX.
2. NEW ELECTRICAL SERVICE METER 120/208V, 3Ø, 4W. CONTRACTOR SHALL PROVIDE METER BASE. VERIFY WITH POWER FOR METER BASE REQUIREMENTS PRIOR TO BID DATE. INCLUDE ALL COST IN BID. COORDINATE ALLOCATION OF METER SOCKET AND WIRING WITH POWER COMPANY.
3. NEW POWER COMPANY PAD MOUNT TRANSFORMER 120/208V, 3Ø, 4W. PROVIDE CONCRETE PAD AS PER POWER COMPANY REQUIREMENTS.
4. FURNISH AND INSTALL 1-4"C FOR UTILITY PRIMARY RACEWAY TO POWER SOURCE AS DIRECTED BY UTILITY COMPANY. PROVIDE WARNING RIBBONS 12" ABOVE CONDUIT.
5. 1#3/0G IN 1"C, 3/4"X10' COPPER CLAD RODS. PROVIDE GROUNDING AS PER NEC REQUIREMENTS. REFER TO GROUND REQUIREMENT DETAIL.
6. PROVIDE 8-RUNS EACH 4#900KCMIL, 6"C.
7. PROVIDE 1-2"C WITH PULLSTRING.
8. NEW AEP PULLBOX. PROVIDE NEW CONCRETE PAD. VERIFY WITH AEP ON CONCRETE PAD REQUIREMENTS.
9. PROVIDE NEW RAIN TIGHT NEMA-3R GUTTER. SIZE AS REQUIRED WITH 80% FREE AREA.
10. PROVIDE 6-4"C WITH PULLSTRINGS.



2 TELE/DATA RISER
SCALE: NTS



1 ELECTRICAL SCHEMATIC DIAGRAM
SCALE: NTS

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS LEONARDO MUNOZ 97157 REGISTERED PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

NO.	DATE	DESCRIPTION
		REVISIONS

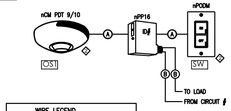
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:00:10 pM
STARTING DATE:	05/21/2018
CK BY: ---	DWN BY: ---

ELECTRICAL

E6.0

01



WIRE LEGEND	
A	CAT 5 (LOW VOLTAGE)
B	CLASS 1 (2#12, 1#12G,1/2"C)
C	CLASS 2 (LOW VOLTAGE)
D	ETHERNET LAN (LOW VOLTAGE)

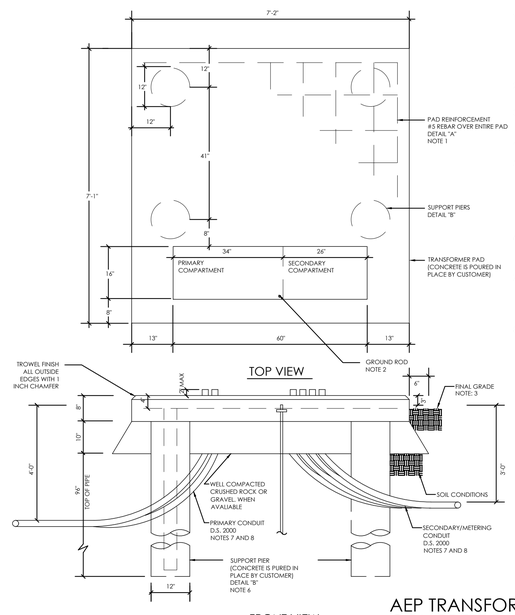
GENERAL NOTES:
1. SEE SPECS FOR LIMITATIONS ON DEVICES PER CAT5 RUN.
2. SEE LIMITATION OF GATEWAY AND BRIDGE FOR DEVICES PER PORT.
3. ALL SCENARIOS SHOW A MANUAL OVERRIDE OPTION.
4. NPP (NON-EMERGENCY) DEVICES PROVIDE UP TO 40mA BUS POWER PER PORT.

KEY NOTES:
1. QUANTITY OF FIXTURES MAY VARY.
2. DEVICES REQUIRE BUS POWER; PROVIDED BY DEVICES SUCH AS MASTER POWER PACK (nPP DEVICE)
3. BUS POWER PROVIDED BY LED nLIGHT ENABLED FIXTURES IN SPACE.
4. PROGRAMMING IS NECESSARY IF ROOMS ARE BROKEN DOWN INTO ZONES. EMBEDDED CONTROLS REQUIRE n100 OR OTHER FACTORY-INSTALLED nLIGHT DEVICE.
5. VERIFY DIMMING TYPES: ELV, MLV, 2-WIRE, 3-WIRE, 4-WIRE, INCANDESCENT AVAILABLE. DIMMING DEVICE MAY REQUIRE ADDITIONAL BUS POWER TO OPERATE (NPS80 / NPS150 / OTHER SELF POWERED POWER PACK)
6. 0-10V DIMMING ONLY (MARK VII DIMMING BALLAST OR 0-10VDC DIMMING DRIVER)
7. nLIGHT EMBEDDED CONTROLS WITH EMERGENCY GENERATOR/INVERTER INPUT. FIXTURES TO OPERATE AT FULL BRIGHT IN EVENT OF NORMAL POWER LOSS. CONTROL DEVICES ARE DIABLED UNTIL NORMAL POWER IS RESTORED. SEE SPECIFICATIONS FOR POWER REQUIREMENTS.
8. nPP16 ER RELAYS DO NOT PROVIDE BUS POWER FOR nLIGHT DEVICES IN NETWORK DAISY CHAIN.
9. ALL THE CAT-5 CABLE SHALL BE DONE BY A QUALIFIED CERTIFIED INSTALLER TO ASSURE THE CABLE TERMINATIONS ARE DONE PROPERLY PER MFR RECOMMENDATIONS.
10. CONTRACTOR SHALL INCLUDE ALL COST TO HAVE A PRE-INSTALLATION MEETING WITH MANUFACTURER TO ASSURE ALL THE INSTALLATION REQUIREMENTS ARE DONE PER MANUFACTURER.

OCCUPANCY SENSOR SCHMETIC
NO SCALE

02

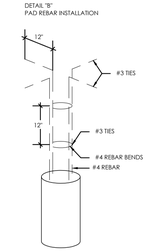
CONCRETE PAD & PIERS FOR THREE PHASE PAD-MOUNTED TRANSFORMER



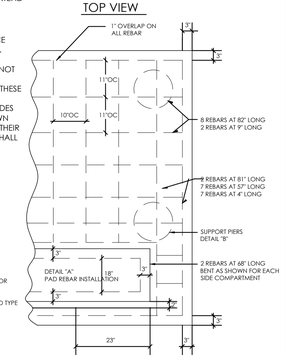
AMERICAN ELECTRIC POWER COMPANY DISTRIBUTION STANDARDS

NOTE:
1. SLAB REINFORCEMENT SHALL BE #5 REBARS, ON CENTER (OC) SPACING TO FOLLOW DIMENSIONS SHOWN ON THE DRAWING WITH 4" COVER. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS.
2. FOR GROUND ROD PLACMENT, REFER TO DS 2235, 2236, OR 2237.
3. FINAL GRADE SHALL BE ESTABLISHED BEFORE INSTALLATION OF PAD.
4. CONCRETE PAD WITH PIERS IS TO BE INSTALLED OF PAD.
5. PIERS SHALL BE 12" MINIMUM IN DIAMETER, 8 FEET DEEP WITH 4 - #4 VERTICALE REBAR AND #3 TIES AT 12" ON CENTER (O/C). AND PROVIDE A MINIMUM 3" COVER. THE #4 BEND BARS SHOULD BE 12" LONG IN THE HORIZONTAL DIRECTION..
6. PIERS REBAR BENT IN THE HORIZONTAL DIRECTION SO THAT IT MAY TIE IN WITH PAD REBAR.
7. THE NUMBER AND PLACEMENT OF SECONDARY CONDUITS TO BE DETERMINED BY ENGINEERING. CONDUIT MAY EXTEND IN ANY DIRECTION AS REQUIRED BY THE CUSTOMER.
8. BURIAL DEPTH OF CONDUIT IS DEFINED AS THE DISTANCE BETWEEN FINAL GRADE AND THE TOP OF THE CONDUIT. UNLESS OTHERWISE DESIGNATED BY ENGINEERING, CONDUITS SHALL BE INSTALLED AT A BURIAL DEPTH OF NOT LESS THAN 4'-0" AND SECONDARY CONDUITS SHALL BE INSTALLED AT A BURIAL DEPTH OF NOT LESS THAN 3'-0". THESE INITIAL DEPTHS ARE TO ALLOW FOR CHANGES TO THE SURFACE CONDITIONS, LOCAL AGREEMENTS AND CODES MAY REQUIRE ADDITIONAL DEPTH. IF OTHER ARE KNOWN EXTENSIVE CHANGES TO THE FINAL GRADE SUCH THAT THEIR DEPTHS ARE NOT MAINTAINED. CORRECTIVE ACTION SHALL BE TAKEN.

DETAIL - "B" - PIER REBAR INSTALLATION



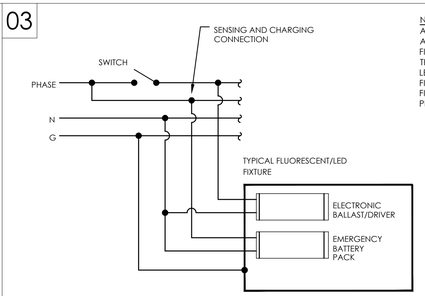
DETAIL - "A" - PAD INSTALLATION



CONCRETE PAD AND PIERS FOR THREE PHASE PAD-MOUNTED TRANSFORMERS
HIGH VOLUME CLAY OR SAND TYPE SOIL APPLICATIONS
75KVA - 2500KVA
25KV AND BELOW

AEP TRANSFORMER CONCRETE PAD DETAIL
NO SCALE

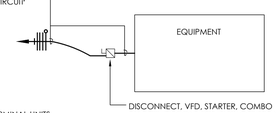
03



NOTE:
ALL EXIT LIGHT FIXTURE AND EMERGENCY FIXTURES SHALL BE ON THE NON-SWITCHED LEG. REFER TO LIGHT FIXTURE SCHEDULE FOR FIXTURE TYPE AND PLANS.

TYPICAL EMERGENCY LIGHT FIXTURE SCHEMATIC
NO SCALE

04



NOTE:
FOR MECHANICAL TERMINAL UNITS, REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT CIRCUIT DETAIL
NO SCALE

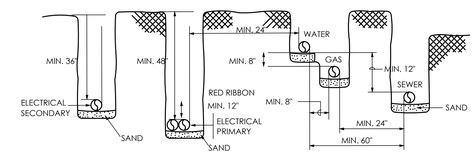
05

CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION.

COMPACT TRENCH FILL TO 95% PROCTOR DENSITY.

MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE.

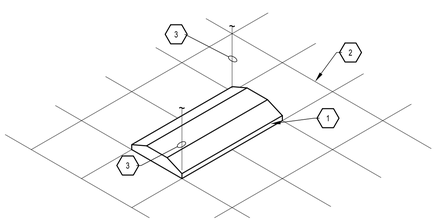
MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER. MAINTAIN A MINIM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.



TRENCH DETAIL
NO SCALE

06

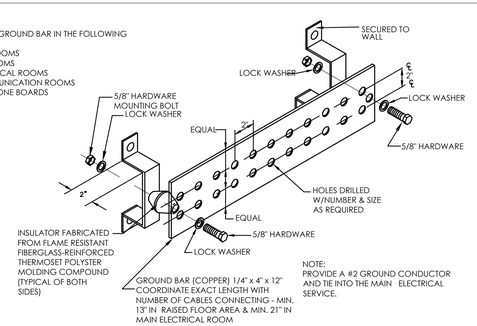
KEYED NOTES:
1. 2'x 4' LAY-IN LED/FLUORESCENT FIXTURE
2. SUSPENDED CEILING
3. TIE WIRE, CONNECT TO ALL FOUR CORNERS OF FIXTURE TO TOP OF STRUCTURE, INDEPENDENT OF CEILING SUPPORTS.



TYPICAL LAY-IN FIXTURE SUPPORT
NO SCALE

07

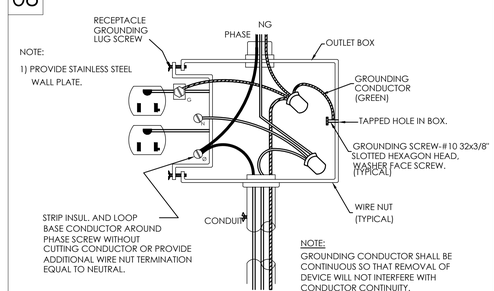
PROVIDE GROUND BAR IN THE FOLLOWING ROOMS:
1. MDF ROOMS
2. IDF ROOMS
3. ELECTRICAL ROOMS
4. COMMUNICATION ROOMS
5. TELEPHONE BOARDS



NOTE:
PROVIDE A #2 GROUND CONDUCTOR AND TIE INTO THE MAIN ELECTRICAL SERVICE.

WALL MOUNTED SINGLE-POINT GROUND BAR DETAIL
NO SCALE

08

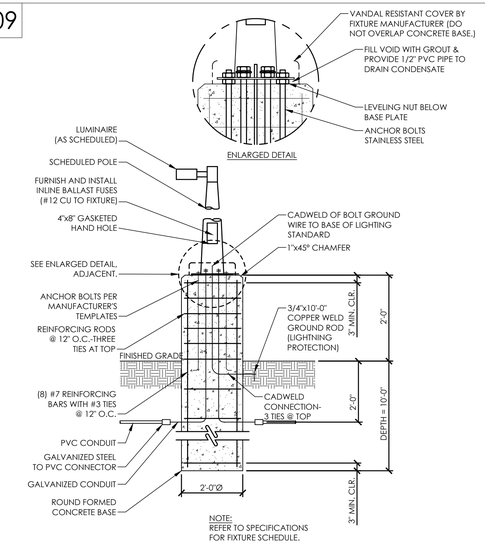


NOTE:
1) PROVIDE STAINLESS STEEL WALL PLATE.

NOTE:
GROUNDING CONDUCTOR SHALL BE CONTINUOUS SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH CONDUCTOR CONTINUITY.

TYPICAL RECEPTACLE GROUNDING DETAIL
NO SCALE

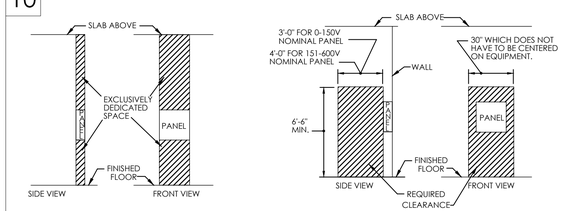
09



NOTE:
REFER TO SPECIFICATIONS FOR FIXTURE SCHEDULE.

PARKING LOT LIGHT POLE BASE
NO SCALE

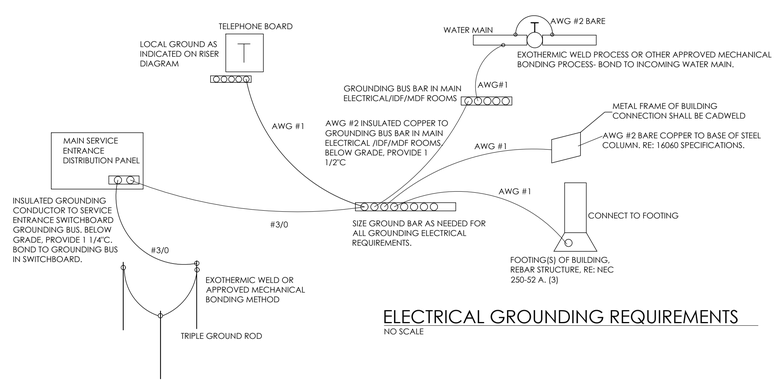
10



NOTE:
REFER TO THE LATEST NATIONAL ELECTRICAL CODE AND LOCAL CODES.

TYPICAL PANEL BOARD REQUIRED CLEARANCE
NO SCALE

11



ELECTRICAL GROUNDING REQUIREMENTS
NO SCALE

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97357
PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

NO.	DATE	REVISIONS DESCRIPTION

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

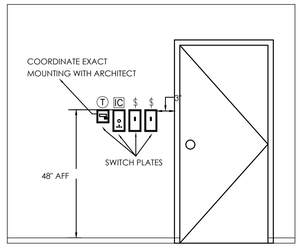
PROJECT NO:	2017.12
DATE:	5/21/2018 4:00:10 pM
STARTING DATE:	05/21/2018
CK BY: ---	DWN BY: ---

ELECTRICAL

E8.0

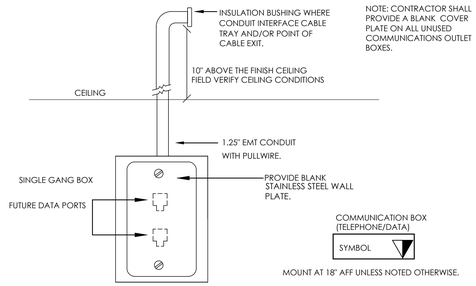
01

NOTE:
VERIFY WITH DIVISION-15 FOR THERMOSTAT LOCATION AND HEIGHT. REFER TO ARCHITECTURAL DOCUMENTS FOR ADA HEIGHT REQUIREMENTS PRIOR TO ANY WORK. ADJUST ACCORDINGLY.



SWITCH PLATE LOCATION DETAIL
NO SCALE

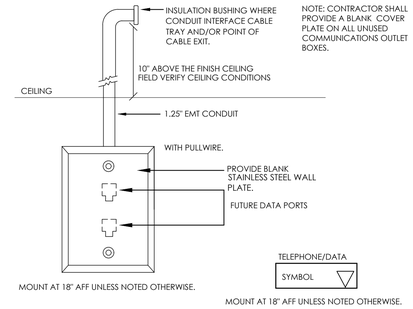
02



NOTE: CONTRACTOR SHALL PROVIDE A BLANK COVER PLATE ON ALL UNUSED COMMUNICATIONS OUTLET BOXES.

COMMUNICATION BOX DETAIL
NO SCALE

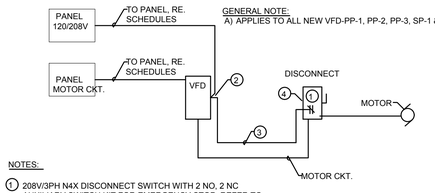
03



NOTE: CONTRACTOR SHALL PROVIDE A BLANK COVER PLATE ON ALL UNUSED COMMUNICATIONS OUTLET BOXES.

DATA DETAIL
NO SCALE

04

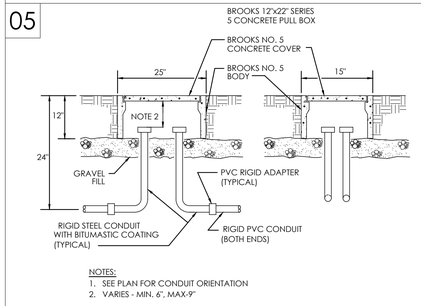


GENERAL NOTE:
A) APPLIES TO ALL NEW VFD-PP-1, PP-2, PP-3, SP-1 & SP-2.

NOTES:
1. 208V/3PH N4X DISCONNECT SWITCH WITH 2 NO, 2 NC AUXILIARY SWITCH KIT FOR EMERGENCY STOP. REFER TO DISCONNECT SCHEDULE FOR DISCONNECT SIZE.
2. 120V EMERGENCY STOP INPUT AT VFD. PROVIDE A 120VAC CIRCUIT FROM EXTERNAL SOURCE.
3. EMERGENCY STOP CONTROL CIRCUIT: 2 #10AWG THHN IN 3/4" CONDUIT.
4. CONNECT 120V CONTROL CIRCUIT THROUGH AUXILIARY CONTACTS.

SCHEMATIC - VFD EMERGENCY STOP SAFETY CONTROL WIRING DIAGRAM
NO SCALE

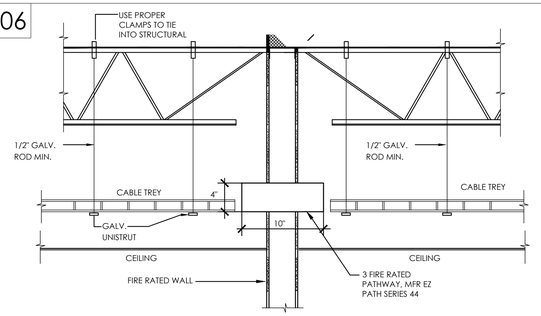
05



NOTES:
1. SEE PLAN FOR CONDUIT ORIENTATION
2. VARIES - MIN. 6", MAX-9"

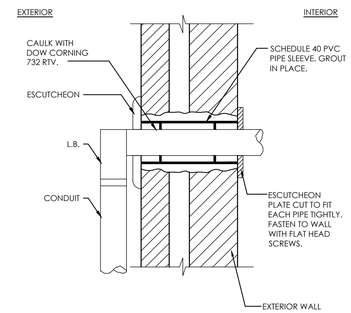
TYPICAL COMMUNICATION PULLBOX DETAIL
NO SCALE

06



FIRE WALL PENETRATION CABLE TRAY DETAIL
NO SCALE

07

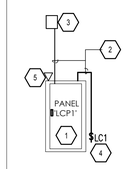


CONDUIT ENTRY THROUGH EXTERIOR
NO SCALE

08

KEYED NOTES:

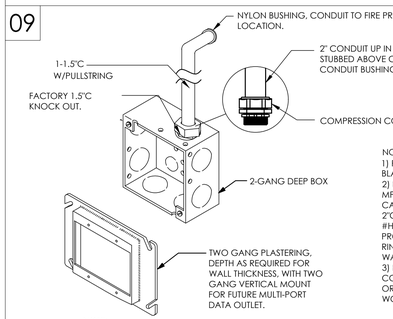
1. LIGHTING CONTROL RELAY PANELS. REFER TO SPECIFICATIONS - 26 09 26. EACH MATER RELAY PANEL SHALL INCLUDE DISPLAY MONITOR.
2. PROVIDE COMMUNICATION CABLE AS RECOMMENDED BY MANUFACTURER IN A 3/4"C. REFER TO PLAN FOR PANEL LOCATIONS.
3. PROVIDE EXTERIOR PHOTO CELL AS RECOMMENDED BY MANUFACTURER.
4. PROVIDE OVERRIDE SWITCH STATION. PROVIDE WIRING AS RECOMMENDED BY MANUFACTURER.
5. PROVIDE DATA CONNECTION TO MASTER PANEL.



NOTE:
1.) ALL EXTERIOR CIRCUITS SHALL BE PROGRAMMED AT OWNERS DIRECTIONS.
2.) MASTER RELAY PANEL "LCP1" SHALL INCLUDE CLOCK, PHOTOCELL, SOFTWARE PROGRAMMING, COMMUNICATION CARD AND GRAPHICAL CONTROLS.
3.) ALL SLAVE PANELS SHALL INCLUDE GRAPHICAL CONTROLS.

LIGHTING RELAY PANEL - SCHEMATIC DETAIL
NO SCALE

09



NOTE:
1) PROVIDE STAINLESS STEEL BLANK WALL PLATE.
2) BOX SHALL BE EQUAL TO MFR. HUBBELL LARGE CAPACITY WALL BOX WITH 2"C KO:#HBL260(2-GANG), #HBL263(3-GANG). PROVIDE PROPER MUD RING AND STAINLESS STEEL WALL PLATE. .
3) FIELD VERIFY WALL CONDITIONS PRIOR TO ORDERING AND ANY WORK.

NOTE:
1. PROVIDE TWO GANG STAINLESS STEEL BLANK WALL PLATE.

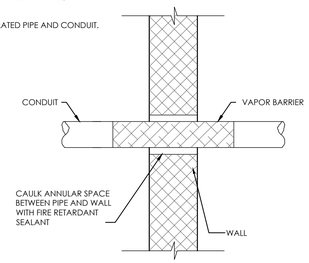
SYMBOL
AV

AUDIO/VIDEO DROP DETAIL
NO SCALE

10

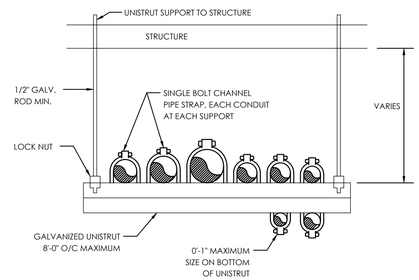
NOTE: WHERE PIPING IS EXPOSED AT FINISHED WALLS, PROVIDE FLUSH MOUNTED SLEEVE AND ESCUTCHEON PLATES. (CONTRACTOR MAY USE FIELD FABRICATED S.S. PLATE).

NOTE: SIMILAR FOR UNINSULATED PIPE AND CONDUIT.



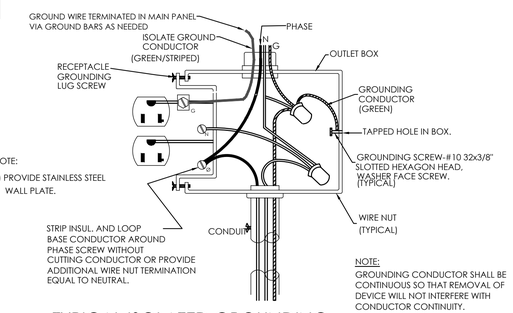
CONDUIT THROUGH WALL DETAIL
NO SCALE

11



SUPPORT DETAIL FOR MULTIPLE CONDUIT HORIZONTAL RUNS
NO SCALE

12

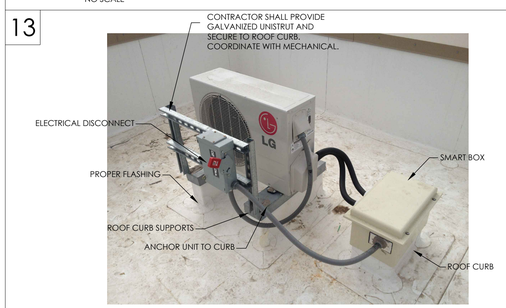


NOTE:
1) PROVIDE STAINLESS STEEL WALL PLATE.

NOTE:
GROUNDING CONDUCTOR SHALL BE CONTINUOUS SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH CONDUCTOR CONTINUITY.

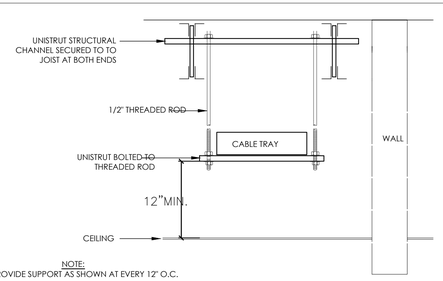
TYPICAL ISOLATED GROUNDING RECEPTACLE DETAIL
NO SCALE

13



DISCONNECT SUPPORT DETAIL
NO SCALE

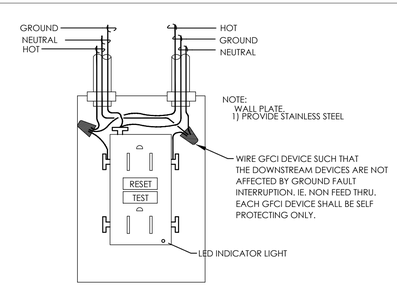
14



NOTE:
1. PROVIDE SUPPORT AS SHOWN AT EVERY 12' O.C.

CABLE TRAY MOUNTING DETAIL
NO SCALE

15



NOTE:
WALL PLATE.
1) PROVIDE STAINLESS STEEL

GFI RECEPTACLE- WIRING DIAGRAM
NO SCALE

16

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

NO.	DATE	DESCRIPTION
		REVISIONS

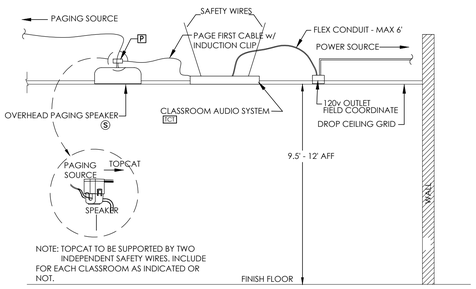
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:00:10 pM
STARTING DATE:	05/21/2018
CK BY: ---	DWN BY: ---

ELECTRICAL

E8.1

01



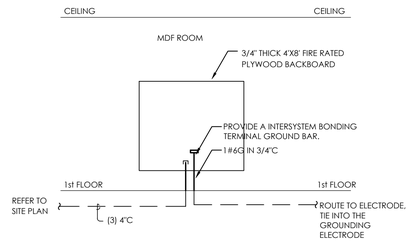
REFER TO SPECIFICATION-17200

CLASSROOM AUDIO SYSTEM DETAIL

NO SCALE

02

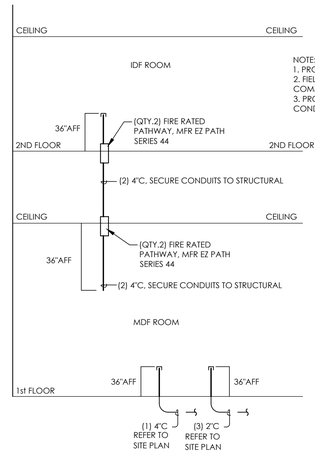
NOTE:
1. PROVIDE PULLBOXES SHOWN OR NOT SHOWN.
2. FIELD COORDINATE EXACT LOCATION WITH COMMUNICATION UTILITIY COMPANIES.
3. PROVIDE A MINIMUM OF 4 PULLSTRINGS FOR EACH CONDUIT.



TELE/DATA RISER

NO SCALE

03



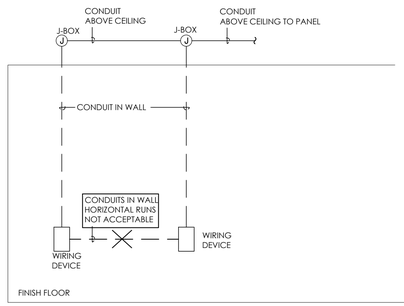
NOTE:
1. PROVIDE PULLBOXES SHOWN OR NOT SHOWN.
2. FIELD COORDINATE EXACT LOCATION WITH COMMUNICATION UTILITIY COMPANIES.
3. PROVIDE A MINIMUM OF 4 PULLSTRINGS FOR EACH CONDUIT.

DATA RISER

NO SCALE

04

NOTE:
1. ALL CONDUITS SHALL BE RUN VERTICALLY IN WALL.
2. HORIZONTAL CONDUIT RUNS IN WALL NOT ACCEPTABLE.
3. HORIZONTAL CONDUIT RUNS ARE ALLOWED ABOVE CEILING.



CONDUIT IN WALL DETAIL - TYPICAL

NO SCALE

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
PROFESSIONAL ENGINEER

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596
p:956.973.0500 I f:956.351.5750
www.trinitymep.com I Copyright 2018
Texas Registered Engineering Firm - F10362
Project number: 18.1.38

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:00:10 pM
STARTING DATE:	05/21/2018
CK BY: ---	DWN BY: ---

ELECTRICAL

E8.2

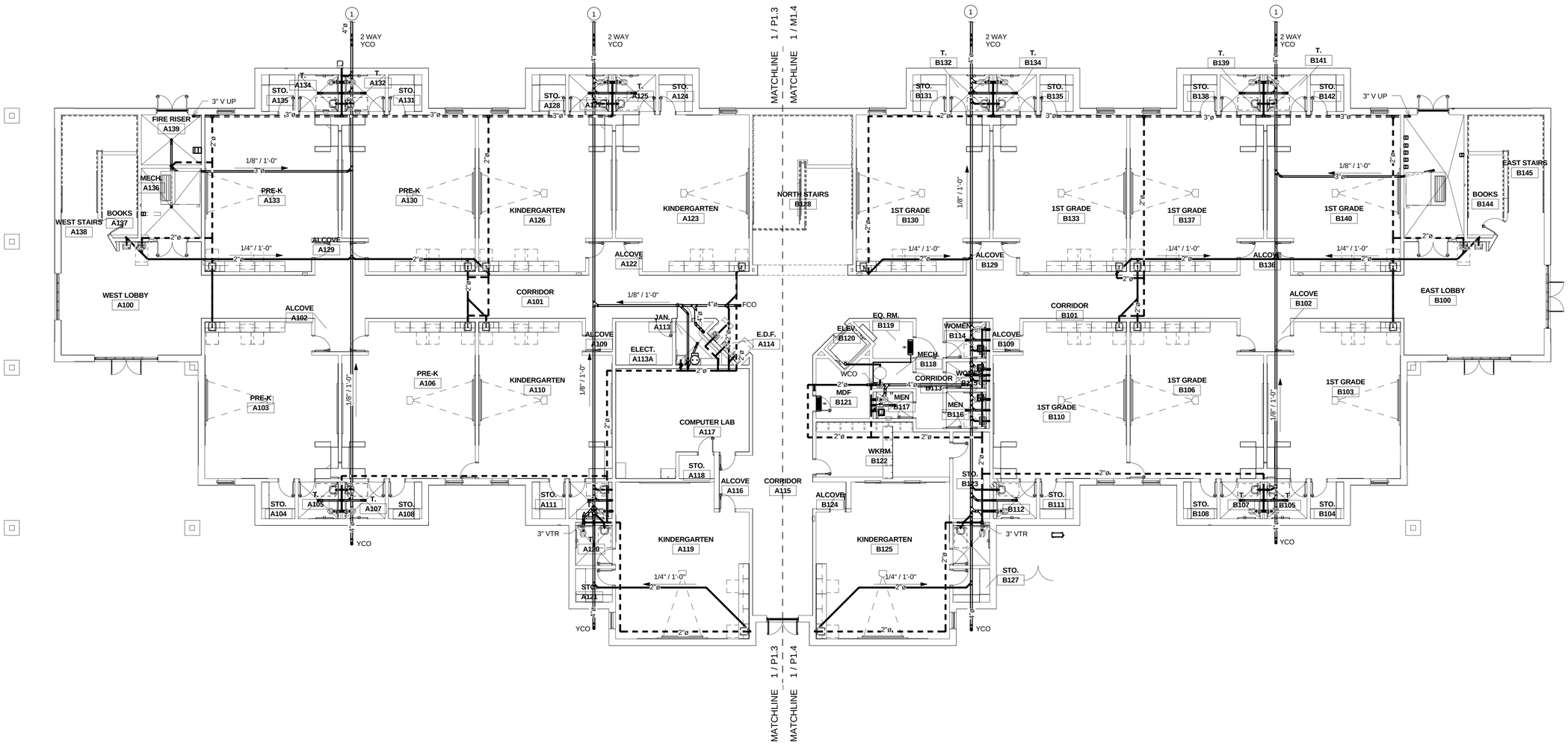
NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES	
1	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR SHALL VERIFY LOCATIONS, INVERT SLOPE, ELEVATION, AND DIRECTION OF FLOW WITH CIVIL ENGINEERING DRAWINGS.

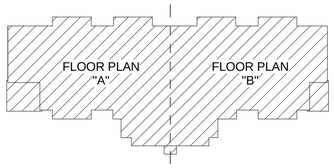


PLUMBING SEWER - OVERALL 1ST FLOOR

3/32" = 1'-0"

1

N



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:22:23 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING SEWER & VENT FLOOR PLAN 1ST FLOOR

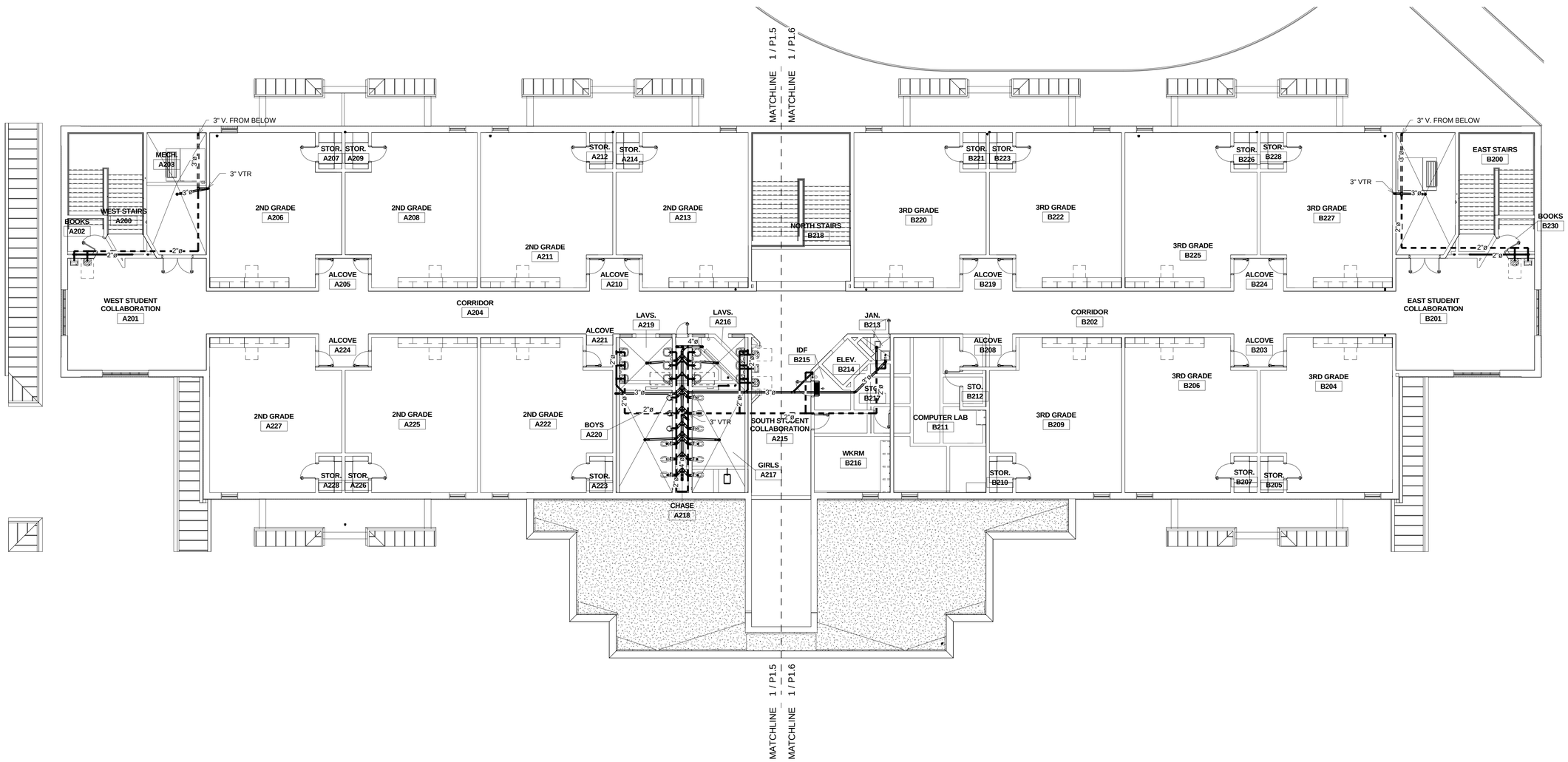
P1.1

NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

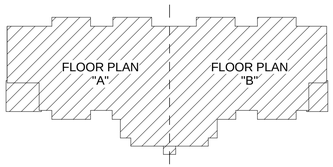


PLUMBING SEWER - OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

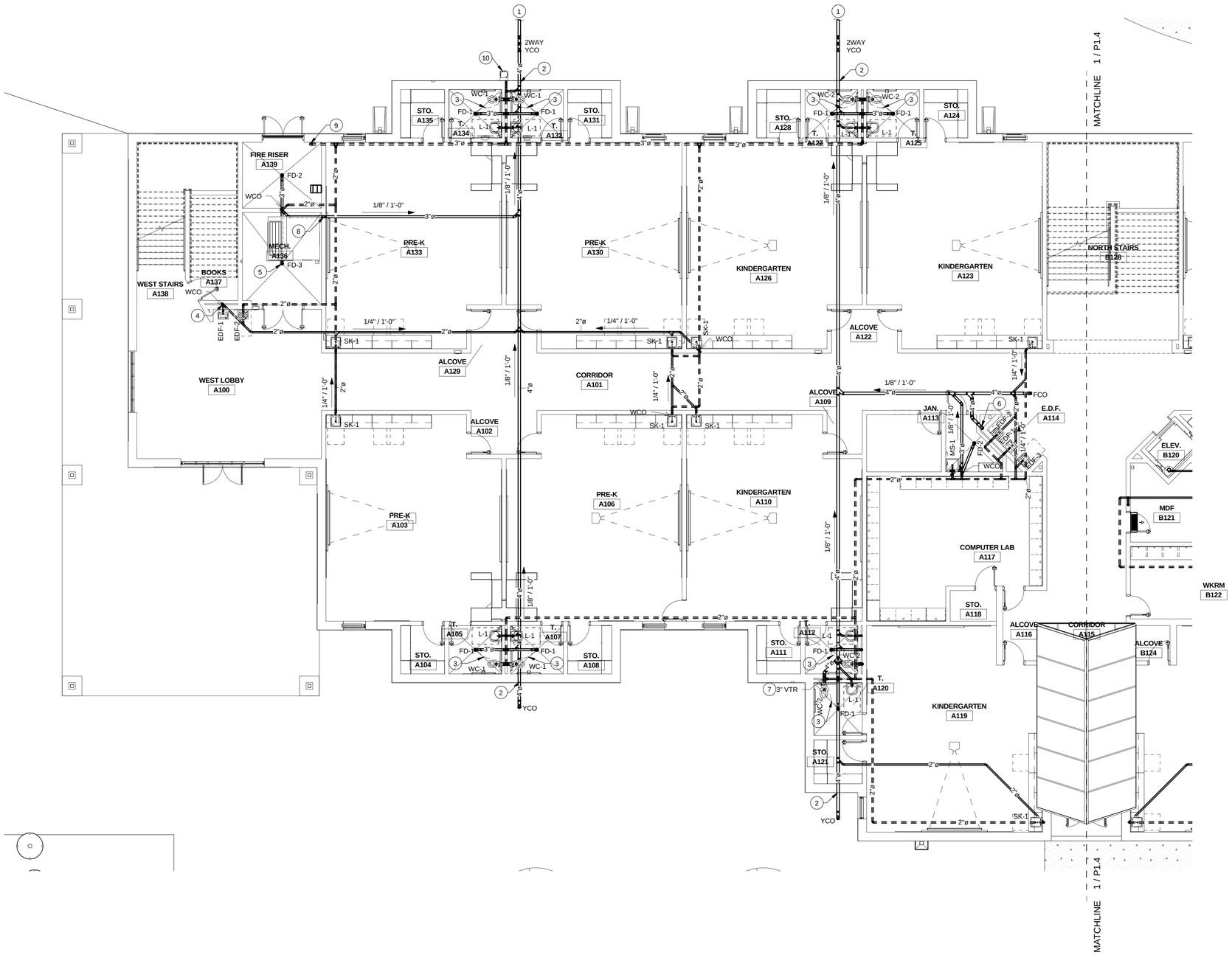
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:22:46 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING SEWER & VENT FLOOR PLAN 2ND FLOOR

P1.2



NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES

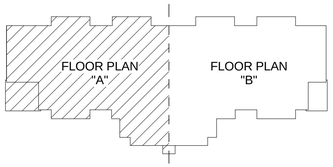
1	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR SHALL VERIFY LOCATIONS, INVERT SLOPE, ELEVATION, AND DIRECTION OF FLOW WITH CIVIL ENGINEERING DRAWINGS.
2	COORDINATE ROUTING OF ALL BELOW GRADE PIPING WITH GRADE BEAMS, ADJUST INVERT ELEVATIONS TO CLEAR BEAMS.
3	1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. PROVIDE FLUSHVALVE TRAP SEAL PRIMER EQUAL TO SLOAN VBF-72-A. SEE DETAIL 12/P4.1.
4	2" SOIL STACK FROM DRINKING FOUNTAIN ABOVE.
5	FLOOR DRAIN FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
6	4" SOIL STACK FROM RESTROOMS ABOVE.
7	KEEP ALL VENTS THRU ROOF (VTR) AT LEAST 10 FEET AWAY FROM ANY FRESH AIR INTAKE COORDINATE LOCATION OF ALL VTRs WITH HVAC CONTRACTOR.
8	3" SOIL STACK FROM FLOOR DRAIN ABOVE.
9	3" VENT UP.
10	DRINKING FOUNTAIN BY OWNER INSTALLATION BY PLUMBER.

PLUMBING SEWER - 1ST FLOOR "A"

1/8" = 1'-0"

1

N



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97509
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

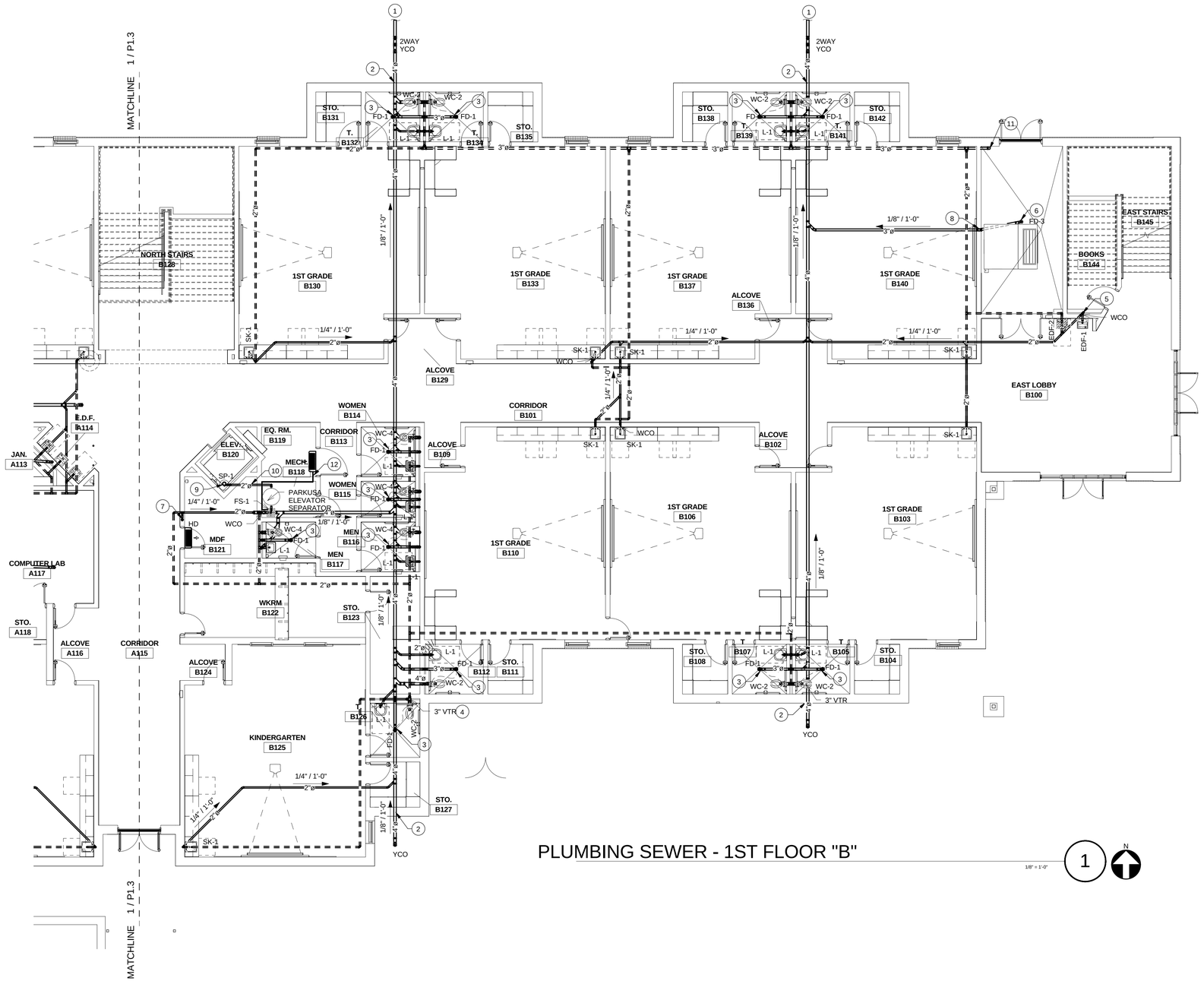
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:23:08 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL SEWER & VENT PLAN "A" - 1ST FLOOR

P1.3

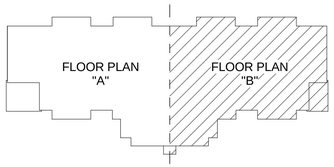


PLUMBING SEWER - 1ST FLOOR "B"

1/8" = 1'-0"

PLUMBING KEYED NOTES

1	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR SHALL VERIFY LOCATIONS, INVERT SLOPE, ELEVATION, AND DIRECTION OF FLOW WITH CIVIL ENGINEERING DRAWINGS.
2	COORDINATE ROUTING OF ALL BELOW GRADE PIPING WITH GRADE BEAMS. ADJUST INVERT ELEVATIONS TO CLEAR BEAMS.
3	1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. PROVIDE FLUSHVALVE TRAP SEAL PRIMER EQUAL TO SLOAN VBF-72-A. SEE DETAIL 12/P4.1.
4	KEEP ALL VENTS THRU ROOF (VTR) AT LEAST 10 FEET AWAY FROM ANY FRESH AIR INTAKE COORDINATE LOCATION OF ALL VTRs WITH HVAC CONTRACTOR.
5	2" SOIL STACK FROM DRINKING FOUNTAIN ABOVE.
6	FLOOR DRAIN FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
7	PROVIDE 3"HUB DRAIN FOR FAN COIL UNIT, WITH DEEP SEAL P-TRAP, IN WALL, ALONG WITH DRAIN KIT, TRAP PRIMER AND 8X8 UNIVERSAL ACCESS DOOR EQUAL TO MIFAB SERIES UA. REFER TO DETAIL 18/P4.1.
8	3" SOIL STACK FROM FLOOR DRAIN ABOVE.
9	ELEVATOR SUMP PUMP. REFER TO DETAIL 19/P4.1.
10	PROVIDE 2" SCH. 80 PVC PIPE TO SERVE THE ELEVATOR SUMP PUMP.
11	3" VENT UP.
12	1/2" COPPER CONDENSATE LINE. ROUTE ALONG THE WALL AND DISCHARGE ON FLOOR SINK.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	REVISIONS DESCRIPTION

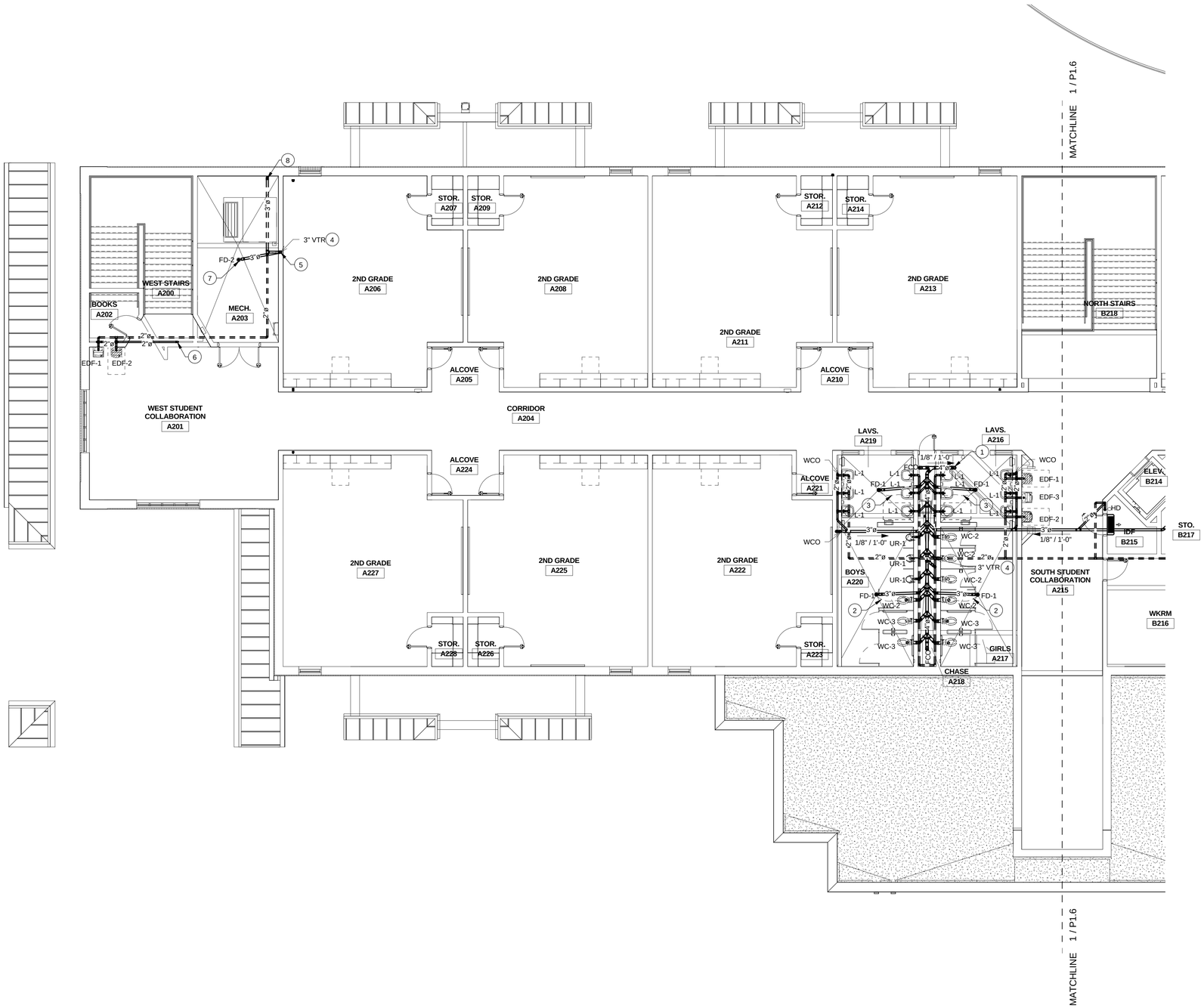
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:23:31 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL SEWER & VENT PLAN "B" - 1ST FLOOR

P1.4



PLUMBING SEWER - 2ND FLOOR "A"

1/8" = 1'-0"

1

N

NOTE:

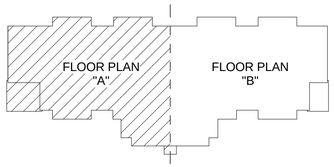
DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES

1	4" WASTE DOWN.
2	1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. PROVIDE FLUSHVALVE TRAP SEAL PRIMER EQUAL TO SLOAN VBF-72-A. SEE DETAIL 12/P4.1.
3	1/2" COPPER FROM TRAP PRIMER PROVIDE LAVATORY WITH WATER SAVER TRAP PRIMER. SEE DETAIL 08/P4.1. COVER WITH SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL ALL TRAP-PRIMERS.
4	KEEP ALL VENTS THRU ROOF (VTR) AT LEAST 10 FEET AWAY FROM ANY FRESH AIR INTAKE COORDINATE LOCATION OF ALL VTRs WITH HVAC CONTRACTOR.
5	3" WASTE DOWN AND 3" VENT UP VTR.
6	2" WASTE DOWN.
7	FLOOR DRAIN FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
8	3" VENT FROM BELOW.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

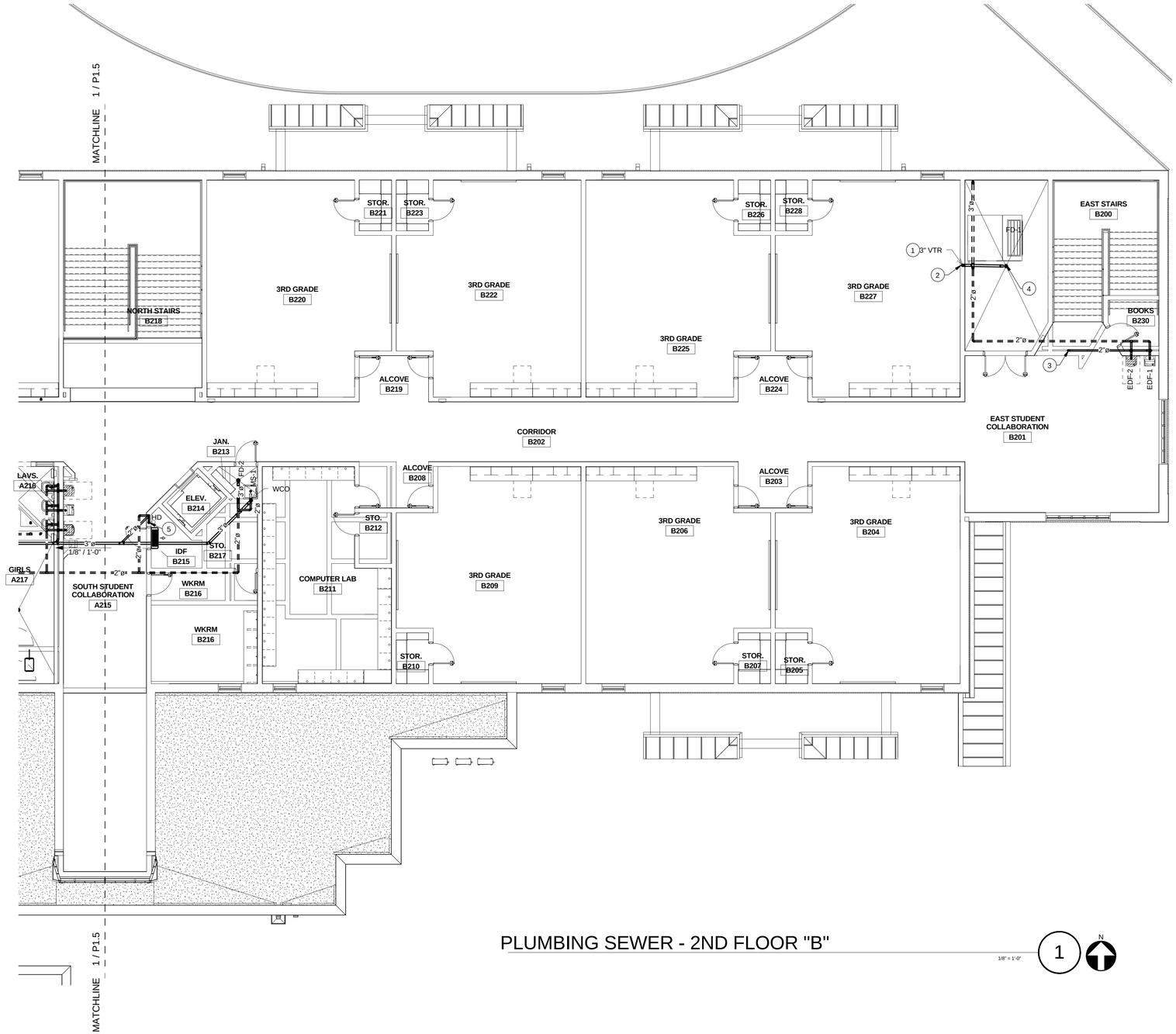
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:23:53 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL SEWER & VENT PLAN "A" - 2ND FLOOR

P1.5



PLUMBING SEWER - 2ND FLOOR "B"

1/8" = 1'-0"

1

N

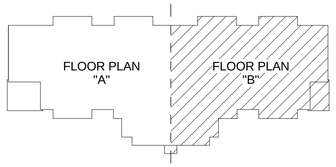
NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES	
1	KEEP ALL VENTS THRU ROOF (VTR) AT LEAST 10 FEET AWAY FROM ANY FRESH AIR INTAKE COORDINATE LOCATION OF ALL VTRs WITH HVAC CONTRACTOR.
2	3" WASTE DOWN AND 3" VENT UP VTR.
3	2" WASTE DOWN.
4	FLOOR DRAIN FOR CONDENSATE FROM AHU's. COORDINATE LOCATION WITH HVAC CONTRACTOR.
5	PROVIDE 3"HUB DRAIN FOR FAN COIL UNIT, WITH DEEP SEAL P-TRAP, IN WALL, ALONG WITH DRAIN KIT, TRAP PRIMER AND 8X8 UNIVERSAL ACCESS DOOR EQUAL TO MIFAB SERIES UA. REFER TO DETAIL 18/P4.1.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:23:58 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

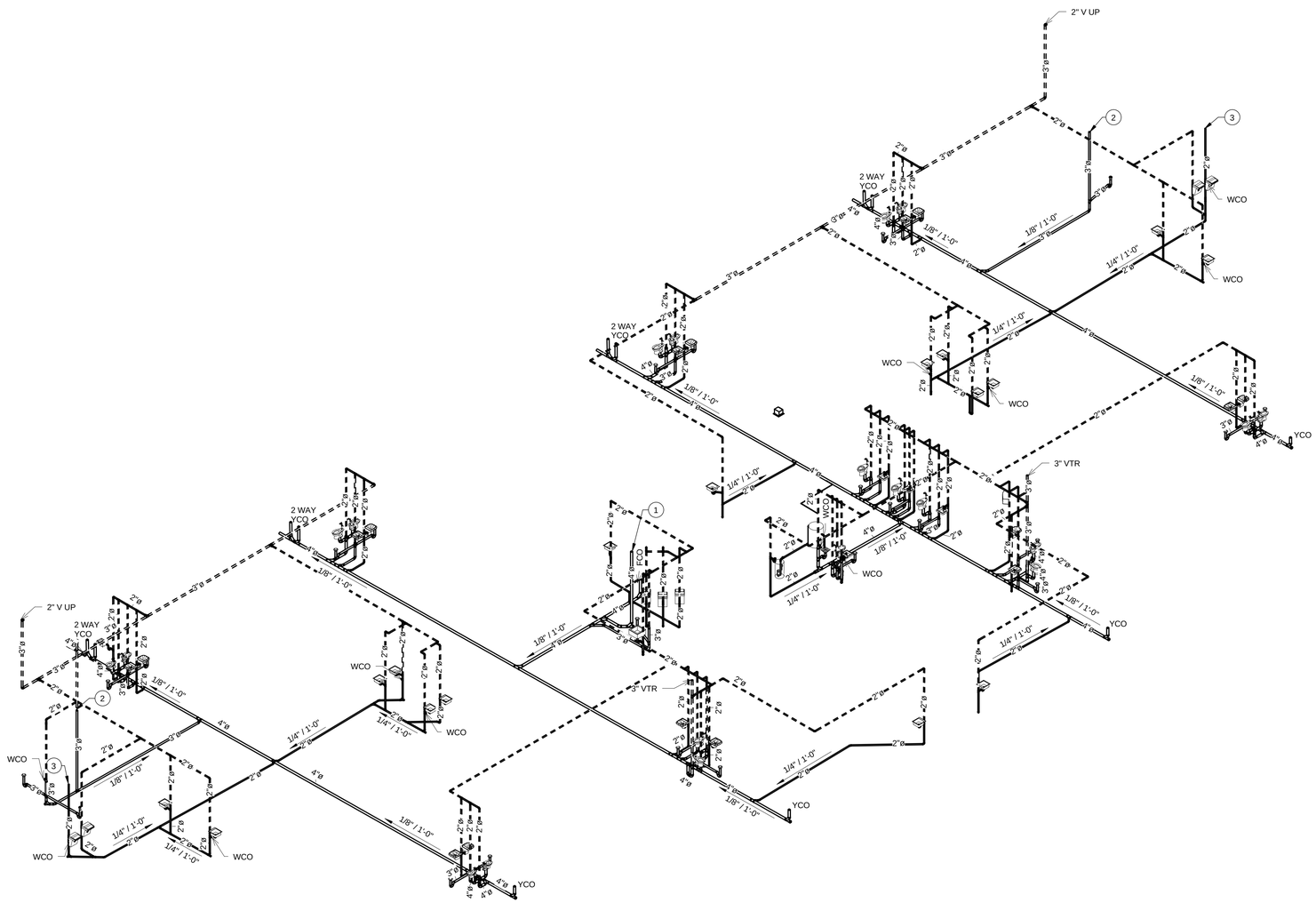
PARTIAL SEWER & VENT PLAN "B" - 2ND FLOOR

P1.6

GENERAL NOTES: PLUMBING

1. WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.
2. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PLUMBING KEYED NOTES	
1	4" SOIL STACK FROM RESTROOMS ABOVE.
2	3" SOIL STACK FROM FLOOR DRAIN ABOVE.
3	2" SOIL STACK FROM DRINKING FOUNTAIN ABOVE.



PLUMBING SEWER - OVERALL 1ST FLOOR RISER

1

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:24:11 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

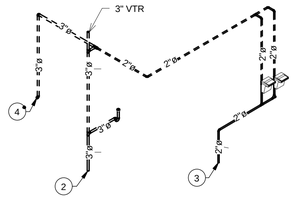
PLUMBING SEWER & VENT OVERALL 1ST. FLOOR RISER

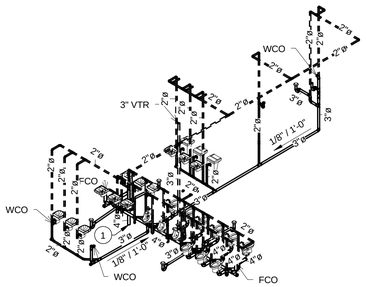
P1.7

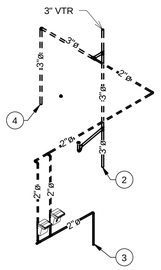
GENERAL NOTES: PLUMBING

1. WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.
2. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PLUMBING KEYED NOTES	
1	4" WASTE DOWN.
2	3" WASTE DOWN AND 3" VENT UP VTR.
3	2" WASTE DOWN.
4	3" VENT FROM BELOW.







PLUMBING SEWER - OVERALL 2ND FLOOR RISER

1

N

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97757
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:24:14 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING SEWER & VENT OVERALL 2ND FLOOR RISER

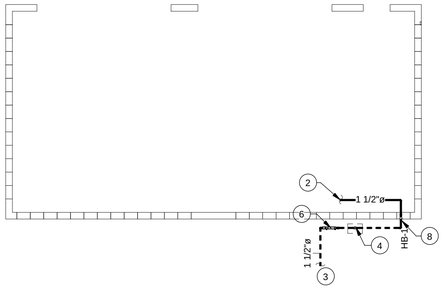
P1.8

NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

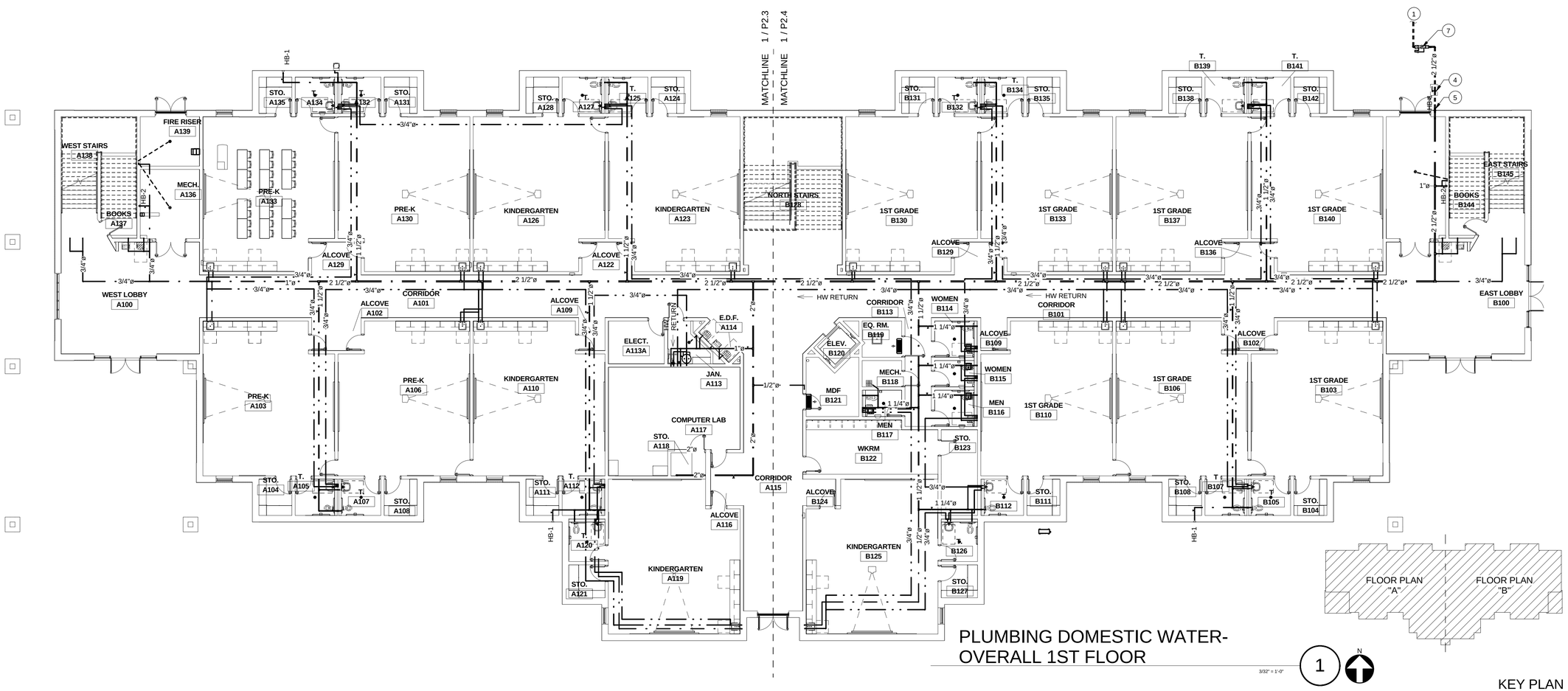
THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.



PLUMBING KEYED NOTES

1	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. PROVIDE 2" WATER METER AND BACKFLOW PREVENTER AS REQUIRED.
2	1-1/2" CW FOR MAKE-UP WATER FOR CHILLED WATER SYSTEM. COORDINATE WITH HVAC CONTRACTOR FOR EXACT LOCATION. PLUMBER TO PROVIDE BACKFLOW PREVENTER AND WATER METER.
3	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. PROVIDE 1" WATER METER AND BACKFLOW PREVENTER AS REQUIRED.
4	CUT-OFF VALVE IN CAST IRON BOX. SET BOX FLUSH WITH FINISHED GRADE.
5	WATER SERVICE ENTRANCE. REFER TO DETAIL 01/P4.1.
6	PROVIDE 1-1/2" DOUBLE CHECK VALVE ASSEMBLIES EQUAL TO WATTS SERIES 007. ALL EXPOSED WATER PIPES SHALL BE INSULATED AND JACKETED. USE 1" ARMFLEX FIBERGLASS INSULATION AND ALUMINUM JACKET.
7	PROVIDE 2-1/2" DOUBLE CHECK VALVE ASSEMBLIES EQUAL TO WATTS SERIES 007DCDA. ALL EXPOSED WATER PIPES SHALL BE INSULATED AND JACKETED. USE 1" ARMFLEX FIBERGLASS INSULATION AND ALUMINUM JACKET.
8	1-1/2" WATER PIPE DOWN TO UNDERGROUND. ALL EXPOSED WATER PIPES SHALL BE INSULATED AND JACKETED. USE 1" ARMFLEX FIBERGLASS INSULATION AND ALUMINUM JACKET.



PLUMBING DOMESTIC WATER-
OVERALL 1ST FLOOR

3/32" = 1'-0"

1

N

KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen | Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97139
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:24:39 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING DOMESTIC WATER FLOOR PLAN 1ST FLOOR

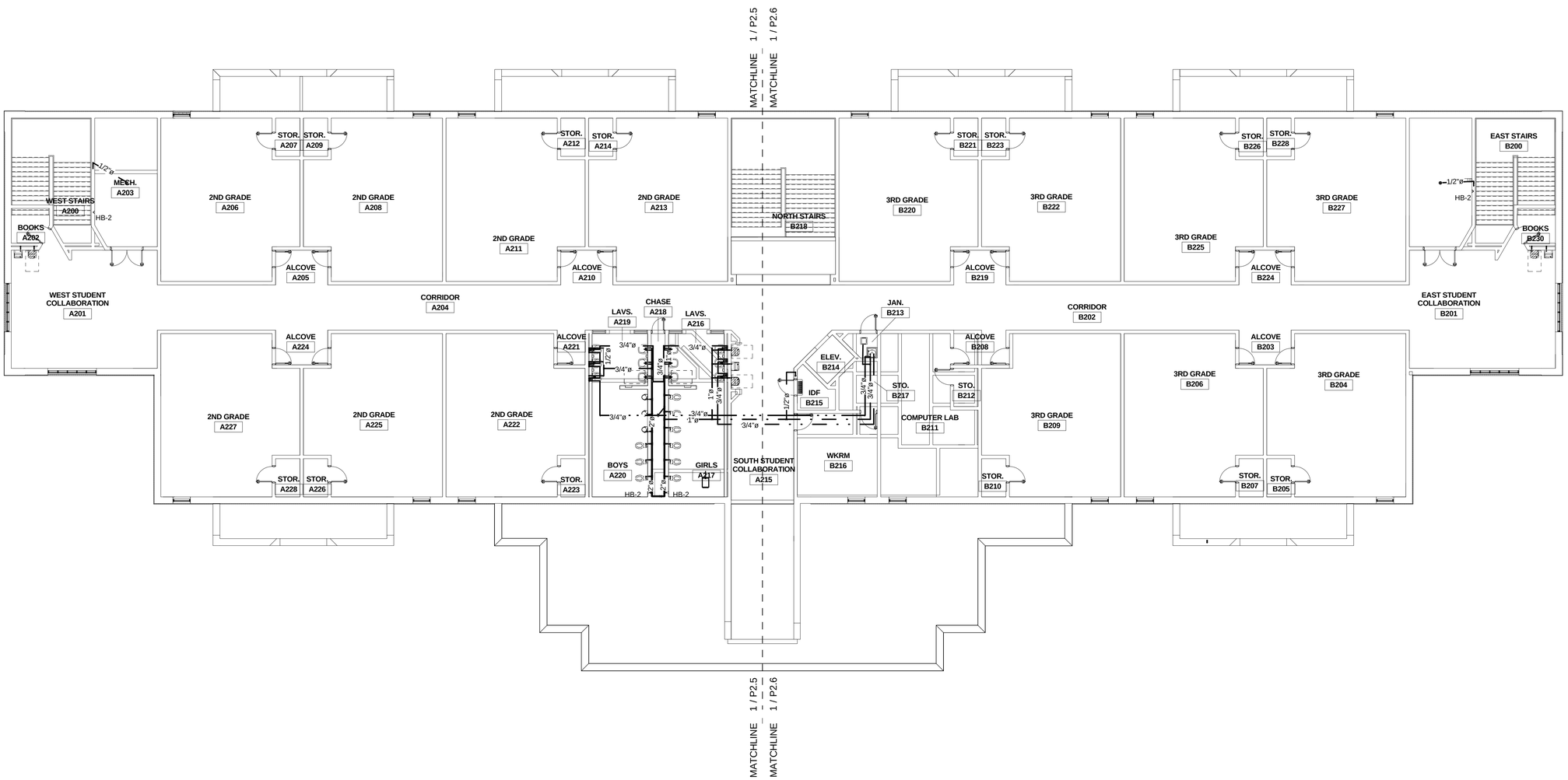
P2.1

NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

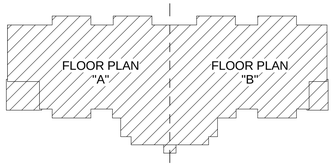


PLUMBING DOMESTIC WATER - OVERALL 2ND FLOOR

3/32" = 1'-0"

1

N



KEY PLAN

rofa architects

Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

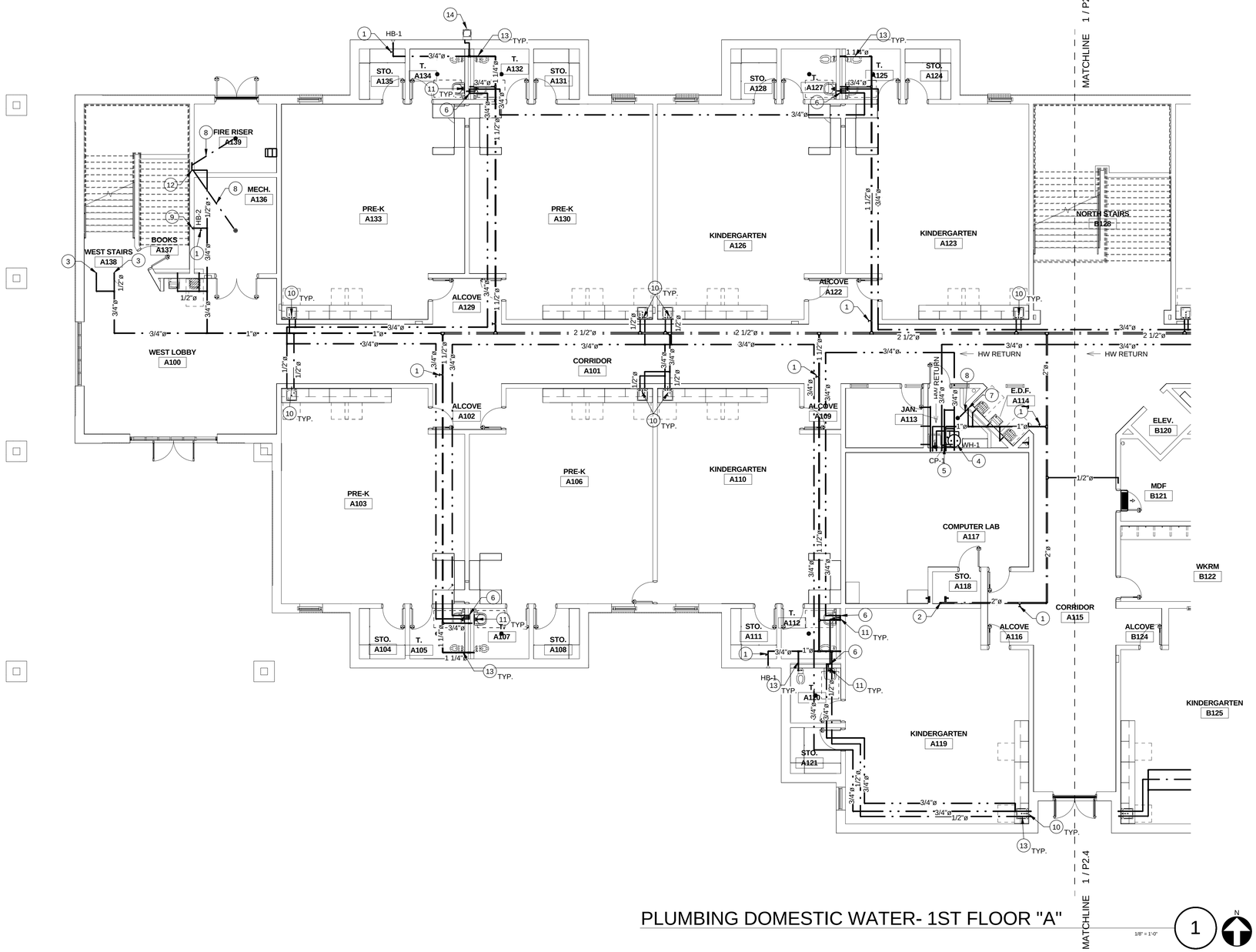
NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY
SCHOOL 2018-2019 CLASSROOM
ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT
SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO: 2017.12
DATE: 5/21/2018 4:25:04 PM
STARTING DATE: 09/05/2017
CK BY:Checker DWN BY: Author

PLUMBING DOMESTIC WATER FLOOR PLAN 2ND FLOOR

P2.2



PLUMBING DOMESTIC WATER- 1ST FLOOR "A"

1/8" = 1'-0"

NOTE:

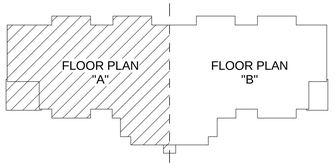
DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES

1	BRONZE CUT-OFF VALVE ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING.
2	2" CW UP TO SERVE RESTROOM ABOVE.
3	1/2" CW UP TO SERVE DRINKING FOUNTAIN.
4	PROVIDE A WATER HEATER. REFER TO WATER HEATER DETAIL 02/P4.2.
5	HOT WATER RECIRCULATING PUMP. REFER TO DETAIL 14/P4.1.
6	ROUTE RECIRCULATED HOT WATER LINE DOWN WALL. ROUTE MAXIMUM 2' LONG 1/2" BRANCH TO HOT WATER CONNECTION OF LAVATORY. CONTINUE RECIRCULATED HOT WATER LINE BACK UP WALL.
7	PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
8	1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL ALL TRAP-PRIMERS.
9	3/4" CW UP AND DOWN TO SERVE HOSE BIB.
10	PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFMMV-US-M1, TO SERVE SINK/SINKS. SET TEMPERATURE PER LOCAL JURISDICTION REQUIREMENTS.
11	PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFMMV-US-M1, TO SERVE LAVATORY/LAVATORIES. SET TEMPERATURE PER LOCAL JURISDICTION REQUIREMENTS.
12	1/2" CW UP TO SERVE PRESURE DROP ACTIVATED TRAP PRIMER.
13	WATER HAMMER ARRESTOR ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING. REFER TO DETAIL 03/P4.2.
14	DRINKING FOUNTAIN BY OWNER INSTALLATION BY PLUMBER.



KEY PLAN

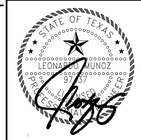
rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:



TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

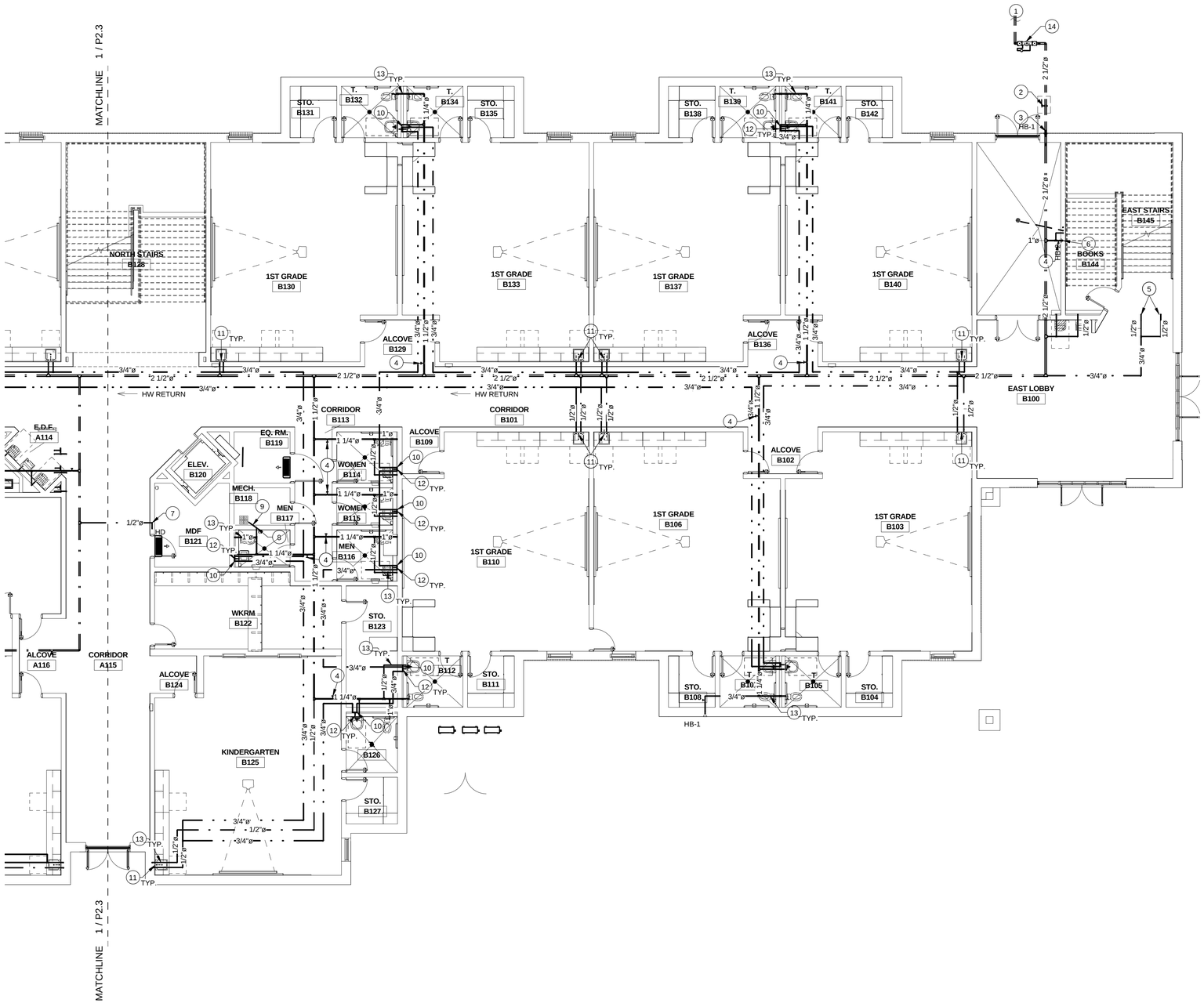
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:25:24 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL DOMESTIC WATER PLAN "A" - 1ST FLOOR

P2.3



PLUMBING DOMESTIC WATER- 1ST FLOOR "B"

1/8" = 1'-0"

1

N

NOTE:

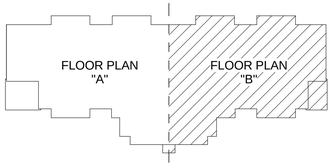
DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES

1	REFER TO CIVIL SITE PLAN FOR CONTINUATION OF OF PLUMBING FIVE FEET AWAY FROM BUILDING. PLUMBING CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION, VERIFICATION AND CONNECTION OF ALL UTILITIES TO SITE UTILITY STUB-OUTS. PROVIDE 2" WATER METER AND BACKFLOW PREVENTER AS REQUIRED.
2	CUT-OFF VALVE IN CAST IRON BOX. SET BOX FLUSH WITH FINISHED GRADE.
3	WATER SERVICE ENTRANCE. REFER TO DETAIL 01/P4.1.
4	BRONZE CUT-OFF VALVE ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"X12" PAINTED TO MATCH CEILING.
5	1/2" CW UP TO SERVE DRINKING FOUNTAIN.
6	3/4" CW UP AND DOWN TO SERVE HOSE BIB.
7	PRESSURE DROP ACTIVATED TRAP SEAL PRIMER TO PRIME HUB DRAIN. TRAP PRIMER EQUAL TO MIFAB M-500. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
8	PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
9	1/2" COPPER FROM TRAP PRIMER COVER WITH POLYETHYLENE SLEEVE "POLY SLEEVE" OR EQUAL. TYPICAL ALL TRAP-PRIMERS.
10	ROUTE RECIRCULATED HOT WATER LINE DOWN WALL. ROUTE MAXIMUM 2' LONG 1/2" BRANCH TO HOT WATER CONNECTION OF LAVATORY. CONTINUE RECIRCULATED HOT WATER LINE BACK UP WALL.
11	PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFMMV-US-M1. TO SERVE SINKS/SINKS. SET TEMPERATURE PER LOCAL JURISDICTION REQUIREMENTS.
12	PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFMMV-US-M1. TO SERVE LAVATORY/LAVATORIES. SET TEMPERATURE PER LOCAL JURISDICTION REQUIREMENTS.
13	WATER HAMMER ARRESTOR ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"x12" PAINTED TO MATCH CEILING. REFER TO DETAIL 03/P4.2.
14	PROVIDE 2-1/2" DOUBLE CHECK VALVE ASSEMBLIES EQUAL TO WATTS SERIES 007DCDA. ALL EXPOSED WATER PIPES SHALL BE INSULATED AND JACKETED. USE 1" ARMFLEX FIBERGLASS INSULATION AND ALUMINUM JACKET.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx
78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

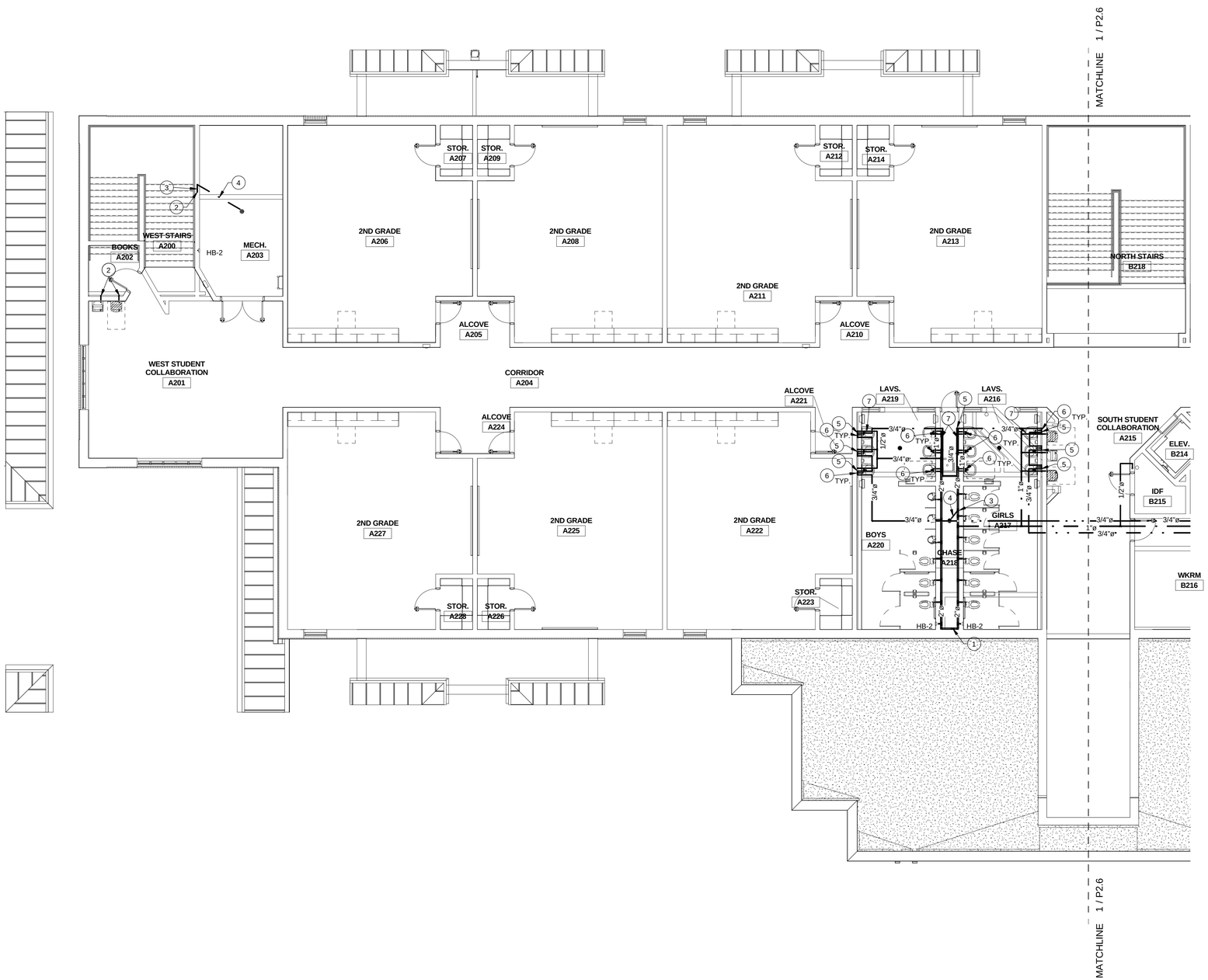
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:25:46 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL DOMESTIC WATER PLAN "B" - 1ST FLOOR

P2.4



NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES

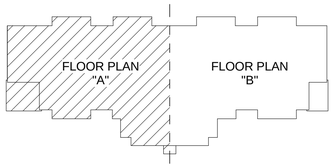
1	2" CW FROM BELOW.
2	1/2" CW FROM BELOW.
3	PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
4	1/2" COPPER FROM TRAP PRIMER.
5	ROUTE RECIRCULATED HOT WATER LINE DOWN WALL. ROUTE MAXIMUM 2' LONG 1/2" BRANCH TO HOT WATER CONNECTION OF LAVATORY. CONTINUE RECIRCULATED HOT WATER LINE BACK UP WALL.
6	PROVIDE THERMOSTATIC MIXING VALVE EQUAL TO WATTS LFMMV-US-M1. TO SERVE LAVATORY/LAVATORIES. SET TEMPERATURE PER LOCAL JURISDICTION REQUIREMENTS.
7	WATER HAMMER ARRESTOR ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING. PANEL SHALL BE 12"x12" PAINTED TO MATCH CEILING. REFER TO DETAIL 03/P4.2.

PLUMBING DOMESTIC WATER - 2ND FLOOR "A"

1/8" = 1'-0"

1

N



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

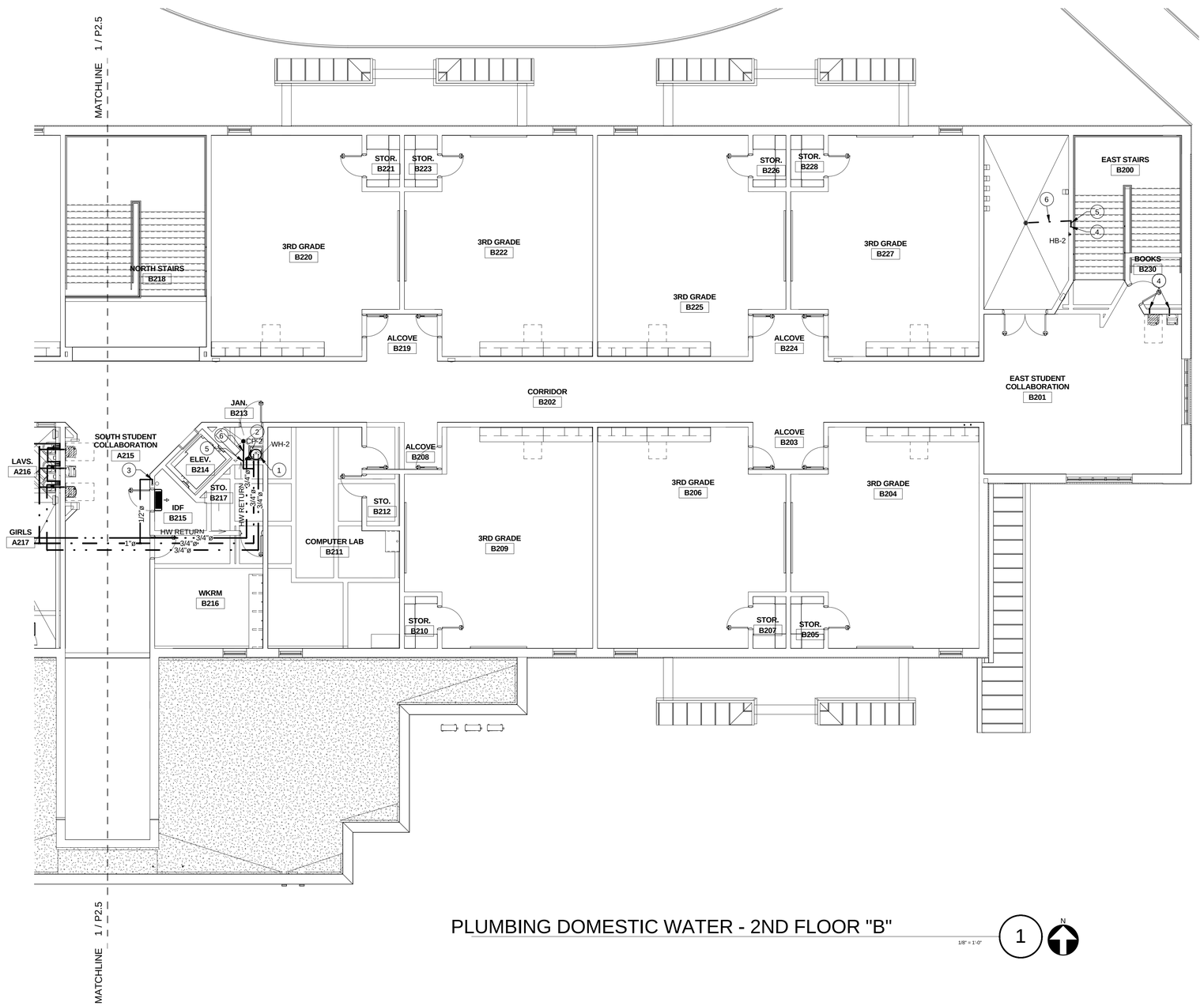
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:08 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL DOMESTIC WATER PLAN "A" - 2ND FLOOR

P2.5



PLUMBING DOMESTIC WATER - 2ND FLOOR "B"

1/8" = 1'-0"

1

N

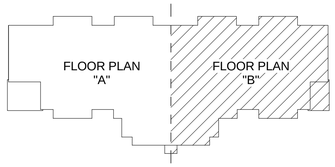
NOTE:

DRAWING IS SCHEMATIC IN NATURE AND SHOW THE GENERAL LAYOUT OF THE FOLLOWING SYSTEM. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING. DEVICES AND EQUIPMENT WITH THE BUILDING ELEMENTS AND THE WORK WITH THE OTHER TRADES.

THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

THIS INCLUDE BUT NOT LIMITED TO FURNISHING AND INSTALL ALL TRAPS, DRAINS AND SUPPLIES WITH STOPS.

PLUMBING KEYED NOTES	
1	PROVIDE WATER HEATER ABOVE MOP SINK. REFER TO DETAIL 16/P4.1.
2	HOT WATER RECIRCULATING PUMP. REFER TO DETAIL 14/P4.1.
3	PRESSURE DROP ACTIVATED TRAP SEAL PRIMER TO PRIME HUB DRAIN. TRAP PRIMER EQUAL TO MIFAB M-500. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
4	1/2" CW FROM BELOW.
5	PRESSURE DROP ACTIVATED TRAP PRIMER. PROVIDE ACCESS PANEL IF INACCESSIBLE. SEE DETAIL 07/P4.1.
6	1/2" COPPER FROM TRAP PRIMER.



KEY PLAN

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97157
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

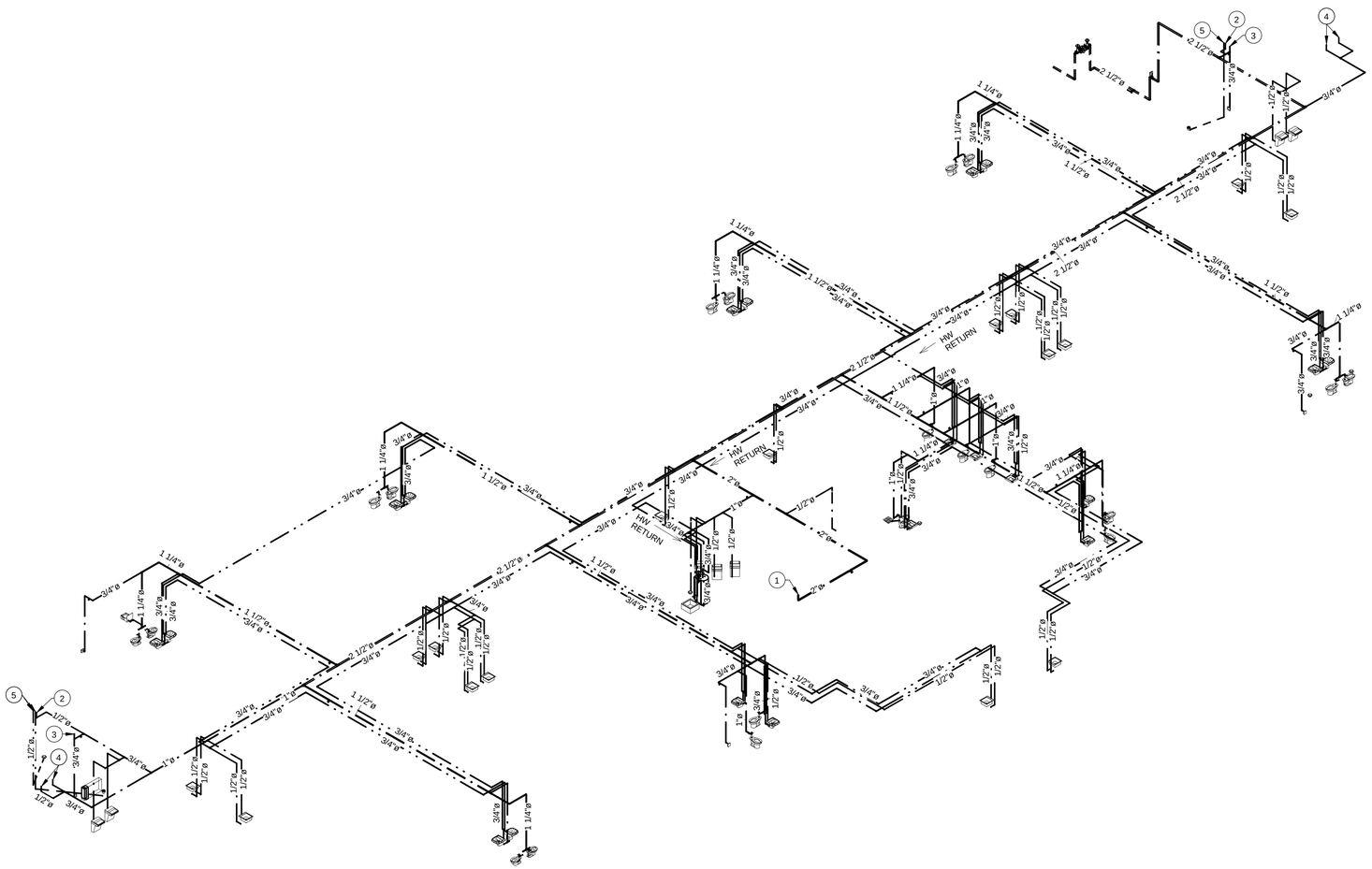
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:13 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PARTIAL DOMESTIC WATER PLAN "B" - 2ND FLOOR

P2.6



PLUMBING DOMESTIC WATER - OVERALL 1ST FLOOR RISER

1

GENERAL NOTES: PLUMBING

1. WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.
2. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PLUMBING KEYED NOTES	
1	2" CW UP TO SERVE RESTROOM ABOVE.
2	1/2" CW UP TO SERVE PRESURE DROP ACTIVATED TRAP PRIMER.
3	3/4" CW UP AND DOWN TO SERVE HOSE BIB.
4	1/2" CW UP TO SERVE DRINKING FOUNTAIN.
5	1/2" COPPER FROM TRAP PRIMER.

rofa architects
Rike • Ogden • Figueroa • Allex
McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com
McAllen Harlingen
COPYRIGHT ROFA ARCHITECTS 2017
CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97579
LICENSED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

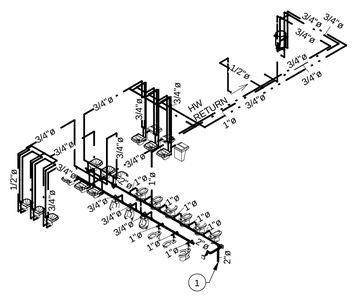
NO.	DATE	DESCRIPTION
		REVISIONS

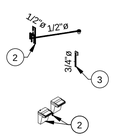
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:21 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING DOMESTIC WATER 1ST FLOOR RISER

P2.7





GENERAL NOTES: PLUMBING

1. WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.
2. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PLUMBING KEYED NOTES	
1	2" CW FROM BELOW.
2	1/2" CW FROM BELOW.
3	3/4" CW FROM BELOW.

PLUMBING DOMESTIC WATER - OVERALL 2ND FLOOR RISER 1

N

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:23 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING DOMESTIC WATER 2ND FLOOR RISER

P2.8

ABBREV.	DESCRIPTION
AC	ABOVE CEILING
AFF	ABOVE FINISHED FLOOR
ASA	AMERICAN STANDARDS ASSOCIATION
ASME	AMERICAN SOICIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AW	ACID WASTE
AWWA	AMERICAN WATER WORKS ASSOCIATION
AV	ACID VENT
BTUH	BRITISH THERMAL UNIT PER HOUR
CA	COMPRESSED AIR
CI	CAST IRON
CO	CLEANOUT
CU	COPPER
DN	DOWN
EQ	EQUAL
FCO	FLOOR CLEANOUT
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
GAL	GALLON(S)
GALV	GALVANIZED
GW	GREASE WASTE
HB	HOSE BIBB
HP	HORESPOWER
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
RD	ROOF DRAIN(S)
RE:4/P6	REFER TO DETAIL 4 DRAWING P-6
RO	REVERSE OSMOSIS
SD	STORM DRAIN
SPEC	SPECIFICATION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
VTR	VENT THRU ROOF
V	VACUUM
W/	WITH
WCO	WALL CLEAN OUT
YCO	YARD CLEAN OUT

PLUMBING GENERAL NOTES: (ALL SHEETS)

A. ALL WORK AND MATERIAL SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AS ADAPTED AND AMENDED BY THE INSPECTING AUTHORITIES.

B. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID CONFLICT WITH ALL ELECTRICAL WORK, MECH'L WORK AND STRUCTURAL MEMBERS. COORDINATE WITH MECHANICAL, ELEC'L AND STRUCTURAL FOR PROPER CLEARANCES.

C. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PHASING AND SEQUENCE OF CONSTRUCTION OF WORK.

D. SLEEVE ALL OUTSIDE WALL, FLOOR SLAB, AND GRADE BEAM PENETRATIONS PER DETAILS AND PER CODE.

E. LOCATE ALL PLUMBING VENTS TO ROOF (VTR) SO THAT THEY TERMINATE A MINIMUM OF 1'-0" AWAY FROM ANY VERTICAL SURFACE AND 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKES.

F. RECORD INVERT ELEVATIONS OF ALL YCO'S ON "AS-BUILT" DRAWINGS.

G. MINIMUM 3" WASTE LINE BELOW FLOOR AND MINIMUM 2" WASTE RISER. UNLESS NOTED OTHERWISE (UNO).

H. PLUMBING CONTRACTOR SHALL PAY FOR ALL UTILITY CONNECTIONS FEES, PERMITS, TESTS AND INSPECTIONS. FURNISH 3 COPIES OF INSPECTION CERTIFICATE BEFORE REQUESTING FINAL PAYMENT.

I. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL AREAS WHICH ARE DAMAGED BY HIS OPERATIONS.

J. CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW, HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS.

K. PRESSURE TEST ALL INSTALLATIONS PRIOR TO CONNECTING EQUIPMENTS.

L. LABEL ALL PIPING PER ANSI STANDARD.

M. PROVIDE PROPER INSULATION ON ALL HOT WATER PIPING, STORM PIPING AND CONDENSATE PIPING.

N. PROVIDE SHUT-OFF VALVES (STOPS) ON ALL ROUGH-INS TO FIXTURES AND EQUIPMENTS.

O. PROVIDE ANY BACK FLOW PREVENTION DEVICE REQUIRED BY CODE OR GOVERNING AUTHORITIES, CONTRACTOR SHALL VERIFY THIS WITH CITY OR LOCAL AGENCIES AND INCLUDE COST OF SAME IN BID. CONTRACTOR TO HAVE BACK FLOWS CERTIFIED.

P. PROVIDE WATER HAMMER ARRESTORS AS INDICATED ON THE DRAWINGS. AIR CHAMBERS NOT AN APPROVED SUBSTITUTE.

Q. ALL EXPOSED PIPING FOR DESIGNATED DISABLED ACCESS FIXTURES SHALL BE COVERED OR OTHERWISE WRAPPED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND LOCAL AUTHORITY.

R. ALTERNATE MATERIALS NOT IDENTIFIED IN SPECIFICATIONS/DRAWINGS BUT APPROVED BY LOCAL AUTHORITY SHALL BE SUBMITTED TO ARCHITECT AND PLUMBING ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

S. ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION.

T. DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

U. EVERY FLOOR DRAIN, FLOOR SINK OR HUB DRAIN SHALL BE SERVED BY AN AUTOMATIC TRAP PRIMER, UNO.

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BALL VALVE		DOMESTIC COLD WATER
	CHECK VALVE		DOMESTIC HOT WATER
	GATE VALVE		DOMESTIC HOT WATER RETURN
	UNION		SANITARY SEWER VENT
	DIRECTION OF FLOW		SANITARY WASTE LINE
	WALL CLEANOUT	140°	140° HOT WATER
	FLOOR CLEANOUT YARD CLEANOUT		SANITARY DIRECTION OF FLOW
	FLOOR SINK		BRANCH - TOP CONNECTION
	FLOOR DRAIN		PIPE RISER
	WALL HYDRANT OR HOSE BIBB		PIPE DROP
			POINT OF CONNECTION (APPROXIMATED FIELD VERIFY EXACT POINT OF CONNECTION)

NOTE: 1. NOT ALL SYMBOLS USED ON THIS PROJECT
2. INSTALL WATER CLOSET FLUSH VALVE HANDLE TOWARDS WIDER SIDE OF WATER CLOSET OR DOOR OPENING.
3. INSTALL ADA APPROVED FLUSH VALVE HANDLE FOR ADA PLUMBING FIXTURES.

PLUMBING PIPING MATERIAL:

1. SANITARY DRAIN & VENT INSIDE BUILDING BELOW GRADE:
   SCHEDULE 40 PVC
2. SANITARY DRAIN OUTSIDE BUILDING:
   SCHEDULE 40 PVC
3. SANITARY DRAIN & VENT INSIDE BUILDING ABOVE GRADE:
   SCHEDULE 40 PVC
4. SANITARY DRAIN & VENT IN PLENUM CEILING:
   NO-HUB CAST IRON
5. ACID WASTE PIPING:
   FR POLYPROPYLENE
6. ACID VENT IN PLENUM CEILING:
   FR-PVDF
7. DOMESTIC HOT & COLD WATER:
   COPPER, TYPE "L" HARD DRAWN
8. DOMESTIC WATER BELOW GRADE:
   COPPER, TYPE "K" SOFT ANNEALED
8. DOMESTIC WATER BELOW GROUND OUTSIDE OF BUILDING PIPING 2" SIZE AND SMALLER:
   COPPER, TYPE "L" HARD DRAWN
9. DOMESTIC WATER BELOW GROUND OUTSIDE OF BUILDING PIPING OVER 2" SIZE:
   SDR 26 CLASS 160 PVC

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

STATE OF TEXAS
LEONARDO MUNOZ
97159
REGISTERED PROFESSIONAL ENGINEER

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:24 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING LEGEND

P3.1

ELECTRIC WATER HEATER SCHEDULE

DESIG.	STORAGE GALLONS	RECOVERY G.P.H.	DEGREE RISE °F	WATER TEMP. LEAVING	WATER INLET	WATER OUTLET	REMARKS
WH-1	40	40	60°	120°	3/4"	3/4"	AO SMITH MODEL NO. DEN-50, 10KW, 208V/3□, ELECTRIC TANK TYPE. PROVIDE 5 GALLON EXPANSION TANK. PROVIDE WITH BRASS OUTLETS. PROVIDE 5 GALLON EXPANSION TANK.
WH-2	30	21	60°	120°	3/4"	3/4"	BRADFORD WHITE LIGHT DUTY COMMERCIAL WALL HUNG WATER HEATER, MODEL NO. LD-WH30L3-1 3KW, 208V/1□, ELECTRIC TANK TYPE. PROVIDE WITH BRASS OUTLETS. PROVIDE 2 GAL EXPANSION TANK.

RECIRCULATING PUMP SCHEDULE

MARK	GPM	FEET HEAD	H.P.	RPM	VOLTS/PHASE	REMARKS
CP-1	0-20	0-11	1/25	3250	115 volts/□	EQUAL TO TACO MODEL 007-BF5 CARTRIDGE CIRCULATOR, MAINTENANCE FREE, WET-ROTOR, IN-LINE, SINGLE STAGE CIRCULATOR. PROVIDE TACO CLOCK TIMER AND TEMPERATURE AQUASTAT MODEL NO. 00 TIMERERS/AQUASTAT
CP-2	0-11	0-10	1/40	3250	115 volts/□	EQUAL TO TACO MODEL 006-B4 CARTRIDGE CIRCULATOR, MAINTENANCE FREE, WET-ROTOR, IN-LINE, SINGLE STAGE CIRCULATOR. PROVIDE TACO CLOCK TIMER AND TEMPERATURE AQUASTAT MODEL NO. 00 TIMERERS/AQUASTAT

ELEVATOR SUMP SYSTEM SCHEDULE

SYSTEM MODEL		SEPARATOR DATA							SUBMERSIBLE PUMP DATA						
SYSTEM SIZE	ELEVATORS	FLOW CAP GPM	TOTAL CAPACITY	OIL Spill CAPACITY	DIA D	HEIGHT H	INLET FL1	OUTLET FL2	MARK	FLOW CAP GPM	TDH	DISCH SIZE	RPM	HP	VOLT/PH
ELV-050	1	50	100 GAL	50 GAL	30"	44"	35"	32"	SP-1	50	15'	1 1/4"	1750	.50	115/1

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE TYPE	CONNECTION SIZE San. Sewer	Vent	Cold Water	Hot Water	DESCRIPTION
WC-1	WATER CLOSET FLOOR MOUNTED STUDENT (AGE 3 & 4) TAS ADA	4"	2"	1"	-	AMERICAN STANDARD "BABY DEVORO" MODEL NO. 2282.001, FLOOR MOUNTED WATER CLOSET,HIGHT EFFICIENCY, LOW CONSUMPTION, 10-1/4" RIM HEIGHT, 10" ROUGHING-IN, ROUND FRONT BOWL, SIPHON JET ACTION, 1-1/2" INLET SPUD, WITH MANUAL AMERICAN STANDARD FLUSH VALVE MODEL NO. 6047.161.002, 1.28 GPF, 1-1/2" TOP SPUD, SEAT: #5001G.055 BABY DEVORO SEAT OPEN FRONT WITH EVERCLEAN LESS COVER, LEVER SHALL BE MOUNTED ON APPROACH SIDE OF THE FIXTURE.
WC-2	WATER CLOSET FLOOR MOUNTED STUDENT	4"	2"	1"	-	ZURN MODEL NO. Z5654-BWL, FLOOR MOUNTED WATER CLOSET, 10"ROUGH-IN, 1.6 GPF, ELONGATED RIM, 14" RIM HEIGHT, VITREOUS CHINA (WHITE), 1 1/2" TOP SPUD, SIPHON JET ACTION, WITH SLOAN UPPERCUT FLUSH VALVE MODEL NO. WES 111. COMPLETE WITH ZURN MODEL NO. Z595SSS-EL. OPEN FRONT SEAT LESS COVER, FLUSH LEVER SHALL BE MOUNTED ON APPROACH SIDE OF FIXTURE.
WC-3	WATER CLOSET FLOOR MOUNTED STUDENT TAS ADA	4"	2"	1"	-	ZURN MODEL NO. Z5654-BWL, FLOOR MOUNTED WATER CLOSET, 10"ROUGH-IN, 1.6 GPF, ELONGATED RIM, 14" RIM HEIGHT, VITREOUS CHINA (WHITE), 1 1/2" TOP SPUD, SIPHON JET ACTION, WITH SLOAN UPPERCUT FLUSH VALVE MODEL NO. WES 111. COMPLETE WITH ZURN MODEL NO. Z595SSS-EL. OPEN FRONT SEAT LESS COVER, FLUSH LEVER SHALL BE MOUNTED ON APPROACH SIDE OF FIXTURE.
WC-4	WATER CLOSET FLOOR MOUNTED ADULT ADA	4"	2"	1"	-	KOHLER "HIGHCLIFF ULTRA" MODLE NO. K-96057, FLOOR MOUNTED WATER CLOSET, WITH ELONGATED RIM, 16-5/8" RIM HEIGHT, VITREOUS CHINA, SIPHON JET FLUSH ACTION 10"-12" ROUGH IN, WITH SLOAN UPPERCUT FLUSH VALVE MODEL NO. WES 111, INCLUDES 1-1/2" TOP SPUD AND 2 BOLT CAPS, COMPLETE WITH BEMIS MODEL NO. 195SSSTR, OPEN FRONT SEAT LESS COVER, FLUSH LEVER SHALL BE MOUNTED ON APPROACH SIDE OF FIXTURE.
UR-1	URINAL (STANDARD & ADA) REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	3/4"	-	KOHLER "DEXTER" MODEL NO. K-5016-ER, SIPHON JET WALL HUNG URINAL, VITREOUS CHINA, 1 GPF FLUSH OR LESS, COMPACT DESIGN, WITH INTEGRAL TRAP, 3/4" TOP INLET, 14" LIP, INCLUDES WALL HANGERS, 2" IPS OUTLET FLANGE AND RUBBER GASKET, WITH SLOAN "ROYAL" FLUSHOMETER VALVE MODEL NO. 186-1. PROVIDE ZURN CARRIER SYSTEM MODEL NO. Z-1221.
L-1	LAVATORY WALL HUNG ADA REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	1/2"	KHOLAR "BRENHAM" MODEL NO. K-1997-4 (21x19) WALL HUNG LAVATORY, WITH OVERFLOW, INCLUDES WALL HANGER, VITREOUS CHINA, WITH 4-INCH CENTER FAUCET HOLES, PROVIDE TWO-HANDLE METERING FAUCET EQUAL TO MOEN MODEL NO. 8886 (CHROME), VANDAL RESISTANT, ADA APPROVED. PROVIDE ANTI-ROTATION DECKPLATE MODEL NO. 99550. PROVIDE PROTECTIVE COVER ON P-TRAP AND STOPS. PROVIDE ZURN CARRIER SYSTEM MODEL: Z1231 PROVIDE P-TRAP: 17 GAUGE CHROME DEARBORN BRAND PROVIDE SINK/LAV WITH SINGLE OUTLET THERMOSTATIC MIXING VALVE (TMV), WATTS LFMMV-US-M1, SET TEMPERATURE AS PER LOCAL JURISDICTION.
SK-1	KINDER SINK W/ BUBBLER (ADA)	2"	2"	1/2"	1/2"	ELKAY No. DRKAD-2220 (ADA), 3-HOLE, LK-2439BH (4" BLADE HANDLES) FAUCET, LK-35 DRAIN, LK-1141-A BUBBLER, TRAP, STOPS, KINDER DEPTH. PROVIDE P-TRAP: 17 GAUGE CHROME DEARBORN BRAND PROVIDE SINK/LAV WITH SINGLE OUTLET THERMOSTATIC MIXING VALVE (TMV), WATTS LFMMV-US-M1, SET TEMPERATURE AS PER LOCAL JURISDICTION.
EDF-1	SINGLE ELECTRIC WATER COOLER REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	-	SINGLE ELECTRIC WATER COOLER SHALL BE "ELKAY" MODEL No. LZSVR8, CAPACITY OF 8.0 GALLONS, STAINLESS STEEL BASIN WITH INTEGRAL DRAIN GRID AND EMBOSSED BUBBLER PAD, LEAD FREE ADA COMPLIANT, WITH ZURN CARRIER MODEL No. Z-1225, WITH APRON MODEL NO. LKAPR-EZL TO COMPLY WITH TAS AND ADA. PROVIDE P-TRAP: 17 GAUGE CHROME DEARBORN BRAND
EDF-2	SINGLE ELECTRIC WATER COOLER REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	-	SINGLE ELECTRIC WATER COOLER SHALL BE "ELKAY" MODEL No. LZSVR8, CAPACITY OF 8.0 GALLONS, STAINLESS STEEL BASIN WITH INTEGRAL DRAIN GRID AND EMBOSSED BUBBLER PAD, LEAD FREE ADA COMPLIANT, WITH ZURN CARRIER MODEL No. Z-1225, WITH APRON MODEL NO. LKAPR-EZL TO COMPLY WITH TAS AND ADA. PROVIDE P-TRAP: 17 GAUGE CHROME DEARBORN BRAND
EDF-3	SINGLE ELECTRIC WATER COOLER W/ Water Refilling Station REFER TO ARCH'L DRAWING FOR MOUNTING HEIGHTS	2"	2"	1/2"	-	SINGLE ELECTRIC WATER COOLER SHALL BE "ELKAY" MODEL No. LZSTL8WSLP,WITH Elkay EZH2O Water Refilling Station, CAPACITY OF 8.0 GALLONS, STAINLESS STEEL BASIN WITH INTEGRAL DRAIN GRID AND EMBOSSED BUBBLER PAD, LEAD FREE ADA COMPLIANT, WITH ZURN CARRIER MODEL No. Z-1225, WITH APRON MODEL NO. LKAPR-EZL TO COMPLY WITH TAS AND ADA. PROVIDE P-TRAP: 17 GAUGE CHROME DEARBORN BRAND
MS-1	MOP SINK	3"	2"	1/2"	1/2"	FIAT MODEL NO. TSB100, 24"X24"X12" TERRAZO MOP SINK, COMPLETE WITH FAUCET MODEL B30-AA, MOP SINK SHALL INCLUDE ALL HOSE BRACKETS, HOSE, AND MOP HANGER, WITH 3" DRAIN WITH STRAINER & DEEP SEAL P-TRAP. PROVIDE WALL GUARD MSG2424.
HB-1	HOSE BIB EXTERIOR GENERAL USE	-	-	3/4"	-	MILD TEMPERATURE WALL HYDRANT SHALL BE WOODFORD MODEL 65 3/4" INLET WITH BRONZE CASING, BRONZE FACE AND STRAIGHT INLET CONNECTION WITH INTEGRAL BACKFLOW PREVENTER.
HB-2	WALL FAUCET INTERIOR HOSE BIB	-	-	3/4"	-	WOODFORD MODEL 26 P-3/4" INLET, WITH BACKFLOW PREVENTER AND LOOSE TEE KEY.
FD-1	FLOOR DRAIN	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30003-6A-Y-50, CAST IRON BODY WITH CLAMP RING, FLANGE, ADJUSTABLE NIKALOY STRAINER, HUB OUTLET WITH GASKET AND 1/2" PRIMER TAP.
FD-2	TRACTOR GRATE FLOOR DRAIN	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30003-7E-Y-50, COATED CAST IRON BODY WITH CLAMP RING, TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WITH 7" TRACTOR GRATE STRAINER AND 1/2" PRIMER TAP, HUB OUTLET WITH GASKET.
FD-3	MECHANICAL ROOM FLOOR DRAIN	AS NOTED ON PLANS				EQUAL TO JOSAM PART # 30003-7E2-Y, COATED CAST IRON BODY WITH CLAMP RING, TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, ADJUSTABLE NIKALOY FUNNEL STRAINER .
FCO	FLOOR CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C1100-R-1" ADJUSTABLE FLOOR CLEANOUT, COMPLETE WITH NICKEL BRONZE TOP ASSEMBLY, LACQUERED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, AND PRIMARY GASKET SEAL.
YCO	YARD CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C-1220" LACQUERED CAST IRON CLEANOUT, THREADED BRONZE PLUG FOR AIR TIGHT SEAL AND STANDARD REINFORCED SATIN FINISHED NICKEL BRONZE ADJUSTABLE TOP ASSEMBLY.
WCO	WALL CLEANOUT	AS NOTED ON PLANS				MIFAB MODEL "C1430-RD" CAST BRONZE CLEANOUT PLUG, COMPLETE WITH STAINLESS STEEL WALL ACCESS COVER AND ANCHOR SCREW, MOUNT 24" A.F.F.

NOTES:

1.) INSULATE ALL WATER AND WASTE PIPING UNDER LAVATORIES WITH HANDY-SHIELD JACKET BY PLUMBEREX.

2.) PROVIDE SINGLE FIXTURE WATER HAMMER ARRESTORS EQUAL TO MINI-RESTER , HYDRA-RESTER SIOUX CHIEF, FOR ALL PLUMBING FIXTURES IN THE WATER SUPPLY SYSTEM.

3.) ALL VITREOUS CHINA FIXTURES SHALL BE WHITE.

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION

REVISIONS

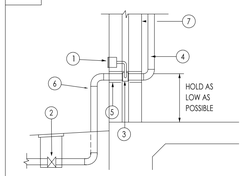
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:24 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING SCHEDULE

P4.1

01



1. WALL HYDRANT - INSTALL LOW ENOUGH TO DRAIN RISER.
2. SHUT-OFF VALE IN CAST IRON BOX FLUSH WITH FINISHED GRADE
3. TEE
4. TYPE "L" COPPER
5. SLEEVE
6. PROVIDE 1" ARMAFLEX INSULATION W/ METAL JACKET ON EXPOSED PIPING.
7. WALL

WATER SERVICE ENTRANCE DETAIL

NO SCALE

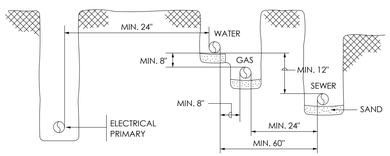
02

CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION.

COMPACT TRENCH FILL TO 95% PROCTOR DENSITY.

MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE.

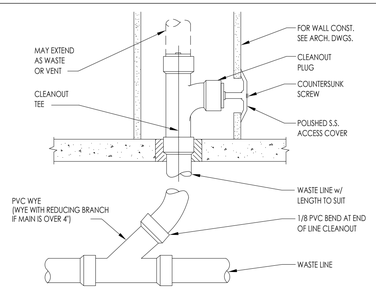
MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER. MAINTAIN A MINIM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.



TRENCHING DETAIL

NO SCALE

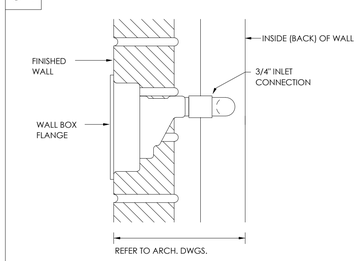
03



WALL CLEANOUT DETAIL

NO SCALE

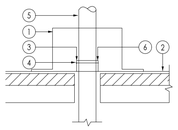
04



WALL HYDRANT DETAIL

NO SCALE

05

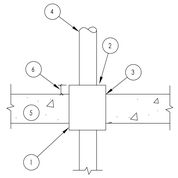


1. PREFABRICATED ROOF CURB. FURNISHED & INSTALLED BY ROOFING CONTR. (COORDINATE)
2. METAL ROOFING
3. STAINLESS STEEL CLAMP
4. SLEEVE PIPE BY ROOFING CONTR.
5. VTR - USE CAST IRON WHERE CEILING IS PLENUM SPACE.
6. PROVIDE CAULKING GROVE
7. LOCATE MIN. 10'-0" FROM A/C AIR INTAKES

VENT THRU ROOF DETAIL

NO SCALE

06

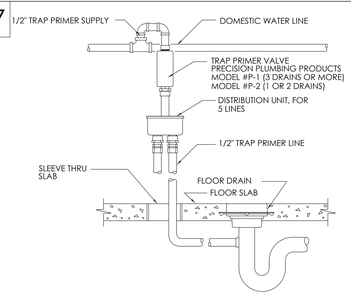


1. METAL SLEEVE TWO SIZES LARGER THAN PIPE
2. FILL VOID WITH NON-SHRINKING WATERPROOF, VERMIN PROOF MATERIAL
3. ALL PLUMBING PIPE PENETRATIONS THROUGH GROUND FLOOR, AND GRADE BEAMS SHALL BE SLEEVED
4. PIPE
5. CONCRETE SLAB
6. MINIMUM 2"

FLOOR PENETRATION DETAIL

NO SCALE

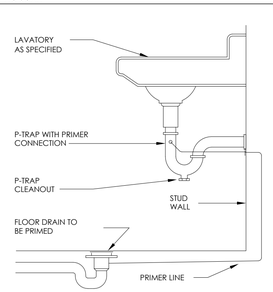
07



TRAP SEAL PRIMER DETAIL

NO SCALE

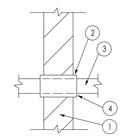
08



TRAP SEAL PRIMER INSTALLATION DETAIL

NO SCALE

09

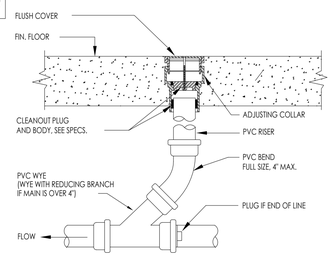


1. MASONRY WALL
2. GALVANIZED SCHEDULE 40 STEEL OR COPPER SLEEVE, SIZE TO BE MINIMUM 3/8" LARGER IN DIAMETER THAN PIPE AND INSULATION.
3. PLUMBING PIPE (RELIER LINES, DOMESTIC WATER, AIR, AND GAS PIPING).
4. FILL VOID WITH MINERAL WOOL AND CAULK VERMIN TIGHT.

WALL SLEEVE DETAIL

NO SCALE

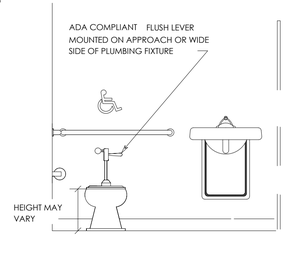
10



FLOOR CLEANOUT DETAIL

NO SCALE

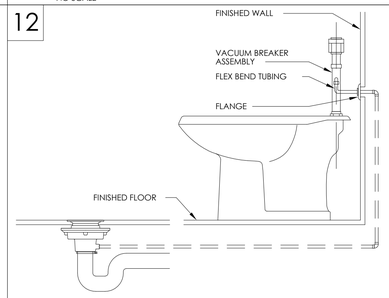
11



ADA WATER CLOSET DETAIL

NO SCALE

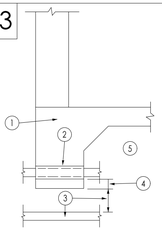
12



FLUSH VALVE TRAP SEAL PRIMER

NO SCALE

13

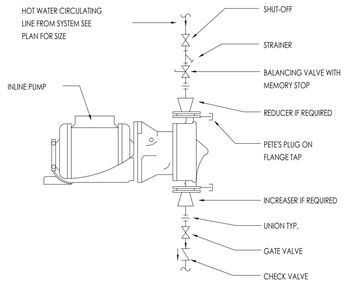


1. GRADE BEAM
2. GALVANIZED SCH 40 STEEL SLEEVE. SIZE PER SPECS. CENTER PIPE IN SLEEVE.
3. PIPING PASSING HORIZONTALLY UNDER GRADE BEAM SHALL BE LOCATED A MINIMUM OF 6" BELOW BEAM. PROVIDE A SLEEVE.
4. PIPING PASSING HORIZONTALLY THROUGH GRADE BEAM SHALL BE LOCATED NO LESS THAN 6" ABOVE BOTTOM OF BEAM.
5. COORDINATE LOCATIONS OF PIPING IN 3,4,5 ABOVE AS RELIEVING ARCHES OR ADDITIONAL CONCRETE MAY BE REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY OF BEAM.

GRADE BEAM SLEEVE DETAIL

NO SCALE

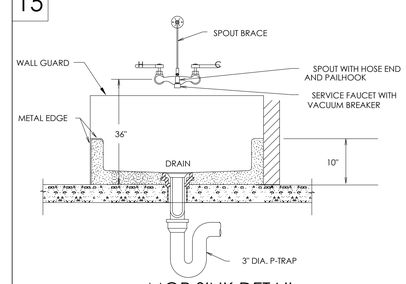
14



INLINE CIRCULATING PUMP DETAIL

NO SCALE

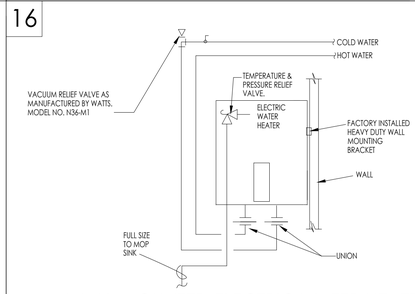
15



MOP SINK DETAIL

NO SCALE

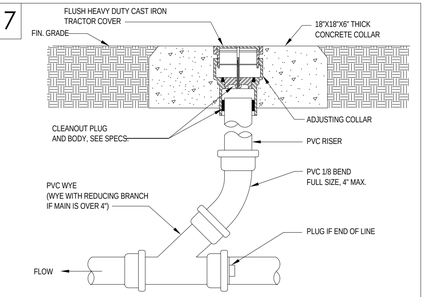
16



WALL MOUNTED ELECTRIC WATER HEATER

NO SCALE

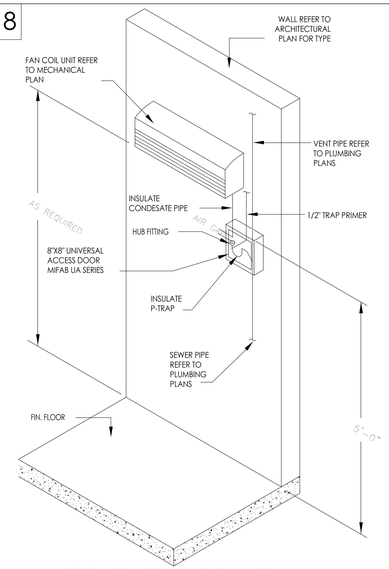
17



YARD CLEANOUT DETAIL

NO SCALE

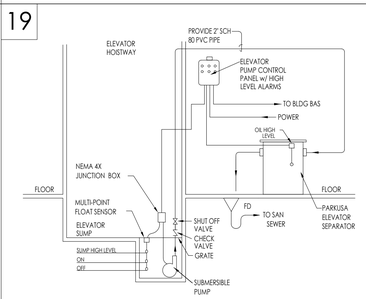
18



CONDENSATE DRAIN DETAIL

NO SCALE

19



ELEVATOR SUMP DETAIL

NO SCALE

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

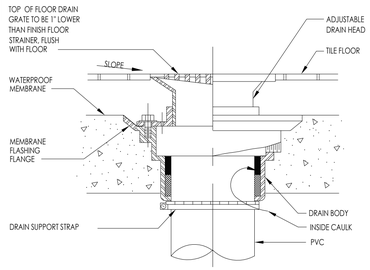
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:26 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING DETAILS

P5.1

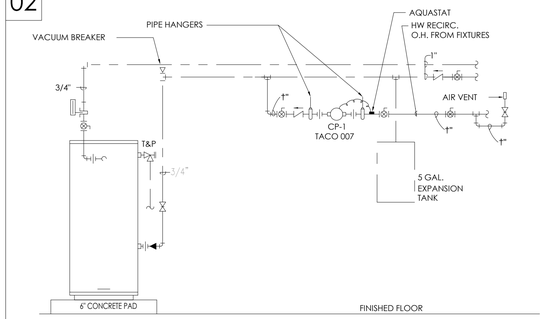
01



FLOOR DRAIN DETAIL

NO SCALE

02

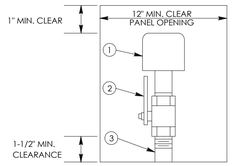


DUAL ELECTRIC WATER HEATER SYSTEM

NO SCALE

03

1. WATER HAMMER ARRESTOR; SIZE AS PER MANUFACTURER'S SIZING TABLE.
2. BALL VALVE, SAME NOMINAL SIZE AS PIPE BRANCH. OPENING IN BALL VALVE TO MATCH PIPE I.D.
3. PIPE SAME SIZE AS BRANCH LINE TO WHICH IT IS ATTACHED.



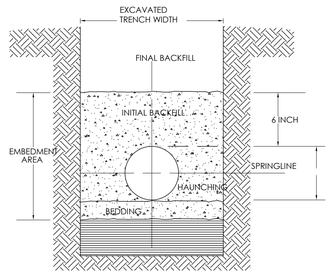
NOTE: PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTOR.

DIMENSIONS FOR MIN. PANEL SIZE AND OPENING IF WATER HAMMER ARRESTOR IS LOCATED IN WALL. LOCKING PANEL COLOR TO BE DETERMINED BY ARCHITECT.

WATER HAMMER ARRESTOR DETAIL

NO SCALE

04



UNDERGROUND INSTALLATION OF PLASTIC PIPE

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO
THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

RECOMMENDATIONS FOR UNDERGROUND INSTALLATION OF PLASTIC DRAINAGE PIPE:

1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABLE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. THE PIPE SHOULD BE SURROUNDED WITH AN AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING SHOULD BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN CLODS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE SHOULD BE ABOUTONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.

UNDERGROUND INSTALLATION DETAIL OF PLASTIC PIPING SYSTEMS

NO SCALE

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	REVISIONS DESCRIPTION

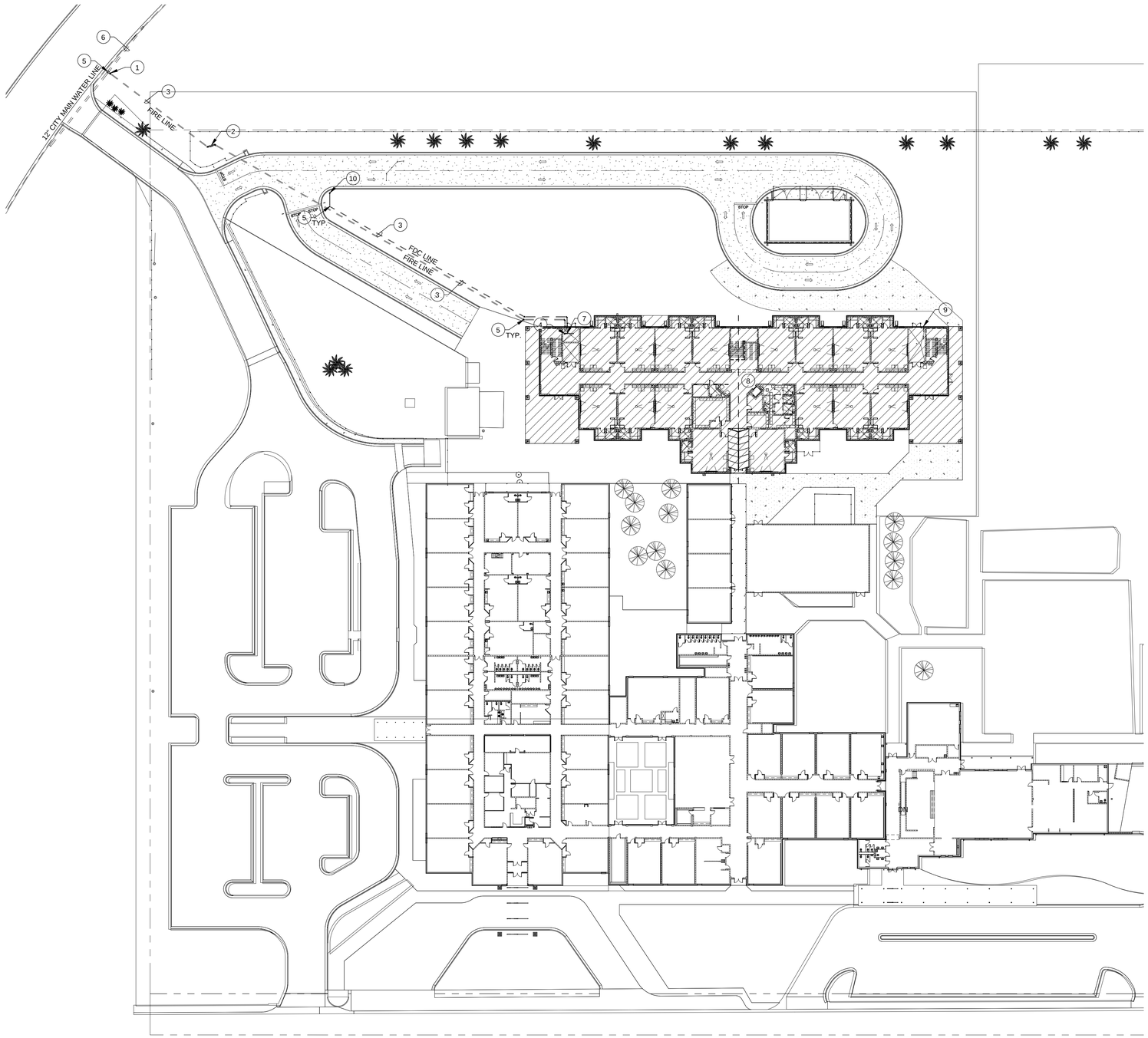
TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS

HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:26:27 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

PLUMBING DETAILS

P5.2



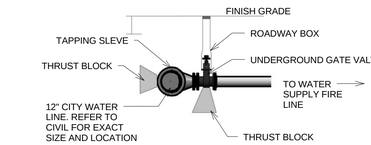
GENERAL NOTES - FIRE PROTECTION

A.	THIS IS AN AUTOMATIC WET-TYPE SPRINKLER SYSTEM TO BE DESIGNED TO MEET ALL LATEST NFPA CODES. PLANS SHALL BE SUBMITTED TO THE CITY OF HARLINGEN FOR REVIEW AND APPROVAL. FIRE MARSHAL TO BE THE FINAL APPROVING AUTHORITY FOR ALL FIRE PROTECTION WORK.
B.	ALL PIPE TO BE SIZED HYDRAULICALLY
C.	DETAILS DESCRIBE SOME SPRINKLER COMPONENTS REQUIRED BY AN AUTOMATICALLY OPERATED SYSTEM. SPRINKLER CONTRACTOR TO PROVIDE ALL SYSTEM COMPONENTS REQUIRED FOR A TURN KEY FIRE SPRINKLER SYSTEM.
D.	HAZARD CLASSIFICATION SHALL BE AS PER NFPA 13.
E.	ALL ABOVE CEILING PIPING WILL NEED TO BE ROUTED AROUND CONDUITS, BEAMS, MECHANICAL DUCT WORK AND DRAIN LINES.
F.	ALL PIPE LEFT WITH TRAP WATER NEEDS TO BE PROVIDED W/ A DRAIN VALVE.
G.	SEAL ALL WALL OPENINGS W/ MORTAR OR FIRE CAULKING. SEAL ALL OPENING W/MORTAR OR FIRE CAULKING.
H.	ALL EXPOSED PIPE TO BE PROTECTED AGAINST FREEZING AS PER NFPA 13.
I.	FDC SHOULD BE SEPARATE AND REMOTE FROM FIRE SPRINKLER SUPPLY LINE AND MUST BE LOCATED OUTSIDE THE COLLAPSE ZONE OF 1.5 TIMES THE HEIGHT OF THE BUILDING.
J.	ANY PROPOSED DCDA FOR THE PROJECT WILL REQUIRE PERMIT FROM HARLINGEN WATER WORKS SYSTEM (HWWS).
K.	NO FIRE SORINKLER PIPING TO RUN OVER ELECTRICAL EQUIPMENT, IT ROOM AND ANY OTHER SYSTEM THAT MAY BE DAMAGED FROM WATER LEAK.

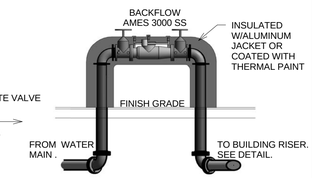
FIRE PROTECTION KEYED NOTES

1	FIRE SPRINKLER LINE TO CONNECT TO EXISTING CITY WATER LINE.SEE DETAIL 2/FP1.1.
2	PROVIDE BACKFLOW PREVENTER. CONTRACTOR COORDINATE EXACT LOCATION.SEE DETAIL 4/FP100.
3	RUN FIRE MAIN AND FDC LINES BETWEEN 3 AND 4 FEET DEEP. PROVIDE 4 INCHES OF SAND UNDER PIPE. COVER ALL PIPE AND LEAVE JOINTS EXPOSED FOR ENGINEER AND FIRE DEPARTMENT INSPECCTION.
4	FIRE SPRINKLER SYSTEM RISER SHALL BE PLACED IN THIS ROOM.SEE DETAIL 4/FP1.1.
5	3000 PSI CONCRETE THRUST BLOCK AT EVERY CHANGE IN DIRECCION AS PER NFPA24.
6	EXISTING CITY WATER LINE. SEE CIVIL PLANS TO VERIFY EXACT SIZE AND LOCATION.
7	DROP F.D.C. LINE DOWN AND PROVIDE STAINLESS STEEL RISER AT FLOOR PENETRATION.
8	PROVIDE A NEW FIRE PROTECTION SYSTEM FOR THIS NEW BUILDING. PROVIDE A WET PIPE SYSTEM FOR ALL CONDITIONED SPACES AND A DRY-PIPE SYSTEM FOR ALL AREAS EXPOSED TO THE OUTDOOR.
9	PROVIDE INSPECTOR TEST. CONTRACTOR COORDINATE EXACT LOCATION. INSPECTOR'S TEST SHALL BE INSIDE FURR-OUT WITH ACCESS PANEL. SEE DETAIL 5/FP1.1.
10	PLACE F.D.C. IN THIS LOCATION. COORDINATE EXACT LOCATION WITH A.H.J. PROVIDE SIGN WITH BUILDING IT SERVES. SEE DETAIL 6/FP1.1.

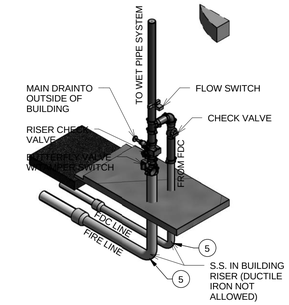
THIS DRAWING IS DIAGRAMMATIC AND SHOULD BE USED AS REFERENCE FOR BIDDING PURPOSES ONLY. THIS DRAWING SHALL NOT BE USED FOR PERMIT OR CONSTRUCCION.
CONTRACTOR IS FULLY RESPONSABLE FOR THE DESIGN OF THE NEW FIRE SPRINKLER SYSTEM. ALL NFPA CODES APPLICABLE SHALL BE USED AND FOLLOWED.



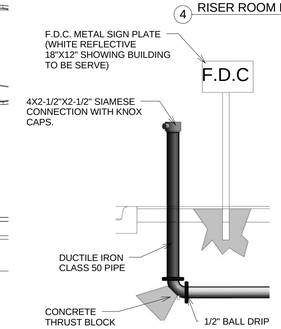
2 FIRE LINE CONNECTION DETAIL
1/4" = 1'-0"



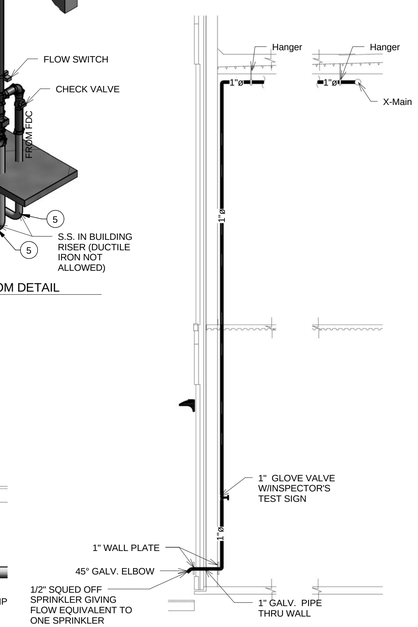
3 BACKFLOW PREVENTER DETAIL
1/4" = 1'-0"



4 RISER ROOM DETAIL



6 FDC DETAIL
3/8" = 1'-0"



5 INSPECTOR'S TEST DETAIL
1/4" = 1'-0"

FIRE PROTECTION SITE PLAN 1
1" = 40'-0"

rofa architects
Rike • Ogden • Figueroa • Allex

McAllen
1007 Walnut Ave.
McAllen, Texas 78501
V. 956.686.7771
F. 956.687.3433
www.rofainc.com

McAllen Harlingen

COPYRIGHT ROFA ARCHITECTS 2017

CONSULTANTS:

TRINITY
MEP ENGINEERING
3533 Moreland Dr. Ste A I Weslaco, Tx 78596 p:956.973.0500 I f:956-351-5750
www.trinitymep.com I Copyright 2017
Texas Registered Engineering Firm - F10362
Project number:

NO.	DATE	DESCRIPTION
		REVISIONS

TREASURE HILLS ELEMENTARY SCHOOL 2018-2019 CLASSROOM ADDITIONS AND RENOVATIONS
HARLINGEN CONSOLIDATED INDEPENDENT SCHOOL DISTRICT
HARLINGEN, TEXAS

PROJECT NO:	2017.12
DATE:	5/21/2018 4:46:52 PM
STARTING DATE:	09/05/2017
CK BY:Checker	DWN BY: Author

FIRE PROTECTION SITE PLAN

FP1.1