

GENERAL CONSTRUCTION NOTES:

- 1) ALL IMPROVEMENTS TO BE IN ACCORDANCE WITH CITY OF EDINBURG CODES.
- 2) CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
- 3) CONTRACTOR TO PLAN AND PERFORM HIS WORK IN A MANNER THAT WILL PERMIT SAFE PUBLIC TRAFFIC MOVEMENT ON ALL STREETS.
- 4) TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION TO BE IN ACCORDANCE WITH SPECIFICATIONS AND AS REQUIRED BY THE CITY OF EDINBURG AND THE TEXAS DEPARTMENT OF TRANSPORTATION (NO SEPARATE PAY).
- 5) CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES SUCH AS SIGNS, LIGHTS, AND SIGNALS FOR THE SAFETY OF THE PUBLIC AND WORKERS, AS REQUIRED. (NO SEPARATE PAY)
- 6) CONTRACTOR TO BE RESPONSIBLE FOR PROTECTION AND/OR SAFETY OF THE WORK SITE, WORKERS, SUBCONTRACTORS, MATERIALS AND/OR EQUIPMENT.
- 7) CONSTRUCTION STAKING SHALL BE PROVIDED BY THE CONTRACTOR AND AT CONTRACTOR'S EXPENSE. ALL DIMENSIONS ARE TO FACE OF CURBS UNLESS SHOWN OTHERWISE.
- 8) MATERIAL TESTING SHALL BE PROVIDED BY THE OWNER. RE-TEST TO BE AT CONTRACTOR'S EXPENSE.
- 9) CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN (IF REQUIRED), FOR APPROVAL BY THE CITY ENGINEERING OFFICE/TXDOT AREA OFFICE PRIOR TO CONSTRUCTION.
- 10) CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND AT CONTRACTOR'S EXPENSE.
- 11) ANY DAMAGE TO EXISTING PAVEMENT, DRAINAGE OR EXISTING STRUCTURES SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION AT CONTRACTOR'S EXPENSE.
- 12) *THESE PLANS, PREPARED BY HALFF DO NOT EXTEND TO OR INCLUDE DESIGN OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF HALFF ASSOCIATES, INC. REGISTERED PROFESSIONAL ENGINEER (S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY THE HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE REGULAR SESSION.*
- 13) CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY TEXAS ONE CALL FOR UTILITY LOCATIONS PRIOR TO ANY & ALL EXCAVATIONS.
- 14) CONTRACTOR TO COORDINATE WITH THE CITY OF EDINBURG ON WORK SCHEDULES, TESTING, GENERAL INSPECTION, AND EXISTING LINES.
- 15) CONTRACTOR TO EXERCISE CAUTION WHEN WORKING NEAR EXISTING FACILITIES AND/OR UTILITIES. ALL DAMAGE TO BE REPAIRED AT CONTRACTOR'S EXPENSE. ALL COSTS FOR INTERRUPTION OF GAS, ELECTRICAL, COMMUNICATIONS AND/OR WATER SERVICE DUE TO CONTRACTOR'S WORK SHALL BE BORNE BY THE CONTRACTOR.
- 16) INFORMATION ON EXISTING UTILITIES IS FROM BEST AVAILABLE INFORMATION OF RECORD AND SPOT FIELD LOCATIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION AND LOCATION OF THESE UNDERGROUND UTILITIES AS REQUIRED AT NO SEPARATE PAY. CITY OF EDINBURG PERSONNEL WILL BE AVAILABLE FOR ASSISTANCE AND OPERATION OF VALVES AS REQUIRED. CONTRACTOR TO COORDINATE WITH OTHER UTILITIES COMPANIES, ELECTRICAL UTILITIES, GAS UTILITIES AND TELEPHONE UTILITIES.
- 17) ALL SPOIL MATERIAL AND DEBRIS SHALL BE DISPOSED OFFSITE BY CONTRACTOR IN A LEGAL MANNER. FURNISHING AND TRANSPORTATION OF ALL OFFSITE MATERIAL TO BE AT CONTRACTOR'S EXPENSE.
- 18) UPON COMPLETION OF CONSTRUCTION CONTRACTOR SHALL RETURN THE SITE TO ORIGINAL CONTOURS UNLESS DIFFERENT FINISHED ELEVATIONS ARE SHOWN ON PLANS. CONTRACTOR TO INSURE NO AREAS OF PONDING ARE PRESENT.
- 19) CONCRETE NOTES:
 A) ALL CONCRETE WORK TO BE FORMED, UNLESS OTHERWISE APPROVED.
 B) ALL CONCRETE TO BE 3000-PSI MINIMUM AT 28 DAYS, UNLESS OTHERWISE SHOWN. STRENGTH TO BE DETERMINED BY CYLINDER BREAK TEST.
 C) ALL REINFORCING STEEL TO BE ASTM A-615, GRADE 60, UNLESS OTHERWISE SHOWN.
 D) ALL EXPOSED CONCRETE WORK TO BE CHAMFERED.
- 20) CONTRACTOR TO INSURE SAME DAY ACCESS TO ALL RESIDENCES AND BUSINESSES ADJACENT TO CONSTRUCTION.
- 21) DEMOLITION, REMOVAL & DISPOSAL OF ALL EXCESS CONCRETE, CURBS, RUBBLE, ETC. TO BE DONE IN A LEGAL MANNER AT CONTRACTOR'S EXPENSE.
- 22) ALL TRAFFIC CONTROL / TRAFFIC SAFETY SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CRITERIA.

PAVING CONSTRUCTION NOTES:

- 1) HOT MIX ASPHALT CONCRETE TO BE IN ACCORDANCE WITH TXDOT SPECIFICATION TYPE 'D'
- 2) SUBGRADE EXCAVATION AND RECOMPACTION TO BE INCLUDED IN PRICE BID PER SQUARE YARD FOR "LIME TREATED SUBGRADE."
- 3) CONTRACTOR TO FILL BEHIND CURBS AND WALKS AND SHAPE TO ENSURE PROPER DRAINAGE.
- 4) CONTRACTOR SHALL "LAY DOWN" CURB SECTION AT DRIVEWAYS LOCATIONS SHOWN ON DRAWINGS. CONTRACTOR SHALL BE REQUIRED TO GRADE FROM EXISTING DRIVES AND PARKING AREAS TO MATCH GRADES AND ALLOW SMOOTH TRANSITIONS AND PROPER DRAINAGE. (NO SEPARATE PAY)
- 5) CONSTRUCTION JOINTS TO EXISTING PAVEMENT SHALL BE MADE BY EITHER CUTTING BACK EXISTING TO PRODUCE A SLIGHTLY BEVELED EDGE FOR THE FULL THICKNESS OF THE WEARING COURSE OR A SUITABLE LAP JOINT SHALL BE MADE. SAW CUTTING REQUIRED.
- 6) NO TRAFFIC SHALL BE ALLOWED ON THE FINISHED WEARING SURFACE UNTIL AT LEAST 12 HOURS AFTER COMPLETION OF ROLLING.
- 7) WHEN TYING INTO EXISTING CURB, EXPOSE REBAR AND FORM EXPANSION JOINT PER DETAIL.
- 8) ANY SETTLEMENT UNDER PAVEMENT DUE TO INADEQUATE COMPACTION OF UTILITY LINE BACKFILL SHALL BE CAUSE FOR RECOMPACTION OF TRENCH AND REPLACEMENT OF PAVEMENT SECTION AT CONTRACTOR'S EXPENSE.
- 9) HOT MIX ASPHALT CONCRETE TRANSPORT TRUCKS TO BE EQUIPPED WITH CANVAS COVERS TO BE UTILIZED DURING MATERIAL HAULING. MATERIAL DELIVERED TO SITE AT IMPROPER TEMPERATURE SHALL BE REJECTED. HOT MIX SHALL BE LAID AT A MINIMUM TEMPERATURE OF 225°F

UTILITY GENERAL NOTES:

- 1) CONTRACTOR TO CONTACT ALL UTILITY COMPANIES IN THE AREA FOR FIELD VERIFICATION OF EXISTING FACILITIES. UTILITY COMPANIES TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING :
 CITY OF EDINBURG(956) 388-8212
 TEXAS ONE CALL.....(800) 245-4545
 DIG TESS.....(800) DIG-TESS
 TEXAS GAS SERVICE.....(800) 959-5325
 AT&T TEXAS.....(800) 288-2020
 TIME WARNER CABLE.....(800) 222-5355
 AEP TEXAS.....(800) 344-8377
- 2) CONTRACTOR TO EXPOSE ANY EXISTING UTILITY THAT MAY BE IN CONFLICT PRIOR TO START OF EXCAVATION.
- 3) ALL EXISTING UTILITIES SHOWN ARE FROM BEST INFORMATION AVAILABLE. NEITHER THE ENGINEER NOR THE CITY TAKE RESPONSIBILITY FOR ACCURACY OF LOCATION.
- 4) CONTRACTOR SHALL AT ALL TIMES ALLOW ACCESS TO EXISTING DRIVEWAY OR PROVIDE/MAINTAIN ALTERNATIVE ALL-WEATHER ROUTES.
- 5) ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION. TRENCHES OR EXCAVATIONS MAY NOT BE LEFT OPEN OVERNIGHT.
- 6) ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- 7) ALL CONSTRUCTION MATERIALS TESTING WILL BE COORDINATED THROUGH THE OWNER.
- 8) WORK REQUIRED TO BE INSPECTED BY THE CITY SHALL OCCUR DURING REGULAR WORKING HOURS, MONDAY THROUGH FRIDAY. NO WORK TO OCCUR DURING CITY HOLIDAYS, NON-WORKING HOURS, MONDAY THROUGH FRIDAY, AND WEEKENDS UNLESS APPROVED BY THE CITY. INSPECTION OVERTIME COSTS TO BE PAID BY CONTRACTOR.
- 9) USE CLASS 'B' EMBEDMENT FOR UTILITY TRENCHES UNDER PAVEMENT.
- 10) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXCAVATED MATERIAL AND DEBRIS FROM THE SITE.

WATERLINE CONSTRUCTION NOTES:

- 1) ALL WATER LINES TO BE C-900 CLASS 150 PVC UNLESS OTHERWISE NOTED.
- 2) DOUBLE CHECK VALVE WILL BE REQUIRED WHEN FILLING NEW WATERLINE FOR PRESSURE TESTING.
- 3) ALL WATER & WASTEWATER COLLECTION LINE CROSSING TO BE CONSTRUCTED IN ACCORDANCE WITH TCEQ REGULATION, CHAPTER 290 & 217.
- 4) CONTRACTOR TO FIELD LOCATE EXISTING METERS & PROPOSED SERVICE CONNECTION LOCATIONS PRIOR TO CONSTRUCTION OF MAIN.
- 5) CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING LINES TO BE TIED IN TO NEW MAIN PRIOR TO SETTING LOCATION OF TIE-IN TEE & VALVE ON MAIN.
- 6) WATERLINE MAINS TO BE HYDROSTATICALLY & BACTERIOLOGICALLY TESTED PER CITY OF EDINBURG REQUIREMENTS PRIOR TO TIE-INS. CITY OF EDINBURG APPROVAL OF TESTING IS REQUIRED.
- 7) CONTRACTOR TO STAMP CURB AND GUTTER WITH 'W' AT LOCATION OF WATER SERVICE LINES FOR VACANT LOTS FOR FUTURE USE.
- 8) CONTRACTOR SHALL MAINTAIN AS MINIMUMS 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION BETWEEN WATER LINES AND ANY OTHER SEWER.
- 9) NO WATER JETTING ALLOWED, MECHANICAL COMPACTION REQUIRED.
- 10) FIRE HYDRANTS SHALL BE PLACED 3.0 FEET BEHIND BACK OF CURB AND FLANGE SHALL BE 6 INCHES ABOVE GRADE.
- 11) CONTRACTOR SHALL MAINTAIN A MINIMUM OF 3.0 FEET OF COVER ON ALL WATER LINES.
- 12) FITTINGS TO BE USED ON DEFLECTIONS AS NEEDED.
- 13) CONTRACTOR IS RESPONSIBLE FOR INSTALLING VALVES, FITTINGS, AND ALL INCIDENTALS AS NEEDED FOR A COMPLETE IN PLACE SYSTEM AND SHALL BE SUBSIDIARY TO PIPE INSTALLATION.

WASTEWATER COLLECTION LINE CONSTRUCTION NOTES:

- 1) ALL PROPOSED SEWER LINES WILL BE SDR 26 PIPE MATERIAL (UNLESS OTHERWISE NOTED).
- 2) CONTRACTOR TO PROVIDE DEFLECTION TEST IN ACCORDANCE WITH TCEQ CHAPTER 217.57 (d). MANDRAL TO BE PULLED IN BOTH DIRECTIONS
- 3) CONTRACTOR TO PROVIDE LOW PRESSURE AIR TEST IN ACCORDANCE WITH TCEQ CHAPTER 217.57 (g), (i). 30 DAYS AFTER INSTALLATION. NO WATER TEST ALLOWED.
- 4) CONTRACTOR TO FIELD VERIFY THE LOCATION OF EXISTING UTILITIES & FACILITIES PRIOR TO CONSTRUCTION.
- 5) ALL CROSSING OF WASTEWATER COLLECTION LINES AND WATERLINES CONSTRUCTED IN ACCORDANCE WITH TCEQ REGULATIONS CHAPTER 290 AND 217.
- 6) CONTRACTOR TO PROVIDE LEAKAGE TEST FOR MANHOLE IN ACCORDANCE WITH TCEQ CHAPTER 217.58 (a), (b) OF THE STATE WASTEWATER CODE NO WATER TEST ALLOWED.
- 7) CONTRACTOR TO STAMP CURB AND GUTTER WITH 'S' AT LOCATION OF WASTEWATER SERVICE LINES FOR VACANT LOTS.
- 8) NO WATER JETTING ALLOWED, MECHANICAL COMPACTION REQUIRED.
- 9) ALL STRUCTURES TO BE ADJUSTED BY THE CONTRACTOR TO MEET FINAL GRADES, A MAXIMUM OF 2 FEET OF THROAT RINGS WILL BE ALLOWED.

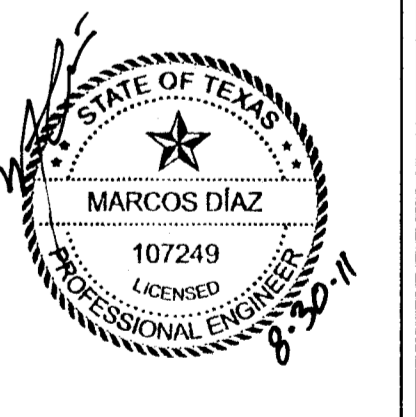
**HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS**



HALFF
 5000 WEST MILITARY, SUITE 100
 EDINBURG, TEXAS 78543
 TEL (505) 984-0288
 FAX (505) 984-0282
 TYPED PRINT P-312

DANNENBAUM
 ENGINEERING COMPANY, INC. ALLIEN, LLC
 11616 INDIAN LOOP, STE. 208 BRAWLEY, TX 77824 (505) 638-3977

Revision No.	Date	Description



Project No.:	28237
Issued:	AUGUST 2011
Drawn By:	MD
Checked By:	RLS
Scale:	AS NOTED
Sheet Title	

GENERAL NOTES

C1.00
 Sheet Number

8/30/2011 10:42:11 AM abc2064 HALFF I:\282000s\28237\WA01\CADD\Sheets\C200-P&G.dgn Design N R240_MON_FS_FW.plt

EXISTING BUILDING
FF = 97.81

EXISTING
BRICK BUILDING
FF = 96.97

EXISTING
METAL BUILDING

EXISTING BUI
FF = 96.57

PROPOSED
TRAINING BUILDING
FF = 97.00

CONTRACTOR TO REMOVE EXISTING
PIPE BARRIERS & COORDINATE WITH OWNER
FOR RELOCATION OR DISPOSAL AT
CONTRACTOR'S EXPENSE
(6 SECTIONS @ 134 FT TOTAL)

CONTRACTOR TO EXERCISE
CAUTION WHEN EXCAVATING
NEAR TO EXISTING
UNDERGROUND ELECTRIC

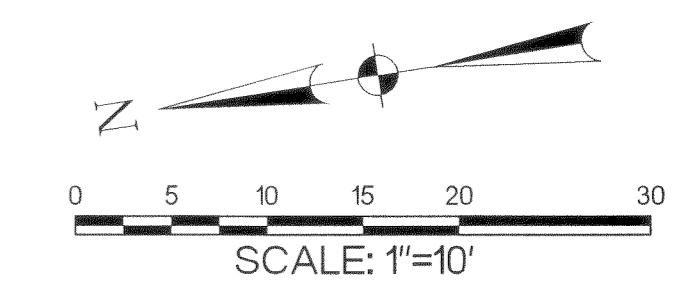
SAWCUT, REMOVE & DISPOSE
570 CY ASPHALT PAVEMENT

SAWCUT, REMOVE & DISPOSE
12.5 CY CONCRETE
POUR NEW CONCRETE WALK
AT PROPOSED GRADES

PROPOSED
CONCRETE WALK
(SEE STRUCTURAL PLANS
FOR DETAILS)

SAWCUT, REMOVE & DISPOSE
131 CY ASPHALT PAVEMENT

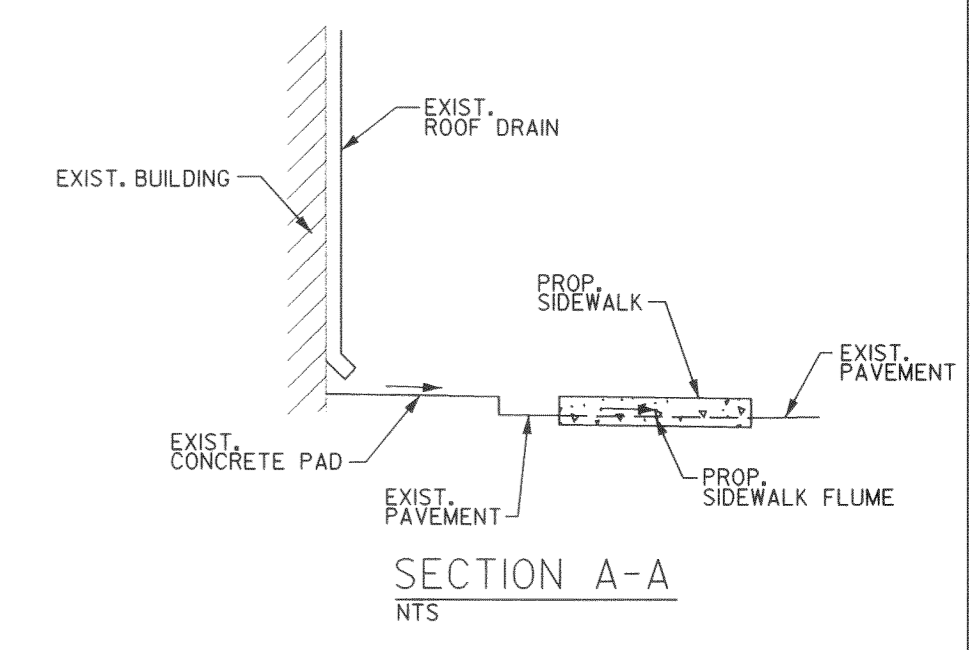
REFER TO MEP DRAWINGS
FOR CONCRETE PAD DETAILS



LEGEND

PROPOSED	EXISTING	
■	□	INLET
●	○	MANHOLE
⊕	⊕	GATE VALVE & BOX
⊕	⊕	FIRE HYDRANT
+100.00	+100.00	SPOT GRADE
—91.0—	—91.0—	CONTOUR
—SS—	—SS—	SAN. SEWER
—W—	—W—	WATER
—SD—	—SD—	STORM SEWER
—E—	—E—	ELECTRIC LINE
▨	▨	ASPHALT PAVEMENT
▨	▨	CONCRETE
○	○	UTILITY CROSSING
▲	▲	HIGH POINT

NOTE:
ALL ELEVATIONS ARE AT GUTTER UNLESS
OTHERWISE NOTED.
FL = FLOW LINE
TW = TOP OF SIDEWALK
FG = FINISHED GRADE
FF = FINISHED FLOOR



HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS

HALFF
ENGINEERING & ARCHITECTURE
1000 W. WASHINGTON STREET, SUITE 100
EDINBURG, TEXAS 78642
TEL: (361) 984-0288
FAX: (361) 984-0289
TWP: (361) 984-0289

DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
1700 N. W. 10th Street, Suite 100
McAllen, TX 78501-1827

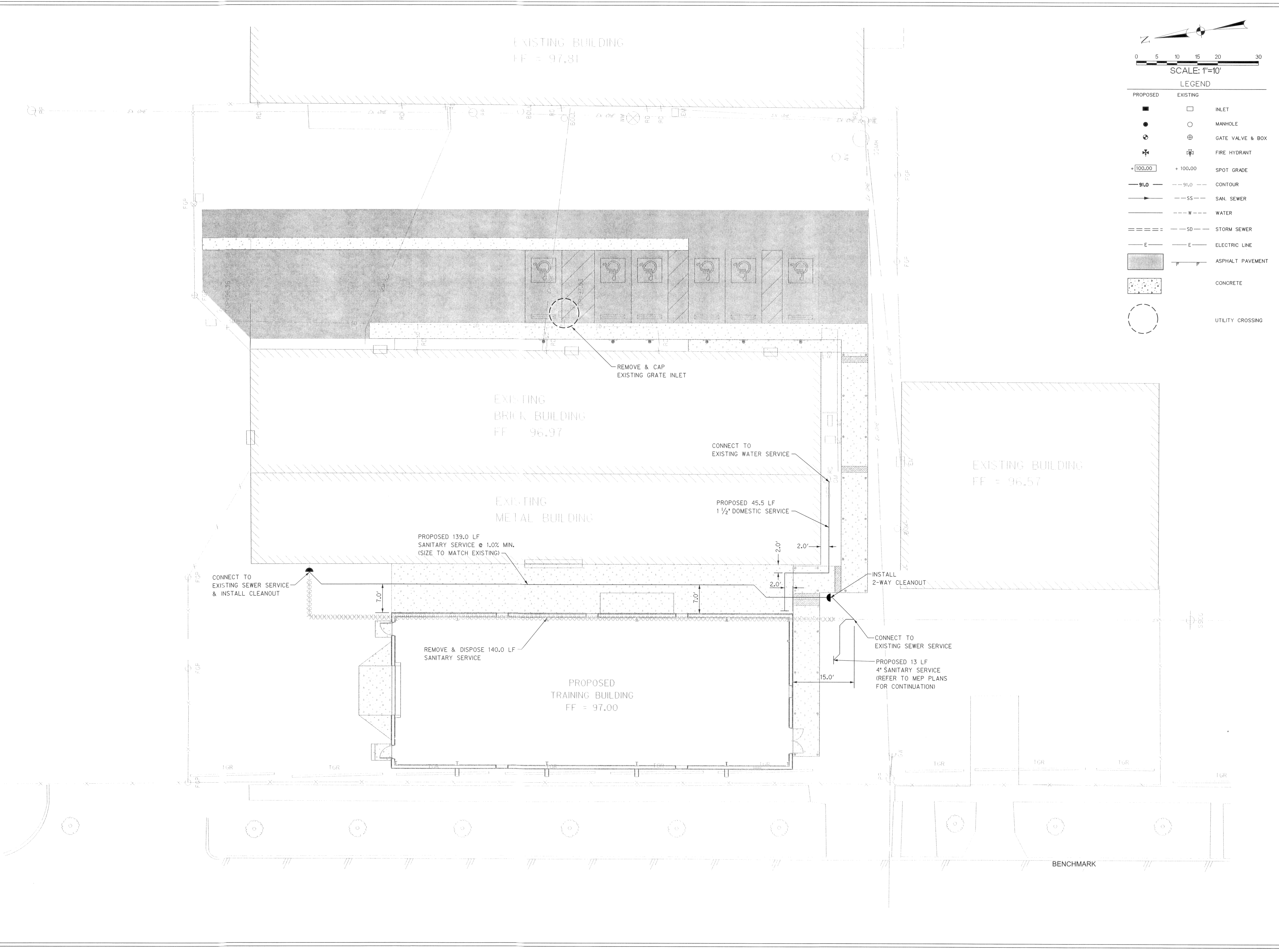
Revision No.	Date	Description

STATE OF TEXAS
MARCOS DIAZ
107249
LICENSED PROFESSIONAL ENGINEER
8-2011

Project No.: 28237
Issued: AUGUST 2011
Drawn By: MD
Checked By: RLS
Scale: AS NOTED
Sheet Title
PAVING & GRADING
PLAN

C2.00
Sheet Number

BENCHMARK
The elevations shown hereon are referenced to FEMA RM 16 as shown on the Flood Insurance Rate Map for the City of Edinburg, Texas as published by FEMA under Community-Panel Number 4803380020E with a Map revised date of June 6, 2000. Located about 0.7 miles north along U.S. Highway 281 from the courthouse at Edinburg, Hidalgo County, thence about 1.0 miles east along the Southern Pacific Railroad; about four poles east across the track from milepost 144, about 60 feet west of a crossing, and in the west end of the south headwall of a concrete culvert. A standard disk, stamped ("Z-654) 1942" Elevation 100.4666 NGVD 29.
The Site Temporary Benchmark (TBM) is a Square Cut found in front of a curb inlet located on the south side of West Lovett Street near the intersection of West Lovett Street and North 10th Avenue. Elevation 94.80.



0 5 10 15 20 30
SCALE: 1"=10'

LEGEND

PROPOSED	EXISTING	
■	□	INLET
●	○	MANHOLE
⊕	⊕	GATE VALVE & BOX
⊕	⊕	FIRE HYDRANT
+100.00	+100.00	SPOT GRADE
-91.0	-91.0	CONTOUR
—SS—	—SS—	SAN. SEWER
—W—	—W—	WATER
—SD—	—SD—	STORM SEWER
—E—	—E—	ELECTRIC LINE
▨	▨	ASPHALT PAVEMENT
▩	▩	CONCRETE
○	○	UTILITY CROSSING

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS

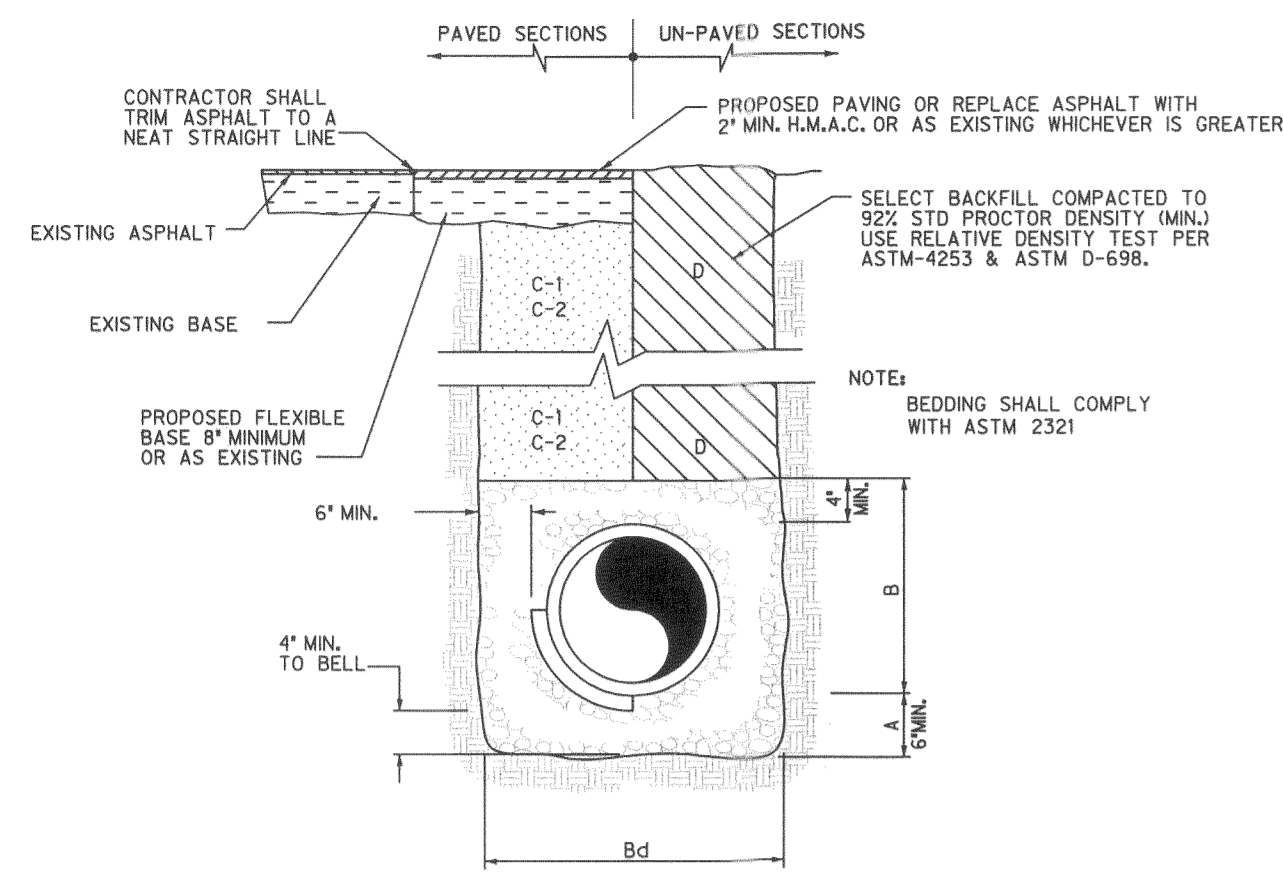
HALFF
5000 WEST MILITARY, SUITE 100
MCALLEN, TEXAS 78503
TEL (361) 684-0288
FAX (361) 684-0282
T8HE FRANK F-37E

DANNENBAUM
ENGINEERS CONSULTANTS ARCHITECTS, LLC
1109 INDIANA LOOP, STE 208 MCALLEN, TX 78504 (361) 682-3877

Revision No.	Date	Description

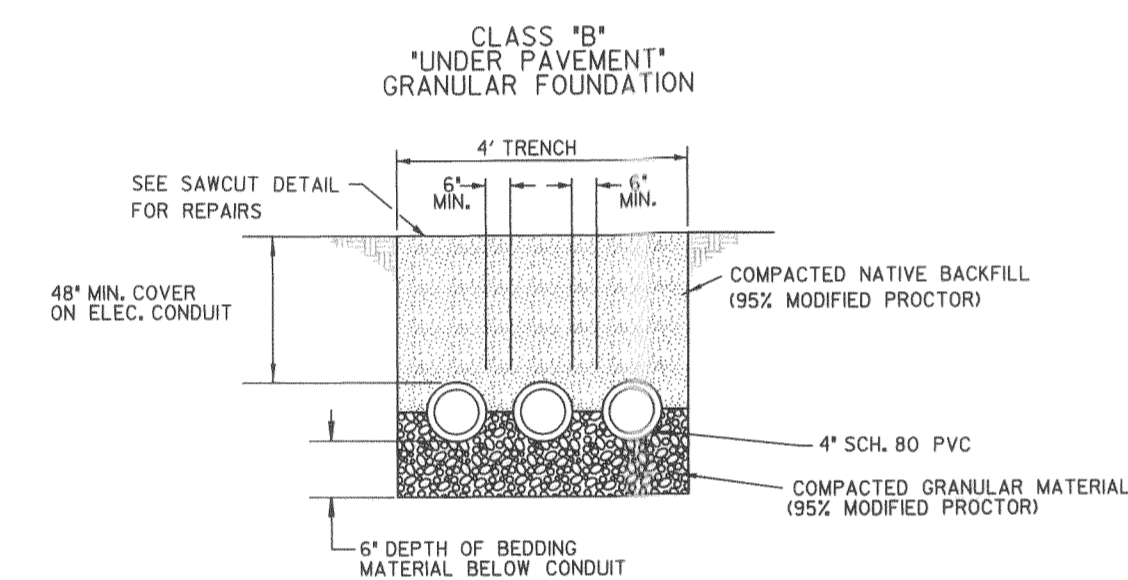
Project No.: 28237
Issued: AUGUST 2011
Drawn By: MD
Checked By: RLS
Scale: AS NOTED
Sheet Title
UTILITY PLAN
C3.00
Sheet Number

8/30/2011 10:09:05 AM ah2064 HALFF I:\28000s\28237\1\A01\CADD\Sheets\C400.MD.dgn Design N_R240_MON_FS_FW.plt

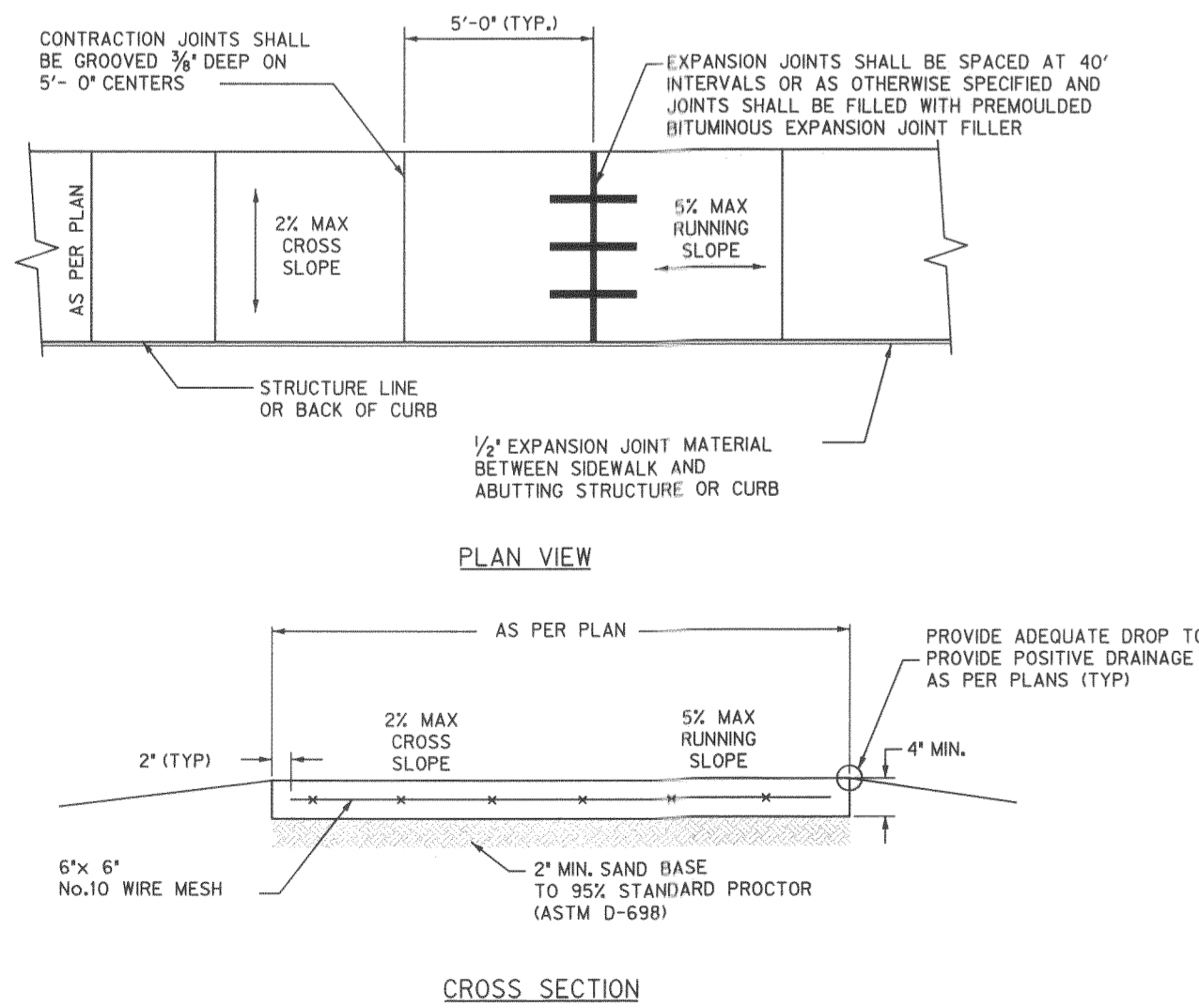


- A. GRAVEL BEDDING PLACED BEFORE PIPE IS LAID (MIN. THICKNESS = 6"). FIT RUN GRAVEL 3/4" MAX. SIZE.
- B. GRAVEL PLACED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO 4" ABOVE THE TOP OF PIPE. FIT RUN GRAVEL 3/4" MAX. SIZE.
- Bd. TRENCH WIDTHS SHALL BE EQUAL TO PIPE BELL O.D. + 12" OR IN ACCORDANCE WITH ASTM 2321.
- C-1. CITY STREETS, PARKING AREA, DRIVEWAYS: SELECTED BACKFILL SHALL BE PLACED IN 8" LIFTS MECHANICALLY COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- C-2. STATE MAINTAINED ROADWAYS: SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT, COMPACTED AS PER ASTM D-4253 AND ASTM D-698.
- D. SELECTED EARTH BACKFILL MECHANICALLY COMPACTED TO 92% STD. PROCTOR DENSITY (12" LIFTS). FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTES) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE. BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY (USE RELATIVE DENSITY TEST PER ASTM D-4253 & ASTM D-698). THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURAL BACKFILL MATERIAL SHALL BE AS APPROVED BY THE ENGINEER.

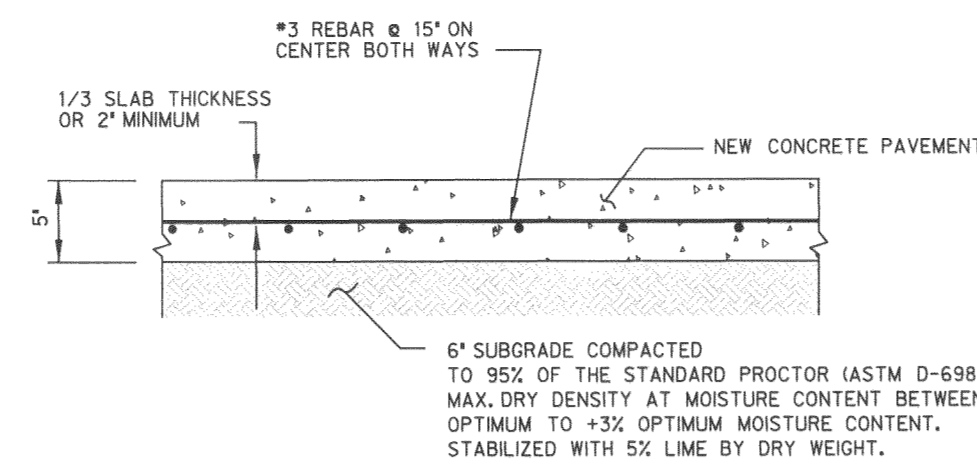
SANITARY SEWER BEDDING
NTS



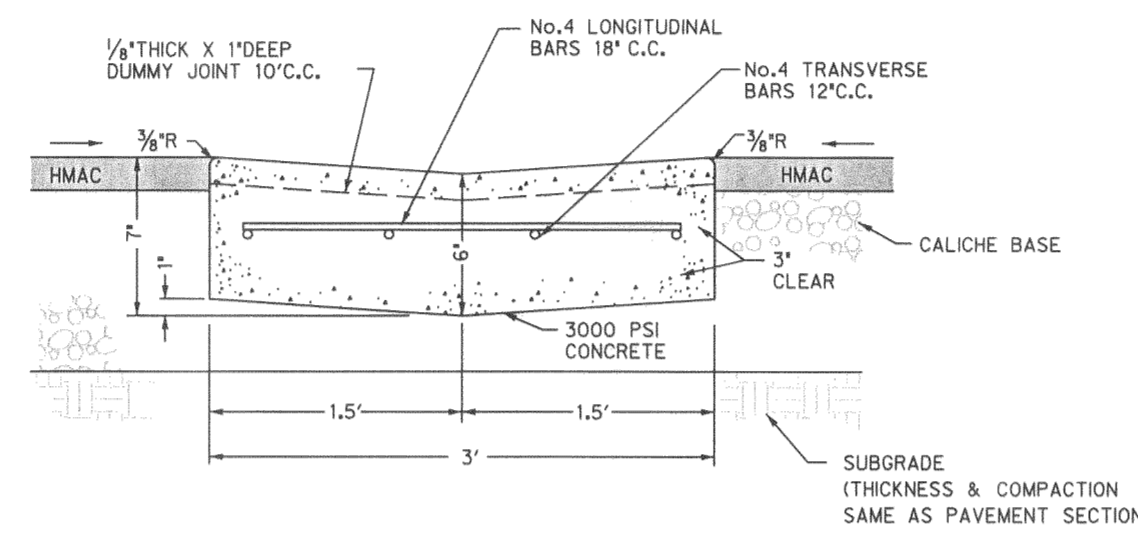
ELECTRICAL TRENCH DETAIL 'B'
NTS



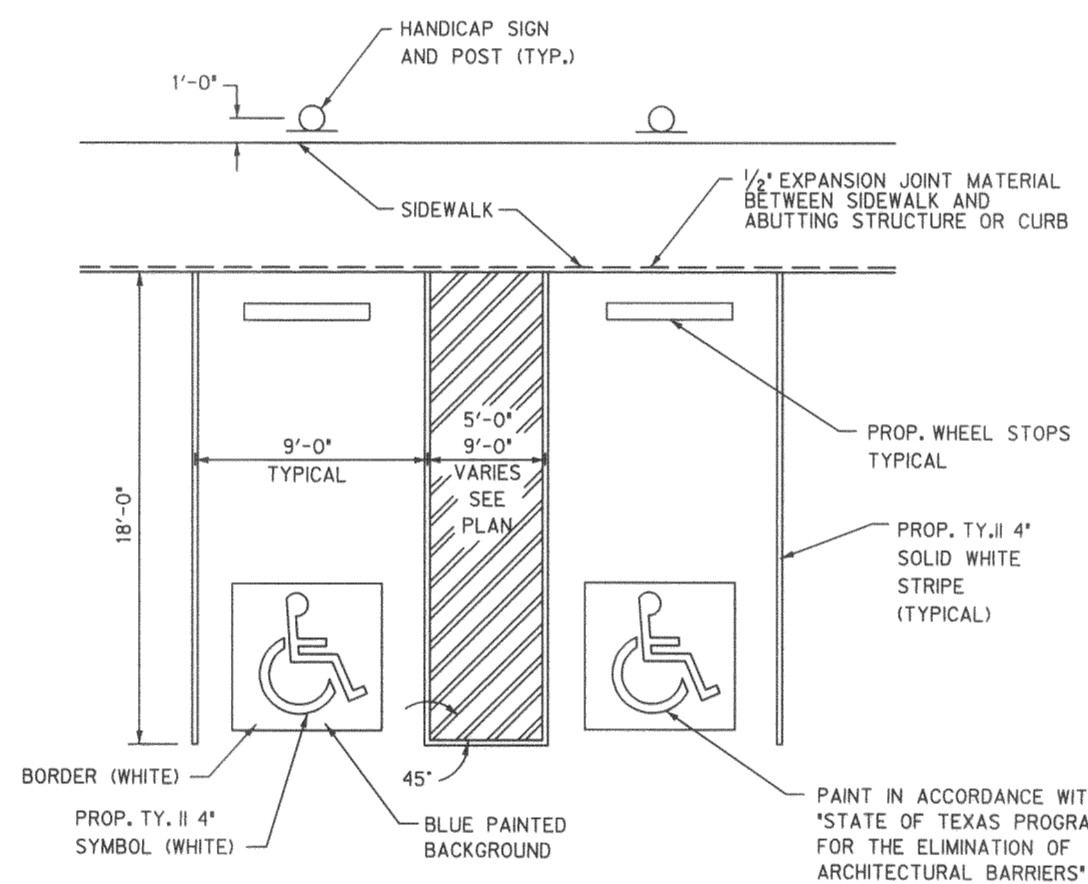
CONCRETE SIDEWALK DETAIL
NTS



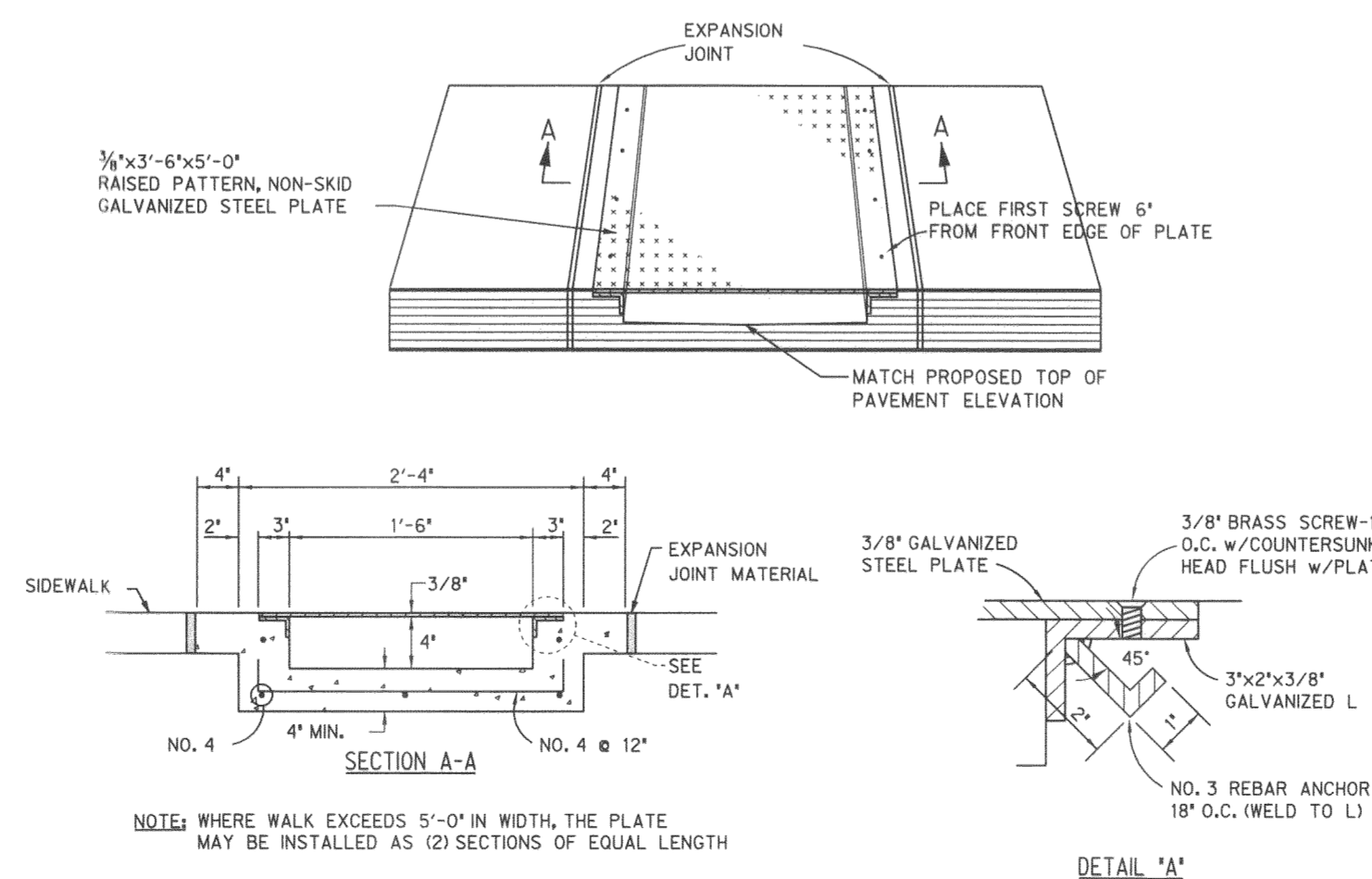
CONCRETE PAVEMENT/DUMPSTER PAD
NTS



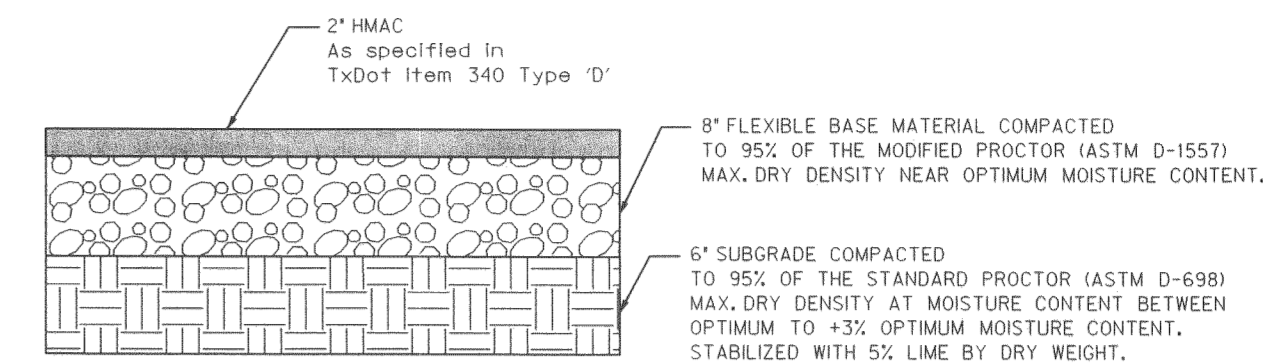
TYPICAL VALLEY GUTTER SECTION
NTS



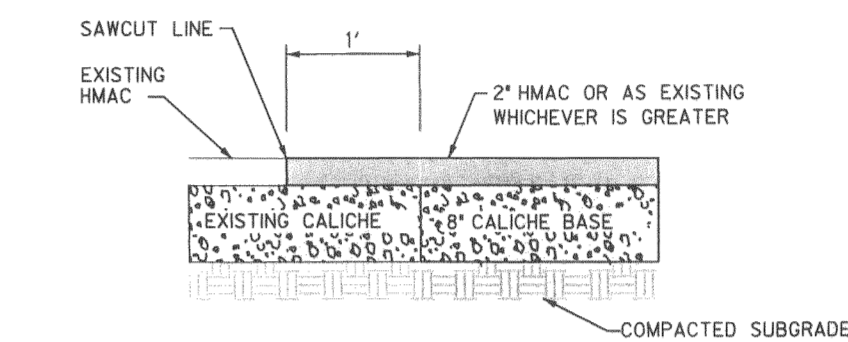
TYPICAL HANDICAP PARKING SPACE DETAIL
NTS



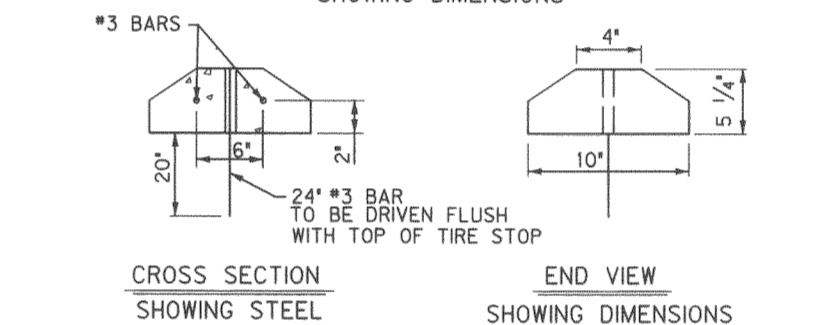
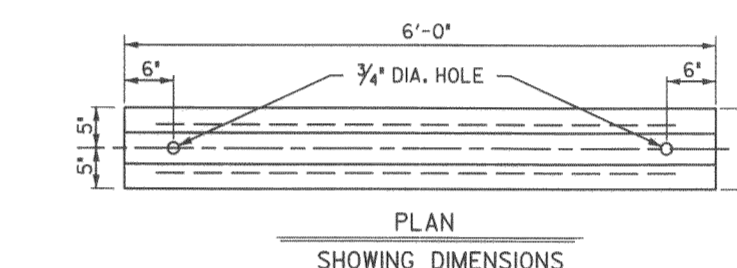
CONCRETE FLUME & SIDEWALK FLUME DETAIL
NTS



ASPHALT PAVEMENT SECTION
NTS



SAWCUT DETAIL
NTS



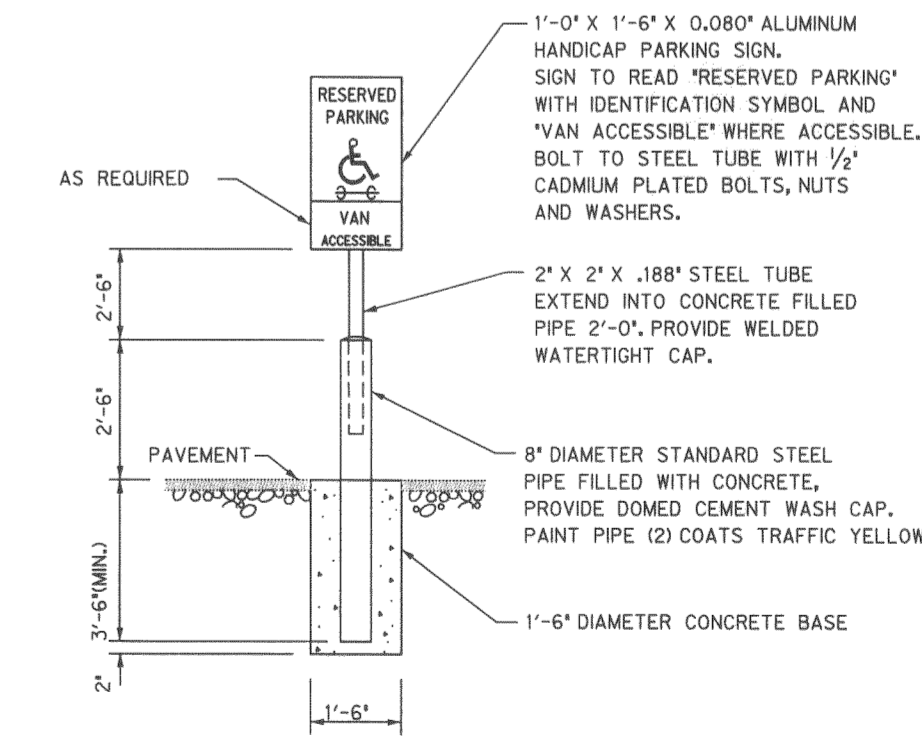
CONCRETE WHEEL STOP WITH DRAINAGE SLOTS DETAIL
NTS

NOTE: ALL CONCRETE SHALL BE CLASS A.

CONCRETE WHEEL STOP WITH DRAINAGE SLOTS DETAIL
NTS



CONCRETE WHEEL STOP WITH DRAINAGE SLOTS DETAIL
NTS



HANDICAP SIGN & SUPPORT
NTS

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS

HALFF
5000 WEST MILITARY, SUITE 100
EDINBURG, TEXAS 77556
TEL: (832) 984-4286
FAX: (832) 984-4282
TDD: (832) 984-4282

DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1105 MOULAN LOOP, STE. 201 McALLEN, TX 78504 (956) 482-3277

Revision No.	Date	Description

Project No.: 28237
 Issued: AUGUST 2011
 Drawn By: MD
 Checked By: RLS
 Scale: AS NOTED
 Sheet Title
MISCELLANEOUS DETAILS
C4.00
 Sheet Number

GENERAL NOTES

GENERAL

- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TOWNS WHICH MIGHT BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
- EQUIPMENT FRAMING LOADS, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO HVAC, PLUMBING, OR ELECTRICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE INVOLVED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN THESE REQUIREMENTS TO BE BORNE BY THE APPROPRIATE CONTRACTOR.
- SHOULD ANY OF THE DETAILED INSTRUCTIONS SHOWN ON THE PLANS CONFLICT WITH THESE STRUCTURAL NOTES, THE SPECIFICATIONS, OR WITH EACH OTHER, THE STRICTEST PROVISION SHALL GOVERN.
- REFER TO THE ARCHITECTURAL, MECHANICAL ELECTRICAL AND PLUMBING FOR SLEEVES, CURBS, INSERTS, ETC. NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND BE RESOLVED BEFORE PROCEEDING WITH ANY WORK.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- THE STRUCTURAL INTEGRITY OF ANY BUILDING RELIES ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISIONS MADE FOR CONDITIONS AND/OR SEQUENCES OF CONSTRUCTION AND THE STRUCTURAL DESIGN IS BASED ON THIS PREMISE. THEREFORE THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING OF SUPERSTRUCTURE DURING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RIGID BRACING OF ALL WALLS, FORMWORK, SHORING AND FALSE WORK DURING CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DROPS, OFFSETS, BLOCKOUTS, FINISHES, AND DIMENSIONS, WITH ARCHITECTURAL PLANS PRIOR TO PROJECT LAYOUT.
- THE USE OF REPRODUCTION OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, DUE TO ANY ERRORS THAT MAY OCCUR.
- CONTRACTOR IS RESPONSIBLE FOR ALL METHODS AND PROCEDURES DURING CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN INTEGRITY OF STRUCTURE DURING CONSTRUCTION.
- ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE DRAWINGS, SPECIFICATIONS AND REFERENCE CODE.
- STRUCTURAL MEMBERS HAVE BEEN LOCATED AND DESIGNED TO ACCOMMODATE THE MECHANICAL EQUIPMENT AND OPENINGS SPECIFIED BY THE MECHANICAL CONSULTANT. ANY SUBSTITUTIONS RESULTING IN REVISIONS TO THE STRUCTURE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL DETERMINE THE SCOPE OF THE STRUCTURAL WORK FROM THE CONTRACT DOCUMENTS TAKEN AS A WHOLE INCLUDING ARCHITECTURAL AND MECHANICAL DRAWINGS. THE STRUCTURAL SHALL NOT BE CONSIDERED SEPARATELY FOR THE PURPOSES OF BIDDING THE STRUCTURAL WORK. CONTRACTOR SHALL REVIEW THE ENTIRE DRAWING PACKAGE IN ORDER TO DETERMINE THE SCOPE OF STRUCTURAL WORK INCLUDING NECESSARY COORDINATION SHOWN IN OTHER CONSULTANT DRAWINGS.
- NOTED SCALES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL NOT SCALE THE DRAWINGS FOR THE PURPOSE OF DETERMINING DIMENSIONAL INFORMATION.
- ANY ALTERNATES ACCEPTED BY THE OWNER, GENERAL CONTRACTOR OF SUBCONTRACTOR SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE.
- PRINCIPAL OPENINGS ARE INDICATED ON THE STRUCTURAL DRAWINGS. OTHER OPENINGS (SLEEVES, BLOCKOUTS, ETC.) ARE SHOWN IN THE ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR SHALL SUBMIT TO ARCHITECT AND ENGINEER A PLAN WITH ALL PROPOSED OPENINGS COORDINATED WITH ALL THE TRADES. ADDITIONAL REINFORCEMENT AND/OR STRUCTURAL MEMBERS MAY BE REQUIRED UPON REVIEW.

COORDINATION

- ONLY LARGER SLEEVE OPENINGS AND FRAMED OPENINGS IN STRUCTURAL FRAMING COMPONENT MEMBERS ARE INDICATED ON THE STRUCTURAL DRAWINGS. HOWEVER, ALL SLEEVES, INSERTS AND OPENINGS, INCLUDING FRAMES AND/OR SLEEVES SHALL BE PROVIDED FOR PASSAGE, PROVISION AND/OR INCORPORATION OF THE WORK OF THE CONTRACT, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WORK. THIS WORK SHALL INCLUDE THE COORDINATION OF SIZES, ALIGNMENT, DIMENSIONS, POSITION, LOCATIONS, ELEVATIONS AND GRADES AS REQUIRED TO SERVE THE INTENDED PURPOSE. OPENINGS NOT INDICATED ON THE STRUCTURAL DRAWINGS, BUT REQUIRED AS NOTED ABOVE, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, DRAINS AND LOCATION OF DERESSED AND ELEVATED FLOOR AREAS.
- COMPATIBILITY OF THE STRUCTURE AND PROVISIONS FOR BUILDING EQUIPMENT SUPPORTED ON OR FROM STRUCTURAL COMPONENTS SHALL BE VERIFIED AS TO SIZE, DIMENSIONS, CLEARANCES, ACCESSIBILITY, WEIGHTS AND REACTION WITH THE EQUIPMENT FOR WHICH THE STRUCTURE HAS BEEN DESIGNED PRIOR TO SUBMISSION OF SHOP DRAWINGS AND DATA FOR EACH PIECE OF EQUIPMENT AND FOR STRUCTURAL COMPONENTS. DIFFERENCES SHALL BE NOTED ON THE SUBMITTALS.
- SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AND SUBMITTED FOR REVIEW BY THE ENGINEER. CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ALL ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUSLY SUBMITTED SHOP DRAWINGS SHALL BE CLOUDED.
- THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
- THE DESIGN AND PROVISION OF ALL TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, SUPPORTS AND ANCHORS FOR SAFETY LINES, CRIBBING, OR ANY OTHER TEMPORARY ELEMENTS REQUIRED FOR THE EXECUTION OF THE CONTRACT ARE NOT INCLUDED IN THESE DRAWINGS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY SUPPORTS SHALL NOT RESULT IN THE OVERSTRESS OR DAMAGE OF THE ELEMENTS TO BE BRACED NOR ANY ELEMENTS USED AS BRACE SUPPORTS.

CODES

- BUILDING CODE: 2006 INTERNATIONAL BUILDING CODE WITH CITY OF MCALLEN, TEXAS.
- STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE, ACI 318.
- STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, NINTH EDITION.
- ASCE 7-05

PRE-MANUFACTURED SUPERSTRUCTURE

- DESIGN CRITERIA INTERNATIONAL BUILDING CODE (IBC) 2006 EDITION ASCE7- LATEST EDITION. BUILDING CODE FOR THE CITY OF SAN JUAN, TEXAS MAXIMUM ALLOWABLE HORIZONTAL DRIFT OF STRUCTURE = H/400 WHERE H = MEAN HEIGHT OF STRUCTURE DESIGN WIND SPEED = 110 MPH, EXPOSURE "C" MINIMUM COLLATERAL LOAD = 10 PSF PLUS ROOF TOP UNITS
- A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF TEXAS SHALL BE RESPONSIBLE FOR THE DESIGN OF THE PREFABRICATED METAL BUILDING MEMBERS AND THEIR CONNECTIONS. THIS WORK SHALL ALSO INCLUDE ALL MEMBERS AND BRACES REQUIRED TO BRACE MASONRY WALLS.
- ALL DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED FOR RECORD PURPOSES UPON REQUEST.
- THE SUPPLIER SHALL SUBMIT A SEALED LETTER STATING DESIGN CRITERIA FOR ALL WORK AND CERTIFYING THAT ALL DESIGNS ARE IN COMPLIANCE WITH APPLICABLE CODES.
- ALL ANCHOR BOLTS SHALL BE DESIGNED BY THE METAL BUILDING SUPPLIER AND SUPPLIED BY THE CONTRACTOR. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A36. SUBMIT MILL CERTIFICATES FOR ALL BOLTS.
- ALL BOLTS FOR STRUCTURAL CONNECTIONS OF BEAMS, GIRDERS, PURLINS, COLUMNS, BRACES, ETC. SHALL BE OF AMERICAN ORIGIN. NO EXCEPTIONS. SUBMIT MILL CERTIFICATES FOR ALL BOLTS.
- ALL A325 BOLTS SHALL BE FULLY TENSIONED USING THE TURN OF THE "NUT" METHOD.
- PROVIDE PINNED BASE CONNECTION FROM COLUMN TO FOUNDATION.
- ALL BOLTS IN THE METAL BUILDING SHALL BE INSPECTED BY THE TESTING LAB TO CONFIRM PROPER TENSION. THE TESTING LAB SHALL INSPECT EACH AND EVERY BOLT ON THE PROJECT USING A TORQUE WRENCH. SUBMIT WRITTEN REPORTS TO THE ARCHITECT.
- THE MANUFACTURER'S ENGINEER MUST PERFORM SITE OBSERVATIONS DURING THE COURSE OF THE METAL BUILDING CONSTRUCTION TO CONFIRM THAT THE WORK IS PROGRESSING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. THE CONTRACTOR SHALL MAKE ALL THE CONTRACTOR SHALL MAKE ALL CORRECTIVE WORK REQUIRED TO MAKE ALL NON-COMPLIANT ITEMS ACCEPTABLE TO THE ENGINEER PRIOR TO CONTINUING WITH ANY FINISH WORK. AT THE END OF THE JOB, THE MANUFACTURER'S REGISTERED TEXAS P.E. MUST SUBMIT A SEALED LETTER TO THE OWNER AND ARCHITECT STATING THAT THE DESIGN AND CONSTRUCTION OF THE METAL BUILDING IS IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES.
- THIS FOUNDATION HAS BEEN DESIGNED USING ASSUMED REACTIONS FROM THE PRE-ENGINEERED BUILDING COMPONENTS AND IS FOR BID PURPOSES ONLY. THE CONTRACTOR SHALL SUBMIT BASE CONNECTION DETAILS (SIZE AND THICKNESS BASE PLATE AND DIAMETER AND LENGTH ANCHOR BOLTS) AND REACTIONS OF THE BUILDING FRAMES TO THE ENGINEER PRIOR TO CONSTRUCTION SO THE DESIGN ASSUMPTIONS CAN BE VERIFIED. DEPTH OF ANCHOR BOLTS SHALL BE SUFFICIENT.
- ANY ADDITIONAL COST OF FOUNDATION WORK REQUIRED BY REVISIONS OF THE FOUNDATION DESIGN AFTER PRE-ENGINEERED BUILDING REACTIONS ARE SUBMITTED SHALL BE BY OTHERS.
- A COPY OF CALCULATIONS AND ERECTION DRAWING FOR SUPER STRUCTURE SHALL BE PROVIDED TO ARCHITECT & ENGINEER FOR REVIEW, APPROVAL, AND FOR OUR RECORDS. A NOTE TO THIS EFFECT SHALL BE INCLUDED IN THE STRUCTURAL DRAWINGS.

CONCRETE

- 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.
- 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. #318, LATEST EDITION.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH AT 28 DAYS AS FOLLOWS:
 - 3000 PSI FOR ALL CONCRETE FOUNDATION COMPONENTS A MAXIMUM OF 20% FLYASH MAY BE USED IN CONCRETE MIX DESIGN AND SHALL CONFORM TO ASTM C618. THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.58 AND SLUMPS SHALL BE BETWEEN 4 AND 5 INCHES. COORDINATE WITH OWNERS TESTING LABORATORY (IF ONE IS SELECTED) TO PROVIDE TESTING AS PER A.C.I.
 - REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60.
- 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.
COLUMNS	1 1/2 IN.
SLABS AND WALLS	1 IN.
OTHER	1 1/2 IN.
- ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I. #318 LATEST EDITION. ACCESSORIES FOR EXPOSED CONCRETE SOFFITS SHALL HAVE PLASTIC COATED FEET.
- VERTICAL CONSTRUCTION JOINTS IN FLOOR OR ROOF SLABS ARE TO BE AS SHOWN ON PLANS. NO HORIZONTAL JOINTS WILL BE PERMITTED IN SLABS OR BEAMS UNLESS OTHERWISE NOTED.
- MAINTAIN A MINIMUM OF ONE BAR DIAMETER (BUT NOT LESS THAN 1") BETWEEN ALL REINFORCING BARS (INCLUDING LAPS) ON ALL SLABS. MAINTAIN A MINIMUM OF 1-1/2" BETWEEN BARS IN COLUMNS, AND A MINIMUM OF 1-1/2" TIMES THE MAXIMUM COARSE AGGREGATE SIZE IN ALL CASES.
- BAR SCHEDULED OR DETAILED "CONT" SHALL BE LAPPED 40 BAR DIAMETERS UNLESS OTHERWISE NOTED.
- ALLOW FOR THE EQUIVALENT OF 5% OF REINFORCING FOR #4 BARS TO BE USED AS REQUIRED IN THE FIELD FOR SPECIAL CONDITIONS (LABOR FOR PLACING SAME TO BE INCLUDED).
- AT CORNERS AND "T" INTERSECTIONS OF ALL FOUNDATION BEAMS, EXTEND 4 CORNER BARS EQUAL TO THE DETAILED STEEL IN THE ADJACENT BEAMS 2'-0" EACH WAY, 2 BARS TOP AND 2 BARS BOTTOM.
- CONCRETE PLACED BY PUMPING SHALL MEET THE FOLLOWING REQUIREMENTS:
 - COARSE AGGREGATE SHALL BE GRADED FROM A MAXIMUM OF 1" DOWN.
 - MAXIMUM ALLOWABLE INCREASE IN CEMENT FACTOR SHALL BE 1/2 SACK PER CUBIC YARD OVER NORMAL MIX DESIGN.
 - MAXIMUM WATER CEMENT RATIO SHALL BE 7-1/2 GALLONS PER SACK OF CEMENT. IF MORE WORKABILITY IS REQUIRED, AN ADMIXTURE MAY BE USED.
 - MAXIMUM WEIGHT RATIO OF FINE AGGREGATES TO COARSE AGGREGATES SHALL NOT EXCEED 2/3.
 - REFER TO A.C.I. #301, LATEST EDITION, SECTION 800, FOR OTHER PUMPING REQUIREMENTS.
 - IN NO CASE SHALL CONCRETE BE PUMPED THROUGH AN ALUMINUM TUBE.
- PROVIDE ADDITIONAL REINFORCING STEEL, IN STANDARD LENGTHS, FOR USE ON THE PROJECT AS DIRECTED BY THE STRUCTURAL ENGINEER FIELD REPRESENTATIVE.

No. 4	-	500 LBS.
No. 5	-	667 LBS.
No. 6	-	667 LBS.

DESIGN CRITERIA

- FOUNDATION AND FRAMING DESIGN IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2006.
- GEOTECHNICAL REPORT: BY: RABA KISTNER CONSULTANTS INC. PROJ. NO.: AM11-044-00 DATE: AUGUST 24, 2011 MINIMUM DEPTH: 24 INCHES MINIMUM BEAM WIDTH: 12 INCHES BEARING CAPACITY (WIDENED BEAM FOOTINGS)..... 1.50 KSF BEARING CAPACITY (CONTINUOUS BEAM FOOTING)..... 1.25 KSF DESIGN PLASTICITY INDEX 28 PWR 1.1-1/4"
- ROOF: DEAD LOAD: 25 PSF LIVE LOAD: 20 PSF
- WIND: BASIC WIND SPEED (3 SEC. GUST): 110 MPH
- IN ADDITION TO THE LOADS, IN ITEMS #3 & #4, DESIGN THE STEEL JOISTS WITH A 500 LB. CONCENTRATED LOAD AT THE END OF THE JOIST AND A 500 LB. CONCENTRATED LOAD AT MID SPAN OF THE JOIST. (THESE TWO LOADS DO NOT ACT CONCURRENTLY)

FOUNDATION NOTES

- THE SITE SHALL BE PREPARED UNIFORM IN ACCORDANCE WITH SITE DRAWINGS, SPECIFICATIONS AND GEOTECHNICAL ENGINEERING STUDY REPORTS FOR ALL BOLS. PROJECT No. AM11-044-00 AND DATED AUGUST 24, 2011 PORTIONS OF THAT REPORT ARE REPRODUCED ABOVE. CONTRACTOR IS ADVISED TO REVIEW THE REPORT IN ITS ENTIRETY AND VISIT THE SITE PRIOR TO PROVIDING BID DOCUMENTS.
- REMOVE ALL EXISTING PAVEMENT CONSTITUENTS AND SUBGRADE SOILS EXTENDING DOWN TO ELEVATION 95.0 FT ABOVE MEAN SEA LEVEL (MSL), AND PLACE PROPERLY-COMPACTED, SUITABLE, SELECT FILL MATERIAL WITHIN THE PROPOSED BUILDING FOOTPRINT AREA UP TO BUILDING'S PROPOSED FINISHED GRADE ELEVATION (FG) OF ABOUT 96.5 FT ABOVE MSL CONSIDERING A 6-INCH THICK, CONCRETE FLOOR SLAB.
- SELECT FILL, WHEN PROPERLY SLAKED AND TESTED BY STANDARD LABORATORY METHODS, SHALL MEET THE FOLLOWING REQUIREMENTS:
 - LIQUID LIMIT SHALL BE LESS THAN OR EQUAL TO 35%.
 - PLASTICITY INDEX SHALL BE LESS THAN 17 AND GREATER THAN 7.
 - SHALL CONTAIN NO ORGANIC MATERIAL.
 - SHALL CONTAIN NO STONES LARGER THAN 4 INCHES.
- 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 APPROVAL.
- SELECT FILL UNDER ALL FLOORS AND WALKS SHALL BE COMPACTED IN THE FIELD IN LIFTS NOT TO EXCEED 8" TO 98% (+5%) OF THE MAXIMUM DENSITY, AT -2% TO +2% OF THE OPTIMUM MOISTURE CONTENT, AS DETERMINED BY TEXAS HIGHWAY DEPARTMENT SOIL TESTING PROCEDURE TEX-113-E (COMPACTIVE EFFORT 6.63 FT-LB./CU. IN.) FIELD DENSITIES SHALL BE CHECKED IN ACCORDANCE WITH TEX-115-E.

MATERIALS

- SPECIFICATIONS: IN GENERAL, COMPLY WITH ACI 301-89 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."
- STRUCTURAL CONCRETE

GLASS	LOCATION	FC							
I.	FOOTINGS	3000 PSI							
II.	INTERIOR SLABS ON GRADE, AND ALL INTERIOR CONCRETE NOT OTHERWISE IDENTIFIED	4000 PSI							
III.	PIERS PLACED INTEGRALLY WITH WALLS, EXTERIOR SLABS ON GRADE, AND ALL EXTERIOR CONCRETE (WITH AIR) NOT OTHERWISE IDENTIFIED	4000 PSI							
C.	ALL DEFORMED REINFORCING BARS (ASTM A 615): Fy = 60,000								
D.	WELDED WIRE FABRIC SHALL CONFORM TO ASTM A165-85. (SHEET FORM, NOT ROLLED)								
2.	FIELD MANUAL: PROVIDE AT LEAST ONE COPY OF THE ACI FIELD REFERENCE MANUAL, SP-15, IN THE FIELD OFFICE AT ALL TIMES.								
3.	CONTINGENCES: <ol style="list-style-type: none"> PROVIDE SUPPORTS AS REQUIRED TO MAINTAIN ALIGNMENT OF SCHEDULED REINFORCING. SUCH SUPPORTS ARE TO BE REFLECTED IN THE BID. FOOTINGS: <ol style="list-style-type: none"> DOWELS IN FOOTINGS TO MATCH VERTICAL WALL REINFORCING. PROVIDE LEAN CONCRETE (CLASS IV) UNDER FOUNDATIONS FOR ACCIDENTAL OVER-EXCAVATION, SOFT SPOTS AND TRENCHES. SPICES: UNLESS NOTED OTHERWISE, MINIMUM LAP SPICE LENGTHS TO BE AS FOLLOWS: <ol style="list-style-type: none"> VERTICAL BARS IN WALLS, PIERS, OR COLUMNS (INCLUDING DOWELS) 40 DIAMETER HORIZONTAL BARS IN SLABS & FOOTING 40 DIAMETER HORIZONTAL BARS IN WALL 48 DIAMETER CONSTRUCTION JOINTS: <ol style="list-style-type: none"> CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER. ALL CONSTRUCTION JOINTS ARE TO BE KEPT. KEYWAYS SHALL BE 1-1/2 INCHES DEEP X 1/3 MEMBER THICKNESS. CONCRETE COVER: UNLESS NOTED OTHERWISE, DETAIL REINFORCING TO PROVIDE CONCRETE COVER AS FOLLOWS: <ol style="list-style-type: none"> CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: <table border="0"> <tr> <td>#5 BARS AND SMALLER</td> <td>1 1/2 IN.</td> </tr> <tr> <td>OTHERS</td> <td>2 IN.</td> </tr> </table> CONCRETE NOT EXPOSED TO EARTH OR WEATHER: <table border="0"> <tr> <td>SLABS, WALLS, AND #1 BARS & SMALLER</td> <td>1 IN.</td> </tr> <tr> <td>OTHERS</td> <td>1 1/2 IN.</td> </tr> </table> 	#5 BARS AND SMALLER	1 1/2 IN.	OTHERS	2 IN.	SLABS, WALLS, AND #1 BARS & SMALLER	1 IN.	OTHERS	1 1/2 IN.
#5 BARS AND SMALLER	1 1/2 IN.								
OTHERS	2 IN.								
SLABS, WALLS, AND #1 BARS & SMALLER	1 IN.								
OTHERS	1 1/2 IN.								

WELDING

- REFERENCES:
 - AWS D1.1-86 - "STRUCTURAL WELDING CODE - STEEL"
 - AWS D1.3-81 - "STRUCTURAL WELDING CODE - SHEET STEEL"
- ALL WELDING BY AWS QUALIFIED OPERATORS.

SPECIAL INSPECTIONS

- THE CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTOR(S) TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF CONSTRUCTION LISTED ON THIS SECTION. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO INSPECTIONS BEING PERFORM TO THE SATISFACTION OF THE ENGINEER OF RECORD AND BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL HAVE EXPERIENCE WITH AT LEAST FIVE OTHER PROJECTS SIMILAR IN NATURE.
- THE PURPOSE OF THE INSPECTION SHALL BE TO ENFORCE COMPLIANCE WITH THE CONSTRUCTION DRAWINGS, SPECIFICATIONS, GEOTECHNICAL REPORT AND THE 2006 INTERNATIONAL BUILDING CODE, SECTION 1704.
- SPECIAL INSPECTORS SHALL KEEP RECORD OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL REPORTS TO THE BUILDING OFFICIAL AND TO THE ENGINEER OF RECORD. REPORTS SHALL INDICATE THAT THE WORK INSPECTED WAS PERFORMED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. ANY CORRECTIONS THAT WERE NOT COMPLETED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD. IF DISCREPANCIES ARE NOT CORRECTED BY CONTRACTOR, SPECIAL INSPECTOR SHALL ISSUE A NOTIFICATION OF NONE/COMPLIANCE (NNC) TO ENGINEER.
- THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAIL FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR SPECIAL CONTROL OF THE WORKMANSHIP. IF FABRICATOR IS ENROLLED IN A NATIONALLY ACCEPTED INSPECTION PROGRAM (SATISFACTORY TO ENGINEER AND BUILDING OFFICIAL), THIS IS NOT REQUIRED. ATTENTION OF THE CONTRACTOR FOR CORRECTION. ANY CORRECTIONS THAT WERE NOT COMPLETED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND ENGINEER OF RECORD.
- EACH SPECIAL INSPECTOR IS RESPONSIBLE TO REVIEW THE PLANS THOROUGHLY AND SUFFICIENTLY AHEAD OF CONSTRUCTION TO ESTABLISH IF HE CAN INSPECT THOSE ITEMS ENTRUSTED TO HIM. ALL AMBIGUITIES OR COMMISSIONS IN THE APPROVED PLANS THAT CREATE A FORM OF DOUBT FOR THE SPECIAL INSPECTOR SHALL BE RESOLVED THROUGH THE PROPER CHANNELS PRIOR TO CONSTRUCTION.
- THE STRUCTURAL ENGINEER SHALL INSPECT THE CONCRETE FRAME INCLUDING BEARING WALLS, SHEAR WALLS, CONNECTIONS OF STRUCTURAL SLABS, TO SHEAR WALLS, ELEVATED SLABS, BEAMS, COLUMNS, MAT FOUNDATIONS AND PIER CAPS.
- THE GEOTECHNICAL STRUCTURAL ENGINEER SHOULD EXAMINE FOOTING EXCAVATION, PIER AND PIER CAP INSTALLATION, AND FILLED PLACEMENT TO DETERMINE THAT THE PROPER DESIGN REQUIREMENTS HAVE BEEN REACHED. THE INSPECTION SHOULD BE PERFORMED PRIOR TO THE PLACEMENT OF THE SLAB REINFORCEMENT IN THE EXCAVATION.
- THE FOLLOWING ITEMS REQUIRE INSPECTION BY THE SPECIAL INSPECTOR.

STRUCTURAL/ REINFORCING STEEL

REFERENCE STANDARD	FREQUENCY:	ITEMS TO INSPECTED:
HIGH STRENGTH BOLTING		
BEARING TYPE CONNECTIONS	PERIODIC	AISC-LRFD M2.5
SLIP CRITICAL CONNECTIONS	CONTINUOUS	AISC-LRFD M2.5
WELDING OF STRUCTURAL STEEL		
FULL PENETRATION GROOVE WELDS	CONTINUOUS	AWS-D1.1
MULTI-PASS FILLET WELDS	CONTINUOUS	AWS-D1.1
SINGLE-PASS FILLET WELDS 5/16"	CONTINUOUS	AWS-D1.1
SINGLE-PASS FILLET WELDS 5/16"	PERIODIC	AWS-D1.1
FLOOR AND DECK WELDS	PERIODIC	AWS-D1.1
WELDING OF REINFORCING STEEL		
WELDABILITY OF STEEL, OTHER ASTM A706	PERIODIC	AWS-D1.4/ACI318 3.5.2
SHEAR REINFORCEMENT	CONTINUOUS	AWS-D1.4/ACI318 3.5.2
OTHER REINFORCEMENT	PERIODIC	AWS-D1.4/ACI318 3.5.2
INSPECTION OF STEEL FRAME AND JOISTS		
DETAILS SUCH AS BRACING AND STIFFENING MEMBERS SIZES AND LOCATIONS	PERIODIC	CONTRACT DRAWINGS.
APPLICATION OF CONNECTION DETAILS	PERIODIC	CONTRACT DRAWINGS.
CONCRETE CONSTRUCTION		
REINFORCING STEEL	PERIODIC	IBC 1913.4 ACI318.3.5
CONCRETE MIX DESIGN		
SAMPLING OF FRESH CONCRETE		
	PERIODIC	ACI 318.4, 5.2 5.4
	PERIODIC EACH CONCRETE POUR	ACI318 5.6,5.8
	CONTINUOUS, PROVIDE A SET OF 4 FOR EVERY 75 CY OF CONCRETE	ASTM C172, C31
	BUT NOT LESS THAN 1 FOR SURFACE AREA. MONITOR SLUMP DEVIATIONS OF MORE THAN 1" FROM SPEC'D VALUE	IBC 1913.10
MAINTENANCE OF SPECIFIED CURING TEMPS AND TECHNIQUES	PERIODIC	ACI 318 5.11 5.13
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATIONS TECHNIQUES	CONTINUOUS	IBC 1913.9
INSPECTION OF MAINTAINANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	PERIODIC	ACI: 5.11 5.13
DRILLED AND EPOXIED ANCHORS		
EACH APPLICATION, ALL DRILLED AND EPOXIED ANCHORS (REBAR, BOLTS, THREADED RODS ETC.) SHALL BE PULL TESTED TO 110% OF THE ULT. BOND STRENGTH FOR NO LESS THAN 3 MIN.	PERIODIC	ACI 318: 6.1.1
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS		
SOLIS (SLAB-ON-GRADE) SUB-GRADE PREPARATION		
VISUAL OBSERVATIONS	PERIODIC	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES
PROOFROLLING OBSERVATIONS	CONTINUOUS	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES
MOISTURE CONDITIONS & RECOMPACTION	CONTINUOUS OR PERIODIC, 1 DENSITY TEST FOR EACH CONTINUOUS OR PERIODIC	GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES
DURING FILL PLACEMENT		IBC 1704.7.3
		GEOTECHNICAL REPORT, BUILDING PAD GENERAL NOTES

SHOP DRAWINGS & SUBMITALS

- SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED FOR REVIEW TO THE STRUCTURAL ENGINEER FOR EACH STRUCTURAL BUILDING MATERIAL AS INDICATED IN THE STRUCTURAL GENERAL NOTES AND THE CONTRACT SPECIFICATIONS. SEE THE CONTRACT SPECIFICATIONS FOR SUBMITTAL PROCEDURES AND ADDITIONAL INFORMATION.
- SHOP DRAWINGS SHALL USE DRAFTING LINE WORK AND LETTERING THAT IS CLEARLY LEGIBLE. SHOP DRAWINGS SHALL NOT CONTAIN REPRODUCTIONS OF THE CONTRACT DRAWING PLANS OR DETAILS.
- SHOP DRAWINGS SHALL NOT SHOW MATERIALS FOR MORE THAN ONE LEVEL OF THE SAME PLAN.
- SHOP DRAWINGS SHALL SHOW CLEAR AND COMPLETE INFORMATION FOR THE FABRICATION (DETAIL SHEETS AND/OR MATERIAL LISTS) AND INSTALLATION.
- ALLOW A MINIMUM OF (2) WEEKS FOR REVIEW OF EACH SET OF SHOP DRAWINGS.
- CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS SUBMITTED BY THE SUBCONTRACTOR AND COORDINATE SHOP DRAWINGS WITH ALL OTHER TRADING.
- CONTRACTOR SHALL ANSWER ALL QUESTIONS OR CLARIFICATIONS BY THE SUBCONTRACTOR BEFORE SUBMITTING TO ENGINEER FOR REVIEW. ANY QUESTIONS THAT THE CONTRACTOR CANNOT ANSWER WITH THE INFORMATION ON THE DRAWINGS SHALL CLEARLY BE MARKED FOR THE ENGINEER FOR REVIEW.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, SEE NOTE NUMBER 3 UNDER GENERAL NOTES.
- REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS FOR GENERAL CONFORMANCE TO THE STRUCTURAL DRAWINGS. APPROVAL OF THE SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR FOR ANY ERRORS IN DIMENSIONS OR MATERIALS INDICATED ON THE SHOP DRAWINGS.
- IF THERE IS ANY DISCREPANCY BETWEEN THE STRUCTURAL DRAWINGS AND SHOP DRAWINGS, THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS GOVERN. INFORMATION THAT IS NOT INDICATED ON THE SHOP DRAWINGS SHALL BE OBTAINED FROM THE STRUCTURAL DRAWINGS.
- PROVIDE SUBMITTALS FOR THE FOLLOWING ITEMS:
 - CONCRETE MIX DESIGN
 - CURING COMPOUND FOR CONCRETE
 - REINFORCING STEEL
 - STRUCTURAL STEEL
 - METAL DECKING (INDICATE LAYOUT AND TYPES OF DECK PANELS, ANCHORAGE DETAILS, REINFORCING CHANNELS, PANS, DECK OPENINGS, SPECIAL JOINTING, ACCESSORIES, AND ATTACHMENTS TO OTHER CONSTRUCTION.)

STRUCTURAL OBSERVATIONS

- JOB SITE OBSERVATIONS BY THE PROFESSIONAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONSIST OF VISUAL OBSERVATION OF MATERIALS, EQUIPMENT OR CONSTRUCTION WORK FOR THE PURPOSE OF ASCERTAINING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE DESIGN INTENT. SUCH OBSERVATIONS SHALL NOT BE RELED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHALL IT BE CONSTRUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT. SPECIFICALLY BUT WITHOUT LIMITATION, OBSERVATIONS BY THE DESIGN PROFESSIONAL SHALL NOT REQUIRE THE DESIGN PROFESSIONAL TO ASSUME RESPONSIBILITY FOR THE MEANS AND METHODS OF CONSTRUCTION, NOR FOR SAFETY ON THE JOB SITE.
- NOTIFY ENGINEER FOR THE FOLLOWING ITEMS:
 - BEFORE PLACEMENT OF CONCRETE FOR SLAB/FOUNDATION
- NOTIFY ENGINEER 48 HOURS IN ADVANCE WHEN A STRUCTURAL OBSERVATION IS REQUIRED.

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
 ENGINEERING, INC.
 SUITE 100
 1501 W. TEXAS STREET
 MCALLEN, TEXAS 78102
 TEL: (956) 684-0286
 FAX: (956) 684-0282

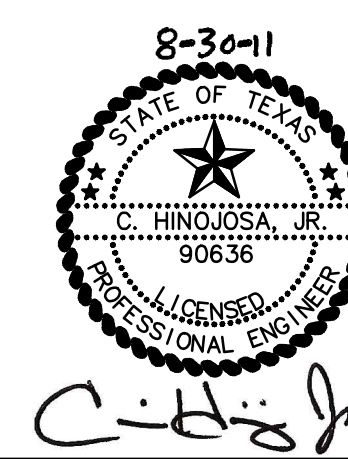
DANNENBAUM
 ENGINEERING COMPANY - MCALLEN, LLC
 T.B.A.E. FIRM REGISTRATION #19754
 1509 MCALLEN LOOP, SUITE 200, MCALLEN, TX 78102 (956) 682-3877

Revision No.	Date	Description							

Project No.:	Issued:	Drawn By:	Checked By:	Scale:	Sheet Title
	08/30/2011				GENERAL NOTES

Project No.:	Issued:	Drawn By:	Checked By:	Scale:	Sheet Title
	08/30/2011				GENERAL NOTES

Project No.:	Issued:	Drawn By:	Checked By:	Scale:	Sheet Title
	08/30/2011				GENERAL NOTES



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY C. HINOJOSA JR. PE 90636 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

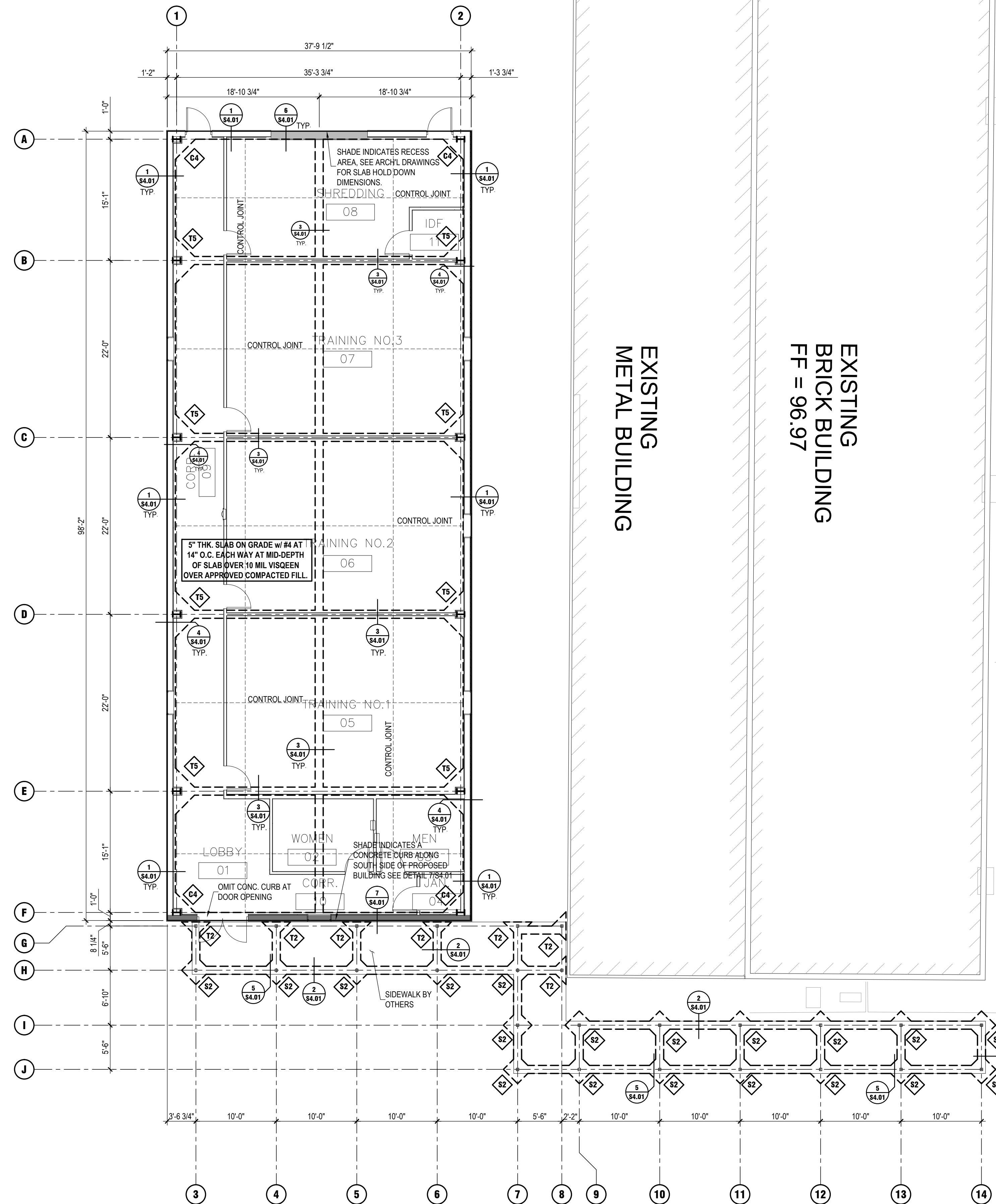
CLH
ENGINEERING, INC.
 TBE FIRM NO. F-8719
 701 S. 15th STREET MCALLEN, TX. 78501
 (956) 687-5560 (956) 687-5561 FAX

S1.01
 Sheet Number

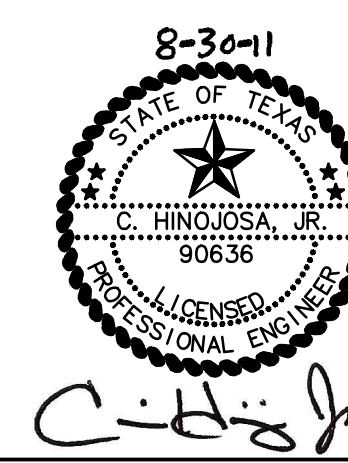
FOUNDATION NOTES:

1. SEE SHEET S1.01 FOR GENERAL NOTES.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION OF ALL FLOOR DRAINS (F.D.) WHETHER OR NOT THEY ARE NOTED ON THE STRUCTURAL DRAWINGS.
3. CONTRACTOR / SUBCONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING ANY WORK. THE CONTRACTOR / SUBCONTRACTOR SHALL CLEARLY REPORT ANY DISCREPANCIES BEFORE THE WORK COMMENCES.
4. REFER TO ARCHL PLANS FOR ADDITIONAL DIMENSIONS.
5. SEE ARCHITECTURAL DRAWINGS FOR ALL SLOPES, DROPS, AND DRAIN LOCATIONS.
6. REFER TO GENERAL NOTES ON SHEET S1.01 FOR CONCRETE AND STEEL REINFORCING SPECIFICATIONS.
7. FOLLOWING ARE THE SIZES OF THE REQUIRED FOOTINGS:
 C4 - INDICATES A 4'-6" x 4'-6" x 3'-0" DEEP CEE FOOTING
 S2 - INDICATES A 2'-6" x 2'-6" x 3'-0" DEEP SQUARE FOOTING
 T2 - INDICATES A 2'-6" x 2'-6" x 3'-0" DEEP TEE FOOTING
 T5 - INDICATES A 5'-6" x 5'-6" x 3'-0" DEEP TEE FOOTING

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



EXISTING METAL BUILDING
EXISTING BRICK BUILDING
FF = 96.97



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY C. HINOJOSA JR. PE 90636 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

CLH
ENGINEERING, INC.
T.B.E. FIRM NO. F-8719
701 S. 15TH STREET McALLEN, TX. 78501
(956) 687-5560 (956) 687-5561 FAX

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
SUITE 100
MCALLEN, TEXAS 78503
TEL (956) 684-0286
FAX (956) 684-0282

DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1009 MCALLEN LOOP, SUITE 200, McALLEN, TX 78501 (956) 682-3877

Revision No.	Date	Description

Project No.:
Issued: 08/30/2011
Drawn By:
Checked By:
Scale:
Sheet Title

FOUNDATION PLAN

S2.01
Sheet Number

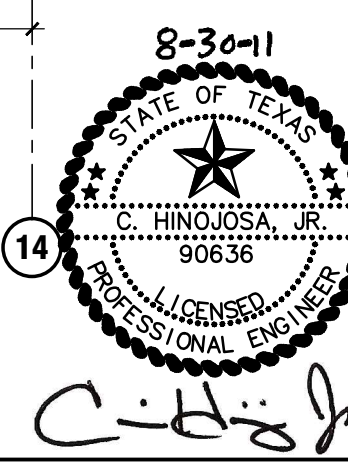
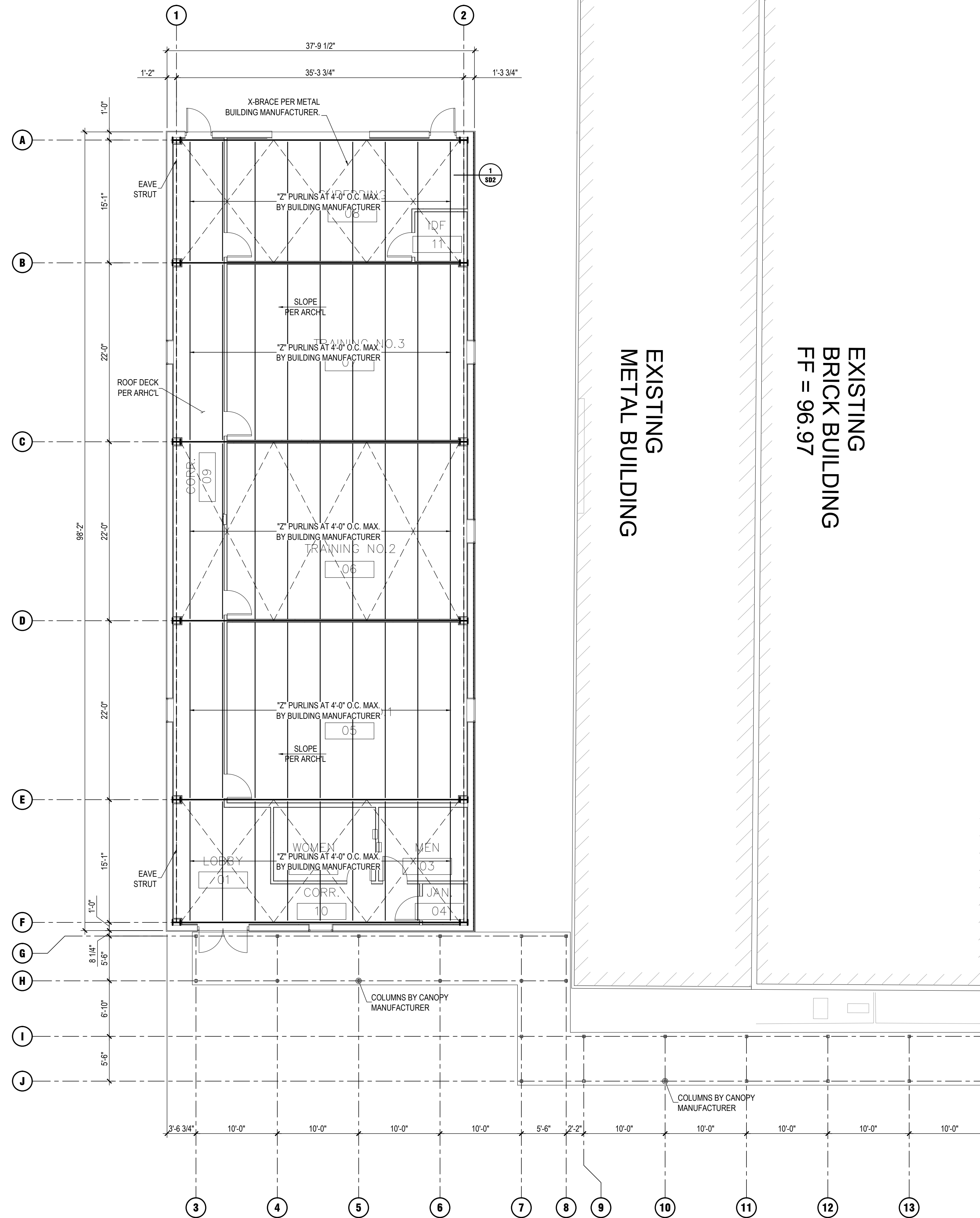
FRAMING NOTES:

1. SEE SHEET S1.01 FOR FRAMING GENERAL NOTES.
2. DESIGN PURLINS UNDER UNITS WITH LOADS INDICATED ON THE DRAWINGS AND DESIGN CRITERIA STEEL PURLIN MANUFACTURER TO PROVIDE STEEL PURLIN SIZE (MAX. PURLIN DEPTH TO BE AS SHOWN ON PLANS) DESIGN PURLIN FOR L/600.

METAL BUILDING NOTES:

1. THE DESIGN AND CONSTRUCTION OF THE METAL BUILDING IS THE RESPONSIBILITY OF THE SUPPLIER. THE PLAN SHOWN IS SCHEMATIC ONLY.
2. VERIFY SIZE AND LOCATION OF ALL SUPPORTED ITEMS WITH MANUFACTURER AND ARCH'L DRAWINGS. PRIOR TO FABRICATING STEEL. PROVIDE ALL FRAMING INCLUDING SUB PURLINS AND ROD HANGERS BETWEEN "Z" PURLINS AS REQ'D.
3. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND NUMBER OF MECH'L UNITS SUPPORTED BY THE METAL BUILDING STRUCTURE PRIOR TO ORDERING THE METAL BUILDING. SUPPORT FRAMING SHALL BE PROVIDED FOR ALL UNITS WHETHER THEY ARE SHOWN ON THIS DRAWING OR NOT.

1 ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

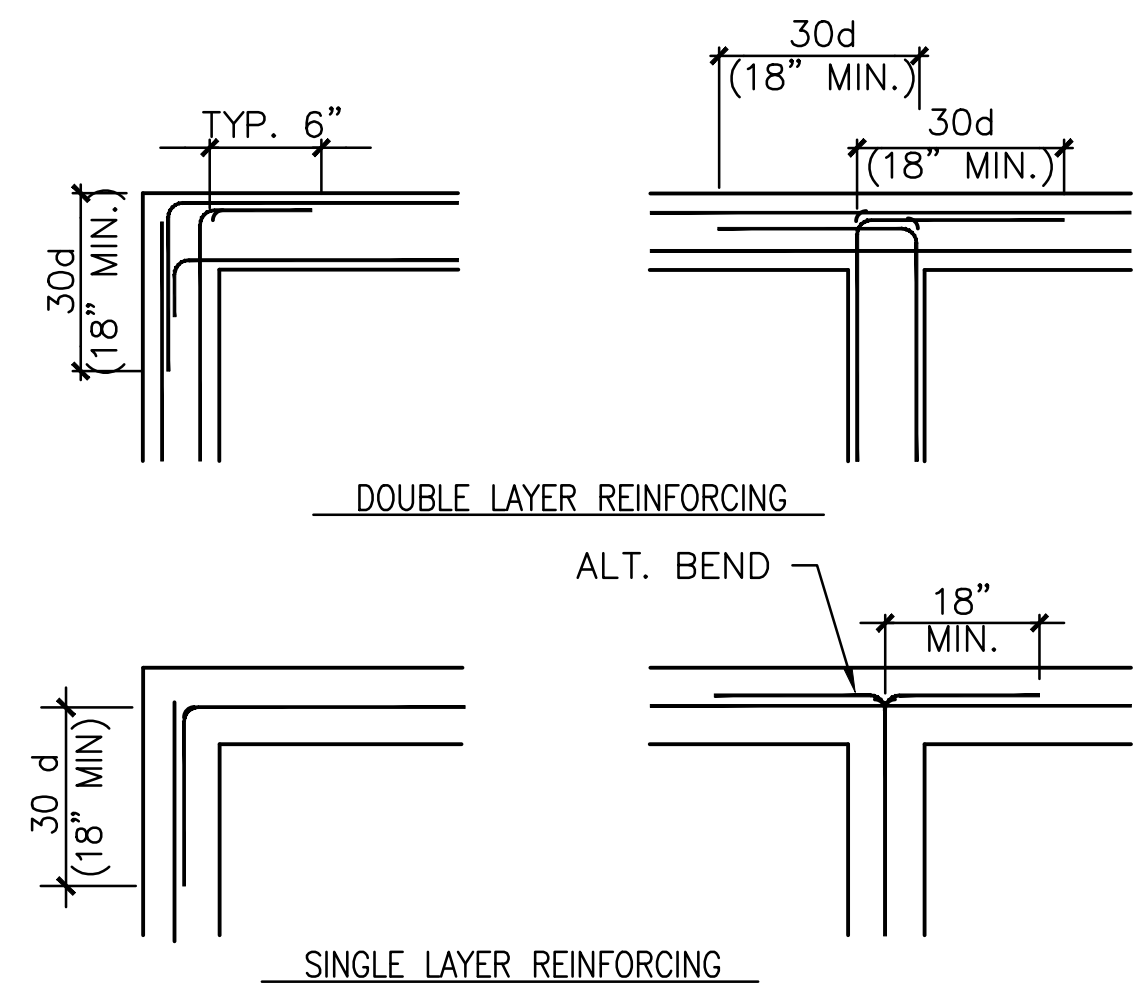


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY C. HINOJOSA JR. PE 90636 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

CLH
ENGINEERING, INC.
T.B.E. FIRM No. F-8719
701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560 (956) 687-5561 FAX

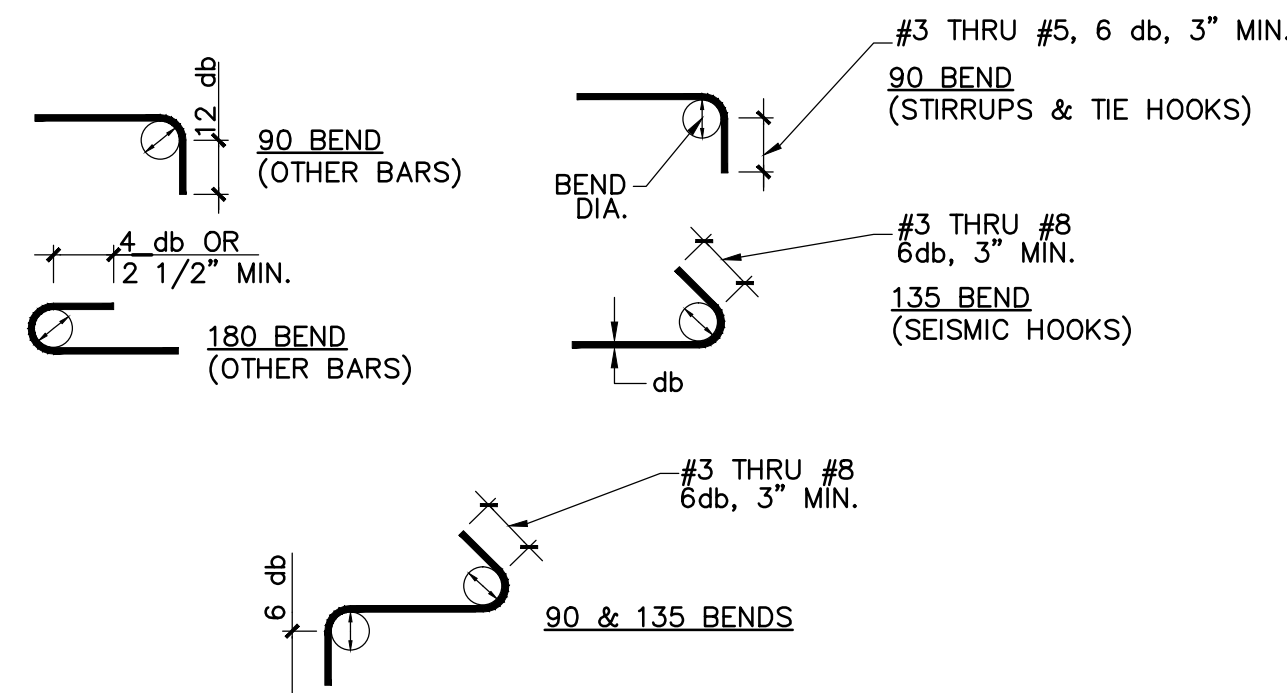
Revision No.	Date	Description

Project No.:	
Issued:	08/30/2011
Drawn By:	
Checked By:	
Scale:	
Sheet Title	

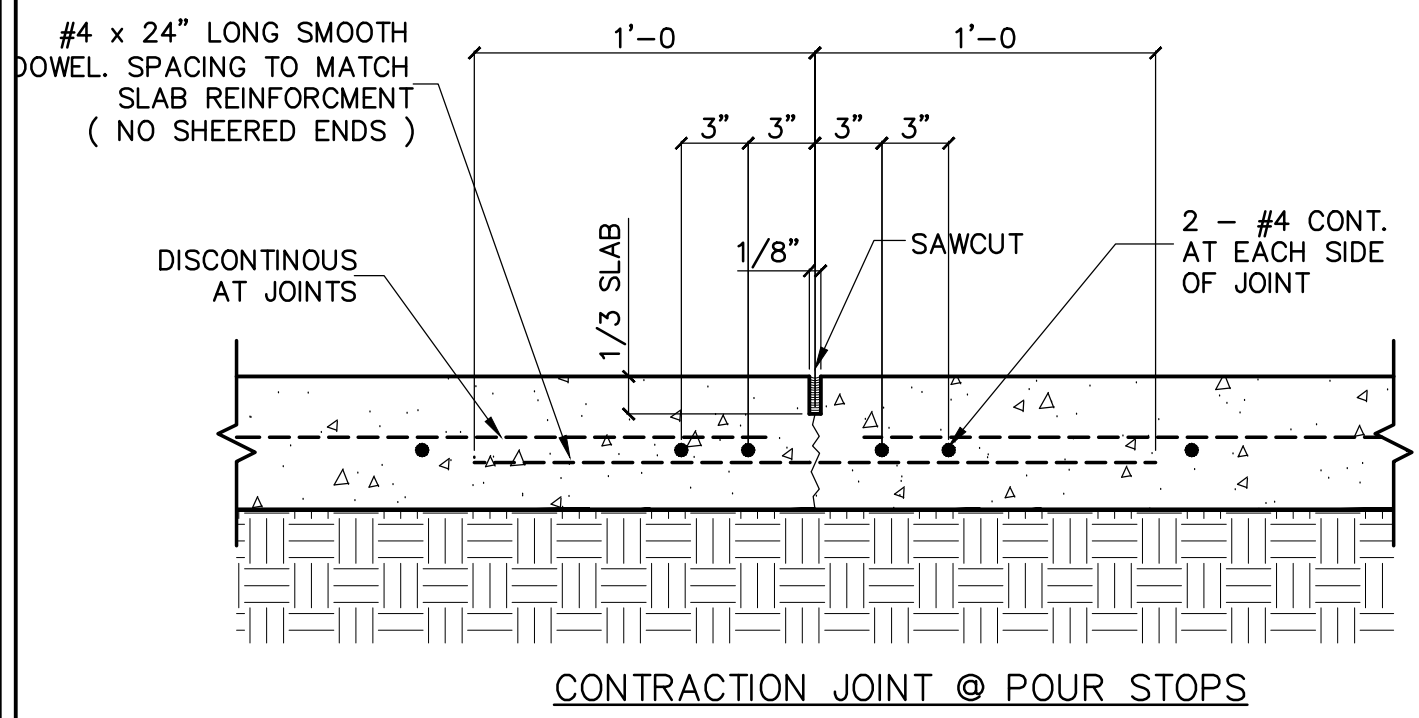


11 TYP. REINF. @ INT. OF CONC. FTG'S.
SCALE: NOT TO SCALE

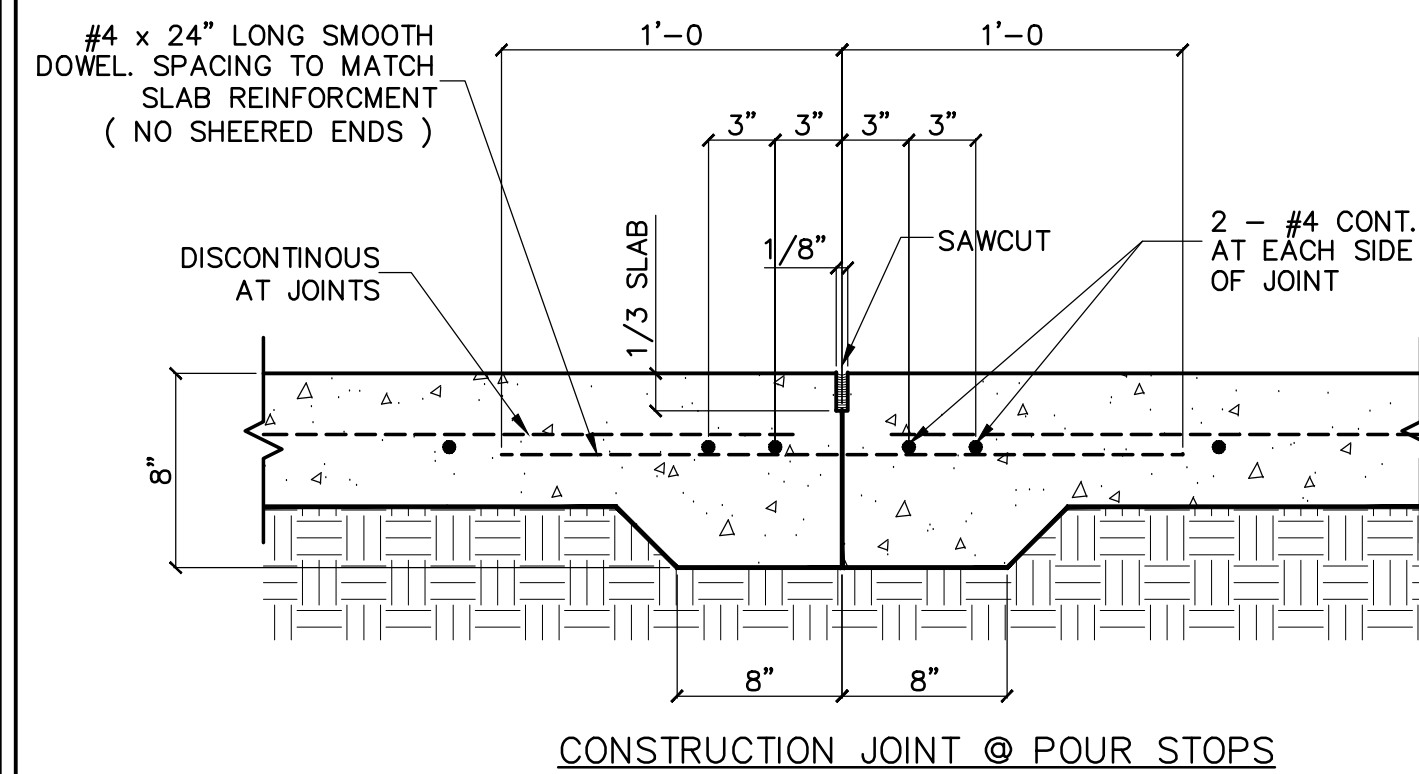
DIAMETER OF BENDS	
STIRRUPS AND TIES	4 db FOR #3 THRU #5 BARS
	6 db FOR #6 THRU #8 BARS
ALL OTHERS	6 db FOR #3 THRU #8 BARS
	8 db FOR #9 THRU #11 BARS
	10 db FOR #14 THRU #18 BARS



12 STANDARD HOOKS
SCALE: NOT TO SCALE

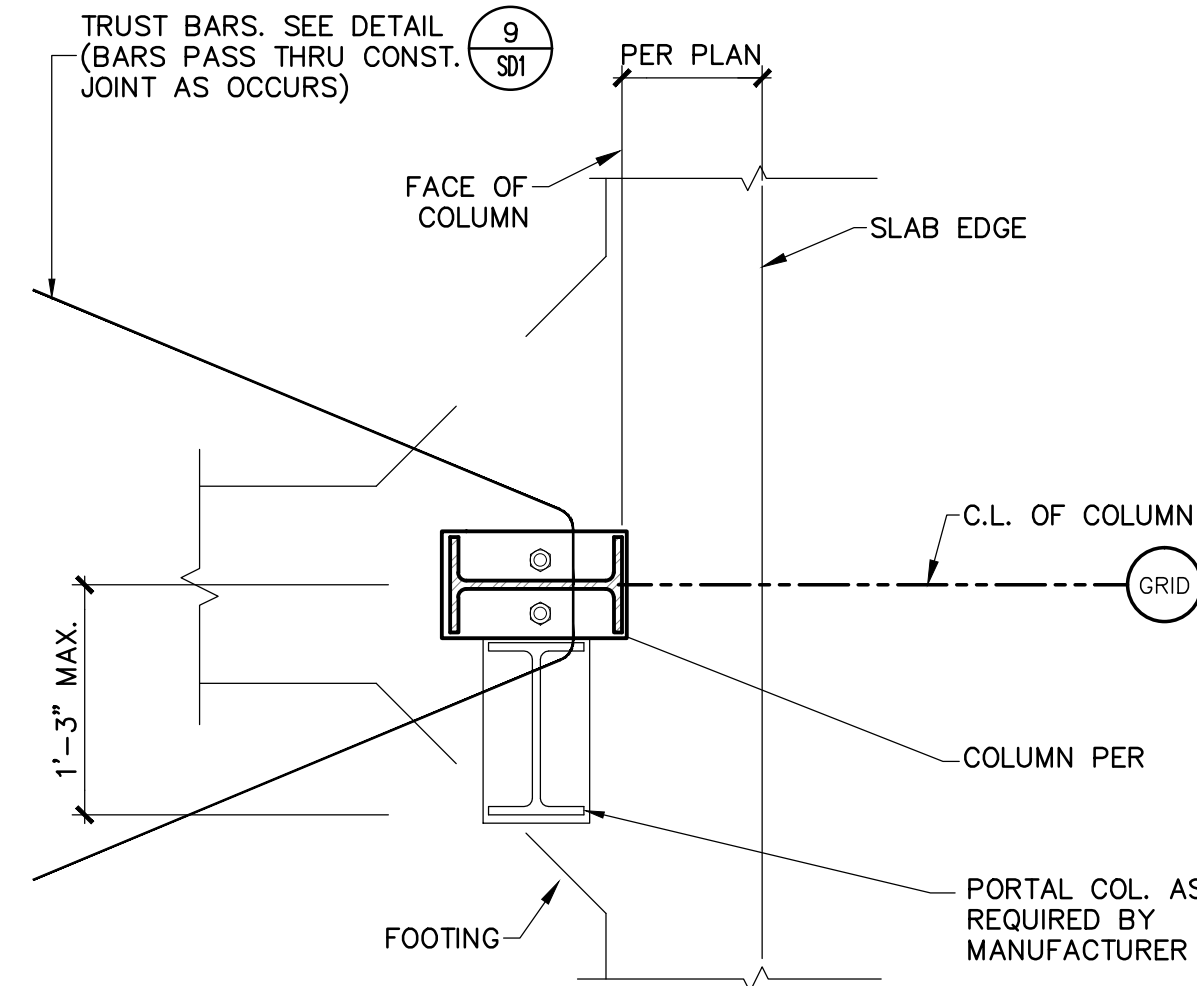


CONTRACTION JOINT @ POUR STOPS

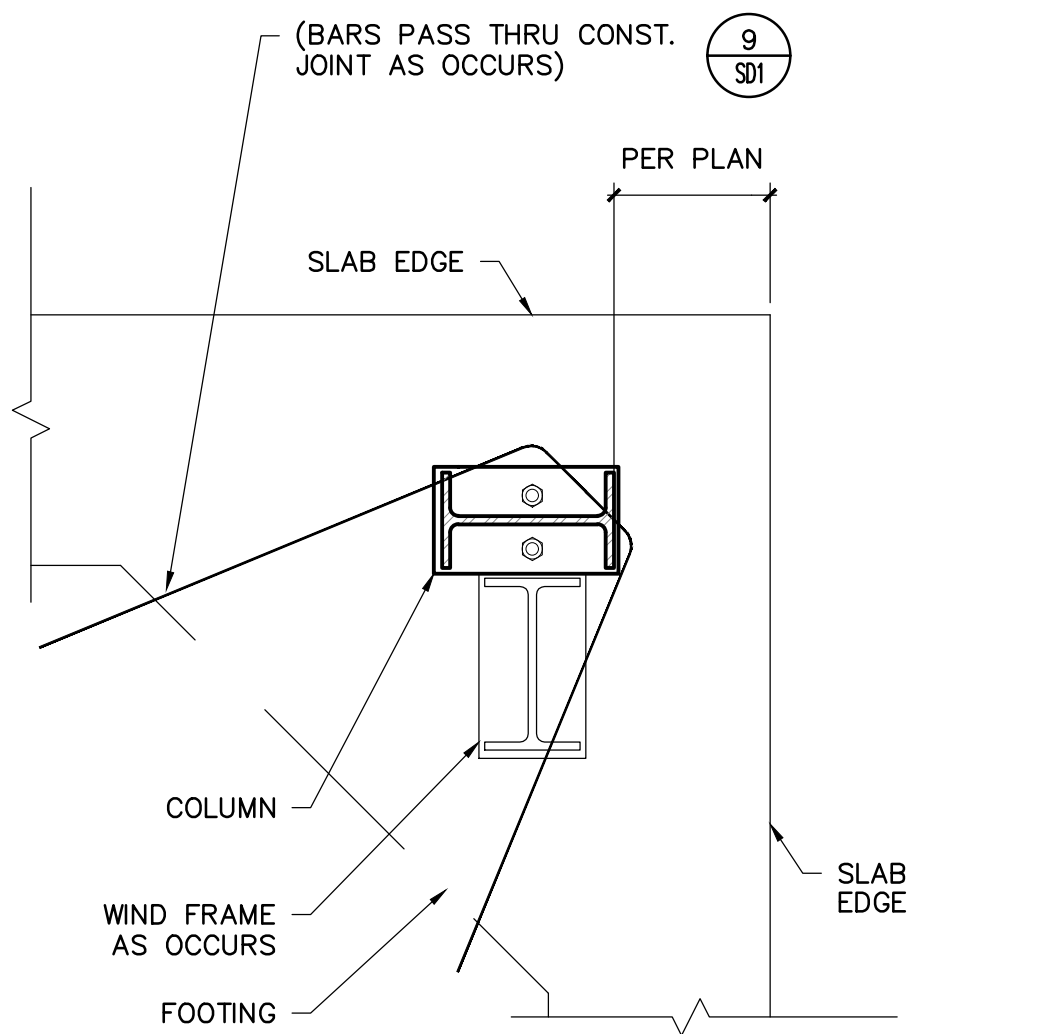


CONSTRUCTION JOINT @ POUR STOPS

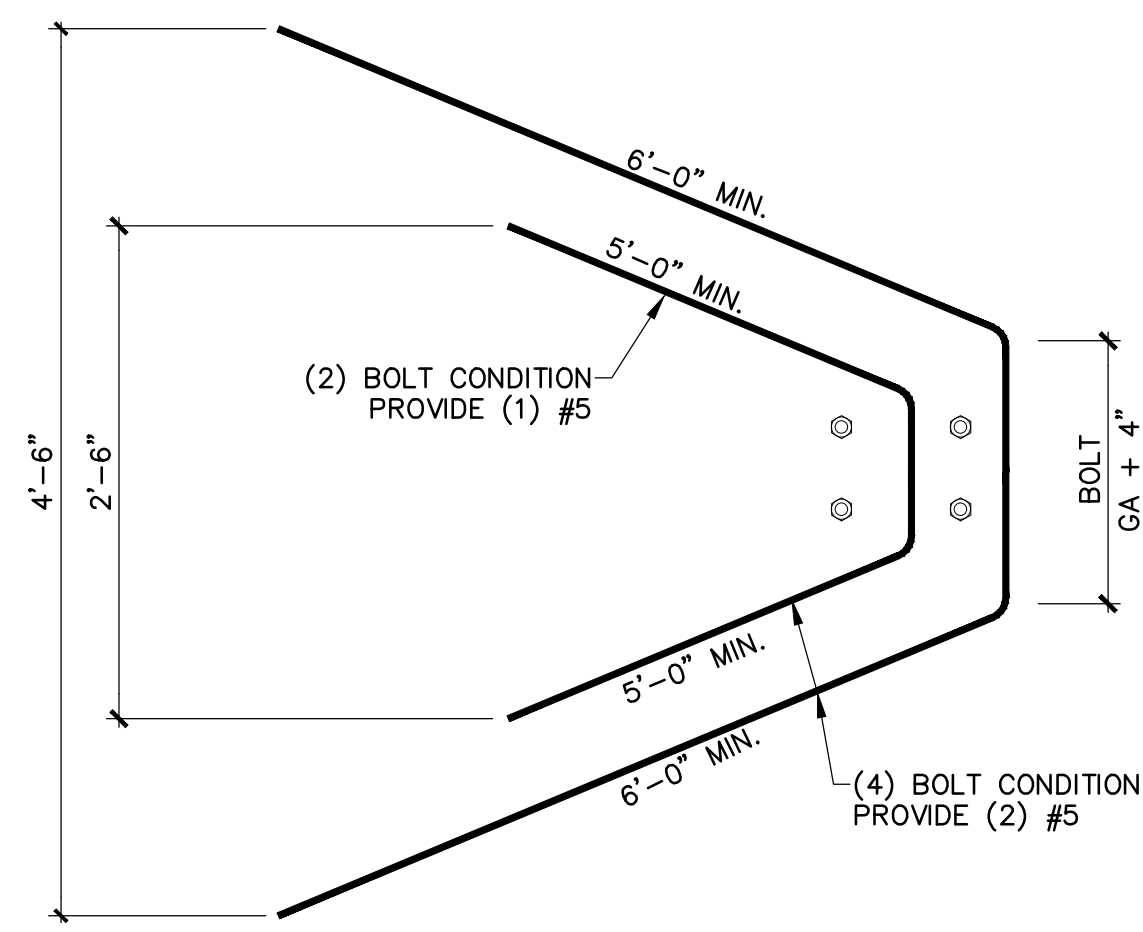
13 CONSTRUCTION / CONTRACTION JOINT
SCALE: NOT TO SCALE



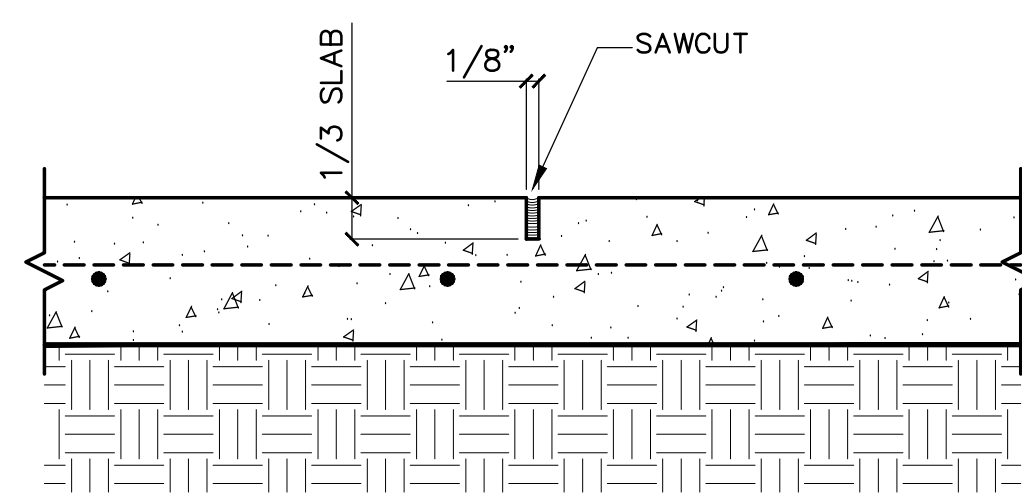
7 PLAN VIEW
SCALE: NOT TO SCALE



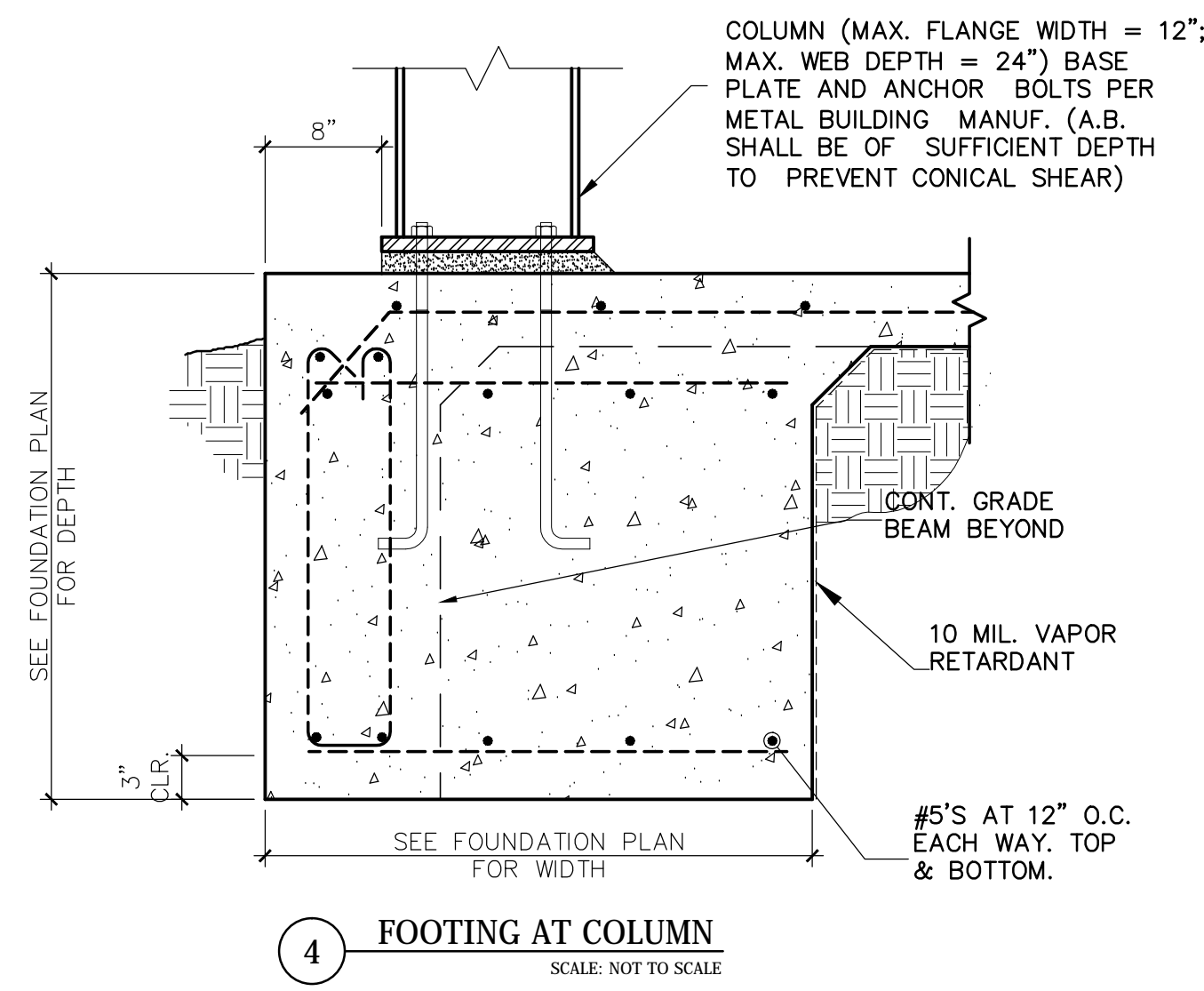
8 PLAN VIEW
SCALE: NOT TO SCALE



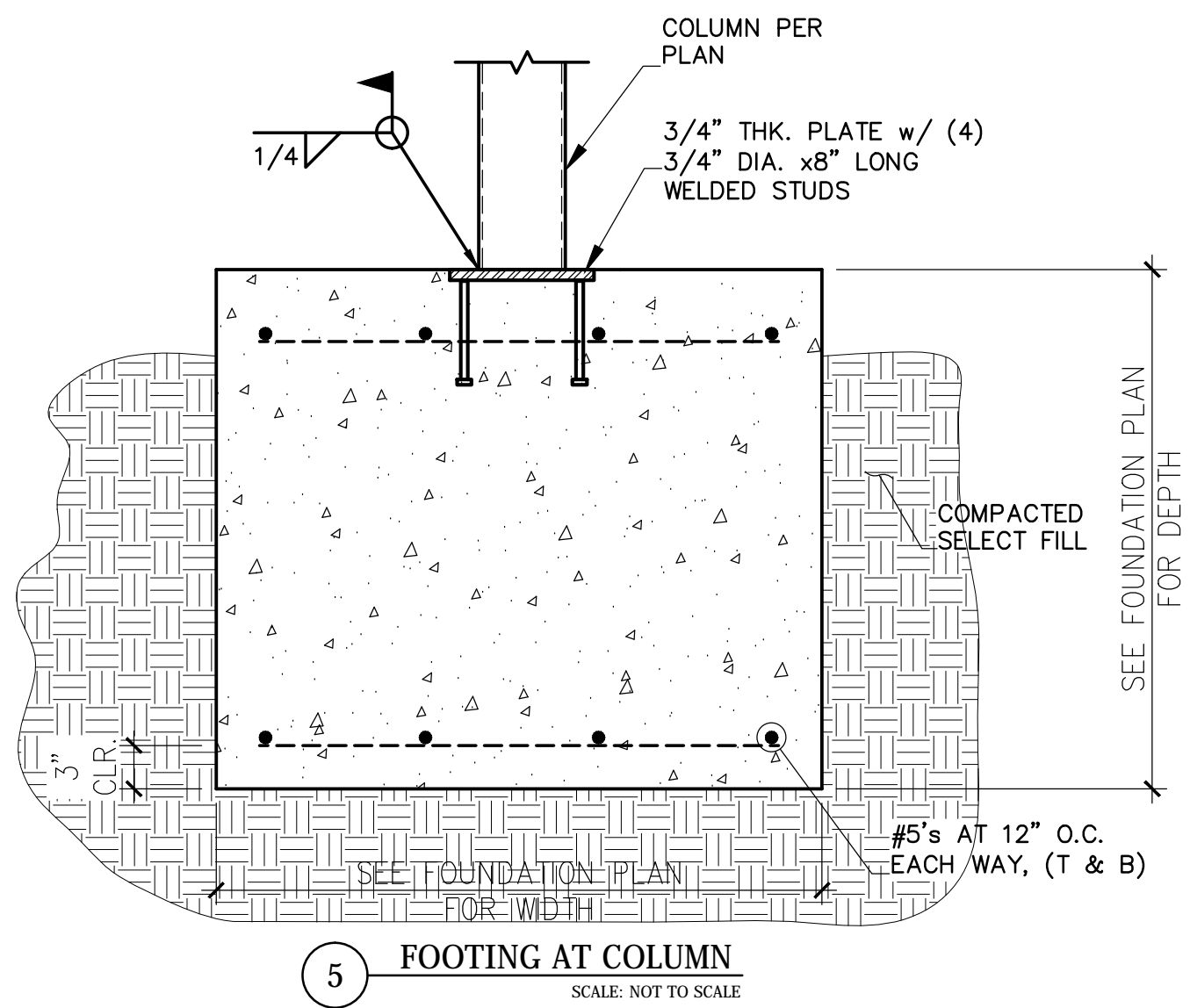
9 PLAN VIEW, TRUST BARS
SCALE: NOT TO SCALE



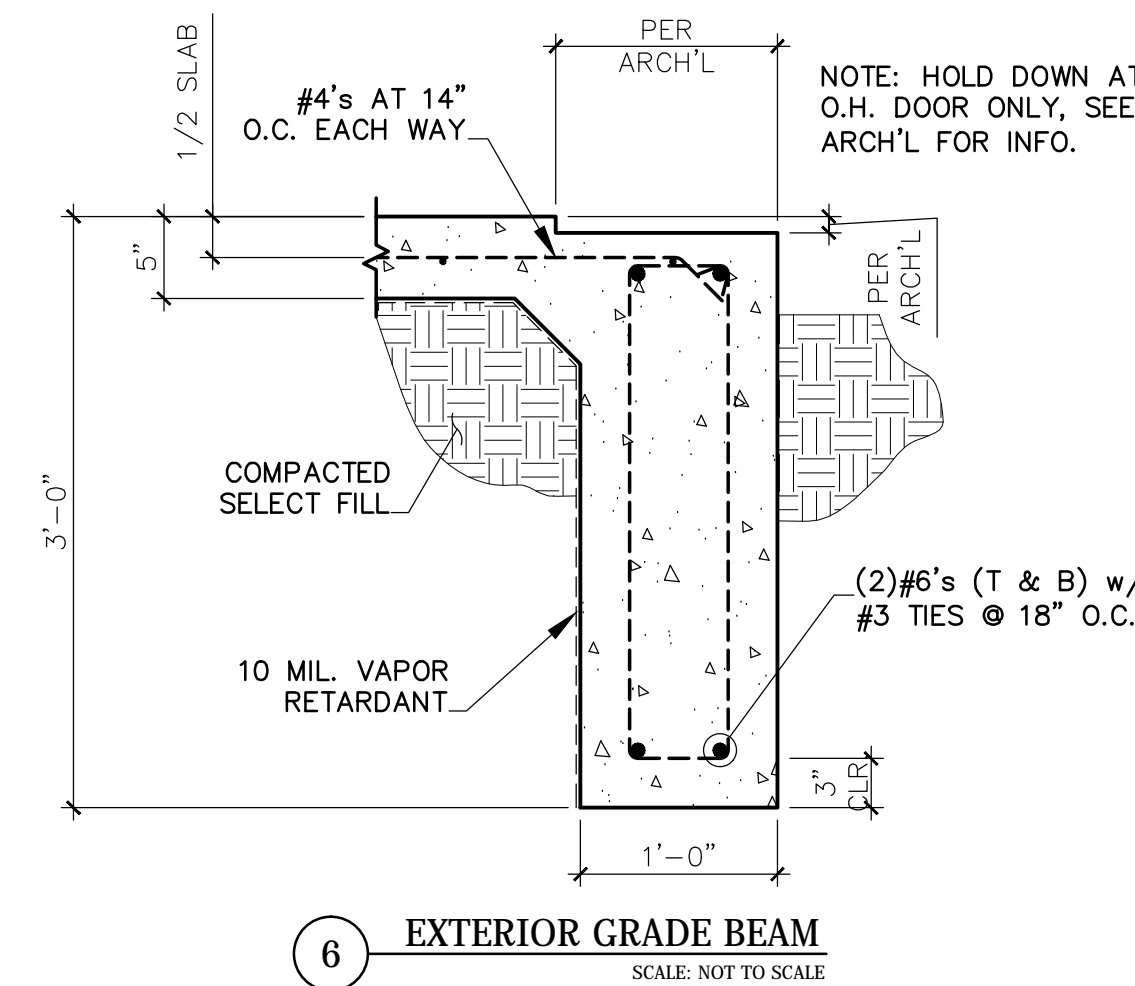
10 CONTROL JOINT
SCALE: NOT TO SCALE



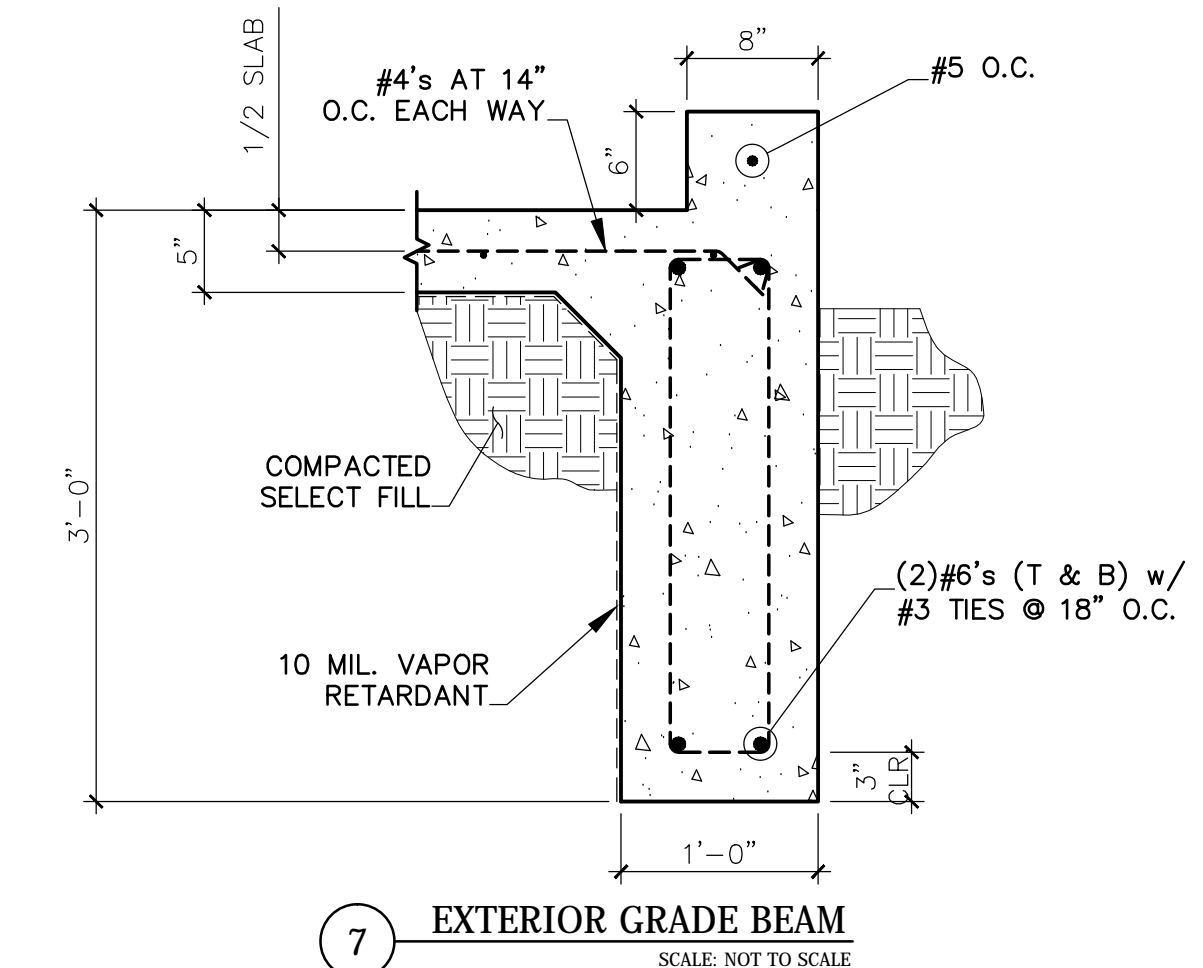
4 FOOTING AT COLUMN
SCALE: NOT TO SCALE



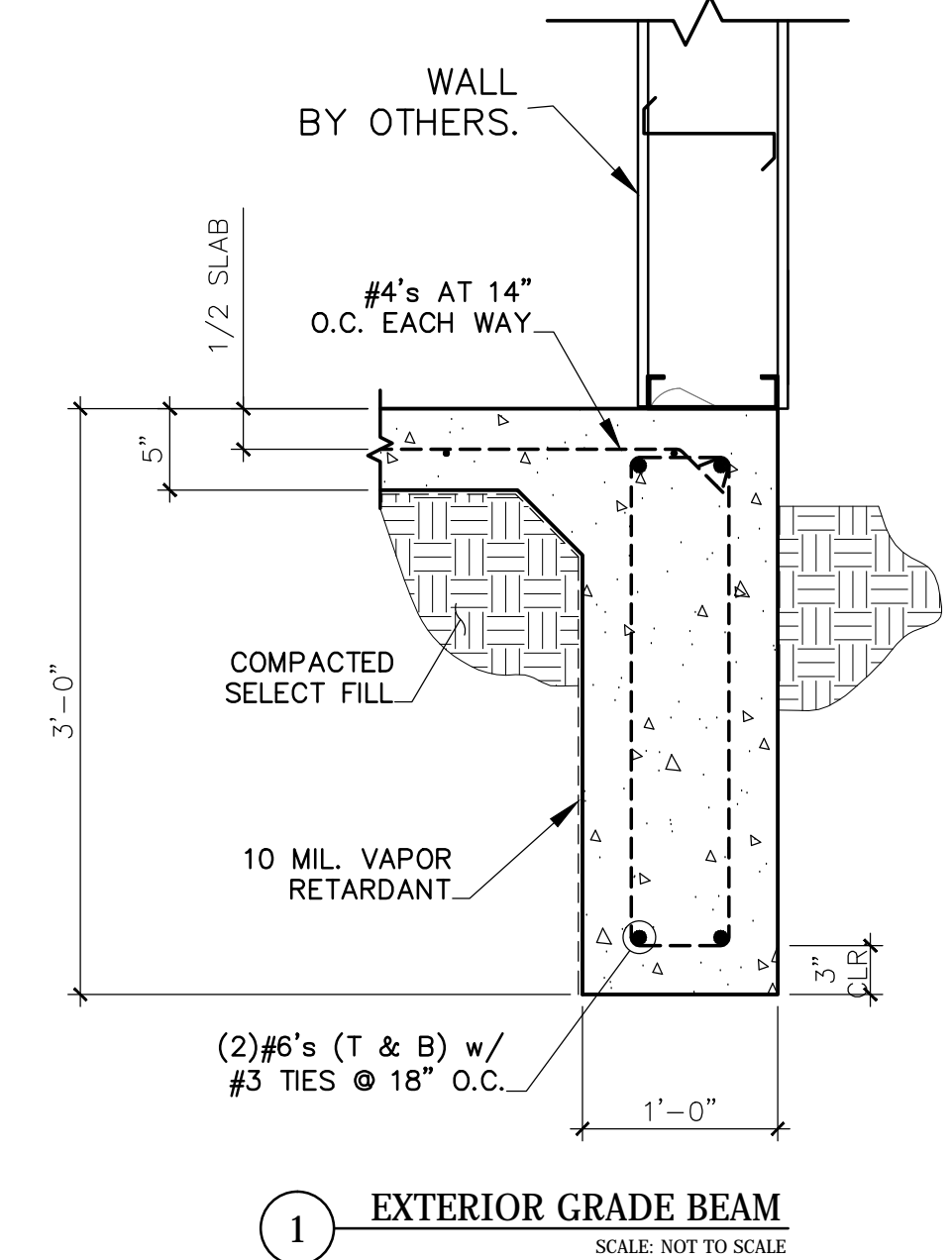
5 FOOTING AT COLUMN
SCALE: NOT TO SCALE



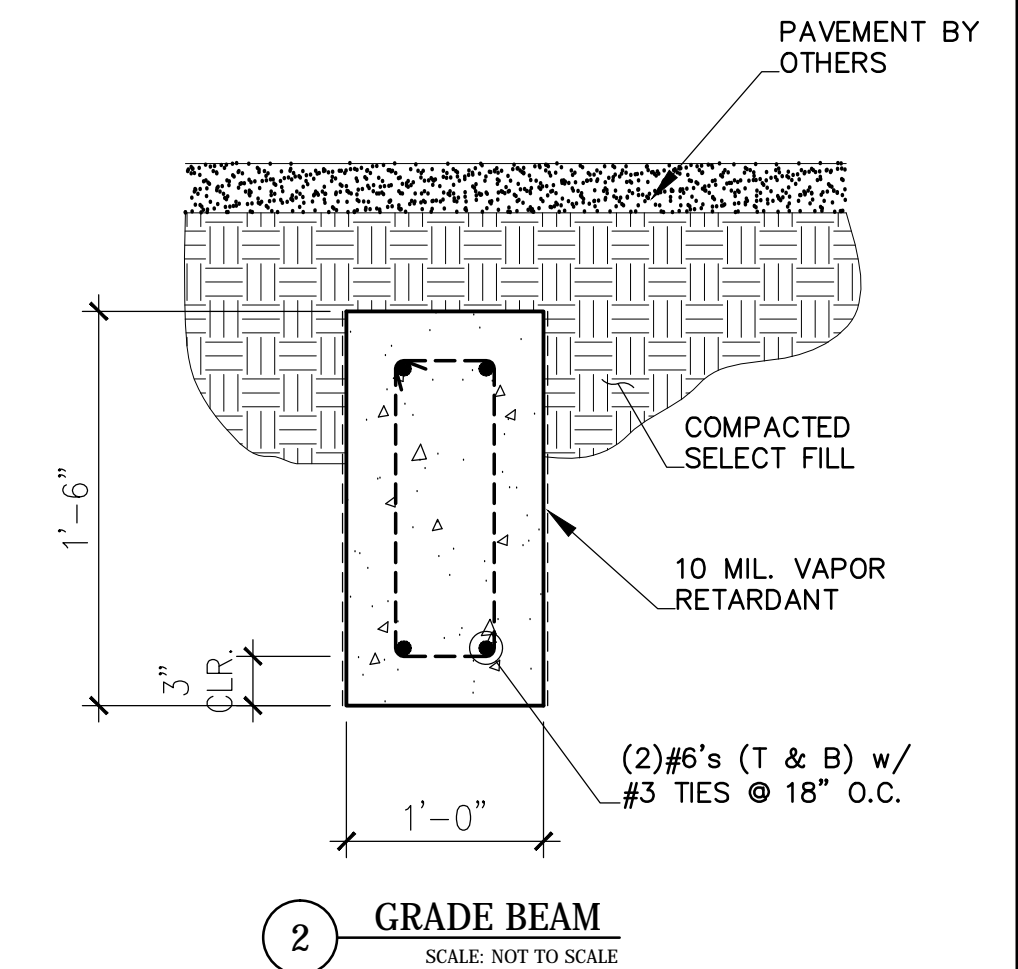
6 EXTERIOR GRADE BEAM
SCALE: NOT TO SCALE



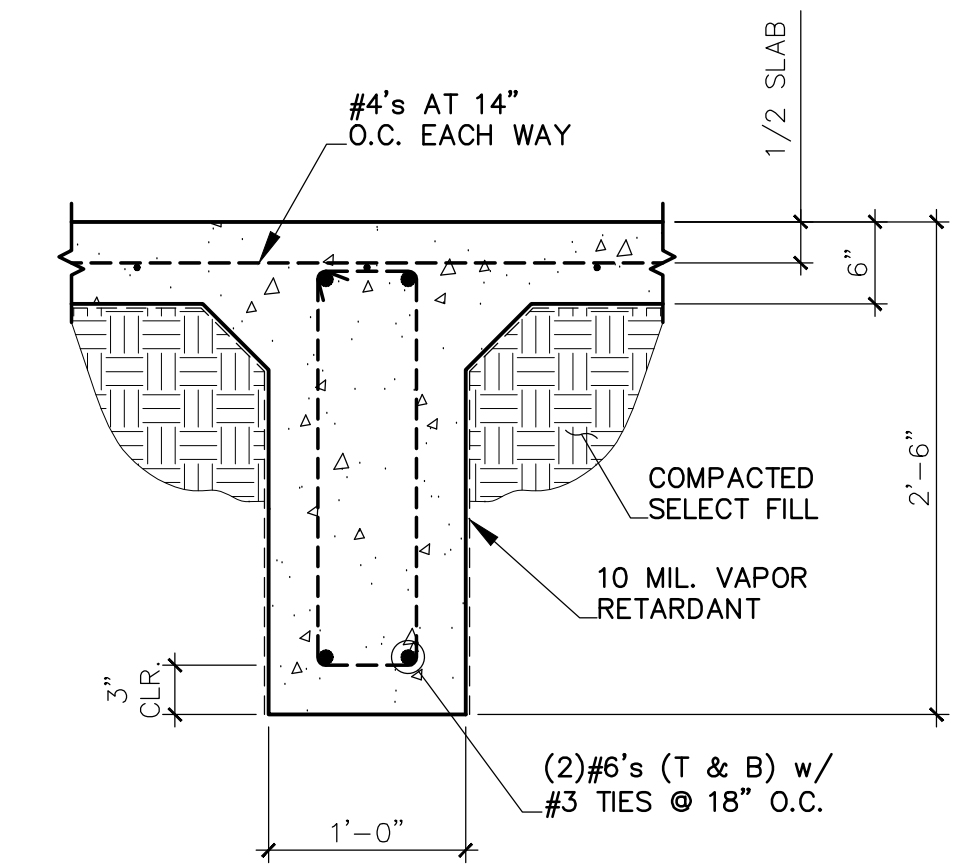
7 EXTERIOR GRADE BEAM
SCALE: NOT TO SCALE



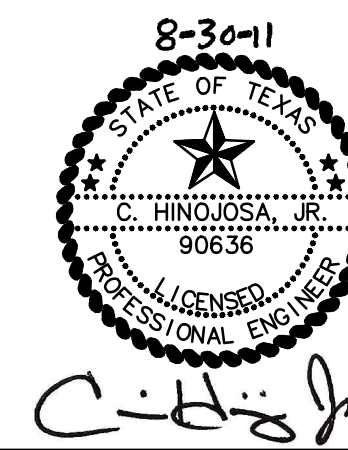
1 EXTERIOR GRADE BEAM
SCALE: NOT TO SCALE



2 GRADE BEAM
SCALE: NOT TO SCALE



3 INTERIOR GRADE BEAM
SCALE: NOT TO SCALE

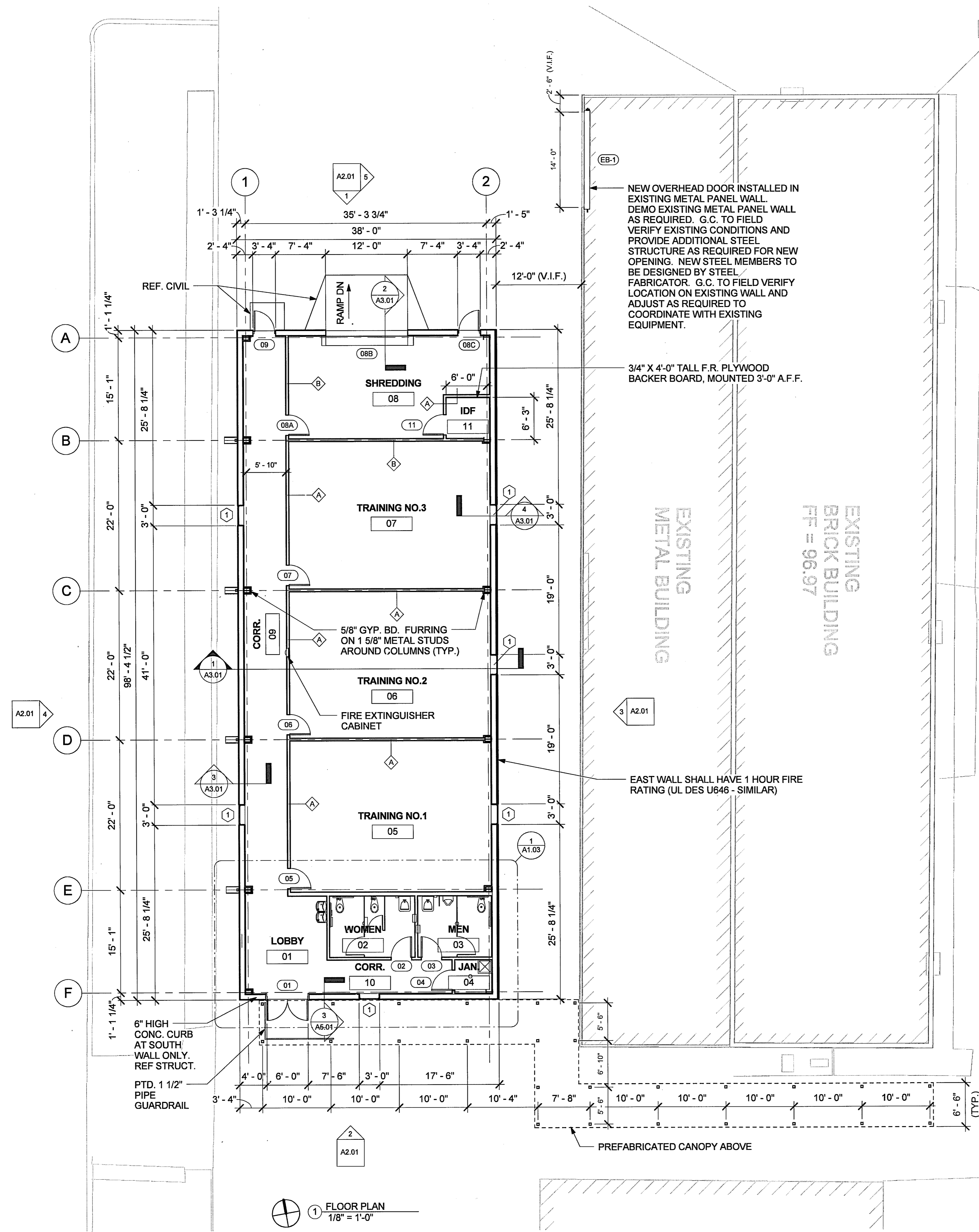


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY C. HINOJOSA JR. PE 90636 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

CLH
ENGINEERING, INC.
T.B.E. FIRM NO. F-8719

701 S. 15th STREET McALLEN, TX. 78501
(956) 687-5560 (956) 687-5561 FAX

Revision No.	Date	Description



PROJECT SUMMARY

GENERAL DESCRIPTION:
 HIDALGO COUNTY ELECTIONS WAREHOUSE FOR TRAINING AND STORAGE OF RECORDS.

BUILDING DESCRIPTION:
 SINGLE STORY PRE-ENGINEERED METAL BUILDING

BUILDING AREA:
 TYPE B OCCUPANCY: 3,288 SQ. FT.
 TYPE S-1 OCCUPANCY: 450 SQ. FT.
 TOTAL: 3,738 SQ. FT.

CODE SUMMARY

APPLICABLE CODES:
 2006 INTERNATIONAL BUILDING CODE
 2006 INTERNATIONAL MECHANICAL CODE
 2006 INTERNATIONAL PLUMBING CODE
 2008 NATIONAL ELECTRIC CODE
 2006 INTERNATIONAL FIRE CODE
 1994 TEXAS ACCESSIBILITY STANDARDS

CODE HIGHLIGHTS:

A. OCCUPANCY: TYPE B (TRAINING FACILITY)
 TYPE S-1 (RECORDS STORAGE)

B. BUILDING AREA / HEIGHT: 3,738 SQ. FT. / 16 FT.

C. TYPE OF CONSTRUCTION: 5B

D. FIRE PROTECTION SYSTEM: NON-SPRINKLERED

PLUMBING FIXTURES:	REQ'D	PROVIDED
W.C. (MEN / WOMEN)	1 / 1	2 / 2
LAVATORY (MEN / WOMEN)	1 / 1	1 / 1
WATER FOUNTAIN	1	1 (HI-LO)
SERVICE SINK	1	1

GENERAL NOTES

- ALL DIMENSIONS SHOWN ARE TO FACE OF PARTITION UNLESS NOTED OTHERWISE.
- UNLESS DIMENSIONED OTHERWISE, THE HINGE CENTERLINE OF ALL NEW DOOR FRAMES WHICH OCCUR IN STUD WALLS SHALL BE LOCATED 5" FROM ADJACENT INTERSECTING PARTITIONS.
- PROVIDE BLOCKING IN PARTITIONS WHERE REQUIRED TO ANCHOR ALL EQUIPMENT, ACCESSORIES, HANDRAILS, CASEWORK, ETC., COORDINATE WITH APPROPRIATE TRADE AND / OR MANUFACTURER.
- FLOOR MATERIAL TRANSITIONS SHALL OCCUR UNDER THE CENTERLINE OF THE DOORS UNLESS NOTED OTHERWISE.
- EFFECTIVELY ISOLATE ALL DISSIMILAR METALS TO PREVENT CORROSION AS RECOMMENDED BY THE RESPECTIVE PRODUCT MANUFACTURER AND / OR SUPPLIER.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS FOR CONFLICTS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND NOTIFY ARCHITECT IN WRITING IF ANY EXIST.
- REFER TO SHEET A6.01 FOR PARTITION TYPES, DOOR TYPES, AND WINDOW TYPES.
- REFER TO SHEET A3.01 FOR FINISH SCHEDULE.
- T.O. SLAB DATUM ELEVATION 100'-0" = 97.00' MSL.

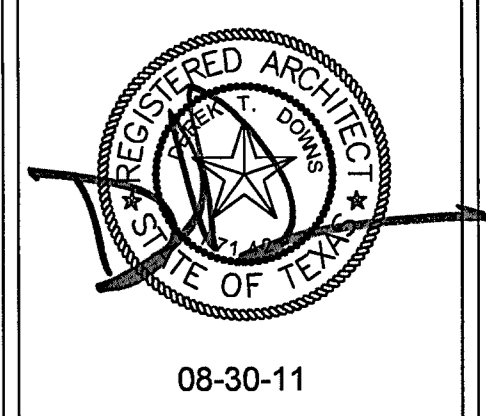
HIDALGO COUNTY
 ELECTIONS WAREHOUSE RENOVATION
 EDINBURG, TEXAS



HALFF
 600 WEST MILITARY, SUITE 100
 McALLEN, TEXAS 78503
 TEL (956) 664-0266
 FAX (956) 664-0262
 TYPE FIRM #S-12

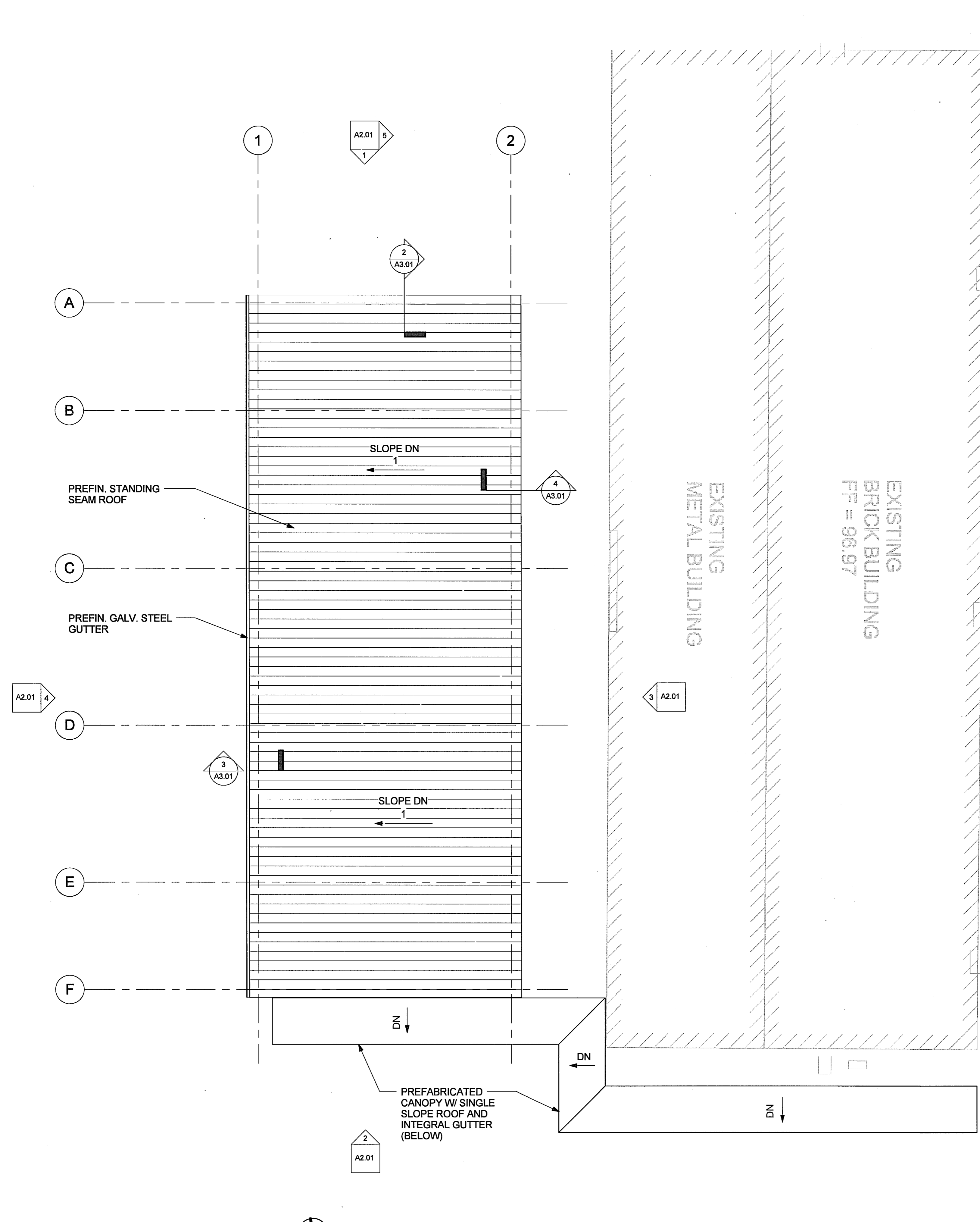
DANNENBAUM
 ENGINEERING COMPANY - McALLEN, LLC
 T.B.A.E. FIRM REGISTRATION #19734
 LICENSED PROFESSIONAL ENGINEER

Revision No.	Date	Description

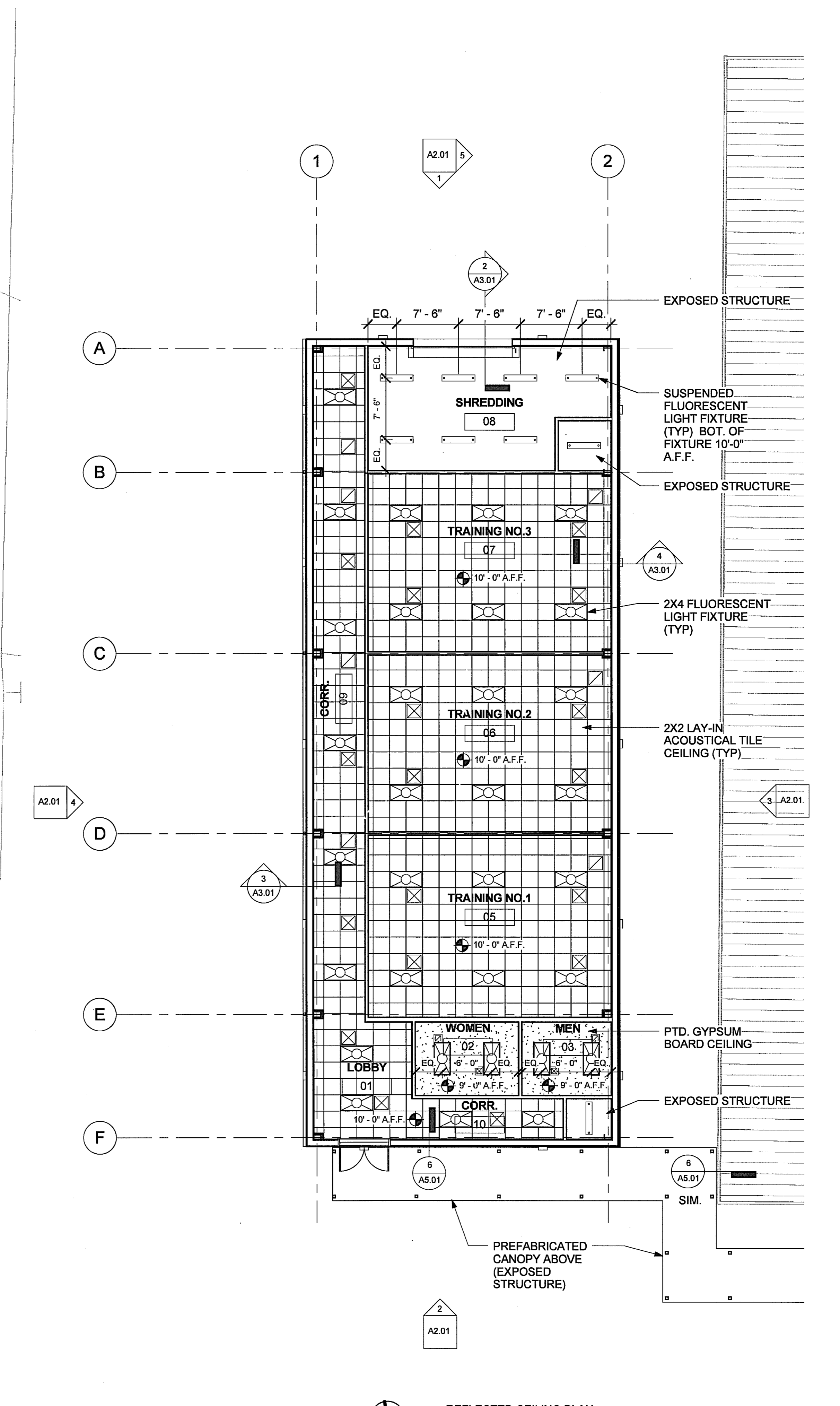


Project No.:	28237
Set Issued:	08/30/2011
Drawn By:	DR
Checked By:	DD
Scale:	As Indicated
Sheet Title:	FLOOR PLAN, CODE SUMMARY, GENERAL NOTES
Sheet Number:	A1.01

8/26/2011 3:42:17 PM C:\Revit\Local\28237 - HCE Warehouse\DR_LOCAL - AR_MODEL_28237.rvt



1 ROOF PLAN
1/8" = 1'-0"



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

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
6000 WEST MILITARY SUITE 100
MCALLEN, TEXAS 78503
TEL (956) 864-0286
FAX (956) 864-0282
TBP#E FIRM #F-312

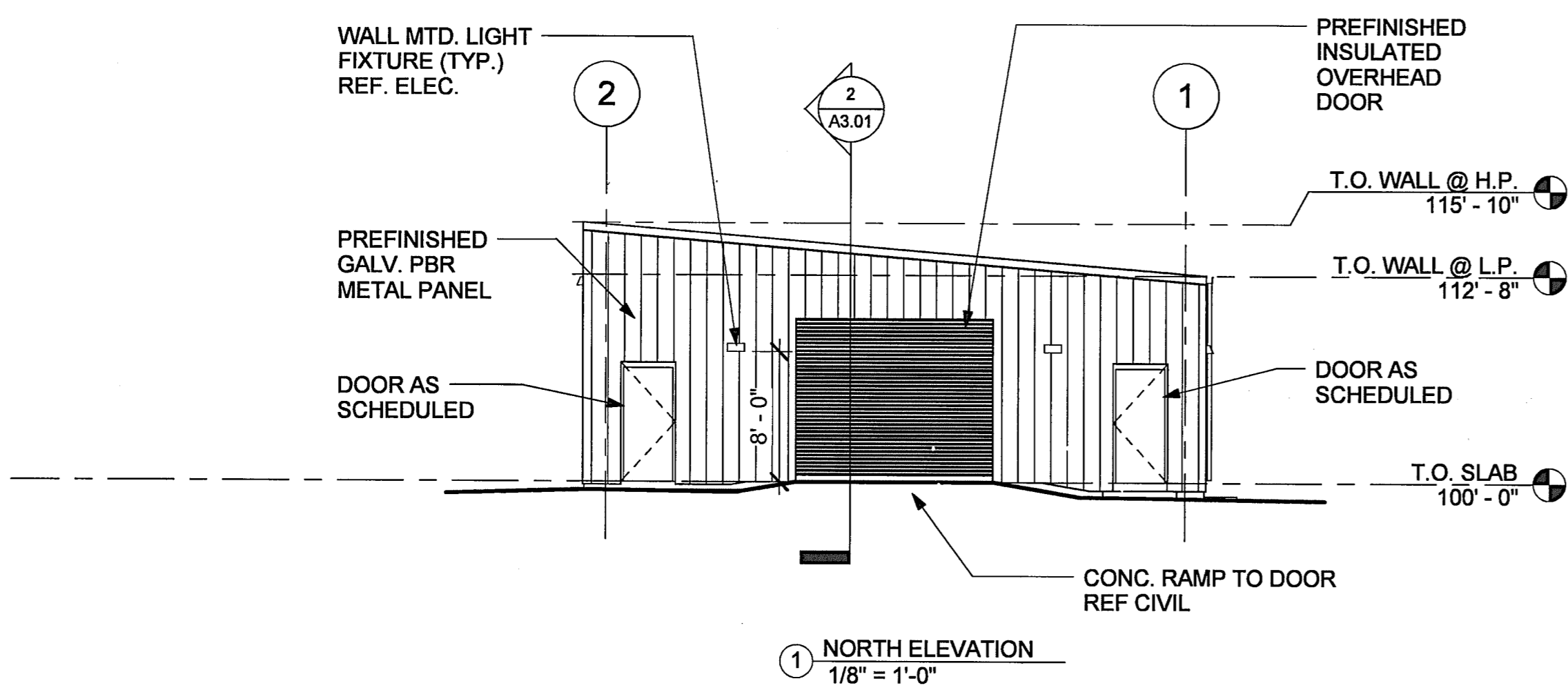
DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1000 W. CALLE DE LAS AMERICAS, SUITE 200, MCALLEN, TX 78501-9907

Revision No.	Date	Description

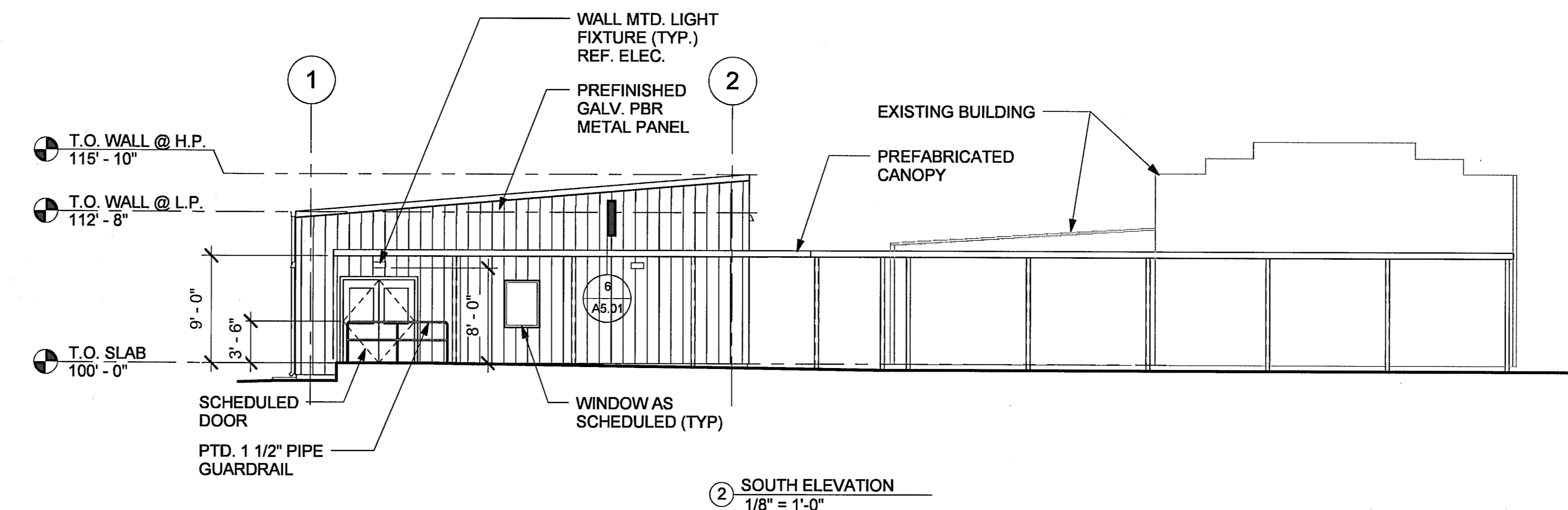


Project No.:	28237
Set Issued:	08/30/2011
Drawn By:	DR
Checked By:	DD
Scale:	1/8" = 1'-0"
Sheet Title	ROOF PLAN / REFLECTED CEILING PLAN

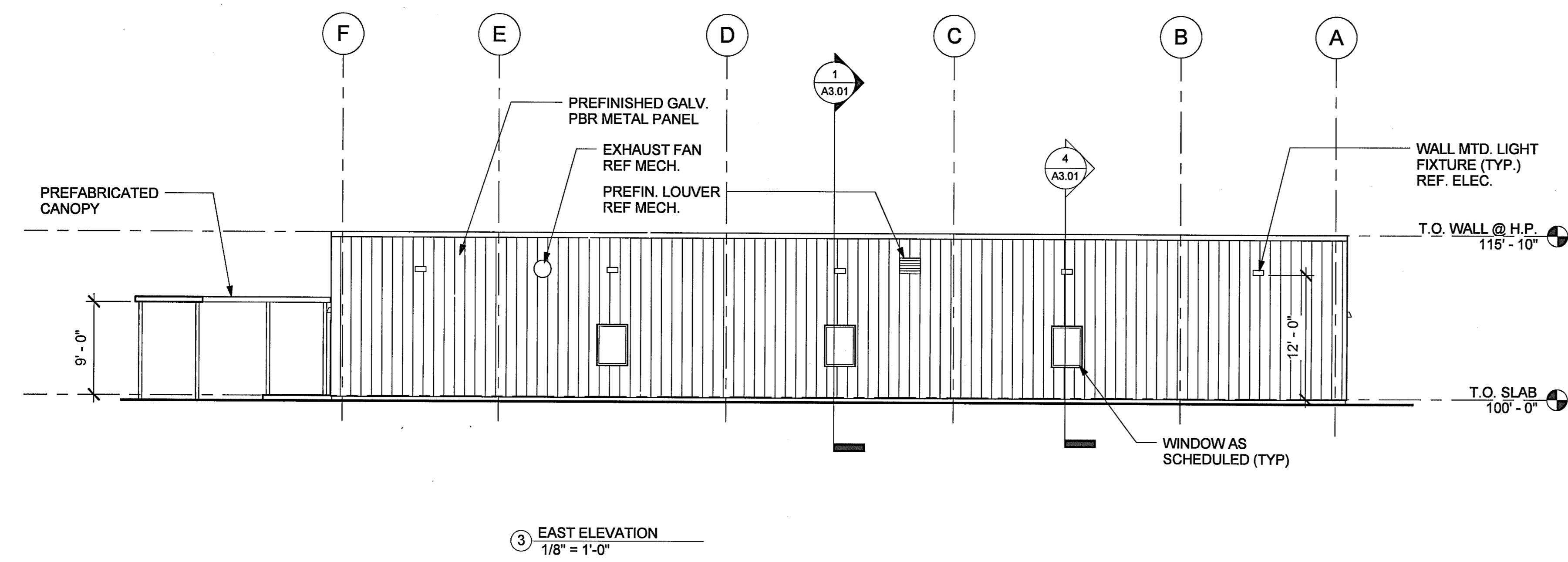
A1.02
Sheet Number



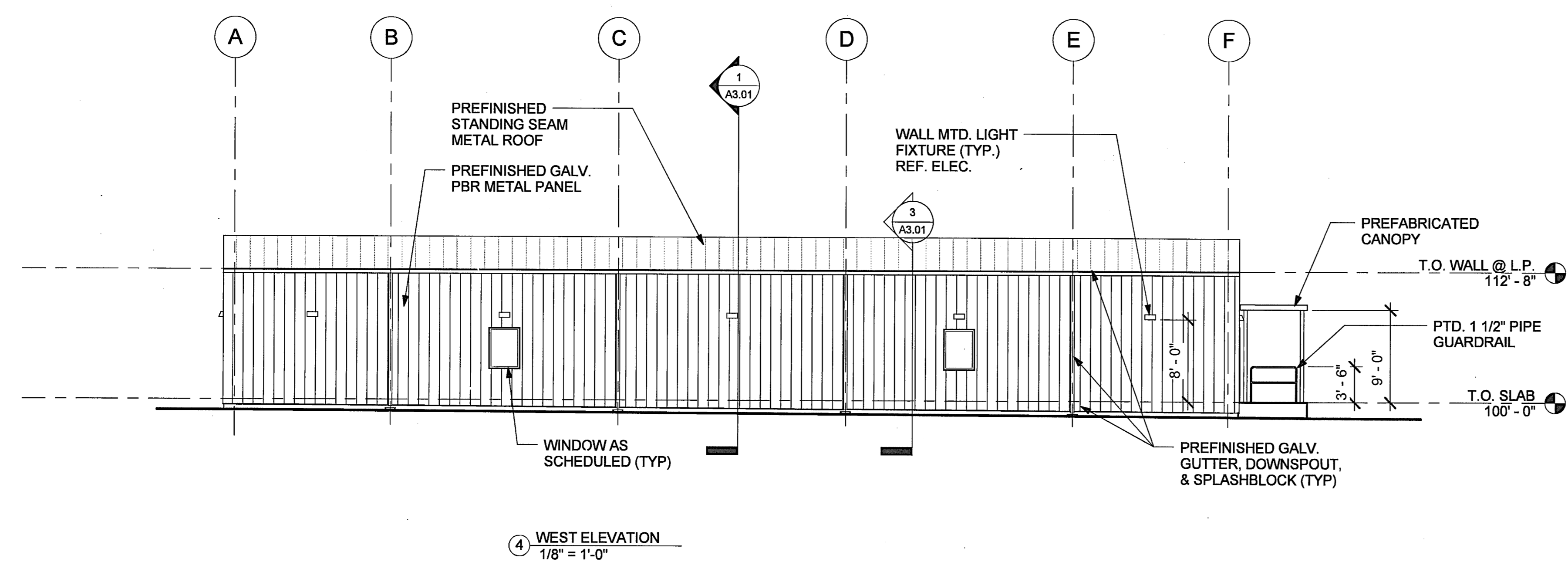
1 NORTH ELEVATION
1/8" = 1'-0"



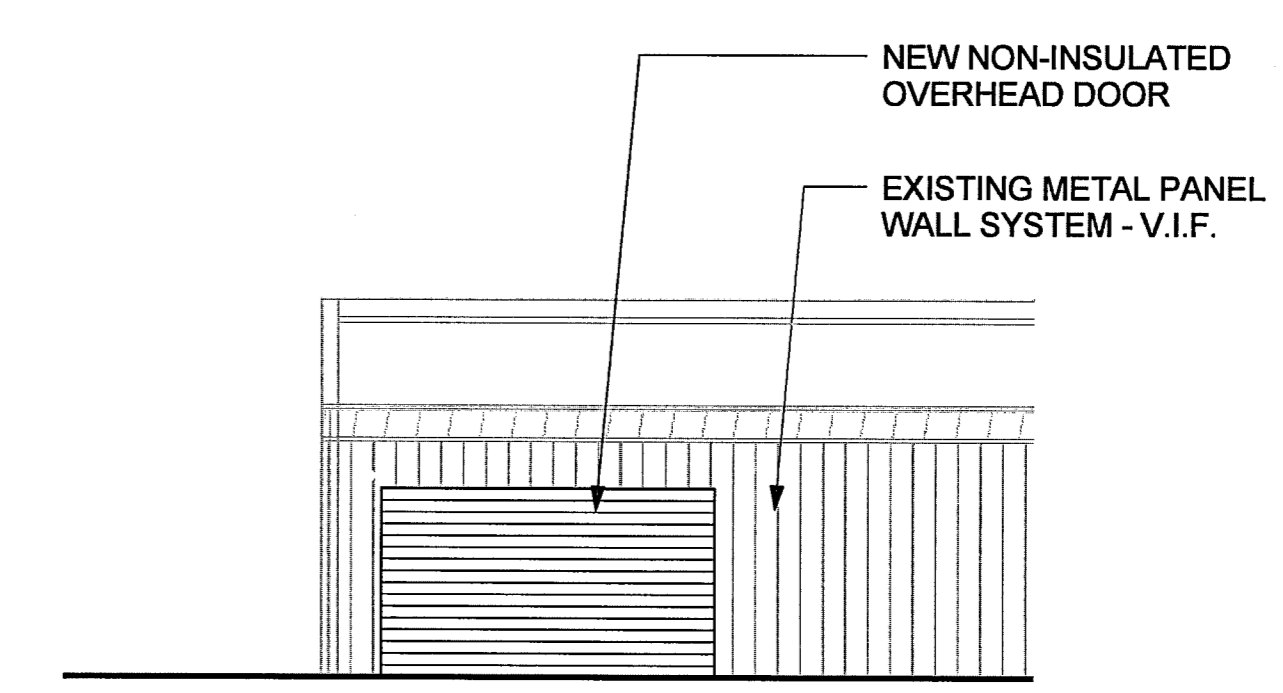
2 SOUTH ELEVATION
1/8" = 1'-0"



3 EAST ELEVATION
1/8" = 1'-0"



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



5 NEW OHD ELEVATION
1/8" = 1'-0"

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
6000 WEST MILITARY, SUITE 100
MCALLEN, TEXAS 78503
TEL (956) 984-0286
FAX (956) 984-0282
TYPE FIRM #F-512

DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
T.S.A.E. FIRM REGISTRATION #49734
1100 W. GARDNER, SUITE 100, MCALLEN, TX 78501 (956) 928-9877

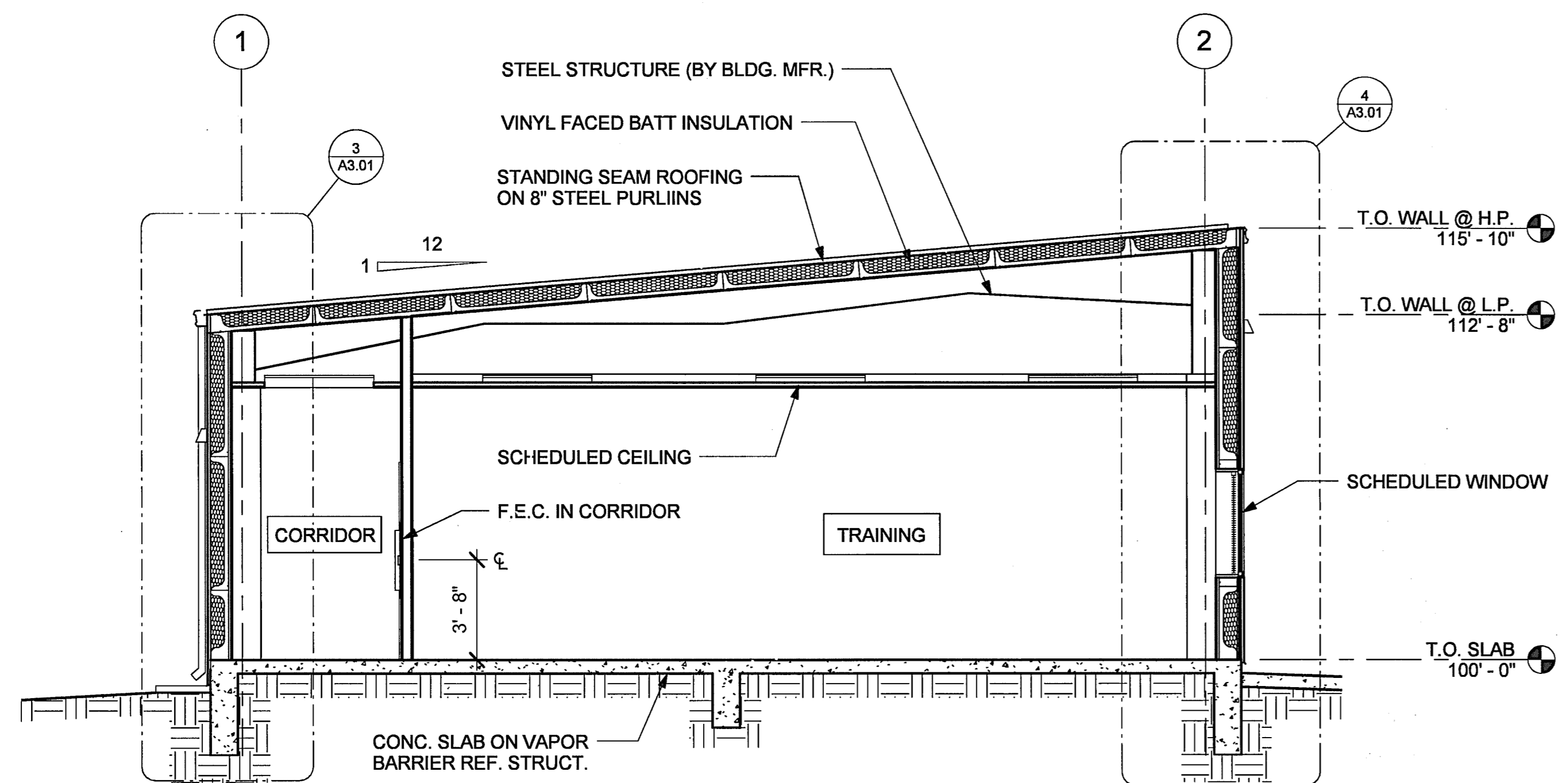
Revision No.	Date	Description



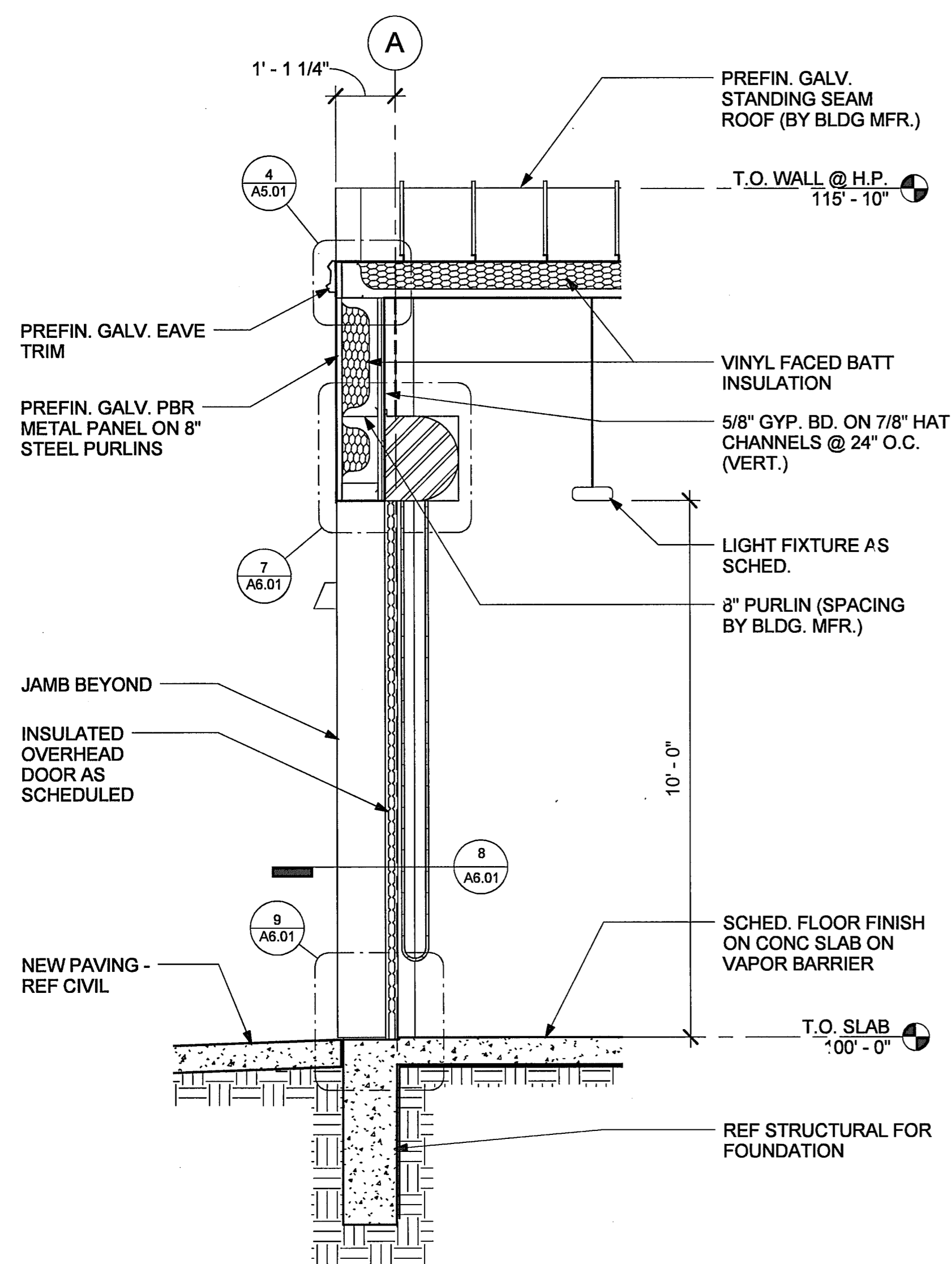
Project No.: 28237
Set Issued: 08/30/2011
Drawn By: DR
Checked By: DD
Scale: 1/8" = 1'-0"
Sheet Title
ELEVATIONS

A2.01
Sheet Number

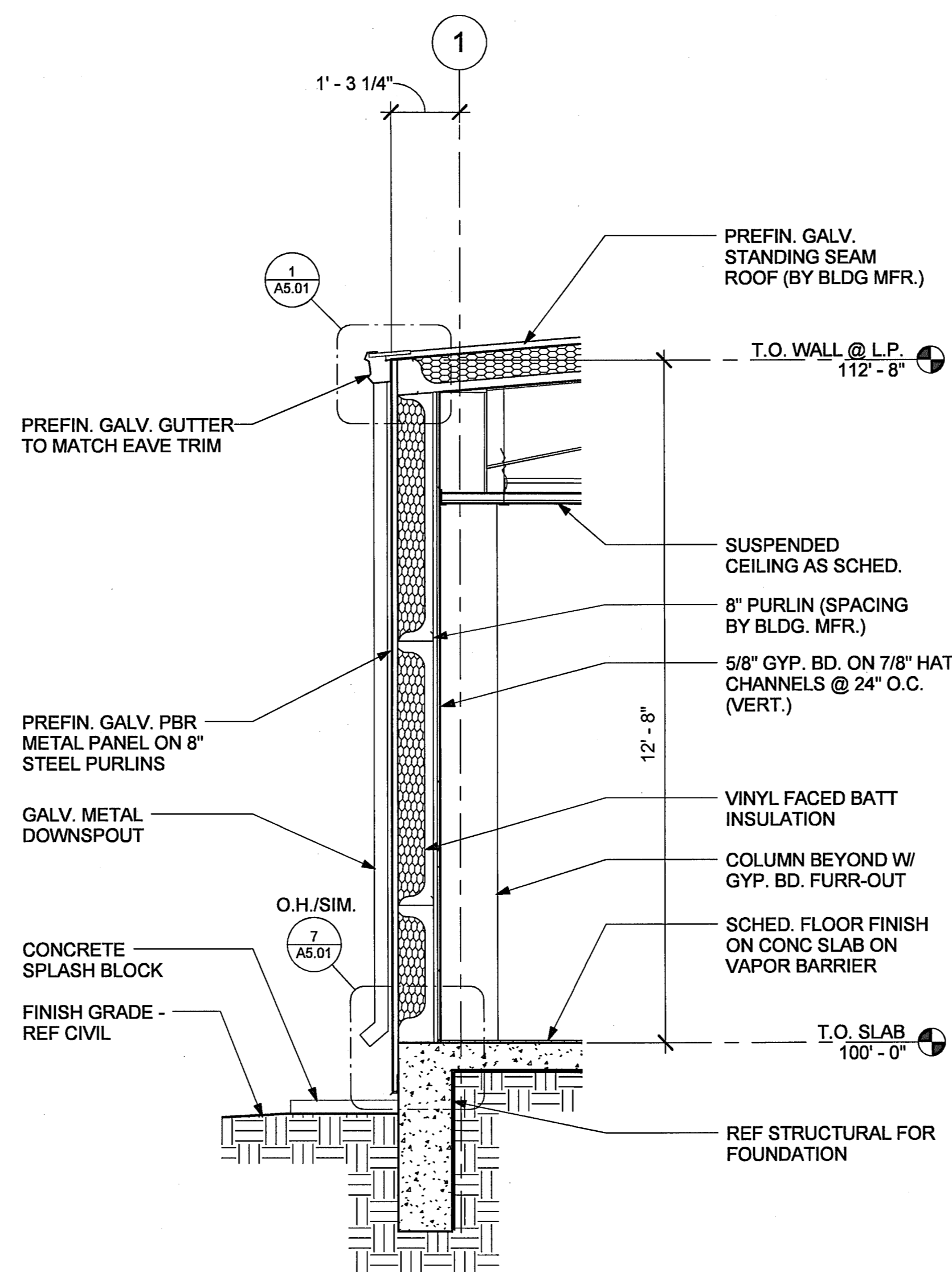
C:\Revit Local\28237 - HCE Warehouse\DWG\LOCAL - AR_MODEL_28237.rvt
8/30/2011 3:42:19 PM



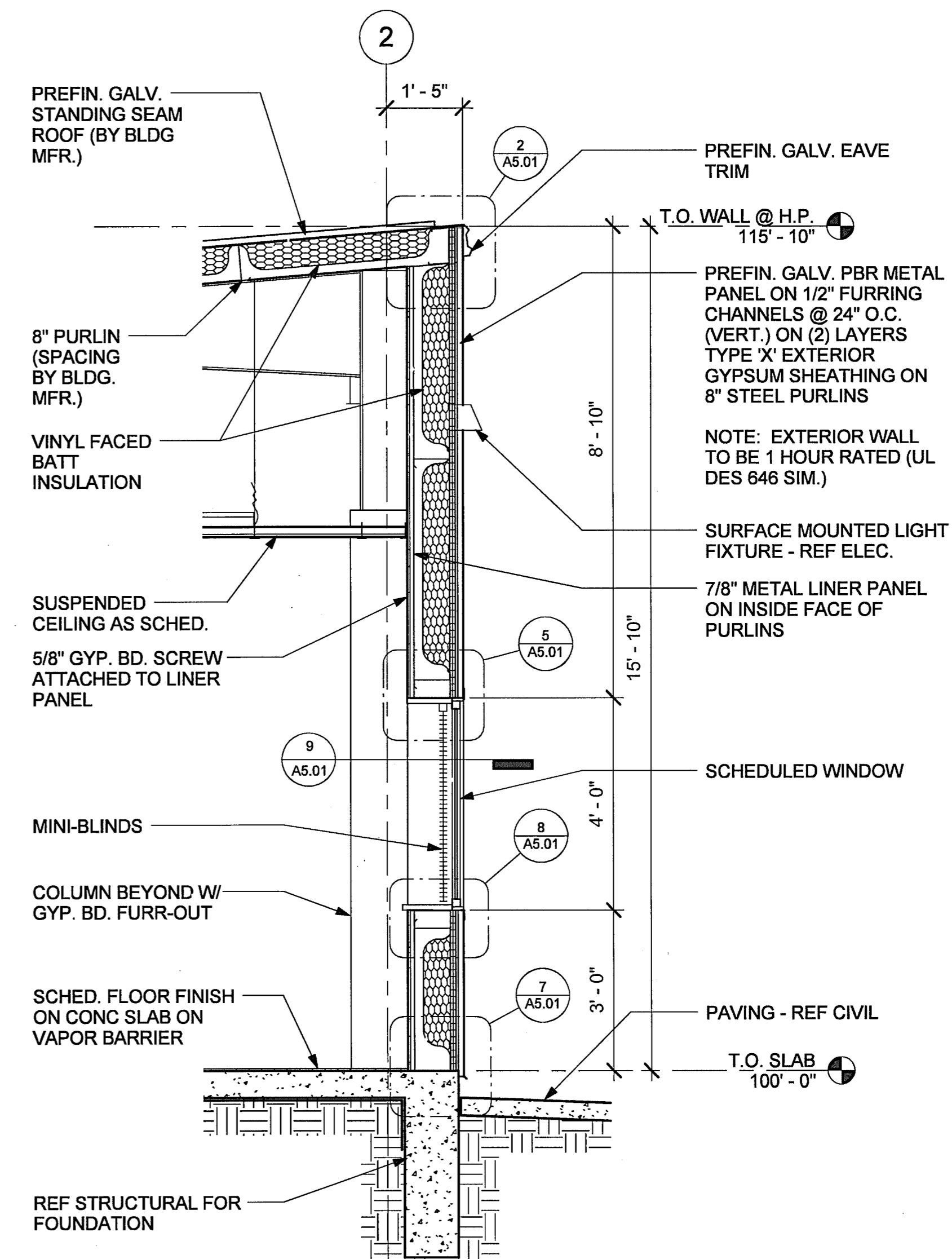
1 BUILDING SECTION
1/4" = 1'-0"



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



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



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



HALFF
6800 WEST UNIVERSITY, SUITE 100
MCALLEN, TEXAS 78503
TEL (361) 664-0286
FAX (361) 664-0282
TYPE FIRM #F-312

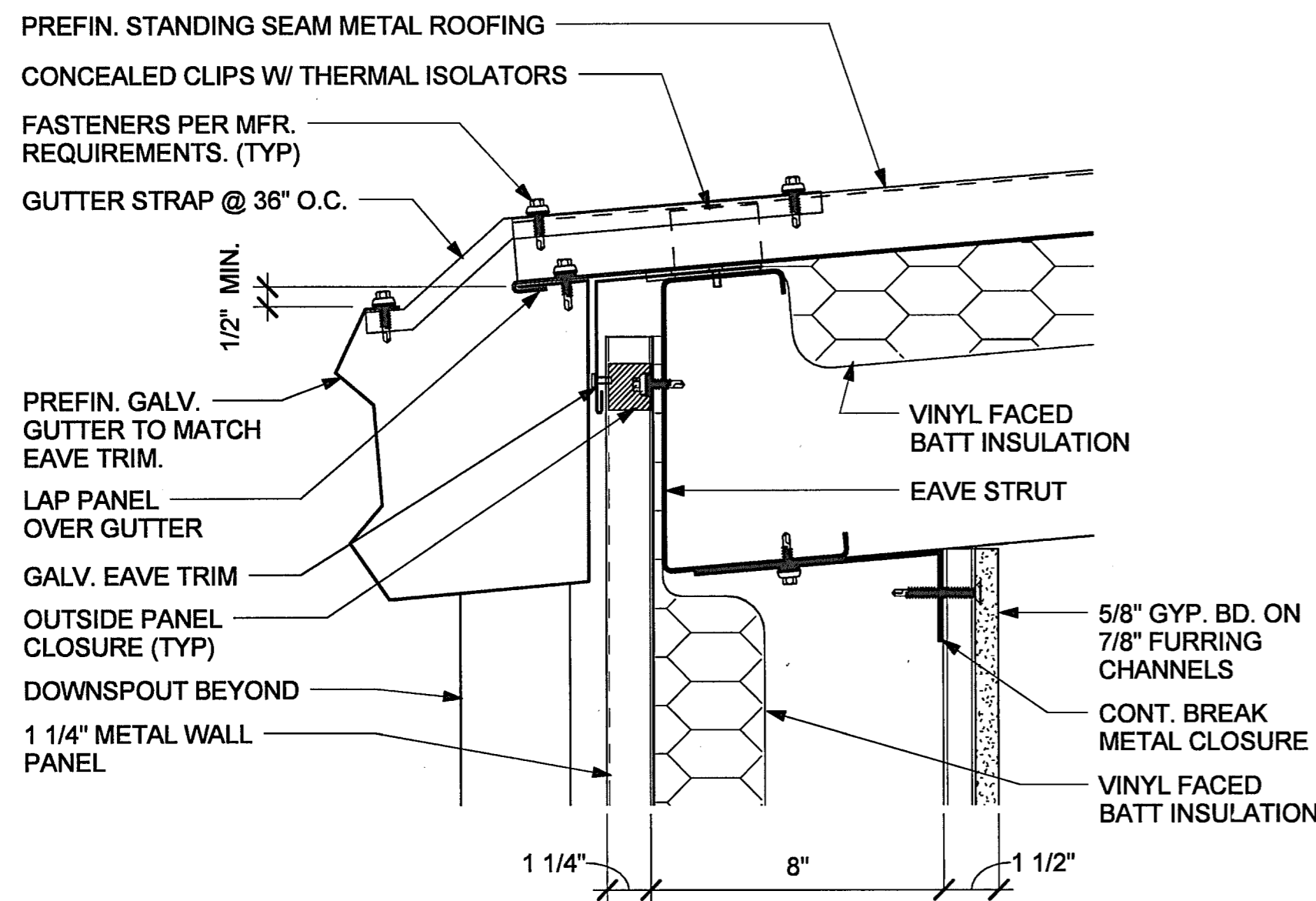
DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1000 P.O. BOX 200, STE 200, McALLEN, TX 78101 (361) 662-0071

Revision No.	Date	Description

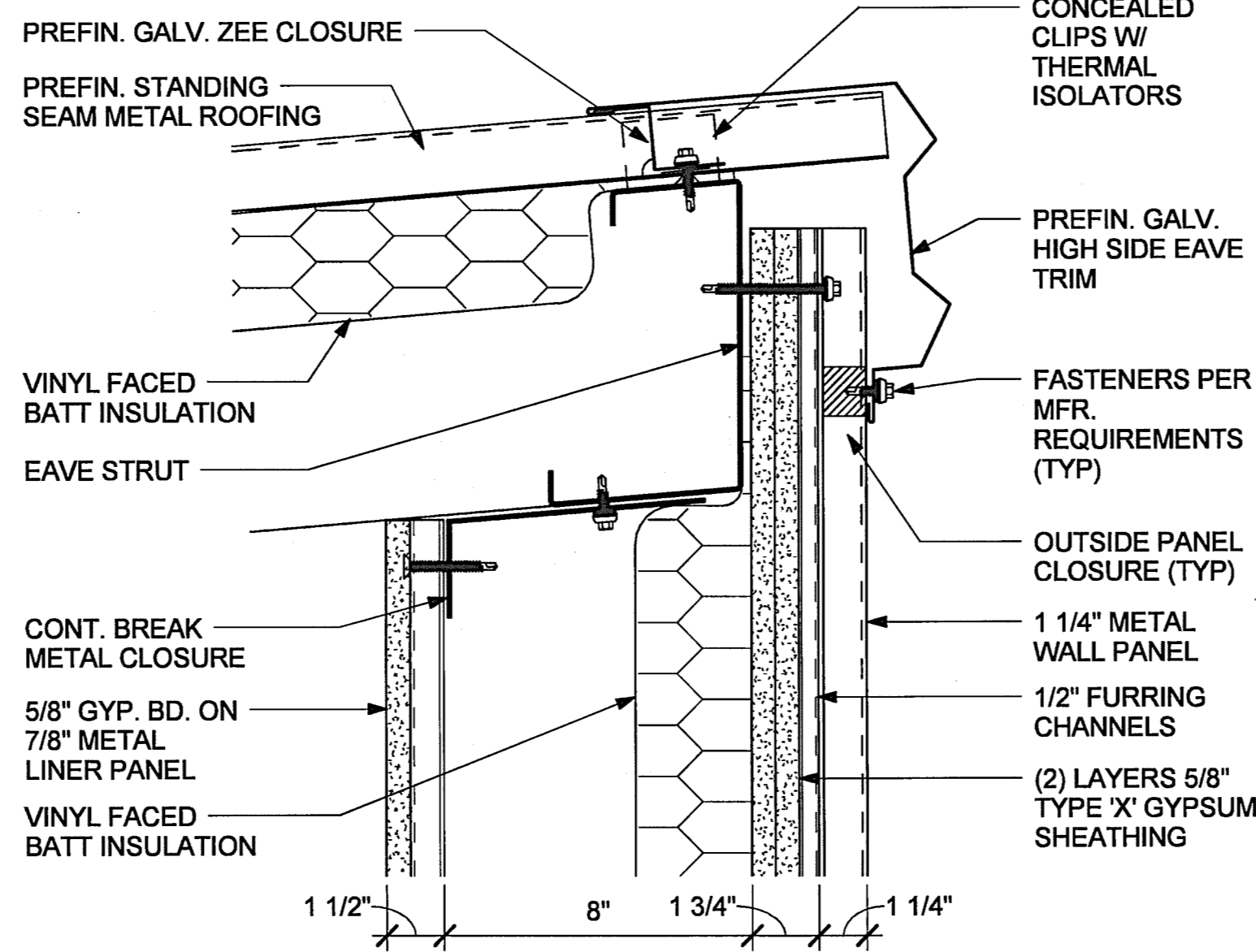
REGISTERED ARCHITECT
STATE OF TEXAS
08-30-11

Project No.:	28237
Set Issued:	08/30/2011
Drawn By:	DR
Checked By:	DD
Scale:	As indicated

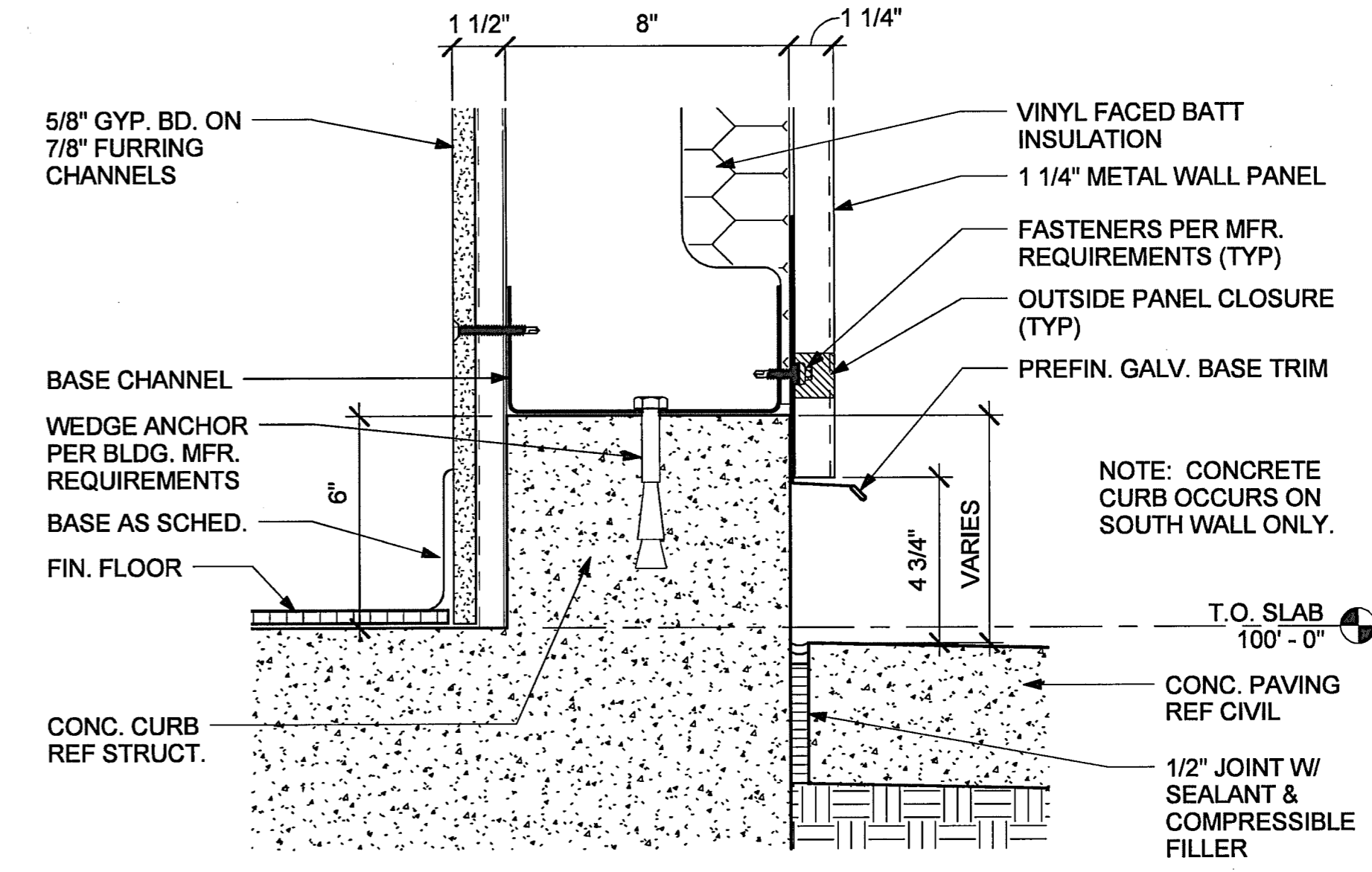
Sheet Title
BUILDING SECTION, WALL SECTIONS



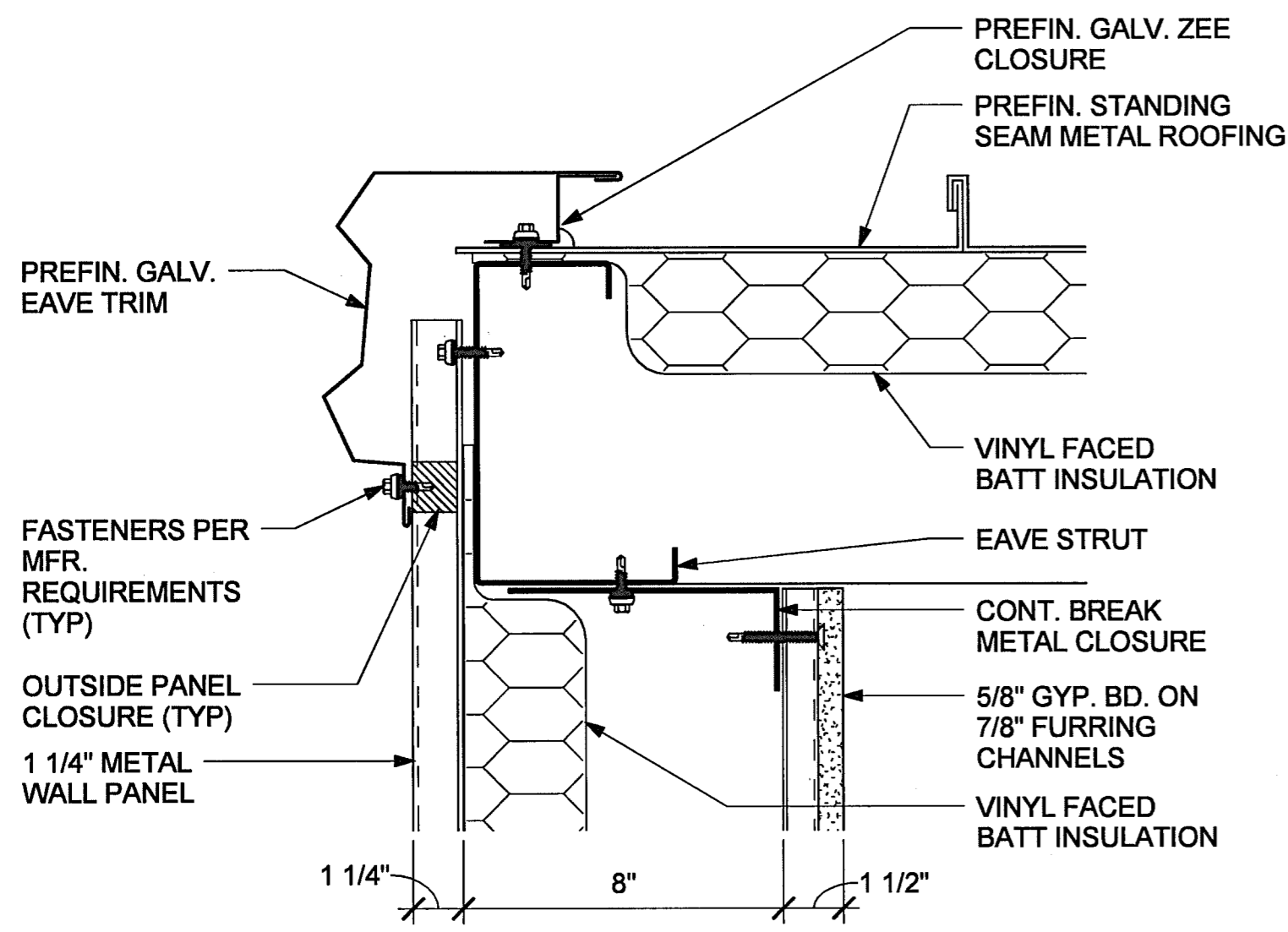
1 LOW EAVE / GUTTER DETAIL
3" = 1'-0"



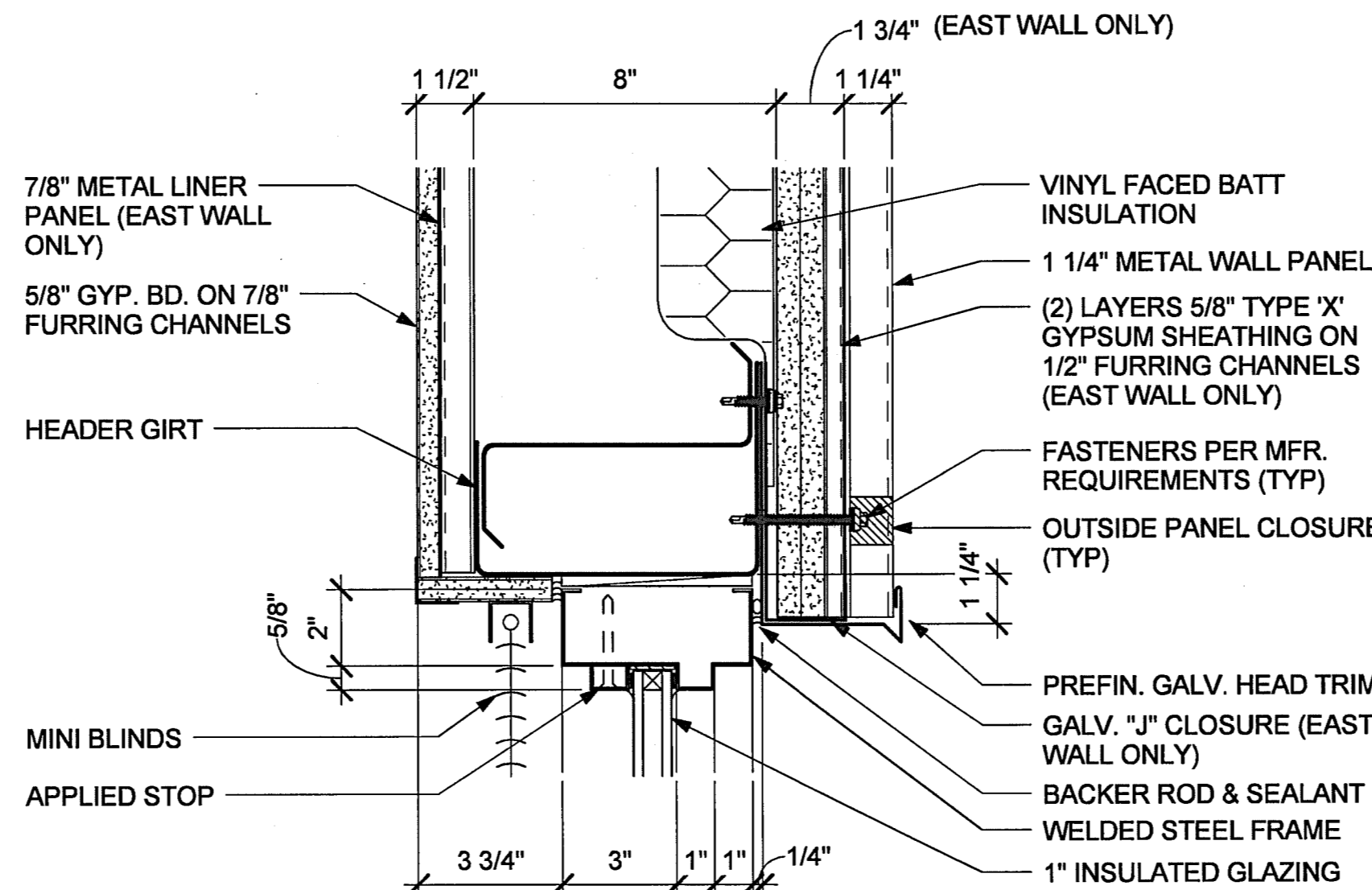
2 HIGH EAVE DETAIL
3" = 1'-0"



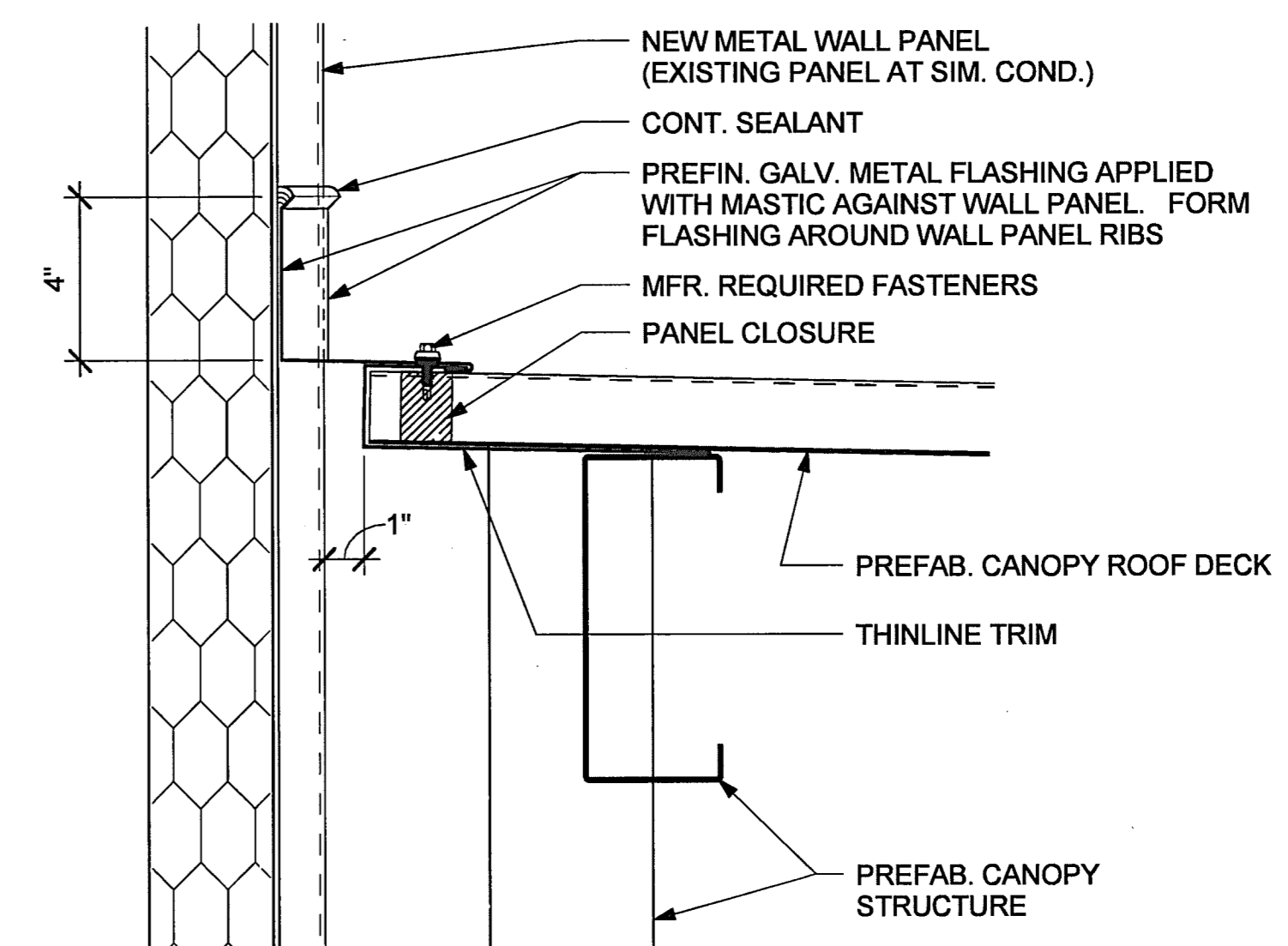
3 SILL DETAIL AT CONC. CURB
3" = 1'-0"



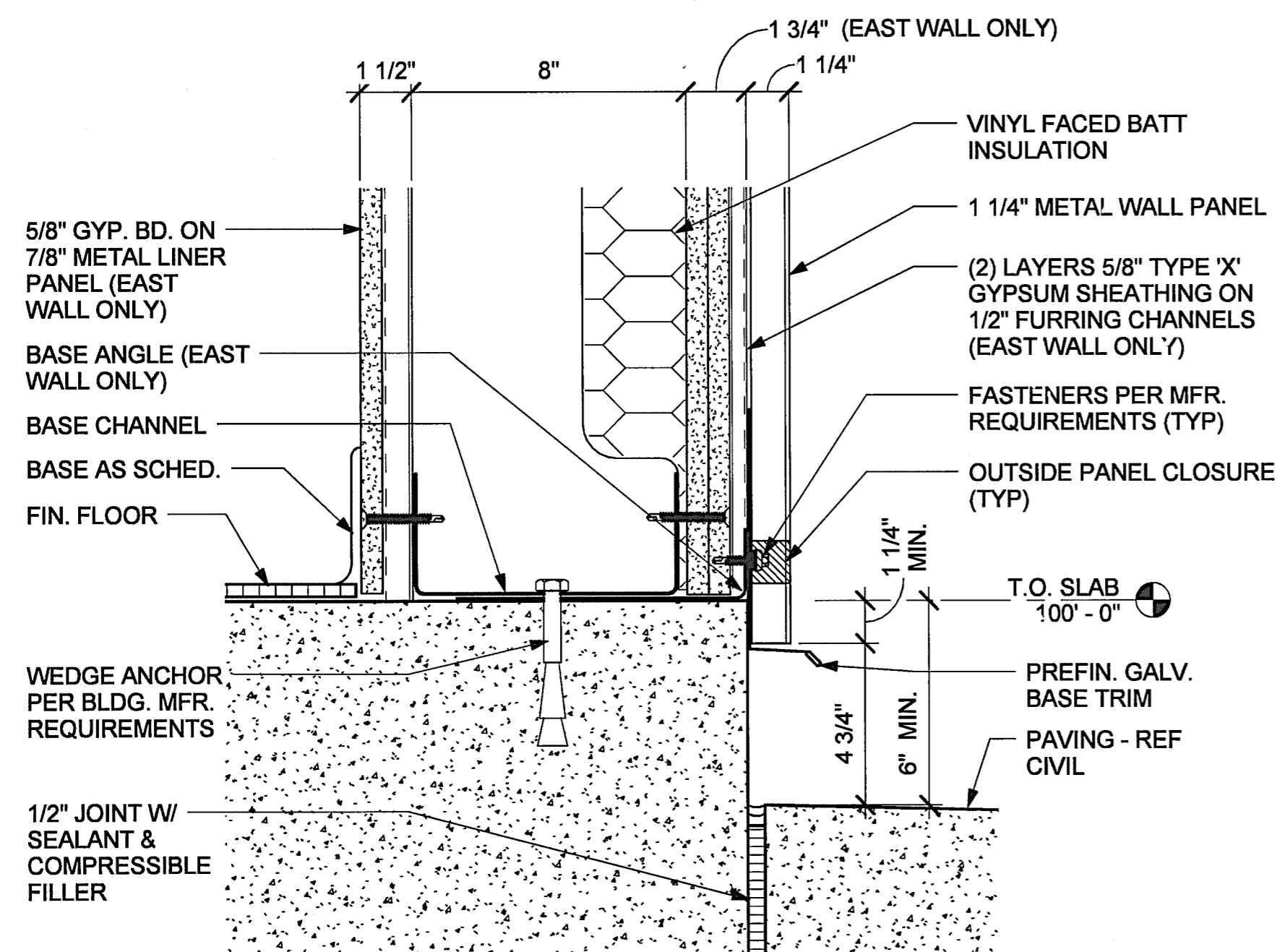
4 TYPICAL EAVE DETAIL
3" = 1'-0"



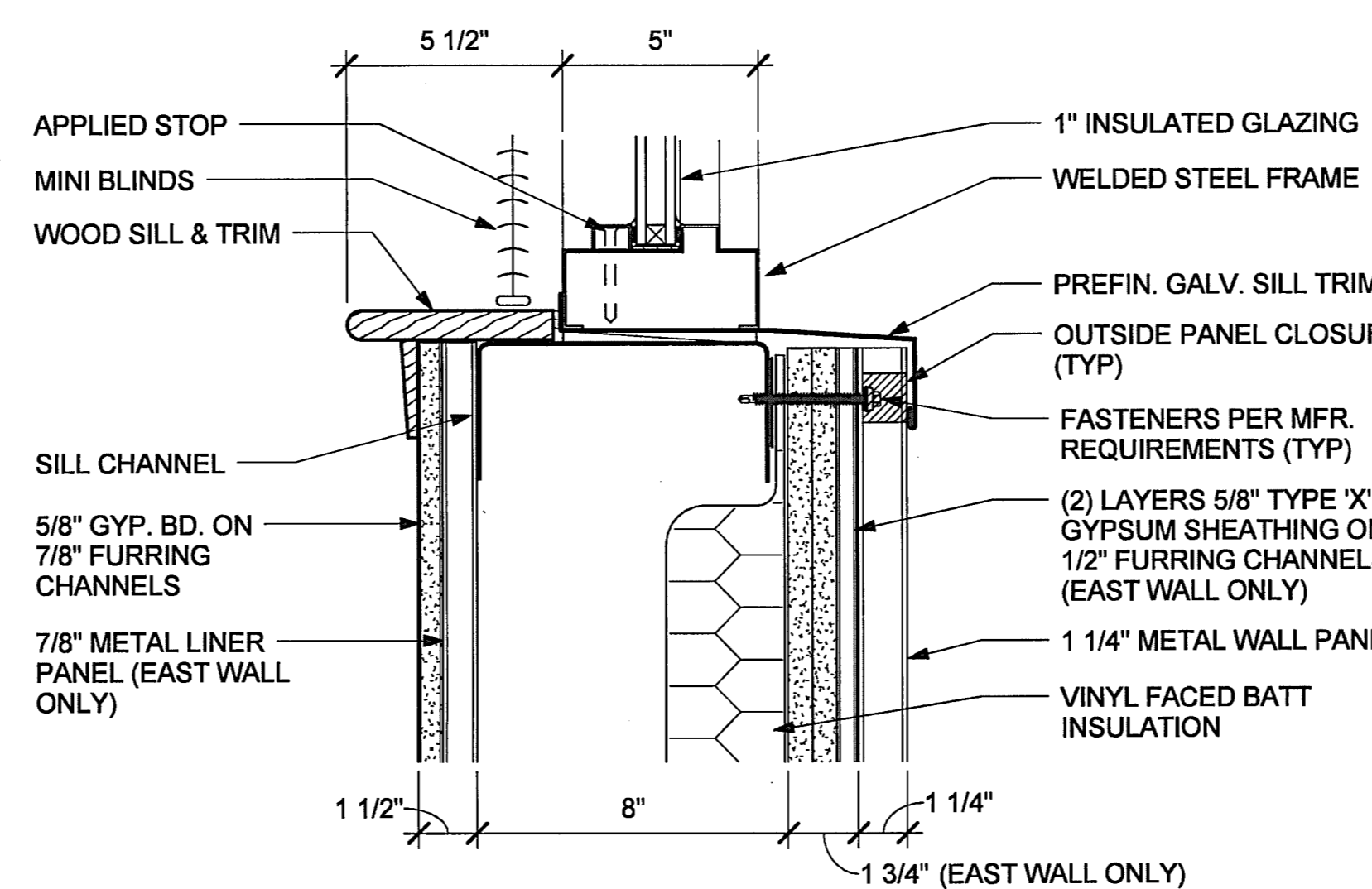
5 TYPICAL WINDOW HEAD
3" = 1'-0"



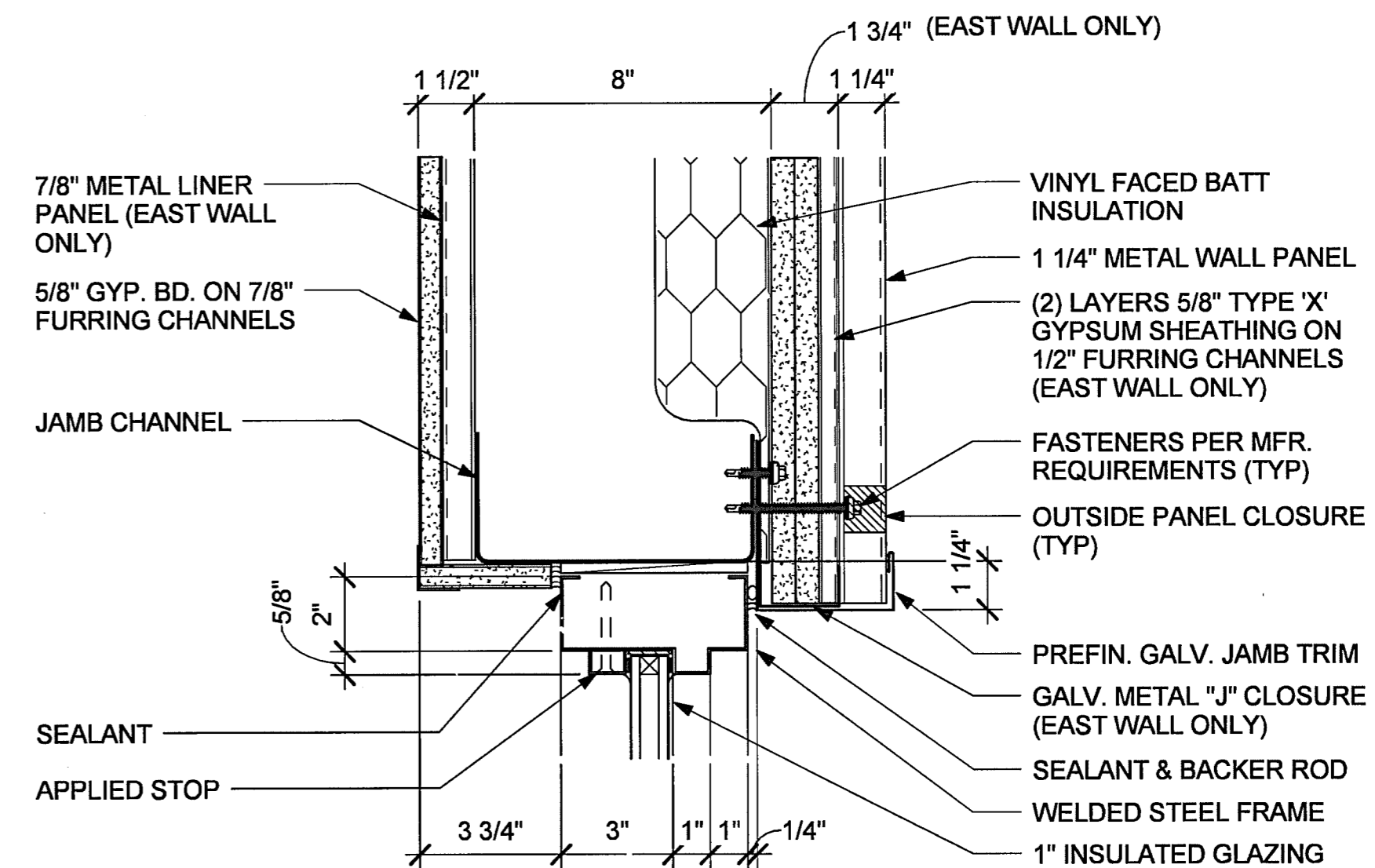
6 PREFABRICATED CANOPY FLASHING AT BUILDING
3" = 1'-0"



7 TYPICAL SILL DETAIL
3" = 1'-0"



8 TYPICAL WINDOW SILL
3" = 1'-0"



9 TYPICAL WINDOW JAMB
3" = 1'-0"

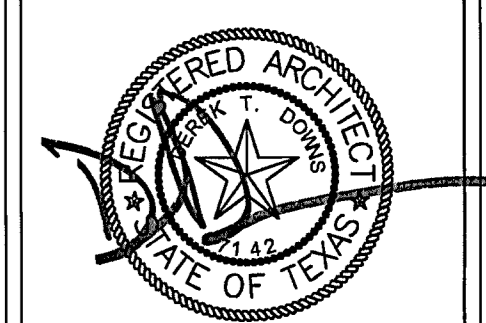
HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
500 WEST UNIVERSITY, SUITE 100
DALLAS, TEXAS 75203
TEL: (956) 664-0286
FAX: (956) 664-0282
TYPE FIRM #312

DANNENBAUM
ENGINEERING COMPANY - McALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
150 PRODUCE LOOP, STE. 200 McALLEN, TX 78103 (956) 662-0671

Revision No.	Date	Description



08-30-11

Project No.:	28237
Set Issued:	08/30/2011
Drawn By:	DR
Checked By:	DD
Scale:	3" = 1'-0"
Sheet Title	DETAILS

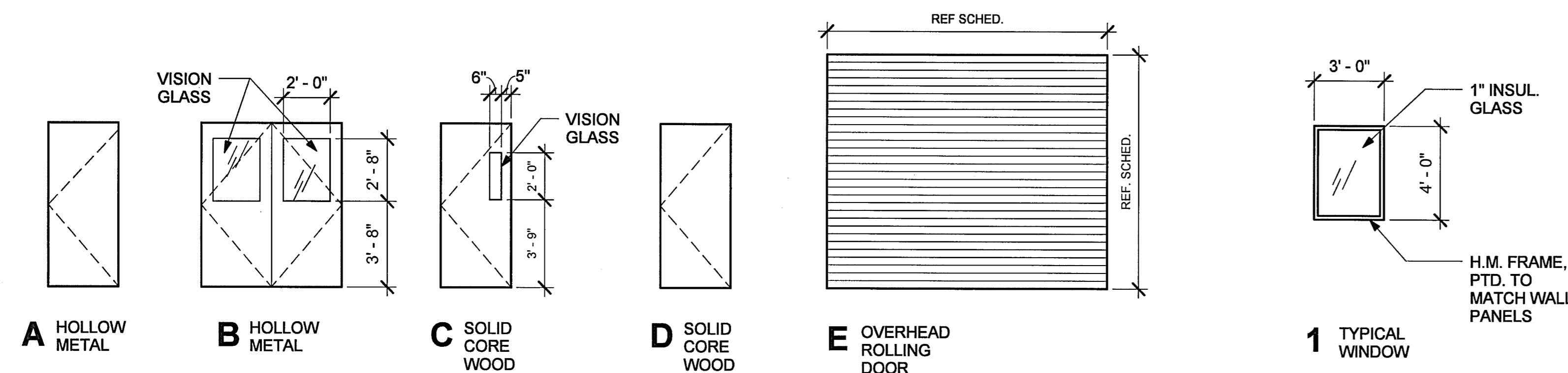
A5.01
Sheet Number

8/29/2011 2:37:32 PM C:\Bentl\Local\28237 - HCE Warehouse\BURL\LOCAL - AP_MODEL_28237.rvt

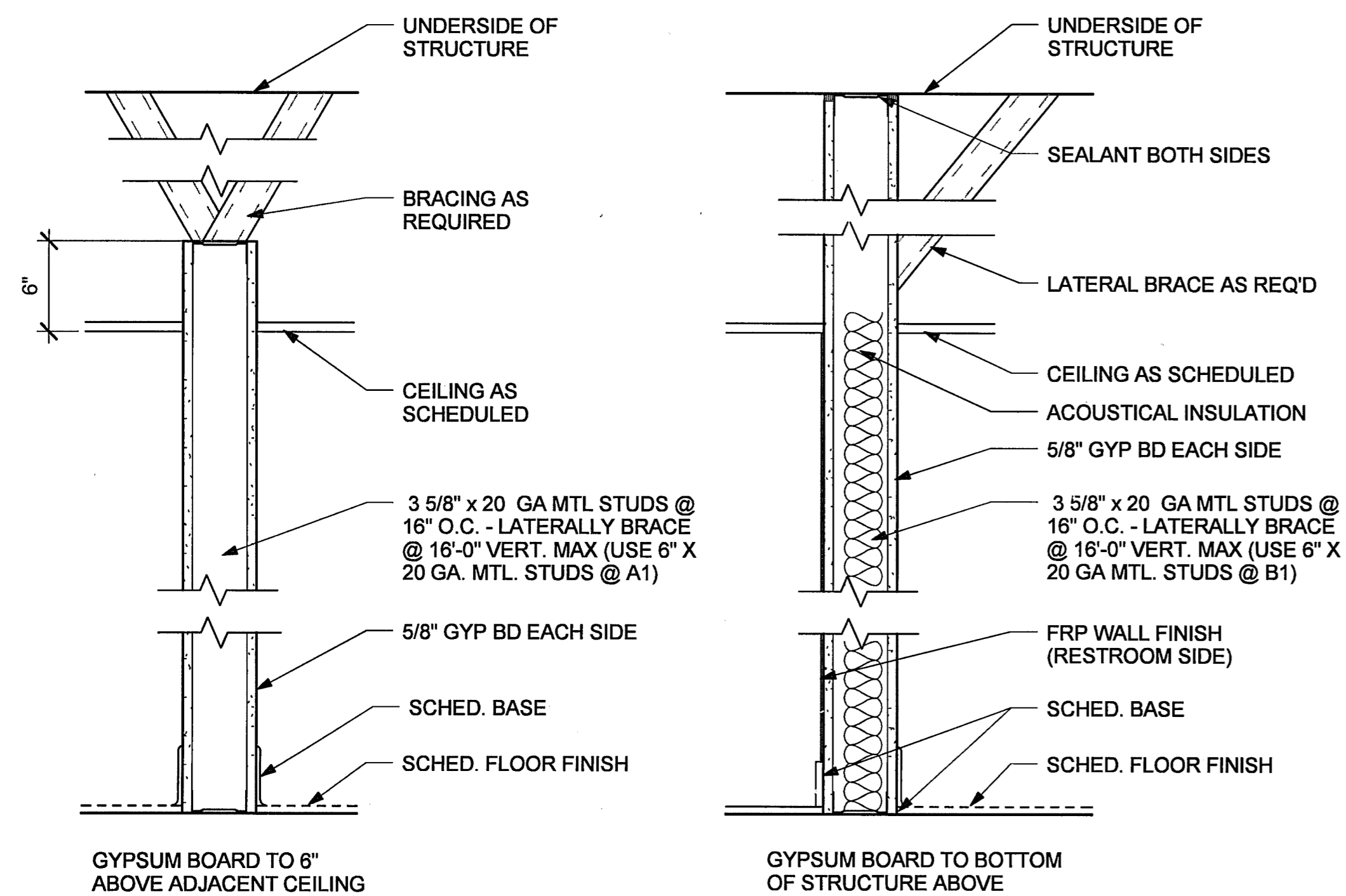
Number	DOOR			DOOR SCHEDULE						Hardware	Fire Rating	Remarks		
	Width	Height	Type	Glazing	Material	Finish	FRAME		REFERENCE DETAIL					
							Material	Finish	Head	Jamb	Sill			
01	6'-0"	7'-0"	B	1/4" TEMP.	H.M.	PAINT	H.M.	PAINT	10	12	5	1	-	
02	3'-0"	7'-0"	D	-	WOOD	STAIN	H.M.	PAINT	3	4	11	4	-	
03	3'-0"	7'-0"	D	-	WOOD	STAIN	H.M.	PAINT	3	4	11	4	-	
04	3'-0"	7'-0"	D	-	WOOD	STAIN	H.M.	PAINT	3	4	6 SIM.	5	-	
05	3'-0"	7'-0"	C	1/4"	WOOD	STAIN	H.M.	PAINT	3	4	11	3	-	
06	3'-0"	7'-0"	C	1/4"	WOOD	STAIN	H.M.	PAINT	3	4	11	3	-	
07	3'-0"	7'-0"	C	1/4"	WOOD	STAIN	H.M.	PAINT	3	4	6	3	-	
08A	3'-0"	7'-0"	C	1/4"	WOOD	STAIN	H.M.	PAINT	3	4	6	3	-	
08B	12'-0"	10'-0"	E	-	STEEL	PAINT	H.M.	PAINT	7	8	9	-	-	ELECTRIC OPERATOR
08C	3'-0"	7'-0"	A	-	H.M.	PAINT	H.M.	PAINT	10	12	5	2	-	
09	3'-0"	7'-0"	A	-	H.M.	PAINT	H.M.	PAINT	10	12	5	2	-	
11	3'-0"	7'-0"	D	-	WOOD	STAIN	H.M.	PAINT	3	4	11 SIM.	5	-	
EB-1	14'-0"	8'-0"	E	-	STEEL	PAINT	H.M.	PAINT	7 SIM.	8 SIM.	9 SIM.	-	-	MANUAL OPERATOR

GENERAL DOOR NOTES

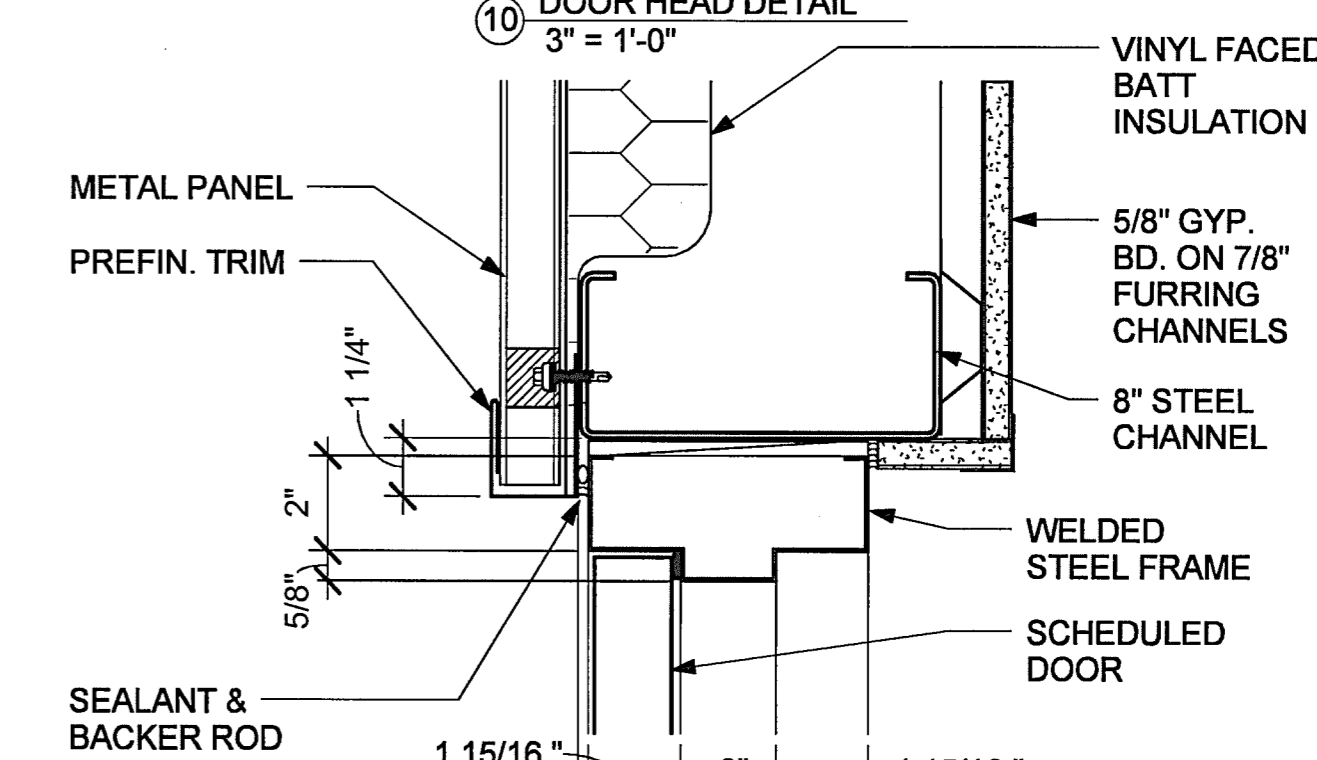
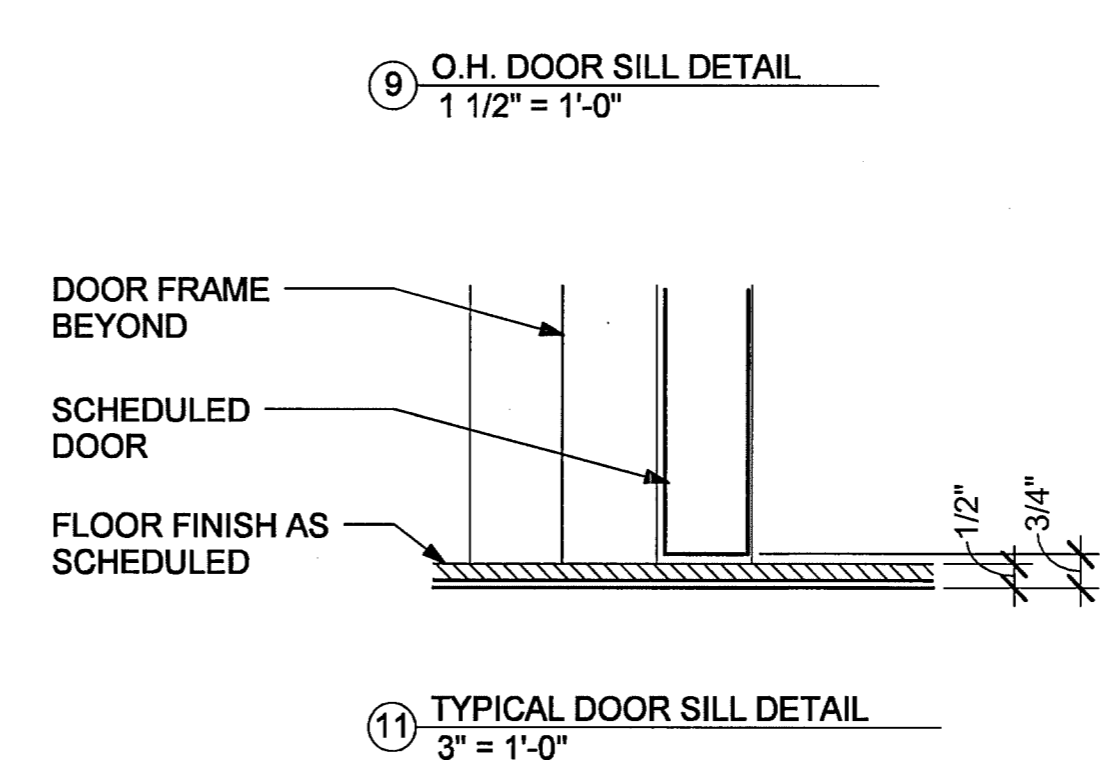
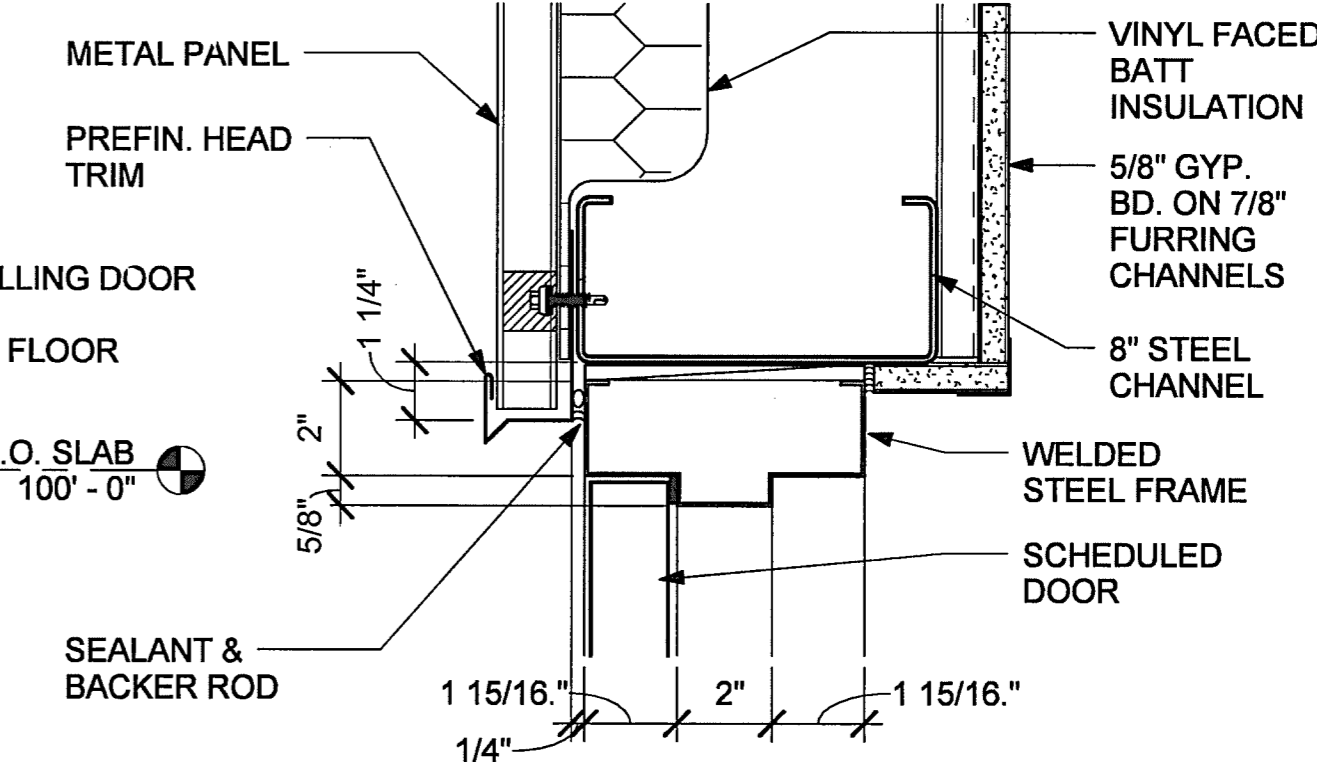
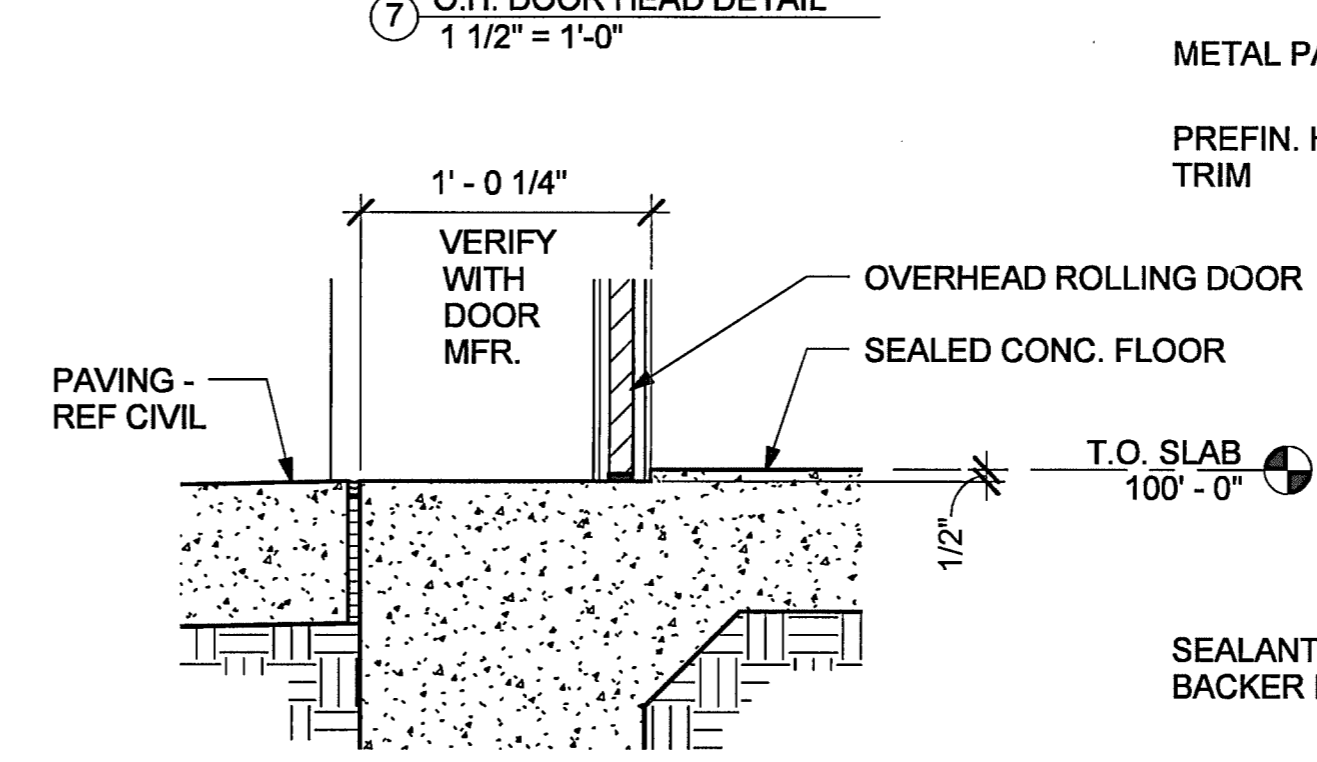
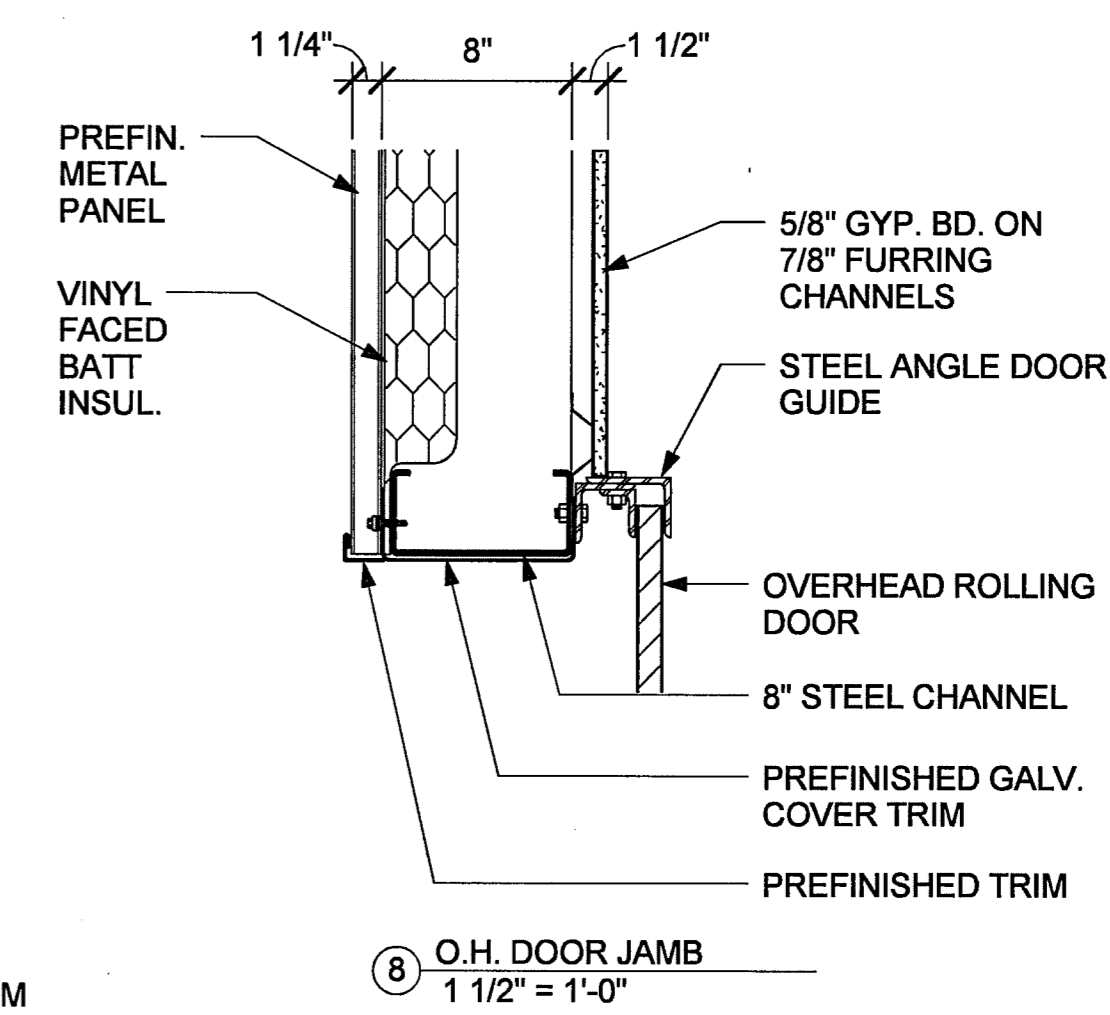
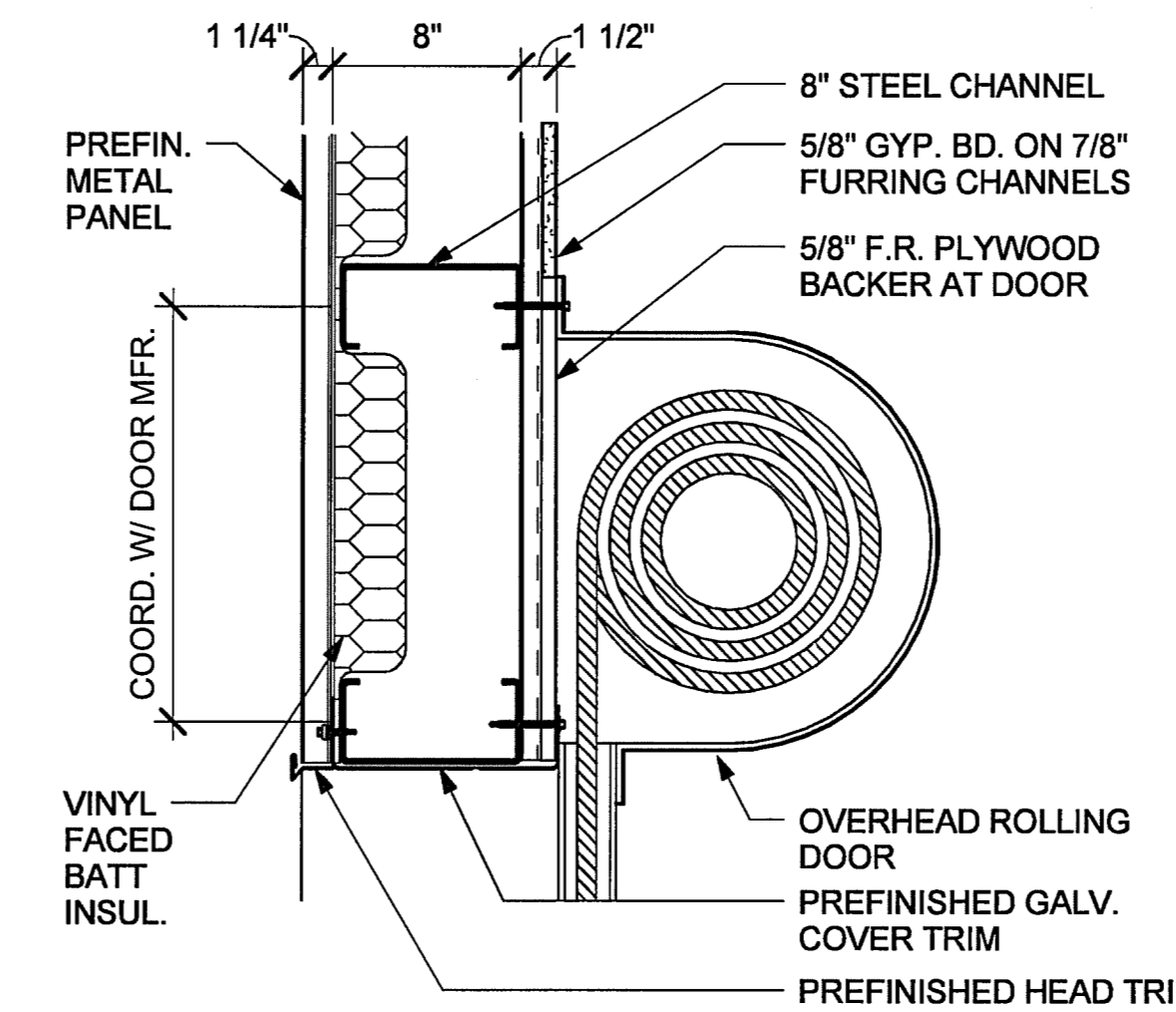
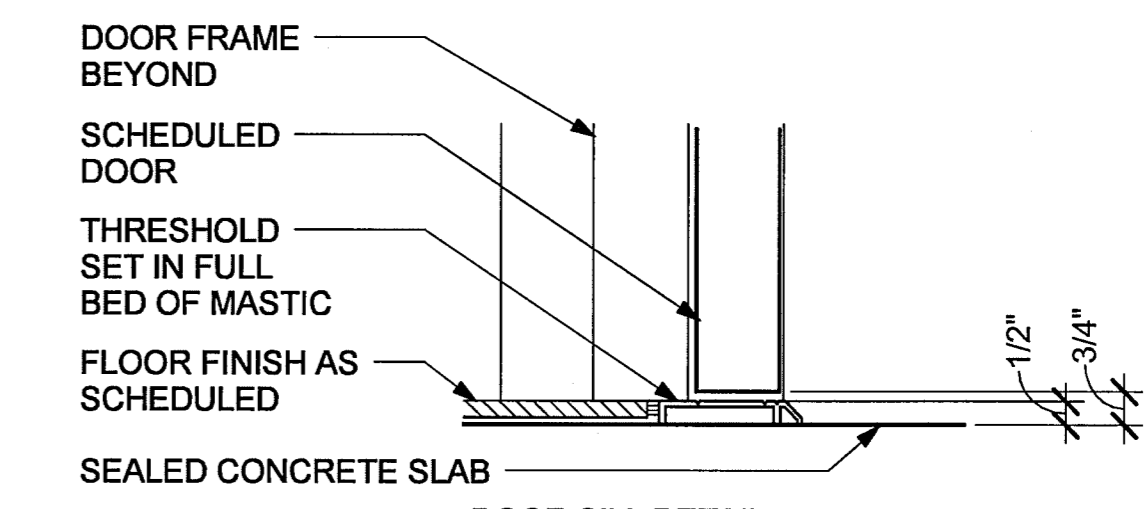
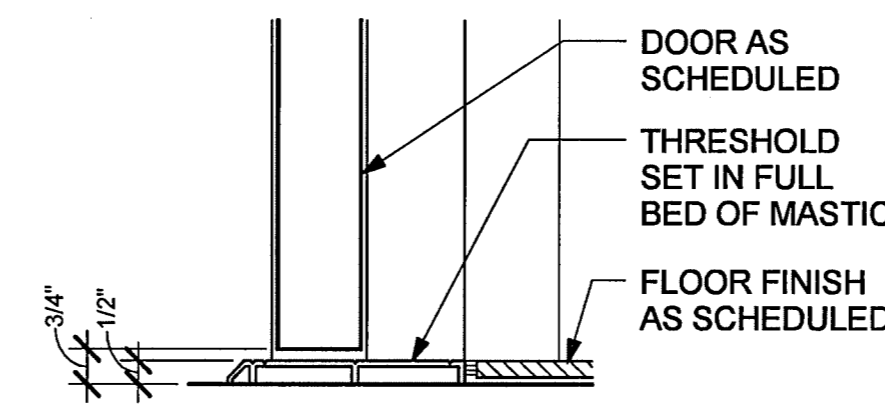
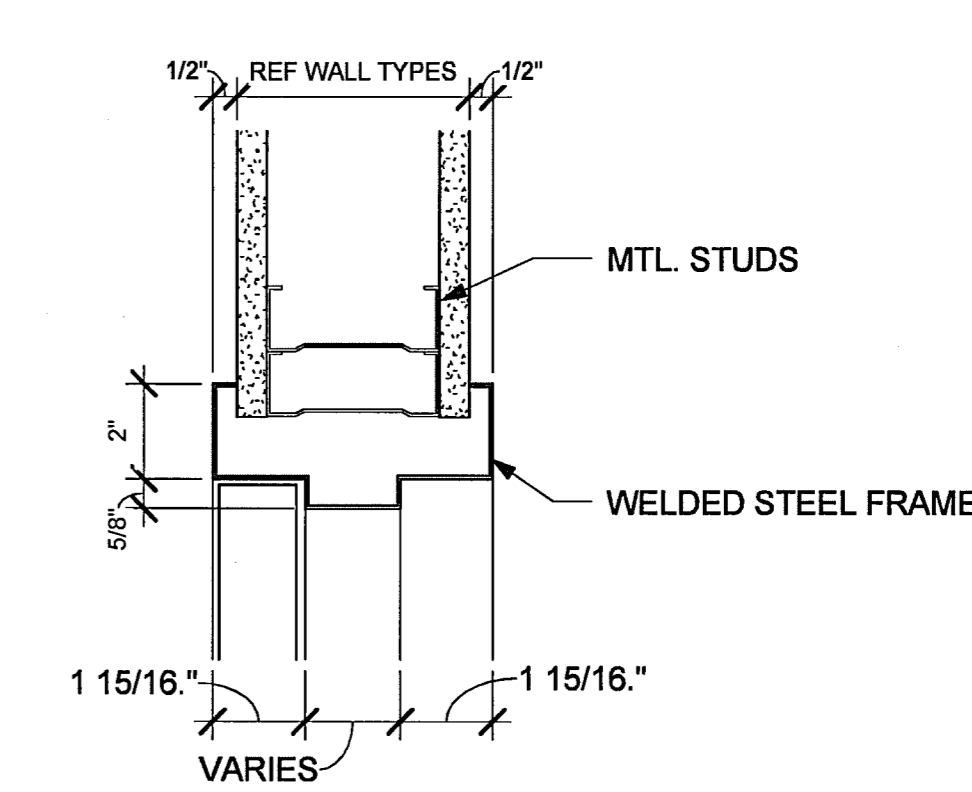
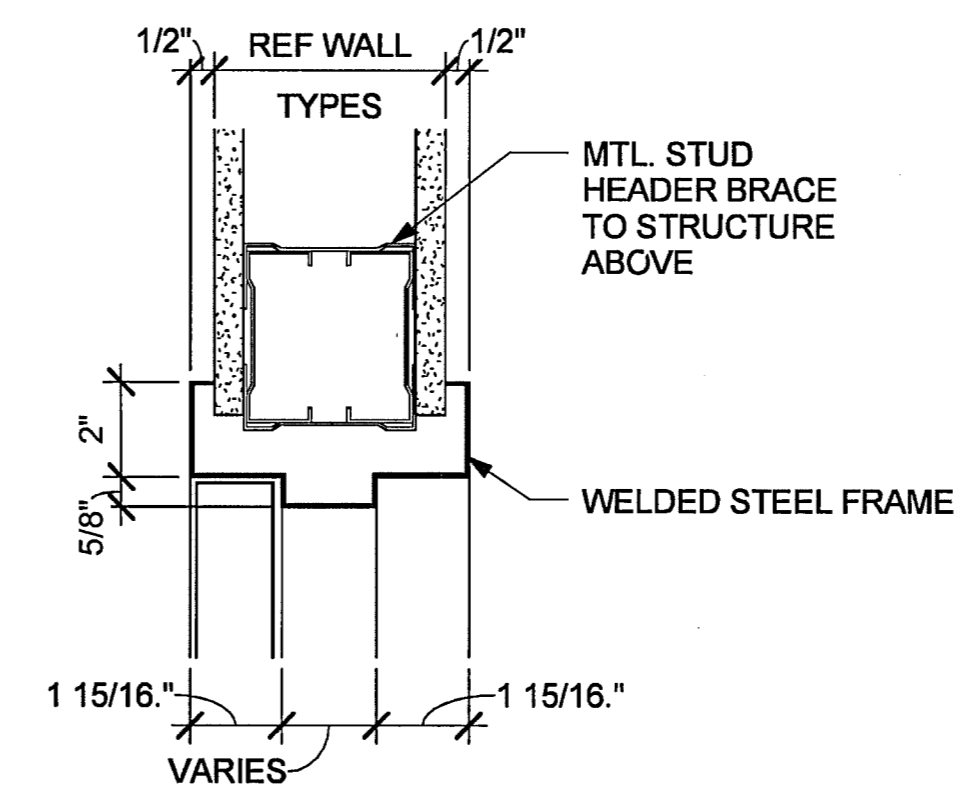
- ALL HM DOORS TO BE 1 3/4" THICK - U.N.O.
- DOOR OPENING SIZES ARE NOMINAL. EXACT SIZE OF DOOR IS DEPENDANT UPON DIMENSIONAL ADJUSTMENTS FOR CLEARANCES, UNDERCUTS, THRESHOLDS, WEATHERSTRIPS, ETC. AS INDICATED ON DETAILS OR BY MANUFACTURER REQUIREMENTS.
- UNLESS THRESHOLD (SILL) DETAILS OR HARDWARE REQUIREMENTS DICTATE OTHERWISE, ALL DOOR UNDERCUTS SHALL BE 1/2" ABOVE FLOOR ELEVATION.
- ALL EXTERIOR DOORS TO HAVE WEATHERSTRIPPING AND DOOR SWEEPS.
- ALL EXTERIOR DOORS SHALL HAVE CONTINUOUS THRESHOLDS, 1/2" MAX. HEIGHT FOR ACCESSIBILITY, AND 5" MIN. DEPTH.
- ALL EXTERIOR DOORS AND FRAMES PAINTED TO MATCH METAL PANELS.



1 DOOR TYPES / WINDOW TYPES
1/4" = 1'-0"



1 PARTITION TYPES
1 1/2" = 1'-0"



HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
5000 WEST MILITARY SUITE 100
MCALLEN, TEXAS 78503
TEL (361) 684-0286
FAX (361) 684-0282
http://www.halff.com

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
118 A.E. FIRM REGISTRATION #19734
1000 S. 28TH STREET, SUITE 100, MCALLEN, TEXAS 78501

Revision No.	Description



08-30-11

Project No.: 28237
Set Issued: 08/30/2011
Drawn By: DR
Checked By: DD
Scale: As indicated

Sheet Title:
DOOR SCHEDULE,
PARTITION TYPES,
DETAILS

A6.01

Sheet Number

8/26/2011 3:42:22 PM C:\Revit Local\28237 - HCE Warehouse\DR LOCAL - AR_MODEL_28237.rvt

MECHANICAL GENERAL LEGEND

DUCTWORK SYMBOLS	PIPING SYMBOLS	MISCELLANEOUS SYMBOLS	GENERAL ABBREVIATIONS	GENERAL MECHANICAL NOTES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<table border="0" style="width: 100%;"> <tr> <th style="width: 30%;">DESCRIPTION</th> <th style="width: 30%;">SINGLE LINE</th> <th style="width: 30%;">DOUBLE LINE</th> </tr> <tr> <td>ACCESS DOOR</td> <td></td> <td></td> </tr> <tr> <td>BACKDRAFT DAMPER</td> <td></td> <td></td> </tr> <tr> <td>FIRE DAMPER</td> <td></td> <td></td> </tr> <tr> <td>FLEXIBLE CONNECTION</td> <td></td> <td></td> </tr> <tr> <td>MOTORIZED DAMPER</td> <td></td> <td></td> </tr> <tr> <td>CONTROL DAMPER</td> <td></td> <td></td> </tr> <tr> <td>VOLUME DAMPER, MANUAL</td> <td></td> <td></td> </tr> <tr> <td>DUCT ELBOW WITH TURNING VANES</td> <td></td> <td></td> </tr> <tr> <td>DUCT SECTION - SUPPLY AIR</td> <td></td> <td></td> </tr> <tr> <td>DUCT SECTION - EXHAUST AIR</td> <td></td> <td></td> </tr> <tr> <td>DUCT SECTION - RETURN, OUTSIDE, OR RELIEF AIR</td> <td></td> <td></td> </tr> <tr> <td>DUCT, INCLINED DROP</td> <td></td> <td></td> </tr> <tr> <td>DUCT, INCLINED RISE</td> <td></td> <td></td> </tr> <tr> <td>FLEXIBLE DUCT - ROUND</td> <td></td> <td></td> </tr> <tr> <td>DUCT TRANSITION</td> <td></td> <td></td> </tr> <tr> <td>DUCT TRANSITION (SQUARE OR RECTANGULAR TO ROUND)</td> <td></td> <td></td> </tr> <tr> <td>RECTANGULAR DUCT, SIZE IN INCHES, FIRST DIMENSION IS SIDE SHOWN (NET CLEAR INSIDE DIMENSION)</td> <td></td> <td></td> </tr> <tr> <td>ROUND DUCT, DIAMETER IN INCHES (NET CLEAR INSIDE DIMENSION)</td> <td></td> <td></td> </tr> <tr> <td>AIR FLOW IN DIRECTION OF ARROW</td> <td></td> <td></td> </tr> <tr> <td>45° BRANCH TAKE-OFFS</td> <td></td> <td></td> </tr> <tr> <td>CONICAL LATERAL BRANCH TAKE-OFFS</td> <td></td> <td></td> </tr> <tr> <td>CEILING SUPPLY DIFFUSERS</td> <td></td> <td></td> </tr> <tr> <td>CEILING RETURN GRILLE/REGISTER</td> <td></td> <td></td> </tr> <tr> <td>CEILING EXHAUST FAN (EF--)</td> <td></td> <td></td> </tr> <tr> <td>CEILING EXHAUST GRILLE/REGISTER</td> <td></td> <td></td> </tr> <tr> <td>SIDEWALL SUPPLY GRILLE/REGISTER</td> <td></td> <td></td> </tr> <tr> <td>SIDEWALL RETURN/EXHAUST GRILLE/REGISTER</td> <td></td> <td></td> </tr> <tr> <td>EXTRACTOR</td> <td></td> <td></td> </tr> <tr> <td>DUCT TEE WITH SPLITTER DAMPER</td> <td></td> <td></td> </tr> <tr> <td>DOOR UNDERCUT</td> <td></td> <td></td> </tr> <tr> <td>DOOR LOUVER</td> <td></td> <td></td> </tr> </table>	DESCRIPTION	SINGLE LINE	DOUBLE LINE	ACCESS DOOR			BACKDRAFT DAMPER			FIRE DAMPER			FLEXIBLE CONNECTION			MOTORIZED DAMPER			CONTROL DAMPER			VOLUME DAMPER, MANUAL			DUCT ELBOW WITH TURNING VANES			DUCT SECTION - SUPPLY AIR			DUCT SECTION - EXHAUST AIR			DUCT SECTION - RETURN, OUTSIDE, OR RELIEF AIR			DUCT, INCLINED DROP			DUCT, INCLINED RISE			FLEXIBLE DUCT - ROUND			DUCT TRANSITION			DUCT TRANSITION (SQUARE OR RECTANGULAR TO ROUND)			RECTANGULAR DUCT, SIZE IN INCHES, FIRST DIMENSION IS SIDE SHOWN (NET CLEAR INSIDE DIMENSION)			ROUND DUCT, DIAMETER IN INCHES (NET CLEAR INSIDE DIMENSION)			AIR FLOW IN DIRECTION OF ARROW			45° BRANCH TAKE-OFFS			CONICAL LATERAL BRANCH TAKE-OFFS			CEILING SUPPLY DIFFUSERS			CEILING RETURN GRILLE/REGISTER			CEILING EXHAUST FAN (EF--)			CEILING EXHAUST GRILLE/REGISTER			SIDEWALL SUPPLY GRILLE/REGISTER			SIDEWALL RETURN/EXHAUST GRILLE/REGISTER			EXTRACTOR			DUCT TEE WITH SPLITTER DAMPER			DOOR UNDERCUT			DOOR LOUVER			<table border="0" style="width: 100%;"> <tr> <th style="width: 30%;">SYMBOL</th> <th style="width: 70%;">DESCRIPTION</th> </tr> <tr> <td></td> <td>CHWS CHILLED WATER SUPPLY</td> </tr> <tr> <td></td> <td>CHWR CHILLED WATER RETURN</td> </tr> <tr> <td></td> <td>HWS HOT WATER SUPPLY</td> </tr> <tr> <td></td> <td>HWR HOT WATER RETURN</td> </tr> <tr> <td></td> <td>PCWS PRIMARY CHILLED WATER SUPPLY</td> </tr> <tr> <td></td> <td>PCWR PRIMARY CHILLED WATER RETURN</td> </tr> <tr> <td></td> <td>SCWS SECONDARY CHILLED WATER SUPPLY</td> </tr> <tr> <td></td> <td>SCWR SECONDARY CHILLED WATER RETURN</td> </tr> <tr> <td></td> <td>D DRAIN</td> </tr> <tr> <td></td> <td>Direction of PITCH (DOWN)</td> </tr> <tr> <td></td> <td>FLUID FLOW DIRECTION</td> </tr> <tr> <td></td> <td>SECTIONAL VALVE (SEE SPECS)</td> </tr> <tr> <td></td> <td>GATE VALVE</td> </tr> <tr> <td></td> <td>CHECK VALVE</td> </tr> <tr> <td></td> <td>THROTTLING VALVE (SEE SPECS)</td> </tr> <tr> <td></td> <td>GLOBE VALVE</td> </tr> <tr> <td></td> <td>BUTTERFLY VALVE</td> </tr> <tr> <td></td> <td>CALIBRATED BALANCING VALVE</td> </tr> <tr> <td></td> <td>BALL VALVE</td> </tr> <tr> <td></td> <td>PRESSURE REDUCING VALVE</td> </tr> <tr> <td></td> <td>PRESSURE RELIEF OR SAFETY VALVE</td> </tr> <tr> <td></td> <td>VACUUM RELIEF OR SAFETY VALVE</td> </tr> <tr> <td></td> <td>ANGLE VALVE</td> </tr> <tr> <td></td> <td>SOLENOID VALVE</td> </tr> <tr> <td></td> <td>2-WAY MOTOR OPERATED CONTROL VALVE</td> </tr> <tr> <td></td> <td>3-WAY MOTOR OPERATED CONTROL VALVE</td> </tr> <tr> <td></td> <td>2-WAY CONTROL VALVE</td> </tr> <tr> <td></td> <td>3-WAY CONTROL VALVE</td> </tr> <tr> <td></td> <td>TRIPLE DUTY VALVE</td> </tr> <tr> <td></td> <td>FLOW CONTROL VALVE</td> </tr> <tr> <td></td> <td>PLUG VALVE</td> </tr> <tr> <td></td> <td>SIGHT GLASS</td> </tr> <tr> <td></td> <td>TEST COCK</td> </tr> <tr> <td></td> <td>PLUGGED TEE</td> </tr> <tr> <td></td> <td>FLOW METER</td> </tr> <tr> <td></td> <td>PRESSURE GAUGE WITH VENT COCK</td> </tr> <tr> <td></td> <td>THERMOMETER</td> </tr> <tr> <td></td> <td>THERMAL WELL WITH TEMPERATURE SENSOR</td> </tr> <tr> <td></td> <td>STRAINER</td> </tr> <tr> <td></td> <td>STRAINER WITH BLOWDOWN VALVE</td> </tr> <tr> <td></td> <td>CONCENTRIC REDUCER</td> </tr> <tr> <td></td> <td>ECCENTRIC REDUCER</td> </tr> <tr> <td></td> <td>UNION</td> </tr> <tr> <td></td> <td>FLEXIBLE PIPE CONNECTOR</td> </tr> <tr> <td></td> <td>CAPPED PIPE/OUTLET</td> </tr> <tr> <td></td> <td>PLUGGED PIPE/OUTLET</td> </tr> <tr> <td></td> <td>AUTOMATIC AIR VENT</td> </tr> <tr> <td></td> <td>VALVE AND BLIND FLANGE</td> </tr> <tr> <td></td> <td>PIPE HEADER WITH BLIND FLANGE</td> </tr> <tr> <td></td> <td>PIPE TURNING UP</td> </tr> <tr> <td></td> <td>PIPE TURNING DOWN</td> </tr> <tr> <td></td> <td>PIPE BRANCH BOTTOM CONNECTION</td> </tr> <tr> <td></td> <td>PIPE BRANCH TOP CONNECTION</td> </tr> <tr> <td></td> <td>PUMP (FOR WATER FLOW DIAGRAM ONLY)</td> </tr> </table>	SYMBOL	DESCRIPTION		CHWS CHILLED WATER SUPPLY		CHWR CHILLED WATER RETURN		HWS HOT WATER SUPPLY		HWR HOT WATER RETURN		PCWS PRIMARY CHILLED WATER SUPPLY		PCWR PRIMARY CHILLED WATER RETURN		SCWS SECONDARY CHILLED WATER SUPPLY		SCWR SECONDARY CHILLED WATER RETURN		D DRAIN		Direction of PITCH (DOWN)		FLUID FLOW DIRECTION		SECTIONAL VALVE (SEE SPECS)		GATE VALVE		CHECK VALVE		THROTTLING VALVE (SEE SPECS)		GLOBE VALVE		BUTTERFLY VALVE		CALIBRATED BALANCING VALVE		BALL VALVE		PRESSURE REDUCING VALVE		PRESSURE RELIEF OR SAFETY VALVE		VACUUM RELIEF OR SAFETY VALVE		ANGLE VALVE		SOLENOID VALVE		2-WAY MOTOR OPERATED CONTROL VALVE		3-WAY MOTOR OPERATED CONTROL VALVE		2-WAY CONTROL VALVE		3-WAY CONTROL VALVE		TRIPLE DUTY VALVE		FLOW CONTROL VALVE		PLUG VALVE		SIGHT GLASS		TEST COCK		PLUGGED TEE		FLOW METER		PRESSURE GAUGE WITH VENT COCK		THERMOMETER		THERMAL WELL WITH TEMPERATURE SENSOR		STRAINER		STRAINER WITH BLOWDOWN VALVE		CONCENTRIC REDUCER		ECCENTRIC REDUCER		UNION		FLEXIBLE PIPE CONNECTOR		CAPPED PIPE/OUTLET		PLUGGED PIPE/OUTLET		AUTOMATIC AIR VENT		VALVE AND BLIND FLANGE		PIPE HEADER WITH BLIND FLANGE		PIPE TURNING UP		PIPE TURNING DOWN		PIPE BRANCH BOTTOM CONNECTION		PIPE BRANCH TOP CONNECTION		PUMP (FOR WATER FLOW DIAGRAM ONLY)	<table border="0" style="width: 100%;"> <tr> <td></td> <td>DUCT STATIC PRESSURE SENSOR</td> </tr> <tr> <td></td> <td>DUCT SMOKE DETECTOR</td> </tr> <tr> <td></td> <td>CARBON DIOXIDE SENSOR</td> </tr> <tr> <td></td> <td>NEW CONNECTION TO EXISTING</td> </tr> <tr> <td></td> <td>HUMIDISTAT</td> </tr> <tr> <td></td> <td>RELATIVE HUMIDITY SENSOR</td> </tr> <tr> <td></td> <td>THERMOSTAT OR TEMPERATURE SENSOR (MOUNT 48" AFF)</td> </tr> <tr> <td></td> <td>DUCT TEMPERATURE SENSOR</td> </tr> <tr> <td></td> <td>TIME CLOCK</td> </tr> <tr> <td></td> <td>FREEZESTAT</td> </tr> <tr> <td></td> <td>DIFFUSER, GRILLE OR REGISTER MARK</td> </tr> <tr> <td></td> <td>AIR FLOW (CFM)</td> </tr> <tr> <td></td> <td>RECTANGULAR FACE SIZE (WHERE APPLICABLE)</td> </tr> <tr> <td></td> <td>DIRECTION OF SECTION</td> </tr> <tr> <td></td> <td>IDENTIFYING NUMBER OR LETTER FOR SECTIONS.</td> </tr> <tr> <td></td> <td>NUMBER OF REFERENCE DRAWING WHERE SECTION IS SHOWN.</td> </tr> <tr> <td></td> <td>IDENTIFYING NUMBER OR LETTER FOR DETAILS.</td> </tr> <tr> <td></td> <td>NUMBER OF REFERENCE DRAWING WHERE DETAIL IS SHOWN.</td> </tr> <tr> <td></td> <td>ENLARGED DETAIL REFERENCE</td> </tr> <tr> <td></td> <td>MATCHLINE</td> </tr> <tr> <td></td> <td>LINE WITH HATCHING DESIGNATES DEMOLITION WORK</td> </tr> </table>		DUCT STATIC PRESSURE SENSOR		DUCT SMOKE DETECTOR		CARBON DIOXIDE SENSOR		NEW CONNECTION TO EXISTING		HUMIDISTAT		RELATIVE HUMIDITY SENSOR		THERMOSTAT OR TEMPERATURE SENSOR (MOUNT 48" AFF)		DUCT TEMPERATURE SENSOR		TIME CLOCK		FREEZESTAT		DIFFUSER, GRILLE OR REGISTER MARK		AIR FLOW (CFM)		RECTANGULAR FACE SIZE (WHERE APPLICABLE)		DIRECTION OF SECTION		IDENTIFYING NUMBER OR LETTER FOR SECTIONS.		NUMBER OF REFERENCE DRAWING WHERE SECTION IS SHOWN.		IDENTIFYING NUMBER OR LETTER FOR DETAILS.		NUMBER OF REFERENCE DRAWING WHERE DETAIL IS SHOWN.		ENLARGED DETAIL REFERENCE		MATCHLINE		LINE WITH HATCHING DESIGNATES DEMOLITION WORK	<h3 style="text-align: center;">AIRFLOW DIAGRAM SYMBOLS</h3> <table border="0" style="width: 100%;"> <tr> <td></td> <td>COOLING COIL</td> <td></td> <td>MOTORIZED OPPOSED BLADE DAMPER</td> </tr> <tr> <td></td> <td>HEATING COIL</td> <td></td> <td>MOTORIZED PARALLEL BLADE DAMPER</td> </tr> <tr> <td></td> <td>LOUVER</td> <td></td> <td>FAN STARTER</td> </tr> <tr> <td></td> <td>BACKDRAFT DAMPER</td> <td></td> <td>FAN</td> </tr> <tr> <td></td> <td>FIRE/SMOKE DAMPER</td> <td></td> <td>FAN WITH ADJUSTABLE FREQUENCY MOTOR CONTROLLER</td> </tr> <tr> <td></td> <td>AIR FLOW MEASURING STATION</td> <td></td> <td></td> </tr> </table>		COOLING COIL		MOTORIZED OPPOSED BLADE DAMPER		HEATING COIL		MOTORIZED PARALLEL BLADE DAMPER		LOUVER		FAN STARTER		BACKDRAFT DAMPER		FAN		FIRE/SMOKE DAMPER		FAN WITH ADJUSTABLE FREQUENCY MOTOR CONTROLLER		AIR FLOW MEASURING STATION			<h3 style="text-align: center;">EQUIPMENT ABBREVIATIONS</h3> <table border="0" style="width: 100%;"> <tr> <td>AAV</td> <td>AUTOMATIC AIR VALVE</td> <td>MAX</td> <td>MAXIMUM</td> </tr> <tr> <td>AFF</td> <td>ABOVE FINISHED FLOOR</td> <td>MFR</td> <td>MANUFACTURER</td> </tr> <tr> <td>AFMS</td> <td>AIR FLOW MEASURING STATION</td> <td>MIN</td> <td>MINIMUM</td> </tr> <tr> <td>AMB</td> <td>AMBIENT</td> <td>MVD</td> <td>MOTORIZED VOLUME DAMPER</td> </tr> <tr> <td>APD</td> <td>AIR PRESSURE DROP</td> <td>MW</td> <td>MAKE UP WATER</td> </tr> <tr> <td>BD</td> <td>BLOWDOWN</td> <td>NC</td> <td>NORMALLY CLOSED</td> </tr> <tr> <td>BF</td> <td>BLIND FLANGE</td> <td>NO</td> <td>NECK</td> </tr> <tr> <td>BFP</td> <td>BACKFLOW PREVENTER</td> <td>NO</td> <td>NORMALLY OPEN OR NUMBER</td> </tr> <tr> <td>BFV</td> <td>BUTTERFLY VALVE</td> <td>NTS</td> <td>NOT TO SCALE</td> </tr> <tr> <td>BHP</td> <td>BRAKE HORSEPOWER</td> <td></td> <td></td> </tr> <tr> <td>BLV</td> <td>BALANCING VALVE</td> <td>OA</td> <td>OUTSIDE AIR</td> </tr> <tr> <td>BOD</td> <td>BOTTOM OF DUCT</td> <td>OBD</td> <td>OPPOSED BLADE DAMPER</td> </tr> <tr> <td>BOP</td> <td>BOTTOM OF PIPE</td> <td></td> <td></td> </tr> <tr> <td>BOS</td> <td>BOTTOM OF STEEL</td> <td></td> <td></td> </tr> <tr> <td>BV</td> <td>BALL VALVE</td> <td></td> <td></td> </tr> <tr> <td>CAP</td> <td>CAPACITY</td> <td>PD</td> <td>PRESSURE DROP</td> </tr> <tr> <td>CCMS</td> <td>CENTRAL CONTROL MONITORING SYSTEM</td> <td>PH</td> <td>PHASE</td> </tr> <tr> <td>CENT</td> <td>CENTRIFUGAL</td> <td>PI</td> <td>PRESSURE INDICATOR</td> </tr> <tr> <td>CMBST</td> <td>COMBUSTION AIR</td> <td>PRV</td> <td>PRESSURE RELIEF VALVE</td> </tr> <tr> <td>CL</td> <td>CENTERLINE</td> <td>PS</td> <td>PRESSURE SENSOR</td> </tr> <tr> <td>CV</td> <td>CONTROL VALVE OR CONSTANT VOLUME</td> <td>PSV</td> <td>PRESSURE SAFETY VALVE</td> </tr> <tr> <td>CHWS</td> <td>CHILLED WATER SUPPLY</td> <td>PTVR</td> <td>PRESSURE TEMPERATURE RELIEF VALVE</td> </tr> <tr> <td>CHWR</td> <td>CHILLED WATER RETURN</td> <td>PV</td> <td>PLUG VALVE</td> </tr> <tr> <td>D</td> <td>DIFFUSER OR DAMPER</td> <td>PCW</td> <td>PRIMARY CHILLED WATER</td> </tr> <tr> <td>DB</td> <td>DRY BULB</td> <td>PCWS</td> <td>PRIMARY CHILLED WATER SUPPLY</td> </tr> <tr> <td>DEG</td> <td>DEGREES</td> <td>PCWR</td> <td>PRIMARY CHILLED WATER RETURN</td> </tr> <tr> <td>DIA</td> <td>DIAMETER</td> <td>PCWP</td> <td>PRIMARY CHILLED WATER PUMP</td> </tr> <tr> <td>DN</td> <td>DOWN</td> <td></td> <td></td> </tr> <tr> <td>DX</td> <td>DIRECT EXPANSION</td> <td>RED</td> <td>REDUCER</td> </tr> <tr> <td>EAT</td> <td>ENTERING AIR TEMPERATURE</td> <td>REG</td> <td>REGISTER</td> </tr> <tr> <td>EDB</td> <td>ENTERING DRYBULB TEMPERATURE</td> <td>RH</td> <td>RELATIVE HUMIDITY</td> </tr> <tr> <td>EFF</td> <td>EFFICIENCY</td> <td>RPM</td> <td>REVOLUTIONS PER MINUTE</td> </tr> <tr> <td>ENT</td> <td>ENTERING</td> <td>SA</td> <td>SUPPLY AIR</td> </tr> <tr> <td>ESP</td> <td>EXTERNAL STATIC PRESSURE</td> <td>SENS</td> <td>SENSIBLE</td> </tr> <tr> <td>ENB</td> <td>ENTERING WET BULB</td> <td>SL</td> <td>SOUND LINING</td> </tr> <tr> <td>EWT</td> <td>ENTERING WATER TEMPERATURE</td> <td>SD</td> <td>SMOKE DETECTOR</td> </tr> <tr> <td>FCV</td> <td>FLOW CONTROL VALVE</td> <td>SOV</td> <td>SOLENOID OPERATED VALVE OR SHUT-OFF VALVE</td> </tr> <tr> <td>FLA</td> <td>FULL LOAD AMP</td> <td>SP</td> <td>STATIC PRESSURE</td> </tr> <tr> <td>FLEX</td> <td>FLEXIBLE</td> <td>SS</td> <td>STAINLESS STEEL</td> </tr> <tr> <td>FM</td> <td>FLOW METER</td> <td>SCW</td> <td>SECONDARY CHILLED WATER</td> </tr> <tr> <td>FWL</td> <td>FIXED WALL LOUVER</td> <td>SCWS</td> <td>SECONDARY CHILLED WATER SUPPLY</td> </tr> <tr> <td>GR</td> <td>GRILLE</td> <td>SCWR</td> <td>SECONDARY CHILLED WATER RETURN</td> </tr> <tr> <td>GV</td> <td>GATE VALVE</td> <td>SCWP</td> <td>SECONDARY CHILLED WATER PUMP</td> </tr> <tr> <td>HZ</td> <td>CYCLES PER SECOND (HERTZ)</td> <td>TOD</td> <td>TOP OF DUCT</td> </tr> <tr> <td>KW</td> <td>KILOWATT</td> <td>TOP</td> <td>TOP OF PIPE</td> </tr> <tr> <td>LAT</td> <td>LEAVING AIR TEMPERATURE</td> <td>TOS</td> <td>TOP OF STEEL</td> </tr> <tr> <td>LDB</td> <td>LEAVING DRYBULB TEMPERATURE</td> <td>TS</td> <td>TEMPERATURE SENSOR</td> </tr> <tr> <td>LWT</td> <td>LEAVING WATER TEMPERATURE</td> <td>TSTAT</td> <td>THERMOSTAT</td> </tr> <tr> <td></td> <td></td> <td>TSP</td> <td>TOTAL STATIC PRESSURE</td> </tr> <tr> <td></td> <td></td> <td>UNO</td> <td>UNLESS NOTED OTHERWISE</td> </tr> <tr> <td></td> <td></td> <td>VEL</td> <td>VELOCITY</td> </tr> <tr> <td></td> <td></td> <td>VFD</td> <td>VARIABLE FREQUENCY DRIVE</td> </tr> <tr> <td></td> <td></td> <td>VTR</td> <td>VENT THROUGH ROOF</td> </tr> <tr> <td></td> <td></td> <td>WB</td> <td>WET BULB</td> </tr> <tr> <td></td> <td></td> <td>WPD</td> <td>WATER PRESSURE DROP</td> </tr> <tr> <td></td> <td></td> <td>WTR</td> <td>WATER</td> </tr> <tr> <td></td> <td></td> <td>WxHxL</td> <td>WIDTH BY HEIGHT BY LENGTH</td> </tr> </table>	AAV	AUTOMATIC AIR VALVE	MAX	MAXIMUM	AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER	AFMS	AIR FLOW MEASURING STATION	MIN	MINIMUM	AMB	AMBIENT	MVD	MOTORIZED VOLUME DAMPER	APD	AIR PRESSURE DROP	MW	MAKE UP WATER	BD	BLOWDOWN	NC	NORMALLY CLOSED	BF	BLIND FLANGE	NO	NECK	BFP	BACKFLOW PREVENTER	NO	NORMALLY OPEN OR NUMBER	BFV	BUTTERFLY VALVE	NTS	NOT TO SCALE	BHP	BRAKE HORSEPOWER			BLV	BALANCING VALVE	OA	OUTSIDE AIR	BOD	BOTTOM OF DUCT	OBD	OPPOSED BLADE DAMPER	BOP	BOTTOM OF PIPE			BOS	BOTTOM OF STEEL			BV	BALL VALVE			CAP	CAPACITY	PD	PRESSURE DROP	CCMS	CENTRAL CONTROL MONITORING SYSTEM	PH	PHASE	CENT	CENTRIFUGAL	PI	PRESSURE INDICATOR	CMBST	COMBUSTION AIR	PRV	PRESSURE RELIEF VALVE	CL	CENTERLINE	PS	PRESSURE SENSOR	CV	CONTROL VALVE OR CONSTANT VOLUME	PSV	PRESSURE SAFETY VALVE	CHWS	CHILLED WATER SUPPLY	PTVR	PRESSURE TEMPERATURE RELIEF VALVE	CHWR	CHILLED WATER RETURN	PV	PLUG VALVE	D	DIFFUSER OR DAMPER	PCW	PRIMARY CHILLED WATER	DB	DRY BULB	PCWS	PRIMARY CHILLED WATER SUPPLY	DEG	DEGREES	PCWR	PRIMARY CHILLED WATER RETURN	DIA	DIAMETER	PCWP	PRIMARY CHILLED WATER PUMP	DN	DOWN			DX	DIRECT EXPANSION	RED	REDUCER	EAT	ENTERING AIR TEMPERATURE	REG	REGISTER	EDB	ENTERING DRYBULB TEMPERATURE	RH	RELATIVE HUMIDITY	EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE	ENT	ENTERING	SA	SUPPLY AIR	ESP	EXTERNAL STATIC PRESSURE	SENS	SENSIBLE	ENB	ENTERING WET BULB	SL	SOUND LINING	EWT	ENTERING WATER TEMPERATURE	SD	SMOKE DETECTOR	FCV	FLOW CONTROL VALVE	SOV	SOLENOID OPERATED VALVE OR SHUT-OFF VALVE	FLA	FULL LOAD AMP	SP	STATIC PRESSURE	FLEX	FLEXIBLE	SS	STAINLESS STEEL	FM	FLOW METER	SCW	SECONDARY CHILLED WATER	FWL	FIXED WALL LOUVER	SCWS	SECONDARY CHILLED WATER SUPPLY	GR	GRILLE	SCWR	SECONDARY CHILLED WATER RETURN	GV	GATE VALVE	SCWP	SECONDARY CHILLED WATER PUMP	HZ	CYCLES PER SECOND (HERTZ)	TOD	TOP OF DUCT	KW	KILOWATT	TOP	TOP OF PIPE	LAT	LEAVING AIR TEMPERATURE	TOS	TOP OF STEEL	LDB	LEAVING DRYBULB TEMPERATURE	TS	TEMPERATURE SENSOR	LWT	LEAVING WATER TEMPERATURE	TSTAT	THERMOSTAT			TSP	TOTAL STATIC PRESSURE			UNO	UNLESS NOTED OTHERWISE			VEL	VELOCITY			VFD	VARIABLE FREQUENCY DRIVE			VTR	VENT THROUGH ROOF			WB	WET BULB			WPD	WATER PRESSURE DROP			WTR	WATER			WxHxL	WIDTH BY HEIGHT BY LENGTH	<ol style="list-style-type: none"> (1) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND/OR ARCHITECT. (2) THE 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 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 REWORK SHALL BE AT CONTRACTOR'S EXPENSE. (3) CONTRACTOR SHALL HANG AND INSTALL ALL DUCTWORK TIGHT WITH THE BUILDING STRUCTURE TO ACCOMMODATE NEW CEILING. 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. (4) CONTRACTOR SHALL INSTALL ALL EXHAUST SYSTEMS, INCLUDING FANS AND EXHAUST DUCTS. PROVIDE COMPLETE NEW SYSTEMS AS INDICATED. (5) CONTRACTOR SHALL PROVIDE ALL CEILING DIFFUSERS AS SHOWN. CONNECT EACH DIFFUSER TO THE MAIN DISTRIBUTION DUCT 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. (6) 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. (7) CONTRACTOR SHALL SUPPLY AND INSTALL FIRE DAMPERS AND ACCESS DOORS IN THE HORIZONTAL DUCTS WHERE THEY PENETRATE FIRE BARRIERS. (8) CONTRACTOR SHALL PROVIDE FIRE DAMPERS IN ALL DIFFUSERS AND GRILLES LOCATED IN FIRE RATED CEILING. ALL HALLWAY DIFFUSERS AND GRILLES SHALL BE INSTALLED WITH FIRE DAMPERS. ALL DIFFUSERS AND GRILLES SHOWN WITH A CIRCLED "F" SHALL BE EQUIPPED WITH FIRE DAMPERS. (9) 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 6000 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. (10) 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. (11) 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 NFPA 90A AND 90B. (12) 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. (13) MOUNT ALL THERMOSTATS (SENSORS) 48" ABOVE THE FINISHED FLOOR LEVEL UNLESS NOTED OTHERWISE. THERMOSTATS SHOWN SHALL BE IN CONTROL OF THE ZONE SYSTEM WHICH IS SUPPLYING AIR TO THE AREA WHERE THE THERMOSTAT IS LOCATED. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EACH THERMOSTAT WITH THE ROOM FINISHES AND USES. CONTRACTOR SHALL SUPPLY AND INSTALL ALL CONTROL VOLTAGE WIRING AND CONDUIT FOR THERMOSTAT (DDC CONTROL) INSTALLATION. (14) CONTRACTOR SHALL COORDINATE THE FINAL LOCATIONS OF ALL CEILING DIFFUSERS WITH LIGHTING INSTALLATIONS AND ARCHITECTURAL REFLECTED CEILING PLANS. MOVE THE DIFFUSER LOCATIONS IF REQUIRED TO AVOID OBSTRUCTIONS FROM DUCTWORK AND LIGHT FIXTURES. COORDINATE RELOCATION WITH ENGINEER. (15) CONTRACTOR SHALL INSTALL NEW REFRIGERARY 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. (16) ALL PIPING SHALL BE INSULATED AND JACKETED. REFER TO THE SPECIFICATIONS. CONDENSER COILS ARE TO BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS. (17) VERIFY THE LOCATION OF ALL WALLS, PARTITIONS, DOORS, CABINETS, AND CEILINGS FROM ACTUAL FIELD MEASUREMENTS. (18) PROVIDE SMOKE DETECTOR AND SHUTDOWN CONTROLS ON AIR HANDLERS AND SUPPLY FANS. SMOKE DETECTORS SHALL BE PROVIDED, INSTALLED AND WIRED FOR SHUT DOWN BY DIVISION 16. PROVIDE BOTH SUPPLY AND RETURN SIDE DEVICES.
DESCRIPTION	SINGLE LINE	DOUBLE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
ACCESS DOOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
BACKDRAFT DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
FIRE DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
FLEXIBLE CONNECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
MOTORIZED DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CONTROL DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
VOLUME DAMPER, MANUAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT ELBOW WITH TURNING VANES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT SECTION - SUPPLY AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT SECTION - EXHAUST AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT SECTION - RETURN, OUTSIDE, OR RELIEF AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT, INCLINED DROP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT, INCLINED RISE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
FLEXIBLE DUCT - ROUND																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT TRANSITION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT TRANSITION (SQUARE OR RECTANGULAR TO ROUND)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
RECTANGULAR DUCT, SIZE IN INCHES, FIRST DIMENSION IS SIDE SHOWN (NET CLEAR INSIDE DIMENSION)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
ROUND DUCT, DIAMETER IN INCHES (NET CLEAR INSIDE DIMENSION)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
AIR FLOW IN DIRECTION OF ARROW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
45° BRANCH TAKE-OFFS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CONICAL LATERAL BRANCH TAKE-OFFS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CEILING SUPPLY DIFFUSERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CEILING RETURN GRILLE/REGISTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CEILING EXHAUST FAN (EF--)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CEILING EXHAUST GRILLE/REGISTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
SIDEWALL SUPPLY GRILLE/REGISTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
SIDEWALL RETURN/EXHAUST GRILLE/REGISTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
EXTRACTOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DUCT TEE WITH SPLITTER DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DOOR UNDERCUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DOOR LOUVER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
SYMBOL	DESCRIPTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CHWS CHILLED WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CHWR CHILLED WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	HWS HOT WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	HWR HOT WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PCWS PRIMARY CHILLED WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PCWR PRIMARY CHILLED WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SCWS SECONDARY CHILLED WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SCWR SECONDARY CHILLED WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	D DRAIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Direction of PITCH (DOWN)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FLUID FLOW DIRECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SECTIONAL VALVE (SEE SPECS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	GATE VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CHECK VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	THROTTLING VALVE (SEE SPECS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	GLOBE VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	BUTTERFLY VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CALIBRATED BALANCING VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	BALL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PRESSURE REDUCING VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PRESSURE RELIEF OR SAFETY VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	VACUUM RELIEF OR SAFETY VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	ANGLE VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SOLENOID VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	2-WAY MOTOR OPERATED CONTROL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	3-WAY MOTOR OPERATED CONTROL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	2-WAY CONTROL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	3-WAY CONTROL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	TRIPLE DUTY VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FLOW CONTROL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PLUG VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SIGHT GLASS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	TEST COCK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PLUGGED TEE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FLOW METER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PRESSURE GAUGE WITH VENT COCK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	THERMOMETER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	THERMAL WELL WITH TEMPERATURE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	STRAINER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	STRAINER WITH BLOWDOWN VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CONCENTRIC REDUCER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	ECCENTRIC REDUCER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	UNION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FLEXIBLE PIPE CONNECTOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CAPPED PIPE/OUTLET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PLUGGED PIPE/OUTLET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	AUTOMATIC AIR VENT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	VALVE AND BLIND FLANGE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PIPE HEADER WITH BLIND FLANGE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PIPE TURNING UP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PIPE TURNING DOWN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PIPE BRANCH BOTTOM CONNECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PIPE BRANCH TOP CONNECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	PUMP (FOR WATER FLOW DIAGRAM ONLY)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DUCT STATIC PRESSURE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DUCT SMOKE DETECTOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	CARBON DIOXIDE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	NEW CONNECTION TO EXISTING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	HUMIDISTAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	RELATIVE HUMIDITY SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	THERMOSTAT OR TEMPERATURE SENSOR (MOUNT 48" AFF)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DUCT TEMPERATURE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	TIME CLOCK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	FREEZESTAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DIFFUSER, GRILLE OR REGISTER MARK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	AIR FLOW (CFM)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	RECTANGULAR FACE SIZE (WHERE APPLICABLE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DIRECTION OF SECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	IDENTIFYING NUMBER OR LETTER FOR SECTIONS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	NUMBER OF REFERENCE DRAWING WHERE SECTION IS SHOWN.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	IDENTIFYING NUMBER OR LETTER FOR DETAILS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	NUMBER OF REFERENCE DRAWING WHERE DETAIL IS SHOWN.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	ENLARGED DETAIL REFERENCE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	MATCHLINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	LINE WITH HATCHING DESIGNATES DEMOLITION WORK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	COOLING COIL		MOTORIZED OPPOSED BLADE DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	HEATING COIL		MOTORIZED PARALLEL BLADE DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	LOUVER		FAN STARTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	BACKDRAFT DAMPER		FAN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	FIRE/SMOKE DAMPER		FAN WITH ADJUSTABLE FREQUENCY MOTOR CONTROLLER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	AIR FLOW MEASURING STATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
AAV	AUTOMATIC AIR VALVE	MAX	MAXIMUM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
AFMS	AIR FLOW MEASURING STATION	MIN	MINIMUM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
AMB	AMBIENT	MVD	MOTORIZED VOLUME DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
APD	AIR PRESSURE DROP	MW	MAKE UP WATER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BD	BLOWDOWN	NC	NORMALLY CLOSED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BF	BLIND FLANGE	NO	NECK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BFP	BACKFLOW PREVENTER	NO	NORMALLY OPEN OR NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BFV	BUTTERFLY VALVE	NTS	NOT TO SCALE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BHP	BRAKE HORSEPOWER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
BLV	BALANCING VALVE	OA	OUTSIDE AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BOD	BOTTOM OF DUCT	OBD	OPPOSED BLADE DAMPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
BOP	BOTTOM OF PIPE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
BOS	BOTTOM OF STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
BV	BALL VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
CAP	CAPACITY	PD	PRESSURE DROP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CCMS	CENTRAL CONTROL MONITORING SYSTEM	PH	PHASE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CENT	CENTRIFUGAL	PI	PRESSURE INDICATOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CMBST	COMBUSTION AIR	PRV	PRESSURE RELIEF VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CL	CENTERLINE	PS	PRESSURE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CV	CONTROL VALVE OR CONSTANT VOLUME	PSV	PRESSURE SAFETY VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CHWS	CHILLED WATER SUPPLY	PTVR	PRESSURE TEMPERATURE RELIEF VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
CHWR	CHILLED WATER RETURN	PV	PLUG VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
D	DIFFUSER OR DAMPER	PCW	PRIMARY CHILLED WATER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
DB	DRY BULB	PCWS	PRIMARY CHILLED WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
DEG	DEGREES	PCWR	PRIMARY CHILLED WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
DIA	DIAMETER	PCWP	PRIMARY CHILLED WATER PUMP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
DN	DOWN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
DX	DIRECT EXPANSION	RED	REDUCER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
EAT	ENTERING AIR TEMPERATURE	REG	REGISTER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
EDB	ENTERING DRYBULB TEMPERATURE	RH	RELATIVE HUMIDITY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ENT	ENTERING	SA	SUPPLY AIR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ESP	EXTERNAL STATIC PRESSURE	SENS	SENSIBLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
ENB	ENTERING WET BULB	SL	SOUND LINING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
EWT	ENTERING WATER TEMPERATURE	SD	SMOKE DETECTOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
FCV	FLOW CONTROL VALVE	SOV	SOLENOID OPERATED VALVE OR SHUT-OFF VALVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
FLA	FULL LOAD AMP	SP	STATIC PRESSURE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
FLEX	FLEXIBLE	SS	STAINLESS STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
FM	FLOW METER	SCW	SECONDARY CHILLED WATER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
FWL	FIXED WALL LOUVER	SCWS	SECONDARY CHILLED WATER SUPPLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
GR	GRILLE	SCWR	SECONDARY CHILLED WATER RETURN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
GV	GATE VALVE	SCWP	SECONDARY CHILLED WATER PUMP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
HZ	CYCLES PER SECOND (HERTZ)	TOD	TOP OF DUCT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
KW	KILOWATT	TOP	TOP OF PIPE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
LAT	LEAVING AIR TEMPERATURE	TOS	TOP OF STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
LDB	LEAVING DRYBULB TEMPERATURE	TS	TEMPERATURE SENSOR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
LWT	LEAVING WATER TEMPERATURE	TSTAT	THERMOSTAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		TSP	TOTAL STATIC PRESSURE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		UNO	UNLESS NOTED OTHERWISE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		VEL	VELOCITY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		VFD	VARIABLE FREQUENCY DRIVE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		VTR	VENT THROUGH ROOF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		WB	WET BULB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		WPD	WATER PRESSURE DROP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		WTR	WATER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		WxHxL	WIDTH BY HEIGHT BY LENGTH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS

HALFF
6605 WEST AIR TRAY, SUITE 100
MCALLEN, TEXAS 78502
TEL: (956) 664-0088
FAX: (956) 664-0089
TBBE FIRM #F-312

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19774
108 WINDMILL CIRCLE, STE. 200, MCALLEN, TX 78502-6528

Revision	No.	Date	Description

The seal appearing on this document was authorized by MENTON J. MURRAY III, P.E. #7004 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Board of Professional Engineers, Inc., 5000 W. Military Avenue, Austin, TX 78703. TBBE FIRM #F-312.

Project No.: 28237
 Issued: 8/30/2011
 Drawn By:
 Checked By: MJM
 Scale: AS SHOWN
 Sheet Title: MECHANICAL GENERAL LEGEND
M0.01
 Sheet Number

GRILLE/DIFFUSER/REGISTER SCHEDULE

MARK	SERVICE	DESCRIPTION	MANUFACTURER MODEL No.	MAX. NC LEVEL (1)	REMARKS
B	SUPPLY	12"x12" MODULE SIZE, ALUMINUM, LOUVERED, SURFACE-MOUNTED DIFFUSER WITH 4-WAY THROW, ROUND NECK, FACE SIZE AS INDICATED BELOW.	TITUS TDC-AA	30	#26 WHITE FINISH
C	SUPPLY	24"x24" FACE, ROUND NECK, CEILING DIFFUSER WITH BORDER FOR LAY-IN CEILING, WITH 4-WAY DIFFUSER PATTERN, ALUMINUM CONSTRUCTION.	TITUS TMS-AA	30	#26 WHITE FINISH
D	SUPPLY	SURFACE MOUNTED SUPPLY DIFFUSER WITH 3/4" SPACING, ALUMINUM CONSTRUCTION, DOUBLE DEFLECTION WITH OPPOSED BLADE DAMPER.	TITUS 300FL	30	#26 WHITE FINISH
G	RETURN	24"x24" EGGRATE FACE, CEILING RETURN GRILLE WITH BORDER FOR LAY-IN CEILING, ALUMINUM CONSTRUCTION.	TITUS 50F	30	#26 WHITE FINISH
H	RETURN	12"x12" EGGRATE FACE, CEILING RETURN GRILLE WITH BORDER FOR LAY-IN CEILING, ALUMINUM CONSTRUCTION.	TITUS 50F	30	#26 WHITE FINISH
J	RETURN	SURFACE MOUNTED RETURN GRILLE WITH 3/4" SPACING, ALUMINUM CONSTRUCTION, 35° DEFLECTION.	TITUS 350FL	30	#26 WHITE FINISH
M	RETURN	HEAVY DUTY SURFACE MOUNTED ALUMINUM RETURN GRILLE WITH 1/2" BLADE SPACING AND 30° FIXED DEFLECTION.	TITUS 63FL	30	#26 WHITE FINISH

= THIS WILL DESIGNATE A STEEL FIRE RATED AIR DEVICE TYPE.		AIR OUTLET DESIGNATION ON PLANS		CAPACITY	FACE	NECK/FLEXIBLE CONNECTION
CBA	= COLOR BY ARCHITECT	MARK	△ - 200	0-135	6 X 6	6"
			△ - 125	136-285	9 X 9	8"
			△ - 150	286-440	12 X 12	10"
			△ - 225	441-550	12 X 12	12"
			△ - 250	551-750	15 X 15	14"
			△ - 300	750-1000	18 X 18	16"

NOTE: COORDINATE ALL AIR DEVICE TYPE WITH ARCHITECTURAL RCP.

FAN SCHEDULE

MARK	EF-1	EF-2
CFM	350	100
SERVICE	RR/JAN	IDF
LOCATION	SIDEWALL	EXP.
TYPE	CENTRIFUGAL UP BLAST	CABINET
RPM	1370	920
EXT SP (IN WG)	0.375	0.25
HP (W)	1/8	(76)
DRIVE	DIRECT	DIRECT
ELECTRICAL VOLTS/PHASE	120/1	120/1
MAX. SONES	6.0	1.0
MANUFACTURER	L. COOK	L. COOK
MODEL	90W150H	GN-144
NOTES	1,2,4,5	1,4,5

REMARKS

- FAN SHALL HAVE INTEGRAL DISCONNECT SWITCH FROM FACTORY.
- FAN SHALL BE SWITCHED WITH MENS REST ROOM LIGHTS.
- FAN SHALL BE CONTROLLED THROUGH DIGITAL THERMOSTAT TO ENERGIZE WHEN TEMPERATURE EXCEEDS 80F.
- FAN SHALL BE PROVIDED WITH BACK DRAFT DAMPER.
- FAN SHALL BE PROVIDED WITH FAN SPEED CONTROL.

SPLIT SYSTEM SCHEDULE

AIR HANDLING UNIT MARK	AHU-1	AHU-2, -3	AHU-4
TOTAL AIR CFM/OA CFM	1750/200	1050/150	700/75
EXTERNAL S.P. "wg.	0.5	0.5	0.4
MIN FAN HP	3/4	1/2	1/2
COIL TOTAL BTUH (NET)	48,500	31,900	17,600
SENSIBLE BTUH (NET)	36,500	22,700	14,600
ENTERING AIR D.B./W.B. °F	78.1/64.6	78.8/65.1	77.9/64.4
LEAVING AIR D.B./W.B. °F (MAX)	57/55	57/55	57/55
AIR HANDLING UNIT VOLTAGE	208V/3Ø	208V/3Ø	208V/1Ø
MINIMUM CIRCUIT AMPS	55.5	49.5	44.7
MOCP	60	50	45
BASED MANUF. OR EQUAL	CARRIER	CARRIER	CARRIER
BASED MODEL	FB4CNF060	FB4CNF036	FB4CNF024
ELECTRIC HEAT (KW)	18	9	8

CONDENSER UNIT MARK	CU-1	CU-2,-3	CU-4
AMBIENT AIT TEMPERATURE °F	100	100	100
CONDENSER UNIT VOLTAGE	208V/3Ø	208V/3Ø	208V/1Ø
MINIMUM CIRCUIT AMPS	21.4	14.5	17.6
MOCP	30	20	25
BASED MANUF. OR EQUAL	CARRIER	CARRIER	CARRIER
BASED MODEL	24ABB360	24ABB336	24ABB324
CONDENSER WEIGHT (LBS)	1,2,4,5	1,2,4,5	1,3,4,5

GENERAL NOTE

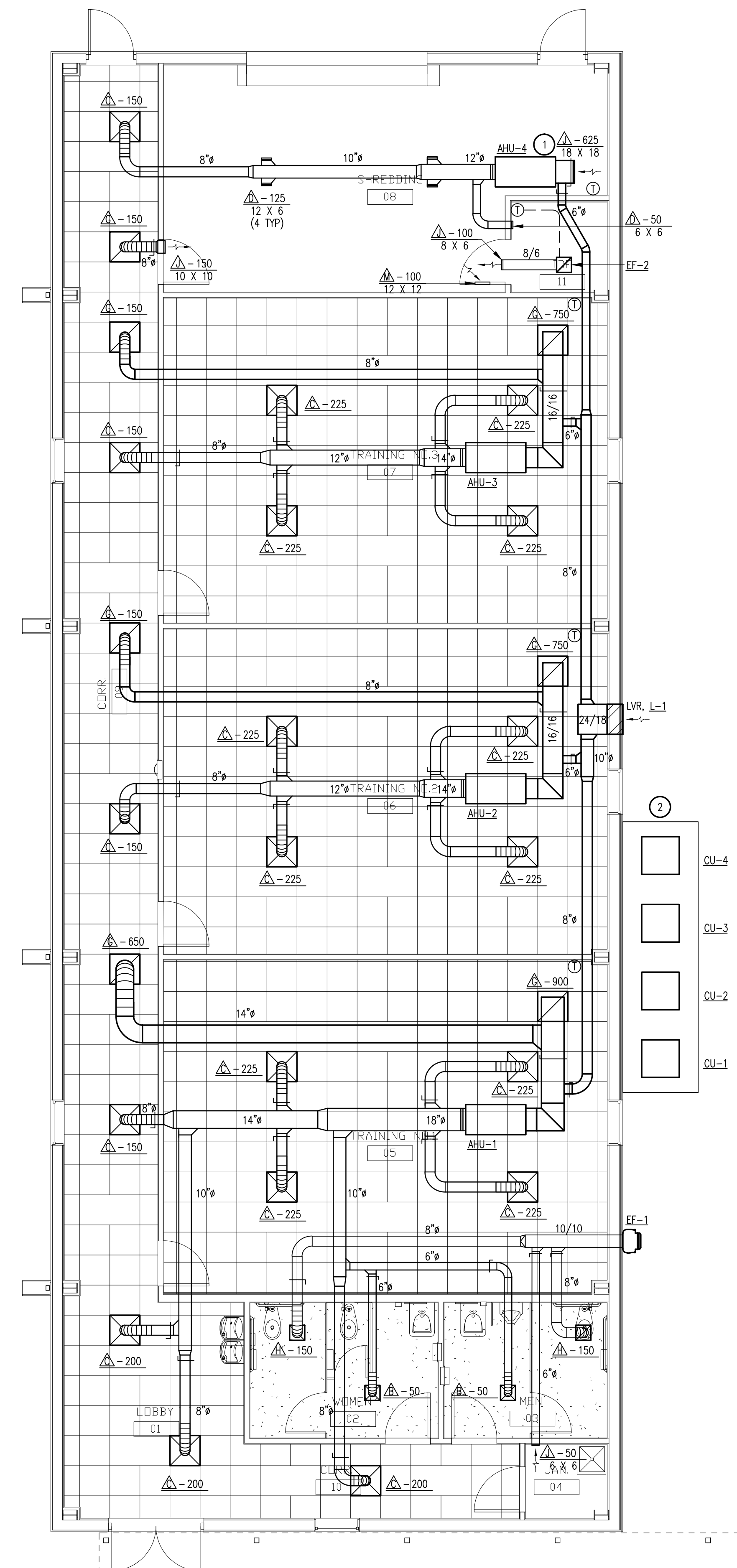
- INTERCONNECTING REFRIGERANT LINES SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- UNIT EFFICIENCY: 13.0 SEER/11.0 EER
- UNIT EFFICIENCY: 13.5 SEER/11.0 EER
- REFRIGERANT: R-410A
- PROVIDE EMERGENCY DRAIN PAN UNDER EACH SUSPENDED AHU. PROVIDE FLOAT SWITCH IN PAN HARD-WIRED TO DISCONNECT POWER TO AHU UPON PRESENCE OF STANDING WATER.

LOUVER SCHEDULE

MARK	SERVES	CFM	WIDTH (IN)	HEIGHT (IN)	MINIMUM FREE AREA	MAX. PRESSURE DROP AT 750 FPM EXHAUST (" w.g.)	INTAKE (" w.g.)	REFERENCE SPECS	REMARKS
L-1	OUTSIDE AIR	575	24	18	0.77	-	0.1	RUSKIN - EME52000	1,2

REMARKS

- FINISH SHALL BE KYNAR 500. COLOR TO MATCH METAL BUILDING.
- LOUVER SHALL PROVIDE MINIMUM 99% EFFECTIVENESS IN PREVENTING WATER PENETRATION IN WIND DRIVEN RAIN TEST (29 mph, 3 in/hr).



GENERAL NOTES:

- A. REFER TO SHEET M0.01 FOR GENERAL MECHANICAL NOTES.

KEY NOTES: ①

- RETURN DUCT EQUAL SIZE OF UNIT OPENING. TRANSITION AS REQUIRED TO RETURN GRILLE.
- PROVIDE 18' X 5' X 4" HIGH CONCRETE PAD FOR CONDENSING UNITS.

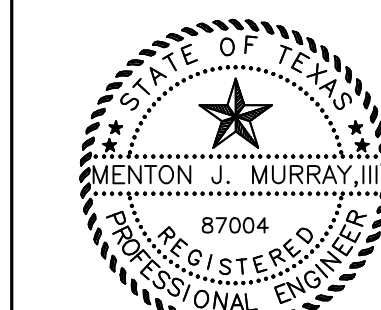
HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
 6505 WEST AIR TRAY, SUITE 100
 MCALLEN, TEXAS 78503
 TEL: (956) 864-0288
 FAX: (956) 864-0289
 TBPB FIRM #F-312

DANNENBAUM
 ENGINEERING COMPANY - MCALLEN, LLC
 T.B.A.E. FIRM REGISTRATION #19724
 1108 WINDMILL CIRCLE, STE. 200, MCALLEN, TX 78503
 TEL: (956) 835-8877

Revision No.	Date	Description



The seal appearing on this document was authorized by MENTON J. MURRAY III, P.E. #7004 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Architect, Inc., 5000 W. Military Avenue, Houston, TX 77052. TBPB FIRM #F-312.

Project No.: 28237
 Issued: 8/30/2011
 Drawn By:
 Checked By: MJM
 Scale: AS SHOWN

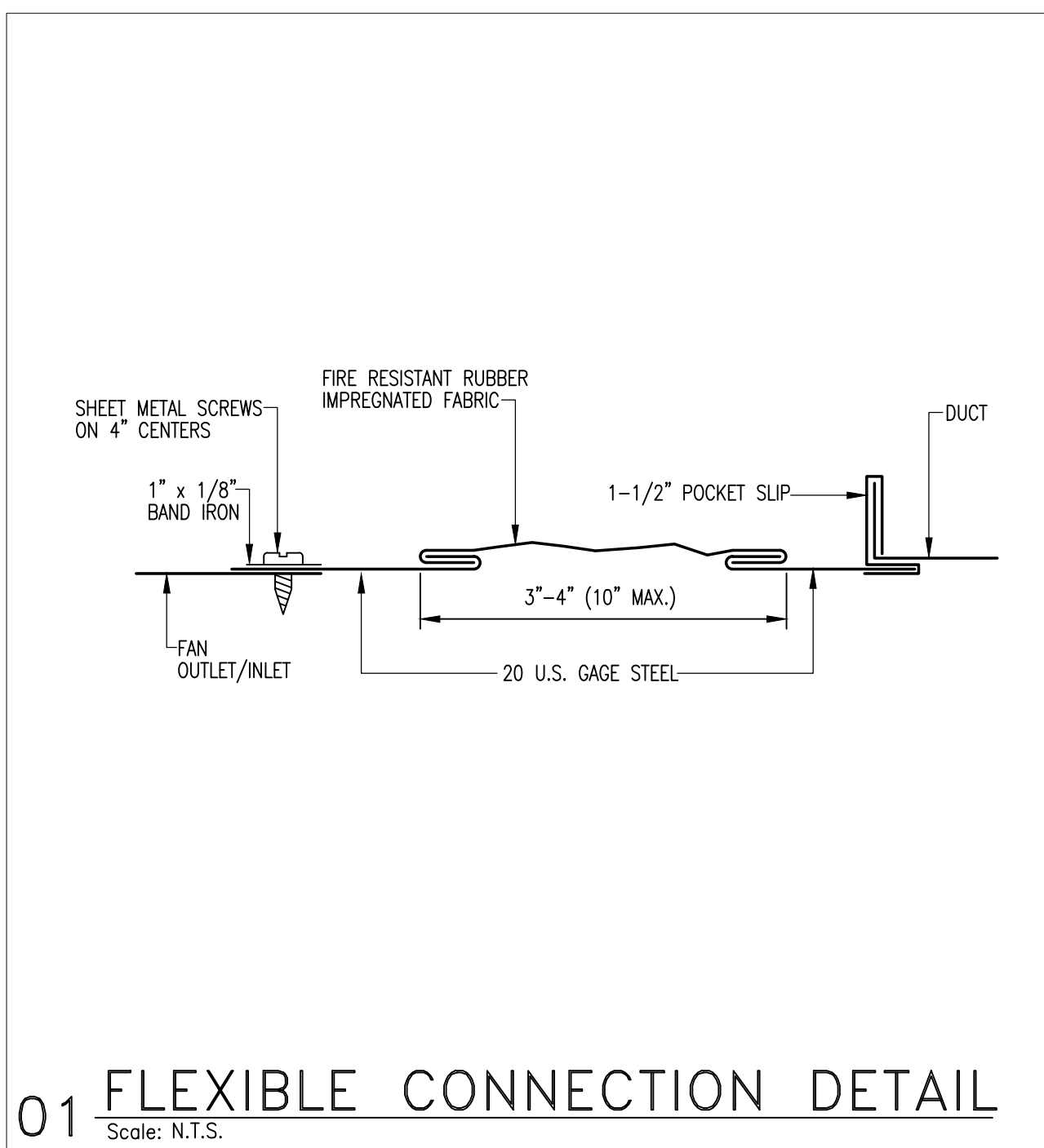
Sheet Title
MECHANICAL PLAN

M1.01

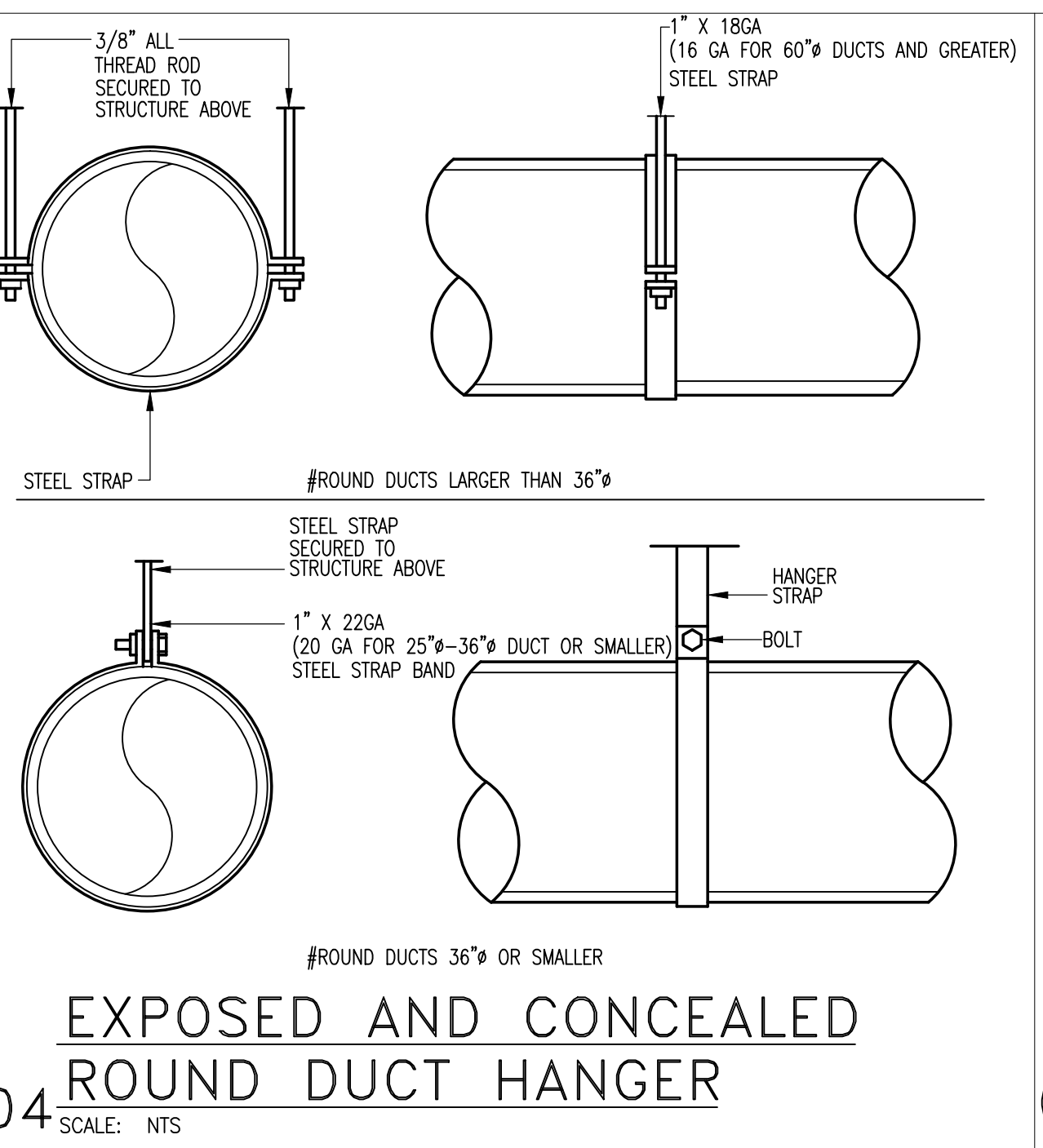
Sheet Number

01 MECHANICAL PLAN

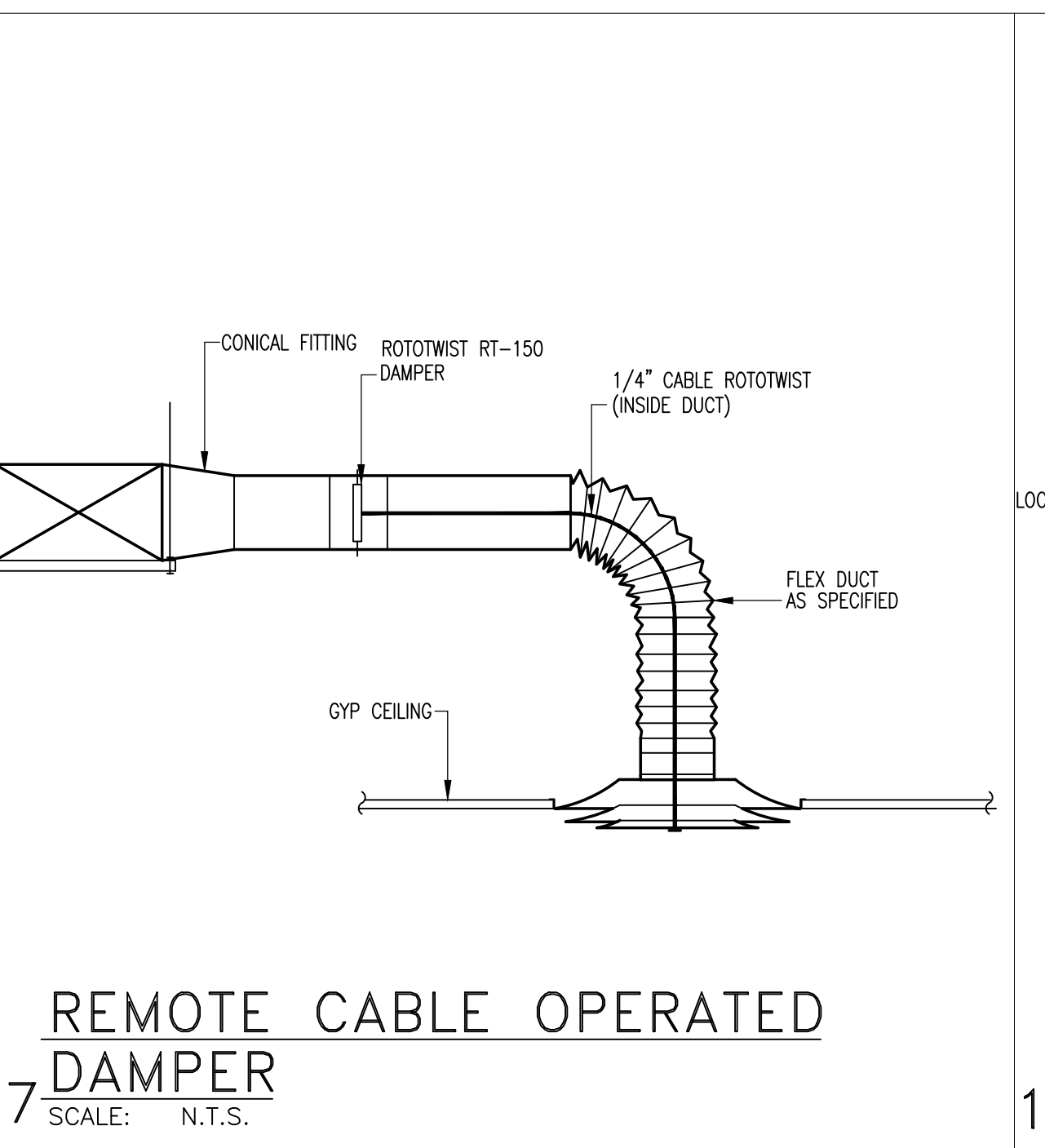
SCALE: 3/16" = 1'-0"



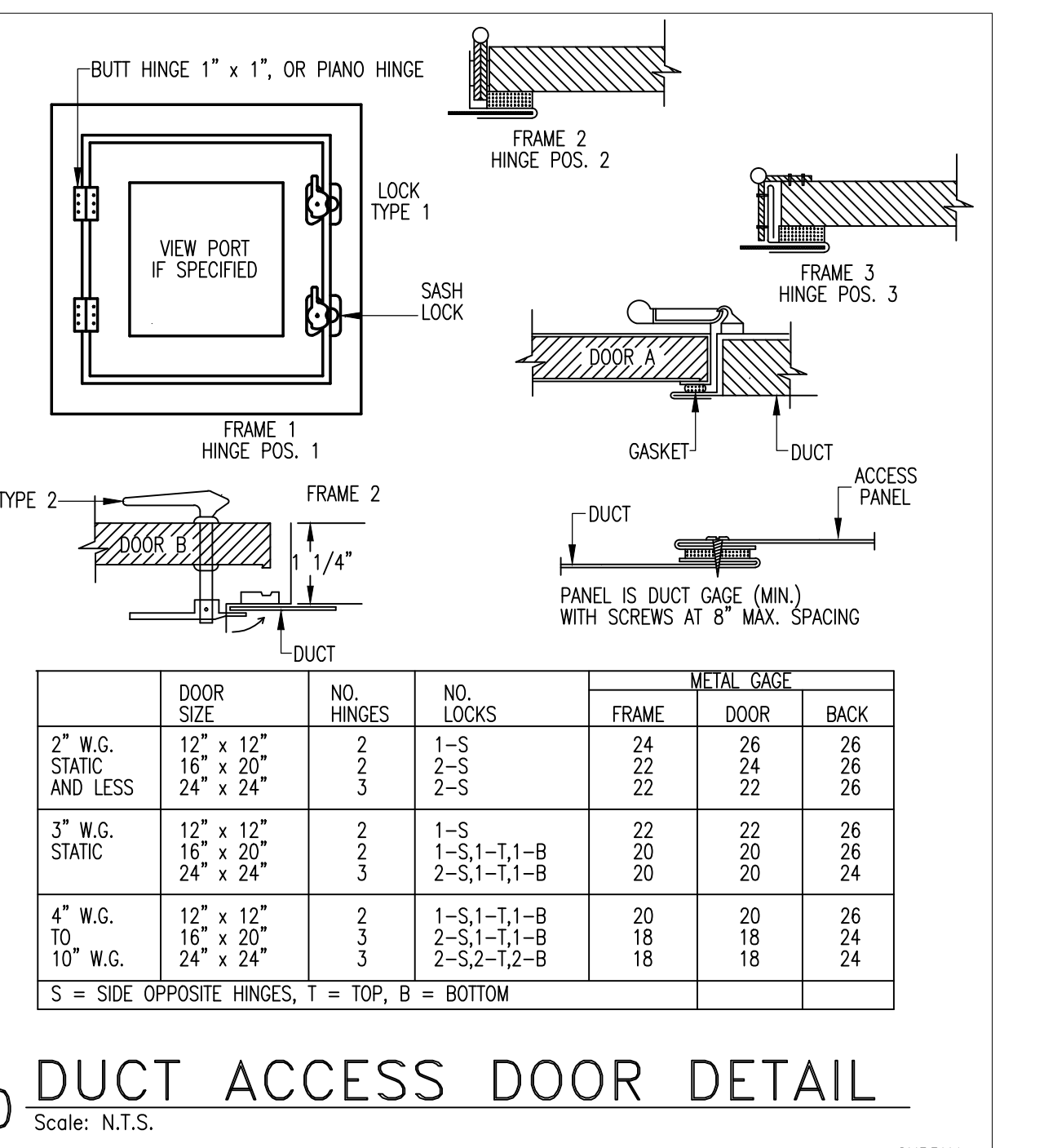
01 FLEXIBLE CONNECTION DETAIL
Scale: N.T.S.



04 EXPOSED AND CONCEALED ROUND DUCT HANGER
Scale: N.T.S.



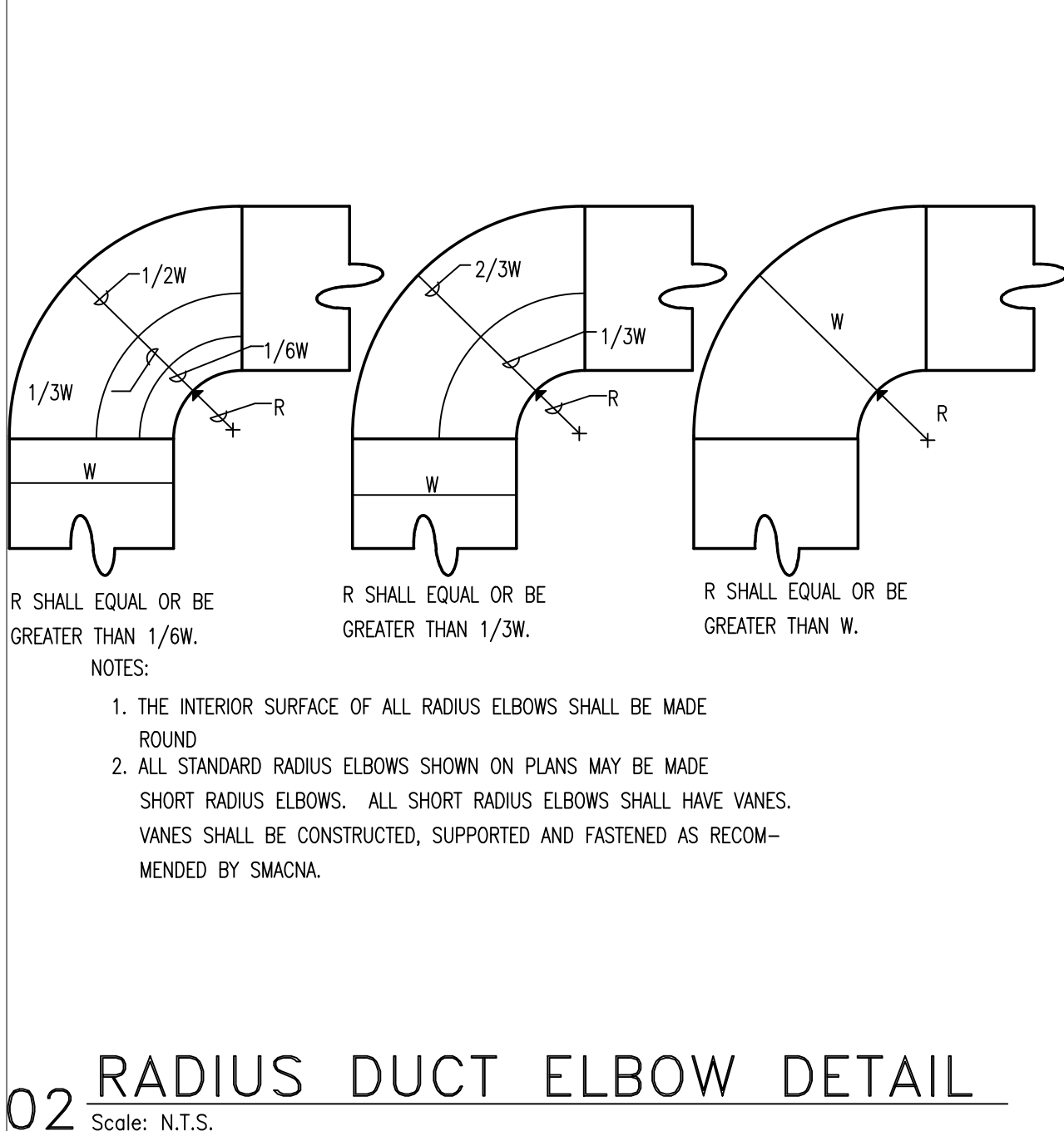
07 REMOTE CABLE OPERATED DAMPER
Scale: N.T.S.



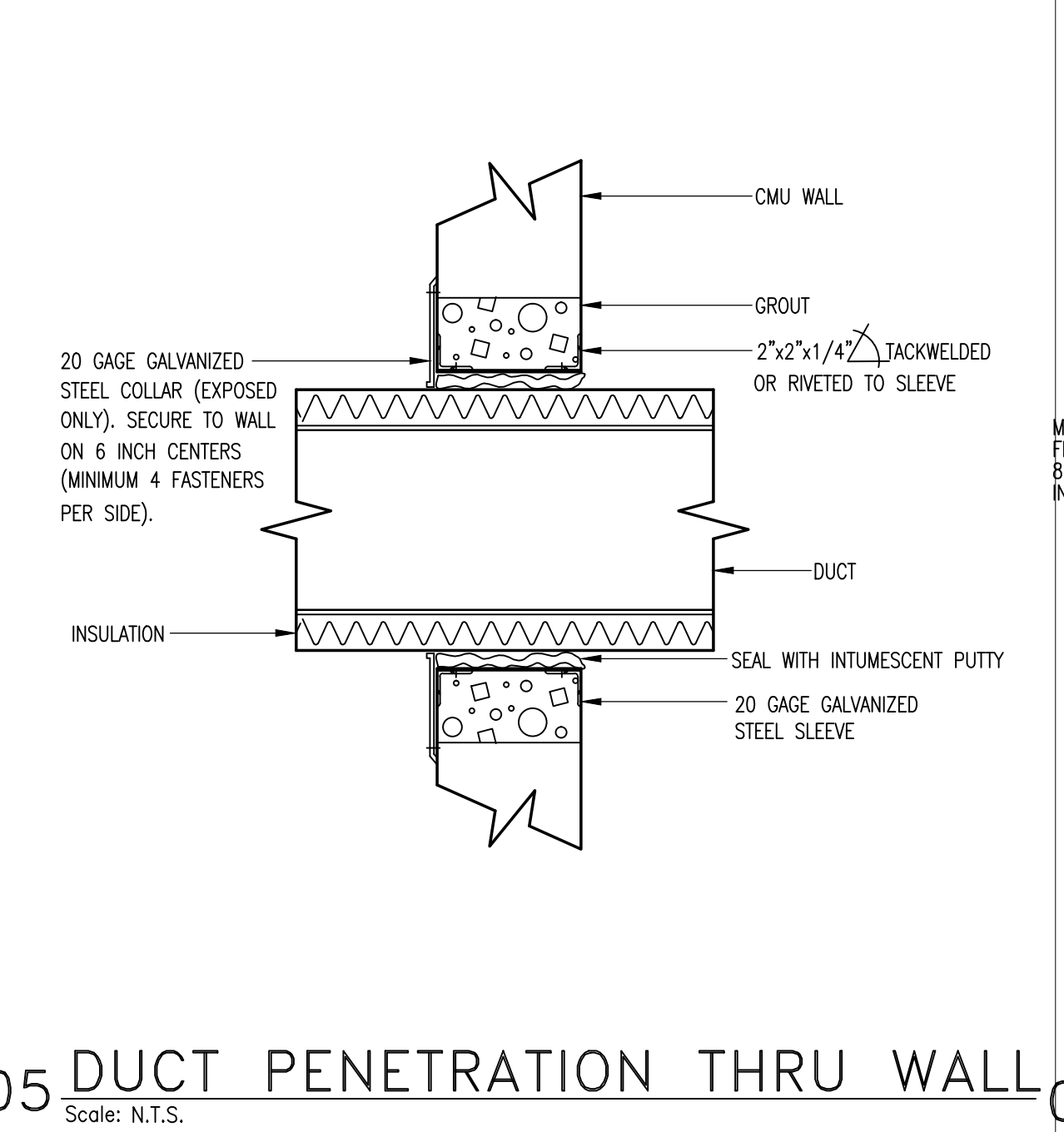
10 DUCT ACCESS DOOR DETAIL
Scale: N.T.S.

DOOR SIZE	NO. HINGES	NO. LOCKS	METAL GAGE		
			FRAME	DOOR	BACK
2\" W.G. STATIC AND LESS	12\" x 12\"	2	1-5	24	26
	16\" x 20\"	2	2-5	24	26
	24\" x 24\"	3	2-5	22	26
3\" W.G. STATIC	12\" x 12\"	2	1-5	22	26
	16\" x 20\"	2	1-S, 1-T, 1-B	20	26
	24\" x 24\"	3	2-S, 1-T, 1-B	20	24
4\" W.G. TO 10\" W.G.	12\" x 12\"	2	1-S, 1-T, 1-B	20	26
	16\" x 20\"	3	2-S, 1-T, 1-B	18	24
	24\" x 24\"	3	2-S, 2-T, 2-B	18	24

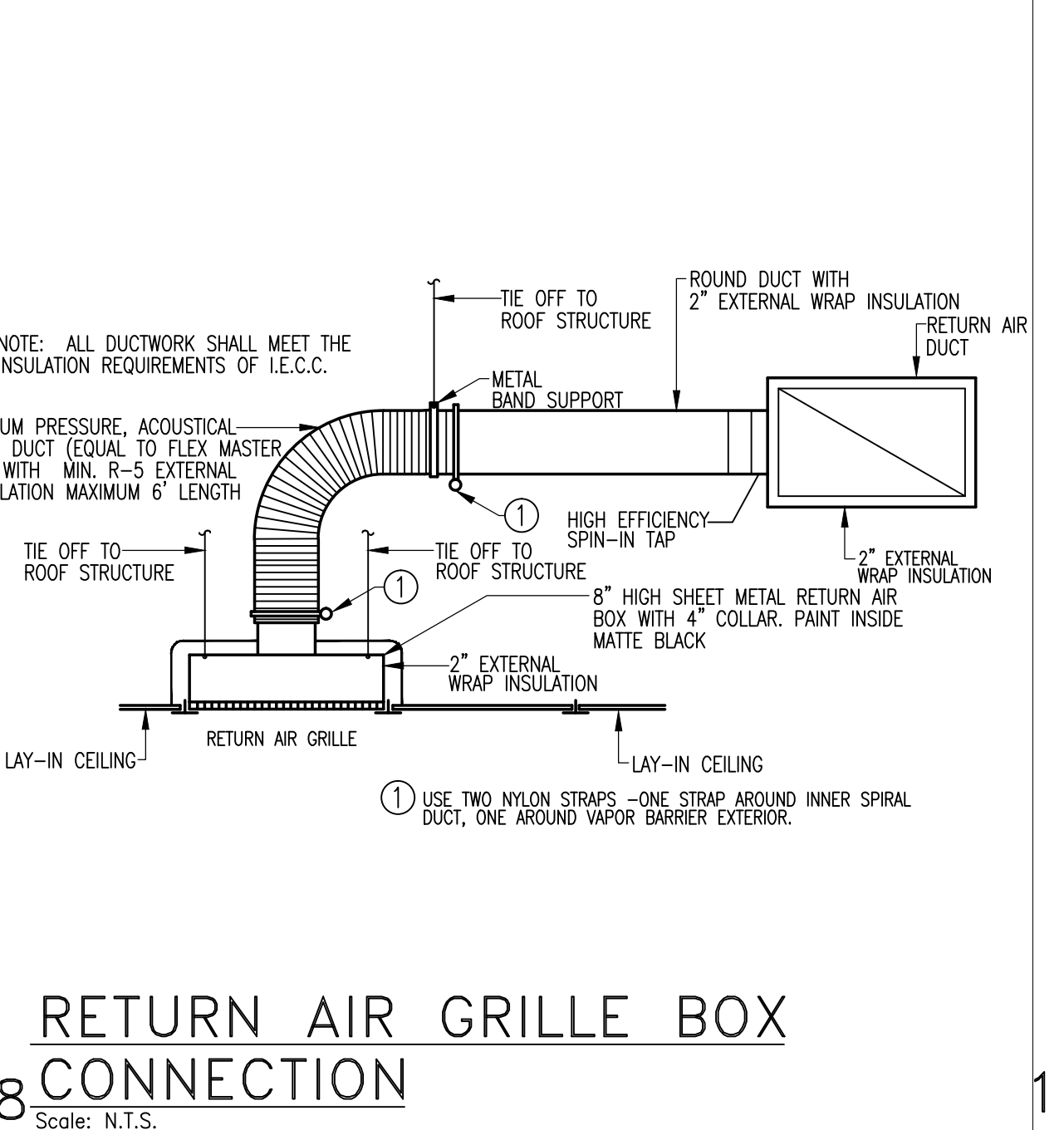
S = SIDE OPPOSITE HINGES, T = TOP, B = BOTTOM



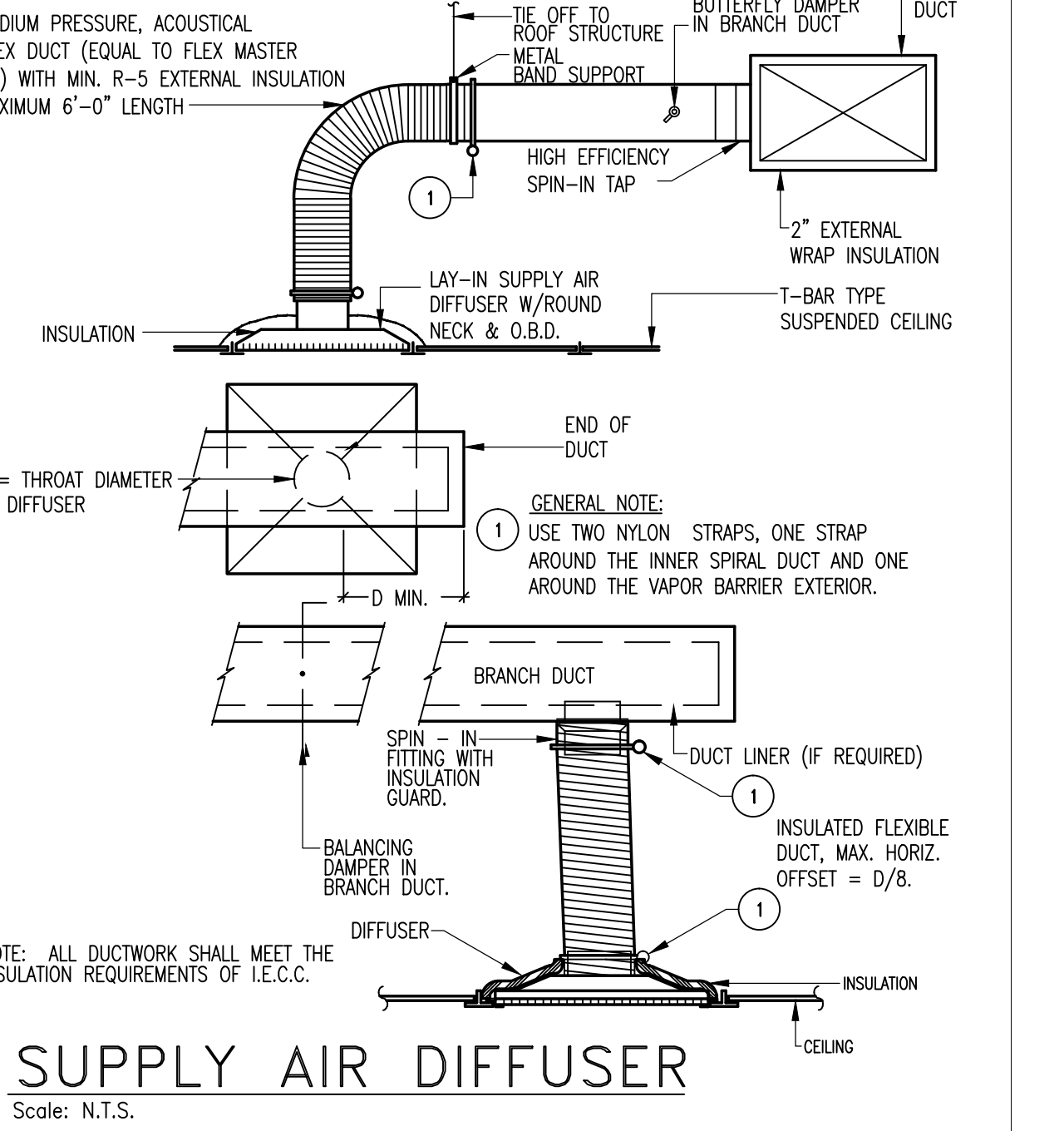
02 RADIUS DUCT ELBOW DETAIL
Scale: N.T.S.



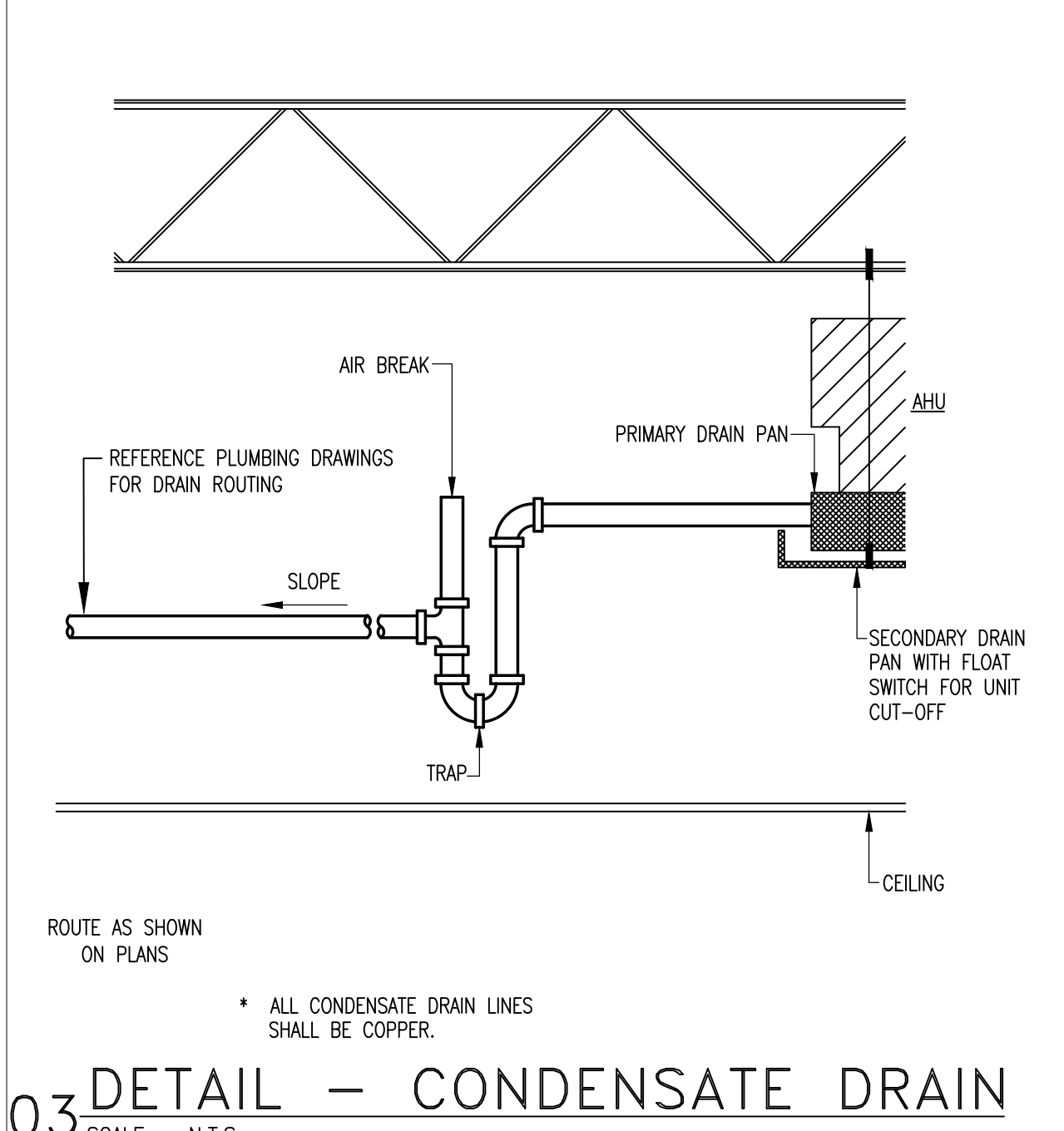
05 DUCT PENETRATION THRU WALL
Scale: N.T.S.



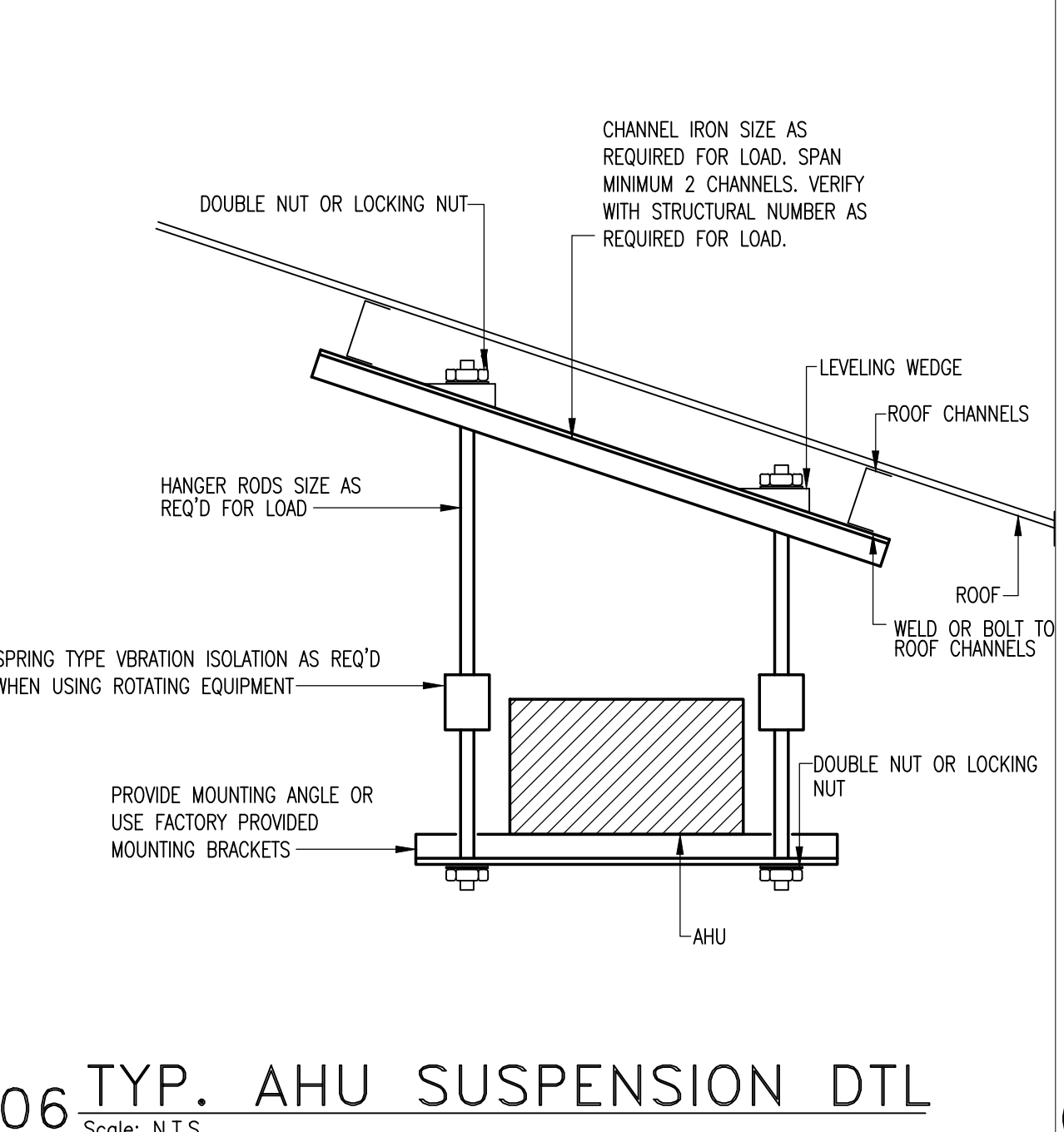
08 RETURN AIR GRILLE BOX CONNECTION
Scale: N.T.S.



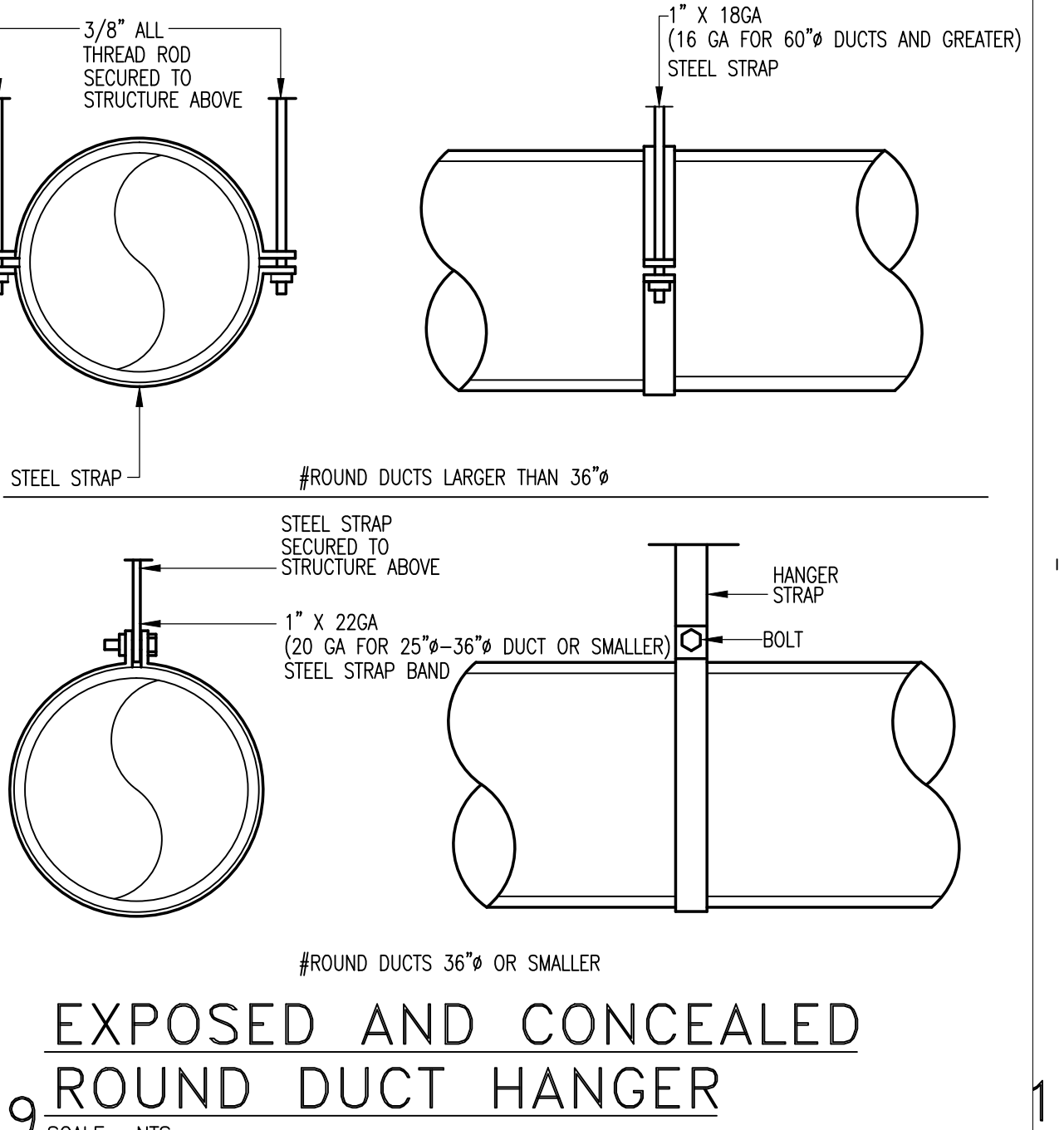
11 SUPPLY AIR DIFFUSER
Scale: N.T.S.



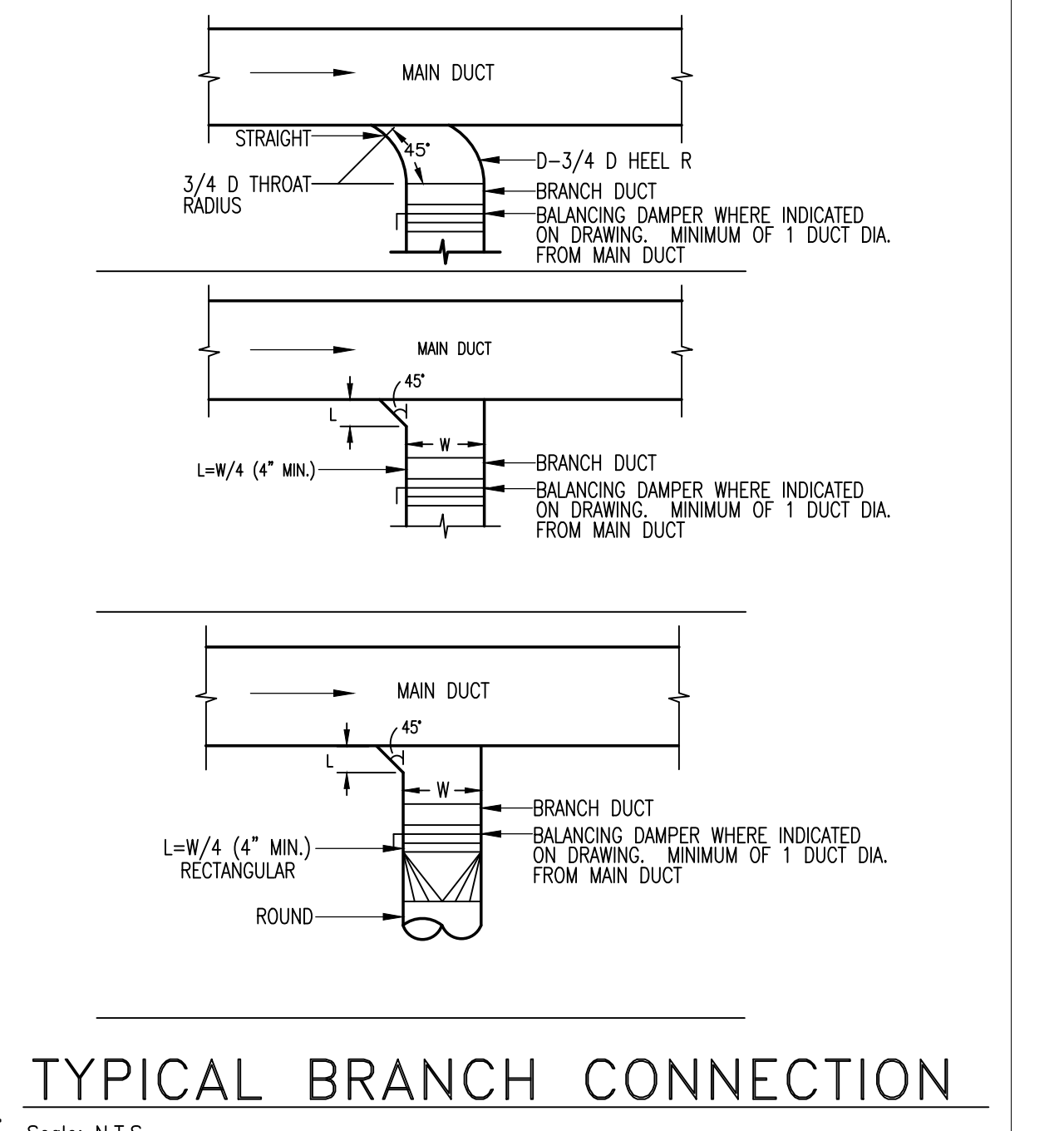
03 DETAIL - CONDENSATE DRAIN
Scale: N.T.S.



06 TYP. AHU SUSPENSION DTL
Scale: N.T.S.



09 EXPOSED AND CONCEALED ROUND DUCT HANGER
Scale: N.T.S.



12 TYPICAL BRANCH CONNECTION
Scale: N.T.S.

Revision No.	Date	Description

ELECTRICAL GENERAL LEGEND

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)	SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)	SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
LIGHTING			POWER			FIRE ALARM		
	2'x4' FLUORESCENT LIGHT FIXTURE	SEE FIX. SCH.		SINGLE RECEPTACLE - 20A/125V/1P/3W/G NEMA 5-20R	15" AFF		DOOR HOLDER OR DOOR RELEASE	-
	2'x4' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BATTERY	SEE FIX. SCH.		DUPLEX RECEPTACLE - 20A/125V/1P/3W/G NEMA 5-20R	15" AFF		FIRE ALARM PULL STATION	48" AFF
	2'x2' FLUORESCENT LIGHT FIXTURE	SEE FIX. SCH.		220 RECEPTACLE - 20A/125V/1P/3W/G NEMA 5-20R	15" AFF		FIRE ALARM AUDIBLE/VISUAL SIGNAL	80" AFF
	2'x2' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BATTERY	SEE FIX. SCH.		DUPLEX RCPT. GFI/WATER PROOF - 20A/125V/1P/3W/G NEMA 5-20R	15" AFF		FIRE ALARM AUDIBLE SIGNAL	80" AFF
	FLUORESCENT STRIP LIGHT	SEE FIX. SCH.		QUADRAPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE)	15" AFF		FIRE ALARM VISUAL SIGNAL	80" AFF
	FLUORESCENT STRIP LIGHT WITH EMERGENCY BATTERY	SEE FIX. SCH.		ISOLATED GROUND QUADRAPLEX RECEPTACLE (TWO DUPLEX RCPTS. UNDER ONE COVERPLATE)	15" AFF		FIRE ALARM SPRINKLER FLOW SWITCH	-
	1'x4' FLUORESCENT LIGHT FIXTURE	SEE FIX. SCH.		ISOLATED GROUND DUPLEX RECEPTACLE - 20A/125V NEMA 5-20R	15" AFF		FIRE ALARM SPRINKLER TAMPER SWITCH	-
	1'x4' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BATTERY	SEE FIX. SCH.		DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT	15" AFF		FIRE ALARM SMOKE DETECTOR CEILING OR WALL MOUNTED	80" AFF
	TRACK LIGHT WITH HEADS	SEE FIX. SCH.		FLOOR MOUNTED DUPLEX RECEPTACLE - FLUSH MOUNTED UNO	-		HEAT DETECTOR CEILING OR WALL MOUNTED	-
	INCANDESCENT, FLUORESCENT, OR HID FIXTURE CLG. OR WALL MTD.	SEE FIX. SCH.		ISOLATED GROUND FLOOR MOUNTED DUPLEX RECEPTACLE - FLUSH MOUNTED UNO	-		DUCT SMOKE DETECTOR	-
	INCANDESCENT, FLUORESCENT, OR HID FIXTURE WITH EMERGENCY BATTERY CLG. OR WALL MTD.	SEE FIX. SCH.		DUPLEX RCPT. SPLIT-WIRED - 20A/125V/1P/3W/G NEMA 5-20R	15" AFF		FIRE ALARM CONTROL PANEL	-
	EMERGENCY FIXTURE	SEE FIX. SCH.		SPECIAL PURPOSE RECEPTACLE (NEMA NO. OR RATING AS INDICATED)	15" AFF		FIRE ALARM ANNUNCIATOR PANEL	-
	POLE MOUNTED FIXTURE	SEE FIX. SCH.		WALKER RF84 SERIES FLOOR BOX W/ONE DUPLEX OUTLET, ONE ISOLATED GND OUTLET, AND DATA KNOCKOUTS AS REQUIRED. STUB 1" C. ABOVE ACCESSIBLE CEILING	-		AREA OF RESCUE CALL	-
	EXIT LIGHT, CEILING OR WALL MOUNTED - SHADING INDICATING SINGLE OR DOUBLE FACE; DIRECTIONAL ARROWS AS INDICATED	9" BFC		JUNCTION BOX - SIZE & MOUNTING AS REQUIRED	15" AFF		AREA OF RESCUE ANNUNCIATOR	-
	DIGITAL SWITCH : Z-MAX #ZMDSW-X-X	48" AFF		MULTIOUTLET ASSEMBLY - LENGTH AND OUTLET SPACING AS INDICATED	-		TIME CLOCK (TORK #72022)	-
	SINGLE POLE OR DUAL POLE.	48" AFF		DISCONNECT SWITCH - 30/-/-3 INDICATES 30A, 3-POLE, NONFUSED; 30/30/3 INDICATES 30A, 3-POLE, 30A FUSE	AS REQD.		P.A. SPEAKER, CEILING OR WALL MOUNTED	9" BFC, UNO
	3-WAY/4-WAY TOGGLE SWITCH	48" AFF		CIRCUIT BREAKER DISCONNECT SWITCH - THERMAL MAGNETIC CB IN NEMA 1 ENCL; AMPS/POLES AS INDICATED	AS REQD.		EXTERIOR SPEAKER, WEATHER PROOF, SEMI-FLUSH	-
	OCCUPANCY SENSOR - DUAL TECHNOLOGY WALL SWITCH SENSOR.	48" AFF		DISCONNECT SWITCH - 30/30/3 INDICATES 30A, 3-POLE, 30A FUSE	AS REQD.	TELECOMMUNICATION		
	OCCUPANCY SENSOR HUBBELL LHMTS2 DUAL TECHNOLOGY DUAL RELAY WALL SWITCH SENSOR.	48" AFF		MOTOR STARTER FVNR UNO; NUMBER INDICATES NEMA SIZE	AS REQD.		TELEPHONE/DATA OUTLET. WALL MOUNTED - STUB MIN. 3/4" C. ABOVE ACCESSIBLE CEILING D=DATA, V=VOICE, X=NUMBER OF DROPS	15" AFF
	WALL DIMMER SWITCH	48" AFF		COMBINATION MOTOR CONTROLLER/DISCONNECT SWITCH	AS REQD.		TELEPHONE OUTLET. WALL MOUNTED - STUB MIN. 3/4" C. ABOVE ABOVE ACCESSIBLE CEILING D=DATA, V=VOICE, X=NUMBER OF DROPS	15" AFF
	CEILING MOUNTED OCCUPANCY SENSOR - WATTSTOPPER DT-300 DUAL TECHNOLOGY CEILING SENSOR	-		PANELBOARD	-		DATA OUTLET. WALL MOUNTED - STUB MIN. 3/4" C. ABOVE ABOVE ACCESSIBLE CEILING D=DATA, V=VOICE, X=NUMBER OF DROPS	15" AFF
	LIGHTING RELAY PANEL	-		TRANSFORMER	-		FLOOR MOUNTED TELEPHONE/DATA OUTLET - FLUSH MOUNTED UNO	-
	LIGHTING CONTACTOR, NEMA-1, W/H.O.A. SWITCH	-		MOTOR	-		FLOOR MOUNTED TELEPHONE OUTLET - FLUSH MOUNTED UNO	-
	WALL MOUNTED OCCUPANCY SENSOR - DUAL TECHNOLOGY, LUTRON #LOS-WDT-WH	8" AFF		SINGLE LINE CONTINUATION	-		FLOOR MOUNTED DATA OUTLET - FLUSH MOUNTED UNO	-
				CIRCUIT HOME RUN TO PANELBOARD (2 #12, 1 #12G, 3/4" C. 20A/1P CB UNO)	-		TELEPHONE OUTLET. WALL MOUNTED - MIN. STUB 3/4" C. ABOVE ACCESSIBLE CEILING	48" AFF
				THREE SINGLE POLE DEVICE CIRCUIT NUMBERS	-		DATA OUTLET(2 DROPS TOTAL) TO BE PROVIDED AS PART OF WALKER RF84 SERIES FLOOR BOX. STUB 1" C. ABOVE ACCESSIBLE CEILING	-
SECURITY SYSTEM				MULTI-POLE DEVICE CIRCUIT NUMBERS	-		SOUND CONSOLE (RACK)	-
	DOOR MONITOR	-		THERMOSTAT WALL MOUNTED - STUB 1/2" C. ABOVE CEILING FROM OUTLET BOX. COORDINATE EXACT LOCATION AND HEIGHT WITH MECHANICAL DIVISION.	-		MICROPHONE OUTLET	-
	CAMERA	-		SECURITY PANEL (DMP-XR500N)	-		CLOCK - SINGLE OR DOUBLE FACE	-
	DOME CAMERA	-		AMPLIFIER	-		WIRELESS ACCESS POINT(POE)	-
	CARD READER	-		ADMINISTRATOR CONSOLE UNIT	-		SPRINKLER SYSTEM REGULATOR RELAY	-
	MOTION DETECTOR	-		TELECOMMUNICATION MAIN GROUNDING BAR	-		TELEVISION OUTLET. CLG. OR WALL MOUNTED - STUB 3/4" C. ABOVE ACCESSIBLE CEILING	-
	DOOR CONTACT	-		PHOTOCCELL	-		PUSHBUTTON FOR INTERCOM CALL IN	48" AFF
	SECURITY KEY PAD(DMP-#7063) - STUB 1/2" C. ABOVE CEILING FROM OUTLET BOX	-		MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD AND PILOT LIGHT.	-		BUZZER/BELL	-
	ENTRANCE ROOM PAGER	-					TELEPHONE BOARD	-
	PANIC BUTTON	-					J-HOOKS	-
							RELAY	-

GENERAL ABBREVIATIONS

ABS	ABOVE BACK SPLASH	EX	EXISTING	IG	ISOLATED GROUND	NL	NIGHT LIGHT	SW	SWITCH
AFF	ABOVE FINISHED FLOOR	F	FUSE	MTD	MOUNT OR MOUNTED	NO (N.O.)	NORMALLY OPEN	UF	UNDERFLOOR
BFC	BELOW FINISHED CEILING	G	GROUND (EQUIPMENT)	NC (N.C.)	NORMALLY CLOSED	RCPT(S)	RECEPTACLE(S)	UG	UNDERGROUND
C	CONDUIT	GFI	GROUND FAULT INTERRUPTER	NF	NONFUSED	PNL	PANEL	WG	WIRE GUARD
CB	CIRCUIT BREAKER	HCC	HORIZONTAL CROSS CONNECT	NIC	NOT IN CONTRACT	SO (S.O.)	SPACE ONLY	WP	WEATHERPROOF
CLG	CEILING	IC	INTERRUPTING CAPACITY	TYP	TYPICAL	SP	SPARE	XFMR	TRANSFORMER
EC	EMPTY CONDUIT	ICC	INTERMEDIATE CROSS CONNECT	EP	ELECTRICAL PRIMARY	ST (S.T.)	SHUNT TRIP	UNO	UNLESS NOTED OTHERWISE

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.

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
6505 WEST AIR PARK, SUITE 100
MCALLEN, TEXAS 78503
TEL: (361) 664-0286
FAX: (361) 664-0287
TSP# 018181
TSP# 018182

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19724
1108 INDUSTRIAL LOOP, STE. 200, MCALLEN, TX 78503 TSP# 018183

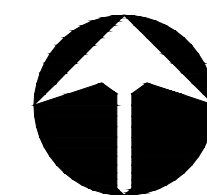
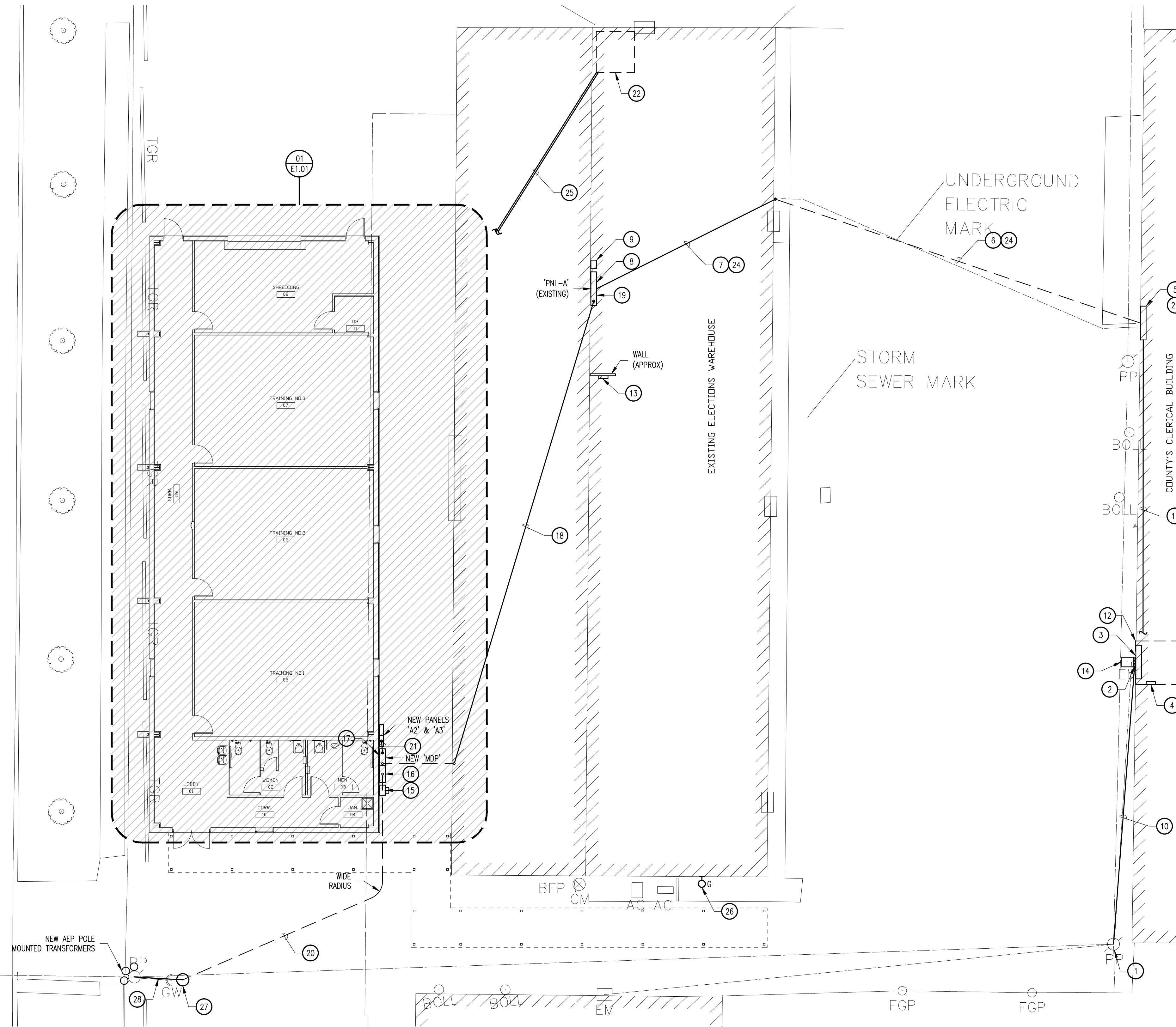
Revision No.	Date	Description

Project No.: 28237
Issued: 8/30/2011
Drawn By:
Checked By: JD
Scale: AS SHOWN
Sheet Title
ELECTRICAL GENERAL LEGEND

E0.01
Sheet Number

The seal appearing on this document was authorized by JOSE A. DELGADO, P.E. 121898 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the Associate, Inc., 5000 W. Military Avenue, Houston, TX 77053. TSP# FIRM #312.

N. 10th AVENUE



01 ELECTRICAL SITE PLAN
SCALE: 1" = 10'-0"

GENERAL NOTES:

- A. INFORMATION ON THIS SHEET HAS BEEN TAKEN FROM RECORD DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THESE PLANS TO THE ENGINEER IMMEDIATELY.
- B. CONTRACTOR SHALL INCLUDE IN HIS BID ALL NEW TRENCHING, SAW CUTTING, AND PATCHING OF NEW CONDUIT TO BE ROUTED UNDERGROUND.
- C. AEP CONTACT PERSONS ARE NOE BARRERA (956) 283-2418 AND LUIS CASTILLO (956) 457-0745.
- D. THE CONTRACTOR SHALL EXTEND THE FIRE ALARM, INTRUSION DETECTION, AND CCTV SYSTEMS TO NEW BUILDING.

KEY NOTES: #

- 1. EXISTING AEP 3 PHASE, 120/208V SERVICE POLE MOUNTED TRANSFORMERS.
- 2. EXISTING (3) SERVICE WEATHERHEADS MOUNTED ON WALL.
- 3. EXISTING 1200A, 208/120V, 3 PHASE, 4 WIRE SWITCHBOARD WITH 1000A MAIN CIRCUIT BREAKER.
- 4. EXISTING ELECTRICAL PANEL, 42 POLE LABELED "PARTS DEPARTMENT".
- 5. EXISTING 120/208V, 225A, 3 PHASE PANEL, WITH 225A MAIN CIRCUIT BREAKER. THIS PANEL SERVICES THE EXISTING ELECTIONS WAREHOUSE. CIRCUIT DESIGNATED SCHEDULE INDICATES AN EXISTING 3 POLE, 125A FEEDING THE ELECTIONS WAREHOUSE, PANEL "PNL-A".
- 6. EXISTING UNDERGROUND FEEDER.
- 7. EXISTING FEEDER AT PLENUM SPACE.
- 8. EXISTING 200A, 208/120V, 3 PHASE, 4 WIRE PANEL WITH 200A MAIN.
- 9. EXISTING HAND-OFF-AUTO.
- 10. EXISTING ELECTRICAL OVERHEAD SERVICE LINE.
- 11. EXISTING INDOOR FEEDER FROM ELECTRICAL ROOM TO PANEL ON NORTH SIDE OF BUILDING.
- 12. ELECTRICAL ROOM.
- 13. EXISTING FIRE ALARM CONTROL PANEL FOR WAREHOUSE.
- 14. EXISTING ELECTRIC METER.
- 15. NEW DEDICATED METER FOR ELECTIONS WAREHOUSE AND NEW BUILDING. CONTRACTOR SHALL PROVIDE THE METER SOCKET AND COORDINATE WITH AEP.
- 16. CONTRACTOR SHALL PROVIDE WITH CURRENT TRANSFORMER FOR METER.
- 17. 'MDP'. PROVIDE WITH NEW NEMA-3R, 400A, 120/208V, 3 PHASE, 4 WIRE. REFER TO PANEL SCHEDULE FOR PANEL SIZE AND CIRCUIT BREAKERS.
- 18. EXTEND NEW FEEDER FROM NEW 'MDP' TO EXISTING 'PNL-A'. ROUTE AT PLENUM SPACE.
- 19. CONTRACTOR SHALL DISCONNECT FROM EXISTING FEEDER FROM COUNTY'S CLERICAL BUILDING TO EXISTING 'PNL-A'. CONTRACTOR SHALL CONNECT 'PNL-A' TO NEW 'MDP' VIA NEW FEEDER. REFER TO KEYNOTE 18.
- 20. NEW UNDERGROUND SERVICE FOR ELECTIONS WAREHOUSE AND NEW BUILDING. COORDINATE WITH AEP.
- 21. EXTEND NEW FEEDER TO NEW BUILDING. ROUTE FEEDER AT PLENUM SPACE ON ELECTIONS WAREHOUSE, UNDERSIDE OF METAL ROOF OF ELECTIONS WAREHOUSE, ROUTE FEEDER UNDERGROUND AT ALLEY BETWEEN BOTH BUILDINGS, AND CIRCUIT TO NEW BUILDING'S NEW PANEL A2.
- 22. APPROXIMATE LOCATION OF THE EXISTING 'MDF' ROOM IN THE EXISTING ELECTIONS WAREHOUSE.
- 23. ELECTRICAL CONTRACTOR SHALL DISCONNECT ANY WIRING ON THIS PANEL ASSOCIATED TO THE EXISTING ELECTIONS WAREHOUSE. THIS PANEL AND BREAKERS SHALL REMAIN IN PLACE. CONTRACTOR SHALL REMOVE ALL THE EXISTING WIRES ROUTED FROM THIS PANEL TO THE EXISTING PANEL AT THE EXISTING ELECTIONS WAREHOUSE.
- 24. EXISTING ELECTRICAL SERVICE FEEDER FROM COUNTY'S CLERICAL BUILDING TO EXISTING ELECTIONS WAREHOUSE. THE CONTRACTOR SHALL REMOVE THE WIRING ON THIS FEEDER. CONDUIT TO BE ABANDONED IN PLACE.
- 25. THE CONTRACTOR SHALL ROUTE (2) 2" CONDUITS FROM EXISTING 'MDF' ROOM AT ELECTIONS WAREHOUSE TO NEW BUILDING'S 'IDF' ROOM. ROUTE FEEDER AT PLENUM SPACE ON ELECTIONS WAREHOUSE, UNDERSIDE OF METAL ROOF OF ELECTIONS WAREHOUSE, ROUTE FEEDER UNDERGROUND BETWEEN BOTH BUILDINGS.
- 26. PROVIDE WITH NEW 'G' TYPE FIXTURE AND MOUNT AT 8' AFF. CIRCUIT NEW WALL PACK TO EXISTING PANEL 'A' AT THE WAREHOUSE BUILDING. ROUTE BRANCH CIRCUIT AT PLENUM SPACE. CONTRACTOR SHALL COVER AND SEAL ALL HOLES MADE FOR THE MOUNTING OF NEW FIXTURE.
- 27. NEW 25' HIGH AND 5" DIAMETER POLE WITH WEATHERHEAD TOP SERVICE PROVIDED BY CONTRACTOR. COORDINATE WITH AEP ON CONNECTION OF SECONDARY SERVICE TO THIS POLE.
- 28. AEP OVERHEAD SERVICE. COORDINATE WITH AEP.

HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS

HALFF
6505 WEST AIR TRAY, SUITE 100
MCALLEN, TEXAS 78503
TEL: (956) 864-0288
FAX: (956) 864-0289
T.B.A.E. FIRM REGISTRATION #19724

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
1108 MIDLAND LOOP, STE. 200, MCALLEN, TX 78503
T.B.A.E. FIRM REGISTRATION #19724

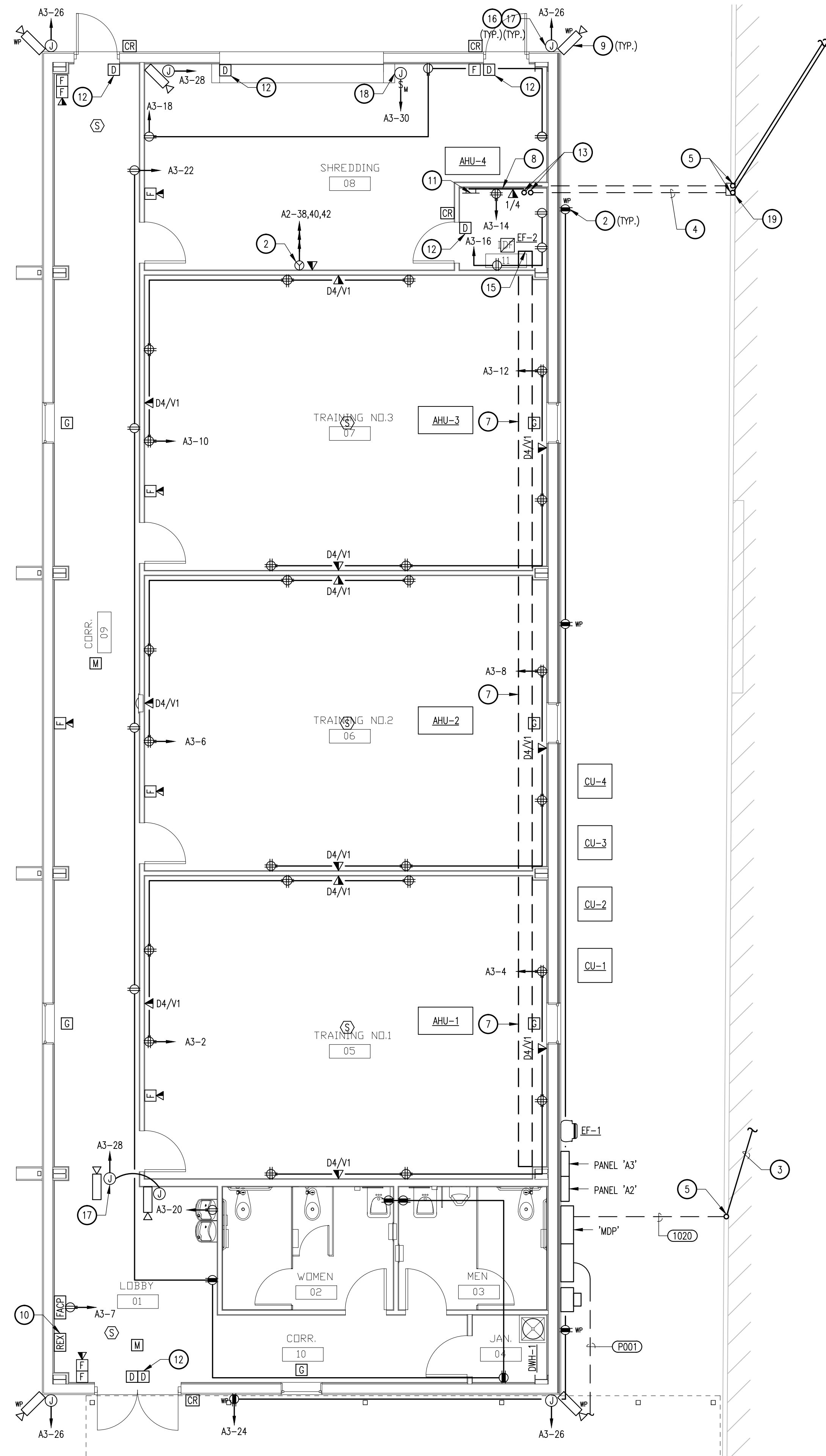
Revision No.	Date	Description

JOSE A. DELGADO
101998
REGISTERED PROFESSIONAL ENGINEER

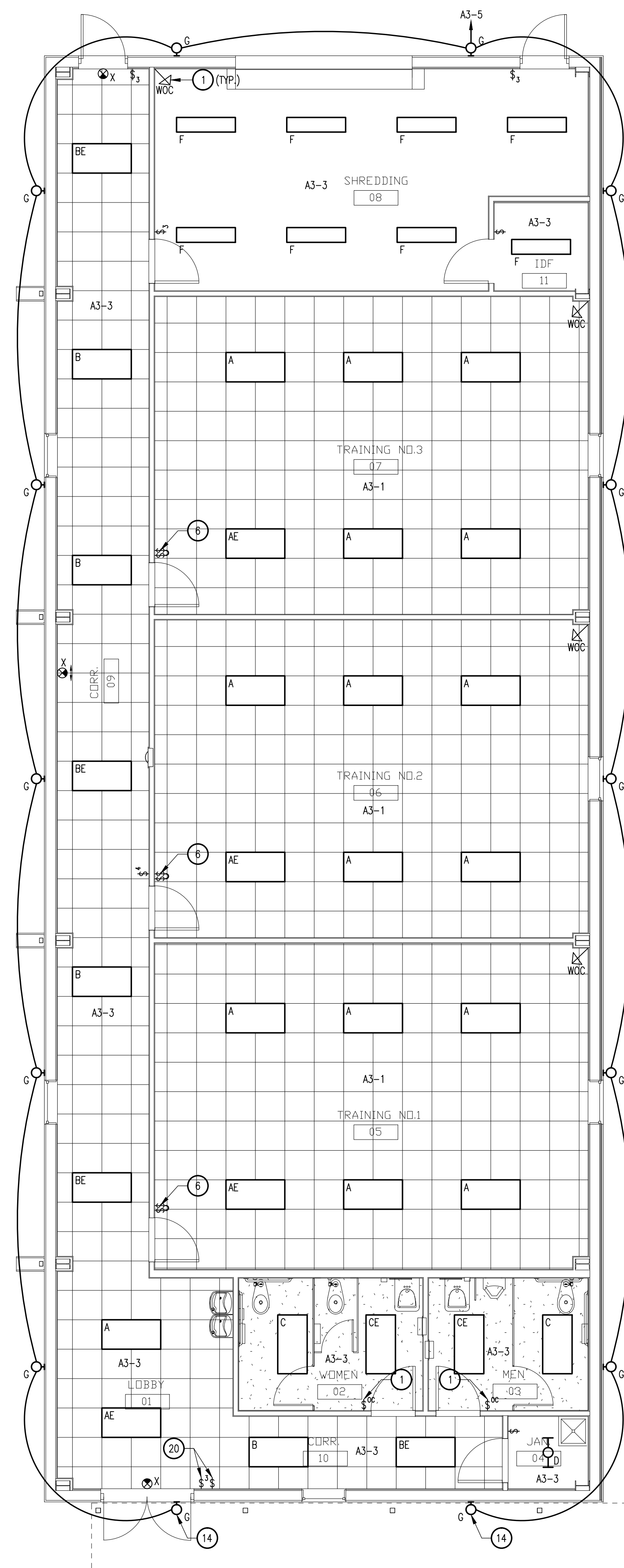
The seal appearing on this document was authorized by JOSE A. DELGADO, P.E. 121898 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Board of Professional Engineers, Inc., 5000 W. Military Avenue, Houston, TX 77052. TBPB FIRM #312.

Project No.:	28237
Issued:	8/30/2011
Drawn By:	
Checked By:	JD
Scale:	AS SHOWN
Sheet Title	ELECTIONS WAREHOUSE RENOVATION

E1.00
Sheet Number



02 ELECTRICAL POWER PLAN
SCALE: 3/16" = 1'-0"



01 ELECTRICAL LIGHTING PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

- A. INFORMATION ON THIS SHEET HAS BEEN TAKEN FROM SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THESE PLANS TO THE ENGINEER IMMEDIATELY.
- B. CONTRACTOR SHALL INCLUDE IN HIS BID ALL NEW TRENCHING, SAW CUTTING, AND PATCHING OF NEW CONDUIT TO BE ROUTED UNDERGROUND.
- C. THE CONTRACTOR SHALL EXTEND THE FIRE ALARM, INTRUSION DETECTION, AND CCTV SYSTEMS TO NEW BUILDING.

KEY NOTES: ④

1. OCCUPANCY SENSOR WITH DUAL RELAY. ONE SWITCH TO CONTROL THE LIGHT FIXTURE AND TIME DELAY RELAY TO CONTROL EXHAUST FAN. BASIS OF DESIGN IS LEVITON HOSSM-FIT-X. CONTRACTOR SHALL CIRCUIT THE EXHAUST FAN TO TIME DELAY RELAY AND ENABLE THE SETTING TO ALLOW THE EXHAUST FAN TO REMAIN ON FOR 10 MINUTES LONGER THAN OCCUPANCY. REFER TO MANUFACTURER'S INSTALLATION WIRING DIAGRAMS.
2. PROVIDE WITH NEMA 15-60R TYPE OUTLET FOR SHEDDER. ROUTE 4#4, 1#10G, 1"CONDUIT.
3. TO EXISTING "PNL-A" INSIDE EXISTING ELECTIONS WAREHOUSE.
4. ROUTE (2) 2" CONDUITS FROM EXISTING WAREHOUSE TO NEW BUILDING IN SAME TRENCH. ONE CONDUIT DESIGNATED FOR SECURITY AND TELECOMMUNICATION AND SECOND ONE IS A SPARE. CONTRACTOR SHALL SAW-CUT, TRENCH AND PATCH BACK THE AFFECTED AREAS FOR CONDUIT ROUTING.
5. STUB UP AT BUILDING AND ROUTE AT PLENUM SPACE.
6. SWITCHING SHALL BE SETUP FOR INBOARD/OUTBOARD CONTROLS.
7. PROVIDE WITH BASKET TYPE CABLE TRAY. CABLE TRAY TO BE 4" DEEP AND 12" WIDE.
8. PROVIDE WITH 3/4" THICK PLYWOOD BACKBOARD WITH FIRE RETARDANT COATING.
9. TYPICAL OF ENTIRE CCTV SYSTEM. CONTRACTOR SHALL PROVIDE WITH A COMPLETE INTEGRATED CCTV SYSTEM. CONTRACTOR SHALL REFERENCE EXISTING CCTV SYSTEM ON SITE AND PROVIDE WITH AN EQUAL SYSTEM. ALL CCTV SYSTEM RELATED WIRING SHALL ROUTE TO IDF ROOM.
10. "REQUEST TO EXIT" BUTTON FOR CONTROL OF DOUBLE DOORS DOOR LOCK.
11. GROUND BAR AT 24" AFF. BOND TO BUILDINGS GROUNDING SYSTEM WITH STRANDED (COPPER) GREEN. ROUTE IN CONDUIT NOT BELOW GROUND BUT IN PLENUM SPACE.
12. DOOR CONTACT. REFER TO DETAIL 1 AND 2 ON SHEET E4.02 FOR FURTHER INFORMATION.
13. STUB UP CONDUITS BETWEEN IDF SOUTH WALL AND EXTEND INTO IDF ROOM ABOVE CABLE TRAY.
14. MOUNT AT 7'-6" HEIGHT.
15. COORDINATE WITH STAN RAMOS FOR EXACT LOCATION WITHIN THE IDF FOR CABLE TRAY ROUTING.
16. TYPICAL OF ALL EXTERIOR CAMERAS. MOUNTING HEIGHT OF OUTDOOR CAMERAS SHALL BE THE SAME AS EXISTING ELECTIONS WAREHOUSE.
17. TYPICAL JUNCTION BOX WITH CIRCUIT NUMBER IS POWER PROVISION FOR INTERIOR AND EXTERIOR CAMERAS.
18. POWER FOR MOTORIZED OVERHEAD DOOR.
19. PROVIDE WITH 6"x6"x6" NEMA 3R BOX ON WALL WITH LOCKABLE COVER.
20. THE 3-WAY SWITCH CONTROLS THE CORRIDOR AND LOBBY INTERIOR LIGHTING, AND THE SINGLE POLE TOGGLE SWITCH CONTROLS THE EXTERIOR LIGHTING.

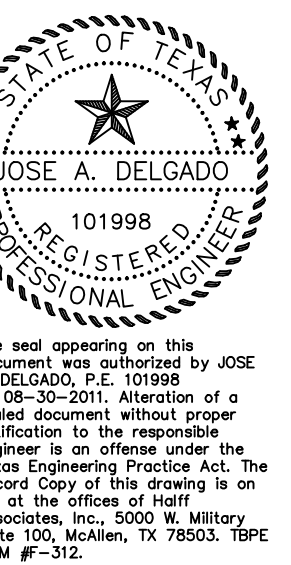
HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



HALFF
5605 WEST AIR PARK, SUITE 100
MCALLEN, TEXAS 78503
TEL: 361.664.0088
TELE FAX: 361.664.0088
TEBE FIRM #F-312

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19724
109 WINDMILL CIRCLE, STE. 200, MCALLEN, TX 78503 (512) 282-5877

Revision No.	Date	Description



The seal appearing on this document was authorized by JOSE A. DELGADO, P.E. 121898 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Board of Professional Engineers, 5000 W. Military Avenue, Suite 100, McAllen, TX 78503. TEBE FIRM #F-312.

Project No.:	28237
Issued:	8/30/2011
Drawn By:	
Checked By:	JD
Scale:	AS SHOWN
Sheet Title:	

ELECTRICAL PLANS

E1.01
Sheet Number

PANELBOARD 'MSB'												
VOLTAGE: 208Y/120 VOLT 3 PHASE 4 WIRE, NEMA 3R 600A MAIN CIRCUIT BREAKER BUSES: MAIN - 600 A; NEUTRAL - 100%; EQUIPMENT GROUND						LOCATION: NEW BUILDING EXTERIOR MOUNTING: SURFACE Isc = 22,000 A RMS SYM AVAILABLE						
VAL	VAR	VA-O	LOAD	BKR	CKT	PH	CKT	BKR	LOAD	VAL	VAR	VA-O
		19200	PANEL 'PNL-A'	200/3	1	A	2	400/3	PANEL 'A2'	1692	4860	26367
		19200			3	B	4			1461	5400	24645
		19200			5	C	6			1204	4500	23224
		7500	SPARE	50/3	7	A	8	20/1	SPACE			
		7500			9	B	10	20/1	SPACE			
		7500			11	C	12	20/1	SPACE			
		SPACE		20/1	13	A	14	20/1	SPACE			
		SPACE		20/1	15	B	16	20/1	SPACE			
		SPACE		20/1	17	C	18	20/1	SPACE			
		SPACE		20/1	19	A	20	20/1	SPACE			
		SPACE		20/1	21	B	22	20/1	SPACE			
		SPACE		20/1	23	C	24	20/1	SPACE			
		SPACE		20/1	25	A	26	20/1	SPACE			
		SPACE		20/1	27	B	28	20/1	SPACE			
		SPACE		20/1	29	C	30	20/1	SPACE			

VAL (LIGHTING) 4357 CONNECTED 5446 DEMAND
VAR (RECEPTACLES) 14760 CONNECTED 12380 DEMAND
VA-O (OTHER) 154336 CONNECTED 154336 DEMAND
VA: TOTAL 173453 CONNECTED 172162 DEMAND
AMPS: TOTAL 481 CONNECTED 478 DEMAND

L	R	O	TOTAL
1692	4860	53067	59619 VA =
1461	5400	51345	58206 VA =
1204	4500	49924	55628 VA =
4357	14760	154336	173453 VA

PANELBOARD 'A2'												
VOLTAGE: 208Y/120 VOLT 3 PHASE 4 WIRE, NEMA 3R 400 A MAIN BREAKER BUSES: MAIN - 400 A; NEUTRAL - 100%; EQUIPMENT GROUND						LOCATION: NEW BUILDING EXTERIOR MOUNTING: SURFACE Isc = 22,000 A RMS SYM AVAILABLE						
VAL	VAR	VA-O	LOAD	BKR	CKT	PH	CKT	BKR	LOAD	VAL	VAR	VA-O
		5328	AHU-1	60/3	1	A	2	30/3	CU-1			
		5328			3	B	4					
		5328			5	C	6					
		4752	AHU-2	50/3	7	A	8	20/3	CU-2			
		4752			9	B	10					
		4752			11	C	12					
		4752	AHU-3	50/3	13	A	14	20/3	CU-3			
		4752			15	B	16					
		4752			17	C	18					
		3719	AHU-4	45/2	19	A	20	25/2	CU-4			
		3719			21	B	22					
		500	SPARE	20/1	23	C	24	30/2	WH-1			2250
		500	SPARE	20/1	25	A	26					2250
		500	SPARE	20/1	27	B	28	20/1	EF-1			528
		500	SPARE	20/1	29	C	30	20/1	EF-2			76
		500	SPARE	20/1	31	A	32	20/1	SPARE			500
		500	SPARE	20/1	33	B	34	20/1	SPARE			500
		500	SPARE	20/1	35	C	36	20/1	SPARE			500
		1692	1000	100/3	37	A	38	60/3	REC: SHEDDER/BALER			3066
		1461	5400		39	B	40					3066
		1204	4500		41	C	42					3066

VAL (LIGHTING) 4357 CONNECTED 5446 DEMAND
VAR (RECEPTACLES) 14760 CONNECTED 12380 DEMAND
VA-O (OTHER) 74236 CONNECTED 74236 DEMAND
VA: TOTAL 93353 CONNECTED 92062 DEMAND
AMPS: TOTAL 259 CONNECTED 256 DEMAND

L	R	O	TOTAL
1692	4860	26367	32919 VA =
1461	5400	24645	31506 VA =
1204	4500	23224	28928 VA =
4357	14760	74236	93353 VA

PANELBOARD 'A3'												
VOLTAGE: 208Y/120 VOLT 3 PHASE 4 WIRE, NEMA 3R LUGS ONLY BUSES: MAIN - 100 A; NEUTRAL - 100%; EQUIPMENT GROUND						LOCATION: NEW BUILDING EXTERIOR MOUNTING: SURFACE Isc = 10,000 A RMS SYM AVAILABLE						
VAL	VAR	VA-O	LOAD	BKR	CKT	PH	CKT	BKR	LOAD	VAL	VAR	VA-O
		1692	LTC: GENERAL	20/1	1	A	2	20/1	RECEP: TRAINING NO. 1			1440
		1461	LTC: GENERAL	20/1	3	B	4	20/1	RECEP: TRAINING NO. 1			1440
		1204	LTC: EXTERIOR	20/1	5	C	6	20/1	RECEP: TRAINING NO. 2			1440
			500 FIRE ALARM CONTROL PANEL	20/1	7	A	8	20/1	RECEP: TRAINING NO. 2			1440
			500 SPARE	20/1	9	B	10	20/1	RECEP: TRAINING NO. 3			1440
			500 SPARE	20/1	11	C	12	20/1	RECEP: TRAINING NO. 3			1440
			500 SPARE	20/1	13	A	14	20/1	RECEP: TELEPHONE BOARD			720
			500 SPARE	20/1	15	B	16	20/1	RECEP: IDF ROOM			540
			500 SPARE	20/1	17	C	18	20/1	RECEP: SHREDDING			540
			SPACE		19	A	20	20/1	RECEP: EWC			540
			SPACE		21	B	22	20/1	RECEP: GENERAL			1440
			SPACE		23	C	24	20/1	RECEP: EXTERIOR			720
			SPACE		25	A	26	20/1	PWR: EXTERIOR CAMERAS			720
			SPACE		27	B	28	20/1	PWR: INTERIOR CAMERAS			540
			SPACE		29	C	30	20/1	PWR: OVERHEAD DOOR			360

VAL (LIGHTING) 4357 CONNECTED 5446 DEMAND
VAR (RECEPTACLES) 14760 CONNECTED 12380 DEMAND
VA-O (OTHER) 3000 CONNECTED 3000 DEMAND
VA: TOTAL 22117 CONNECTED 20826 DEMAND
AMPS: TOTAL 61 CONNECTED 58 DEMAND

L	R	O	TOTAL
1692	4860	1000	7552 VA =
1461	5400	1000	7861 VA =
1204	4500	1000	6704 VA =
4357	14760	3000	22117 VA

LIGHTING FIXTURE SCHEDULE									
TYPE	MANUF & MODEL NUMBER	LAMPS	VA	VOLTAGE	DESCRIPTION	NOTES			
A	LITHONIA - #2GT8-G-3-32-A12125-MVOLT-1/2-1/1-GE810IS	3-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH ONE 2-LAMP AND ONE 1-LAMP BALLAST				
AE	LITHONIA - #2GT8-G-3-32-A12125-MVOLT-1/2-1/1-GE810IS-EL14	3-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH ONE 2-LAMP AND ONE 1-LAMP BALLAST, AND EMERGENCY BATTERY PACK				
B	LITHONIA - #2GT8-G-2-32-A12125-MVOLT-GE810IS	2-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH SINGLE BALLAST				
BE	LITHONIA - #2GT8-G-2-32-A12125-MVOLT-GE810IS-EL14	2-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH SINGLE BALLAST AND EMERGENCY BATTERY PACK				
C	LITHONIA - #2GT8-G-2-32-A12125-MVOLT-GE810IS-DGA48	2-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH SINGLE BALLAST				
CE	LITHONIA - #2GT8-G-2-32-A12125-MVOLT-GE810IS-EL14-DGA48	2-F32W8	4100K	MVOLT	2'X4' LAY-IN TROFFER WITH NOMINAL 0.125 INCH THICK 12 ACRYLIC LENS AND GASKETING BETWEEN LENS/DOOR, DOOR/FRAME AND FRAME/CEILING, PROVIDE WITH SINGLE BALLAST AND EMERGENCY BATTERY PACK, PROVIDE WITH DRYWALL GRID ADAPTER				
D	LITHONIA - #LB-2-17-MVOLT-GE810IS	2-F17W8	4100K	MVOLT	2' LONG WRAPAROUND FIXTURE WITH ACRYLIC PRISMATIC LENS, AND NO UP LIGHT.				
F	LITHONIA - #L-2-32-MVOLT-GE810IS-WGL	2-F32T8	4100K	MVOLT	4' LONG INDUSTRIAL FLUORESCENT WITH NO UPLIGHT, AND WIREGUARD.				
FE	LITHONIA - #L-2-32-MVOLT-GE810IS-WGL-EL14	2-F32T8	4100K	MVOLT	4' LONG INDUSTRIAL FLUORESCENT WITH NO UPLIGHT, WIREGUARD, AND EMERGENCY BATTERY PACK.				
G	LITHONIA - #TWR1-2/42TR1-120-LPI-PE	2-F42CF	4100K	MVOLT	COMPACT FLUORESCENT WALLPACK WITH INTEGRAL, BUTTON TYPE PHOTO ELECTRIC CELL AND U.L. LISTED FOR WET LOCATIONS.				
X	LITHONIA - #LRP-1-RC-120/277-EL N	LED		277	EXIT SIGN WITH CLEAR BACKGROUND				

MECHANICAL EQUIPMENT CONNECTION SCHEDULE									
CIRCUIT DESIGNATION					DISCONNECTING MEANS AND/OR BRANCH CIRCUIT SIZE				
UNIT MARK	SERVES	FED FROM	REMARKS	DISCONNECTING MEANS AND/OR BRANCH CIRCUIT SIZE					
AHU-1	REFER TO MECH SHEETS	PANEL A2-1,3,5		3#6,1#10G,3/4"C, PROVIDE WITH 60A/NF/3P DISCONNECT					
AHU-2	REFER TO MECH SHEETS	PANEL A2-7,9,11		3#8,1#10G,3/4"C, PROVIDE WITH 60A/NF/3P DISCONNECT					
AHU-3	REFER TO MECH SHEETS	PANEL A2-13,15,17		3#8,1#10G,3/4"C, PROVIDE WITH 60A/NF/3P DISCONNECT					
AHU-4	REFER TO MECH SHEETS	PANEL A2-19,21		2#8,1#10G,1/2"C, PROVIDE WITH 60A/NF/3P DISCONNECT					
UNIT MARK	SERVES	FED FROM	REMARKS	DISCONNECTING MEANS AND/OR BRANCH CIRCUIT SIZE					
CU-1	REFER TO MECH SHEETS	PANEL A2-2,4,6		3#10,1#10G,3/4"C, PROVIDE WITH 30A/NF/3P DISCONNECT					
CU-2	REFER TO MECH SHEETS	PANEL A2-8,10,12		3#12,1#12G,1/2"C, PROVIDE WITH 30A/NF/3P DISCONNECT					
CU-3	REFER TO MECH SHEETS	PANEL A2-14,16,18		3#12,1#12G,1/2"C, PROVIDE WITH 30A/NF/3P DISCONNECT					
CU-4	REFER TO MECH SHEETS	PANEL A2-20,22		2#12,1#10G,1/2"C, PROVIDE WITH 30A/NF/3P DISCONNECT					
UNIT MARK	SERVES	FED FROM	REMARKS	DISCONNECTING MEANS AND/OR BRANCH CIRCUIT SIZE					
DWH-1	REFER TO PLUMB SHEETS	PANEL A2-24,26		2#10,1#10G,1/2"C, PROVIDE WITH 30A/NF/2P DISCONNECT					
UNIT MARK	SERVES	FED FROM	REMARKS	DISCONNECTING MEANS AND/OR BRANCH CIRCUIT SIZE					
EF-1	REFER TO MECH SHEETS	PANEL A2-28		2#12,1#12G,1/2"C					
EF-2	REFER TO MECH SHEETS	PANEL A2-30		2#12,1#12G,1/2"C					

EXISTING PANELBOARD 'PNL-A'												
VOLTAGE: 208Y/120 VOLT 3 PHASE 4 WIRE, NEMA 1 200A MAIN CIRCUIT BREAKER BUSES: MAIN - 200 A; NEUTRAL - 100%; EQUIPMENT GROUND						LOCATION: EXISTING WAREHOUSE BLDG, INTERIOR MOUNTING: SURFACE						
VAL	VAR	VA-O	LOAD	BKR	CKT	PH	CKT	BKR	LOAD	VAL	VAR	VA-O
			LTS WAREHOUSE, S. CLASSROOM	20/1	1	A	2	20/1	RCPTS WAREHOUSE FRONT			
			LTS WAREHOUSE, S. CLASSROOM	20/1	3	B	4	20/1	RCPTS WAREHOUSE FRONT			
			LTS CLASSROOM	20/1	5	C	6	20/1	RCPTS CLASS, OUT OUTSIDE			
			LTS CLASSROOM	20/1	7	A	8	20/1	RCPTS CLASS, N. SIDE S. WALL			
			LTS HALLWAY	20/1	9	B	10	20/1	RCPTS CLASS, N. SIDE FRONT WALL			
			SPACE	20/1	11	C	12	20/1	RCPTS CLASS, N. SIDE BACKWALL			
			RCPT HALLWAY	20/1	13	A	14	20/1	WASHER			
			DATA RCPTS N. SIDE	20/1	15	B	16	20/1	RCPTS CLASS, N. SIDE NORTH WALL			
			OUTSIDE LTS	20/1	17	C	18	20/1	SPARE			
			SOUTH SIDE RCPTS ON TOP	20/1	19	A	20	20/1	TELEPHONE BOARD			
			SOUTH SIDE RCPTS ON TOP	20/1	21	B	22	20/1	SPARE			
			FIRE ALARM PANEL	20/1	23	C	24	20/1	SPACE			
			SPACE	20/1	25	A	26	20/1	SPACE			
			SPACE	20/1	27	B	28	30/2	WATER HEATER			
			SPACE	20/1	29	C	30	-	-			
			FCCU-1 S. SIDE CLASSROOM	20/1	31	A	32	20/1	DRYER			
			FCCU-1 S. SIDE CLASSROOM	20/1	33	B	34	30/2	-			
			AHU-1 NORTH SIDE	X/2	35	C	36	X/2	AHU-2 NORTH SIDE			
				-	37	A	38	-	-			
			CU-2 NORTH SIDE CLASSROOM	X/2	39	B	40	X/2	CU-1 NORTH SIDE			
				-	41	C	42	-	-			

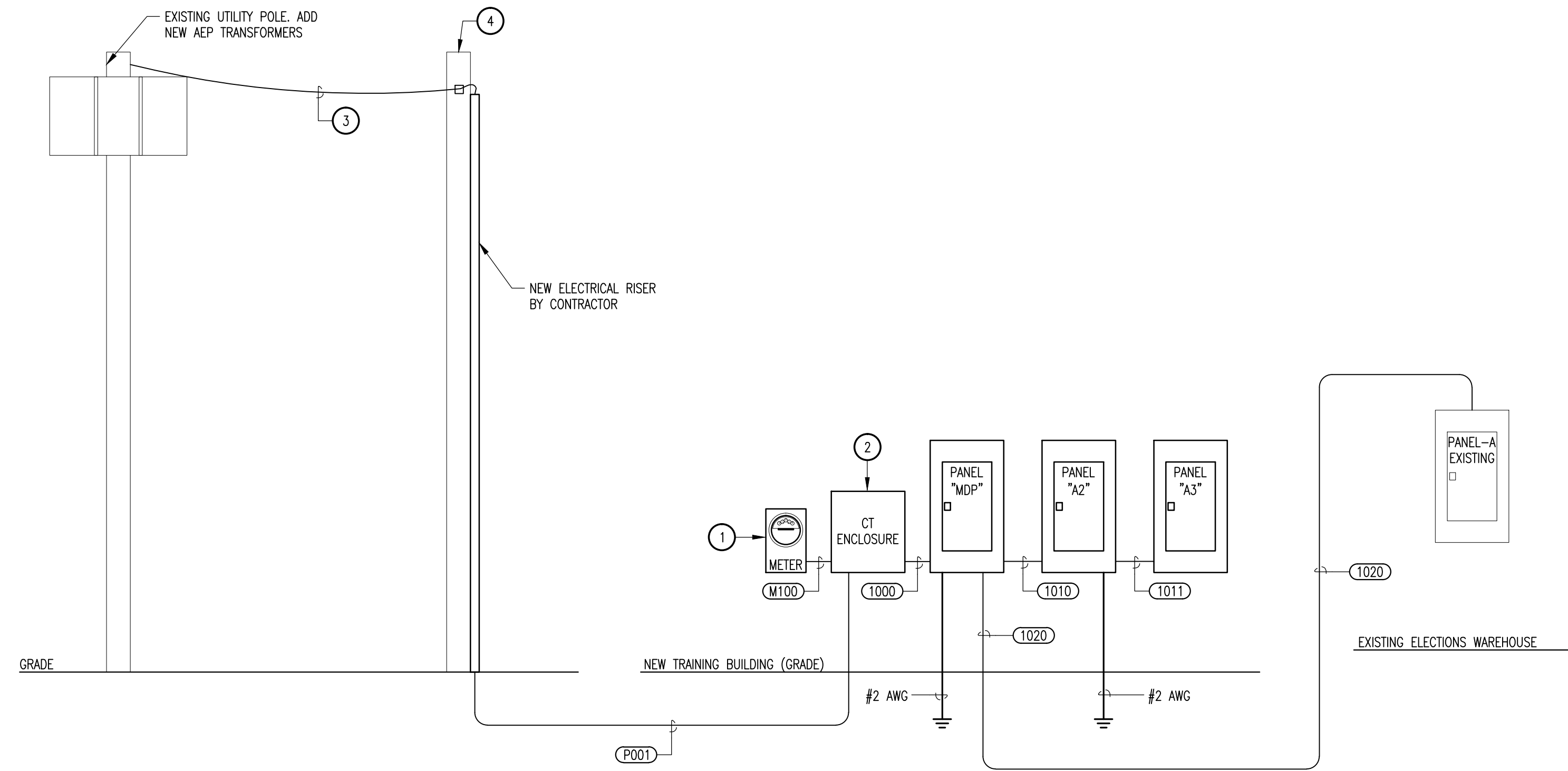
VAL (LIGHTING) CONNECTED DEMAND
VAR (RECEPTACLES) CONNECTED DEMAND
VA-O (OTHER) CONNECTED DEMAND
VA: TOTAL CONNECTED DEMAND
AMPS: TOTAL CONNECTED DEMAND

L	R
---	---

FEEDER / BRANCH CIRCUIT SCHEDULE					
MARK	RACEWAY	PHASE CONDUCTORS	NEUTRAL CONDUCTORS	GROUND CONDUCTORS	REMARKS
P001	2-1/2"	3#350KCMIL	----	1#1	TWO PARALLEL FEEDERS REQUIRED
M001	1-1/4"	----	----	----	----
1000	2-1/2"	3#350KCMIL	----	1#1	TWO PARALLEL FEEDERS REQUIRED
1010	2-1/2"	3#3/0	1#3/0	----	TWO PARALLEL FEEDERS REQUIRED
1011	1-1/2"	3#1	1#1	1#6	----
1020	2"	3#3/0	1#3/0	1#6	----

GENERAL NOTES:

- A. INFORMATION ON THIS SHEET HAS BEEN TAKEN FROM SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING WORK AND REPORT ANY AND ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THESE PLANS TO THE ENGINEER IMMEDIATELY.
- B. CONTRACTOR SHALL INCLUDE IN HIS BID ALL NEW TRENCHING, SAW CUTTING, AND PATCHING OF NEW CONDUIT TO BE ROUTED UNDERGROUND.



KEY NOTES: #

- 1. CONTRACTOR TO PROVIDE WITH METER SOCKET, AND AEP TO PROVIDE WITH METER. COORDINATE WITH AEP.
- 2. CONTRACTOR SHALL PROVIDE WITH CT (CURRENT TRANSFORMER) ENCLOSURE.
- 3. OVERHEAD ELECTRICAL SERVICE BY AEP.
- 4. CONTRACTOR SHALL PROVIDE NEW POLE WITH WEATHERHEAD AND CONDUIT. COORDINATE WITH AEP ON CONNECTION.

01 ELECTRICAL RISER DIAGRAM
SCALE: N.T.S.

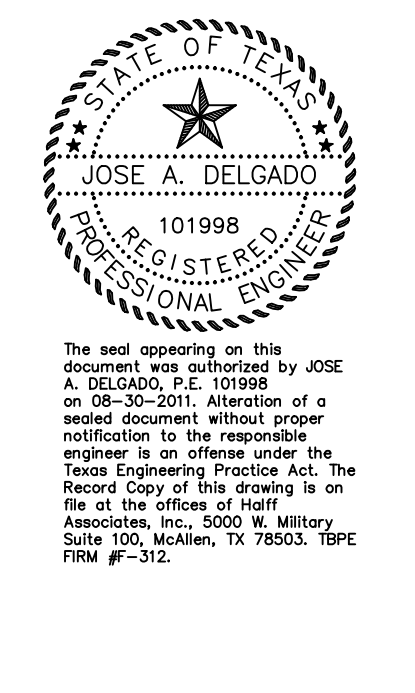
HIDALGO COUNTY
ELECTIONS WAREHOUSE RENOVATION
EDINBURG, TEXAS



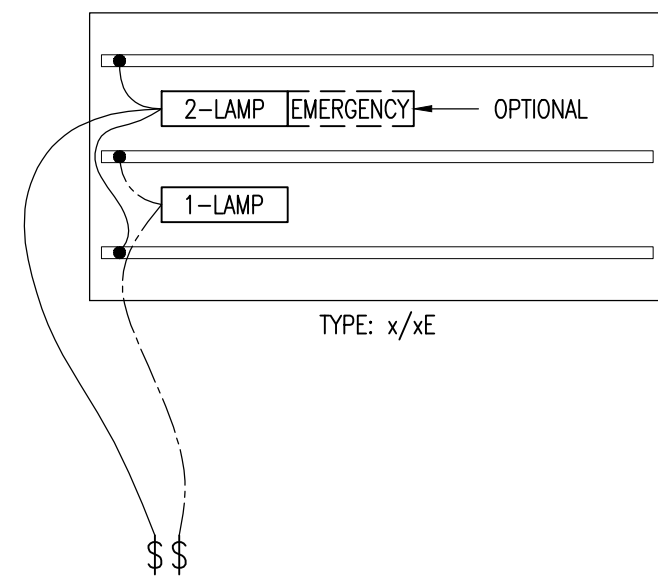
HALFF
6505 WEST AIR TRKY, SUITE 100
MCALLEN, TEXAS 78503
TEL: (956) 864-0886
FAX: (956) 864-0887
TEPE FIRM #F-312

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19724
1108 MIDLAND LOOP, STE. 200, MCALLEN, TX 78503-1527

Revision No.	Date	Description

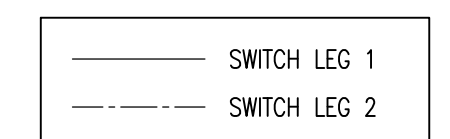


Project No.:	28237
Issued:	8/30/2011
Drawn By:	
Checked By:	JD
Scale:	AS SHOWN
Sheet Title	ELECTRICAL RISER DIAGRAM
Sheet Number	E3.01

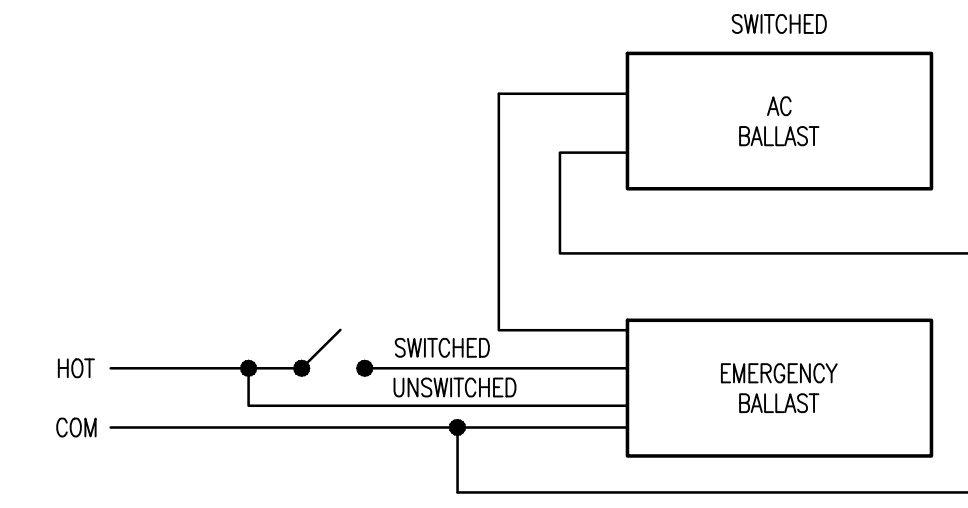


NOTES:

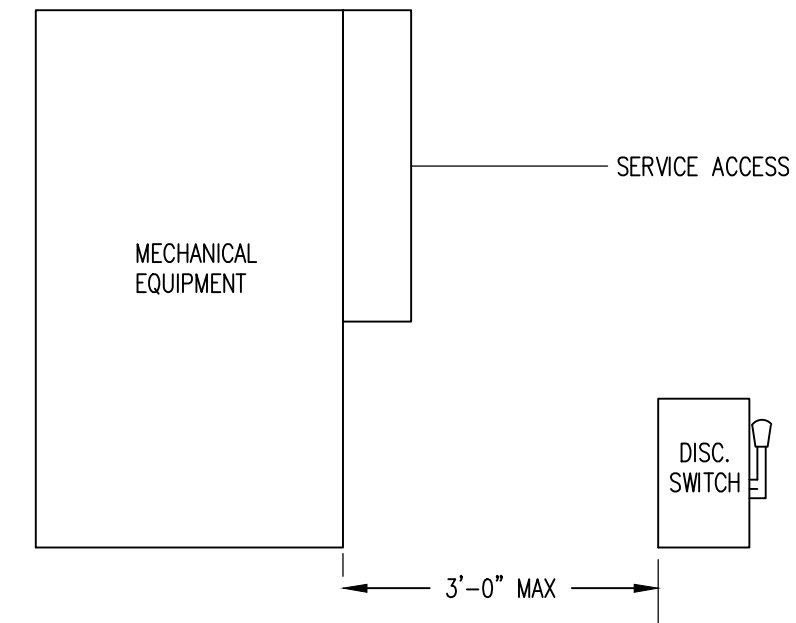
- A. REFER TO LIGHT FIXTURE SCHEDULE AND LIGHTING PLANS FOR FIXTURE TYPE, REQUIREMENTS, LIGHTING CONTROL OPTIONS, AND CIRCUIT ASSIGNMENT.
- B. IF USED IN CONJUNCTION WITH OCCUPANCY SENSORS, REFER TO SENSOR CONTROL DIAGRAM FOR FURTHER INFORMATION.



03 TYPICAL STAND ALONE 3-LAMP FIXTURE WIRING SCHEMATIC-DUAL LEVEL SWITCHING
SCALE: N.T.S.



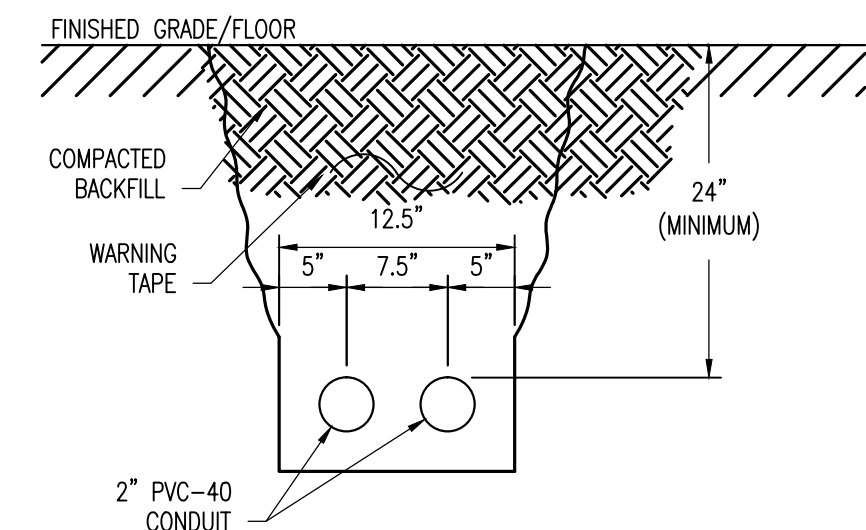
04 EMERGENCY BALLAST WIRING DETAIL
SCALE: N.T.S.



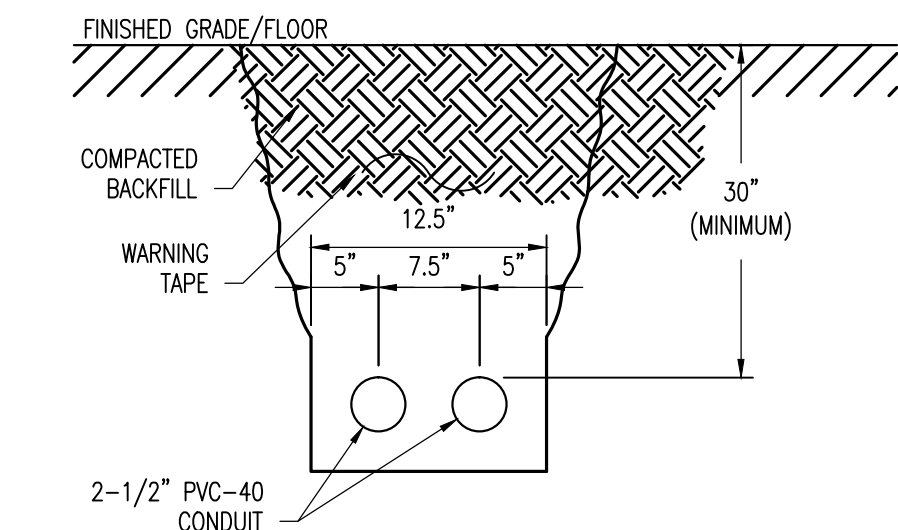
GENERAL NOTES:

- A. SWITCH HANDLE SHALL BE ACCESSIBLE FROM SERVICE ACCESS PANEL. MOUNT SWITCH VERTICALLY.

07 MECHANICAL EQUIPMENT DISCONNECT DETAIL
SCALE: N.T.S.

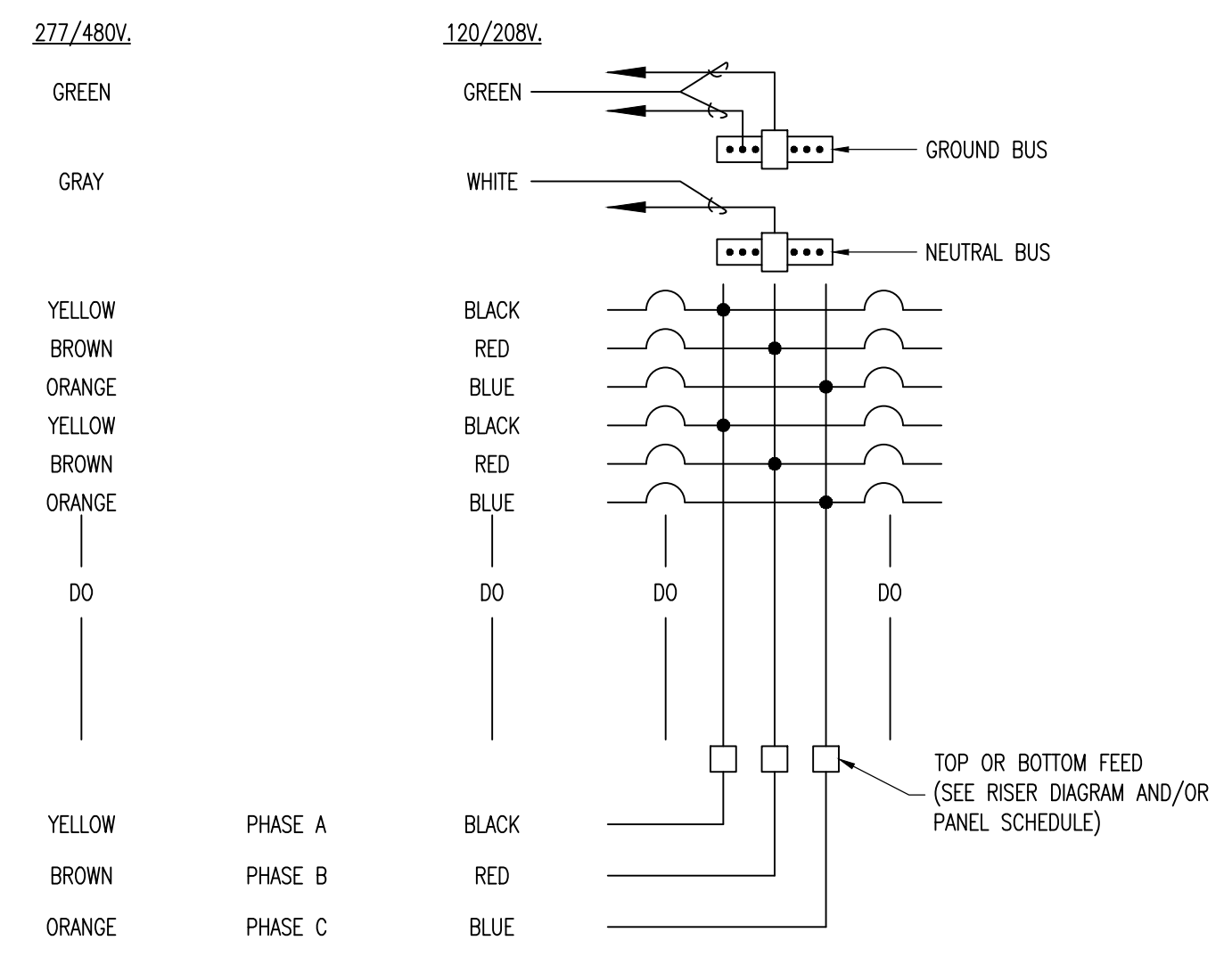


COMMUNICATIONS - SECTION A-A

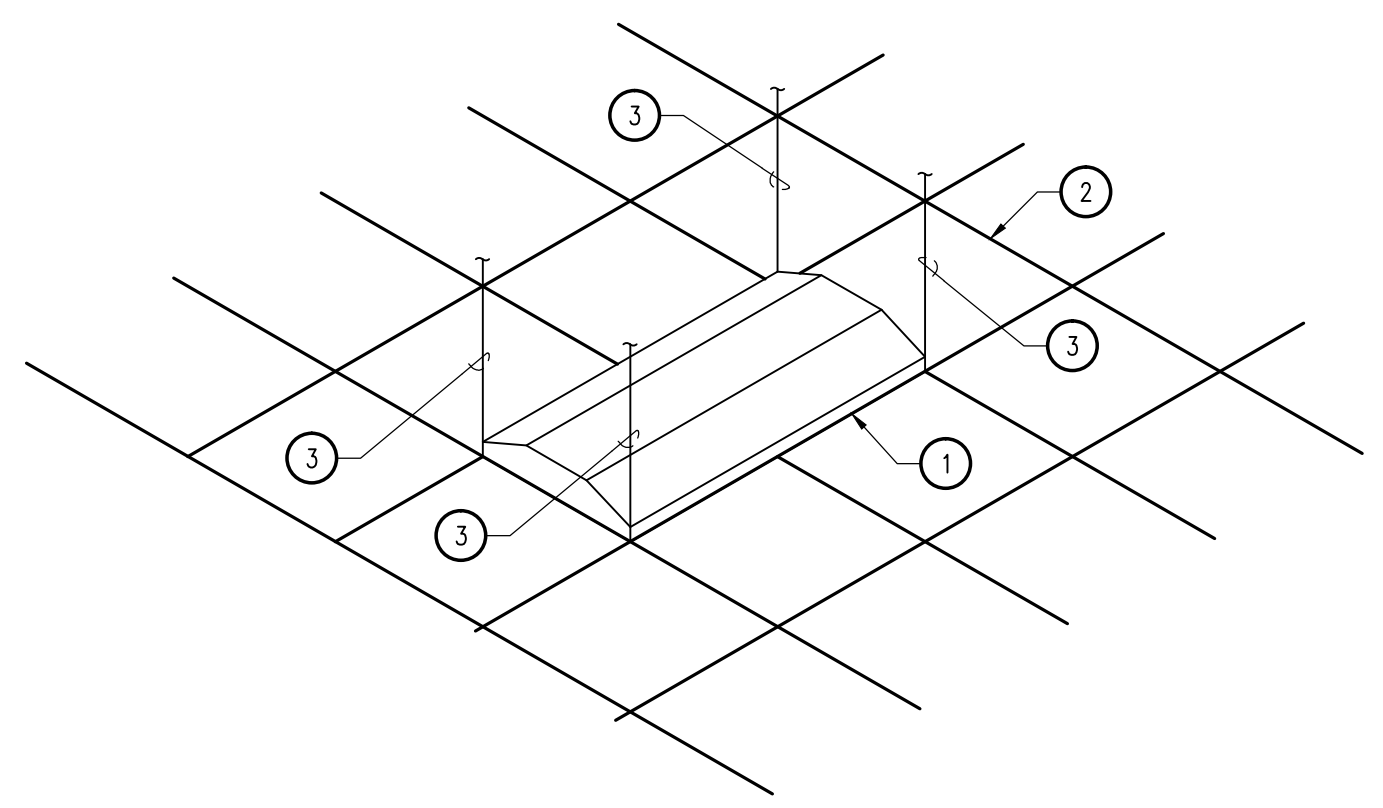


SECONDARY ELECTRICAL SERVICE

08 DUCTBANK DETAILS
SCALE: N.T.S.



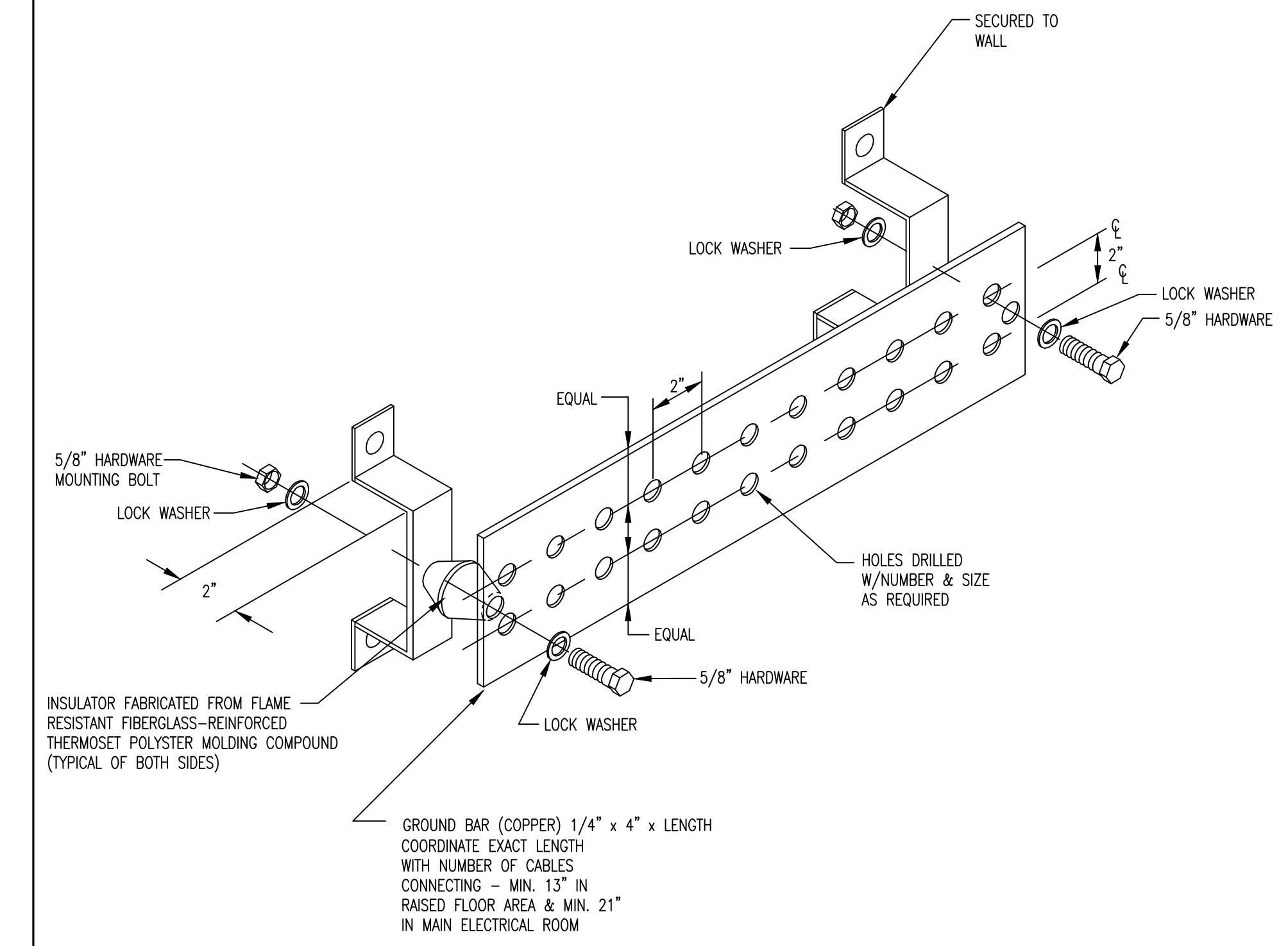
02 TYPICAL PANEL COLOR CODE
SCALE: N.T.S.



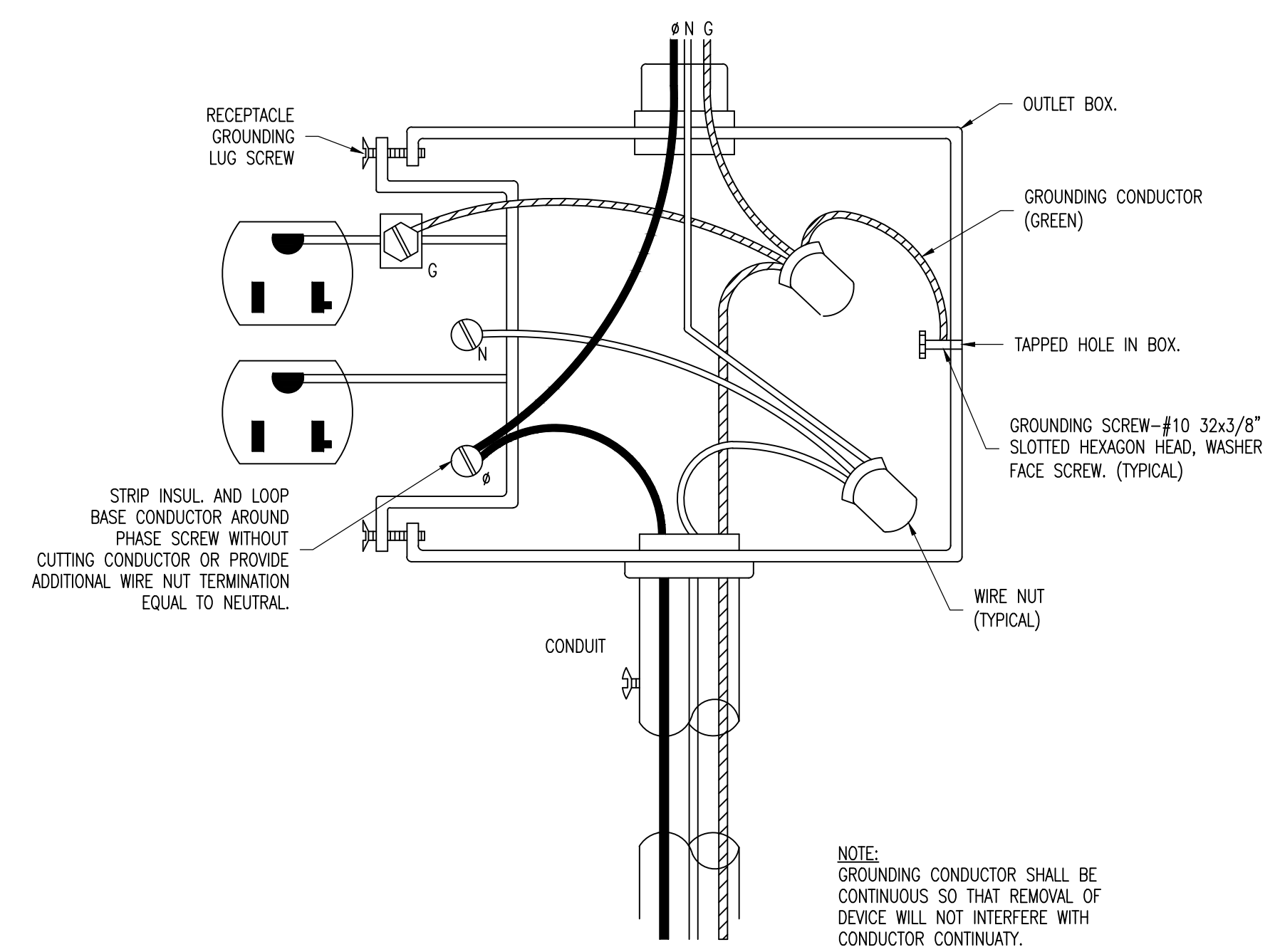
NOTES BY SYMBOL "Ⓝ"

1. 2'x4' LAY-IN FLUORESCENT FIXTURE
2. SUSPENDED CEILING
3. TIE WIRE, CONNECT TO ALL FOUR CORNERS OF FIXTURE TO STRUCTURE ABOVE, INDEPENDENT OF CEILING SUPPORTS.

06 TYPICAL LAY-IN FIXTURE SUPPORT
SCALE: N.T.S.



01 WALL MOUNTED SINGLE-PORT GROUND BAR DETAIL
SCALE: N.T.S.



05 TYPICAL RECEPTACLE GROUNDING DETAIL
SCALE: N.T.S.



HALFF
6505 WEST AIR PARK, SUITE 100
MCALLEN, TEXAS 78120
TEL: (361) 664-0288
TELE FAX: (361) 664-0288
T.B.A.E. FIRM REGISTRATION #19724

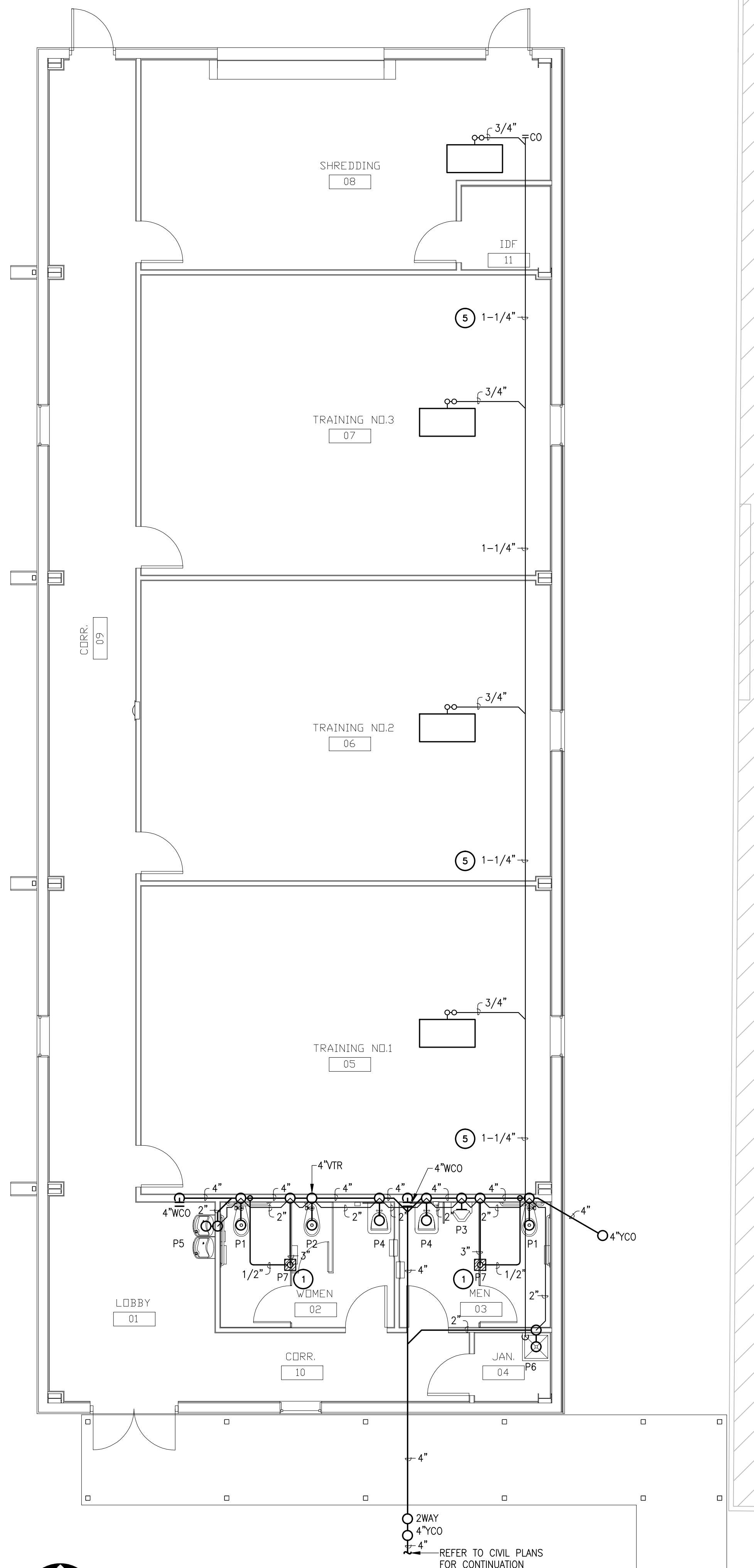
DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
1105 MIDLAND CIRCLE, STE. 200, MCALLEN, TX 78108
T.B.A.E. FIRM REGISTRATION #19724

Revision No.	Date	Description

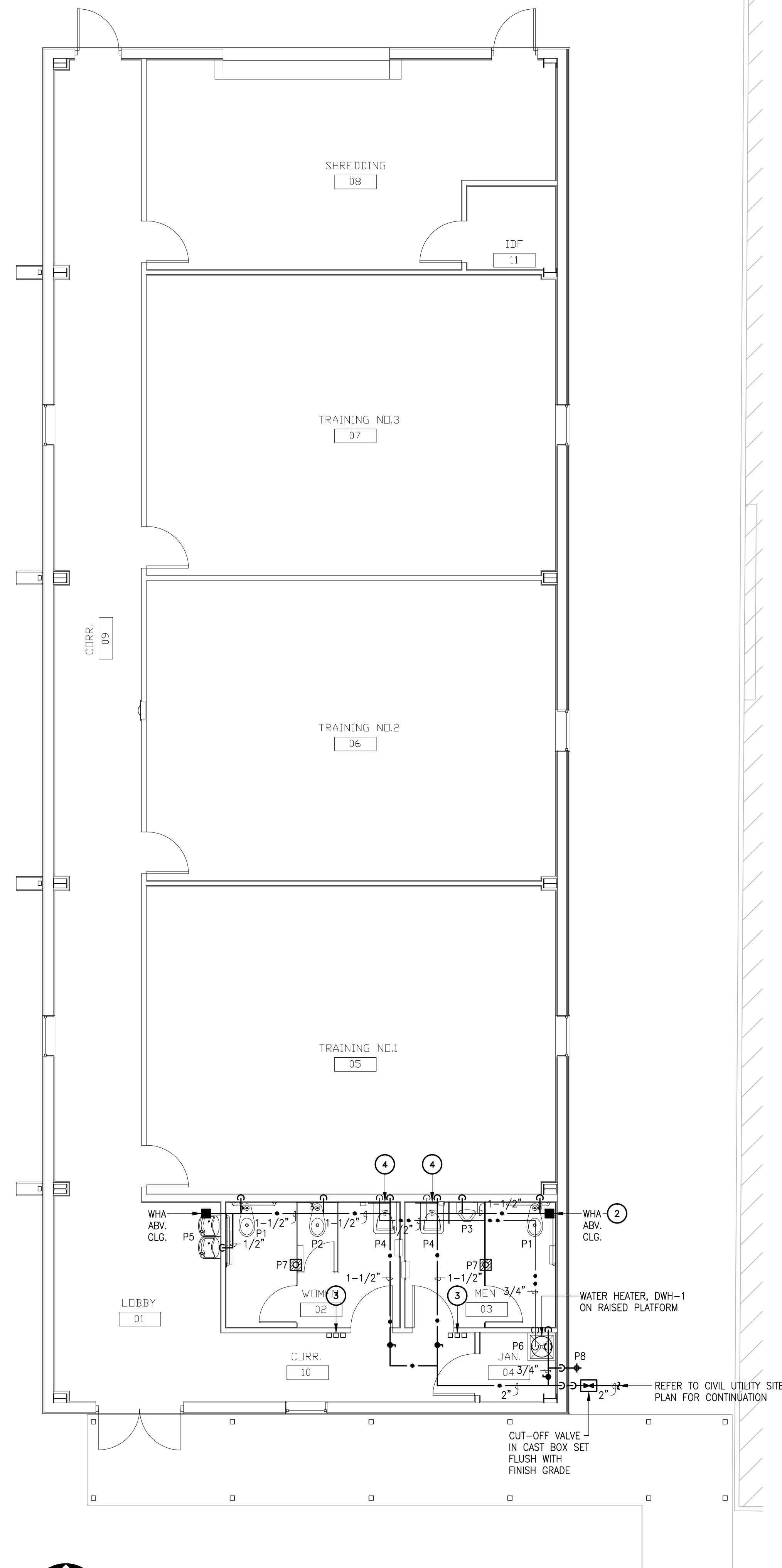
STATE OF TEXAS
101998
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by JOSE A. DELGADO, P.E. 121898 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the Association, Inc., 5000 W. Military Avenue, Houston, TX 77052. TBPB FIRM #1312.

Project No.:	28237
Issued:	8/30/2011
Drawn By:	
Checked By:	JD
Scale:	AS SHOWN
Sheet Title	ELECTRICAL DETAILS
E4.01	Sheet Number



01 PLUMBING SEWER PLAN
SCALE: 3/16" = 1'-0"



02 PLUMBING WATER PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

- A. INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS & CONSTRUCTION DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND/OR ARCHITECT.
- B. COORDINATE EXACT LOCATION OF ALL FLOOR DRAINS WITH MECHANICAL EQUIPMENT LOCATION AND CONDENSATE DRAIN REQUIREMENTS PRIOR TO ANY INSTALLATION.
- C. ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMER CONNECTION.
- D. PLUMBING CONTRACTOR SHALL ADHERE TO ALL CITY CODES AND OTHER STATE CODES AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.
- E. PLUMBING CONTRACTOR SHALL EXTEND ALL CONDENSATE AND INDIRECT DRAINS FROM EQUIPMENT TO FLOOR DRAINS.
- F. PLUMBING CONTRACTOR SHALL TERMINATE ALL WATER ROUGH-IN WITH SHUT-OFF VALVES BEFORE CONNECTING TO EQUIPMENT AND RELATED FIXTURES.
- G. PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY INSTALLATION OF PIPING AND DUCTWORK PRIOR TO BEGINNING OF CONSTRUCTION.
- H. INSULATE "P" TRAPS AND SUPPLIES AT HANDICAP LAVATORIES WITH INSULATION KIT.
- I. PROVIDE VACUUM BREAKER TO ALL FIXTURES WITH HOSE CONNECTION AND APPLIANCES WITH DIRECT CONNECTIONS TO DOMESTIC WATER.
- J. REFER TO ARCHITECTS DRAWINGS FOR MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES.
- K. PROVIDE STOPS AND WATER HAMMER ARRESTORS AT EACH FIXTURE OR GROUP OF FIXTURES.
- L. ALL VENTS THROUGH ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE ROOF. ALL VENTS SHALL BE MINIMUM OF 10' AWAY FROM ANY OUTSIDE AIR INTAKE.
- M. PROVIDE CEILING ACCESS PANEL FOR WATER ISOLATION VALVES AND WATER HAMMER ARRESTORS IN OTHERWISE INACCESSIBLE AREAS.

KEY NOTES: (F)

1. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PRIMED FROM TRAP PRIMER VALVE ABOVE CEILING. REFER TO DOMESTIC WATER PLAN FOR TRAP PRIMER VALVE LOCATION ABOVE CEILING.
2. WATER HAMMER ARRESTOR IN CHASE. PROVIDE 12"x12" HINGED 16 GAUGE STEEL ACCESS PANEL WITH LOCKABLE KEYS DOOR. PRIME COATED WITH RUST INHIBITIVE ELECTROSTATIC POWDER, BAKED GREY ENAMEL AND SHALL BE PAINTED TO MATCH SURROUNDING AREAS. COORDINATE LOCATION TO AVOID CONFLICTS WITH LIGHT FIXTURES AND MECHANICAL DIFFUSERS.
3. ELECTRICAL TRANSFORMERS (ONE PER FIXTURE) FOR SENSOR METERING FLUSH VALVES AND FAUCETS AS SPECIFIED ON SCHEDULE. INSTALL TRANSFORMER ABOVE CEILING ACCESSIBLE FOR MAINTENANCE. PROVIDE 18"x18" ACCESS PANEL AND PAINT TO MATCH CEILING. PLUMBING CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL REQUIREMENTS AND FINAL LOCATION PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICT.
4. PROVIDE AND INSTALL THERMOSTATIC MIXING VALVE BELOW LAVATORY. REFER TO PLUMBING SCHEDULE AND DETAIL FOR REQUIREMENTS.
5. INSULATED COPPER CONDENSATE DRAIN LINE IN ATTIC SPACE. PROVIDE PIPE HANGER SUPPORTS MAXIMUM 5'-0" O.C. SPACING. ROUTE AND DROP CONDENSATE LINE TO NEAREST MOP SINK. CLAMP CONDENSATE DRAIN LINE SECURELY TO WALL.

PLUMBING CONTRACTOR SHALL COORDINATE DOMESTIC WATER AND SANITARY SEWER LINE DIRECTION OF FLOW, SIZE, INVERT, AND POINT OF CONNECTION WITH EXISTING CONDITIONS AND CIVIL ENGINEERS PLANS PRIOR TO INSTALLATION OF ROUGH-IN TO AVOID CONFLICT. ANY DISCREPANCIES FOUND BY THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.



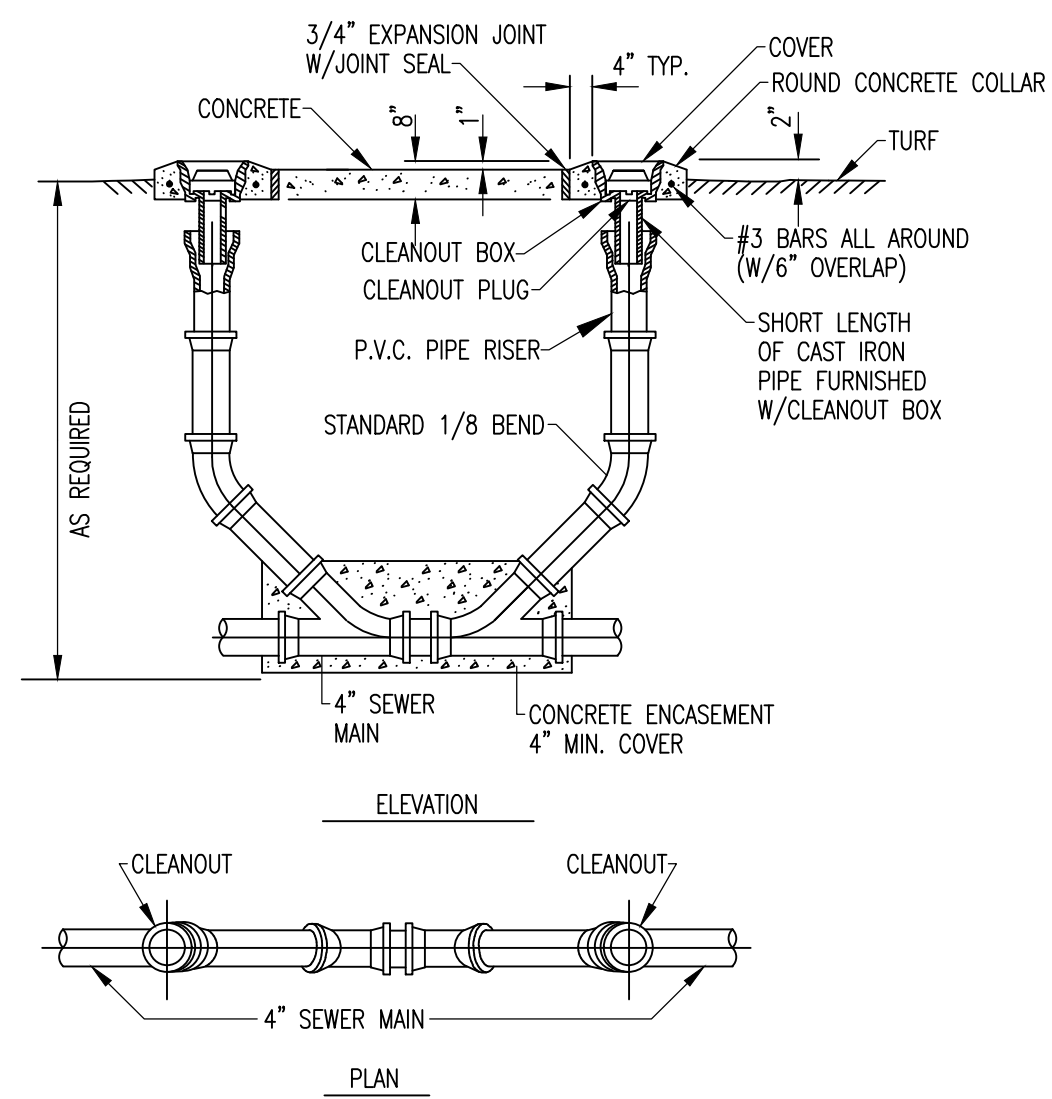
HALFF
6505 WEST AIR PARK, SUITE 100
MCALLEN, TEXAS 78503
TEL: (956) 664-0888
FAX: (956) 664-0889
TBPB FIRM #F-312

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1008 WINDMILL CIRCLE, STE. 200, MCALLEN, TX 78501 (956) 664-8877

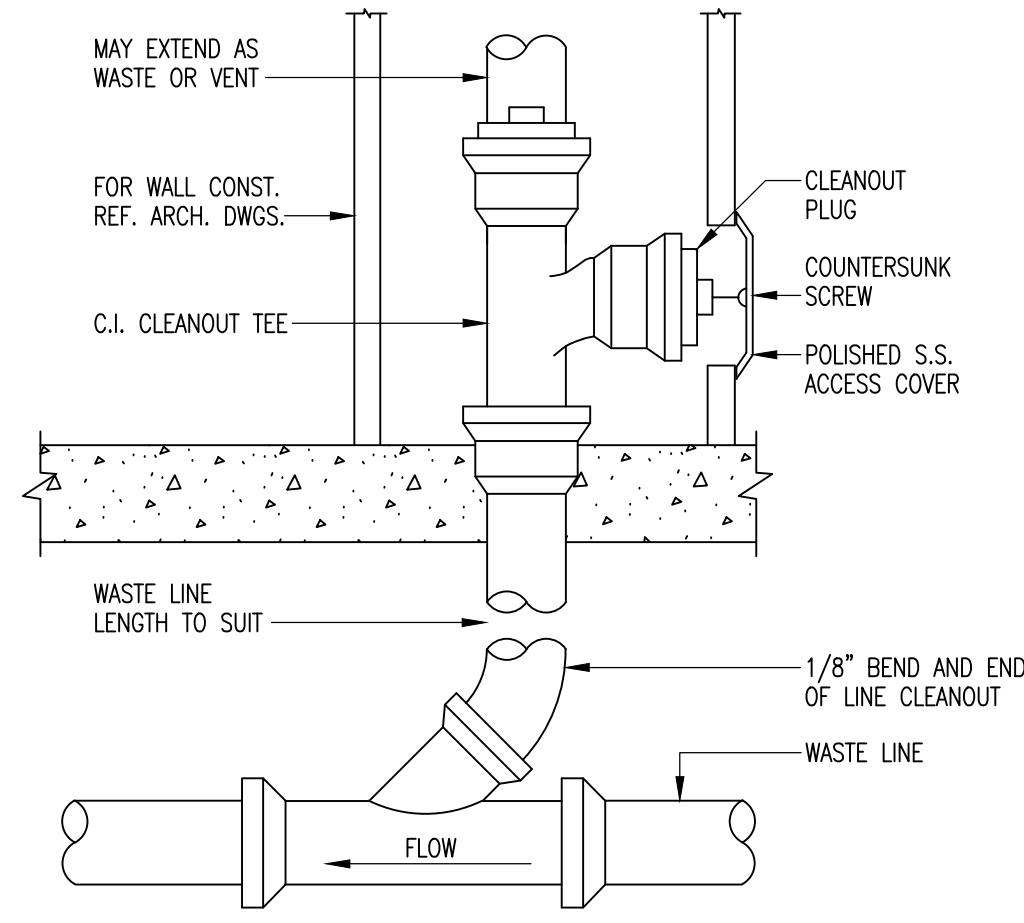
Revision No.	Date	Description

The seal appearing on this document was authorized by MENTON J. MURRAY, No. 87004 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Architect, Inc., 5000 W. Military Avenue, Suite 100, McAllen, TX 78503. TBPB FIRM #F-312.

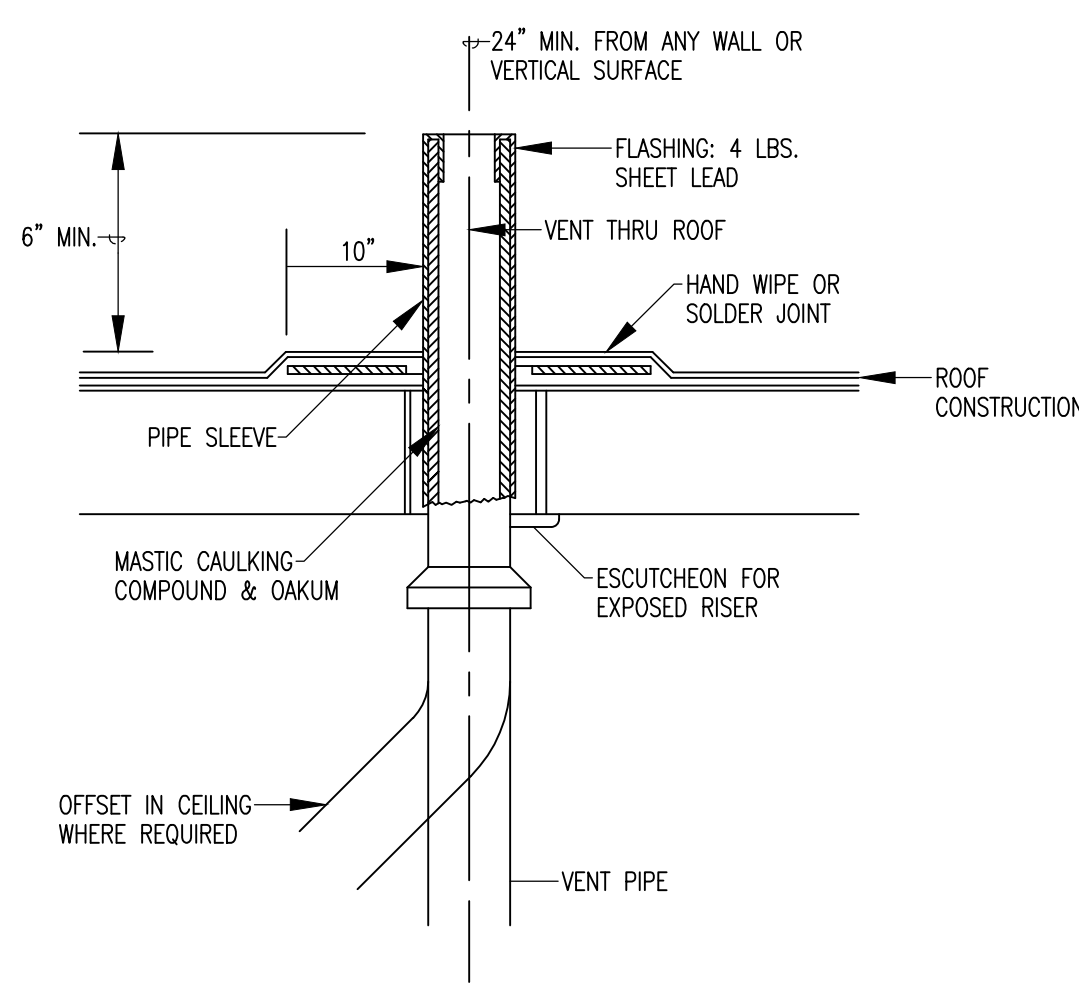
Project No.:	28237
Issued:	8/30/2011
Drawn By:	
Checked By:	MJM
Scale:	AS SHOWN
Sheet Title	PLUMBING PLAN
Sheet Number	P1.01



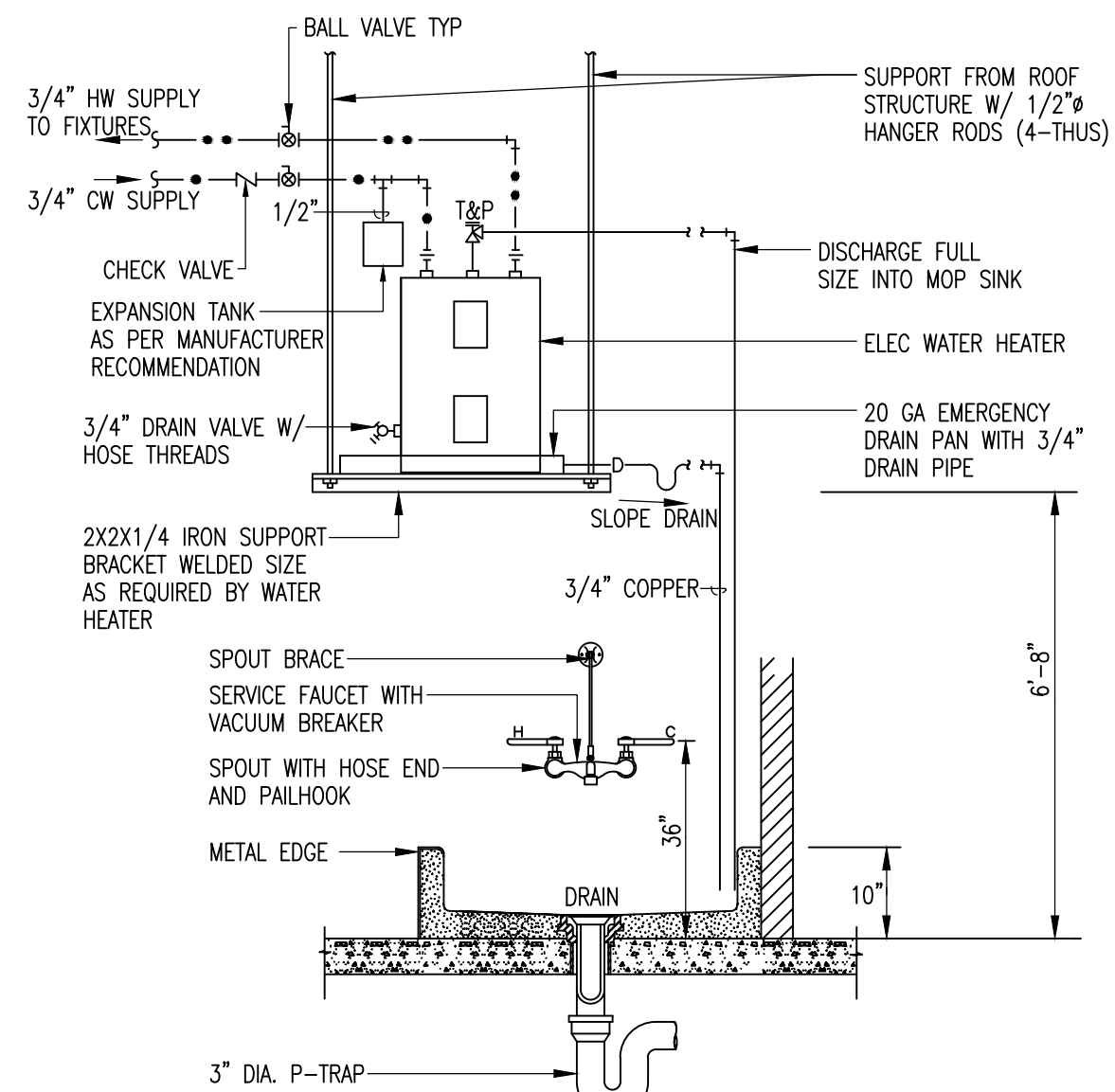
01 TYPICAL EXTERIOR TWO WAY CLEANOUT DETAIL
SCALE: N.T.S.



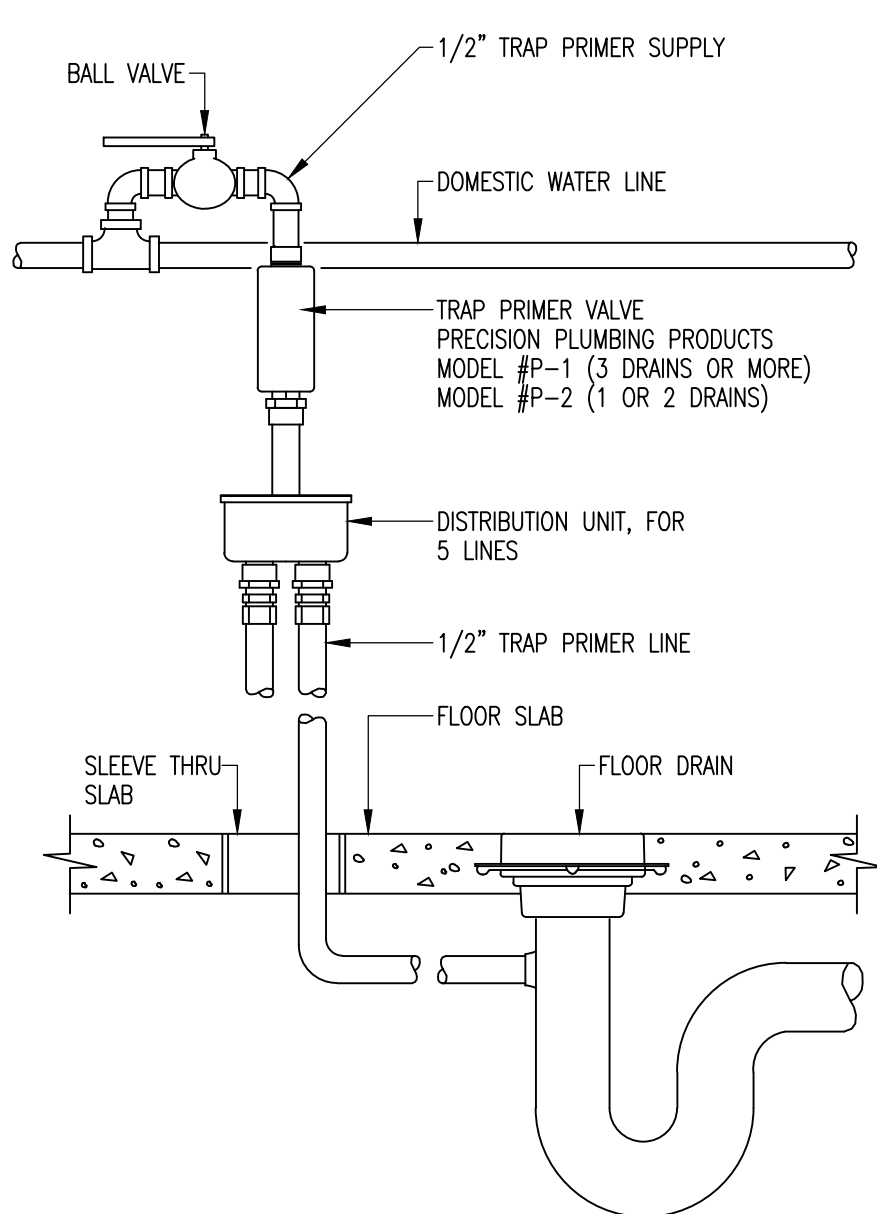
02 WALL CLEANOUT DETAIL
SCALE: N.T.S.



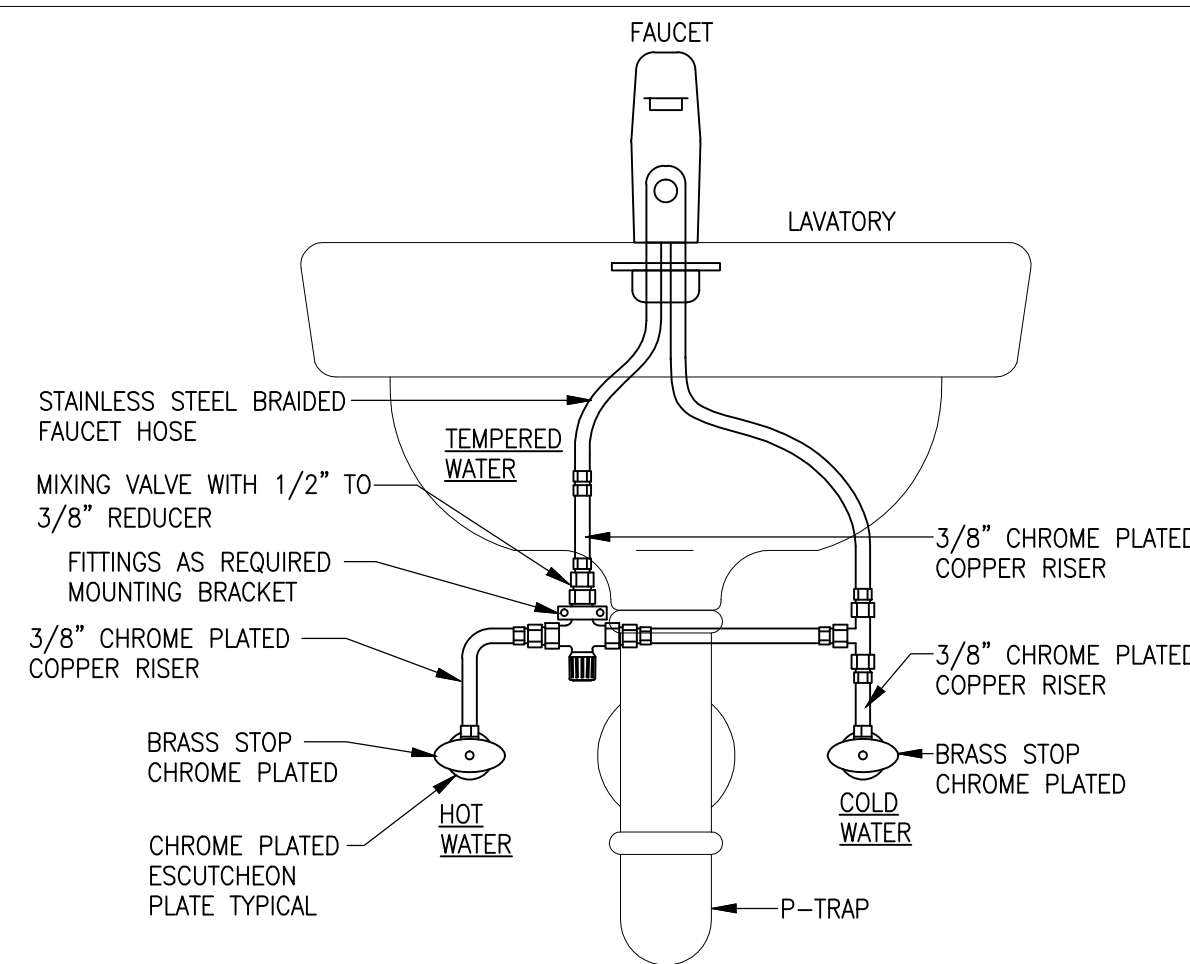
03 VENT THROUGH ROOF DETAIL
SCALE: N.T.S.



04 WATER HEATER ON PLATFORM MOUNTING DETAIL
SCALE: N.T.S.



05 TRAP SEAL PRIMER DETAIL
SCALE: N.T.S.



NOTE:
1. MIXING VALVE AND WATER LINES SHALL BE INSTALLED BETWEEN WALL AND P-TRAP TAILPIECE
2. PROVIDE AND INSTALL COVER KIT FOR P-TRAP AND STOPS.
3. FIELD INSULATE MIXING VALVE AND PIPING FROM MIXING VALVE TO FAUCET CONNECTION. JACKET INSULATION TO MATCH TRAP COVER KIT.
4. PROVIDE AND INSTALL REQUIRED 1/2" TO 3/8" REDUCERS AND CONNECTION FITTINGS.

06 MIXING VALVE UNDER LAVATORY DETAIL
SCALE: N.T.S.

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—●—	DOMESTIC COLD WATER LINE	— —	BALL VALVE	— —	BRANCH - TOP CONNECTION	F.F.E.	FINISH FLOOR ELEVATION
—●—	DOMESTIC HOT WATER LINE	— —	CHECK VALVE	— —	PIPE RISER	FU	FIXTURE UNITS
—TW—	DOMESTIC TEMPERED WATER LINE	— —	GATE VALVE	— —	PIPE DROP	GW	GREASE WASTE
—	SANITARY SEWER VENT LINE	— —	FLOOR CLEANOUT	— —	THERMOMETER	I.E.	INVERT ELEVATION
—	SANITARY WASTE LINE	— —	YARD CLEANOUT	— —	DIRECTION OF FLOW	HW	HOT WATER
—CD—	CONDENSATE LINE	— —	FLOOR SINK	— —	CV	SS	SANITARY SEWER
—GW—	GREASE WASTE LINE	— —	FLOOR DRAIN	— —	HWCO	TP	TRAP PRIMER
—GAS—	GAS LINE	— —	ROOF DRAIN	— —	PLUMBING RISER DESIGNATION	TYP	TYPICAL
—AIR—	AIR LINE	— —	HUB DRAIN	— —	PLUMBING DETAIL REFERENCE	UND. LAV.	UNDER LAVATORY
—AW—	ACID WASTE LINE	— —	WALL HYDRANT	— —	ABV. CLG.	V	VENT
—RD—	ROOF DRAIN LINE	— —	HOSE BIBB	— —	B.F.F.	VTR	VENT THRU ROOF
—OD—	OVERFLOW DRAIN LINE	— —	WATER HAMMER ARRESTOR	— —	CO		CLEAN OUT
—		— —	UNION	— —	CW		COLD WATER

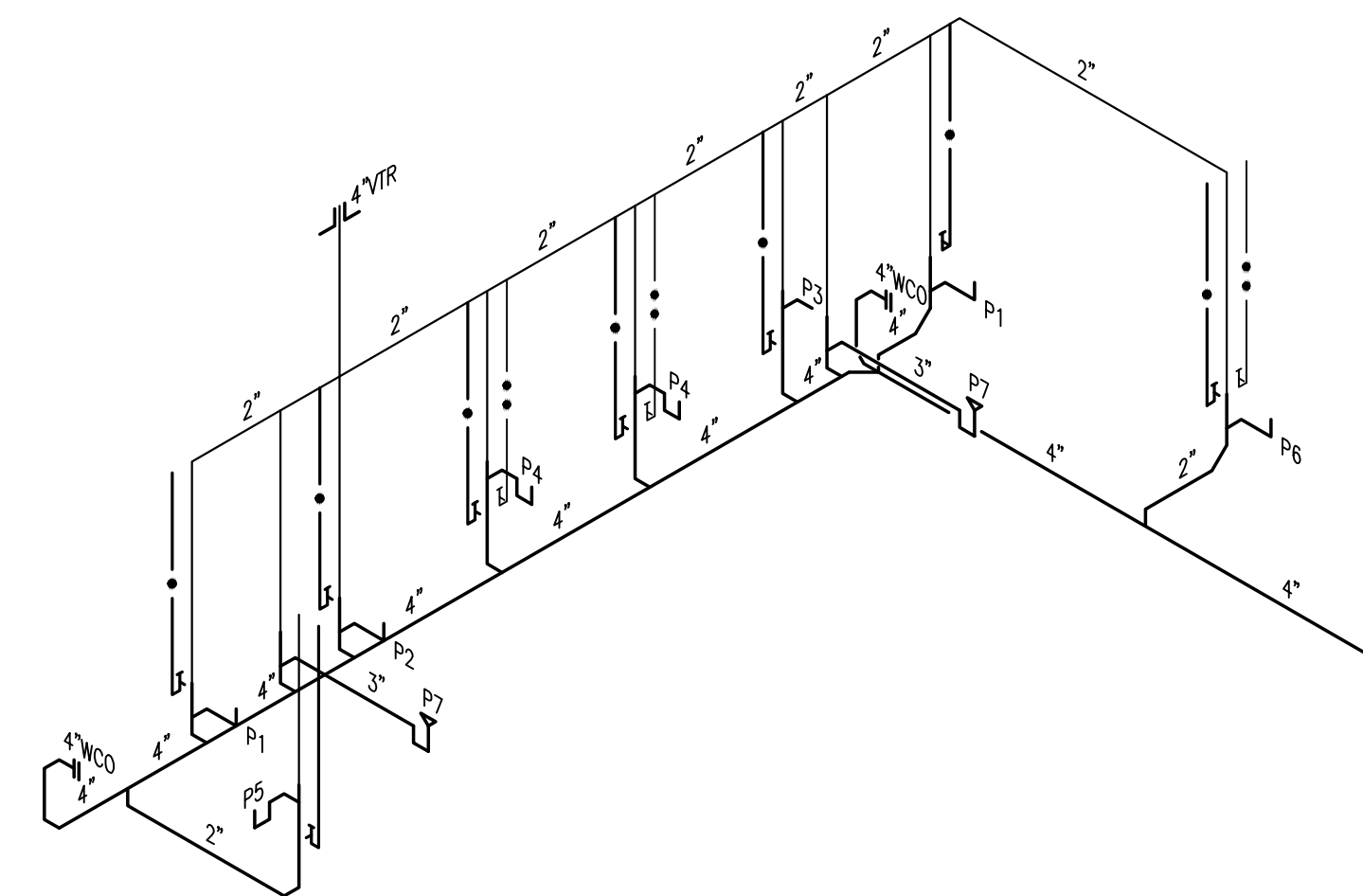
NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

PLUMBING SCHEDULE

MARK	FIXTURE TYPE	CONNECTION SIZE				DESCRIPTION
		SEWER	VENT	CW	HW	
P1	WATER CLOSET (HANDICAP)	4"	2"	1"	—	VITREOUS CHINA, ELONGATED RIM, FLOOR MOUNTED WATER CLOSET WITH WITH 1-1/2" TOP SPUD. KOHLER "HIGHCREST" MODEL "K-4302", 1.6 GPF, EXPOSED SENSOR ACTIVATED FLUSH VALVE SLOAN ROYAL MODEL "111-1.6 ES-S" WITH TRAP PRIMER CONNECTION WHERE INDICATED ON PLANS. CHURCH MODEL "9500C" OPEN FRONT SEAT LESS COVER. PROVIDE AND INSTALL BOX MOUNT TRANSFORMERS ROYAL MODEL "EL-154" 120V (USE ONE TRANSFORMER PER FLUSH VALVE).
P2	WATER CLOSET	4"	2"	1"	—	VITREOUS CHINA, ELONGATED RIM, FLOOR MOUNTED WATER CLOSET WITH WITH 1-1/2" TOP SPUD. KOHLER "WELLCOME" MODEL "K-4350", 1.6 GPF, EXPOSED SENSOR ACTIVATED FLUSH VALVE SLOAN ROYAL MODEL "111-1.6 ES-S" WITH TRAP PRIMER CONNECTION WHERE INDICATED ON PLANS. CHURCH MODEL "9500C" OPEN FRONT SEAT LESS COVER. PROVIDE AND INSTALL BOX MOUNT TRANSFORMERS ROYAL MODEL "EL-154" 120V (USE ONE TRANSFORMER PER FLUSH VALVE).
P3	URINAL (HANDICAP)	2"	2"	3/4"	—	VITREOUS CHINA, WALL HUNG, SIPHON JET ACTION WITH 3/4" TOP SPUD AND WALL HANGERS. MINIMUM 14" RIM TO WALL DISTANCE. EQUAL TO KOHLER DEXTER MODEL No. "K-5016-ET", WITH EXPOSED SENSOR ACTIVATED FLUSH VALVE SLOAN ROYAL MODEL "180-1.0 ES-S" AND APPROVED CARRIER. PROVIDE AND INSTALL BOX MOUNT TRANSFORMERS ROYAL MODEL "EL-154" 120V (USE ONE TRANSFORMER PER FLUSH VALVE).
P4	LAVATORY WALL HUNG (HANDICAP)	2"	2"	1/2"	1/2"	VITREOUS CHINA, WALL HUNG LAVATORY WITH FAUCET HOLES ON 4" CENTERS EQUAL TO KOHLER "CHESAPEAKE" MODEL "K-1729-0", COMPLETE WITH INFRARED SENSOR LAVATORY FAUCET BRADLEY MODEL "553-329-150-221", CHROME PLATED TRIM PLATE, VANDAL RESISTANT, INDICATORS, 0.5 GPM, ADA APPROVED. PROTECTIVE COVER ON P-TRAP AND APPROVED CARRIER. PROVIDE AND INSTALL BOX MOUNT TRANSFORMERS BRADLEY MODEL "232-009" 12V (USE ONE TRANSFORMER PER FAUCETS). INSTALL A THERMOSTATIC WATER MIXING VALVE EQUAL TO LEONARD MODEL "170-BRKT-BP". COMPLETE WITH MOUNTING BRACKET AND COLD WATER BYPASS PORT. REFER TO DETAIL FOR INSTALLATION REQUIREMENTS.
P5	BI-LEVEL ELECTRICAL WATER COOLER (HANDICAP)	2"	2"	1/2"	—	BI-LEVEL SELF-CONTAINED WALL HUNG, REFRIGERATED WATER COOLER EQUAL TO ELKAY "EZ3L-8", SELF CLOSING CONTROLS ON FRONT AND SIDE. STAINLESS STEEL BASIN, FLEX-GUARD BUBBLER CAPABLE OF DELIVERING 8.0 GPH OF 50° F WATER WITH 80° F INLET WATER AND 90° F ROOM TEMPERATURE. PROVIDE WITH CANE APRON ELKAY MODEL "LKAPREZL" AND APPROVED CARRIER.
P6	MOP SINK FLOOR MOUNTED	2"	2"	3/4"	3/4"	FLOOR-MOUNTED TERRAZZO CORNER SERVICE SINK EQUAL TO STERN-WILLIAMS MODEL "SBC-1702", 24"x24"x12" WITH 6" DROP FRONT AND STAINLESS STEEL RIM GUARDS ON ALL SIDES. COMPLETE WITH SERVICE SINK FAUCET EQUAL TO CHICAGO MODEL "540-LD-8975-WXF" WITH 8" CENTERS, PAIL HOOK, WALL BRACKET, VACUUM BREAKER SPOUT, AND LEVER HANDLES. STAINLESS STEEL BACK PANELS, MOP HANGER AND 5" REINFORCED RUBBER HOSE.
P7	GENERAL DUTY FLOOR DRAIN	3"	2"	—	—	ZURN MODEL "Z-415-B" LACQUERED CAST IRON FLOOR DRAIN. COMPLETE WITH "TYPE B" NICKEL BRONZE STRAINER AND 1/2" TRAP PRIMER CONNECTION.
P8	HOSE BIBB	—	—	3/4"	—	WOODFORD MODEL "26-P" CHROME FINISH WALL MOUNTED FAUCET, WITH BACK FLOW PREVENTER, AND LOOSE TEE KEY

WATER HEATER SCHEDULE

MARK	STORAGE GALLONS	RECOVERY G.P.H.	DEGREE RISE °F	WATER TEMP. LEAVING	WATER INLET	WATER OUTLET	DESCRIPTION
DWH-1	20	18	100'	120'	3/4"	3/4"	RHEEM COMMERCIAL WATER HEATER, MODEL No. EGSP20, ELECTRICAL TANK TYPE, 4.5KW, 20BV, 10



07 PLUMBING RISER - SCHEMATIC DIAGRAM
SCALE: N.T.S.

HALFF
6505 WEST HILBERRY SUITE 100
MCALLEN, TEXAS 78503
TEL (956) 864-0288
FAX (956) 864-0289
TSP# 19848-0001

DANNENBAUM
ENGINEERING COMPANY - MCALLEN, LLC
T.B.A.E. FIRM REGISTRATION #19734
1008 W. HUNTER ST. STE. 200 MCALLEN, TX 78503 (956) 864-8877

Revision No.	Date	Description

STATE OF TEXAS
78704
REGISTERED PROFESSIONAL ENGINEER
MURRAY J. MURRAY, III
The seal appearing on this document was authorized by MURRAY J. MURRAY, III, P.E. #7004 on 08-30-2011. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. The Record Copy of this drawing is on file at the office of the State Board of Professional Engineers, Architects, and Surveyors, 5000 W. Military Avenue, Suite 100, McAllen, TX 78503. TSP# FIRM #19734.

Project No.: 28237
Issued: 8/30/2011
Drawn By:
Checked By: MJM
Scale: AS SHOWN
Sheet Title
PLUMBING DETAILS AND SCHEDULES
P2.01
Sheet Number