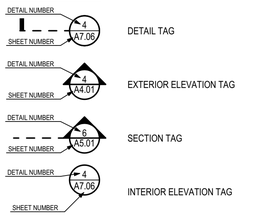
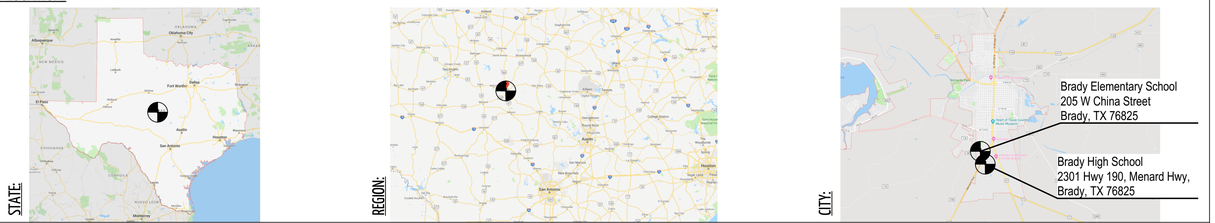
Brady Independent School District

BOND 2018 PROJECTS

SYMBOL LEGEND:



PROJECT LOCATION:



PROJECT IMAGES:

PROJECT NOTES:

GENERAL PROJECT NOTES:

1. CONTRACTOR SHALL PROVIDE ALL SAFETY PROTECTION ITEMS AS REQUIRED BY OSHA AND TEXAS STATUTES, AS PART OF THEIR BID.
2. REFER TO SHEET A0.01 FOR CODE SUMMARY: ELEMENTARY RENOVATIONS AND APPLICABLE CODE INFOMRATION
3. REFER TO SHEET A0.02 FOR CODE SUMMARY: CAREER CENTER AND APPLICABLE CODE INFORMATION
4. REFER TO SHEET A0.03 FOR UL FIRE RESISTANCE CONSTRUCTION
5. REFER TO SHEET A0.04 FOR TDLR ELIMINATION OF ARCHITECTRUAL BARRIERS
6. REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES
7. REFER TO SHEET A0.06 FOR OWNER SURVEY. THIS IS PROVIDED FOR REFERNCE ONLY.

BID ALTERNATES:

1. PROVIDE ADDITIONAL ACCESS CONTROLS AND CAMERAS, RE: TECHNOLOGY
2. PROVIDE STAINLESS STEEL COUNTERTOPS AND SPLASHES IN LIEU OF PLASTIC LAMINATE CLAD COUNTERTOPS AT CLASSROOM C113.
3. PROVIDE CHAIR RAIL & WAINSCOT AND PROVIDE LVT IN LIEU OF VCT AT CLASSROOM C113.
4. REMOVE EXISTING AND PROVIDE NEW PARTITIONS (06M) BETWEEN CLASSROOMS AT ELEMENTARY RENOVATIONS.
5. REMOVE EXISTING AND PROVIDE NEW WALL TILE AT ELEMENTARY CORRIDORS (ALL EXCEPT INTERIOR CORE).
6. REPLACE E201 FRAME AND DOORS, AND WINDOW 'D' AS SHOWN.

SHEET INDEX:

Available for download from
www.reliancearchitecture.com/files/BradyISD/

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Set Number

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number
A0.00

COVER SHEET

ELEMENTARY RENOVATIONS

TOTAL BUILDING AREA: 64,893 SF
RENOVATION AREA: 12,790 SF; 19.7% TOTAL BUILDING AREA
LEVEL 1 RENOVATIONS: 11,580 SF; 17.8% TOTAL BUILDING AREA
LEVEL 2 RENOVATIONS: 1,210 SF; 1.9% TOTAL BUILDING AREA

SECTION 403: ALTERATION – LEVEL 1
"… THE REMOVAL AND REPLACEMENT OR THE COVERING OF EXISTING MATERIALS, ELEMENTS, EQUIPMENT, OR FIXTURES USING NEW MATERIALS, ELEMENTS, EQUIPMENT, OR FIXTURES THAT SERVE THE SAME PURPOSE."

SECTION 404: ALTERATION – LEVEL 2
"… THE RECONFIGURATION OF SPACE, THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OF ANY ADDITIONAL EQUIPMENT."

SECTION 405: ALTERATION – LEVEL 3
"… WHERE THE WORK AREA EXCEEDS 50% OF THE AGGREGATE AREA OF THE BUILDING."

TOTAL ALTERATION AREA IS 18.5% OF BUILDING. LEVELS 1 & 2 WILL APPLY TO APPLICABLE SPACES.

LEVEL 1 SPACES SHOWN ON PLAN INCLUDE THE REPLACEMENT OF FLOOR FINISHES, CASEWORK, CEILING FINISH, LIGHTING AND MECHANICAL. RESTROOM AREA HAS UNDERGONE MINIMAL RECONFIGURATION TO MAKE ENTRY ACCESSIBLE. RESTROOMS HAVE BEEN MADE ACCESSIBLE.

LEVEL 2 SPACES SHOWN ON PLAN HAVE BEEN RECONFIGURED TO SERVE SAME USE WITH DIFFERENT CONFIGURATION.

SECTION 603: FIRE PROTECTION
ALTERATIONS DO NOT AFFECT LEVEL OF FIRE PROTECTION

SECTION 604: MEANS OF EGRESS
ALTERATIONS DO NOT AFFECT ANY MEANS OF EGRESS

SECTION 605: ACCESSIBILITY
RESTROOM ALTERATIONS ARE DONE SPECIFICALLY TO BRING THEM UP TO MODERN ACCESSIBILITY REQUIREMENTS.

SECTION 606: STRUCTURAL
ALTERATIONS DO NOT AFFECT EXISTING STRUCTURE

SECTION 607: ENERGY CONSERVATION
EXTERIOR WINDOWS ARE BEING REPLACED WITH THERMALLY BROKEN FRAMES AND 1" INSULATED LOW-E COATED GLAZING.
INSULATION WILL BE ADDED UNDER ROOF STRUCTURE TO BRING IT UP TO R-30 RATING.
MECHANICAL UNITS ARE BEING REPLACED WITH MODERN, HIGHER EFFECIENCY UNITS.

704.2.2 FIRE PROTECTION AT GROUP E OCCUPANCY
THE LEVEL 2 WORK AREA DOES NOT EXCEED 50% OF THE TOTAL FLOOR AREA OR THE FLOOR AREA. ADDITION OF A SPRINKLER SYSTEM IS NOT REQUIRED.

704.4 FIRE ALARM AND DETECTION
ALL RENOVATED AREAS WILL BE PROVIDED WITH A FIRE ALARM AND DETECTION SYSTEM

SECTION 705: MEANS OF EGRESS
ALTERATIONS DO NOT AFFECT ANY MEANS OF EGRESS
WORK AREA IS NOT SHARED BY MORE THAN ONE TENANT.

SECTION 706: ACCESSIBILITY
RESTROOM ALTERATIONS AND ENTRY RECONFIGURATIONS ARE DONE SPECIFICALLY TO BRING THEM UP TO MODERN ACCESSIBILITY REQUIREMENTS.

SECTION 707: STRUCTURAL
ALTERATIONS DO NOT AFFECT EXISTING STRUCTURE

SECTION 708: ELECTRICAL
ALL RENOVATED AREAS WILL BE BROUGHT UP TO CURRENT REQUIREMENTS

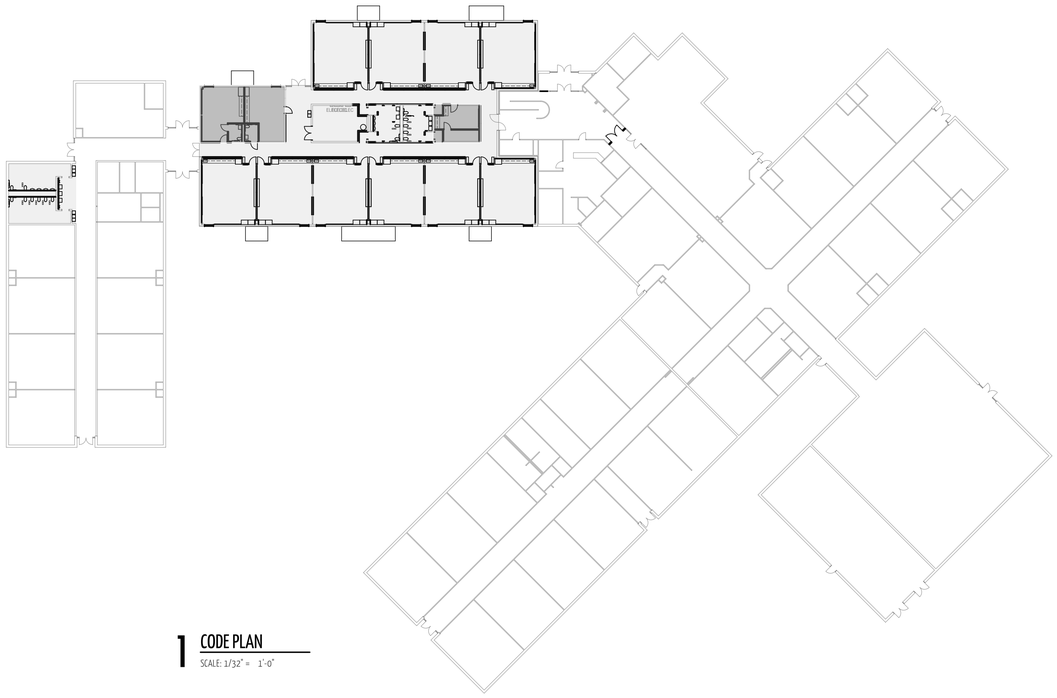
SECTION 709: MECHANICAL
ALL RENOVATED AREAS WILL BE BROUGHT UP TO CURRENT REQUIREMENTS

SECTION 710: PLUMBING
ALL RENOVATED AREAS WILL BE BROUGHT UP TO CURRENT REQUIREMENTS

SECTION 711: ENERGY CONSERVATION
EXTERIOR WINDOWS ARE BEING REPLACED WITH THERMALLY BROKEN FRAMES AND 1" INSULATED LOW-E COATED GLAZING.
INSULATION WILL BE ADDED UNDER ROOF STRUCTURE TO BRING IT UP TO R-30 RATING.
MECHANICAL UNITS ARE BEING REPLACED WITH MODERN, HIGHER EFFECIENCY UNITS.

TABLE (803.9)	EXIT ENCLOSURES EXIT PASSAGEWAYS	CORRIDORS	ROOMS ENCLOSED
SPACES			
SPRINKLERED	B	C	C
UNSPRINKLERED	A	B	C

DEFERRED SUBMITTAL(S); FIRE ALARM SUBMITTAL
*DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING



1 CODE PLAN
SCALE: 1/32" = 1'-0"

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

CODE INFORMATION

CODES

LOCAL:	CITY OF BRADY, TEXAS
BUILDING:	IBC 2009
FIRE:	IFC 2009
MECHANICAL:	IMC 2009
PLUMBING:	IPC 2009
ELECTRICAL:	NEC 2014
ENERGY EFFICIENCY:	IECC 2015
EXISTING BUILDING:	IEBC 2009
ACCESSIBILITY:	TAS 2012

SUMMARY

CONSTRUCTION:	TYPE IIB, EXISTING
OCCUPANCY:	GROUP E
FIRE CONTROL:	UNSPRINKLERED, EXISTING
ALLOWABLE HEIGHT	2

LEGEND

LEVEL 1 ALTERATIONS

LEVEL 2 ALTERATIONS

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REGISTERED ARCHITECT STATE OF TEXAS STUCKEY

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

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1703

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CODE SUMMARY: ELEMENTARY RENOVATIONS A0.01

CAREER CENTER

2009 IBC
TYPE IIB, GROUP E, 1 STORY (507.10) WITH SPRINKLER

MAX ALLOWABLE FIRE AREA, TYPE IIB	=	14,500SF / 2
IBC 506 SPRINKLER (14,500 X 0%)	=	00SF
IBC 506 FRONTAGE (14,500 X 0.55)	=	7,975SF
PERMITTED FIRE AREA	=	22,475SF
AREA OF NEW CONSTRUCTION	=	6,645SF
UNDER ALLOWABLE FIRE AREA	=	15,830SF

NO FIRE WALLS REQUIRED

STRUCTURAL FRAME	0 HR
BEARING WALLS	0 HR
NON-BEARING WALLS	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR
CORRIDORS >30 OCCUPANTS	1 HR

508.2.5 INCIDENTAL ACCESSORY OCCUPANCIES
PAINT SHOPS, NOT CLASSIFIED AS GROUP H, LOCATED IN OCCUPANCIES OTHER THAN GROUP F: 2 HOUR FIRE SEPARATION

602 FIRE-RESISTANCE RATINGS REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE (OCCUPANCY E, TYPE IIB)
ACTUAL BUILDING SEPARATION: 10'-8"
10' < X < 30 = 0

IFC 609
AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN COMMERCIAL KITCHEN EXHAUST HOOD

903.2.3 GROUP E AUTOMATIC SPRINKLER
AUTOMATIC SPRINKLER REQUIRED FOR FIRE AREAS OVER 12,000 SF
CAREER CENTER IS 6,645 SF

906.1 PORTABLE FIRE EXTINGUISHERS
WITHIN 30 FEET OF COMMERCIAL COOKING EQUIPMENT
IN AREAS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED, USED OR DISPENSED.
WITHIN 75' MAXIMUM TRAVEL DISTANCE, ALONG NORMAL PATHS OF TRAVEL

907.2.3 FIRE ALARM SYSTEMS FOR GROUP E
A MANUAL FIRE ALARM SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5 SHALL BE INSTALLED IN GROUP E OCCUPANCIES.

1004.1.1 EGRESS: DESIGN OCCUPANT LOAD
CALCULATIONS FROM ARCHICAD SHOW OCCUPANCY OF 127 WITH 25.4" OF EGRESS REQUIRED. = (1) 3'-0" LEAF
CORRIDOR LEAFS = 4
COSMETOLOGY STUDIO LEAFS = 1
CLASSROOM LEAFS = 2
KITCHEN LEAFS = 1
PAINT SHOP LEAFS = 1
TOTAL: (9) LEAFS, 324" EGRESS PROVIDED

CULINARY ARTS KITCHEN OCCUPANCY: 7
EGRESS: 7 * 0.2" = 1.4" = 1 LEAF
EXTERIOR LEAFS: 1
INTERIOR CIRCULATION LEAFS: 1
ONE EXIT REQUIRED, TWO EXITS PROVIDED

COSMETOLOGY STUDIO OCCUPANCY: 20
EGRESS: 20 * 0.2" = 4" = 1 LEAF
EXTERIOR LEAFS: 1
INTERIOR CIRCULATION LEAFS: 1
ONE EXIT REQUIRED, TWO EXITS PROVIDED

PAINT SHOP OCCUPANCY: 29
EGRESS: 29 * 0.2" = 5.8" = 1 LEAF
EXTERIOR LEAFS: 2
ONE EXIT REQUIRED, TWO EXITS PROVIDED

1015.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY
NO OCCUPANCY SPACES GREATER THAN 50.

1021.1 MINIMUM NUMBER OF EXITS
127 OCCUPANTS
1 – 500 OCCUPANTS: 2 EXITS

TABLE (803.9)	EXIT ENCLOSURES EXIT PASSAGEWAYS	CORRIDORS	ROOMS ENCLOSED
SPACES			
SPRINKLERED	B	C	C
UNSPRINKLERED	A	B	C

STAGE OR PLATFORM Y/**N** (1 HR)
LABORATORIES Y/**N** (1 HR)
LAUNDRY GREATER THAN 100 SF Y/**N** (1 HR)
HAZARDOUS MATERIALS STORAGE Y/**N** (2 HR)
ELEVATOR SHAFT **Y**/N (1 HR)
VOCATIONAL SHOP Y/**N** (1 HR)
BOILER ROOM IF OVER 15 PSI & 10HP Y/**N** (1 HR)

MISCELLANEOUS EGRESS REQUIREMENTS

OPERABLE WINDOWS REQUIRED (LIFE SAFETY OR IBC) Y/**N**
ELEC. ROOM DOOR SWING OUT **Y**/N

DEFERRED SUBMITTAL(S); FIRE ALARM SUBMITTAL
*DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING

EGRESS CALCULATIONS

NO	NAME	USE TYPE	AREA	OCCUPANCY	EGRESS WIDTH (IN.)
C100	CORR	Corridor	411.35	0.00	0.00
C101	COSMETOLOGY CLASSROOM	Classroom - 6th-up	438.88	22.00	4.40
C102	COSMETOLOGY STUDIO	Vocational Shop	865.39	18.00	3.60
C102A	FACIAL	Vocational Shop	77.89	2.00	0.40
C103	ELEC	Accessory Area	70.26	1.00	0.20
C104	IDF	Accessory Area	60.37	1.00	0.20
C105	CUST / MECH	Accessory Area	70.24	1.00	0.20
C106	DISPENS	Accessory Area	100.26	1.00	0.20
C107	RR	Accessory Area	44.58	1.00	0.20
C108	RR	Accessory Area	45.40	1.00	0.20
C110	DRY STORAGE	Accessory Area	105.76	1.00	0.20
C111	CULINARY ARTS KITCHEN	Kitchen	1,208.16	7.00	1.40
C112	OFFICE	Business	70.57	1.00	0.20
C113	CLASSROOM	Classroom - 6th-up	807.96	41.00	8.20
C115	SHOP	Vocational Shop	1,403.73	29.00	5.80
			5,780.80 sq ft	**127.00**	**25.40**

PLUMBING FIXTURES CALCULATIONS

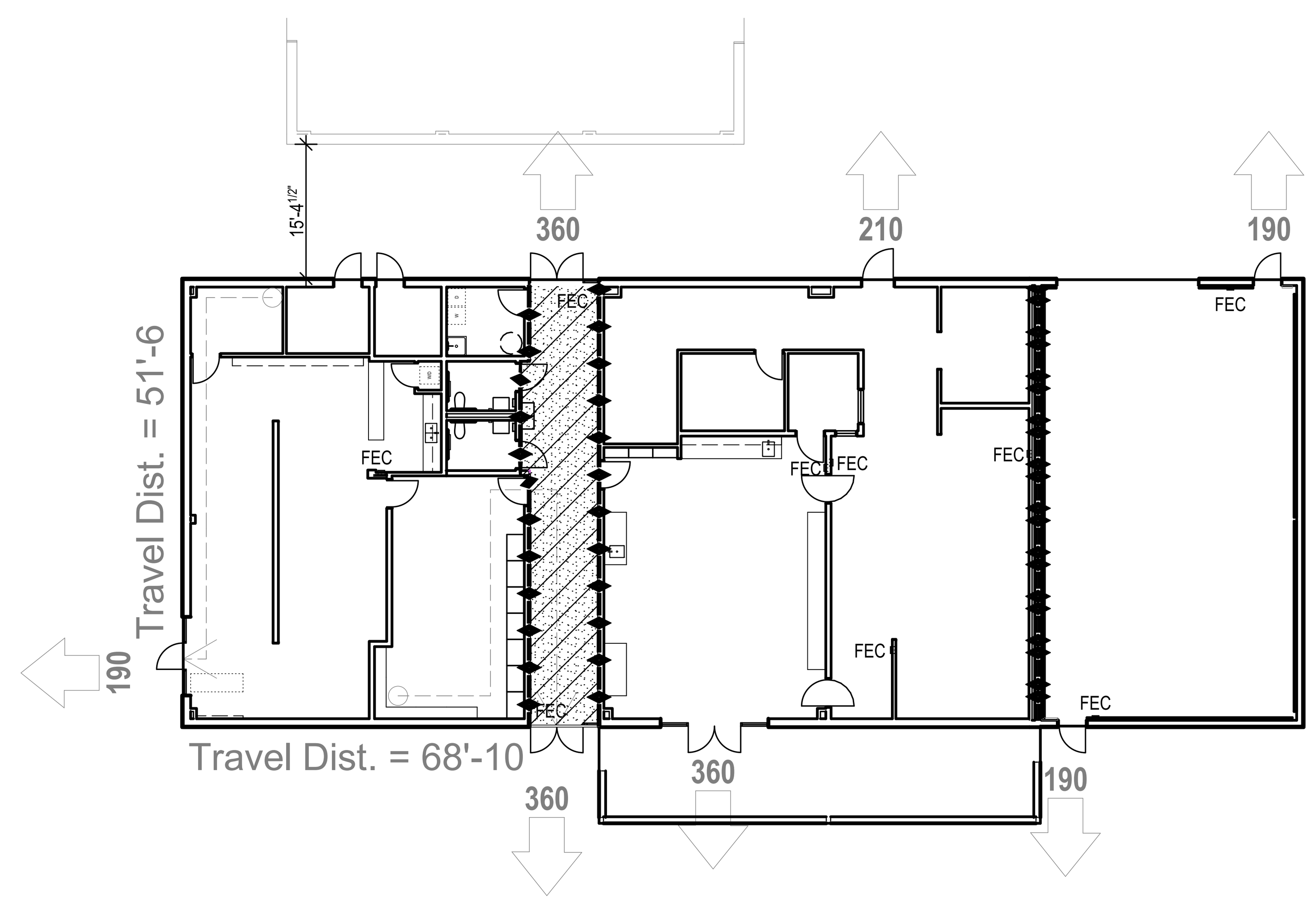
TEA ALLOWABLE AND ACTUAL OCCUPANCY:

NO	NAME	OCCUPANCY
C100	CORR	0
C101	COSMETOLOGY CLASSROOM	10
C102	COSMETOLOGY STUDIO	24
C102A	FACIAL	2
C103	ELEC	0
C104	IDF	0
C105	CUST / MECH	0
C106	DISPENSORY	0
C107	RR	0
C108	RR	0
C110	DRY STORAGE	0
C111	CULINARY ARTS KITCHEN	7
C112	OFFICE	1
C113	CLASSROOM	26
C115	PAINT SHOP	26
ACTUAL OCCUPANCY		96

REQUIREMENTS (IPC 403.1):
FEMALE WC: 1 PER 50
FEMALE LAV: 1 PER 50
MALE WC: 1 PER 50
MALE LAV: 1 PER 50
EWC: 1 PER 100
1 SERVICE SINK

REQUIRED:
FEMALE WC: 0.96
FEMALE LAV: 0.96
MALE WC: 0.96
MALE LAV: 0.96
EWC: 0.96
1 SERVICE SINK

PROVIDED:
FEMALE WC: 1
FEMALE LAV: 1
MALE WC: 1
MALE LAV: 1
EWC: 2
1 SERVICE SINK



1 CODE PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

CODE INFORMATION

CODES

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ELECTRICAL:	NEC 2014
ENERGY EFFICIENCY:	IECC 2015
ACCESSIBILTY:	TAS 2012

SUMMARY

CONSTRUCTION:	TYPE IIB	
OCCUPANCY:	GROUP E	
FIRE CONTROL:	UNSPRINKLERED	
ALLOWABLE HEIGHT	2	
ALLOWABLE AREA	14,500	
MIN INTERIOR FINISH CLASS	CLASS	FLAME SPREAD
ENCLOSAED VERTICAL EXITWAYS	II	75
CORRIDORS/HORIZONTAL EXITWAYS	III	200
ELSEWHERE	III	200
FOAM PLASTIC INSUALTION	II	75
ALL OTHER INSULATION	I	25

NOTE: THE SMOKE DENISTY OF ALL MATERIALS WILL NOT EXCEED 450. TEXTILES ON WALLS OR CEILINGS SHALL BE CLASS I.

MAXIMUM TRAVEL DISTANCE TO EXIT	
UNSPRINKLERED	200'
SPRINKLERED	250'
EGRESS WIDTH PER PERSON	
LEVEL	0.2"
STAIRS	0.3"
MINIMUM EGRESS DOOR WIDTH	
IBC/NFPA	32"
MAXIMUM EGRESS DOOR WIDTH	
IBC/NFPA	48"

LEGEND

NOTE: ALL RATED WALLS ARE TO EXTEND TO UNDERSIDE OF ROOF UNLESS CAPPED BY FIRE RATED CEILING TO MATCH FIRE RESISTANCE. REFER TO FLOOR PLANS AND SHEET A0.03 FOR UL FIRE RESISTANCE CONSTRUCTION.

1HR RATED WALL CONSTRUCTION - UL# U423
2HR RATED WALL CONSTRUCTION - UL# U423 OR U906
1HR RATED FLOOR CONSTRUCTION - UL# L527
1HR RATED CEILING CONSTRUCTION - UL# P516 OR G528
1HR RATED CEILING CONSTRUCTION - UL# U423
NOTE: REFER TO IBC 708.4, EXCEPTION 3
FIRE EXTINGUISHER CABINET, RE: 2/A7.07. 75' TRAVEL RADIUS INDICATED.

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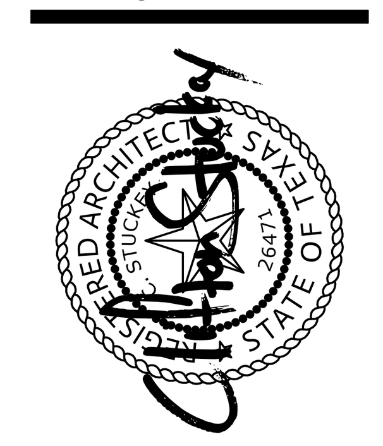


Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

CODE SUMMARY: CAREER CENTER
A0.02

DESIGN/SYSTEM/CONSTRUCTION/ASSEMBLY USAGE DISCLAIMER

AUTHORITIES HAVING JURISDICTION SHOULD BE CONSULTED IN ALL CASES AS TO THE PARTICULAR REQUIREMENTS COVERING THE INSTALLATION AND USE OF UL LISTED OR CLASSIFIED PRODUCTS, EQUIPMENT, SYSTEM, DEVICES, AND MATERIALS.

AUTHORITIES HAVING JURISDICTION SHOULD BE CONSULTED BEFORE CONSTRUCTION.

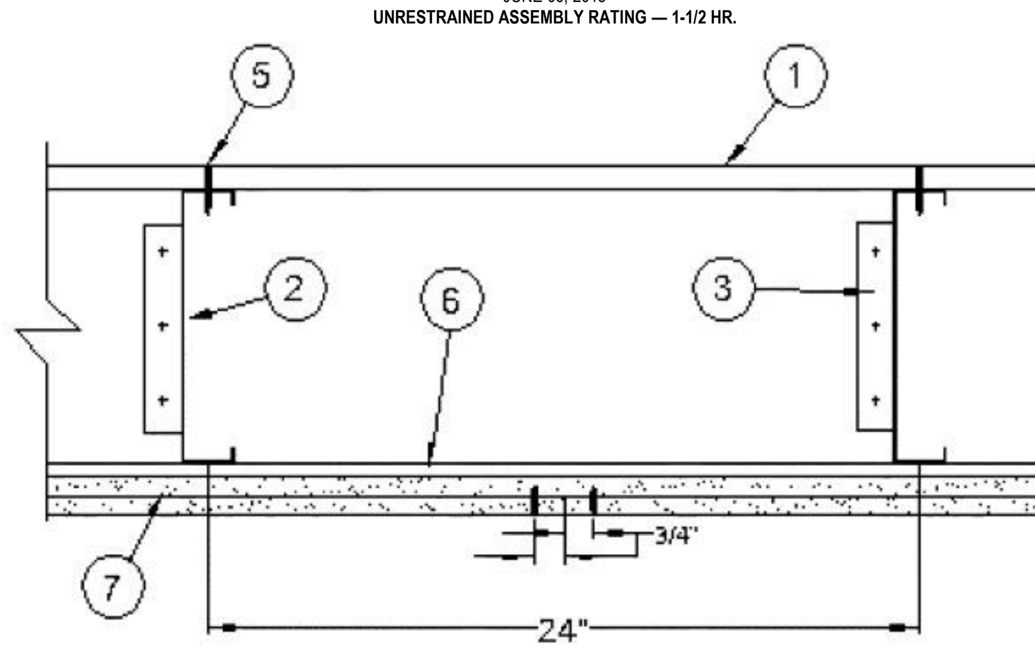
FIRE RESISTANCE ASSEMBLIES AND PRODUCTS ARE DEVELOPED BY THE DESIGN SUBMITTER AND HAVE BEEN INVESTIGATED BY UL FOR COMPLIANCE WITH APPLICABLE REQUIREMENTS. THE PUBLISHED INFORMATION CANNOT ALWAYS ADDRESS EVERY CONSTRUCTION NUANCE ENCOUNTERED IN THE FIELD.

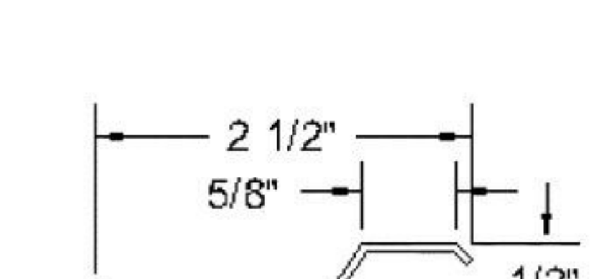
WHEN FIELD ISSUES ARISE, IT IS RECOMMENDED THE FIRST CONTACT FOR ASSISTANCE BE THE TECHNICAL SERVICE STAFF PROVIDED BY THE PRODUCT MANUFACTURER NOTED FOR THE DESIGN. USERS OF FIRE RESISTANCE ASSEMBLIES ARE ADVISED TO CONSULT THE GENERAL GUIDE INFORMATION FOR EACH PRODUCT CATEGORY AND EACH GROUP OF ASSEMBLIES. THE GUIDE INFORMATION INCLUDES SPECIFICS CONCERNING ALTERNATE MATERIALS AND ALTERNATE METHODS OF CONSTRUCTION.

ONLY PRODUCTS WHICH BEAR UL'S MARK ARE CONSIDERED AS CLASSIFIED, LISTED, OR RECOGNIZED.

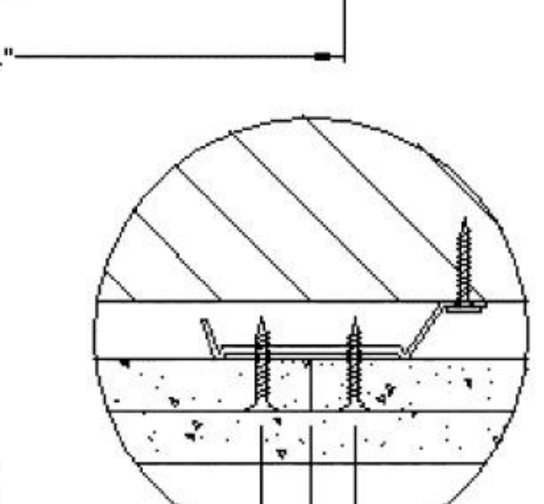
UL DESIGN NO. L527:

JUNE 06, 2013
UNRESTRAINED ASSEMBLY RATING — 1-1/2 HR.





Resilient Channel Detail



End Joint Detail

1. **FLOORING SYSTEM** — THE FLOORING SYSTEM SHALL CONSIST OF ONE OF THE FOLLOWING:

SYSTEM NO. 1
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.

SYSTEM NO. 2
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
FINISH FLOOR - MINERAL AND FIBER BOARD* — MIN 1/2 IN. THICK, SUPPLIED IN SIZES RANGING FROM 3 FT BY 4 FT TO 8 FT BY 12 FT. ALL JOINTS TO BE STAGGERED A MIN OF 12 IN. WITH ADJACENT SUB-FLOOR JOINTS.
HOMASOTE CO — TYPE 440-32 MINERAL AND FIBER BOARD

SYSTEM NO. 3
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
FLOOR MAT MATERIALS* — (OPTIONAL) — NOM 6 MM THICK FLOOR MAT MATERIAL ADHERED TO SUBFLOOR WITH HACKER FLOOR PRIMER. PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE PLACEMENT OF FLOOR-TOPPING MIXTURE. WHEN FLOOR MAT MATERIAL IS USED, MIN THICKNESS OF FLOOR TOPPING MIXTURE IS 1 IN.
HACKER INDUSTRIES INC — TYPE HACKER SOUND-MAT.
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) — FLOOR MAT MATERIAL NOM 10 MM THICK ADHERED TO SUBFLOOR WITH HACKER FLOOR PRIMER. PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE PLACEMENT OF A MIN 1-1/2 IN. OF FLOOR-TOPPING MIXTURE.
HACKER INDUSTRIES INC — TYPE HACKER SOUND-MAT II.
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) — FLOOR MAT MATERIAL NOM 1/4 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MIN OF 1 IN.
HACKER INDUSTRIES INC — TYPE QUIET QURL 55/025
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) — FLOOR MAT MATERIAL NOM 3/8 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MIN OF 1-1/2 IN.
HACKER INDUSTRIES INC — TYPE QUIET QURL 60/040
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) — FLOOR MAT MATERIAL NOM 3/4 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MIN OF 1-1/2 IN.
HACKER INDUSTRIES INC — TYPE QUIET QURL 65/075
METAL LATH (OPTIONAL) — FOR USE WITH 3/8 IN. OR 10 MM FLOOR MAT MATERIALS, 3/8 IN. EXPANDED STEEL DIAMOND MESH, 3.4 LBS/SQ YD PLACED OVER THE FLOOR MAT MATERIAL. HACKER FLOOR PRIMER TO BE APPLIED PRIOR TO THE PLACEMENT OF THE METAL LATH. WHEN METAL LATH IS USED, FLOOR TOPPING THICKNESS A NOM 1-1/4 IN. OVER THE FLOOR MAT.
FINISH FLOORING - FLOOR TOPPING MIXTURE* — MIN 3/4 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING A MIN COMPRESSIVE STRENGTH OF 1100 PSI. MIXTURE SHALL CONSIST OF 6.8 GAL OF WATER TO 80 LBS OF FLOOR TOPPING MIXTURE TO 1.9 CU FT OF SAND.
HACKER INDUSTRIES INC — FIRM-FILL GYPSUM CONCRETE, FIRM-FILL 2010, FIRM-FILL 3310, FIRM-FILL 4010, FIRM-FILL HIGH STRENGTH, GYP-SPAN RADIANT

SYSTEM NO. 4
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
FLOOR MAT MATERIALS* — (OPTIONAL) - NOM 1/4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. WHEN FLOOR MAT MATERIAL IS USED, MIN THICKNESS OF FLOOR TOPPING MIXTURE IS 1 IN. FLOOR TOPPING THICKNESS A MIN 3/4 IN. OVER ACOUSTI-MAT I FLOOR MAT.
MAXXON CORP — TYPE ACOUSTI-MAT I, ACOUSTI-MAT II, ACOUSTI-MAT II HP.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.8 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR WITH CRACK SUPPRESSION MAT (CSM) LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
MAXXON CORP — TYPE ACOUSTI-MAT 3, ACOUSTI-MAT 3 HP, CRACK SUPPRESSION MAT (CSM)
METAL LATH (ALTERNATE TO CRACK SUPPRESSION MAT (CSM)) — 3/8 IN. EXPANDED GALVANIZED STEEL DIAMOND MESH, 3.4 LBS/SQ YD LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
MAXXON CORP — TYPE ENKASONIC 9110, ENKASONIC 9110 HP.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.2 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER MAY BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. FLOOR TOPPING THICKNESS SHALL BE AS SPECIFIED UNDER FLOOR TOPPING MIXTURE.
MAXXON CORP — TYPE ACOUSTI-MAT LP-R
METAL LATH (OPTIONAL) — FOR USE WITH FLOOR MAT MATERIALS, 3/8 IN. EXPANDED GALVANIZED STEEL DIAMOND MESH, 3.4 LBS/SQ YD OR MAXXON CORP. UL CLASSIFIED CRACK SUPPRESSION MAT (CSM) LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1 IN.
MAXXON CORP — TYPE CRACK SUPPRESSION MAT (CSM)
FINISH FLOORING - FLOOR TOPPING MIXTURE* — MIN 3/4 IN. THICKNESS OF FLOOR HAVING A MIN COMPRESSIVE STRENGTH OF 1000 PSI. MIXTURE SHALL CONSIST OF 3 TO 7 GAL OF WATER TO 80 LBS OF FLOOR TOPPING MIXTURE TO 1.0 TO 2.1 CU FT OF SAND.
MAXXON CORP — TYPES D-C, GC, GC2000, L-R, T-F, CT

SYSTEM NO. 5
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
FLOOR MAT MATERIALS* — (OPTIONAL) - NOM 1/4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. WHEN FLOOR MAT MATERIAL IS USED, MIN THICKNESS OF FLOOR TOPPING MIXTURE IS 1 IN. FLOOR TOPPING THICKNESS A MIN 3/4 IN. OVER ACOUSTI-MAT I FLOOR MAT.
MAXXON CORP — TYPE ACOUSTI-MAT I, ACOUSTI-MAT II, ACOUSTI-MAT II HP.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.8 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR WITH CRACK SUPPRESSION MAT (CSM) LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
MAXXON CORP — TYPE ACOUSTI-MAT 3, ACOUSTI-MAT 3 HP, CRACK SUPPRESSION MAT (CSM)
METAL LATH (ALTERNATE TO CRACK SUPPRESSION MAT (CSM)) — 3/8 IN. EXPANDED GALVANIZED STEEL DIAMOND MESH, 3.4 LBS/SQ YD LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.4 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER TO BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. FLOOR TOPPING THICKNESS SHALL BE MIN 1-1/2 IN.
MAXXON CORP — TYPE ENKASONIC 9110, ENKASONIC 9110 HP.
ALTERNATE FLOOR MAT MATERIALS* - (OPTIONAL) — NOM 0.2 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR. MAXXON FLOOR PRIMER MAY BE APPLIED TO THE SURFACE OF THE MAT PRIOR TO THE FLOOR TOPPING PLACEMENT. FLOOR TOPPING THICKNESS SHALL BE AS SPECIFIED UNDER FLOOR TOPPING MIXTURE.
MAXXON CORP — TYPE ACOUSTI-MAT LP-R
METAL LATH (OPTIONAL) — FOR USE WITH FLOOR MAT MATERIALS, 3/8 IN. EXPANDED GALVANIZED STEEL DIAMOND MESH, 3.4 LBS/SQ YD OR MAXXON CORP. UL CLASSIFIED CRACK SUPPRESSION MAT (CSM) LOOSE LAID OVER THE FLOOR MAT MATERIAL. FLOOR TOPPING THICKNESS SHALL BE MIN 1 IN.
MAXXON CORP — TYPE CRACK SUPPRESSION MAT (CSM)
FINISH FLOORING - FLOOR TOPPING MIXTURE* — MIN 3/4 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING A MIN COMPRESSIVE STRENGTH OF 1200 PSI. MIXTURE SHALL CONSIST OF 4 TO 7 GAL OF WATER MIXED WITH 80 LBS OF FLOOR TOPPING MIXTURE AND 1.4 TO 1.9 CU FT OF SAND.
RAPID FLOOR SYSTEMS — TYPES RF, RFP, RFU, RFR, ORTECRETE

SYSTEM NO. 6
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
VAPOR BARRIER — (OPTIONAL) - NOM 0.010 IN. THICK COMMERCIAL ASPHALT SATURATED FELT.
FINISH FLOORING - FLOOR TOPPING MIXTURE* — MIN 3/4 IN. THICKNESS OF FLOOR TOPPING MIXTURE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI. REFER TO MANUFACTURER'S INSTRUCTIONS ACCOMPANYING THE MATERIAL FOR SPECIFIC MIX DESIGN.
UNITED STATES GYPSUM CO — TYPES LRK, HSLRK, CSD
FLOOR MAT MATERIALS* — (OPTIONAL) - FLOOR MAT MATERIAL NOM 1/16 IN. LOOSE LAID OVER THE SUBFLOOR. REFER TO MANUFACTURER'S INSTRUCTIONS REGARDING THE MINIMUM THICKNESS OF FLOOR TOPPING OVER EACH FLOOR MAT MATERIAL.
UNITED STATES GYPSUM CO — TYPES SAM, LEVELROCK® BRAND SOUND REDUCTION BOARD, LEVELROCK® BRAND FLOOR UNDERLAYMENT SRM-25
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) - NOM 3/8 IN. THICK FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR.
GRASSWORX L L C — TYPE SC50
ALTERNATE FLOOR MAT MATERIAL* — (OPTIONAL) - FLOOR MAT MATERIAL NOMINAL 3/8 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING SHALL BE A MIN 3/4 IN. THICK. THICKNESS INCREASED TO MIN 1 IN. FOR USE WITH LEVELROCK® BRAND FLOOR UNDERLAYMENT SRM-25.
OWENS CORNING — TYPE QUIETZONE ACOUSTICAL FLOOR MAT

SYSTEM NO. 7
SUBFLOORING — MIN 15/32 IN. THICK WOOD STRUCTURAL PANELS, MIN GRADE "C-D" OR "SHEATHING". FACE GRAIN OF PLYWOOD OR STRENGTH AXIS OF PANELS TO BE PERPENDICULAR TO THE JOISTS WITH JOINTS STAGGERED.
VAPOR BARRIER — (OPTIONAL) - COMMERCIAL ASPHALT SATURATED FELT, 0.030 IN. THICK.
VAPOR BARRIER — (OPTIONAL) - NOM 0.010 IN. THICK COMMERCIAL ROSIN-SIZED BUILDING PAPER.
FINISH FLOORING* — MIN 3/4 IN. THICKNESS OF ANY FLOOR TOPPING MIXTURE BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE. SEE FLOOR- AND ROOF-TOPPING MIXTURES (CCOX) CATEGORY FOR NAMES OF CLASSIFIED COMPANIES.
FLOOR MAT MATERIALS* — (OPTIONAL) - NOM. 1/4 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MINIMUM OF 3/4 IN.
KEENE BUILDING PRODUCTS CO INC — TYPE QUIET QURL 55/025 AND QUIET QURL 55/025 N
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) - FLOOR MAT MATERIAL NOM. 3/8 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MINIMUM OF 1 IN.
KEENE BUILDING PRODUCTS CO INC — TYPE QUIET QURL 60/040 AND QUIET QURL 60/040 N
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) - FLOOR MAT MATERIAL NOM. 3/4 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MINIMUM OF 1-1/2 IN.
KEENE BUILDING PRODUCTS CO INC — TYPE QUIET QURL 65/075, QUIET QURL 65/075 N
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) - FLOOR MAT MATERIAL NOM. 1/8 IN. THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MINIMUM OF 3/4 IN.
KEENE BUILDING PRODUCTS CO INC — TYPE QUIET QURL 52/013 AND QUIET QURL 52/013 N
ALTERNATE FLOOR MAT MATERIALS* — (OPTIONAL) - FLOOR MAT MATERIAL NOM. ¼ IN. ENTANGLED NET CORE WITH A COMPRESSIBLE FABRIC ATTACHED TO THE BOTTOM LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING THICKNESS SHALL BE A MINIMUM OF 1 IN.
KEENE BUILDING PRODUCTS CO INC — QUIET QURL 55/025 MT AND QUIET QURL 55/025 N MT

SYSTEM NO. 8
SUBFLOORING — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T&G.
VAPOR BARRIER - (OPTIONAL) — NOM 0.010 IN. THICK COMMERCIAL ROSIN-SIZED BUILDING PAPER.
FINISH FLOORING - FLOOR TOPPING MIXTURE* — MIN 3/4 IN. THICK PLYWOOD, MIN GRADE "UNDERLAYMENT". FACE GRAIN OF PLYWOOD TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED. LONG EDGES TO BE T & G.
ALLIED CUSTOM GYPSUM PLASTERWORKS L L C — ACCU-CRETE, ACCURADIANT, ACCULEVEL G40 AND ACCULEVEL SD30.
FLOOR MAT MATERIAL* — (OPTIONAL) - FLOOR MAT MATERIAL NOMINAL 2 - 9.5 MM THICK LOOSE LAID OVER THE SUBFLOOR. FLOOR TOPPING SHALL BE A MIN OF 1 IN.
ALLIED CUSTOM GYPSUM PLASTERWORKS L L C — TYPE ACCUQUIET P80, TYPE ACCUQUIET C40, ACCUQUIET D13, TYPE ACCUQUIET RSM 20, TYPE ACCUQUIET RSM 32, TYPE ACCUQUIET RSM 48, TYPE ACCUQUIET RSM 64, TYPE ACCUQUIET RSM 120, AND TYPE ACCUQUIET D-18.

SYSTEM NO. 9
SUBFLOORING — MIN 23/32 IN. THICK T&G WOOD STRUCTURAL PANELS, MIN GRADE "UNDERLAYMENT" OR "SINGLE-FLOOR". FACE GRAIN OF PLYWOOD OR STRENGTH AXIS OF PANELS TO BE PERPENDICULAR TO THE TRUSSES WITH END JOINTS STAGGERED 4 FT. PANELS SECURED TO TRUSSES WITH CONSTRUCTION ADHESIVE AND NO. 6D RINGED SHANK NAILS SPACED 12 IN. OC ALONG EACH TRUSS. STAPLES HAVING EQUAL OR GREATER WITHDRAWAL AND LATERAL RESISTANCE STRENGTH MAY BE SUBSTITUTED FOR THE 6D NAILS.
GYPSUM BOARD* — ONE LAYER OF NOM 5/8 IN. THICK, 4 FT WIDE GYPSUM BOARD, INSTALLED WITH LONG DIMENSION PERPENDICULAR TO JOISTS. GYPSUM BOARD SECURED WITH 1 IN. LONG NO. 6 TYPE W BUGLE HEAD STEEL SCREWS SPACED 12 IN. OC AND LOCATED A MIN OF 1-1/2 IN. FROM SIDE AND END JOINTS. THE JOINTS OF THE GYPSUM BOARD ARE TO BE STAGGERED A MINIMUM OF 12 INCHES FROM THE JOINTS OF THE SUBFLOOR.
GEORGIA-PACIFIC GYPSUM L L C — TYPE DS
FLOOR MAT MATERIALS* — (AS AN ALTERNATE TO THE SINGLE LAYER GYPSUM BOARD) - FLOOR MAT MATERIAL LOOSE LAID OVER THE SUBFLOOR.
MAXXON CORP — TYPE ACOUSTI-MAT I, ACOUSTI-MAT II, ACOUSTI-MAT II HP, ACOUSTI-MAT 3, ACOUSTI-MAT 3 HP, ENKASONIC 9110, ENKASONIC 9110 HP, ACOUSTI-MAT LP-R.
GYPSUM BOARD* — (FOR USE WHEN FLOOR MAT IS USED) TWO LAYERS OF NOM 5/8 IN. THICK, 4 FT WIDE GYPSUM BOARD, INSTALLED WITH LONG DIMENSION PERPENDICULAR TO JOISTS ON TOP OF THE FLOOR MAT MATERIAL. GYPSUM BOARD SECURED TO EACH OTHER WITH 1 IN. LONG NO. 6 TYPE G BUGLE HEAD STEEL SCREWS SPACED 12 IN. OC AND LOCATED A MIN OF 1-1/2 IN. FROM SIDE AND END JOINTS. THE JOINTS OF THE GYPSUM BOARD ARE TO BE STAGGERED A MINIMUM OF 12 INCHES IN BETWEEN LAYERS AND FROM THE JOINTS OF THE SUBFLOOR.
GEORGIA-PACIFIC GYPSUM L L C — TYPE DS

2. **STEEL JOISTS** — THE JOISTS ARE CHANNEL-SHAPED, MIN 9-3/8 IN. DEEP WITH MIN 1-5/8 IN. WIDE FLANGES AND 1/2 IN. LONG STIFFENING FLANGES. THE JOISTS ARE FABRICATED FROM MIN NO. 16 MSG GALV STEEL. MIN YIELD STRENGTH OF STEEL IS EITHER 33,000 OR 40,000 PSI WITH CORRESPONDING MAX WORKING STRESS OF 20,000 AND 24,000 PSI. JOISTS SPACED MAX 24 IN. OC. AT JOIST SPLICES BEARING ON SUPPORTS, JOISTS ARE CONNECTED USING AN OVERLAPPING SECTION OF 1 FT LONG JOIST, WITH EIGHT 1/2 IN. LONG TYPE S12 PAN HEAD SCREWS.

3. **ANGLE CLIPS** — NO. 14 MSG, 8 IN. LONG STEEL ANGLES WITH 2 IN. LEGS AND FOUR 1/8 IN. DIAM HOLES SPACED 2 IN. OC AND LOCATED 1 IN. FROM THE ENDS AND 3/4 IN. FROM LONG EDGE. SECURED TO HEADER AND JOISTS WITH EIGHT 1/2 IN. LONG S12 PAN HEAD SCREWS.

3A. **JOIST BRIDGING** — (NOT SHOWN) - INSTALLED IMMEDIATELY AFTER JOISTS ARE ERECTED AND BEFORE CONSTRUCTION LOADS ARE APPLIED. THE BRIDGING CONSISTING OF JOIST SECTIONS CUT TO LENGTH AND PLACED BETWEEN OUTER SUPPORTS, ADJACENT TO OPENINGS AND AT MID SPAN WITH 8 FT OC MAX SPACING. BRIDGING CHANNELS ARE SCREW-ATTACHED AT EACH END TO JOIST WEB USING ANGLE CLIPS. V-BRACING OF 1-1/2 IN. BY 20-GA GALVANIZED STEEL IS SCREW-ATTACHED TO BOTTOM JOIST FLANGE BETWEEN BRIDGING CHANNELS.

4. **ADHESIVE** — (NOT SHOWN) - CONSTRUCTION ADHESIVE APPLIED TO TOP SURFACE OF JOISTS PRIOR TO PLACING OF PLYWOOD SUBFLOOR SHEETS.

5. **FLOORING FASTENERS** — THE PLYWOOD SUBFLOOR TO BE FASTENED TO THE STEEL JOISTS WITH 1-5/16 IN. LONG TYPE S12 SCREWS SPACED 24 IN. OC AND LOCATED 5/8 IN. FROM BUTT JOINTS AND 1 IN. FROM LONG EDGES.

6. **RESILIENT CHANNELS** — NOM 1/2 IN. DEEP RESILIENT CHANNELS, FORMED OF NO. 24 MSG GALV STEEL AND SHAPED AS SHOWN, SPACED 16 IN. OC PERPENDICULAR TO JOISTS. RESILIENT CHANNELS FASTENED TO EACH JOIST WITH 1/2 IN. LONG TYPE S-12 PAN HEAD STEEL SCREWS.

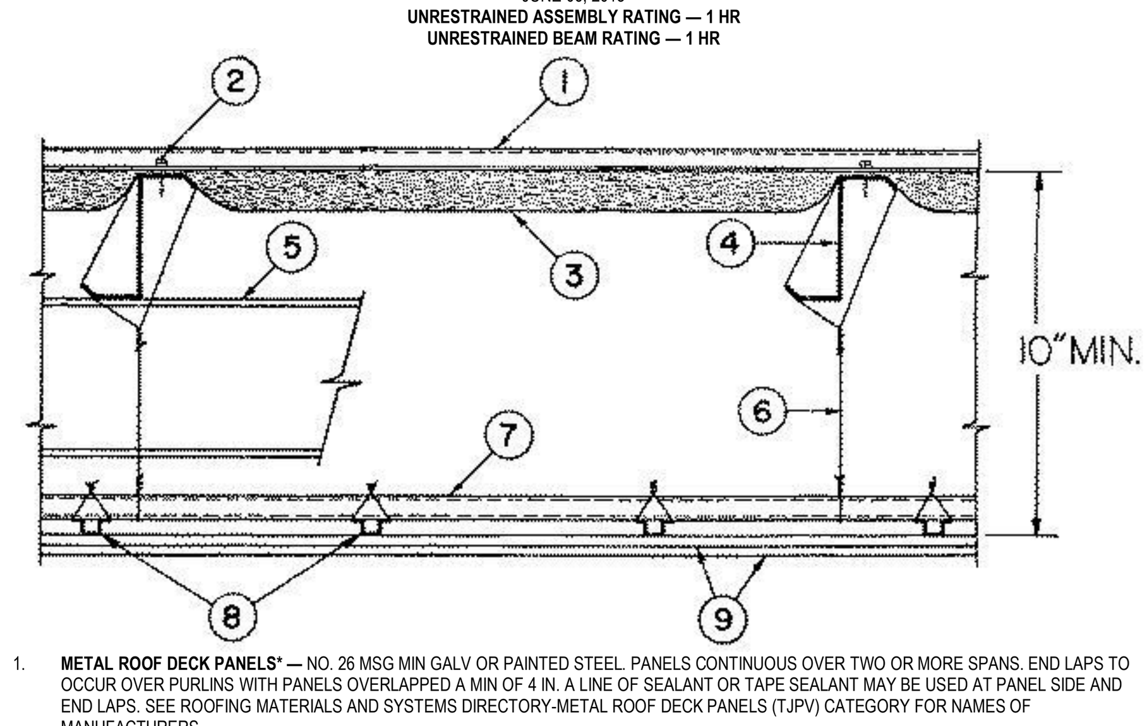
6A. **STEEL FRAMING MEMBERS*** — (OPTIONAL, NOT SHOWN) - USED AS AN ALTERNATE METHOD TO ATTACH MIN. 1/2 IN. DEEP RESILIENT CHANNELS (ITEM 6) TO STEEL JOISTS (ITEM 2). RESILIENT CHANNELS ARE FRICTION FITTED INTO CLIPS, AND THEN CLIPS ARE SECURED TO THE BOTTOM FLANGE OF EACH STEEL JOIST WITH A MIN. 1 IN. LONG TYPE S-12 PAN HEAD STEEL SCREW THROUGH THE CENTER HOLE OF THE CLIP AND THE RESILIENT CHANNEL FLANGE. ADJOINING RESILIENT CHANNELS ARE OVERLAPPED 4 IN. UNDER JOISTS. THE CLIP FLANGE IS OPENED SLIGHTLY TO ACCOMMODATE THE TWO OVERLAPPED CHANNELS. ADDITIONAL CLIPS REQUIRED TO HOLD RESILIENT CHANNEL THAT SUPPORTS THE GYPSUM BOARD BUTT JOINTS, AS DESCRIBED IN ITEM 7.
KEENE BUILDING PRODUCTS CO INC — TYPE RC ASSURANCE.

7. **GYPSUM BOARD*** — TWO LAYERS OF NOM 5/8 IN. THICK, 48 IN. WIDE GYPSUM BOARD INSTALLED WITH LONG DIMENSION PERPENDICULAR TO RESILIENT CHANNELS. UPPER LAYER ATTACHED TO RESILIENT CHANNELS USING 1 IN. LONG TYPE S BUGLE HEAD STEEL SCREWS SPACED 24 IN. OC AND LOCATED 5/8 IN FROM BUTT JOINTS AND 2 IN. FROM LONG EDGES. BUTT JOINTS TO BE CENTERED UNDER RESILIENT CHANNELS. FACE LAYER INSTALLED PERPENDICULAR TO RESILIENT CHANNELS AND ATTACHED TO RESILIENT CHANNELS THROUGH UPPER LAYER WITH 1-5/8 IN. LONG TYPE S BUGLE HEAD SCREWS SPACED MAX 12 IN. OC IN THE FIELD AND 1 IN. FROM SIDE EDGES OF BOARDS. ALL LONG EDGE JOINTS IN FACE LAYER BOARDS TO BE OFFSET FROM LONG EDGE JOINTS IN UPPER LAYER A MIN OF 16 IN. BUTT JOINTS OF FACE LAYER TO OCCUR BETWEEN RESILIENT CHANNELS WITH EACH END OF BUTTED BOARDS ATTACHED TO UPPER BOARD WITH 1-1/2 IN. LONG TYPE G BUGLE HEAD STEEL SCREWS SPACED 8 IN. OC ALONG THE JOINT AND 3/4 IN. FROM BUTT JOINTS.
AMERICAN GYPSUM CO — TYPE AG-C
CERTAINTEED GYPSUM INC — TYPES FRPC, TYPE C
CGC INC — TYPE C
GEORGIA-PACIFIC GYPSUM L L C — TYPES 5, DAPC
LAFARGE NORTH AMERICA INC — TYPES LGFC-C, LGFC-C/A
NATIONAL GYPSUM CO — TYPES FSK-C, FSW-C, FSW-G
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — TYPES C, PG-C
PANEL REY S A — TYPE PRC
TEMPLE-INLAND — TYPE TG-C
UNITED STATES GYPSUM CO — TYPE C
USG MEXICO S A DE C V — TYPE C

8. **FINISHING SYSTEM** — (NOT SHOWN) - VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN ONE COAT TO JOINTS AND SCREW-HEADS. NOM 2 IN. WIDE PAPER TAPE EMBEDDED IN COMPOUND OVER ALL JOINTS. AS AN ALTERNATE, NOM 3/32 IN. THICK VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF GYPSUM BOARD.
*BEARING THE UL CLASSIFICATION MARK

UL DESIGN NO. P516:

JUNE 06, 2013
UNRESTRAINED ASSEMBLY RATING — 1 HR
UNRESTRAINED BEAM RATING — 1 HR



1. **METAL ROOF DECK PANELS* —** NO. 26 MSG MIN GALV OR PAINTED STEEL. PANELS CONTINUOUS OVER TWO OR MORE SPANS. END LAPS TO OCCUR OVER PURLINS WITH PANELS OVERLAPPED A MIN OF 4 IN. A LINE OF SEALANT OR TAPE SEALANT MAY BE USED AT PANEL SIDE AND END LAPS. SEE ROOFING MATERIALS AND SYSTEMS DIRECTORY-METAL ROOF DECK PANELS (TJPV) CATEGORY FOR NAMES OF MANUFACTURERS.

2. **PANEL FASTENERS —** AS SPECIFIED IN THE RESPECTIVE CLASSIFIED ROOF DECK CONSTRUCTION NUMBER FOR THE METAL ROOF DECK PANEL.

3. **BATTS AND BLANKETS* —** ANY FACED GLASS FIBER BATT MATERIAL OR MINERAL WOOL INSULATION BEARING THE UL CLASSIFICATION MARKING. SEE BATTS AND BLANKETS* (BZJZ) CATEGORY IN FIRE RESISTANCE DIRECTORY OR BATTS AND BLANKETS*(BKNV) IN BUILDING MATERIALS DIRECTORY FOR LIST OF CLASSIFIED COMPANIES.

4. **STEEL ROOF PURLINS —** C — OR Z — SHAPED, MIN 8 IN. DEEP, WEIGHING MIN 2.9 LB PER LINEAL FT MADE FROM MIN NO. 16 MSG GALV OR PAINTED STEEL. SPACED MAX 60 IN. OC. PURLINS MAY BE STIFFENED AT THE SUPPORTS IF REQUIRED PER STRUCTURAL DESIGN.

5. **BEAM —** STEEL I BEAM SECTIONS DESIGNED AS STRUCTURAL SUPPORTS TO THE ROOF PURLINS. MIN WEIGHT OF STEEL I BEAM IS 2.9 LB PER LINEAL FT.

6. **HANGER WIRE —** NO. 12 SWG OR HEAVIER GALV STEEL WIRE; TWIST-TIED TO STEEL ROOF PURLINS OR JOISTS. HANGER WIRE ATTACHMENT SPACED NOT OVER 60 IN. OC ALONG COLD-ROLLED CHANNEL, AND LOCATED AT ENDS OF THE COLD-ROLLED CHANNELS AT WALLS. WHEN ALTERNATE **STEEL FRAMING MEMBERS*** (ITEM 8A OR 8B) ARE USED, HANGER WIRES ARE SPACED 48 IN. OC (AT EVERY THIRD MAIN RUNNER/CROSS TEE INTERSECTION). HANGER WIRES ALSO LOCATED ADJACENT TO EACH MAIN RUNNER SPLICE LOCATION.

7. **COLD ROLLED CHANNEL —** MIN NO. 16 MSG GALV OR PAINTED STEEL CHANNELS, 1-1/2 IN. DEEP WITH 9/16 IN. FLANGES. SPACED A MAX OF 48 IN. OC.

8. **FURRING CHANNEL —** NO. 25 MSG GALV STEEL, 2-5/8 IN. WIDE, 7/8 IN. DEEP, SPACED 24 IN. OC PERPENDICULAR TO COLD-ROLLED CHANNELS; SECURED TO EACH COLD-ROLLED CHANNEL WITH DOUBLE STRAND OF NO. 18 SWG GALV STEEL WIRE. AS AN ALTERNATE TO THE FURRING CHANNELS, **STEEL FRAMING MEMBERS*** (ITEM 8A OR 8B) MAY BE USED.

8A. **STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEM 8. MAIN RUNNERS NOM 12 FT LONG, SPACED 48 IN. OC. ENDS OF MAIN RUNNERS AT WALLS TO REST ON WALL ANGLE, WITHOUT ATTACHMENT, WITH 1/2 TO 3/4 IN. END CLEARANCE. PRIMARY CROSS TEES (1-1/2 IN. WIDE ACROSS FLANGE) OR CROSS CHANNELS, NOM 4 FT LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS AND SPACED 16 IN. OC. ADDITIONAL PRIMARY CROSS TEES OR CROSS CHANNELS REQUIRED 8 IN. FROM AND ON EACH SIDE OF WALLBOARD END JOINT.
ARMSTRONG WORLD INDUSTRIES INC — TYPE DFR-8000.

8B. **STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEMS 8 AND 8A. MAIN RUNNERS, CROSS TEES, CROSS CHANNELS AND WALL ANGLE AS LISTED BELOW:
A. **MAIN RUNNERS —** NOM 10 OR 12 FT LONG, 15/16 IN. OR 1-1/2 IN. WIDE FACE, SPACED 4 FT OC.
B. **CROSS TEES —** NOM 4 FT LONG, 1-1/2 IN. WIDE FACE OR 15/16 IN. WIDE FACE INSTALLED AT SIDES OF LIGHT FIXTURES, INSTALLED PERPENDICULAR TO THE MAIN RUNNERS, SPACED 24 IN. OC. WHEN BATTS AND BLANKETS* (ITEM 10) ARE USED, CROSS TEES SPACED 16 IN. OC. ADDITIONAL CROSS TEES OR CROSS CHANNELS USED AT 8 IN. FROM EACH SIDE OF BUTTED WALLBOARD END JOINTS. THE CROSS TEES OR CROSS CHANNELS MAY BE RIVETED OR SCREW ATTACHED TO THE WALL ANGLE OR CHANNEL TO FACILITATE THE CEILING INSTALLATION.
C. **CROSS CHANNELS —** NOM 4 FT LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS, SPACED 24 IN. OC. WHEN BATTS AND BLANKETS* (ITEM 10) ARE USED, CROSS CHANNELS SPACED 16 IN. OC.
D. **WALL ANGLE OR CHANNEL —** PAINTED OR GALV STEEL ANGLE WITH 1 IN. LEGS OR CHANNEL WITH 1 IN. LEGS, 1-9/16 IN. DEEP ATTACHED TO WALLS AT PERIMETER OF CEILING WITH FASTENERS 16 IN. OC. TO SUPPORT STEEL FRAMING MEMBER ENDS AND FOR SCREW-ATTACHMENT OF THE GYPSUM WALLBOARD.
CGC INC — TYPE DGL OR RX.
USG INTERIORS LLC — TYPE DGL OR RX.

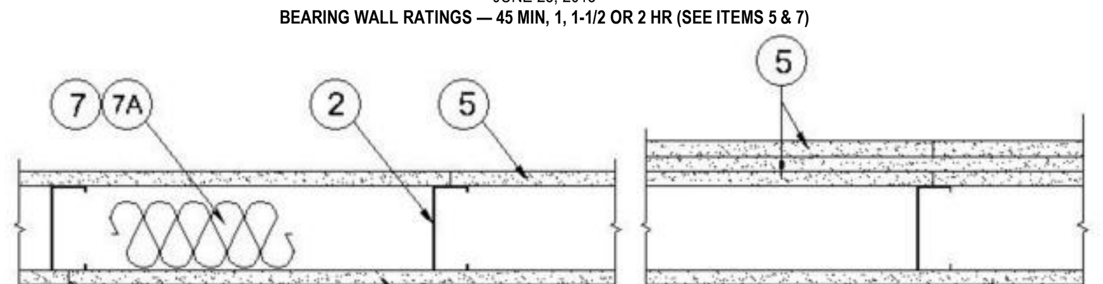
9. **GYPSUM BOARD* — ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U305.** NOM. 5/8 IN. THICK GYPSUM BOARD BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE. TWO LAYERS OF 5/8 IN. THICK BY 48 IN. WIDE SHEETS INSTALLED WITH LONG DIMENSION PERPENDICULAR TO THE FURRING CHANNELS. INNER LAYER ATTACHED TO FURRING CHANNELS USING 1-1/4 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC ALONG BUTTED END JOINTS AND 12 IN. OC IN THE FIELD OF THE BOARD. BUTTED END JOINTS TO OCCUR MIDWAY BETWEEN CONTINUOUS FURRING CHANNELS AND TO BE BACKED BY JOINT BACKER CHANNEL WHICH IS CENTERED ON THE END JOINTS AND EXTENDS 6 IN. BEYOND BOTH ENDS OF THE END JOINT. BUTTED END JOINTS TO BE OFFSET A MIN OF 24 IN. IN ADJACENT COURSES. OUTER LAYER ATTACHED TO THE FURRING CHANNELS THROUGH INNER LAYER USING 1-7/8 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC AT BUTTED END JOINTS AND 12 IN. OC IN THE FIELD. BUTTED END JOINTS TO BE CENTERED ON CONTINUOUS FURRING CHANNELS AND BE OFFSET A MIN OF 12 IN. FROM END JOINTS OF INNER LAYER.
ROWS OF SCREWS ON BOTH SIDES OF BUTTED END JOINTS OF EACH LAYER SHALL BE LOCATED 3/8 TO 1/2 IN. FROM END JOINTS. BUTTED SIDE JOINTS OF OUTER LAYER TO BE OFFSET A MIN OF 18 IN. FROM BUTTED SIDE JOINTS OF INNER LAYER. WHEN **STEEL FRAMING MEMBERS*** (ITEM 8A OR 8B) ARE USED, INNER LAYER INSTALLED WITH LONG DIMENSION PERPENDICULAR TO CROSS TEES WITH SIDE JOINTS CENTERED ALONG MAIN RUNNERS AND END JOINTS CENTERED ALONG CROSS TEES. INNER LAYER FASTENED TO CROSS TEES WITH 1-1/4 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC ALONG BUTTED END JOINTS AND 12 IN. OC IN THE FIELD OF THE BOARD. END JOINTS OF ADJACENT WALLBOARD SHEETS SHALL BE STAGGERED NOT LESS THAN 4 FT OC. OUTER LAYER ATTACHED TO THE CROSS TEES THROUGH INNER LAYER USING 1-7/8 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC AT BUTTED END JOINTS AND 12 IN. OC IN THE FIELD. BUTTED END JOINTS TO BE CENTERED ALONG CROSS TEES AND BE OFFSET A MIN OF 32 IN. FROM END JOINTS OF INNER LAYER. ROWS OF SCREWS ON BOTH SIDES OF BUTTED END JOINTS OF EACH LAYER SHALL BE LOCATED 3/8 TO 1/2 IN. FROM END JOINTS. BUTTED SIDE JOINTS OF OUTER LAYER TO BE OFFSET A MIN OF 18 IN. FROM BUTTED SIDE JOINTS OF INNER LAYER.
ACADIA DRYWALL SUPPLIES LTD — CKNX.R25370
AMERICAN GYPSUM CO — CKNX.R14196
BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — CKNX.R19374
CERTAINTEED GYPSUM CANADA INC — CKNX.R15187
CERTAINTEED GYPSUM INC — CKNX.R3660
CGC INC — CKNX.R19751
GEORGIA-PACIFIC GYPSUM L L C — CKNX.R2717
LAFARGE NORTH AMERICA INC — CKNX.R18482
LOADMASTER SYSTEMS INC — CKNX.R11809
NATIONAL GYPSUM CO — CKNX.R3501
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — CKNX.R7094
PANEL REY S A — CKNX.R21796
SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — CKNX.R19262
TEMPLE-INLAND — CKNX.R6937
THAI GYPSUM PRODUCTS PCL — CKNX.R27517
UNITED STATES GYPSUM CO — CKNX.R1319
USG MEXICO S A DE C V — CKNX.R16089

9A. **GYPSUM BOARD* —** FOR USE WHEN **BATTS AND BLANKETS*** (ITEM 10) AND **STEEL FRAMING MEMBERS***(ITEM 8B) ARE USED - TWO LAYERS OF 5/8 IN. THICK BY 48 IN. WIDE SHEETS. INNER LAYER INSTALLED WITH LONG DIMENSION PERPENDICULAR TO CROSS TEES WITH SIDE JOINTS CENTERED ALONG MAIN RUNNERS AND END JOINTS CENTERED ALONG CROSS TEES. INNER LAYER FASTENED TO CROSS TEES WITH 1-1/4 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC ALONG BUTTED END JOINTS AND 8 IN. OC IN THE FIELD OF THE BOARD. END JOINTS OF ADJACENT WALLBOARD SHEETS SHALL BE STAGGERED NOT LESS THAN 4 FT OC. OUTER LAYER ATTACHED TO THE CROSS TEES THROUGH INNER LAYER USING 1-7/8 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 8 IN. OC AT BUTTED END JOINTS AND 8 IN. OC IN THE FIELD. BUTTED END JOINTS TO BE CENTERED ALONG CROSS TEES AND BE OFFSET A MIN OF 32 IN. FROM END JOINTS OF INNER LAYER. ROWS OF SCREWS ON BOTH SIDES OF BUTTED END JOINTS OF EACH LAYER SHALL BE LOCATED 3/8 TO 1/2 IN. FROM END JOINTS. BUTTED SIDE JOINTS OF OUTER LAYER TO BE OFFSET A MIN OF 18 IN. FROM BUTTED SIDE JOINTS OF INNER LAYER.
CGC INC — TYPE C, IP-X2.
UNITED STATES GYPSUM CO — TYPE C, IP-X2.
USG MEXICO S A DE C V — TYPE C, IP-X2.

10. **BATTS AND BLANKETS* —** OPTIONAL -NOT SHOWN - WHEN USED RATINGS ARE LIMITED TO 1 HR. - FOR USE WITH**STEEL FRAMING MEMBERS*** (SPECIFICALLY ITEM 8B) AND **GYPSUM BOARD*** (SPECIFICALLY ITEM 9A) - ANY THICKNESS MINERAL WOOL OR GLASS FIBER INSULATION BEARING THE UL CLASSIFICATION MARKING FOR SURFACE BURNING CHARACTERISTICS, HAVING A FLAME SPREAD VALUE OF 25 OR LESS AND A SMOKE SPREAD VALUE OF 50 OR LESS. INSULATION FITTED IN THE CONCEALED SPACE, DRAPED OVER STEEL FRAMING MEMBERS/GYPSUM WALLBOARD CEILING MEMBRANE.
*BEARING THE UL CLASSIFICATION MARK

UL DESIGN NO. U423

JUNE 25, 2013
BEARING WALL RATINGS — 45 MIN, 1, 1-1/2 OR 2 HR (SEE ITEMS 5 & 7)



1. **FLOOR AND CEILING RUNNERS —** (NOT SHOWN) — CHANNEL SHAPED, FABRICATED FROM MIN 0.0329 IN., BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILINGS AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

1A. **FLOOR AND CEILING RUNNERS —** (NOT SHOWN, AS AN ALTERNATE TO ITEM 1, FOR USE WITH ITEM 5A AND 5C) — CHANNEL SHAPED RUNNERS MIN 3-1/2 IN. DEEP WITH 1-1/4 IN. FLANGES FABRICATED FROM MIN NO. 20 MSG CORROSION-PROTECTED STEEL. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. **STEEL STUDS —** MIN 0.0329 IN., BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.

2A. **STEEL STUDS —** (AS AN ALTERNATE TO ITEM 2, FOR USE WITH ITEM 5A AND 5C) CHANNEL SHAPED, FABRICATED FROM MIN 20 MSG CORROSION-PROTECTED OR GALV STEEL, 3-1/2 IN. MIN WIDTH, MIN 1-1/2 IN. FLANGES AND 1/4 IN. RETURN, SPACED A MAX OF 16 IN. OC. STUDS FRICTION-FIT INTO FLOOR AND CEILING RUNNERS.

2B. **STEEL STUDS —** (AS AN ALTERNATE TO ITEM 2 AND 2A, FOR USE WITH ITEM 5B) - MIN 0.0329 IN., (NO. 20 MSG) CORROSION-PROTECTED COLD FORMED STEEL STUDS, MIN 3-1/2 IN. DEEP BY 1-5/8 IN. WIDE WITH 1/2 IN. RETURNS. BRACED AT MID-HEIGHT AND DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.

2C. **FRAMING MEMBERS - STEEL STUDS —** (AS AN ALTERNATE TO ITEM 2, FOR USE WITH ITEM 5C) CHANNEL SHAPED, FABRICATED FROM MIN 20 MSG (0.0327 IN. THICK) CORROSION-PROTECTED OR GALV STEEL, 3-1/2 IN. MIN WIDTH, MIN 1-1/2 IN. FLANGES AND 1/4 IN. RETURN, SPACED A MAX OF 16 IN. OC. STUDS FRICTION-FIT INTO FLOOR AND CEILING RUNNERS. STUDS TO BE CUT 5/8 TO 3/4 IN. LESS THAN ASSEMBLY HEIGHT.

3. **LATERAL SUPPORT MEMBERS —** (NOT SHOWN) — WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRAPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.

4. **WOOD STRUCTURAL PANEL SHEATHING —** (OPTIONAL, FOR USE WITH ITEM 5 ONLY.)- (NOT SHOWN) - 4 FT WIDE, 7/16 IN. THICK ORIENTED STRAND BOARD (OSB) OR 15/32 IN. THICK STRUCTURAL 1 SHEATHING (PLYWOOD) COMPLYING WITH DOC PS1 OR PS2, OR APA STANDARD PRP-108, MANUFACTURED WITH EXTERIOR GLUE, APPLIED HORIZONTALLY OR VERTICALLY TO THE STEEL STUDS. VERTICAL JOINTS CENTERED ON STUDS, AND STAGGERED ONE STUD SPACE FROM WALLBOARD JOINTS. ATTACHED TO STUDS WITH FLAT-HEAD SELF-DRILLING TAPPING SCREWS WITH A MIN. HEAD DIAM. OF 0.292 IN. AT MAXIMUM 6 IN. OC. IN THE PERIMETER AND 12 IN. OC. IN THE FIELD. WHEN USED, FASTENER LENGTHS FOR GYPSUM PANELS INCREASED BY MIN. 1/2 IN.
THE MAXIMUM LOADING ON THE STEEL STUDS WAS EVALUATED WITH THE STEEL STUDS BRACED AT MID-HEIGHT AND NOT BRACED BY THE PLYWOOD SHEATHING.

5. **GYPSUM BOARD* —** GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR, AND 2 HR RATINGS ARE AS FOLLOWS:

WALLBOARD PROTECTION ON EACH SIDE OF WALL

Rating	No. of Layers& Thickness of Panel	% of Design Load
45 Min	1 layer, 1/2 in. thick	100
1 hr	1 layer, 5/8 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
2 hr	2 layers, 5/8 in. thick	80
2 hr@	2 layers, 5/8 in. thick	100
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

@RATING APPLICABLE WHEN BATTS AND BLANKETS (ITEM 7) ARE USED.

CGC INC — 1/2 IN. THICK TYPE IP-X2, IPC-AR, C, WRC, OR; 5/8 IN. THICK TYPE SCX, SHX, WRX, IP-X1, AR, C, IP-AR, IP-X2, IPC-AR, ULX, OR WRC; 3/4 IN. THICK TYPES AR, IP-AR, IP-X3, ULTRACODE
UNITED STATES GYPSUM CO — 1/2 IN. THICK TYPE C, IP-X2, IPC-AR, OR WRC; 5/8 IN. THICK TYPE AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULX, WRX, OR WRC; 3/4 IN. THICK TYPES AR, IP-AR OR IP-X3, ULTRACODE
USG MEXICO S A DE C V — 1/2 IN. THICK TYPE C, IP-X2, IPC-AR, WRC; 5/8 IN. THICK TYPE AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, WRX OR WRC; 3/4 IN. THICK TYPES AR, IP-AR, IP-X3, ULTRACODE

5A. 5A. **GYPSUM BOARD* —** (AS AN ALTERNATE TO ITEM 5 WHEN USED AS THE BASE LAYER ON ONE OR BOTH SIDES OF WALL, FOR DIRECT ATTACHMENT ONLY, NOT TO BE USED WITH ITEM 4) - NOM 5/8 IN. OR ¾ IN. MAY BE USED AS ALTERNATE TO ALL 5/8 IN. OR ¾ IN. SHOWN IN ITEM 5, WALLBOARD PROTECTION ON EACH SIDE OF WALL TABLE. NOM 5/8 IN. OR ¾ IN. THICK LEAD BACKED GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY. VERTICAL JOINTS CENTERED OVER 20 MSG STEEL STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. SEE ITEMS 1A, 2A 8, 8A(A). WALLBOARD SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 8 IN. OC AT PERIMETER AND 12 IN. OC IN THE FIELD. TO BE USED WITH LEAD BATTEN STRIPS (SEE ITEM 12) OR LEAD DISCS OR TABS (SEE ITEM 13).
RAY-BAR ENGINEERING CORP — TYPE RB-LBG

5B. **GYPSUM BOARD* —** (AS AN ALTERNATE TO ITEMS 5 AND 5A,) - NOM 5/8 IN. THICK GYPSUM PANELS WITH SQUARE EDGES, APPLIED HORIZONTALLY OR VERTICALLY. FOR THE1 HOUR SINGLE LAYER SYSTEM -WHEN THE GYPSUM BOARD PANELS ARE INSTALLED HORIZONTALLY THE JOINTS ARE TO BE STAGGERED BY A MINIMUM OF 12 IN. ON OPPOSITE SIDES OF ASSEMBLY, THEY ARE TO BE SECURED ON EACH SIDE OF THE STUDS WITH 1-1/4 IN. LONG TYPE S-12 BUGLE HEAD STEEL SCREWS SPACED 8 IN. OC TO THE TOP AND BOTTOM TRACKS AND IN THE FIELD WITH SCREWS 1 IN AND 4 IN. FROM THE HORIZONTAL JOINTS. WHEN THE GYPSUM BOARD PANELS ARE INSTALLED VERTICALLY ALL VERTICAL JOINTS MUST BE CENTERED OVER STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. GYPSUM BOARD SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 8 IN. OC TO THE TOP AND BOTTOM TRACKS AND IN THE FIELD WITH SCREWS 1 IN AND 4 IN. FROM THE PERIMETER. FOR THE 2 HOUR DOUBLE LAYER SYSTEM - WHEN THE GYPSUM BOARD PANELS ARE INSTALLED HORIZONTALLY THE JOINTS NEED NOT BE STAGGERED ON OPPOSITE SIDES OF ASSEMBLY. BASE LAYER SECURED ON EACH SIDE OF THE STUDS WITH 1-1/4 IN. LONG TYPE S-12 BUGLE HEAD STEEL SCREWS SPACED 16 IN. OC TO THE TOP AND BOTTOM TRACK AND IN THE FIELD WITH SCREWS BEGINNING 1 IN. AND 8 IN. FROM THE HORIZONTAL JOINTS. FACE LAYER HORIZONTAL JOINTS STAGGERED 8 IN FROM BASE LAYER JOINTS AND SECURED WITH 1-5/8 IN. LONG TYPE S-12 BUGLE HEAD STEEL SCREWS SPACED 16 IN. OC TO THE TOP AND BOTTOM TRACKS AND IN THE FIELD WITH SCREWS BEGINNING 1 IN. AND 8 IN. FROM THE HORIZONTAL JOINTS. FACE LAYER SCREWS OFFSET 8 IN. FROM BASE LAYER SCREWS. WHEN THE GYPSUM BOARD PANELS ARE INSTALLED VERTICALLY ALL VERTICAL JOINTS MUST BE CENTERED OVER STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. FACE LAYER GYPSUM BOARDS SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 16 IN. OC WITH SCREWS 2 IN. AND 16 IN. FROM THE PERIMETER. BASE LAYER GYPSUM BOARDS SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 16 IN. OC WITH SCREWS 1-1/2 IN AND 8 IN. FROM THE PERIMETER. FACE LAYER SCREWS OFFSET 8 IN. FROM BASE LAYER SCREWS.
UNITED STATES GYPSUM CO — 5/8 IN. THICK TYPE USGX (JOINT TAPE AND COMPOUND, ITEM 9, OPTIONAL WITH TYPE USGX)

5C. **GYPSUM BOARD* —** (AS AN ALTERNATE TO ITEM 5 WHEN USED AS THE BASE LAYER ON ONE OR BOTH SIDES OF WALL, FOR DIRECT ATTACHMENT ONLY, NOT TO BE USED WITH ITEM 4). NOMINAL 5/8 IN. THICK LEAD BACKED GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. WALLBOARD SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 (OR #6 BY 1-1/4 IN. LONG BUGLE HEAD FINE DRILLER) STEEL SCREWS SPACED 8 IN. OC AT PERIMETER AND 12 IN. OC IN THE FIELD.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — NELCO

5D. **GYPSUM BOARD* —** (AS AN ALTERNATE TO ITEM 5 WHEN USED AS THE BASE LAYER ON ONE OR BOTH SIDES OF WALL, FOR DIRECT ATTACHMENT ONLY, NOT TO BE USED WITH ITEM 4) - NOM 5/8 OR 3/4 IN. MAY BE USED AS ALTERNATE TO ALL 5/8 OR 3/4 IN. SHOWN IN ITEM 5, WALLBOARD PROTECTION ON EACH SIDE OF WALL TABLE. NOM 5/8 OR 3/4 IN. THICK LEAD BACKED GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY. VERTICAL JOINTS CENTERED OVER 20 MSG STEEL STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. SEE ITEMS 1A, 2A 8, 8A(A). WALLBOARD SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 8 IN. OC AT PERIMETER AND 12 IN. OC IN THE FIELD. TO BE USED WITH LEAD BATTEN STRIPS (SEE ITEM 12A) OR LEAD DISCS (SEE ITEM 13A).
MAYCO INDUSTRIES INC — TYPE X-RAY SHIELDED GYPSUM

5E. **GYPSUM BOARD* —** (AS AN ALTERNATE TO ITEM 5 WHEN USED AS THE BASE LAYER ON ONE OR BOTH SIDES OF WALL, FOR DIRECT ATTACHMENT ONLY, NOT TO BE USED WITH ITEM 4). NOM 5/8 IN. MAY BE USED AS ALTERNATE TO ALL 5/8. SHOWN IN ITEM 5, WALLBOARD PROTECTION ON EACH SIDE OF WALL TABLE. NOM 5/8 OR 3/4 IN. THICK LEAD BACKED GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY. VERTICAL JOINTS CENTERED OVER 20 MSG STEEL STUDS AND STAGGERED MIN 1 STUD CAVITY ON OPPOSITE SIDES OF STUDS. SEE ITEMS 1A, 2A 8, 8A(A). WALLBOARD SECURED TO STUDS WITH 1-1/4 IN. LONG TYPE S-12 STEEL SCREWS SPACED 8 IN. OC AT PERIMETER AND 12 IN. OC IN THE FIELD.. LEAD BATTEN STRIPS REQUIRED BEHIND VERTICAL JOINTS OF LEAD BACKED GYPSUM WALLBOARD AND OPTIONAL AT REMAINING STUD LOCATIONS. LEAD BATTEN STRIPS, MIN 2 IN. WIDE, MAX 8 FT LONG WITH A MAX THICKNESS OF 0.14 IN. PLACED ON THE FACE OF STUDS AND ATTACHED TO THE STUD WITH CONSTRUCTION ADHESIVE AND TWO 1 IN. LONG TYPE S-12 PAN HEAD STEEL SCREWS, ONE AT THE TOP OF THE STRIP AND ONE AT THE BOTTOM OF THE STRIP. LEAD DISCS, NOMINAL 3/8 IN. DIAM BY MAX 0.085 IN. THICK. COMPRESSION FITTED OR ADHERED OVER THE SCREW HEADS. LEAD BATTEN STRIPS AND DISCS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADE "C".
RADIATION PROTECTION PRODUCTS INC — TYPE RPP - LEAD LINED DRYWALL

6. **FASTENERS —** (NOT SHOWN) — FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1 OR 1A) AND STUDS (ITEM 2 OR 2A) OR FURRING CHANNELS (ITEM 8). **SINGLE LAYER SYSTEMS:** 1 IN. LONG FOR 1/2 AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 8 IN. OC WHEN PANELS ARE APPLIED HORIZONTALLY, OR 12 IN. OC WHEN PANELS ARE APPLIED VERTICALLY. **TWO LAYER SYSTEMS:** FIRST LAYER- 1 IN. LONG FOR 1/2 AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 16 IN. OC. SECOND LAYER- 1-5/8 IN. LONG FOR 1/2 IN. AND 5/8 IN. THICK PANELS OR 2-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 16 IN. OC WITH SCREWS OFFSET 8 IN. FROM FIRST LAYER. **THREE-LAYER SYSTEMS:** FIRST LAYER- 1 IN. LONG FOR 1/2 IN. THICK PANELS, SPACED 24 IN. OC. SECOND LAYER- 1-5/8 IN. LONG FOR 1/2 IN. THICK PANELS, SPACED 24 IN. OC. THIRD LAYER- 2-1/4 IN. LONG FOR 1/2 IN. THICK PANELS, SPACED 12 IN. OC. SCREWS OFFSET MIN 6 IN. FROM LAYER BELOW.
7. **BATTS AND BLANKETS* —** (REQUIRED AS INDICATED UNDER ITEM 5) — NOM 2 IN. THICK MINERAL WOOL BATTS, FRICTION FITTED BETWEEN STUDS AND RUNNERS. SEE **BATTS AND BLANKETS (BKNV OR BZJZ) CATEGORIES** FOR NAMES OF CLASSIFIED COMPANIES.
7A. **BATTS AND BLANKETS* —** (OPTIONAL, NOT SHOWN) — PLACED IN STUD CAVITIES, ANY GLASS FIBER OR MINERAL WOOL INSULATION BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING CHARACTERISTICS AND/OR FIRE RESISTANCE. SEE **BATTS AND BLANKETS (BKNV OR BZJZ) CATEGORIES** FOR NAMES OF CLASSIFIED COMPANIES.
7B. **BATTS AND BLANKETS* —** (OPTIONAL, NOT SHOWN) — PLACED IN STUD CAVITIES, GLASS FIBER INSULATION BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING CHARACTERISTICS AND/OR FIRE RESISTANCE.
OWENS CORNING — TYPE QUIETZONE ACOUSTIC BATTS

8. **FURRING CHANNELS —** (OPTIONAL ON ONE OR BOTH SIDES, NOT SHOWN, FOR SINGLE OR DOUBLE LAYER SYSTEMS) — RESILIENT FURRING CHANNELS FABRICATED FROM MIN 25 MSG CORROSION-PROTECTED STEEL, SPACED VERTICALLY A MAX OF 24 IN. OC. FLANGE PORTION ATTACHED TO EACH INTERSECTING STUD WITH 1/2 IN. LONG TYPE S-12 PANHEAD STEEL SCREWS. NOT FOR USE WITH TYPE FRX-G GYPSUM PANELS AND ITEM 5A OR 5C.
8A. 8A. **STEEL FRAMING MEMBERS (NOT SHOWN)* —** (OPTIONAL ON ONE OR BOTH SIDES, NOT SHOWN, FOR SINGLE OR DOUBLE LAYER SYSTEMS) — AS AN ALTERNATE TO ITEM 8, FURRING CHANNELS AND STEEL FRAMING MEMBERS AS DESCRIBED BELOW:
A. **FURRING CHANNELS —** FORMED OF NO. 25 MSG GALV STEEL. 2-9/16 IN. OR 2-23/32 IN. WIDE BY 7/8 IN. DEEP, SPACED MAX. 24 IN. OC PERPENDICULAR TO STUDS. CHANNELS SECURED TO STUDS AS DESCRIBED IN ITEM B. GYPSUM BOARD ATTACHED TO FURRING CHANNELS AS DESCRIBED IN ITEM 6. NOT FOR USE WITH TYPE FRX-G GYPSUM PANELS AND ITEM 5A OR 5C.
B. **STEEL FRAMING MEMBERS* —** USED TO ATTACH FURRING CHANNELS (ITEM 8A) TO STUDS (ITEM 2). CLIPS SPACED MAX. 48 IN. OC., AND SECURED TO STUDS WITH NO. 8 X 1-1/2 IN. MINIMUM SELF-DRILLING, S-12 STEEL SCREW THROUGH THE CENTER GROMMET. FURRING CHANNELS ARE FRICTION FITTED INTO CLIPS. RSIC-1 CLIP FOR USE WITH 2-9/16 IN. WIDE FURRING CHANNELS. RSIC-1 (2.75) CLIP FOR USE WITH 2-23/32 IN. WIDE FURRING CHANNELS.
PAC INTERNATIONAL INC — TYPES RSIC-1, RSIC-1 (2.75).

8B. **STEEL FRAMING MEMBERS* —** OPTIONAL - NOT SHOWN - USED AS AN ALTERNATE METHOD TO ATTACH RESILIENT CHANNELS (ITEM 8). CLIPS ATTACHED AT EACH INTERSECTION OF THE RESILIENT CHANNEL AND THE STEEL STUDS (ITEM 2). RESILIENT CHANNELS ARE FRICTION FITTED INTO CLIPS, AND THEN CLIPS ARE SECURED TO THE STUD WITH MIN. 1 IN. LONG TYPE S-12 PANHEAD STEEL SCREWS THROUGH THE CENTER HOLE OF THE CLIP AND THE RESILIENT CHANNEL FLANGE.
KEENE BUILDING PRODUCTS CO INC — TYPE RC ASSURANCE.

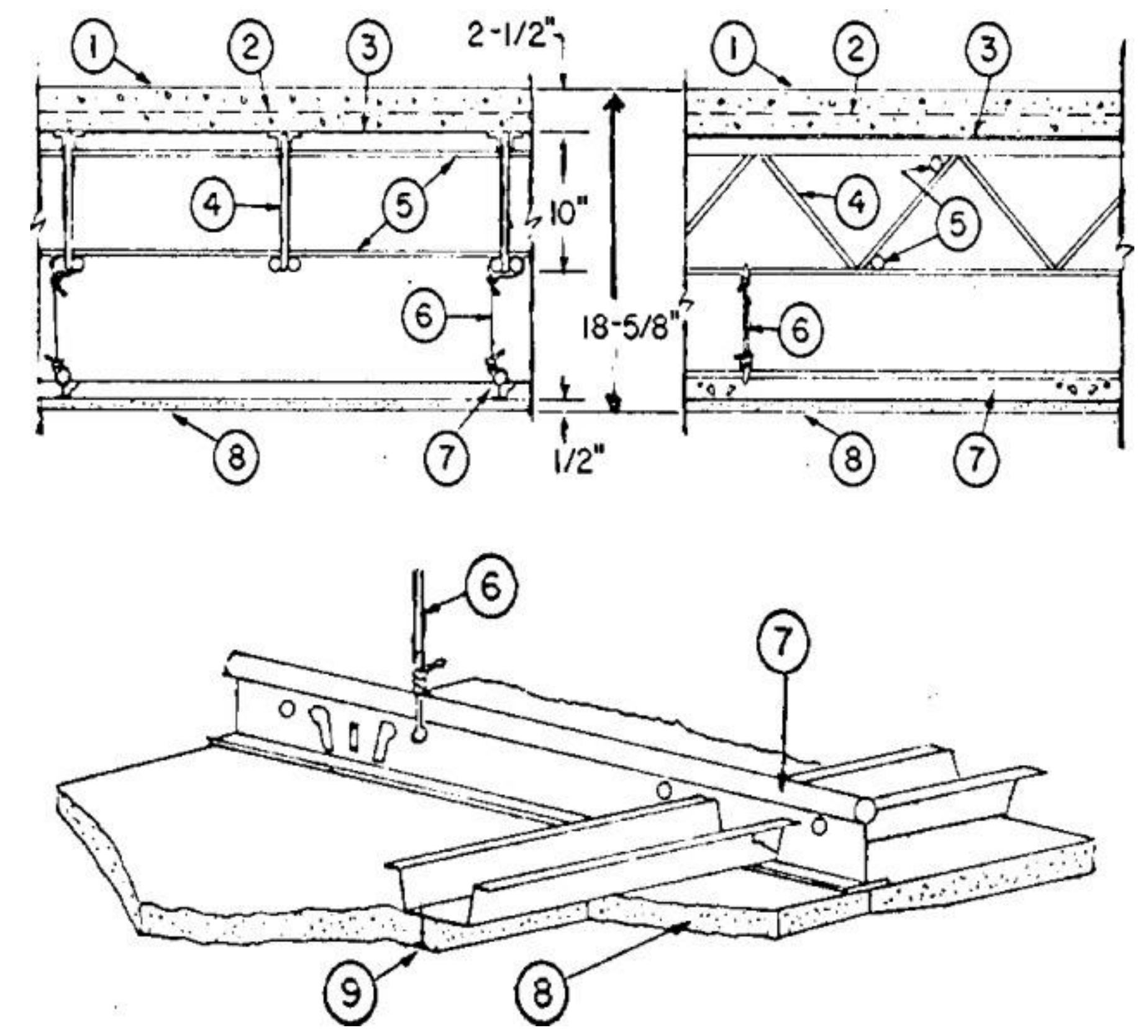
8C. **STEEL FRAMING MEMBERS —** (NOT SHOWN)* — (OPTIONAL ON ONE OR BOTH SIDES, NOT SHOWN, FOR SINGLE OR DOUBLE LAYER SYSTEMS) — AS AN ALTERNATE TO ITEM 8, FURRING CHANNELS AND STEEL FRAMING MEMBERS AS DESCRIBED BELOW:
A. **FURRING CHANNELS —** FORMED OF NO. 25 MSG GALV STEEL. 2-3/8 IN. WIDE BY 7/8 IN. DEEP, SPACED MAX. 24 IN. OC PERPENDICULAR TO STUDS. CHANNELS SECURED TO STUDS AS DESCRIBED IN ITEM B. GYPSUM BOARD ATTACHED TO FURRING CHANNELS AS DESCRIBED IN ITEM 6. NOT FOR USE WITH TYPE FRX-G GYPSUM PANELS AND ITEM 5A OR 5C.
B. **STEEL FRAMING MEMBERS* —** USED TO ATTACH FURRING CHANNELS TO STUDS (ITEM 2). CLIPS SPACED MAX. 48 IN. OC., AND SECURED TO STUDS WITH NO. 8 X 1-1/2 IN. MINIMUM SELF-DRILLING, S-12 STEEL SCREW THROUGH THE CENTER GROMMET. FURRING CHANNELS ARE FRICTION FITTED INTO CLIPS.
PLITEQ INC — TYPE GENIECLIP

9. **JOINT TAPE AND COMPOUND —** VINYL OR CASEIN, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.
10. **SIDING, BRICK OR STUCCO —** (OPTIONAL, NOT SHOWN) — ALUMINUM, VINYL OR STEEL SIDING, BRICK VENEER OR STUCCO, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK.
11. **CAULKING AND SEALANTS* —** (OPTIONAL, NOT SHOWN) — A BEAD OF ACOUSTICAL SEALANT APPLIED AROUND THE PARTITION PERIMETER FOR SOUND CONTROL.
UNITED STATES GYPSUM CO — TYPE AS

12. **LEAD BATTEN STRIPS —** (NOT SHOWN, FOR USE WITH ITEM 5A) - LEAD BATTEN STRIPS, MIN 1-1/2 IN. WIDE, MAX 10 FT LONG WITH A MAX THICKNESS OF 0.125 IN. STRIPS PLACED ON THE INTERIOR FACE OF STUDS AND ATTACHED FROM THE EXTERIOR FACE OF THE STUD WITH TWO 1 IN. LONG TYPE S-12 PAN HEAD STEEL SCREWS, ONE AT THE TOP OF THE STRIP AND ONE AT THE BOTTOM OF THE STRIP. LEAD BATTEN STRIPS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADE "C". LEAD BATTEN STRIPS REQUIRED BEHIND VERTICAL JOINTS OF LEAD BACKED GYPSUM WALLBOARD (ITEM 5A) AND OPTIONAL AT REMAINING STUD LOCATIONS. REQUIRED BEHIND VERTICAL JOINTS.
12A. **LEAD BATTEN STRIPS —** (NOT SHOWN, FOR USE WITH ITEM 5D) LEAD BATTEN STRIPS, 2 IN. WIDE, MAX 10 FT LONG WITH A MAX THICKNESS OF 0.140 IN. STRIPS PLACED ON THE FACE OF STUDS AND ATTACHED TO THE STUD WITH TWO MIN. 1 IN. LONG MIN. TYPE S-8 PAN HEAD STEEL SCREWS, ONE AT THE TOP OF THE STRIP AND ONE AT THE BOTTOM OF THE STRIP OR WITH ONE MIN. 1 IN. LONG MIN. TYPE S-8 PAN HEAD STEEL SCREW AT THE TOP OF THE STRIP. LEAD BATTEN STRIPS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADES "A, B, C OR D". LEAD BATTEN STRIPS REQUIRED BEHIND VERTICAL JOINTS OF LEAD BACKED GYPSUM WALLBOARD (ITEM 6) AND OPTIONAL AT REMAINING STUD LOCATIONS.
13. **LEAD DISCS OR TABS —** (NOT SHOWN, FOR USE WITH ITEM 5A) - USED IN LIEU OF OR IN ADDITION TO THE LEAD BATTEN STRIPS (ITEM 12) OR OPTIONAL AT OTHER LOCATIONS - MAX 3/4 IN. DIAM BY MAX 0.125 IN. THICK LEAD DISCS COMPRESSION FITTED OR ADHERED OVER STEEL SCREW HEADS OR MAX 1/2 IN. BY 1-1/4 IN. BY MAX 0.125 IN. THICK LEAD TABS PLACED ON GYPSUM BOARDS (ITEM 5A) UNDERNEATH SCREW LOCATIONS PRIOR TO THE INSTALLATION OF THE SCREWS. LEAD DISCS OR TABS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADE "C".
13A. **LEAD DISCS —** (NOT SHOWN, FOR USE WITH ITEM 5D) MAX 5/16 IN. DIAM BY MAX 0.140 IN. THICK LEAD DISCS COMPRESSION FITTED OR ADHERED OVER STEEL SCREW HEADS. LEAD DISCS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADES "A, B, C OR D".
14. **LEAD BATTEN STRIPS —** (NOT SHOWN, FOR USE WITH ITEM 5C) LEAD BATTEN STRIPS, 2 IN. WIDE, MAX 10 FT LONG WITH A MAX THICKNESS OF 0.142 IN. STRIPS PLACED ON THE FACE OF STUDS AND ATTACHED TO THE STUD WITH TWO MIN. 1 IN. LONG MIN. TYPE S-8 PAN HEAD STEEL SCREWS, ONE AT THE TOP OF THE STRIP AND ONE AT THE BOTTOM OF THE STRIP OR WITH ONE MIN. 1 IN. LONG MIN. TYPE S-8 PAN HEAD STEEL SCREW AT THE TOP OF THE STRIP. LEAD BATTEN STRIPS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADE "C". LEAD BATTEN STRIPS REQUIRED BEHIND VERTICAL JOINTS OF LEAD BACKED GYPSUM WALLBOARD (ITEM 5C) AND OPTIONAL AT REMAINING STUD LOCATIONS.
15. **LEAD TABS —** (NOT SHOWN, FOR USE WITH ITEM 5C) 2 IN. WIDE, 5 IN. LONG WITH A MAX THICKNESS OF 0.142 IN. TABS FRICTION-FIT AROUND FRONT FACE OF STUD, THE STUD FOLDED BACK FLANGE, AND THE BACK FACE OF THE STUD. TABS REQUIRED AT EACH LOCATION WHERE A SCREW (THAT SECURES THE GYPSUM BOARDS, ITEM 5C) WILL PENETRATE THE STEEL STUD. LEAD TABS TO HAVE A PURITY OF 99.9% MEETING THE FEDERAL SPECIFICATION QQ-L-201F, GRADE "C". LEAD TABS MAY BE HELD IN PLACE WITH STANDARD ADHESIVE TAPE IF NECESSARY.
*BEARING THE UL CLASSIFICATION MARK

UL DESIGN NO. G528:

JUNE 06, 2013
RESTRAINED ASSEMBLY RATINGS — 1 AND 1-1/2 HR. (SEE ITEM 11)
UNRESTRAINED ASSEMBLY RATINGS — 1 AND 1-1/2 HR. (SEE ITEM 11)



1. **NORMAL-WEIGHT CONCRETE —** CARBONATE OR SILICEOUS AGGREGATE, 152 + OR - 3 PCF UNIT WEIGHT, 4500 PSI COMPRESSIVE STRENGTH.

2. **WELDED WIRE FABRIC —** 6 BY 6 IN., 10/10 SWG.

3. **METAL LATH —** 3/8 IN. RIB, 3.4 LB PER SQ YD EXPANDED STEEL. TIED TO EACH JOIST AT EVERY OTHER RIB AND MIDWAY BETWEEN JOINTS AT SIDE LAP WITH 18 SWG GALV STEEL WIRE.

4. **STEEL JOISTS —** TYPE 10J2 MIN SIZE, SPACED 24 IN. O.C., WELDED TO END SUPPORTS.

5. **BRIDGING —** 1/2 IN. DIAM STEEL BARS WELDED TO TOP AND BOTTOM CHORDS OF EACH JOIST.

6. **HANGER WIRE —** NO. 12 SWG GALV STEEL WIRE TIED TO LOWER CHORD OF JOISTS SPACING NOT OVER 48 IN. O.C.

7. **STEEL FRAMING MEMBERS* —** MAIN RUNNERS, CROSS TEES, CROSS CHANNELS AND WALL ANGLE AS LISTED BELOW:
A. **MAIN RUNNERS —** NOM 10 OR 12 FT. LONG, 15/16 IN. OR 1-1/2 IN. WIDE FACE, SPACED 4 FT. OC.
B. **CROSS TEES —** NOM 4 FT. LONG, 1-1/2 IN. WIDE FACE, 15/16 IN. WIDE FACE INSTALLED AT SIDES OF LIGHT FIXTURES, INSTALLED PERPENDICULAR TO THE MAIN RUNNERS, SPACED 24 IN. OC. WHEN BATTS AND BLANKETS* (ITEM 11) ARE USED, CROSS TEES SPACED 16 IN. OC. ADDITIONAL CROSS TEES OR CROSS CHANNELS USED AT 8 IN. FROM EACH SIDE OF BUTTED GYPSUM BOARD END JOINTS. THE CROSS TEES OR CROSS CHANNELS MAY BE RIVETED OR SCREW ATTACHED TO THE WALL ANGLE OR CHANNEL TO FACILITATE THE CEILING INSTALLATION.
C. **CROSS CHANNELS —** NOM 4 FT. LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS, SPACED 24 IN. OC. WHEN BATTS AND BLANKETS* (ITEM 11) ARE USED, CROSS CHANNELS SPACED 16 IN. OC.
D. **WALL ANGLE OR CHANNEL —** PAINTED OR GALV STEEL ANGLE WITH 1 IN. LEGS OR CHANNEL WITH 1 IN. LEGS, 1-9/16 IN. DEEP ATTACHED TO WALLS AT PERIMETER OF CEILING WITH FASTENERS 16 IN. OC. TO SUPPORT STEEL FRAMING MEMBER ENDS AND FOR SCREW-ATTACHMENT OF THE GYPSUM BOARD.
CGC INC — TYPE DGL OR RX.
USG INTERIORS LLC — TYPE DGL OR RX.

7A. **STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEM 7. MAIN RUNNERS NOM 12 FT LONG, SPACED 48 IN. OC. ENDS OF MAIN RUNNERS AT WALLS TO REST ON WALL ANGLE, WITHOUT ATTACHMENT, WITH 1/2 TO 3/4 IN. END CLEARANCE. PRIMARY CROSS TEES (1-1/2 IN. WIDE ACROSS FLANGE) OR CROSS CHANNELS, NOM 4 FT LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS AND SPACED 24 IN. OC. ADDITIONAL PRIMARY CROSS TEES OR CROSS CHANNELS REQUIRED AT EACH GYPSUM BOARD END JOINT AND 8 IN. FROM AND ON EACH SIDE OF GYPSUM BOARD END JOINT.
ARMSTRONG WORLD INDUSTRIES INC — TYPE DFR-8000.

7B. **STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEMS 7 AND 7A. FOR USE WITH 1/2 IN. THICK GYPSUM BOARD ONLY. MAIN RUNNERS NOM 12 FT LONG, SPACED 48 IN. OC. CROSS CHANNELS, 4 FT. LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS AND SPACED 24 IN. OC. ADDITIONAL CROSS CHANNELS REQUIRED 8 IN. FROM AND ON EACH SIDE OF GYPSUM BOARD END JOINTS, AND 8 IN. FROM EACH SIDE OF LIGHT FIXTURES. CROSS TEES, 4 FT LONG INSTALLED PERPENDICULAR TO MAIN RUNNERS TO SUPPORT THE 4 FT SIDES OF LIGHT FIXTURES. J-SHAPED METAL TRIM MOLDING, INSTALLED AT PERIMETER OF LIGHT FIXTURES TO COVER AND SUPPORT THE EXPOSED GYPSUM BOARD EDGES.
CHICAGO METALLIC CORP — TYPE 630.

7C. **STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEMS 7, 7A AND 7B. MAIN RUNNERS NOM 12 FT LONG, SPACED 48 IN. OC. CROSS TEES, NOM 4 FT LONG INSTALLED PERPENDICULAR TO MAIN RUNNERS AND SPACED 24 IN. OC. ADDITIONAL CROSS TEES LOCATED 8 IN. FROM AND ON EACH SIDE OF GYPSUM BOARD END JOINTS, AND 8 IN. FROM EACH SIDE OF LIGHT FIXTURES.
CHICAGO METALLIC CORP — TYPES 650, 650C, 670, 670C.

7D. **ALTERNATE STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEMS 7, 7A, 7B AND 7C. FOR USE IN CORRIDORS OR ROOMS HAVING A MAXIMUM WIDTH DIMENSION OF 14 FT. STEEL FRAMING MEMBERS CONSIST OF GRID RUNNERS, LOCKING ANGLE WALL MOLDING AND HANGER BARS. LOCKING ANGLE WALL MOLDING SECURED TO WALLS WITH STEEL NAILS OR SCREWS SPACED MAX 24 IN. OC. SLOTS OF LOCKING ANGLE WALL MOLDING PARALLEL WITH HANGER BARS TO BE ALIGNED WITH TABBED CUTOUTS IN BOTTOM EDGE OF HANGER BARS. HANGER BARS SPACED MAX 50 IN. OC AND SUSPENDED WITH NO. 12 AWG STEEL HANGER WIRES SPACED MAX 48 IN. OC. ADJOINING LENGTHS OF HANGER BAR TO OVERLAP 12 IN. AND TO BE SECURED TOGETHER AND SUSPENDED BY A SHARED HANGER WIRE. A MIN CLEARANCE OF 1/4 IN. SHALL BE MAINTAINED BETWEEN THE ENDS OF THE HANGER BARS AND THE WALLS. GRID RUNNERS CUT-TO-LENGTH AND INSTALLED PERPENDICULAR TO HANGER BARS AND SPACED MAX 24 IN. OC WITH ADDITIONAL GRID RUNNERS INSTALLED 8 IN. OC AT GYPSUM BOARD END JOINTS. GRID RUNNERS PARALLEL WITH WALLS TO BE SPACED MAX 16 IN. FROM WALL. ENDS OF GRID RUNNERS TO REST ON AND ENGAGE SLOTS OF LOCKING ANGLE WALL MOLDING WITH A CLEARANCE OF 3/8 IN. TO 1/2 IN. MAINTAINED BETWEEN EACH END OF THE GRID RUNNER AND THE WALL. BULB OF GRID RUNNER TO BE CAPTURED BY TABBED CUTOUTS IN BOTTOM EDGE OF HANGER BARS.
ARMSTRONG WORLD INDUSTRIES INC — TYPE DFR-8000-SS

7E. **ALTERNATE STEEL FRAMING MEMBERS* —** (NOT SHOWN) — AS AN ALTERNATE TO ITEMS 7, 7A, 7B, 7C AND 7D. MAIN RUNNERS NOM 12 FT LONG, SPACED 72 IN. OC. CROSS TEES, NOM 6 FT LONG, INSTALLED PERPENDICULAR TO MAIN RUNNERS AND SPACED 24 IN. OC. ADDITIONAL 6 FT LONG CROSS TEES REQUIRED AT EACH GYPSUM BOARD END JOINT WITH BUTTED GYPSUM BOARD END JOINTS CENTERED BETWEEN CROSS TEES SPACED 8 IN. OC. THE MAIN RUNNERS AND CROSS TEES MAY BE RIVETED OR SCREW-ATTACHED TO THE WALL ANGLE OR CHANNEL TO FACILITATE THE CEILING INSTALLATION.
ARMSTRONG WORLD INDUSTRIES INC — TYPE DFR-8000

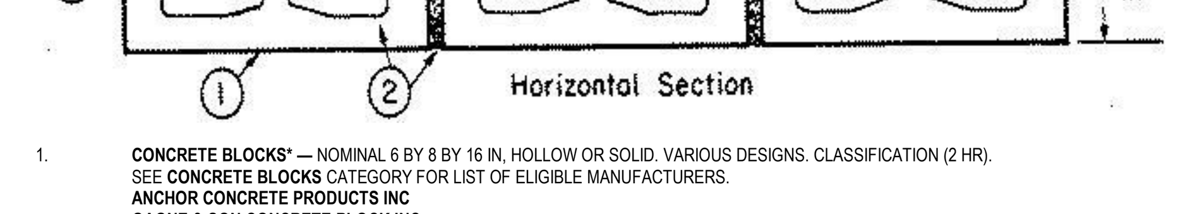
8 **GYPSUM BOARD* —** 1/2 IN. OR 5/8 IN. THICK, 4 FT WIDE, INSTALLED WITH LONG DIMENSION PERPENDICULAR TO CROSS CHANNELS WITH SIDE JOINTS CENTERED ALONG MAIN RUNNERS. GYPSUM BOARD FASTENED TO CROSS CHANNELS WITH 1 IN. LONG GYPSUM BOARD SCREWS SPACED 12 IN. OC ALONG THE END JOINTS AND 12 IN. OC IN THE FIELD. THE SCREWS ALONG THE END JOINTS LOCATED 1/2 IN. FROM AND ON EITHER SIDE OF THE BOARD EDGE. THE SCREWS FOR THE LONG EDGES LOCATED 1-3/4 IN. FROM AND ON EITHER SIDE OF THE BOARD EDGES. END JOINTS OF THE SHEETS SHALL BE STAGGERED WITH SPACING BETWEEN JOINTS ON ADJACENT BOARDS NOT LESS THAN 4 FT OC.
WHEN ALTERNATE **STEEL FRAMING MEMBERS*** (ITEM 7B) ARE USED, GYPSUM BOARD INSTALLED WITH LONG DIMENSION (SIDE JOINTS) PERPENDICULAR TO THE CROSS CHANNELS AND 4 FT CROSS TEES, AND WITH THE SIDE JOINTS CENTERED ALONG THE MAIN RUNNERS. GYPSUM BOARD FASTENED TO CROSS CHANNELS WITH GYPSUM BOARD SCREWS LOCATED 1/2 IN. FROM BUTTED END JOINTS, WITH ONE SCREW LOCATED AT THE MIDSPAN OF THE CROSS CHANNEL, ONE SCREW LOCATED 12 IN. FROM AND ON EACH SIDE OF THE CHANNEL MID SPAN, AND ONE SCREW LOCATED 2-3/4 IN. FROM EACH SIDE JOINT. END JOINTS OF THE SHEETS SHALL BE STAGGERED AS DESCRIBED ABOVE. JOINTS TO BE COVERED WITH PAPER TAPE AND JOINT COMPOUND.
WHEN THE ALTERNATE **STEEL FRAMING MEMBERS*** (ITEM 7C) ARE USED, GYPSUM BOARD INSTALLED WITH LONG DIMENSION PERPENDICULAR TO CROSS TEES WITH SIDE JOINTS CENTERED ALONG THE MAIN RUNNERS AND END JOINTS CENTERED ALONG CROSS TEES. FASTENED TO CROSS TEES WITH FIVE GYPSUM BOARD SCREWS WITH ONE SCREW LOCATED AT THE MID SPAN OF THE CROSS TEE, ONE SCREW LOCATED 12 IN. FROM AND ON EACH SIDE OF THE CROSS TEE MIDSPAN, AND ONE SCREW LOCATED 1-1/2 IN. FROM EACH GYPSUM BOARD SIDE JOINT. EXCEPT AT GYPSUM BOARD END JOINTS, GYPSUM BOARD SCREWS SHALL BE LOCATED ON ALTERNATING SIDES OF CROSS TEE FLANGE. AT GYPSUM BOARD END JOINTS, GYPSUM BOARD SCREWS SHALL BE LOCATED 1/2 IN. FROM THE JOINT. GYPSUM BOARD FASTENED TO MAIN RUNNERS WITH GYPSUM BOARD SCREWS 1/2 IN. FROM SIDE JOINTS, MIDWAY BETWEEN INTERSECTIONS WITH CROSS TEES (24 IN. OC). END JOINTS OF ADJACENT SHEETS SHALL BE STAGGERED AS DESCRIBED ABOVE. JOINTS TO BE COVERED WITH JOINT TAPE AND JOINT COMPOUND.
WHEN ALTERNATE **STEEL FRAMING MEMBERS*** (ITEM 7D) ARE USED, GYPSUM BOARD SHEETS INSTALLED WITH LONG DIMENSION (SIDE JOINTS) PERPENDICULAR TO THE GRID RUNNERS WITH THE END JOINTS STAGGERED MIN 4 FT AND CENTERED BETWEEN GRID RUNNERS WHICH ARE SPACED 8 IN. OC. PRIOR TO INSTALLATION OF THE GYPSUM BOARD SHEETS, BACKER STRIPS CONSISTING OF NOM 7-3/4 IN. WIDE BY 48 IN. LONG PIECES OF GYPSUM BOARD ARE TO BE LAID ATOP THE GRID RUNNER FLANGES AND CENTERED OVER EACH BUTTED END JOINT LOCATION. THE BACKER STRIPS ARE TO BE SECURED TO THE FLANGES OF THE GRID RUNNERS AT OPPOSITE CORNERS OF THE BACKER STRIP TO PREVENT THE BACKER STRIPS FROM BEING UPLIFTED DURING SCREW-ATTACHMENT OF THE GYPSUM BOARD SHEETS. GYPSUM BOARD FASTENED TO GRID RUNNERS WITH GYPSUM BOARD SCREWS SPACED 1 IN. AND 4 IN. FROM THE SIDE JOINTS AND MAX 8 IN. OC IN THE FIELD OF THE BOARD. THE BUTTED END JOINTS ARE TO BE SECURED TO THE BACKER STRIP WITH NO. 10 BY 1-1/2 IN. LONG TYPE G LAMINATING SCREWS LOCATED 1 IN. FROM EACH SIDE OF THE BUTTED END JOINT AND SPACED 1 IN. AND 4 IN. FROM THE SIDE JOINTS AND MAX 8 IN. OC IN THE FIELD OF THE BOARD. JOINTS TO BE COVERED WITH PAPER TAPE AND JOINT COMPOUND.
WHEN ALTERNATE **STEEL FRAMING MEMBERS*** (ITEM 7E) ARE USED, GYPSUM BOARD SHEETS INSTALLED WITH LONG DIMENSION (SIDE JOINTS) PERPENDICULAR TO THE 6 FT LONG CROSS TEES WITH THE END JOINTS STAGGERED MIN 4 FT AND CENTERED BETWEEN CROSS TEES WHICH ARE SPACED 8 IN. OC. GYPSUM BOARD SIDE JOINTS MAY OCCUR BENEATH OR BETWEEN MAIN RUNNERS. PRIOR TO INSTALLATION OF THE GYPSUM BOARD SHEETS, BACKER STRIPS CONSISTING OF NOM 7-3/4 IN. WIDE PIECES OF GYPSUM BOARD ARE TO BE LAID ATOP THE CROSS TEE FLANGES AND CENTERED OVER EACH BUTTED END JOINT LOCATION. THE BACKER STRIPS ARE TO BE SECURED TO THE FLANGES OF THE CROSS TEES AT OPPOSITE CORNERS OF THE BACKER STRIP TO PREVENT THE BACKER STRIPS FROM BEING UPLIFTED DURING SCREW-ATTACHMENT OF THE GYPSUM BOARD SHEETS. GYPSUM BOARD FASTENED TO CROSS TEES WITH DRYWALL SCREWS SPACED 1 IN. AND 4 IN. FROM THE SIDE JOINTS AND MAX 8 IN. OC IN THE FIELD OF THE BOARD. THE BUTTED END JOINTS ARE TO BE SECURED TO THE BACKER STRIP WITH NO. 10 BY 1-1/2 IN. LONG TYPE G LAMINATING SCREWS LOCATED 1 IN. FROM EACH SIDE OF THE BUTTED END JOINT AND SPACED 1 IN. AND 4 IN. FROM THE SIDE JOINTS AND MAX 8 IN. OC IN THE FIELD OF THE BOARD. JOINTS TO BE COVERED WITH PAPER TAPE AND JOINT COMPOUND.
AMERICAN GYPSUM CO — 1/2 OR 5/8 IN. TYPE AG-C, 5/8 IN. AGX-1.
CERTAINTEED GYPSUM INC — 1/2 OR 5/8 IN. TYPE FRPC, TYPE C, 5/8 IN. TYPE X.
CERTAINTEED GYPSUM CANADA INC — 5/8 IN. TYPE X, TYPE ABUSE-RESISTANT, 1/2 IN. TYPE C.
CGC INC — TYPES C, IP-X2.
GEORGIA-PACIFIC GYPSUM L L C — TYPES 5, C, DAP, DA, DAPC .
LAFARGE NORTH AMERICA INC — TYPES LGFC3, LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO — TYPE FSK-C, FSK-G, FSW-1, FSW-C OR FSW-G.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — TYPES C, PG-3, PG-C.
PANEL REY S A — TYPE PRC
TEMPLE-INLAND — TYPE TG-C.
THAI GYPSUM PRODUCTS PCL — TYPE C, TYPE X.
UNITED STATES GYPSUM CO — TYPES C, IP-X2.
USG MEXICO S A DE C V — TYPES C, IP-X2.

8A. **GYPSUM BOARD* —** FOR USE WHEN **BATTS AND BLANKETS*** (ITEM 11) AND **STEEL FRAMING MEMBERS***(ITEM 7) ARE USED - 5/8 IN. THICK, 4 FT WIDE; INSTALLED WITH LONG DIMENSION PERPENDICULAR TO CROSS TEES WITH SIDE JOINTS CENTERED ALONG MAIN RUNNERS AND END JOINTS CENTERED ALONG CROSS TEES. FASTENED TO CROSS TEES WITH 1 IN. LONG STEEL GYPSUM BOARD SCREWS SPACED 8 IN. OC IN THE FIELD AND 8 IN. OC ALONG END JOINTS. FASTENED TO MAIN RUNNERS WITH 1 IN. LONG GYPSUM BOARD SCREWS SPACED MIDWAY BETWEEN CROSS TEES. SCREWS ALONG SIDES AND ENDS OF BOARDS SPACED 3/8 TO 1/2 IN. FROM BOARD EDGE. END JOINTS OF THE SHEETS SHALL BE STAGGERED WITH SPACING BETWEEN JOINTS ON ADJACENT BOARDS NOT LESS THAN 4 FT OC.
CGC INC — TYPES C, IP-X2.
UNITED STATES GYPSUM CO — TYPES C, IP-X2.
USG MEXICO S A DE C V — TYPES C, IP-X2.

9. **SCREW, GYPSUM BOARD —** TYPE S, 1 IN. LONG, SELF-DRILLING AND SELF-TAPPING, 0.168 IN. DIAM SHANK, 5/16 IN. DIAM HEADS.
10. **WALL ANGLE —** (NOT SHOWN) — NO. 26 MSG ANGLE, WITH 1-1/4 IN. LEGS, NAILED TO WALLS ALONG PERIMETER OF CEILING.
11. **BATTS AND BLANKETS* —** (OPTIONAL, NOT SHOWN) - WHEN USED RATINGS ARE LIMITED TO 1 HR. - FOR USE WITH**STEEL FRAMING MEMBERS*** (SPECIFICALLY ITEM 7) AND **GYPSUM BOARD*** (SPECIFICALLY ITEM 8A) - ANY THICKNESS MINERAL WOOL OR GLASS FIBER INSULATION BEARING THE UL CLASSIFICATION MARKING FOR SURFACE BURNING CHARACTERISTICS, HAVING A FLAME SPREAD VALUE OF 25 OR LESS AND A SMOKE SPREAD VALUE OF 50 OR LESS. INSULATION FITTED IN THE CONCEALED SPACE, DRAPED OVER STEEL FRAMING MEMBERS/GYPSUM BOARD CEILING MEMBRANE.
*BEARING THE UL CLASSIFICATION MARK

UL DESIGN NO. U906

SEPTEMBER 30, 2010
BEARING WALL RATING — 2 HR.
NONBEARING WALL RATING — 2 HR.



1. **CONCRETE BLOCKS* —** NOMINAL 6 BY 8 BY 16 IN, HOLLOW OR SOLID. VARIOUS DESIGNS. CLASSIFICATION (2 HR).
SEE **CONCRETE BLOCKS** CATEGORY FOR LIST OF ELIGIBLE MANUFACTURERS.
ANCHOR CONCRETE PRODUCTS INC
GAGNE & SON CONCRETE BLOCK INC
GLENWOOD MASONRY PRODUCTS
ALLOWABLE COMPRESSIVE STRESS OF 57% OF MAX ALLOWABLE COMPRESSIVE STRESS IN ACCORDANCE WITH THE EMPIRICAL DESIGN METHOD.
OLDCASTLE APG SOUTH INC, DBA ADAMS PRODUCTS
WESTBROOK CONCRETE BLOCK CO INC
ALLOWABLE COMPRESSIVE STRESS OF 75.6% OF MAX ALLOWABLE COMPRESSIVE STRESS IN ACCORDANCE WITH THE EMPIRICAL DESIGN METHOD.

2. **MORTAR —** BLOCKS LAID IN FULL BED OF MORTAR, NOM. 3/8 IN. THICK, OF NOT LESS THAN 2-1/4 AND NOT MORE THAN 3-1/2 PARTS OF CLEAN SHARP SAND TO 1 PART PORTLAND CEMENT (PROPORTIONED BY VOLUME) AND NOT MORE THAN 50 PERCENT HYDRATED LIME (BY CEMENT VOLUME). VERTICAL JOINTS STAGGERED.

3. **PORTLAND CEMENT STUCCO OR GYPSUM PLASTER —** ADD 1/2 HR TO CLASSIFICATION IF USED. ATTACHED TO CONCRETE BLOCKS (ITEM 1).

4. **FOAMED PLASTIC* —** (OPTIONAL-NOT SHOWN) — 1-1/2 IN. THICK MAX, 4 FT WIDE SHEATHING ATTACHED TO CONCRETE BLOCKS (ITEM 1).
THE DOW CHEMICAL CO — TYPE THERMAX SHEATHING, THERMAX LIGHT DUTY INSULATION, THERMAX HEAVY DUTY INSULATION, THERMAX METAL BUILDING BOARD, THERMAX WHITE FINISH INSULATION, THERMAX CI EXTERIOR INSULATION, THERMAX IH INSULATION, THERMAX PLUS LINER PANEL AND THERMAX HEAVY DUTY PLUS (HDP)
*BEARING THE UL CLASSIFICATION MARK

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Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number
A0.03

UL FIRE RESISTANCE CONSTRUCTION

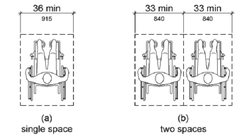


Figure 802.1.2 Width of Wheelchair Spaces in Assembly Areas

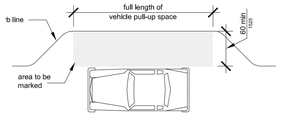


Figure 503.3 Passenger Loading Zone Access Aisle

Figure 302.2 Carpet Pile Height

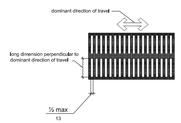


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

Figure 303.2 Vertical Change in Level

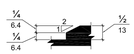


Figure 303.3 Beveled Change in Level

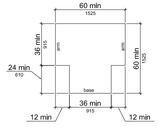


Figure 304.3.2 T-Shaped Turning Space

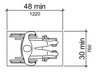


Figure 305.3 Clear Floor or Ground Space

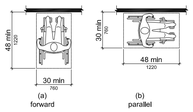


Figure 305.5 Position of Clear Floor or Ground Space

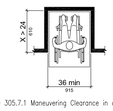


Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach

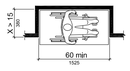


Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

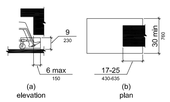


Figure 306.2 Toe Clearance

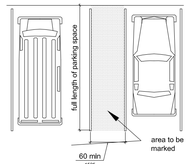
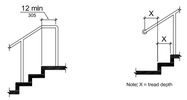


Figure 502.3 Parking Space Access Aisle



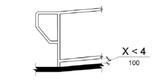


Figure 405.9.2 Curb or Barrier Edge Protection

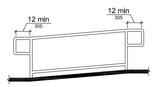


Figure 505.10.1 Top and Bottom Handrail Extension at Ramps

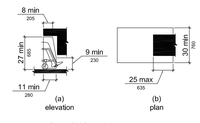


Figure 306.3 Knee Clearance

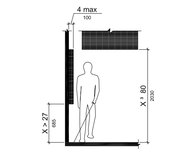
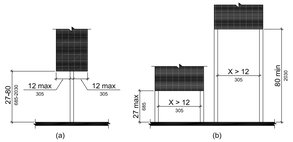


Figure 307.2 Limits of Protruding Objects



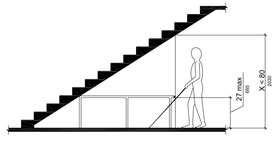


Figure 307.4 Vertical Clearance

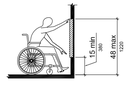


Figure 308.2.2 Obstructed High Forward Reach

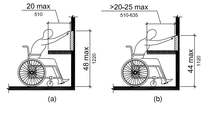


Figure 308.3.1 Unobstructed Side Reach

minimum from the rear wall.

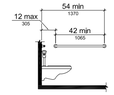


Figure 604.5.1 Side Wall Grab Bar at Water Closets

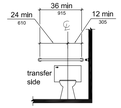


Figure 604.5.2 Rear Wall Grab Bar at Water Closets

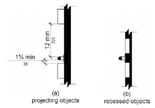


Figure 609.3 Spacing of Grab Bars

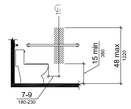


Figure 604.7 Dispenser Outlet Location

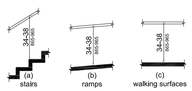
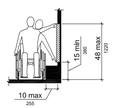


Figure 505.4 Handrail Height

Figure 505.5 Handrail Clearance

Figure 505.6 Horizontal Projections Below Gripping Surface



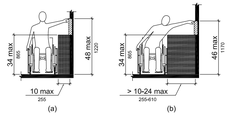


Figure 308.3.2 Obstructed High Side Reach

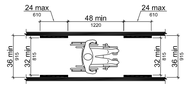


Figure 403.5.1 Clear Width of an Accessible Route

leaving the turn.

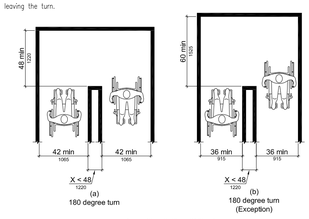
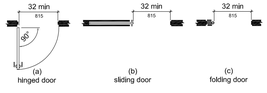
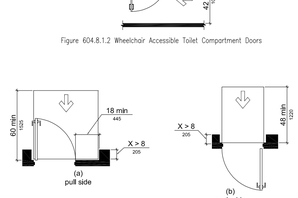


Figure 403.5.2 Clear Width at Turn





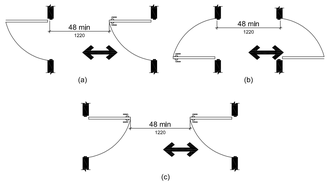


Figure 404.2.6 Doors in Series and Gates in Series

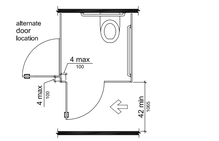
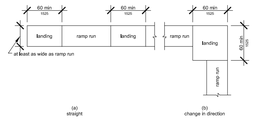


Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment Doors



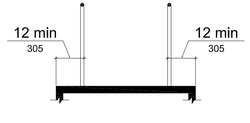


Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

Figure 604.3.1 Size of Clearance at Water Closets

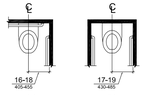


Figure 604.2 Water Closet Location

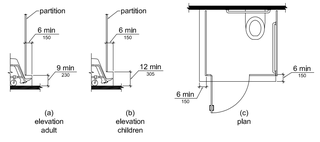


Figure 604.8.1.4 Wheelchair Accessible Toilet Compartment Toe Clearance

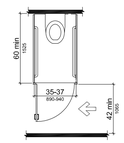


Figure 604.8.2 Ambulatory Accessible Toilet Compartment

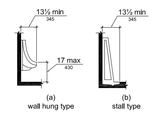


Figure 605.2 Height and Depth of Urinals

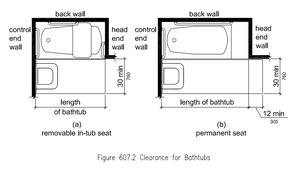


Figure 607.2 Clearance for Bathtubs

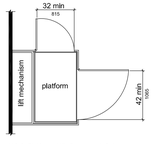


Figure 410.6 Platform Lift Doors and Gates

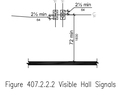


Figure 407.2.2.2 Visible Hall Signals

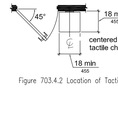
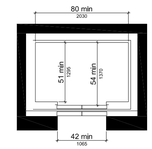


Figure 703.4.2 Location of Tactile Signs at Doors



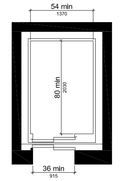


Figure 407.4.1 Elevator Car Dimensions

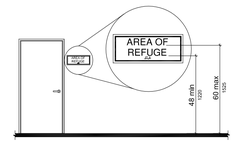


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

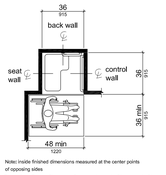


Figure 608.2.1 Transfer Type Shower Compartment Size and Clearance

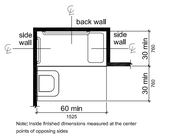


Figure 608.2.2 Standard Roll-In Type Shower Compartment Size and Clearance

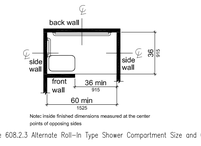


Figure 608.2.3 Alternate Roll-In Type Shower Compartment Size and Clearance

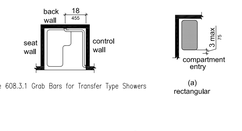


Figure 608.3.1 Grab Bars for Transfer Type Showers

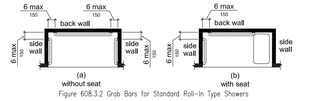


Figure 608.3.2 Grab Bars for Standard Roll-In Type Showers

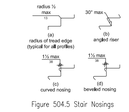


Figure 504.5 Stair Nosings

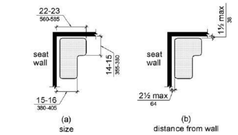
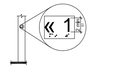
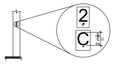


Figure 610.3.2 L-Shaped Shower Seat





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REGISTERED ARCHITECT STATE OF TEXAS

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

ELIMINATION OF ARCHITECTURAL BARRIERS

A0.04

ARCHITECTURAL GENERAL NOTES:

1. THE FOLLOWING NOTES APPLY TO ALL ARCHITECTURAL DRAWINGS. FOR NOTES APPLICABLE TO ALL DRAWINGS OF ALL DISCIPLINES, REFER TO THE PROJECT MANUAL AND DRAWINGS IN THEIR ENTIRETY FOR FURTHER INFORMATION.
2. ALL PARTS OF THE WORK – INCLUDING MATERIALS, METHODS, ASSEMBLIES, ETC – MUST COMPLY WITH THE MINIMUM REQUIREMENTS OF THE GOVERNING REGULATIONS OF ALL FEDERAL, STATE, DISTRICT AND LOCAL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT AS WELL AS THOSE GREATER REQUIREMENTS INDICATED BY THE CONTRACT DOCUMENTS. NO PART OF THE CONTRACT DOCUMENTS MAY BE CONSTRUED TO REQUIRE OR PERMIT WORK CONTRARY TO A GOVERNING REGULATION.
3. THE ARCHITECTURAL DRAWINGS ARE PART OF MORE ENCOMPASSING SET OF DOCUMENTS THAT CONSIST OF ALL DRAWINGS IN THE INDEX OF DRAWINGS ON COVER SHEET. THE WORK DESCRIBED ON DRAWINGS OF ANY ONE DISCIPLINE MAY BE AFFECTED BY THE WORK DESCRIBED ON DRAWINGS OF ANOTHER DISCIPLINE AND MAY REQUIRE REFERENCE TO THE DRAWINGS OF ANOTHER DISCIPLINE. PARTIAL SETS OF DRAWINGS ARE INCOMPLETE AND SHOULD NOT BE DISTRIBUTED OR UTILIZED BY ANY CONTRACTOR OR SUB-CONTRACTOR ON THE JOB. ANY PARTY FOUND TO BE WORKING FROM A PARTIAL SET OF DOCUMENTS SHOULD BE DISMISSED FROM THE CONSTRUCTION SITE UNTIL A FULL SET OF DOCUMENTS ARE OBTAINED AND GENERAL CONTRACTOR OR CONSTRUCTION MANAGER SHALL REVIEW ALL WORK OF PARTY IN VIOLATION FOR CONFORMANCE WITH CONSTRUCTION DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR CONSTRUCTION MANAGER TO REVIEW AND COORDINATE THE WORK WITH ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS PRIOR TO COMMENCING CONSTRUCTION AND TO ASSURE ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY.
4. AS PART OF THE CONTRACTOR'S OR CONSTRUCTION MANAGER'S RESPONSIBILITY, THEY ARE TO UNDERSTAND THE CONTRACT DOCUMENTS AND COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS AS REQUIRED TO MEET THE CONTRACT OBLIGATIONS FOR THE PROJECT. THE CONTRACTOR OR CONSTRUCTION MANAGER SHALL ENDEAVOR TO IDENTIFY AND NOTIFY, IN WRITING, THE ARCHITECT/DESIGN TEAM OF ANY CONFLICTS BETWEEN THE WORK OF DIFFERENT PARTIES AT THE EARLIEST POSSIBLE DATE SO AS TO ALLOW REASONABLE AND ADEQUATE TIME FOR THE CONFLICT TO BE RESOLVED WITHOUT DELAYING THE WORK. ALL DEVIATION FROM THAT WHICH IS REQUIRED BY THE CONTRACT DOCUMENTS MUST BE REVIEWED AND APPROVED BY THE ARCHITECT.
5. THE ARCHITECTURAL DRAWINGS SHALL ESTABLISH AND COORDINATE THE FINISHED APPEARANCE AND LOCATION OF ALL EXPOSED ELEMENTS OF THE WORK FOR ALL TRADES, INCLUDING THAT WORK WHICH IS ILLUSTRATED PRIMARILY ON DRAWINGS OF OTHER DISCIPLINES. LOCATIONS SHOWN ON OTHER DISCIPLINE'S DRAWINGS ARE SCHEMATIC AND REQUIRE COORDINATION WITH ARCHITECTURAL DRAWINGS. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND EXACT LOCATION OF ALL PARTS OF THE WORK. IF THE EXACT LOCATION IS NOT GIVEN IN ARCHITECTURAL THEN A REQUEST FOR INFORMATION SHALL FOLLOW TO VERIFY EXACT LOCATION. **EXCEPTIONS**: DIMENSIONED LOCATION SHOWN ON DRAWINGS OF OTHER DISCIPLINES SHALL GOVERN ONLY WHERE: **A**. SPECIFICALLY AND INDIVIDUALLY INDICATED BY SYMBOL, KEYED NOTE OR NOTATION ON THE ARCHITECTURAL DRAWINGS. **B**. OCCURRING WITHIN A ROOM OR OTHER IDENTIFIED SPACE FOR WHICH ARCHITECTURAL SHEET OR SCHEDULE NOTES INDICATE THAT DIMENSIONS PROVIDED ELSEWHERE SHALL GOVERN.
6. THE ARCHITECTURAL FLOOR PLANS, REFLECTED CEILING PLANS, SECTION AND ELEVATIONS ILLUSTRATE THE EXACT LOCATION OF MANY, BUT NOT ALL, EXPOSED PARTS OF THE WORK. APPLY THE RULES INDICATED FOR MOUNTING HEIGHTS BELOW.
7. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND CIVIL DRAWINGS FOR THE DETAILS OF DESIGN FOR THOSE DISCIPLINES OF WHICH A PORTION OF THE WORK MAY BE SHOWN ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL VERIFY AND CORRELATE ALL DIMENSIONS ON THE JOB SITE. USE DIMENSIONS INDICATED. DO NOT SCALE DIMENSIONS ON DRAWINGS.
8. ANY WORK THAT INVOLVES CUTTING OR DAMAGE TO EXISTING CONDITIONS SHALL BE REPAIRED TO MATCH EXISTING.
9. ALL REFERENCES TO CONTRACTOR IN THE FOLLOWING NOTES SHALL REFERENCE THE INVOLVED PARTY BEING GENERAL CONTRACTOR, CONSTRUCTION MANAGER AND/OR SUBCONTRACTOR AND THEIR SUBCONTRACTORS.
10. ALL REFERENCES TO OWNER SHALL REFERENCE THE OWNER OR THE OWNER'S APPOINTED AGENT.
11. THE CONTRACTOR SHALL SUBMIT A WORK PLAN FOR ALL SCOPES OF WORK FOR OWNER AND ARCHITECT APPROVAL, INCLUDING BUT NOT LIMITED TO COMMUNICATION, SAFETY, RISK, CHANGE, CLOSE-OUT AND QUALITY MANAGEMENT PLAN.
12. CONTRACTOR SHALL COORIDINATE NUMBERING OF ALL BUILDING SYSTEMS --INCLUDING BUT NOT LIMITED TO FIRE ALARM, PUBLIC ADDRESS, TECHNOLOGY,
13. PHONE -- WITH ROOM SIGNAGE NUMBERING SYSTEM AS APPROVED BY THE OWNER. THE NUMBERING SYSTEM AS PER THE CONTRACT DOCUMENTS IS FOR REFERENCE ONLY AND MAY NOT REPRESENT THE FINAL NUMBERING SCHEME AS APPROVED BY THE OWNER. CONTRACTOR SHALL VERIFY FINAL NUMBERING SCHEME WITH THE OWNER.

DEFINITIONS & TERMINOLOGY:

1. "TYPICAL" "TYP.": UNLESS NOTED OTHERWISE, MEANS IDENTICAL FOR ALL CONDITIONS, WHICH MATCH ORIGINAL CONDITION INDICATED.
2. "SIMILAR" "SIM.": MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS AND ORIENTATION OF CONDITIONS, WHICH VARY FROM TYPICAL OR SIMILAR CONDITION INDICATED.
3. "OPPOSITE HAND" "O.H.": MEANS CONDITION IS MIRROR IMAGE OF DETAILED REFERENCED.
4. "ALIGN": MEANS ALIGNMENT OF SIMILAR COMPONENTS OF CONSTRUCTION (WALLS, JAMBS, ETC.), WHICH ARE ADJACENT OR THE COMPONENTS SHALL BE IN LINE WITH EACH OTHER ACROSS VOIDS. DIMENSIONS ARE NOT ADJUSTABLE UNLESS NOTED WITH PLUS/MINUS TOLERANCE.
5. "CLR.": MEANS "CLEAR"
6. "O.T.O": MEANS "OUT TO OUT"
7. "U.N.O.": MEANS "UNLESS NOTED OTHERWISE"
8. "O.P.O.I.": MEANS "OWNER PROVIDED, OWNER INSTALLED"
9. "O.P.C.I.": MEANS "OWNER PROVIDED, CONTRACTOR INSTALLED"
10. "C.P.O.I.": MEANS "CONTRACTOR PROVIDED, OWNER INSTALLED"
11. "C.P.C.I.": MEANS "CONTRACTOR PROVIDED, CONTRACTOR INSTALLED"

SITE NOTES:

1. RESTORE VEGETATION ON SITE TO EXISTING LANDSCAPE AREAS AND EXPOSED EARTHWORK DISTURBED/EXPOSED DUE TO CONSTRUCTION.
2. THE CONTRACTOR'S USE OF THE PREMISES SHALL COMPLY WITH THE CONTRACT DOCUMENTS.
3. ADDITIONAL OR ALTERNATIVE STAGING AREAS MAY BE ARRANGED THROUGH COORDINATION WITH OWNER AND ARCHITECT PRIOR TO CONTRACTOR MOBILIZATION.
4. CONTRACTORS' AND CONSTRUCTION MATERIALS SHALL BE DELIVERED AT ENTRY DETERMINED IN PRE CONSTRUCTION MEETING.
5. APPROXIMATE LOCATION OF STAGING AREA WITH CONSTRUCTION DUMPSTER IS SHOWN. VERIFY THAT THE STAGING AREA IS FREE OF CONSTRUCTION OBSTACLES AND SITE UTILITIES. IF NOT SHOWN, COORDINATE WITH OWNER PRIOR TO COMMENCEMENT OF WORK.
6. IF CONTRACTOR STAGING AREA DOES NOT REQUIRE FENCING, THE CONTRACTOR SHALL STILL PROVIDE SIGNAGE, TAPE BARRICADE AND/OR WARNING LIGHTS AS REQUIRED TO DESIGNATE THESE AREAS. PROVIDE FOR PUBLIC SAFETY AT ALL TIMES ON CONSTRUCTION SITE.
7. COORDINATE WITH OWNER FOR SPECIAL PERMITS REQUIRED FOR ANY OBSTRUCTIONS OR TEMPORARY BLOCKAGE OF DRIVEWAYS OR PARKING AREAS AS REQUIRED DURING CONSTRUCTION TO ACCOMPLISH WORK.
8. COORDINATE WITH OWNER AND ARCHITECT NUMBER AND LOCATION OF LIMITED PARKING SPACES ADJACENT TO CONSTRUCTION SITE. LOCATE CONTRACTOR'S FIELD OFFICE AND STORAGE TRAILERS WITHIN FENCED AREA. FENCING TO BE PROVIDED, MAINTAINED AND SECURED BY CONTRACTOR AS SPECIFIED.
9. A SINGLE LEVEL ACCESSIBLE ROUTE, SLOPING LESS THAN 5% WITH A CROSS SLOPE LESS THAN 2% WILL BE PROVIDED FROM THE ACCESSIBLE PARKING TO THE ACCESSIBLE BUILDING ENTRY, PER TEXAS ACCESSIBILITY STANDARDS. WITHIN A 5' APPROACH OF ALL BUILDING ENTRIES, MAINTAIN A 2% SLOPE IN ALL DIRECTIONS FOR LANDING PER TAS STANDARDS.
10. PROVIDE ROUGH BROOM FINISH ON ALL NEW EXTERIOR CONCRETE WALKS, UNLESS NOTED OTHERWISE.
11. REMOVE ALL EXISTING CONSTRUCTION, APPURTENANCES & LANDSCAPING WITHIN THE FOOTPRINT OF NEW CONSTRUCTION.
12. CONTRACTOR IS TO CONSTRUCT ALL NEW GRADES AS INDICATED. ASSUME A CONSTANT SLOPE BETWEEN RELATIVE NEW SPOT ELEVATIONS.
13. SLOPE GRADE AWAY FROM NEW BUILDING A MINIMUM OF 1/2" PER FOOT FOR 10'. SLOPE NEW IMPERVIOUS SURFACES (SIDEWALKS/PAVING/FLATWORK) AWAY FROM BUILDING A MINIMUM OF 1/8" PER FOOT.
14. LOCATE & MARK ALL UTILITIES PRIOR TO BEGINNING ANY CONSTRUCTION. NOTIFY UNDERGROUND UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION. REPAIR ANY DAMAGED UTILITY LINES AT CONTRACTOR'S EXPENSE.
15. PROVIDE ONE PRE-CAST CONCRETE SPLASH BLOCK AT EACH DOWNSPOUT EXTENDING 4' FROM BUILDING, UNLESS DOWNSPOUT IS TIED INTO STORM DRAIN OR DRAINS ON TO CONCRETE SURFACE. PROVIDE FACTORY FINISHED GALVANIZED STEEL MINIMUM 6" BOX GUTTERS WITH DOWNSPOUTS AT EAVES UNLESS NOTED OTHERWISE.
16. THE LIMITS OF CONSTRUCTION SHALL INCLUDE BUT NOT BE LIMITED TO 12' OUTSIDE OF ANY CONSTRUCTED OR RENOVATED AREA, NOT TO EXTEND BEYOND THE PROPERTY LINE.
17. STOCKPILING OF EXCAVATED OR FILL MATERIAL WILL BE LIMITED TO AN AREA AS LOCATED ON-SITE BY THE ARCHITECT AND APPROVED BY OWNER.

DEMOLITION NOTES:

1. PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED TO PREVENT DAMAGE TO THE EXISTING STRUCTURES TO REMAIN AND WHERE DEMOLITION WORK IS PREPARATORY TO CONSTRUCTION.
2. NO EXISTING STRUCTURAL MEMBERS SHALL BE DISTURBED OR REMOVED WITHOUT SPECIFIC DIRECTION OF THE ENGINEER & ARCHITECT.
3. PROTECT EXISTING SURROUNDING AREAS, STRUCTURES, AND SURFACES THAT ARE TO REMAIN. THIS SHALL PREVENT DAMAGE DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL REPAIR AND REPLACE ANY DAMAGE DURING THE COURSE OF THE WORK.
4. COORDINATE ALL DEMOLITION ACTIVITIES WITH THE APPROPRIATE TRADE, AGENCY, UTILITY COMPANY, ETC., AS REQUIRED.
5. ITEMS NOT INTENDED FOR REUSE OR DELIVERY TO THE OWNER WILL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE JOB SITE. CONSULT WITH THE OWNER AND ARCHITECT CONCERNING ANY MATERIALS, EQUIPMENT OR OTHER ITEMS, SUCH AS CHALKBOARDS, BEFORE DISPOSAL TO ENSURE THAT THE ITEM HAS NO VALUE TO THE OWNER.
6. PROTECT ALL EXISTING UTILITY SERVICE LINES, INDICATED OR NOT, AND REPAIR AND REPLACE ANY DAMAGED UTILITY SERVICE LINES.
7. NOTIFY THE OWNER BEFORE INTERRUPTION OF UTILITY SERVICE.
8. ALL ITEMS, MATERIALS AND EQUIPMENT TO BE REMOVED SHALL BE REMOVED BY PERSONNEL SKILLED IN THE TRADE OF ERECTING THE WORK TO BE REMOVED.
9. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DEFECTS IN THE CONSTRUCTION UNCOVERED DURING DEMOLITION WORK SO THAT THE NECESSARY REPAIRS OR REPLACEMENT CAN BE MADE. REPORT IMMEDIATELY TO THE ARCHITECT ANY CONDITIONS UNCOVERED DURING THE DEMOLITION WORK WHICH MAY DICTATE UNFORESEEN CHANGES IN THE WORK TO BE PROVIDED. THE ARCHITECT SHALL PREPARE REVISED OR ALTERNATE DRAWINGS WHICH MAY BE REQUIRED.
10. THE EXISTING BUILDING AND SITE CONTAINS ACTIVATED MEP SERVICES AND INSTALLATIONS WHICH MAY BE CONCEALED. CUT OFF, DISCONTINUE, DEACTIVATE PRIOR TO CUTTING INTO THE WORK. PROVIDE SAFE AND SUITABLE BY-PASS LINES AS REQUIRED.
11. CUTTING AND PATCHING SHALL FOLLOW ALL REQUIREMENTS OF THE CONTRACT DOCUMENT AND ACCOUNT FOR EXISTING CONDITIONS. CONTRACTOR MUST PROVIDE SUBMITTAL FOR CUTTING AND PATCHING PRIOR TO COMMENCING WORK.
12. DEMOLITION PLAN IS SCHEMATIC IN NATURE AND NOT INTENDED AS AN EXHAUSTIVE ACCOUNT OF ALL ITEMS TO BE REMOVED. INSTALLATION OF NEW WORK MAY REQUIRE DEMOLITION OF EXISTING WORK. COORDINATE EXACT SCOPE OF DEMOLITION TO ACCOMMODATE ALL NEW WORK.
13. CONTRACTOR SHALL COORDINATE DEMOLITION OF ALL EXISTING UTILITY SERVICE WITH THE COMPANIES PROVIDING SERVICE PRIOR TO BIDDING. OWNER SHALL ONLY PAY COST, DIRECT TO SERVICE PROVIDER, FOR THEIR PORTION OF WORK. ANY OTHER COST ASSOCIATED WITH REQUIRED SERVICES TO REMAIN ACTIVE SHALL BE INCLUDED AS PART OF SCOPE OF WORK.
14. CONTRACTOR MUST PROVIDE A SUBMITTAL ACCOMPANIED BY WORK PLAN FOR DEMOLITION. THE CONTRACTOR SHALL MEET WITH OWNER AND ARCHITECT, WELL IN ADVANCE TO COMMENCEMENT OF WORK, TO REVIEW AND COORDINATE THE SUBMITTAL AND WORK PLAN.
15. ALL ABANDONED UTILITIES SHALL BE CAPPED OFF BELOW SURFACE. FLAG LOCATION OF CONTINUATION OF UNDERGROUND UTILITIES OUTSIDE THE BOUNDARIES OF SCOPE OF WORK FOR OWNER.
16. ANY FOUNDATIONS REMOVED SHALL BE TO BOTTOM OF GRADE BEAM. BREAK OFF TOPS OF PIERS BELOW GRADE BEAM AND ABANDON IN PLACE, UNLESS NOTED OTHERWISE. REFER TO STRUCTURAL NOTES FOR FURTHER NOTES.
17. OWNER SHALL TAG ANY TREES THAT ARE NOT TO BE REMOVED WITHIN THE AREA OF WORK. BID PER PLANS FOR REMOVAL AND COORDINATE WITH OWNER ON CREDIT FOR TAGGED TREES OUTSIDE THE SCOPE INDICATED IN DRAWINGS.
18. PROVIDE ALL NECESSARY REQUIREMENTS OF SW3P INCLUDING SILT FENCING, OTHER EROSION BARRICADES AND TREE PROTECTION.

RENOVATION NOTES:

1. THE CONTRACTOR SHALL PROVIDE PROTECTIVE COVERING FOR CARPET, FURNISHINGS, AND FINISHES IN EXISTING AREAS NOT DESIGNATED FOR DEMOLITION OR NEW CONSTRUCTION. THE CONSTRUCTION MANAGER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIS WORK OR ANY SUBCONTRACTOR.
2. THE CONTRACTOR SHALL MEET WITH THE OWNER'S AUTHORIZED REPRESENTATIVE WELL IN ADVANCE OF CONSTRUCTION COMMENCEMENT TO: **A**. SCHEDULE, SEQUENCE AND COORDINATE ALL WORK. **B**. MAINTAIN EXITS AND EGRESS WIDTHS REQUIRED BY CODES DURING ALL PHASES OF CONSTRUCTION
3. THE CONTRACTOR SHALL VERIFY THAT NEW CEILINGS CAN BE INSTALLED IN EXISTING SPACES TO CLEAR DUCTWORK AND OTHER CONSTRUCTED ITEMS AND MAINTAIN FLOOR TO CEILING HEIGHTS INDICATED ON DRAWINGS. IF DISCREPANCIES OCCUR DUE TO EXISTING CONDITIONS, CONSULT WITH THE ARCHITECT BEFORE PROCEEDING.
4. THE FINISH FACE OF MATERIAL OF NEW PARTITIONS SHALL ALIGN ON BOTH SIDES OF THE PARTITION WITH THE FACE OF THE MATERIALS ON EXISTING COLUMNS, WALLS, OR PARTITIONS, UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL VERIFY DIMENSIONS OF AS-BUILT CONDITIONS, AND NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES. ALL INFORMATION SHOWN WITHIN THE CONTRACT DOCUMENTS IS BASED ON FIELD OBSERVATIONS AND/OR THE ORIGINAL OR AS-BUILT CONSTRUCTION DOCUMENTS OF THE FACILITY, AS PROVIDED BY OWNER.
6. THE CONTRACTOR SHALL SURVEY AND DETERMINE THE REMOVAL OF EXISTING CONSTRUCTION, EITHER WHOLE OR IN PART, AS REQUIRED FOR THE INSTALLATION OF THE NEW ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WORK.
7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY CONSTRUCTION DEFECTS FOUND IN UNCOVERING WORK IN THE EXISTING CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING DEFECTIVE WORK IN EXISTING CONSTRUCTION WITHIN THE LIMITS OF THE CONSTRUCTION AREA. THIS INCLUDES, BUT IS NOT LIMITED TO, UNEVEN SURFACES AND FINISHES AT PLASTER OR GYPSUM BOARD. THE CONTRACTOR SHALL PATCH AND REPAIR SURFACES TO MATCH NEW ADJACENT SURFACES.
9. ALL CONDUIT AND PIPING ABOVE GRADE AND INSIDE THE BUILDING REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE INSTALLED IN AREAS WHERE IT WILL BE CONCEALED. THE CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND COORDINATE WITH OTHER TRADES TO PROVIDE FURRING FOR CONDUIT AND PIPING INSTALLED IN FINISH AREAS.
10. REMOVE MECHANICAL AND ELECTRICAL FIXTURES AND CAP OR REMOVE EXISTING BRANCH LINES AS INDICATED IN THE MECHANICAL AND ELECTRICAL DOCUMENTS.

FLOOR PLAN NOTES:

1. CONTRACTOR SHALL VERIFY AND CORRELATE ALL DIMENSIONS ON THE JOB SITE. USE DIMENSIONS AS INDICATED. ANY DIMENSIONAL CHANGES SHALL REQUIRE NOTIFICATION OF ARCHITECT IN WRITING PRIOR TO COMMENCING WITH ANY WORK. DO NOT SCALE DIMENSIONS ON DRAWINGS.
2. CONTRACTOR TO LOCATE AND LAYOUT WALLS AND PARTITIONS AS THEY RELATE TO THE STRUCTURE AND OTHER BUILDING ELEMENTS AS SHOWN ON THE DRAWINGS AND IN CONFORMANCE WITH THE DESIGN CONCEPT AND INTENT.
3. ALL FLOOR PLAN DIMENSIONS ARE TO THE GRID LINES OR THE CENTERLINE OF COLUMNS AND BEAMS, THE FACE OF STUDS, FURRING OR CONCRETE MASONRY UNITS, AND WINDOW MULLIONS, UNLESS NOTED OTHERWISE, (U.N.O.)
4. ALL FLOOR PLAN DIMENSIONS TO THE OUTSIDE FACE OF CONCRETE MASONRY UNIT (CMU) OR FACE BRICK VENEER EXTERIOR WALLS ARE TO THE EXTERIOR FACE OF THE EDGE OF THE CONCRETE SLAB. THESE DIMENSIONS ARE ACTUAL DIMENSIONS.
5. MASONRY DIMENSIONS ARE NOMINAL AND INCLUDE AN ALLOWANCE FOR A +/- 3/8" MORTAR JOINT, U.N.O. DIMENSIONS AT MASONRY OPENINGS ARE NOTED M.O. AND THE ACTUAL OPENING DIMENSION WILL INCLUDE 3/8" FOR THE MORTAR JOINT.
6. DIMENSIONS NOTED AS CLR. (CLEAR) AND O.T.O. (OUTSIDE TO OUTSIDE) ARE TO FACE OF FINISHED WALL.
7. ALL PARTITIONS ARE TO EXTEND TO STRUCTURAL DECK ABOVE UNLESS NOTED OTHERWISE. REFER TO PARTITION TYPES AS INDICATED ON THE FLOOR PLANS.
8. ALL FIRE RATED PARTITION CONSTRUCTION SHALL EXTEND TO THE UNDERSIDE OF HORIZONTAL FIRE RATED ASSEMBLY OR STRUCTURAL DECK ABOVE AND SHOULD INCORPORATE FIRESTOPPING AND FIRE CAULKING AS REQUIRED.
9. ALL OTHER PARTITIONS SHALL EXTEND A MINIMUM OF 4" ABOVE THE FINISHED CEILING, UNLESS NOTED OTHERWISE AND SHALL BE BRACED TO THE STRUCTURE AS REQUIRED TO PREVENT MOVEMENT OR DEFLECTION.
10. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE FIRE STOPPING AND FIRE RESISTANT ASSEMBLIES OF MATERIALS AND THESE MATERIALS SHALL BE REPAIRED OR REAPPLIED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
11. FILL ANY IRREGULARITIES AT FULL HEIGHT FIRE RESISTANT PARTITIONS WITH INERT NONCOMBUSTIBLE FIRESAFE MATERIAL AND SEAL TIGHTLY AROUND ANY PENETRATIONS.
12. PROVIDE CONCEALED FIRE TREATED WOOD BLOCKING WHERE REQUIRED FOR THE PROPER ANCHORAGE OF WALL ATTACHED ITEMS SUCH AS GRAB BARS, TOILET ACCESSORIES, TACK BOARDS, CASEWORK, AND ALL OTHER ITEMS OR MISCELLANEOUS EQUIPMENT. THE CONTRACTOR SHALL COORDINATE WITH OWNER TO PROVIDE ANY ADDITIONAL BLOCKING THEY MAY REQUIRE FOR ITEMS THEY WILL MOUNT ON WALL.
13. NOTIFY THE ARCHITECT, IN WRITING, IMMEDIATELY OF DISCREPANCIES IN THE DRAWINGS, BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR BETWEEN THE DRAWINGS AND ACTUAL JOB CONDITIONS WHICH AFFECT THE EXECUTION OF THE WORK AS INTENDED. THE ARCHITECT WILL ISSUE A CLARIFICATION OR PREPARE ALTERNATE DOCUMENTS WHICH MAY BE REQUIRED.
14. REFER TO FLOOR PATTERN PLAN FOR MATERIAL AND FLOORING PATTERN. REFER TO ROOM FINISH SCHEDULE FOR FLOORING TYPE.
15. EMERGENCY AUDIBLE & VISUAL EXIT ALARMS SHALL BE PROVIDED PER TEXAS ACCESSIBILITY STANDARDS.
16. ALL EQUIPMENT AND CASEWORK LOCATED ON AN EXTERIOR WALL IS TO BE SHIMMED 1/2" TO MAINTAIN AN AIR SPACE. AIR SPACE IS INTENDED TO PROMOTE AIR CIRCULATION AND DISCOURAGE MOLD GROWTH.
17. ALL DOORS SHOWN NEAR CORNER SHALL BE ASSUMED TO HAVE A MAXIMUM DIMENSION OF 2" FROM CORNER TO EDGE OF FRAME.

REFLECTED CEILING PLAN NOTES:

1. CEILING DEVICES AND LIGHTS ARE SHOWN TO INDICATE LOCATION. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL FEATURES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR INFORMATION ON ACTUAL CEILING DEVICES AND LIGHTS.
2. CONTRACTOR SHALL VERIFY AND CORRELATE ALL DIMENSIONS ON THE JOB SITE.
3. REFER TO THE LEGEND ON RCP SHEETS.
4. COORDINATE ALL WORK WITH OTHER TRADES. REFER TO THE MECHANICAL AND ELECTRICAL DRAWINGS AS REQUIRED.
5. CONTRACTOR SHALL LOCATE AND LAYOUT CEILING GRIDS AS THEY RELATE TO THE BUILDING ELEMENTS AS SHOWN ON THE DRAWINGS AND IN CONFORMANCE WITH THE DESIGN CONCEPT AND INTENT.
6. DIMENSIONS INDICATED ON THE REFLECTED CEILING PLAN ARE TO THE FACE OF THE STUD OR CMU, TO THE GRID LINES, AND TO THE CENTERLINE OF CEILING GRID TEES OR LIGHT FIXTURES, GRILLES, ETC. U.N.O.
7. CEILING SYSTEM GRIDS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE (U.N.O.). RECESSED ELECTRICAL FIXTURES, MECHANICAL GRILLES, SPEAKERS, SMOKE DETECTORS, ETC. SHALL BE CENTERED IN THE CEILING GRID, U.N.O.
8. COORDINATE ALL WORK WITH OTHER TRADES. REFER TO THE MECHANICAL AND ELECTRICAL DRAWINGS AS REQUIRED.
9. REFER TO PARTITION TYPES AS INDICATED ON THE FLOOR PLANS AND AS DETAILED ON PARTITION SCHEDULE AND DETAILS SHEET.
10. REFER TO ROOM FINISH SCHEDULE FOR THE CEILING SYSTEM MATERIALS. REFER TO ROOM FINISH SCHEDULE FOR CEILING HEIGHTS.
11. TYPICAL CEILINGS TO BE 2' X 2' LAY-IN SUSPENDED ACOUSTICAL CEILING GRID SYSTEM, U.N.O., WITH ACOUSTICAL PANELS AS SCHEDULED.
12. NOTIFY ARCHITECT IMMEDIATELY FOR OBSERVATION OF THE MEP WORK PRIOR TO THE INSTALLATION OF GYPSUM BOARD CEILINGS AND ACOUSTICAL CEILING TILES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHARGES INCURRED TO REMOVE AND REPLACE MATERIAL FOR OBSERVATION OF MEP WORK.
13. ALL NEW INTERIOR MECHANICAL/ELECTRICAL LINES SHALL BE CONCEALED, UNLESS NOTED OTHERWISE.
14. CONTRACTOR SHALL LOCATE AND LAYOUT CEILING GRIDS AS THEY RELATE TO THE BUILDING ELEMENTS AS SHOWN ON THE DRAWINGS AND IN CONFORMANCE WITH THE DESIGN CONCEPT AND INTENT.
15. PAINT ANY EXPOSED STRUCTURE, DUCTWORK, PLUMBING PIPING, FIRE PROTECTION PIPING, AND CONDUITS. DO NOT PAINT LABELS.

EXTERIOR ELEVATION NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR FREE AREA OF LOUVERS. VERIFY THAT SIZE AND LOCATION DOES NOT CONFLICT WITH CEILING HEIGHTS.
2. CONTRACTOR TO COORDINATE ALL EXPANSION JOINTS AND CONTROL JOINTS WITH ARCHITECT PRIOR TO INSTALLATION OF VENEER MATERIALS.
3. PROVIDE ONE PRE-CAST CONCRETE SPLASH BLOCK AT EACH DOWNSPOUT EXTENDING 4' FROM BUILDING, UNLESS DOWNSPOUT IS TIED INTO STORM DRAIN OR DRAINS ON TO CONCRETE SURFACE. PROVIDE FACTORY FINISHED GALVANIZED STEEL MINIMUM 6" BOX GUTTERS WITH DOWNSPOUTS AT EAVES UNLESS NOTED OTHERWISE.
4. PROVIDE MASONRY VENEER VENT TYPE WEEPS @ 24" O.C. AT VENEER BASE AND AT ALL STEEL LINTELS. PROVIDE MASONRY VENTS AT VENEER TOP AT 48" O.C.
5. IF INSULATION IS NOT PROVIDED AT ROOF, ENCLOSED ATTIC AND RAFTER SPACES SHALL HAVE CROSS VENTILATION BY OPENINGS EQUAL TO 1/150TH OF THE AREA. WHERE EAVE OR CORNER CORNICE VENTS ARE INSTALLED, INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR (USE INSULATION BAFFLE). A MIN. 1" OF AIR SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND ROOF SHEATHING. ROOFS WITH RAFTERS, BAYS, AND/OR VAULTED CEILINGS MUST BE VENTILATED TO OUTSIDE THE RIDGE.
6. PROVIDE MOCK WALL ILLUSTRATING THE FOLLOWING: INSTALLATION OF VENEER WITH FULL RANGE OF PATTERNS AND COLORS; INSTALLATION OF WALL WITH CAULKED JOINTS, WEEPS, SILL AND LINTELS AT OPENINGS; INSTALLATION OF WINDOWS WITH BLOCKING TO SECURE; FULL INSTALL OF BACK-UP WALL WITH FLASHING AT BASE, SILL AND HEADER; INSTALLATION OF MASONRY TIES. COORDINATE WITH ARCHITECT. ALL SILL, JAMB AND HEADER CONDITIONS MUST BE PROVIDING FOR APPROVAL. REFER TO CONTRACT DOCUMENTS FOR INSTALL OF AFOREMENTIONED CONDITIONS. INSTALL ANY CHANGES IN VENEER MATERIAL. THE MOCK WALL SHALL BE ERECTED WITHIN 45 DAYS OF INITIATION OF CONTRACT.
7. CONTRACTOR MUST GET OWNER'S APPROVAL OF MOCK WALL. ARCHITECT'S REVIEW OF MOCK WALL CONDITIONS SHALL NOT RELIEVE THE CONTRACTOR OF REQUIREMENTS IN CONTRACT DOCUMENTS.
8. IF A PRODUCT IS NOTED ON ELEVATIONS, AN EQUAL CAN BE SUBMITTED IF THEY MATCH COLOR, PATTERN, TEXTURE AND OTHER SPECIFICATION CHARACTERISTICS AND STANDARDS OF THE NOTED PRODUCT.
9. CONTRACTOR SHALL SUBMIT ALL MATERIALS REQUIRING EXTERIOR COLOR SELECTION TO ARCHITECT WITHIN 30 DAYS FOR SELECTION AT ONE TIME AND APPROVAL OF OWNER.

INTERIOR ELEVATIONS NOTES:

1. CONTRACTOR SHALL MOCK UP ONE ROOM OF TYPICAL SPACES SUCH AS INSTRUCTIONAL CLASSROOMS, LABORATORIES, OFFICES AND COMPUTER LABS FOR OWNER'S APPROVAL AND ARCHITECT'S REVIEW OF LOCATION FOR OUTLETS, SWITCHES, CONTROLS AND ANY OTHER DEVICES THAT ARE MOUNTED INTO WALL.
2. LOCATION OF OUTLETS, SWITCHES AND CONTROLS SHALL BE COORDINATED WITH ELEVATION TO AVOID CONFLICT WITH CASEWORK AND EQUIPMENT INSTALLED AGAINST WALL. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
3. CONTRACTOR SHALL COORDINATE PLACEMENT OF BLOCKING IN WALL TO SUPPORT ITEMS IN DOCUMENTS MOUNTED TO WALL. CONTRACTOR SHALL COORDINATE WITH OWNER TO PROVIDE ANY ADDITIONAL BLOCKING THEY MAY REQUIRE FOR ITEMS THEY WILL MOUNT ON WALL.
4. ALL EQUIPMENT AND CASEWORK LOCATED ON AN EXTERIOR WALL IS TO BE SHIMMED 1/2" TO MAINTAIN AN AIR SPACE. AIR SPACE IS INTENDED TO PROMOTE AIR CIRCULATION AND DISCOURAGE MOLD GROWTH.
5. THE LENGTHS OF ALL CASEWORK IN A ROOM SHALL BE FIELD VERIFIED BEFORE MANUFACTURING AND INSTALLATION. CABINETS ARE TO BE SIZED TO FIT WITHIN LENGTH AND MINIMIZE FILLER, IF FILLER PANEL IS REQUIRED. IF FLOOR PLANS OR ELEVATIONS INDICATE FURNITURE OR EQUIPMENT, CABINETS SHALL BE SIZED TO ACCOMMODATE INSTALLATION OF THIS FURNITURE OR EQUIPMENT; COORDINATE WITH OWNER FOR EXACT SIZES. PROVIDE NOTCHES FOR UNDER-COUNTER LIGHTING AS NEEDED.
6. CONTRACTOR SHALL SUBMIT ALL MATERIALS REQUIRING INTERIOR COLOR SELECTION TO ARCHITECT WITHIN 60 DAYS FOR SELECTION AT ONE TIME AND APPROVAL OF OWNER.
7. PROVIDE CONTROL & EXPANSION JOINTS AS REQUIRED PER SPECS AND DETAILS; COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
8. MOUNTING HEIGHTS: SEE 'TYP. MOUNTING HEIGHTS' DIAGRAM BELOW FOR TYPICAL MOUNTING HEIGHTS. WHERE "HC" IS LABELED ON INTERIOR ELEVATIONS OR FLOOR PLANS, USE 'ADULT ACCESSIBILITY' DIMENSION AS GIVEN. WHERE "C-HC" IS LABELED ON INTERIOR ELEVATIONS OR FLOOR PLANS USE 'CHILD ACCESSIBILITY' DIMENSION AS GIVEN. ALL TOILET ROOM FIXTURES AND ACCESSORIES, MARKERBOARDS AND TACKBOARDS WILL COMPLY WITH TEXAS ACCESSIBILITY STANDARDS FOR AGE GROUP SERVED. NO CONTROLS SHALL BE MOUNTED HIGHER THAN ALLOWED PER TEXAS ACCESSIBILITY STANDARDS.
9. ALL MARKERBOARDS SHALL HAVE MAGNETIC SUBSTRATE.
10. DRINKING FOUNTAINS WILL BE PROVIDED MEETING THE REQUIREMENTS TEXAS ACCESSIBILITY STANDARDS INCLUDING WITH CONTROLS AND SPOUT MOUNTED NEAR THE FRONT EDGE.

FINISH NOTES:

1. PAINT/FINISH ALL WALLS, TRIM, DOORS, WINDOWS, CEILINGS, MECHANICAL/PLUMBING/ELECTRICAL NOT FACTORY FINISHED. PAINT 12"X12" AREA OF WALL FOR REVIEW BY ARCHITECT AND OWNER APPROVAL OF ACCENT PAINT COLORS.
2. PAINT ALL AND ANY EXPOSED STRUCTURE, MECHANICAL, PLUMBING PIPING, FIRE PROTECTION PIPING, ELECTRICAL NOT FACTORY PAINTED. DO NOT PAINT LABELS.
3. PROTECT ANY CONCRETE FLOORS SCHEDULED TO BE STAINED OR SEALED. COORDINATE WITH OWNER AND ARCHITECT FOR SCORING AT STAINED/SEALED CONCRETE FLOORS. PROVIDE FOR INSTALLATION OF UP TO 4 SAMPLES OF CONCRETE STAIN SAMPLES FOR OWNER/ARCHITECT EVALUATION. COORDINATE AREA TO BE SAMPLED WITH OWNER/ARCHITECT.
4. INSTALL TRANSITION STRIPS AT ALL AREAS WHERE FLOORING CHANGES OCCUR. COORDINATE LOCATION OF TRANSITION STRIPS WITH ARCHITECT WHERE FLOORING TRANSITIONS OCCUR WITHIN A SPACE.
5. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION FOR ALL FINISHED SURFACES, EXISTING OR NEW INCLUDING BUT NOT LIMITED TO, CERAMIC TILE, VINYL TILE, CONCRETE, MASONRY ETC., THROUGHOUT THE CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE FINISHES ARE NOT DAMAGED BY OTHER TRADES. CONTRACTOR WILL BE RESPONSIBLE FOR ANY COST TO REPAIR OR REPLACE FINISHES TO MEET OWNER'S APPROVAL.

PARTITION NOTES:

1. UNLESS SCHEDULED OR NOTED OTHERWISE IN SPECIFICATIONS, SUBSTITUTE MOISTURE RESISTANT, FIBERGLASS FACED GYPSUM BOARD FOR REGULAR GYPSUM BOARD AT ALL WALL TILE LOCATIONS AND RESTROOMS LOCATIONS. SUBSTITUTE CEMENTITIOUS BACKER BOARD AT SHOWER WALL TILE LOCATIONS. WHERE CERAMIC TILE AND METAL STUDS ARE SCHEDULED, USE MINIMUM 20 GA. STUDS AT 16" O.C.
2. SCRIBE GYPSUM BOARD AT FIRE RESISTANT PARTITIONS TO THE IRREGULARITIES OF THE STRUCTURE OR ADJACENT MATERIALS TO FIT TIGHT. SEAL THOROUGHLY AROUND ANY PENETRATIONS AND JOINTS. FILL ANY OTHER IRREGULAR SPACES AT FULL HEIGHT FIRE RESISTANT PARTITIONS WITH INERT NON-COMBUSTIBLE FIRE-SAFE MATERIAL TO PROVIDE TIGHTLY SEALED FIRESTOPPING.
3. CONTRACTORS ARE RESPONSIBLE FOR COORDINATING LOCATION OF ALL BLOCKING OR SUPPORTS AS REQUIRED FOR INSTALLATION OF ITEMS ON PARTITION/WALLS. PROVIDE CONCEALED WOOD BLOCKING OR METAL STRAPPING AND/OR SUFFICIENT STUD GAUGE FOR NON-COMBUSTIBLE OR FIRE RATED PARTITIONS AS REQUIRED FOR THE PROPER ANCHORAGE OF WALL ATTACHED ITEMS SUCH AS, BUT NOT LIMITED TO, GRABBARS, TOILET ACCESSORIES, TACKBOARDS, MARKERBOARDS, CASEWORK, TV MOUNTS, INTERACTIVE WHITEBOARDS, WALL STOPS, AND ALL OTHER ITEMS OR MISCELLANEOUS EQUIPMENT. NOTE THAT SOME ITEMS ARE OWNER PROVIDED AND REQUIRE COORDINATION FOR REQUIRED SUPPORT ON PARTITIONS.
4. WHEN PARTITIONS ARE TO STRUCTURE, NOTE THAT IS TO THE FIRST INTERSECTING STRUCTURE, SUCH AS A MEZZANINES OR FLOOR ASSEMBLIES. REFERENCE BUILDING SECTIONS.
5. ALL INTERIOR WALLS TO HAVE SOUND BATTING TO FILL CAVITY, EXCEPT WHERE JANITOR CLOSETS, STORAGE ROOMS OR CHASE WALLS SHARE A COMMON WALL WITH EACH OTHER.
6. ALL WALLS THAT DO NOT GO TO STRUCTURE TO HAVE SOUND BATTING DRAPED OVER WALL TO 2'-0" EACH SIDE.
7. DO NOT BRACE INTO AREAS THAT ARE OPEN TO STRUCTURE.
8. IF PRE-ENGINEERED METAL BUILDING STRUCTURE IS USED, IT IS THE RESPONSIBILITY OF THE PEMB CONTRACTOR TO HAVE THEIR ENGINEER PROVIDE ALL REQUIRED BRACING FOR PARTITIONS.
9. AT SOUND WALLS SOUND BOARD IS TO BE USED ON SIDE OF PARTITIONS WITHIN SOUND ISOLATION ROOM PER ROOM FINISH SCHEDULE. IF A SOUND WALL IS CALLED OUT BETWEEN TWO ROOMS NOTED AS SOUND ISOLATION ROOMS PER ROOM FINISH SCHEDULE, USE SOUND BOARD ON BOTH SIDES, UNLESS NOTED OTHERWISE.

DOOR NOTES:

1. ALL GLAZING IN DOORS SHALL BE TEMPERED.
2. THRESHOLDS: NEWLY CONSTRUCTED OPENINGS WITH CHANGES IN FLOOR LEVEL SHALL NOT BE MORE THAN ½". CHANGES IN LEVEL BETWEEN ¼" AND ½" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 TYPICAL AT ALL LOCATIONS THRESHOLDS ARE REQUIRED.
3. DOOR HARDWARE AT ALL EGRESS DOORS SHALL ALLOW DOORS TO BE OPENED WITHOUT KEY OR SPECIFIC KNOWLEDGE. IF AN EXTERIOR DOOR IS SCHEDULED TO BE EQUIPPED WITH A KEY-OPERATED LOCKING DEVICE FROM THE EGRESS SIDE, A SIGN SHALL BE PROVIDED STATING, "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" WITH 1" HIGH CONTRASTING LETTERS.
4. GLAZING IN FIRE RATED DOORS SHALL MEET FIRE RATING FOR ASSEMBLY.
5. DOOR ASSEMBLY AT SOUND RATED WALLS SHALL COMPLY WITH INTENDED STC RATING FOR DOOR, GLAZING, FRAME AND HARDWARE.

WINDOW/GLAZING NOTES:

1. GLAZING WITHIN 24" OF EITHER SIDE OF ANY DOOR SHALL BE TEMPERED, UNLESS NOTED OTHERWISE.
2. GLAZING GREATER THAN 9 SF IN AREA WITH A BOTTOM EDGE LESS THAN 18" ABOVE (AND IN HORIZONTALLY WITH IN 36") OF A WALKING SURFACE SHALL BE TEMPERED.
3. WINDOW LATCHED SHALL BE AT BOTTOM OF LOWER SASH.
4. WINDOWS AT SOUND RATED WALLS SHALL COMPLY WITH INTENDED STC RATING FOR GLAZING AND FRAME.

MEZZANINE NOTES:

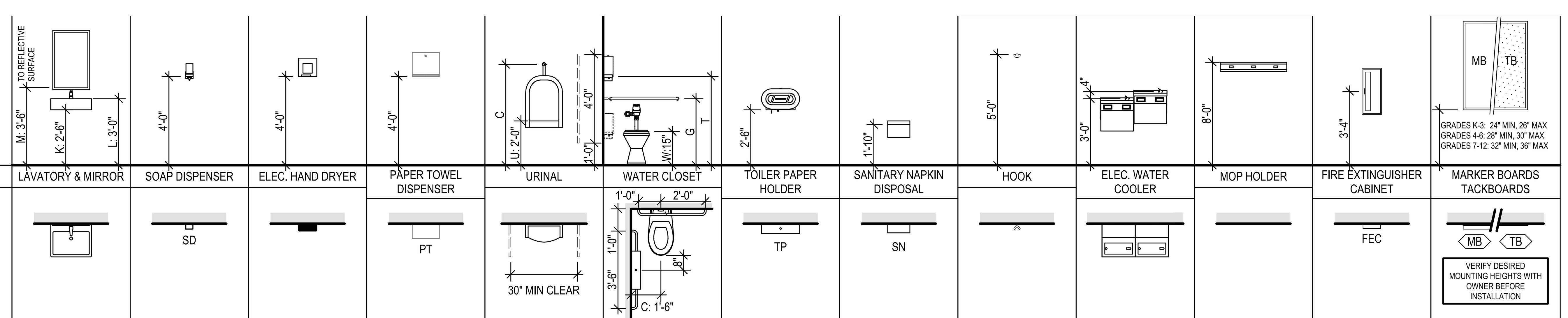
1. ALL RAILING SHALL BE CONTINUOUS ALONG ALL SIDES OF THE MEZZANINE. AT BREAKS FOR POINTS OF ACCESS, PROVIDE LADDER AS NOTED ON MEZZANINE PLAN. REFER TO DETAILS FOR MEZZANINE AND RAILING ON MEZZANINE PLAN SHEET.
2. PROVIDE PAINTED PLYWOOD, ON WALL, AT LOCATION OF LADDERS TO PROTECT SURFACE FROM DAMAGE. REFER TO LADDER DETAILS ON INTERIOR DETAILS SHEET.
3. PROVIDE PAINTED 2X6 AT TRANSITION OF WALL AND MEZZANINE TO PROTECT EDGE.
4. AT COLD FORMED METAL MEZZANINES, FLOOR JOIST SHALL BE A MINIMUM OF 10" CSJ @ 16" O.C., UNLESS OTHERWISE NOTED.
5. ALL SUPPORTING WALLS SHALL BE 6" 16GA. METAL STUD OR 6" CMU WITH GROUTED CELLS @ 16" O.C. W/ REBAR AS REQUIRED FOR SUPPORT OF MEZZANINE AND OTHER STRUCTURES.

ROOFING NOTES:

1. COORDINATE INSTALLATION OF NEW ROOFING WITH OTHER TRADES. REPORT ANY CONFLICTS WITH ITEMS INSTALLED BY OTHER TRADES TO ARCHITECT.
2. ALL DOWNSPOUTS THAT OUTLET TO SURFACE SHALL HAVE SPLASHBLOCK PROVIDED.
3. REFER TO CIVIL DRAWINGS FOR ROOF DRAINAGE THAT IS TIED INTO AND CONTINUES TO STORM SEWER.
4. REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR ADDITIONAL ROOF PENETRATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FLASHING ALL EQUIPMENT CURBS, PIPING AND CONDUIT PENETRATIONS. FLASH ALL ROOF PENETRATIONS, SKYLIGHTS, PARAPETS AND ROOF CURBS PER ROOFING MANUF.
5. ALL ROOF CURBS FOR NEW ROOFTOP EXHAUST FANS , HVAC UNITS AND CONDENSING UNITS SHALL HAVE CURB HEIGHTS THAT WILL ALLOW FOR A MINIMUM OF 8" BASE FLASHING HEIGHTS FOR THE ROOF SYSTEM.
6. ALL PLUMBING VENTS SHALL EXTEND ABOVE THE FINISHED SURFACE OF THE ROOF SYSTEM AS REQUIRED TO PROVIDE FOR A MINIMUM OF 8" BASE FLASHING..
7. PROVIDE 36" WIDE WALK PADS @ SERVICE SIDE OF ALL MECH. EQUIPMENT. & PROVIDE 36" WIDE WALK PADS AROUND ALL ROOF HATCHES & 72"X72" PADS AT LADDERS.
8. ALL TAPERED INSULATION TO BE 1/4" PER FOOT MIN. SLOPE TO DRAIN. ROOF PLAN SHOWS TAPERED INSULATION FOR GRAPHIC REPRESENTATION ONLY. CONTRACTOR TO VERIFY INSULATION REQUIRED TO SLOPE PRIOR TO MEMBRANE INSULATION.
9. PROVIDE TAPERED INSULATION CRICKETS 1/4" PER FOOT MIN. SLOPE @ HIGH SIDE OF ALL MECHANICAL UNITS AND ROOF HATCHES, TO SHED WATER AROUND AND MAINTAIN POSITIVE ROOF DRAINAGE.
10. ALL WOOD BLOCKING AT ROOF EDGES, RIDGES, ETC. TO BE 2X TREATED WOOD BLOCKING.
11. VERIFY ELEVATION OF ROOF DRAIN RELATIVE TO OVERFLOW SCUPPER PRIOR TO INSTALLATION OF SCUPPERS
12. PROVIDE SUPPORTS FOR PIPES AND CONDUIT ON ROOF AS REQUIRED ALONG RUNS.

TYP. ADULT MOUNTING HEIGHTS

NOTE: ADULT ACCESSIBLE AND CHILD ACCESSIBLE NOTED ON INTERIOR ELEVATIONS AS "HC" & "C-HC"



ACCESSORY	LAVATORY & MIRROR	SOAP DISPENSER	ELEC. HAND DRYER	PAPER TOWEL DISPENSER	URINAL	WATER CLOSET	TOILER PAPER HOLDER	SANITARY NAPKIN DISPOSAL	HOOK	ELEC. WATER COOLER	MOP HOLDER	FIRE EXTINGUISHER CABINET	MARKER BOARDS TACKBOARDS
PLAN SYMBOL		SD		PT	30" MIN CLEAR		TP	SN				FEC	MB TB
TYP. CHILD MOUNTING HEIGHT	L: 31"; M: 36"	40"	40"	40"	U: 17" MAX, C: 48" MAX	W: 12"	N/A	N/A	40"	AS ABOVE	N/A	N/A	AS ABOVE
ADULT ACCESSIBILITY (HC)	L: 34"; K:27"; M: 40"	44" MAX REACH HEIGHT	44" MAX REACH HEIGHT	44" MAX REACH HEIGHT	U: 17" MAX, C: 48" MAX	W: 17"; G: 34"; T: 44"; C: 18"	N/A	N/A	44" MAX REACH HEIGHT	AS ABOVE	N/A	N/A	N/A
CHILD ACCESSIBILITY (C-HC)	L: 31"; K: 24"; M: 36"	40" MAX REACH HEIGHT	40" MAX REACH HEIGHT	40" MAX REACH HEIGHT	U: 17" MAX, C: 40" MAX	W: 15"; G: 25"; T: 17"; C: 15"	N/A	N/A	40" MAX REACH HEIGHT	30"	N/A	N/A	N/A

LOOSE STEEL ANGLE LINTEL FOR VENEER MASONRY

CLEAR SPAN	EXTERIOR ANGLES FOR 4" MASONRY	NOTES:
4'-0" OR LESS	3-1/2x3-1/2x5/16	1. PROVIDE 8" MINIMUM BEARING FOR ALL STEEL ANGLE LINTELS. PROVIDE CONTINUOUS LINTEL ANGLES BETWEEN ADJACENT EXTERIOR OPENINGS SEPERATED BY 2'-0" OR LESS. 2. THIS TABLE APPLIES ONLY TO NON-LOAD BEARING WALLS. ANY LINTELS IN LOAD BEARING WALLS SHALL BE AS NOTED ON ARCHITECTURAL OR STRUCTURAL DETAIL SECTIONS. 3. IN THE CASE OF MASONRY VENEER WALLS WITH BLOCK BACK-UP, THE LINTEL FOR THE VENEER SHALL BE SELECTED FROM THIS TABLE. REFER TO CONCRETE BLOCK LINTEL SCHEDULE FOR THE BACK-UP LINTELS. 4. PROVIDE HORIZONTAL EXPANSION JOINTS AT EACH END OF VENEER MASONRY LINTELS. PROVIDE FLASHING END DAMS IN ACCORDANCE WITH THE B.I.A. TECH NOTE NUMBER 1. 5. MEMVER SIZES INDICATED WITHIN THIS TABLE SHALL ONLY SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THIS SET OF PLANS AND SHALL NOT SUPERSEDE MEMBER SIZES EXPLICITLY NOTED ON SECTION, DETAILS OR STRUCTURAL DRAWINGS.
5'-0"	3-1/2x3-1/2x5/16	
6'-0"	3-1/2x3-1/2x5/16	
7'-0"	4x3-1/2x5/16	
8'-0"	5x3-1/2x5/16	
9'-0"	4x3-1/2x3/8	
10'-0"	6x3-1/2x3/8	

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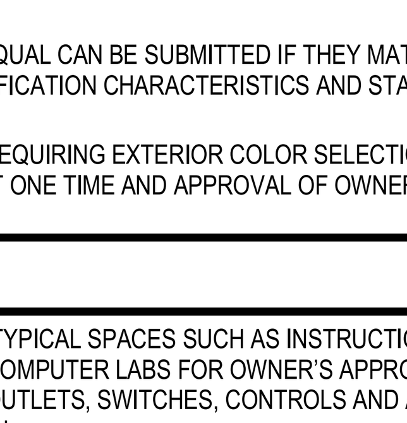


Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

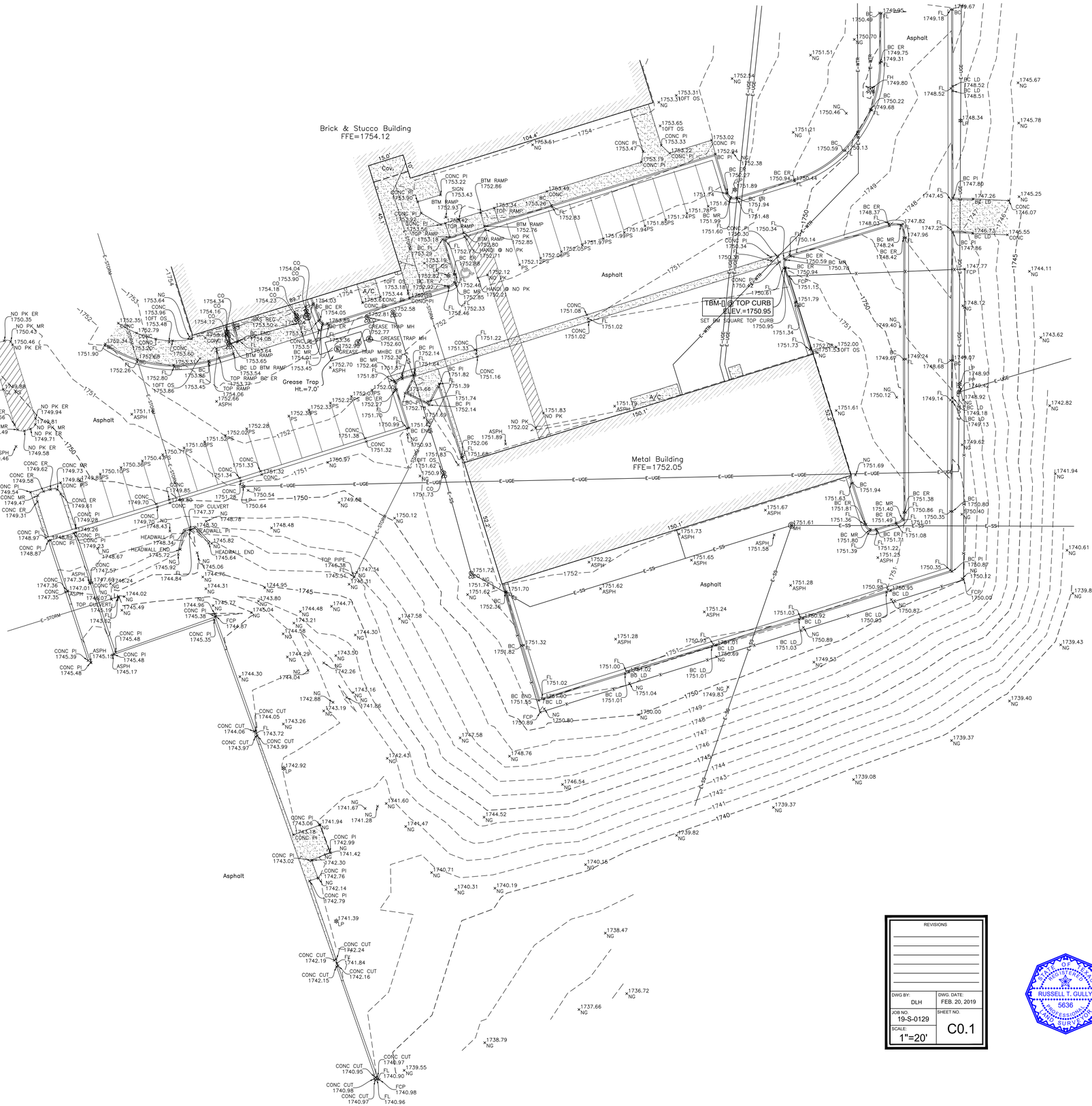
Project Number
1703

Date:
4/4/2019

Sheet Number

ARCHITECTURAL GENERAL NOTES

A0.05



SURVEY NOTES

THIS SURVEY IS PROVIDED BY THE OWNER AND WAS NOT PREPARED BY Reliance Architecture, LLC, AND THEREFORE Reliance Architecture, LLC IS NOT RESPONSIBLE FOR ITS ACCURACY OR COMPLETENESS. THE SURVEY HAS BEEN PROVIDED BY THE OWNER AS BASIC PROJECT INFORMATION AND ONLY INCLUDED FOR REFERENCE. THE CONTRACTOR OR CONSTRUCTION MANAGER IS RESPONSIBLE FOR RETAINING THE SERVICES OF A SURVEYOR AS NECESSARY AND/OR REQUIRED FOR THE WORK. THE CONTRACTOR SHALL CONFIRM INFORMATION ON OWNER SURVEY WITH THE SURVEYOR OF RECORD.

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FAX: 325.657.8189
FIRM REGISTRATION NUMBER F-7608 & 10102400
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LEGEND

- x 1739.86 — SPOT ELEVATION
- —1740— — CONTOUR LINE
- BUILDING
- CONCRETE
- CURB AND GUTTER
- E-UGE — UNDERGROUND ELECTRIC LINE
- E-SS — SEWER LINE
- E-WTR — WATER LINE
- E-GAS — GAS LINE
- POWER POLE
- LIGHT POLE
- SIGN
- SEWER MANHOLE
- SEWER CLEANOUT
- FIRE HYDRANT
- GAS METER

UTILITY LOCATIONS
The underground utilities shown hereon have been located from available field survey information, existing drawings, and from information obtained from third parties. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned and makes not guarantee that the underground utilities shown are in the exact location indicated. The surveyor has not physically located the underground utilities.

REVISIONS	
DWG BY: DLH	DWG. DATE: FEB. 20, 2019
JOB NO. 19-S-0129	SHEET NO. C0.1
SCALE: 1"=20'	

STATE OF TEXAS — REGISTERED — RUSSELL T. GULLY — 5636 — PROFESSIONAL LAND SURVEYOR

MAP SHOWING A TOPOGRAPHIC SURVEY OF A PORTION OF BRADY ISD PROPERTY, CITY OF BRADY, MCCULLOCH COUNTY, TEXAS.

Certification is hereby made that a survey was made on the ground under my supervision in accordance with accepted practices and procedures.

Surveyed on the ground January 23, 2019.
Revised February 20, 2019

RUSSELL T. GULLY
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5636

80 GRAPHIC SCALE 40 20 10 0 FEET

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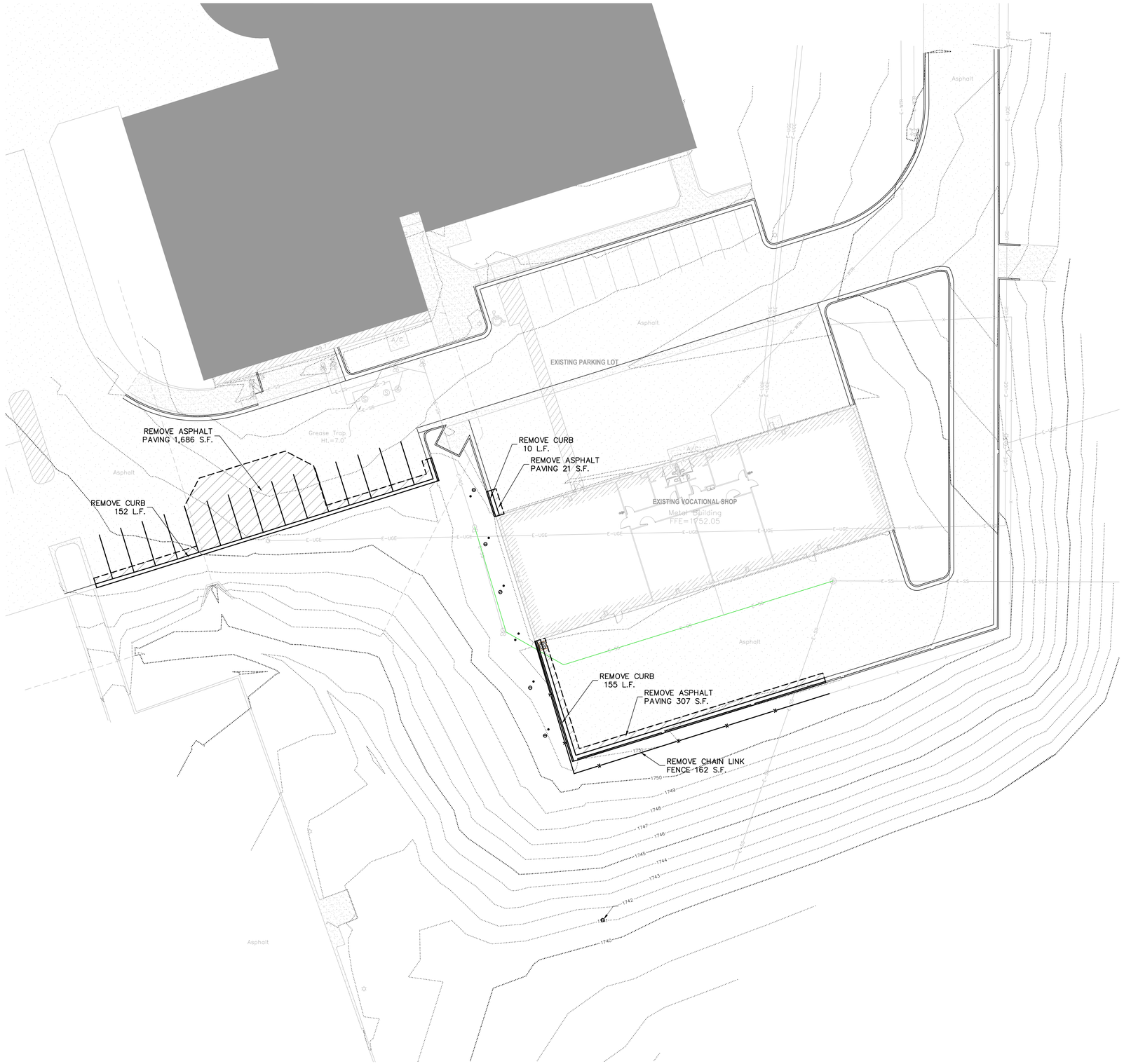
OWNER SURVEY A0.06



LEGEND

DEMO ASPHALT

FEDERAL REGULATION TITLE 49 PART 192.181

ACCESS MUST BE PROVIDED TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TEXAS 811 DAMAGE PREVENTION NOTE

NOTE: EXISTING GAS LINES ARE LOCATED IN THIS AREA. CONTRACTOR SHALL BE RESPONSIBLE TO CALL TEXAS 811 FOR UTILITY LOCATOR SERVICES TO LOCATE GAS LINE. CONSTRUCTION IN THIS AREA IS SUBJECT TO CHAPTER 18 UNDERGROUND PIPELINE DAMAGE PREVENTION RULES, PROMULGATED BY THE RAILROAD COMMISSION OF TEXAS. ANY DAMAGE TO THE GAS LINES MUST BE IMMEDIATELY REPORTED TO 811 AND GAS COMPANY AND A TEXAS DAMAGE REPORTING FORM SUBMITTED BY THE CONTRACTOR TO THE RRC (GAS COMPANY DOING REPAIRS IS NOT SUFFICIENT) WITHIN 10 DAYS OF INCIDENT.

SITE DEMOLITION NOTES

1. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING, BARRICADES AND WARNING SIGNS AS REQUIRED TO ENSURE THE SAFETY OF THE PUBLIC WHO WILL BE REMAINING IN THE GENERAL VICINITY DURING THE RENOVATION EFFORTS OF THE FACILITY.

2. THE CONTRACTOR SHALL KEEP THE EXISTING VEHICULAR DRIVEWAYS AND PARKING AREAS OPEN FOR ACCESS BY EMERGENCY VEHICLES. STORED MATERIALS, ETC. SHOULD BE PLANNED ACCORDINGLY SO THAT THEY DO NOT INTERFERE WITH ACCESS TO THE SITE.

3. THE CONTRACTOR SHALL PROTECT THE EXISTING SITE ITEMS WHICH ARE TO REMAIN AS WELL AS THE EXISTING LANDSCAPING ON THE SITE SO THAT DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES IS MINIMIZED.

4. THE CONTRACTOR SHALL REPAIR AND/OR RESTORE ANY DAMAGE TO SITE ITEMS WHICH ARE TO REMAIN ON THE PROJECT OR THE LANDSCAPING.

5. ALL BACKFILL WORK ON THE SITE AT EXCAVATIONS REQUIRED FOR THE VARIOUS ADDITIONS, AS WELL AS FOR UTILITIES SHALL BE RECOMPACTED IN LIFTS WHICH DO NOT EXCEED 9" LOOSE. THE COMPACTION SHALL ALSO BE MONITORED AND TESTED TO ENSURE THAT IT IS COMPLETED TO 95% DENSITY.

6. NO ON SITE SALE OR BURNING OF ITEMS REMOVED FROM THE SITE ARE PERMITTED AS PART OF THE PROJECT. ALL SITE CONSTRUCTION ACTIVITIES SHALL COMPLY WITH APPLICABLE OSHA REGULATIONS.

7. ALL MATERIALS REMOVED FROM THE SITE SHALL BE LEGALLY DISPOSED OF. WHENEVER POSSIBLE, EXISTING MATERIALS FROM THE SITE SHALL BE RECYCLED.

8. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR MAKING SITE VISIT TO INSPECT WORK CONDITIONS PRIOR TO SUBMITTING A BID

ITEMS TO BE SALVAGED FOR REINSTALLATION:

1. None

ITEMS TO BE SALVAGED TO OWNER FOR OWNERS USE ELSEWHERE :

1. Playground equipment

ALL SIGNS IN THE ROW SHALL REMAIN IN PLACE AND PROTECTED FROM ANY DAMAGE FROM CONSTRUCTION. ANY DAMAGE TO EXISTING SIGNS IN THE ROW WILL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE

N

1 C1.1 DEMOLITION PLAN
SCALE 1" = 20'

20 0 20 40
SCALE: 1" = 20'

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STATE OF TEXAS
VICTOR MANUEL GIL
94994
LICENSED PROFESSIONAL ENGINEER
4.4.2019

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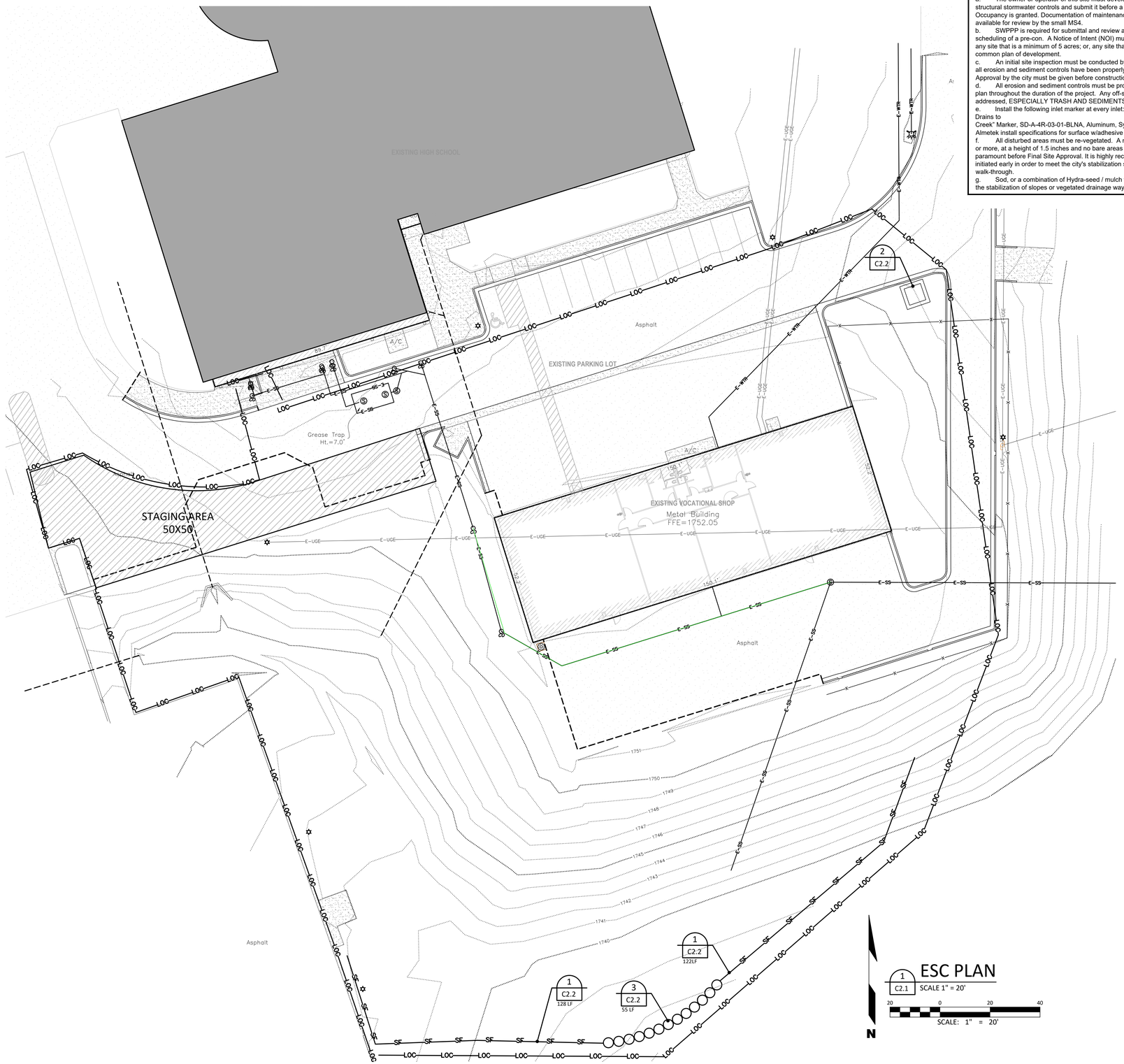

ESC PLAN

1 C2.1 SCALE 1" = 20'

20 0 20 40

SCALE: 1" = 20'

N

ENVIRONMENTAL NOTES

a. The owner or operator of this site must develop a maintenance plan for the structural stormwater controls and submit it before a Temporary Certificate of Occupancy is granted. Documentation of maintenance performed must be made available for review by the small MS4.

b. SWPPP is required for submittal and review at least 3 days prior to the scheduling of a pre-con. A Notice of Intent (NOI) must be submitted to the TCEQ for any site that is a minimum of 5 acres; or, any site that meets the criteria of a larger common plan of development.

c. An initial site inspection must be conducted by the City or County to verify that all erosion and sediment controls have been properly installed and per the plan. Approval by the city must be given before construction can begin.

d. All erosion and sediment controls must be properly maintained per the SWP3 plan throughout the duration of the project. Any off-site discharge must be immediately addressed, ESPECIALLY TRASH AND SEDIMENTS.

e. Install the following inlet marker at every inlet: Almetek 4" DISC "No Dumping Drains to Creek" Marker, SD-A-4R-03-01-BLNA, Aluminum, Symbol: Fish, Color: blue, Use Almetek install specifications for surface w/adhesive for dry concrete install.

f. All disturbed areas must be re-vegetated. A minimum uniform coverage of 90% or more, at a height of 1.5 inches and no bare areas greater than 10 sq. ft. is paramount before Final Site Approval. It is highly recommended that re-vegetation is initiated early in order to meet the city's stabilization standards before the final walk-through.

g. Sod, or a combination of Hydra-seed / mulch with a geo textile must be used for the stabilization of slopes or vegetated drainage ways.

TEMPORARY EROSION CONTROL LEGEND

SF — CONTRACTOR TO PROVIDE SILT FENCE AROUND GRATE INLETS AFTER NEW GRATE INLETS ARE INSTALLED — 1 C2.2

LOC — LIMITS OF CONSTRUCTION LINE SHOWS AREAS OF SOIL DISTURBANCE; NO SOIL DISTURBANCE WILL OCCUR OUTSIDE THE LIMITS OF CONSTRUCTION. AREA= 1. 27 AC
ALL AREAS ABRADED INSIDE THE LOC AND NOT HATCHED SHALL BE STABILIZED BY HYDROMULCH OR EQUIVALENT GRASS PRODUCING MEANS SEE PERMANENT EROSION CONTROL NOTES FOR DETAILS

CONCRETE WASHOUT — 2 C2.2

ROCK BERM — 3 C2.2

TEMPORARY EROSION CONTROL NOTES

1. The contractor shall install erosion / sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing or excavation.)

2. The placement of erosion / sedimentation controls shall be in accordance with the approved Erosion and Sedimentation Control Plan.

3. The placement of tree / natural area protective fencing shall be in accordance with the approved Grading / Tree and Natural Area Plan.

4. A pre-construction conference shall be held on-site with the contractor, design engineer/permit applicant and Environmental Inspector after installation of the erosion / sedimentation controls and tree/natural area protection measures and prior to beginning any site preparation work The contractor shall notify the City, at least three days prior to the meeting date.

5. Any significant variation in materials or locations of controls or fences from those shown on the approved plan a must be approved by the reviewing Engineer, Environmental Specialist or City Arborist as appropriate.

6. The contractor is required to inspect the controls and fences at weekly intervals and after significant rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance of controls and fences shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.

7. Prior to final acceptance by the City, haul roads and waterway crossings constructed for temporary contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated All land clearing debris shall be disposed of in approved spoil disposal sites.

8. Field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies. Major revisions must be approved by the City.

TREE PROTECTION NOTES

1. A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED TO MEET THE LANDSCAPE OR TREE PRESERVATION ORDINANCES. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH INCH DIAMETER INCH AT BREAST HEIGHT (4.5 ') OF THE TREE. A 10-INCH DIAMETER TREE WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.

2. NO WORK SHALL BEGIN WHERE TREE PROTECTION FENCING HAS NOT BEEN COMPLETED AND APPROVED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION. THE FENCING WILL BE A MINIMUM OF 4' HEIGHT.

3. ALL ROOTS LARGER THAN ONE-INCH IN DIAMETER ARE TO BE CUT CLEANLY AND OAK WOUNDS PAINTED WITHIN 30 MINUTES.

4. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.

5. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO CLEAN-OUT AREAS WILL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.

6. NO GRADE CHANGE MORE THAN 3 INCHES MARKED IS ALLOWED WITH THE ROOT PROTECTION ZONE.

TEXAS POLLUTION DISCHARGE ELIMINATION NOTES

The Erosion Sedimentation control plan is provided for review and approval purposes and does NOT limit the responsibility of the Contractor to satisfy all of the requirements for Contractor's compliance with the Texas Pollution Discharge Elimination System Rule (TPDES) General Permit (TXR150000) and/or the TPDES Multi-Sector General Permit (TXR 050000).

Contractor is required to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) as required by Storm Water Pollution Prevention for Construction. The site is larger than 1 acre and the Contractor is required to develop its own Storm Water Pollution Prevention Plan (SWP3) utilizing the Best Management Practices (BMP) as required by EPA and TCEQ. A copy of the Notice of Intent NOI shall be posted at the entrance to the site with all other EPA and TCEQ required postings. Contractor shall be responsible for the required SWP3.

Contractor may subcontract with an Environmental Consulting Services firm to provide services to comply with all the Storm Water Compliance. These services may include: (1) Storm Water Permitting, (2) Storm Water Pollution Prevention Plans (SWP3) as required by Federal, Texas State, and local Regulatory agencies, (3) Storm Water Site Postings, and (4) Required Site Inspections of non-compliant conditions, maintenance and other site conditions necessitating corrections to satisfy EPA and TCEQ and City Jurisdiction.

At the completion of the project, after the permanent erosion controls are established, the Contractor shall file a Notice of Termination (NOT) and maintain said such records for a period of at least 3 years after the date given in the NOT.

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STATE OF TEXAS
VICTOR MANUEL GIL
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LICENSED PROFESSIONAL ENGINEER
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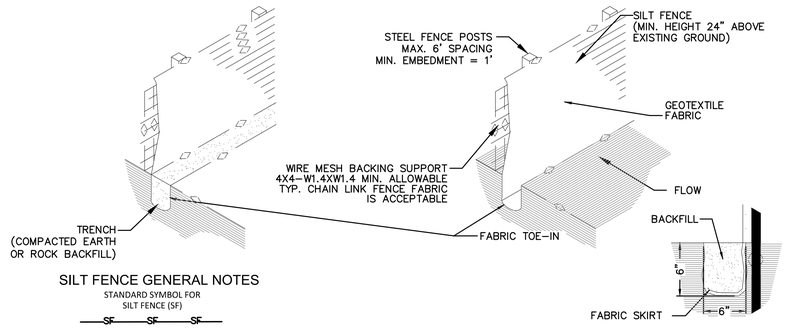


SILT FENCE GENERAL NOTES

STANDARD SYMBOL FOR
SILT FENCE (SF)

SF SF SF

MATERIALS:

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT2, AND BRINDELL HARDNESS EXCEEDING 140. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION:

3. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1- FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT MAXIMUM DRAINAGE ARE IS 1/4 ACRE/100 FEET OF FENCE.
4. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
5. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL
6. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
7. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

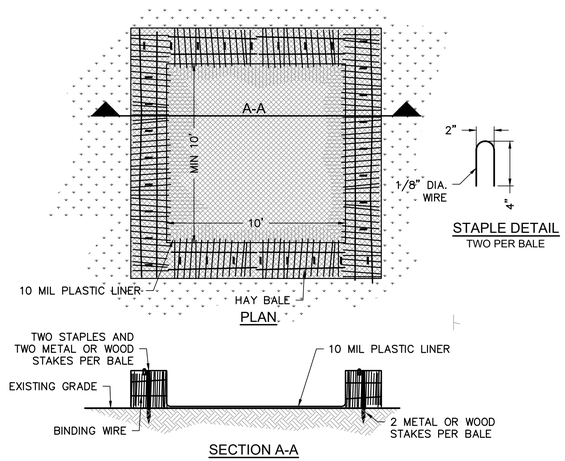
COMMON TROUBLE POINTS:

8. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE. (2) FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE)
9. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES)
10. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE)

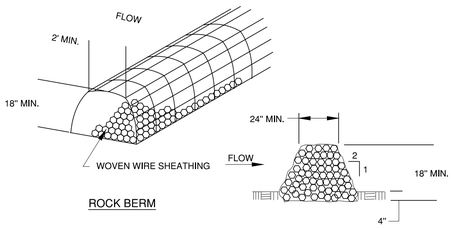
INSPECTION AND MAINTENANCE GUIDELINES:

11. INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.
12. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
13. REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

1 C2.2 **SILT FENCE**
NOT TO SCALE



2 C2.2 **ABOVE GRADE CONCRETE WASHOUT**
NOT TO SCALE



MATERIALS

1. THE BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1" AND MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN OPEN GRADED 3 TO 5 INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5 TO 8 INCH DIAMETER ROCK MAY BE USED.

INSTALLATION

3. LAYOUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENING.
4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
5. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM (FIGURE 1.29 OF RG-348) TO A HEIGHT NOT LESS THAN 18"
6. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE END OF SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WEN WALKED UPON.
7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
8. THE END OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

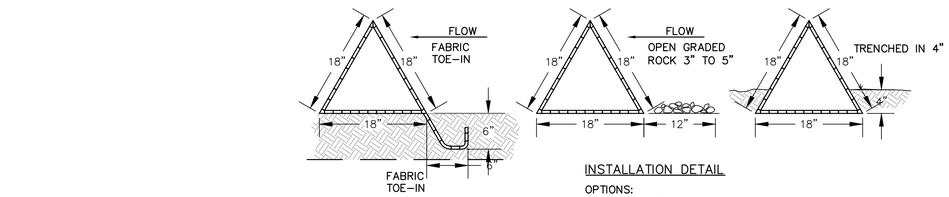
COMMON TROUBLE POINTS

9. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER TOP OR AROUND SIDES OF BERM)
10. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND O E SIDE)

INSPECTION AND MAINTENANCE GUIDELINES

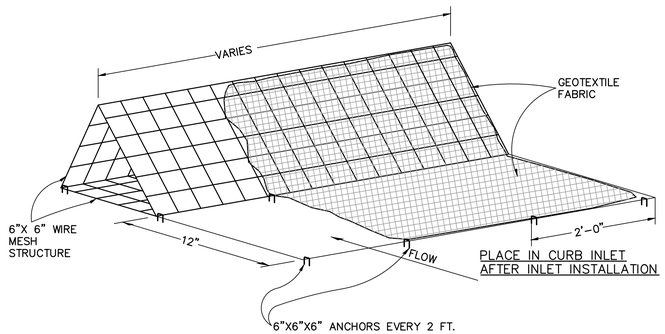
11. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PART. FOR INSTALLATIONS IN STREAMBED, ADDITIONAL DAILY INSPECTION SHOULD BE MADE.
12. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN A APPROVED MANNER.
13. REPAIR ANY LOOSE WIRE SHEATHING
14. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION
15. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE , ETC.
16. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS AREA STABILIZED AND ACCUMULATED SILT REMOVED.

3 C2.2 **ROCK BERM**
NOT TO SCALE



INSTALLATION DETAIL

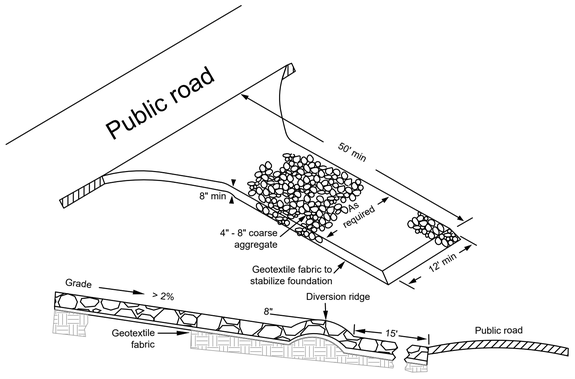
OPTIONS:
1) TOE-IN 6" MIN.
2) WEIGHTED WITH 3"-5" OPEN GRADED ROCK
3) TRENCHED IN 4"



GENERAL NOTES

1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 3"-5" OPEN GRADED ROCK, OF TOED-IN 6" WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 4 INCHES.
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 6 INCH WIRE STAPLES ON 2-FOOT CENTERS ON BOTH EDGES AND SKIRT, OF STAKED USING 3/8" DIAMETER REBAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOOT RINGS.
6. THE DIKE STRUCTURE SHALL BE 6 GAUGE 6"X6" WIRE MESH, 18 ON A SIDE. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT.
7. AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF SIX INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN 8. ABOVE.

5 C2.2 **TRIANGULAR SEDIMENT FILTER DIKE**
NOT TO SCALE



Notes:
1. Use 4 to 8 inch washed stone and place with a minimuim thickness of 8 inches.
2. Use geotextile fabric with an approximate weight of 4 oz/yd² as needed to improve stability.
3. The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
4. The construction entrance should be at least 50 feet long.
5. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin if necessary.
6. Inspect entrance/exit after each rain event (of 0.5 inch or more). Repair any damage by adding ston and/or cleaning any measures used to trap sediment.
7. Promptly remove all sediment spilled, dropped, washed or tracked onto public rights-of-way. Dispose of sediment in a manner that will not cause additional siltation.
8. When construction is complete, properly dispose of any sediment buildup and restore the prior location of the entrance/exit.

4 C2.2 **STABILIZED CONSTRUCTION ENTRANCE**
NOT TO SCALE

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL
AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF THE PROJECT AND GRASS RESTORATION.
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
3. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED
IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100 lbs/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, CLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
4. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
5. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-]
DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS. RAINFALL OCCURRENCES OF ½ INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE 1 WEEK.
6. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-]1/2 INCHES HIGH WITH 95%
COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
7. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
8. THE CONTRACTOR TO HYDRO MULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON
COMPLETION OF CONSTRUCTION.
9. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES
NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIP LINE.
10. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIP LINE AREAS.
11. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO
THE FENCING.
12. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
13. ANY ROOT EXPOSED BY THE CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATTER IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
14. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
15. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING ¼ INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION /SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
16. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR
OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR (2' – 4') BEHIND THE AREA IN QUESTION.
17. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
18. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S
REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNER'S EXPENSE.
19. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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Brady Independent School District
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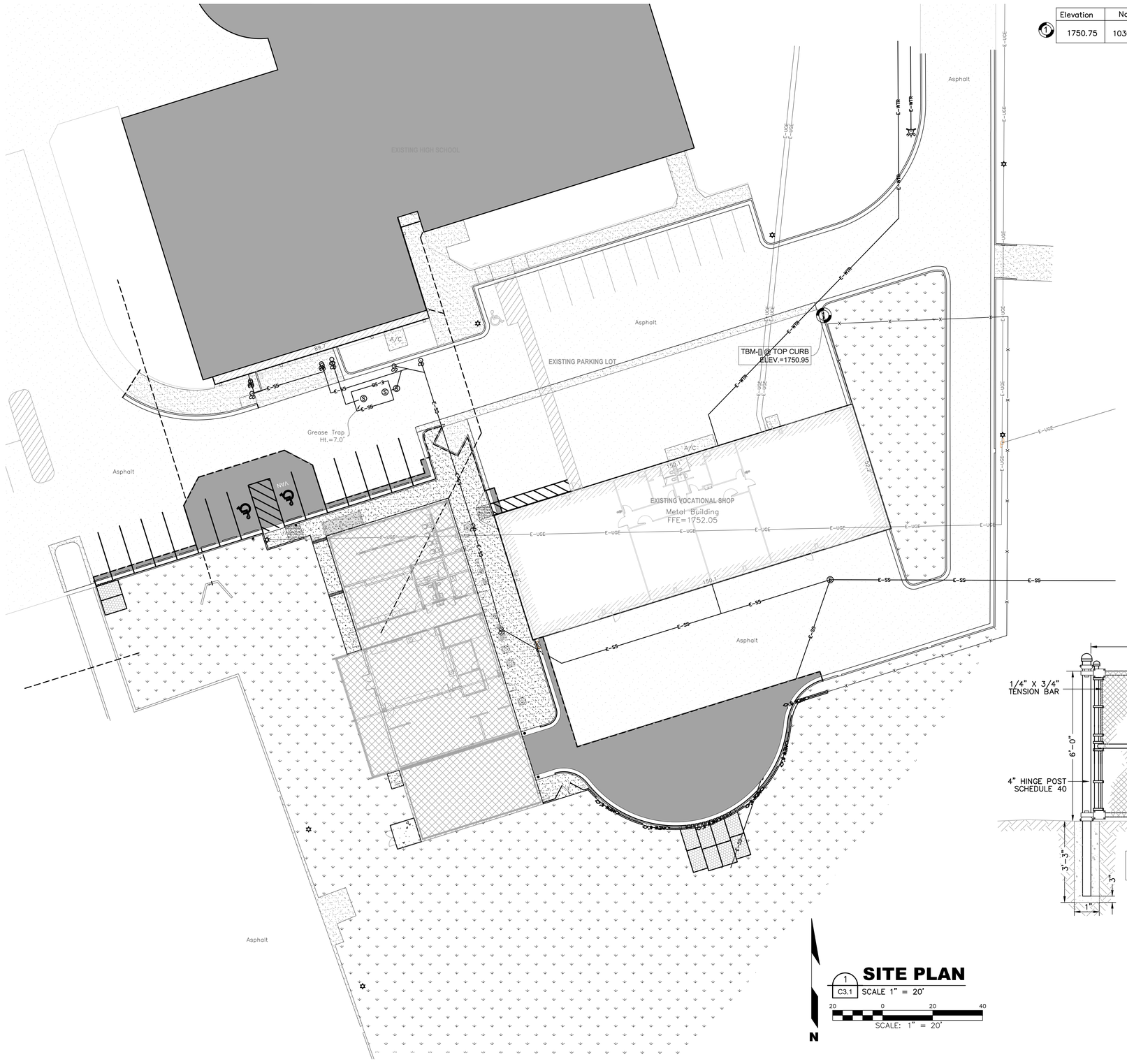
C2.2

Elevation	Northing	Easting	Description
1750.75	10367495.54	2608091.03	SET BM SQUARE TOP CURB

LEGEND

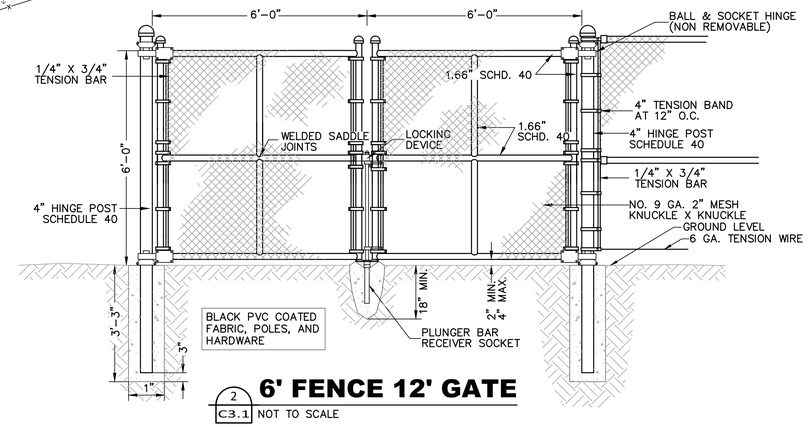
- 4" TOPSOIL AND BERMUDA GRASS HYDROMULCH PROVIDED IN HATCHED AREAS TEMPORARILY IRRIGATED UNTIL ESTABLISHED OR ALTERNATELY SPECIFIED ON LANDSCAPING SHEETS
- ASPHALT PAVING
- CONCRETE SIDEWALK
- NEW BUILDING
- SEAL COAT EXISTING ASPHALT



1 C3.1 **SITE PLAN**
SCALE 1" = 20'

20 0 20 40
SCALE: 1" = 20'

N



2 C3.1 **6' FENCE 12' GATE**
NOT TO SCALE

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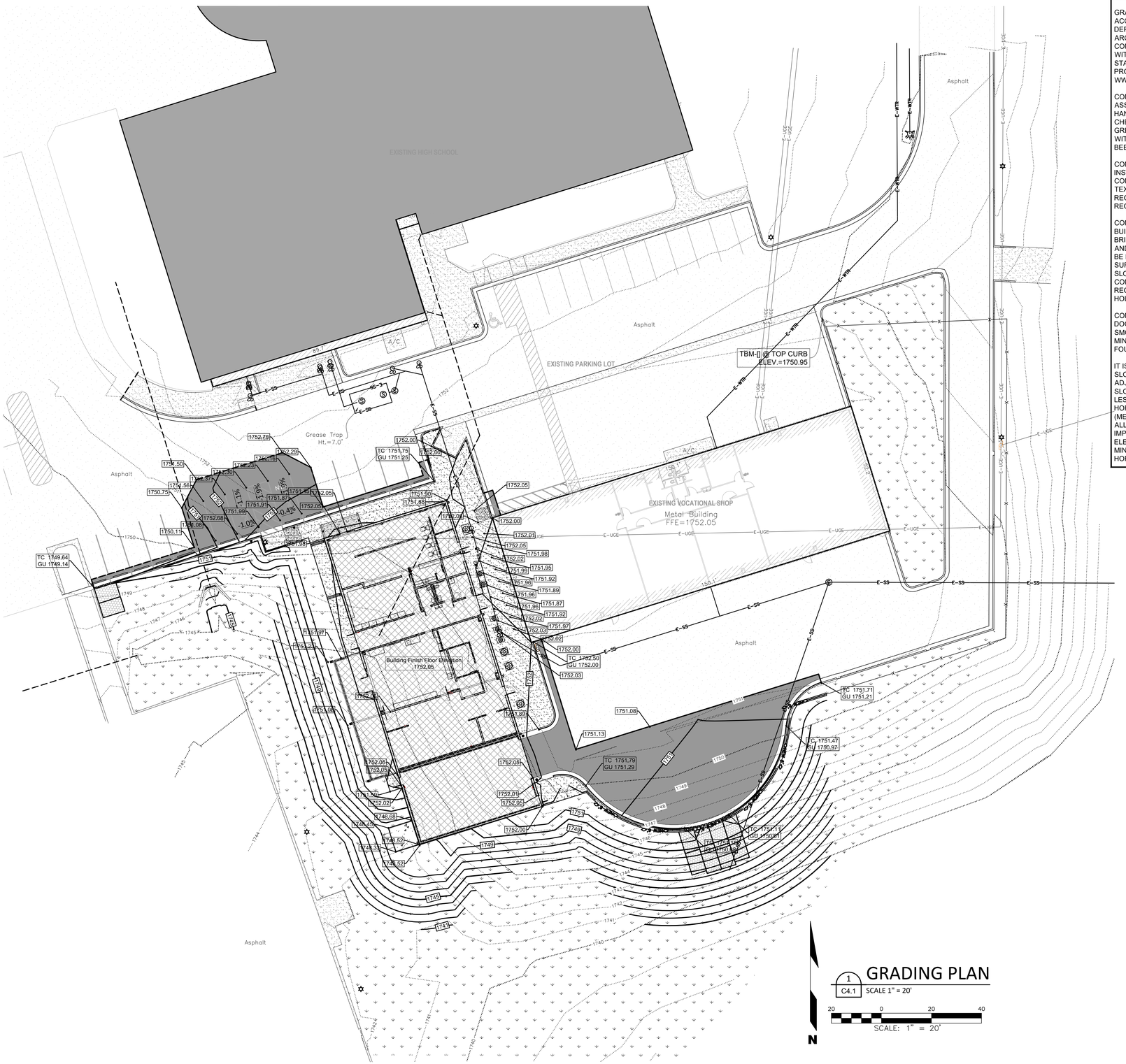

1 C4.1 GRADING PLAN

SCALE 1" = 20'

20 0 20 40

SCALE: 1" = 20'

ACCESSIBILITY GRADING NOTES

GRADING HAS BEEN DESIGNED TO HANDICAPPED ACCESSIBILITY STANDARD AS REQUIRED BY TEXAS DEPARTMENT OF LICENSING AND REGULATION, ARCHITECTURAL BARRIERS PROGRAM. CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE MOST CURRENT TEXAS ACCESSIBILITY STANDARDS AND ADMINISTRATIVE RULES AS PROVIDED IN INTERNET SITE WWW.LICENSE.STATE.TX.US.

CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING HANDICAPPED ACCESSIBLE PATHS FROM HANDICAPPED PARKING SPACES TO ENTRANCES BY CHECKING THAT CROSS SLOPES THAT ARE NOT GREATER THAN 1.75% AND THAT ACCESS AISLE WITH 4.75% MAXIMUM (UP OR DOWN) SLOPE HAVE BEEN PROVIDED.

CONTRACTOR SHALL ISSUE REQUEST FOR INSTRUCTIONS, PRIOR TO CONSTRUCTION, FOR ANY CONDITION WHICH DOES NOT APPEAR TO MEET THE TEXAS DEPARTMENT OF LICENSING AND REGULATION, ARCHITECTURAL BARRIERS PROGRAM REQUIREMENTS.

CONCRETE FLATWORK PLACED AGAINST THE BUILDING SHALL BE A MINIMUM OF 1/2" BELOW THE BRICK WEEP HOLES. HOWEVER, AT ENTRANCES AND DOORWAYS, THE CONCRETE FLATWORK SHALL BE FLUSH WITH THE BUILDING'S CONCRETE FINISH SURFACE. THE CONCRETE FLATWORK SHALL BE SLOPED AT 1:20 MAXIMUM FROM THE BUILDING'S CONCRETE FINISH SURFACE TO ACHIEVE THE REQUIRED "CLEARANCE" BELOW THE BRICK WEEP HOLES.

CONCRETE FLATWORK AT ENTRANCES AND DOORWAYS SHALL BE ANCHORED WITH 20" LONG #4 SMOOTH DOWELS AT 12" O.C. AND DRILLED A MINIMUM OF 8" INTO BUILDING'S CONCRETE FOUNDATION.

IT IS THE INTENT OF THE GRADING SHOWN TO SLOPE THE GROUNDTHAT IS IMMEDIATELY ADJACENT TO THE BUILDING'S FOUNDATION BE SLOPED AWAY FROM THE BUILDING AT A SLOPE NOT LESS THAN 5% (1 UNIT VERTICAL TO 20 UNITS HORIZONTAL) FOR A MINIMUM DISTANCE OF 10 FEET (MEASURED PERPENDICULAR TO THE BUILDING AT ALL POINTS). ALL SIDEWALKS AND OTHER IMPERVIOUS COVERED AREAS, WHERE SPOT ELEVATIONS ARE NOT GIVEN, SHALL BE SLOPED A MINIMUM OF 2% (1 UNIT VERTICAL TO 50 HORIZONTAL) FOR THE SAME 10 FEET.

GRADING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATION'S OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).

2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.

3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.

4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF' PAVING, BASE, GRASS, TOPSOIL AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.

5. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF' ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.

6. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBR1S, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL CLEAN STRIPPING AND TOPSOIL MAY BE STOCKPILE ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.

7. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL. DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.

8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES. ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).

9. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HERE ON WITHIN +/- ONE-TENTH (0.10) FOOT. CONCRETE OR PAVED AREAS SHALL BE WITHIN +/- FIVE HUNDREDTHS (0.05) FOOT.

10. IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1%. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.

11. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.

12. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.

13. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. 1HE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES. WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.

14. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.

15. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.

LEGEND

TC	TOP OF CURB ELEVATION
GU	GUTTER ELEVATION
**	CONTRACTOR TO MATCH EXISTING ELEVATION
HP	HIGH POINT
LP	LOW POINT
100	PROPOSED CONTOUR
100	UNDERSLAB CONTOUR
100	EXISTING CONTOUR

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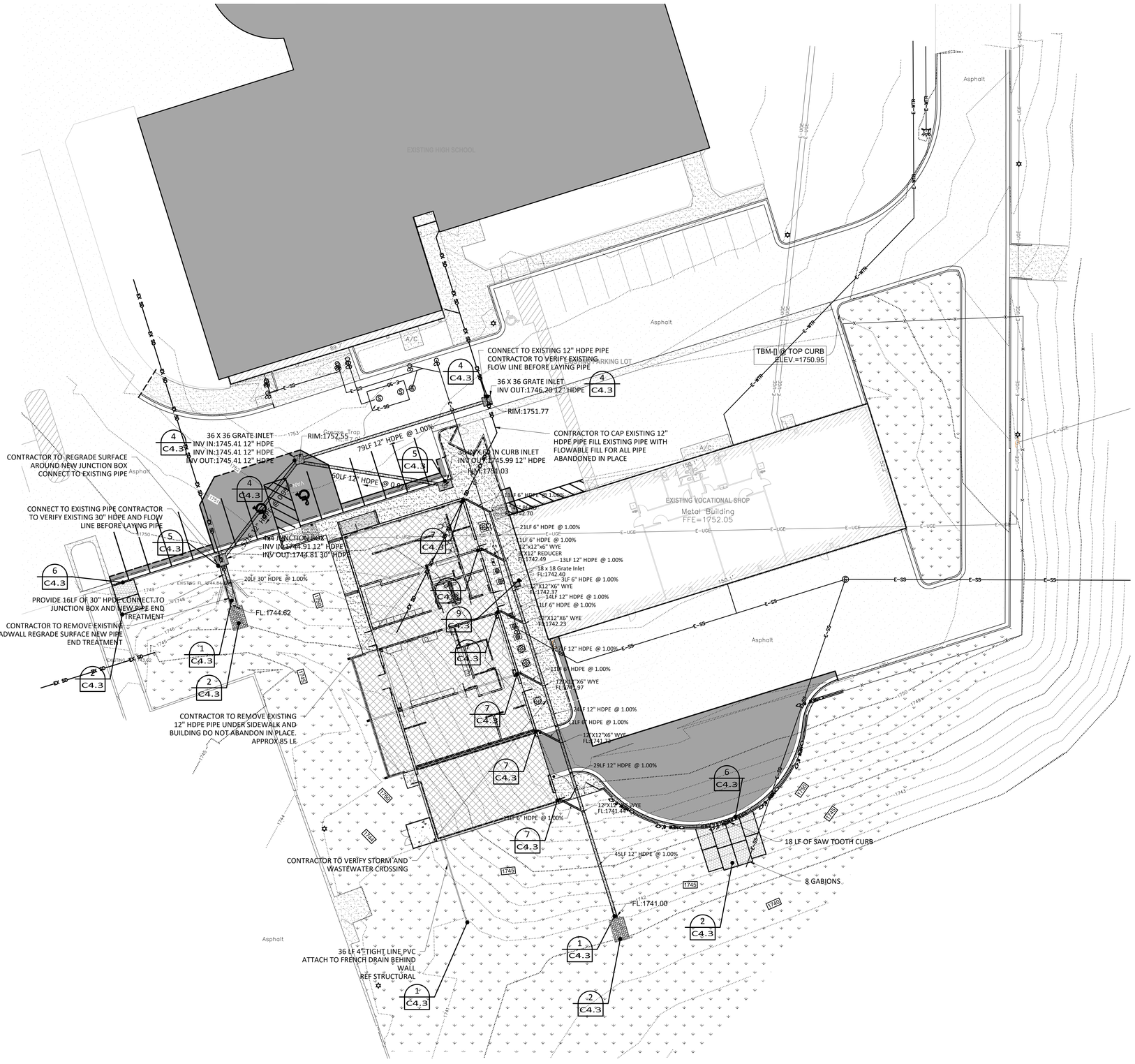

STORM DRAINAGE NOTES

1. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES. THE CONTRACTOR SHOULD EXERCISE EXTREME CAUTION WHEN WORK NEAR EXISTING UTILITIES AND SHOULD THEY BE DAMAGED DURING CONSTRUCTION OPERATIONS THE CONTRACTOR WILL BE REQUIRE TO REPAIR OR REPLACE THE DAMAGED FACILITIES AT CONTRACTOR'S EXPENSE.
2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION.
3. ALL LENGTHS OF PIPE ARE TO INSIDE FACE OF STRUCTURES. LENGTHS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND USEABLE SYSTEM.
4. CONTRACTOR SHALL ENSURE PROPER SIZE OF JUNCTION BOXES NEEDED WHERE INDICATED ON PLAN CONTRACTOR SHALL CONNECT STORM DRAIN PIPE TO JUNCTION BOXES PER MANUFACTURER'S SPECIFICATIONS.
5. ALL STORM DRAIN TO JUNCTION BOX AND INLET CONNECTION SHALL HAVE CONCRETE COLLARS OF A SUFFICIENT WIDTH AND DEPTH TO MAKE THE CONNECTION.
6. ALL GRATES SHALL BE H20 LOADING RATED GRATES.
7. TOPS OF MANHOLES JUNCTION BOXES AND GRATES SHALL BE SET FLUSH TO THE FINISHED SURFACE BASED UPON GRADING PLAN.
8. ONSITE STORM DRAINS SHALL COMPLY WITH THE CURRENT APPLICABLE CITY, COUNTY AND OR TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND MEET THE FOLLOWING REQUIREMENTS.
9. CONTRACTOR TO VERIFY BUILDING STUB OUT LOCATION AND INVERT ELEVATIONS PRIOR TO ANY NEW STORM DRAIN PIPE WORK.

REINFORCED CONCRETE PIPE (RCP) PER ASTM C76/76M SHALL BE CLASS III WALL TYPE A, MESH REINFORCEMENT, AND BELL AND SPIGOT END JOINTS WITH GASKET, AND WATERTIGHT JOINTS PER ASTM C443/443M\

10. CONTRACTOR SHALL PROVIDE ALL FITTINGS AS REQUIRED TO INSTALL PIPE, AREA DRAINS, AND ROOF DRAIN CONNECTIONS AS SHOWN ON THE PLANS.

TEXAS 811 DAMAGE PREVENTION NOTE

NOTE: EXISTING GAS LINES ARE LOCATED IN THIS AREA. CONTRACTOR SHALL BE RESPONSIBLE TO CALL TEXAS 811 FOR UTILITY LOCATOR SERVICES TO LOCATE GAS LINE. CONSTRUCTION IN THIS AREA IS SUBJECT TO CHAPTER 18 UNDERGROUND PIPELINE DAMAGE PREVENTION RULES, PROMULGATED BY THE RAILROAD COMMISSION OF TEXAS. ANY DAMAGE TO THE GAS LINES MUST BE IMMEDIATELY REPORTED TO 811 AND GAS COMPANY AND A TEXAS DAMAGE REPORTING FORM SUBMITTED BY THE CONTRACTOR TO THE RRC (GAS COMPANY DOING REPAIRS IS NOT SUFFICIENT) WITHIN 10 DAYS OF INCIDENT.

DRAINAGE CONNECTION NOTES

STORM WATER CONTRACTOR IS REQUIRED TO PLACE STORM WATER PIPING TO THE BUILDING AND MAKE CONNECTION AT THE GRADE BEAM AT THE ELEVATIONS AS INDICATED ON THE DRAWING. VERIFY BUILDING STORM OUTLET ELEVATIONS BEFORE LAYING ANY PIPE. CONTRACTOR TO CONTACT ENGINEER IF ONSITE BUILDING STORM IS DIFFERENT THAN SHOWN ON THE PLANS

STORM WATER CONTRACTOR IS REQUIRED TO PLACE STORM WATER PIPING TO THE BUILDING AND TURN UP AT THE GRADE BEAM AND PLACE A BOOT OR CONNECTION DEVICE TO CONNECT RECTANGULAR DOWNSPOUTS TO ROUND PIPING.

STORM WATER CONTRACTOR AND GENERAL CONTRACTOR ARE REQUIRED TO COORDINATE BETWEEN THE PRE-MANUFACTURED CANOPY SHOP DRAWING AND THE LOCATIONS OF THE UNDERGROUND STORM DRAIN LEADERS DO NOT PLACE ANY STORM DRAIN LEADERS UNDERGROUND UNTIL THE CANOPY SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED , THE LOCATIONS SHOWN HEREON ARE AN ESTIMATE OF THEIR APPROXIMATE LOCATION.

N

1 C4.2 STORM DRAINAGE PLAN

SCALE 1" = 20'

20 0 20 40

SCALE: 1" = 20'

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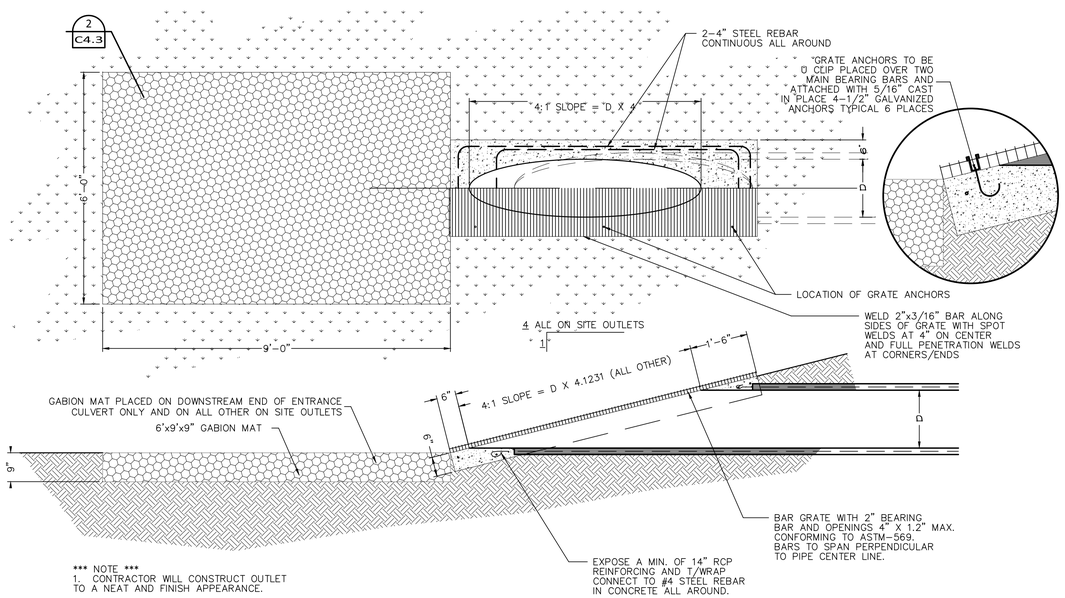
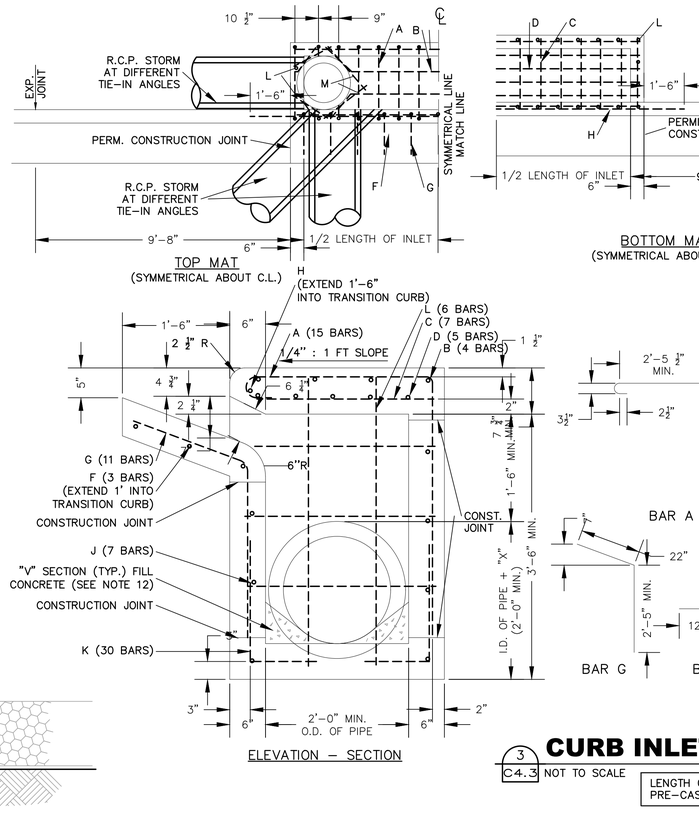


*** NOTE ***
1. CONTRACTOR WILL CONSTRUCT OUTLET TO A NEAT AND FINISH APPEARANCE.

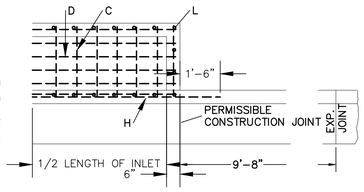
2. CONTRACTOR TO PAINT BAR GRATE AND FACE OF CONCRETE WITH SEMI-GLOSS BLACK POLYURETHANE PAINT TO CREATE

1 C4.3 PIPE END TREATMENT DETAIL
NOT TO SCALE



TOP MAT
(SYMMETRICAL ABOUT C.L.)

ELEVATION – SECTION



BOTTOM MAT
(SYMMETRICAL ABOUT C.L.)

INLET GENERAL NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (15" MIN. LAP) IN THE LOWER ONE–HALF OF ALL INLET WALLS.
5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND COVER.
7. CHAMFER ALL EXPOSED EDGES 3/4".
8. MANHOLE FRAME AND COVERS SHALL BE FURNISHED WITH THE CAST–ON EYES AND CHAIN AS SHOWN IN THE CAST–ON EYE AND COVER CHAIN DETAILS.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.

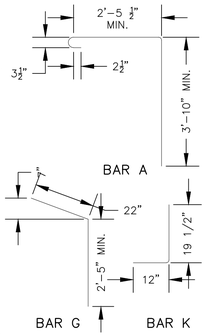


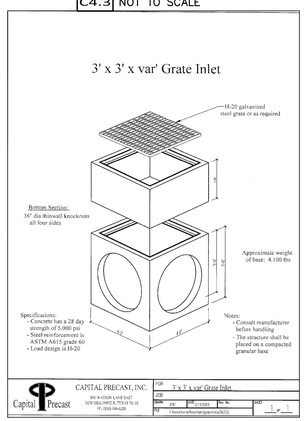
TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	9" *	15	7'–0"	73
B	4	10"	4	10'–8"	29
C	4	18"	7	2'–6"	12
D	6	6"	5	10'–8"	80
E	4	12"	6	2'–6"	10
F	4	10"	3	13'–0"	35
G	4	12"	11	4'–3"	31
H	6	–	1	14'–0"	20
J	4	12"	7	10'–8"	50
K	4	9" *	30	2'–7 ½"	52
L	4	12" *	6	4'–4"	17
M	4	–	4	1'–8" AVG.	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06
* EXCEPT AS SHOWN ON PLAN					

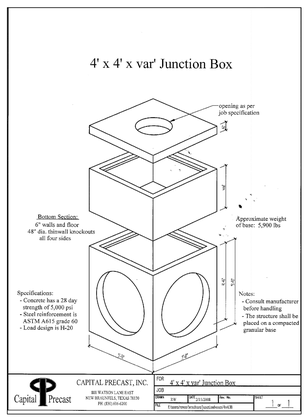
3 C4.3 CURB INLET DETAIL
NOT TO SCALE

LENGTH OF INLET 5'–0" STANDARD; PRE–CAST INLET IS ACCEPTABLE

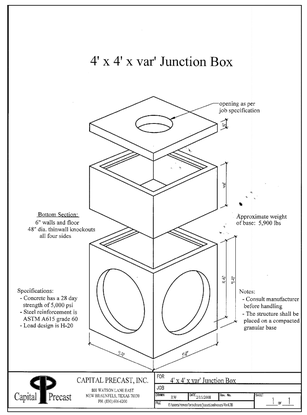
9 C4.3 18"x18"' JUNCTION BOX
NOT TO SCALE



4 C4.3 3'x3' GRATE INLET
NOT TO SCALE

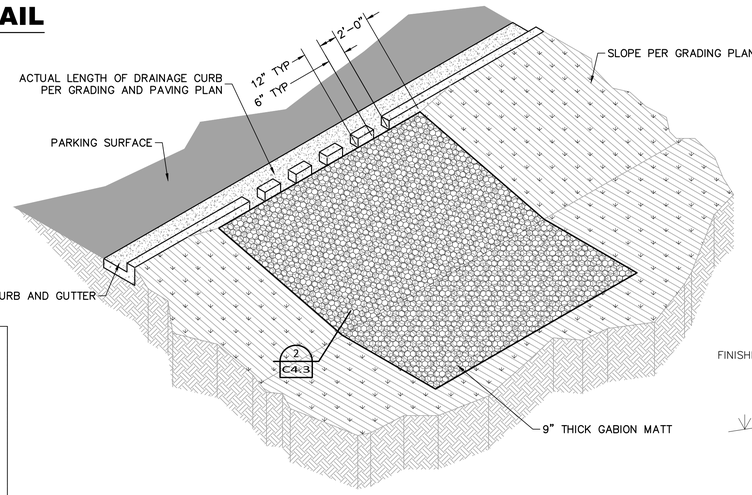


5 C4.3 4'x4' JUNCTION BOX
NOT TO SCALE

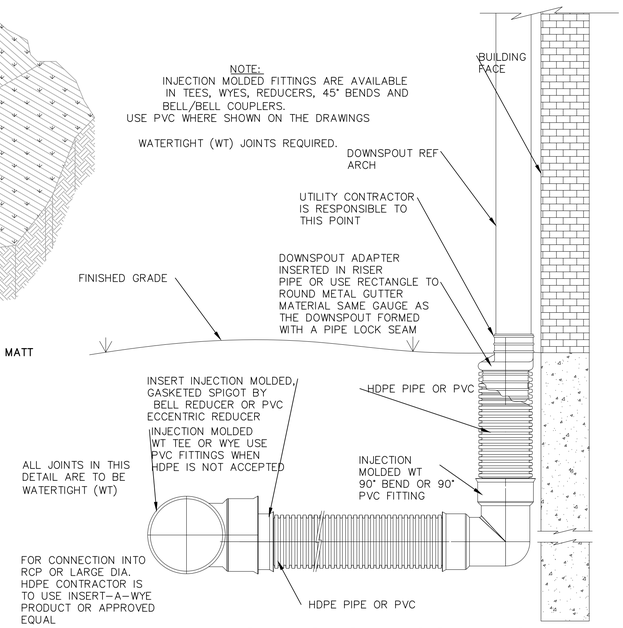


8 C4.3 4'x4' JUNCTION BOX
NOT TO SCALE

2 C4.3 GABION MAT DETAIL
NOT TO SCALE



6 C4.3 DRAIN CURB DETAILS
NOT TO SCALE



7 C4.3 DOWNSPOUT CONNECTION
NTS

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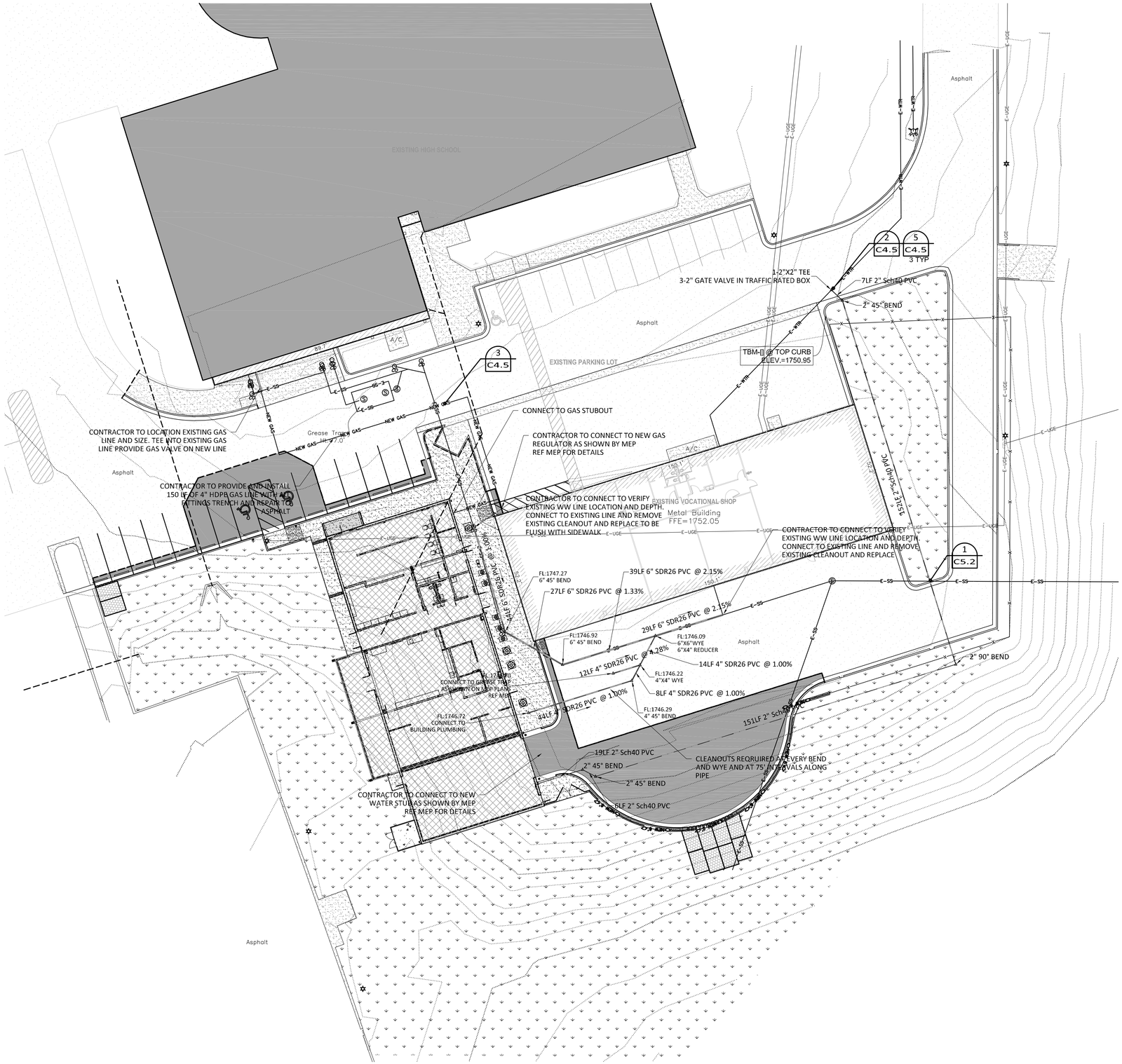

EXISTING UTILITIES NOTE

EXISTING UTILITIES SHOWN HEREON REPRESENT A COMPILATION OF INFORMATION FROM EXISTING DRAWINGS, ON SITE SURVEYS, AND MEETINGS BETWEEN UTILITY PROVIDERS. CONTRACTOR SHOULD USE CAUTION WHENEVER WORKING BECAUSE EXISTING UTILITIES MAY NOT BE LOCATED EXACTLY AS SHOWN ON THIS UTILITY PLAN. THEREFORE, APPROPRIATE AND REASONABLE PRECAUTIONS MUST BE USED TO REDUCE THE CHANCE OF DAMAGING ANY EXISTING UTILITY THAT IS NOT PART OF THIS CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITIES BOTH EXISTING AND PROPOSED WITH ALL DISCIPLINE'S REPRESENTED IN THESE PLANS AS A WHOLE. IF AND WHEN DISCREPANCIES OCCUR THE CONTRACTOR WILL REQUEST AN RFI FROM THE PROJECT MANAGER TO BE FORWARDED TO THE APPROPRIATE DISCIPLINES REPRESENTATIVE. IF THE DISCREPANCY CREATES THE NEED TO DEVIATE FROM THE DESIGN AS SHOWN ON THESE PLANS, THE CONTRACTOR SHOULD PROVIDE (ALONG WITH THE RFI) TWO ALTERNATIVE SOLUTIONS WITH ASSOCIATED COSTS AND/OR CREDITS TO THE PROJECT MANAGER TO BE FORWARDED TO THE APPROPRIATE DISCIPLINES REPRESENTATIVE.

UTILITIES NOTES

PRIOR TO STARTING ANY SITE SANITARY SEWER WORK, CONTRACTOR MUST VERIFY BUILDING SANITARY SEWER OUTLET AND COORDINATE WITH BUILDING PLUMBING CONTRACTOR TO ENSURE POSITIVE FLOW

ALL LENGTHS SHOWN ON PLAN ARE APPROXIMATE AND DO NOT LIMIT THE CONTRACTORS RESPONSIBILITY FOR COMPLETE AND USEABLE FACILITIES.

CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL EXISTING WATER LINES BEFORE PROCEEDING WITH WORK.

CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL WASTE WATER LINE BEFORE PROCEEDING WITH WORK.

CONTRACTOR TO ACQUIRE GPS COORDINATES ON ALL BENDS, TEES, AND OTHER APPURTENANCES BEFORE BACK FILL CAN OCCUR ON WATER AND WASTEWATER LINE.

CONTRACTOR SHALL ENSURE FINAL ELEVATION OF ALL VALVE COVERS IS AT FINISHED GRADE OF ASPHALT OR CONCRETE AREAS.

CONTRACTOR SHALL COMPLY WITH CITY OF BRADY INSPECTIONS, LINE LOADING, AND LINE TESTING SHALL ALL BE DONE IN ACCORDANCE WITH CITY OF AUSTIN STANDARDS.

AN ACCURATE AS-BUILT DRAWING SHALL BE COMPLETED AND SUBMITTED TO THE ENGINEER IN BOTH PAPER AND PDF FORMAT

A VALVE SHALL BE INSTALLED BETWEEN THE MAIN WATER LINE AND ANY APPURTENANCES TO ENSURE THE ABILITY TO ISOLATE THESE ITEMS IF NECESSARY FOR MAINTENANCE AND/OR REPAIR.

ALL WATER LINES SHALL HAVE MARKER TAPE AND TRACE WIRE.

TRENCH EXCAVATION SAFETY NOTE

Contractor and/or Contractor's independently retained employee or structural design/geotechnical/safety/equipment consultant, if any, shall review these plans and available geotechnical information and the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies with as a minimum, OSHA Standards for trench excavations. Specifically, contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA Standards governing the presence and activities of individuals working in and around trench excavation.

FIRE SPRINKLER SUPPLY LINE NOTE

UNDERGROUND MAINS SUPPLYING NFPA 13 AUTOMATIC FIRE SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, NFPA 24 AND THE FIRE CODE BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR WITH A CITY OF NEW BRAUNFLES PLUMBING PERMIT FOR THE INSTALLATION. THE ENTIRE FIRE SERVICE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.

GPS NOTES

GPS POINTS FOR , WATER AND WASTEWATER ATTRIBUTES, SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION:
GPS POINTS SHALL BE REQUIRED FROM THE CONTRACTORS . A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE.

WATER:
VERTICAL BENDS AND EDGE OF STEEL CASTING (IF APPLICABLE) PRIOR TO BACKFILL HORIZONTAL BENDS PRIOR TO BACKFILL.
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL.
FIRE HYDRANTS (TOP OF FLANGE)
VALVES
METERS (TOP OF CENTER OF BOX)
BLOW OFF ASSEMBLY
CORNER SLAB OF WATER TANK AND GATE VALVE ON WATER TANK

N

1 C4.4 UTILITY PLAN
SCALE 1" = 20'

20 0 20 40
SCALE: 1" = 20'

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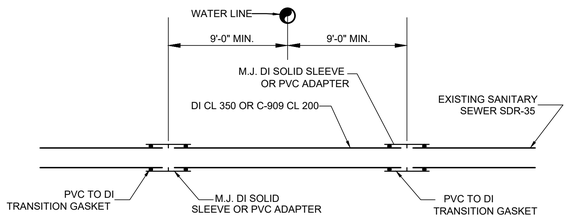
C4.4

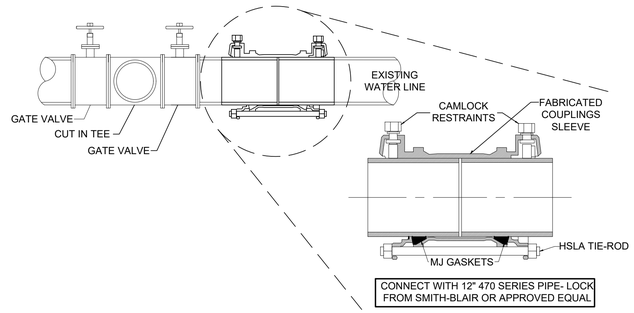
NOTES:

1. COMPLY WITH TCEQ RULES AND REGULATIONS OF SEPARATION OF WATER MAINS AND SEWER MAIN LINES SHOWN BELOW
2. PROVIDE AND CENTER ONE 20' JOINT OF THE SEWER PIPE ON WATERLINE USING DI OR PVC (150 PSI MIN.).



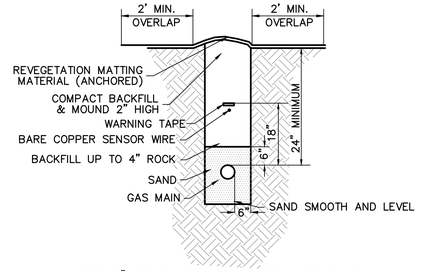
1 WATER/SEWER CROSSING DETAIL

C4.5 NOT TO SCALE



2 WATER CONNECTION DETAIL

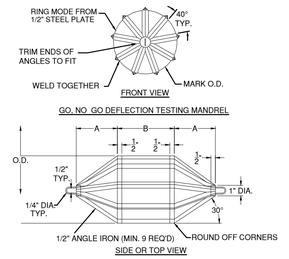
C4.5 NOT TO SCALE



NOTE: 2" MOUND AND REVEGETATION MATTING NOT REQUIRED UNDER PAVEMENT OR FLATWORK.

3 UNDERGROUND GAS MAIN TRENCH

C4.5 NOT TO SCALE

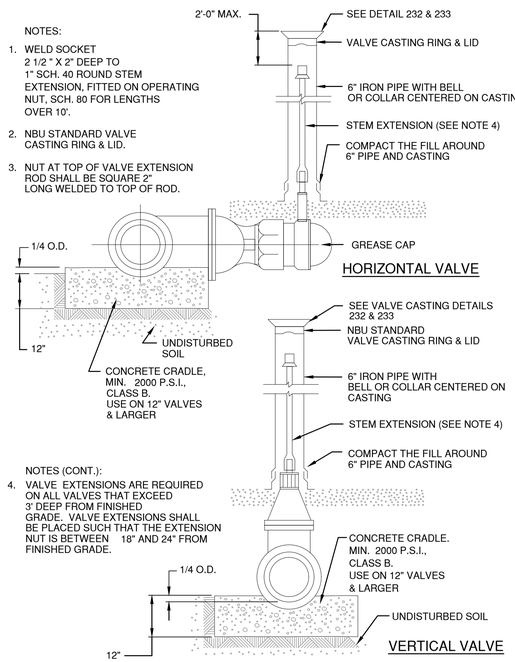


4 GO, NO GO TESTING MANDREL

C4.5 NOT TO SCALE

NOTES:

1. WELD SOCKET 2 1/2 " X 2" DEEP TO 1" SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT, SCH. 80 FOR LENGTHS OVER 10'.
2. NBU STANDARD VALVE CASTING RING & LID.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.

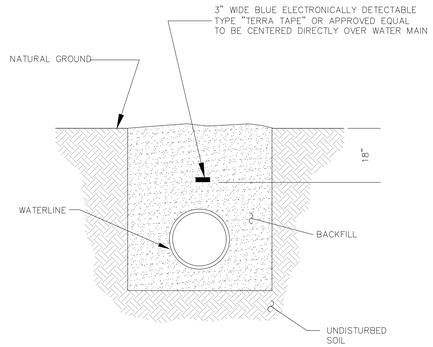


NOTES (CONT.):

4. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 18" AND 24" FROM FINISHED GRADE.

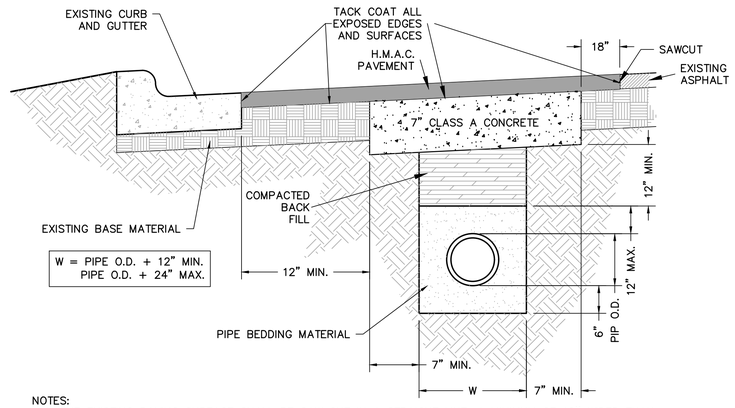
5 TYPICAL GATE VALVE

C4.5 NOT TO SCALE



6 WATERLINE SURFACE IDENTIFICATION

C4.5 NOT TO SCALE



NOTES:

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH AND SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
3. ROAD BASE SHALL BE REPLACED IN KIND WITH BASE THICKNESS EQUAL TO EXISTING BASE THICKNESS PLUS 3", BUT IN NO CASE LESS THAN 12".
4. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A BASE THICKNESS OF 10" OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
5. REPLACEMENT AC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   a) MIN. 2" HMAC TYPE "D" FOR TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
   b) MIN. 3" HMAC TYPE "C" FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS.
6. CLASS "J" PC CONCRETE TXDOT ITEM 403 OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE SUBSTITUTED IN THESE REPAIRS FOR THE FLEXIBLE BASE AND COMPACTED BACKFILL. PC CONCRETE GREATER THAN A 2 SACK MIX WILL NOT BE ALLOWED.

7 H.M.A.C. STREET REPAIR

C4.5 NOT TO SCALE

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VICTOR MANUEL GIL
94994
LICENSED PROFESSIONAL ENGINEER
4-4-2019

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Bond 2018
Brady, Texas

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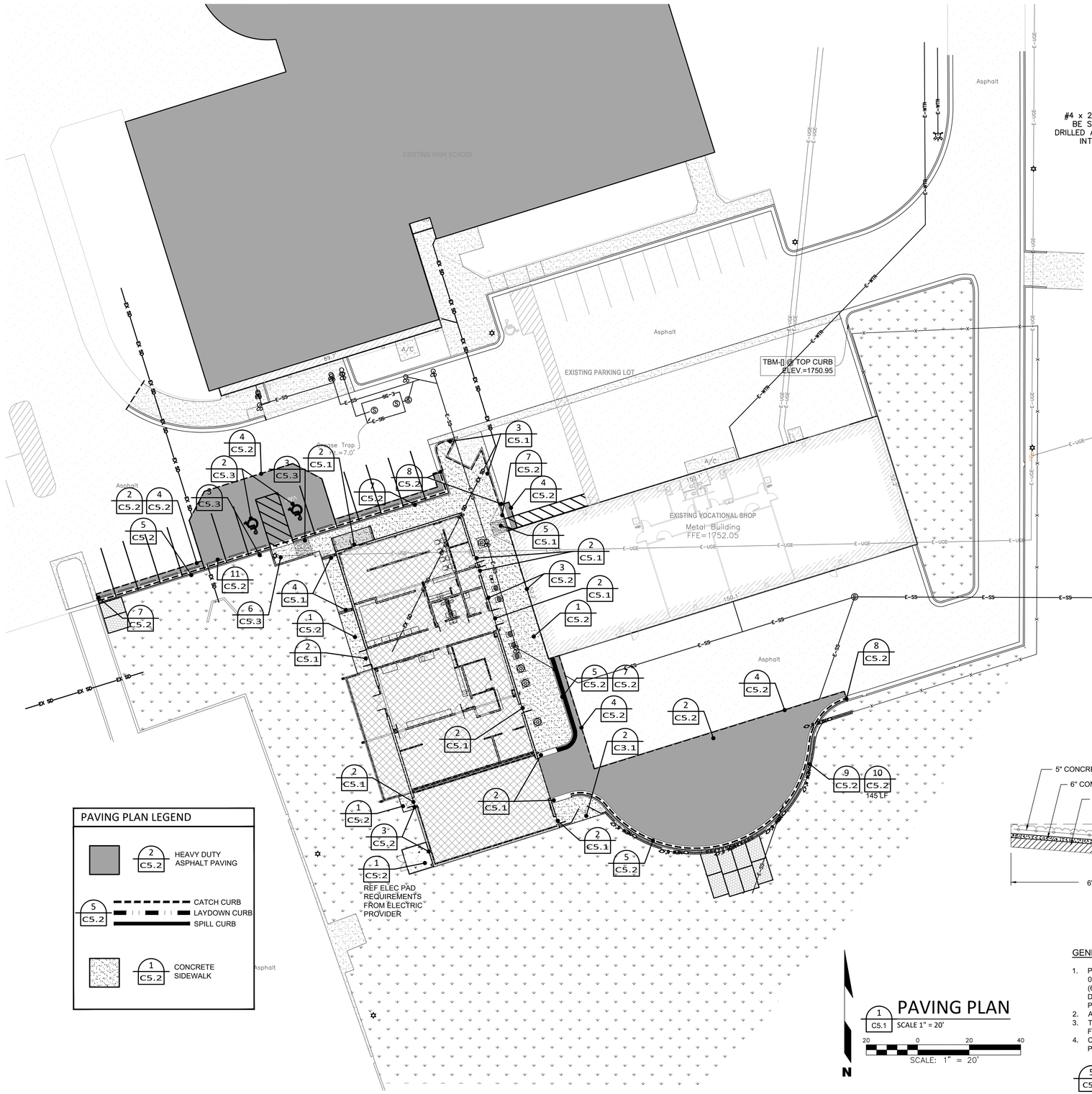
Sheet Number
C4.5



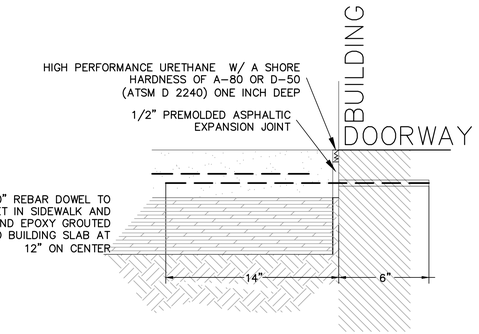
PAVING PLAN LEGEND

- 2 C5.2 — HEAVY DUTY ASPHALT PAVING
- 5 C5.2 — CATCH CURB / LAYDOWN CURB / SPILL CURB
- 1 C5.2 — CONCRETE SIDEWALK

PAVING PLAN

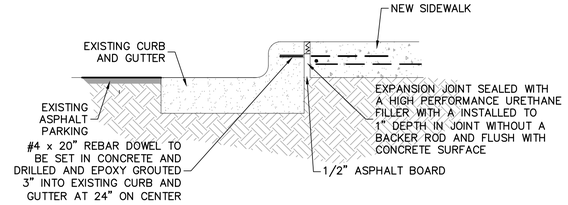
1 C5.1 SCALE 1" = 20'

SCALE: 1" = 20'



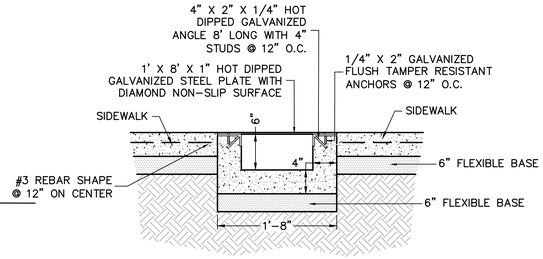
SIDEWALK AT DOORWAY

2 C5.1 NOT TO SCALE



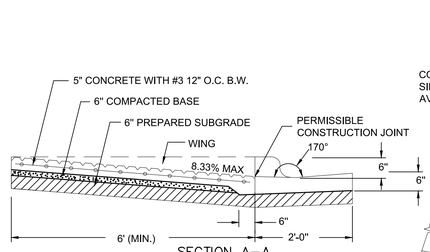
SIDEWALK MATCH AT EXISTING CURB

3 C5.1 NOT TO SCALE

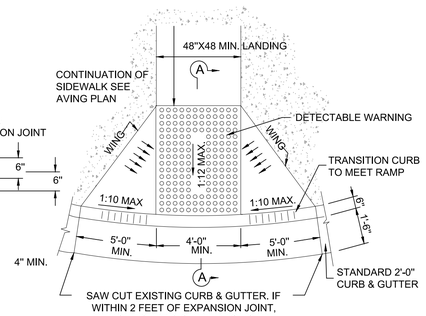


SIDEWALK THROUGH DRAIN

4 C5.1 NOT TO SCALE



SECTION A–A



PLAN

GENERAL NOTES:

1. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9 IN. (23MM), A HEIGHT OF NOMINAL 0.2 IN. (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN. (60MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (RE: ADA SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
2. AREA OF RAMP TO INCLUDE CONTRASTING COLOR DOES NOT HAVE TO INCLUDE THE WINGS.
3. TYPICAL SIDEWALK WIDTHS AND CURB RADII SHOWN FOR ILLUSTRATION. REFER TO TRANSPORTATION MANUAL FOR SIDEWALK WIDTHS, CURB RADII, AND CURB BASIS.
4. CURB RAMPS WITHOUT WINGS SHALL ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK PERPENDICULAR ACROSS THE RAMP.

HANDICAPPED RAMP DETAIL

5 C5.1 NOT TO SCALE

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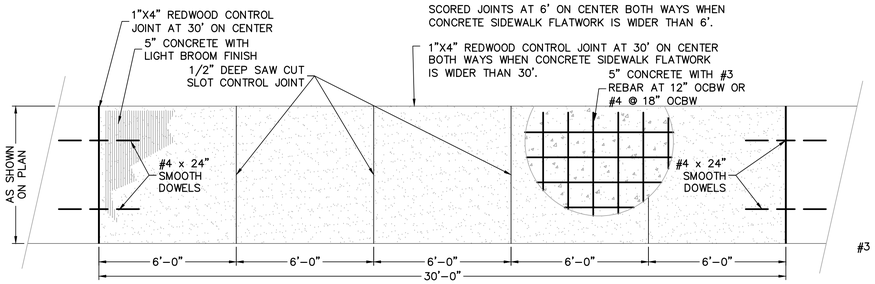
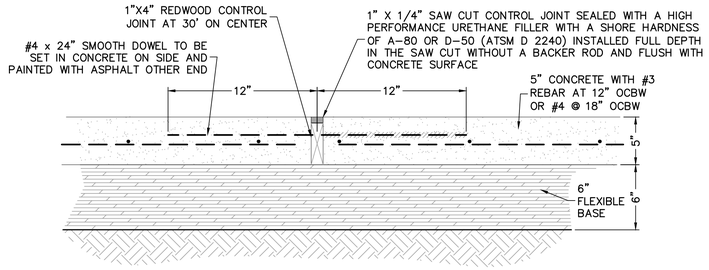
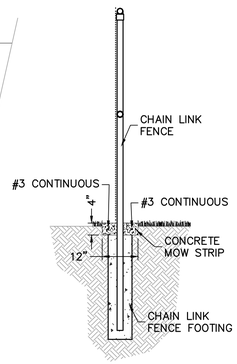
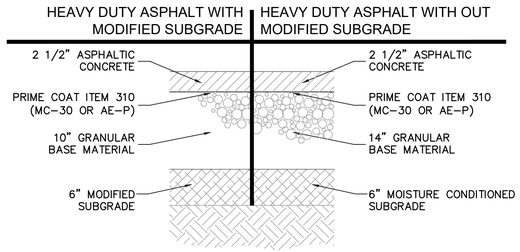




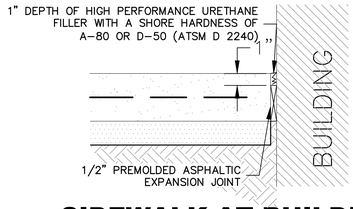
1 C5.2 SIDEWALK DETAIL
NOT TO SCALE



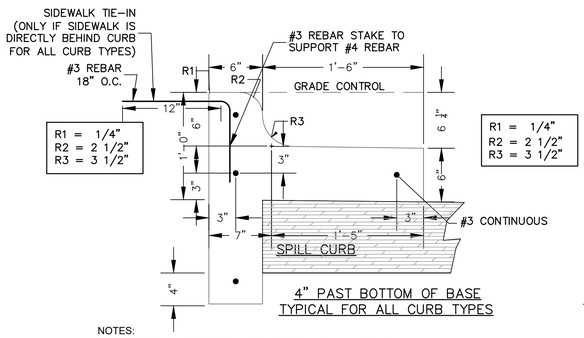
9 C5.2 CHAINLINK MOW STRIP DETAIL
NOT TO SCALE

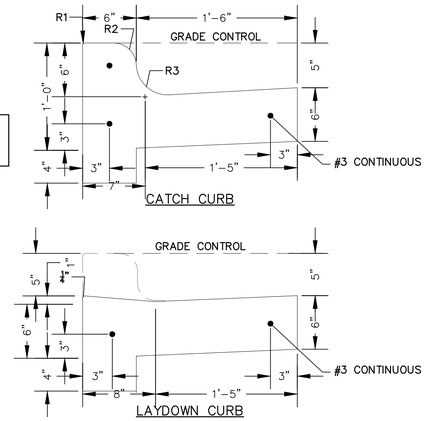


2 C5.2 H.M.A.C.(HEAVY DUTY) PAVEMENT SECTION
NOT TO SCALE



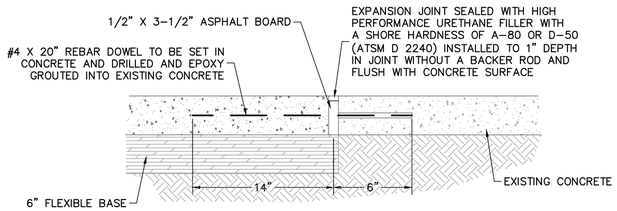
3 C5.2 SIDEWALK AT BUILDING
NOT TO SCALE



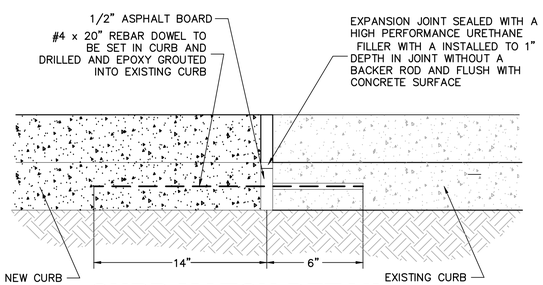


NOTES:
1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMER TOOLED OR SAWED CONTRACTION JOINTS AT ±10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GRATER THAN 120; AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

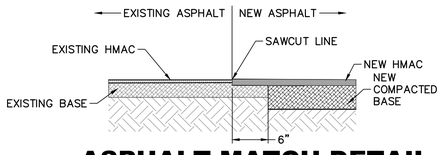
5 C5.2 CURB AND GUTTER SECTION
NOT TO SCALE



6 C5.2 SIDEWALK TO EXISTING CONCRETE
NOT TO SCALE



8 C5.2 CURB MATCH DETAIL
NOT TO SCALE



4 C5.2 ASPHALT MATCH DETAIL
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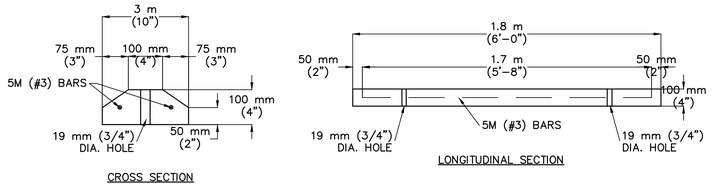

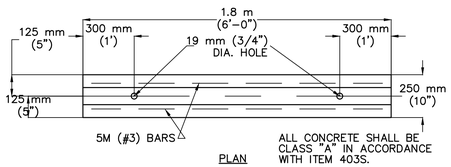

11 C5.2 PARKING LOT BUMPER CURB
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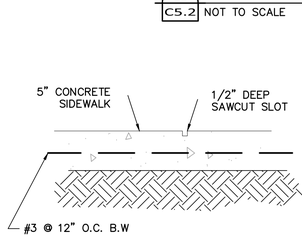

8 C5.2 SAWCUT SECTION
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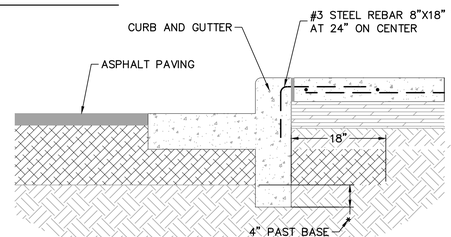
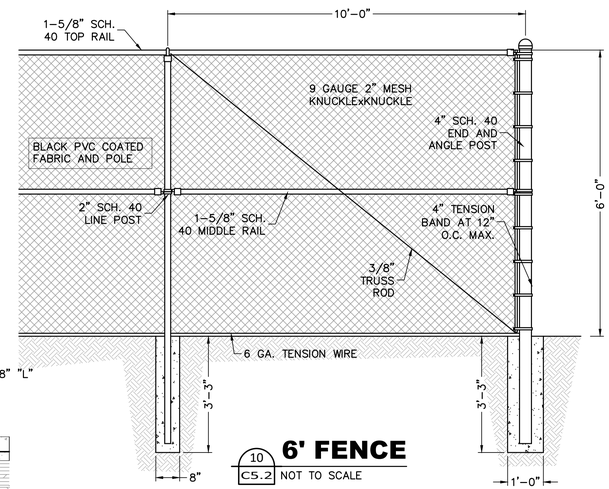


7 C5.2 SIDEWALK TO CURB CONNECTION
NOT TO SCALE



10 C5.2 6' FENCE
NOT TO SCALE

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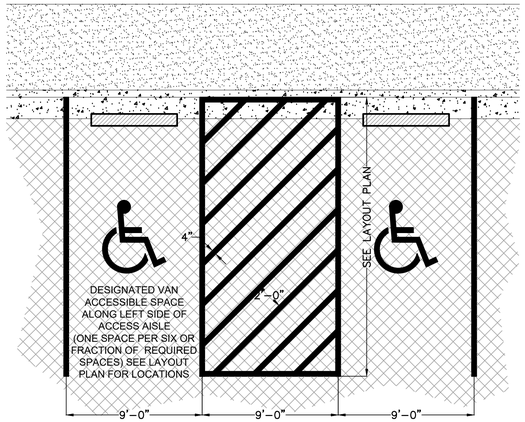
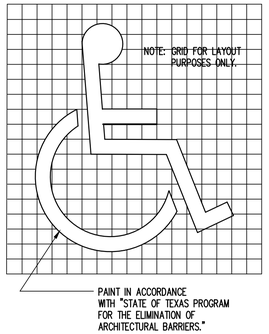


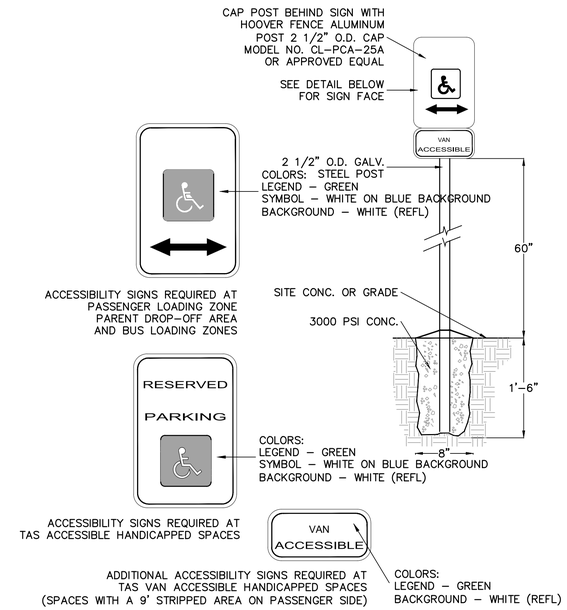
1 C5.3 TYPICAL HANDICAPPED PARKING LAYOUT

NOT TO SCALE



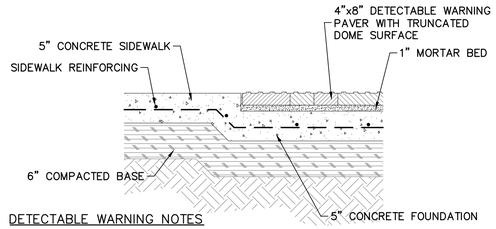
2 C5.3 SITE HANDICAPPED SYMBOL

NOT TO SCALE



3 C5.3 SITE HANDICAPPED SIGN

NOT TO SCALE

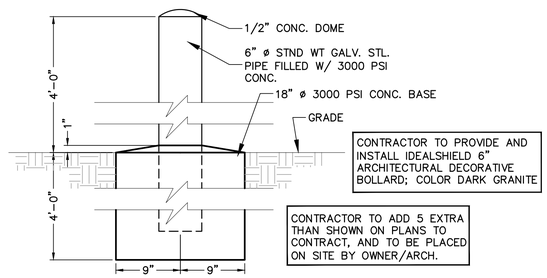


DETECTABLE WARNING NOTES

1. CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE WHAT CONSISTS OF USED TRUNCATED DOME COMPLYING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARE. FURNISH DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 10" FROM THE EXTENSION OF THE FACE OF CURB. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. FURNISH DETECTABLE WARNING PAVER UNITS MEETING ALL REQUIREMENTS OF ASTM C-936, C-33. LAY IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS DIRECTED.
7. LAY FULL-SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25 PERCENT OF A FULL UNIT. CUT DETECTABLE WARNING PAVER UNITS USING A POWER SAW.

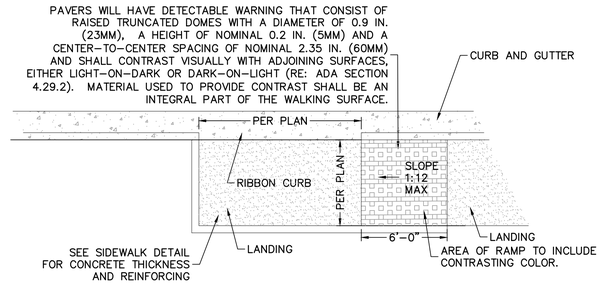
4 C5.3 DETECTABLE WARNING PAVER

SCALE: 1"= 1'-0



5 C5.3 BOLLARD DETAIL

NOT TO SCALE



6 C5.3 HANDICAPPED RAMP

NOT TO SCALE

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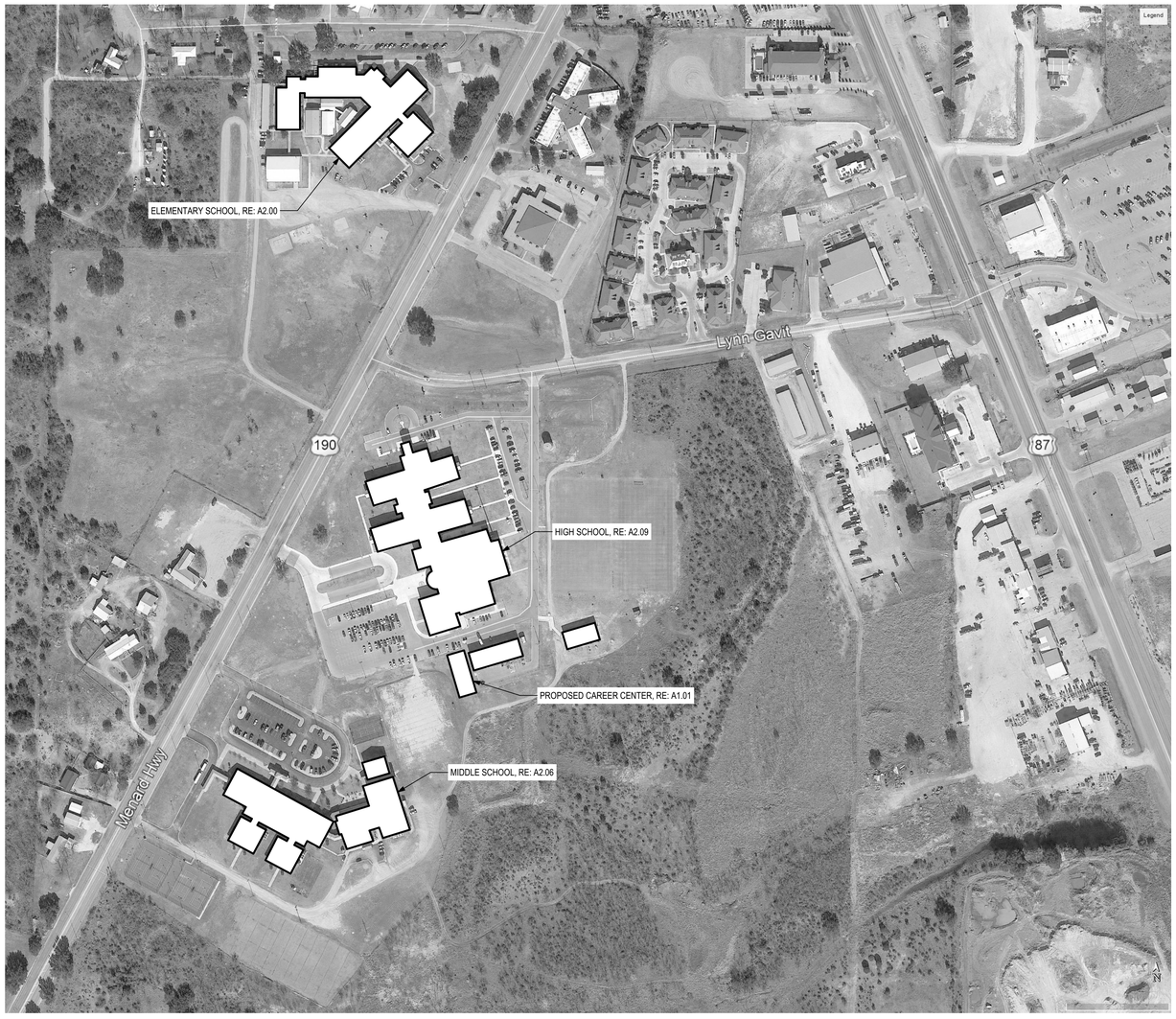
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



1 DISTRICT PLAN
SCALE: 1" =200'

N

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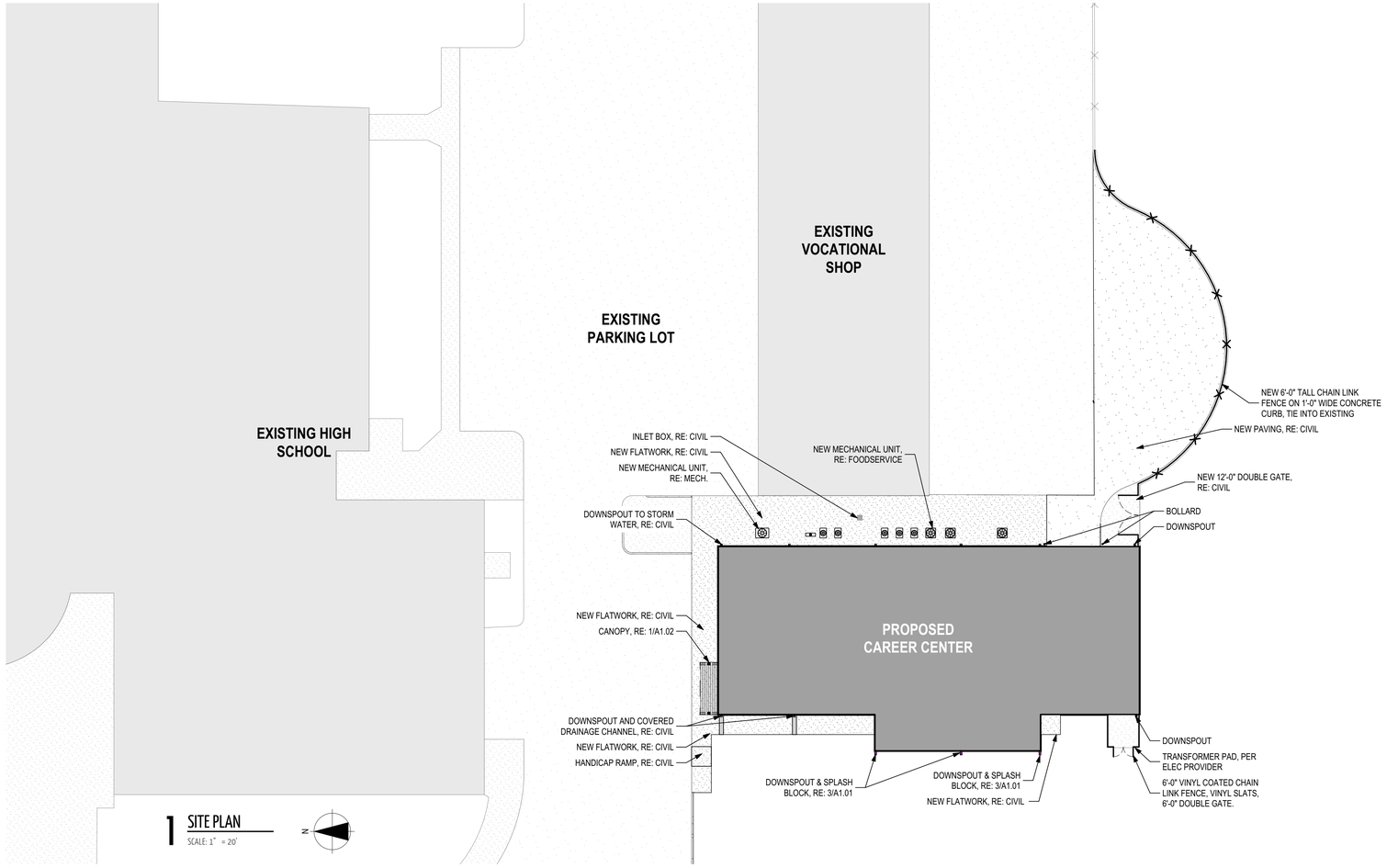
Revision:

Project Number
1703

Date:
4/4/2019

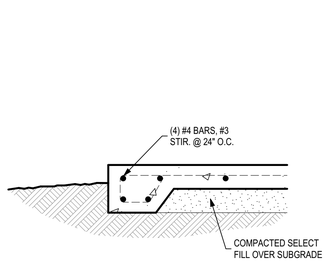
Sheet Number

OVERALL SITE PLAN A1.00



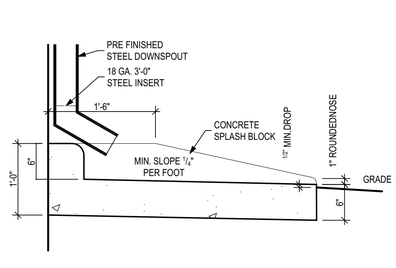
1 SITE PLAN

SCALE: 1" = 20'



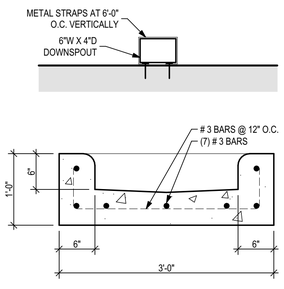
2 MECHANICAL PAD, TYP.

SCALE: 1" = 1'-0"



3 DOWNSPOUT WITH SPLASH BLOCK

SCALE: 1" = 1'-0"



GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

SITE PLAN LEGEND

- EXISTING BUILDING
- EXISTING PAVING
- EXISTING FLATWORK
- NEW BUILDING
- NEW CANOPY
- NEW PAVING
- NEW FLATWORK

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Date:
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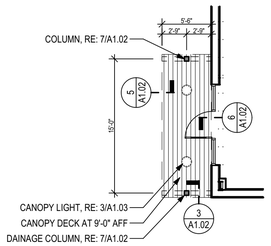
Sheet Number

SITE PLAN & DETAILS A1.01

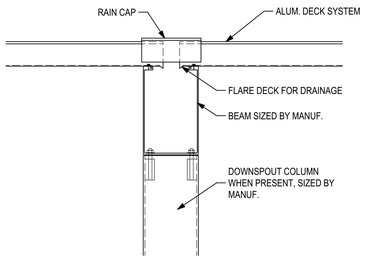
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



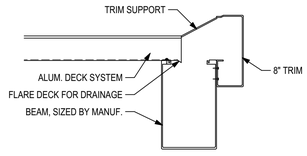
1 CANOPY 'B' PLAN

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



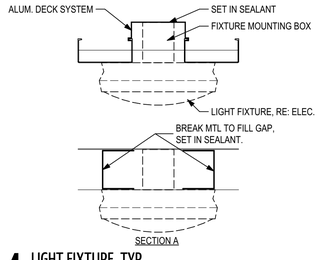
2 COLUMN & BEAM, TYP.

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



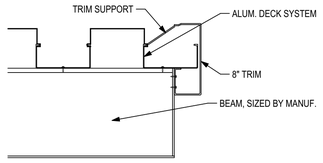
3 END TRIM, TYP.

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



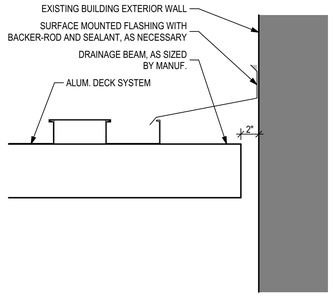
4 LIGHT FIXTURE, TYP.

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



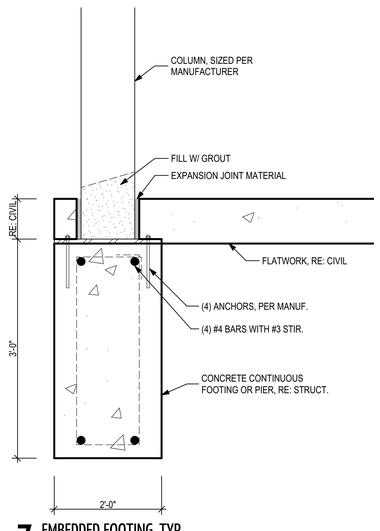
5 END TRIM

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



6 FLASHING AT BUILDINGS

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



7 EMBEDDED FOOTING, TYP.

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

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Revision:

Project Number
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Date:
4/4/2019

Sheet Number

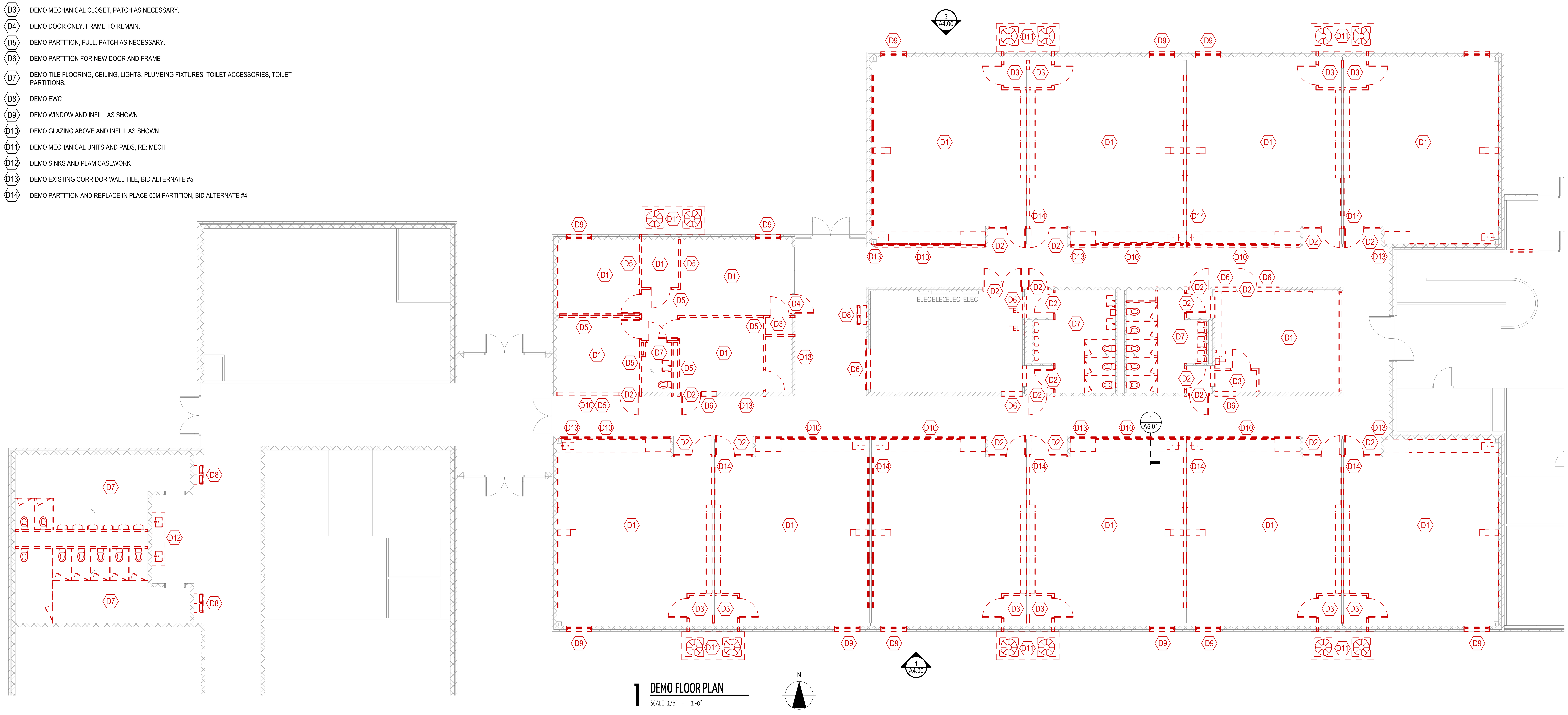
CANOPY PLANS & DETAILS A1.02

DEMOLITION KEYED NOTES

- D1 — DEMO VCT FLOORING, ACOUSTIC TILE CEILING, LIGHTS, CASEWORK, MARKERBOARDS, TACKBOARDS, LOCKERS, WALL MOUNTED CONDUIT.
- D2 — DEMO DOOR AND FRAME. INFILL TO MATCH EXISTING PARTITION FOR PORTION NOT REPLACED WITH NEW DOOR AND FRAME.
- D3 — DEMO MECHANICAL CLOSET, PATCH AS NECESSARY.
- D4 — DEMO DOOR ONLY. FRAME TO REMAIN.
- D5 — DEMO PARTITION, FULL. PATCH AS NECESSARY.
- D6 — DEMO PARTITION FOR NEW DOOR AND FRAME
- D7 — DEMO TILE FLOORING, CEILING, LIGHTS, PLUMBING FIXTURES, TOILET ACCESSORIES, TOILET PARTITIONS.
- D8 — DEMO EWC
- D9 — DEMO WINDOW AND INFILL AS SHOWN
- D10 — DEMO GLAZING ABOVE AND INFILL AS SHOWN
- D11 — DEMO MECHANICAL UNITS AND PADS, RE: MECH
- D12 — DEMO SINKS AND PLAM CASEWORK
- D13 — DEMO EXISTING CORRIDOR WALL TILE, BID ALTERNATE #5
- D14 — DEMO PARTITION AND REPLACE IN PLACE 06M PARTITION, BID ALTERNATE #4

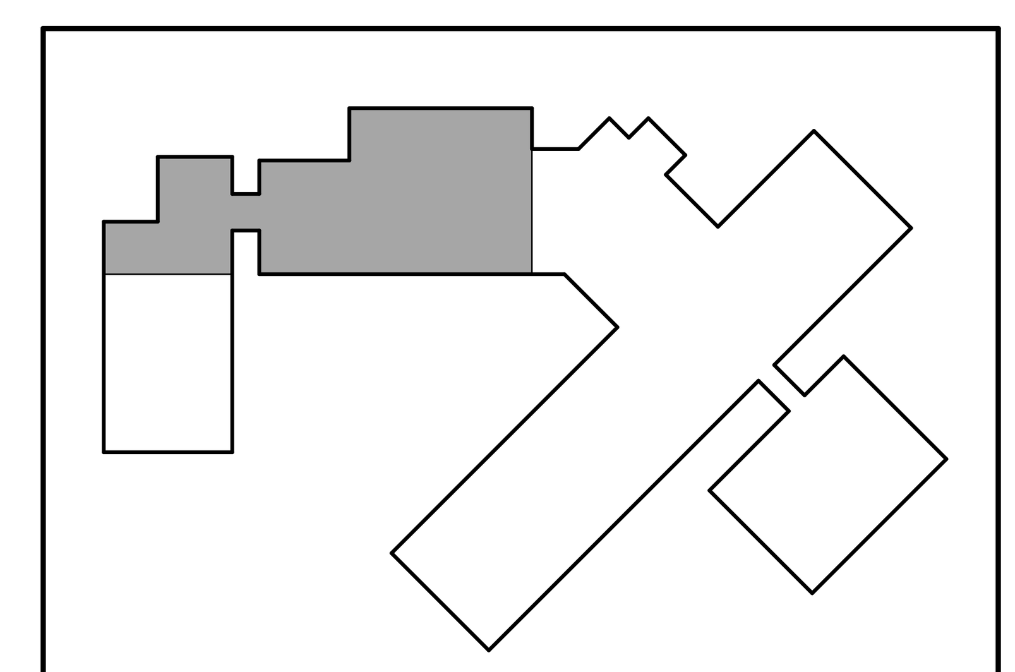
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



1 DEMO FLOOR PLAN
SCALE: 1/8" = 1'-0"

CORRIDOR WALLS, INTERIOR CORE: EXPOSED BRICK
CORRIDOR WALLS, OUTSIDE PERIMETER: TILE OVER CMU. SEE BID ALTERNATE #5.



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Revision:

Project Number
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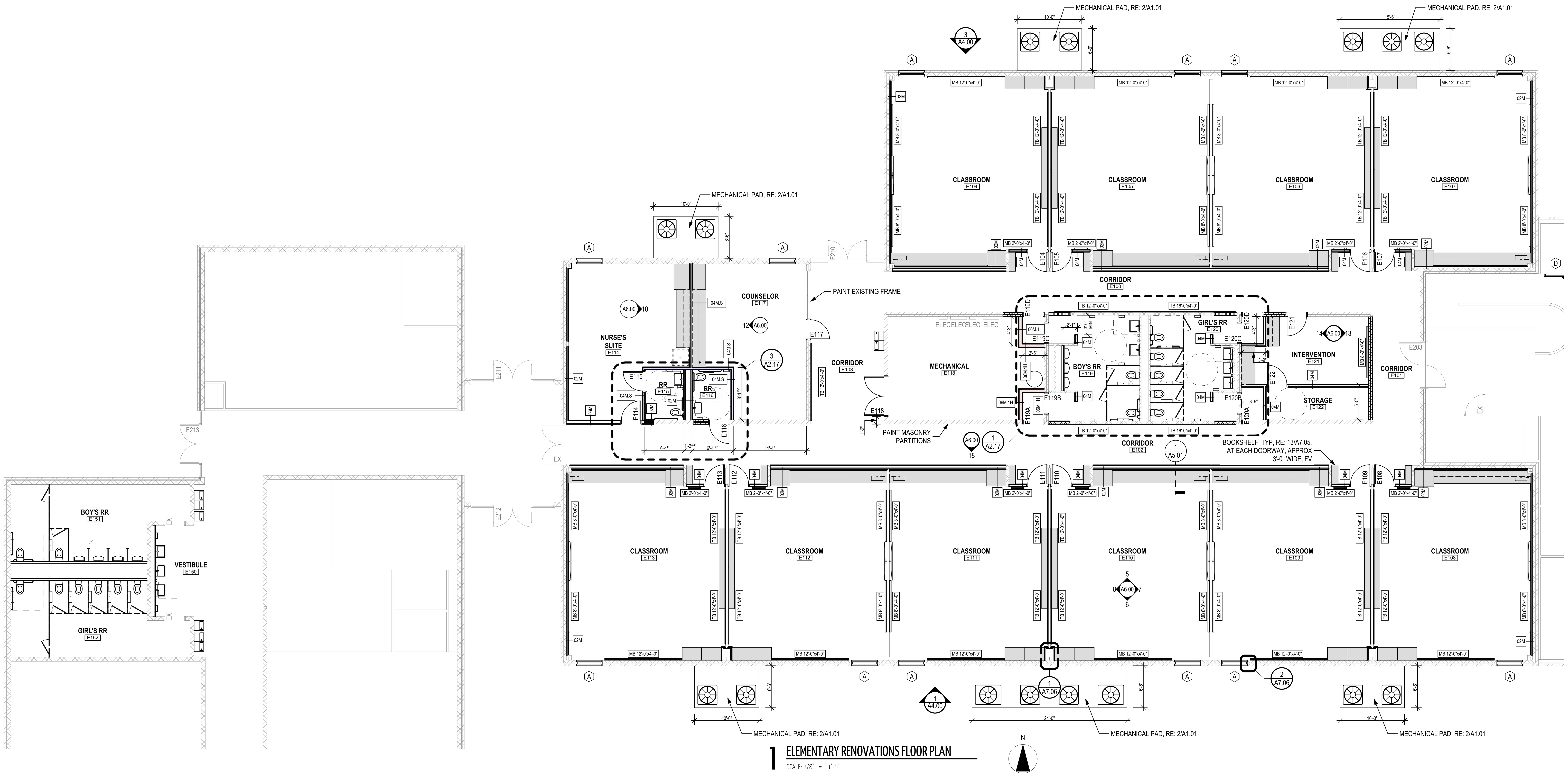
Date:
4/4/2019

Sheet Number

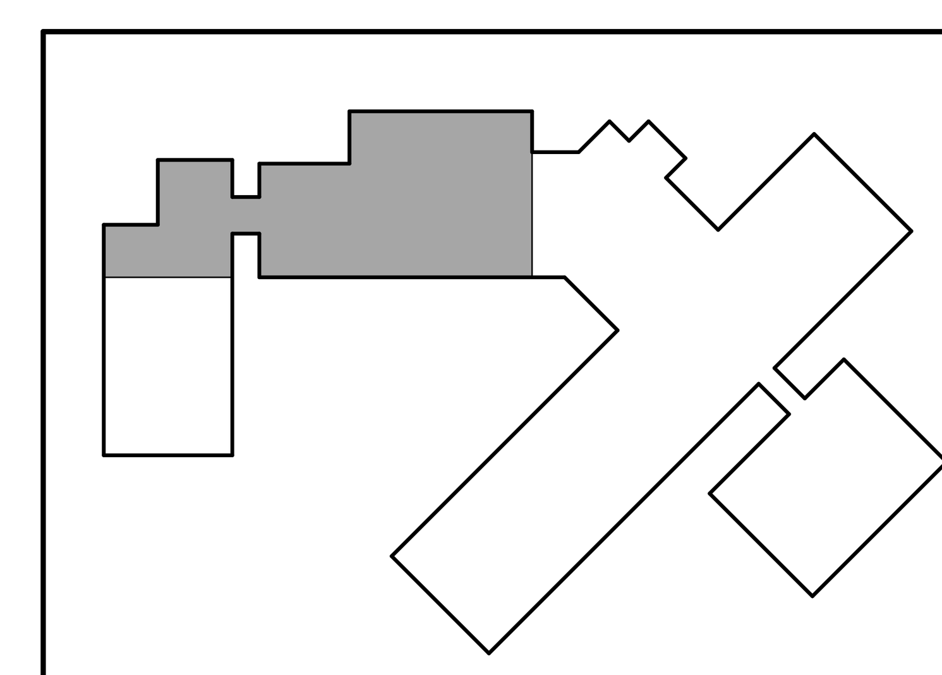
ELEMENTARY RENOVATIONS DEMO PLAN
A2.00

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE
REFER TO SHEET A7.04 FOR PARTITION SCHEDULE



1 ELEMENTARY RENOVATIONS FLOOR PLAN
SCALE: 1/8" = 1'-0"



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Revision:

Project Number
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Date:
4/4/2019

Sheet Number

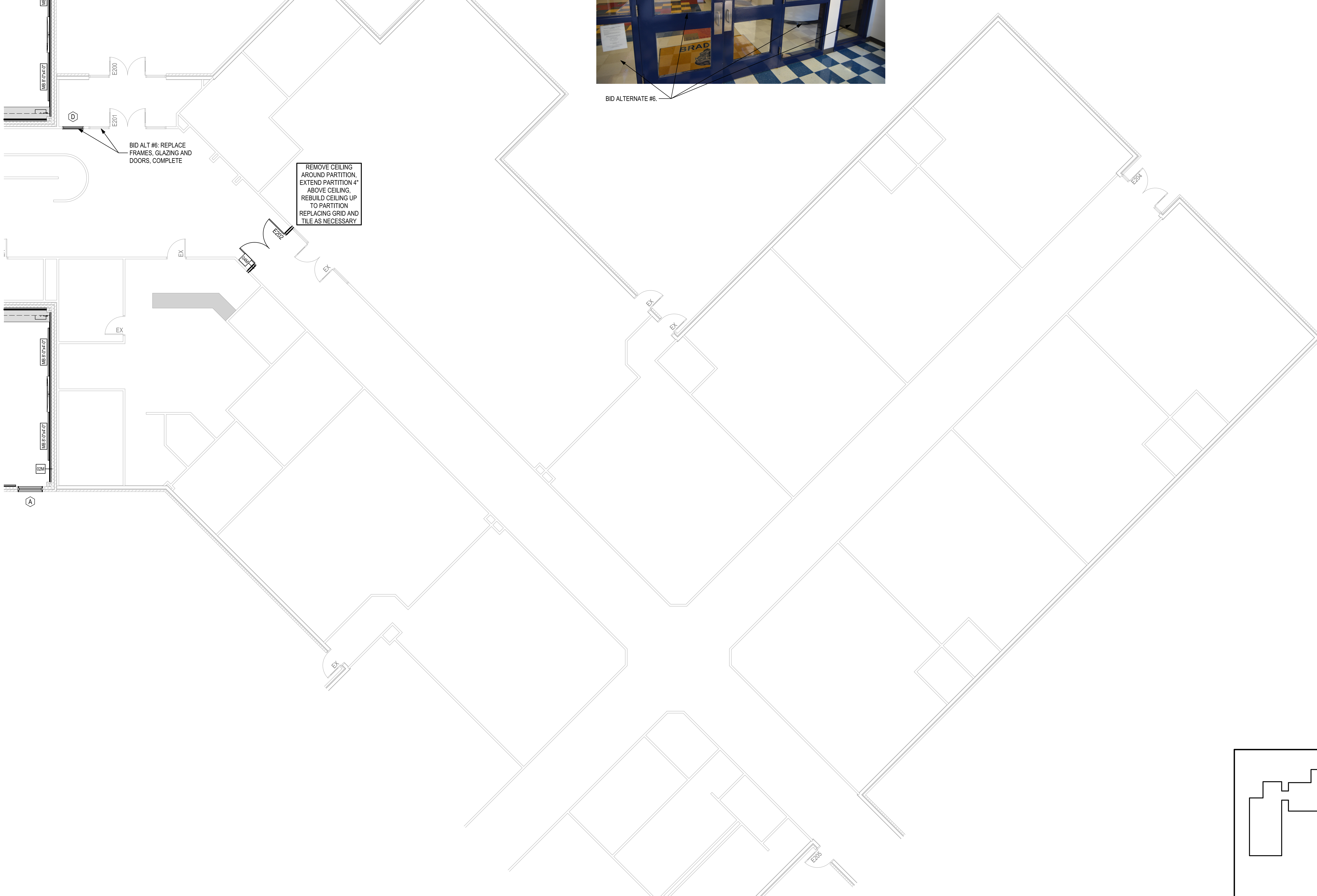
ELEMENTARY RENOVATIONS FLOOR PLAN

A2.01

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

BID ALTERNATE #6.



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

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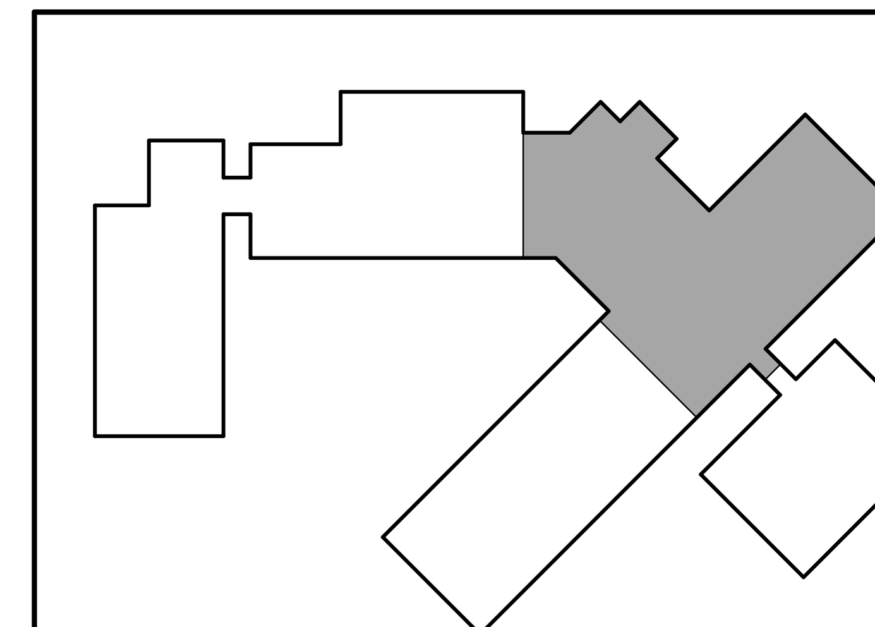

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Project Number
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Sheet Number

ELEMENTARY ACCESS DOORS PLAN

A2.02

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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

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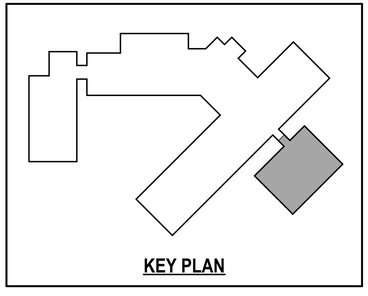

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Project Number
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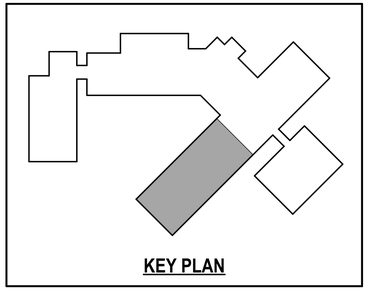
Sheet Number

ELEMENTARY ACCESS DOORS PLAN A2.03

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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



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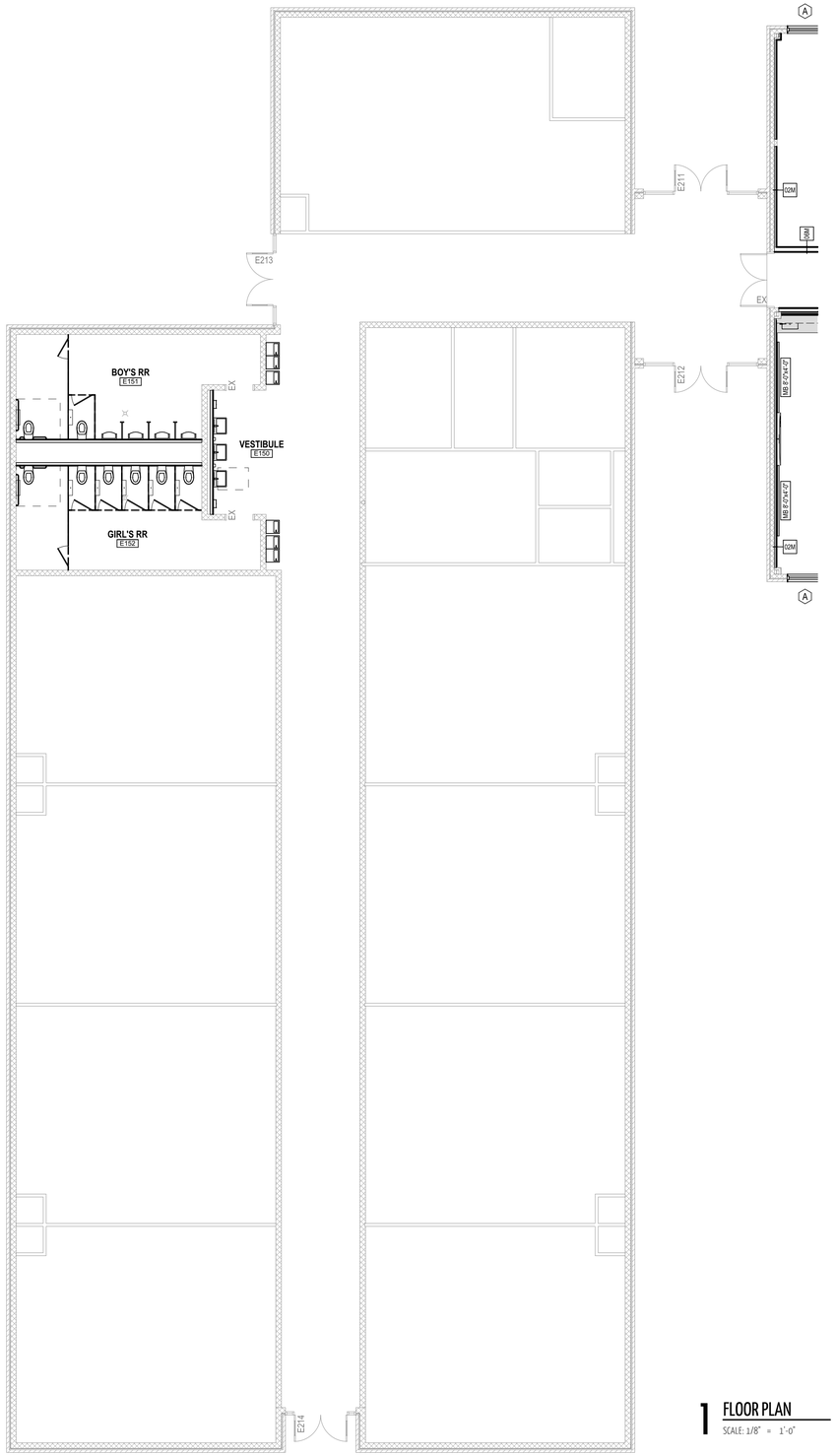
Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

ELEMENTARY ACCESS DOORS PLAN A2.04



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

N

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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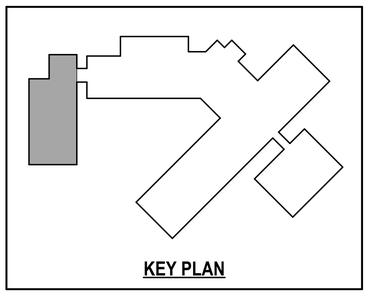

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

ELEMENTARY ACCESS DOORS PLAN

A2.05

GENERAL NOTES

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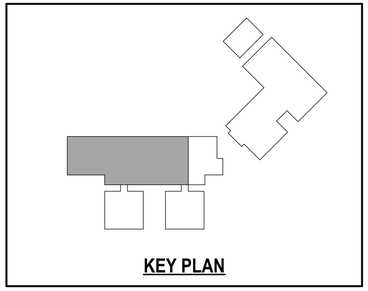
1 FLOOR PLAN

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



KEY PLAN

MIDDLE SCHOOL ACCESS DOORS PLAN

A2.06

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Sheet Number

GENERAL NOTES

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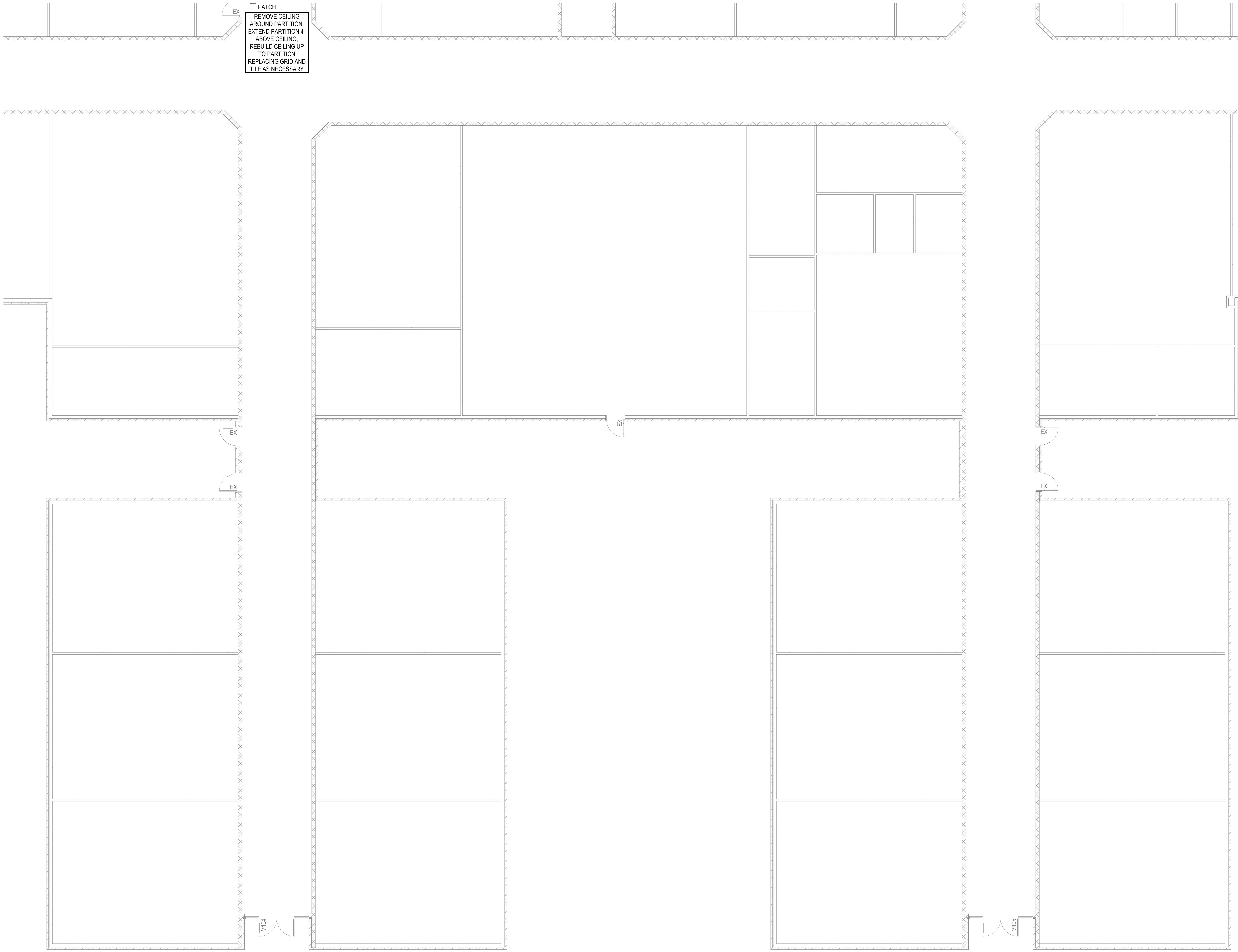

1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

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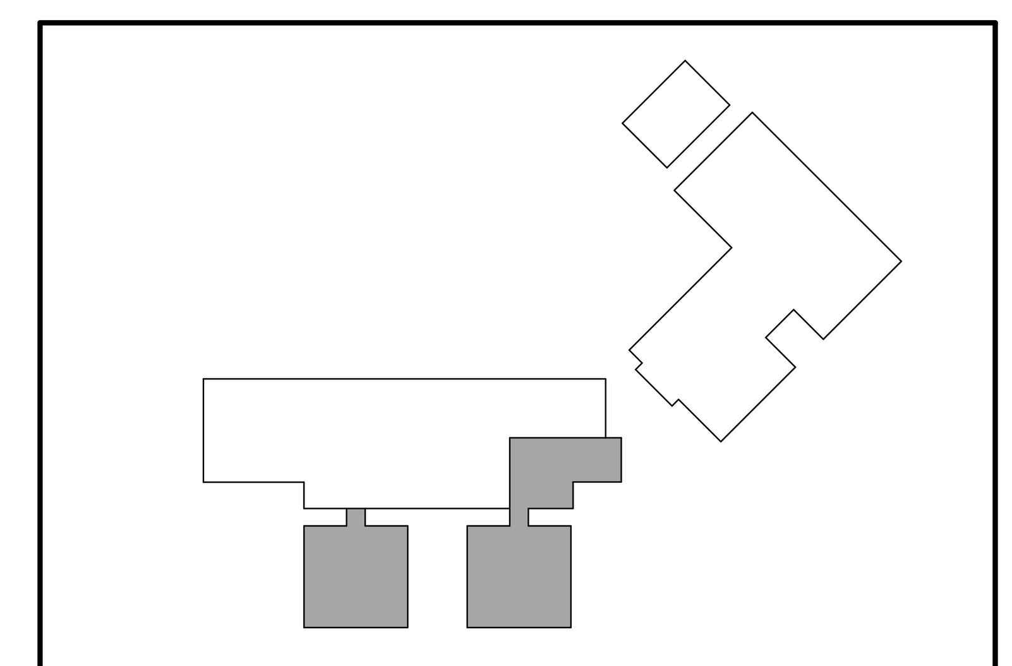

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BOND 2018 PROJECTS
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Revision:

Project Number
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Sheet Number

MIDDLE SCHOOL ACCESS DOORS PLAN

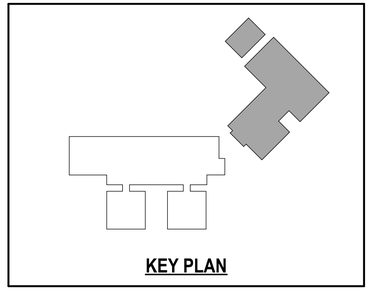
A2.07

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

2 FLOOR PLAN
SCALE: 1/8" = 1'-0"

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



MIDDLE SCHOOL ACCESS DOORS PLAN

A2.08

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GENERAL NOTES

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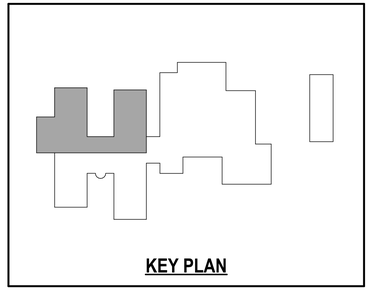
1 FLOOR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

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Brady Independent School District
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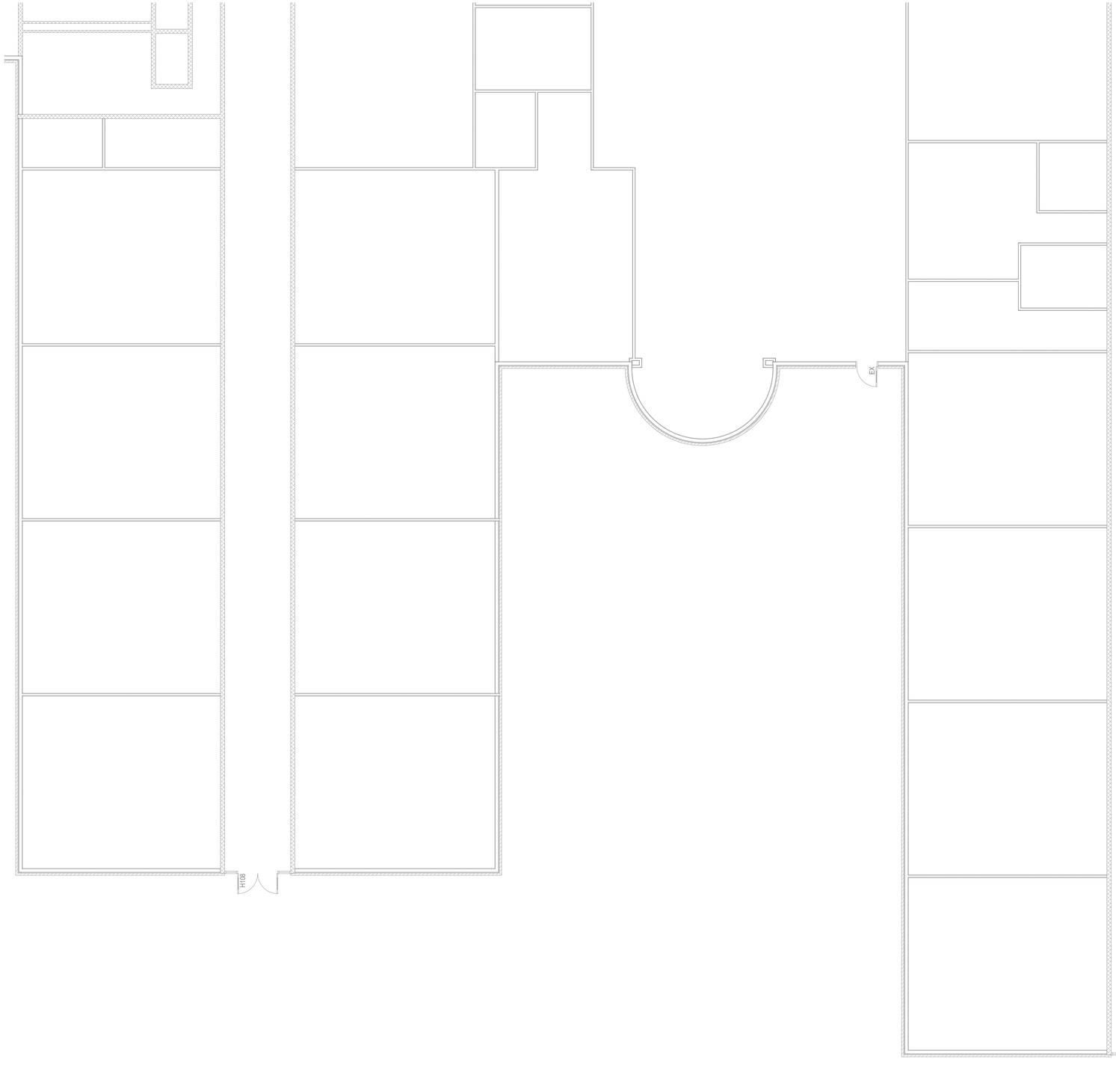
Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

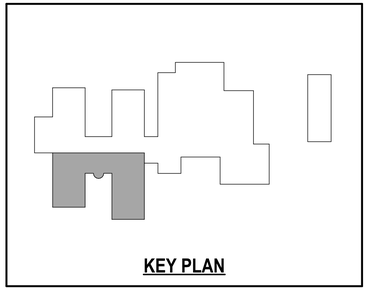
HIGH SCHOOL ACCESS DOORS PLAN A2.09



GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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



KEY PLAN

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Revision:

Project Number
1703

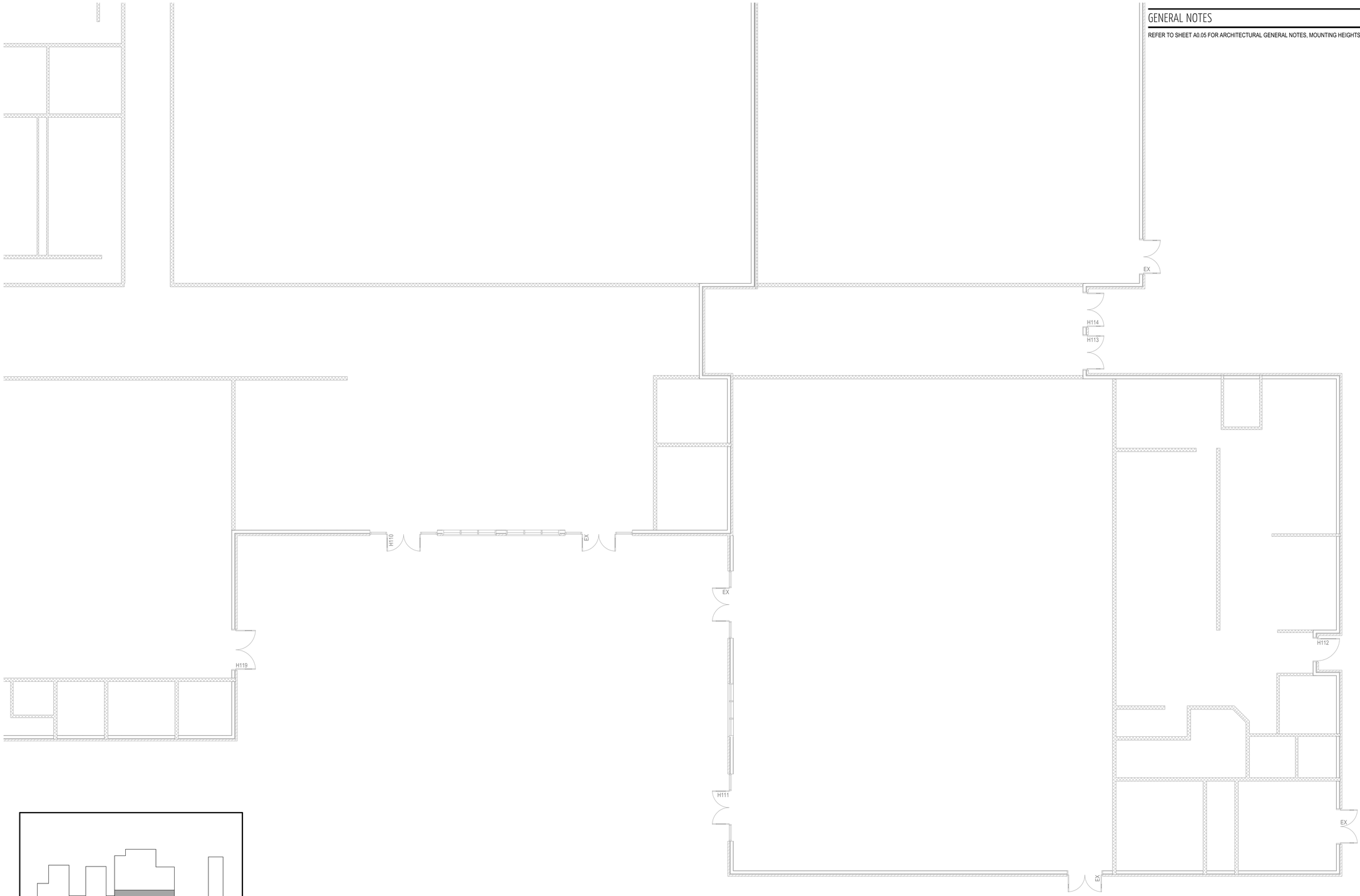
Date:
4/4/2019

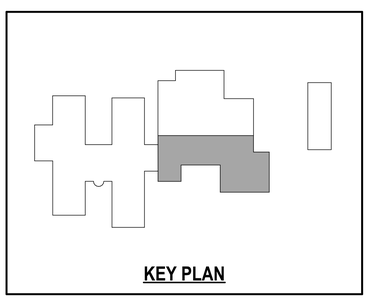
Sheet Number

HIGH SCHOOL ACCESS DOORS PLAN A2.10

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE





KEY PLAN

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

N

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Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

HIGH SCHOOL ACCESS DOORS PLAN A2.11

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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

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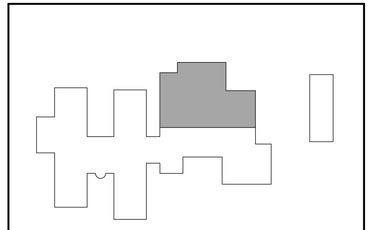

KEY PLAN

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Revision:

Project Number
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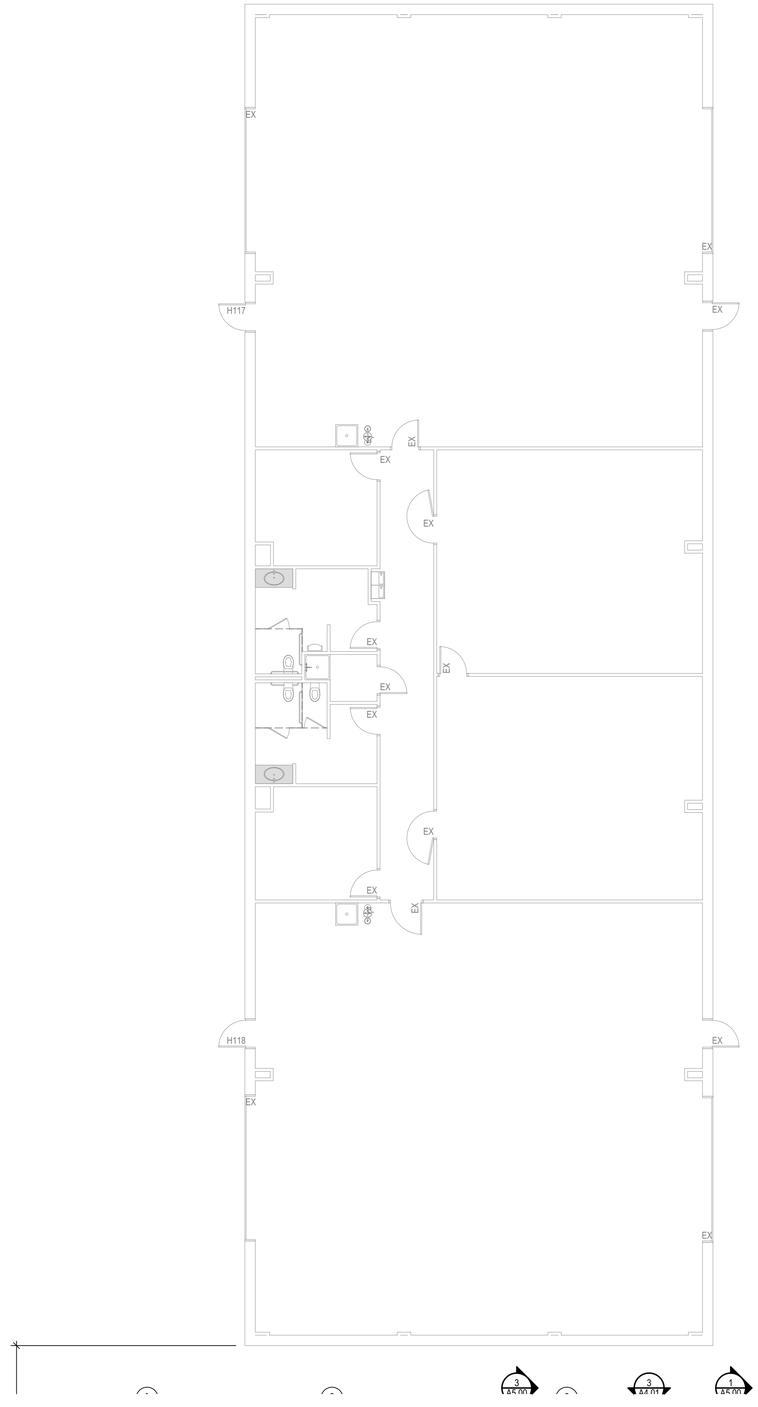
Date:
4/4/2019

Sheet Number

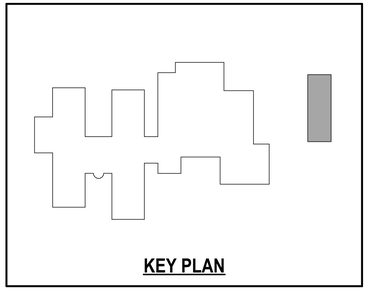
HIGH SCHOOL ACCESS DOORS PLAN A2.12

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



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



KEY PLAN

HIGH SCHOOL ACCESS DOORS PLAN

A2.13

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Revision:

Project Number
1703

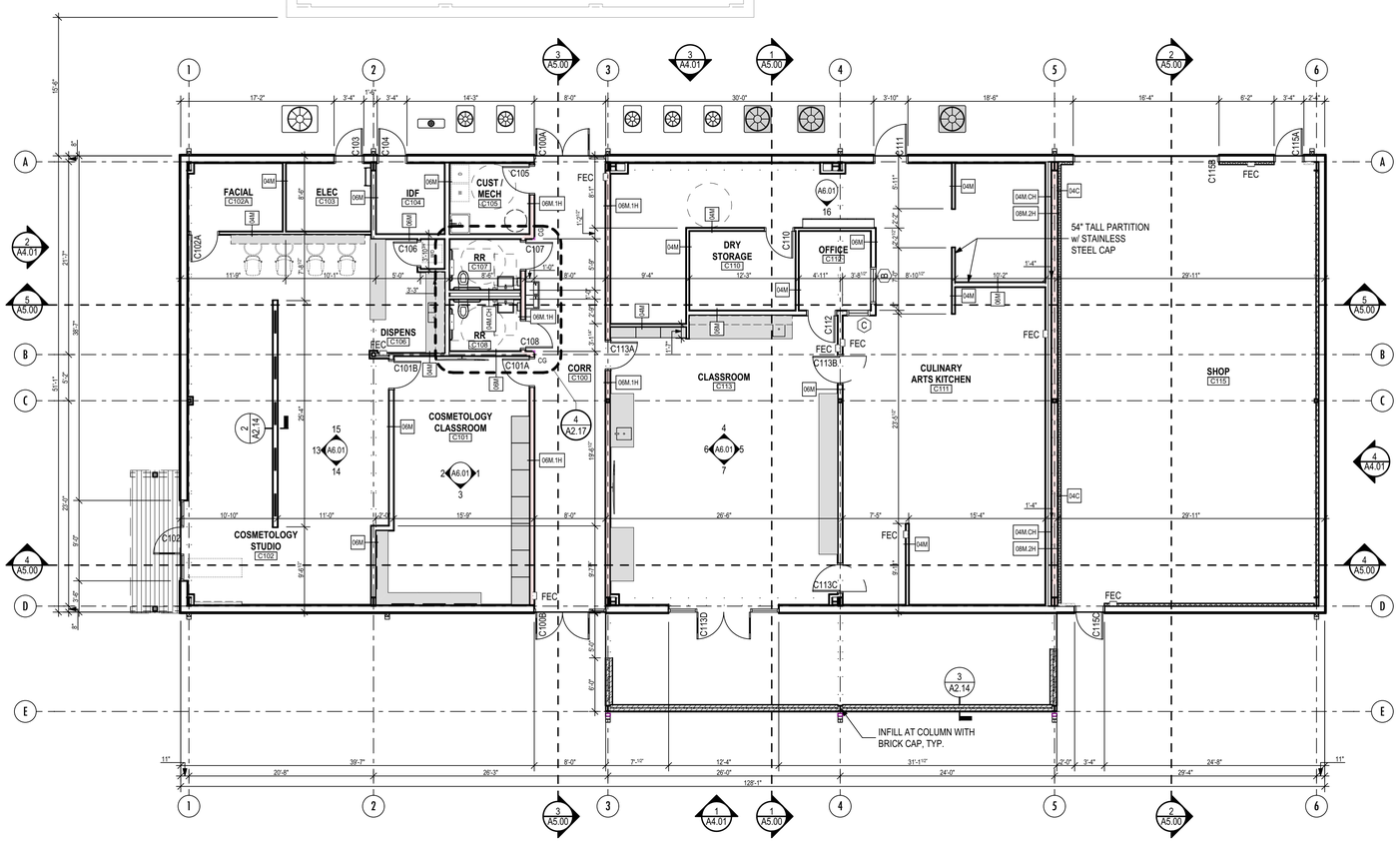
Date:
4/4/2019

Sheet Number

GENERAL NOTES

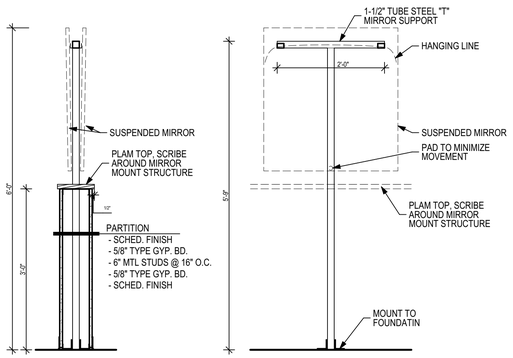
REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

REFER TO SHEET A7.04 FOR PARTITION SCHEDULE



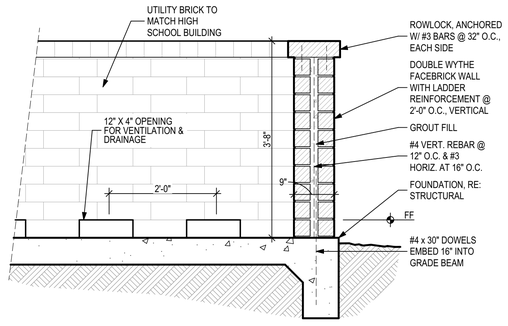
1 FLOOR PLAN

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



2 COSMETOLOGY HALF-WALL SECTION

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



3 PATIO SCREEN WALL

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

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Revision:

Project Number
1703

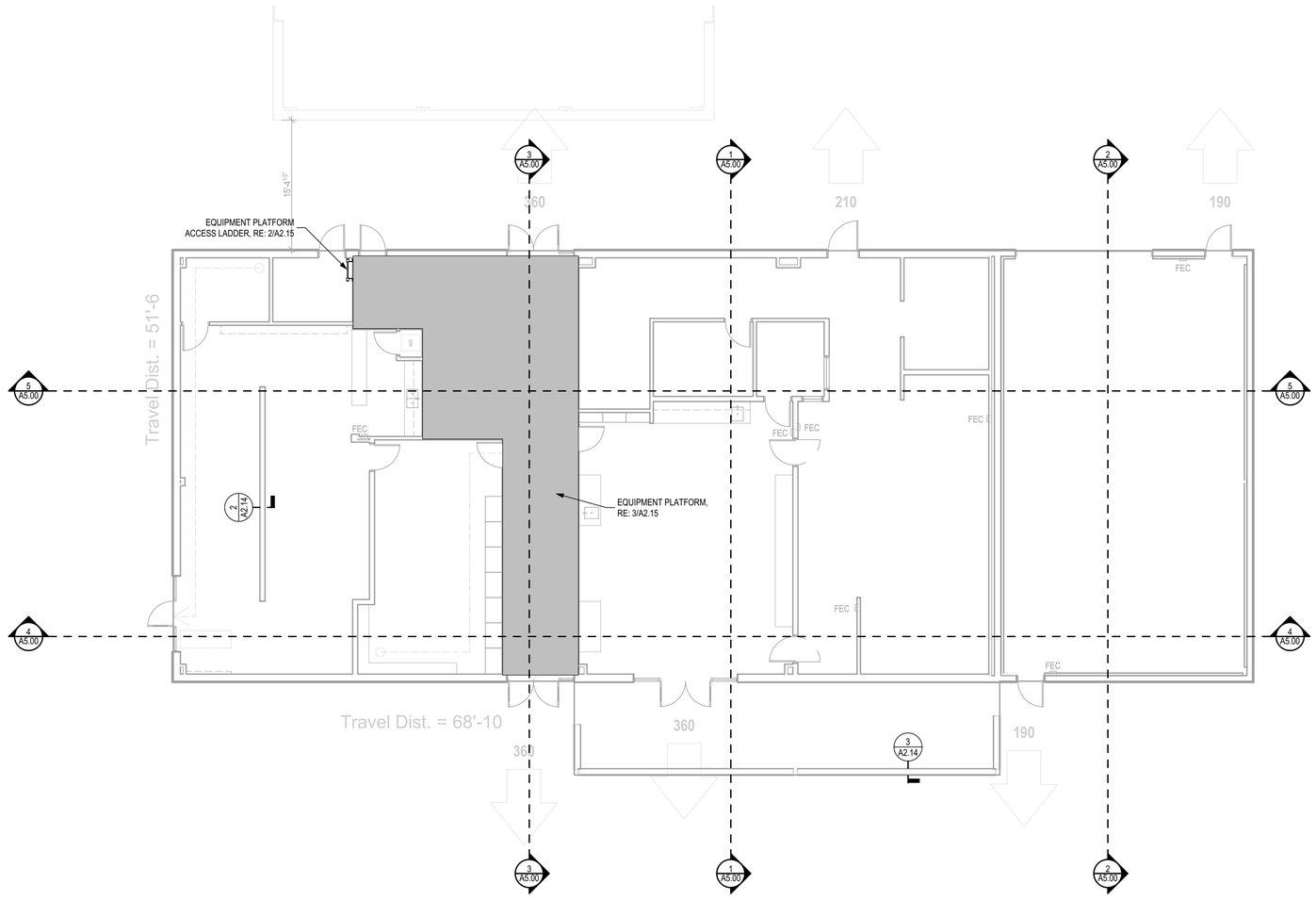
Date:
4/4/2019

Sheet Number

CAREER CENTER FLOOR PLAN A2.14

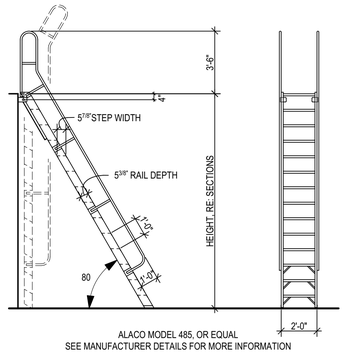
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



1 EQUIPMENT PLATFORM PLAN

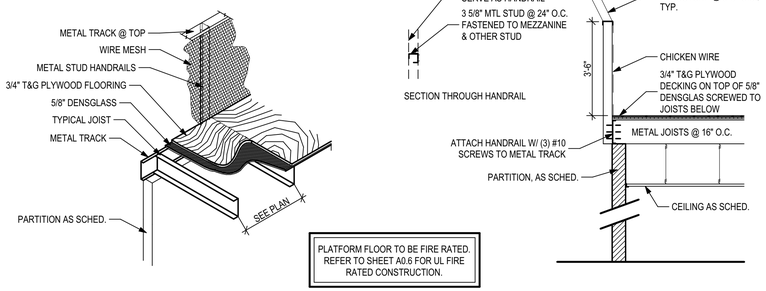
SCALE: 1/8" = 1'-0"



ALACO MODEL 485, OR EQUAL
SEE MANUFACTURER DETAILS FOR MORE INFORMATION

2 EQUIPMENT PLATFORM ACCESS LADDER, FOLDING

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



PLATFORM FLOOR TO BE FIRE RATED.
REFER TO SHEET A0.6 FOR UL FIRE
RATED CONSTRUCTION.

3 EQUIPMENT PLATFORM DETAIL

SCALE: 3/8" = 1'-0"

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Revision:

Project Number
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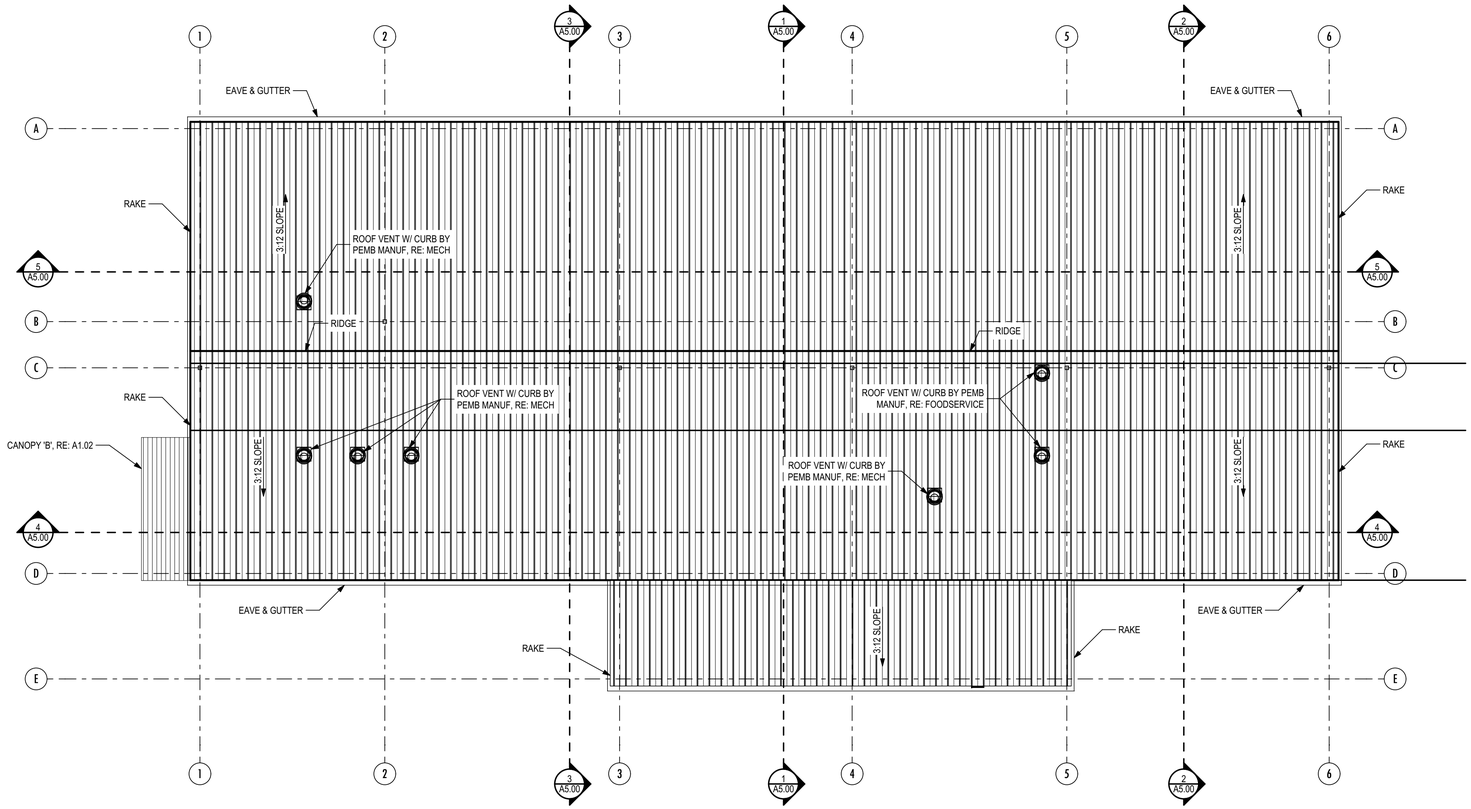
Sheet Number

CAREER CENTER EQUIPMENT PLATFORM PLAN A2.15

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



1 ROOF PLAN

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

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Revision:

Project Number
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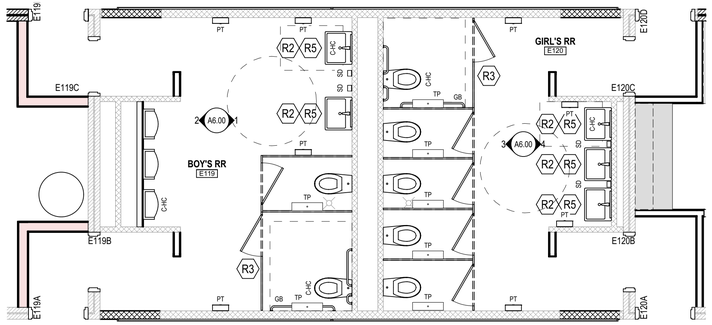
Date:
4/4/2019

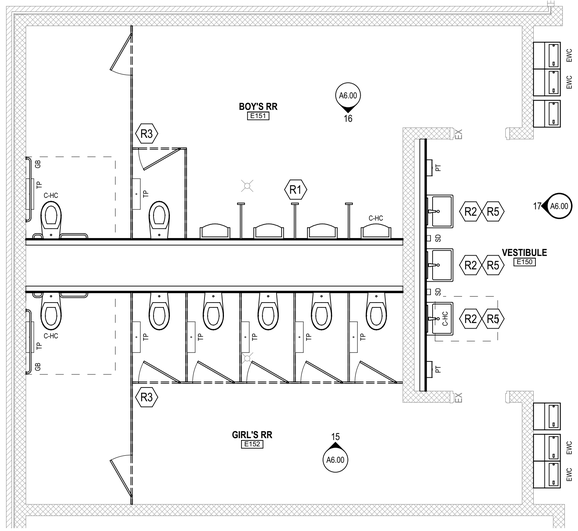
Sheet Number

CAREER CENTER ROOF PLAN A2.16



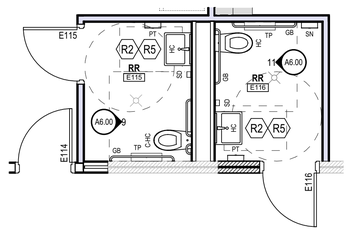
1 ELEMENTARY RESTROOMS ENLARGED PLAN

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



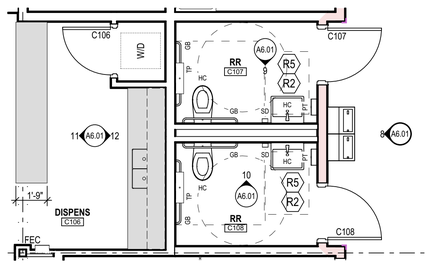
2 ELEMENTARY RESTROOMS ENLARGED PLAN

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



3 ELEMENTARY RESTROOMS ENLARGED PLAN

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



4 CAREER CENTER DISPENSORY & RESTROOMS ENLARGED PLAN

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

NOTE: POSSIBLE LAYOUT OF OWNER PROVIDED FURNITURE AND EQUIPMENT SHOWN IN DASHED LINES FOR REFERENCE ONLY.

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

ABBREVIATIONS

TP	TOILET PAPER DISPENSER
GB	GRAB BARS, RE: 12/A7.07
HD	HAND DRYERS
PT	PAPER TOWERL DISPENSER
SD	SOAP DISPENSER
EWC	ELECTRIC WATER COOLER
FEC	FIRE EXTINGUISHER CABINET
SN	SANITARY NAPKIN DISPENSER

KEYED NOTES

RESTROOMS:

R1	SOLID PLASTIC URINAL SCREENS
R2	LAVATORY
R3	SOLID PLASTIC OVERHEAD-BRACED TOILET PARTITIONS
R4	DOUBLE COAT HOOK
R5	FRAMED MIRROR, RE: 7/A7.07

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Date:
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Sheet Number

ENLARGED PLANS A2.17

GENERAL NOTES

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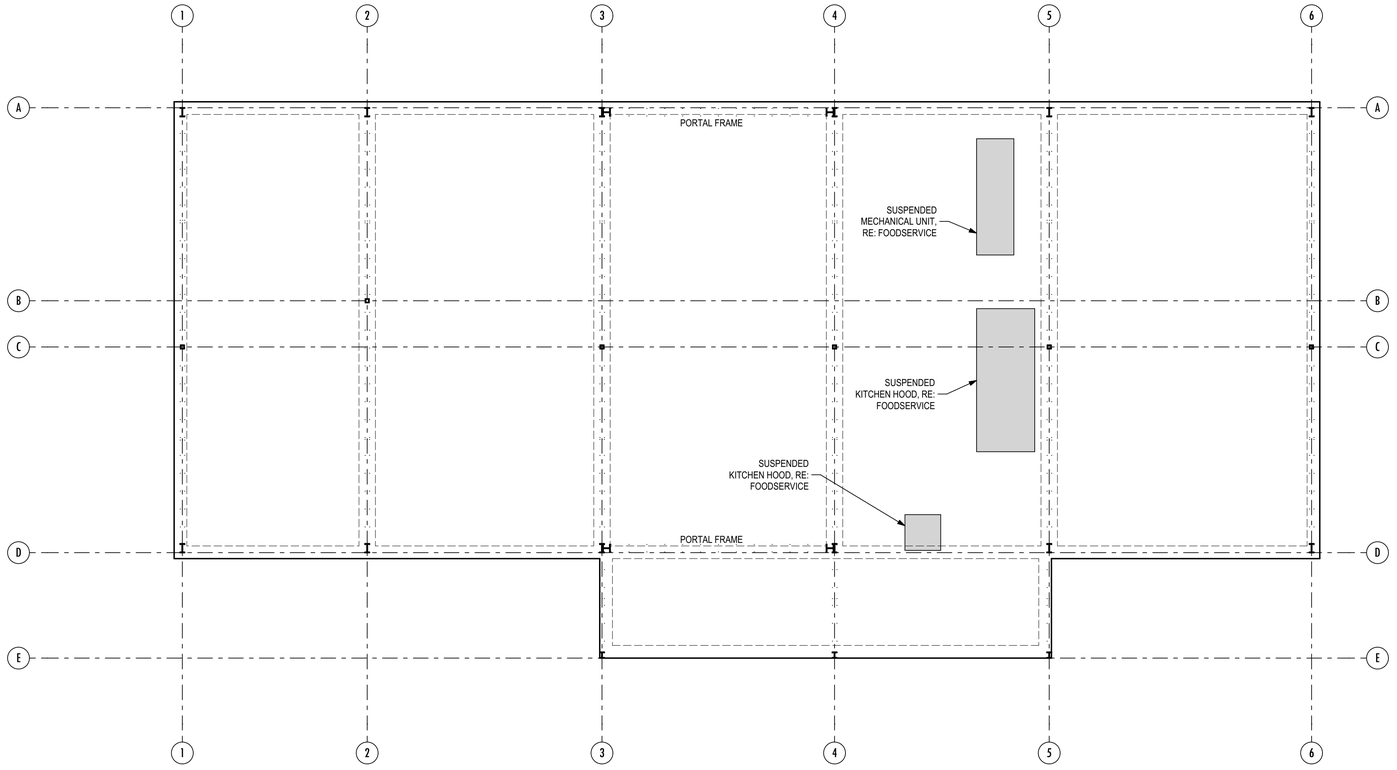
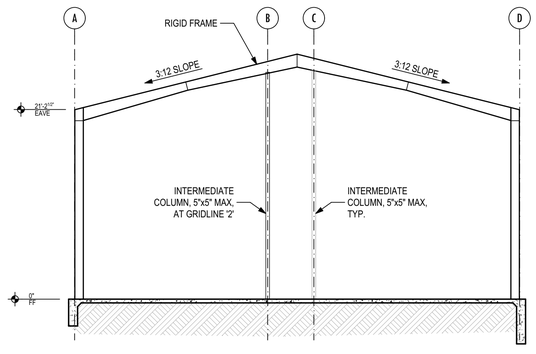


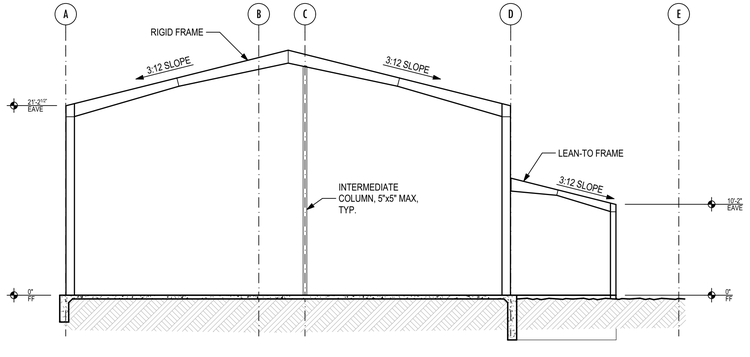
1 FOUNDATION PLAN

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



2 CAREER CENTER RIGID FRAME, TYP.

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



3 CAREER CENTER RIGID FRAME, GRID 3, 4 & 5

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

CAREER CENTER RIGID FRAME PLAN & DIAGRAMS

A2.18

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GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

1 REFLECTED CEILING PLAN DEMO
SCALE: 1/8" = 1'-0"

N

RCP DEMOLITION KEYED NOTES

DC1 DEMO ACOUSTIC TILE CEILING
DC2 DEMO GYP CEILING / BULKHEAD
DC3 DEMO LIGHTS

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BOND 2018 PROJECTS
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Revision:

Project Number
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Date:
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Sheet Number

ELEMENTARY DEMO REFLECTED CEILING PLAN

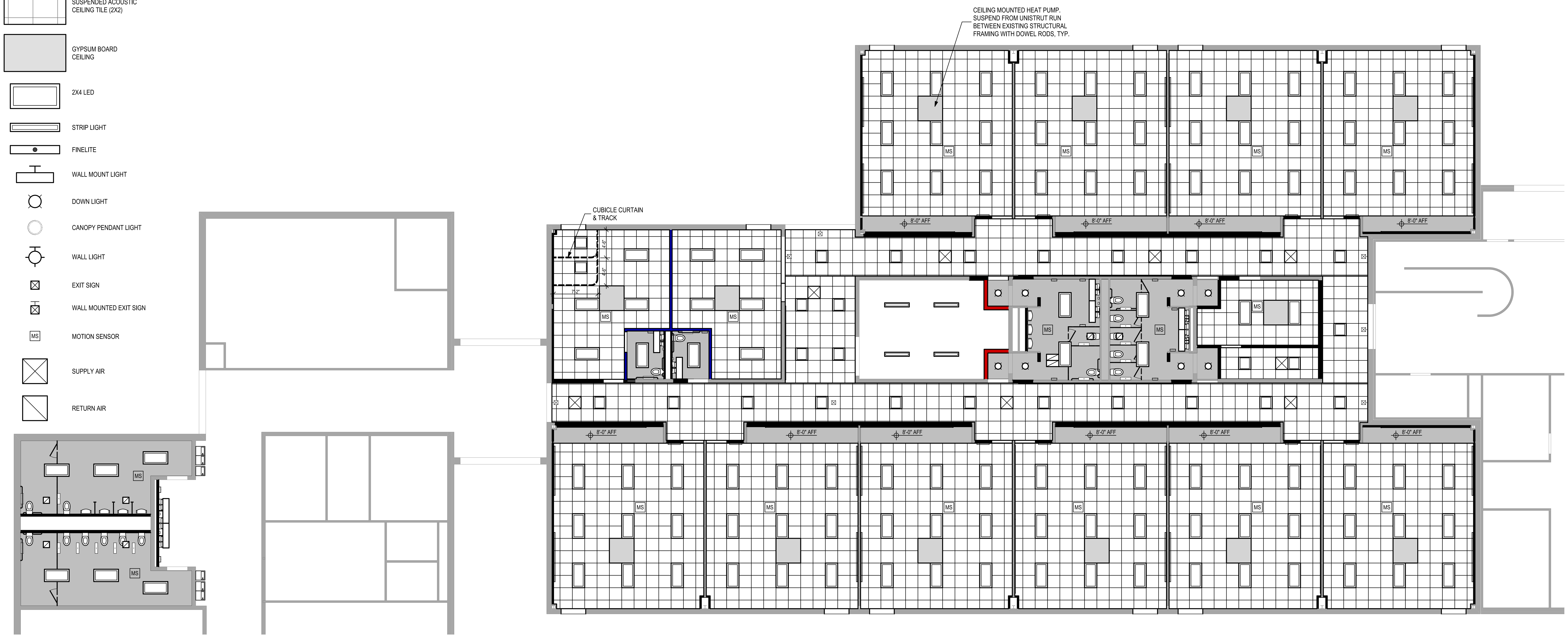
A3.00

RCP SYMBOL LEGEND

	SUSPENDED ACOUSTIC CEILING TILE (2X2)
	GYPSUM BOARD CEILING
	2X4 LED
	STRIP LIGHT
	FINELITE
	WALL MOUNT LIGHT
	DOWN LIGHT
	CANOPY PENDANT LIGHT
	WALL LIGHT
	EXIT SIGN
	WALL MOUNTED EXIT SIGN
MS	MOTION SENSOR
	SUPPLY AIR
	RETURN AIR

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



1 REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

N

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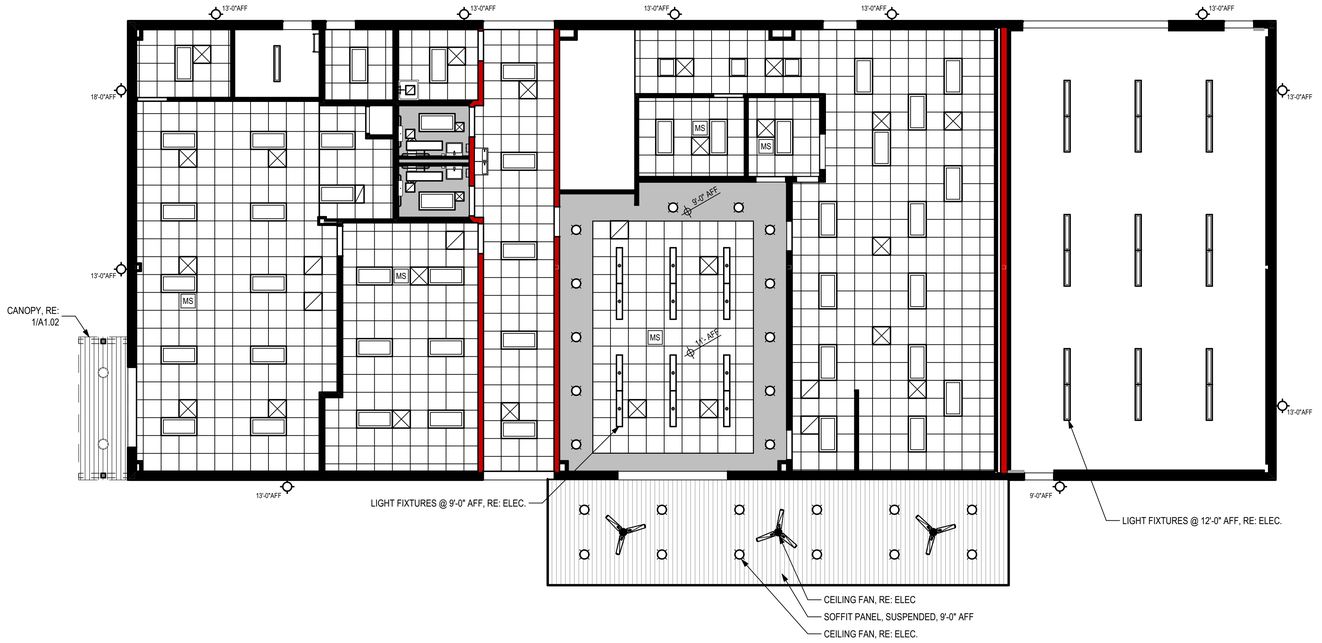
Sheet Number

ELEMENTARY REFLECTED CEILING PLAN

A3.01



2 REFLECTED CEILING PLAN

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

N

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

RCP SYMBOL LEGEND

- SUSPENDED ACOUSTIC CEILING TILE (2X2)
- GYPSUM BOARD CEILING
- 2X4 LED
- STRIP LIGHT
- FINELITE
- WALL MOUNT LIGHT
- DOWN LIGHT
- CANOPY PENDANT LIGHT
- WALL LIGHT
- EXIT SIGN
- WALL MOUNTED EXIT SIGN
- MS — MOTION SENSOR
- SUPPLY AIR
- RETURN AIR

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REGISTERED ARCHITECT STATE OF TEXAS

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

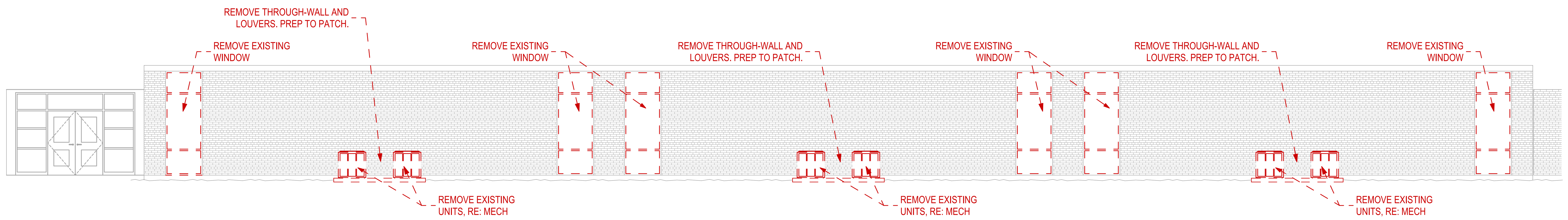
Date:
4/4/2019

Sheet Number

CAREER CENTER REFLECTED CEILING PLAN A3.02

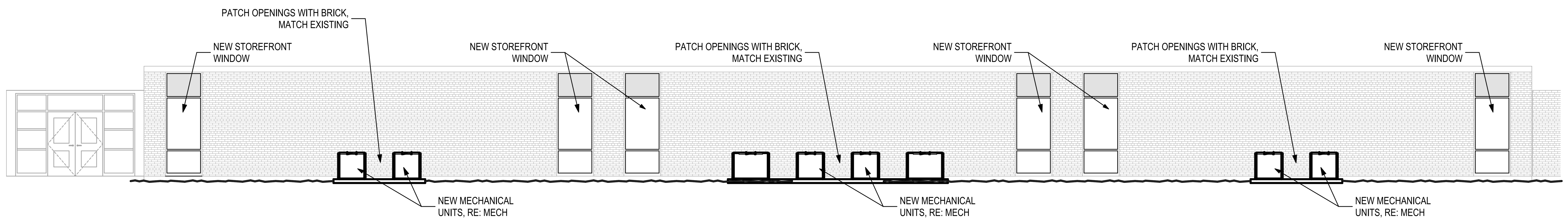
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



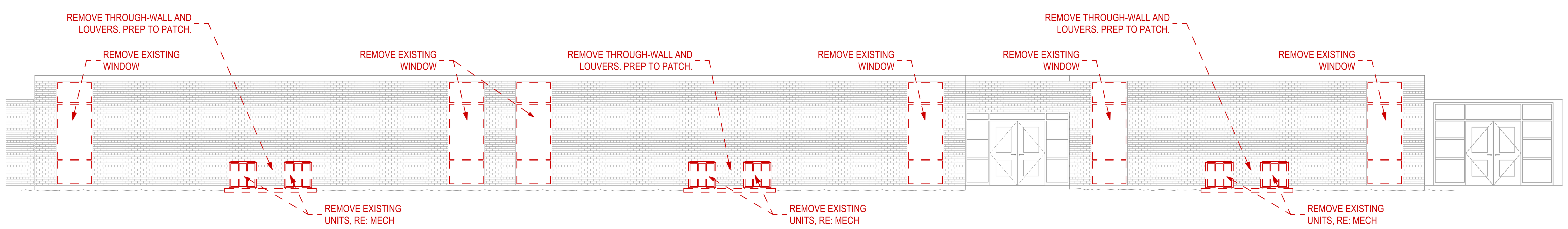
1 ELEMENTARY SOUTH DEMO ELEVATION

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



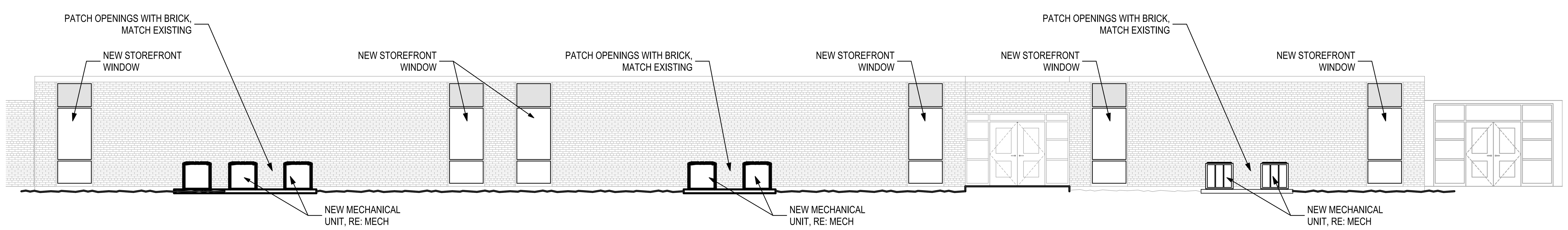
2 ELEMENTARY SOUTH ELEVATION

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



3 ELEMENTARY NORTH DEMO ELEVATION

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



4 ELEMENTARY NORTH ELEVATION

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

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Revision:

Project Number
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Date:
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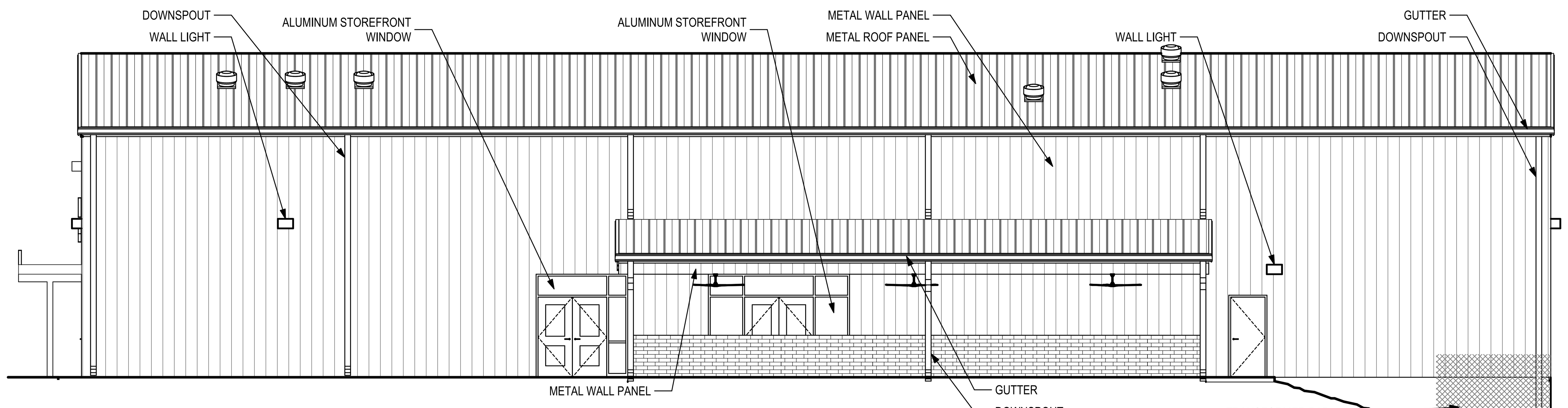
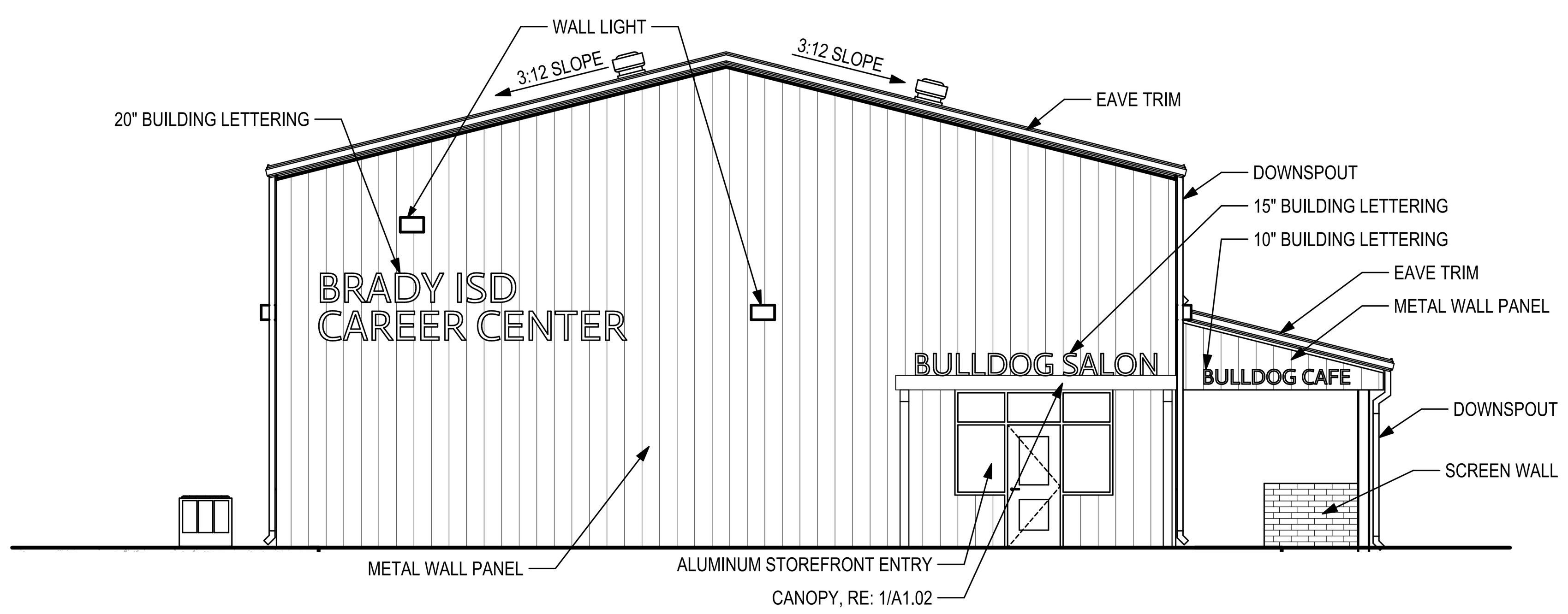
Sheet Number

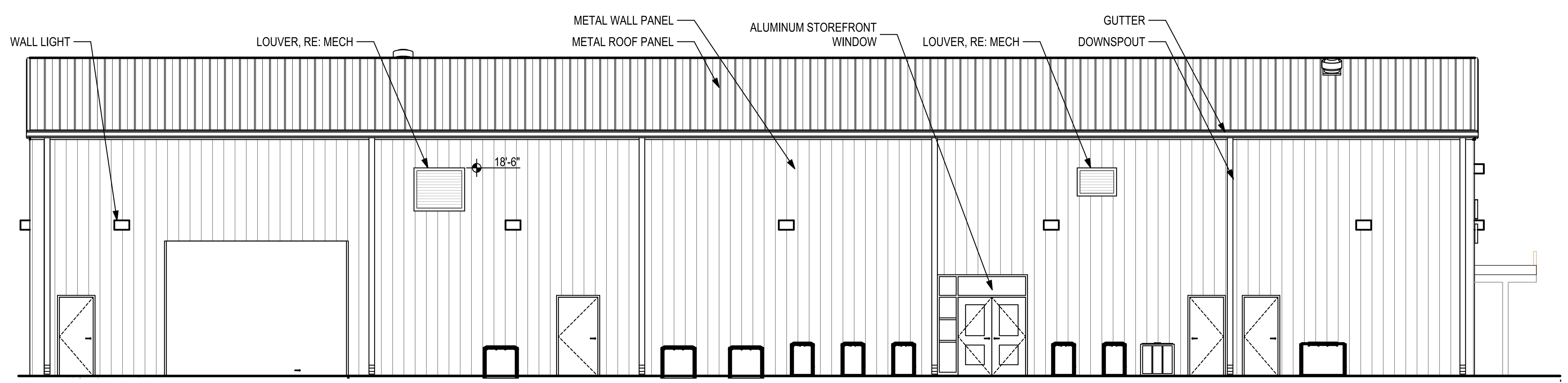
ELEMENTARY ELEVATIONS A4.00



1 CAREER CENTER WEST ELEVATION
SCALE: 1/8" = 1'-0"



2 CAREER CENTER NORTH ELEVATION
SCALE: 1/8" = 1'-0"



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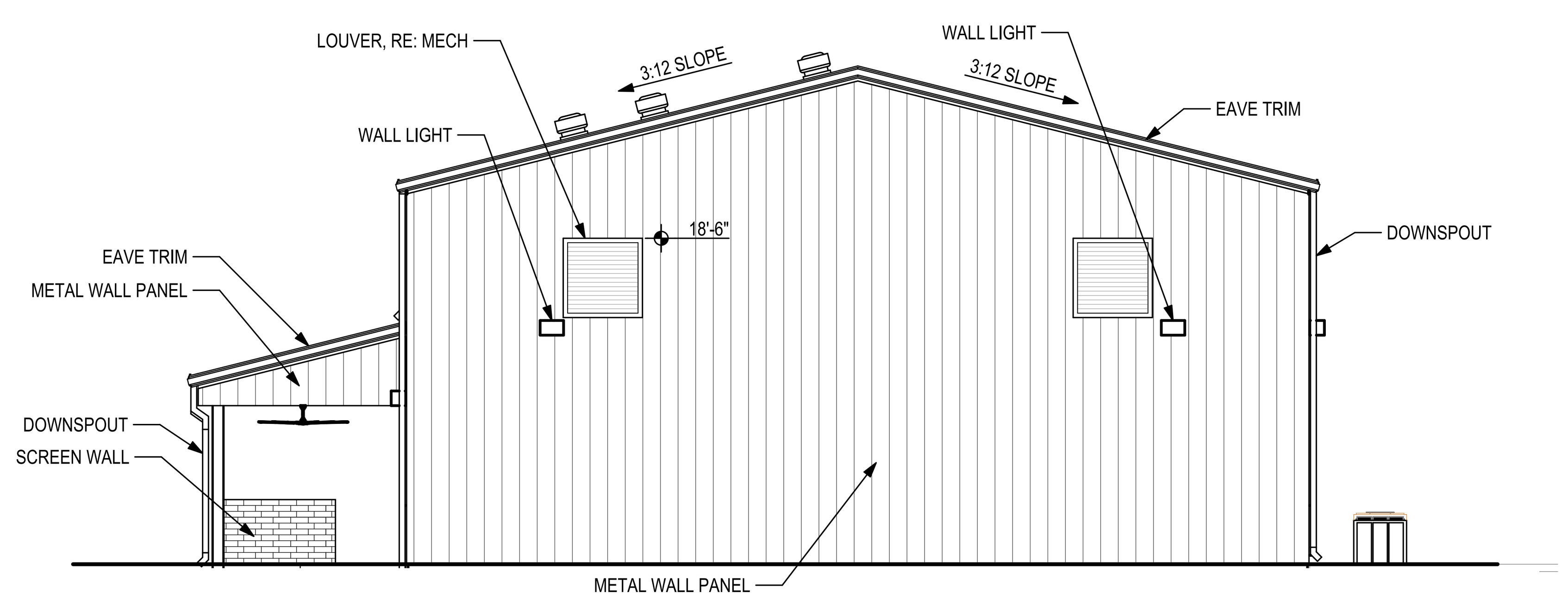
SCALE: 1/8" = 1'-0"



4 CAREER CENTER SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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Revision:

Project Number
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Date:
4/4/2019

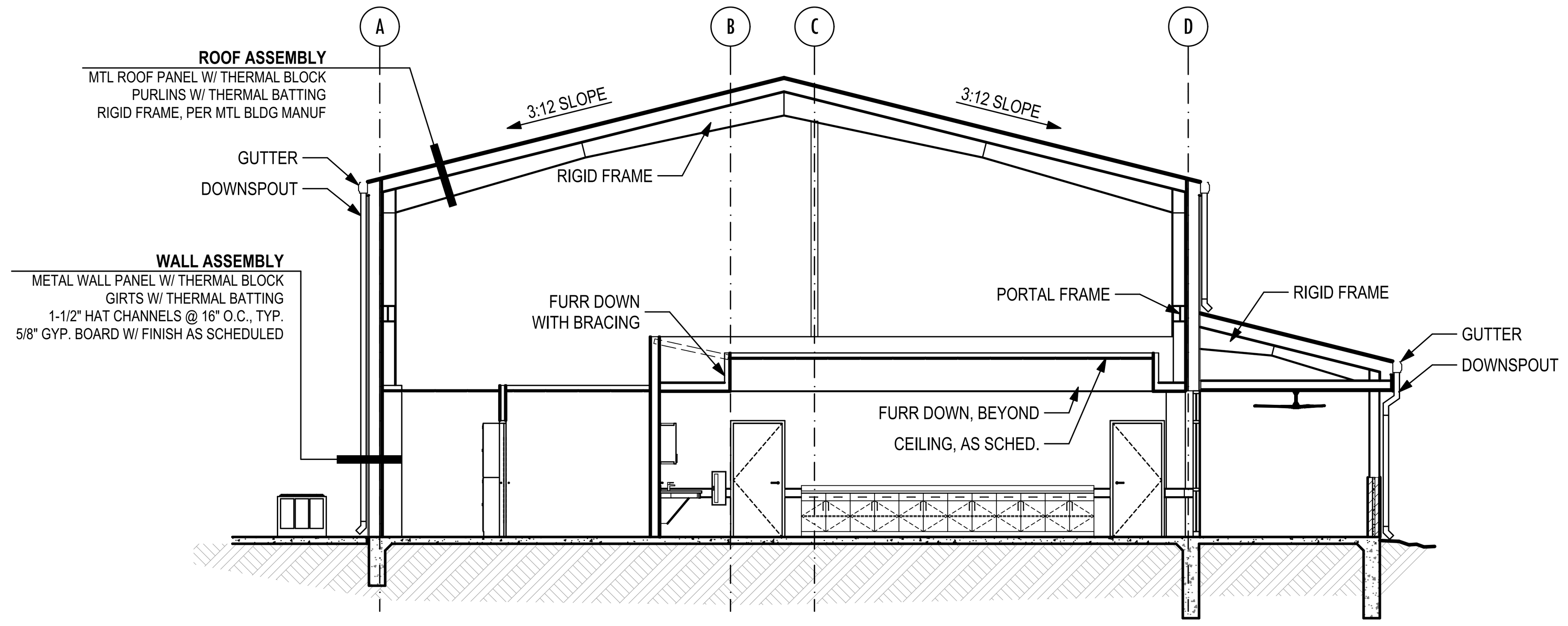
Sheet Number

CAREER CENTER ELEVATIONS A4.01

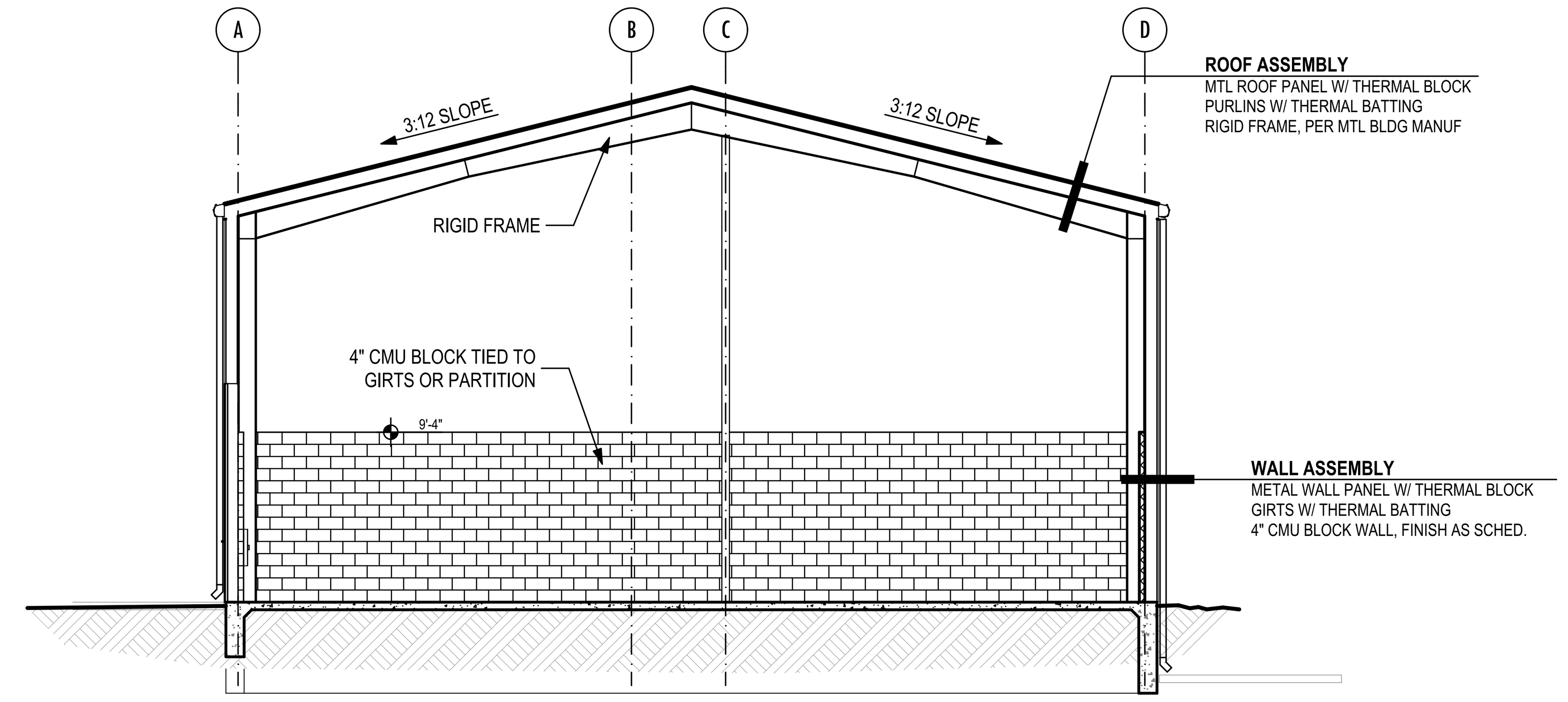
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

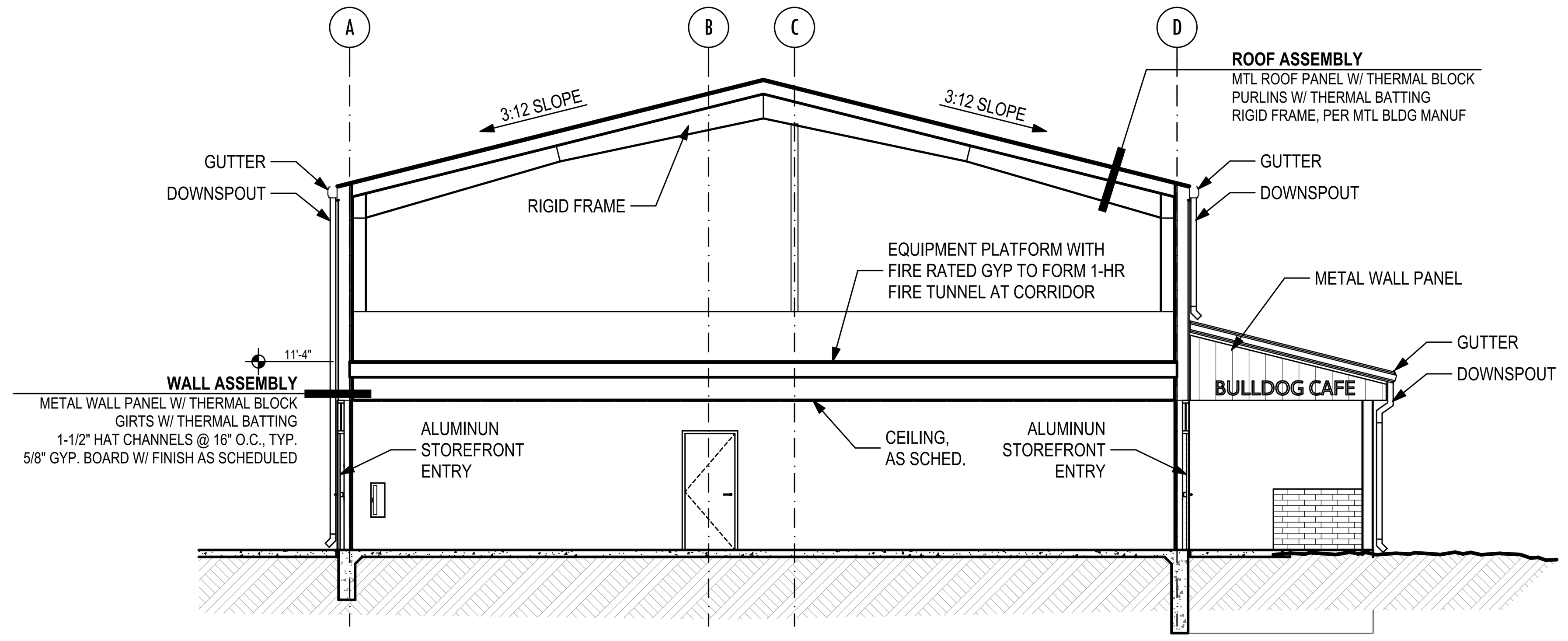
NOTE:
SEE A7.08 FOR TYPICAL METAL BUILDING DETAILS



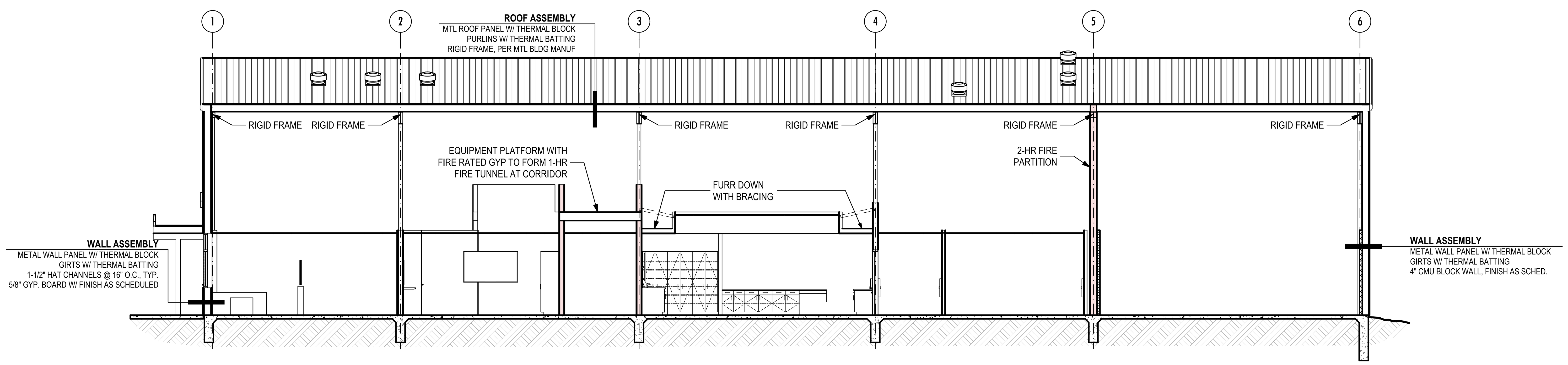
1 BUILDING SECTION
SCALE: 1/8" = 1'-0"



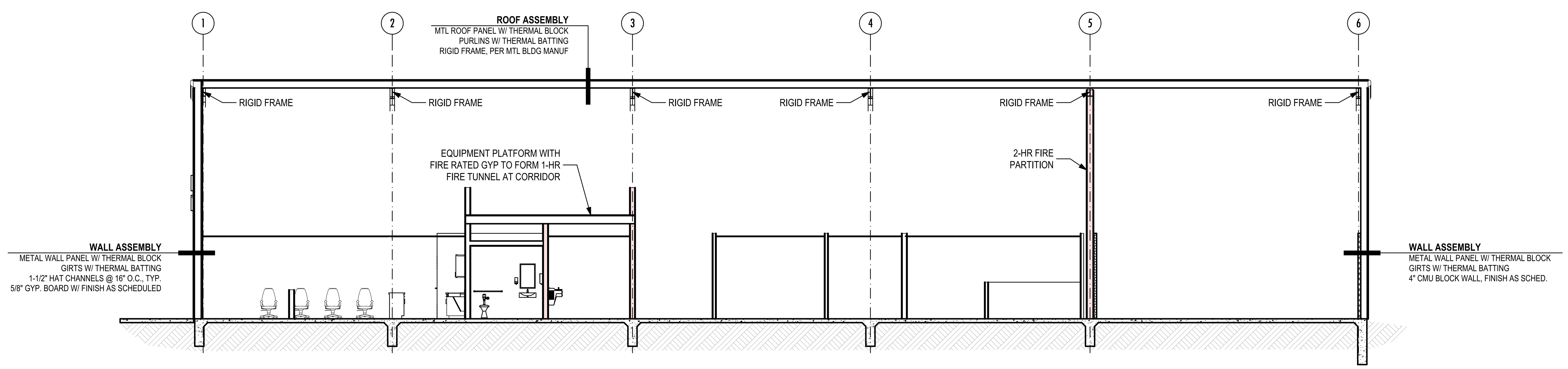
2 BUILDING SECTION
SCALE: 1/8" = 1'-0"



3 BUILDING SECTION
SCALE: 1/8" = 1'-0"



4 BUILDING SECTION
SCALE: 1/8" = 1'-0"



5 BUILDING SECTION
SCALE: 1/8" = 1'-0"

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Brady Independent School District
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Brady, Texas

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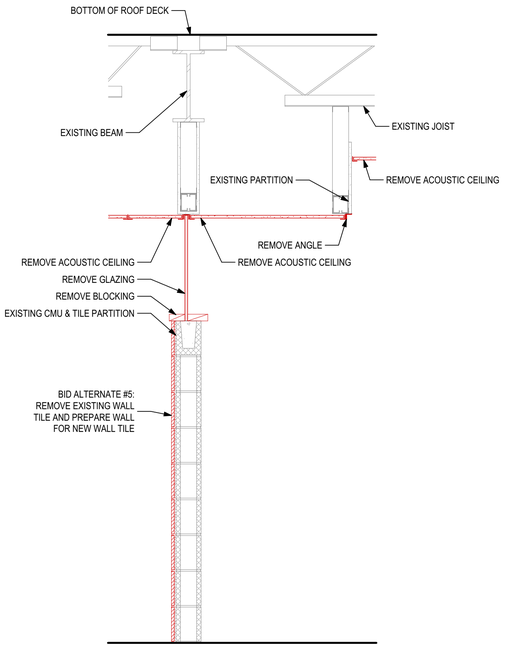
Date:
4/4/2019

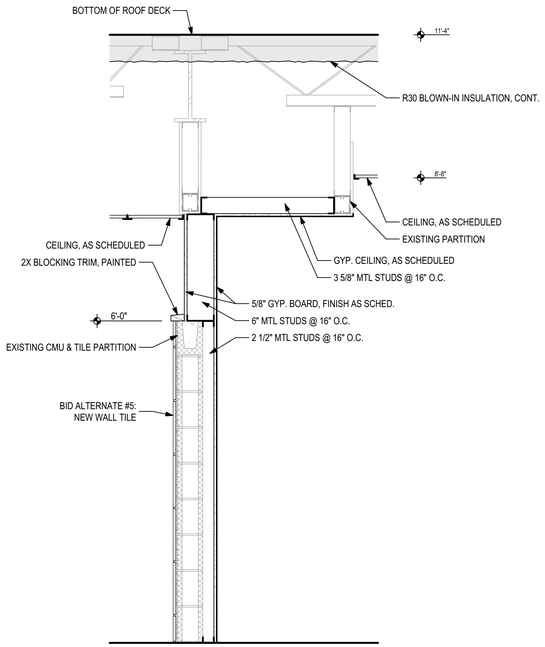
Sheet Number

BUILDING SECTIONS

A5.00



DEMOLITION



NEW CONSTRUCTION

1 ELEMENTARY CORRIDOR GLAZING INFILL DETAIL

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

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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Revision:

Project Number
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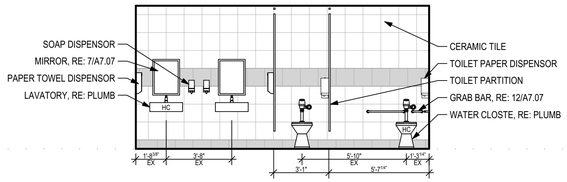
Date:
4/4/2019

Sheet Number

WALL SECTIONS A5.01

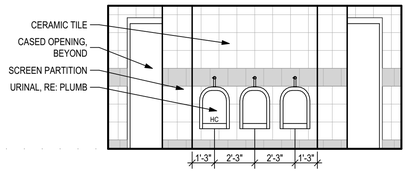
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



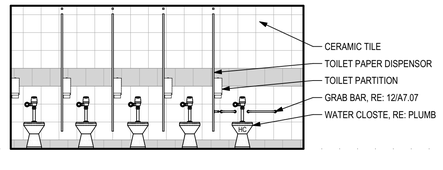
1 BOY'S RR ELEVATION

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



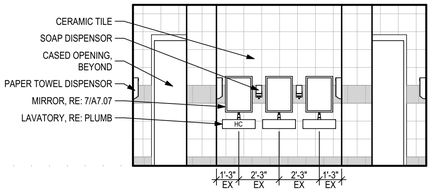
2 BOY'S RR ELEVATION

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



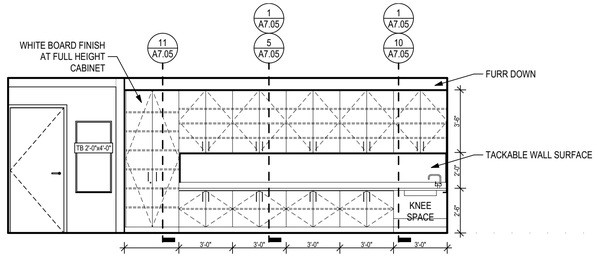
3 GIRL'S RR ELEVATION

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



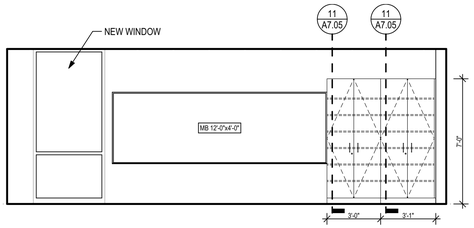
4 GIRL'S RR ELEVATION

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



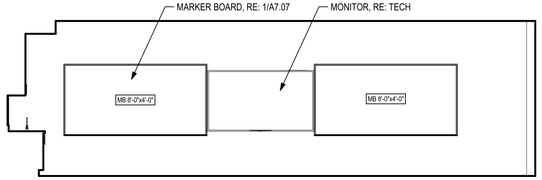
5 CLASSROOM ELEVATION

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



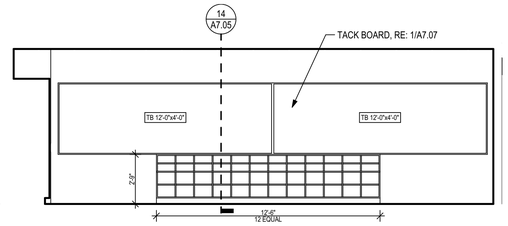
6 CLASSROOM ELEVATION

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



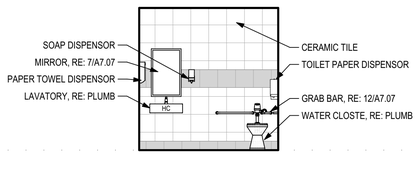
7 CLASSROOM ELEVATION

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



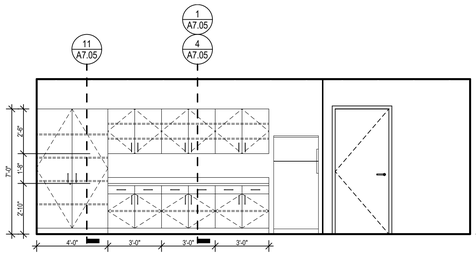
8 CLASSROOM ELEVATION

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



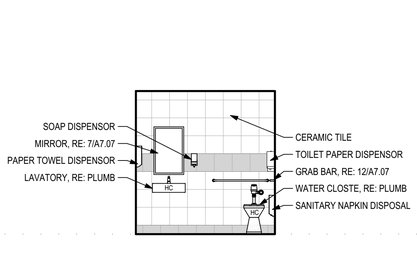
9 RR ELEVATION

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



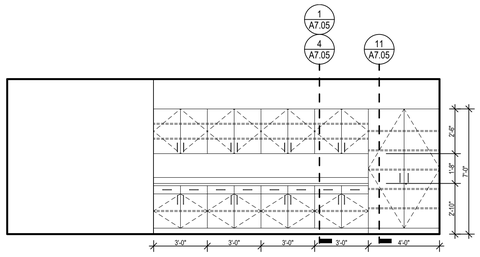
10 NURSE'S OFFICE ELEVATION

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



11 RR ELEVATION

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



12 COUNSELOR'S OFFICE ELEVATION

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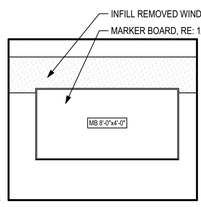

13 INTERVENTION ELEVATION

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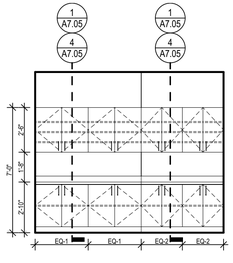
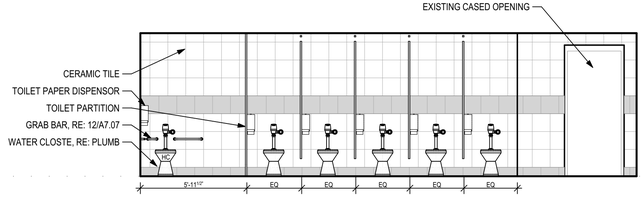


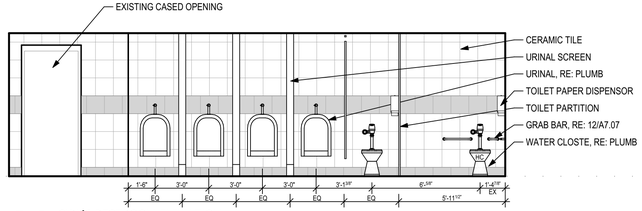
14 INTERVENTION ELEVATION

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



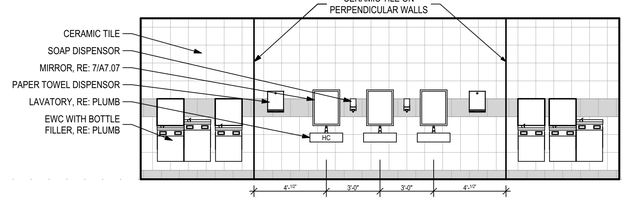
15 BOY'S RESTROOM ELEVATION

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



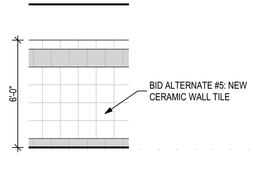
16 GIRL'S RESTROOM ELEVATION

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



17 VESTIBULE ELEVATION

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



18 CLASSROOM ELEVATION

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

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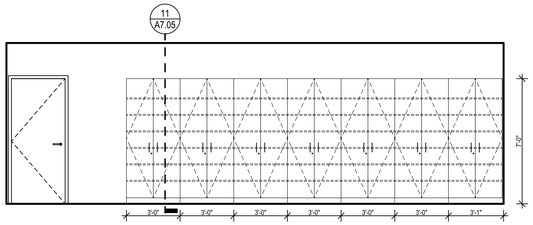
Sheet Number

INTERIOR ELEVATIONS: ELEMENTARY RENOVATIONS

A6.00

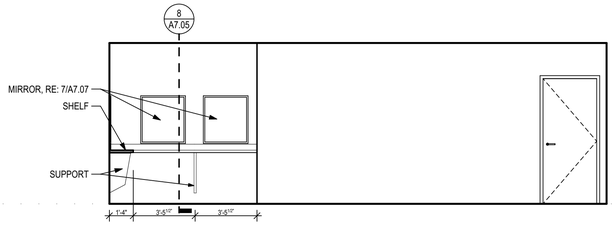
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



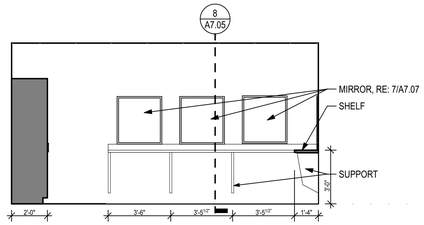
1 COSMETOLOGY CLASSROOM ELEVATION

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



2 COSMETOLOGY CLASSROOM ELEVATION

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



3 COSMETOLOGY CLASSROOM ELEVATION

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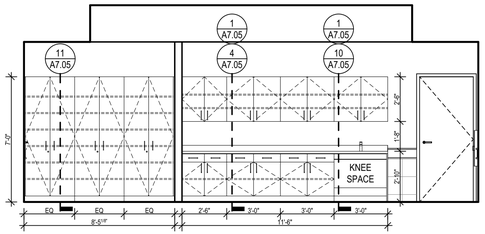

4 CLASSROOM ELEVATION

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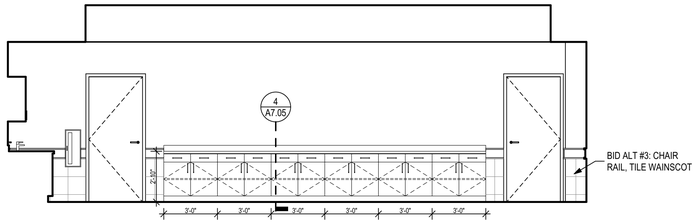
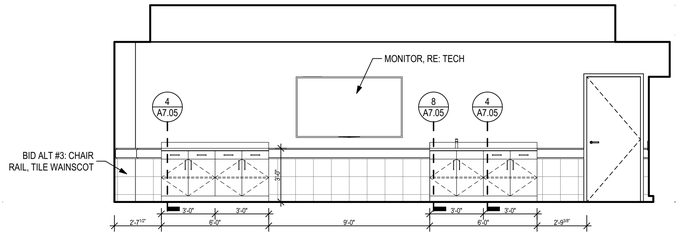


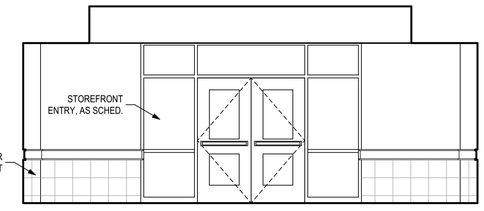
5 CLASSROOM ELEVATION

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



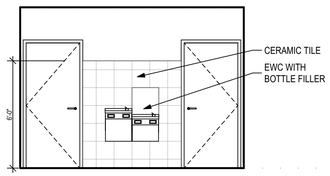
6 CLASSROOM ELEVATION

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



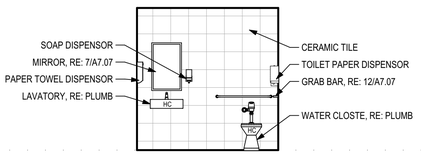
7 CLASSROOM ELEVATION

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



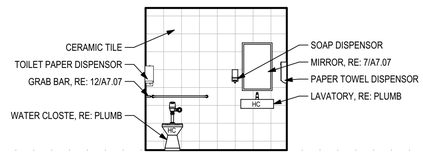
8 CORR ELEVATION

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



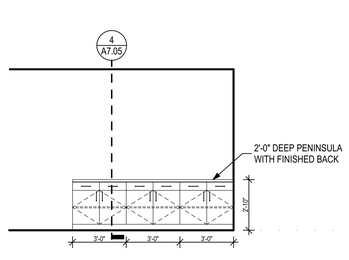
9 RR ELEVATION

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



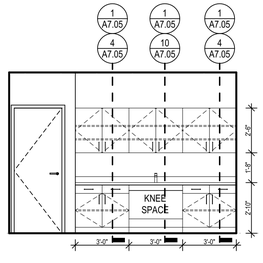
10 RR ELEVATION

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



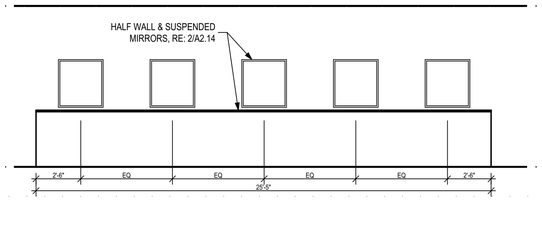
11 DISPENS ELEVATION

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



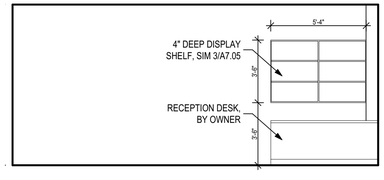
12 DISPENS ELEVATION

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



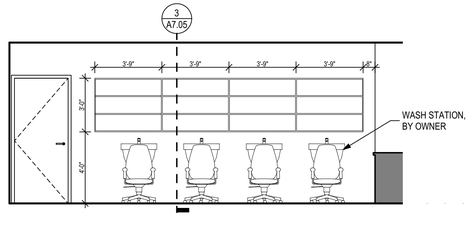
13 COSMETOLOGY STUDIO ELEVATION

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



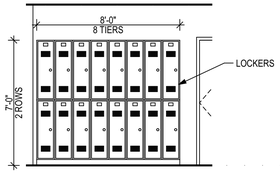
14 COSMETOLOGY STUDIO ELEVATION

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



15 COSMETOLOGY STUDIO ELEVATION

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



16 CLASSROOM ELEVATION

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

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Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

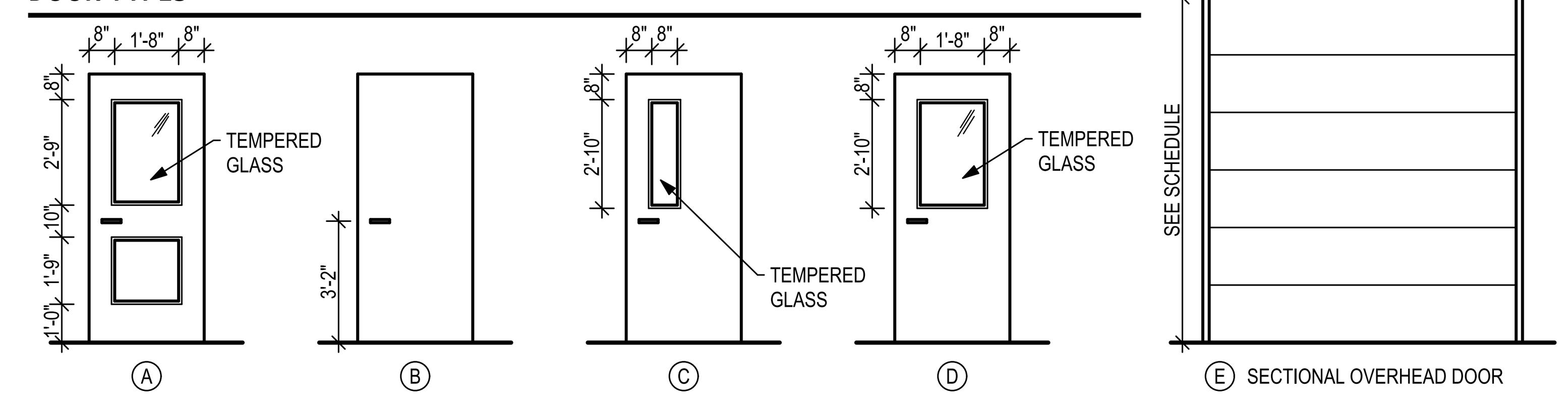
INTERIOR ELEVATIONS: CAREER CENTER

A6.01

DOOR SCHEDULE

MARK	DOOR					FRAME		FIRE	STC	HARDWARE	COMMENTS
	W	No.	H	TYPE	FINISH	MATL	TYPE				
C100A	6'-0"	PAIR	7'-0"	A	ALUM	ALUM	A			1.0	
C100B	6'-0"	PAIR	7'-0"	A	ALUM	ALUM	A			2.0	
C101A	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		12.0	
C101B	3'-0"	SINGLE	7'-0"	C	PLAM	HM				18.0	
C102	3'-0"	SINGLE	7'-0"	A	ALUM	ALUM	B			4.0	
C102A	3'-0"	SINGLE	7'-0"	D	PLAM	HM				15.0	
C103	3'-0"	SINGLE	7'-0"	B	HM-G	HM-G				6.0	
C104	3'-0"	SINGLE	7'-0"	B	HM-G	HM-G				6.0	
C105	3'-0"	SINGLE	7'-0"	B	PLAM	HM		20M		11.0	
C106	2'-8"	SINGLE	7'-0"	B	PLAM	HM				19.0	
C107	3'-0"	SINGLE	7'-0"	D	PLAM	HM		20M		19.0	
C108	3'-0"	SINGLE	7'-0"	B	PLAM	HM		20M		15.0	
C110	3'-0"	SINGLE	7'-0"	B	HM	HM				18.0	
C111	3'-6"	SINGLE	7'-0"	B	HM-G	HM-G				5.0	
C112	3'-0"	SINGLE	7'-0"	D	PLAM	HM				17.0	
C113A	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		12.0	
C113B	3'-0"	SINGLE	7'-0"	C	PLAM	HM				21.0	DOUBLE ACTING
C113C	3'-0"	SINGLE	7'-0"	B	PLAM	HM				21.0	DOUBLE ACTING
C113D	6'-0"	PAIR	7'-0"	A	ALUM	ALUM	C			3.0	
C115A	3'-0"	SINGLE	7'-0"	C	HM-G	HM-G				5.0	
C115B	16'-0"	SINGLE	12'-0"	E	STEEL	STEEL				30.0	OVERHEAD SECTIONAL DOOR
C115C	3'-0"	SINGLE	7'-0"	C	HM-G	HM-G					
E104	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E105	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E106	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E107	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E108	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E109	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E110	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E111	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E112	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E113	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E114	3'-0"	SINGLE	7'-0"	D	PLAM	HM		20M		13.0	
E115	3'-0"	SINGLE	7'-0"	B	PLAM	HM				20.0	
E116	3'-0"	SINGLE	7'-0"	B	PLAM	HM		20M		14.0	
E117	3'-0"	NONE	7'-0"	B	HM	HM				13.0	
E117	3'-0"	SINGLE	7'-0"	D	PLAM	HM		20M		13.0	
E118	6'-0"	PAIR	7'-0"	B	HM	HM		45M		10.0	
E119A	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E119B	3'-0"	NONE	7'-0"	N/A	HM	HM					CASED OPENING
E119C	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E119D	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E120A	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E120B	3'-0"	NONE	7'-0"	N/A	HM	HM					CASED OPENING
E120C	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E120D	3'-0"	NONE	7'-0"	N/A	N/A	HM					CASED OPENING
E121	3'-0"	SINGLE	7'-0"	C	PLAM	HM		20M		13.0	
E122	3'-0"	SINGLE	7'-0"	B	PLAM	HM				16.0	
E200	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E201	6'-0"	PAIR	7'-0"	D	PLAM	HM	E			29.0 (ALT 8.0)	EXISTING DOOR, RE: TECHNOLOGY, BID ALT #6 (1)
E202	7'-0"	PAIR	7'-0"	A	HM	HM				9.0	NEW DOOR, RE: TECHNOLOGY, (1)
E203	7'-0"	PAIR	7'-0"							23.0	EXISTING DOOR, RE: TECHNOLOGY
E204	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E205	3'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
E206	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E207	3'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
E208	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E209	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E210	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E211	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E212	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E213	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
E214	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H100	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H101	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H102	6'-0"	PAIR	7'-0"							29.0	EXISTING DOOR, RE: TECHNOLOGY
H103	3'-0"	SINGLE	7'-0"							28.0	EXISTING DOOR, RE: TECHNOLOGY
H104	6'-0"	PAIR	7'-0"	A	WOOD	HM	D			8.0	NEW DOOR, RE: TECHNOLOGY, (1)
H105	6'-0"	PAIR	7'-0"	A	WOOD	HM	D			8.0	NEW DOOR, RE: TECHNOLOGY, (1)
H106	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H107	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H108	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H109	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H110	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H111	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H112	4'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
H113	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H114	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H115	6'-0"	PAIR	7'-0"							24.0	EXISTING DOOR, AUDIBLE ALARM
H116	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
H117	3'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
H118	3'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
H119	7'-0"	PAIR	7'-0"							24.0	EXISTING DOOR, AUDIBLE ALARM
M100	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M101	3'-0"	SINGLE	7'-0"							22.0	EXISTING DOOR, RE: TECHNOLOGY
M102	6'-0"	PAIR	7'-0"	A	WOOD	HM	D			7.0	NEW DOOR, RE: TECHNOLOGY, (1)
M103	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M104	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M105	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M106	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M107	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M108	4'-0"	SINGLE	7'-0"							25.0	EXISTING DOOR, RE: TECHNOLOGY
M109	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M110	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M111	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M112	3'-0"	SINGLE	7'-0"							27.0	EXISTING DOOR, RE: TECHNOLOGY
M113	3'-0"	SINGLE	7'-0"							27.0	EXISTING DOOR, RE: TECHNOLOGY
M114	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY
M115	6'-0"	PAIR	7'-0"							26.0	EXISTING DOOR, RE: TECHNOLOGY

DOOR TYPES



GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

NOTE: ALL DOORS IN FIRE OR SOUND RATED PARTITIONS SHALL BE RATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ASSEMBLY.

OPENING DETAILS REF A7.02 & A7.03

ROOM FINISH SCHEDULE LEGEND:

ACOUST - 24"x24" ACOUSTICAL LAY-IN TILE
VACT - 24"x24" VINYL FACED LAY-IN TILE
CPT - 24"x24" CARPET TILE
CT - CERAMIC TILE WAINSCOT
EPOXY - EPOXY
EX - EXISTING TO REMAIN
GYP - PT. GYPSUM WALL BOARD
OPEN - OPEN TO ABOVE
OFOI - OWNER FURNISHED & INSTALLED
PT - PAINTED
PLY - PLYWOOD
REFINISH - REFINISH
SE CONC - SEALED CONCRETE
VINYL - VINYL WALL BASE
EXP - EXPOSED TO BOTTOM OF STRUCTURE
FRP - FRP WALL PANELS

ROOM FINISH SCHEDULE COMMENTS:
(1) CLEAN EXISTNG FLOORS, WALL TILE AND GROUT.
(2) ACCENT COLOR FOR WALL.

ROOM FINISH NOTES:
A. REFER TO 4/A7.07, 5/A7.07 FOR FLOOR TRANSITIONS

DOOR SCHEDULE COMMENTS:
(1) ATTACK RESISTANT DOORS AND FRAMES

ROOM FINISH SCHEDULE

NO	NAME	FLOOR	BASE	WALLS				CEILING		COMMENTS
				NORTH	SOUTH	EAST	WEST	HT	MTL	
C100	CORR	VCT	VINYL	GYP	GYP	GYP	GYP	9'-0"	ACOUST	
C101	COSMETOLOGY CLASSROOM	VCT	VINYL	GYP	GYP	GYP	GYP	9'-0"	ACOUST	
C102	COSMETOLOGY STUDIO	VCT	VINYL	GYP	GYP (2)	GYP	GYP	9'-0"	ACOUST	
C102A	FACIAL	VCT	VINYL	GYP	GYP	GYP (2)	GYP	9'-0"	ACOUST	
C103	ELEC	S.CONC	VINYL	GYP	GYP	GYP	GYP		OPEN	
C104	IDF	VCT	VINYL	GYP	GYP	GYP	GYP	9'-0"	V.ACOUST	
C105	CUST / MECH	S.CONC	VINYL	GYP	GYP	GYP	GYP	9'-0"	V.ACOUST	
C106	DISPENS	VCT	VINYL	GYP	GYP	GYP	GYP	9'-0"	ACOUST	
C107	RR	CT	CT	CT	CT	CT	CT	8'-0"	EP GYP	
C108	RR	CT	CT	CT	CT	CT	CT	8'-0"	EP GYP	
C110	DRY STORAGE	QT	QT	FRP	FRP	FRP	FR	9'-0"	V.ACOUST	
C111	CULINARY ARTS KITCHEN	QT	QT	FRP	FRP	FRP	FRP	9'-0"	V.ACOUST	
C112	OFFICE	VCT	VINYL	GYP	GYP	GYP	GYP	9'-0"	ACOUST	
C113	CLASSROOM	LVT	VINYL	GYP	GYP	GYP	GY	VARIOUS	GYP/ ACOUST	
C115	SHOP	S.CONC		CMU	CMU	CMU	CMU		OPEN	
E100	CORRIDOR	EX (1)	VINYL	EX (1)	PAINT EX			8'-0"	ACOUST	(1)
E101	CORRIDOR	EX (1)	VINYL			PAINT EX	PAINT EX	8'-0"	ACOUST	(1)
E102	CORRIDOR	EX (1)	VINYL	PAINT EX	EX (1)			8'-0"	ACOUST	(1)
E103	CORRIDOR	EX (1)	VINYL			PAINT EX	PAINT EX	8'-0"	ACOUST	
E104	CLASSROOM	VCT	VINYL	PAINT EX (2)	GYP	PAINT EX	PAINT EX	9'-0"	ACOUST	
E105	CLASSROOM	VCT	VINYL	PAINT EX (2)	GYP	PAINT EX	PAINT EX	9'-0"	ACOUST	
E106	CLASSROOM	VCT	VINYL	PAINT EX (2)	GYP	PAINT EX	PAINT EX	9'-0"	ACOUST	
E107	CLASSROOM	VCT	VINYL	PAINT EX (2)	GYP	PAINT EX	PAINT EX	9'-0"	ACOUST	
E108	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	GYP	PAINT EX	9'-0"	ACOUST	
E109	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	PAINT EX	PAINT EX	9'-0"	ACOUST	
E110	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	PAINT EX	PAINT EX	9'-0"	ACOUST	
E111	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	PAINT EX	PAINT EX	9'-0"	ACOUST	
E112	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	PAINT EX	PAINT EX	9'-0"	ACOUST	
E113	CLASSROOM	VCT	VINYL	GYP	PAINT EX (2)	PAINT EX	GYP	9'-0"	ACOUST	
E114	NURSE'S SUITE	VCT	VINYL	PAINT EX	GYP	GYP	GYP (2)	9'-0"	ACOUST	
E115	RR	CT	CT	CT	CT	CT	CT	8'-0"	EP GYP	
E116	RR	CT	CT	CT	CT	CT	CT	8'-0"	EP GYP	
E117	COUNSELOR	VCT	VINYL	PAINT EX	GYP / PAINT EX	GYP / PAINT EX	PAINT EX (2)	9'-0"	ACOUST	
E118	MECHANICAL	S.CONC	VINYL	EX	E	GYP / EX	EX	9'-0"	ACOUST	
E119	BOY'S RR	CT	CT	CT	CT	CT	CT	8'-0"	V.ACOUST	
E120	GIRL'S RR	CT	CT	CT	CT	C	CT	8'-0"	V.ACOUST	
E121	INTERVENTION	VCT	VINYL	PAINT EX	GYP	PAINT EX	GYP	9'-0"	ACOUST	
E122	STORAGE	VCT	VINYL	GYP	PAINT EX	PAINT EX	PAINT EX	9'-0"	ACOUST	
E150	VESTIBULE	CT	CT	CT	CT		CT	EX	EX	
E151	BOY'S RR	CT	CT	CT	CT	CT	CT	8'-0"	V.ACOUST	
E152	GIRL'S RR	CT	CT	C	CT	CT	CT	8'-0"	V.ACOUST	

ROOM SIGNAGE SCHEDULE

ROOM SIGNAGE SCHEDULE							
NO	NAME	TYPE	QTY	OWNER DESIGNATION (Room Name)	OWNER TYPE	OWNER QTY	COMMENTS
C100	CORR	2	E				
C101	COSMETOLOGY CLASSROOM	1	A,B				
C102	COSMETOLOGY STUDIO						
C102A	FACIAL	1	B				
C103	ELEC	1	B				EXTERIOR
C104	IDF	1	B				EXTERIOR
C105	CUST / MECH	1	B				
C106	DISPENS	1	B				
C107	RR	1	D				
C108	RR	1	D				
C110	DRY STORAGE	1	B				
C111	CULINARY ARTS KITCHEN	3	B				ONE EXTERIOR
C112	OFFICE	1	A				
C113	CLASSROOM	1	A				
C115	SHOP	1	A				EXTERIOR
E100	CORRIDOR						
E101	CORRIDOR						
E102	CORRIDOR						
E103	CORRIDOR						
E104	CLASSROOM	1	A				
E105	CLASSROOM	1	A				
E106	CLASSROOM	1	A				
E107	CLASSROOM	1	A				
E108	CLASSROOM	1	A				
E109	CLASSROOM	1	A				
E110	CLASSROOM	1	A				
E111	CLASSROOM	1	A				
E112	CLASSROOM	1	A				
E113	CLASSROOM	1	A				
E114	NURSE'S SUITE	1	A				
E115	RR	1	D				
E116	RR	1	D				
E117	COUNSELOR	1	A				
E118	MECHANICAL	1	B				
E119	BOY'S RR	2	D				
E120	GIRL'S RR	2	D				
E121	INTERVENTION	1	B				
E122	STORAGE	1	B				
E150	VESTIBULE						
E151	BOY'S RR	1	D				
E152	GIRL'S RR	1	D				

REFER TO 6/A7.07 & 8/A7.07 FOR SIGNAGE SECTIONS DETAILS

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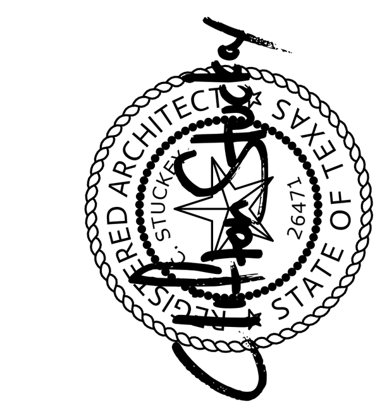

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

Project Number
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Sheet Number

SCHEDULES A7.00

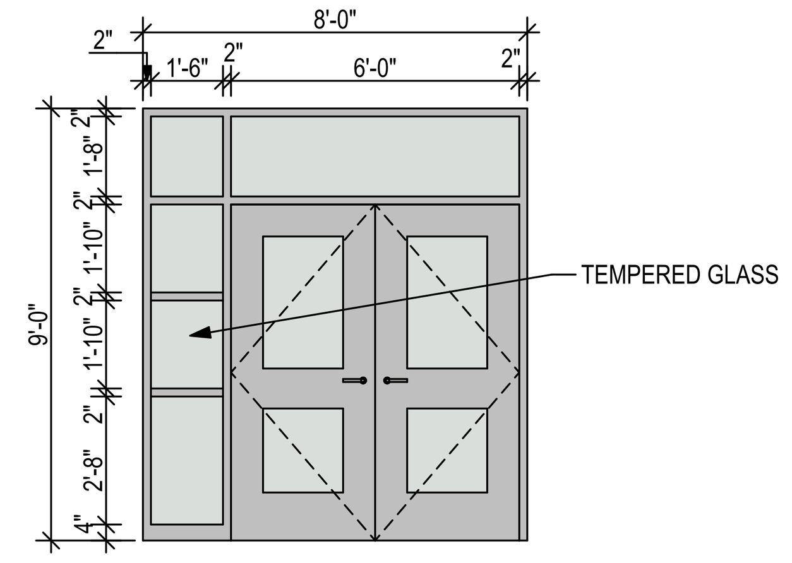
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

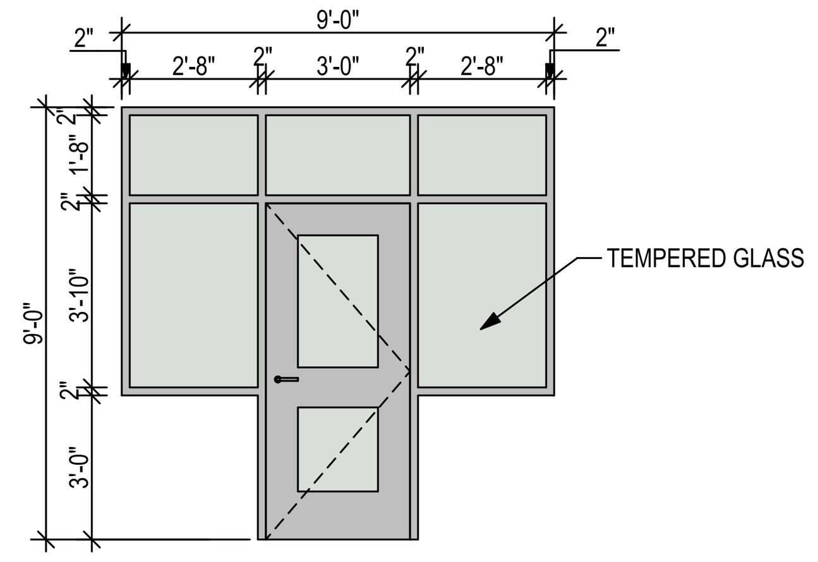
NOTE: ALL WINDOWS IN FIRE RATED PARTITIONS SHALL BE RATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ASSEMBLY.

DOOR FRAME TYPES

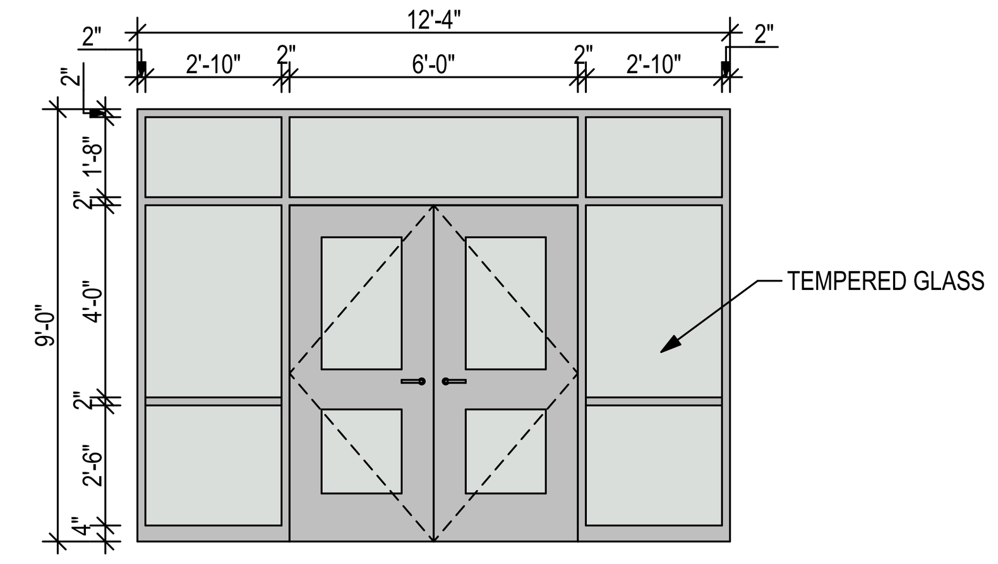
NOTE: ALL FRAMES ARE SHOWN FROM DOOR SWING SIDE.



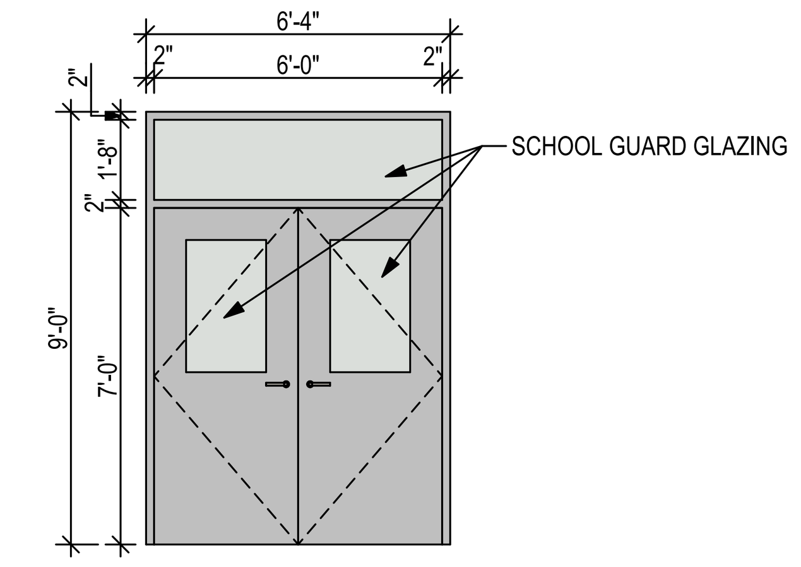
A
ALUMINUM STOREFRONT
EXTERIOR



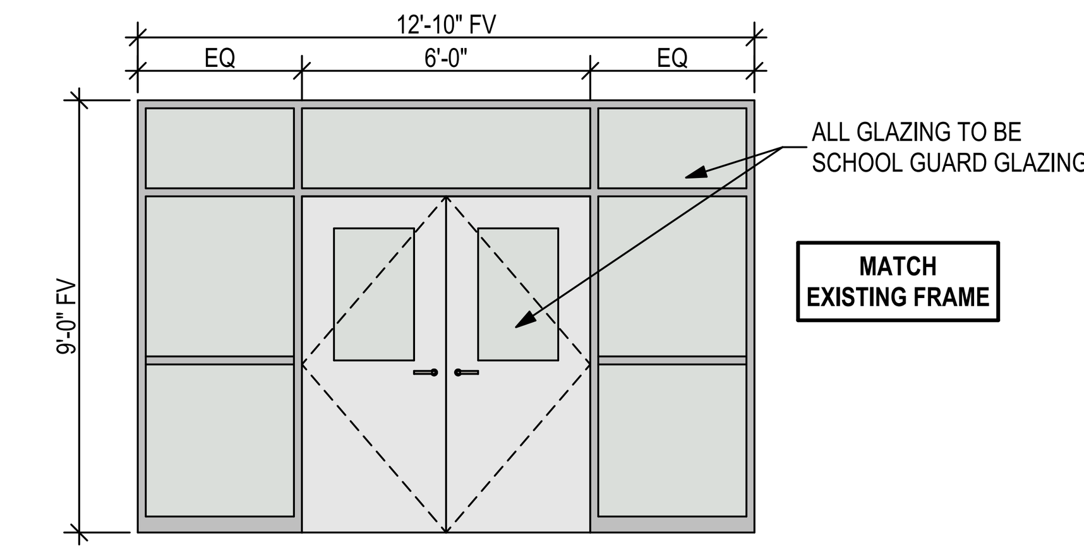
B
ALUMINUM STOREFRONT
EXTERIOR



C
ALUMINUM STOREFRONT
EXTERIOR

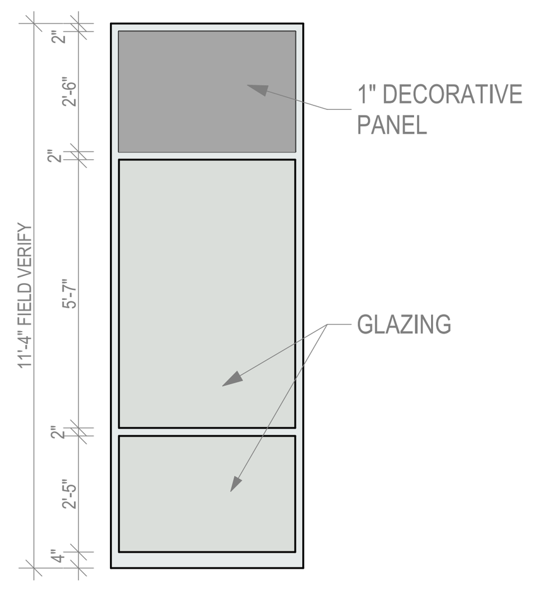


D
HOLLOW METAL
INTERIOR

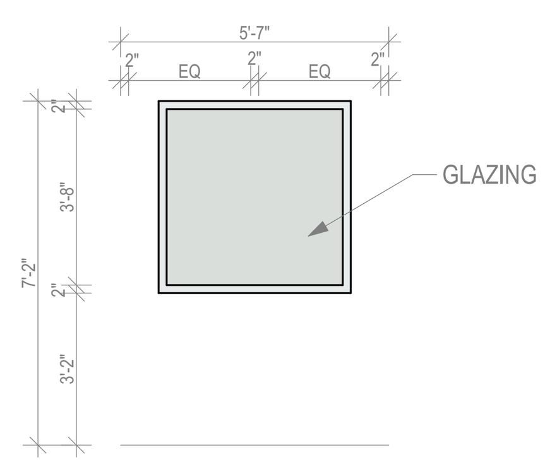


E
HOLLOW METAL
BID ALTERNATE #6

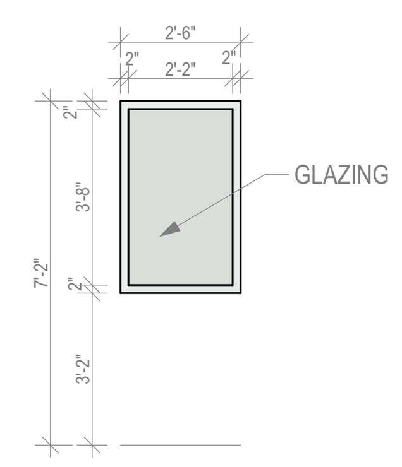
WINDOW TYPES



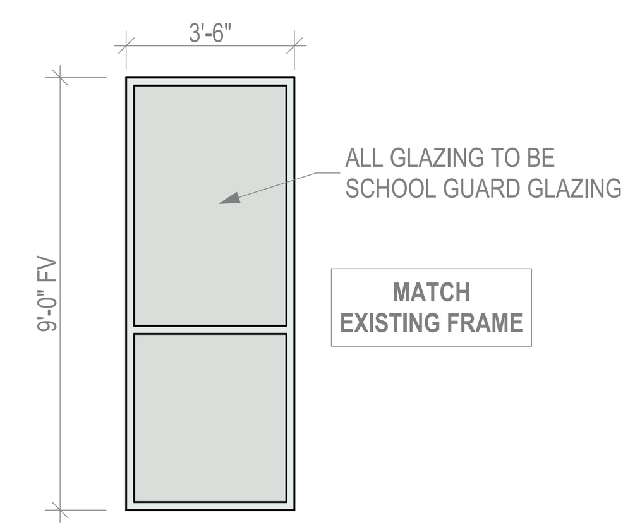
A
ALUM. STOREFRONT
EXTERIOR



B
HOLLOW METAL
INTERIOR



C
HOLLOW METAL
INTERIOR



D
ALUM. STOREFRONT
BID ALTERNATE #6

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Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

Revision:

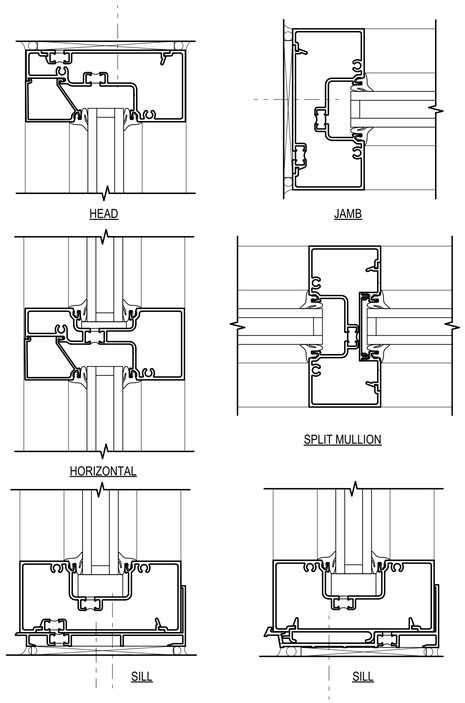
Project Number
1703

Date:
4/4/2019

Sheet Number

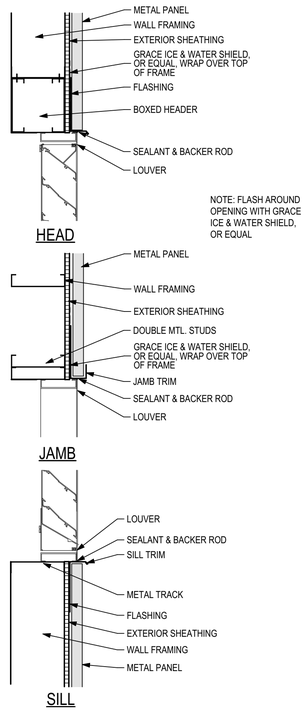
DOOR FRAMES & WINDOW TYPES

A7.01



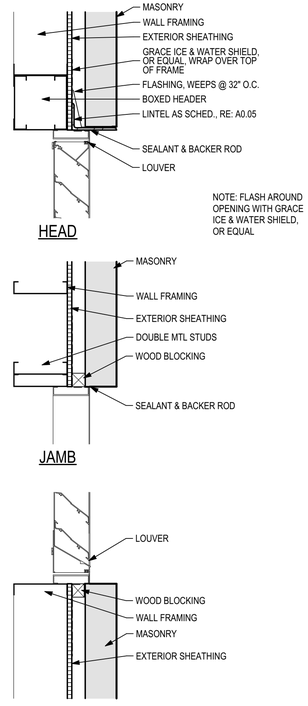
1 TYP. EXTERIOR STOREFRONT

SCALE: 6" = 1'-0"



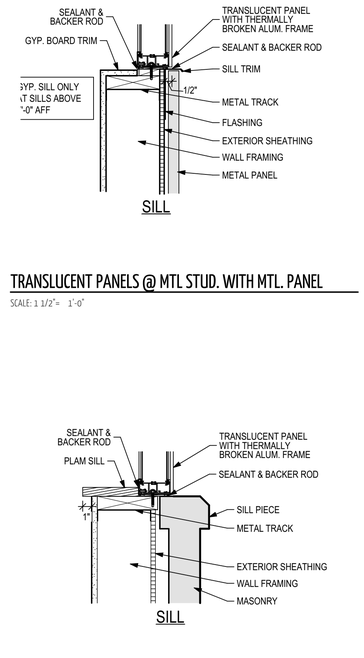
2 LOUVER @ MTL STUD W/ MTL PANEL

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



3 LOUVER @ MTL STUD W/ MASONRY

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



4 TRANSLUCENT PANELS @ MTL STUD. WITH MTL. PANEL

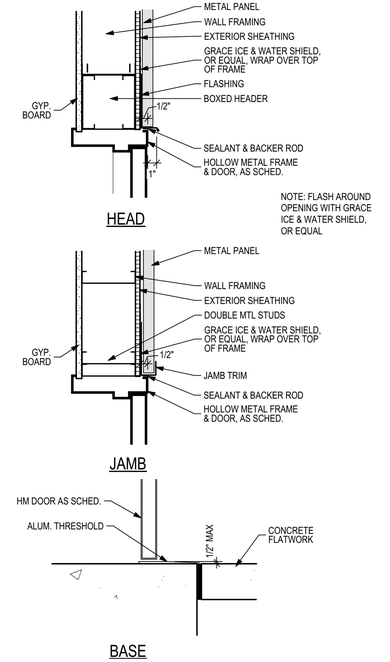
SCALE: 1 1/2" = 1'-0"

5 TRANSLUCENT PANEL @ MTL. STUD W/ MASONRY

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

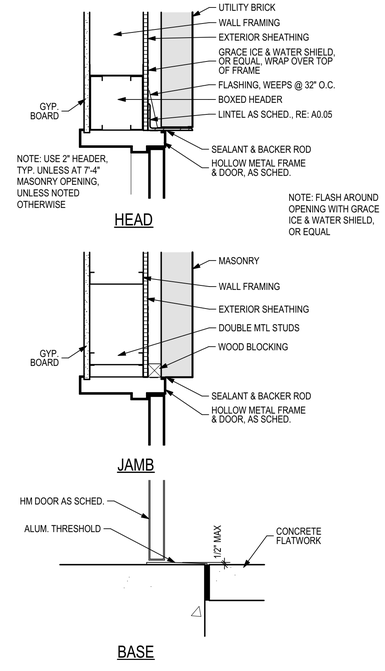
GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



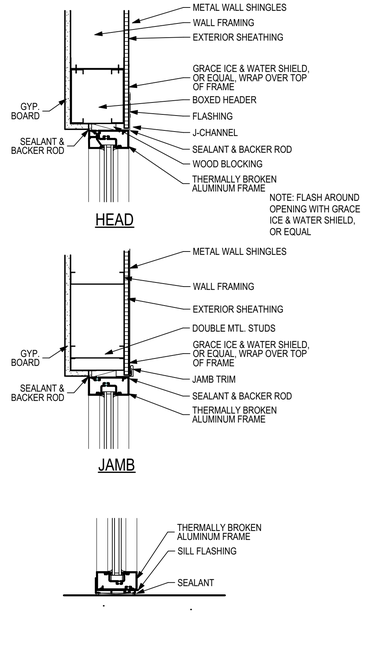
6 HM DOOR @ MTL STUD W/ MTL PANEL

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



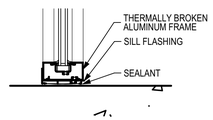
7 HM DOOR @ MTL STUD & MASONRY

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



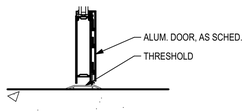
8 ALUM STOREFRONT @ MTL STUD W/ METAL SHINGLES

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



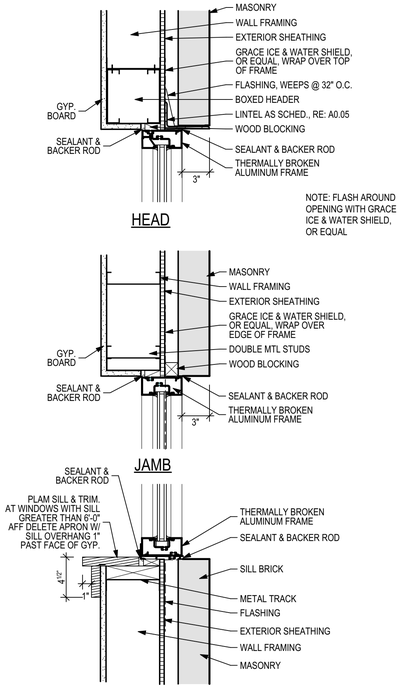
9 TYP. STOREFRONT BASE

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



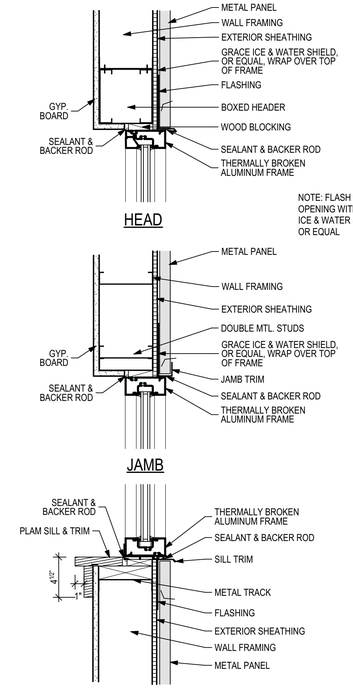
10 TYP. STOREFRONT DOOR BASE

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



11 ALUM STOREFRONT @ MTL STUD W/ MASONRY

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



12 ALUM STOREFRONT @ MTL STUD W/ MTL PANEL

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

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Brady Independent School District
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Brady, Texas

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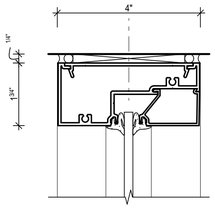
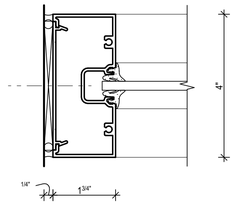
Sheet Number

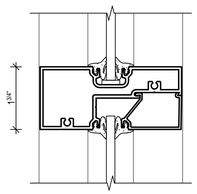
OPENING DETAILS: EXTERIOR A7.02



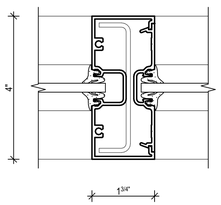
HEAD



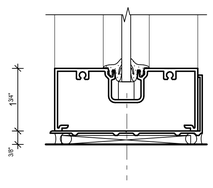
JAMB



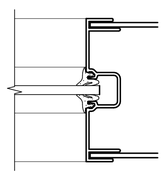
HORIZONTAL



SPLIT MULLION



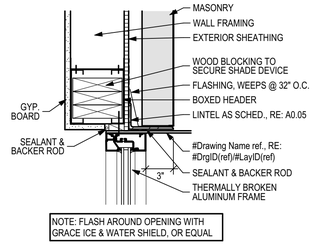
SILL



VARIABLE DEGREE JAMB

1 TYP. INTERIOR STOREFRONT

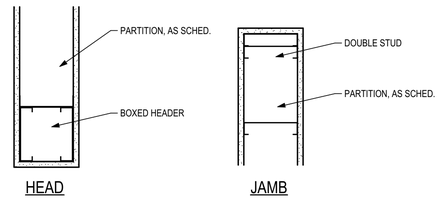
SCALE: 6" = 1'-0"



NOTE: FLASH AROUND OPENING WITH GRACE ICE & WATER SHIELD, OR EQUAL

2 ALUM. STOREFRONT HEAD W/ SHADE

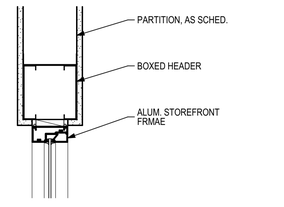
SCALE: 1 1/2" = 1'-0"



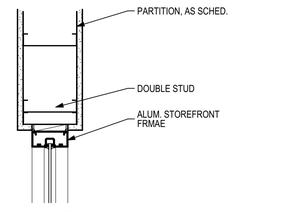
HEAD JAMB

3 CASED OPENING

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



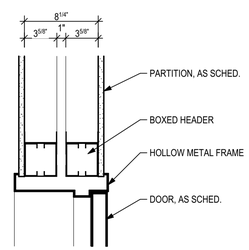
HEAD



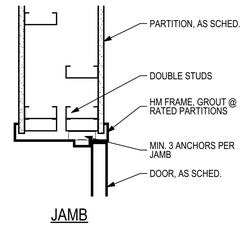
JAMB BASE

4 ALUM STOREFRONT @ STANDARD PARTITION

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



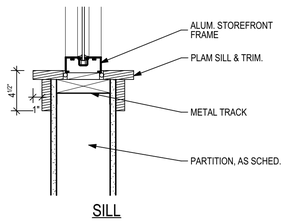
HEAD



JAMB BASE

5 HM DOOR @ 64 STC SOUND PARTITION

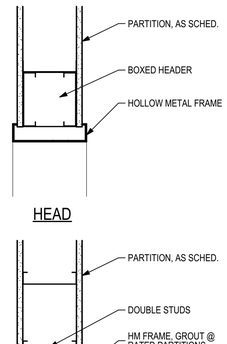
SCALE: 1 1/2" = 1'-0"



SILL

6 ALUM STOREFRONT SILL @ STANDARD PARTITION

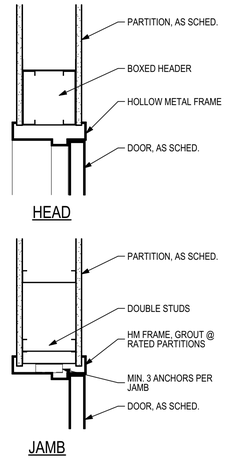
SCALE: 1 1/2" = 1'-0"



HEAD JAMB

7 HM FRAMED OPENING @ STANDARD PARTITION

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



HEAD JAMB BASE

8 HM DOOR @ MTL STUD GYP PARTITION

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

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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LICENSED ARCHITECT STATE OF TEXAS

Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

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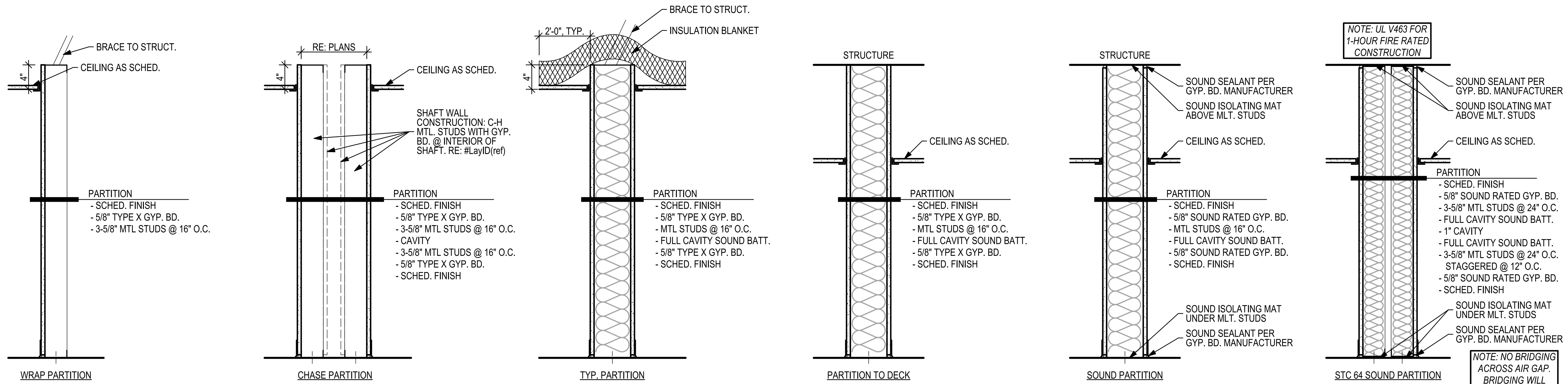
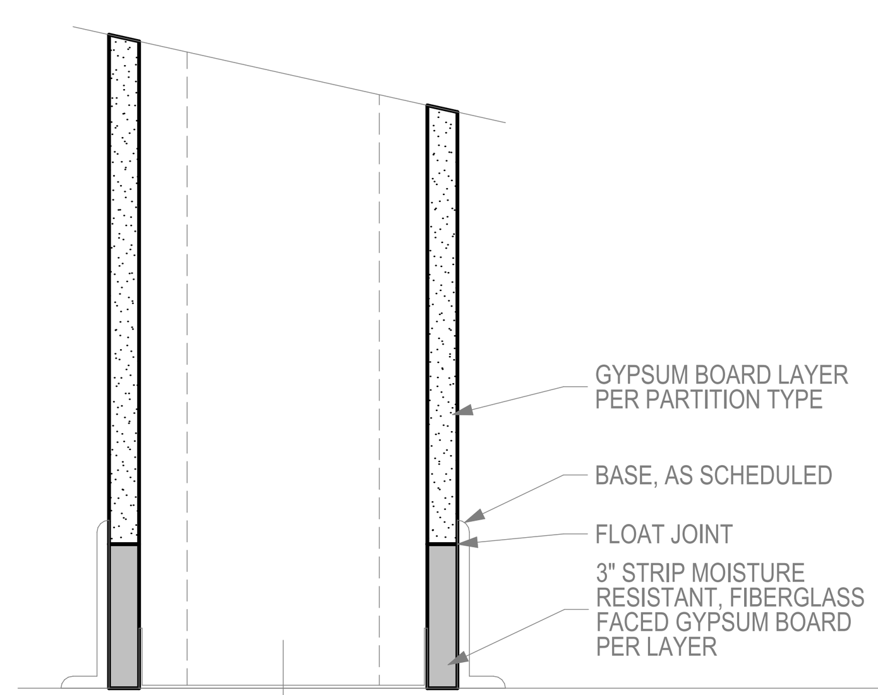
A7.03

OPENING DETAILS: INTERIOR



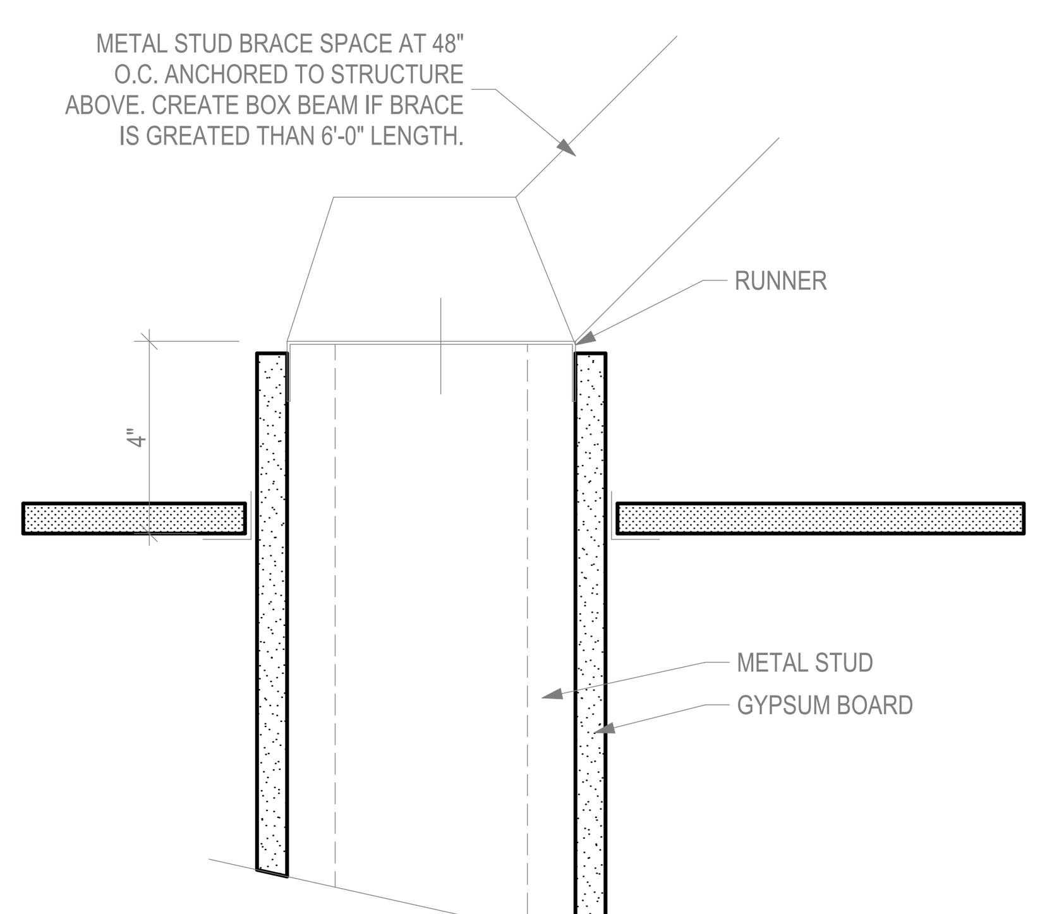
1 METAL STUD PARTITION DETAILS

SCALE: 1" = 1'-0"



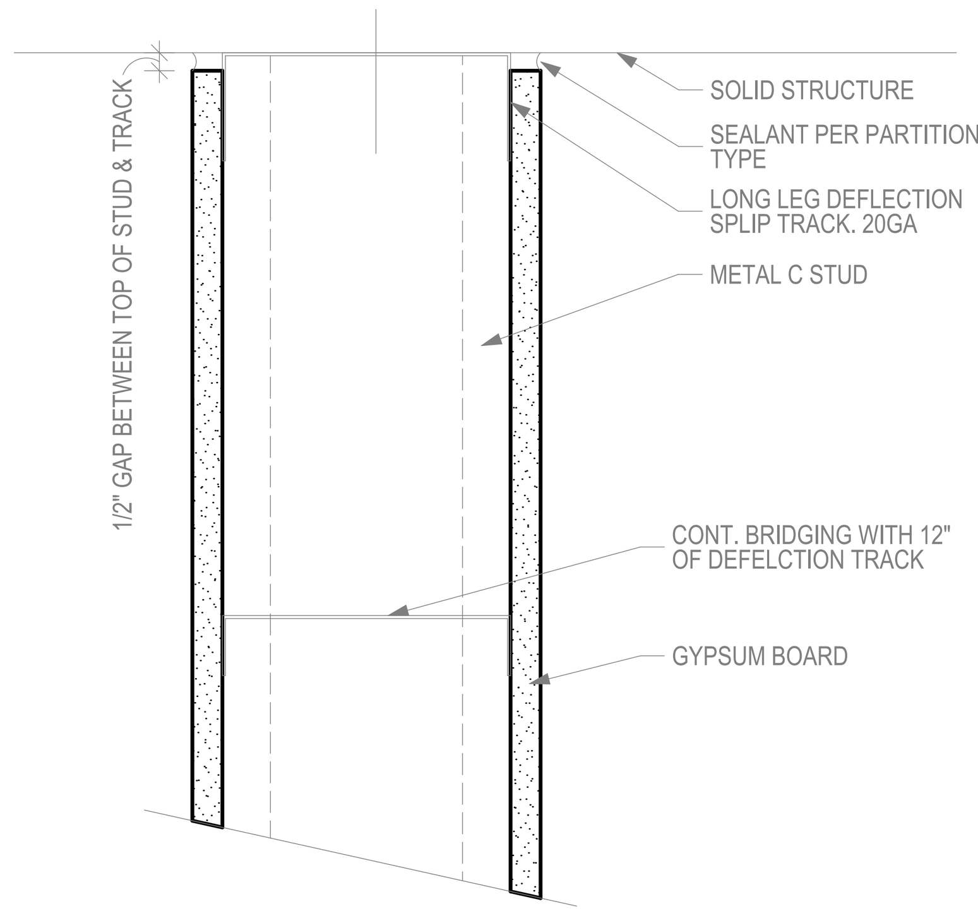
2 TYP. GYP. BD. WALL BASE

SCALE: 3" = 1'-0"



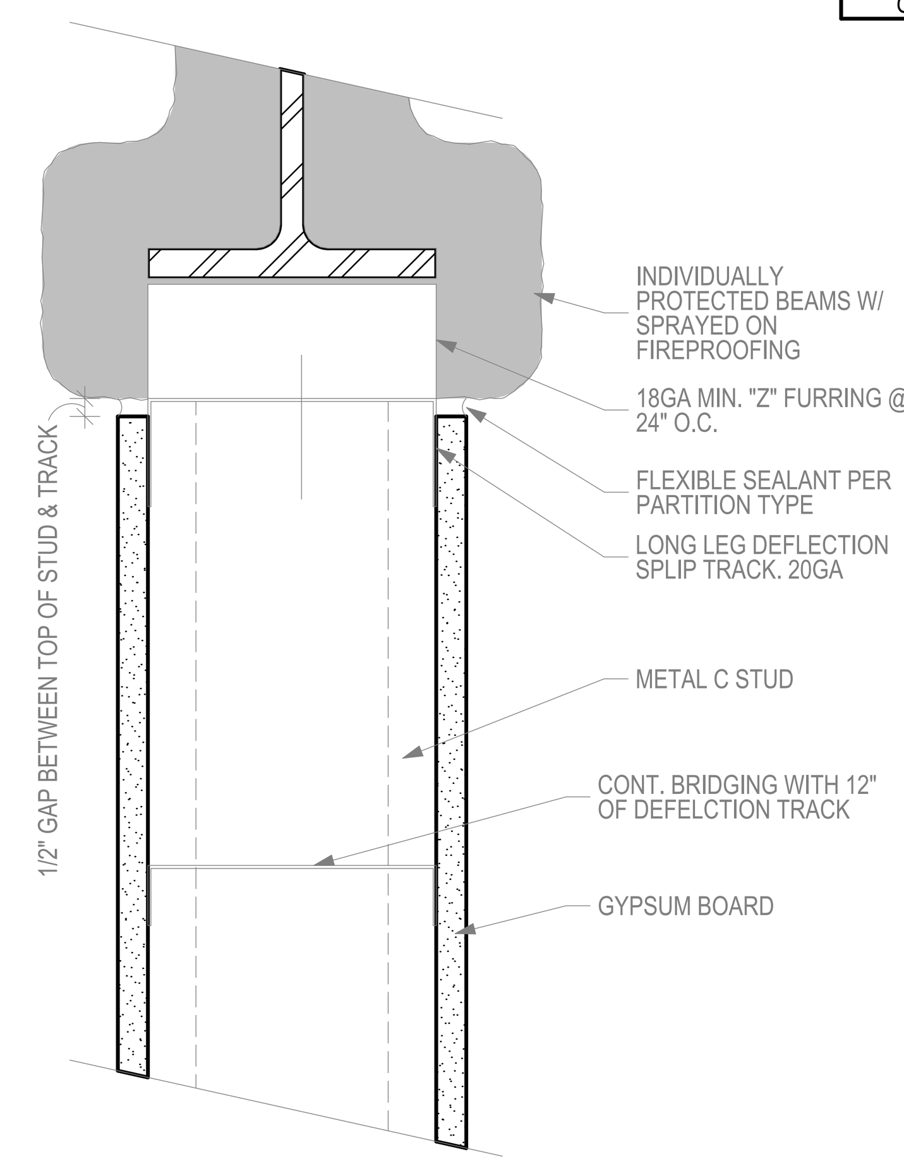
3 TYP. GYP. BD. WALL HEAD

SCALE: 3" = 1'-0"



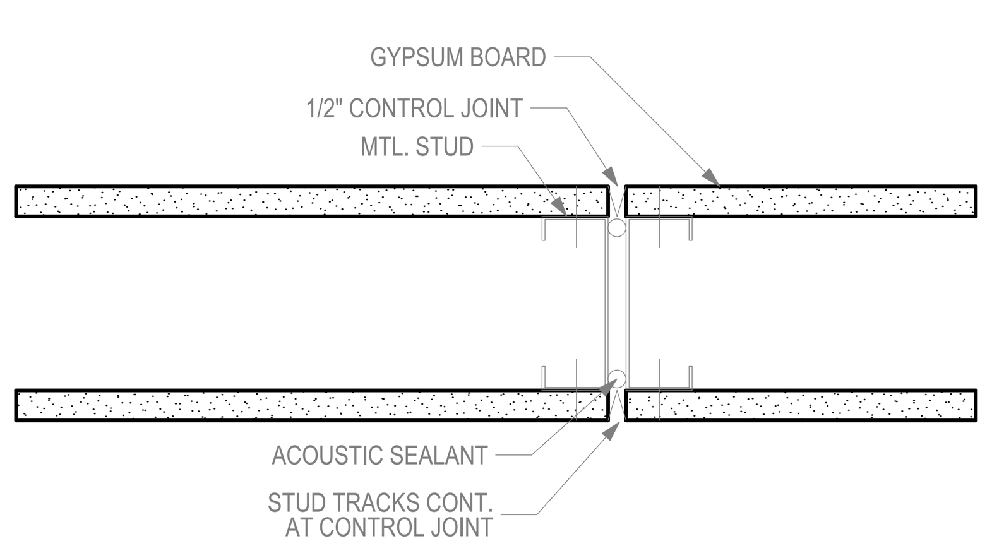
4 PARTITION TO SOLID STRUCTURE

SCALE: 3" = 1'-0"



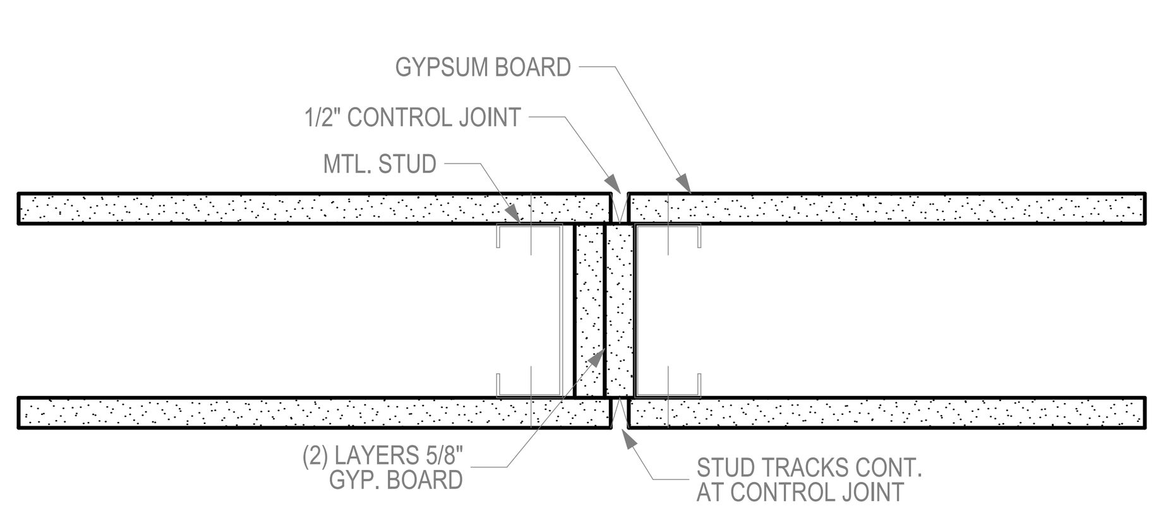
5 PARTITION TO STRUCTURAL ELEMENT

SCALE: 3" = 1'-0"



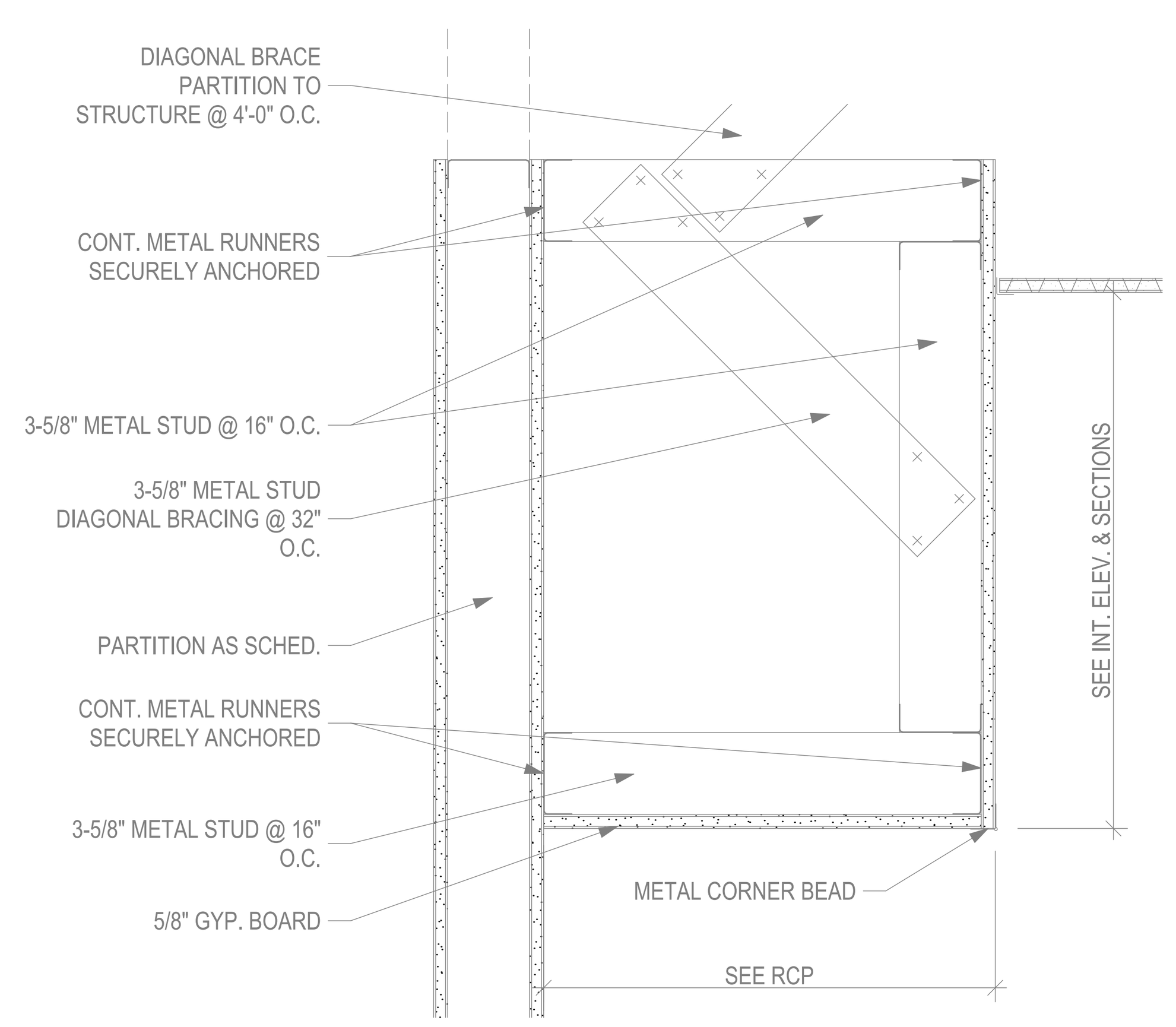
6 TYP. PARTITION CONTROL JOINT

SCALE: 3" = 1'-0"



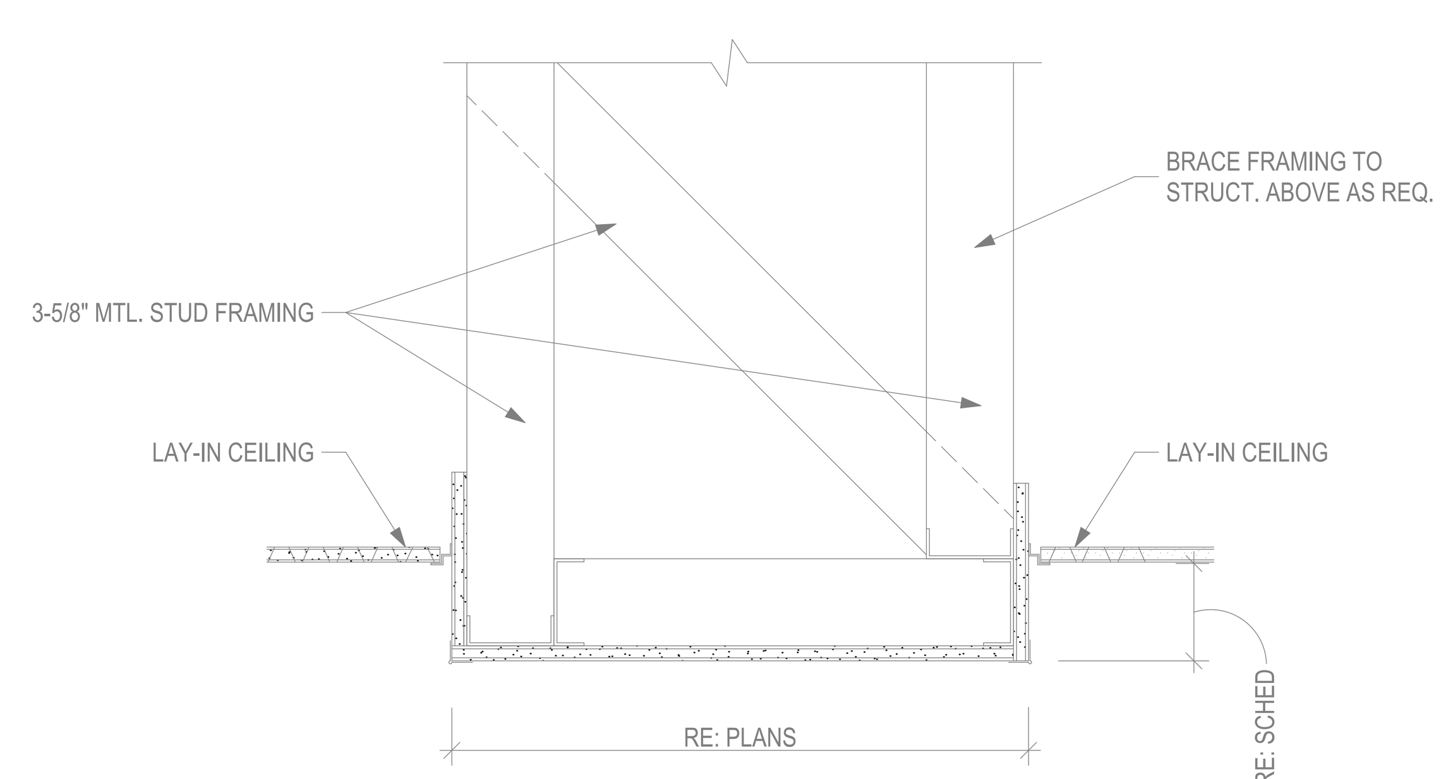
7 FIRE RATED PARTITION CONTROL JOINT

SCALE: 3" = 1'-0"



8 TYP. FURR DOWN

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



9 TYP. BULK HEAD

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

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

- NUMBERS: PARTITION SIZE
- LETTER: PARTITION MATERIAL
- LETTER AFTER POINT: SPECIAL NOTE

04M.D — EXAMPLE PARTITION TAG

PARTITION SIZE

0.7:	7/8" FURRING CHANNEL
01:	1-1/2" FURRING CHANNEL
02:	2-1/2" MTL STUD
04:	3-5/8" MTL STUD, 4" CMU NOMINAL
06:	6" MTL STUD, 6" CMU NOMINAL
08:	8" MTL STUD, 8" CMU NOMINAL
10:	10" MTL STUD, 10" CMU NOMINAL
12:	12" MTL STUD, 12" CMU NOMINAL

PARTITION MATERIAL

M:	METAL STUD
C:	CONCRETE MASONRY UNIT
W:	2X NOMINAL WOOD STUD

SPECIAL NOTE

D:	WALL TO DECK
CH:	CHASE WALL / COLUMN WRAP
F:	FURR OUT FROM WALL
S:	SOUND WALL CONSTRUCTION
S64:	STC 64 SOUND WALL
1H:	1 HOUR FIRE WALL, RE: #LayID(ref) FOR CONSTRUCTION
2H:	2 HOUR FIRE WALL, RE: #LayID(ref) FOR CONSTRUCTION
3H:	3 HOUR FIRE WALL, RE: #LayID(ref) FOR

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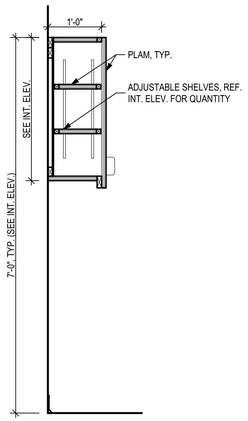
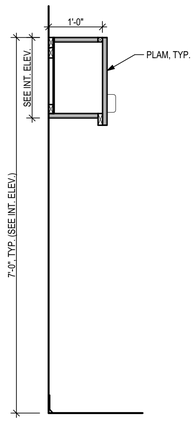
PARTITION DETAILS

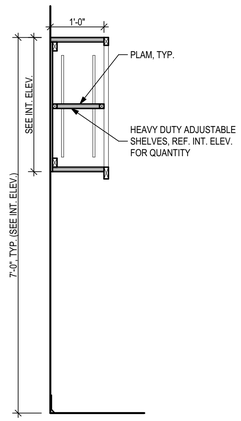
A7.04



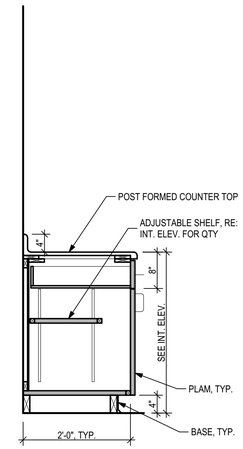
1 UPPER CABINET, TYP.
SCALE: 3/4" = 1'-0"



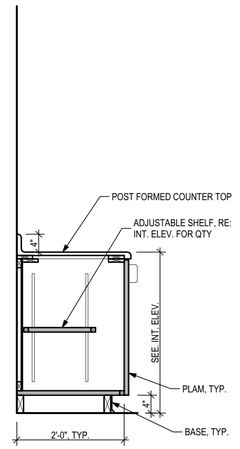
2 UPPER CABINET, SHORT
SCALE: 3/4" = 1'-0"



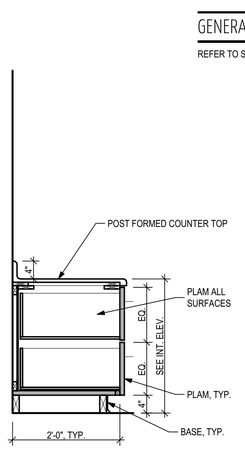
3 UPPER CABINET OPEN, TYP
SCALE: 3/4" = 1'-0"



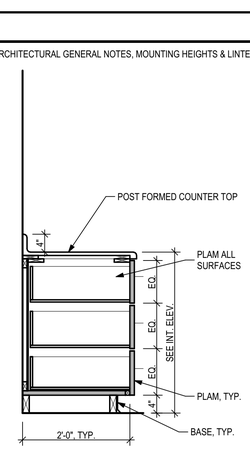
4 BASE CABINET, TYP
SCALE: 3/4" = 1'-0"



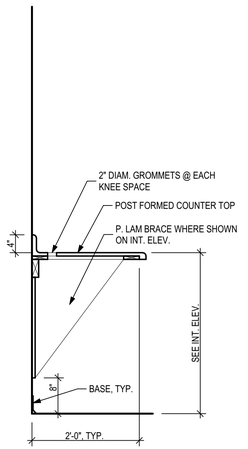
5 BASE CABINET, DOOR
SCALE: 3/4" = 1'-0"



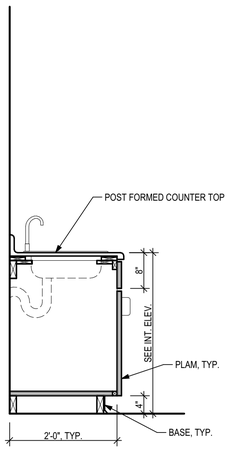
6 BASE CABINET, TWO DRAWERS
SCALE: 3/4" = 1'-0"



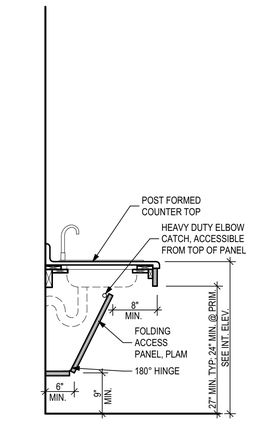
7 BASE CABINET, THREE DRAWERS
SCALE: 3/4" = 1'-0"



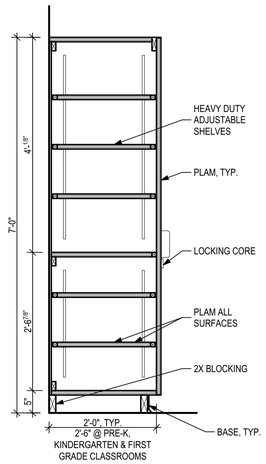
8 BASE CABINET, KNEE SPACE
SCALE: 3/4" = 1'-0"



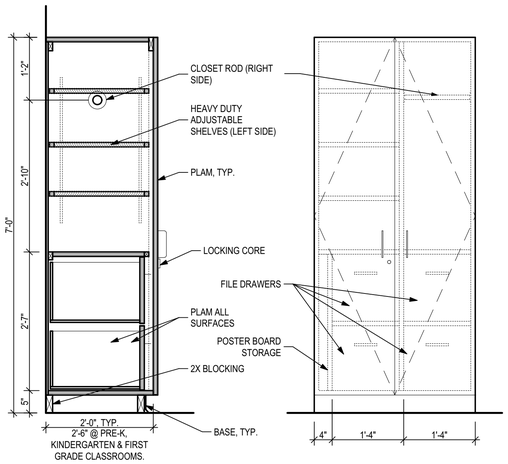
9 BASE CABINET, SINK
SCALE: 3/4" = 1'-0"



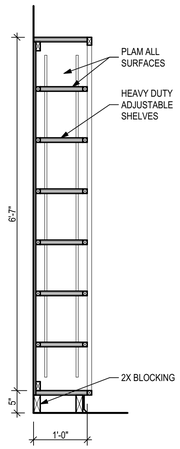
10 BASE CABINET, SINK, KNEE SPACE
SCALE: 3/4" = 1'-0"



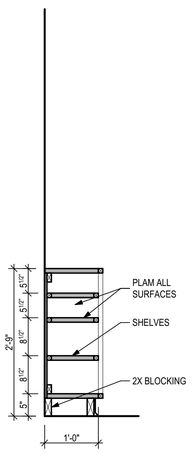
11 STORAGE CABINET, TYP.
SCALE: 3/4" = 1'-0"



12 TEACHER'S WARDROBE CABINET, TYP.
SCALE: 3/4" = 1'-0"



13 BOOK SHELF
SCALE: 3/4" = 1'-0"



14 CUBBIE, TYP.
SCALE: 3/4" = 1'-0"

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE

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Brady Independent School District
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Revision:

Project Number
1703

Date:
4/4/2019

Sheet Number

CASEWORK DETAILS A7.05

GENERAL NOTES

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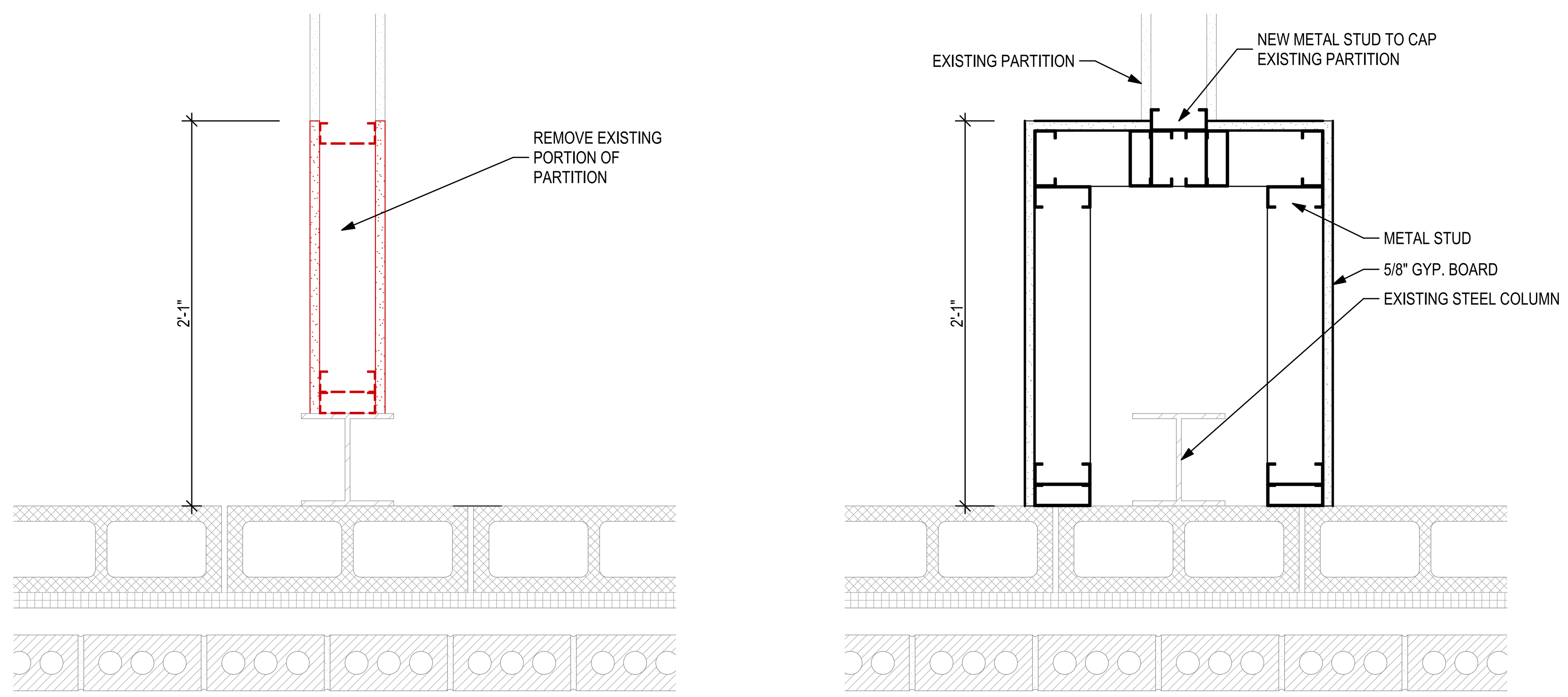
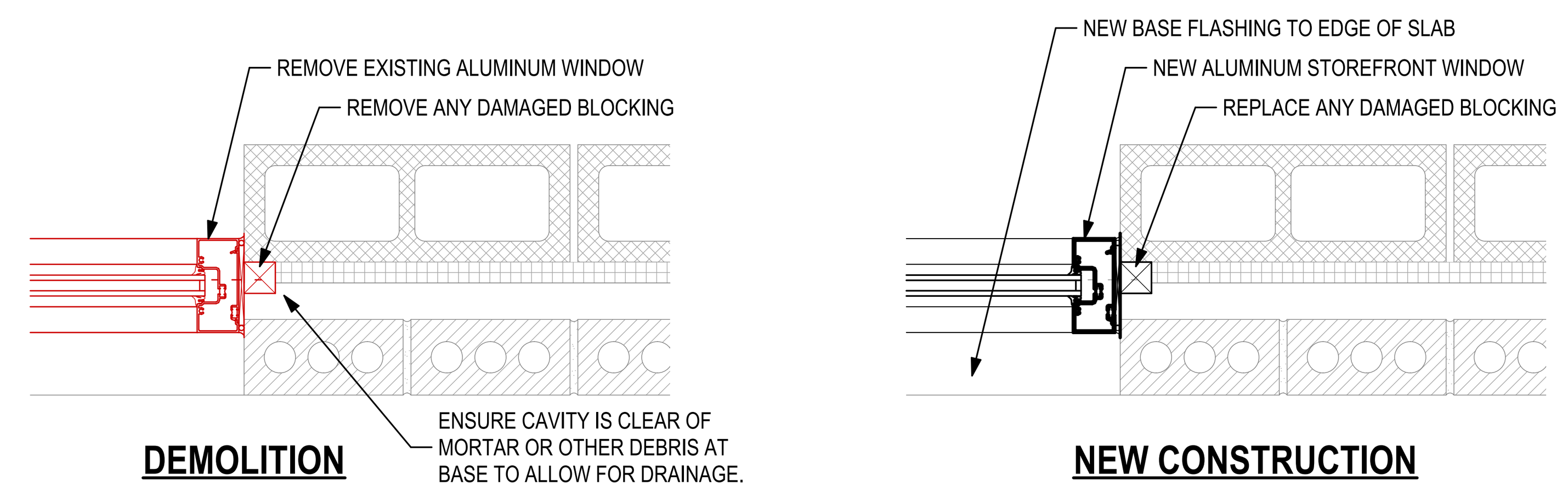


DEMOLITION **NEW CONSTRUCTION**

1 EXTERIOR CHASE PLAN DETAIL

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



DEMOLITION **NEW CONSTRUCTION**

2 WINDOW REPLACEMENT PLAN DETAIL

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

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Revision:

Project Number
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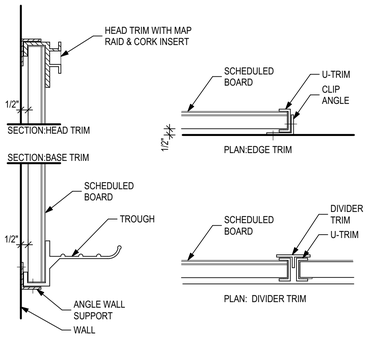
Date:
4/4/2019

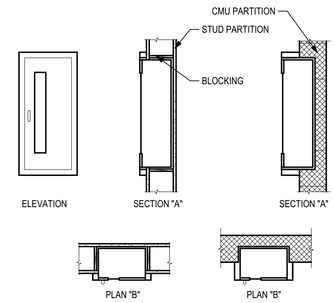
Sheet Number

PLAN & COLUMN DETAILS

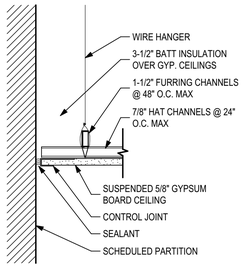
A7.06



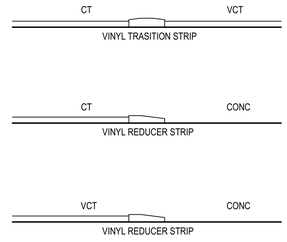
1 MARKER BOARD
SCALE: 1 1/2" = 1'-0"



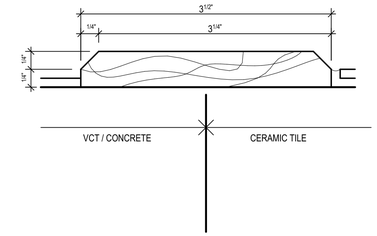
2 FIRE EXTINGUISHER CABINET
SCALE: 3/4" = 1'-0"



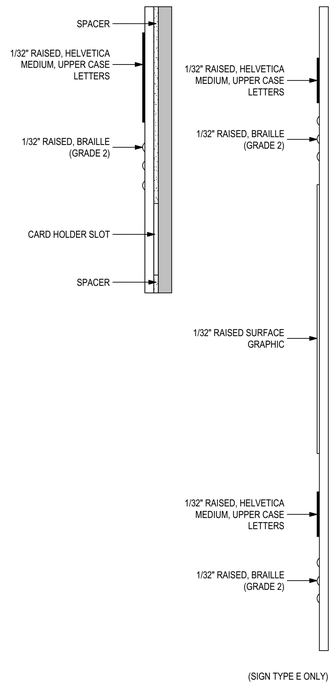
3 GYP. CEILING
SCALE: 3" = 1'-0"



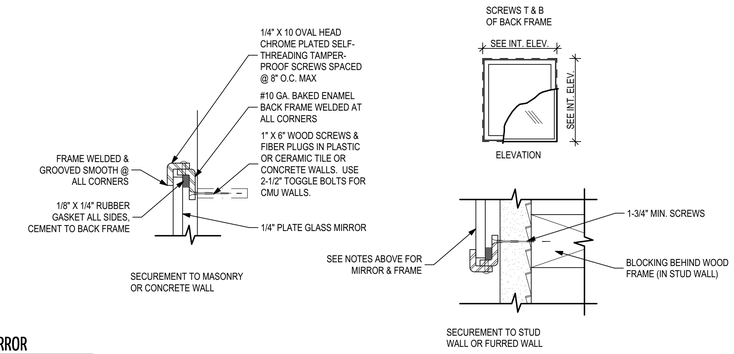
4 FLOOR TRANSITIONS
SCALE: 3" = 1'-0"



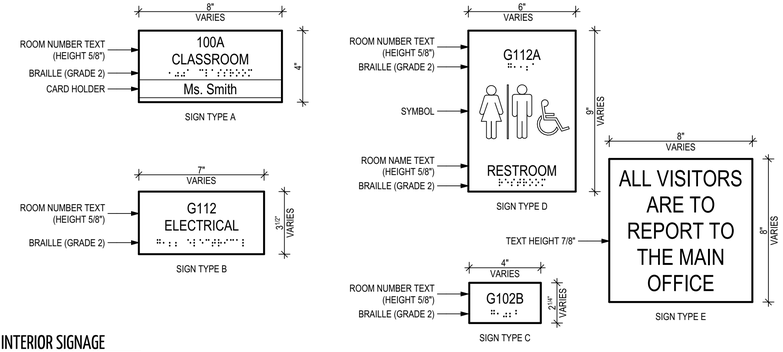
5 VCT TO CERAMIC TILE TRANSITION
SCALE: 1" = 1'-0"



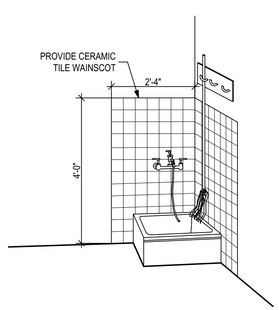
6 SIGNAGE SECTIONS
SCALE: 1" = 1'-0"



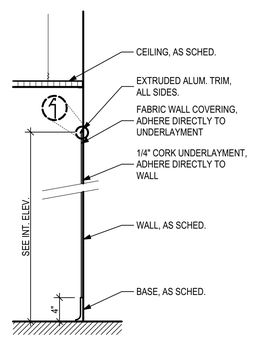
7 MIRROR
SCALE: 3" = 1'-0"



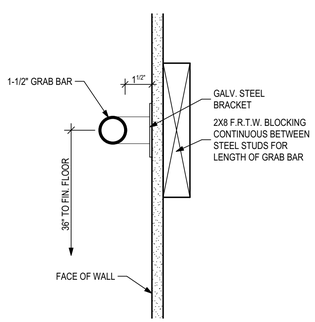
8 INTERIOR SIGNAGE
SCALE: 3" = 1'-0"



10 MOP STATION
SCALE: 1/2" = 1'-0"



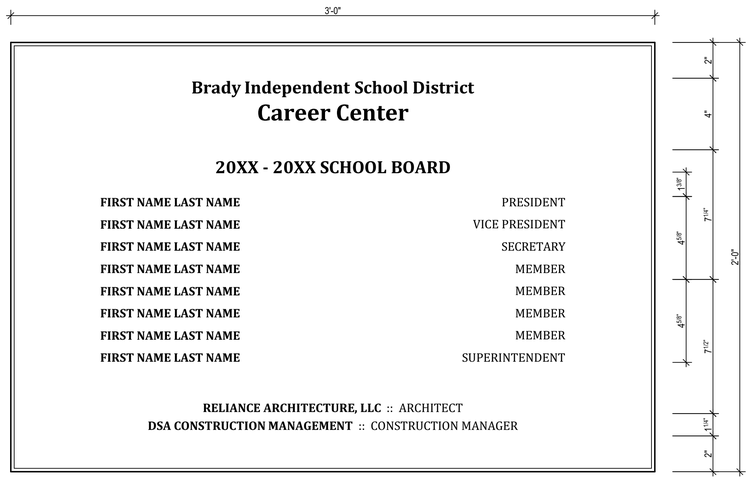
11 TACKABLE WALL SURFACE
SCALE: 1" = 1'-0"



12 GRAB BAR
SCALE: 3" = 1'-0"

GENERAL NOTES

REFER TO SHEET A0.05 FOR ARCHITECTURAL GENERAL NOTES, MOUNTING HEIGHTS & LINTEL SCHEDULE



9 DEDICATION PLAQUE
SCALE: 3" = 1'-0"

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Revision:

Project Number
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INTERIOR DETAILS A7.07

GENERAL NOTES

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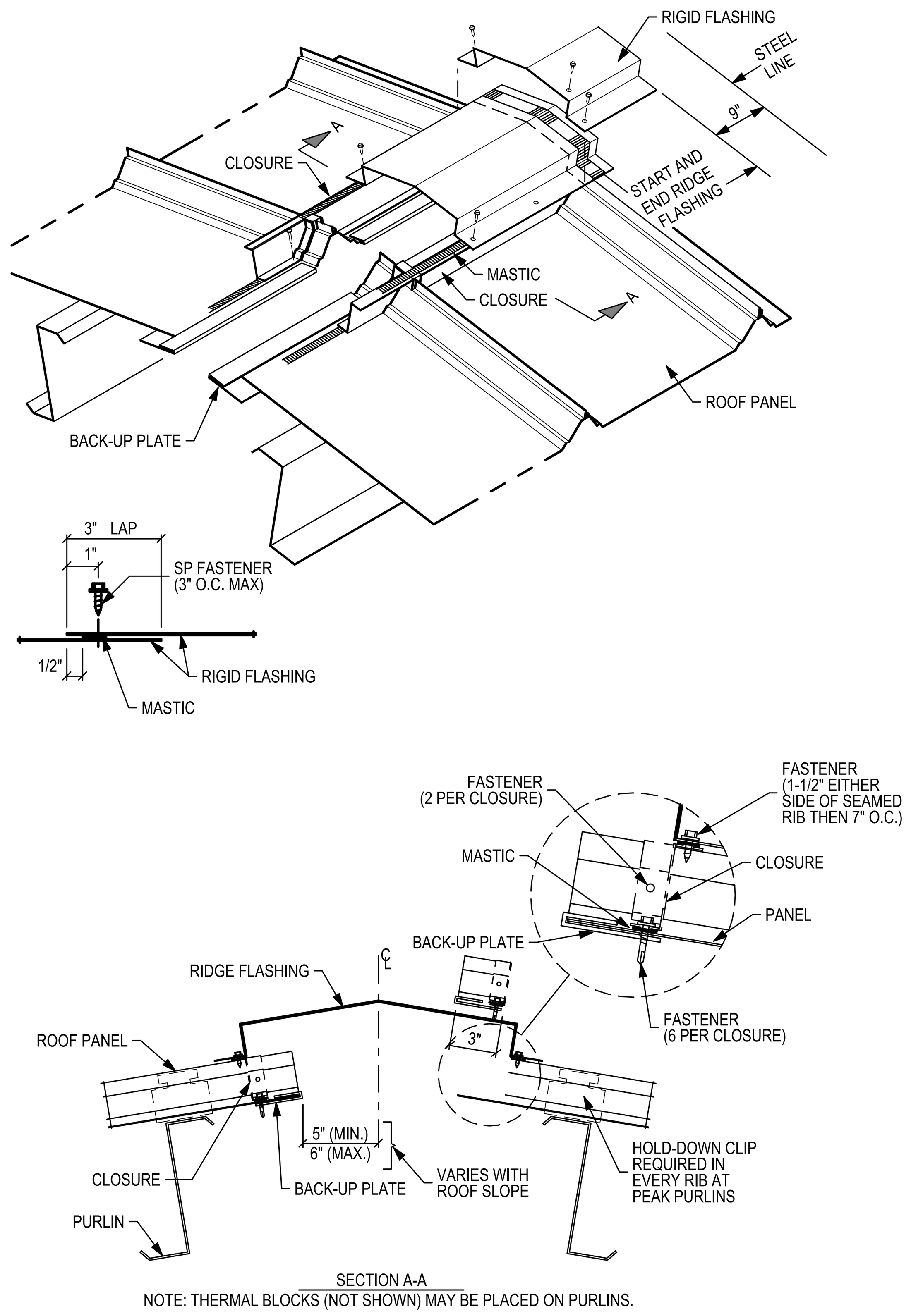

1 RIDGE DETAIL
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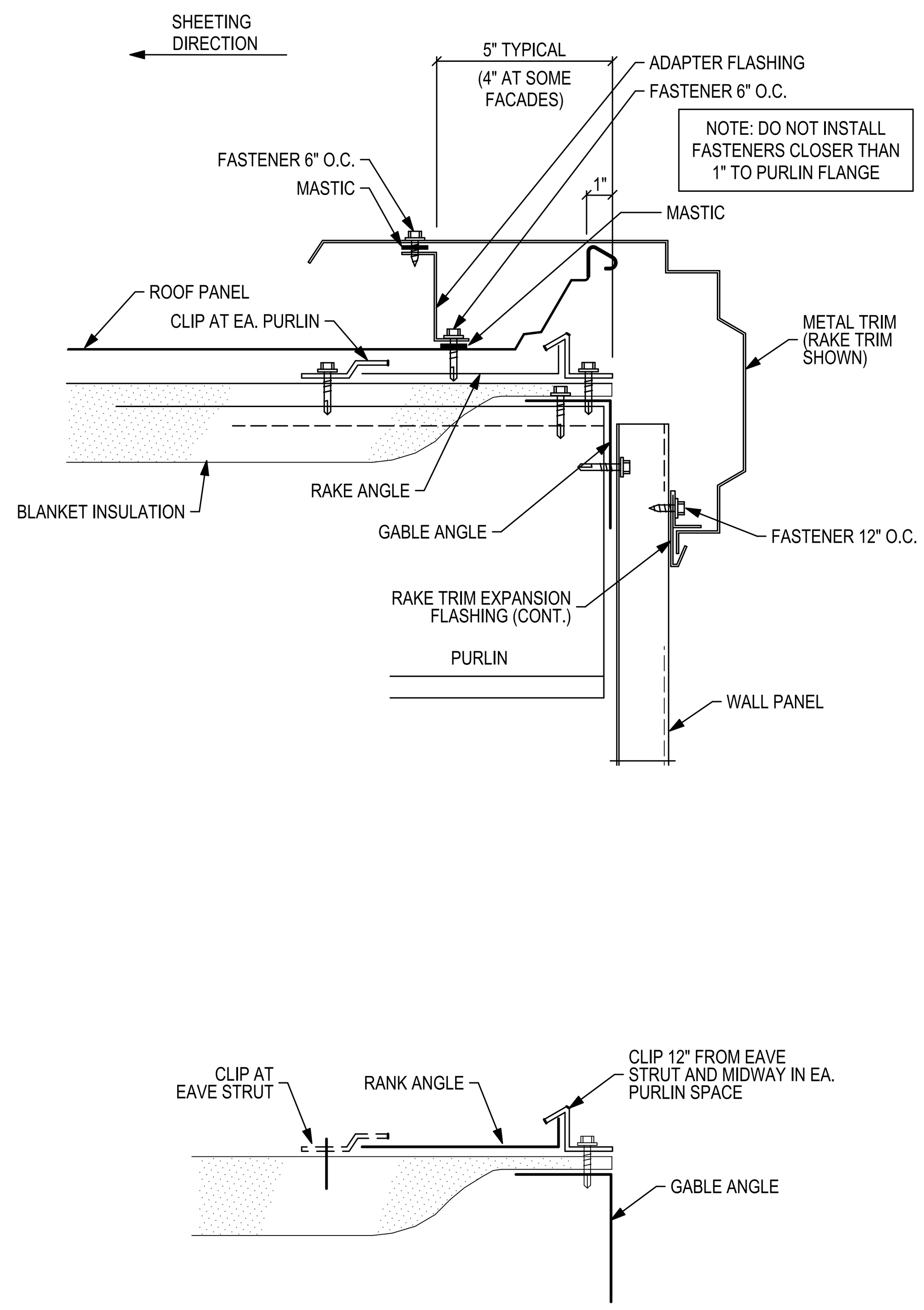

2 RAKE DETAIL
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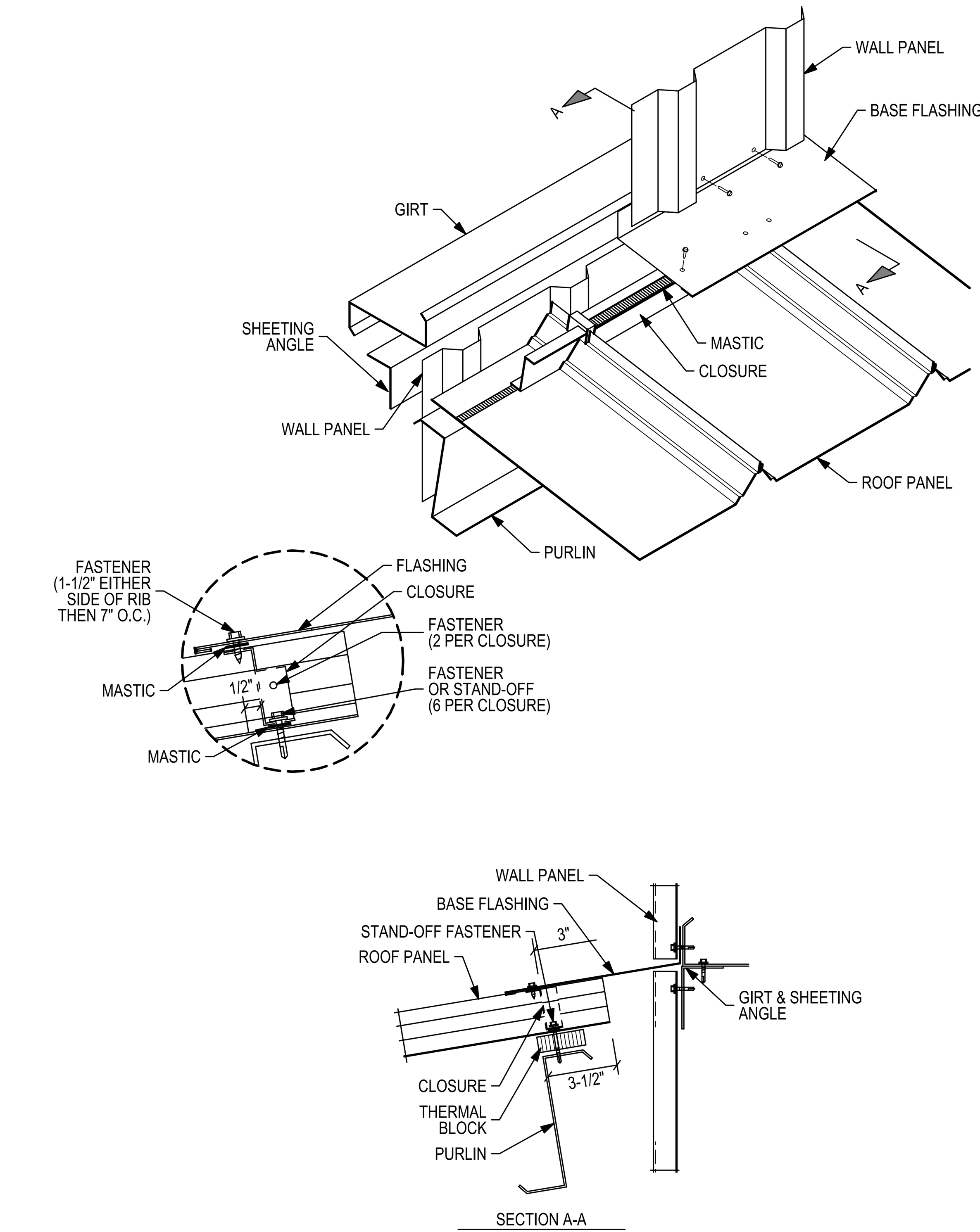

3 BUILDING INTERSECTION DETAIL
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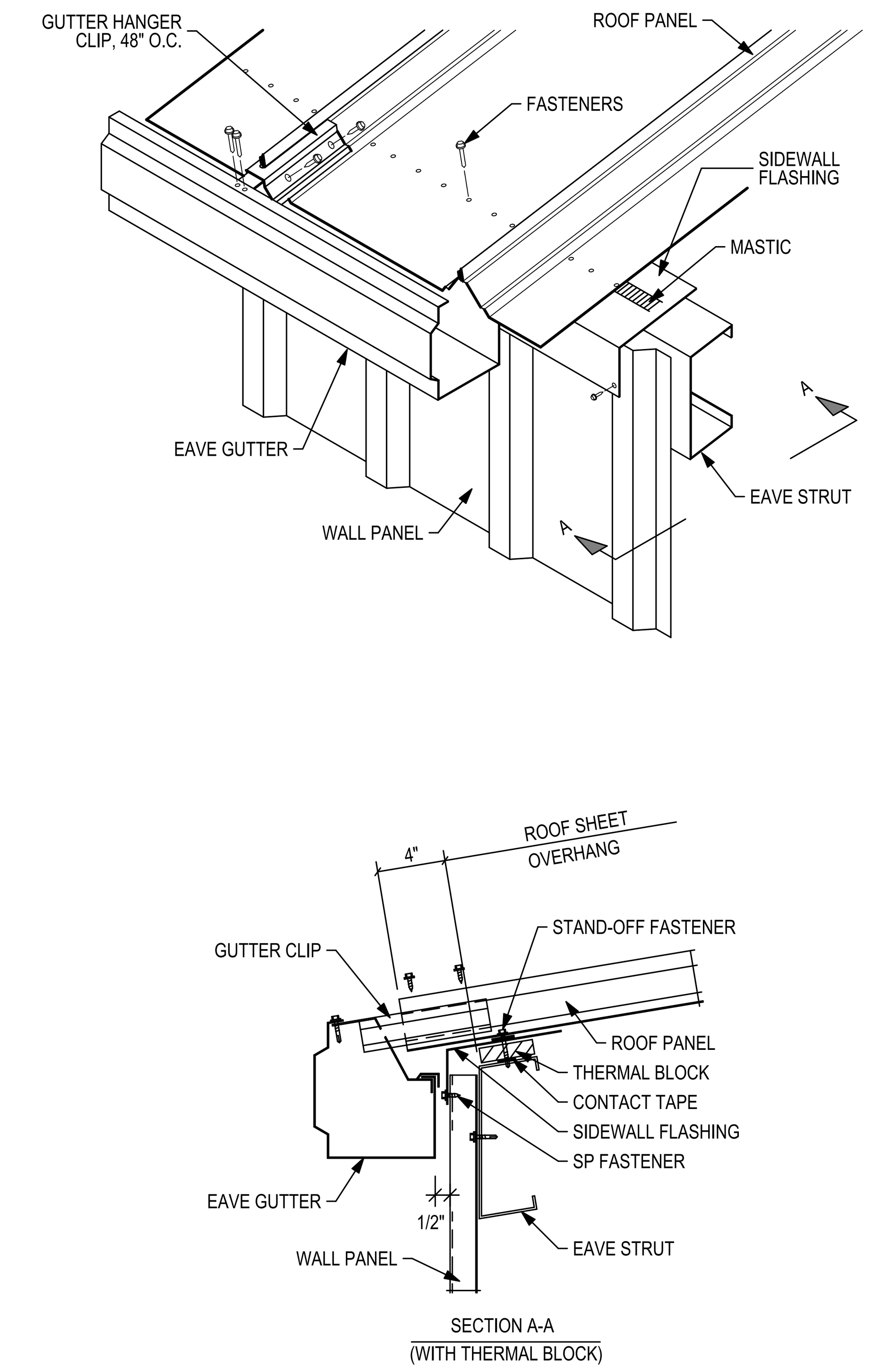
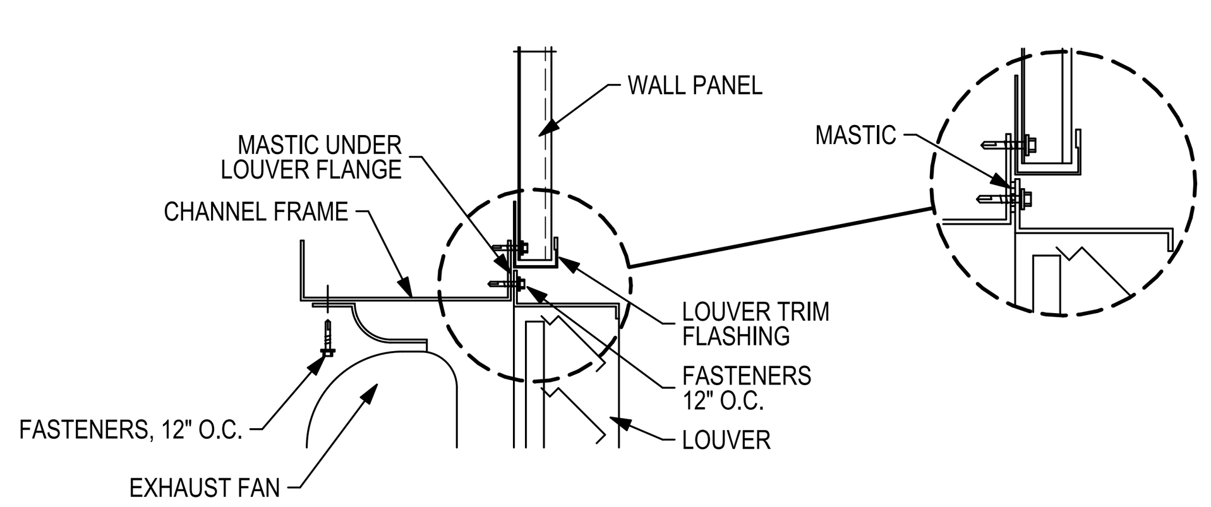


4 EAVE & GUTTER DETAIL
SCALE: NOT TO SCALE



5 LOUVER DETAIL
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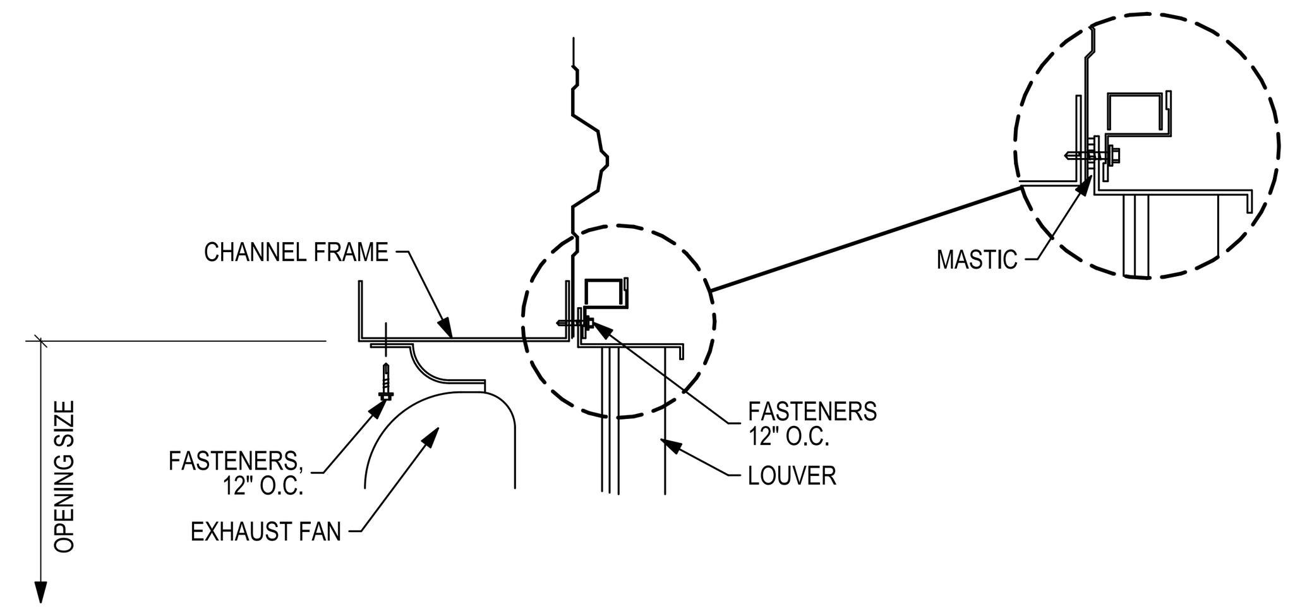

6 LOUVER DETAIL
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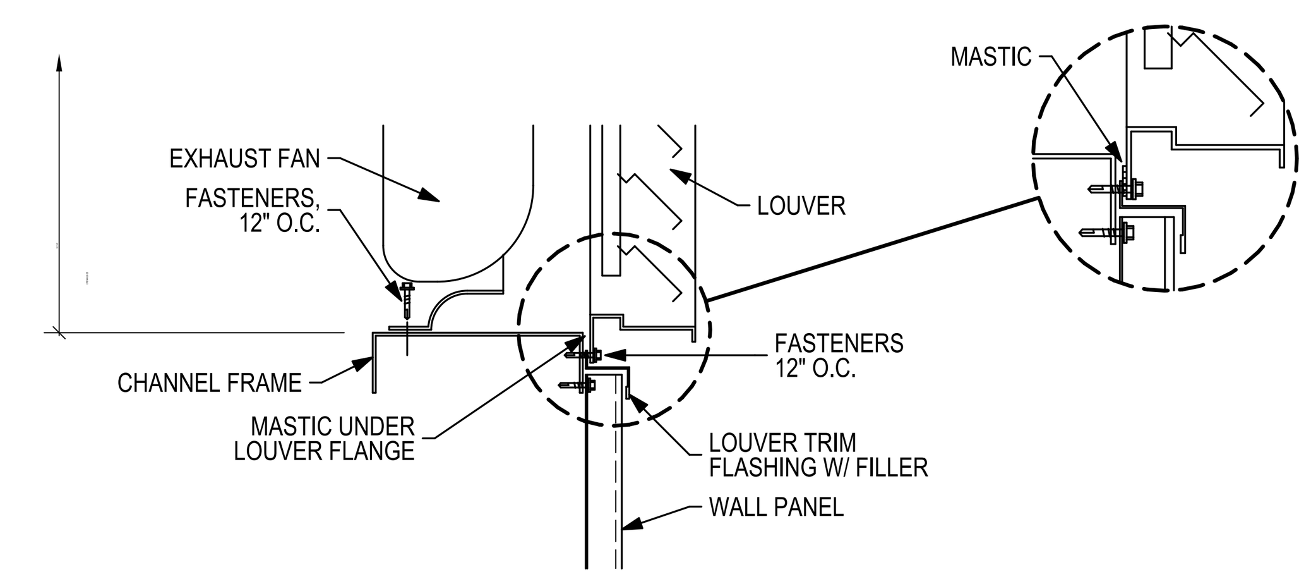

7 LOUVER DETAIL
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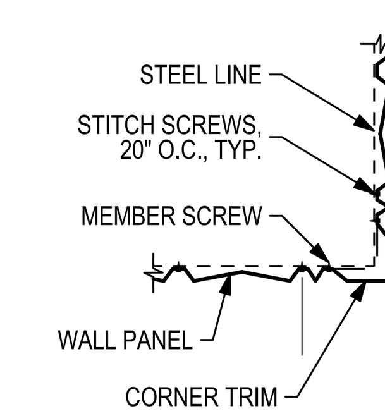
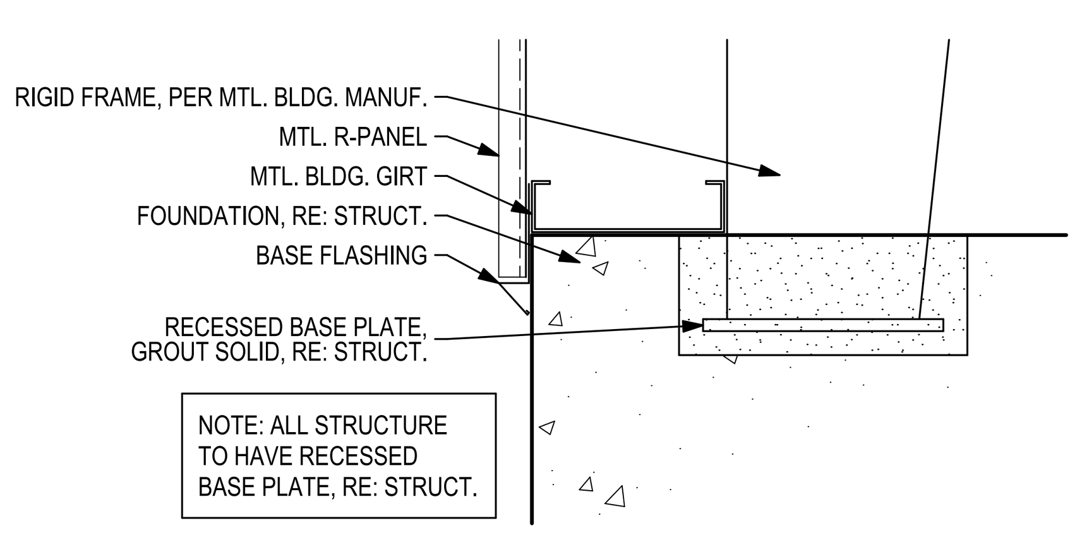


8 CORNER DETAIL
SCALE: NOT TO SCALE



9 WALL BASE DETAIL
SCALE: NOT TO SCALE

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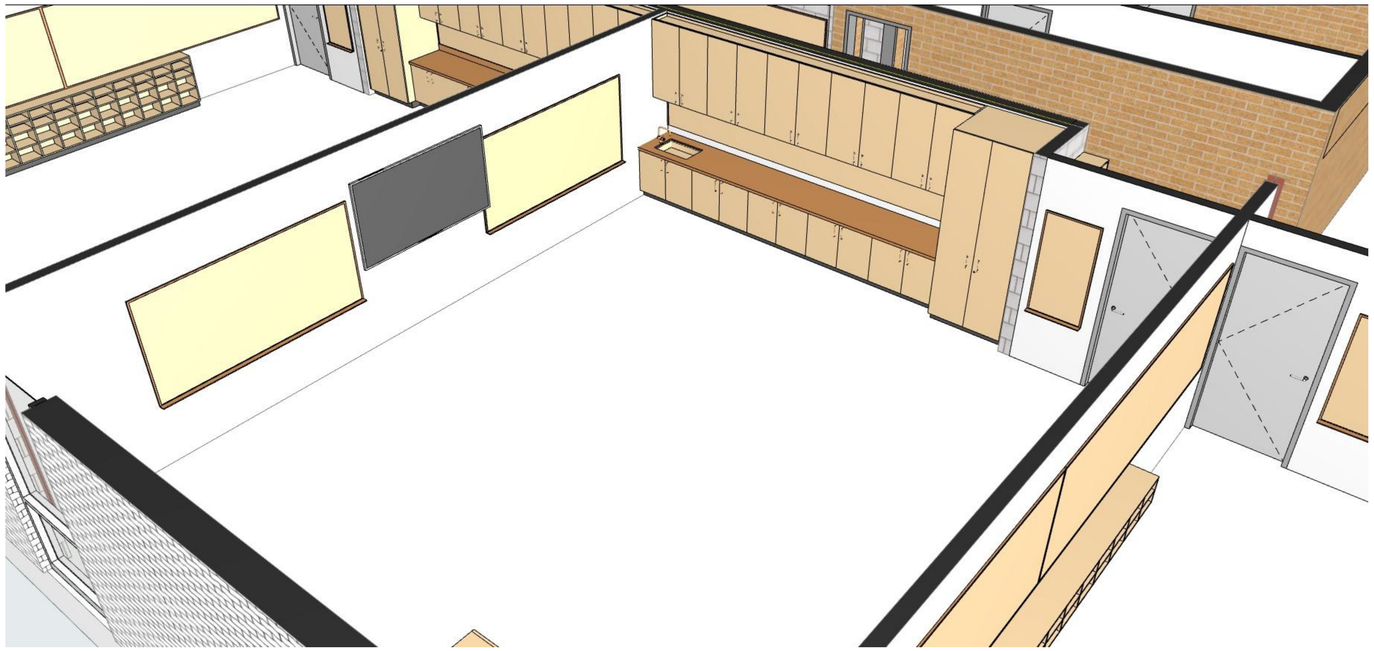
Date:
4/4/2019

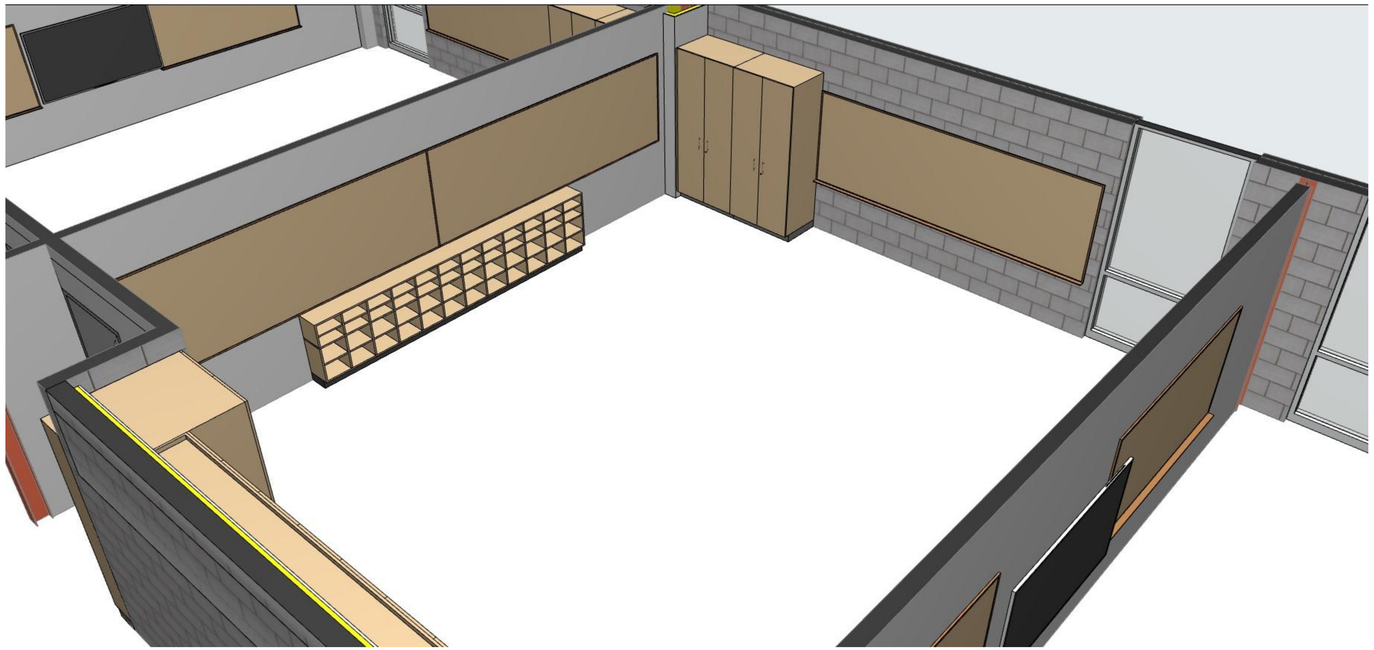
Sheet Number

TYPICAL METAL BUILDING DETAILS
A7.08



1 ELEMENTARY CLASSROOM 1

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



2 ELEMENTARY CLASSROOM 2

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

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Revision:

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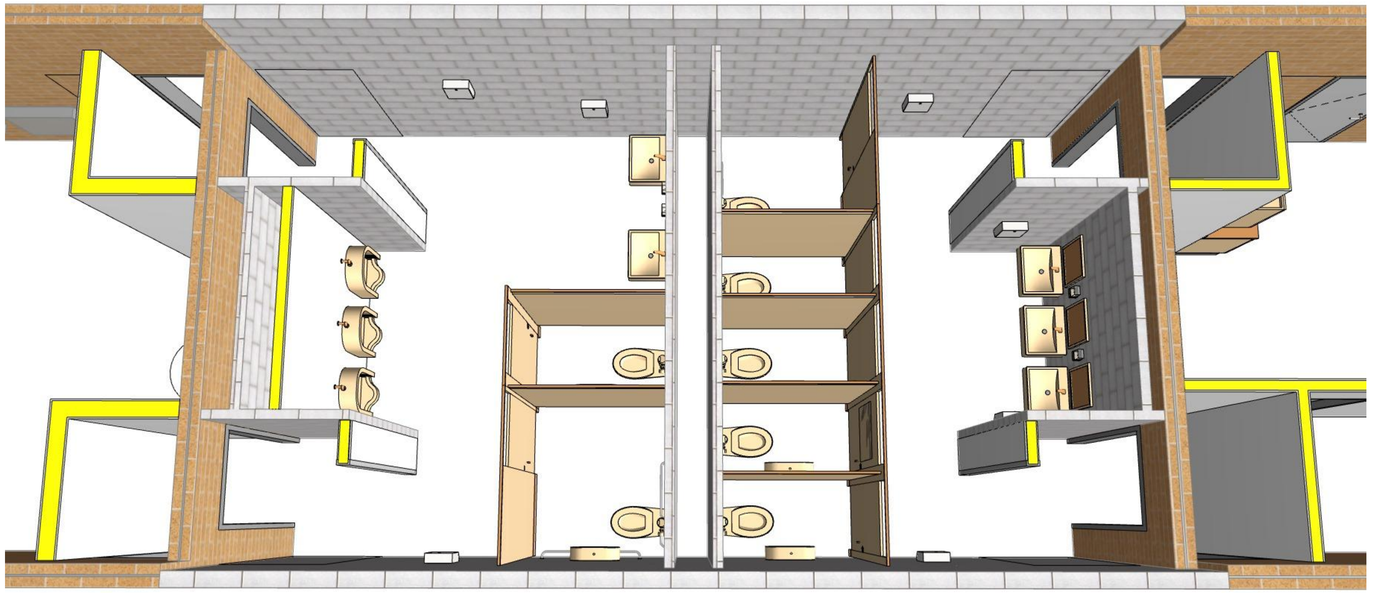
Sheet Number

3D MODEL: ELEMENTARY RENOVATIONS A9.00



1 ELEMENTARY RESTROOMS 1965

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

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Revision:

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Date:
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Sheet Number

3D MODEL: ELEMENTARY RENOVATIONS A9.01

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

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Project Number
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Date:
4/4/2019

Sheet Number
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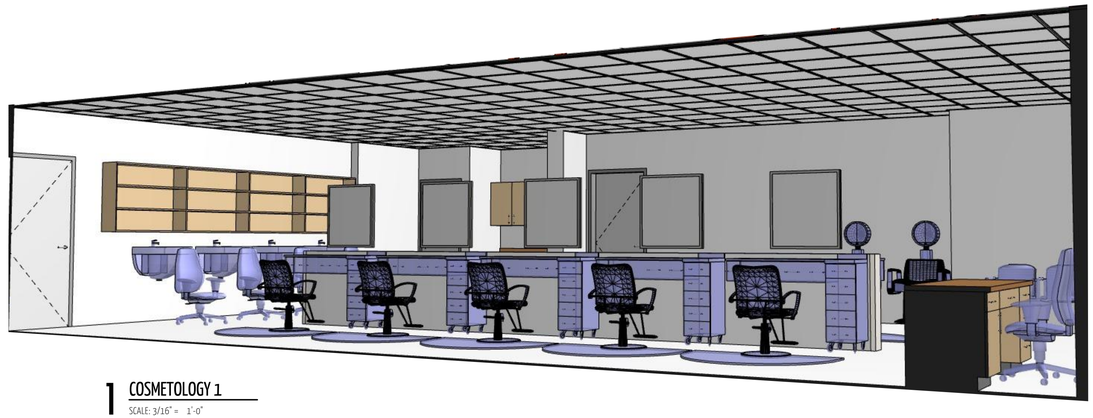
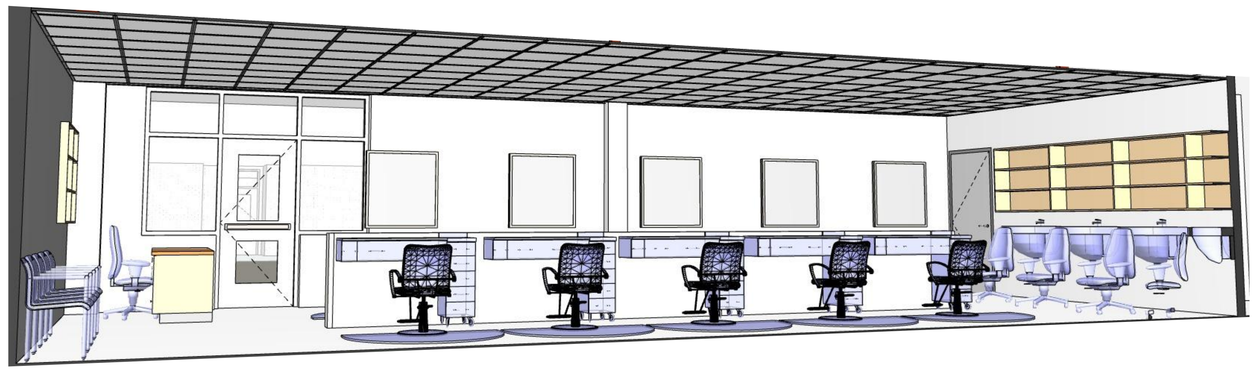
3D MODEL: CAREER CENTER EXTERIOR



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



2 COSMETOLOGY 2
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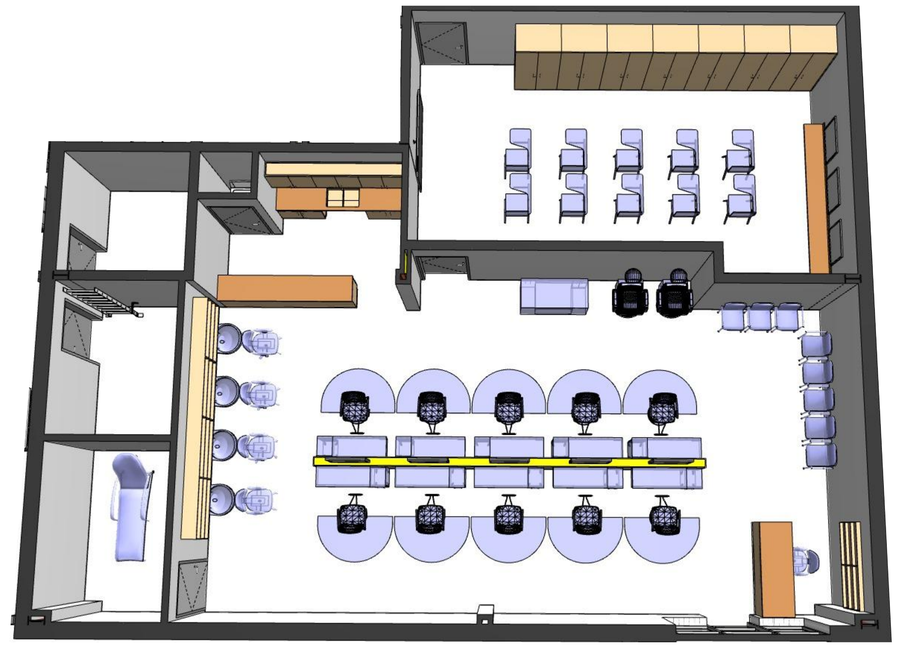

3 COSMETOLOGY ABOVE
SCALE: 3/16" = 1'-0"

3D RENDERINGS ARE PROVIDED FOR GRAPHICAL REPRESENTATION OF DESIGN INTENT. THEY ARE ONLY PROVIDED AS REFERENCE MATERIAL AND ARE NOT TO BE USED FOR CONSTRUCTION.

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Brady Independent School District
BOND 2018 PROJECTS
Brady, Texas

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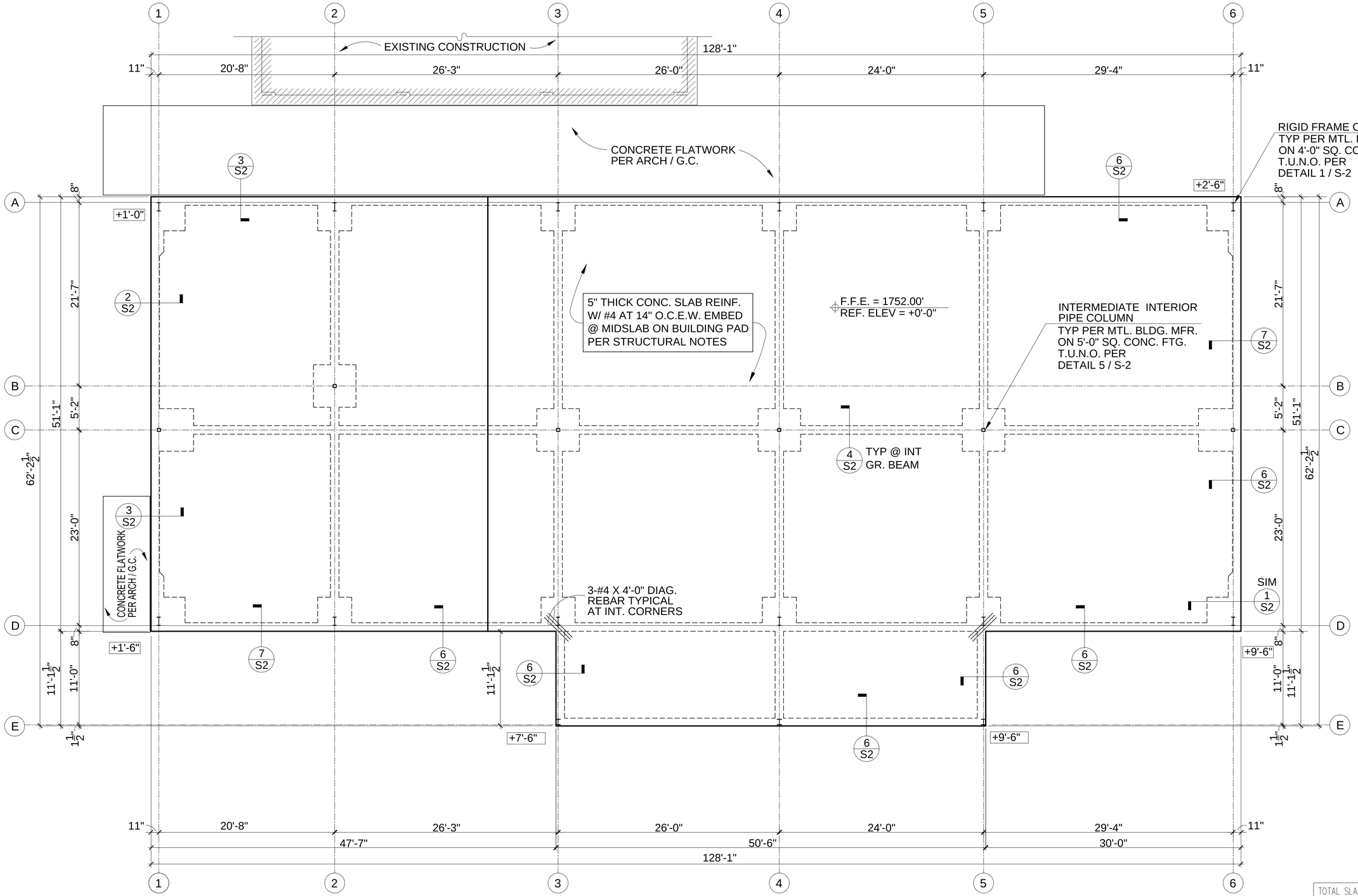
3D MODEL: COSMETOLOGY A9.03



FOUNDATION PLAN

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

PLAN NOTES:

1. VERIFY ALL SLABDROP, PLUMBING, ELECTRICAL, AND MISC. SLAB INFORMATION WITH ARCHITECTURAL DRAWINGS.
2. SEE SHEET S3 FOR STRUCTURAL NOTES.
3. G.C. SHALL VERIFY DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND SHALL NOTIFY ARCHITECT/ ENGINEER OF DISCREPANCIES PRIOR TO CONSTRUCTION.
4. SEE ARCHITECTURAL FOR SLAB DROPS AT ENTRIES AND DOOR THRESHOLD REQUIREMENTS.
5. +0'-6" DENOTES APPROXIMATE FINISH FLOOR ELEVATION ABOVE ADJACENT EXISTING GRADES. THE G.C. SHALL FIELD VERIFY THESE GRADES AND NOTIFY THE ENGINEER WITH ANY DISCREPANCIES FOR INSTRUCTION PRIOR TO CONSTRUCTION.
6. PERFORM A THREE DAY WET CURE ON ALL CONCRETE SLABS PRIOR TO APPLICATION OF THE CURING COMPOUND PER SPECIFICATIONS.
7. NOTIFY LOC 36 HOURS PRIOR TO PLACEMENT OF CONCRETE FOR A REBAR INSPECTION. FAILURE TO NOTIFY LOC FOR REBAR INSPECTION SHALL NEGATE ANY LIABILITY FOR THE PERFORMANCE OF THE FOUNDATION DESIGN.

NOTE: FIELD VERIFY LOCATION OF REQUIRED RETAINING WALL DETAILS AS REQUIRED

TOTAL SLAB AREA=
7066 SQ. FT.

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S18212

STATE OF TEXAS
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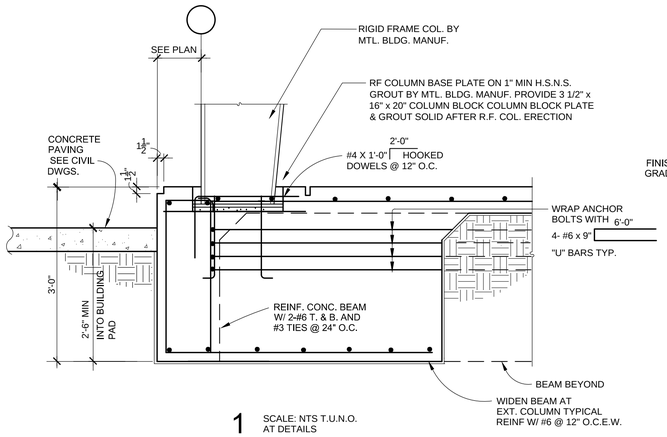
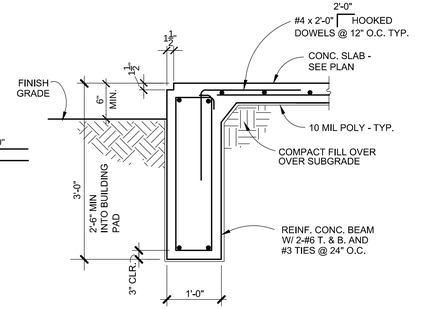


1 SCALE: NTS T.U.N.O. AT DETAILS



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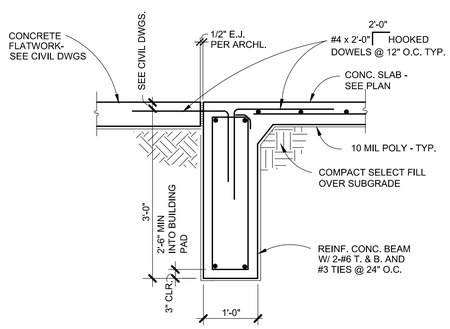

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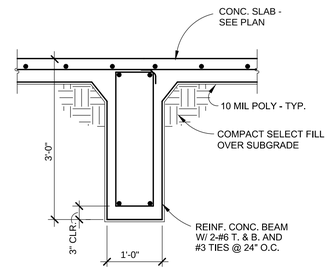

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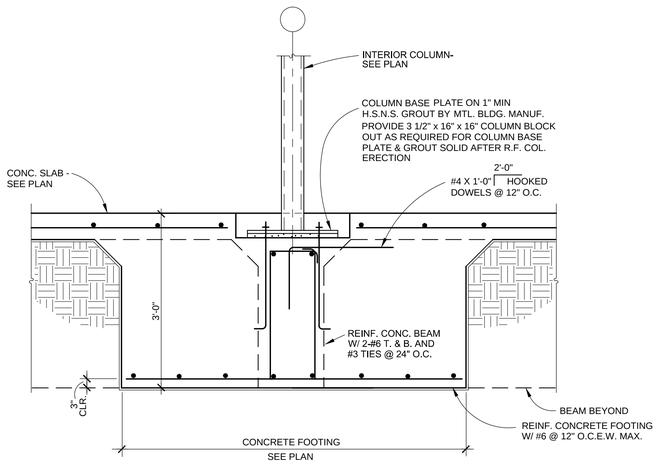

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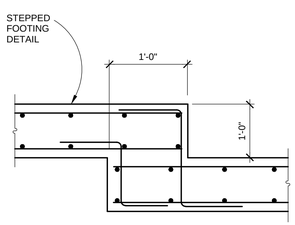
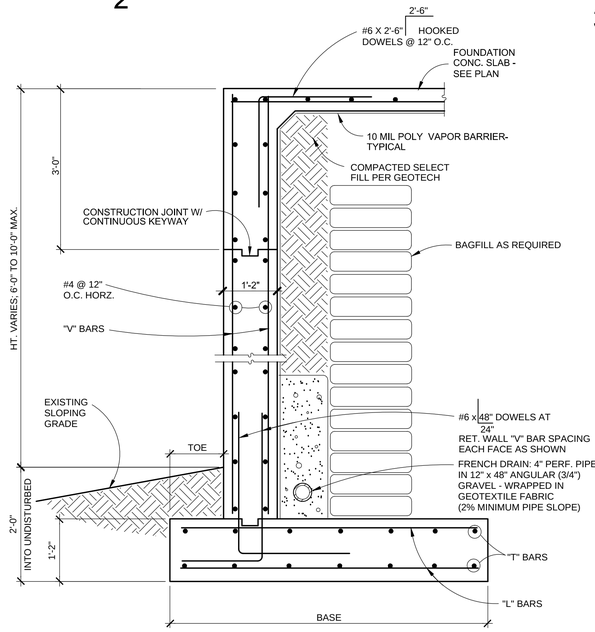
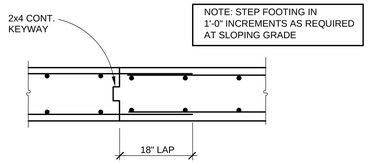


8 STEPPED FOOTING DETAIL
NO SCALE

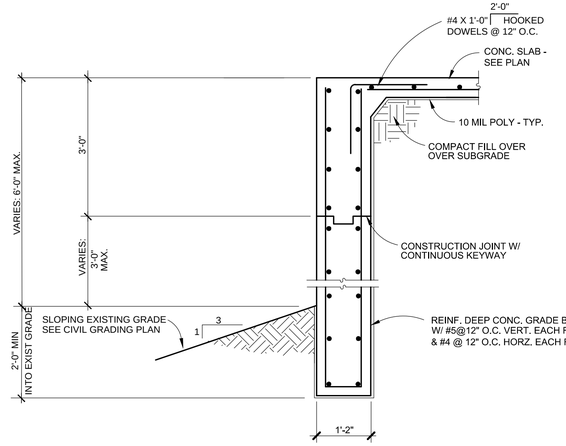


6 DEEP BEAM / RETAINING WALL SECTION
NO SCALE

RETAINING WALL SCHEDULE					
HT.	BASE	TOE	"V" BARS	"L" BARS	"T" BARS
6'-0"	3'-6"	1'-0"	#4 @ 12"	#4 @ 12"	#4 @ 12"
8'-0"	4'-0"	1'-0"	#5 @ 12"	#4 @ 12"	#4 @ 12"
10'-0"	4'-0"	1'-0"	#5 @ 12"	#5 @ 12"	#5 @ 12"



9 HORZ. CONSRUCTION JOINT
NO SCALE



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Sheet Number
S2.00
of
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STRUCTURAL NOTES

GENERAL

1. BUILDING CODE: IBC 2015.
2. STRUCTURAL CONCRETE: BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI, 318-ADOPTED EDITION.
3. STRUCTURAL STEEL: MANUAL OF STEEL CONSTRUCTION, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, EIGHTH EDITION.
4. THE FOUNDATION DESIGN IS BASED UPON GEOTECHNICAL INFORMATION PROVIDED BY SKG ENGINEERING, REPORT NO. 19-E-0129, DATED FEBRUARY 20, 2019

DESIGN LOADS

1. LIVE LOADS
   A. PUBLIC AREAS, CORRIDORS, LOBBIES . . . . . .100 PSF
   B. WIND LATERAL LOAD - ASCE / SEI 7-10 REQUIREMENTS
   C. MISC. LOADS - ASCE/SE1 7-10 , EXPOSURE C.
2. DEAD LOADS
   A. SELF WEIGHT OF BUILDING ELEMENTS

BUILDING PAD

I. SITE PREPARATION

PRIOR TO PLACING ANY FILL MATERIAL, REMOVE 3'-0" MINIMUM TO ACHIEVE A 3'-0" THICK BUILDING AND OVER THE PROOFROLLED AND COMPACTED SUBGRADE. ALL EXPOSED SURFACES SHALL THEN BE PROOF ROLLED SCARIFIED, WATERED AS REQ'D. MOISTURE CONDITIONED & RECOMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D698 (STANDARD PROCTOR TEST) AT A MOISTURE CONTENT WITHIN THREE PERCENT OF THE OPTIMUM MOISTURE VALUE. ANY SOFT OR PUMPING AREAS SHALL BE EXCAVATED & BACK FILLED WITH ENGINEERED FILL. THE SITE SHALL THEN BE FILLED TO GRADE USING A SELECT FILL MATERIAL, FREE FROM DELETERIOUS MATTER. FILL MATERIALS SHALL BE PLACED IN SIX TO EIGHT INCH LOOSE LIFTS AT MOISTURE CONTENTS WITHIN THREE PERCENT OF THE OPTIMUM MOISTURE VALUE AND EACH LIFT COMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED IN ASTM D698. EACH LIFT SHALL BE INSPECTED AND APPROVED BY A QUALIFIED ENGINEERING TECHNICIAN, SUPERVISED BY A GEOTECHNICAL ENGINEER BEFORE ANOTHER LIFT IS ADDED.

II. SELECT FILL

SELECT FILL IMPORTED TO THE SITE SHALL BE TXDOT TYPE A, GRADE 2 LIMESTONE AND SHALL MEET THE FOLLOWING CRITERIA:

PERCENT PASSING THE NO. 4 SIEVE:	50% TO 80% (20% TO 50% AGGREGATE)
PERCENT PASSING THE NO. 2 SIEVE:	20% TO 50%
PI OF SOIL PASSING THE NO. 40 SIEVE:	4 TO 20
MAXIMUM SIZE OF GRAVEL OR ROCK FRAGMENTS:	2 INCHES IN ANY DIMENSION.

CONCRETE

1. ALL CONCRETE SHALL BE STONE AGGREGATE CONCRETE UNLESS NOTED OTHERWISE. MINIMUM CONCRETE COMPRESSIVE STRENGTH WHEN TESTED AT 28 DAYS, SHALL BE 3000 POUNDS PER SQUARE INCH.
2. CONCRETE FLOOR SLAB SHALL BE PLACED MONOLITHICALLY WITH BEAMS.
3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. ALL CONSTRUCTION JOINTS SHALL BE MADE IN THE CENTER OF SPANS - SEE DRAWINGS FOR TYPICAL DETAIL. THE LOCATION OF CONSTRUCTION JOINTS SHALL BE AS APPROVED BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTIONS JOINTS NOT SHOWN ON DRAWINGS FOR APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER.
4. NO CONDUIT OR PIPING LARGER THAN 2" I.D. SHALL BE RUN IN STRUCTURAL CONCRETE MEMBERS UNLESS SHOWN ON STRUCTURAL DRAWINGS.
5. ALL PIPE SLEEVES IN CONCRETE MEMBERS SHALL BE SCHEDULE 40, PVC PIPE UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS. LOCATION OF SLEEVES SHALL BE AS APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE 3 ADDITIONAL STIRRUPS EACH SIDE OF EACH SLEEVE IN BEAMS AND SPACED AS DIRECTED BY THE ENGINEER.
6. REINFORCING STEEL SHALL BE DEFORMED NEW BILLET STEEL BARS IN ACCORDANCE WITH A.ST.M. SPECIFICATION A615 GRADE 60.
7. ALL STIRRUPS SHALL BE GRADE 60 WITH STANDARD 90 DEGREE HOOKS.
8. DETAILING OF REINFORCING STEEL SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL.
9. PROVIDE 2-#6 X 4'-0" "L" SHAPED BARS TOP AND BOTTOM AT ALL CORNERS AND "T" INTERSECTIONS OF BEAMS.
10. ALL HOOKS AND BENDS IN REINFORCING BARS SHALL CONFORM TO ACI STANDARDS UNLESS SHOWN OTHERWISE.
11. LAP CONTINUOUS UNSCHEDULED REINFORCING BARS 36 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
12. TACK WELDING ON REINFORCING STEEL WILL NOT BE PERMITTED.
13. HEAT SHALL NOT BE USED IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT.
14. REINFORCING STEEL COVERAGE SHALL BE AS FOLLOWS:

    A) GRADE BEAMS - 1 1/2" TOP, 3" BOTTOM, 2" SIDE FORMED, 3" SIDE AGAINST EARTH

15. HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS WITH 90 DEGREE BENDS AND 12" RETURNS ALONG EACH WALL AT CORNERS.
16. CONCRETE POURS SHALL NOT EXCEED 5000 SQUARE FEET OR 100 LINEAR FEET ON ANY SIDE.

COORDINATION

1. ONLY CERTAIN OF THE REQUIRED SLEEVE OPENINGS IN STRUCTURAL FRAMING COMPONENT MEMBERS, AND ONLY CERTAIN OF THE REQUIRED FRAMED OPENINGS IN AND/OR THROUGH STRUCTURAL ASSEMBLY ARE INDICATED ON THE STRUCTURAL SERIES DRAWINGS. HOWEVER, ALL SLEEVES, INSERTS AND OPENINGS, INCLUDING FRAMES AND/OR SLEEVES, THEREFORE, SHALL BE PROVIDED FOR PASSAGE, PROVISION AND/OR INCORPORATION OF THE WORK OF THE CONTRACT, INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL AND PLUMBING WORK. THE PROVIDING FOR SLEEVES OR FRAMED OPENINGS SHALL INCLUDE THE VERIFICATION OF SIZES, ALIGNMENT, DIMENSIONS, POSITION, LOCATIONS, ELEVATIONS AND GRADES AS REQUIRED TO SERVE THE INTENDED PURPOSE. OPENINGS NOT INDICATED ON THE STRUCTURAL SERIES DRAWINGS, BUT REQUIRED AS ABOVE, SHALL HAVE BEEN APPROVED BY THE ENGINEER.
2. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING SERIES DRAWINGS FOR FLOOR ELEVATIONS, SLOPES, DRAINS AND LOCATION OF DEPRESSED AND ELEVATED FLOOR AREAS.
3. STRUCTURAL SERIES DRAWINGS SHALL BE COMPARED WITH DRAWINGS OF OTHER SERIES; DIFFERENCES SHALL BE REFERRED TO THE ARCHITECT FOR INSTRUCTION.
4. COMPATIBILITY OF ACCOMMODATION AND PROVISION 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 ACCOMMODATION HAS BEEN DESIGNED PRIOR TO SUBMISSION OF SHOP DRAWINGS AND SUBMITTAL DATA FOR EACH EQUIPMENT AND FOR STRUCTURAL COMPONENTS; DIFFERENCES SHALL BE REFERRED TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL OR NOTATION.
5. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL ITEMS AN SUBMITTED FOR REVIEW BY THE ENGINEER. ENGINEERING CONTRACT DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS. ANY ITEMS DEVIATING FROM THE CONTRACT DRAWINGS OR FROM PREVIOUS SHOP DRAWINGS SUBMITTED SHALL BE SO NOTED. WRITTEN NOTICE SHALL BE PROVIDED FOR EACH DEVIATION FROM THE CONTRACT DOCUMENTS AND FROM PREVIOUS SUBMITTALS.
6. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.
7. ALL DIMENSIONS AND CONDITIONS OF EXISTING IMPROVEMENTS SHALL BE VERIFIED AT THE JOB SITE; DIFFERENCES BETWEEN EXISTING IMPROVEMENTS AND DRAWINGS SHALL BE REFERRED TO THE ARCHITECT FOR INSTRUCTION.

SUBSTITUTIONS

1. ALL REQUESTS FOR SUBSTITUTIONS OF MATERIALS OR DETAILS SHOWN IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED FOR APPROVAL DURING THE BIDDING PERIOD. ONCE BIDS ARE ACCEPTED, PROPOSED SUBSTITUTIONS WITH AN IDENTIFIED SAVINGS SHALL BE DEDUCTED FROM THE CONTRACT.

REQUIRED SPECIAL INSPECTIONS (Structural)

REQUIRED INSPECTION	REFERENCED STANDARD	SPECIAL INSPECTOR
1. STRUCTURAL STEEL:	SECTION 1705.2 AISC 360	
a. FIELD WELDING, HIGH-STRENGTH BOLTING	AISC 360	LOC STRUCTURAL
2. CONCRETE: SECTION 1705.3		
a. INSPECTION OF REINFORCING STEEL PLACEMENT	ACI 318: 3.5, 7.1-7.7	LOC STRUCTURAL
b. INSPECTION OF ANCHORS CAST IN CONCRETE	ACI 318:	LOC STRUCTURAL
c. FRESH CONCRETE IS SAMPLED TO STRENGTH TESTS, SLUMP AND AIR CONTENT TESTS OF THE CONCRETE	ASTM C 172, ASTM C 31	TESTING LAB
3. SOILS:	SECTION 1705.6	TESTING LAB
4. CAST-IN-PLACE DEEP FOUNDATIONS	SECTION 1705.8	TESTING LAB

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BRADY ISD CULINARY ARTS KITCHEN/CLASSROOM SCHEDULE		
ITEM	QTY	DESCRIPTION
1	1	AIR DOOR – WALL MOUNT
2	1	ICE MACHINE W/BIN AND FILTER
2A	1	FILTER – WALL MOUNT
3	1	FLOOR TROUGH
4	2	ENCLOSED CART
5	4	MOBILE SHELVING
6	1	WALK-IN COOLER/FREEZER
7	LOT	WALK-IN COOLER/FREEZER SHELVING
8	1	DOUBLE DOOR FREEZER
9	1	DOUBLE DOOR REFRIGERATOR
10	1	OPEN BASE STAINLESS STEEL TABLE W/RISER/DRAWER
11	3	INGREDIENT BIN – MOBILE
12	1	PREP TABLE WITH RISER/SINK/FAUCET/DRAWER
12A	1	SERVICE FAUCET
13	1	PREP TABLE WITH RISER
13A	1	MANUAL CAN OPENER – TABLE MOUNT
14	1	SLICER STAND – MOBILE
15	1	SLICER
16	1	MIXER
17	1	MIXER STAND – MOBILE
18	5	HAND SINK – WALL MOUNT
19	1	FOOD PROCESSOR
20	1	EXHAUST HOOD WITH FIRE SUPPRESSION SYSTEM
21	1	DOUBLE CONVECTION OVEN
22	1	SINGLE STEAMER WITH STAND
23	1	4-BURNER RANGE WITH OVEN
24	1	GRIDDLE WITH OVEN
25	1	SALAMANDER – WALL MOUNT
26	1	FRYER
27	1	FRYER DUMP STATION
28	1	CUSTOM CHEF TABLE W/LOAD CENTER/UPPER SHELVES/WARMING LIGHTS/DUAL TEMP 2 WELL DROP-IN
28A	1	UPPER SHELVES
28B	LOT	WARMING LIGHTS
28C	1	DUAL TEMP 2 WELL DROP-IN
29	1	DRESSING TABLE
30	1	MICROWAVE
31	1	TOASTER
32	1	HOT HOLDING UNIT
33	1	PREP TABLE W/RISER/2 SINKS/FAUCET/DRAWER
33A	1	SERVICE FAUCET
34	1	STAINLESS STEEL SHELVING – WALL MOUNT

BRADY ISD CULINARY ARTS KITCHEN/CLASSROOM SCHEDULE		
ITEM	QTY	DESCRIPTION
35	1	SOILED DISH TABLE W/SCRAP SINK/OVERSPRAY
35A	1	OVERSPRAY W/WALL BRACKET
36	1	CONDENSATE HOOD
37	1	CORNER DISH MACHINE
38	1	CLEAN TABLE INTEGRAL WITH #39
39	1	CORNER 3COMPARTMENT SINK W/(2)FAUCETS INTEGRAL W/#38/#40
39A	2	SERVICE FAUCETS
40	1	SOILED TABLE INTEGRAL W/#39
41	1	STAINLESS STEEL SHELVING – WALL MOUNT
42	2	UTILITY CART (NOT SHOWN)
43	1	CUSTOM MILLWORK – COUNTER HEIGHT BY ARCHITECT
44	1	CUSTOM MILLWORK – COUNTER HEIGHT BY ARCHITECT
45	1	CUSTOM MILLWORK W/HAND SINK/FAUCET – BY ARCHITECT
45A	1	GOOSENECK FAUCET
45B	1	DROP-IN SINK
46	1	EXHIBITION/DISPLAY MOBILE TABLE WITH MIRROR
47	LOT	LOCKERS
48	1	CUSTOM LOWER MILLWORK WITH RISER/HAND SINK/FAUCET BY ARCH
48A	1	GOOSENECK FAUCET
48B	1	DROP-IN SINK
49	1	CUSTOM UPPER MILLWORK BY ARCHITECT
50	1	DESK BY ARCHITECT
50A	1	CHAIR BY ARCHITECT
51	1	CUSTOM UPPER MILLWORK BY ARCHITECT
52	LOT	DRY STORAGE SHELVING
52A	1	CAN RACK
53	1	MOP SINK W/SERVICE FAUCET
54	1	WASHER BY OWNER
55	1	DRYER BY OWNER
56	1	HOT WATER HEATER BY ARCHITECT
57	24	CLASSROOM CHAIRS BY ARCHITECT
58	24	ALL WEATHER CHAIRS BY ARCHITECT
59	6	CLASSROOM TABLES BY ARCHITECT
60	6	30" ROUND ALL WEATHER TABLES BY ARCHITECT
61	LOT	STAINLESS STEEL WALL CLAD
62	LOT	CORNER GUARDS (NOT SHOWN)
63	2	SPEED RACKS (NOT SHOWN)
64	1	TEA MACHINE BY VENDOR
65	1	COFFEE MACHINE BY VENDOR
66	1	MOBILE ICE CADDY
67	1	TEACHING MONITOR – WALL MOUNT BY ARCHITECT
68	1	FLOOR TO CEILING STORAGE MILLWORK BY ARCHITECT
69	1	REFRIGERATED COUNTER TOP MERCHANDISER
70	1	POS BY OWNER

CULINARY ARTS KITCHEN & CLASSROOM LAYOUT
100% CD

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Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

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4/04/2019

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GENERAL PLUMBING NOTES:

ALL LABOR AND MATERIAL REQUIRED TO MAKE FINAL CONNECTION FROM ROUGH-INS TO EQUIPMENT ARE TO BE SUPPLIED BY PLUMBING CONTRACTOR. PLUMBER TO CONNECT ALL WATER LINES, GAS LINES, WASTE LINES, ETC.. TO FULLY CONNECT ALL EQUIPMENT AND RUN CONDENSATE LINES FROM OUTLETS TO DRAINS AND THESE LINES TO BE NO SMALLER THAN THE STUB OUT OF THE FIXTURE. PLUMBER TO PROVIDE ALL GATE VALVES ON WATER LINES. PLUMBER TO PROVIDE, UNLESS OTHERWISE SPECIFIED, ALL TRAPS, VALVES, CUT-OFFS, SHOCK ELIMINATORS, PRESSURE REGULATORS, GAS SHUT OFF VALVES AND NECESSARY FITTINGS AND MATERIALS TO CONNECT ALL LINES FOR PROPER OPERATION OF EQUIPMENT. FAUCETS, DRAIN OUTLETS, FITTINGS IN FIXTURES, AND SPECIALTY ITEMS ARE TO BE FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR AS OUTLINED IN THE ITEM SPECIFICATIONS. PLUMBER TO PROVIDE LABOR AND MATERIAL FOR WATER-CONNECTING OF ADJACENT EQUIPMENT AND CONNECTION OF EQUIPMENT AT FIELD JOINTS. ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.

ALL ROUGH-INS AND FINAL CONNECTIONS ARE TO BE PERFORMED IN FULL COMPLIANCE WITH ALL APPLICABLE CODES RELATING TO INSTALLATION AND HOOK-UP OF EQUIPMENT.

ALL PLUMBING OUTLETS AND REQUIREMENTS SHOWN ON THIS PLAN ARE FOR THE FIXTURE AND EQUIPMENT SPECIFIED AS FURNISHED BY THE KITCHEN EQUIPMENT CONTRACTOR. FOR ANY ADDITIONAL BUILDING PLUMBING REQUIREMENTS, REFER TO OTHER MECHANICAL PLANS.

ALL DIMENSIONS GIVEN ARE FROM COLUMN CENTERLINES AND/OR FINISHED WALLS. ELEVATIONS ARE GIVEN FROM FINISHED FLOOR.

FIRE PROTECTION GAS SHUT OFF VALVES ARE BY KITCHEN EQUIPMENT CONTRACTOR AND INSTALLED BY PLUMBER.

PLUMBING SYMBOLS

●	C.W.	COLD WATER		FS	FLOOR SINK
●	H.W.	HOT WATER		EVC	EXHAUST VENT CONNECTION
●	G	GAS SUPPLY		SVC	SUPPLY VENT CONNECTION
■	SS	STEAM SUPPLY	⊘	FR	DIRECT CONN. FLUE RISER
□	CR	CONDENSATE RETURN		FT	FLOOR TROUGH
○	DD	DIRECT DRAIN		AFF	ABOVE FINISHED FLOOR
◎	HD	HUB DRAIN		SUFF	STUB UP FROM FLOOR
■	FD	FLOOR DRAIN		SDFC	STUB DOWN FROM CEILING
■	FFD	FLOOR DRAIN W/ FUNNEL		BTC	BRANCH TO CONNECTION

REFER TO HOOD DRAWINGS FOR ALL MEP HOOD INFORMATION.

BRADY ISD CULINARY ARTS KITCHEN/CLASSROOM PLUMBING ROUGH-IN SCHEDULE

ITEM	QTY	DESCRIPTION
P1	5	WASTE – 4" FLOOR DRAIN
P2	6	WASTE – 12" X 12" FLOOR SINK
P2A	1	WASTE – 12" X 12" FLOOR SINK WITH FUNNEL – WALK-IN COOLER/FREEZER CONDENSATE
P3	1	WASTE – 12" X 36" FLOOR TROUGH – ICE MACHINE
P4	1	WASTE – 2" HUB DRAIN – MOP SINK
P5	7	WASTE – 1-1/2" DRAIN @22-3/8" AFF BTC @HAND SINK
P6	7	HW – 1/2" @20" AFF BTC @HAND SINK
P7	7	CW – 1/2" @20" AFF BTC @HAND SINK
P8	1	CW – 1/2" @36" AFF BTC @SERVICE FAUCET – MOP SINK
P9	1	HW – 1/2" @36" AFF BTC @SERVICE FAUCET – MOP SINK
P10	1	CW – 1/2" @60" AFF BTC @FILTER BTC @ICE MACHINE
P11	1	HW – 1/2" @20" AFF BTC @SINGLE COMPARTMENT SINK IN TABLE
P12	1	CW – 1/2" @20" AFF BTC @SINGLE COMPARTMENT SINK IN TABLE
P13	1	CW – 1/2" @20" AFF BTC @TWO COMPARTMENT SINK
P14	1	HW – 1/2" @20" AFF BTC @TWO COMPARTMENT SINK
P15	2	HW – 1/2" @20" AFF BTC @THREE COMPARTMENT SINK
P16	2	CW – 1/2" @20" AFF BTC @THREE COMPARTMENT SINK
P17	1	HW – 3/4" @19" AFF BTC @DISH MACHINE
P18	1	CW – 1/2" @20" AFF BTC @SCRAP SINK/OVERSPRAY
P19	1	HW – 1/2" @20" AFF BTC @SCRAP SINK/OVERSPRAY
P20	1	CW – 3/4" @52" AFF BTC @FILTER BTC @STEAMER, 20-60 PSI (138-414kPa)
P21	1	CW – 3/4" @22" AFF BTC @STEAMER, 20-60 PSI (138-414kPa)
P22	1	CW – 1/4" @45" AFF BTC @COFFEE MACHINE
P23	1	CW – 1/4" @45" AFF BTC @TEA BREWER
P24	1	CW – 3/4" SUFF @4" AFF BTC @DUAL TEMP WELL
P25	1	HW – 1/2" @36" AFF BTC @WASHING MACHINE
P26	1	CW – 1/2" @36" AFF BTC @WASHING MACHINE
P27	1	WASTE – 2" @36" AFF BTC @ @WASHING MACHINE

CULINARY ARTS KITCHEN & CLASSROOM PLUMBING ROUGH-INS & SCHEDULE

100% CD

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GENERAL ELECTRICAL NOTES:

ALL LABOR AND MATERIAL REQUIRED TO MAKE FINAL CONNECTION FROM ROUGH-INS TO EQUIPMENT ARE TO BE BY ELECTRICAL CONTRACTOR. ELECTRICIAN TO CONNECT ALL ELECTRICAL EQUIPMENT AND FIXTURES AND DO ANY INTERNAL WIRING REQUIRED IN THE FIXTURES AS CALLED FOR IN THE SPECIFICATIONS. ALL DISCONNECT SWITCHES REQUIRED ARE TO BE FURNISHED AND INSTALLED BY THE ELECTRICIAN AT THE TIME OF INSTALLATION.

OUTLET COVER PLATES ARE TO BE STAINLESS STEEL AND ARE TO BE FURNISHED BY THE ELECTRICIAN AS WELL AS THE RECEPTACLE, UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS. ELECTRICIAN TO PROVIDE LABOR AND MATERIAL FOR INTER-CONNECTING OF ADJACENT EQUIPMENT AND CONNECTING OF EQUIPMENT AT FIELD JOINTS.

ALL ROUGH-INS AND FINAL CONNECTIONS ARE TO BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES RELATING TO INSTALLATION AND HOOK-UP OF EQUIPMENT. ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

ALL ELECTRICAL OUTLETS AND REQUIREMENTS ON THIS PLAN ARE FOR FIXTURES AND EQUIPMENT SPECIFIED AS FURNISHED BY THE KITCHEN EQUIPMENT CONTRACTOR. FOR ANY ADDITIONAL BUILDING ELECTRICAL REQUIREMENTS, SEE OTHER PLANS.

ALL DIMENSIONS GIVEN ARE FROM COLUMN CENTERLINE AND/OR FINISHED WALLS.

ELECTRICAL SYMBOLS
SYMBOLS AND ABBREVIATIONS

T	TELEPHONE JACK
TV	FLOOR MTD. TELEPHONE JACK
TV	DATA JACK
TV	FLOOR MTD. DATA JACK
	SINGLE OUTLET
	DUPLEX OUTLET- WALL MTD.
	DUPLEX OUTLET- FLOOR MTD.
	DUPLEX OUTLET- CLG MTD.
	QUADRUPLEX OUTLET-WALL MTD.
	QUADRUPLEX OUTLET- FLOOR MTD.
	QUADRUPLEX OUTLET- CLG MTD.

ELECTRICAL SYMBOLS
SYMBOLS AND ABBREVIATIONS

GFITM	GROUND FAULT INT. OUTLET
	SWITCHED OULTET
	SPECIAL OUTLET
T	CABLE JACK
	JUNCTION BOX
JB	JUNCTION BOX
QPO	QUADRUPLEX OUTLET
CO	CONVENIENCE
SUFF	STUB UP FROM FLOOR
SDFC	STUB DOWN FROM CEILING
@	AT
AFF	ABOVE FINISH FLOOR
BTC	BRANCH TO CONNECTION

REFER TO HOOD DRAWINGS FOR ALL MEP HOOD INFORMATION.

BRADY ISD CULINARY ARTS KITCHEN/CLASSROOM ELECTRICAL ROUGH-IN SCHEDULE

ITEM	QTY	DESCRIPTION
E1	2	JB-115/60/1PH SDFC BTC @COOLER AND FREEZER LIGHT, DOOR HEATER & ALARM, 2.1 AMPS
E2	1	JB-115/60/1PH SDFC BTC @WALK-IN COOLER EVAPORATOR, 1.6 AMP (FANS)
E3	1	JB-208/230/60/1PH SDFC BTC @WALK-IN FREEZER EVAPORATOR, 1 AMPS (FANS), 9.8 AMPS (HTR.)
E4	1	JB-208/230/60/1PH SDFC BTC @WALK-IN COOLER REMOTE CONDENSER, 7.2 AMPS
E5	1	JB-208/230/60/1PH SDFC BTC @WALK-IN FREEZER REMOTE CONDENSER, 18.1 AMPS
E6	1	JB-115/60/1PH @65" AFF BTC @ICE MACHINE 15 AMPS,
E7	1	CO-115/60/1PH @48" AFF - DOUBLE DOOR REFRIGERATOR, 3-WIRE, NEMA 5-15P, 8 AMPS
E8	1	CO-115/60/1PH @48" AFF - DOUBLE DOOR FREEZER, 3-WIRE, NEMA 5-15P, 9.6 AMPS
E9	1	CO-120/60/1PH @45" AFF - FOOD PROCESSOR, NEMA 5-15P, 7 AMPS
E10	1	CO-120/60/1PH @48" AFF - HEATED HOLDING UNIT, NEMA 5-20P, 17.5 AMPS
E11	2	CO-120/60/1PH (1) @44" & (1) @18" AFF - DOUBLE CONVECTION OVEN, 7.7 AMPS PER SECTION
E12	1	CO-120/60/1PH @40" AFF - STEAMER ON STAND, NEMA 5-15P, 1 AMPS EACH
E13	1	CO-115/60/1PH @30" AFF - 36" GRIDDLE AND OVEN, NEMA 5-15P, 4 AMPS
E14	1	CO-115/60/1PH @30" AFF - FRYER DUMP STATION, NEMA 5-15P, 6.3 AMPS
E15	1	JB-208/60/3PH @60" AFF BTC @DISH MACHINE, 50 AMP CIR. REQ.
E16	11	CO-120/60/1PH @45" AFF - EXTRA, 20 AMPS
E17	1	JB-115/60/1PH @6" AFF BTC @CHEF TABLE W/LOAD CENTER TO SERV. 2-(#E29)/1-(#E20)/1-(#E21)
E18	1	CO-115/60/1PH @30" AFF - SLICER ON STAND, 1/2 HP, 5.6 AMPS
E19	1	CO-115/60/1PH @30" AFF - MIXER ON STAND, 8.6 AMPS
E20	1	CO-120/60/1PH - MICROWAVE ON SHELF AND TOASTER ON COUNTERTOP, NEMA 5-15, 15 AMPS
E21	1	CO-115/60/1PH - DRESSING TABLE, 3.3 AMPS
E22	1	CO-120/60/1PH @45" AFF - TEA BREWER, 14.4 AMPS
E23	1	JB-120/208/60/1PH @45" AFF BTC @COFFEE MACHINE, 28.8 AMPS
E24	1	JB-120/60/1PH @96 AFF BTC @AIR DOOR, 15 AMPS
E25	5	CO-120/60/1PH @20" AFF - EXTRA, 20 AMPS
E26	1	CO-115/60/1PH @45" AFF - MERCHANDISER, 3.5 AMPS
E27	1	CO-120/240/60/1PH @30" AFF - DRYER, 30 AMPS
E28	1	CO-120/60/1PH @30" AFF - WASHER, 20 AMPS
E29	2	CO-120/60/1PH - EXTRA, 20 AMPS

CULINARY ARTS KITCHEN & CLASSROOM ELECTRIC ROUGH-INS & SCHEDULE
100% CD

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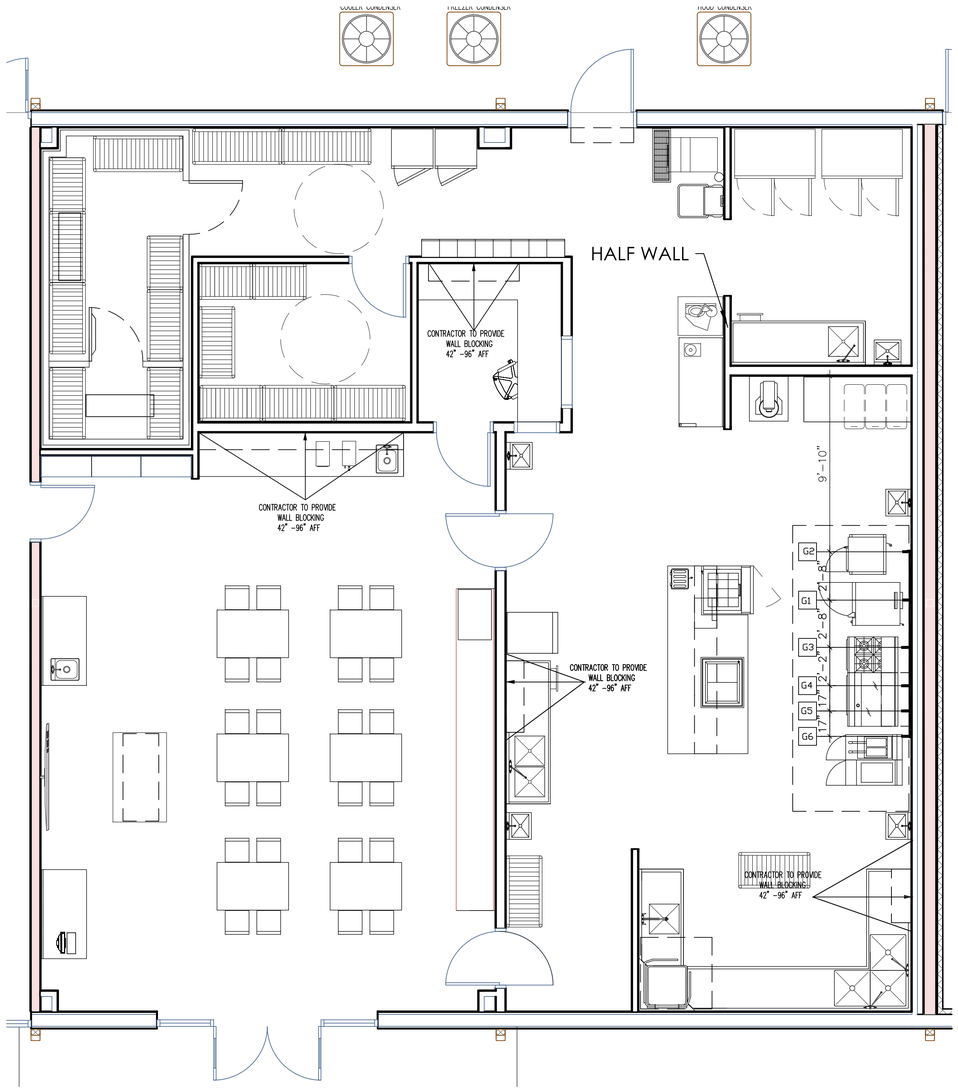
BRADY ISD CULINARY ARTS KITCHEN/CLASSROOM GAS ROUGH-IN SCHEDULE		
ITEM	QTY	DESCRIPTION
G1	2	1/2", NAT GAS, 5" W.C. (1) @9" & (1) @42" AFF 33,000 BTU/HR EACH – #21 DOUBLE CONVECTION OVEN
G2	1	1/2", NAT GAS, 5" W.C. @38" AFF, 60,000 BTU/HR – #22 SINGLE STEAMER ON STAND
G3	1	3/4", NAT GAS, 6" W.C. @30" AFF, 143,000 BTU/HR – #23 (4) BURNER RANGE WITH OVEN
G4	1	3/4", NAT GAS, 5" W.C. @30" AFF, 95,000 BTU/HR – #24 GRIDDLE WITH OVEN
G5	1	3/4", NAT GAS, 5" W.C. @75" AFF, 30,000 BTU/HR – #25 SALAMANDER
G6	1	3/4", NAT GAS, 5" W.C. @7" AFF, 70,000 BTU/HR – #26 FRYER
GAS SHUT OFF LOCATION SHALL BE DETERMINED BY ENGINEER		



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PLUMBING SYMBOLS

●	C.W.	COLD WATER		FS	FLOOR SINK
●	H.W.	HOT WATER		EVC	EXHAUST VENT CONNECTION
●	G	GAS SUPPLY		SVC	SUPPLY VENT CONNECTION
■	SS	STEAM SUPPLY		FR	DIRECT CONN. FLUE RISER
□	CR	CONDENSATE RETURN		FT	FLOOR TROUGH
○	DD	DIRECT DRAIN		AFF	ABOVE FINISHED FLOOR
⊙	HD	HUB DRAIN		SUFF	STUB UP FROM FLOOR
■	FD	FLOOR DRAIN		SDFC	STUB DOWN FROM CEILING
■	FFD	FLOOR DRAIN W/ FUNNEL		BTC	BRANCH TO CONNECTION

CULINARY ARTS KITCHEN & CLASSROOM GAS ROUGH-INS & SCHEDULE WALL BLOCKING PLAN 100% CD

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WALK - IN SPECIFICATIONS

Cooler Freezer

OVERALL SIZE: 17'-8" X 8'-2" X 8'-6 1/4"

PANELS
FOAMED IN PLACE URETHANE FOAM 4"

EXTERIOR FINISH
WALL: GALVALUME - EMBOSSED WHITE 26GA.
TOP: GALVALUME - EMBOSSED 26 GA
FLOOR: GALVALUME - EMBOSSED 26 GA

INTERIOR FINISH
WALL: GALVALUME - EMBOSSED WHITE 26GA.
TOP: GALVALUME - EMBOSSED WHITE 26GA.

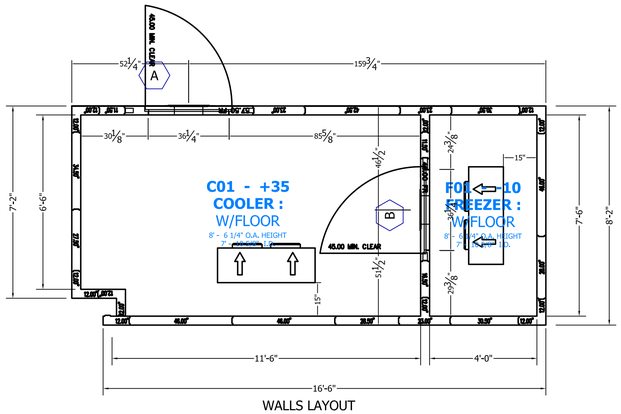
FLOOR TYPE
C01 +35 COOLER :
STANDARD 1000# ERA
ALUMINUM - SMOOTH ALUMINUM .100
WITH FLOOR OVERLAY - FULL COMPARTMENT, 3/16" ALUMINUM – DIAMOND TREAD

F01 -10 FREEZER :
STANDARD 1000# ERA
ALUMINUM - SMOOTH ALUMINUM .100
WITH FLOOR OVERLAY - FULL COMPARTMENT, 3/16" ALUMINUM – DIAMOND TREAD

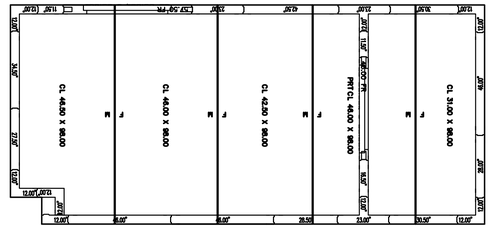
WALK-IN ACCESSORIES
(1) MISCELLANEOUS ADDER
(3) LIGHT FIXTURE - KASON 1810LC LED 48IN 120/230V 50/60HZ (DIODE STRIPS)
(1) AIR SHIELD
(1) ANGLE BOX MODIFICATION (TOPS)
(1) ANGLE BOX MODIFICATION (FLOORS)
(56) COVE BASE, GALVALUME EMBOSSED WHITE 26 GA 1.25 X 4.25

REFRIGERATION
C01 +35 COOLER :
KPC99MOP-2E VOLTS: 208-230-60-1,BTU:8705
KAM26-117-1EC-PR-4 VOLTS: 115-60-1,BTU:11630
TEMP: WALK-IN 35,AMBIENT TEMP: 90

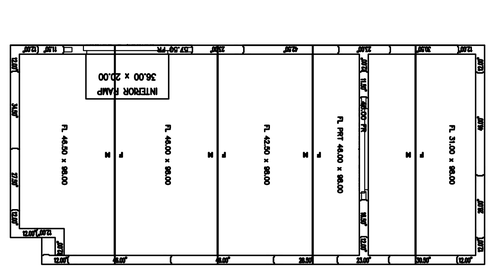
F01 -10 FREEZER :
KPC199LOP-2E VOLTS: 208-230-60-1,BTU:6672
KEL26-090-2EC-PR-4 VOLTS: 208-230-60-1,BTU:8817
TEMP: WALK-IN -10,AMBIENT TEMP: 90



WALLS LAYOUT



TOPS LAYOUT



FLOORS LAYOUT

⚠ATTENTION

1. **SUBMITTAL DRAWING** NOT INTENDED FOR INSTALLATION. **AS-BUILT DRAWING** FOR INSTALLATION WILL BE AVAILABLE AFTER ORDER IS PLACED. HARD COPY OF AS-BUILT DRAWING WILL BE IN HARDWARE BOX WITH WALK-IN SHIPMENT TO JOBSITE.
2. ALL WALK-INS ARE DESIGNED FOR INDOOR APPLICATION UNLESS NOTED OTHERWISE
3. PENETRATIONS AND SEALING OF ARE THE RESPONSIBILITY OF OTHERS
4. ALLOW 2" MINIMUM CLEARANCE WITH AIRFLOW OF 5 CFM PER 100 SQ FT AROUND ENTIRE PANEL SURFACES. INDOOR WALK-INS REQUIRE A 75°F AMBIENT AND 55% RELATIVE HUMIDITY OR LESS AROUND THE EXTERIOR OF THE WALK-IN.
5. GENERAL CONTRACTOR TO REFER TO DESIGN AND SPECIFICATION MANUAL FOR FLOOR DETAIL INFORMATION
6. QUARRY TILE OR CONCRETE FLOOR APPLICATIONS: METAL PANEL FACING MAY BE SUSCEPTIBLE TO STAINING DUE TO EXCESSIVE MOISTURE CREATED BY THE HYDRATION OF CONCRETE TYPE MATERIALS. IT IS ABSOLUTELY NECESSARY THAT EACH ROOM BE PROPERLY VENTILATED. SPECIAL PRECAUTIONS MUST ALSO BE TAKEN WHEN USING MURIATIC ACID DUE TO EFFECTS HYDROCHLORIC FUMES HAVE ON METAL MATERIALS
7. PANEL LAYOUT MAY CHANGE BASED ON OPTIMAL MANUFACTURING STANDARDS
8. WALK-IN TOP IS NOT DESIGNED FOR FOOT TRAFFIC OR STORAGE UNLESS NOTED OTHERWISE
9. IF CONDENSING UNIT IS LOCATED IN THE INTERIOR OF BUILDING A MINIMUM OF 24" OF CLEARANCE IS REQUIRED AROUND TOP AND SIDES
10. FLOOR, CURB, AND PIT DETAILS ARE FOR GENERAL REFERENCE ONLY. THESE DRAWINGS SHOULD NOT BE USED OR INCORPORATED IN THE DESIGN OR PREPARATION OF THE INSULATED FLOOR, SUB-SLAB OR CURBS, WITHOUT HAVING THE DESIGN REVIEWED BY A QUALIFIED ENGINEER. ALL FOOTINGS, FOUNDATION WALLS AND CONCRETE WEAR SLABS ARE THE RESPONSIBILITY OF THE BUILDING ENGINEER OR ARCHITECT.
11. THE FOAM PLASTIC USED IN THIS PRODUCT COMPLIES TO THE IBC SECTION 2603 AS FOLLOWS: FLAME SPREAD RATING: 20; SMOKE DEVELOPED RATING: 450; FLASH IGNITION TEMPERATURE RATING: 915°F; SPONTANEOUS IGNITION TEMPERATURE RATING: 950°F.
12. R-VALUES MEET DOE REQUIREMENTS AND ARE ASTM C518 TESTED. COOLER R-VALUES ARE R-29 FOR 4" THICK, R-36 FOR 5" THICK, AND R-44 FOR 6" THICK PANELS. FREEZER R-VALUES ARE R-32 FOR 4" THICK, R-40 FOR 5" THICK, R-48 FOR 6" THICK PANELS, AND R-29 FOR 4" FLOORS.
13. FLOORS NOT DESIGNED FOR WET MOPPING, PALLET JACKS, OR FORKLIFT TRAFFIC.

FOR APPROVAL
YOU MUST REVIEW ALL NOTES, DETAILS, DIMENSIONS, FINISHES, DOORS SIZES, LOCATIONS AND SWINGS

☐ **APPROVAL**- NO CHANGE REQUIRED, MANUFACTURE AS DRAWN.

☐ **APPROVED AS NOTED**- MAKE REQUIRED CHANGES AND MANUFACTURE AS DRAWN.

☐ **NOT APPROVED**- DESIGN CHANGES REQUIRE DRAWING REVISION AND RESUBMISSION.

DATE:_____ BY:_____

SMOOTH FINISH DISCLAIMER

Panels with non-textured and/or no-profile panel finishes (smooth finishes) on the exterior and interior faces may exhibit "oil canning" and flatness imperfections on the surface. Our standard panels have a stucco embossed texture on both faces that helps to reduce oil canning and any other irregularities in the exposed surface. Please be aware of this potential situation in your specification process. Such "oil canning" and flatness issues are typical and are not covered under standard warranties.

DRAWING #: A14224983
UNIT #: 001
ORDER #:

KOLPAK *A Welbilt Brand*

BRADY ISD
BRADY,TX 76825 USA

E-SOURCE INC.

DATE:	
ISSUE/REVISION	
DATE:	
CHECKED BY:	
DATE:	
DRAWN BY:	

SHEET #
AD-1 of 3

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Not for regulatory approval, permitting and/or construction

PROFESSIONAL MEMBER FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL
MICHAEL COUNIHAN FCSI 706354

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J. COUNIHAN, IIDA #306879
CONSULTANTS AND DESIGNERS FOR THE HOSPITALITY INDUSTRY AND THE FOOD SERVICE INDUSTRY

Brady Independent School District
Bond 2018
Brady, Texas

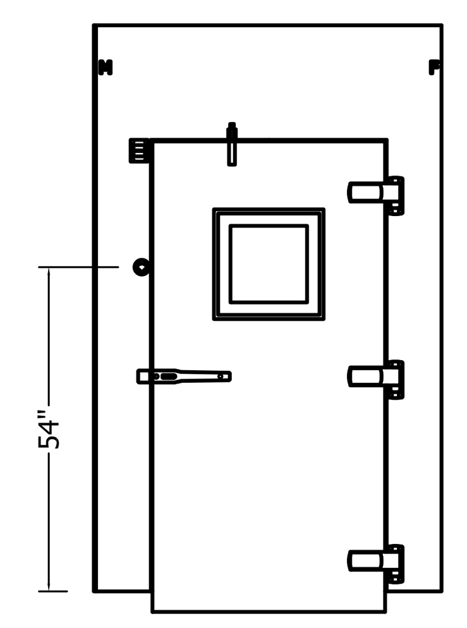
Revision:

Project Number
1703

Date:
4/04/2019

Sheet Number
FS2.00

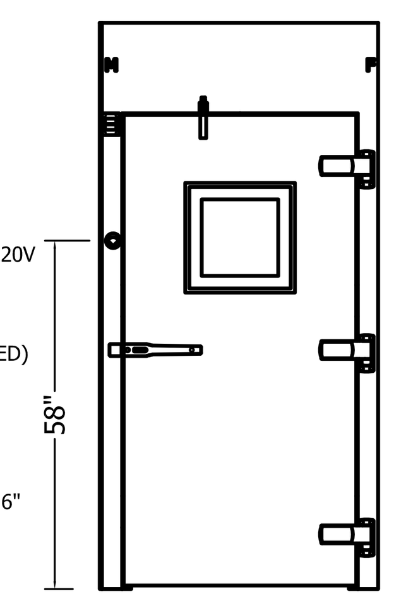
WALK-IN COOLER/FREEZER DETAILED DRAWING SHEET
100% CD



FRAME:
RECESSED 0" WITH 0" LEVELING SAND AND 0" TILE AND GROUT
EXT: GALVALUME - EMBOSSED WHITE 26GA.
INT: GALVALUME - EMBOSSED WHITE 26GA.

PLUG:
EXT: GALVALUME - EMBOSSED WHITE 26GA.
INT: GALVALUME - EMBOSSED WHITE 26GA.

HARDWARE AND ACCESSORIES:
(1) 115/60/1 ELECTRICAL
(1) THERMOMETER - 2 INCH DIAL W/6' LEAD (STD)
(1) LIGHT FIXTURE - KASON 1803 LED W/BULB, GLOBE AND NIGHTLIGHT 120V (STD)
(1) VENT - PRESSURE RELIEF, HEATED KASON 1825 (STD)
(1) CENTER DOOR SECTION LIGHT OVER DOOR
(3) HINGE - KASON 1346 BRUSHED CHROME ADJUSTABLE (SPRING ASSISTED)
(1) HANDLE - KASON 27C BRUSHED CHROME
(1) DOOR CLOSER - KASON 1094 BRUSHED CHROME
(3) THRESHOLD, STAINLESS STEEL 10 GA
(1) HEATER WIRE, 1 WATT / FT
(1) VIEWPORT - 14X14 COOLER, HEATED FRAME (4" DOOR)
(1) RAMP INTERIOR 36X20 W/ FLOOR OVERLAY - FULL COMPARTMENT, 3/16" ALUMINUM – DIAMOND TREAD



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(1) HANDLE - KASON 27C BRUSHED CHROME
(1) DOOR CLOSER - KASON 1094 BRUSHED CHROME
(3) THRESHOLD, STAINLESS STEEL 10 GA
(1) HEATER WIRE, 5 WATT / FT
(1) VIEWPORT - 14X14 FREEZER, HEATED FRAME AND GLASS (4" DOOR)

A

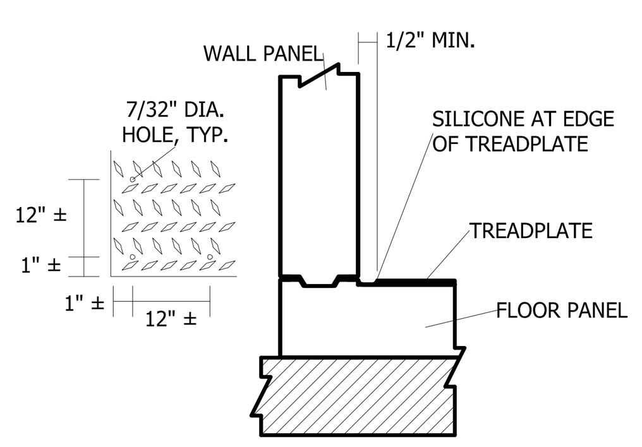
DOOR ELECTRICAL INFORMATION

DESCRIPTION	QTY	VOLT	AMP	AMP LOAD
VAPOR PROOF LIGHT	0	115	1	0
FLUORESCENT LIGHT	0	115	1.7	0
LED LIGHT	1	115	1	1
HEATER WIRE	1	115	0.2	0.2
DIGITAL THERMOMETER	0	115	0.1	0
HEATED AIR VENT	1	115	0.04	0.04
HEATED VIEWPORT	1	115	0.4	0.4
AIR SHIELD	0	115	1.4	0
IN/OUT BUZZER	0	115	0.1	0
MODULARM 75/75B OR DATALARM	0	115	6	0
OTHER ALARMS	0	115	1	0
115 VOLT, SINGLE PHASE, 60 Hz, TOTAL DOOR AMPS:				1.64

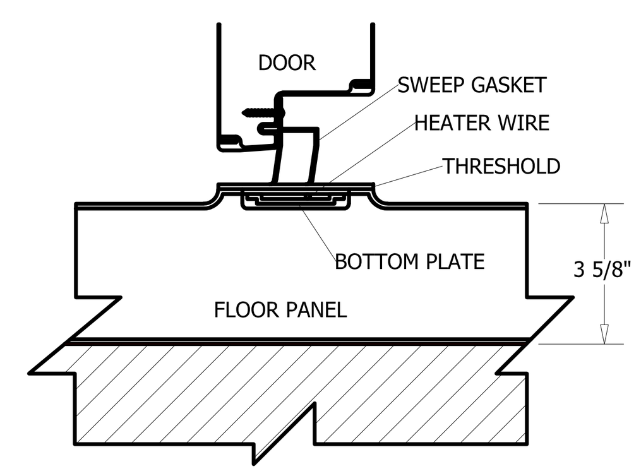
B

DOOR ELECTRICAL INFORMATION

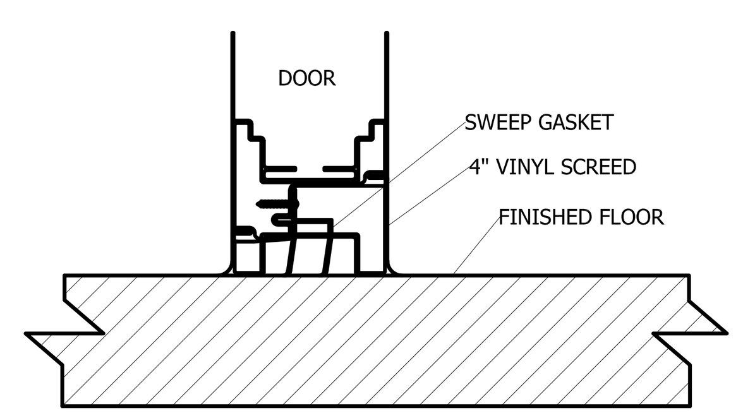
DESCRIPTION	QTY	VOLT	AMP	AMP LOAD
VAPOR PROOF LIGHT	0	115	1	0
FLUORESCENT LIGHT	0	115	1.7	0
LED LIGHT	1	115	1	1
HEATER WIRE	1	115	0.8	0.8
DIGITAL THERMOMETER	0	115	0.1	0
HEATED AIR VENT	1	115	0.04	0.04
HEATED VIEWPORT	1	115	0.6	0.6
AIR SHIELD	0	115	1.4	0
IN/OUT BUZZER	0	115	0.1	0
MODULARM 75/75B OR DATALARM	0	115	6	0
OTHER ALARMS	0	115	1	0
115 VOLT, SINGLE PHASE, 60 Hz, TOTAL DOOR AMPS:				2.44



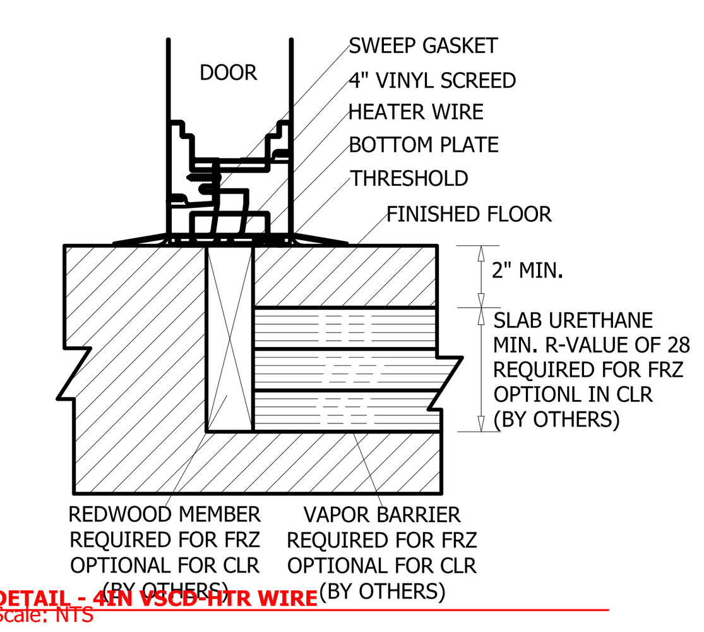
1 DETAIL - INSULATED FLOOR WITH DIAMOND TREADPLATE
Scale: NTS



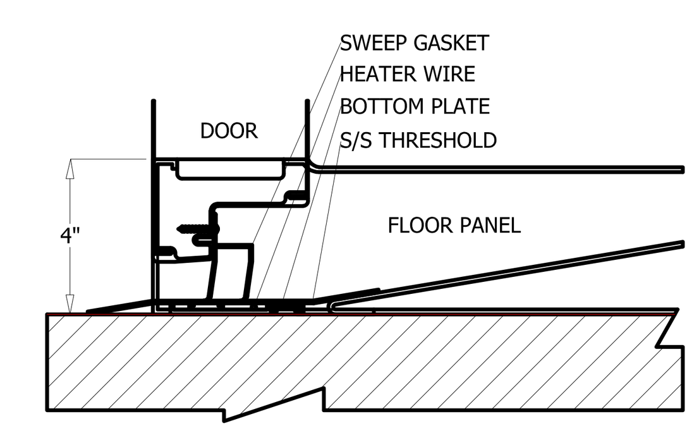
2 DETAIL - 4IN PRT FLOOR-HTR WIRE
Scale: NTS



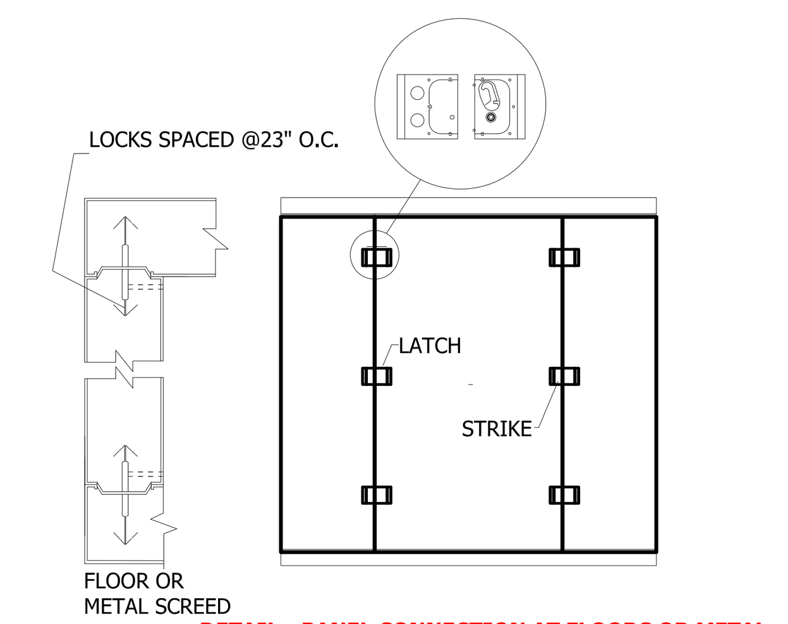
3 DETAIL - 4IN VSCD
Scale: NTS



4 DETAIL - 4IN VSCD-HTR WIRE
Scale: NTS



5 DETAIL - 4IN FLOOR-RAMP
Scale: NTS

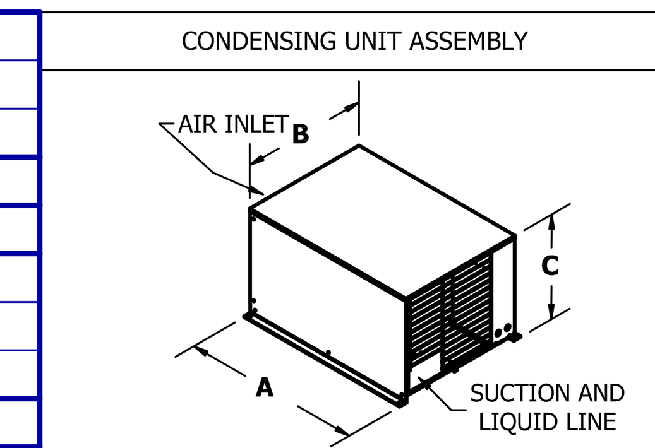


6 DETAIL - PANEL CONNECTION AT FLOORS OR METAL SCREEDS
Scale: NTS

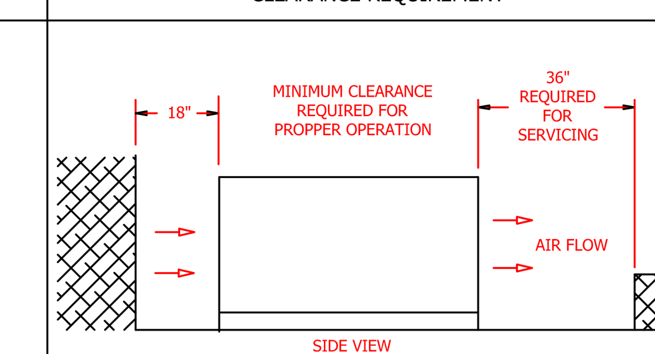
COMPARTMENT		CONDENSING UNIT																				
	TEMP F			COMPRESSOR	DIMENSIONS				COMPRESSOR						CONDENSER FAN MTR			TOTAL	MX AMP	CONNECTIONS O.D.		RCV CAP
DESCRIPTION	WI	QTY	MODEL#	TYPE	L (A)	W (B)	H (C)	LBS	HP	RLA	LRA	V	HZ	Φ	FLA	V	Φ	AMPS	DISC	SUCT	LIQ	@ 90% FULL (lbs)
C01 +35 COOLER	35	1	KPC99MOP-2E	HERMETIC	33	25.5	19.25	156	1	6	43	208-230	60	1	1.1	208-230	1	7.2	15	5/8	3/8	10.4
F01 -10 FREEZER	-10	1	KPC199LOP-2E	HERMETIC	33	25.5	19.25	186	2	16.7	87	208-230	60	1	1.1	208-230	1	18.1	35	7/8	3/8	10.2

COMPARTMENT		UNIT COOLER													
	TEMP F		MODEL #	DIMENSIONS				FAN		HEATER			CONNECTIONS O.D.		
DESCRIPTION	WI	QTY	(DEFROST: A-AIR E-ELECTRIC)	L (D)	W (E)	H (F)	LBS	TOTAL AMPS	V	TOTAL AMPS	V	Φ	SUCT	LIQ	DRAIN
C01 +35 COOLER	35	1	KAM26-117-1EC-PR-4	43.625	15.5	16.75	58	1.6	115	0	N/A	0	5/8	3/8	3/4
F01 -10 FREEZER	-10	1	KEL26-090-2EC-PR-4	43.625	15.5	16.75	58	1	208-230	9.8	208-230	1	7/8	3/8	3/4

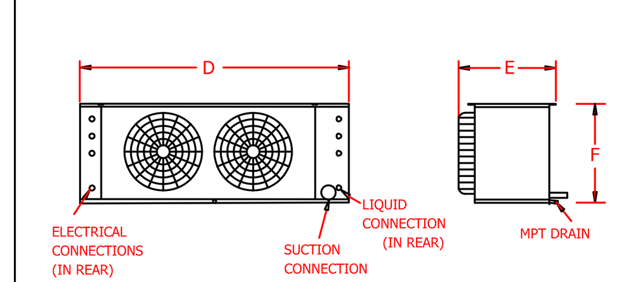
CONDENSING UNIT ASSEMBLY



CLEARANCE REQUIREMENT



EVAPORATOR - MODEL AM, EM, EL, AMB, ELB



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PROFESSIONAL MEMBER — MICHAEL COUNIHAN — FCSI — 706354 — FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL

DRAWING #: A142249R3
UNIT #: 001
ORDER #:

KOLPAK A Welbilt Brand

BRADY ISD
BRADY,TX 76825 USA

E-SOURCE INC.

DATE:
QUOTE REVISION:
DATE:
CHECK BY:
DATE:
DRAWN BY:

SHEET #
AD-2 of 3

WALK-IN COOLER/FREEZER DETAILED DRAWING SHEET 2

100% CD

RELIANCE ARCHITECTURE
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1306 Barrington Dr.
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Brady Independent School District
Bond 2018
Brady, Texas

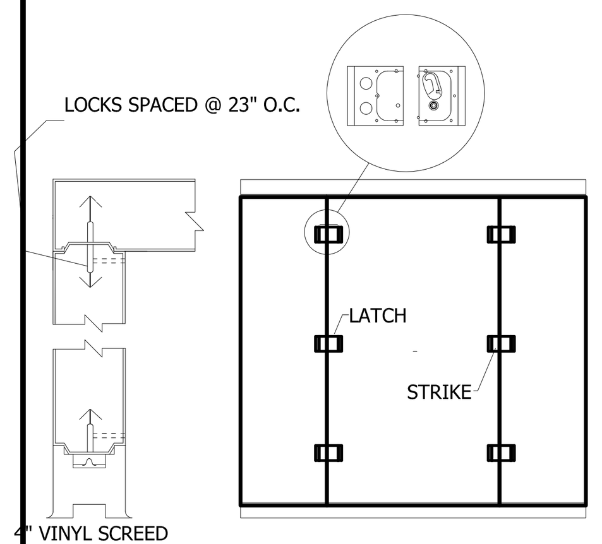
Revision:

Project Number
1703

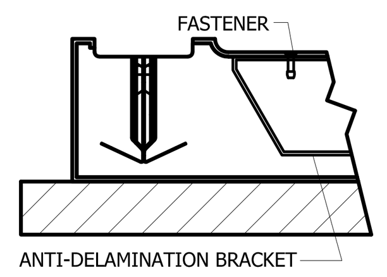
Date:
4/04/2019

Sheet Number
FS2.01

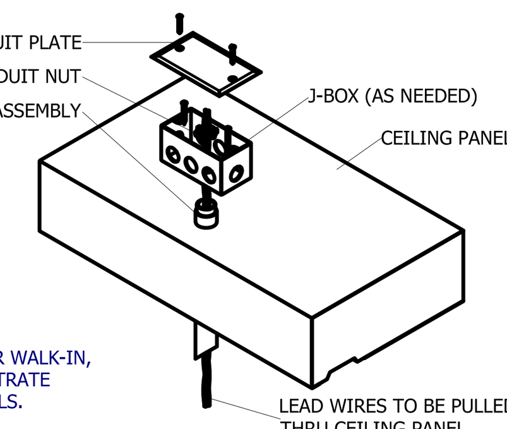
AT EVERY ENTRANCE CONDUIT, FORCE SEALANT AROUND THE EXTERIOR OF THE ELECTRICAL CONDUIT AND INSIDE THE CONDUIT AROUND THE WIRES. FAILURE TO ELIMINATE AIRFLOW IN THE CONDUIT WILL ALLOW MOISTURE TO DAMAGE ELECTRICAL COMPONENTS ESPECIALLY LIGHTS WHICH **WILL NOT BE COVERED UNDER WARRANTY.**



7 DETAIL - PANEL CONNECTION AT 4IN VINYL SCREEDS
Scale: NTS



8 DETAIL - FOOT-LIGHT ROLLING CART FLOOR CONSTRUCTION
Scale: NTS



NOTE
FOR OUTDOOR WALK-IN, DO NOT PENETRATE CEILING PANELS.

9 DETAIL - ELECTRICAL CONDUIT PENETRATION
Scale: NTS

DRAWING #: A14224983
UNIT #: 001
ORDER #:

KOLPAK A Welbilt Brand

BRADY ISD
BRADY,TX 76825 USA

E-SOURCE INC.

SHEET #
AD-3 of 3

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Brady Independent School District
Bond 2018
Brady, Texas

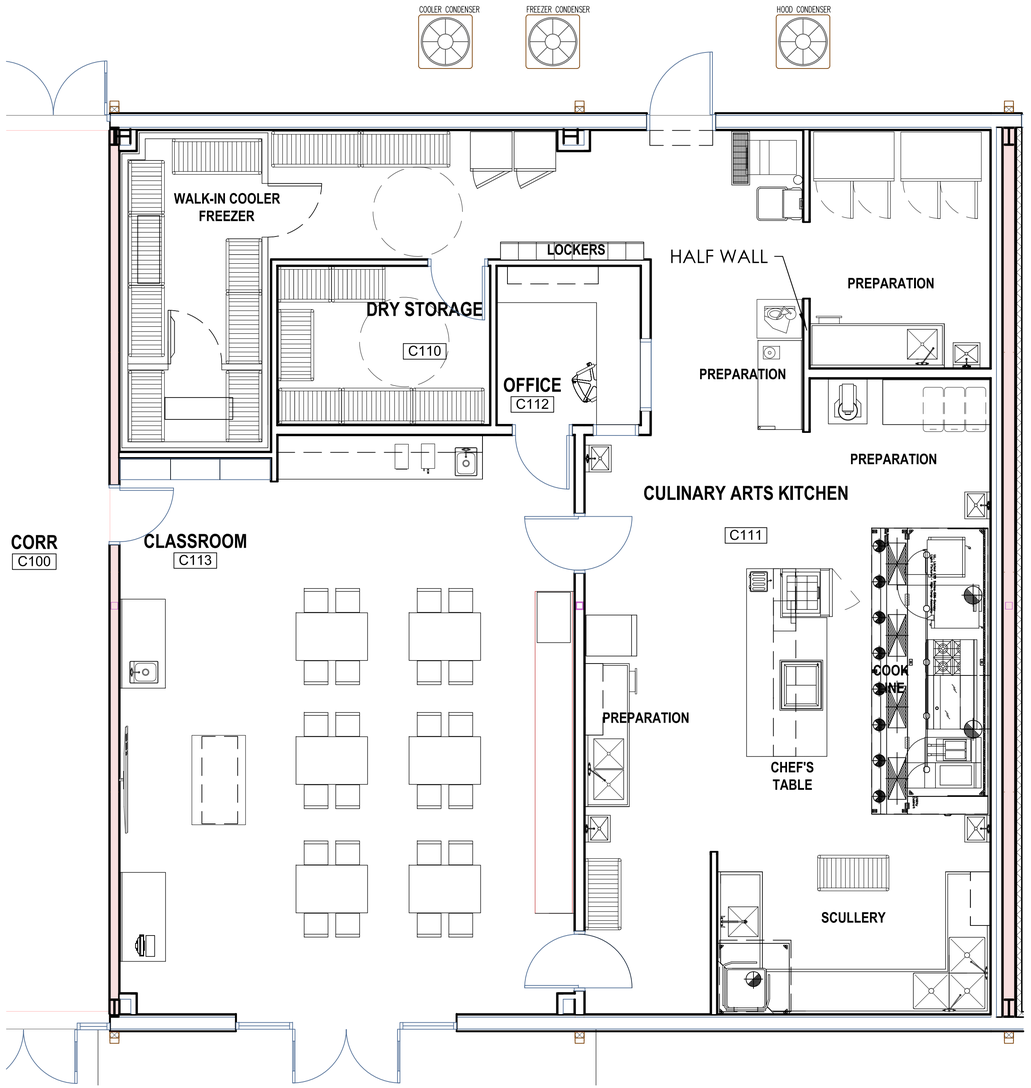
Revision:

Project Number
1703

Date:
4/04/2019

Sheet Number
FS2.02

WALK-IN COOLER/FREEZER DETAILED DRAWING SHEET 3
100% CD



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CONSULTANTS AND DESIGNERS FOR THE HOSPITALITY INDUSTRY AND THE FOOD SERVICE INDUSTRY

CULINARY ARTS KITCHEN & CLASSROOM HOOD OVERLAY DRAWING
100% CD

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

Date:
4/04/2019

Sheet Number
FS3.00

HOOD INFORMATION – Job#3701313

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM RISER(S) TOTAL EXH. CFM	WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	HOOD CONFIG. ROW	SWITCHES QUANTITY	SWITCHES LOCATION
1	Item 20	5430 ND-2-ACPSP-F	15' 0"	600 Deg.	3150			4'	12"	1575	2005	-0.785"	2700	1000	430 SS Where Exposed	ALONE	ALONE		
2	Item 36	4830 VHB-G-ND	4' 0"	700 Deg.	600			4'	10"	600	1100	-0.090"	0	0	430 SS 100%	ALONE	ALONE	1 FAN	FRONT LEFT FACE

HOOD INFORMATION

HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1	Item 20	Captrate Solo Filter	11	20"	16"	85% See Filter Spec.	5	L55 Series E26	NO	Right	12"x54"x30"	Ansul R102	3.0/3.0	DCV-2111	1 Light 1 Fan	YES	1230 LBS
2	Item 36						0									NO	187 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1	Item 20	BACKSPLASH 80.00" High X 192.00" Long 430 SS Vertical
		STRUCTURAL FRONT PANEL
		INSULATION FOR BACK OF HOOD
		RISER SENSOR INSTALL 6IN PLEN
		RIGHT VERTICAL END PANEL 27" Top Width, 21" Bottom Width, 80" High Insulated 430 SS
		LEFT VERTICAL END PANEL 27" Top Width, 21" Bottom Width, 80" High Insulated 430 SS

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG.	DIA.	CFM	S.P.
1	Item 20	Front	192"	24"	6"	MUA	12"	28"		675	0.173"
						MUA	12"	28"		675	0.173"
						MUA	12"	28"		675	0.173"
						MUA	12"	28"		675	0.173"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"
						AC			8"	125	0.049"

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

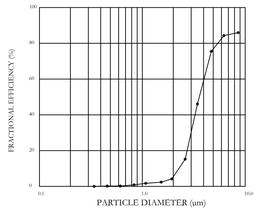
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

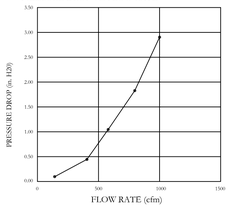
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

EFFICIENCY VS. PARTICLE DIAMETER



PRESSURE DROP VS. FLOW RATE



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96
NSF STANDARD #2
UL STANDARD #1046
INT. MECH. CODE (IMC)
ULC-S649

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

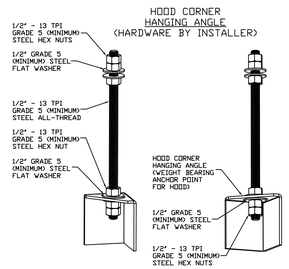
CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted ☐
Approved with NO Exception Taken ☐
Revise and Resubmit ☐
SIGNATURE _____
Your Title _____ Date _____

PATENT NUMBERS

AC-PSP (United States) - US Patent 7963830 B2
AC-PSP Wall (Canada) - CA Patent 2820509
AC-PSP Island (Canada) - CA Patent 2520330

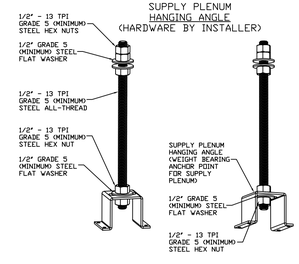
HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

SUPPLY PLENUM HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH
UL 710 AND NFPA 96
AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:
ETL SANITATION LISTED
ETL LISTED FILE# 3054804-001

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH
NFPA #96
NSF
ETL LISTED #3054804-001

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REVISIONS

	DESCRIPTION	DATE:
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www.captiveaire.com

Brady ISD Culinary Arts Project
BRADY, TX, 76825

DATE: 4/1/2019
DWG.#: 3701313
DRAWN BY: JLB-47
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

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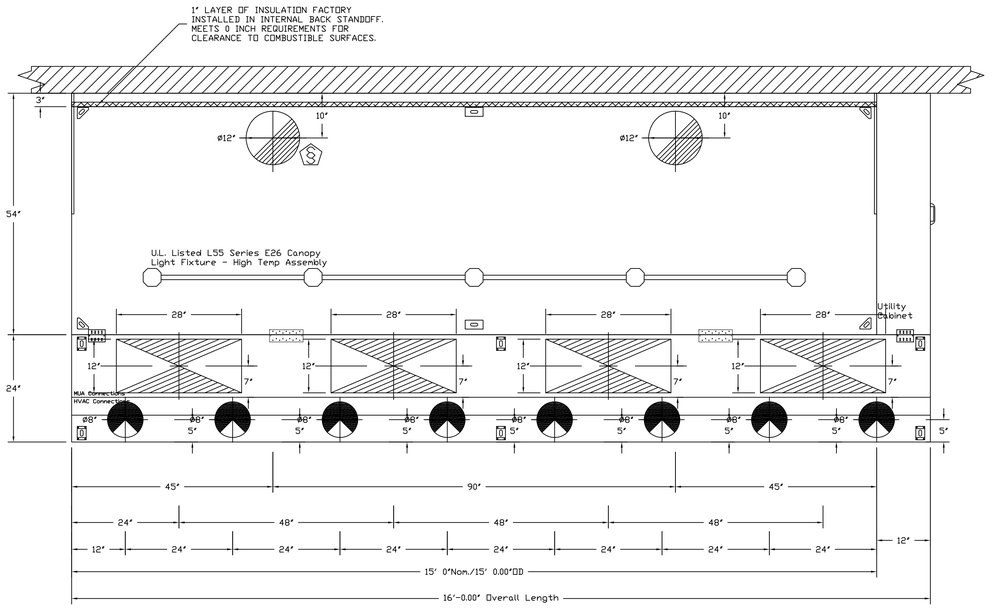
Brady Independent School District
Bond 2018
Brady, Texas

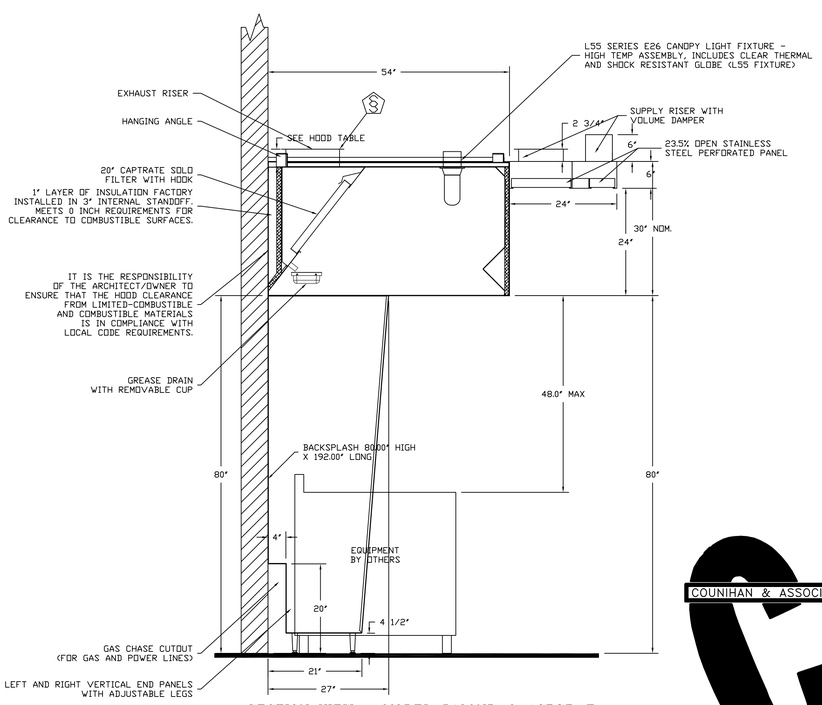
Revision:
Project Number 1703
Date: 4/04/2019
Sheet Number **FS3.01**

HOOD DETAILED DRAWINGS SHEET 1
100% CD



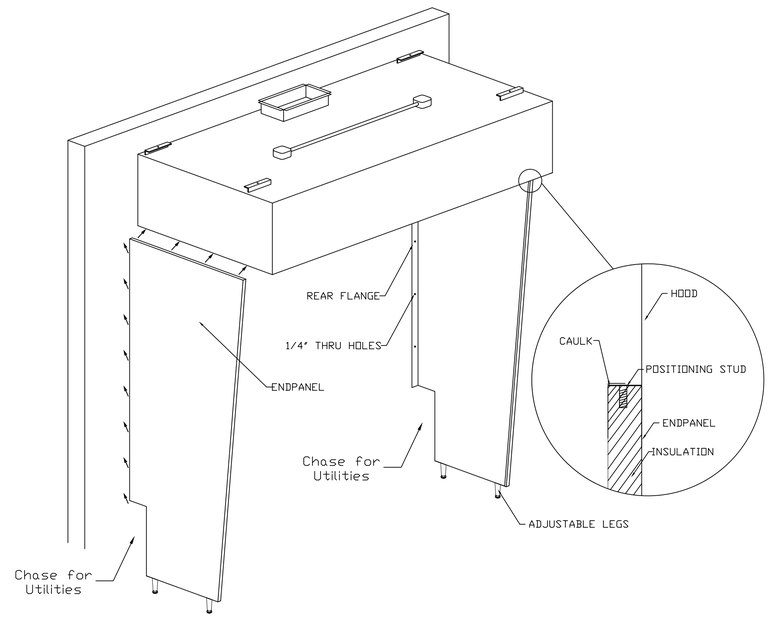
PLAN VIEW – Hood #1 (Item 20)
15' 0.00" LONG 5430ND-2-ACPSP-F
NOTE: Additional hanging angles provided for hoods 12" and longer.

ACPSP ships loose for field installation



SECTION VIEW – MODEL 5430ND-2-ACPSP-F
HOOD – #1 (Item 20)

ND-2 VERTICAL ENDPANEL



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HOOD DETAILED DRAWINGS SHEET 2
100% CD

REVISIONS

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Brady ISD Culinary Arts Project
BRADY, TX, 76825

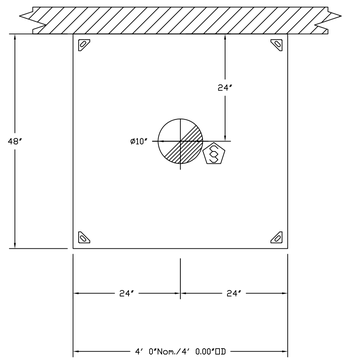
DATE: 4/1/2019
DWG.#: 3701313
DRAWN BY: JLB-47
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 2

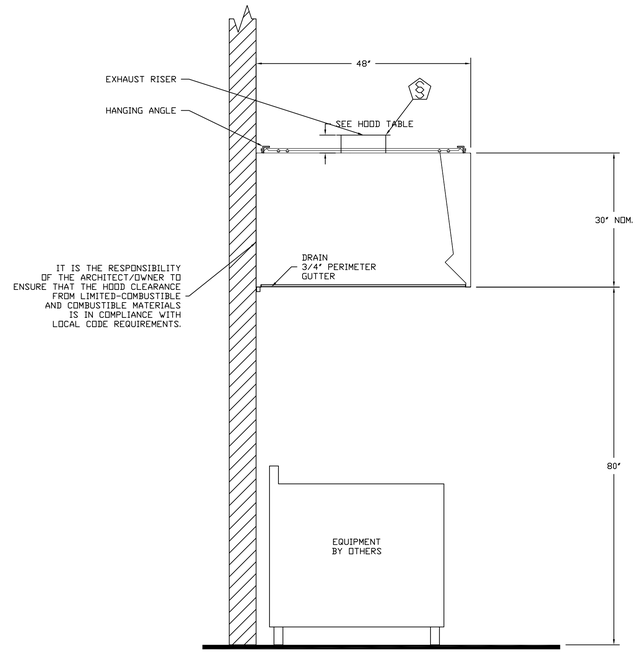
Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number 1703
Date: 4/04/2019
Sheet Number **FS3.02**



PLAN VIEW – Hood #2 (Item 36)
4' 0.00" LONG 4830VHB–G–ND



SECTION VIEW – MODEL 4830VHB–G–ND
HOOD – #2 (Item 36)

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HOOD DETAILED DRAWINGS SHEET 3
100% CD

REVISIONS

	DESCRIPTION	DATE:
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4		

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Brady ISD Culinary Arts Project
BRADY, TX, 76825

DATE: 4/1/2019

DWG.#: 3701313

DRAWN BY: JLB-47

SCALE: 3/4" = 1'–0"

MASTER DRAWING

SHEET NO. 3

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number 1703

Date: 4/04/2019

Sheet Number **FS3.03**

Fire System Information – Job#3701313

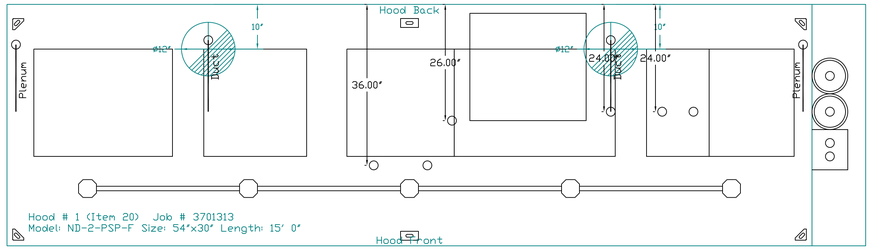
FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1	20	Ansul R102	3.0/3.0	12	Fire Cabinet Right	Right

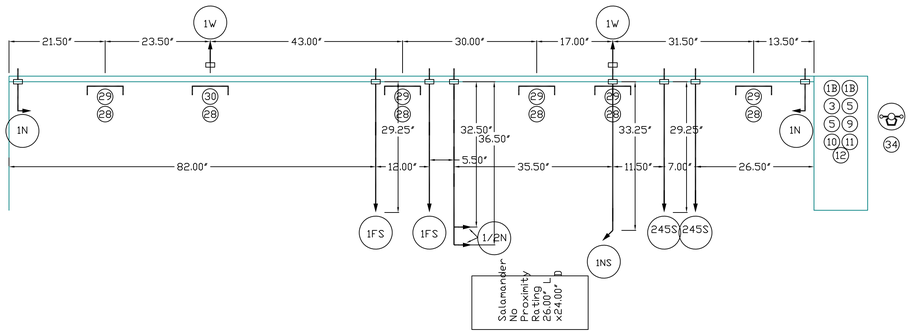
GAS VALVE(S)

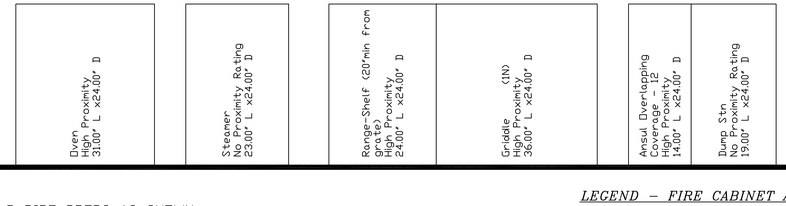
FIRE SYSTEM NO.	TAG	TYPE	SIZE	SUPPLIED BY
1	20	Mechanical	2.000	Distributor

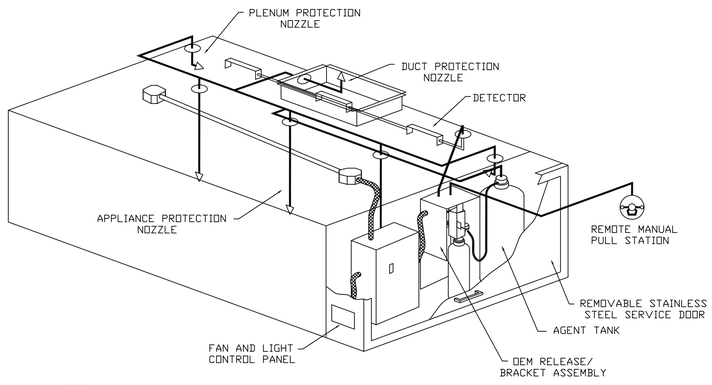
Fire System Parts List Key

FIRE SYSTEM NO.	TAG	KEY NUMBER – PART DESCRIPTION	QTY. BY FACTORY	QTY. BY DIST.
1	20	0 – 0 – 43-15733 AIR CYLINDER ASSEMBLY – Air Cylinder and Tubing for Mechanical Gas Valves (Ansul Part #15733)	0	1
		0 – 0 – CBI-146 Chrome Plated Pipe Nipple 3/8" NPT 60 Inches Long	1	0
		0 – 0 – METALCAP-CB BLOWOFF CAP – Metal	11	0
		0 – 0 – Tank Strap Tank Strap – used for ANSUL Tanks	2	0
		0 – 0 – UCTANKBRACKET Tank Bracket for fire system tank installation in utility cabinets	2	0
		1 – 1 – AT – 3.0 TANK(#1B) – 3.0 Gallon SS Tank (for use with Automan Release, Actuator, or SS Enclosure (UL/ULC) Macola # 01-429862	2	0
		3 – 3 – ANS-OEM REGULATED RELEASE – Ansul Regulated Mechanical Release/Bracket Assembly, OEM, R-102, Cartridge Detection Included, Ansul Part # 79493	1	0
		5 – 5 – LIQ-3.0 AGENT – Ansulex Low PH Wet Chemical Agent, 3 Gallon (UL) 79372	0	2
		9 – 9 – 101-30 CARTRIDGE – Carbon Dioxide, 101-30, Cartridge (R-102) 19-15851	0	1
		10 – 10 – TLINK LINK – Test Link (1 test link) Ansul Part # 24916, Macola # 20-24916	0	1
		11 – 11 – MICRD-SDA MICROSWITCH KIT– Includes 2 switches and Mounting Hardware. Single Dual Electric Switch, One Standard Switch, One Alarm Duty Switch Ansul Part # 437155, Macola # 08-437155	1	0
		12 – 12 – HOSE HOSE – Rubber Hose	1	0
		14 – 14 – 419336 NOZZLE – 1W Nozzle, Duct/Appliance (Replaces ANSUL Part# 419347, CAS Part# 419336) A0001266	2	0
		15 – 15 – 419333 NOZZLE – 1F Nozzle, Appliance (Replaces ANSUL Part # 419344, CAS# 419333)	2	0
		16 – 16 – 419335 NOZZLE – 1N Nozzle, Plenum/Appliance (Replaces ANSUL Part# 419346, CAS Part# 419335) A0001265	3	0
		18 – 18 – 419334 NOZZLE – 1/2N Nozzle, Appliance (Replaces ANSUL Part# 419345, CAS# 419334) A0001264	2	0
		20 – 20 – 419340 NOZZLE – 245 Nozzle, Appliance (Replaces ANSUL Part# 419351, Part# 419340) A0001270	2	0
		25 – 25 – 418569 NOZZLE ADAPTOR – Swivel Nozzle Adaptor (Replaces CAS Part # 418569) A0001274	5	0
		26 – 26 – QSA-3/8 QUIK SEAL – 3/8" (UL)	10	0
		27 – 27 – QPSA-1/2 PULLEY SEAL – 1/2" Hood Seal (UL) Ansul Part # 423253, Macola # 32-79768	1	0
		28 – 28 – S-DET DETECTOR – Series (Scissor Linkage) Ansul Part # 435547/435548 (Old # 417369/434480); Macola # 05-417369	6	0
		29 – 29 – ANS-360FL FUSIBLE LINK – 360deg F, R-102 and PIRANHA, Ansul Part # 439088	5	0
		30 – 30 – ANS-500FL FUSIBLE LINK – 500deg F, R-102 and PIRANHA, Ansul Part # 439232	1	0
		34 – 34 – RPS-A REMOTE PULL STATION – Red composite (without wire rope) 434618 (Old Macola #06-4835)	1	0
		35 – 35 – PE-LT PULLEY ELBOW – Low Temp. Pulley Elbow, Set Screw Type Ansul Part # 415670, Macola # 11-415671	2	0
		36 – 36 – PE-HT PULLEY ELBOW – High Temp Pulley Elbow, Compression Type, Ansul Part # 423251, Macola # 10-45771	1	0
		38 – 38 – ELB-90 3/8" CHROME PLATED ELBOW – 90 DEG	3	0
		39 – 39 – ELB-45 3/8" CHROME PLATED ELBOW – 45 DEG	2	0
		40 – 40 – TEE 3/8" CHROME PLATED TEE	1	0









TYPICAL ANSUL R-102 SYSTEM LAYOUT

NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- MAXIMUM 9 ELBOWS IN SUPPLY LINE.
- MINIMUM 72 INCHES OF AGENT LINE FROM TANK TO FIRST NOZZLE.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

Job #: 3701313
Job Name: Brady IDS Culinary Arts Project

System Size: ANSUL-3.0/3.0 Total FP required: 12
Hood # 1 15' 0.00" Long x 54" Wide x 30" High
Riser # 1 Size: 12" Dia.
Riser # 2 Size: 12" Dia.
Hood # 1 Metal Blow-Off Caps included.

SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/ LINKAGE ASSEMBLY.

LEGEND – FIRE CABINET ANSUL SYSTEM

1A	1.5 GALLON TANK
1B	3 GALLON TANK
2	OEM AUTOMAN RELEASE
3	OEM REGULATED RELEASE
4	OEM REGULATED ACTUATOR
5	ANSULEX LIQUID AGENT (3 GAL.)
6	ANSULEX LIQUID AGENT (1.5 GAL.)
7	CARTRIDGE (101-20)
8	CARTRIDGE (101-10)
9	CARTRIDGE (101-30)
9A	CARTRIDGE (LT-A-101-30)
9B	DOUBLE TANK CARTRIDGE
10	TEST LINK
11	DOUBLE MICROSWITCH
12	HOSE ASSEMBLY
1100	DUCT NOZZLE (430913)
2W	DUCT NOZZLE (419337)
1W	NOZZLE ASSEMBLY (419336)
1F	NOZZLE ASSEMBLY (419333)
1N	NOZZLE ASSEMBLY (419335)
1/2N	NOZZLE ASSEMBLY (419334)
3N	NOZZLE ASSEMBLY (419338)
245	NOZZLE ASSEMBLY (419340)
230	NOZZLE ASSEMBLY (419339)
2120	NOZZLE ASSEMBLY (419343)
290	NOZZLE ASSEMBLY (419342)
260	NOZZLE ASSEMBLY (419341)
28	DETECTOR BRACKET
29	LOW TEMP FUSIBLE LINK
30	HIGH TEMP FUSIBLE LINK
MGV	MECHANICAL GAS VALVE
EGV	ELECTRICAL GAS VALVE
34	REMOTE MANUAL PULL STATION
S	SWIVEL ADAPTOR

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INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE, TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST; ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES), ONE MECHANICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2", PERMIT, AND SYSTEM TEST.
EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

HOOD DETAILED DRAWINGS SHEET 4
100% CD

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1		
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Brady, Texas

Revision:

Project Number 1703
Date: 4/04/2019
Sheet Number **FS3.04**

EXHAUST FAN INFORMATION – Job#3701313

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	EF-1	DU85HFA	1575	1.100	1319	0.750	0.4320	1	208	5.2	498 FPM	92	14.8
2	EF-2	DU85HFA	1575	1.100	1319	0.750	0.4320	1	208	5.2	498 FPM	92	14.8
4	EF-3	DU12HFA	600	0.250	1282	0.250	0.0880	1	115	3.7	426 FPM	50	7

CONDENSER DETAILS

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CONDENSER NO.	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX. FUSE SIZE	MIN. WIRE SIZE	SEER
3	MAU-1	A2-D.250-20D-MPU	1	5	208-230	3 PHASE	60 Hz	21.4 Amps	17.4 Amps	30 Amps	10 AWG	14

MUA FAN INFORMATION – Job#3701313

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES	BURNER EFFICIENCY(%)
3	MAU-1	A2-D.250-20D-MPU	20MF-2-MOD	A2-D.250	2000	2700	0.400	1193	1.500	0.9040	3	208	6.6	98.0°F	71.0°F	80.8°F	65.7°F	47.9 MBH	45.8 MBH	2.1 MBH	1516	10.2	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
3	MAU-1	148736	136837	50 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN OPTIONS

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	EF-1	1 - Grease Box
		1 - ECM Wiring Package-Exhaust - PWM Signal from ECPM03 Prewire (NIDEC Motor)
2	EF-2	1 - Grease Box
		1 - ECM Wiring Package-Exhaust - PWM Signal from ECPM03 Prewire (NIDEC Motor)
3	MAU-1	1 - AC Interlock Relay - 24VAC Coil
		1 - Motorized Backdraft Damper for A2-D Housing
		1 - Low Fire Start
		1 - Inlet Pressure Gauge, 0-35'
		1 - Manifold Pressure Gauge, -5 to 15' wc
		1 - 5 Ton Single Circuit Modular Packaged Cooling Option for Size 2 MUA (2,000 to 3,000 cfm), 208V/230V, 3 phase. Cooling Thermostat or Programmable Stat Required for Proper Operation.
		1 - Cooling Thermostat and Relay (Not req for evap)
		1 - Ship Condenser Loose. Single Condenser, Three Phase.
		1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only
		1 - Size 2 Direct Fired Heater Low CFM Profile Package. Used on Heaters under 2500 cfm.
		1 - DF 2 Indoor Hanging Option - Includes 2 HSA125 Hanging Spring Isolators per Uni-Strut
		1 - Insulation Option for VBank filter section
4	EF-3	1 - ECM Wiring Package-Exhaust - Manual or 0-10VDC Reference Speed Control (NIDEC Motor)

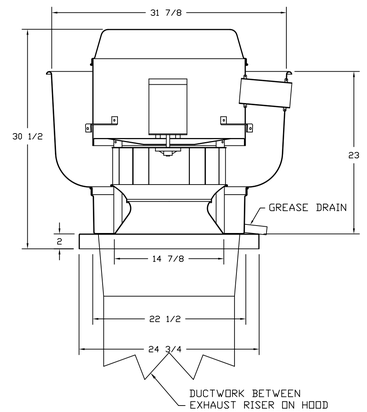
FAN ACCESSORIES

FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF-1	YES						
2	EF-2	YES						
3	MAU-1				YES		YES	
4	EF-3							

CURB ASSEMBLIES

NO.	ON FAN	TAG	WEIGHT	ITEM	SIZE		
1	# 1	EF-1	44 LBS	Curb	23.000"W x 23.000"L x 26.000"H	Vented	Hinged
2	# 2	EF-2	44 LBS	Curb	23.000"W x 23.000"L x 26.000"H	Vented	Hinged
4	# 4	EF-3	35 LBS	Curb	17.500"W x 17.500"L x 26.000"H	Vented	Hinged

FANS #1 (EF-1), #2 (EF-2) - DU85HFA EXHAUST FAN



FEATURES:

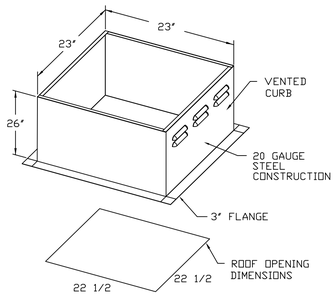
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

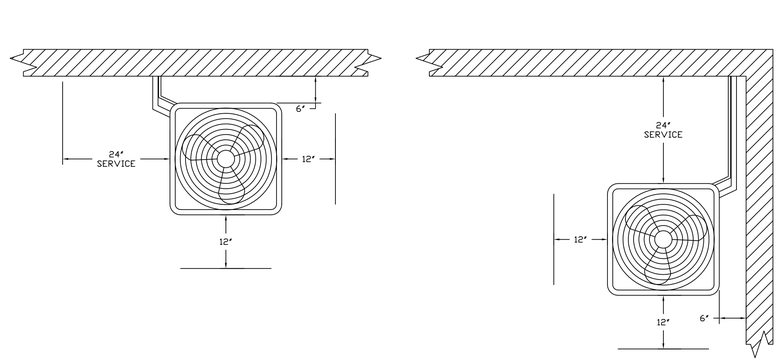
OPTIONS

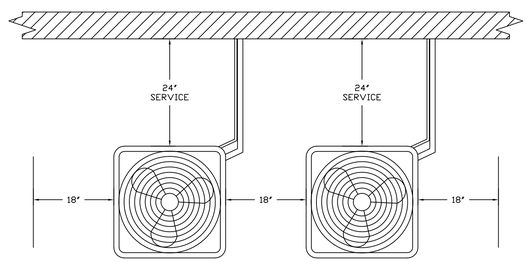
GREASE BOX.
ECM WIRING PACKAGE-EXHAUST - PWM SIGNAL FROM ECPM03 PREWIRE (NIDEC MOTOR).



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

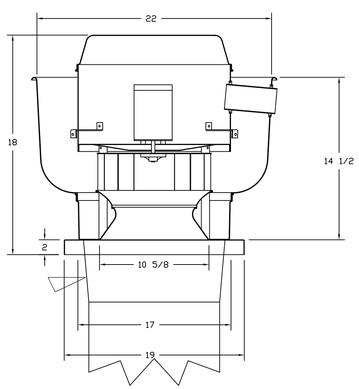




CONDENSER CLEARANCES

48" CLEARANCE REQUIRED ABOVE CONDENSERS
(NOTE: **CONDENSERS SHOWN HERE ARE NOT DRAWN AT SCALE)

FAN #4 DU12HFA - EXHAUST FAN (EF-3)



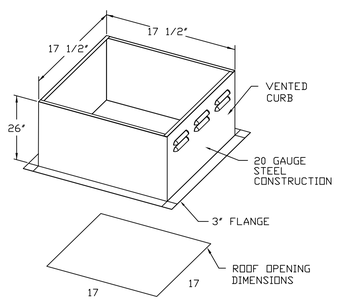
FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

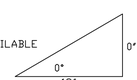
OPTIONS

ECM WIRING PACKAGE-EXHAUST - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (NIDEC MOTOR).



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE



HOOD DETAILED DRAWINGS SHEET 5
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DWG.#: 3701313
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SCALE: 3/4" = 1'-0"
MASTER DRAWING
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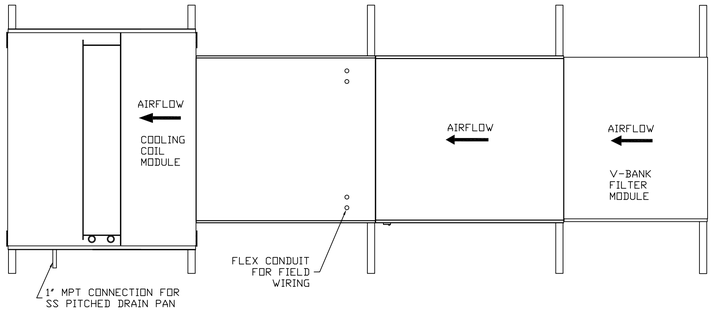
Date: 4/04/2019
Sheet Number **FS3.05**

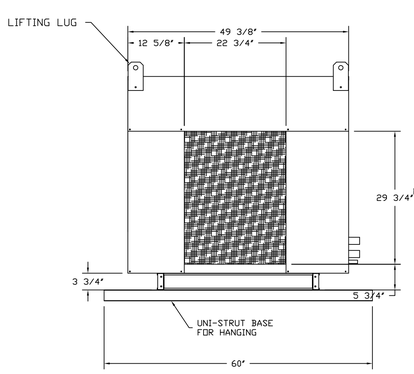
FAN #3 A2-D.250-20D-MPU - HEATER (MAU-1)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" DIRECT DRIVE FAN
2. V-BANK EZ FOAM FILTERS -INDOOR
3. SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT
4. COOLING INTERLOCK RELAY, 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
5. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
8. GAS PRESSURE GAUGE, -5 TO +15 INCHES W.C., 2.5" DIAMETER, 1/4" THREAD SIZE
9. 5 TON, SINGLE CIRCUIT MODULAR PACKAGED COOLING OPTION FOR SIZE 2 MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (2,000 TO 3,000 CFM) NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 3EZ100IR
10. DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 85°F.
11. SHIP CONDENSER LOOSE. THE REFRIGERATION LINES WILL NEED TO BE STUBBED OUT 12 INCHES. THE SUCTION LINE NEEDS TO BE INSULATED INSIDE THE COIL MODULE. ROTARY DISCONNECT SHOULD NOT BE INSTALLED ON THE POST, BLANK POST SHOULD BE USED IN PLACE.
12. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
13. PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
14. INDOOR HANGING CRADLE FOR THE SIZE 2 DIRECT FIRED UNIT. 2 HSA125 HANGING ISOLATORS PER UNI-STRUT INCLUDED.
15. "INSULATION" FOR V-BANK INTAKE OPTION.

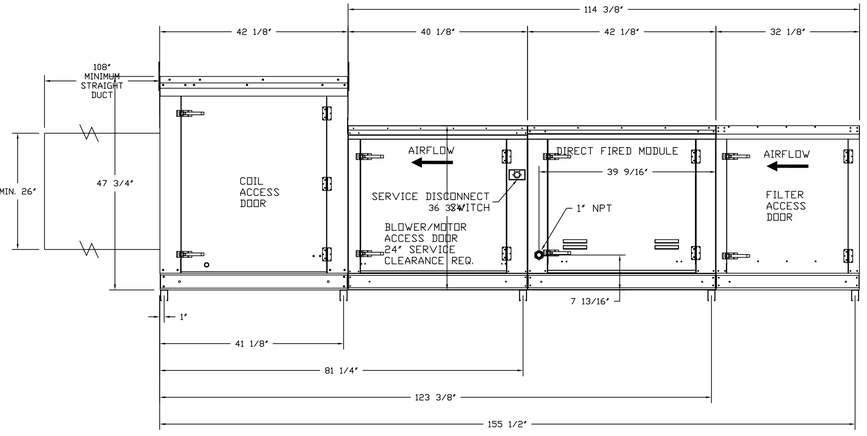
NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 26" x 26" x 108" LONG.

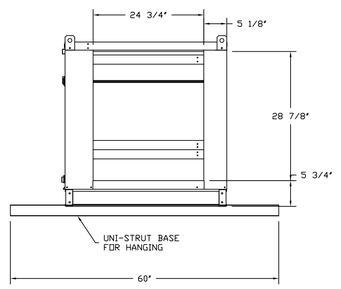
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 25°F. TEMP. RISE = 50°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 144226
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 156767
OUTPUT BTUs AT ALTITUDE OF 1448 ft. = 136837
INPUT BTUs AT ALTITUDE OF 1448 ft. = 148736

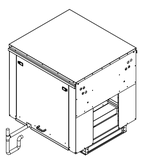




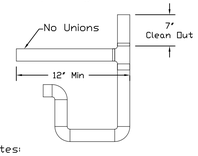




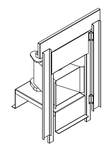
Typical Drain Trap Install



Recommended Cooling Coil Drain Trap Configuration



Notes:
1) 1" diameter PVC Pipe only
2) Use only low profile couplings
3) Add clean out as shown



Direct Fired (DF) Profile Plate Assembly

Direct Fired Profile Plate Specifications:
Description:
Direct fired burners shall have patented (US Patent No: US6629523B2), self-adjusting profile plates designed to ensure proper air velocity and pressure drop across the burner. Profile plates shall allow burners to achieve clean combustion by limiting by-product levels to a maximum of 5ppm of carbon monoxide (CO), and 03ppm of nitrogen dioxide (NO2). Direct Fired units shall be configured with the blower mounted downstream of the burner. This arrangement will ensure a consistent airflow, regardless of inlet air temperature.

Application:
Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.

Certifications:
All profile plate assemblies shall be included in the DF unit's ETL listing and comply with combined safety standards ANSI Z83.4 and CSA 3.7 (non-recirculating DF heaters) and ANSI Z83.18 (recirculating DF heaters).

General Construction:
-Profile plates shall be formed from G90 galvanized steel.
-Profile plates shall vary in size per unit.
-Profile plates shall be mounted along the same plane as the discharge of the burner.
-Design shall incorporate properly torqued, permanently mounted spring hinges.
-Spring hinges shall be made from plated steel.

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HOOD DETAILED DRAWINGS SHEET 6
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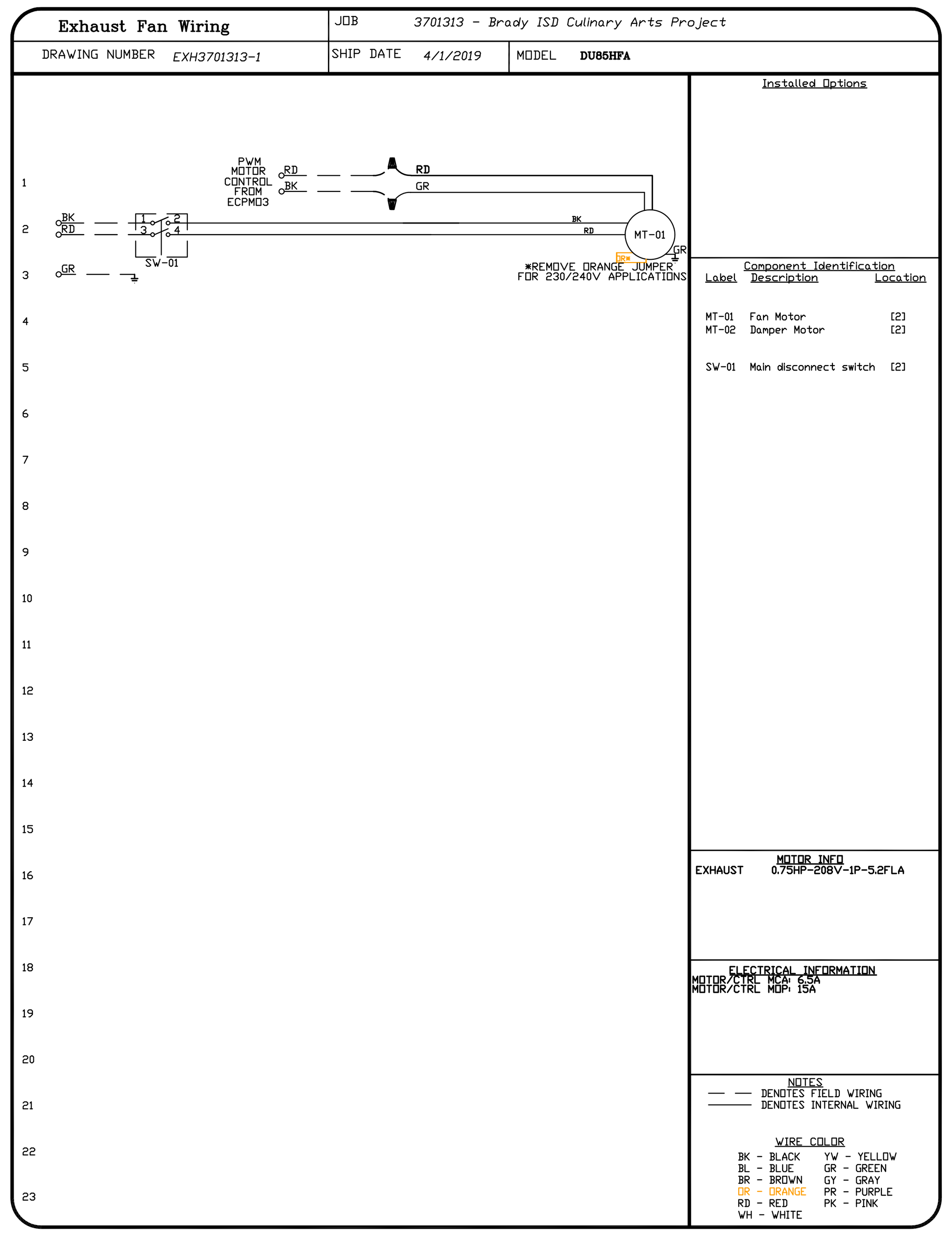

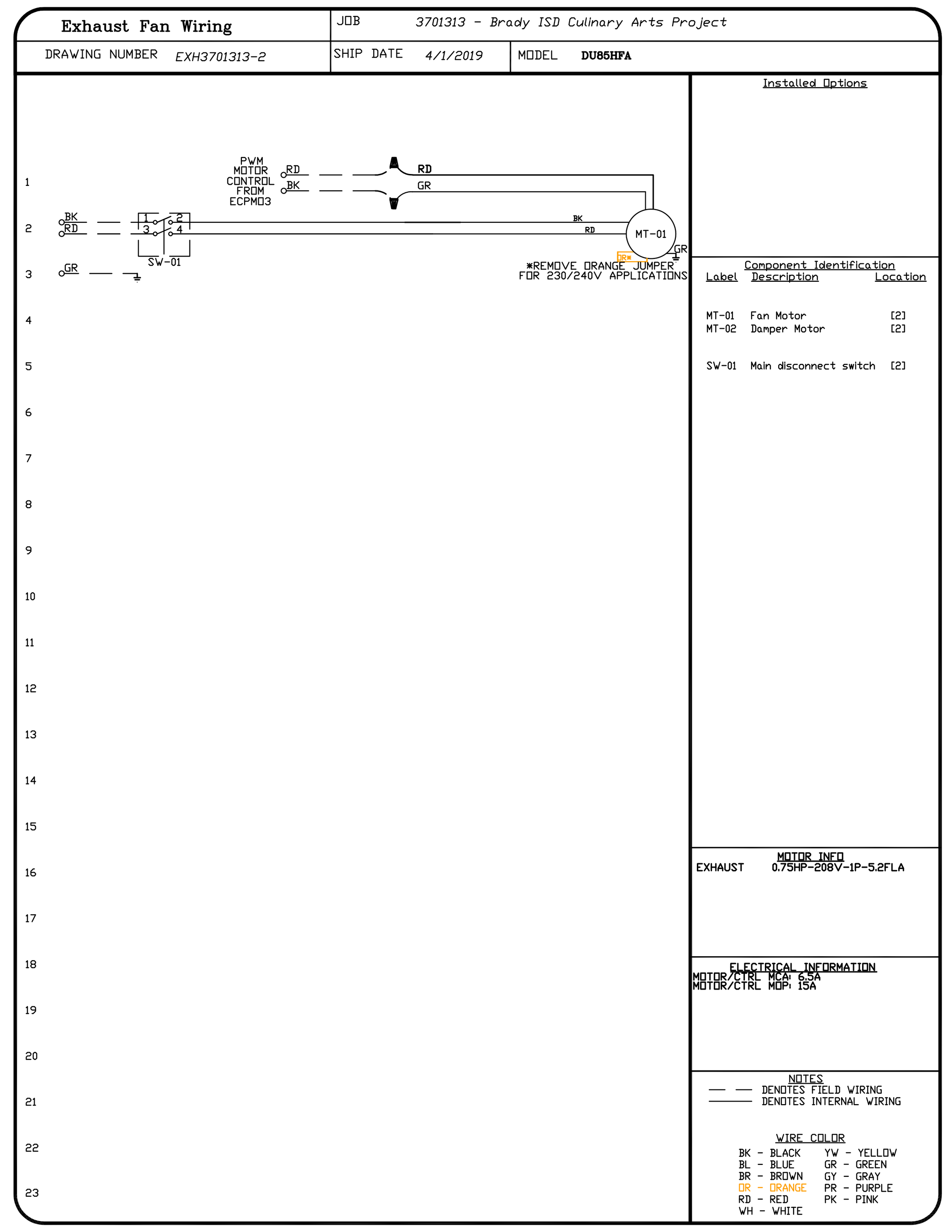

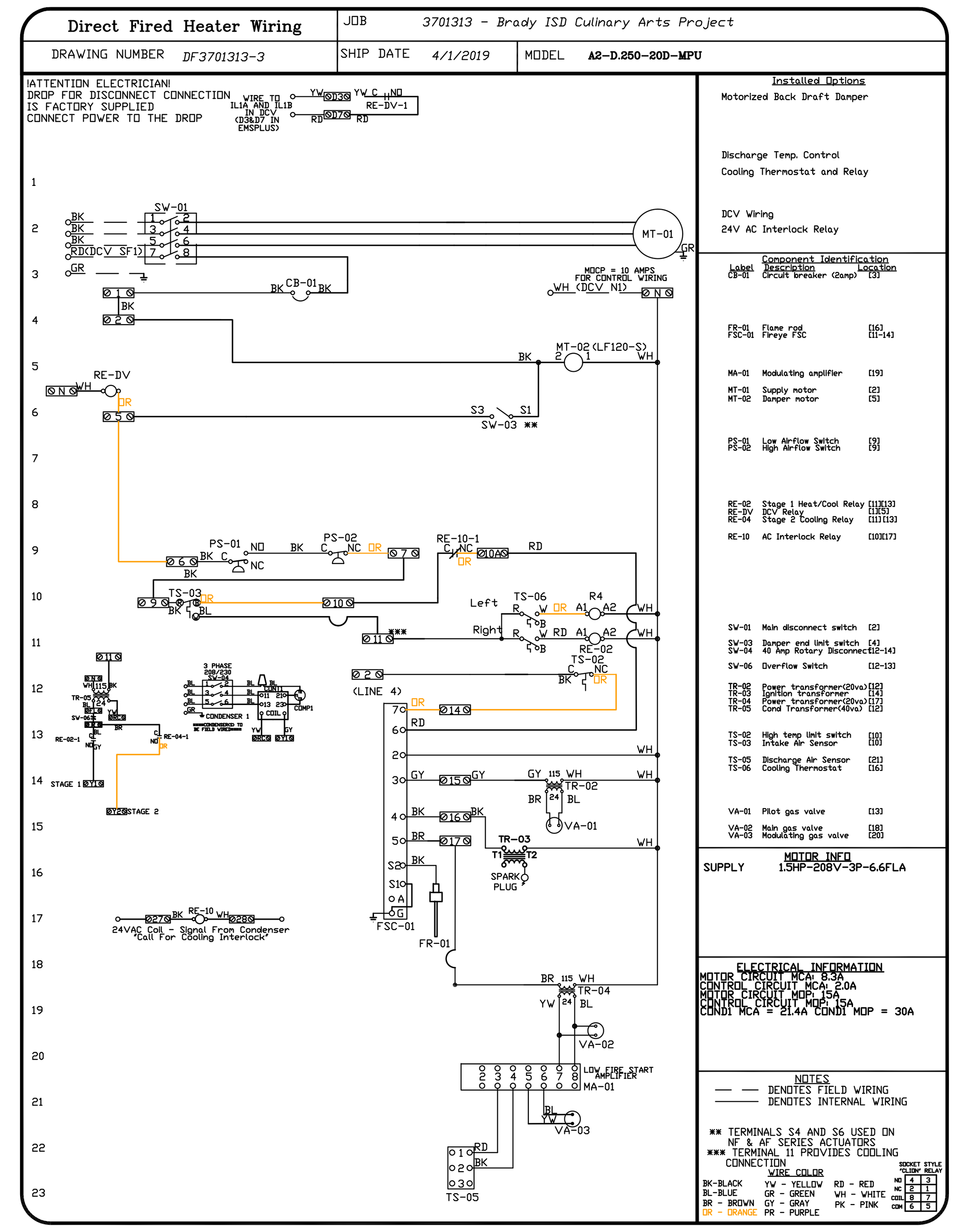

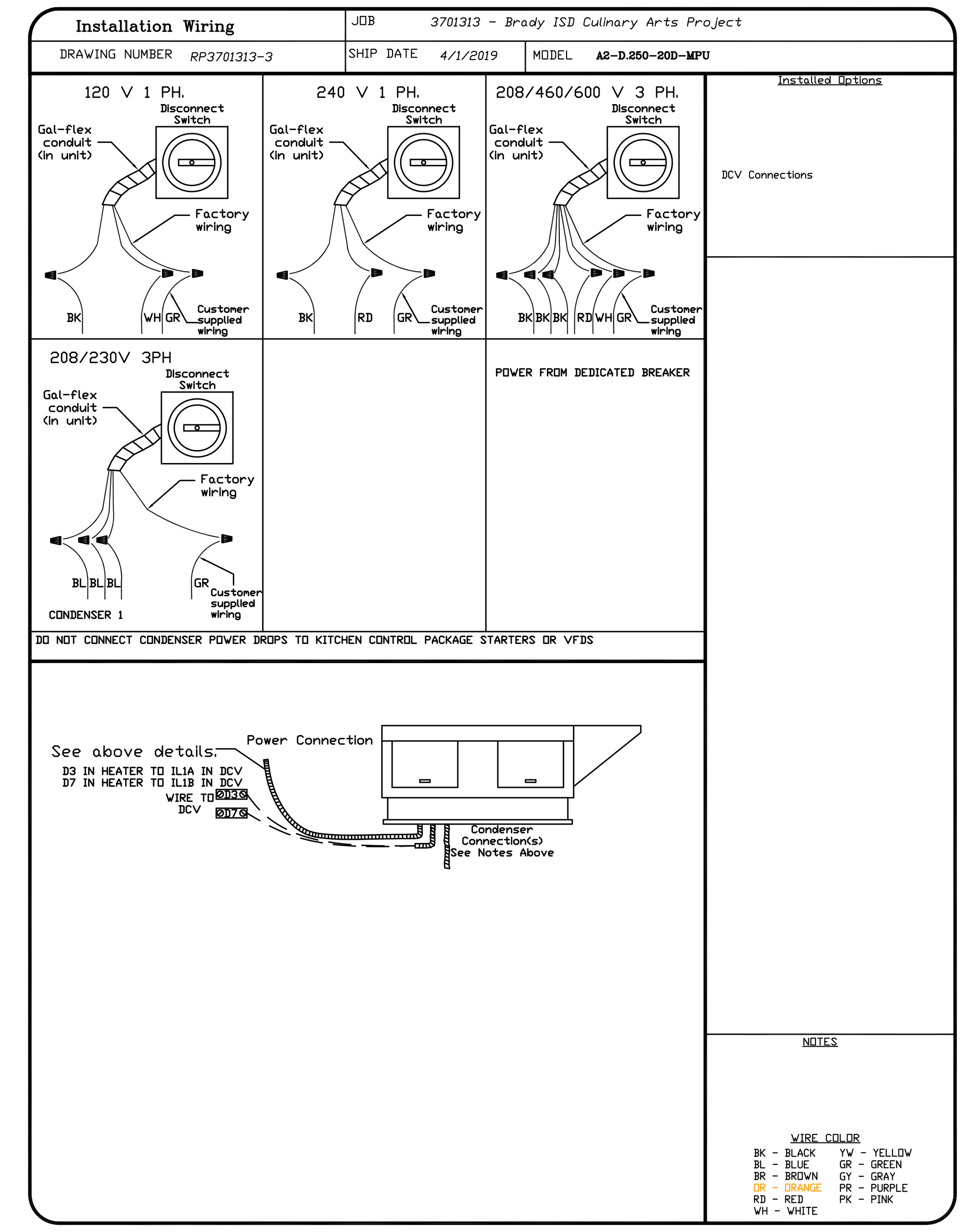

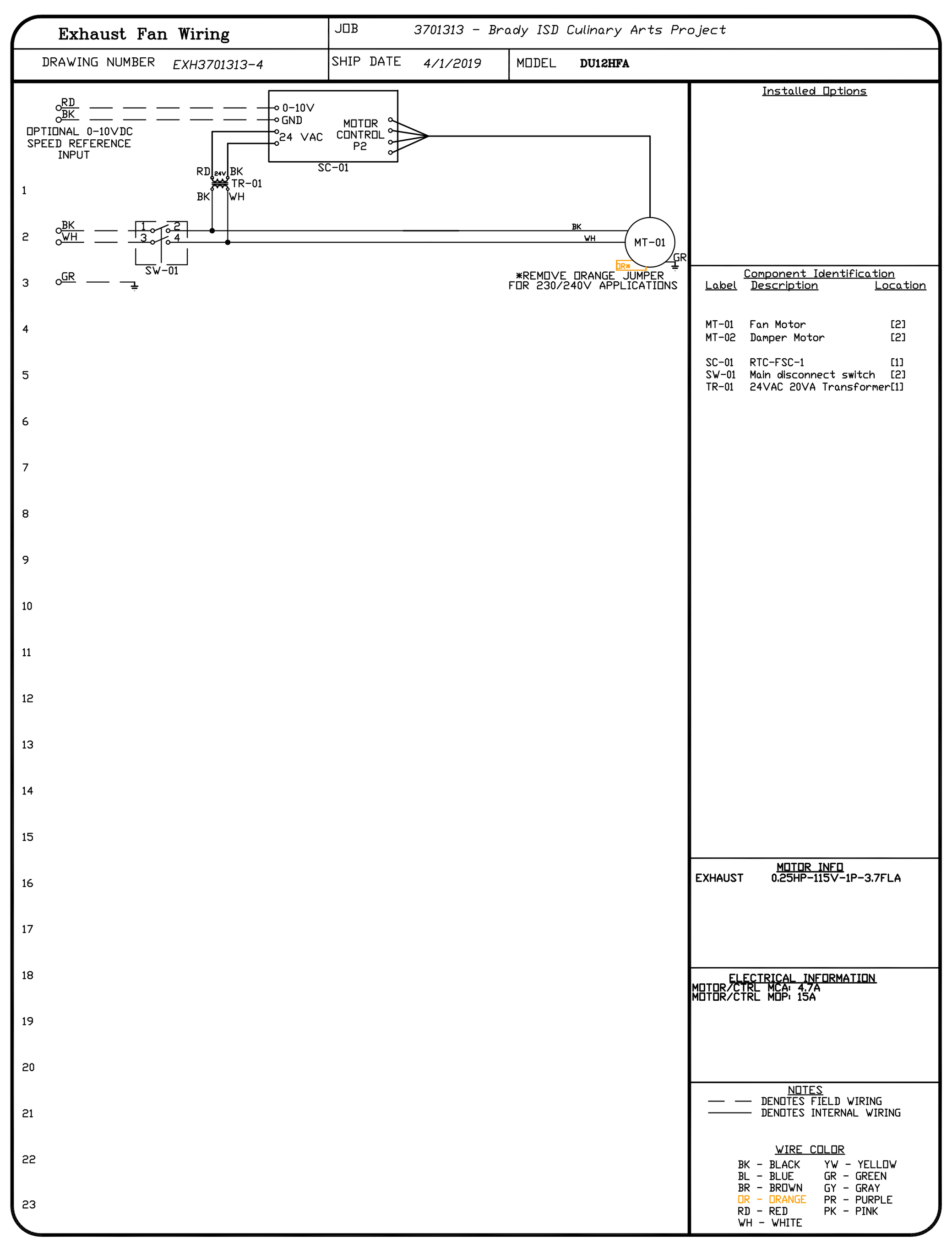

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Brady ISD Culinary Arts Project

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HOOD DETAILED DRAWINGS SHEET 7

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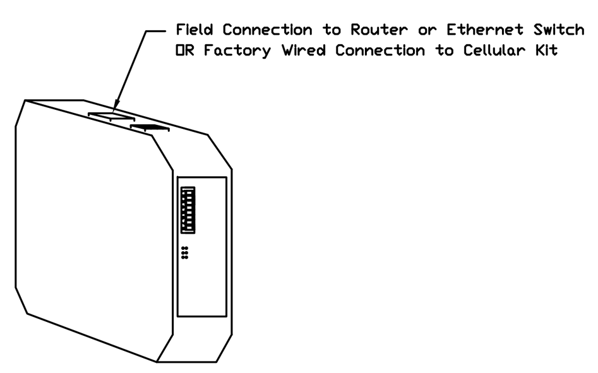
ELECTRICAL PACKAGE – Job#3701313

NO.	TAG	PACKAGE #	LOCATION	SWITCHES LOCATION	SWITCHES QUANTITY	OPTION	FAN TAG	TYPE	Φ	H.P.	VOLT	FLA
1	20	DCV-2111	Utility Cabinet Right	04 – Utility Cabinet Right	1 Light	Smart Controls DCV	EF-1	Exhaust	1	0.750	208	5.2
				Hood # 1	1 Fan		EF-2	Exhaust	1	0.750	208	5.2
							MAU-1	Supply	3	1.500	208	6.6
2	36	Switches		01 – Face Mount Left Side of Hood / Hood # 2	1 Fan							



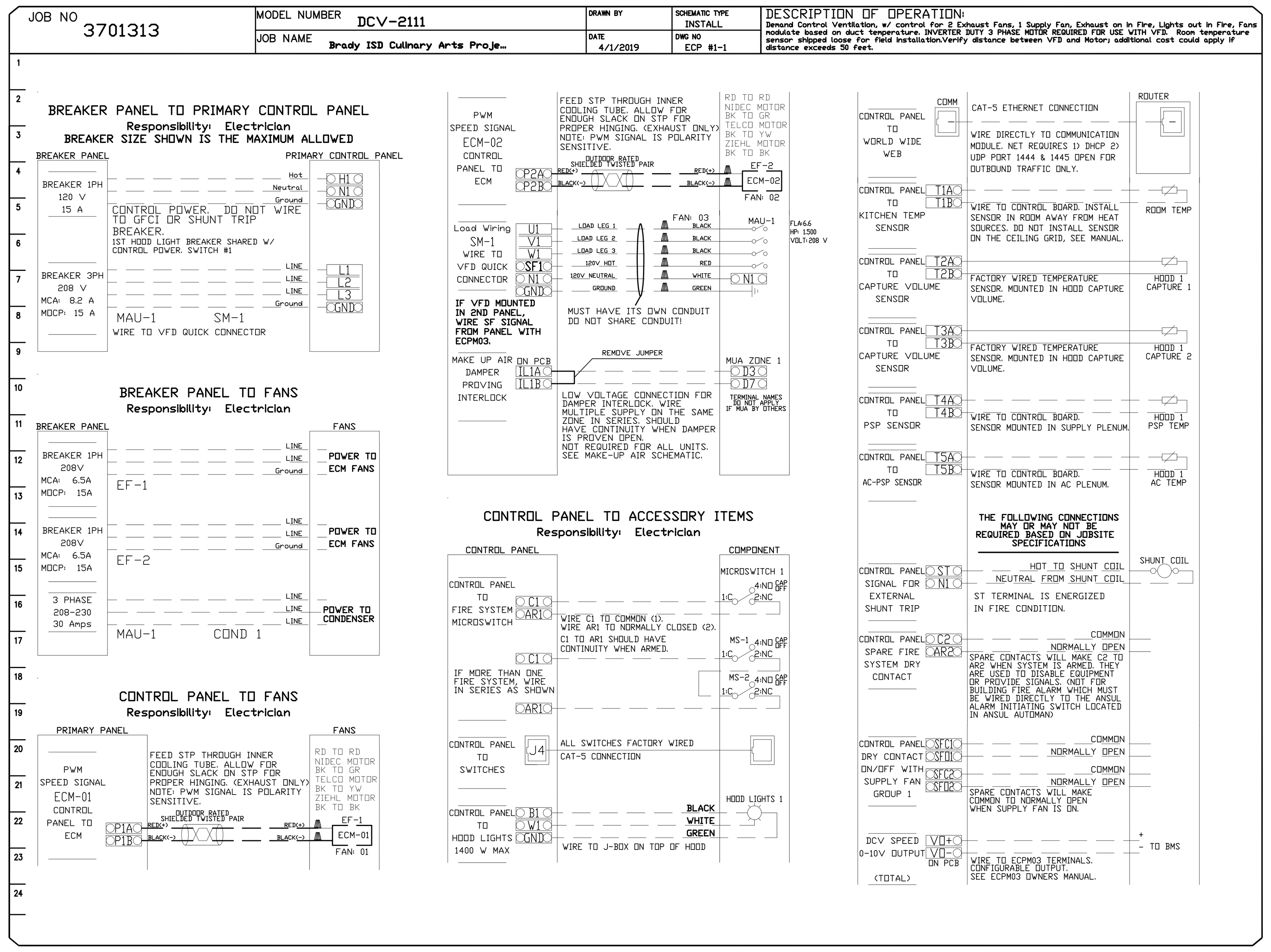
CASlink Monitor and Control

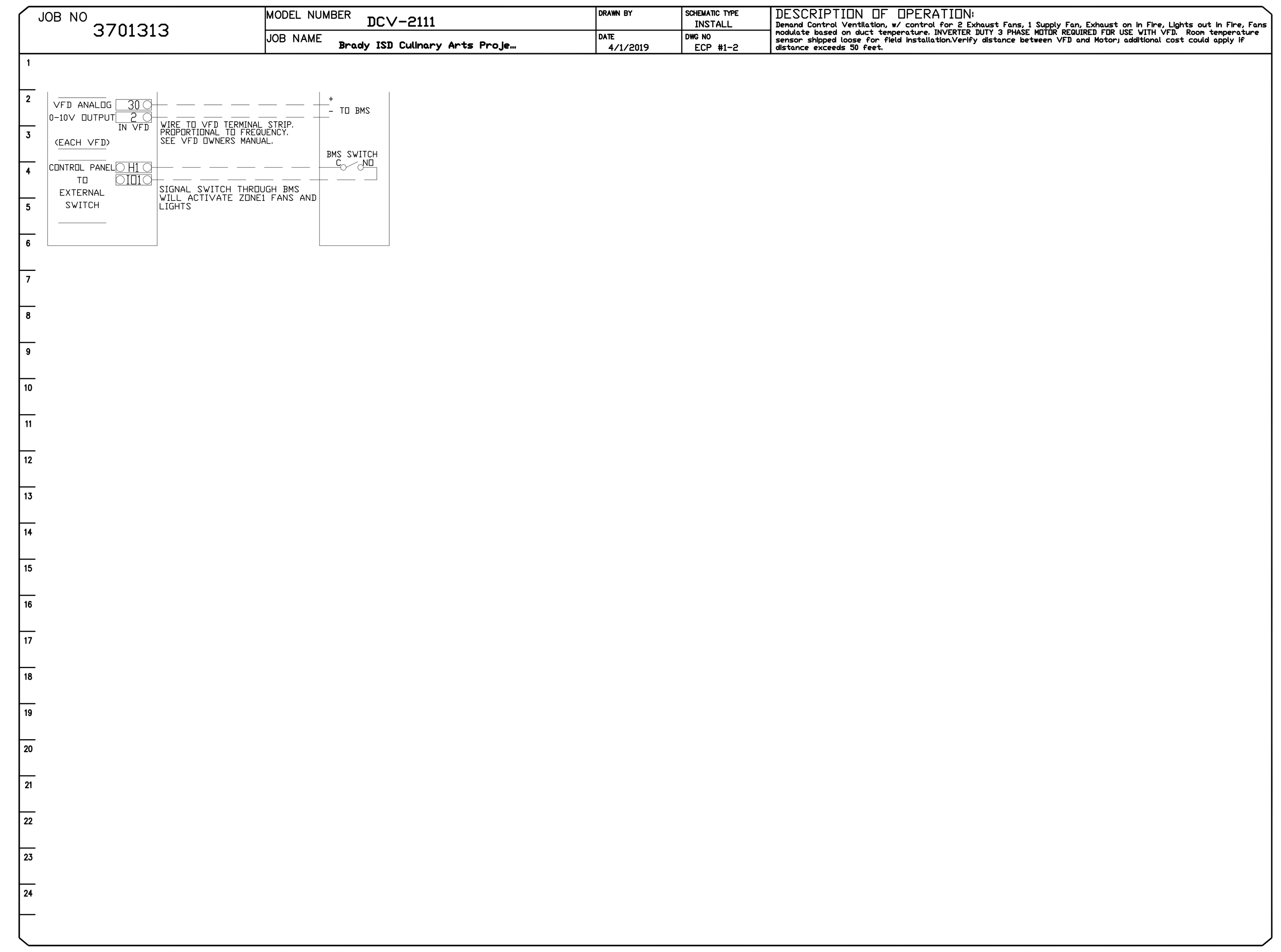
- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood control panel to allow remote changes to system setting such as: VFD Frequencies, ECM speeds, temperature set points, fan and wash schedules, etc.

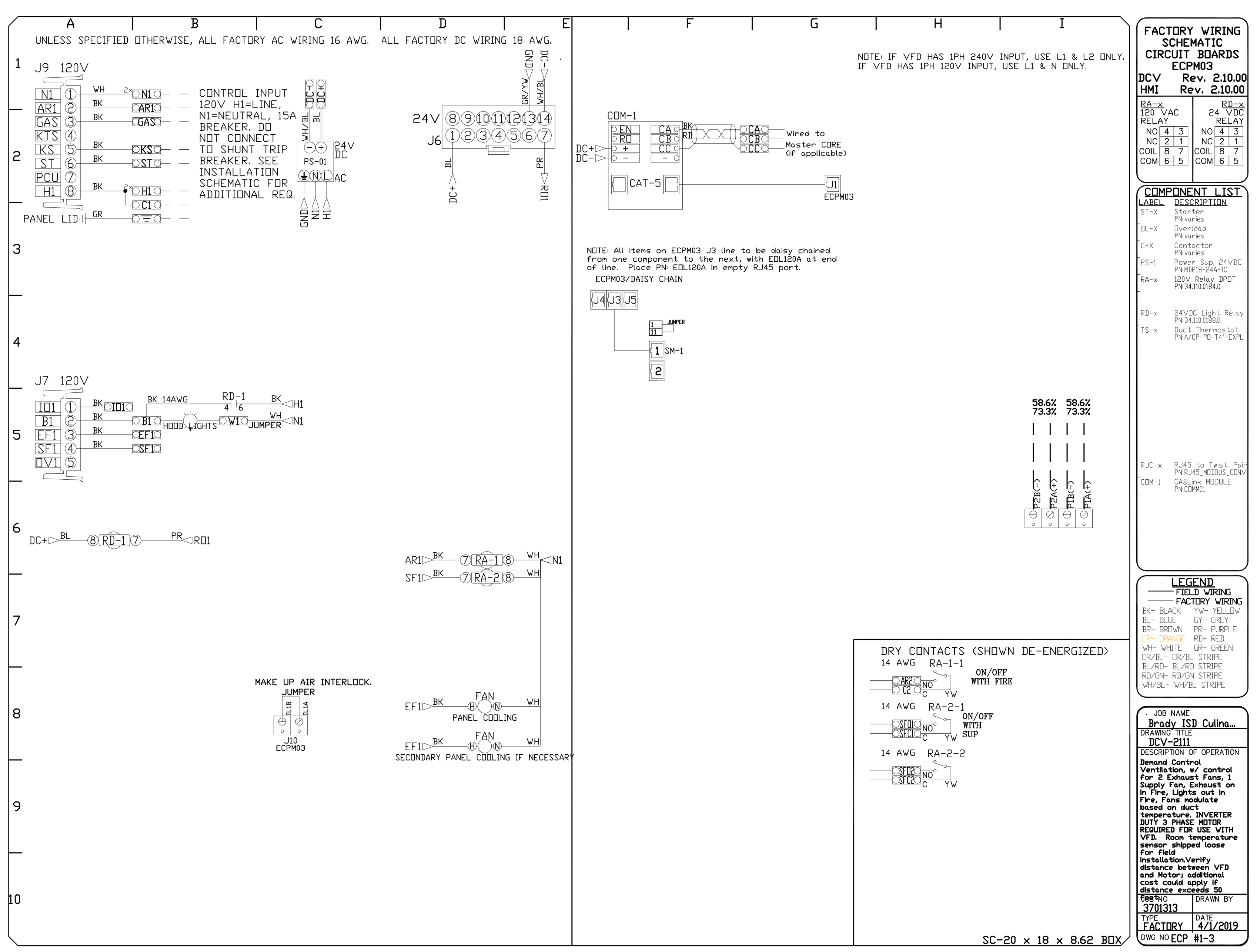
MONITORING AND CONTROL POINTS LIST

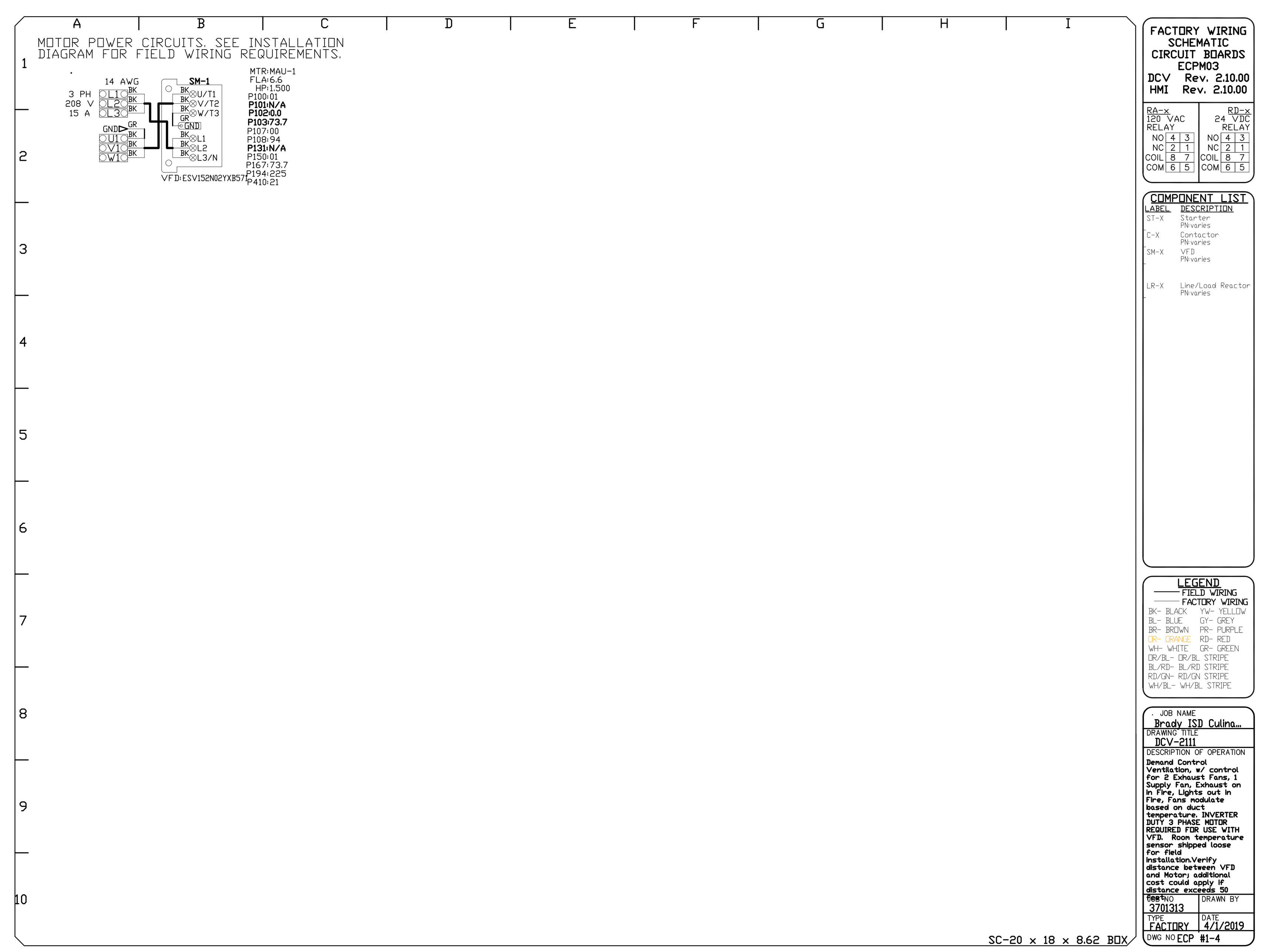
DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL









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HOOD DETAILED DRAWINGS SHEET 8

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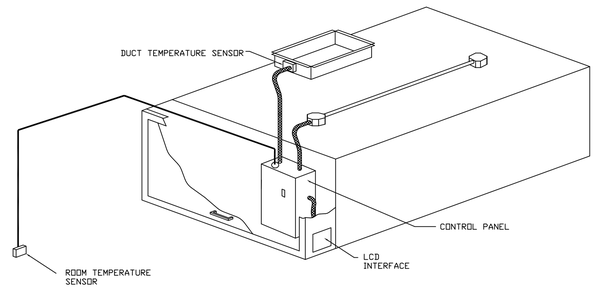
Sheet Number
FS3.08

Demand Control Ventilation Hood Control Panel Specifications:

- Controls shall be listed by ETL (UL 508A) and shall comply with demand ventilation system turndown requirements outlined in IECC 403.2.8 (2015).
- The control enclosure shall be NEMA 1 rated and listed for installation inside of the exhaust hood utility cabinet. The control enclosure may be constructed of stainless steel or painted steel.
- Temperature probe(s) located in the exhaust duct riser(s) shall be constructed of stainless steel.
- A digital controller shall be provided to activate the hood exhaust fans dynamically based on a fixed differential between the ambient and duct temperatures sensors. This function shall meet the requirements of IMC 507.1.1.
- A digital controller shall provide adjustable hysteresis settings to prevent cycling of the fans after the cooking appliances have been turned off and/or the heat in the exhaust system is reduced.
- A digital controller shall provide an adjustable minimum fan run-time setting to prevent fan cycling.
- Variable Frequency Drives (VFDs) shall be provided for fans as required. The digital controller shall modulate the VFDs between a minimum setpoint and a maximum setpoint on demand. The duct temperature sensor input(s) to the digital controller shall be used to calculate the speed reference signal.
- The VFD speed range of operation shall be from 0% to 100% for the system, with the actual minimum speed set as required to meet minimum ventilation requirements.
- An internal algorithm to the digital controller shall modulate supply fan VFD speed proportional to all exhaust fans that are located in the same fan group as the supply fan.
- The system shall operate in PREP MODE during light cooking load or COOL DOWN MODE when sufficient heat remains underneath the hood system after cooking operations have completed. Operation during either of these periods will disable the supply fans and provide an exhaust fan speed that is equal to the minimum ventilation requirement.
- A digital controller shall disable the supply fan(s), activate the exhaust fan(s), activate the appliance shunt trip, and disable an electric gas valve automatically when fire condition is detected on a covered hood.
- A digital controller shall allow for external BMS fan control via Dry Contact (external control shall not override fan operation logic as required by code).
- An LCD interface shall be provided with the following features:
  a. On/Off push button fan & light switch activation
  b. Integrated gas valve reset for electronic gas valves (no reset relay required)
  c. VFD Fault display with audible & visual alarm notification
  d. Duct temperature sensor failure detection with audible & visual alarm notification
  e. Mis-wired duct temperature sensor detection with audible & visual alarm notification
  f. A single low voltage Cat-5 RJ45 wiring connection
  g. An energy savings indicator that utilizes measured kWh from the VFDs

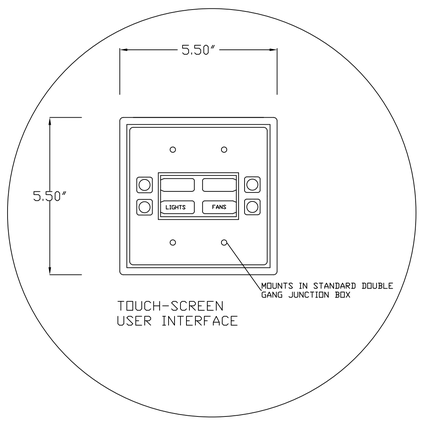


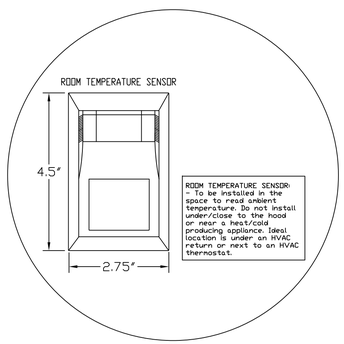
TYPICAL HOOD CONTROL PANEL INSTALLATION

Sequence of Operations:

The hood control panel is capable of operating in one or more of the following states at any given time:

- Automatic: The system operates based on the differential between room temperature and the temperature at the hood cavity or exhaust duct collar. Fans activate at a configurable temperature differential threshold. Depending on the job configuration each fan zone can be configured as static or dynamic. These terms refer to whether a variable motor (such as EC Motors or VFD driven motors) modulate with temperature. If the panel is equipped with variable speed fans and the zone is defined as 'dynamic', these will modulate within a user-defined range based on the temperature differential. Panels equipped with variable speed fans and a fan zone defined as 'static', fans will run at a set speed calculated for the drive. Demand control ventilation systems are capable of modulating exhaust and make up air fan speeds per the requirements outlined in IECC 403.2.8.
- Manual: The system operates based on human input from an HMI.
- Schedule: A weekly schedule can be set to run fans for a specified period throughout the day. There are three occupied times per day to allow for the user to set up a time that is suitable to their needs. Any time that is within the defined occupied time, the system will run at modulation mode and follow the fan procedure algorithm based on temperature during this time. During unoccupied time, the system will have an extra offset to prevent unintended activation of the system during a time where the system is not being occupied.
- Other: The system operates based on the input from an external source (DDC, BMS or hard-wired interlock)





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MICHAEL COUNIHAN FCSI 706354 PROFESSIONAL MEMBER FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL

HOOD DETAILED DRAWINGS SHEET 9
100% CD

REVISIONS

	DESCRIPTION	DATE:
1		
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Brady ISD Culinary Arts Project
BRADY, TX, 76825

DATE: 4/1/2019

DWG.#: 3701313

DRAWN BY: JLB-47

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

MASTER DRAWING

SHEET NO. 9

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number 1703

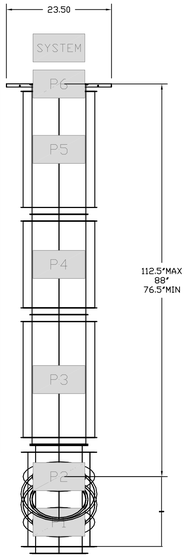
Date: 4/04/2019

Sheet Number **FS3.09**

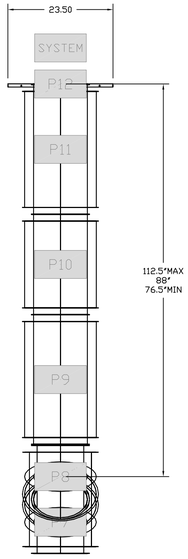
DuctWork #1 Parts – Job#3701313

Tag	Part #	CFM	S.P.	Weight	Velocity	QTY	Description
P1	DW1245DWASY-2R-S	1575	-0.0665	16.53	2005.35	1	Double Wall Duct - 12" Inner 45 Duct - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P2	DW1245DWASY-2R-S	1575	-0.095	16.53	2005.35	1	Double Wall Duct - 12" Inner 45 Duct - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P3	DW1229DWLT-2R-S	1575	-0.0203	36.55	2005.35	1	Double Wall Duct - 12" Inner Duct, 29" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P4	DW1247DWAJD-2R-S	1575	-0.0157	92.69	2005.35	1	Double Wall Adjustable Duct - 12" Inner Duct, 47" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell. Min Length = 11" / Max Length = 48.5" / Adjustment = 30.5" / Adjustable Section May Need To Be Cut. Includes single and double wall "V" Clamps.
P5 Assembled w/P6	DW1229DWLT-2R-S	1575	-0.02	36.55	2005.35	1	Double Wall Duct - 12" Inner Duct, 29" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P6 Assembled w/P5	DW2312TPDBEX	1575	0	8.00	2005.35	1	Duct to Curb Transition 3/4" Down Turn, 23" Curb to 12" Duct, 16 GA Aluminized. Used on NCA14FA & NCA14HPFA. Transition Plate OD is 23.5" Designed For Use With Exhaust Fan. Non-Standard Part.
System at P6		1575	-1.002				
P7	DW1245DWASY-2R-S	1575	-0.0665	16.53	2005.35	1	Double Wall Duct - 12" Inner 45 Duct - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P8	DW1245DWASY-2R-S	1575	-0.095	16.53	2005.35	1	Double Wall Duct - 12" Inner 45 Duct - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P9	DW1229DWLT-2R-S	1575	-0.0203	36.55	2005.35	1	Double Wall Duct - 12" Inner Duct, 29" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P10	DW1247DWAJD-2R-S	1575	-0.0157	92.69	2005.35	1	Double Wall Adjustable Duct - 12" Inner Duct, 47" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell. Min Length = 11" / Max Length = 48.5" / Adjustment = 30.5" / Adjustable Section May Need To Be Cut. Includes single and double wall "V" Clamps.
P11 Assembled w/P12	DW1229DWLT-2R-S	1575	-0.02	36.55	2005.35	1	Double Wall Duct - 12" Inner Duct, 29" long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Shell.
P12 Assembled w/P11	DW2312TPDBEX	1575	0	8.00	2005.35	1	Duct to Curb Transition 3/4" Down Turn, 23" Curb to 12" Duct, 16 GA Aluminized. Used on NCA14FA & NCA14HPFA. Transition Plate OD is 23.5" Designed For Use With Exhaust Fan. Non-Standard Part.
System at P12		1575	-1.002				
	3M-2000PLUS			0.80		3	Duct - 3M Fire Barrier 2000 Plus Silicone - Used as sealant to Seal Duct Joints.
	DW12DWCLASY-2R-S			6.90		4	Duct - 12" Duct - 16" Double "V" Clamp - 2R Insulation & Single "V" Clamp Included - Reduced Clearance.
	DW16DWRISER-2R-S			7.31		2	Double Wall Riser Cover - Used On 12" Inner Riser, 4' long - 2 Layers Reduced Clearance - 16" Stainless Steel Outer Riser Shell Assembly. Includes Insulation & Single V Clamps For Inner & Outer Connections.
Total Weight				458.32			

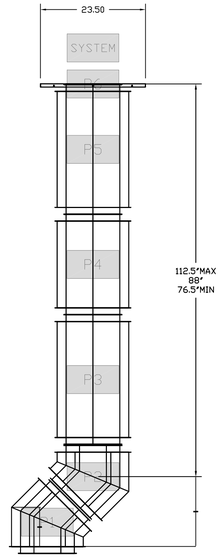
DuctWork #1 Front View



DuctWork #1 Top View



DuctWork #1 Side View



SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (ft)	VERTICAL WALL SUPPORT (ft)	VERTICAL CURB SUPPORT (ft)
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
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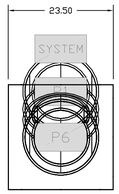
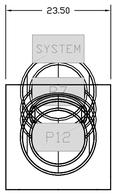
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (ft)
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'

VERTICAL			
TYPE	WALL SUPPORT (ft)	CURB SUPPORT (ft)	FLOOR SUPPORT (ft)
2R & 2R HT	20'	24'	24'
3R	10'	24'	24'
3Z	10'	24'	24'





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FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL PROFESSIONAL MEMBER MICHAEL COUNIHAN FCSI 706354

HOOD DETAILED DRAWINGS SHEET 10
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Brady ISD Culinary Arts Project
BRADY, TX, 76825

DATE: 4/1/2019

DWG.#: 3701313

DRAWN BY: JLB-47

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

MASTER DRAWING

SHEET NO. 10

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Brady Independent School District
Bond 2018
Brady, Texas

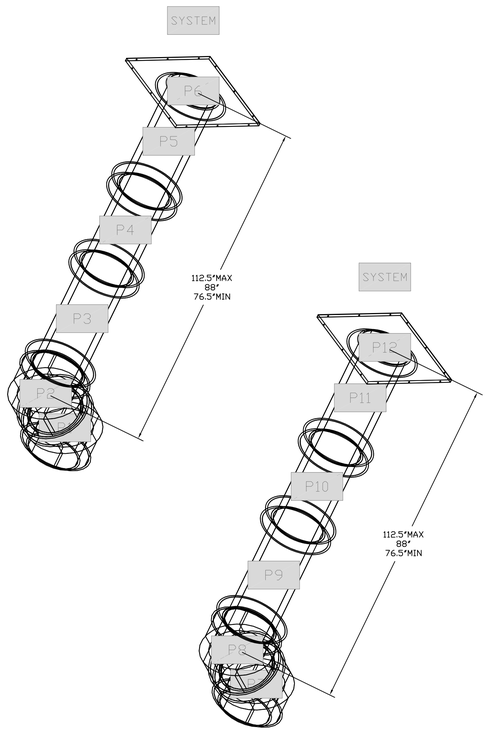
Revision:

Project Number 1703

Date: 4/04/2019

Sheet Number **FS3.10**

DuctWork #1 SE View



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Brady ISD Culinary Arts Project
BRADY, TX, 76825

DATE: 4/1/2019

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DRAWN BY: JLB-47

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

MASTER DRAWING

SHEET NO. 11

HOOD DETAILED DRAWINGS SHEET 11
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Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number 1703

Date: 4/04/2019

Sheet Number **FS3.11**

DuctWork #2 Parts – Job#3701313

Tag	Part #	CFM	S.P.	Weight	Velocity	QTY	Description
P1	DW1045ASY	600	-0.0192	4.62	1100.08	1	Single Wall Duct 45 Degree Elbow, 10" Duct, Assembly.
P2	DW1045ASY	600	-0.0275	4.62	1100.08	1	Single Wall Duct 45 Degree Elbow, 10" Duct, Assembly.
P3	DW1029LT	600	-0.0071	9.75	1100.08	1	Single Wall Duct 10" diameter, 29" long, flange at both ends. Stainless Steel.
P4	DW1048AJDKIT	600	-0.0059	18.63	1100.08	1	Single Wall Duct Adjustable, 10" diameter, 47.5" long, flange at one end With a 10" Adjustable Collar - Stainless Steel.
P5 Assembled w/P6	DW1029LT	600	-0.007	9.75	1100.08	1	Single Wall Duct 10" diameter, 29" long, flange at both ends. Stainless Steel.
P6 Assembled w/P5	DW1710TPDBEX	600	0	6.50	1100.08	1	Duct to Curb Transition 3/4" Down Turn, 17-1/2" Curb to 10" Duct, 16 GA Aluminized. For Use With Exhaust Fans.
System at P6		600	-0.1567				
	3M-2000PLUS			0.80		1	Duct - 3M Fire Barrier 2000 Plus Silicone - Used as sealant to Seal Duct Joints.
	DW10CLASY			1.10		5	Duct "V" Clamp With new design 14 Ga Brackets, 10" Duct, Assembly.
Total Weight				60.17			

SINGLE WALL FACTORY BUILT DUCTWORK

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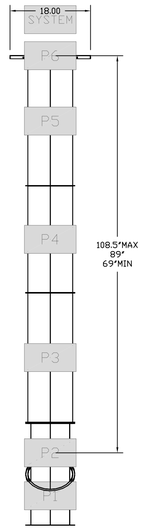
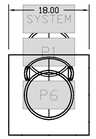
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'

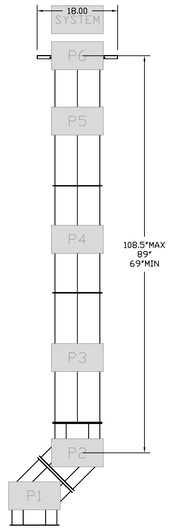
DuctWork #2 Front View



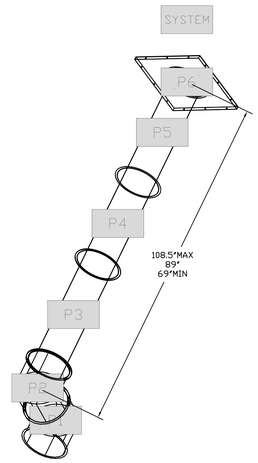
DuctWork #2 Top View



DuctWork #2 Side View



DuctWork #2 SE View



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FOODSERVICE CONSULTANTS SOCIETY INTERNATIONAL PROFESSIONAL MEMBER (CMC) MICHAEL COUNIHAN FCSI 706354

HOOD DETAILED DRAWINGS SHEET 12
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BRADY, TX, 76825

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DWG.#: 3701313

DRAWN BY: JLB-47

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

MASTER DRAWING

SHEET NO. 12

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Brady, Texas

Revision:

Project Number 1703

Date: 4/04/2019

Sheet Number **FS3.12**

AUDIO/VISUAL MULTIMEDIA LEGEND

SYMBOL	DESCRIPTION
A##▷ V##▷	WALL AV ROUGH-IN DETAIL
A## V##	CEILING AV ROUGH-IN DETAIL
A## V##	FLOOR AV ROUGH-IN DETAIL
IWB IWB	INTERACTIVE WHITE BOARD - WALL - CEILING
PJ PJ	MULTIMEDIA PROJECTOR
FP# FP#	MULTIMEDIA FLAT PANEL DISPLAY
S S	LOUD SPEAKER, WALL MOUNTED AND CEILING MOUNTED RESPECTIVELY. # INDICATES TYPE
CP#	CONTROL PANEL
TP#	TOUCH PANEL
M	MICROPHONE, CEILING MOUNTED - # INDICATES TYPE
VC ▷	VOLUME CONTROL
WB	WALL BOX ENCLOSURE
D1 A1	D1 = DIGITAL SINGLE SIDED CLOCK / A1 = ANALOG SINGLE SIDED CLOCK
D2 A2	D2 = DIGITAL DOUBLE SIDED CLOCK / A2 = ANALOG DOUBLE SIDED CLOCK
CB	CEILING AV ENCLOSURE
C C	PRESENTATION CAMERA - CEILING - WALL MOUNTED

PREMISE SECURITY LEGEND

SYMBOL	DESCRIPTION
CR	CARD READER
KP	KEYPAD
IC	INTERCOM (1 DATA CABLE)
PB	PANIC/DURESS BUTTON
LD	LOCK DOWN BUTTON
MD	MOTION DETECTOR
GB	GLASS BREAK SENSOR
BM	BIOMETRIC READER
RX	REQUEST TO EXIT - SURFACE
RX	REQUEST TO EXIT - INTEGRATED
DC	DOOR CONTACT / MONITOR
ES EL EH	ELECTRIFIED STRIKE - ELECTRIFIED LATCH - ELECTRIFIED HARDWARE (REFER TO SCHEDULES)
DB	DOORBELL
C C	STANDARD IP SURVEILLANCE CAMERA, (1) CABLE
C C	180° IP SURVEILLANCE CAMERA, (1) CABLE
C	360° IP SURVEILLANCE CAMERA, (1) CABLE
DR	DOOR RELEASE
DR	DOOR RELEASE CONTROL
AA	AUDIBLE ALARM

GENERAL ANNOTATION LEGEND

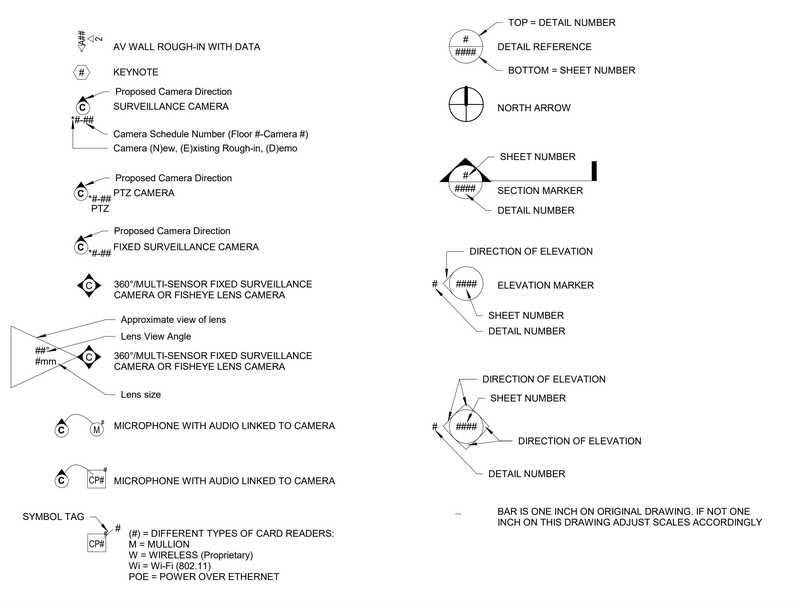
SYMBOL	DESCRIPTION
MER	MAIN EQUIPMENT ROOM
TR	TELECOMMUNICATION ROOM
MDF	MAIN DISTRIBUTION FRAME
IDF	INTERMEDIATE DISTRIBUTION FRAME
ETR	EXISTING TO REMAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AC	ABOVE COUNTER
EC	ELECTRICAL CONTRACTOR
UNO	UNLESS NOTED OTHERWISE

STRUCTURED CABLING LEGEND

SYMBOL	DESCRIPTION
#	TELECOMMUNICATIONS OUTLET, # =NUMBER OF DATA CABLE(S)/JACK(S)
#/#	TELECOMMUNICATIONS OUTLET, #/# = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S)
#	TELECOMMUNICATIONS OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S), SURFACE MOUNT
#/#	TELECOMMUNICATIONS OUTLET, #/# = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S), SURFACE MOUNT
W	WALL MOUNT PHONE (1 CABLE/JACK)
W	WALL MOUNT PHONE, SURFACE MOUNT (1 CABLE/JACK)
#	FLOOR MOUNTED OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S) (FLOOR BOX BY E.C.)
#/#	FLOOR MOUNTED OUTLET, #/# = NUMBER OF VOICE CABLE(S)/JACK(S) AND NUMBER OF DATA CABLE(S)/JACK(S) (FLOOR BOX BY E.C.)
#	CEILING MOUNTED DATA OUTLET, # =NUMBER OF VOICE/DATA CABLE(S)/JACK(S)
AP#	CEILING MOUNTED OUTLET FOR WIRELESS ACCESS POINT #=NUMBER OF CABLE(S)/JACK(S)
AP#▷	WALL MOUNTED OUTLET FOR WIRELESS ACCESS POINT #=NUMBER OF CABLE(S)/JACK(S)
	CABLING SLEEVE(S)
	TYPICAL LADDER RACK
	TYPICAL CABLE TRAY, BASKET STYLE

TECHNOLOGY SYMBOLS LEGEND

NOT ALL SYMBOLS ARE USED



TECHNOLOGY SHEET INDEX

TECHNOLOGY - GENERAL NOTES

1. EACH KEYNOTE MAY NOT BE UTILIZED ON EVERY SHEET.
2. ALL CONDUIT MEASUREMENTS REFER TO STANDARD CONDUIT TRADE SIZES.
3. ALL CABLES SHALL BE CONCEALED.
4. EACH CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY SLEEVES, WHETHER OR NOT SPECIFICALLY NOTED ON PROJECT DRAWINGS. ALL SLEEVES SHALL BE 1-1/4" UNLESS NOTED OTHERWISE ON THE DRAWINGS. CABLE FILL PERCENTAGE SHALL COMPLY WITH NEC.
5. DEVICE LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL REVIEW CONDITIONS AND COORDINATE WITH OTHER TRADES AS NECESSARY FOR EXACT PLACEMENT.

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1703

Date:
04-04-19

Sheet Number

TECHNOLOGY - INDEX SHEET T000

4/3/2019 11:21:07 AM

1 Technology - Elementary school - Site Plan
SCALE: NTS

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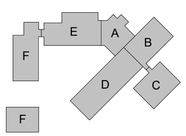

ELEMENTARY SCHOOL KEYPLAN

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TECHNOLOGY - SITE PLAN - ELEMENTARY SCHOOL T001

1 Technology - Middle school - Site Plan
SCALE: NTS

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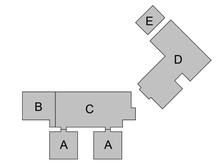

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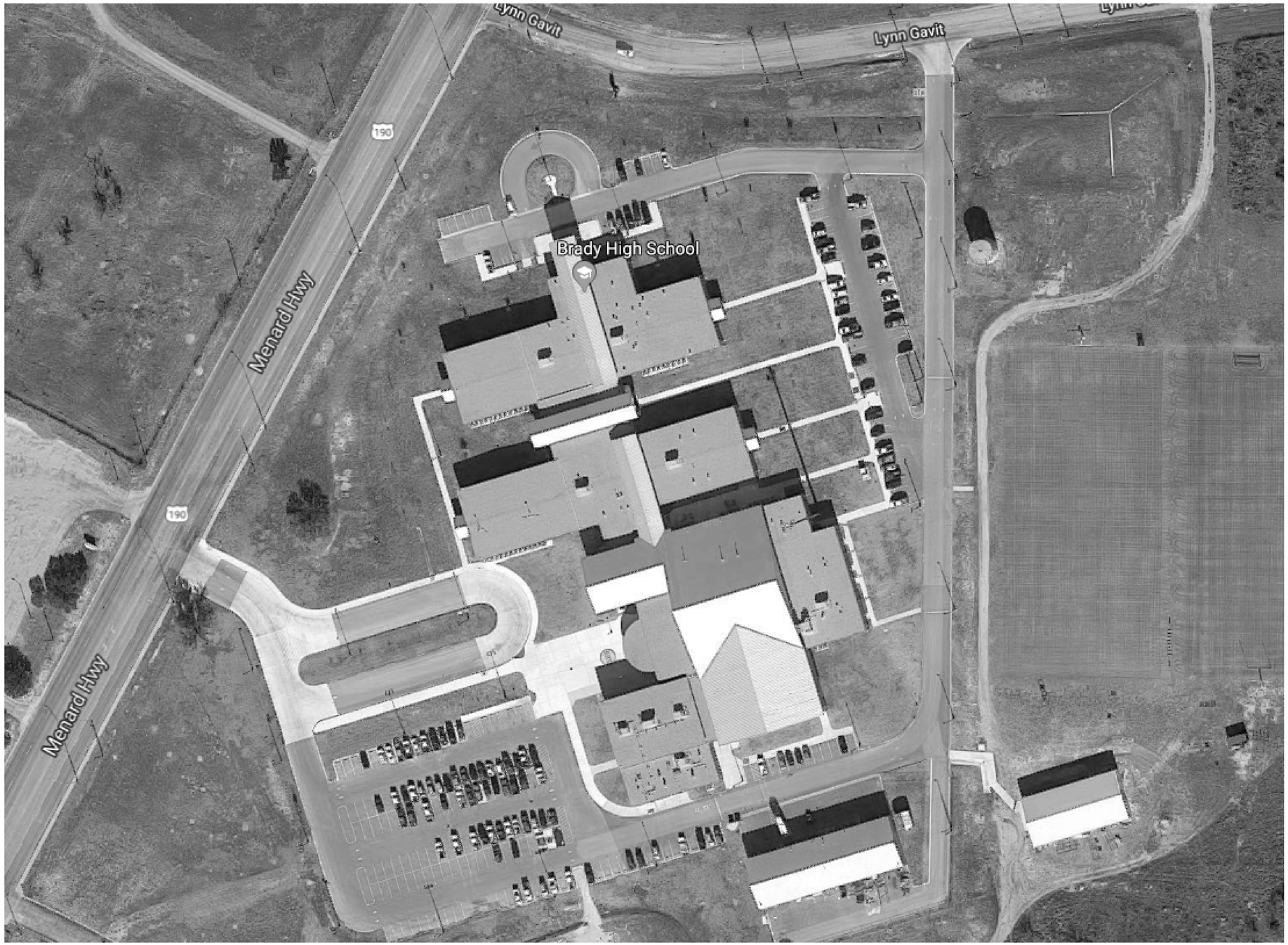
TECHNOLOGY - SITE PLAN - MIDDLE SCHOOL T002



1 Technology - High school - Site Plan
1" = 30'-0"

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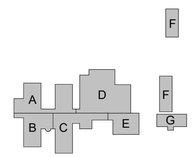

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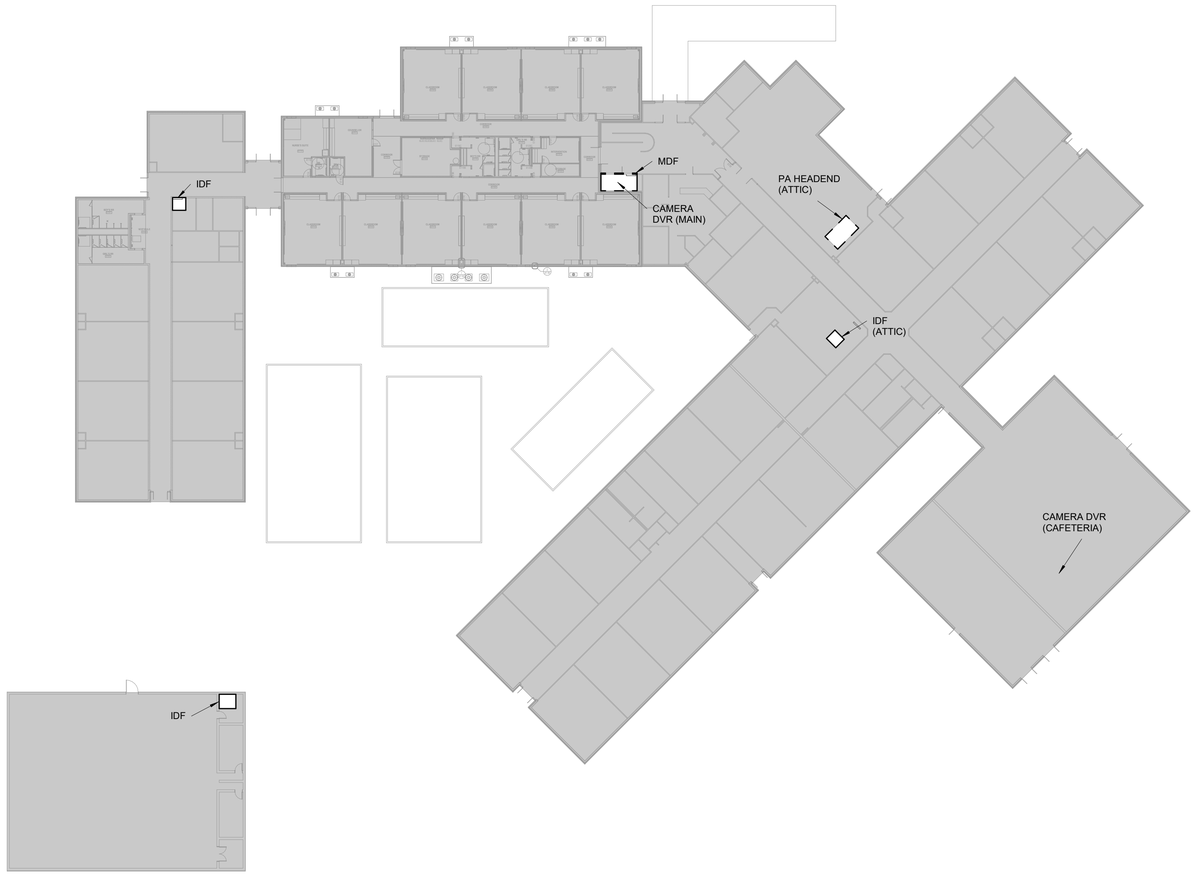
TECHNOLOGY - SITE PLAN - HIGH SCHOOL T003



1 Technology - Elementary School Overall
1" = 30'-0"

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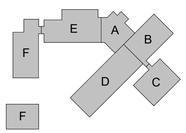

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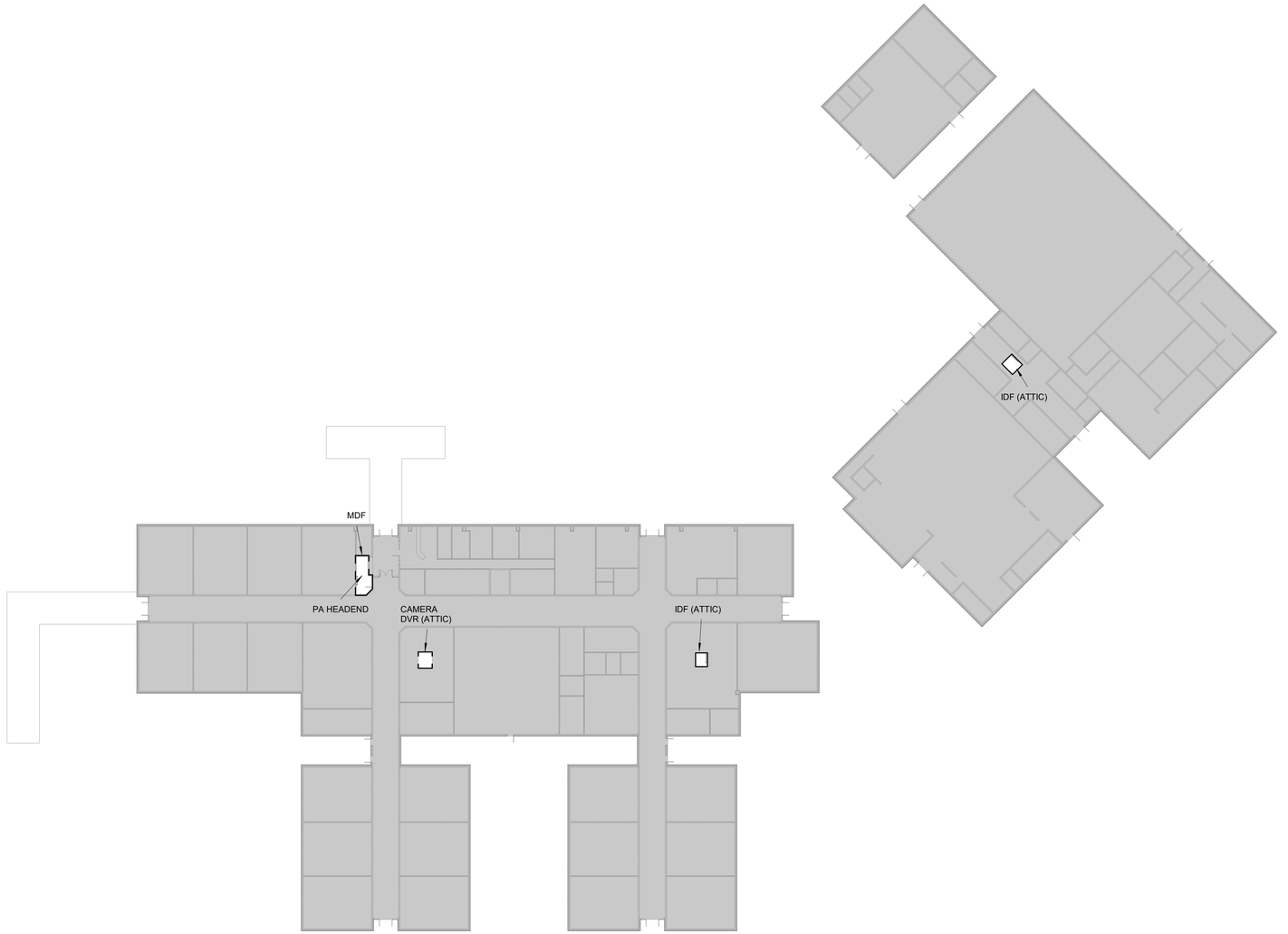
TECHNOLOGY - ELEMENTARY SCHOOL OVERALL T010



1 Technology - Middle School Overall
1" = 30'-0"

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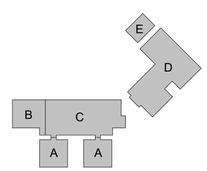

MIDDLE SCHOOL KEYPLAN

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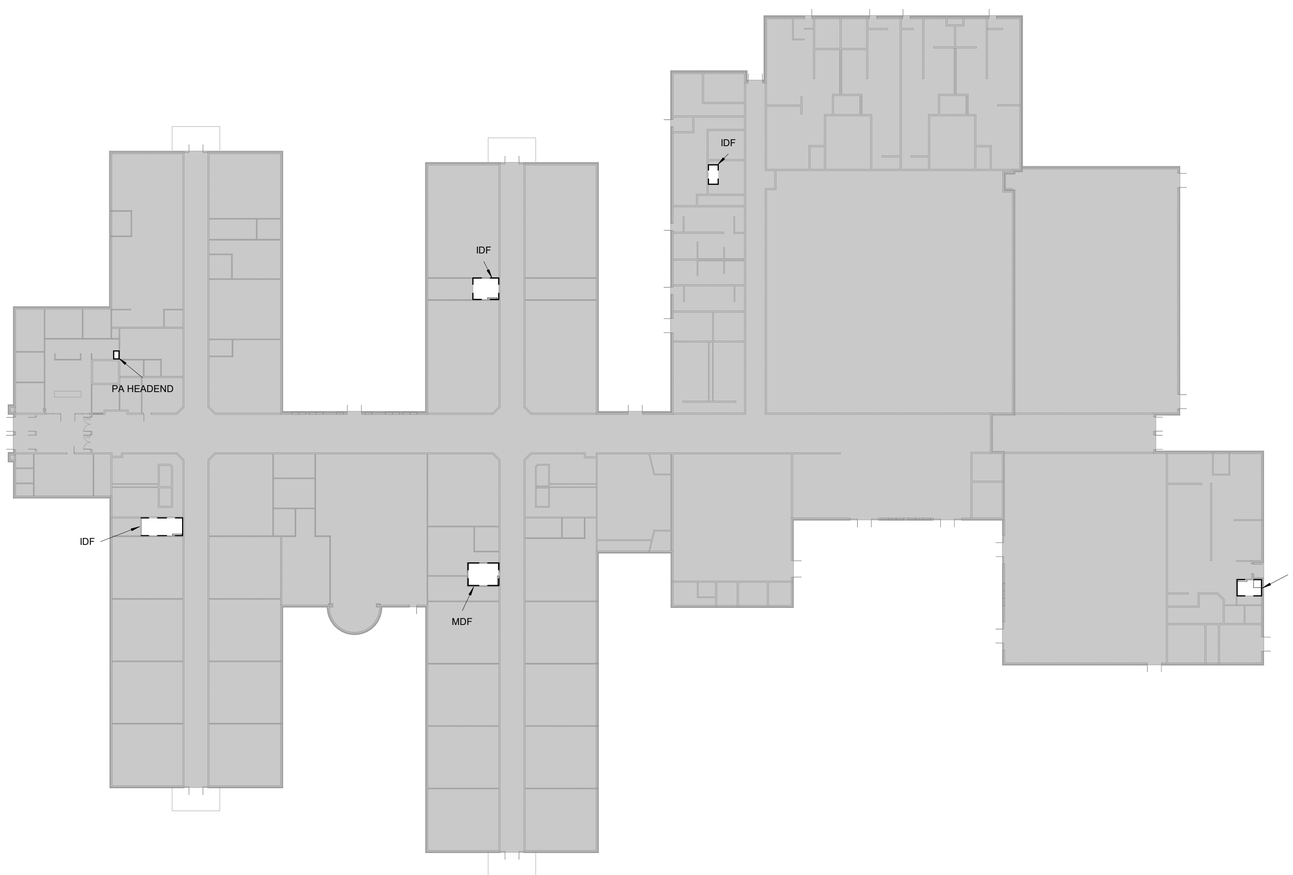
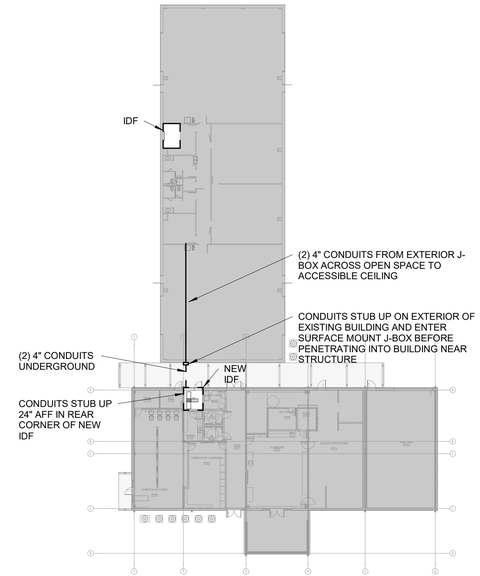
TECHNOLOGY - MIDDLE SCHOOL OVERALL T020



1 Technology - High School Overall
1" = 30'-0"



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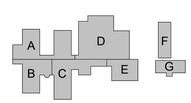

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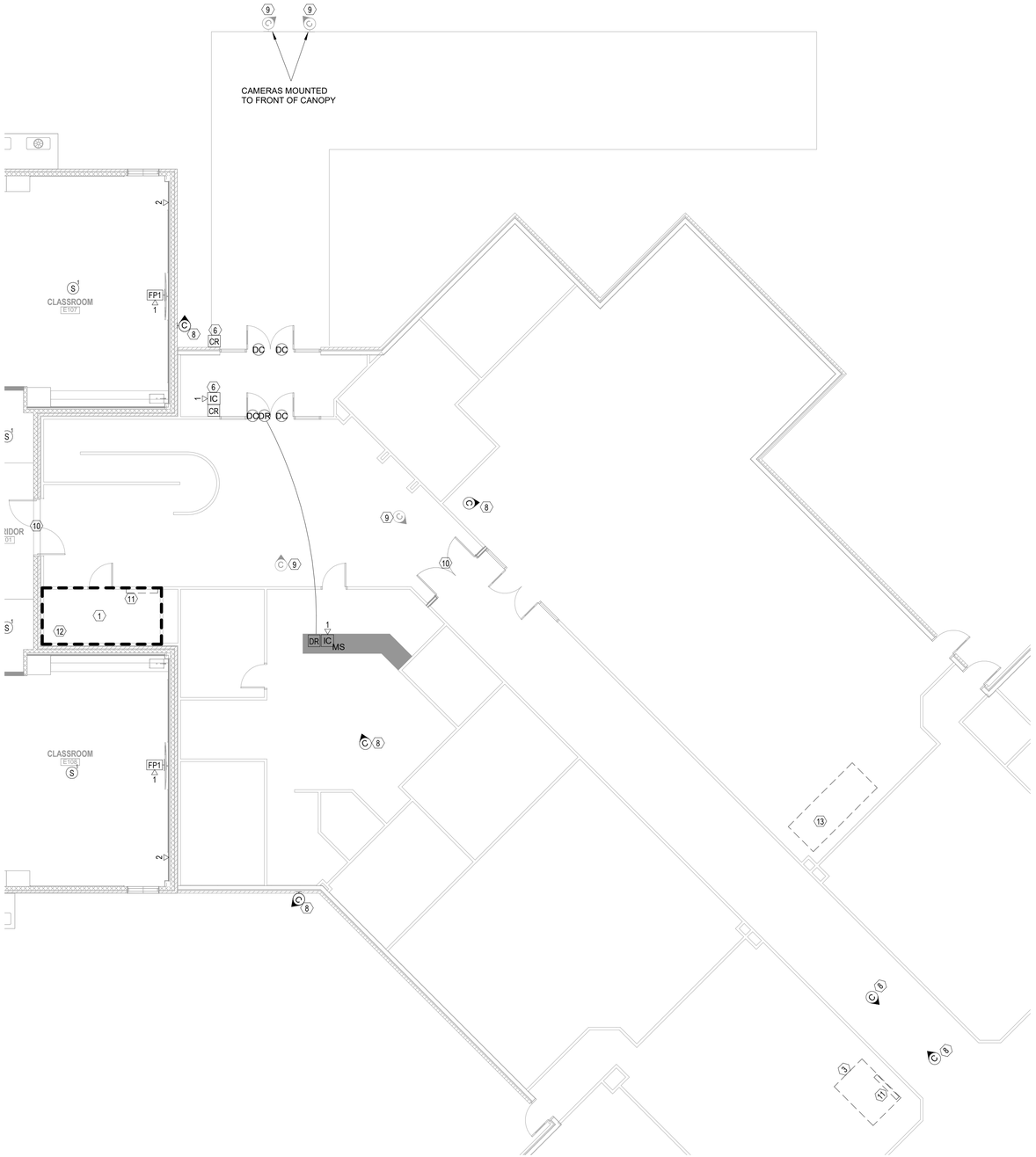
TECHNOLOGY - HIGH SCHOOL OVERALL T030



1 Technology - Elementary - Segment A
1/8" = 1'-0"

TECHNOLOGY KEYNOTES

1. EXISTING MDF
2. EXISTING IDF
3. EXISTING IDF IN ATTIC WITH CEILING ACCESS LADDER
4. EXISTING CAMERA TO REMAIN; NO DATA CABLING REQUIRED
5. NEW IP CAMERA
6. ACCESS CONTROL AT THIS DOOR INCLUDED IN BASE BID.
7. ACCESS CONTROL AT THIS DOOR TO BE PART OF ACCESS CONTROL ALTERNATE
8. ROUGH IN FOR FUTURE IP CAMERA (BACKBOX, CONDUIT, AND DATA CABLE)
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12. EXISTING DVR FOR COAX CAMERAS. CONTRACTOR TO PROVIDE CONVERTERS TO BRING EXISTING CAMERAS ONTO NEW VIDEO MANAGEMENT SYSTE (VMS)
13. EXISTING PA SYSTEM HEADEND
14. EXISTING IP CAMERA TO REMAIN; PROVIDE NEW CAMERA LICENSE TO BRING ONTO NEW VMS

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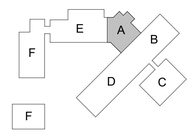

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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT A T100

TECHNOLOGY KEYNOTES

1. EXISTING MDF
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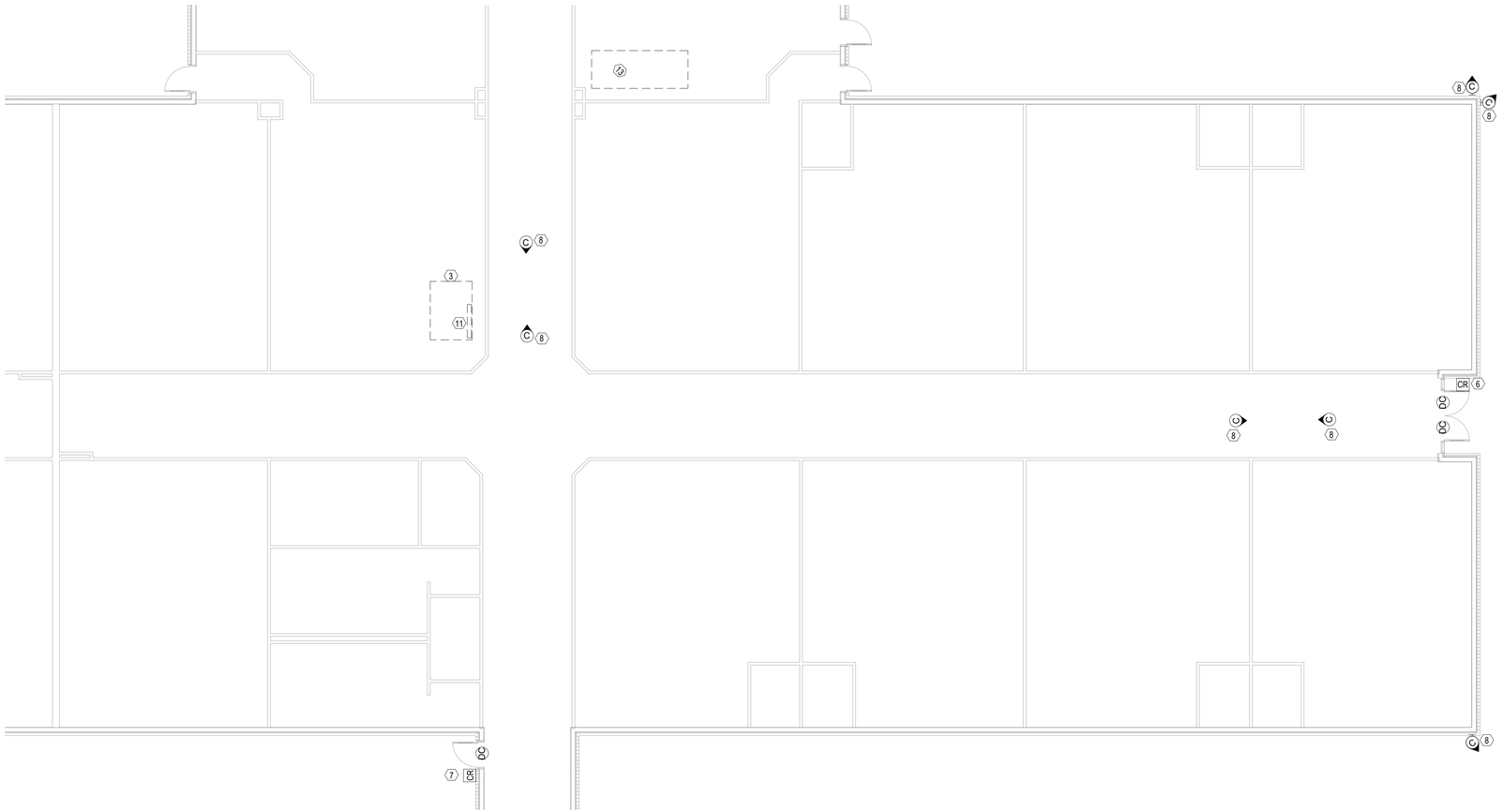
14. EXISTING IP CAMERA TO REMAIN; PROVIDE NEW CAMERA LICENSE TO BRING ONTO NEW VMS



1 Technology - Elementary - Segment B
1/8" = 1'-0"

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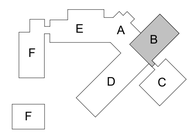

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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT B T101

TECHNOLOGY KEYNOTES

1. EXISTING MDF
2. EXISTING IDF
3. EXISTING IDF IN ATTIC WITH CEILING ACCESS LADDER
4. EXISTING CAMERA TO REMAIN; NO DATA CABLING REQUIRED
5. NEW IP CAMERA
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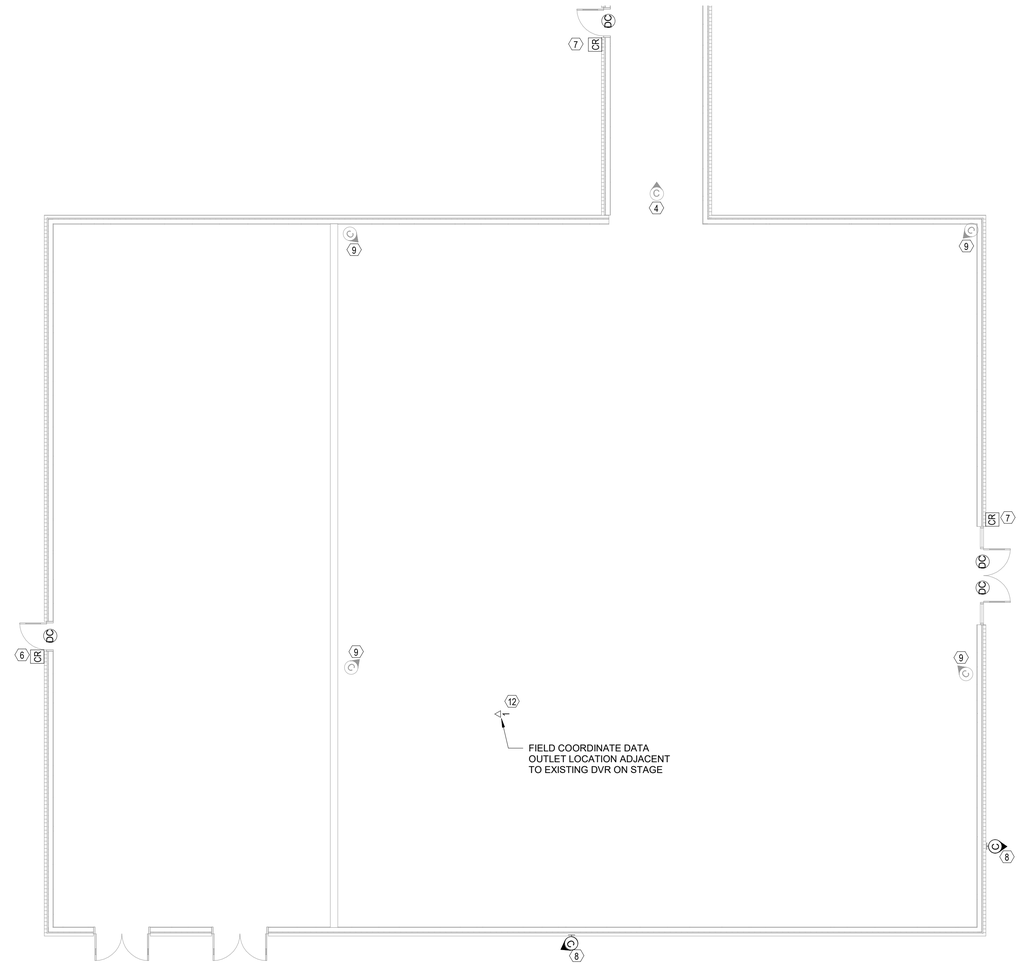
14. EXISTING IP CAMERA TO REMAIN; PROVIDE NEW CAMERA LICENSE TO BRING ONTO NEW VMS



1 Technology - Elementary - Segment C
1/8" = 1'-0"

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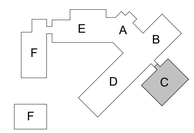

ELEMENTARY SCHOOL KEYPLAN

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Project Number
1703

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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT C T102

TECHNOLOGY KEYNOTES

1. EXISTING MDF
2. EXISTING IDF
3. EXISTING IDF IN ATTIC WITH CEILING ACCESS LADDER
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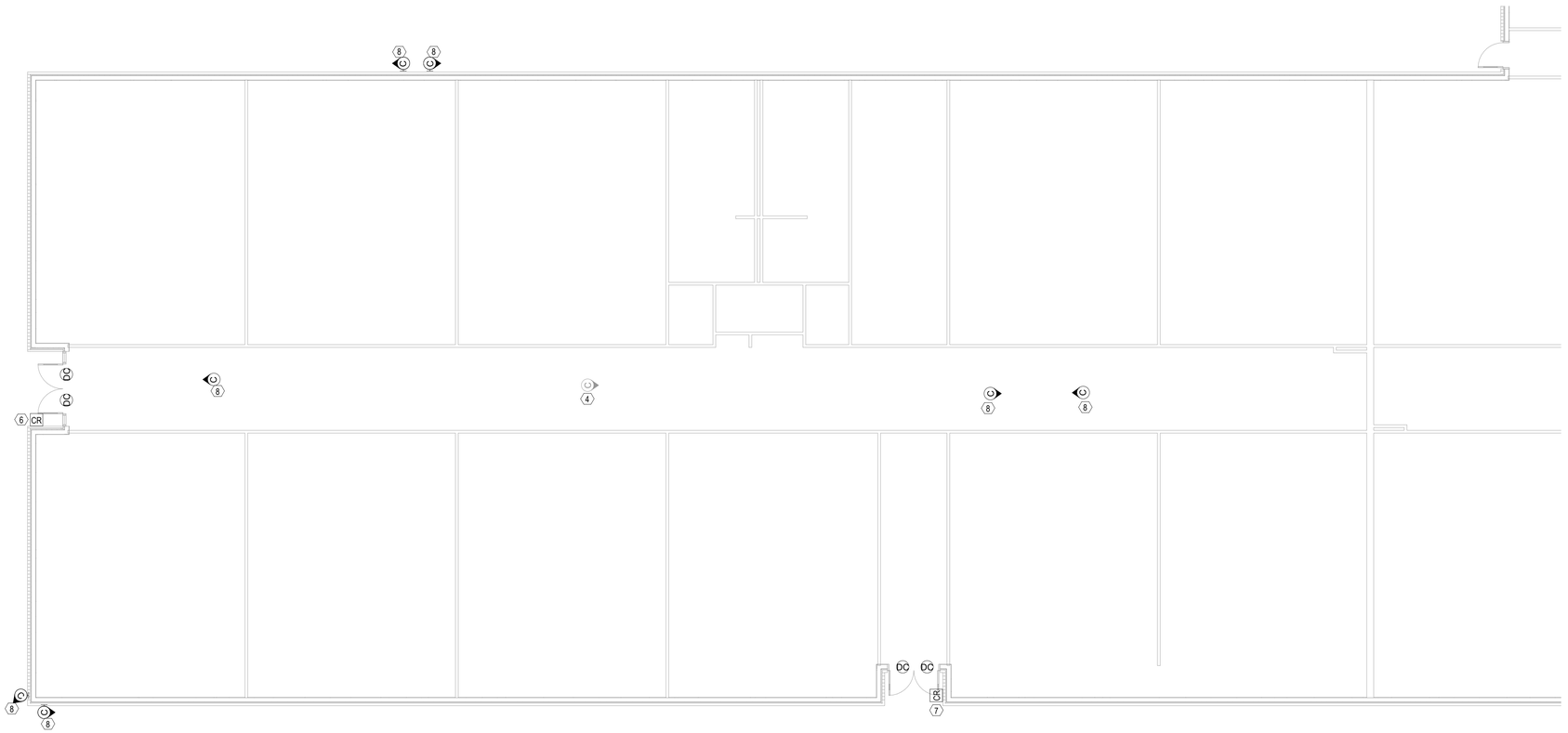

1 Technology - Elementary - Segment D
1/8" = 1'-0"

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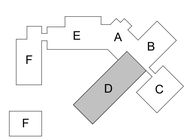

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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT D T103

TECHNOLOGY GENERAL NOTES - DEMOLITION FLOOR PLANS

1. CAMERAS AND WIRELESS ACCESS POINTS TO BE UNINSTALLED, STORED, AND REINSTALLED BY CONTRACTOR.

2. UNINSTALL AND TURN OVER THE FOLLOWING ITEMS TO THE OWNER: PROJECTORS, SCREENS, AND OTHER DEVICES/ENDPOINTS THAT COULD BE RE-USED. ONLY APPLIES WHERE DEMOLITION WORK IS INDICATED. IF IN DOUBT, VERIFY WITH OWNER PRIOR TO REMOVING SOMETHING.

3. DEMOLISH ALL SURFACE-MOUNT RACEWAY WHERE TECHNOLOGY OUTLETS AND DEVICES ARE DEMOLISHED.

4. WHERE DATA IS DEMOLISHED, CONTRACTOR SHALL DEMOLISH CABLE BACK TO PATCH PANEL.

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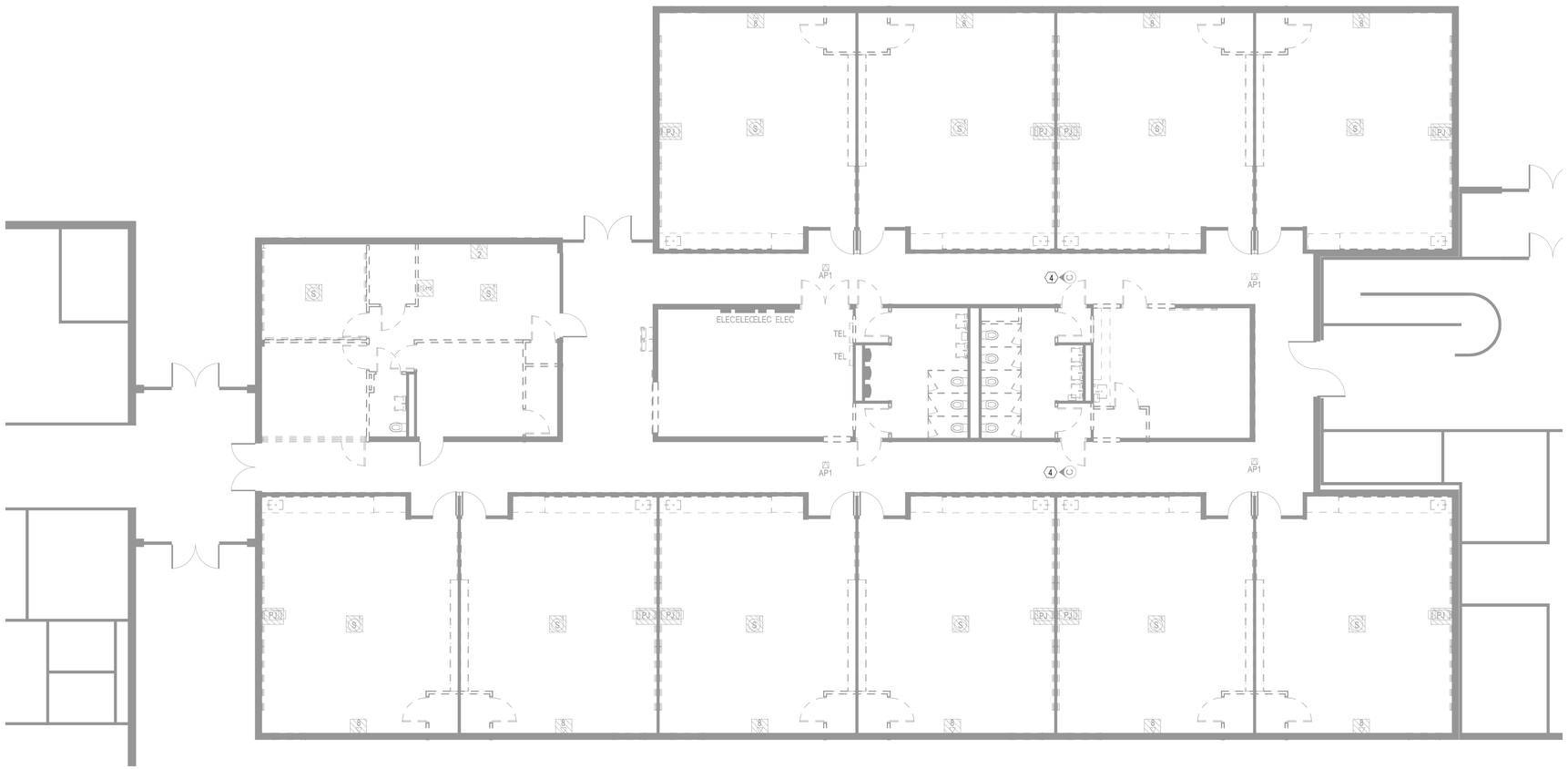
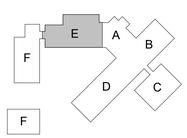


1 Technology - Elementary - Segment E - Demo
1/8" = 1'-0"



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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT E - DEMO T104

TECHNOLOGY KEYNOTES

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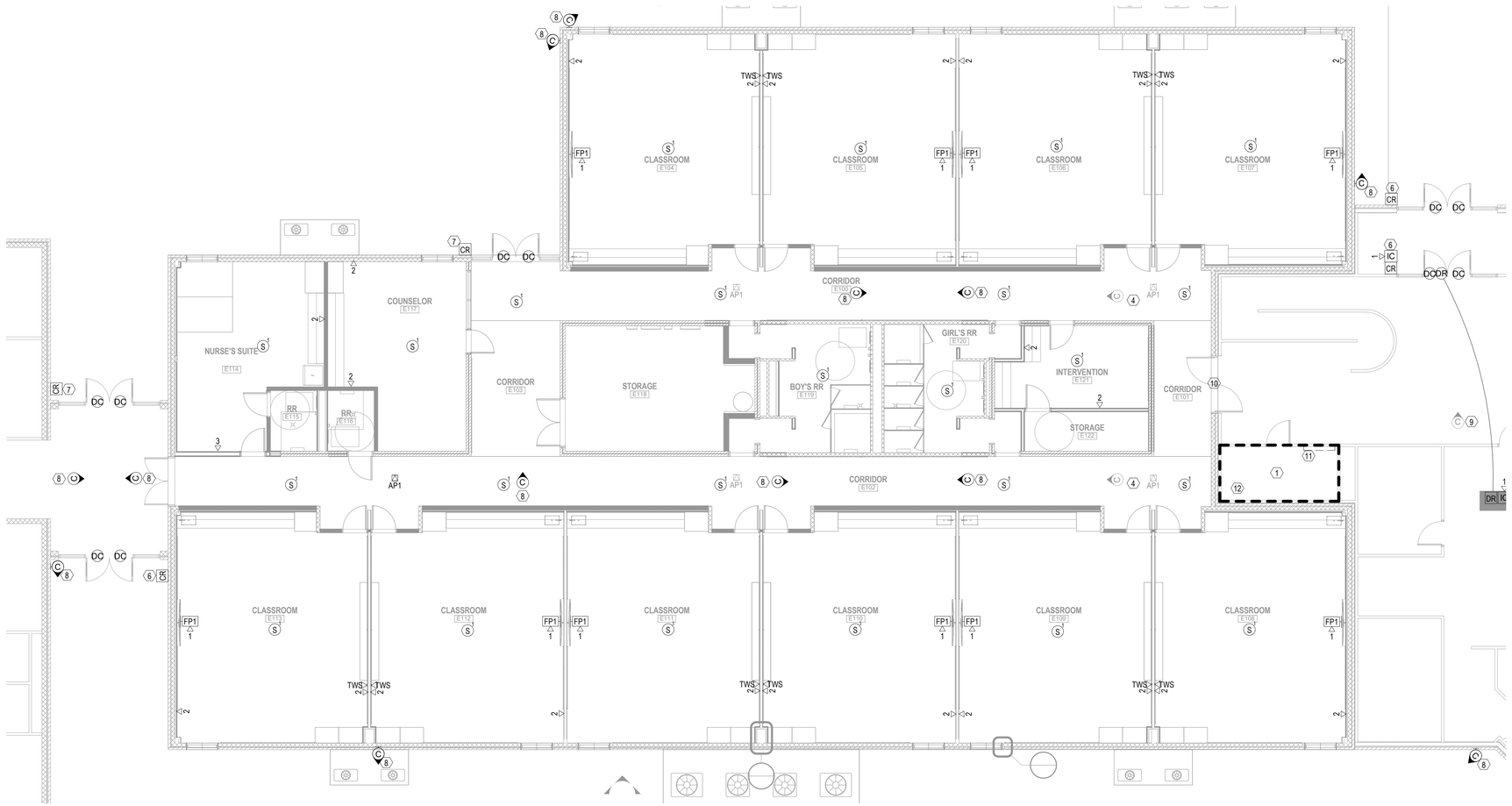

1 Technology - Elementary - Segment E
1/8" = 1'-0"

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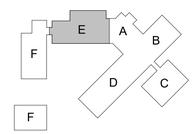

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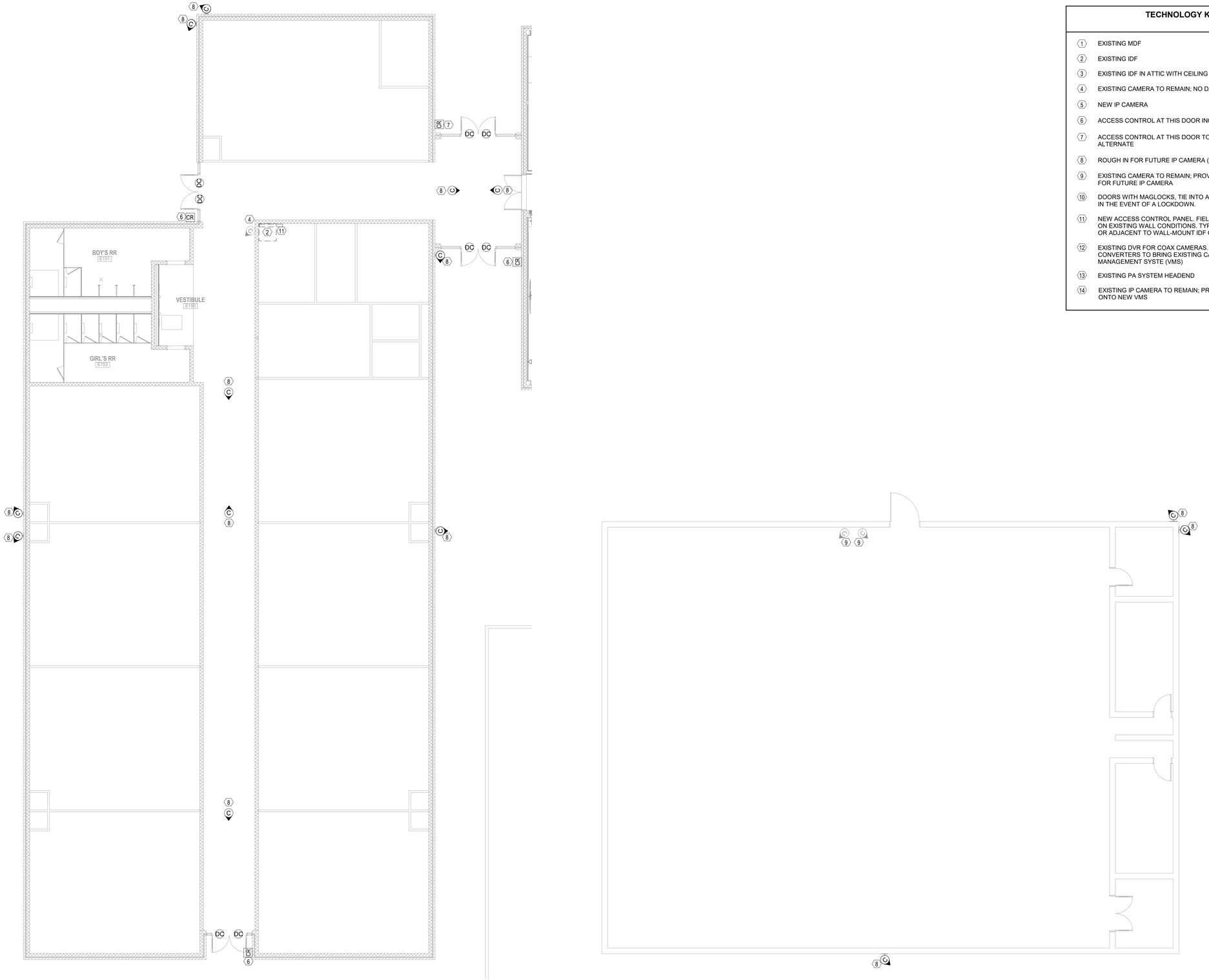
TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT E T105



1 Technology - Elementary - Segment F
1/8" = 1'-0"

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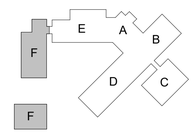

ELEMENTARY SCHOOL KEYPLAN

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TECHNOLOGY - ELEMENTARY SCHOOL - SEGMENT F

TECHNOLOGY KEYNOTES

1	EXISTING MDF
2	EXISTING IDF
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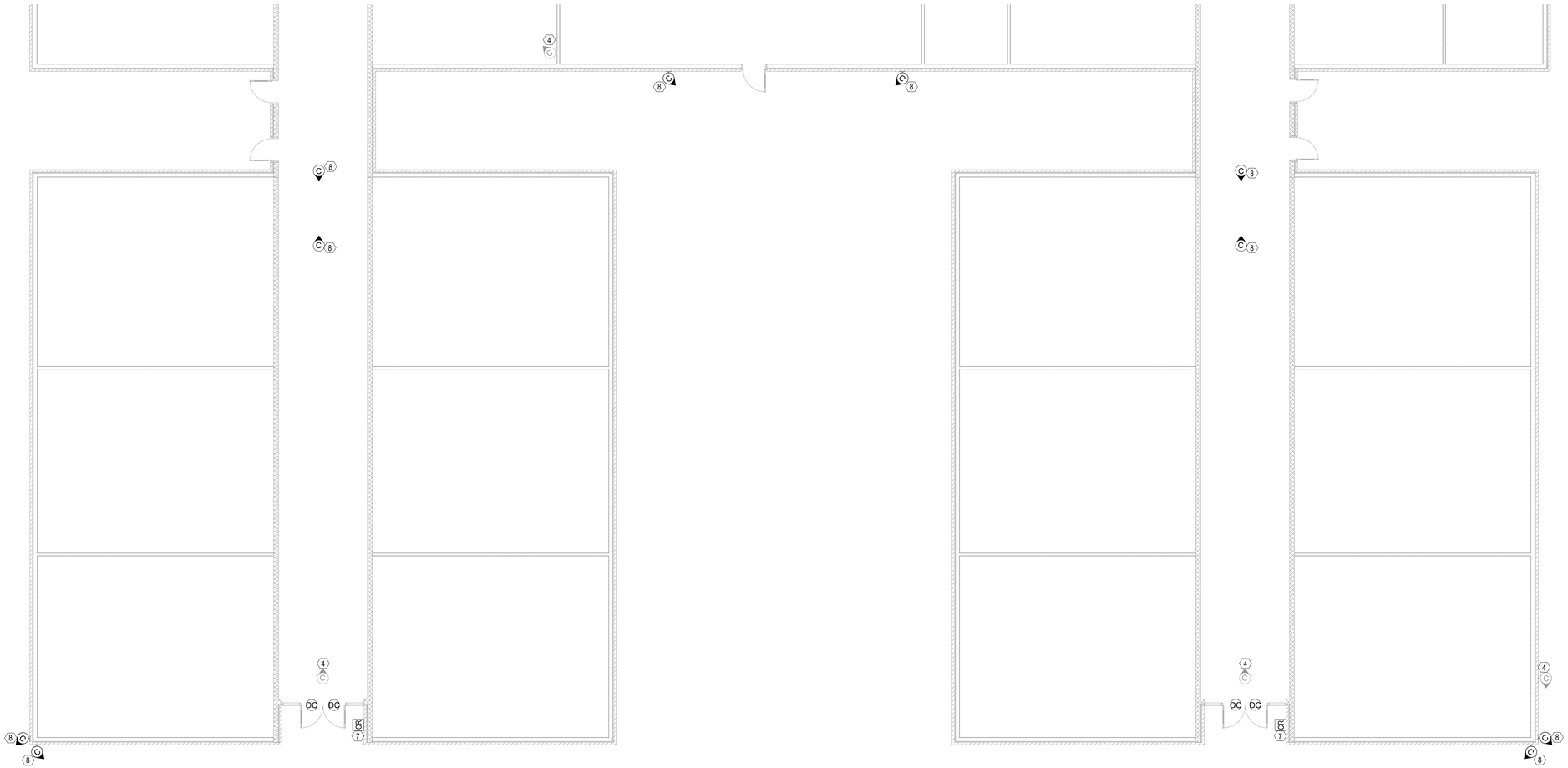

1 Technology - Middle School - Segment A
1/8" = 1'-0"

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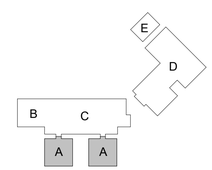

MIDDLE SCHOOL KEYPLAN

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TECHNOLOGY - MIDDLE SCHOOL - SEGMENT A T200

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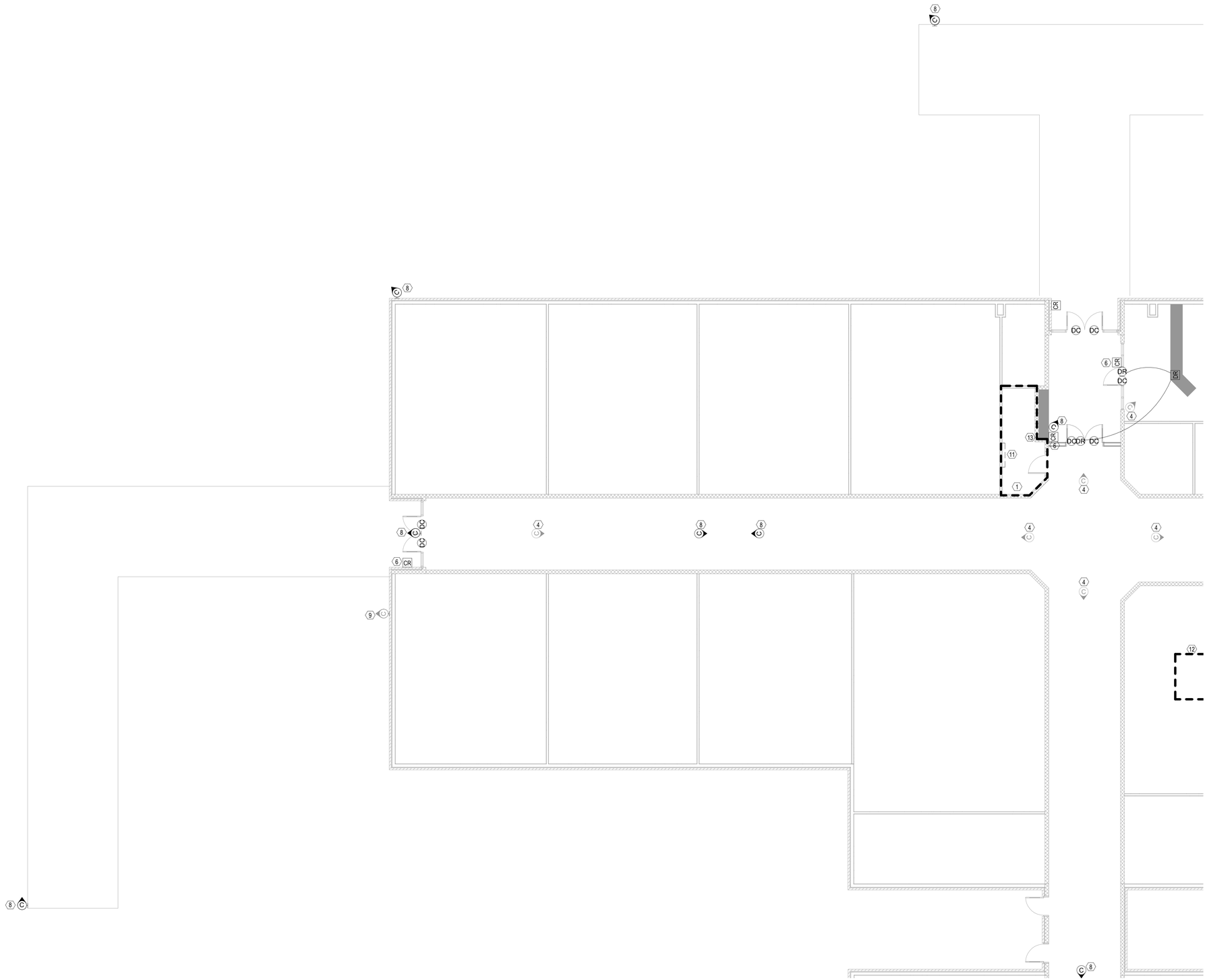

1 Technology - Middle School - Segment B
1/8" = 1'-0"

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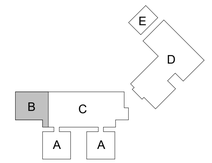

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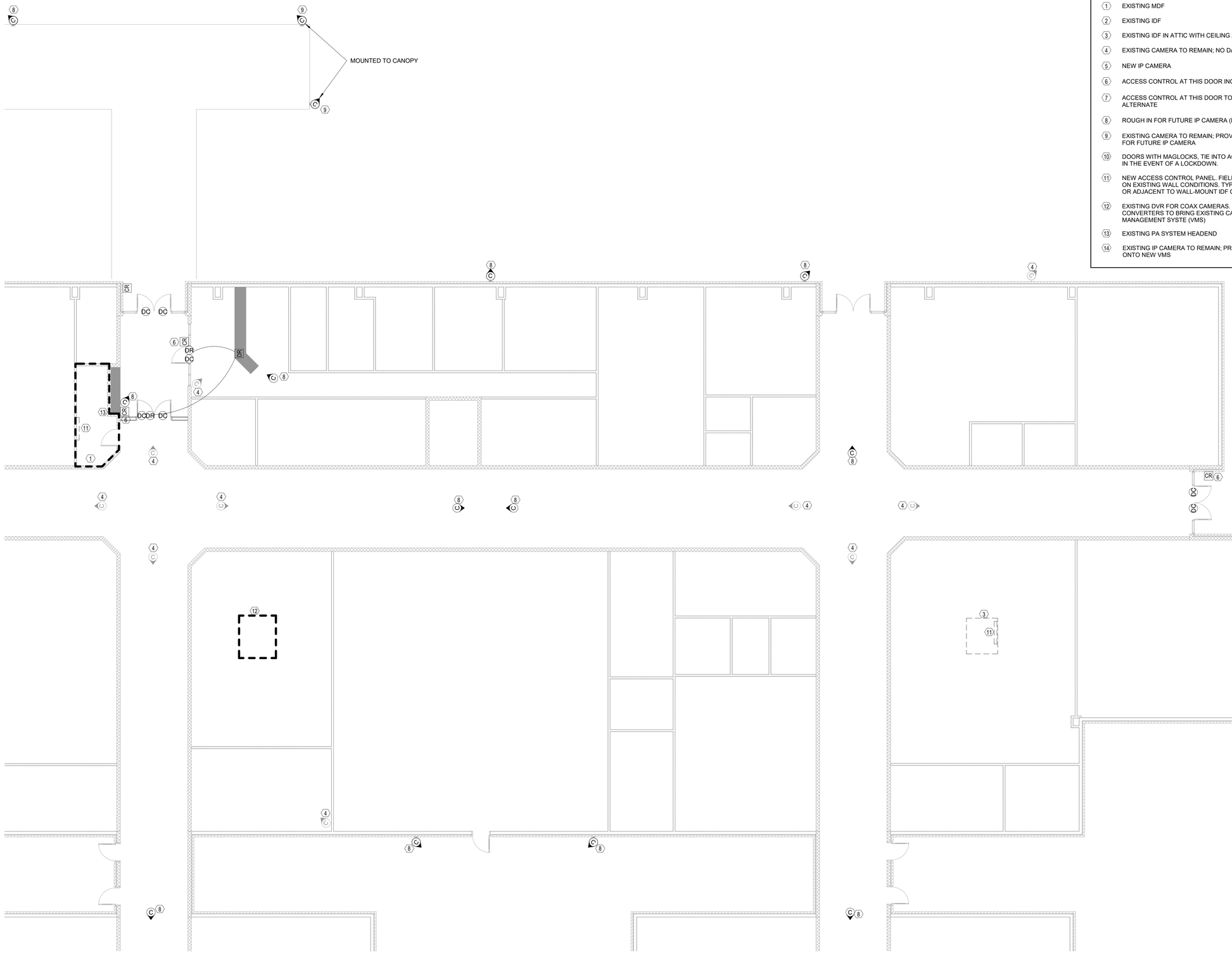
TECHNOLOGY - MIDDLE SCHOOL - SEGMENT B T201



1 Technology - Middle School - Segment C
1/8" = 1'-0"

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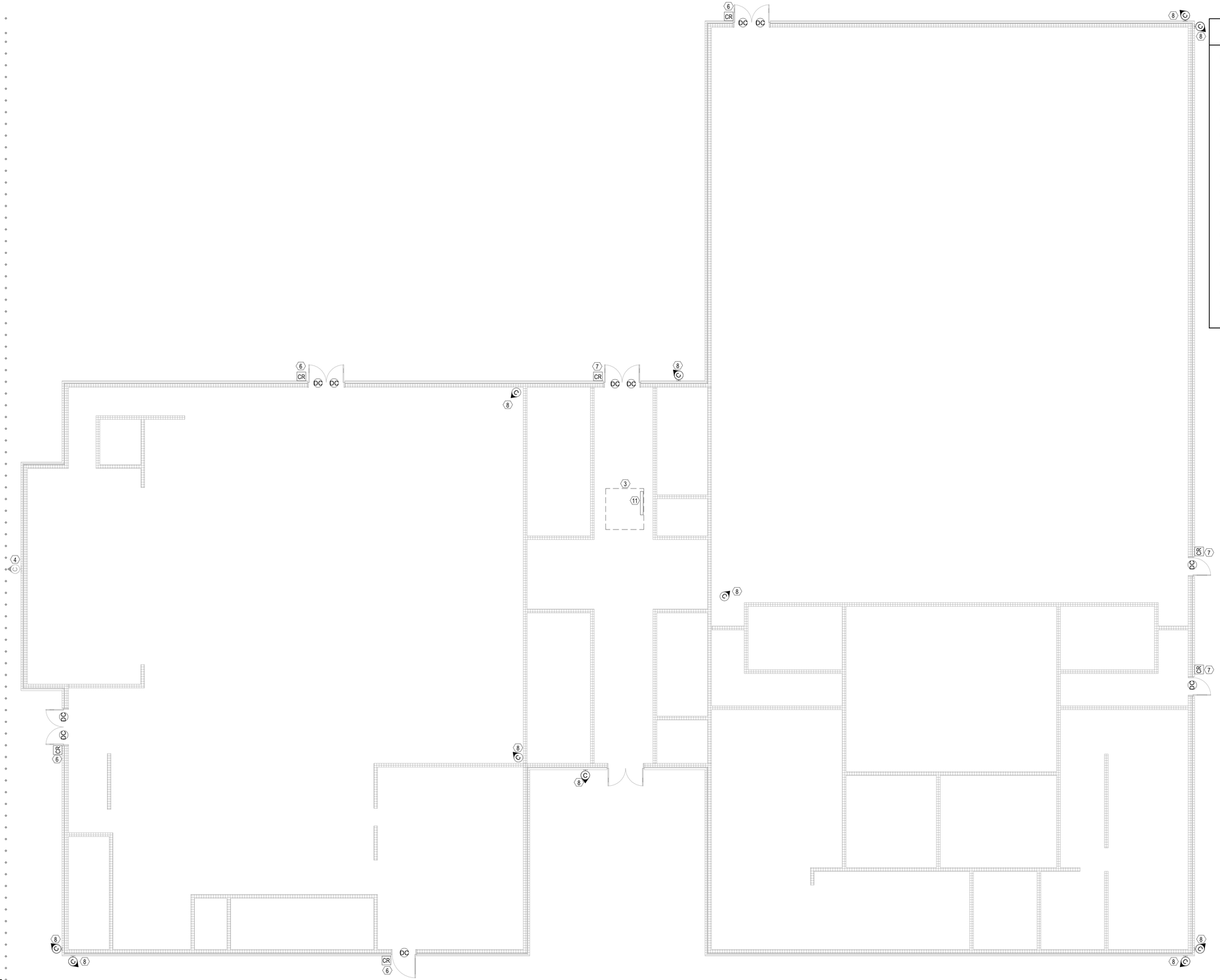
TECHNOLOGY - MIDDLE SCHOOL - SEGMENT C T202



1 Technology - Middle School - Segment D
1/8" = 1'-0"

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13. EXISTING PA SYSTEM HEADEND
14. EXISTING IP CAMERA TO REMAIN; PROVIDE NEW CAMERA LICENSE TO BRING ONTO NEW VMS

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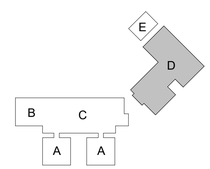

MIDDLE SCHOOL KEYPLAN

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TECHNOLOGY - MIDDLE SCHOOL - SEGMENT D T203

TECHNOLOGY KEYNOTES

1. EXISTING MDF
2. EXISTING IDF
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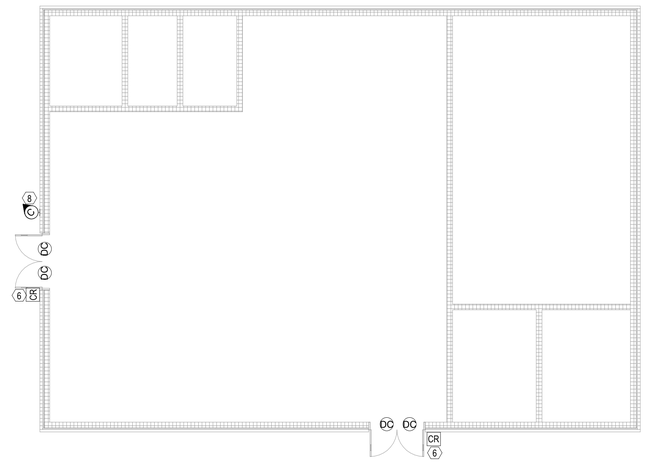
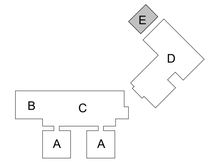


1 Technology - Middle School - Segment E
1/8" = 1'-0"



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TECHNOLOGY - MIDDLE SCHOOL - SEGMENT E T204

TECHNOLOGY KEYNOTES

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2. EXISTING IDF
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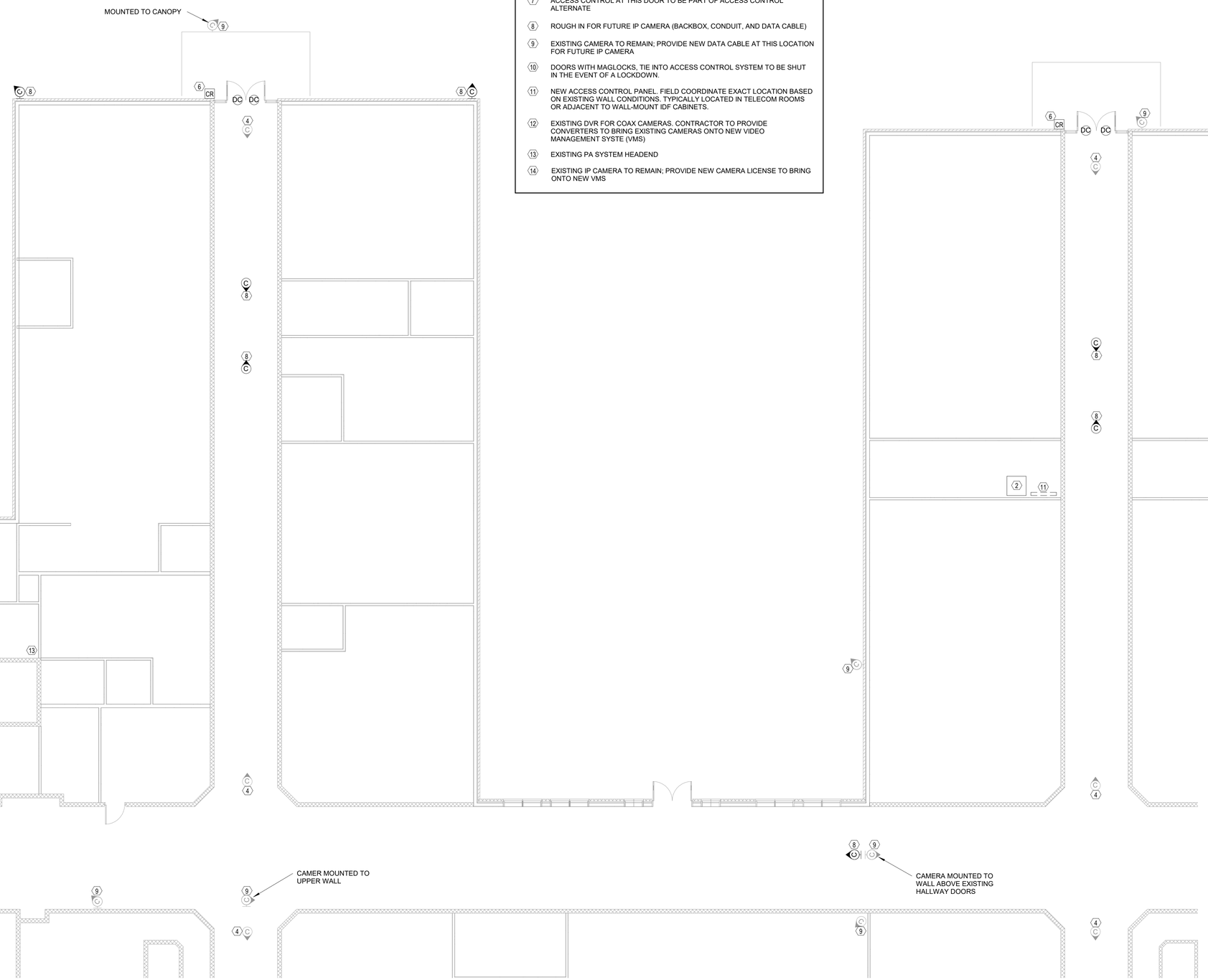

1 Technology - High School - Segment A
1/8" = 1'-0"

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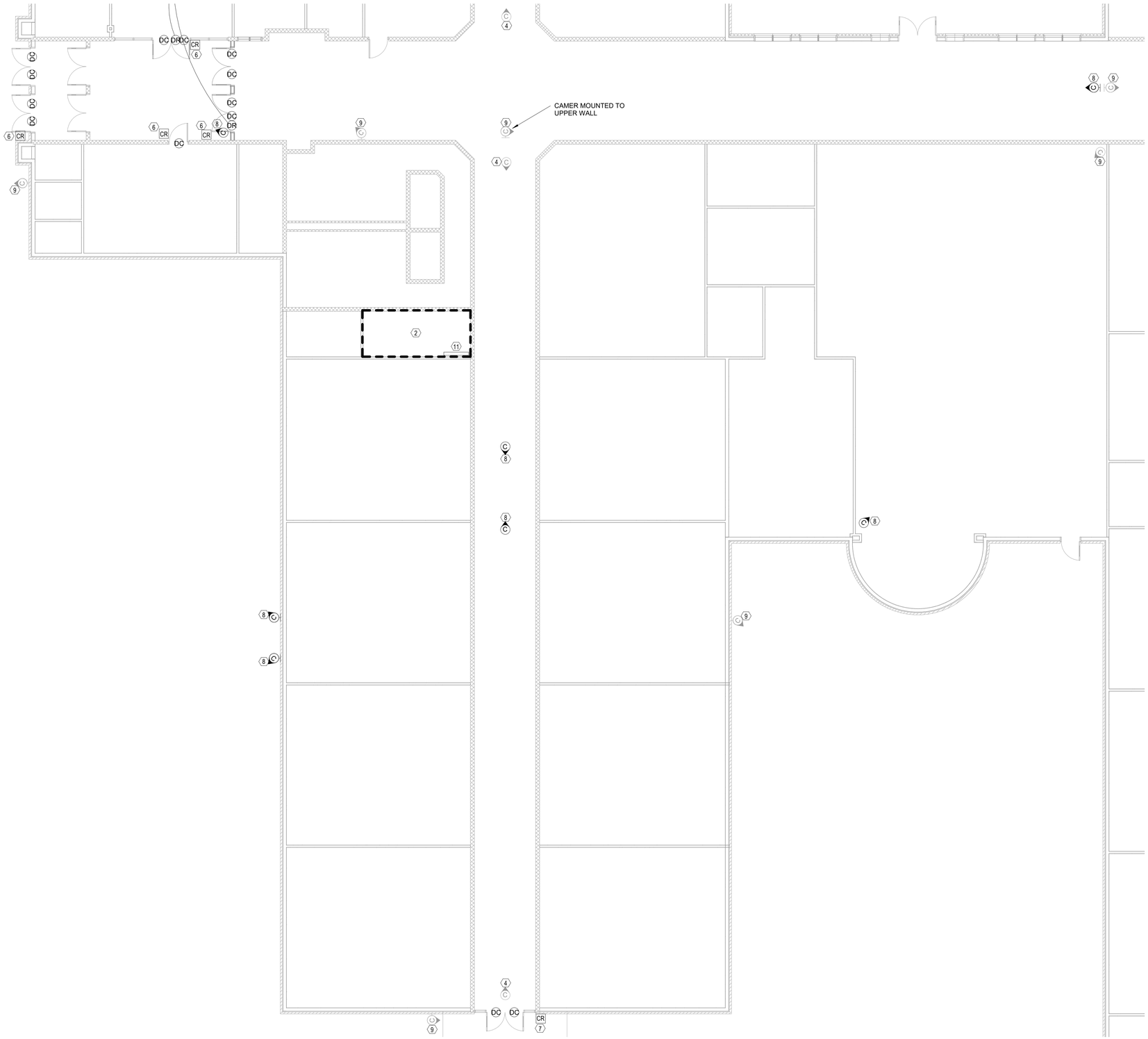
TECHNOLOGY - HIGH SCHOOL - SEGMENT A T300



1 Technology - High School - Segment B
1/8" = 1'-0"

TECHNOLOGY KEYNOTES

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Brady, Texas

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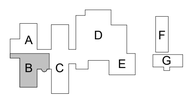

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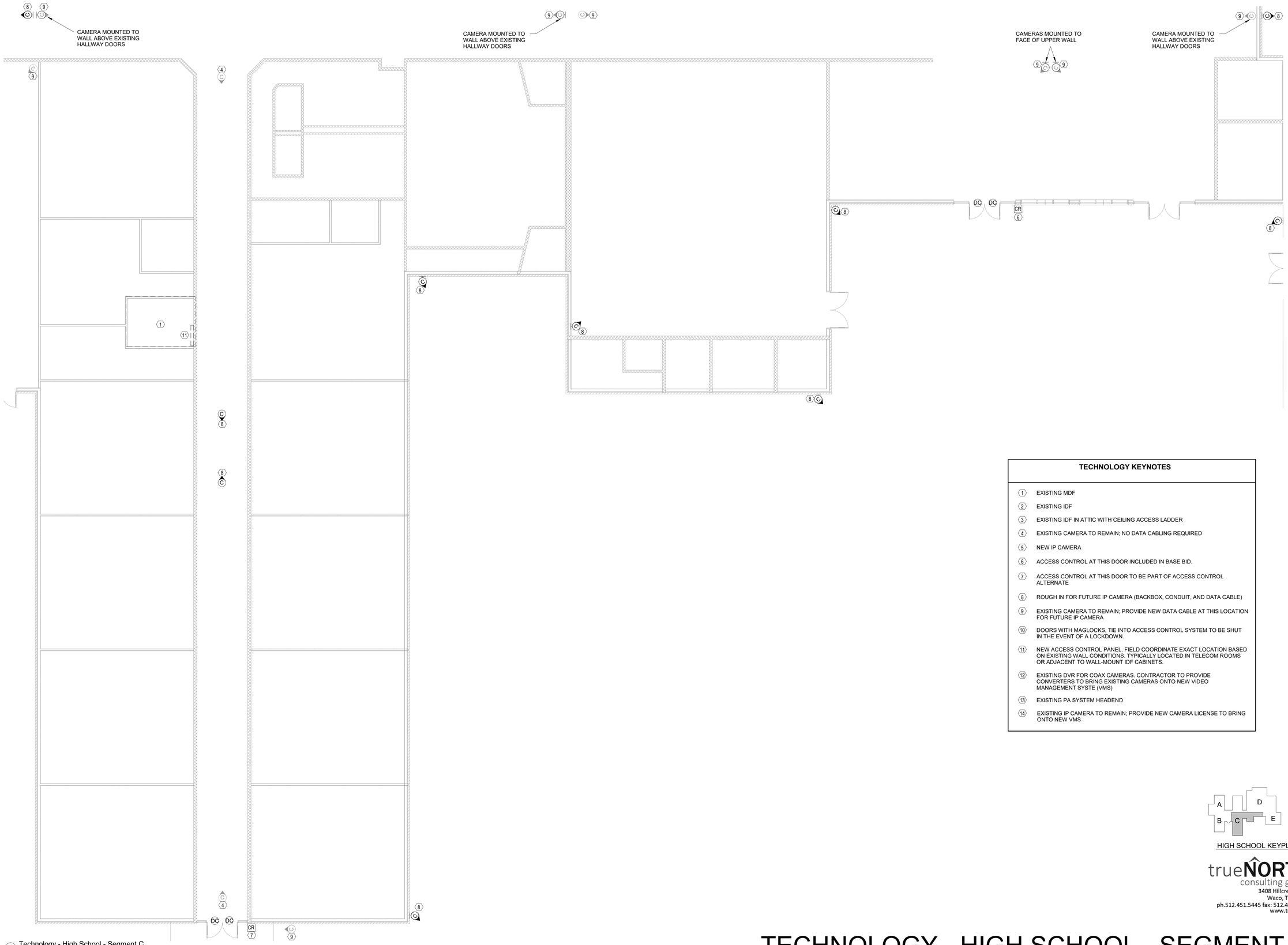
TECHNOLOGY - HIGH SCHOOL - SEGMENT B T301



1 Technology - High School - Segment C
1/8" = 1'-0"

TECHNOLOGY KEYNOTES

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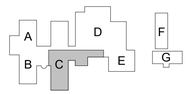

HIGH SCHOOL KEYPLAN

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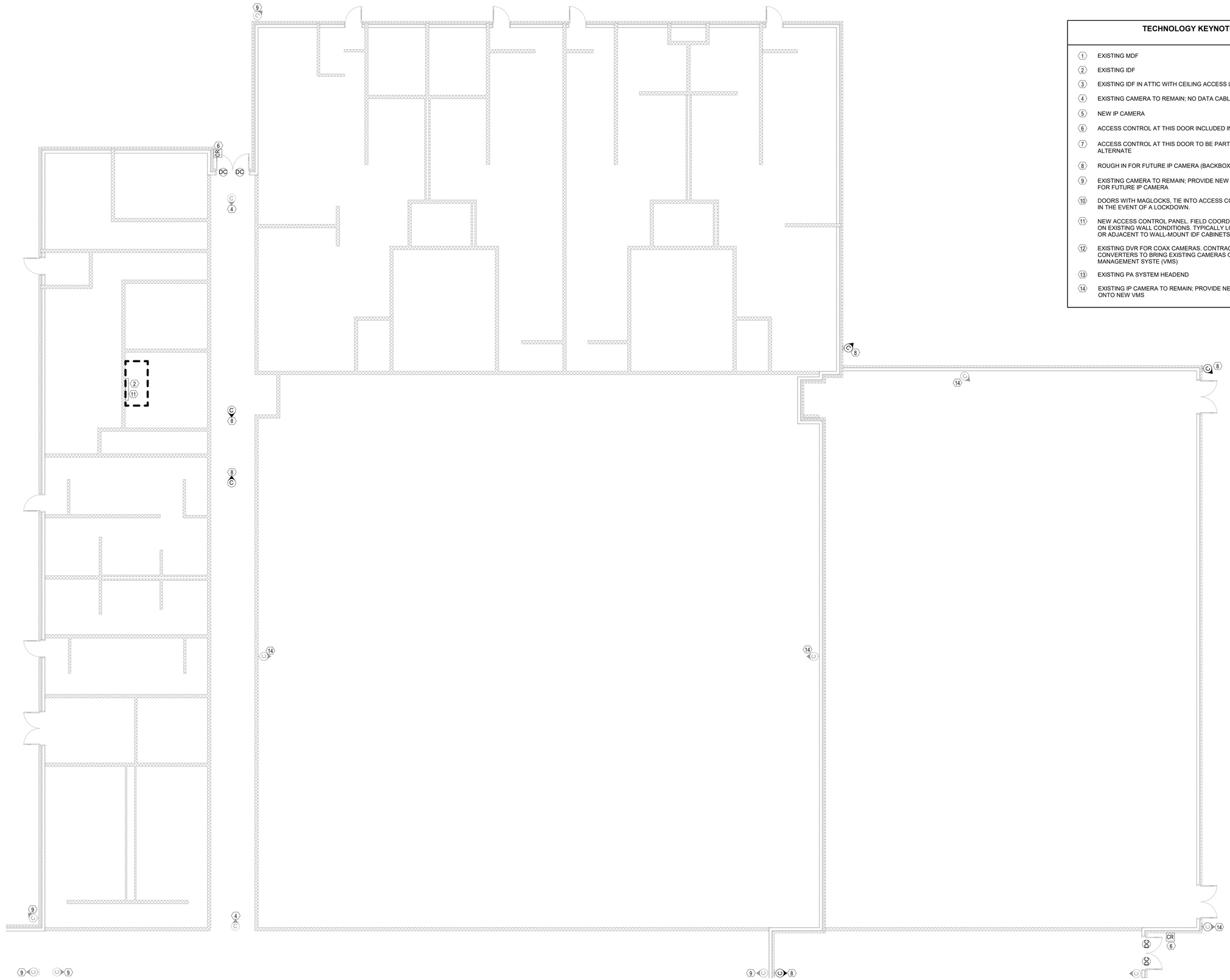
TECHNOLOGY - HIGH SCHOOL - SEGMENT C T302



1 Technology - High School - Segment D
1/8" = 1'-0"

TECHNOLOGY KEYNOTES

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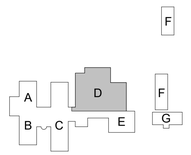

HIGH SCHOOL KEYPLAN

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TECHNOLOGY - HIGH SCHOOL - SEGMENT D T303

TECHNOLOGY KEYNOTES

1. EXISTING MDF
2. EXISTING IDF
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1 Technology - High School - Segment E
1/8" = 1'-0"

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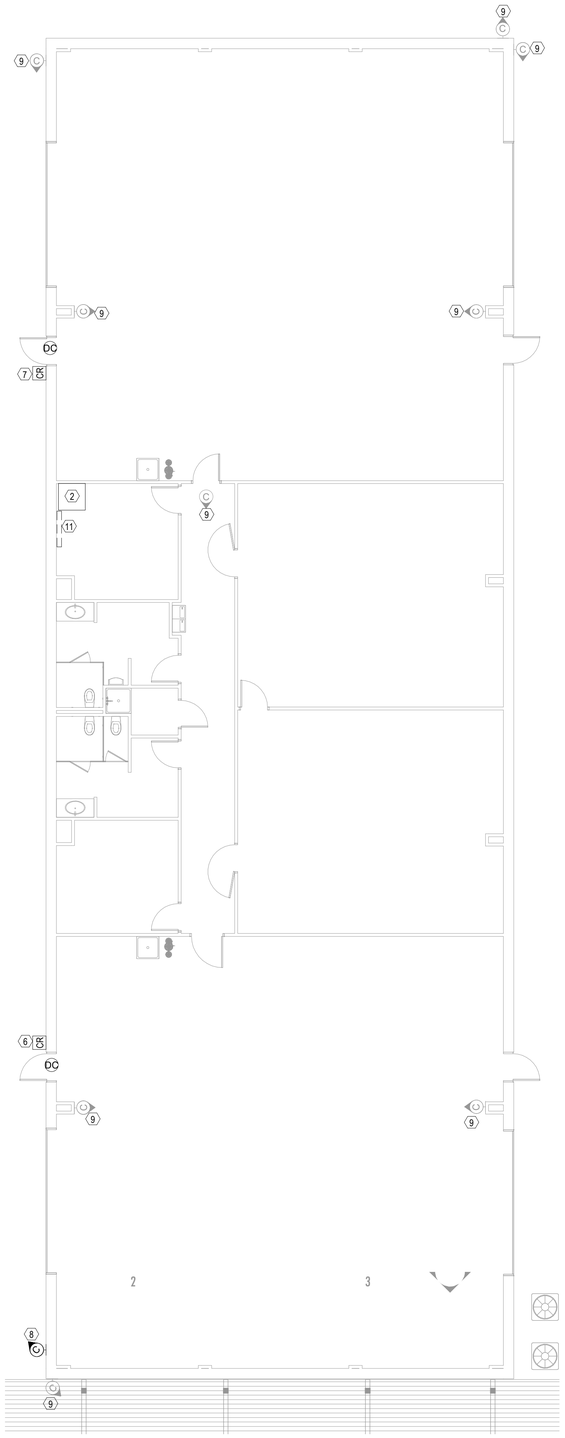
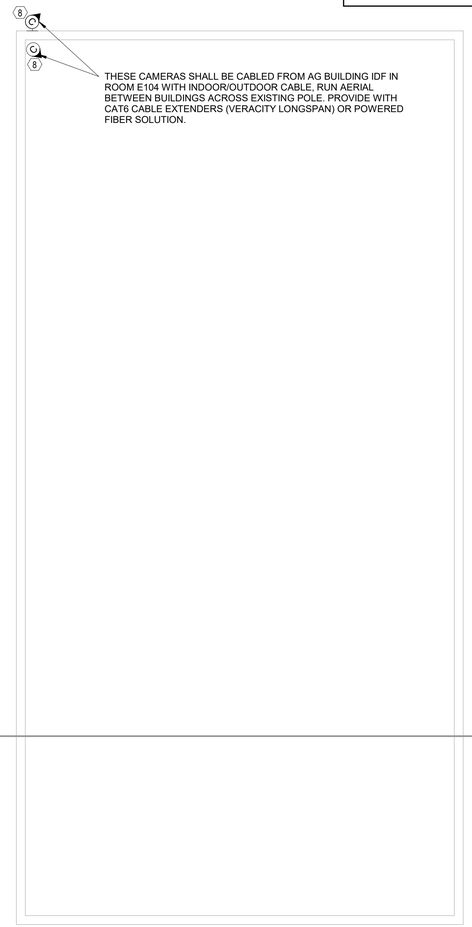
TECHNOLOGY - HIGH SCHOOL - SEGMENT E T304



2 Technology - High School - Segment F
1/8" = 1'-0"



THESE CAMERAS SHALL BE CABLED FROM AG BUILDING IDF IN ROOM E104 WITH INDOOR/OUTDOOR CABLE. RUN AERIAL BETWEEN BUILDINGS ACROSS EXISTING POLE. PROVIDE WITH CAT6 CABLE EXTENDERS (VERACITY LONGSPAN) OR POWERED FIBER SOLUTION.

TECHNOLOGY KEYNOTES

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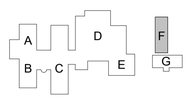

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TECHNOLOGY - HIGH SCHOOL - SEGMENT F T305

TECHNOLOGY KEYNOTES

1. EXISTING MDF
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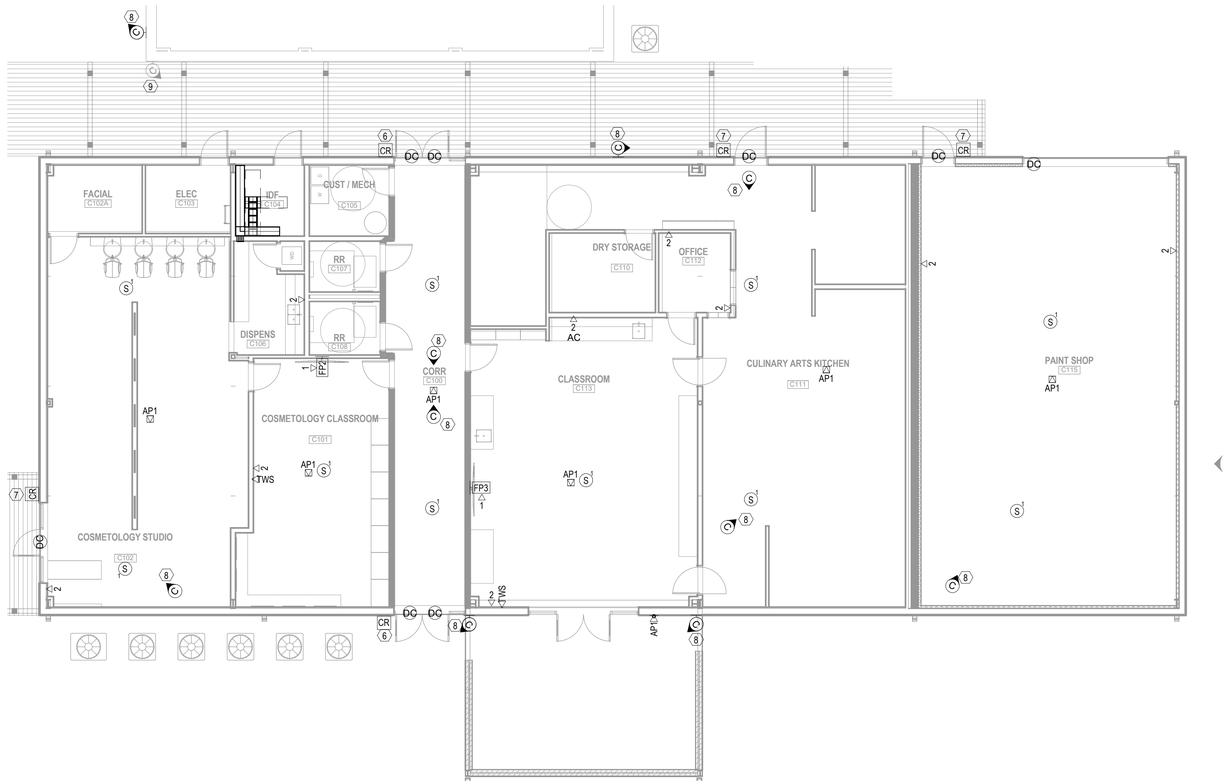
9. EXISTING CAMERA TO REMAIN; PROVIDE NEW DATA CABLE AT THIS LOCATION FOR FUTURE IP CAMERA
10. DOORS WITH MAGLOCKS, TIE INTO ACCESS CONTROL SYSTEM TO BE SHUT IN THE EVENT OF A LOCKDOWN.
11. NEW ACCESS CONTROL PANEL. FIELD COORDINATE EXACT LOCATION BASED ON EXISTING WALL CONDITIONS. TYPICALLY LOCATED IN TELECOM ROOMS OR ADJACENT TO WALL-MOUNT IDF CABINETS.
12. EXISTING DVR FOR COAX CAMERAS. CONTRACTOR TO PROVIDE CONVERTERS TO BRING EXISTING CAMERAS ONTO NEW VIDEO MANAGEMENT SYSTE (VMS)
13. EXISTING PA SYSTEM HEADEND
14. EXISTING IP CAMERA TO REMAIN; PROVIDE NEW CAMERA LICENSE TO BRING ONTO NEW VMS



1 Technology - High School - Segment G
1/8" = 1'-0"

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HIGH SCHOOL KEYPLAN

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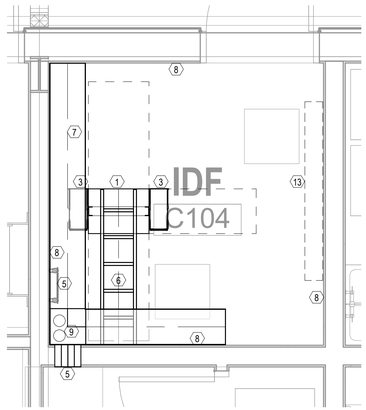
TECHNOLOGY - HIGH SCHOOL - SEGMENT G T306



Technology - Career Center Floor Plan - IDF

1 110
1/2" = 1'-0"

ENLARGEMENT KEYNOTES

1. 2-POST RACK, SECURED TO FLOOR WITH EXPANSION ANCHORS, FIRST RACK SHALL BE 6" FROM WALL, IF VERTICAL WIRE PRESENT BETWEEN RACK AND WALL THEN VERTICAL WIRE MANAGER ATTACHED TO WALL SIDE OF RACK SHALL BE 6" FROM WALL. (TYPICAL)
2. NOT USED
3. 6" VERTICAL WIRE MANAGER SECURED TO SIDE OF RACK (TYPICAL)
4. NOT USED
5. GROUND BUS BAR, MOUNTED 6' AFF, ELECTRON PLATED AND PREDRILLED TO ACCEPT STANDARD TWO-HOLE LUGS.
6. 18"x2" LADDER RACK SECURED TO TOP OF RACK WITH LADDER RACK MOUNTING PLATE AND BOLTED TO WALL, WITH WATER FALLS INTO VERTICAL WIRE MANAGERS (TYPICAL)
7. 12"x4" CABLE TRAY (BASKET STYLE) WITH 6" CLEARANCE FROM WALL (TYPICAL)
8. 3/4" FIRED RATED PLYWOOD SECURED TO WALL AT 22" AFF. IF THE PLYWOOD IS PAINTED, THE PAINT SHALL BE FIRE RETARDANT PAINT ON BOTH SIDES AND THE RATING STAMP ON THE PLYWOOD SHALL BE EXPOSED.
9. "(2) 4" CONDUITS STUBBED UP 24" AFF FROM AG BUILDING IDF. REFER TO SHEET T030.
10. NOT USED
11. FIRESTOP SLEEVES, STI EZPATH OR HILTI SPEED SLEEVES.
12. SPACE RESERVED FOR TELEPHONE TERMINAL BLOCKS OR FRAME.
13. SPACE RESERVED FOR SECURITY PANELS.

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TECHNOLOGY - ENLARGEMENTS T400

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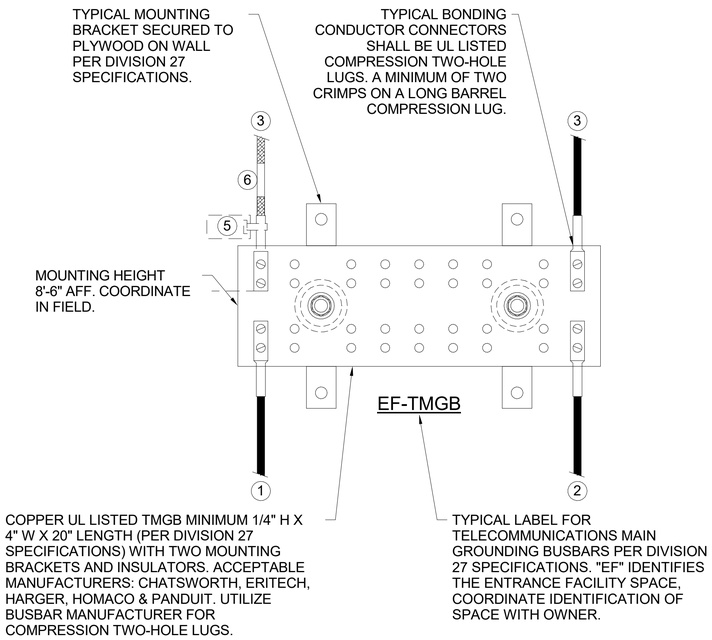
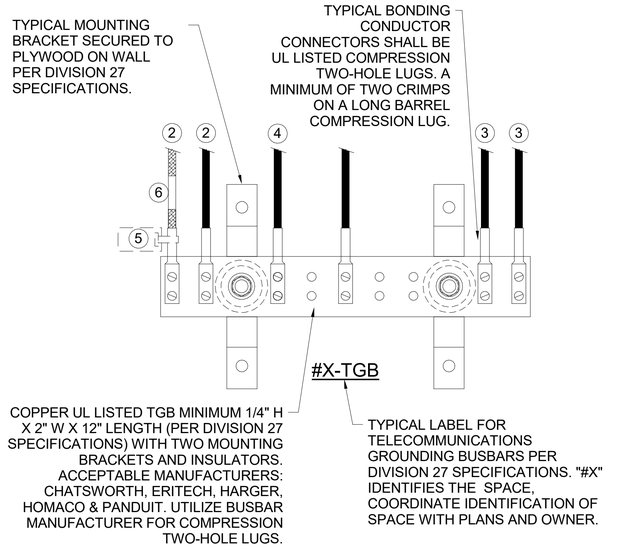


BONDING CONDUCTOR SIZING CHART	
LENGTH (FEET)	SIZE (AWG)
LESS THAN (<) 13'	# 6
14' - 20'	# 4
21' - 26'	# 3
27' - 33'	# 2
34' - 41'	# 1
42' - 52'	# 1/0
53' - 66'	# 2/0
GREATER THAN (>) 66'	# 3/0

GROUNDING & BONDING GENERAL NOTES

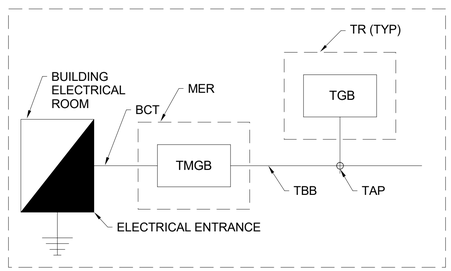
1. ELECTRICAL CONTRACTOR RESPONSIBILITY - TELECOMMUNICATION MAIN GROUNDING BUSBAR (TMGB), TELECOMMUNICATION GROUNDING BUSBAR(S) (TGBS), AND THE BONDING CONDUCTORS TO THE BUILDING GROUNDING ELECTRODE, BUILDING STRUCTURAL STEEL, AND BONDING OF ALL TGBS TO THE TMGB SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL GROUNDING OF OF EQUIPMENT, RACKS, CABINETS, AND DEVICES SHALL BE THE RESPONSIBILITY OF THE DIVISION 27 TECHNOLOGY CONTRACTOR.
2. REFER TO GROUNDING AND BONDING DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. BONDING CONDUCTORS SHALL BE #3/0 AWG COLOR GREEN INSULATED COPPER CONDUCTOR OR SIZED PER "BONDING CONDUCTOR SIZING CHART" (ANSI J-STD-607-B) IN PATHWAY.
4. FASTENING BONDING CONNECTOR TWO -HOLE LUGS TO ALL BUSBARS SHALL BE CLEANED AND APPLY A COPPER ANTI-OXIDANT TO THE CONTACT AREA OF BOTH THE CONNECTOR LUG AND THE BUSBAR.
5. BONDING CONDUCTORS AND BUSBARS SHALL BE LABELED. WITH IDENTIFICATION IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI/TIA/EIA-606-B.
6. BONDING CONDUCTORS SHALL BE LABELED WITH IDENTIFICATION LABEL NOTED BELOW AND SECURED WITH CABLE TIE TO EACH CONDUCTOR. (ANSI J-STD-607-B) "IF THIS CONNECTOR OR CABLE IS LOOSE OR MUST BE REMOVED, PLEASE CALL THE BUILDING TELECOMMUNICATIONS MANAGER".
7. DIVISION 27 CONTRACTOR SHALL PERFORM CONTINUITY TESTING MEASUREMENTS OF THE GROUNDING RESISTANCE TO NOT EXCEED 0.1 OHM BETWEEN:
   A. THE TMGB AND THE NEAREST GROUNDING ELECTRODE.
   B. THE TGB AND THE NEAREST GROUNDING ELECTRODE.
   C. EACH TGB AND THE PATHWAY(S), RACK(S), CABINETS(S) AND APPLICABLE EQUIPMENT.



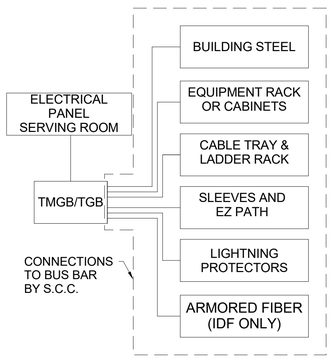
GROUNDING & BONDING NOTES

1. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) TO BUILDING MAIN ELECTRICAL GROUND SYSTEM.
2. BCT TO TELECOMMUNICATIONS CABLE RUNWAYS(S), RACK(S), CABINET(S)AND APPLICABLE EQUIPMENT. DAISY CHAINING OF BCT AT RELAY RACKS IS NOT ACCEPTABLE. EACH RACK IS TO HAVE A BCT TO A COMPRESSION LUGTAP TO DEDICATED HOME RUN ACT BACK TO THE TGB. SEE DETAILS.
3. TYPICAL TBB(S) THAT INTERCONNECTS ALL IDF TGB(S) WITH THE TMGB.
4. BONDING CONDUCTOR TO EACH ARMORED FIBER JACKET. IDF SIDE ONLY.
5. TYPICAL OF ALL BONDING CONDUCTORS WITH IDENTIFICATION LABEL NOTED BELOW AND SECURED WITH CABLE TIE TO EACH CONDUCTOR. (ANSI J-STD-607-B) "IF THIS CONNECTOR OR CABLE IS LOOSE OR MUST BE REMOVED, PLEASE CALL THE BUILDING TELECOMMUNICATIONS MANAGER".
6. TYPICAL OF ALL BONDING CONDUCTORS CABLE IDENTIFIER/ LABEL

1 GROUNDING AND BONDING DETAIL
SCALE: NTS



2 TYPICAL GROUNDING FLOW DIAGRAM
SCALE: NS



3 TELECOM ROOM BONDING DIAGRAM
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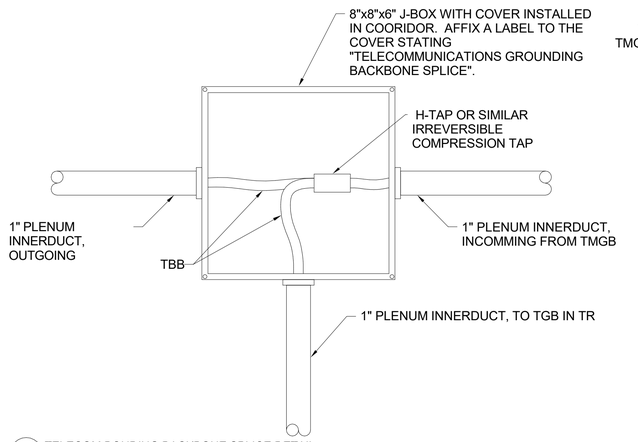

4 TELECOM BONDING BACKBONE SPLICE DETAIL
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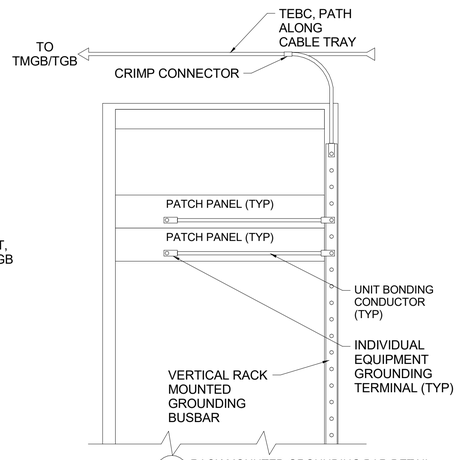

5 RACK MOUNTED GROUNDING BAR DETAIL
SCALE: NS

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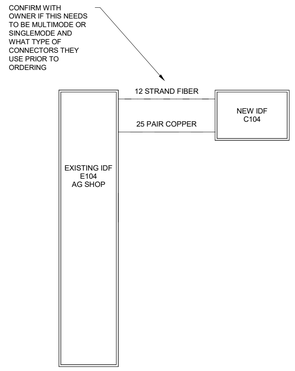
TECHNOLOGY DETAILS T500



1 FIBER AND COPPER BACKBONE SERVICES
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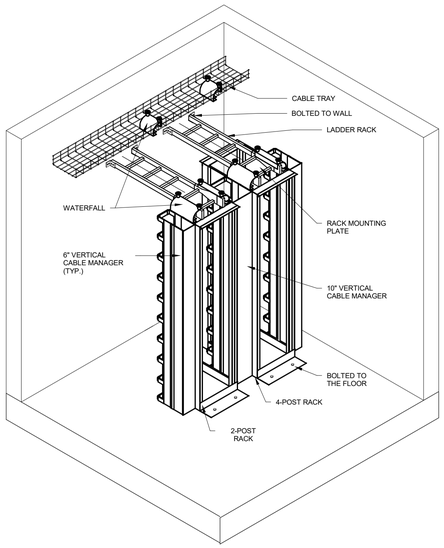

2 TYPICAL TELECOMMUNICATIONS ROOM DETAIL
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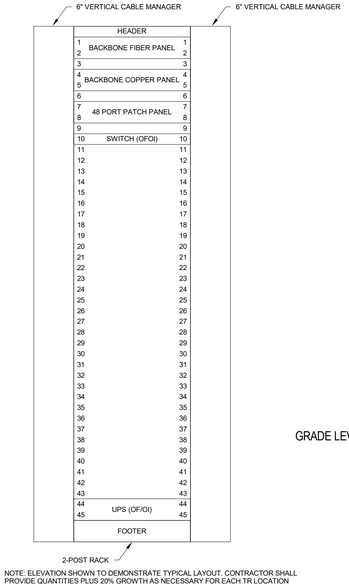
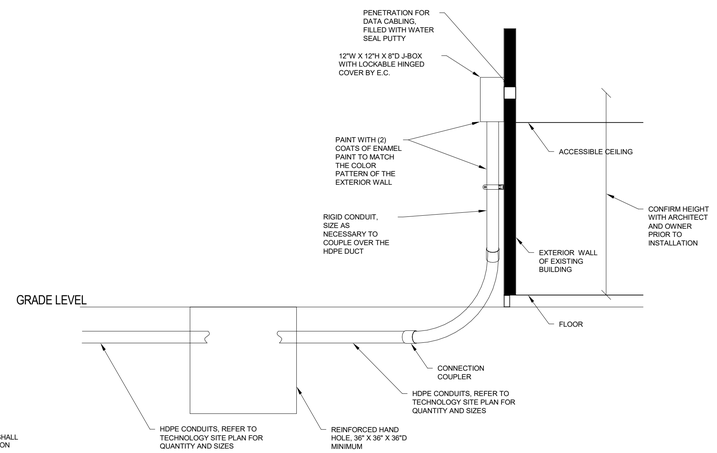


NOTE: ELEVATION SHOWN TO DEMONSTRATE TYPICAL LAYOUT. CONTRACTOR SHALL PROVIDE QUANTITIES PLUS 20% GROWTH AS NECESSARY FOR EACH TR LOCATION

3 IDF RACK ELEVATION (TYPICAL)
SCALE: NTS



4 CONDUIT ROUTING TO EXISTING BUILDING
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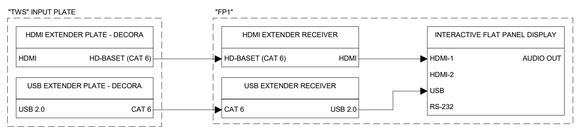

5 TYPICAL CLASSROOM DISPLAY SYSTEM - AV SCHEMATIC
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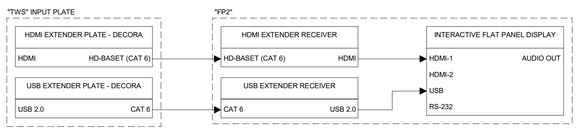

6 COSMETOLOGY CLASSROOM DISPLAY SYSTEM - AV SCHEMATIC
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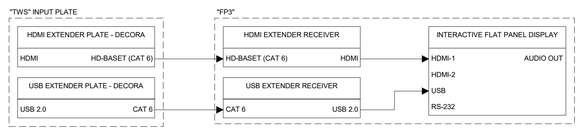

7 CULINARY CLASSROOM DISPLAY SYSTEM - AV SCHEMATIC
SCALE: NTS

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TECHNOLOGY DETAILS T501

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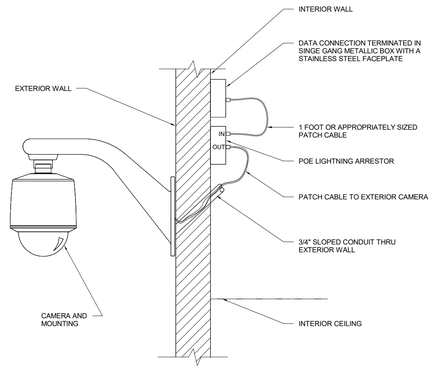
GENERAL NOTES:

1. REFER TO SECURITY SCHEDULE AND WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE WEATHER PROOF/WATER RESISTANT ENCLOSURE FOR ALL EXTERIOR CAMERAS.
3. ALL CABLES FROM CAMERAS SHALL BE INSTALLED IN FLEXIBLE AND/OR RIGID CONDUIT.
4. ALL MOUNTING DETAILS ARE REFERENCE FOR ALL FIXED DOME, 180°, 360°, PTZ, AND "BULLET/BOX" CAMERAS.



1 EXTERIOR WALL MOUNTED CAMERA DETAIL
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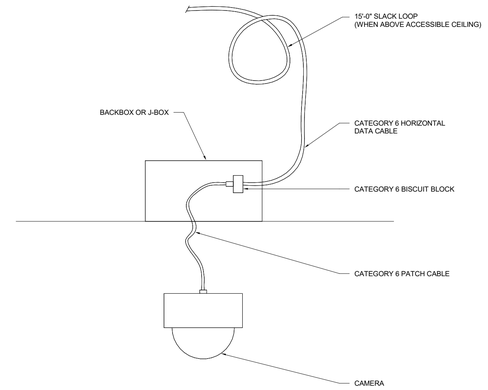
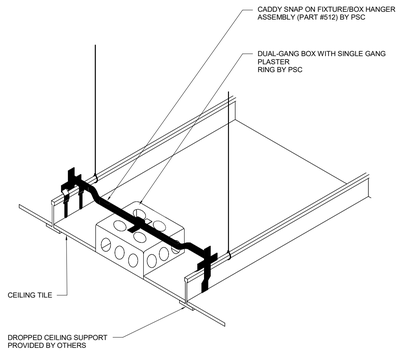


2 TYPICAL CAMERA INSTALLATION SECTION DETAIL
SCALE: NS



3 TILE BRIDGE DETAIL
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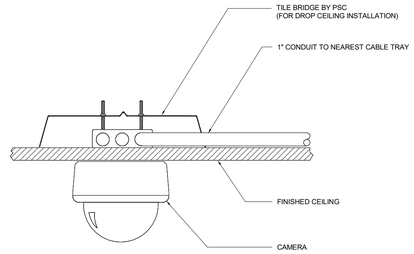

4 CEILING MOUNTED CAMERA DETAIL
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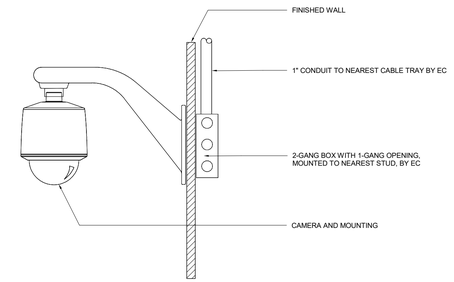

5 WALL MOUNTED CAMERA DETAIL
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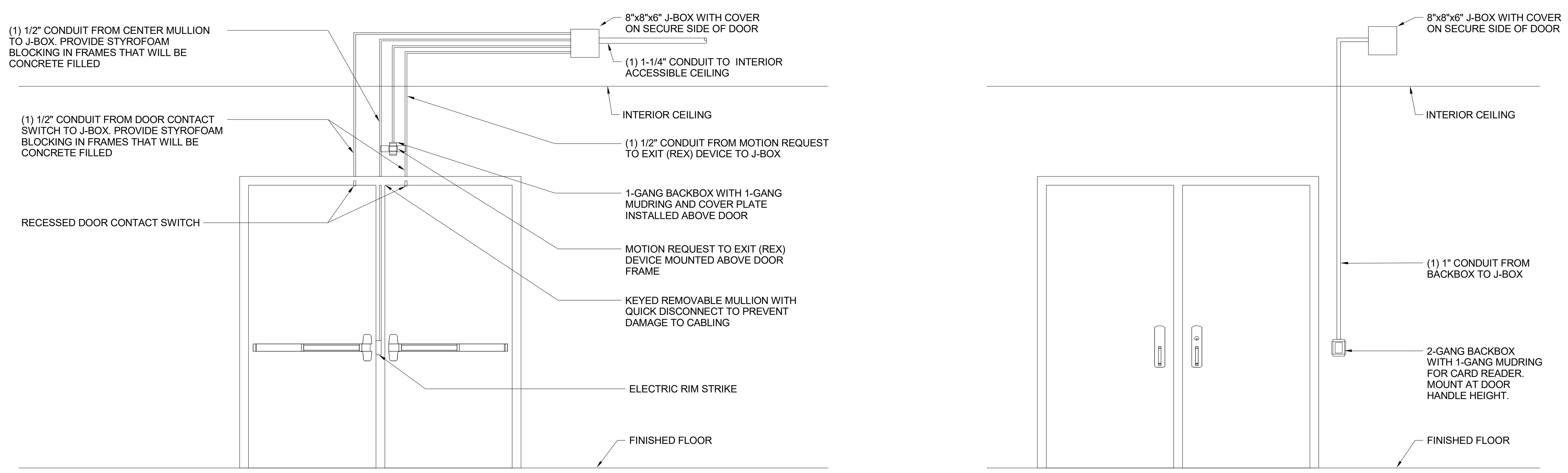
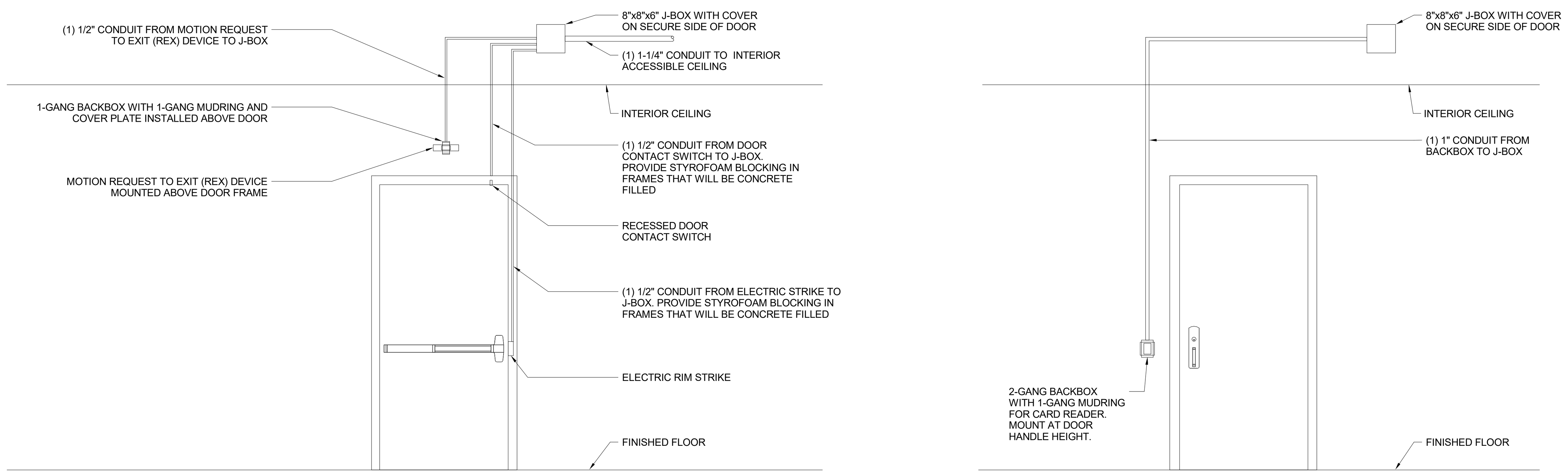
SECURE SIDE   NON-SECURE SIDE



1 TYPICAL UNIVERSAL DOUBLE DOOR ROUGH-IN DETAIL - CR TYPE 1
SCALE: NTS

SECURE SIDE   NON-SECURE SIDE



2 TYPICAL UNIVERSAL SINGLE DOOR ROUGH-IN DETAIL CR - TYPE 2
SCALE: NTS

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TECHNOLOGY DETAILS T503

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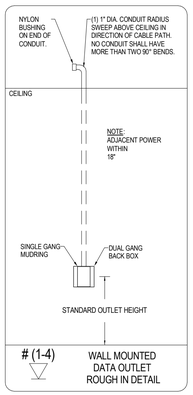
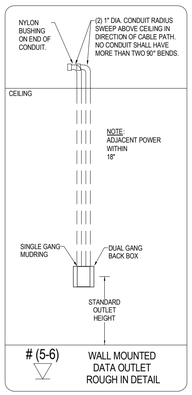
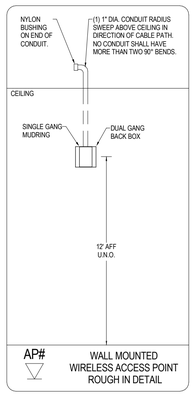
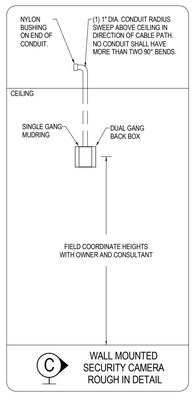
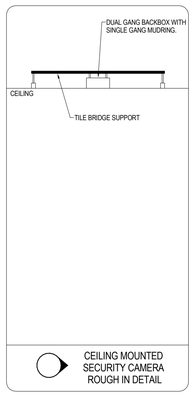
ALL TECHNOLOGY JUNCTION BOXES TO HAVE NOMINAL DEPTH OF 3-1/2" UNLESS NOTED OTHERWISE

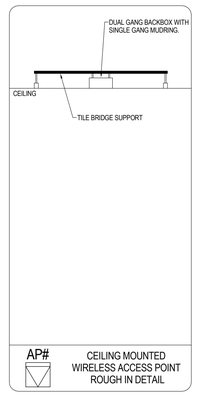


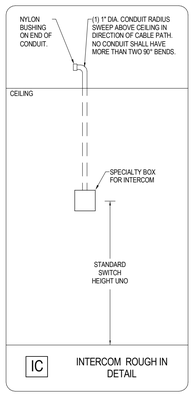








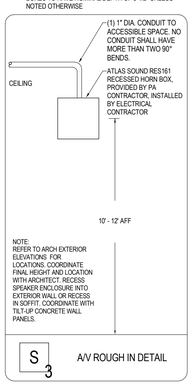


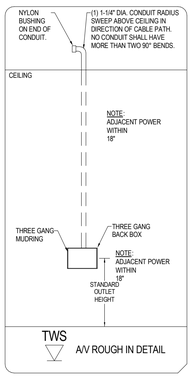


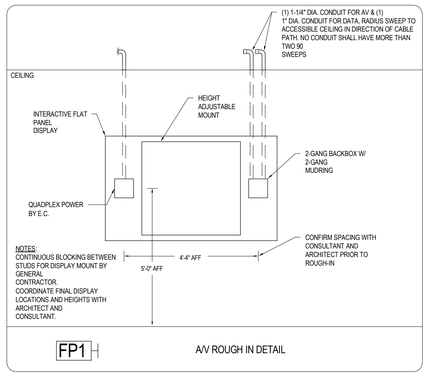
1 TECHNOLOGY ROUGH-IN DETAILS - BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE

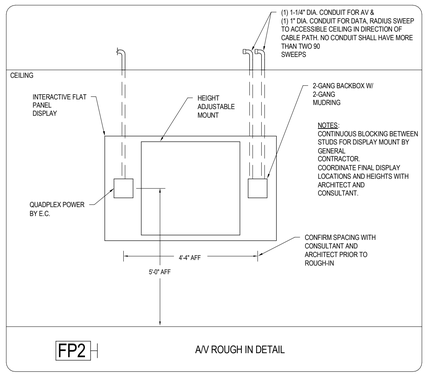
SCALE: NS

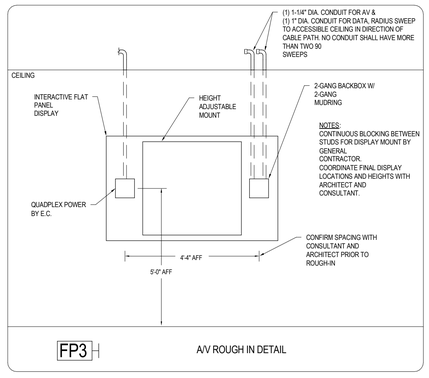
AS PERMITTED BY WALL THICKNESS, ALL JUNCTION BOXES TO HAVE NOMINAL DEPTH OF 3-1/2" UNLESS NOTED OTHERWISE











2 TECHNOLOGY ROUGH-IN DETAILS - BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE

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SIGNATURE

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Bond 2018
Brady, Texas

Revision:

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Project Number 1703

Date: 04-04-19

Sheet Number

TECHNOLOGY DETAILS T504

4/3/2019 11:21:42 AM

GENERAL NOTES

A. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.

B. CONTRACTORS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.

C. ALL WORK SHALL COMPLY WITH THE APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, ASHRAE, NFPA, APPLICABLE BUILDING CODE, APPLICABLE MECHANICAL CODE, APPLICABLE PLUMBING CODE, APPLICABLE ENERGY CODE, NATIONAL ELECTRICAL CODE, AGA, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN.

D. THE CONTRACTOR SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT. PROVIDE CODE APPROVED CONDENSATE DISPOSAL POINT FOR ALL MECHANICAL EQUIPMENT TO DRAIN TO. COORDINATE WITH MECHANICAL CONTRACTOR.

E. ABSOLUTELY NO PIPING OR DUCTWORK CAN BE ROUTED ABOVE ELECTRICAL PANELS, GEAR OR TRANSFORMERS. THE ONLY HVAC, PLUMBING, SPRINKLER OR DUCTWORK THAT CAN ENTER AN ELECTRIC ROOM ARE THOSE SPECIFICALLY SERVING THAT ROOM. THESE SERVICES CAN ONLY ENTER INTO ELECTRIC ROOM ABOVE ENTRY DOOR.

F. PROVIDE VALVE TAGS FOR ALL VALVES. PROVIDE CEILING ACCESS MARKERS FOR VALVES LOCATED ABOVE CEILING OR BEHIND WALL MOUNTED PANEL.

G. PLUMBING PIPING SHALL NOT BLOCK ACCESS TO EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ACCESS DOORS, ETC.

H. ALL VALVES ARE TO BE ACCESSIBLE AND SHALL NOT BE LOCATED MORE THAN FOUR FEET ABOVE THE CEILING.

I. CONTRACTOR TO CONNECT COLD WATER, HOT/TEMPERED WATER, WASTE WATER AND VENT PIPING TO ALL FIXTURES PER MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE NOTED ON DRAWINGS.

J. BEFORE ANY CUTTING OR TRENCHING OPERATIONS BEGIN, VERIFY WITH OWNER'S REPRESENTATIVE, UTILITY COMPANIES AND OTHER INTERESTED PARTIES THAT ALL AVAILABLE INFORMATION HAS BEEN PROVIDED CONCERNING EXISTING UTILITY LOCATION. VERIFY LOCATIONS GIVEN. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING UNKNOWN UTILITIES FOR FURTHER DIRECTION. INDICATE ALL UNCOVERED UTILITIES ON RECORD DRAWINGS.

K. INSTALL ROOF JACK AS REQUIRED AT ALL GAS PIPING ROOF PENETRATIONS.

L. FIRE SEAL AROUND ALL PIPING AT PENETRATIONS THROUGH RATED WALLS, CEILINGS AND TUNNELS PER UL LISTED MATERIAL FOR ACTUAL SEALANT BEING USED. COORDINATE WITH ARCHITECTURAL PLANS FOR RATED WALL LOCATION.

M. PROVIDE ALL APPROPRIATE TOOLS, WRENCHES, KEYS, ETC. AS REQUIRED FOR ACCESS AND OPERATION OF VALVES, COVERS, ETC.

N. DO NOT ROUTE PIPING UNDER EQUIPMENT LOCATED ABOVE CEILING. ROUTE PIPING AROUND EQUIPMENT TO ALLOW FOR ACCESS AROUND EQUIPMENT AND FOR FUTURE REMOVAL OF EQUIPMENT.

O. PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING FLUES AND COMBUSTION AIR PIPING TO EXTERIOR FOR GAS FIRED WATER HEATERS/BOILERS PROVIDED BY PLUMBER.

P. PROVIDE HEAT TRAPS ON INCOMING AND DISCHARGE LINES FROM WATER HEATERS WHICH DO NOT HAVE THEM FACTORY INSTALLED OR ARE NOT CONNECTED TO A RECIRCULATING SYSTEM.

Q. GAS PIPING:

1. SUPPORT ALL GAS PIPING (SCHEDULE 40 BLACK IRON ONLY. NO GALVANIZED PIPING ALLOWED) ON ROOF WITH PIPE STANDS/ROLLER EQUAL TO MIRO INDUSTRIES MODEL 4-RAH-PC OR PORTABLE PIPE HANGERS, INC. (PPH), TYPE PP10 WITH ROLLER. FOR PIPING 2-1/2", UP TO AND INCLUDING 8" USE MIRO INDUSTRIES MODEL 6-RAH-PC OR PORTABLE PIPE HANGER, INC. (PPH) TYPE PS-1-2. ALL PIPE STANDS TO SIT ON WALK BOARD (COORDINATE TYPE AND METHODS OF SUPPORT WITH ROOFING CONTRACTOR). WALK BOARD TO BE A MINIMUM OF 3" LARGER ON EACH SIDE THAN SUPPORT. PROVIDE MINIMUM PIPE HEIGHT ABOVE ROOF DECK AS REQUIRED BY JURISDICTION HAVING AUTHORITY (AT LEAST 6"). PROVIDE SUPPORTS FOR PIPING UNDER 2" AT SIX FEET ON CENTER. PROVIDE SUPPORTS FOR PIPING 2" AND OVER AT EIGHT FEET ON CENTER. ALL TAPS OFF MAIN TO EQUIPMENT ARE TO BE MADE OFF TOP OF MAIN. THIS ALLOWS FOR PROPER INSTALLATION OF SEDIMENT TRAP PRIOR TO UNIT OR REGULATOR CONNECTION WITH BOTTOM OF TRAP A MINIMUM OF 6" ABOVE ROOF DECK AND ALLOWS FOR SOME PIPE MOVEMENT WITHOUT BREAKAGE.

2. ROUTE PIPING DOWN MINIMUM TWELVE INCHES (12") UNDERGROUND AND STUB UP FOR NEW GAS METER TO BE INSTALLED BY LOCAL GAS COMPANY. VERIFY GAS SERVICE LOCATION WITH CIVIL DRAWINGS AND LOCAL GAS COMPANY BEFORE INSTALLATION OF GAS PIPING. PRIME AND PAINT GAS RISER ON BUILDING TO MATCH BUILDING EXTERIOR. PIPING UNDERGROUND TO BE WRAPPED FOR PROTECTION. PROVIDE REMOVABLE TEST SECTION AND VALVING AS REQUIRED IN RISER.

3. PROTECT ROOF DURING INSTALLATION. PURGE ALL GAS PIPING WITH 100 PSI COMPRESSED AIR OR DRY NITROGEN FROM END OF RUN(S) BACK TO BUILDING CONNECTION WITH ALL EQUIPMENT SHUT OFF VALVES CLOSED TO PROTECT REGULATORS/GAS VALVES. FINAL PRESSURE TEST PIPING USING COMPRESSED AIR AT 60 PSI. SOAP ALL JOINTS. LINE SIZE FROM REGULATOR TO EQUIPMENT IS TO MATCH EQUIPMENT INLET CONNECTION SIZE. TRANSITION RIGHT AT REGULATOR. PRIME AND PAINT ALL THE EXPOSED GAS PIPING, COLOR AS SELECTED BY ARCHITECT.

R. CRAWL SPACES:

1. ALL PIPING THAT COMES FROM OR GOES BELOW GRADE OF CRAWL SPACE TO BE PROVIDED WITH DOUBLE BALL FLEXIBLE EXPANSION JOINT TO ACCOUNT FOR SOIL MOVEMENT. PIPING IN CRAWL SPACE TO BE SECURED TO STRUCTURE AFTER EXPANSION JOINT SO THAT ALL MOVEMENT OCCURS PRIOR TO PIPING ENTERING THE BUILDING.

S. INSTALL COMPRESSED AIR MAIN AS SHOWN ON PLANS. PIPING TO BE SCHEDULE 40 BLACK STEEL PIPE WITH CAPPED TEES AT EACH JOINT FOR FUTURE CONNECTION OF COMPRESSED AIR LINES. CAPPED TEE TO FACE UP FOR CONNECTION OFF TOP OF MAIN. MAKE DROPS SHOWN ON PLANS.

PLUMBING FIXTURE SCHEDULE

NOTES:

1. REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL WALL HUNG FIXTURES TO BE INSTALLED WITH WALL CARRIERS, VERIFY CONFIGURATION TYPE.
3. PROVIDE VANDAL RESISTANT SCREWS AT ALL FIXTURES.
4. INSTALL STAINLESS STEEL CAPS AT ALL UNUSED LAVATORY FAUCET HOLES.
5. NO OFFSET FLANGES WILL BE ALLOWED FOR WATER CLOSET INSTALLATIONS.
6. GROUT FOR LEVELING WATER CLOSETS SHALL NOT EXTEND UP ON SIDE OF WATER CLOSET BASES. TAKE GROUT BACK TO MINIMUM 1/8" UNDER BASE AND CAULK FOR FINAL FINISH. VERIFY CAULK COLOR AND TYPE WITH ARCHITECT.
7. REFERENCE ARCHITECTURAL CONTRACT DOCUMENTS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES. CONTACT ARCHITECT FOR ADDITIONAL INFORMATION AS REQUIRED.
8. PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
9. ALL PLUMBING FIXTURES TO BE "LEAD FREE" AB1953 COMPLIANT (.25% OR LESS AVERAGE LEAD CONTENT). PROVIDE DOCUMENTATION IN SUBMITTALS THAT THIS REQUIREMENT IS MET FOR EACH APPLICABLE FIXTURE.

WC
WATER CLOSET: AMERICAN STANDARD FLOWISE MODEL 2234.001, FLOOR MOUNTED, VITREOUS CHINA, 1 1/2" TOP SPUD, 15" HIGH ELONGATED BOWL.
EXPOSED FLUSH VALVE: SLOAN ROYAL #111 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 1.28 GALLON FLUSH. SAVE MANUAL FLUSH HANDLE AND GIVE TO OWNER.
SEAT:BEMIS 1955C OR EQUIVALENT. STAINLESS STEEL HARDWARE ONLY (NO PLASTIC ALLOWED).

WCH
WATER CLOSET (ADULT ADA): AMERICAN STANDARD FLOWISE MODEL 3461.001 WITH EVERCLEAN, FLOOR MOUNTED, VITREOUS CHINA, 1-1/2" TOP SPUD, 16-1/2" HIGH ELONGATED BOWL.
EXPOSED FLUSH VALVE: SLOAN ROYAL #111 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 1.28 GALLON FLUSH. SAVE MANUAL FLUSH HANDLE AND GIVE TO OWNER.
SEAT:BEMIS 1955C OR EQUIVALENT. STAINLESS STEEL HARDWARE ONLY (NO PLASTIC ALLOWED).

WCEH
WATER CLOSET: AMERICAN STANDARD FLOWISE MODEL 2234.001, FLOOR MOUNTED, VITREOUS CHINA, 1 1/2" TOP SPUD, 15" HIGH ELONGATED BOWL.
EXPOSED FLUSH VALVE: SLOAN ROYAL #111 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 1.28 GALLON FLUSH. SAVE MANUAL FLUSH HANDLE AND GIVE TO OWNER.
BEMIS 1955C OR EQUIVALENT. STAINLESS STEEL HARDWARE ONLY (NO PLASTIC ALLOWED).

UR
URINAL: SLOAN MODEL SU-1009-A UNIVERSAL HIGH EFFICIENCY, VITREOUS CHINA, 3/4" TOP SPUD.
EXPOSED FLUSH VALVE: SLOAN ROYAL #186-0.125 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 0.125 GALLON FLUSH. SAVE MANUAL FLUSH HANDLE AND GIVE TO OWNER.
REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.

URH
URINAL: SLOAN MODEL SU-1009-A UNIVERSAL HIGH EFFICIENCY, VITREOUS CHINA, 3/4" TOP SPUD.
EXPOSED FLUSH VALVE: SLOAN ROYAL #186-0.125 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 0.125 GALLON FLUSH. SAVE MANUAL FLUSH HANDLE AND GIVE TO OWNER.
REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.

LH
LAVATORY (ADA): AMERICAN STANDARD 0356.015, 20" x 18" VITREOUS CHINA, WALL HUNG, 8" FAUCET CENTERS AND GRID STRAINER. PROVIDE WITH TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD LFG480 SERIES, 0.25 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.2 GPM AT 10 psi DROP.
FAUCET: CHICAGO #404-V317E66ABCP, TEMPERED AND COLD WATER, 4" WRIST BLADE HANDLES, E-12 AERATOR.

LEH
LAVATORY (ELEMENTARY ADA): AMERICAN STANDARD 0356.015, 20" x 18" VITREOUS CHINA, WALL HUNG, 8" FAUCET CENTERS AND GRID STRAINER. BACKSPLASH CANNOT EXCEED 4" IN HEIGHT. PROVIDE WITH TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD LFG480 SERIES, 0.25 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.2 GPM AT 10 psi DROP.
FAUCET: CHICAGO #404-665CP, TEMPERED AND COLD WATER, PUSH BUTTON SELF-CLOSING AND E-12 AERATOR.

SKEH
SINK (ADA): ELKAY #DRKAD2517C-4.0, 18 GAUGE STAINLESS STEEL, SELF-RIM, 16" x 13.5" x 4" DEEP BOWL, TWO FAUCET HOLES, NO BUBBLER HOLE AND STAINLESS STEEL BASKET STRAINER. PROVIDE WITH TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD LFe480 SERIES, 0.5 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.6 GPM AT 10 psi DROP.
T&S BRASS B2741-BL5550-30-133X, SINGLE LEVER HANDLE, RESTRICTED SWING (100°) GOOSENECK SPOUT WITH AERATOR. FAUCET TO BE LOCATED ON SIDE OF SINK CLOSEST TO END WALL OF CABINET. FAUCET HANDLE TO BE LOCATED CLOSEST TO COUNTERTOP EDGE. PROVIDE HOSE OF ADEQUATE LENGTH BETWEEN FAUCET AND SPOUT.

KSH
SEAU: KITCHEN SINK (ADA): ELKAY #LRAD-3319 (OFF-CENTER DRAIN), 18 GAUGE STAINLESS STEEL, SELF-RIM, TWO (2) 14" x 14" x 5.5" DEEP BOWLS, FOUR (4) FAUCET HOLES WITH TWO (2) STAINLESS STEEL BASKET STRAINERS. FAUCET HOLE FOR SIDE SPRAY TO BE 6" FROM ADJACENT HOLE TO ACCOMMODATE 4" WRISTBLADE HANDLE. PROVIDE WITH TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD LFe480 SERIES, 0.5 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.6 GPM AT 10 psi DROP.
FAUCET: CHICAGO #1102-GN8AE35-317AB, GOOSENECK, TEMPERED AND COLD WATER, 4" WRIST BLADE HANDLES, 1.5 GPM AERATOR, SIDE SPRAY.

SS
SERVICE SINK: FIAT #MSB-2424, ONE-PIECE MOLDED STONE WITH #832-AA HOSE AND HOSE BRACKET, #E-77-AA VINYL BUMPER GUARD, MSG-2424 STAINLESS STEEL WALL GUARD.
FAUCET: MOEN #8230 SERVICE SINK FAUCET WITH VACUUM BREAKER, THREADED SPOUT, SERVICE STOPS AND WALL BRACKET.

EWCHBF
ELECTRIC WATER COOLER WITH BOTTLE FILLER (ADA): ELKAY #LVRCGRNTL8WSK, HIGH EFFICIENCY, FILTERED, SENSOR ACTIVATED BOTTLE FILLING STATION, VANDAL RESISTANT, TWO (2) STATION, VANDAL RESISTANT PUSH BUTTON IN FRONT, VANDAL RESISTANT BUBBLERS, STAINLESS STEEL FINISH, and CANE APRON. 120V-1PH.

EWCHBF1
ELECTRIC WATER COOLER: ELKAY #LVRCGRN8WSKC, HIGH EFFICIENCY, FILTERED, SENSOR ACTIVATED BOTTLE FILLING STATION, VANDAL RESISTANT, ONE (1) STATION, VANDAL RESISTANT PUSH BUTTON IN FRONT, VANDAL RESISTANT BUBBLERS, STAINLESS STEEL FINISH, and CANE APRON. 120V-1PH.

WM
WASHING MACHINE SUPPLY AND DRAIN: GUY GRAY 20 GAUGE POWDER COATED BOX AND FACEPLATE, 2" DRAIN PIPE, TOP OR BOTTOM SUPPLY, 1/4 TURN BALL VALVES AND WATER HAMMER ARRESTERS.

WB
WALL BOX FOR CONNECTION TO REFRIGERATOR WATER AND/OR ICE MAKER EQUAL TO SOUIX CHIEF 696 SERIES WITH ABS OUTLET BOX, 1/4 TURN VALVE AND ASSE 1010 WATER HAMMER ARRESTOR.

HWRP
HOT WATER RECIRCULATION PUMP: GRUNDFOS UPS15-55, THREE SPEED, 4 GPM AT TEN FEET (10') OF HEAD. 1/12 HP-120V-1PH.

WH-E1, H1
WATER HEATER: A.O.SMITH MODEL DEN-40, 40 GALLON STORAGE, 6KW-208V-1PH NON-SIMULTANEOUS ELEMENTS, 31 GPH RECOVERY AT 80 DEGREES RISE.

WH-H2
WATER HEATER: A.O.SMITH MODEL MXiBTH199, 95%, 100 GALLON STORAGE, 199 MBH INPUT, 288 GPH RECOVERY AT 80° F. RISE, LO NOX, POWERED DIRECT VENT AND INTAKE WITH 3" PVC VENT MATERIALS. VENT THRU ROOF OR SIDEWALL WITH CONCENTRIC VENT ASSEMBLY.

HB
HOSE BIBB: WOODFORD MODEL B67 SERIES, IN FLUSH MOUNTING WALL BOX, ASSE 1052 OR 1011 BACKFLOW PROTECTED AUTOMATIC DRAINING, FREEZELESS, NO SPRAYBACK. PROVIDE SHUT-OFF VALVE INSIDE BUILDING IN ACCESSIBLE LOCATION. SLOPE LINE FROM SHUT-OFF VALVE TO WALL HYDRANT TO ALLOW DRAINING OF LINE FOR FREEZE PROTECTION.

TMV
TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD LFG480 SERIES, 0.25 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.2 GPM AT 10 psi DROP.

FD
FLOOR DRAIN (GENERAL PURPOSE): C.I. BODY, FLASHING COLLAR, WEEPHOLES, ADJUSTABLE HEAVY DUTY STAINLESS STEEL OR NICKEL BRONZE ROUND TOP (6" DIAMETER) AND STAINLESS STEEL SEDIMENT BASKET. MIFAB F1000-C-3-5-6-7 SERIES.

FD7
FLOOR DRAIN (KITCHEN): C.I. BODY, FLASHING COLLAR, WEEPHOLES, SECURED AND ADJUSTABLE STAINLESS STEEL OR NICKEL BRONZE SQUARE TOP (6" x 6") MINIMUM WITH COPPER SEDIMENT BASKET. TOP SIZE TO MATCH TILE SIZE AS CLOSE AS POSSIBLE, VERIFY TOP SIZE. MIFAB F1100 CS-3-5 SERIES.

FD8
KETTLE DRAIN: C.I. BODY, WEEPHOLES, FLASHING COLLAR, ADJUSTABLE SATIN NICKEL BRONZE STRAINER (7" DIAMETER) 4" DIAMETER FUNNEL EXTENSION. MIFAB F1100 C N7-F4 SERIES.

FS
FLOOR SINK: 12" x 12" x 6" DEEP WITH ACID-RESISTING PORCELAIN ENAMEL INTERIOR, ALUMINUM INTERNAL DOME STRAINER, and STAINLESS STEEL GRATE (1/2 GRATE TYPE). MIFAB FS1720-3 SERIES.

PLUMBING LEGEND

SYMBOL	ABB.	DESCRIPTION
—— CW ——	CW	COLD WATER PIPING
—— HW ——	HW	HOT WATER PIPING
—— HWR ——	HWR	HOT WATER RETURN PIPING
—— WW ——	WW	WASTE WATER
— — — —		VENT PIPING
— T —		TEMPERED WATER
— G —		GAS PIPING
— F —		FIRE LINE
— GT —		GREASE TRAP LINE
— A —		COMPRESSED AIR PIPING
— D —		RELIEF OR CONDENSATE DRAIN PIPING
— SD —	SD	STORM DRAIN
— RL —	RL	RAIN LEADER
— ORL —	ORL	OVERFLOW RAIN LEADER
		FULL PORT BALL PIPE ISOLATION VALVE
	HB	HOSE BIBB/WALL HYDRANT
		UNION
	FD/FS	FLOOR DRAIN/FLOOR SINK
	HD	HUB DRAIN
	CO	CLEAN OUT
		DOUBLE CLEAN OUT
	WCO	WALL CLEAN OUT
		GAS COCK
		BALANCE VALVE
SW		CHECK VALVE
		POINT OF CONNECTION
		GAS PRESSURE REGULATOR

M/P ABBREVIATION SCHEDULE

AD	ACCESS DOOR	MAINT	MAINTENANCE
ABV	ABOVE	MAU	MAKEUP AIR UNIT
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
ARCH	ARCHITECT	MC	MECHANICAL CONTRACTOR
AUTO	AUTOMATIC	MBH	1000 BTU PER HOUR
AUX	AUXILIARY	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MH	MANHOLE
		MIN	MINIMUM
BD	BALANCE DAMPER	MISC	MISCELLANEOUS
BFF	BELOW FINISHED FLOOR	MTD	MOUNTED
BLDG	BUILDING	MOD	MOTOR OPERATED DAMPER
BOD	BOTTOM OF DUCT		
BOP	BOTTOM OF PIPE		
BF	BOOSTER FAN	NIC	NOT IN CONTRACT
		N.O.	NORMALLY OPEN
CLG	CEILING	N.C.	NORMALLY CLOSED
CLR	CLEAR/CLEARANCE	NO.	NUMBER
CO	CLEANOUT	NTS	NOT TO SCALE
COL	COLUMN		
CONC	CONCRETE	O/A	OUTDOOR AIR
CONTR	CONTRACTOR	OBD	OPPOSED BLADE DAMPER
CW	COLD WATER	OC	ON CENTER(S)
CONN	CONNECTION	OPNG	OPENING
CU	CONDENSING UNIT	ORL	OVERFLOW RAINLEADER
C	CONDENSATE	OAH	OUTSIDE AIR HOOD
CHS	CHILLED WATER SUPPLY		
CHR	CHILLED WATER RETURN	PC	PLUMBING CONTRACTOR
		PH	PHASE
DIA	DIAMETER	PLBG	PLUMBING
DN	DOWN		
DWG	DRAWING	R/A	RETURN AIR
DH	DUCT HEATER	RE:	REFERENCE/REFER TO
		REFRIG	REFRIGERANT
E/A	EXHAUST AIR	REF	REFRIGERATOR
EC	ELECTRICAL CONTRACTOR	REQD	REQUIRED
EF	EXHAUST FAN	RHP	RADIANT HEAT PANEL
ELEC	ELECTRIC/ELECTRICAL	RL	RAINLEADER
EQ	EQUAL	RM	ROOM
EQUIP	EQUIPMENT	RTU	ROOFTOP UNIT
EX	EXISTING		
EXH	EXHAUST	S/A	SUPPLY AIR
E.S.P.	EXTERNAL STATIC PRESSURE	SCH	SCHEDULE
ERV	ENERGY RECOVERY VENTILATOR	SP	STATIC PRESSURE
		SPEC	SPECIFICATION
FCO	FLOOR CLEAN OUT	SD	STORM DRAIN
FCU	FAN COIL UNIT	SF	SUPPLY FAN
FF	FINISHED FLOOR		
FLEX	FLEXIBLE	TSP	TOTAL STATIC PRESSURE
FLR	FLOOR/FLOORING	TYP	TYPICAL
		UON	UNLESS OTHERWISE NOTED
GA	GAUGE	UG	UNDERGROUND
GC	GENERAL CONTRACTOR	UH	UNIT HEATER
GEN	GENERAL		
GYP	GYPSUM BOARD	V	VENT (PLUMBING)
		V	VOLTAGE (ELECTRICAL)
HP	HEAT PUMP	VTR	VENT THROUGH ROOF
Hp	HORSEPOWER		
HT	HEIGHT	W/	WITH
HW	HOT WATER	W/O	WITHOUT
HWC	HOT WATER CIRC	WP	WATERPROOF
HR	HOUR	WT	WEIGHT
HWR	HEATING WATER RETURN	WTR	WATER
HWS	HEATING WATER SUPPLY	WW	WASTE WATER
		WCO	WALL CLEANOUT
LOC	LOCATION	WH	WATER HEATER

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REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

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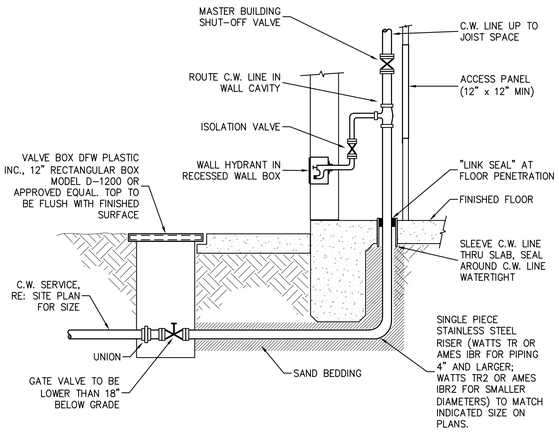
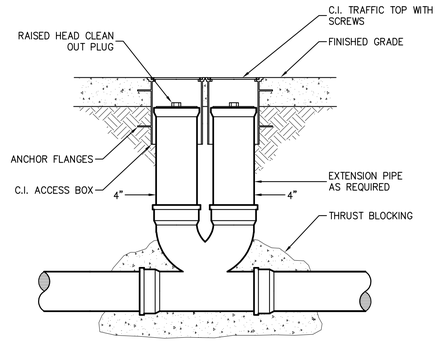


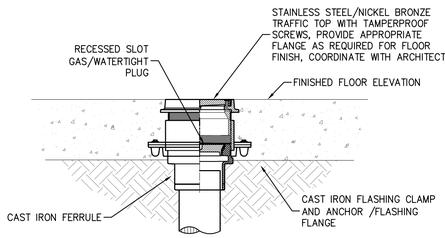
C.W. BUILDING ENTRY DETAIL

NO SCALE PDE52



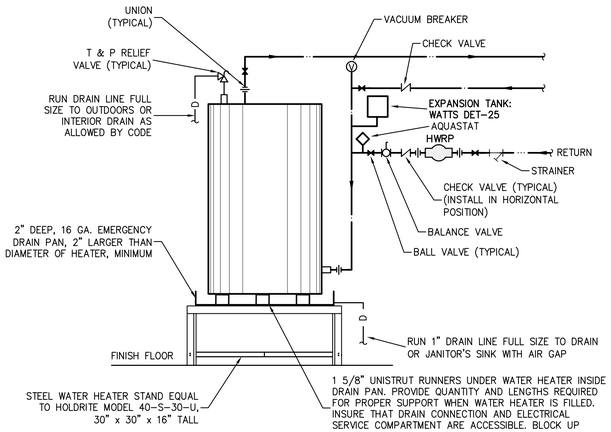
DOUBLE CLEANOUT DETAIL

NO SCALE PDE43



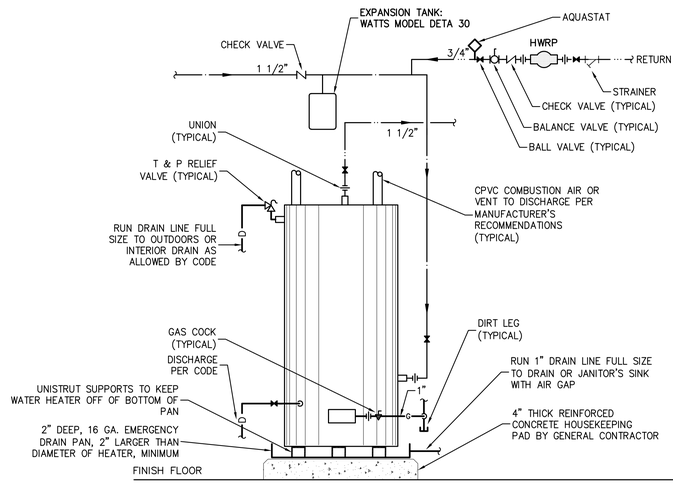
INTERIOR FLOOR CLEANOUT

NO SCALE PDE55



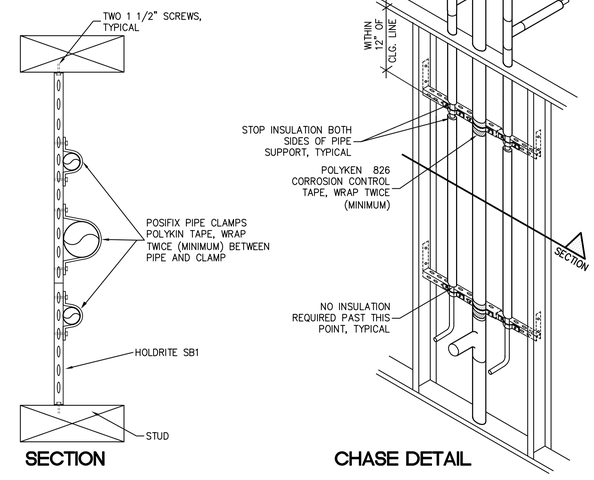
WATER HEATER DETAIL

NO SCALE PDE81



WATER HEATER PIPING DIAGRAM

NO SCALE pde113

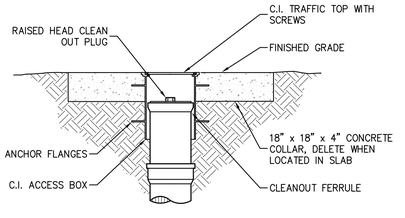


SECTION

CHASE DETAIL

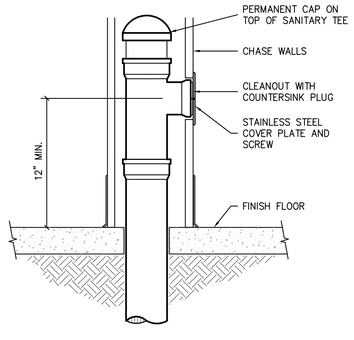
TYP. PLUMBING CHASE SUPPORT DETAIL

NO SCALE PDE30



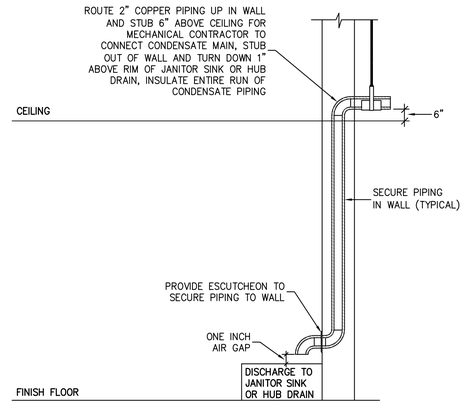
EXTERIOR CLEANOUT

NO SCALE PDE88



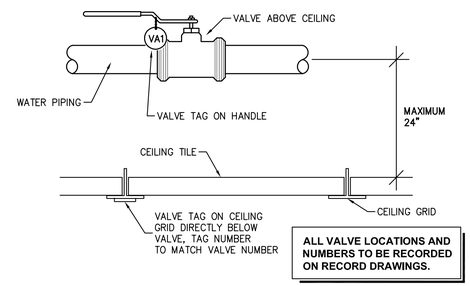
WALL CLEANOUT

NO SCALE PDE89



TYPICAL CONDENSATE STUB DETAIL

SCALE: NONE PDE37



ALL VALVE LOCATIONS AND NUMBERS TO BE RECORDED ON RECORD DRAWINGS.

TYPICAL VALVE IDENTIFICATION DETAIL

SCALE: NO SCALE PDE27

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HCE HENDRIX CONSULTING ENGINEERS

F - 4095

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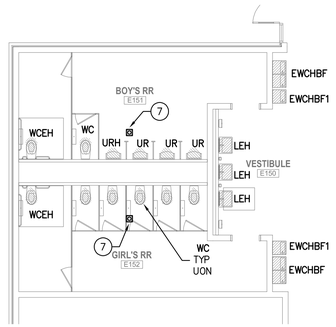
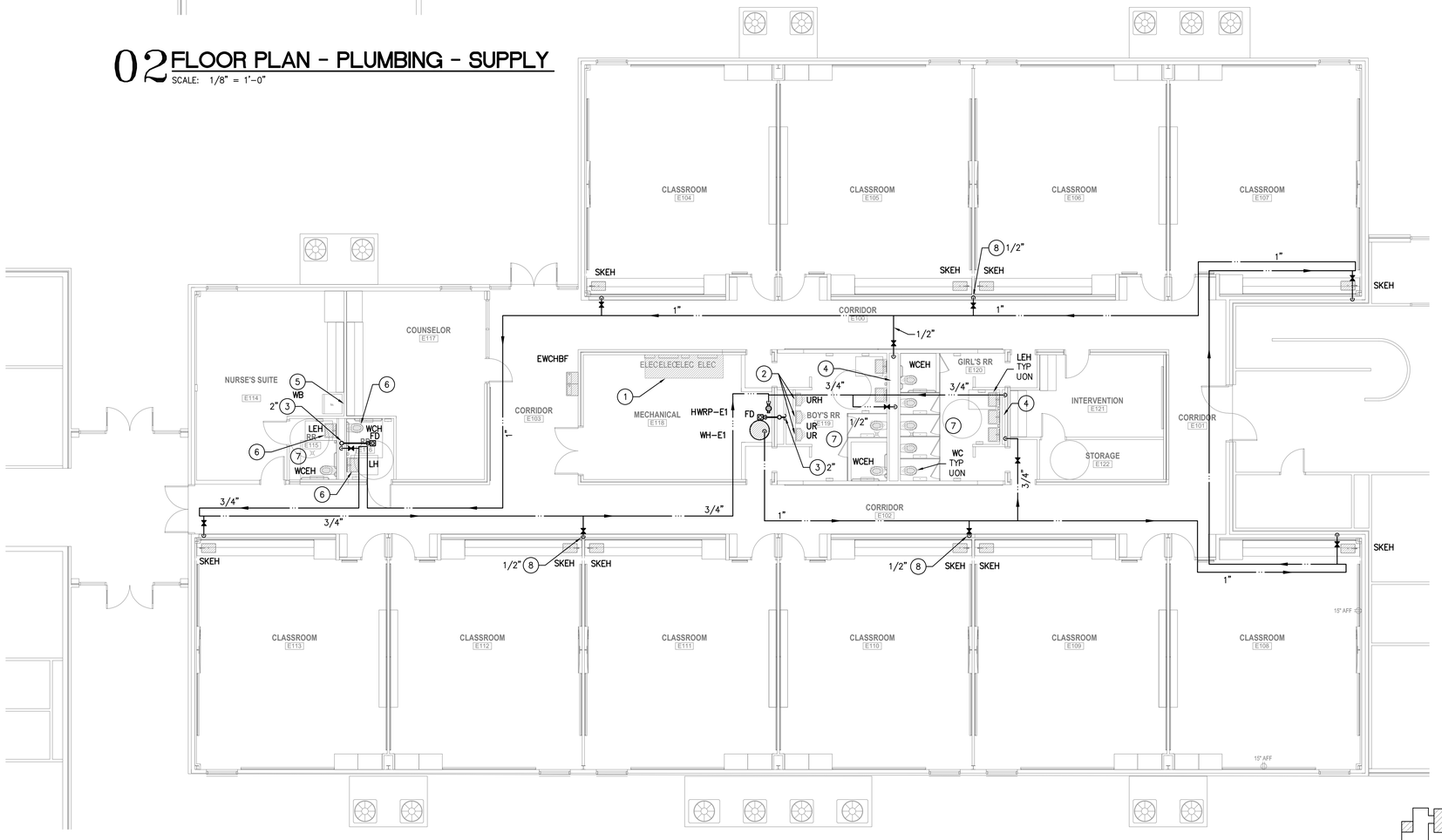
DETAILS - PLUMBING P1.02



02 FLOOR PLAN - PLUMBING - SUPPLY

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



01 ELEMENTARY FLOOR PLAN - PLUMBING

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

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. DO NOT ROUTE ANY PIPING ABOVE THIS AREA.
2. APPROXIMATE LOCATION OF EXISTING FLOOR MOUNTED URINAL TO BE REMOVED. EXTEND UTILITIES AS REQUIRED TO NEW URINAL LOCATIONS. PROVIDE ALL ADAPTERS, TRANSITIONS, ETC AS REQUIRED FOR NEW URINALS.
3. CONNECT NEW WASTE WATER (WW) TO EXISTING WW BELOW FINISHED FLOOR. FIELD VERIFY EXACT LOCATION AND INVERT OF EXISTING WW. DOCUMENT NEW AND EXISTING UTILITIES ON RECORD DRAWINGS.
4. ROUTE HW DOWN ON ONE SIDE OF LAVATORIES, BACK UP ON OTHER SIDE OF LAVATORIES AND RECONNECT TO HW RECIRC MAIN. (THIS IS DONE TO MEET MAXIMUM LENGTHS PER IECC).
5. CONNECT NEW COLD WATER (CW) TO EXISTING IN ADJACENT CHASE. FIELD VERIFY EXACT LOCATIONS.
6. NEW PLUMBING FIXTURE IN NEW LOCATION. CONNECT NEW FIXTURES TO EXISTING UTILITIES. PROVIDE ALL EXTENSIONS, ADAPTERS, ETC AS REQUIRED. PROVIDE NEW SHUT-OFF VALVES AND SUPPLY HOSES.
7. EXISTING FLOOR DRAIN IN ROOM TO REMAIN. FIELD VERIFY EXACT LOCATION.
8. HOT WATER (HW) DOWN IN WALL TO SERVE TWO (2) SINKS.

PLUMBING NOTE:
UNLESS OTHERWISE NOTED, ALL FIXTURES SHOWN ON THIS PLAN ARE EXISTING TO BE REMOVED AND REPLACED WITH NEW IN THE SAME LOCATION. CONTRACTOR TO CONNECT NEW FIXTURES TO EXISTING UTILITIES. PROVIDE ALL EXTENSIONS, ADAPTERS, ETC AS REQUIRED. PROVIDE NEW SHUT-OFF VALVES AND SUPPLY HOSES.

KEYPLAN

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HENDRIX CONSULTING ENGINEERS

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ELEMENTARY FLOOR PLAN - PLUMBING P2.01

PIPE SIZING REQUIREMENTS

1. ALL FLOOR DRAINS AND FLOOR SINKS MUST HAVE TRAP PRIMERS. PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IN JURISDICTIONS WHERE PRESSURE ACTIVATED MECHANICAL PRIMERS ARE NOT ALLOWED, USE ELECTRONIC TRAP PRIMERS. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROSET "TRAP GUARD" DEVICE MAY BE USED IN LIEU OF TRAP PRIMERS WHEN ALLOWED BY LOCAL CODE AUTHORITY HAVING JURISDICTION. BEFORE USING PROSET "TRAP GUARD" CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM LOCAL CODE AUTHORITY HAVING JURISDICTION AND PROVIDE COPIES TO ARCHITECT AND ENGINEER.

2. AT ALL PUBLIC LAVATORIES A HOT WATER MANIFOLD WILL BE ROUTED PARALLEL TO HOT WATER RECIRC MAIN DOWN FULL SIZE INTO ONE SIDE OF CHASE AND WILL BE CONNECTED BACK TO HOT WATER RECIRC MAIN OUT OF OPPOSITE SIDE OF CHASE TO COMPLY WITH INTERNATIONAL ENERGY CODE (IECC) MAXIMUM ALLOWABLE HOT WATER PIPING LENGTH FROM MANIFOLD. (TAP SIZE: FOR 3/8", PIPING MAXIMUM LENGTH = 3 FEET; FOR 1/2" MAXIMUM LENGTH = 2 FEET)

3. PIPING SIZE FOR WATER MAIN DROPS AND MANIFOLD IN CHASE OR WALL TO REMAIN FULL SIZE OF DROP INDICATED. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL LINE SIZE TO EACH FIXTURE.

4. COORDINATE ALL WASTEWATER FLOOR PENETRATIONS AND PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO INSTALLATION. PIPING MAY BE OFFSET SLIGHTLY TO AVOID STRUCTURAL CONFLICTS.

5. ROUTE VENT FROM EACH FIXTURE TO HORIZONTAL VENT HEADER IN CHASE/WALL OR TO NEAREST COMMON VTR ABOVE CEILING. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL FIXTURE VENT SIZES. VENT HEADERS IN CHASE TO BE SIZED ACCORDINGLY: 1 1/2" VENT UP TO 6 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 60 FEET (EXCEPT FOR WATER CLOSETS), 2" VENT UP TO 20 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 120 FEET, 3" VENT UP TO 84 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 212 FEET AND 4" VENT UP TO 256 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 300 FEET. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH ARE TO BE INCREASED BY ONE PIPE SIZE. NO MORE THAN 1/3 OF THE CODE PERMITTED DEVELOPED LENGTH SHALL BE IN HORIZONTAL POSITION. EXTEND COMMON VENT UP THROUGH ROOF.

6. ROUTE ALL VENTS TO NEAREST COMMON VENT THRU ROOF (VTR) TO MINIMIZE ROOF PENETRATIONS. **VTR TO BE MINIMUM 15 FEET AWAY FROM OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.**

FIXTURE CONNECTION SCHEDULE

MARK	CW	HW	WASTE	DRAIN FIXTURE UNITS	VENT	
WATER CLOSET (FLUSH VALVE)	1"	–	4"	6	2"	
WATER CLOSET (TANK TYPE)	1/2"	–	4"	4	2"	
URINAL	3/4"	–	2"	2	2"	
PUBLIC LAVATORY∗	3/8"	3/8"	2"	1	1 1/2" ∗∗	
SINK ∗∗∗	1/2"	1/2"	2"	2	1 1/2" ∗∗	
SERVICE SINK	3/4"	3/4"	3"	2	2"	
WASH FOUNTAIN ∗	1/2"	1/2"	2"	2	1 1/2" ∗∗	
EWC	1/2"	–	2"	1	1 1/2" ∗∗	
WASHING MACHINE	3/4"	3/4"	2"	2	2"	
HOSE BIBB	3/4"	–	–	–	–	
SHOWER ∗∗∗∗	1/2"	1/2"	3"	2	1 1/2"	
FLOOR DRAIN	–	–	3"	2	2"	

∗ HOT AND COLD WATER REQUIRED UNLESS NOTED OTHERWISE ON PLUMBING FIXTURE SCHEDULE. PROVIDE TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

∗∗ IF HORIZONTAL VENT LENGTH EXCEEDS 20 FEET, INCREASE VENT SIZE TO TWO INCHES.

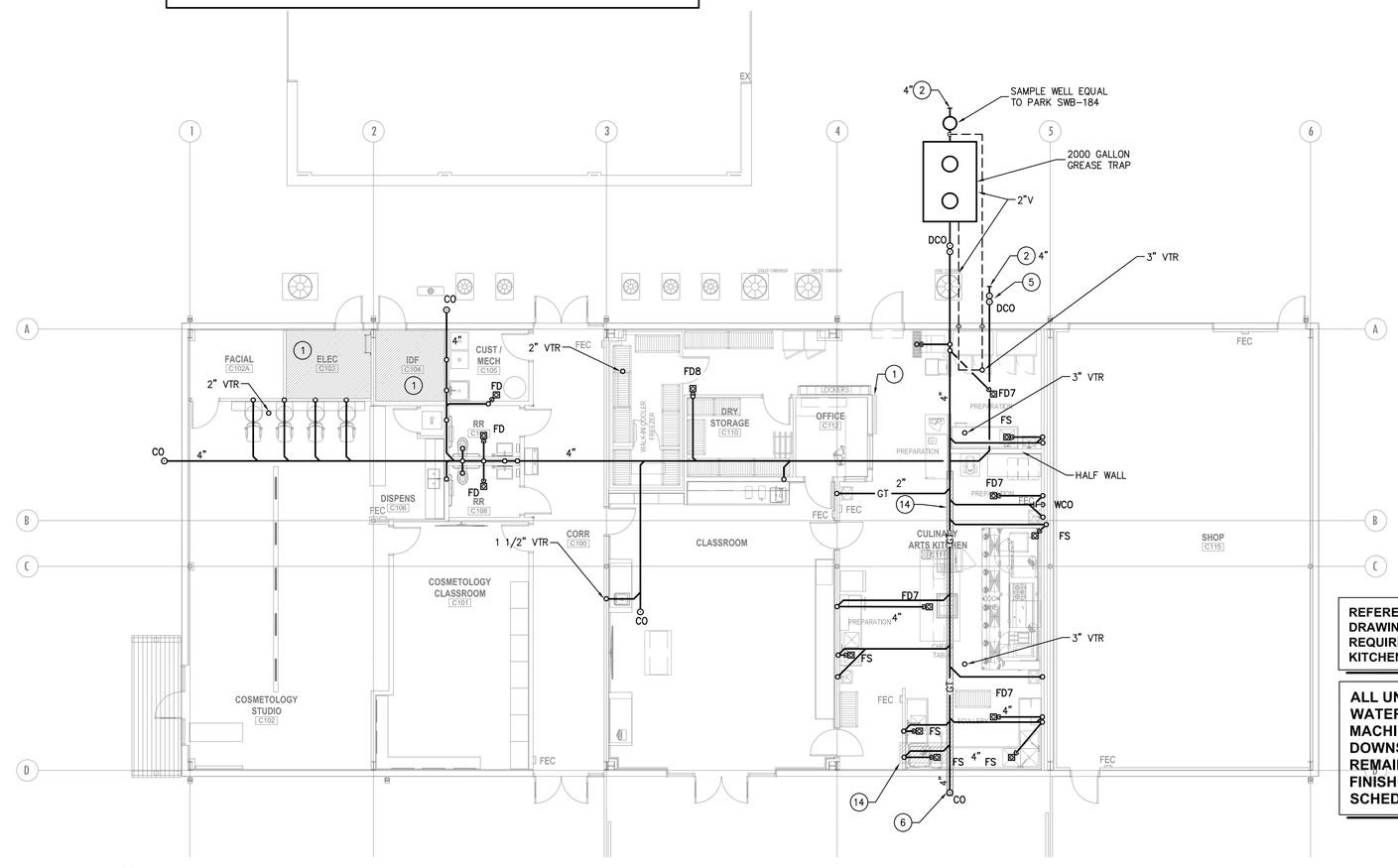
∗∗∗ COMMERCIAL KITCHEN SINKS GET HOT WATER, REMAINDER TO BE PROVIDED WITH TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

∗∗∗∗ SHOWER VALVES TO BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC CONFORMING TO ASSE 1016.

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. DO NOT ROUTE ANY PIPING ABOVE THIS AREA.
2. CONNECT TO WASTEWATER (WW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION AND INVERT. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.
3. CONNECT TO COLD WATER (CW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.
4. RE: CW BUILDING ENTRY DETAIL ON PLUMBING DETAIL SHEET(S).
5. RE: DOUBLE CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).
6. RE: EXTERIOR CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).
7. RE: INTERIOR CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).
8. RE: WATER HEATER DETAIL ON PLUMBING DETAIL SHEET(S) FOR WATER HEATER AND HOT WATER RECIRCULATION PUMP PIPING.
9. RE: TYPICAL CONDENSATE STUB DETAIL ON PLUMBING DETAIL SHEET(S).
10. ROUTE HW DOWN ON ONE SIDE OF LAVATORIES, BACK UP ON OTHER SIDE OF LAVATORIES AND RECONNECT TO HW RESURC MAIN. (THIS IS DONE TO MEET MAXIMUM LENGTHS PER IECC).
11. CW DOWN TO IN-LINE RPZ BACKFLOW PREVENTOR ON WALL IN ACCESSIBLE LOCATION. COORDINATE EXACT LOCATION WITH ARCHITECT AND EQUIPMENT. ROUTE RELIEF FROM RPZ TO FLOOR SINK FOR ICEMAKER.
12. CONNECT TO FIRE LINE (F) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION AND INVERT.
13. RE: FIRE LINE RISER SUPPORT DETAIL ON PLUMBING DETAIL SHEET(S).
14. HATCHED AREA INDICATES PIPING WHICH MUST BE CAST IRON.



01 FLOOR PLAN - PLUMBING - WASTE

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

REFERENCE KITCHEN CONSULTANT DRAWINGS (FS SERIES) FOR ADDITIONAL REQUIREMENTS IN CULINARY ARTS KITCHEN C111 AND CLASS ROOM C113.

ALL UNDERGROUND WASTE WATER PIPING FROM DISH MACHINE TO A POINT 30' DOWNSTREAM TO BE CAST IRON. REMAINDER OF PIPING BELOW FINISHED FLOOR MAY BE SCHEDULE 40PVC.

KEYPLAN

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CAREER CENTER FLOOR PLAN - PLUMBING P2.02

GAS PIPING GENERAL NOTES

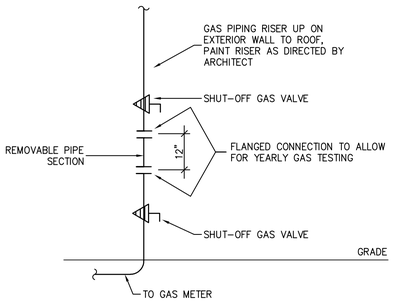
A. SUPPORT ALL GAS PIPING ON ROOF WITH PIPE STANDS/ROLLER EQUAL TO MIRO INDUSTRIES MODEL 4-RAH-PC OR PORTABLE PIPE HANGERS, INC. (PPH), TYPE PP10 WITH ROLLER. FOR PIPING 2-1/2", UP TO AND INCLUDING 8" USE MIRO INDUSTRIES MODEL 6-RAH-PC OR PORTABLE PIPE HANGER, INC. (PPH) TYPE PS-1-2. ALL PIPE STANDS TO SIT ON WALKBOARD (COORDINATE TYPE AND METHODS OF SUPPORT WITH ROOFING CONTRACTOR). WALK BOARD TO BE A MINIMUM OF 3" LARGER ON EACH SIDE THAN SUPPORT. PROVIDE MINIMUM PIPE HEIGHT ABOVE ROOF DECK AS REQUIRED BY JURISDICTION HAVING AUTHORITY (AT LEAST 6"). PROVIDE SUPPORTS FOR PIPING UNDER 2" AT SIX FEET ON CENTER. PROVIDE SUPPORTS FOR PIPING 2" AND OVER AT EIGHT FEET ON CENTER.

B. ROUTE PIPING DOWN A MINIMUM OF TWELVE INCHES (12") UNDERGROUND AND STUB UP FOR NEW GAS METER TO BE INSTALLED BY LOCAL GAS COMPANY. VERIFY GAS SERVICE LOCATION WITH CIVIL DRAWINGS AND LOCAL GAS COMPANY BEFORE INSTALLATION OF GAS PIPING. PAINT GAS RISER ON BUILDING TO MATCH BUILDING EXTERIOR. PIPING UNDERGROUND TO BE WRAPPED FOR PROTECTION.

D. PROTECT ROOF DURING INSTALLATION. PURGE ALL GAS PIPING WITH 100 PSI COMPRESSED AIR OR DRY NITROGEN FROM END OF RUN(S) BACK TO BUILDING CONNECTION WITH ALL EQUIPMENT SHUT OFF AND VALVES CLOSED TO PROTECT REGULATORS/GAS VALVES. FINAL PRESSURE TEST PIPING USING COMPRESSED AIR AT 60 PSI. SOAP ALL JOINTS. LINE SIZE FROM REGULATOR TO EQUIPMENT IS TO MATCH EQUIPMENT INLET CONNECTION SIZE. TRANSITION RIGHT AT REGULATOR. PRIME AND PAINT ALL THE EXPOSED GAS PIPING, COLOR AS SELECTED BY ARCHITECT.

E. GAS PIPING FROM REGULATOR TO EQUIPMENT TO BE THE SAME SIZE AS THE UNIT CONNECTION SIZE.

F. GAS LOAD IN MBH LISTED FOR EQUIPMENT OR PIPE SEGMENT IS USED FOR PIPE SIZING. VERIFY ACTUAL FINAL LOADS WITH EQUIPMENT BEING PROVIDED. NOTIFY ENGINEER OF ANY DISCREPANCIES WITH ACTUAL EQUIPMENT LOADS AND DESIGNED LOADS.



GAS RISER TEST CONNECTION

NO SCALE PDE19A

PIPE SIZING REQUIREMENTS

1. ALL FLOOR DRAINS AND FLOOR SINKS MUST HAVE TRAP PRIMERS. PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IN JURISDICTIONS WHERE PRESSURE ACTIVATED MECHANICAL PRIMERS ARE NOT ALLOWED, USE ELECTRONIC TRAP PRIMERS. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROSET "TRAP GUARD" DEVICE MAY BE USED IN LIEU OF TRAP PRIMERS WHEN ALLOWED BY LOCAL CODE AUTHORITY HAVING JURISDICTION. BEFORE USING PROSET "TRAP GUARD" CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM LOCAL CODE AUTHORITY HAVING JURISDICTION AND PROVIDE COPIES TO ARCHITECT AND ENGINEER.
2. AT ALL PUBLIC LAVATORIES A HOT WATER MANIFOLD WILL BE ROUTED PARALLEL TO HOT WATER RECIRC MAIN DOWN FULL SIZE INTO ONE SIDE OF CHASE AND WILL BE CONNECTED BACK TO HOT WATER RECIRC MAIN OUT OF OPPOSITE SIDE OF CHASE TO COMPLY WITH INTERNATIONAL ENERGY CODE (IECC) MAXIMUM ALLOWABLE HOT WATER PIPING LENGTH FROM MANIFOLD. (TAP SIZE: FOR 3/8", PIPING MAXIMUM LENGTH = 3 FEET; FOR 1/2" MAXIMUM LENGTH = 2 FEET)
3. PIPING SIZE FOR WATER MAIN DROPS AND MANIFOLD IN CHASE OR WALL TO REMAIN FULL SIZE OF DROP INDICATED. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL LINE SIZE TO EACH FIXTURE.
4. COORDINATE ALL WASTEWATER FLOOR PENETRATIONS AND PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO INSTALLATION. PIPING MAY BE OFFSET SLIGHTLY TO AVOID STRUCTURAL CONFLICTS.
5. ROUTE VENT FROM EACH FIXTURE TO HORIZONTAL VENT HEADER IN CHASE/WALL OR TO NEAREST COMMON VTR ABOVE CEILING. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL FIXTURE VENT SIZES. VENT HEADERS IN CHASE TO BE SIZED ACCORDINGLY: 1 1/2" VENT UP TO 6 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 60 FEET (EXCEPT FOR WATER CLOSETS), 2" VENT UP TO 20 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 120 FEET, 3" VENT UP TO 84 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 212 FEET AND 4" VENT UP TO 256 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 300 FEET. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH ARE TO BE INCREASED BY ONE PIPE SIZE. NO MORE THAN 1/3 OF THE CODE PERMITTED DEVELOPED LENGTH SHALL BE IN HORIZONTAL POSITION. EXTEND COMMON VENT UP THROUGH ROOF.
6. ROUTE ALL VENTS TO NEAREST COMMON VENT THRU ROOF (VTR) TO MINIMIZE ROOF PENETRATIONS. **VTR TO BE MINIMUM 15 FEET AWAY FROM OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.**

FIXTURE CONNECTION SCHEDULE

MARK	CW	HW	WASTE	DRAIN FIXTURE UNITS	VENT	
WATER CLOSET (FLUSH VALVE)	1"	–	4"	6	2"	
WATER CLOSET (TANK TYPE)	1/2"	–	4"	4	2"	
URINAL	3/4"	–	2"	2	2"	
PUBLIC LAVATORY∗	3/8"	3/8"	2"	1	1 1/2" ∗∗	
SINK ∗∗∗	1/2"	1/2"	2"	2	1 1/2" ∗∗	
SERVICE SINK	3/4"	3/4"	3"	2	2"	
WASH FOUNTAIN ∗	1/2"	1/2"	2"	2	1 1/2" ∗∗	
EWC	1/2"	–	2"	1	1 1/2" ∗∗	
WASHING MACHINE	3/4"	3/4"	2"	2	2"	
HOSE BIBB	3/4"	–	–	–	–	
SHOWER ∗∗∗∗	1/2"	1/2"	3"	2	1 1/2"	
FLOOR DRAIN	–	–	3"	2	2"	

∗ HOT AND COLD WATER REQUIRED UNLESS NOTED OTHERWISE ON PLUMBING FIXTURE SCHEDULE. PROVIDE TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

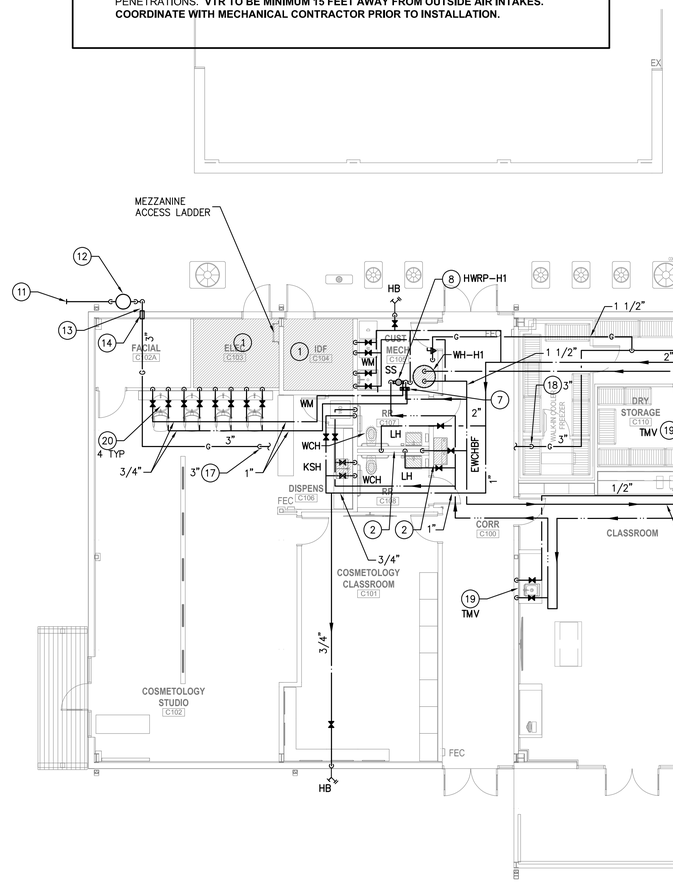
∗∗ IF HORIZONTAL VENT LENGTH EXCEEDS 20 FEET, INCREASE VENT SIZE TO TWO INCHES.

∗∗∗ COMMERCIAL KITCHEN SINKS GET HOT WATER, REMAINDER TO BE PROVIDED WITH TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

∗∗∗∗ SHOWER VALVES TO BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC CONFORMING TO ASSE 1016.

GAS DEMAND (LOW PRESSURE (oz) AT BUILDING)

APPROXIMATE DEMAND = 2014 MBH.
APPROXIMATE TOTAL DEVELOPED LENGTH FROM REGULATOR TO MOST REMOTE OUTLET = 200 FEET.



KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. DO NOT ROUTE ANY PIPING ABOVE THIS AREA.
2. ROUTE HW DOWN ON ONE SIDE OF LAVATORIES, BACK UP ON OTHER SIDE OF LAVATORIES AND RECONNECT TO HW RECIRC MAIN. (THIS IS DONE TO MEET MAXIMUM LENGTHS PER IECC).
3. CONNECT TO COLD WATER (CW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.
4. RE: CW BUILDING ENTRY DETAIL ON PLUMBING DETAIL SHEET(S).
5. CW DOWN TO IN-LINE RPZ BACKFLOW PREVENTOR ON WALL IN ACCESSIBLE LOCATION. COORDINATE EXACT LOCATION WITH ARCHITECT AND EQUIPMENT. ROUTE RELIEF FROM RPZ TO FLOOR SINK FOR ICEMAKER.
6. RE: WATER HEATER DETAIL ON PLUMBING DETAIL SHEET(S) FOR WATER HEATER AND HOT WATER RECIRCULATION PUMP PIPING.
7. TWO (2) RPZ'S, ONE FOR HOT WATER AND ONE FOR COLD WATER TO SERVE SALON HAIR WASHING STATIONS. ROUTE RELIEF TO NEAREST FLOOR DRAIN OR SERVICE SINK. COORDINATE LOCATION WITH HOT WATER RECIRCULATION PUMP (HWRP).
8. HOT WATER RECIRCULATION PUMP (HWRP) TO BE INSTALLED ABOVE RPZ'S. COORDINATE EXACT LOCATIONS.
9. COLD WATER DOWN IN WALL TO SERVE STEAMERS UNDER HOOD. RE: FOOD SERVICE DRAWINGS (FS) FOR ADDITIONAL INFORMATION.
10. LOW PRESSURE GAS DOWN TO SERVE FIXTURES UNDER HOOD. ROUTE 2" HEADER TO SERVE ALL EQUIPMENT.
11. GAS TO CONNECT TO STUB PROVIDED BY CIVIL.
12. REGULATOR TO LOW PRESSURE (oz). PROVIDE SHUT-OFF VALVE BEFORE REGULATOR. ROUTE PIPING AFTER REGULATOR DOWN BELOW GRADE AND BACK UP TO RUN ON TOP OF CANOPY.
13. PROVIDE SHUT-OFF VALVES AND TEST CONNECTION IN RISER. PER DETAIL ON THIS SHEET.
14. LOW PRESSURE GAS TO PENETRATE SIDEWALL ABOVE CEILING AND ENTER BUILDING. PROVIDE SLEEVE AND SEAL PENETRATION WATERTIGHT. SLOPE PIPE AWAY FROM BUILDING AT PENETRATION.
15. EXPOSED PIPING IN ROOM TO BE INSULATED AND JACKETED WITH UV RESISTANT PVC JACKET PER INSULATION SPECIFICATION SECTION 20 07 00 , 2.02 , A , 2.
16. PROVIDE TWO (2) 2" STUBS WITH VALVES FOR FUTURE OWNER PROVIDED WATER SOFTENER / CONDITIONER. PROVIDE 2" VALVE BETWEEN STUBS FOR BYPASS.
17. GAS TO RISE ABOVE MEZZANINE.
18. GAS TO DROP BACK DOWN FROM MEZZANINE LEVEL.
19. PROVIDE THERMOSTATIC MIXING VALVE AT SINK.
20. HOT AND COLD WATER DOWN IN WALL TO SERVE HAIR WASHING STATIONS. VERIFY EXACT LOCATIONS AND CONNECTIONS WITH EQUIPMENT. THESE ARE PROTECTED BY RPZ IN CUST / MECH.
21. **ALL PIPING AROUND MAU-1 TO ALLOW FOR MANUFACTURERS ACCESS REQUIREMENTS FOR UNIT. COORDINATE WITH MECHANICAL CONTRACTOR.**

REFERENCE KITCHEN CONSULTANT DRAWINGS (FS SERIES) FOR ADDITIONAL REQUIREMENTS IN CULINARY ARTS KITCHEN, C111 AND C113.

KEYPLAN

01 FLOOR PLAN - PLUMBING -SUPPLY

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

CAREER CENTER FLOOR PLAN - PLUMBING - SUPPLY P2.03

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO: 94813 ON: 04/04/2019

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

Date:
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Sheet Number

AIR DEVICE SCHEDULE

PDSCH

MARK	NECK SIZE	FRAME SIZE	FRAME TYPE	VOLUME DAMPER	SUPPLY	RETURN	EXHAUST	MODEL	FLEX SIZE	MAXIMUM CFM
A1	9 x 9	24 x 24	LAY–IN	–	●	–	–	PRICE MODEL SMD	6"ø	100
A2	12 x 12	24 x 24	LAY–IN	–	●	–	–	PRICE MODEL SMD	8"ø	220
A3	12 x 12	24 x 24	LAY–IN	–	●	–	–	PRICE MODEL SMD	10"ø	350
A4	15 x 15	24 x 24	LAY–IN	–	●	–	–	PRICE MODEL SMD	12"ø	600
A5	18 x 18	24 x 24	LAY–IN	–	●	–	–		14"ø	900
								PRICE MODEL SMD		
B1	22 x 10	24 x 12	LAY–IN	–	–	●	–	PRICE MODEL 530TB	12"ø	700
B2	22 x 22	24 x 24	LAY–IN	–	–	●	–	PRICE MODEL 530TB	18"ø	1400
C1	6 x 6	15 x 15	SURFACE	–	●	–	–	PRICE MODEL SMD	6"ø	100
C2	12 x 12	18 x 18	SURFACE	–	●	–	–	PRICE MODEL SMD	8"ø	220
C3	12 x 12	18 x 18	SURFACE	–	●	–	–		10"ø	350
								PRICE MODEL SMD		
D1	8 x 8	10 x 10	SURFACE	●	–	–	●	PRICE MODEL 630DF	–	250
D2	12 x 12	14 x 14	SURFACE	●	–	–	●	PRICE MODEL 630DF	–	450
E1	10 x 4	12 x 6	SURFACE	●	●	–	–	PRICE MODEL 620DAS	8"ø	150
E2	12 x 6	14 x 8	SURFACE	●	●	–	–	PRICE MODEL 620DAS	10"ø	280
E3	18 x 6	20 x 8	SURFACE	●	●	–	–	PRICE MODEL 620DAS	12"ø	400
F1	20 x 10	24 x 12	LAY–IN	–	–	●	●	PRICE MODEL 530FF 2" FILTER GRILLE	12"ø	600
F2	20 x 20	24 x 24	LAY–IN	–	–	●	●	PRICE MODEL 530FF 2" FILTER GRILLE	18"ø	1200
T1	8"ø	24 x 24	LAY–IN	–	●	–	–	THERMAFUSER THFC	8"ø	220

NOTES:

1. COORDINATE EXACT LOCATION OF DIFFUSERS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL SUPPLY DIFFUSERS SHALL BE 4-WAY THROW UNLESS NOTED OTHERWISE.
3. ALL FLEX SHALL BE SIZED AS SCHEDULED UNLESS NOTED OTHERWISE.
4. ALL DIFFUSERS SHALL BE WHITE UNLESS NOTED OTHERWISE. COORDINATE EXACT COLOR/FINISH WITH ARCHITECT.
5. VERIFY FRAME TYPE WITH ACTUAL CEILING TYPE PRIOR TO PURCHASE OF AIR DEVICES.
6. ALL VOLUME DAMPERS SHALL BE OPPOSED BLADE TYPE.
7. RUN-OUTS AND DROPS FROM R/A MAIN TRUNKS SHALL BE AS FOLLOWS: UP TO 250 CFM USE 10" DIAMETER OR 10" x 8"; 251 CFM TO 450 CFM USE 12" DIAMETER OR 12" x 10"; 451 CFM TO 700 CFM USE 14" DIAMETER OR 12" x 12": 701 CFM TO 1000 CFM USE 16" DIAMETER OR 14" x 16"; 1001 CFM TO 1400 CFM USE 18" DIAMETER OR 16" x 18", UNLESS SHOWN OTHERWISE.
8. INSULATE BACKS OF ALL AIR DEVICES.
9. PROVIDE PRICE PLASTER FRAME FOR ALL AIR DEVICES LOCATED IN GYP OR PLASTER CEILINGS.
10. AIR DEVICES LOCATED IN DAMP AREAS (SHOWERS/LOCKER ROOMS/TRAINING ROOMS) ARE TO BE OF THE SAME SIZE AND TYPE AS SHOWN ON THE AIR DEVICE SCHEDULE BUT MUST BE OF ALL ALUMINUM CONSTRUCTION. ALL DEVICES SCHEDULED TO BE ALUMINUM MUST BE ALUMINUM NO MATTER WHERE THEY ARE LOCATED.
11. TRANSITION TO AIR DEVICE NECK SIZE AS REQUIRED.
12. ALL LAY-IN AIR DEVICES ARE TO BE CONNECTED WITH FLEX DUCT. PROVIDE WITH MINIMUM 3" HIGH ROUND NECK OR SQUARE TO ROUND ADAPTER WITH 3" HIGH NECK FOR PROPER CONNECTION OF FLEX DUCT (SIZED PER SCHEDULE) TO AIR DEVICE.

∗ PROVIDE INACTIVE SECTIONS OF LINEAR SLOTS WITH BLANK-OFF PLATES.
∗ PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE CONTINUOUS APPEARANCE.

GENERAL NOTES

A. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.

B. CONTRACTORS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.

C. ALL WORK SHALL COMPLY WITH THE CURRENT APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, SMACNA, ASHRAE, NFPA, APPLICABLE BUILDING CODE, APPLICABLE MECHANICAL CODE, APPLICABLE PLUMBING CODE, NATIONAL ELECTRICAL CODE, AGA, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT, EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN. THE CONTRACTOR SHALL VERIFY WITH THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT WITH THE AUTHORITY HAVING JURISDICTION.

D. MECHANICAL CONTRACTOR TO COMPLETE A MECHANICAL/ELECTRICAL EQUIPMENT COORDINATION SHEET IN SPECIFICATION SECTION 20 00 00 AND SUBMIT COMPLETED FORM WITH EQUIPMENT SUBMITTAL AND PROVIDE A COMPLETED FORM TO THE ELECTRICAL CONTRACTOR.

E. PROVIDE TRAP AND PROPER VENTING AT EACH A/C UNIT PER THE MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE TO NEAREST CODE APPROVED DISPOSAL POINT.

F. TRANSITION FROM DUCT SIZE SHOWN TO ROOF OPENING SIZE FOR EXHAUST FANS AND OTHER ROOF MOUNTED EQUIPMENT. ALLOW FOR CLEARANCE BETWEEN STRUCTURAL JOISTS.

G. CONFIRM LOCATION AND MOUNTING HEIGHT OF EACH THERMOSTAT/SENSOR PRIOR TO INSTALLATION. COORDINATE WITH ARCHITECT, OWNER, MILLWORK, SWITCHES, EQUIPMENT, FURNITURE, ETC. PROVIDE INSULATED SUBBASE FOR EACH THERMOSTAT/SENSOR.

H. PROVIDE ENGRAVED LABELS FOR ALL EQUIPMENT. LABEL ALL THERMOSTATS/SENSORS TO CORRESPONDING EQUIPMENT NUMBER. PROVIDE ENGRAVED ACCESS PANEL MARKERS ON THE CEILING GRID TO INDICATE ACCESS LOCATIONS FOR EQUIPMENT ABOVE CEILING.

I. COORDINATE FRAMED OPENING THROUGH ROOF FOR EQUIPMENT. VERIFY SIZE AND METHOD WITH STRUCTURAL ENGINEER. PROVIDE ROOF SHOP DRAWING INDICATING SIZE AND LOCATION OF ROOF OPENINGS FOR COORDINATION PURPOSES.

J. COORDINATE PLACEMENT AND SUPPORT OF ALL ROOF MOUNTED EQUIPMENT CURBS AND SUPPORTS WITH STRUCTURAL PRIOR TO INSTALLATION.

K. RETURN AIR PLENUMS ON BACK OF AIR HANDLING UNITS TO BE FULL SIZE OF RETURN OPENING ON UNITS. PROVIDE MINIMUM 16" x 16" ACCESS DOOR IN RETURN PLENUM IN ACCESSIBLE LOCATION.

L. AIR HANDLING UNITS MOUNTED ABOVE CEILING ARE TO BE INSTALLED TO ALLOW FOR MAXIMUM ACCESS ON ACCESS PANEL SIDES. CODE CLEARANCES MUST BE MAINTAINED. EQUIPMENT MUST BE INSTALLED SO THAT IT IS ACCESSIBLE FROM A LADDER THAT IS NO TALLER THAN THE CEILING, WITHOUT STANDING ON TOP STEP.

M. WHERE STRUCTURAL BRIDGING IS REMOVED, RE-BRIDGE ON EACH SIDE OF JOIST. VERIFY WITH STRUCTURAL ENGINEER PRIOR TO REMOVING ANY BRIDGING.

N. COORDINATE WITH ALL STRUCTURAL BRACING FOR ROUTING OF DUCT AND DIFFUSERS.

O. BEFORE ANY CUTTING OR TRENCHING OPERATIONS BEGIN, VERIFY WITH OWNER'S REPRESENTATIVE, UTILITY COMPANIES AND OTHER INTERESTED PARTIES THAT ALL AVAILABLE INFORMATION HAS BEEN PROVIDED CONCERNING EXISTING UTILITY LOCATION. VERIFY LOCATIONS GIVEN. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING UNKNOWN UTILITIES FOR FURTHER DIRECTION. INDICATE ALL UNCOVERED UTILITIES ON RECORD DRAWINGS.

P. REFRIGERANT PIPING: THE REFRIGERATION SYSTEM SHALL BE INSTALLED COMPLETE AS A SYSTEM WITH ALL REFRIGERANT, OIL, VALVES, DEHYDRATORS, GAUGES AND CONTROLS AS REQUIRED FOR PROPER OPERATION OF THE SYSTEM. PIPING SHALL BE HARD DRAWN ACR REFRIGERANT PIPING WITH WROT FITTINGS IN ACCORDANCE WITH ARI STANDARDS. USE LONG RADIUS ELBOWS. INSULATE SUCTION LINES AND SEAL ALL CUT ENDS AND EDGES WITH ADHESIVE TO PROVIDE AN AIR TIGHT SEAL. USE 3/4" ARMAFLEX AP II INSULATION. REFRIGERANT PIPING IN INACCESSIBLE SPACES, SUCH AS WALL CAVITIES, OR IN UNDERGROUND SLEEVES IS TO BE SOFT DRAWN COPPER WITH NO FITTINGS IN THE INACCESSIBLE AREAS. ALL BENDS IN SOFT COPPER ARE TO BE MADE WITH REFRIGERATION TUBING BENDER. INSTALL COMBINATION SIGHT GLASS/MOISTURE INDICATOR NEAR LIQUID LINE CONNECTION TO OUTDOOR UNIT.

Q. FIRE/SMOKE AND/OR FIRE DAMPERS: INSTALL DAMPERS AT ALL DUCT PENETRATIONS OR RATED WALLS, TUNNELS AND CEILINGS. ALL DAMPERS TO BE OUT OF AIRSTREAM TYPE. DAMPERS TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE FACTORY WALL SLEEVE AND ANGLE KIT. ACCESS PANEL TO BE PROVIDED IN DUCT FOR ACCESS TO FUSIBLE LINK AND FOR INSPECTION AND MAINTENANCE. VERIFY THE EXACT LOCATION OF ALL RATED WALLS, TUNNELS AND CEILINGS WITH ARCHITECTURAL DRAWINGS. COMBINATION FIRE/SMOKE DAMPERS TO BE INSTALLED IN ALL SMOKE WALLS AND RATED EGRESS WAYS.

R. COORDINATE LOCATION AND MOUNTING TYPE OF ALL CEILING AIR DEVICES IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLANS.

S. ROOFTOP MOUNTED EQUIPMENT TO BE PROVIDED WITH FACTORY FULL PERIMETER SLOPED CURBS TO MATCH ROOF FOR EACH UNIT. ALL OTHER ROOF MOUNTED EQUIPMENT REQUIRING A CURB LESS THAN 30" IN ANY DIMENSION TO BE PROVIDED WITH FULL PERIMETER CURB. ALL CURBS AND ROOF SUPPORTS TO ALLOW FOR ROOF SLOPE SO EQUIPMENT WILL SIT LEVEL. TOP OF CURB TO BE A MINIMUM OF 12" ABOVE FINISHED ROOF ON SHORT SIDE OR 8" ABOVE TOP OF CRICKET IF APPLICABLE.

T. INSTALL CLEAN SET OF FILTERS THROUGHOUT AT COMPLETION OF PROJECT. ANY UNITS THAT ARE OPERATED DURING CONSTRUCTION SHALL HAVE FILTER MEDIA (FIBERBOND DUAL-PLY DUSTLOK MEDIA) PLACED OVER THE EXTERIOR OF RETURN AIR GRILLES. MEDIA SHALL BE CHANGED AS FREQUENTLY AS REQUIRED TO KEEP DUCTWORK CLEAN. WHEN RETURN AIR FILTERS ARE LOCATED AT UNIT, PROVIDE INSULATED FILTER RACK SUITABLE FOR 2" THICK, FACTORY STANDARD FILTER SIZES, THAT IS AIRTIGHT WITH HINGED ACCESS DOOR AND LATCH, UNLESS SUCH A RACK IS INTEGRAL TO UNIT CONSTRUCTION.

U. ALL MECHANICAL EQUIPMENT OR GROUPS OF EQUIPMENT SERVING A COMMON AREA AND DISCHARGING OVER 2000 CFM OR SERVING EGRESS PATHWAYS SHALL HAVE SMOKE DETECTORS LOCATED IN RETURN AND DISCHARGE AIR DUCTS, AS REQUIRED BY CODE AND LOCAL AHJ. THE MECHANICAL CONTRACTOR IS TO PROVIDE, INSTALL AND WIRE SMOKE DETECTORS COMPLETE WITH REMOTE TEST SWITCH INDICATOR UNLESS THE BUILDING HAS A FIRE ALARM SYSTEM. WHEN BUILDING HAS A FIRE ALARM SYSTEM THE ELECTRICAL/FIRE ALARM CONTRACTOR IS TO PROVIDE AND WIRE THE DUCT DETECTORS BACK INTO THE FIRE ALARM CONTROL PANEL AND PROVIDE A RELAY AT THE UNIT FOR LOCAL SHUTDOWN. MECHANICAL CONTRACTOR (CONTROLS CONTRACTOR) IS TO WIRE HIS CONTROL CIRCUIT THROUGH THE RELAY CONTACTS. REFERENCE MECHANICAL AND ELECTRICAL GENERAL NOTES, SCHEDULES, PLANS AND SPECIFICATIONS FOR MORE INFORMATION.

V. PROVIDE INTERNALLY LINED RETURN AIR BOOT WITH WITH NINETY DEGREE ELBOW OR TEE FITTING ON BACK OF ALL RETURN AIR GRILLES UNLESS OTHERWISE NOTED. REFERENCE DETAIL SHEETS AND SPECIFICATIONS FOR MORE INFORMATION.

W. PROVIDE ALL APPROPRIATE TOOLS, WRENCHES, KEYS, ETC. AS REQUIRED FOR ACCESS AND OPERATION OF VALVES, COVERS, ETC.

X. SEAL AROUND ALL DUCTWORK AND PIPING AT PENETRATIONS THROUGH SOUND WALLS WITH ACOUSTICAL SEALANT.

Y. ALL DUCTS 30" AND LARGER IN ANY DIMENSION TO HAVE DUCTMATE FITTINGS.

Z. ALL ACCESS DOORS SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATIONS. RELOCATE ANY ACCESS DOOR THAT IS NOT INSTALLED IN THIS MANNER. THIS SHALL BE DONE AT NO ADDITIONAL COST TO OWNER. INSTALL MINIMUM 12" x 12" HINGED ACCESS DOORS WITH CAM LOCKS AT THE END OF ALL DUCT RUNS, AT 20' INTERVALS ALONG LENGTH OF RUN, AND ON EACH SIDE OF ELBOWS WITH TURNING VANES. REFERENCE SPECIFICATIONS FOR MORE INFORMATION.

BB. COORDINATE LOCATION OF DUCTWORK WITH LOCATION AND DEPTH OF ALL LIGHT FIXTURES PRIOR TO INSTALLATION.

CC. MECHANICAL CONTRACTOR TO HAVE STAMPED AND REVIEWED DUCT SHOP DRAWINGS PRIOR TO INSTALLATION OF ANY DUCTWORK IN FIELD.

DD. ABSOLUTELY NO PIPING OR DUCTWORK CAN BE ROUTED ABOVE ELECTRICAL PANELS, GEAR OR TRANSFORMERS. THE ONLY HVAC, PLUMBING, SPRINKLER PIPING OR DUCTWORK THAT CAN ENTER AN ELECTRIC ROOM ARE THOSE SPECIFICALLY SERVING THAT ROOM. THESE SERVICES CAN ONLY ENTER INTO ELECTRIC ROOM ABOVE ENTRY DOOR.

FF. ALL ROOF MOUNTED MECHANICAL EQUIPMENT MUST BE LOCATED A MINIMUM OF 10' AWAY FROM THE EDGE OF THE ROOF OR A CHANGE IN ROOF ELEVATION THAT IS GREATER THAN 30". PER OSHA REQUIREMENTS, IF ROOF MOUNTED EQUIPMENT MUST BE LOCATED CLOSER TO THE EDGE OF THE ROOF THAN 10', THERE MUST BE A PARAPET THAT IS A MINIMUM OF 42" TALL OR PROVIDE AN OSHA APPROVED SAFETY RAIL. REFERENCE THE LATEST OSHA REGULATIONS FOR MORE INFORMATION AND PROVIDE LATEST REQUIREMENTS.

GG. SEAL AROUND ALL DUCTWORK AND PIPING AT PENETRATIONS THROUGH RATED WALLS WITH FIRE SEALANT. ALL PENETRATIONS THROUGH RATED WALLS ARE TO BE SEALED ACCORDING TO THE FIRE SEALANT MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUBMIT ON U.L. SYSTEM TO BE USED FOR EACH TYPE OF PENETRATION, POST A COPY OF INSTALLATION INSTRUCTIONS AT JOB SITE ACCESSIBLE TO ALL WORKERS PERFORMING WORK.

HH. ALL OPENINGS OF DUCTWORK AND MECHANICAL EQUIPMENT MUST BE COVERED WITH PLASTIC AND TIGHTLY SEALED TO PREVENT DUST AND CONSTRUCTION DEBRIS FROM ENTERING SYSTEMS, THIS INCLUDES EQUIPMENT AND DUCTWORK STORED ON SITE. IF THE MECHANICAL EQUIPMENT IS OPERATED PRIOR TO ACCEPTANCE OF THE BUILDING BY OWNER, ALL OUTLET AND INLETS OF THE SYSTEM MUST BE PROTECTED WITH ROLLED FILTER MEDIA EQUAL TO (FIBERBOND DUAL-PLY DUSTLOC MEDIA). UNITS MUST BE SHUT DOWN WHEN PAINTING, SANDING AND SIMILAR CONSTRUCTION OPERATIONS ARE BEING PERFORMED. SYSTEMS THAT ARE OPERATED DURING CONSTRUCTION MUST BE CLEANED TO NEW CONDITION BEFORE FINAL PAYMENT WILL BE APPROVED. ITEMS TO BE CLEANED INCLUDE: WHOLE DUCT SYSTEM, AIR DEVICES, BLOWERS, MOTORS, UNIT CASING, EVAPORATOR COILS, CONDENSER COILS AND ALL OTHER COMPONENT EFFECTED BY THE OPERATION OF THE SYSTEMS.

JJ. ALL SUPPLY BRANCH DUCTS ARE TO HAVE BALANCING DAMPERS WITH MANUAL LOCKING QUADRANT OPERATORS. PROVIDE STAND-OFF BRACKETS EQUIVALENT TO INSULATION THICKNESS.PROVIDE BALANCING DAMPERS IN OTHER DUCT SYSTEMS AS REQUIRED TO PROPERLY BALANCE SYSTEMS. SINGLE BLADE DAMPERS ARE ACCEPTABLE IN DUCTS 14" ROUND OR 14" TALL, LARGER DUCTS TO HAVE MULTIPLE BLADE DAMPERS. ALL DAMPER BLADES AND HARDWARE ARE TO BE FABRICATED OF SUFFICIENT GAGE AND HAVE REINFORCEMENTS AS REQUIRED TO PREVENT VIBRATION.

II. OUTSIDE AIR TO THE BUILDING IS CALCULATED BASED ON THE USE OF BI-POLAR ION GENERATOR AIR PURIFIERS FOR REDUCING INDOOR CONTAMINATES TO ACCEPTABLE LEVELS, IN ACCORDANCE WITH SECTION 403.3 OF THE INTERNATIONAL MECHANICAL CODE. THE OUTDOOR AIR QUANTITIES INDICATED IN THE SCHEDULES EXCEEDS THE MINIMUM REQUIRED OUTDOOR AIR PER SECTION 403.3, AND PROVIDES FOR BUILDING PRESSURIZATION AND MAKEUP FOR BUILDING EXHAUST.

M/P ABBREVIATION SCHEDULE

&D	ACCESS DOOR	MAINT	MAINTENANCE
ABV	ABOVE	MAU	MAKEUP AIR UNIT
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
ARCH	ARCHITECT	MC	MECHANICAL CONTRACTOR
AUTO	AUTOMATIC	MBH	1000 BTU PER HOUR
AUX	AUXILIARY	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MH	MANHOLE
		MIN	MINIMUM
BD	BALANCE DAMPER	MISC	MISCELLANEOUS
BFF	BELOW FINISHED FLOOR	MTD	MOUNTED
BLDG	BUILDING	MOD	MOTOR OPERATED DAMPER
BOD	BOTTOM OF DUCT		
BOP	BOTTOM OF PIPE	NIC	NOT IN CONTRACT
BF	BOOSTER FAN	N.O.	NORMALLY OPEN
		N.C.	NORMALLY CLOSED
CLG	CEILING	NO.	NUMBER
CLR	CLEAR/CLEARANCE	NTS	NOT TO SCALE
CO	CLEANOUT		
COL	COLUMN	O/A	OUTDOOR AIR
CONC	CONCRETE	OBD	OPPOSED BLADE DAMPER
CONTR	CONTRACTOR	OC	ON CENTER(S)
CW	COLD WATER	OPNG	OPENING
CONN	CONNECTION	ORL	OVERFLOW RAINLEADER
CU	CONDENSING UNIT	OAH	OUTSIDE AIR HOOD
Cu	COPPER		
CHS	CHILLED WATER SUPPLY	PC	PLUMBING CONTRACTOR
CHR	CHILLED WATER RETURN	PH	PHASE
		PLBG	PLUMBING
DIA	DIAMETER		
DN	DOWN	R/A	RETURN AIR
DWG	DRAWING	REF.	REFERENCE/REFER TO
DH	DUCT HEATER	REFRG	REFRIGERANT
E/A	EXHAUST AIR	REF	REFRIGERATOR
EC	ELECTRICAL CONTRACTOR	REQD	REQUIRED
EF	EXHAUST FAN	RHP	RADIANT HEAT PANEL
ELEC	ELECTRIC/ELECTRICAL	RL	RAINLEADER
EQ	EQUAL	RM	ROOM
EQUIP	EQUIPMENT	RTU	ROOFTOP UNIT
EX	EXISTING		
EXH	EXHAUST	S/A	SUPPLY AIR
E.S.P.	EXTERNAL STATIC PRESSURE	SCH	SCHEDULE
ERV	ENERGY RECOVERY VENTILATOR	SP	STATIC PRESSURE
		SPEC	SPECIFICATION
FCO	FLOOR CLEAN OUT	SD	STORM DRAIN
FCU	FAN COIL UNIT	SF	SUPPLY FAN
FF	FINISHED FLOOR		
FLEX	FLEXIBLE	TSP	TOTAL STATIC PRESSURE
FLR	FLOOR/FLOORING	TYP	TYPICAL
GA	GAUGE	UON	UNLESS OTHERWISE NOTED
GC	GENERAL CONTRACTOR	UG	UNDERGROUND
GEN	GENERAL	UH	UNIT HEATER
GYP	GYPSUM BOARD	V	VENT (PLUMBING)
		V	VOLTAGE (ELECTRICAL)
HP	HEAT PUMP	VTR	VENT THROUGH ROOF
Hp	HORSEPOWER		
HT	HEIGHT	W/	WITH
HW	HOT WATER	W/O	WITHOUT
HWC	HOT WATER CIRC	WP	WATERPROOF
HR	HOUR	WT	WEIGHT
HWR	HEATING WATER RETURN	WTR	WATER
HWS	HEATING WATER SUPPLY	WW	WASTE WATER
		WCO	WALL CLEANOUT
LOC	LOCATION	WH	WATER HEATER

PLUMBING LEGEND

SYMBOL	ABB.	DESCRIPTION
—— , ——	CW	COLD WATER PIPING
—— ,, ——	HW	HOT WATER PIPING
—— ,,, ——	HWR	HOT WATER RETURN PIPING
————	WW	WASTE WATER
– – – –		VENT PIPING
—— T ——		TEMPERED WATER
—— G ——		GAS PIPING
—— F ——		FIRE LINE
—— GT ——		GREASE TRAP LINE
—— A ——		COMPRESSED AIR PIPING
—— D ——		RELIEF OR CONDENSATE DRAIN PIPING
—— SD ——	SD	STORM DRAIN
—— RL ——	RL	RAIN LEADER
—— ORL ——	ORL	OVERFLOW RAIN LEADER
		FULL PORT BALL PIPE ISOLATION VALVE
	HB	HOSE BIBB/WALL HYDRANT
		UNION
	FD/FS	FLOOR DRAIN/FLOOR SINK
	HD	HUB DRAIN
	CO	CLEAN OUT
		DOUBLE CLEAN OUT
	WCO	WALL CLEAN OUT
		GAS COCK
		BALANCE VALVE
		CHECK VALVE
		POINT OF CONNECTION
		GAS PRESSURE REGULATOR

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REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

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SCHEDULES, NOTE & LEGENDS - MECHANICAL

M1.01

BRADY ELEMENTARY SCHOOL CASSETTE SCHEDULE

MARK	MODEL #	Manufacturer	Piping Limits		Unit Type	NOMINAL TONS	CFM	SEER	VOLT-PH	MCA (A)	MOP (A)	WEIGHT (lbs)
HP-E1	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2.5		18	208/230-1	16.5	25	172
CC-E1	FXFQ30TVJU		820	98	3' x 3' Cassette		1112		208/230-1	1.3	15	58
HP-E2	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E2	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51
HP-E3	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2.5		18	208/230-1	16.5	25	172
CC-E3	FXFQ30TVJU		820	98	3' x 3' Cassette		1112		208/230-1	1.3	15	58
HP-E4	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E4	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51
HP-E5	RX09RMVJU	Daikin	Total	Vertical	Outdoor	0.75			208/230-1	9	15	60
CC-E5	FXZQ09TAVJU		66	49	2' x 2' Cassette		317		208/230-1	0.3	15	36.4
HP-E6	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E6	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51
HP-E7	RX09RMVJU	Daikin	Total	Vertical	Outdoor	0.75			208/230-1	9	15	60
CC-E7	FXZQ09TAVJU		66	49	2' x 2' Cassette		317		208/230-1	0.3	15	36.4
HP-E8	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2.5		18	208/230-1	16.5	25	172
CC-E8	FXFQ30TVJU		820	98	3' x 3' Cassette		1112		208/230-1	1.3	15	58
HP-E9	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E9	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51
HP-E10	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2.5		18	208/230-1	16.5	25	172
CC-E10	FXFQ30TVJU		820	98	3' x 3' Cassette		1112		208/230-1	1.3	15	58
HP-E11	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E11	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51
HP-E12	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2.5		18	208/230-1	16.5	25	172
CC-E12	FXFQ30TVJU		820	98	3' x 3' Cassette		1112		208/230-1	1.3	15	58
HP-E13	RXTQ36TAVJ9	Daikin	Total	Vertical	Outdoor	2		18	208/230-1	16.5	25	172
CC-E13	FXFQ24TVJU		820	98	3' x 3' Cassette		777		208/230-1	0.7	15	51

Outdoor Unit Notes:
1. Provide Field Installed Hail Guard Accessory
2. Units shall meet or exceed Min Scheduled SEER Values per AHRI 210/240

Indoor Fan Coil Notes:
1. Provide factory mounted condensate pumps on all indoor units
2. Provide wired thermostats
3. Provide 10 year parts, 10 year compressor warranty
4. Provide Branch duct connection
5. Provide Itouch central controller and BACnet
***For pricing contact Direct Expansion Solutions at (210) 215-5845**

BRADY ELEMENTARY SCHOOL OUTSIDE AIR SCHEDULE

	UNIT MARK	UNIT TYPE	MODEL NUMBER	TYPE OF UNIT	COOL EAT DB/WB	TOTAL BTUH	SENSIBLE BTUH	COOL LAT DB/WB	HEAT EAT DB	HEAT BTUH	HEAT LAT DB	IEER	SEER	VOLTAGE	PHASE	CFM	MCA	MOCP	WEIGHT LBS
OA Unit	FCU-OSA-E1	OA8	FXMQ96MFVJU	OUTSIDE AIR UNIT	105.0 / 78.0	73995	46980	55.0 / 54.0	23	40165	70	N/A	N/A	208-230	1	1236	4.1	15	271
Cond. Unit	HRU-OSA-E1	CU8	RXYQ96TATJU	Heat Pump	95 amb	96000	92000	N/A	17	103000	N/A	27.3	N/A	208-230	3	5827	36.3	45	525
OA Unit	FCU-OSA-E2	OA8	FXMQ96MFVJU	OUTSIDE AIR UNIT	105.0 / 78.0	73995	46980	55.0 / 54.0	23	40165	70	N/A	N/A	208-230	1	1236	4.1	15	271
Cond. Unit	HRU-OSA-E2	CU8	RXYQ96TATJU	Heat Pump	95 amb	96000	92000	N/A	17	103000	N/A	27.3	N/A	208-230	3	5827	36.3	45	525

	HEAT KW	VOLTAGE PHASE	MCA	MOCP
Electric Heat	7 KW	208/1	42.1	45
Electric Heat	7 KW	208/1	42.1	45

OA Processing Units:
1. Provide BRC1E73 Navigation Stat for all FCU with Auto Change over and Dual Heat and Cool Setpoints
2. Provide factory mounted/field installed condensate pump for the indoor unit
3. Provide 10 year parts warranty covering fan coil unit and thermostats
4. Provide AHU with ECM Motor
5. Provide field mounted 2" filter rack accessory for FXMQ series
6. Shall have side service access in the horizontal position to blower assembly, motor, coil and eev
7. VRV supplier to include SCR heat package in supply duct of OSA unit, Electric Heat will require it's own power supply. Reference schedule.
8. LAT on OSA Fan Coil shall be set at 55 Degrees in Cooling and 80 Degrees in Heating
9. Field installed Hail Guard metal expanded mesh, wire guard not acceptable
10. Provide Itouch central controller and BACnet

BRADY HIGH SCHOOL CAREER CENTER OUTSIDE AIR SCHEDULE

	UNIT MARK	UNIT TYPE	MODEL NUMBER	TYPE OF UNIT	COOL EAT DB/WB	TOTAL BTUH	SENSIBLE BTUH	COOL LAT DB/WB	HEAT EAT DB	HEAT BTUH	HEAT LAT DB	IEER	SEER	VOLTAGE	PHASE	CFM	MCA	MOCP	WEIGHT LBS
OA Unit	FCU-OSA-H1	OA8	FXMQ96MFVJU	TSIDE AIR UI	105.0 / 78.0	73995	46980	55.0 / 54.0	23	40165	70	N/A	N/A	208-230	1	1236	4.1	15	271
Cond. Unit	HRU-OSA-H1	CU8	RXYQ96TATJU	Heat Pump	95 amb	96000	92000	N/A	17	103000	N/A	27.3	N/A	208-230	3	5827	36.3	45	525

	HEAT KW	VOLTAGE PHASE	MCA	MOCP
Electric Heat	7 KW	208/1	42.1	45

OA Processing Units:
1. Provide BRC1E73 Navigation Stat for all FCU with Auto Change over and Dual Heat and Cool Setpoints
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8. LAT on OSA Fan Coil shall be set at 55 Degrees in Cooling and 80 Degrees in Heating
9. Field installed Hail Guard metal expanded mesh, wire guard not acceptable
10. Provide Itouch central controller and BACnet

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HCE HENDRIX CONSULTING ENGINEERS

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SCHEDULES - MECHANICAL M1.02

FAN SCHEDULE

EFSCH

MARK NO.	GREENHECK MODEL NO.	CFM	S.P.	RPM	DRIVE	H.P.	VOLT/PH	WATTS OR AMPS	ACCESSORIES
ELEMENTARY	.	.	.	.	.	.	.	.	.
EF-E1	CUE-080-VG	150	.375"	1278	DIRECT	1/10	120/1	–	12
EF-E2	CUE-101-VG	750	.375"	1182	DIRECT	1/4	120/1	–	12
EF-E3	CUE-101-VG	900	.375"	1316	DIRECT	1/4	120/1	–	12
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
HIGH SCHOOL	.	.	.	.	.	.	.	.	.
EF-1	REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS		
EF-2	REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS		
EF-3	REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS			REFERENCE FOOD SERVICE PLANS		
EF-4	CUE-099-VG	600	.375"	1178	DIRECT	1/10	120/1	–	13
EF-5	CUE-090-VG	225	.375"	1181	DIRECT	1/10	120/1	–	12
EF-6	CUE-060-VG	100	.375"	1661	DIRECT	1/15	120/1	–	13
EF-7	AER-E20C-630-VG	3000	.25"	1033	DIRECT	3/4	120/1	–	14, 23
EF-8	CUE-060-VG	100	.375"	1661	DIRECT	1/15	120/1	–	13
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
DBF-1	TJERNLUND LB2	160	.	.	DIRECT	.	120/1	50W/.5A	22
.	.	.	.	.	.	.	.	.	.

STANDARD NOTES - APPLIES TO ALL FANS

A. BALANCE ALL FANS TO ACTUAL CFM SHOWN ON FLOOR PLANS.
B. BEE SCREEN.
C. FANS INSTALLED ON METAL STANDING SEAM ROOFS: ROOF CURB IS TO BE FURNISHED, INSTALLED, FLASHED AND COUNTER FLASHED BY ROOFING CONTRACTOR. MECHANICAL CONTRACTOR IS TO COORDINATE SIZE AND LOCATION. CURB IS TO EXTEND A MINIMUM OF 12" ABOVE FINISHED ROOF ON SHORT SIDE.
D. FANS INSTALLED ON BUILT-UP ROOF: ROOF CURB IS TO BE FLASHED AND COUNTER FLASHED BY ROOFING CONTRACTOR. MECHANICAL CONTRACTOR IS TO FURNISH AND INSTALL ROOF CURB AND COORDINATE LOCATION. CURB IS TO EXTEND A MINIMUM OF 12" ABOVE FINISHED ROOF ON SHORT SIDE.
E. FACTORY DISCONNECT.
F. PROVIDE ALL EXHAUST FANS AND MAKE-UP AIR FANS WITH A PARALLEL BLADE DAMPER WITH HEAVY DUTY MOTORIZED ACTUATOR (MATCH FAN VOLTAGE) UNLESS SPECIFICALLY NOTED OTHERWISE. ELECTRICAL CONTRACTOR TO TIE DAMPER ACTUATOR IN TO FAN POWER. PROVIDE TIME DELAY RELAY OR END SWITCH ONLY IF RECOMMENDED BY MANUFACTURER ON LARGER FANS. PROVIDE TRANSFORMER IF REQUIRED. MOTORIZED DAMPER NOT REQUIRED IF THE FAN HAS AN INTEGRAL BACKDRAFT DAMPER.
G. UNIT WEIGHT LESS THAN 100 LBS. UNLESS NOTED OTHERWISE.
H. COORDINATE ALL FINAL FAN LOCATIONS AND FRAMING WITH STRUCTURAL.
I. ALL ALTERNATE MANUFACTURER'S FANS MUST OPERATE WITH CFM, RPM AND HP RANGE AS FANS LISTED ABOVE TO ALLOW FLEXIBILITY. FANS MAY NOT BE DOWN SIZED.
J. FAN SPEED CONTROL (MOUNTED UNDER DOME ON ROOF FANS OR NEXT TO CABINET FANS FOR ALL DIRECT DRIVE FANS).
K. DUCT DROPS ARE TO BE FULL SIZE OF DAMPER OR SIZED AT .05" SP PER 100 FT WHICHEVER IS GREATER OR AS SPECIFICALLY NOTED.
L. POWDER COATED METAL IS NOT ALLOWED TO BE USED IN LIEU OF GALVANIZED UNLESS SPECIFICALLY SCHEDULED.
M. EXHAUST FANS / OUTLETS TO BE LOCATED A MINIMUM OF 10' AWAY FROM OUTSIDE AIR INTAKES OR AS REQUIRED BY LOCAL CODES.

ACCESSORIES AND NOTES (ONLY PROVIDE ACCESSORIES LISTED IN SCHEDULE ABOVE)

1. UPBLAST GREASE FAN ACCESSORIES: FAN TO BE UL AND cUL LISTED FOR GREASE REMOVAL, HEAT BAFFLE, BIRD GUARD, HINGE KIT, DRAIN CONNECTION, GREASE TRAP AND VENTED CURB EXTENSION (MUST MEET THE NFPA 96 REQUIREMENT FOR A 40" DISCHARGE HEIGHT). PROVIDE WITH SEPARATE CURB FROM ANY SUPPLY FAN.
2. KITCHEN SUPPLY FAN GREENHECK ARRANGEMENT "DB" ACCESSORIES: EXHAUST FAN AND SUPPLY FAN TO BE MOUNTED ON **SEPARATE** CURBS AND PROVIDE MOPPED IN EQUIPMENT SUPPORT RAIL WITH GALVANIZED UNISTRUT SUPPORT FOR WEATHER HOOD, MOTORIZED INTAKE DAMPER, SPACER SECTION (TO MAINTAIN 10 FEET SEPARATION FROM EXHAUST FAN), FILTER SECTION THAT ACCOMMODATES 2" FILTERS, WEATHER HOOD, SUPPLY FAN INTERLOCKED TO RUN WITH KITCHEN EXHAUST FAN. KITCHEN EXHAUST FAN IS TO RUN AND SUPPLY FAN IS TO GO OFF IN THE EVENT THAT A FIRE IS DETECTED. FURNISH WITH REMOTE OR FAN CASING MOUNT PREWIRED KITCHEN FAN CONTROL CENTER WITH STARTERS, DISCONNECTS, CONTROL TRANSFORMERS, AND SINGLE POINT ELECTRICAL CONNECTION. ELECTRICAL CONTRACTOR TO MAKE ALL CONTROL AND LINE VOLTAGE TERMINATIONS AND FEED THROUGH CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. 120 VOLT CONTROL VOLTAGE FOR HOOD FAN PACKAGE IS TO BE OBTAINED FROM HOOD LIGHTING CIRCUIT. PROVIDE HOOD MOUNTED SWITCH FOR CONTROL OF EXHAUST AND SUPPLY FANS OR AS DIRECTED BY OWNER.
3. DIRECT FIRED GAS HEAT.
4. ELECTRIC HEAT.
5. PERFORATED BAFFLE INSTALLED AT INLET.
6. GRAVITY BACK DRAFT DAMPER.
7. RADIATION DAMPER (CEILING MOUNTED FANS).
8. COMBINATION NEOPRENE / SPRING VIBRATION ISOLATION.
9. INLET GUARD.
10. BELT GUARD.
11. MAGNETIC MOTOR STARTER.
12. SWITCHED WITH LIGHTS BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ALL RELAYS AND APPURTENANCES.
13. SWITCHED BY SPRING WOUND TIMER (I HR MAX) PROVIDED BY ELECTRICAL CONTRACTOR. LOCATE NEXT TO ROOM LIGHT SWITCH UNLESS OTHERWISE NOTED.
14. SWITCHED BY WALL SWITCH WITH PILOT LIGHT BY ELECTRICAL CONTRACTOR. LOCATE NEXT TO ROOM LIGHT SWITCH UNLESS OTHERWISE NOTED.
15. SWITCHED BY HOOD MOUNTED SWITCH WITH PILOT LIGHT BY ELECTRICAL CONTRACTOR.
16. SWITCHED BY THERMOSTAT. THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR. INSTALLED BY ELECTRICAL CONTRACTOR.
17. CONTROLLED BY ENERGY MANAGEMENT SYSTEM.
18. 120V/1PH MOTORIZED DAMPER FOR INLINE FAN TIED IN TO FAN POWER.
19. EXPLOSION PROOF FAN, WIRE TO RUN CONTINUOUSLY
20. PERFORATED BAFFLE INSTALLED AT INLET.
21. INTERLOCKED WITH DISHWASHER.
22. DRYER BOOSTER FAN. PROVIDE ALL CONTROLS AND INTERLOCKING WIRING REQUIRED FOR A COMPLETE OPERABLE SYSTEM.
23. SIDEWALL PROPELLER FAN PROVIDE WITH HOUSING, MOTORIZED BACKDRAFT DAMPER, INTEGRAL DISCONNECT, MOTOR SIDE GUARD AND TRANSITIONS AS REQUIRED TO CONNECT TO WALL LOUVER.

BRADY HIGH SCHOOL CAREER CENTER MULTI-POSITION SCHEDULE

		MP2	MP4
MINIMUM CFM		800	1520
MINIMUM SENSIBLE MBH		16900	32700
MINIMUM TOTAL MBH		24000	48000
MINIMUM SEER		16	16
INDOOR UNIT MCA		4.9	6.5
INDOOR UNIT MOP		15	15
OUTDOOR UNIT MCA		16.5	29.1
OUTDOOR UNIT MOP		25	35
MOTOR HP FAN		0.5	0.75
INDOOR UNIT VOLT/PHASE		208-230/1	208-230/1
OUTDOOR UNIT VOLT/PHASE		208-230/1	208-230/1
DAIKIN	Indoor Unit (Multi-Position AHU)	FXTQ24TAVJUA	FXTQ48TAVJUA
	Outdoor Unit	RXTQ36TAVJ9	RXTQ48TAVJU
INDOOR UNIT WEIGHT		115	150
OUTDOOR UNIT WEIGHT		172	176

UNIT MARK	UNIT TYPE	O/A CFM			ACCESSORIES AND NOTES
		RAW	TEMPERED	NEUTRAL	
AHU/HP-H1	MP4			250	1
AHU/HP-H2	MP2			150	1
AHU/HP-H3	MP4			400	1
AHU/HP-H4	MP2			200	1
AHU/HP-H5	MP2			200	1

ALL SPLIT SYSTEMS ON THIS PROJECT ARE TO USE R410A REFRIGERANT

UNIT TYPE BREAKDOWN
H = SPLIT HEAT PUMP, C = SPLIT ELECTRIC HEAT, F = SPLIT GAS HEAT

STANDARD NOTES

A. SOME UNITS SHOWN ON THE MASTER SCHEDULE(S) MAY NOT BE USED ON THIS JOB.
B. SEE SPECIFICATIONS FOR STANDARD ACCESSORIES, FEATURES AND CONTROLS REQUIRED.
C. ALL GROSS CAPACITIES LISTED ARE AT STANDARD ARI CONDITIONS (80/67/95) WITH STANDARD AIR FLOW.
D. BALANCE TO PROVIDE CFM AS SHOWN ON PLANS.
E. ELECTRIC STRIP HEATERS ARE NOT REQUIRED
F. ECM DRIVE ON AHU
FACTORY WIRED TO PROVIDE TRUE, INHERENTLY BALANCED THREE PHASE ELECTRICAL LOAD CHARACTERISTICS.
G. PROVIDE LOW AMBIENT CONTROL KIT TO ALLOW COOLING OPERATION DOWN TO 23 DEGREES FAHRENHEIT
H. PROVIDE ELECTRONIC TXV'S ON ALL SPLIT SYSTEM UNITS AT INDOOR COIL.
I. PROVIDE INSULATED FILTER RACKS WITH HINGED ACCESS DOOR FOR ALL UNFILTERED OUTSIDE AIR DUCTS AT CONNECTION TO UNIT OR RETURN AIR DUCT. FILTER TO BE EASILY ACCESSIBLE FROM UNIT SERVICE AREA. FILTER SIZE - 12" X 12" X 2" IN DUCTS WITH UP TO 200 CFM. FILTER SIZE - 16" X 20" X 2" IN DUCTS WITH OVER 200 CFM.
J. VERIFY AVAILABLE VOLTAGE, PHASE AND CIRCUIT FUSE SIZE(S) WITH ELECTRICAL PLANS AND ELECTRICAL CONTRACTOR PRIOR TO RELEASING EQUIPMENT ORDER.
K. PROVIDE SINGLE POINT POWER CONNECTION.
L. PROVIDE FIELD INSTALLED METAL HAIL GUARD
M. PROVIDE WITH MANUFACTURES THERMOSTAT
N. PROVIDE WITH ITOUCH CONTROLLER AND BACNET
O. PROVIDE WITH INVERTER DRIVE COMPRESSOR, MUST UNLOAD TO 14% OF FULL RATED CAPACITY

ACCESSORIES AND NOTES

1. DUCT SMOKE DETECTORS (ONE IN SUPPLY AND ONE IN RETURN) WITH REMOTE TEST SWITCH AND INDICATOR MOUNTED NEXT TO UNIT THERMOSTAT. DUCT SMOKE DETECTOR SUPPLY [AND RETURN] AIR DUCT PROVIDED AND WIRED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. FIRE ALARM CONTRACTOR SHALL PROVIDE A SHUTDOWN RELAY AND MAKE CONNECTIONS FROM DETECTOR TO RELAY. CONTROLS CONTRACTOR SHALL PROVIDE WIRE AND CONNECTIONS FROM CONTROL RELAY TO AIR HANDLING UNIT. IF A FIRE ALARM SYSTEM IS NOT PROVIDED THE MECHANICAL CONTRACTOR IS TO PROVIDE AND INSTALL DUCT DETECTOR, SHUT DOWN RELAY, REMOTE TEST SWITCH AND AUDIBLE/VISUAL INDICATOR. PROVIDE 2" FILTER RACKS WITH HINGED ACCESS DOOR.
2. PROVIDE CONDENSATE PUMP.

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LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO. 94813 ON 04/04/2019

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

Date:
04/04/2019

Sheet Number

SCHEDULES - MECHANICAL M1.03

MISCELLANEOUS EQUIPMENT SCHEDULES

DAIKIN COOLING ONLY DUCTLESS SPLIT SYSTEMS

MARK NO.	MODEL NO.	UNIT TYPE	NOMINAL TONS	SEER	VOLT/PH	MCA	MOCP	LINE LENGTH LIMITS (TOTAL / VERTICA)	WEIGHT	NOTES
HIGH SCHOOL										.
AC-H1 (outdoor)	RK24NMVJU	AIR CONDITIONER	2	18	208/230-1	18.3	20 A	98 FT / 66 FT	108	
AC-H1 (indoor)	FTK24NMVJU	WALL MOUNTED			Fed from outdoor	N/A	N/A		27	
.	.	.	.	.	.	.	.	.	.	.
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NOTES (PROVIDE ALL OF THESE ITEMS WITH ALL UNITS):

1. PROVIDE WITH FIELD INSTALLED CONDENSATE PUMP
2. INDOOR UNIT SHALL BE POWERED BY CONTINUOUS 14 AWG, 4 CORE WIRE FROM OUTDOOR UNIT. (NO SPLICES)
3. PROVIDE WITH PROGRAMMABLE WIRED REMOTE
4. PROVIDE WITH FIELD INSTALLED HAIL GUARD (STANDARD FACTORY GRILLE NOT ACCEPTABLE)
5. PLEASE CONTACT DIRECT EXPANSION SOLUTIONS FOR PRICING ASSISTANCE @ 512-940-3435

MISCELLANEOUS EQUIPMENT SCHEDULES

GAS-FIRED UNIT HEATERS (SEPARATE COMBUSTION)

GAS-FIRED UNIT HEATER (GUH):
REZNOR MODEL UDAS GAS-FIRED, SEPARATED COMBUSTION, LOW STATIC, UNIT HEATER, 82% - 83% THERMAL EFFICIENCY AND DESIGNED FOR USE WITH NATURAL OR PROPANE GAS. IN SIZES FROM 30,000 TO 400,000 BTUH GAS INPUT. HEATER IS DESIGNED FOR CEILING SUSPENSION WITH A PROPELLER FAN FOR AIR DELIVERY. PROVIDE EACH UNIT WITH 24 V THERMOSTAT AND A HORIZONTAL OR VERTICAL COMBUSTION AIR/VENT KIT INCLUDING CONCENTRIC ADAPTOR.

ACCESSORIES:

1. SINGLE STAGE PROPANE GAS VALVE
2. TWO STAGE NATURAL GAS VALVE
3. TWO STAGE PROPANE GAS VALVE
4. STAINLES STEEL HEAT EXCHANGER
5. 208 V / 1 PH
6. VERTICAL LOUVERS
7. DOWNTURN NOZZEL KIT
8. PROPANE CONVERSION KIT
9. CEILING SUSPENSION KIT

MARK NO.	MODEL NO.	HEATING INPUT MBTUH	VENT DIAMETER	VOLTS / FLA	WEIGHT LBS	ACCESSORIES
HIGH SCHOOL	.	.	.	.	.	.
GUH-1	UDAS-75	75	4" / 4"	115 / 3.3	85	2, 4, 7
GUH-2	UDAS-75	75	4" / 4"	115 / 3.3	85	2, 4, 7
.	.	.	.	.	.	.

DRYER BOX / ROOF HOOD

DRYER BOX (DB):
ROUGH-IN BOX FOR RESIDENTIAL STYLE CLOTHES DRYERS, AS MANUFACTURED BY IN-O-VATE TECHNOLOGIES, INC. OR EQUAL.

DRYER JACK - ROOF HOOD (DJ):
FLAT ROOF JACK FOR DRYER EXHAUST BY IN-O-VATE, PROVIDE WITH ROOF CURB .

IN-O-VATE TECHNOLOGIES INC. CONTACT INFORMATION: 888-443-7937 info@dryerbox.com

MARK NO.	MODEL NO.	WALL SIZE	EXHAUST DIRECTION	.	.	.
DB-1	480	2 x 6	UP	.	.	.
DB-2	350	2 x 4	UP	.	.	.
DB-3	480	2 x 6	DOWN	.	.	.
DB-4	3D	2 x 4	DOWN	.	.	.
.	.	.	.	.	.	.
DJ-1	DJK486U	.	.	.	.	.
.	.	.	.	.	.	.

LOUVERS

LOUVER (L):
GREENHECK MODEL ESD-403, 4 INCH DEEP EXTRUDED ALUMINUM CONSTRUCTION. VERIFY FINISH WITH ARCHITECT PRIOR TO ORDERING. COORDINATE FRAME TYPE WITH ARCHITECT AND BUILDING CONSTRUCTION. PROVIDE WITH 1/8" X 1/8" GALVANIZED HARDWARE CLOTH BEE SCREEN.

MARK NO.	SIZE (W x H)	CFM	MAX. VELOCITY FPM	PRESSURE DROP	WATER PENETRATION	STORM/WND RESISTANT
L-H1	36 x 24	1200	500	.	.	.
L-H2	48 x 40	2700	500	.	.	.
L-H3	48 x 48	3000	500	.	.	.
L-H4	48 x 48	3000	500	.	.	.
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RELIANCE ARCHITECTURE

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1306 Barrington Dr.
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LOC Consultants
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STATE OF TEXAS
B.J. HENDRIX
94813
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Bond 2018
Brady, Texas

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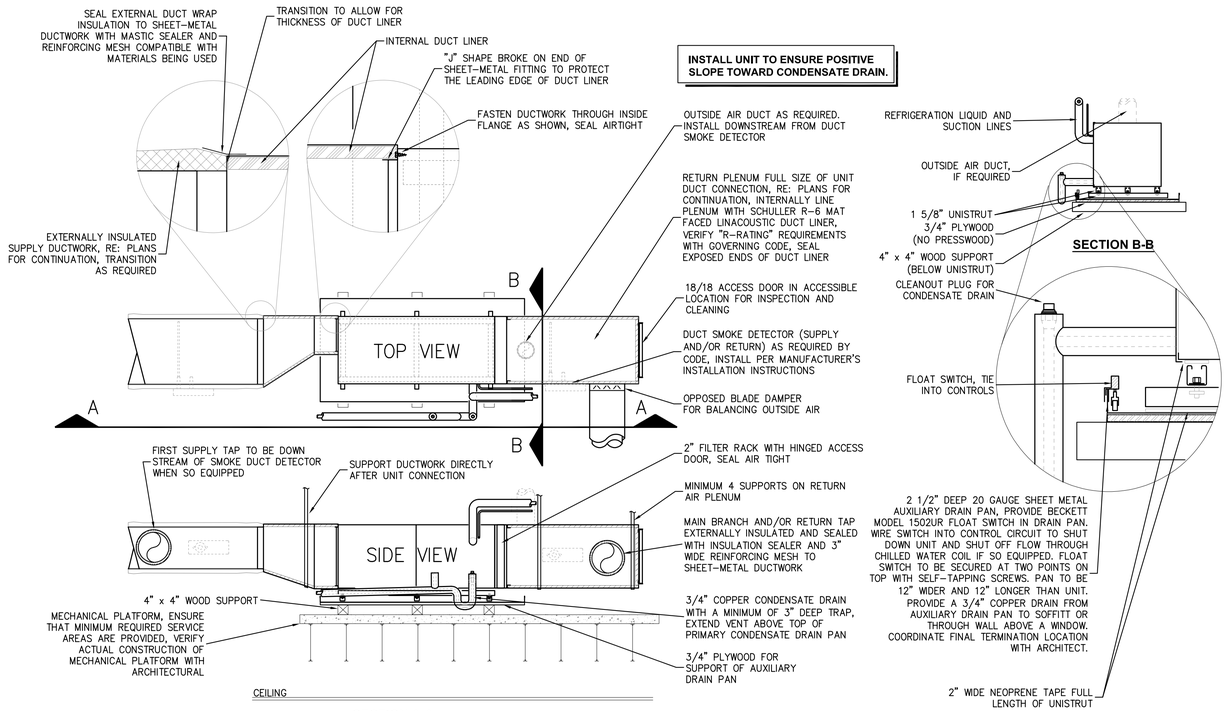
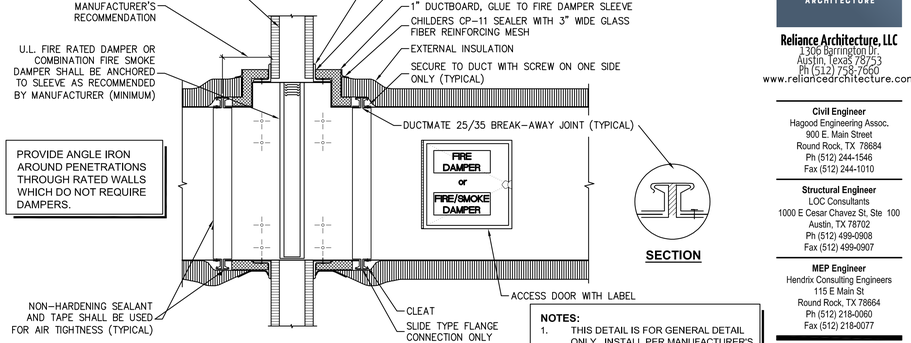
SCHEDULES - MECHANICAL M1.04



MECHANICAL PLATFORM AIR HANDLING UNIT DETAIL

NO SCALE MDE126



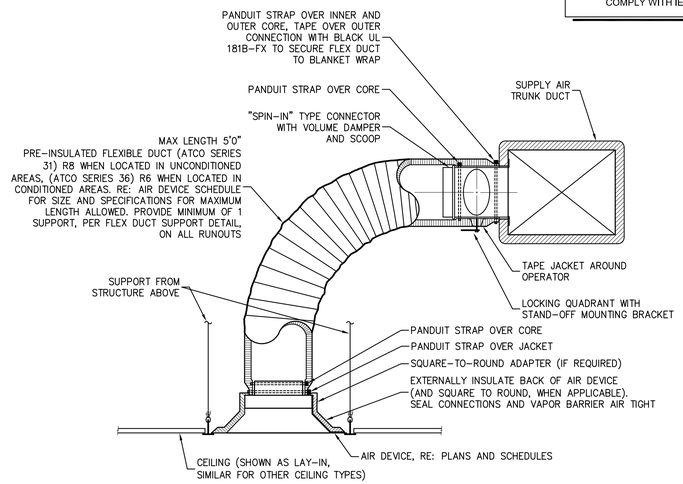
FIRE DAMPER OR COMBINATION FIRE/SMOKE DAMPER

RATED WALL PENETRATION

NO SCALE MDE23

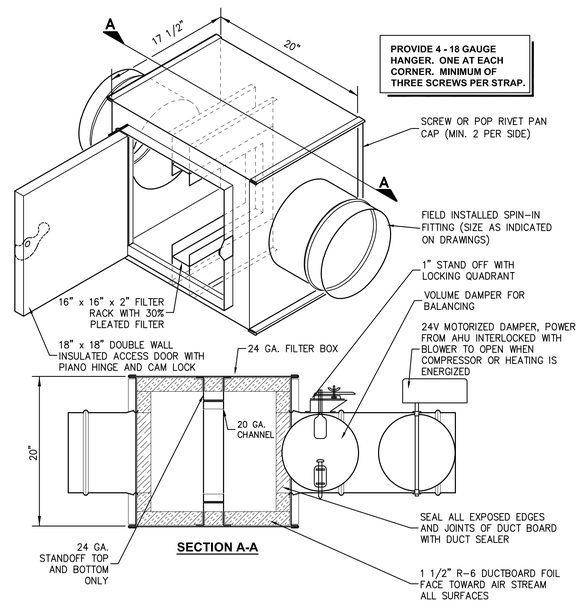
NOTES:

1. THIS DETAIL IS FOR GENERAL DETAIL ONLY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. SUBMIT MANUFACTURER'S RECOMMENDED INSTALLATION DETAIL AT SUBMITTAL TIME.
3. ONE COPY OF MANUFACTURER'S RECOMMENDED INSTALLATION DETAIL TO BE KEPT ON JOB SITE.
4. PROVIDE DAMPERS WITH UL RATINGS (1.5 OR 3 HR) THAT MATCH WALL RATINGS. VERIFY WALL TYPE WITH ARCHITECTURAL PLANS PRIOR TO ORDERING DAMPERS.
5. ALL TAPES AND MASTICS MUST COMPLY WITH IECC.



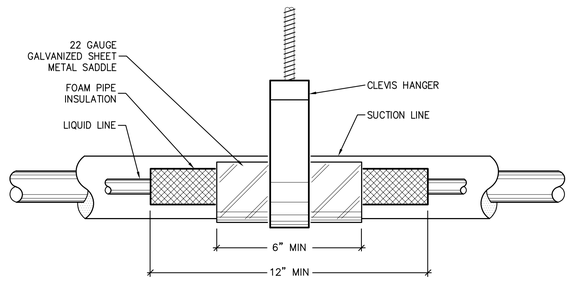
CEILING SUPPLY AIR DEVICE CONNECTION DETAIL

NO SCALE MDE17



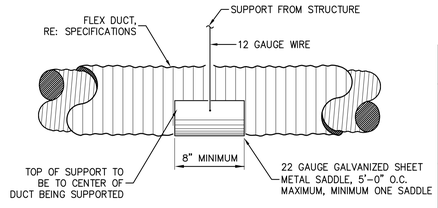
INSULATED FILTER BOX

NO SCALE MDE71



REFRIGERANT PIPING SUPPORT DETAIL

NO SCALE MDE24



FLEX. DUCT SUPPORT DETAIL

NO SCALE MDE19

Reliance Architecture, LLC
1306 Barrington Dr.
Austin, Texas 78753
Ph (512) 758-7660
www.reliancearchitecture.com

Civil Engineer
Hagood Engineering Assoc.
900 E. Main Street
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Fax (512) 244-1010

Structural Engineer
LOC Consultants
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HENDRIX CONSULTING ENGINEERS

F - 4095

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Brady Independent School District
Bond 2018
Brady, Texas

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04/04/2019

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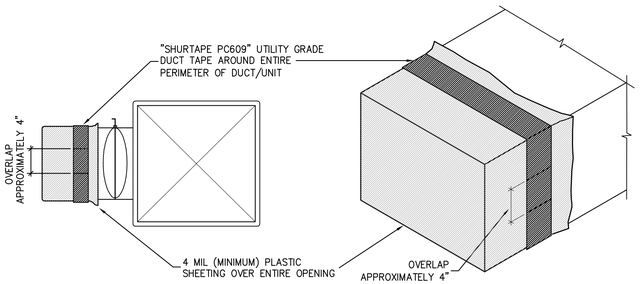
DETAILS - MECHANICAL M1.05



SPIN-IN **OPEN DUCT/UNIT CONNECTION**

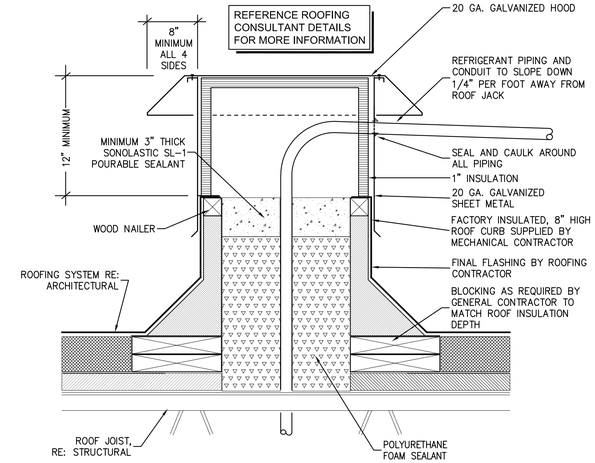
A. CAP OPEN ENDS OF ALL DUCTS (INCLUDING SPIN-INS) AND EQUIPMENT WITH PLASTIC TO PREVENT CONSTRUCTION DEBRIS AND DUST FROM ENTERING OPENINGS DURING CONSTRUCTION.

B. COVER ALL OPEN ENDS OF DUCTWORK WHILE SITTING ON GROUND (NOT INSTALLED). ALL PREFABRICATED DUCTWORK IN SHOP SHALL COME WITH ENDS PREWRAPPED WHEN DELIVERED TO THE SITE.

C. CONTRACTOR SHALL CLEAN ALL DUCTWORK THAT IS NOT PROTECTED PROPERLY DURING CONSTRUCTION.

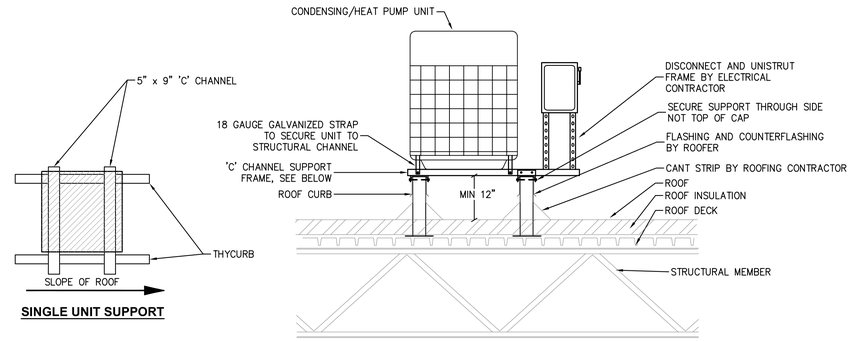
DIRT BUSTER DETAIL

NO SCALE MDE10



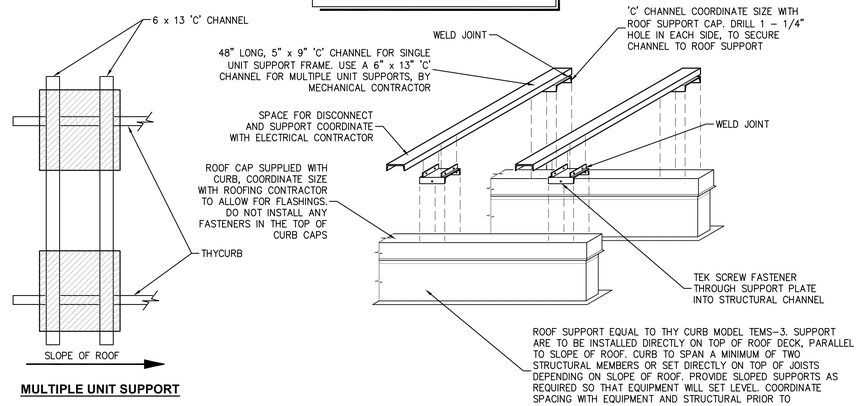
ROOF JACK DETAIL

NO SCALE MDE69



SINGLE UNIT SUPPORT

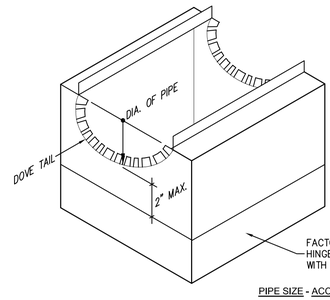
ALL MATERIAL IS TO BE HOT DIPPED GALVANIZED AFTER ALL CUTS, WELDS AND HOLES HAVE BEEN COMPLETED.



MULTIPLE UNIT SUPPORT

CONDENSING UNIT SUPPORT DETAIL

SCALE: NONE MDE93

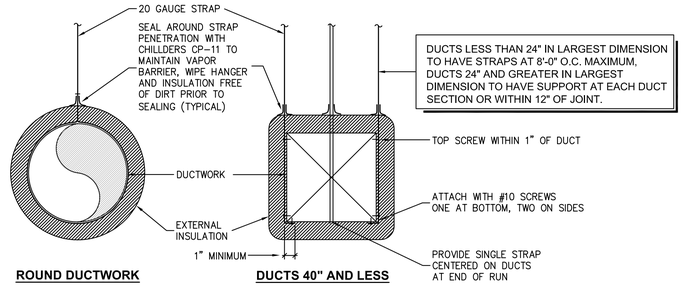


PIPE SIZE - ACCESS DOOR SIZE

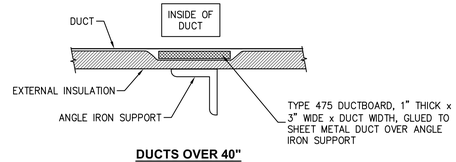
6" ø – 10 x 10
8" ø – 10 x 10
10" ø – 12 x 12
12" ø – 12 x 12
14" ø – 12 x 12

SADDLE TAP FOR ACCESS DOOR IN ROUND PIPE

NO SCALE MDE67



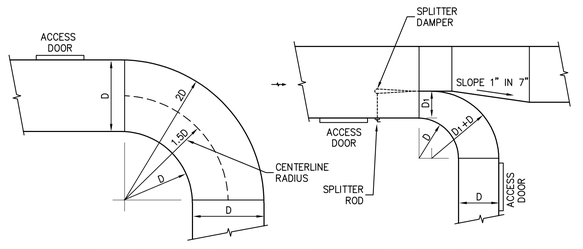
ROUND DUCTWORK **DUCTS 40" AND LESS**



DUCTS OVER 40"

DUCT DETAILS

NO SCALE MDE08



LONG RADIUS RECTANGULAR ELBOW **UNEQUAL SPLIT LONG RADIUS**

EQUAL SPLIT LONG RADIUS **UNEQUAL SPLIT LONG RADIUS**

SPLITTER DETAIL

NO SCALE MDE06

Reliance Architecture, LLC
1306 Barrington Dr.
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MEP Engineer
Hendrix Consulting Engineers
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Brady Independent School District
Bond 2018
Brady, Texas

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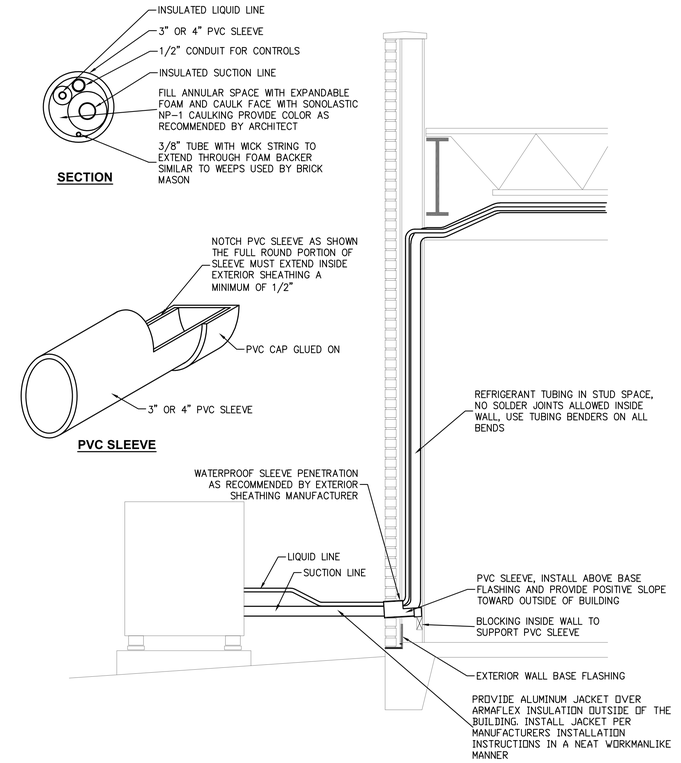
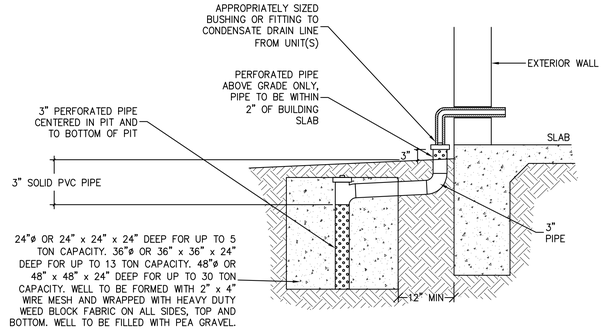
DETAILS - MECHANICAL M1.06



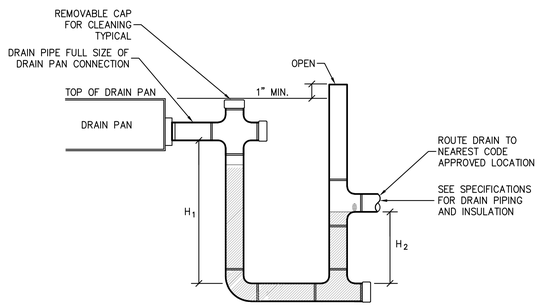
REFRIGERANT PIPING WALL PENETRATION DETAIL

SCALE: NO SCALE MDE108



DRYWELL DETAIL

SCALE: NONE MDE86



CALCULATE TRAP DIMENSIONS USING FORMULAS OR DIMENSIONS LISTED BELOW. USE MANUFACTURER'S RECOMMENDATION IF MORE STRINGENT.

FORMULAS FOR DRAW-THRU UNITS

H_1 = NEGATIVE STATIC PRESSURE x 1.5 +3.5"
H_2= NEGATIVE STATIC PRESSURE x 0.75 + 2.5"

MINIMUM DIMENSIONS FOR RESIDENTIAL AIRHANDLERS AND FURNACES UP TO 5 TONS

H_1= 5"
H_2= 3.5"

FORMULAS FOR BLOW-THRU UNITS

$H_1 = H_2$+ 0.5"
H_2= MAXIMUM POSITIVE STATIC PRESSURE x 1.5

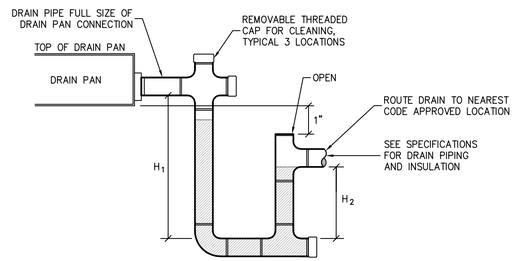
MINIMUM DIMENSIONS FOR RESIDENTIAL AIR HANDLERS AND FURNACES UP TO 5 TONS

H_1 = 3"
H_2= 1.5"

INSTALL 90 DEGREE ELBOW IN OVERFLOW DRAIN CONNECTION OF DRAIN PAN, TURN DOWN INTO AUXILIARY PAN WITH FLOAT SWITCH AND PIPED OFF IF SHOWN OR CALLED OUT ON PLANS

TRAP DETAIL FOR AHU WITH OVERFLOW DRAIN CONNECTION

NO SCALE MDE117



USE DIMENSIONS LISTED BELOW UNLESS MANUFACTURER'S RECOMMENDATIONS ARE MORE STRINGENT

RTU'S AND MULTIZONE RTU'S

H_1 = 9"
H_2= 6"

MAU'S

H_1 = 12"
H_2= 9"

DEEP SEAL TRAP DETAIL FOR RTU'S AND MAU'S

NO SCALE MDE118A

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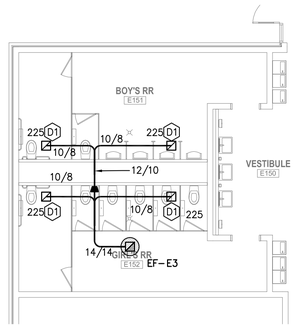
DETAILS - MECHANICAL M1.07

KEYED NOTES

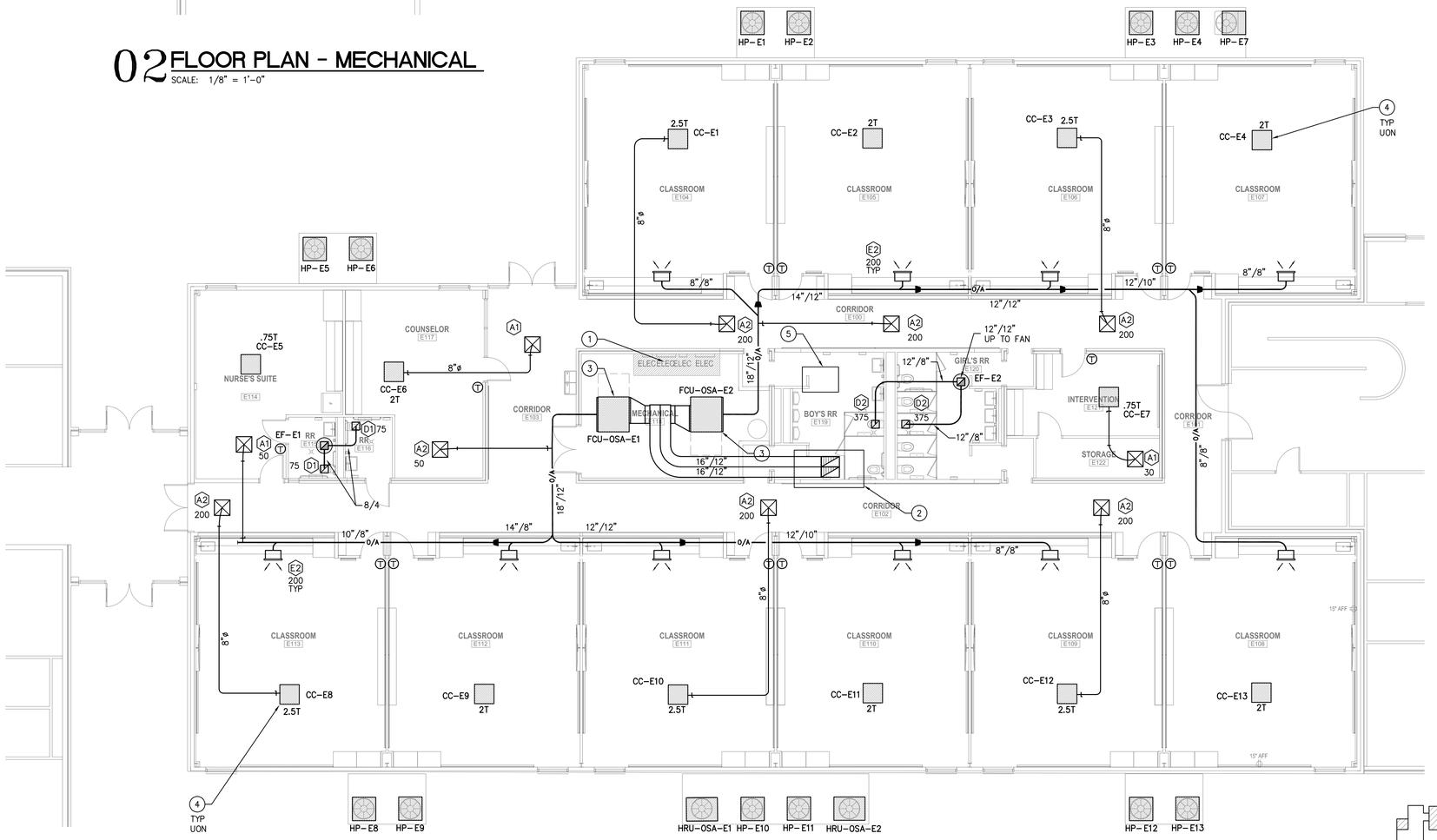
THESE NOTES APPLY TO THIS SHEET ONLY

1. DO NOT ROUTE ANY DUCTWORK ABOVE THIS AREA.
2. EXISTING HOOD ON ROOF TO BE REUSED FOR OUTSIDE AIR INTAKE. PROVIDE INSULATED PLENUM BELOW HOOD FOR NEW OUTSIDE AIR INTAKE DUCT(S) TO CONNECT TO.
3. UNIT TO BE SUSPENDED FROM STRUCTURE. ROUTE CONDENSATE TO FLOOR DRAIN IN ROOM.
4. ROUTE PUMPED CONDENSATE TO DRYWELL ON EXTERIOR OF BUILDING. REFERENCE DETAIL ON DETAIL SHEETS.
5. EXISTING HOOD ON ROOF TO REMAIN. INSULATE INSIDE OF DUCT AND CAP DUCT AIRTIGHT BELOW ROOF.



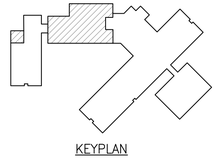
02 FLOOR PLAN - MECHANICAL

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



01 ELEMENTARY FLOOR PLAN - MECHANICAL

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



KEYPLAN

ELEMENTARY FLOOR PLAN - MECHANICAL M2.01

Reliance Architecture, LLC
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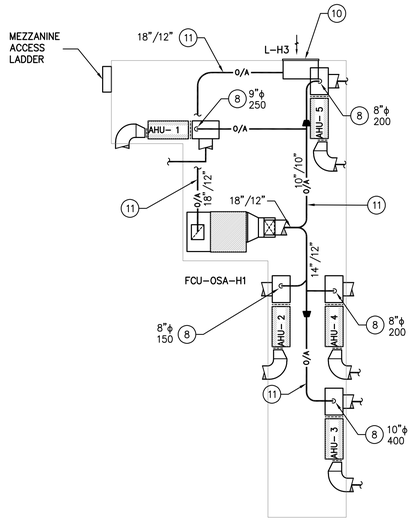
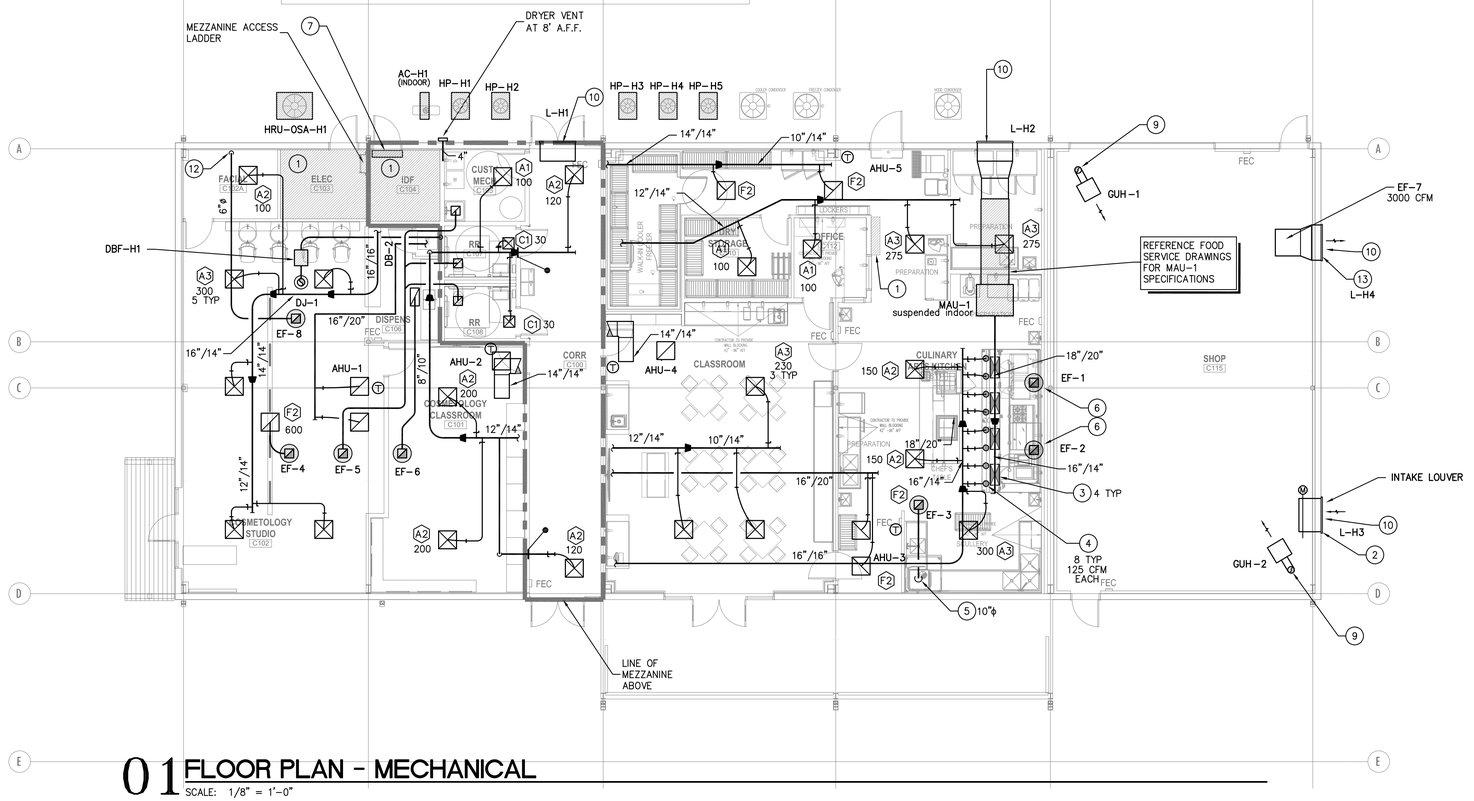


01 MEZZANINE PLAN - MECHANICAL

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



01 FLOOR PLAN - MECHANICAL

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

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. DO NOT ROUTE ANY DUCTWORK ABOVE THIS AREA.
2. OUTSIDE AIR INTAKE LOUVER. REFERENCE ARCHITECTURAL FOR EXACT LOCATION. PROVIDE 24" DEEP EXTERNALLY WRAPPED SHEET METAL PLENUM FULL SIZE OF LOUVER ON BACK OF LOUVER. BOTTOM OF PLENUM TO BE WELDED WATERTIGHT AND SLOPED TO DRAIN TOWARDS EXTERIOR.
3. CONNECT MAKE UP AIR TO HOOD CONNECTIONS. COORDINATE EXACT SIZE WITH HOOD MANUFACTURER.
4. CONNECT A/C TO HOOD A/C CONNECTIONS.
5. STAINLESS STEEL EXHAUST DUCT FROM DISHWASHER HOOD UP TO EXHAUST FAN. PROVIDE ALL TRANSITIONS TO MAKE CONNECTIONS. STAINLESS STEEL DUCT TO BE SLOPED TO DRAIN TOWARDS DISHWASHER HOOD. SOLDER ALL JOINTS WATERTIGHT.
6. GREASE DUCT WITH FIRE WRAP CONSTRUCTED PER SPECIFICATIONS. PROVIDE ALL TRANSITIONS REQUIRED TO MAKE SYSTEM OPERATIONAL.
7. ROUTE CONDENSATE TO SERVICE SINK IN ADJACENT ROOM.
8. NEUTRAL OUTSIDE AIR DOWN TO CONNECT TO RETURN AIR PLENUM. PROVIDE MANUAL DAMPER FOR BALANCING.
9. FLUE AND COMBUSTION AIR UP TO MANUFACTURERS CONCENTRIC ROOF TERMINATION.
10. VERIFY EXACT MOUNTING LOCATIONS ON SIDEWALL WITH ARCHITECT AND BUILDING STRUCTURE.
11. DUCT TO BE ROUTED HIGH TO ALLOW MAXIMUM HEADROOM FOR ACCESS BELOW DUCT.
12. EXHAUST DUCT DOWN TO MANICURE TABLE.
13. EXHAUST AIR LOUVER. REFERENCE ARCHITECTURAL FOR EXACT LOCATION. PROVIDE 12" DEEP EXTERNALLY WRAPPED SHEET METAL PLENUM FULL SIZE OF LOUVER ON BACK OF LOUVER. BOTTOM OF PLENUM TO BE WELDED WATERTIGHT AND SLOPED TO DRAIN TOWARDS EXTERIOR.

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO: 94813
ON: 04/04/2019

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

Date:
04/04/2019

Sheet Number
M2.02

KEYPLAN

CAREER CENTER FLOOR PLAN - MECHANICAL

DO NOT BEGIN SITE UTILITY WORK UNTIL DRAWINGS HAVE BEEN RECEIVED FROM UTILITY COMPANY.

UTILITY COMPANY CONTACT:
CITY OF BRADY ELECTRIC

ELECTRIC SUPERVISOR:
JOE SOLIS
PHONE: (325) 597-2244
EMAIL: jsolis@bradytx.us

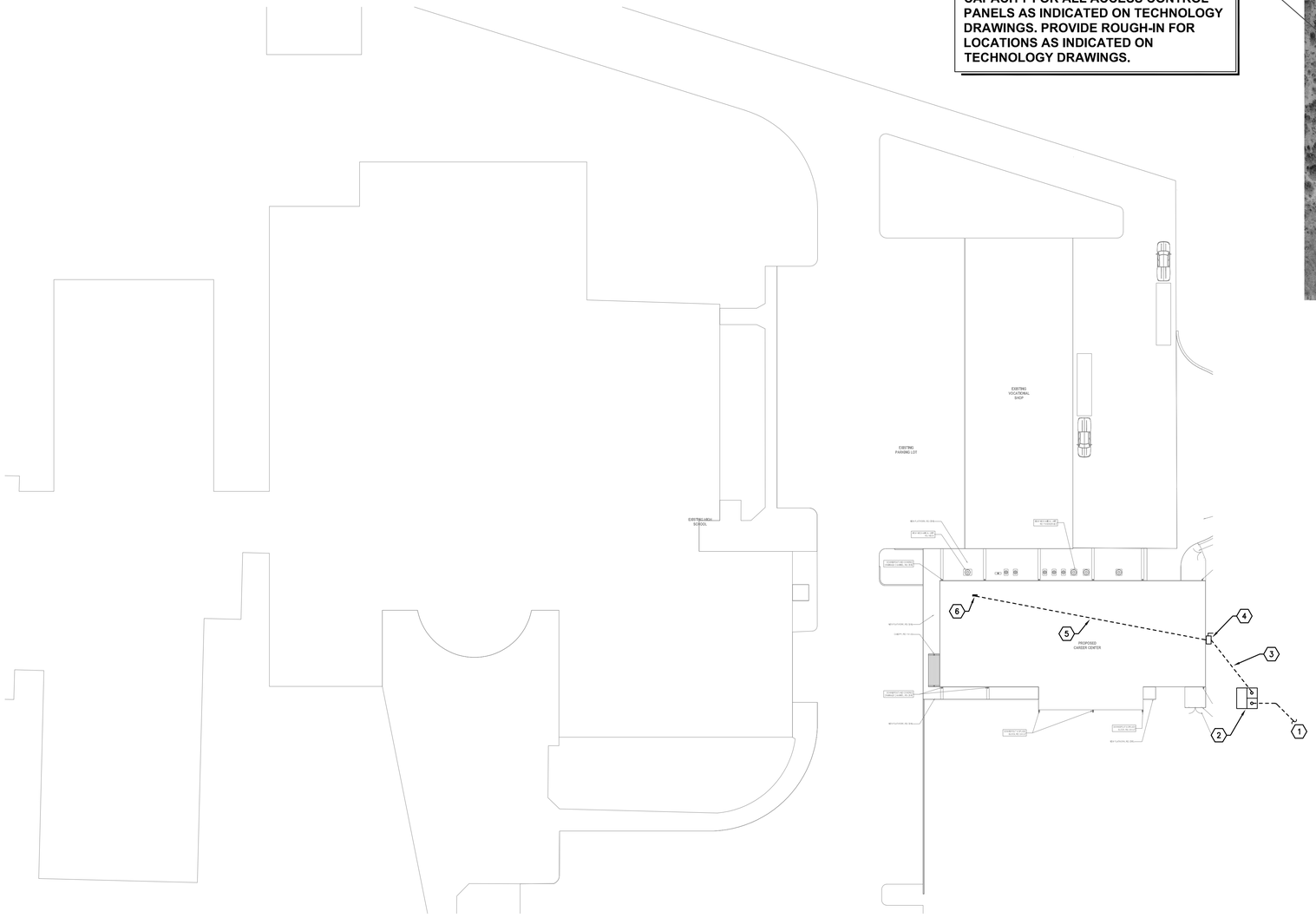
UTILITY COMPANY TO DETERMINE SERVICE TRANSFORMER SIZES. DO NOT BEGIN ANY UTILITY WORK UNTIL UTILITY DRAWINGS HAVE BEEN ISSUED BY UTILITY COMPANY. UTILITY COMPANY TO PROVIDE AVAILABLE FAULT CURRENT WHEN AVAILABLE.

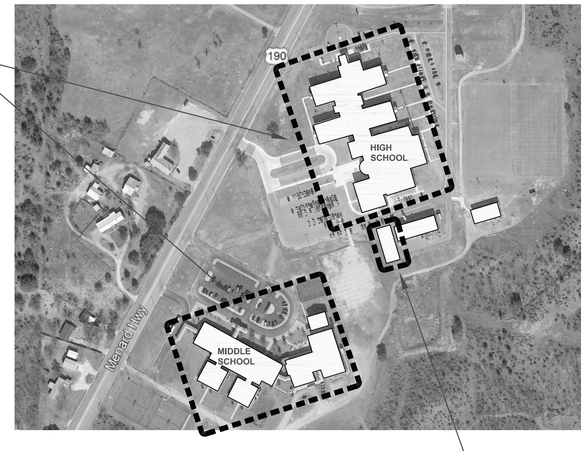
KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. PRIMARY CONDUIT TO RISER POLE PROVIDE AND INSTALLED BY UTILITY COMPANY.
2. APPROXIMATE LOCATION FOR UTILITY TRANSFORMER. COORDINATE EXACT LOCATION WITH UTILITY COMPANY. PAD BY CONTRACTOR PER UTILITY COMPANY REQUIREMENTS.
3. UNDERGROUND SECONDARY TO BUILDING SERVICE DISCONNECT. REFERENCE RISER DIAGRAM FOR MORE INFORMATION.
4. APPROXIMATE LOCATION OF BUILDING SERVICE DISCONNECT. FIELD COORDINATE EXACT LOCATION.
5. ROUTE CONDUIT AND CONDUCTORS UNDERGROUND FROM DISCONNECT TO PANEL 'LDP' IN ELECTRIC ROOM. REFERENCE RISER DIAGRAM FOR MORE INFORMATION.
6. APPROXIMATE LOCATION OF PANEL 'LDP' IN ELECTRIC ROOM. REFERENCE FLOOR PLANS FOR EXACT LOCATION.

ELECTRICAL CONTRACTOR SHALL REFERENCE ALL TECHNOLOGY SHEETS FOR ADDITIONAL WORK AS REQUIRED IN BUILDINGS NOT SHOWN ON ELECTRICAL FLOOR PLANS, (AREAS INDICATED INSIDE DASHED LINES). CONTRACTOR SHALL PROVIDE DEDICATED CIRCUITS FROM NEAREST PANEL WITH AVAILABLE CAPACITY FOR ALL ACCESS CONTROL PANELS AS INDICATED ON TECHNOLOGY DRAWINGS. PROVIDE ROUGH-IN FOR LOCATIONS AS INDICATED ON TECHNOLOGY DRAWINGS.





01 SITE PLAN - CAREER CENTER - ELECTRICAL
SCALE: 1/8" = 1'-0"

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REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HENDRIX CONSULTING ENGINEERS

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Brady, Texas

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SITE PLAN - CAREER CENTER - ELECTRICAL E100A

DO NOT BEGIN SITE UTILITY WORK UNTIL DRAWINGS HAVE BEEN RECEIVED FROM UTILITY COMPANY.

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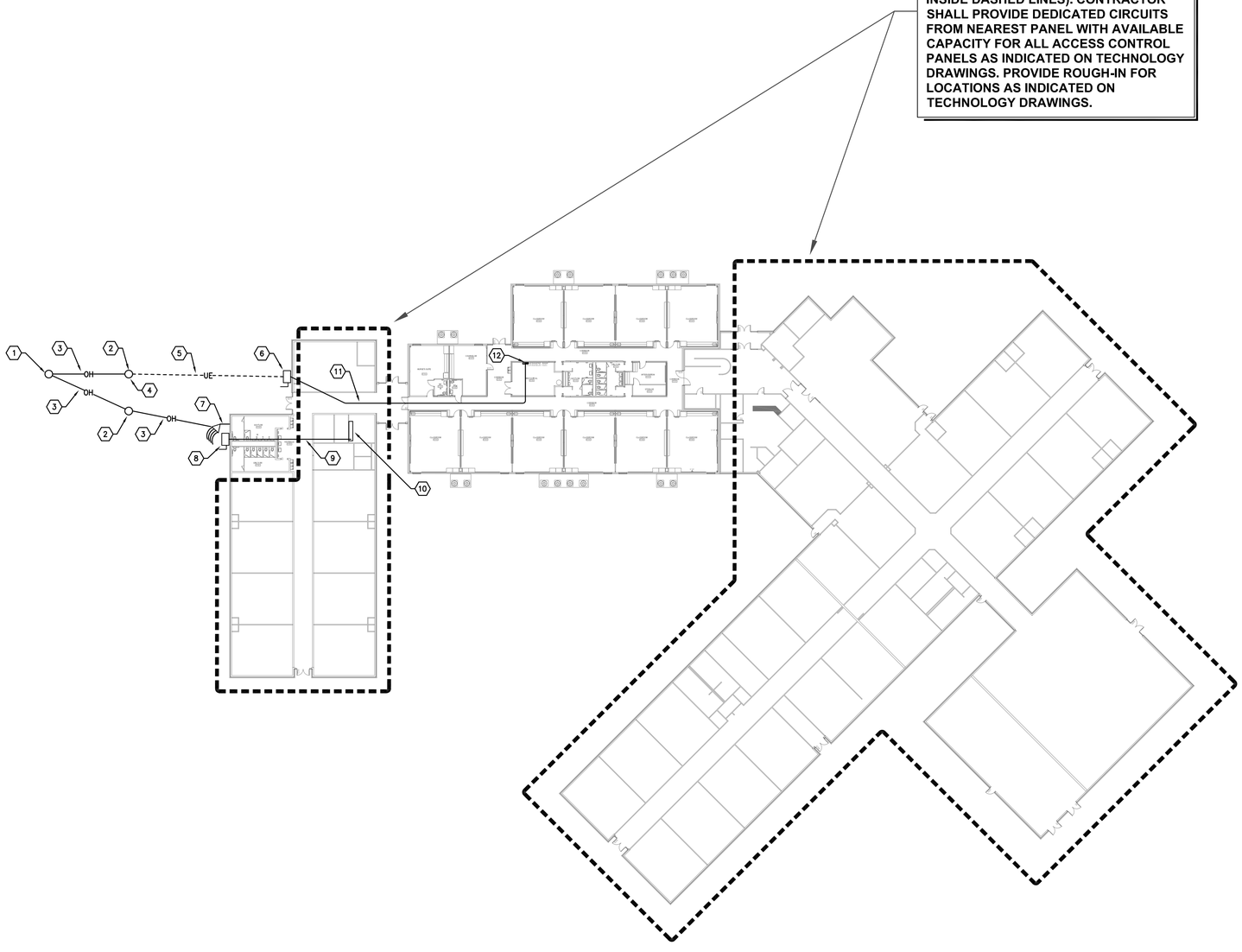
UTILITY COMPANY TO DETERMINE SERVICE TRANSFORMER SIZES. DO NOT BEGIN ANY UTILITY WORK UNTIL UTILITY DRAWINGS HAVE BEEN ISSUED BY UTILITY COMPANY. UTILITY COMPANY TO PROVIDE AVAILABLE FAULT CURRENT WHEN AVAILABLE.

ELECTRICAL CONTRACTOR SHALL REFERENCE ALL TECHNOLOGY SHEETS FOR ADDITIONAL WORK AS REQUIRED IN BUILDINGS NOT SHOWN ON ELECTRICAL FLOOR PLANS, (AREAS INDICATED INSIDE DASHED LINES). CONTRACTOR SHALL PROVIDE DEDICATED CIRCUITS FROM NEAREST PANEL WITH AVAILABLE CAPACITY FOR ALL ACCESS CONTROL PANELS AS INDICATED ON TECHNOLOGY DRAWINGS. PROVIDE ROUGH-IN FOR LOCATIONS AS INDICATED ON TECHNOLOGY DRAWINGS.



01 SITE PLAN - ELEMENTARY - ELECTRICAL
SCALE: 1" = 30'-0"

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1	EXISTING UTILITY POLE WITH TRANSFORMERS AND METER TO REMAIN.
2	EXISTING UTILITY POLE TO REMAIN.
3	EXISTING OVERHEAD ELECTRIC TO REMAIN.
4	CONTRACTOR TO REMOVE EXISTING CONDUIT RISERS AND BREAKER ENCLOSURE ON POLE AND PROVIDE NEW RISERS AS REQUIRED BY UTILITY COMPANY. REFERENCE RISER DIAGRAM.
5	ROUTE 4#600KCM IN A 4" CONDUIT UNDERGROUND FROM EXISTING POLE TO NEW BUILDING SERVICE DISCONNECT. COORDINATE REQUIREMENTS FOR RISER UP POLE WITH UTILITY COMPANY.
6	PROVIDE A NEW 400 AMP BUILDING SERVICE DISCONNECT. FIELD COORDINATE EXACT LOCATION. REFERENCE RISER DIAGRAM AND DISCONNECT SCHEDULE FOR MORE INFORMATION.
7	REMOVE EXISTING WEATHER HEAD, CONDUIT/WIRING BACK TO PANEL 'DPE'. REPAIR WALL TO A WATER TIGHT CONDITION.
8	PROVIDE A NEW 600 AMP BUILDING SERVICE DISCONNECT. FIELD COORDINATE EXACT LOCATION. REFERENCE RISER DIAGRAM AND DISCONNECT SCHEDULE FOR MORE INFORMATION.
9	ROUTE (2) SETS OF 4 # 350 KCM AND 1 # 1 GROUND, EACH SET IN A 3" CONDUIT. ROUTE TO EXISTING PANEL 'DPE' IN ELECTRIC ROOM. FIELD VERIFY EXISTING CONDITION AND ROUTING REQUIREMENTS PRIOR TO BID.
10	APPROXIMATE LOCATION OF PANEL 'DPE'. FIELD VERIFY EXACT LOCATION.
11	ROUTE 4 # 600 KCM AND 1 # 3 GROUND IN A 4" CONDUIT OVERHEAD TO NEW PANEL 'L1' LOCATION. FIELD VERIFY EXISTING CONDITIONS AND ROUTING REQUIREMENTS PRIOR TO BID.
12	APPROXIMATE LOCATION OF PANEL 'L1'. REFERENCE FLOOR PLANS FOR EXACT LOCATION.

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Brady Independent School District
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REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

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SITE PLAN - ELEMENTARY - ELECTRICAL

GENERAL NOTES

A. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.

B. CONTRACTOR IS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.

C. ALL WORK SHALL COMPLY WITH THE CURRENT APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY NFPA, BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, NATIONAL ELECTRICAL CODE, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT, EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN. THE CONTRACTOR SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT.

D. THE ELECTRICAL CONTRACTOR SHALL VERIFY SIZES OF BREAKERS, FUSES, WIRES, ETC., FOR ALL EQUIPMENT PROVIDED AND REPORT DISCREPANCIES TO THE ENGINEER/ARCHITECT PRIOR TO INSTALLATION OF CONDUIT. COORDINATE WITH MECHANICAL/ELECTRICAL COORDINATION SHEET PROVIDED BY MECHANICAL CONTRACTOR FOR ACTUAL EQUIPMENT BEING USED.

E. HOMERUNS SHALL BE COORDINATED WITH PANELBOARDS. ALL WIRING AND CONDUIT SHALL BE CONCEALED, EXCEPT IN ELECTRICAL ROOMS AND EXPOSED STRUCTURE AREAS.

F. ALL WIRING SHALL BE FREE OF SHORTS AND GROUNDS. NO WIRING SHALL BE LOADED BEYOND THE PERMITTED AMPACITIES ALLOWED BY CURRENT N.E.C.

G. MINIMUM WIRE/CONDUIT SIZES, EXCEPT FOR CLASS 2 LOW VOLTAGE CIRCUITS, ARE #12 AWG COPPER IN 1/2" CONDUIT. WHERE THE DISTANCE BETWEEN THE SUPPLYING PANEL AND THE FIRST BRANCH CIRCUIT RECEPTACLE OR LIGHT FIXTURE IS MORE THAN 100 FEET, UP SIZE CONDUCTOR TO ALLOW FOR MAXIMUM OF 3% VOLTAGE DROP FOR ACTUAL ROUTING OF CONDUITS TO DEVICE.

H. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO MAKE A COMPLETE AND WORKABLE SYSTEM.

I. CONFIRM THE EXACT LOCATION AND MOUNTING HEIGHTS OF LIGHTING FIXTURES WITH ARCHITECT BEFORE ROUGH-IN. COORDINATE REQUIRED CLEARANCES ABOVE FIXTURES WITH OTHER TRADES.

J. PROVIDE A TYPED PANEL DIRECTORY FOR ALL PANELBOARDS INDICATING FINAL INSTALLED CONDITION. CIRCUIT LABELING SHALL AGREE WITH EQUIPMENT DESIGNATIONS AND OWNERS FINAL ROOM NUMBERS.

K. LABEL ALL RECEPTACLES AND LIGHT SWITCHES WITH CIRCUIT NUMBER USING AN ELECTRONIC LABELER (BLACK ON CLEAR).

L. THE CONTRACTOR IS TO LAY OUT SERVICE ENTRANCE AND ELECTRIC ROOMS TO SCALE WITH ACTUAL GEAR TO BE INSTALLED TO ENSURE PROPER FIT AND CLEARANCES BEFORE INSTALLATION. COORDINATE ALL SERVICE CLEARANCE REQUIREMENTS WITH LOCAL UTILITY COMPANY. PROVIDE A 1/4" SCALE (MINIMUM) SHOP DRAWING. NOTIFY ARCHITECT/ENGINEERS OF ANY DIMENSIONAL PROBLEMS.

M. COORDINATE AND WIRE ALL DOOR HOLD OPEN DEVICES, AS REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS. ROUTE 120 VOLT POWER FROM NEAREST AVAILABLE CIRCUIT AS REQUIRED. PROVIDE ALL WIRING NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.

N. CONDUITS ROUTED TO ROOF SHALL BE INSTALLED IN SAME ROOF JACK AS MECHANICAL ELEMENTS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ROOF JACK WHERE NO MECHANICAL ELEMENTS EXIST.

O. PROVIDE SLEEVES FOR SPECIAL SYSTEMS ABOVE EACH DOOR INTO A RATED EGRESS CORRIDOR, (1 - 2" AND 3 - 3/4"). FIRE SEAL ENDS AND UNUSED SLEEVES SHALL HAVE A SCREW CAP INSTALLED ON BOTH SIDES. USE THREADED CONDUIT.

P. ALL RECEPTACLES SERVING ELECTRIC WATER COOLERS SHALL BE LOCATED AT A HEIGHT SO AS NOT TO BE VISIBLE AFTER INSTALLATION OF EWC. COORDINATE MOUNTING HEIGHT WITH EQUIPMENT BEING PROVIDED. PROTECT WITH GFCI BREAKER.

Q. ALL CONDUITS ROUTED BELOW FINISHED FLOOR SHALL BE RUN BELOW THE GRADE BEAMS. CONDUITS AND MULTIPLE CONDUITS SHALL NOT PENETRATE GRADE BEAMS UNLESS COORDINATED WITH STRUCTURAL ENGINEER. OBTAIN WRITTEN APPROVAL FROM STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK.

R. ALL EXPOSED CONDUIT SHALL BE RUN PARALLEL AND PERPENDICULAR TO STRUCTURE AND BUILDING LINES. COORDINATE FINAL CONDUIT ROUTING PATH WITH ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.

S. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL 120 VOLT WIRING AND CONNECTIONS REQUIRED TO FIRE/SMOKE DAMPERS. COORDINATE EXACT LOCATIONS OF DAMPERS WITH MECHANICAL CONTRACTOR AND RELAY REQUIREMENTS WITH FIRE ALARM CONTRACTOR. CONNECT TO NEAREST AVAILABLE UNSWITCHED CIRCUIT UNLESS OTHERWISE INDICATED ON DRAWINGS.

T. ELECTRICAL CONTRACTOR SHALL CONNECT MOTORIZED BACK DRAFT DAMPERS FOR EXHAUST FANS FROM CIRCUIT FEEDING FAN. PROVIDE ALL MATERIAL AND LABOR TO MAKE CONNECTIONS.

U. ELECTRICAL CONTRACTOR SHALL WIRE ALL EXHAUST FANS TO BE CONTROLLED PER "EXHAUST FAN SCHEDULE" ON MECHANICAL SHEET. ELECTRICAL CONTRACTOR TO PROVIDE ALL RELAYS, CONTACTORS, SPRING WOUND TIMERS, ETC., AS REQUIRED PER SCHEDULE TO OPERATE AND CONTROL EXHAUST FAN. IF NO CONTROL IS SPECIFIED, EXHAUST FAN SHALL ENERGIZE WHEN LIGHTS IN ANY ROOM IT SERVES ARE POWERED ON. REFERENCE DETAIL ON ELECTRICAL SHEET FOR ADDITIONAL INFORMATION.

V. ELECTRICAL CONTRACTOR TO SEAL ALL PENETRATIONS OF ELECTRICAL WORK IN FIRE AND SMOKE RATED PARTITIONS, CEILINGS, ETC.

W. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECTING MEANS AND PROPER FUSING PROTECTION FOR ALL EQUIPMENT PER N.E.C. UNLESS OTHERWISE NOTED.

X. COORDINATE ALL DEVICES IN MILLWORK WITH ARCHITECTURAL MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.

Y. SENSOR OPERATED PLUMBING DEVICES: PLUMBING CONTRACTOR TO PROVIDE LOW VOLTAGE TRANSFORMERS FROM MANUFACTURER. ELECTRICAL CONTRACTOR IS TO PROVIDE ALL OTHER MATERIALS AND LABOR FOR COMPLETE INSTALLATION.

Z. SPRAY PAINT JUNCTION BOXES RED FOR FIRE ALARM SYSTEM. ALL OTHER SPECIAL SYSTEM JUNCTION BOXES TO BE PAINTED WHITE.

AA. DO NOT HANG ANY FIXTURES, EQUIPMENT OR CONDUIT FROM ROOF DECK.

BB. LABEL ALL JUNCTION BOXES WITH CIRCUIT NUMBERS.

CC. IDENTIFY RECEPTACLE CIRCUITS IN PANELBOARDS TO INDICATE FINAL ROOM NUMBERS. VERIFY FINAL ROOM NUMBERS PRIOR TO TYPING PANELBOARD SCHEDULES.

DD. MECHANICALLY FASTEN ALL LABELS TO EQUIPMENT.

EE. ELECTRICAL CONTRACTOR TO OBTAIN "MECH/ELEC COORDINATION SHEET" FILLED OUT FROM MECHANICAL CONTRACTOR. THIS SHEET IS TO BE INCLUDED WITH ELECTRICAL GEAR/PANELBOARD SUBMITTAL. SUBMITTAL WILL NOT BE CHECKED WITHOUT THIS FORM INCLUDED.

FF. ELECTRICAL CONTRACTOR IS TO PROVIDE ROUGH-IN FOR ALL MECHANICAL CONTROL DEVICES IN WALLS AND PENETRATIONS FOR CONTROL WIRES TO EXTERIOR UNITS. COORDINATE ALL LOCATIONS WITH MECHANICAL CONTRACTOR AND MECHANICAL SHEETS.

GG. DISCONNECTS MOUNTED ABOVE CEILING MUST BE MOUNTED TO BE READILY ACCESSIBLE NEAR UNIT. HANDLE TO BE NO MORE THAN 36" ABOVE CEILING GRID.

HH. ALL EXTERIOR DISCONNECTS ARE TO BE MOUNTED BELOW LINE OF SIGHT OF A SCREEN WALL OR IF SINGLE DISCONNECT, LEVEL WITH TOP OF CONDENSER. VERIFY LOCATION WITH ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.

II. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ONE 120 VOLT, WEATHERPROOF GFCI DUPLEX RECEPTACLE WITHIN 25 FEET OF ALL PIECES OF NEW OR REPLACEMENT MECHANICAL EQUIPMENT LOCATED ON ROOF, MEZZANINE OR ON THE GROUND. CONNECT TO NEAREST AVAILABLE UNSWITCHED 120 VOLT 20 AMP CIRCUIT WITH LESS THAN 6 RECEPTACLES OR RUN TO NEAREST PANELBOARD AND PROVIDE HOMERUN WITH NEW 20 AMP CIRCUIT BREAKER.

ESC-19

BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE

NOTE:
A. PROVIDE INDIVIDUAL NEUTRALS FOR EACH CIRCUIT. NO SHARED NEUTRALS ALLOWED.

C – CONDUIT G – GROUND L – LINE OR PHASE N – NEUTRAL

MARK	WIRE AND CONDUIT	SYSTEM	MARK	WIRE AND CONDUIT	SYSTEM	MARK	WIRE AND CONDUIT	SYSTEM
(1)	2#12, 1/2"C.	LN	(31)	2#4, 1#8G., 1"C.	LLG	(61)	3#1/0, 1#6G., 2" C.	LLNG
(2)	2#12, 1#12G., 1/2" C.	LNG	(32)	3#4, 1" C.	LLL	(62)	3#1/0, 1#6G., 2" C.	LLLG
(3)	2#12, 1#12G., 1/2" C.	LLG	(33)	3#4, 1#8G., 1" C.	LLNG	(63)	4#1/0, 1#6G., 2" C.	LLLNG
(4)	3#12, 1/2" C.	LLL	(34)	3#4, 1#8G., 1" C.	LLLG	(64)	2#2/0, 1 1/2" C.	LN
(5)	3#12, 1#12G., 1/2" C.	LLNG	(35)	4#4, 1#8G., 1 1/4" C.	LLLNG	(65)	2#2/0, 1#4G., 1 1/2"C.	LNG
(6)	3#12, 1#12G., 1/2" C.	LLLG	(36)	2#3, 1" C.	LN	(66)	2#2/0, 1#4G., 1 1/2" C.	LLG
(7)	4#12, 1#12G., 1/2" C.	LLLNG	(37)	2#3, 1#8G., 1"C.	LNG	(67)	3#2/0, 1 1/2" C.	LLL
(8)	2#10, 1/2"C.	LN	(38)	2#3, 1#8G., 1" C.	LLG	(68)	3#2/0, 1#4G., 2" C.	LLNG
(9)	2#10, 1#10G., 1/2" C.	LNG	(39)	3#3, 1" C.	LLL	(69)	3#2/0, 1#4G., 2" C.	LLLG
(10)	2#10, 1#10G., 1/2" C.	LLG	(40)	3#3, 1#8G., 1 1/4" C.	LLNG	(70)	4#2/0, 1#4G., 2" C.	LLLNG
(11)	3#10, 1/2" C.	LLL	(41)	3#3, 1#8G., 1 1/4" C.	LLLG	(71)	2#3/0, 1 1/2" C.	LN
(12)	3#10, 1#10G., 1/2" C.	LLNG	(42)	4#3, 1#8G., 1 1/4" C.	LLLNG	(72)	2#3/0, 1#4G., 2" C.	LNG
(13)	3#10, 1#10G., 1/2" C.	LLLG	(43)	2#2, 1"C.	LN	(73)	2#3/0, 1#4G., 2" C.	LLG
(14)	4#10, 1#10G., 1/2" C.	LLLNG	(44)	2#2, 1#8G., 1" C.	LNG	(74)	3#3/0, 2" C.	LLL
(15)	2#8, 1/2" C.	LN	(45)	2#2, 1#8G., 1" C.	LLG	(75)	3#3/0, 1#4G., 2" C.	LLNG
(16)	2#8, 1#10G., 3/4" C.	LNG	(46)	3#2, 1 1/4" C.	LLL	(76)	3#3/0, 1#4G., 2" C.	LLLG
(17)	2#8, 1#10G., 3/4" C.	LLG	(47)	3#2, 1#8G., 1 1/4" C.	LLNG	(77)	4#3/0, 1#4G., 2 1/2" C.	LLLNG
(18)	3#8, 3/4" C.	LLL	(48)	3#2, 1#8G., 1 1/4" C.	LLLG	(78)	2#4/0, 2" C.	LN
(19)	3#8, 1#10G., 3/4" C.	LLNG	(49)	4#2, 1#8G., 1 1/4" C.	LLLNG	(79)	2#4/0, 1#4G., 2" C.	LNG
(20)	3#8, 1#10G., 3/4" C.	LLLG	(50)	2#1, 1 1/4" C.	LN	(80)	2#4/0, 1#4G., 2" C.	LLG
(21)	4#8, 1#10G., 1" C.	LLLNG	(51)	2#1, 1#6G., 1 1/4" C.	LNG	(81)	3#4/0, 2" C.	LLL
(22)	2#6, 3/4" C.	LN	(52)	2#1, 1#6G., 1 1/4" C.	LLG	(82)	3#4/0, 1#4G., 2 1/2" C.	LLNG
(23)	2#6, 1#10G., 3/4" C.	LNG	(53)	3#1, 1 1/2" C.	LLL	(83)	3#4/0, 1#4G., 2 1/2" C.	LLLG
(24)	2#6, 1#10G., 3/4" C.	LLG	(54)	3#1, 1#6G., 1 1/2" C.	LLNG	(84)	4#4/0, 1#4G., 2 1/2" C.	LLLNG
(25)	3#6, 3/4"C.	LLL	(55)	3#1, 1#6G., 1 1/2" C.	LLLG			
(26)	3#6, 1#10G., 3/4" C.	LLNG	(56)	4#1, 1#6G., 1 1/2" C.	LLLNG			
(27)	3#6, 1#10G., 3/4" C.	LLLG	(57)	2#1/0, 1 1/4" C.	LN			
(28)	4#6, 1#10G., 1" C.	LLLNG	(58)	2#1/0, 1#6G., 1 1/2" C.	LNG			
(29)	2#4, 3/4" C.	LN	(59)	2#1/0, 1#6G., 1 1/2"C.	LLG			
(30)	2#4, 1#8G., 1" C.	LNG	(60)	3#1/0, 1 1/2" C.	LLL			

ESC-02

DISTRIBUTION SYMBOL SCHEDULE

NOTES:
A. ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.

SYMBOL	DESCRIPTION	REMARKS
——→——	HOMERUN (REFER TO PANEL SCHEDULES FOR CONDUIT/WIRING)	
——→—F——	CIRCUIT ROUTED THRU CONTACTOR OR RELAY	
—UE—	UNDERGROUND ELECTRIC	
—UT—	UNDERGROUND TELEPHONE	
—OE—	OVERHEAD ELECTRIC	
—OT—	OVERHEAD TELEPHONE	
—H†‡—	CIRCUIT INDICATORS (HOT, NEUTRAL, GROUND, SWITCHLEG)	
(P)	PHOTOCELL	
(J)	JUNCTION BOX	
[J]	JUNCTION BOX, FLOOR MOUNTED FLUSH	
•(J)	JUNCTION BOX, WALL MOUNTED – 3/4"C TO ABOVE CEILING	
$M	MANUAL STARTER WITH THERMAL TRIP	
	DISCONNECT SWITCH, REFER TO DISCONNECT SCHEDULE	
⊠	STARTER	
⊠	COMBINATION STARTER/DISCONNECT SWITCH, REFER TO SCHEDULE	
	POWER AND/OR LIGHTING PANELBOARD, REFER TO PANELBOARD SCHEDULE	
	SWITCHBOARD, REFER TO SWITCHBOARD SCHEDULE	
	TRANSFORMER, REFER TO TRANSFORMER SCHEDULE	

SPECIAL SYSTEMS SCOPE

ACCESS CONTROL SYSTEM
1. REFERENCE TECHNOLOGY DRAWINGS
2. NO 120V POWER PROVIDED FOR DOOR HARDWARE

SECURITY SYSTEM
1. REFERENCE TECHNOLOGY DRAWINGS
2. 120V POWER PROVIDED FOR SECURITY PANELS ONLY

TECHNOLOGY SYSTEM
1. REFERENCE TECHNOLOGY DRAWINGS

INTERCOM SYSTEM
1. REFERENCE TECHNOLOGY DRAWINGS

FIRE ALARM SYSTEM
1. PROVIDE NEW SYSTEM IN NEW CAREER CENTER AT HIGH SCHOOL. REFERENCE SPECIFICATIONS.
2. PROVIDE NEW DEVICES AND WIRING FOR ELEMENTARY SCHOOL. CONNECT TO EXISTING FIRE ALARM SYSTEM. REFERENCE SPECIFICATIONS.

ESC-01

DEVICE SYMBOL SCHEDULE

NOTES:
A. ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.
B. ALL DEVICE PART NUMBERS ARE HUBBELL UNLESS OTHERWISE NOTED.
C. ALL DEVICE HEIGHTS ARE REFERENCED TO CENTER OF DEVICE.

SYMBOL	DESCRIPTION	REMARKS
	SINGLE RECEPTACLE 20A/120V 18" AFF UON	HBL 5361-W
	DUPLEX RECEPTACLE 20A/120V 18" AFF UON	CR20-W
U	DUPLEX RECEPTACLE WITH DUAL USB 20A/120V 18" AFF UON	USB20X2W
	DUPLEX RECEPTACLE 20A/120V 18" AFF UON WITH GROUND FAULT INTERRUPTER	GF20ILA
IG	DUPLEX RECEPTACLE 20A/120V 18" AFF UON WITH ISOLATED/INSULATED GROUND	CR5352IG
	FOURPLEX RECEPTACLE 20A/120V 18" AFF UON	(2) CR20-W
U	FOURPLEX RECEPTACLE 20A/120V, (1) WITH DUAL USB 18" AFF UON	(1) CR20-W,(1) USB20X2W
K	CLOCK RECEPTACLE 120V 96" AFF UON	HBL 5235
	SPECIAL PURPOSE RECEPTACLE 18" AFF SEE PLANS FOR DETAILS	
	CEILING MOUNTED DUPLEX RECEPTACLE 20A/120V (FLUSH)	CR20-W
	DUPLEX RECEPTACLE 20A/120V MOUNTED HORIZONTALLY 48" AFF UON	CR20-W
P	FOURPLEX RECEPTACLE FOR PROJECTOR	
WP	WEATHER/TAMPER-RESISTANT DUPLEX RECEPTACLE WITH "IN-USE" COVER 20A/120V 18"AFF UON	GFTR20W/ WP26M
	8" ABOVE COUNTER – GFI	
SG	DUPLEX RECEPTACLE W/ SURGE SUPPRESSION 20A/120V 18" AFF UON	IG5362-SA
S	SAFETY TYPE DUPLEX RECEPTACLE 20A/120V 18" AFF UON	CR20TR-W
	DUPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	CR20-W,PFBRG1 SB3083,S3825
	FOURPLEX RECEPTACLE, FLOOR MOUNTED FLUSH	(2) HBL-5362-W,PFBRG2 SB3084, (2)S3825
	EXISTING DUPLEX RECEPTACLE	
	EXISTING FOURPLEX RECEPTACLE	
	EXISTING 208V RECEPTACLE	
$	SINGLE POLE SWITCH 20A, 48"AFF UON	CS120-W
$D	DIMMER SWITCH, 48"AFF UON, SEE PLANS FOR DETAILS	
$P	SWITCH WITH PILOT LIGHT, 48"AFF UON	HBL1221-PL
$2	TWO POLE SWITCH 20A, 48"AFF UON	CS1222-W
$T	TIMER SWITCH, 48"AFF UON	INTERMATIC FF60MC
$F	FAN SWITCH, 48"AFF UON	RF51

ESC-15

ELECTRICAL ABBREVIATION SCHEDULE

A	AMPERES	MECH	MECHANICAL
A/C	AIR CONDITIONING	MH	MANHOLE
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AHJ	AUTHORITY HAVING JURISDICTION	MISC	MISCELLANEOUS
AL	ALUMINUM	MLO	MAIN LUG ONLY
AUTO	AUTOMATIC	MSB	MAIN SWITCHBOARD
AUX	AUXILIARY	NEC	NATIONAL ELECTRICAL CODE
BFF	BELOW FINISHED FLOOR	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BLDG	BUILDING	NF	NON-FUSED
C	CONDUIT	NIC	NOT IN CONTRACT
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CKT	CIRCUIT	OC	ON CENTER(S)
COL	COLUMN	OE	OVERHEAD ELECTRIC
CONC	CONCRETE	OT	OVERHEAD TELEPHONE
CONST	CONSTRUCTION	PC	PLUMBING CONTRACTOR
CONTR	CONTRACTOR	PH	PHASE
CTV	CABLE TELEVISION	PNL	PANEL
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
EC	ELECTRICAL CONTRACTOR	RE:	REFERENCE/REFER TO
EF	EXHAUST FAN	RECPT	RECEPTACLE
DN	DOWN	RGS	RIGID GALVANIZED STEEL CONDUIT
ELEC	ELECTRIC/ELECTRICAL	RM	ROOM
EMT	ELECTRICAL METALLIC TUBING	SCH	SCHEDULE
EQUIP	EQUIPMENT	SPEC	SPECIFICATIONS
EX	EXISTING	TEL	TELEPHONE
FA	FIRE ALARM	TTB	TELEPHONE TERMINAL BOARD
FF	FINISHED FLOOR	TYP	TYPICAL
FLR	FLOOR/FLOORING	UC	UNDERGROUND CONDUIT
G	GROUND	UE	UNDERGROUND ELECTRIC
GC	GENERAL CONTRACTOR	UL	UNDERWRITER'S LABORATORIES
GFI	GROUND FAULT INTERRUPT	UON	UNLESS OTHERWISE NOTED
HD	HEAVY DUTY	UT	UNDERGROUND TELEPHONE
HP	HORSEPOWER	V	VOLTS/VOLTAGE
IMC	INTERMEDIATE METAL CONDUIT	VA	VOLT-AMPERES
KVA	KILOVOLT-AMPERES	W	WATTS
KW	KILOWATTS	W/	WITH
LGT	LIGHT/LIGHTING	W/O	WITHOUT
MAX	MAXIMUM	WP	WEATHER PROOF
MC	MECHANICAL CONTRACTOR	XFMR	TRANSFORMER
MCB	MAIN CIRCUIT BREAKER		
MDP	MAIN DISTRIBUTION PANEL		

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Brady Independent School District
Bond 2018
Brady, Texas

STATE OF TEXAS
B.J. HENDRIX
94813
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO. 94813
ON: 04/04/2019

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HENDRIX CONSULTING ENGINEERS

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SCHEDULES, NOTES AND LEGENDS - ELECTRICAL E1.01

ESC-17

DISCONNECT SWITCH SCHEDULE

REMARKS:

A. THIS SCHEDULE IS NOT A COMPREHENSIVE DISCONNECT SCHEDULE. REFERENCE OTHER ELECTRICAL CONNECTION SCHEDULES FOR ADDITIONAL DISCONNECT REQUIREMENTS.
B. COORDINATE FINAL FUSE SIZES WITH EQUIPMENT BEING PROVIDED PRIOR TO ROUGH-IN.
C. WHEN THE LENGTH OF THE SECONDARY CONDUCTORS OF ANY TRANSFORMER EXCEEDS TEN FEET, PROVIDE AN ENCLOSED CIRCUIT BREAKER OR FUSED DISCONNECT WITHIN TEN FEET OF THE TRANSFORMER SECONDARY TERMINALS IN ACCORDANCE WITH NEC ARTICLE 240-21(C)(2). THIS OVERCURRENT DEVICE SHALL HAVE AN AMP RATING EQUAL TO THE AMP RATING OF THE PANEL BEING SERVED. THE PANEL BEING FED MAY BE CHANGED TO MAIN LUG ONLY.
D. PROVIDE LUG KITS AND/OR WIRING GUTTERS FOR PANELS WITH OVERSIZED CONDUCTORS DUE TO VOLTAGE DROP AND/OR DISTANCE. MAKE CONNECTIONS IN ACCORDANCE WITH THE N.E.C.
E. PROVIDE SHOP DRAWINGS OF ALL ELECTRIC ROOMS INDICATING ALL PANEL, TRANSFORMER AND DISCONNECT LOCATIONS. ELECTRICAL EQUIPMENT MAY SHIFT IN LOCATION TO INSURE PROPER CLEARANCES.
F. PROVIDE DISCONNECTING MEANS FOR ALL EQUIPMENT PER N.E.C.
G. DISCONNECTS MOUNTED ABOVE CEILING MUST BE MOUNTED TO BE READILY ACCESSIBLE NEAR UNIT. HANDLE TO BE NO MORE THAN 36" ABOVE CEILING GRID.
H. ALL EXTERIOR DISCONNECTS ARE TO BE MOUNTED BELOW LINE OF SIGHT OF A SCREEN WALL OR IF SINGLE DISCONNECT, LEVEL WITH TOP OF CONDENSER. VERIFY LOCATION WITH ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.
** U.O.N. FOR ALL PANELS SUBFED FROM TRANSFORMERS THAT REQUIRE DISCONNECT, REFERENCE TRANSFORMER SCHEDULE SECONDARY BREAKER SIZE FOR ALL ENCLOSURE TYPE AND DISCONNECT/FUSE SIZING INFORMATION.**

MARK	VOLTAGE					AMPERES RATING											POLES			ENCLOSURE			FUSES		ENCLOSED CIRCUIT BREAKER	REMARKS
	120	240	277	480	1 PHASE	3 PHASE	30	60	100	200	400	600	800	1200	1600	2000	2500	3000	1	2	3	S/N	NEMA 1	NEMA 3R	NEMA	NON-FUSED	FUSE SIZE		
1	◎					◎					◎										◎		◎				400		PANEL 'L1'
2	◎					◎						◎									◎		◎				600		PANEL 'LDP'
3																											.		.
4																											.		.
5																											.		.

ESC-68

PANELBOARD CONNECTION SCHEDULE

A. USE TABLE FOR WIRE AND CONDUIT SIZES FOR ALL PANELBOARDS UNLESS NOTED OTHERWISE.
B. WIRE SIZES BASED ON 86° AMBIENT, 75° COLUMN OF CHART. NEC 310.15(B)(16)
C. TABLE FOR 120/208/3PH/4W AND 277/480/3PH/4W PANELBOARDS.
D. PROVIDE 200% NEUTRAL BUS BAR AND 200% NEUTRAL WIRE WHEN SPECIFIED.

PANEL SIZE OR MCB SIZE	WIRE SIZE	GROUND	CONDUIT
60	4 #6	#10	1"
100	4 #3	#8	1 1/4"
125	4 #1	#6	1 1/2"
150	4 #1/0	#6	2"
200	4 #3/0	#6	2"
225	4 #4/0	#4	2 1/2"
300	4 #350	#4	3"
400	2 SETS 4 #3/0 OR	#3	2" PER SET
	1 SET 4 #600	#3	4"
600	2 SETS 4 #350	#1	3" PER SET
800	2 SETS 4 #600	#1/0	4" PER SET

ESC-68-240V

PANELBOARD CONNECTION SCHEDULE (1 PH)

A. USE TABLE FOR WIRE AND CONDUIT SIZES FOR ALL PANELBOARDS UNLESS NOTED OTHERWISE.
B. WIRE SIZES BASED ON 86° AMBIENT, 75° COLUMN OF CHART. NEC 310.15(B)(16)
C. TABLE FOR 120/240/1PH/3W PANELBOARDS.
D. PROVIDE 200% NEUTRAL BUS BAR AND 200% NEUTRAL WIRE WHEN SPECIFIED.

PANEL SIZE OR MCB SIZE	WIRE SIZE	GROUND	CONDUIT
50	3 #8	#10	1"
60	3 #6	#10	1"
70	3 #4	#8	1 1/4"
100	3 #3	#8	1 1/4"
125	3 #1	#6	1 1/2"
150	3 #1/0	#6	2"
200	3 #3/0	#6	2"
225	3 #4/0	#4	2 1/2"
300	3 #350	#4	3"
400	2 SETS 3 #3/0 OR	#3	2" PER SET
	1 SET 3 #600	#3	4"
600	2 SETS 3 #350	#1	3" PER SET
800	2 SETS 3 #600	#1/0	4" PER SET

CEILING FANS

MARK NO.	STOCK/ MODEL NUMBER	MAX RPM	HP	VOLT/PH/AMPS	FAN DIAMETER	WEIGHT
CF-3	BIG ASS FAN HAIKU	33/180	FRACTION	120/1/0.363A	60"	16

ESC-01-NLIGHT

NLIGHT - DEVICE SYMBOL SCHEDULE

NOTES:

A. ALL SYMBOLS DO NOT NECESSARILY APPEAR ON THESE DRAWINGS.
B. ALL DEVICE PART NUMBERS ARE NLIGHT UNLESS OTHERWISE NOTED.
C. THESE DEVICES SHOULD BE USED IN ALL AREAS TO BE CONTROLLED BY NLIGHT.
D. MOTION SENSOR: WHERE MOTION SENSORS ARE SHOWN ON THE PLANS, THAT INDICATES AREA SHOULD BE COVERED IN FULL BY MOTION SENSORS. IT IS UP TO MOTION SENSOR PROVIDER TO PROVIDE APPROPRIATE QUANTITY, LAYOUT, AND TYPE OF MOTION SENSORS FOR COMPLETE COVERAGE. PROVIDE SHOP DRAWING AT SUBMITTAL PHASE.
E. PHOTOCELL: WHERE PHOTOCELLS ARE SHOWN ON PLANS OR IN TYPICAL DETAILS, IE:CLASSROOMS, PHOTOCELL LOCATION AND QUANTITY SHOULD BE DETERMINED BY PHOTOCELL PROVIDER. PHOTOCELLS ARE INTENDED TO DIM LIGHTS IN DAYLIGHT ZONES AS INDICATED BY IECC 2015.
F. IF MULTIPLE ZONE CONTROL IS INDICATED FOR A SPACE AND THOSE ZONES ARE NOT CLEAR TO CONTRACTOR, THE CONTRACTOR IS TO MAKE BEST ASSUMPTION IN SHOP DRAWING PHASE AND NOTE AREAS IN QUESTION. ENGINEER WILL REVIEW AND MAKE ANY ADJUSTMENTS TO ZONES AT THAT TIME.
G. MANUFACTURER TO PROVIDE A COMPLETE SET OF SHOP DRAWINGS INDICATING ALL ASPECTS OF LIGHTING CONTROL AT A MINIMUM OF 1/8" = 1' SCALE WITH CLEAR DESCRIPTIONS AND LEGENDS FOR SYMBOLS.
H. BASIC COMPONENTS ARE CALLED FOR HERE, IT IS EXPECTED THAT MANUFACTURER PROVIDES ALL COMPONENTS FOR A COMPLETE WORKABLE SYSTEM.
I. FACTORY START-UP IS REQUIRED FOR ALL NLIGHT SPACES.
J. CONTRACTOR SHOULD SEND COMPLETE SET OF ELECTRICAL PLANS TO NLIGHT FACTORY REP TO ENSURE A COMPLETE BID.
K. CONTRACTOR TO ASSUME ALL DEVICES INTER-CONNECTED WITH CAT-5 CABLE. PROVIDE ALL REQUIRED CABLING BETWEEN DEVICES.

SYMBOL	DESCRIPTION	REMARKS
$^{DT}	DUAL TECHNOLOGY WALL MOUNT MOTION AND DIMMING	nWSX-PDT-D-SA
$^{C1}	ONE ZONE CONTROLLER, ON/OFF AND DIMMING	nPODM-DX
$^{C2}	TWO ZONE CONTROLLER, ON/OFF AND DIMMING	nPODM-2P-DX
$^{C4}	FOUR ZONE CONTROLLER, 4 PRESET TOGGLE BUTTONS	nPODm-4S-DX
$^{K}	ONE ZONE KEYED CONTROLLER, ON/OFF AND DIMMING	nPOD-KEY
$^{CT}	COLOR SCENE CONTROLLER	nPODM-4S-EDUTW
M DT	MOTION SENSOR, DT (DUAL TECHNOLOGY)	nCM-PDT-9
M DT	MOTION SENSOR, DT (DUAL TECHNOLOGY)	nCM-PDT-10
M DT	MOTION SENSOR, DT (DUAL TECHNOLOGY)	nWV-PDT-16
P	PHOTOCELL	nCM-ADCX

NLIGHT INTERIOR LIGHTING SCHEDULE

GENERAL NOTES:

POWER PACKS
FOR FIXTURES THAT ARE NOT NLIGHT COMPATIBLE, PROVIDE POWER PACKS TO ACHIEVE ZONING INDICATED ON PLANS.

AREAS WITH HIGH CEILINGS (25FT OR HIGHER). PROVIDE POWER PACKS TO ACHIEVE ZONING INDICATED ON PLANS. LOCATE POWER PACKS IN ACCESSIBLE LOCATION FROM LIGHTING PANEL SERVING CIRCUITS.

WHEN POWER PACKS ARE PROVIDED. CONTRACTOR MUST PROVIDE 0-10V DIMMING WIRES FROM POWER PACK TO FIXTURE FOR CONTROL IN LIEU OF CAT5 CABLE.

NLIGHT MANUFACTURER TO PROVIDE NLIGHT ENABLED FIXTURES OR POWER PACKS TO ACHIEVE ZONING SHOWN ON PLANS FOR SWITCHING AND DAYLIGHT ZONES TO PROVIDE BEST VALUE TO THE PROJECT.

MOTION SENSORS
PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR ENTIRE BUILDING, EXCEPT ELECTRIC ROOMS, AND AS WHEN NOTED EXCEPTION SHOWN ON PLANS. PROVIDE DUAL TECHNOLOGY MOTION SENSORS IN EVERY ROOM AS REQUIRED BY IECC 2015. ASSUME CEILING MOUNT UNLESS WALL MOUNT SHOWN.

VACANCY SENSORS
PROVIDE COMPLETE DUAL TECHNOLOGY VACANCY SENSOR COVERAGE PER IECC 2015 IN ALL AREAS EXCEPT EMERGENCY EGRESS CORRIDORS AND PATHWAYS. SHOP DRAWING REQUIRED.

OCCUPANCY SENSORS
PROVIDE COMPLETE DUAL TECHNOLOGY OCCUPANCY SENSOR COVERAGE PER IECC 2015 IN ALL EMERGENCY EGRESS CORRIDORS AND PATHWAYS. SHOP DRAWING REQUIRED.

CONTROL STATION
ALL ROOMS SHALL HAVE A CONTROL STATION FOR CONTROL OF LIGHTS IN ROOM. IF NO CONTROL STATION IS SHOWN, ASSUME A TWO ZONE CONTROLLER FOR ROOMS LARGER THAN 9' X 9' AND A WALL MOUNT DUAL TECHNOLOGY CONTROLLER FOR ROOMS SMALLER THAN 9' X 9'.

PROGRAMMING FOR SPECIAL CONTROLLERS
PROVIDE MINIMUM 2 DAYS FOR PROGRAMMING AND OWNER TRAINING FOR THE NPOD GFX AND TIVOCUE LIGHTING CONTROLLERS SPECIFIED BELOW. COORDINATE WITH OWNER FOR ALL SCENE PROGRAMMING INCLUDING SPECIFIC SCENES SPECIFIED IN THE SECTIONS BELOW AND OTHERS THAT THE OWNER MAY REQUEST.

SPACE TYPE DESCRIPTION:

GENERAL INSTRUCTION ROOMS

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS.
B. TWO ZONE CONTROL. ZONE 'a' , ZONE 'b' AS SHOWN IN PLANS AND AS DESCRIBED BELOW:
   1. ROOMS WITH UPLIGHTS AND DOWNLIGHTS. ZONE 'a' - DOWNLIGHTS, ZONE 'b' - UPLIGHTS.
   2. ROOMS WITH DOWNLIGHTS ONLY. ZONE 'a' - ROW OF LIGHTS AT TEACHING WALL, ZONE 'b' - ALL OTHER LIGHTS IN ROOM. U.N.O.
C. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MINOR MOVEMENTS. MANUAL ON / AUTO OFF. SHOP DRAWING REQUIRED.
D. PROVIDE PHOTOCELL AND CONTROL LIGHTS IN DAYLIGHT ZONE PER IECC 2015 AS SHOWN ON PLANS.

COMMON AREAS

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS.
B. TWO (2) BUTTON ZONE CONTROL. ZONES INDICATED ON PLANS.
C. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MAJOR MOVEMENTS. AUTO ON. WHEN NO MOTION IS DETECTED AFTER 15 MINUTES, LIGHTS SHALL BE DIMMED TO 10%. IF NO ADDITIONAL MOTION IS DETECTED AFTER 30 MINUTES, LIGHTS SHALL POWER OFF, SHOP DRAWING REQUIRED.

HALLWAYS AND STAIRWELLS

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS. ANY CONTROL STATION IN A CONTINUOUS CORRIDOR IS TO CONTROL THE ENTIRE CORRIDOR, NOT PORTIONS THEREOF. U.O.N. ON PLANS.
B. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MAJOR MOVEMENTS. AUTO ON. WHEN NO MOTION IS DETECTED AFTER 15 MINUTES, LIGHTS SHALL BE DIMMED TO 10%. IF NO ADDITIONAL MOTION IS DETECTED AFTER 2 HOURS, LIGHTS SHALL POWER OFF.

GANG RESTROOMS

A. PROVIDE ON/OFF CONTROL STATIONS AS SHOWN ON PLANS.
B. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MAJOR MOVEMENTS. AUTO ON. WHEN NO MOTION IS DETECTED AFTER 15 MINUTES, LIGHTS SHALL BE DIMMED TO 10%. IF NO ADDITIONAL MOTION IS DETECTED AFTER 30 MINUTES, LIGHTS SHALL POWER OFF.
C. PROVIDE NLIGHT PLUG LOAD POWER PACK (nPP20 PL) IN ACCESSIBLE LOCATION FOR EXHAUST FAN CONTROL.

SINGLE ZONE ROOMS

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS.
B. ONE OVERALL ZONE TO CONTROL ALL LIGHTS IN ROOM.
C. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MINOR MOVEMENTS. MANUAL ON / AUTO OFF. SHOP DRAWING REQUIRED.
a. PROVIDE NLIGHT PLUG LOAD POWER PACK (nPP20 PL) IN ACCESSIBLE LOCATION FOR EXHAUST FAN CONTROL IN SINGLE RESTROOMS.

LIGHT FIXTURE SCHEDULE

GENERAL NOTES:

A. CONFIRM CEILING TYPE AND CONSTRUCTION PRIOR TO ORDERING LIGHT FIXTURE. PROVIDE FLANGE KIT FOR PROPER INSTALLATION OF LAY-IN FIXTURE IN GYPSUM CEILING. PROVIDE FIXTURE TYPE 'H2' IN LIEU OF FIXTURE TYP 'A2' IN ROOMS WITH NO CEILING. CHAIN HANG AT 10' A.F.F.
B. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF WALL MOUNTED LIGHT FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.
C. REFER TO ARCHITECTURAL REFLECTIVE CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURE.
D. CONFIRM FINISH WITH ARCHITECT PRIOR TO ORDERING LIGHT FIXTURES.
E. 'E' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE SHALL BE SWITCHED, BATTERY PACK SHALL BE UNSWITCHED.
F. 'N' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE AND BATTERY PACK SHALL BE UNSWITCHED.
G. FIXTURES SHALL HAVE A MAXIMUM OF TWO (2) LAMPS PER BALLAST.
H. CONNECT ALL EXIT LIGHTING TO THE NEAREST UNSWITCHED CIRCUIT OR THE NEAREST EMERGENCY CIRCUIT.
(*) PROVIDE UNIT PRICE FOR THIS FIXTURE. INCLUDE MATERIAL AND LABOR TO BE ADDED AT ANY TIME DURING THE PROJECT.

MARK	MANUFACTURER'S CATALOG NUMBER	LAMPS NO./TYPE/WATTS	FIXTURE VOLTS/WATTS	DESCRIPTION AND COMMENTS
A2	LITHONIA EPANL-2X4-4000LM-80CRI-35K-MIN1-EZT-MVOLT	1/LED 4000 LUMENS/39	MVOLT/39	LED PANEL 2 x 4 LAY IN FIXTURE, WHITE FINISH. 1%DIMMING, GRID CLG
A3	LITHONIA EPANL-2X4-4800LM-80CRI-35K-MIN1-EZT-MVOLT	1/LED 4800 LUMENS/46	MVOLT/46	LED PANEL 2 x 4 LAY IN FIXTURE, WHITE FINISH. 1%DIMMING, GRID CLG
A4	LITHONIA EPANL-2X4-6000LM-80CRI-35K-MIN1-EZT-MVOLT	1/LED 6000 LUMENS/54	MVOLT/54	LED PANEL 2 x 4 LAY IN FIXTURE, WHITE FINISH. 1%DIMMING, GRID CLG
B2	LITHONIA EPANL-2X2-4800LM-80CRI-35K-MIN1-MVOLT	1/4618L/36	MVOLT/36	LED PANEL 2 x 2 LAY IN FIXTURE, WHITE FINISH 1% DIMMING, GRID CEILING.
C2	LITHONIA EPANL-2X4-4000LM-80CRI-35K-MIN1-EZT-MVOLT-DGA24	1/LED 4000 LUMENS/39	MVOLT/39	LED PANEL 2 x 4 LAY IN FIXTURE, WHITE FINISH. 1%DIMMING, GYP CLG, PROVIDE DRYWALL ADAPTER.
C3	LITHONIA EPANL-2X4-4800LM-80CRI-35K-MIN1-EZT-MVOLT-DGA24	1/LED 4800 LUMENS/46	MVOLT/46	LED PANEL 2 x 4 LAY IN FIXTURE, WHITE FINISH. 1%DIMMING, GYP CLG, PROVIDE DRYWALL ADAPTER.
F6	FINELITE HP-4ID-8-V/V-8TW-TG-F-120-FA-FE-DC-C1-CONTROLS BY OTHERS, DMX DRIVER	1/LED 4180 LUMENS/41 1/LED 3706 LUMENS/41	MVOLT/41 MVOLT/41	(OPEN/HARD CEILING) 4" INDIRECT/DIRECT TUNABLE WHITE LINEAR PENDANT. VERY HIGH UP/ VERY HIGH DOWN. PROVIDE 150" MOUNTING AIRCRAFT CABLE, COORDINATE LONGER IF REQUIRED. TOP GLOW LENS. VERIFY TRIM/LOCATION/LENGTH WITH ARCHITECTS RCP. 1%DIMMING, NLIGHT. CONTROL UPLIGHT SEPARATE FROM DOWNLIGHT.
G1	LITHONA WL2-18L-MVOLT-LP835-EZ1-NLIGHT	1/LED 1800 LUMENS/20	MVOLT/20	2' SURFACE MOUNT WRAP AROUND LED. MOUNT 6" ABOVE MIRROR, OR 8' ABOVE STAIRS DEPENDING ON APPLICATION. 1% DIM, NLIGHT
G2	LITHONA WL4-41L-MVOLT-LP835-EZ1 NLIGHT	1/LED 4100 LUMENS/43	MVOLT/43	4' SURFACE MOUNT WRAP AROUND LED. MOUNT 6" ABOVE MIRROR, OR 8' ABOVE STAIRS DEPENDING ON APPLICATION. 1% DIM, NLIGHT
H2	LITHONIA CLX-L48-5000LM-SEF-FDL MVOLT-EZ1-35K-80CRI-WH	1/LED 4725 LUMENS/41	MVOLT/41	LED STRIP FIXTURE. CHAIN HANG, AIRCRAFT CABLE OR SURFACE MOUNT DEPENDING ON APPLICATION. TYPICAL MOUNTING HEIGHT APPROX 8'-12'. 1%DIMMING, NLIGHT
L2	LITHONIA LDN6-35-2000-L06-AR-LD-MVOLT-EZ1-NLIGHT	1/LED 2000 LUMENS/35	MVOLT/35	6" LED DOWNLIGHT. TRIM TO MATCH CANOPY OR SILVER. PROVIDE 'EL' BATTERY WHEN SPECIFIED. 1%DIM, NLIGHT
L3	LITHONIA LDN6-35-2000-LW6-AR-LD-MVOLT-EZ1-NLIGHT	1/LED 2000 LUMENS/35	MVOLT/35	6" LED WALL WASHER. TRIM TO MATCH CANOPY OR SILVER. PROVIDE 'EL' BATTERY WHEN SPECIFIED. 1%DIM, NLIGHT
N1	LITHONIA TMSL-16000-SBL-MVOLT-GZ10 35K-80CRI-WHITE-ZACFPD120-WGMBZ-NLIGHT	1/LED 17412 LUMENS/149	MVOLT/149	LED LOW BAY FIXTURE. STRAIGHT BLADE LOUVER, 0-10V DIMMING, WHITE FINISH AND WIREGUARD. HANG FIXURES AT 12' AFF. COORDINATE WITH ARCHITECTURAL RCP. NLIGHT
T1	VISIONAIRE LIGHTING VSC-1-T3-32-530-4000K-UNV-WM-BZ-WSC-20-DIM	1/LED ENGINES/54	MVOLT/54	SLIM ARCHITECTURAL WALL MOUNTED LED FIXTURE WITH DIE CAST ALUMINUM HOUSING, ALUMINUM REFLECTOR WITH FULL CUT-OFF, HIGH EFFICIENCY DRIVER WITH FSP-211 FOR MOTION DIMMING TO 50% AFTER MIDNIGHT AND PHOTOCELL CONTROL. DARK BRONZE FINISH. APPROX. 12-14' AFF. COORDINATE FINAL HEIGHT WITH ARCHITECTURAL.
T5	VISIONAIRE LIGHTING VSC-1-T3-16-530-4000K-UNV-WM-BZ-WSC-X-DIM	1/LED ENGINES/27	MVOLT/27	SLIM ARCHITECTURAL WALL MOUNTED LED FIXTURE WITH DIE CAST ALUMINUM HOUSING, ALUMINUM REFLECTOR WITH FULL CUT-OFF, HIGH EFFICIENCY DRIVER WITH FSP-211 FOR MOTION DIMMING TO 50% AFTER MIDNIGHT AND PHOTOCELL CONTROL. DARK BRONZE FINISH. OVER DOOR OR TO SIDE OF DOOR AS SHOWN ON PLANS. APPROX 8'-10' AFF. COORDINATE FINAL HEIGHT WITH ARCHITECTURAL. PROVIDE WITH EMERGENCY BALLAST.
T6	KENALL MILLINIUM MR13FFL-PP-SL-20L40K-DV	1/LED 1017 LUMEN/18	MVOLT/18	SURFACE MOUNTED ROUND LED FIXTURE. MARINE GRADE DIE CAST ALUMINUM, HIGH IMPACT POLYCARBONATE LENS. SILVER FINISH. PROVIDE (2) POSIGRIP SCREWDRIVERS.
X1	LITHONIA LES-1R-277-ELN	INCLUDED	277/5	LED SINGLE FACE EXIT SIGN WITH DIE CAST ALUMINUM HOUSING, EMERGENCY BATTERY PACK.
X2	LITHONIA LES-2R-277-ELN	INCLUDED	277/5	LED DOUBLE FACE EXIT SIGN WITH DIE CAST ALUMINUM HOUSING, EMERGENCY BATTERY PACK.
Y1	LITHONIA ELM2-LED	INCLUDED	277/20	EMERGENCY EGRESS FIXTURE WITH POLYCARBONATE HOUSING, EMERGENCY BATTERY PACK AND AMMETER. WHITE FINISH. WALL MOUNT APPROX 9' AFF. CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT.

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX ON: 04/04/2019

Brady Independent School District
Bond 2018
Brady, Texas

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

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SCHEDULES - ELECTRICAL E1.02

01 PHOTO
SCALE: NONE

02 PHOTO - EXISTING ELEMENTARY
SCALE: NONE

SURGE PROTECTION DEVICE SCHEDULE

STANDARDS:

A. PROVIDE TVSS SURGE SUPPRESSION PER LATEST UL. BASIS OF DESIGN, ACT COMMUNICATIONS. CONTACT SWMCO (512) 965-6784.

B. TVSS MUST BE ABLE TO BE SERVICEABLE WITHOUT SHUTTING PANEL OFF.

C. 3RD PARTY SINGLE IMPULSE SURGE CURRENT TEST MUST BE PROVIDED WITH SUBMITTAL VERIFYING PERFORMANCE MEETS SPECIFICATIONS.

D. WHERE FLUSH MOUNT PANELS ARE SPECIFIED, COORDINATE PANEL MANUFACTURER OPTION WITH ELECTRICAL CONTRACTOR.

E. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

F. VOLTAGE AND CONFIGURATION TO MATCH PANEL BEING SERVICED. REFERENCE RISER DIAGRAM AND PANEL SCHEDULES.

E. PROVIDE ADVANCED FILTER OPTION (FA2).

F. 20 YEAR WARRANTY STANDARD.

G. CABLE ENTRY TO BE COORDINATED WITH ELECTRICAL CONTRACTOR.

H. QUANTITIES PER RISER DIAGRAM.

I. PROVIDE 'NEMA 12/4' WHEN ROOF MOUNTED. REFERENCE PLANS AND RISER DIAGRAM.

MARK	TYPE: 471SEL	TYPE: 471	TYPE: 455F	TYPE: 455	SURGE CURRENT RATING (KA PER MODE/KA PER PHASE): 50/100	80/160	100/200	125/250	160/320	200/400	240/480	300/600	ENCLOSURE: MD	NEMA	MF	MONITORING: C1	C2	M4	MOUNT: SURFACE	FLUSH (C)	HPI CABLE	APPLICATION (WHERE SPECIFIED ON RISER)
1		●									●		●					●		●	●	SERVICE ENTRANCE
2		●							●					●			●			●	●	DISTRIBUTION PANELS
3		●					●							●			●			●		BRANCH PANELS
4		●				●								●			●			●		TECHNOLOGY PANELS
5			●						●						●		●				●	DISTRIBUTION PANELS – FLUSH MOUNT
6			●				●								●		●				●	BRANCH PANELS – FLUSH MOUNT

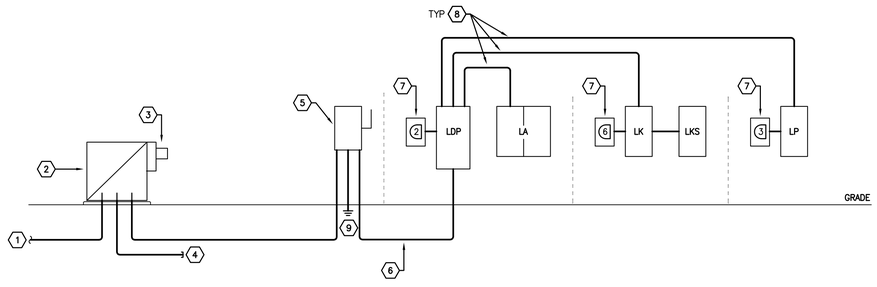
UTILITY COMPANY CONTACT:
CITY OF BRADY ELECTRIC

ELECTRIC SUPERVISOR:
JOE SOLIS
PHONE: (325) 597-2244
EMAIL: jsolis@bradytx.us

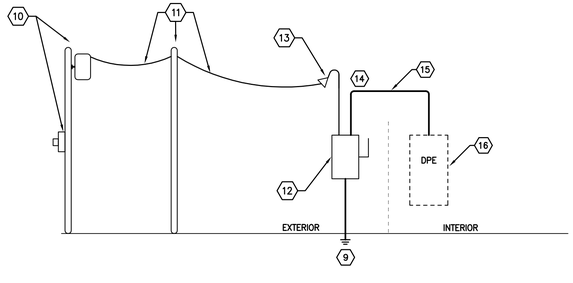
UTILITY COMPANY TO DETERMINE SERVICE TRANSFORMER SIZES. DO NOT BEGIN ANY UTILITY WORK UNTIL UTILITY DRAWINGS HAVE BEEN ISSUED BY UTILITY COMPANY. UTILITY COMPANY TO PROVIDE AVAILABLE FAULT CURRENT WHEN AVAILABLE.

RISER KEYED NOTES

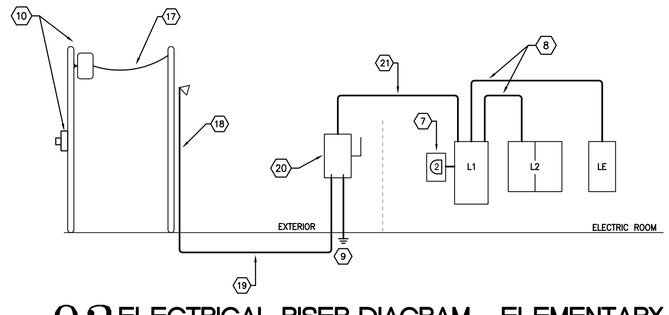
1. PRIMARY CONDUITS PROVIDED AND INSTALLED BY UTILITY COMPANY.
2. TRANSFORMER PROVIDED AND INSTALLED BY UTILITY COMPANY. COORDINATE PAD REQUIREMENTS WITH UTILITY COMPANY.
3. METER AT TRANSFORMER BY UTILITY COMPANY.
4. STUB THE MAXIMUM NUMBER OF SECONDARY CONDUITS ALLOWED BY UTILITY COMPANY TO A POINT 5' OUTSIDE PAD. INDICATE EXACT LOCATION FROM A FIXED POINT ON RECORD DRAWINGS.
5. NEW BUILDING SERVICE DISCONNECT. FIELD COORDINATE EXACT LOCATION.
6. ROUTE (2) TWO SETS OF 4#350 KCM AND 1#1 GROUND, EACH SET IN A 3" CONDUIT.
7. REFERENCE SURGE SUPPRESSION SCHEDULE FOR MORE INFORMATION.
8. REFERENCE ASSOCIATED PANELBOARD SCHEDULE FOR CONDUIT/WIRING SIZES AND QUANTITIES.
9. GROUND SERVICE PER NEC 250 AND ALL LOCAL ORDINANCES. AT A MINIMUM, PROVIDE A UFER GROUND, CONNECTION TO WATER PIPE AND GROUND ROD.
10. EXISTING POLE, TRANSFORMERS AND METER TO REMAIN. 120/240V, 3PH., 4 WIRE DELTA SERVICE.
11. EXISTING POLE AND OVERHEAD DROP FOR EXISTING ELEMENTARY SERVICE BEING REWORKED. REFERENCE PHOTO 01.
12. PROVIDE A NEW BUILDING SERVICE DISCONNECT. REFERENCE DISCONNECT SCHEDULE FOR MORE INFORMATION.
13. PROVIDE NEW RISERS FROM DISCONNECT FOR RECONNECTION OF OVERHEAD DROP. COORDINATE WITH UTILITY COMPANY FOR ALL REQUIREMENTS.
14. CONTRACTOR SHALL REMOVE EXISTING WEATHERHEAD AND CONDUIT/WIRING BACK TO EXISTING PANEL 'DPE'. SEAL PENETRATION THROUGH WALL TO A WATER-TIGHT CONDITION. REFERENCE PHOTO 02.
15. ROUTE (2) TWO SETS OF 4#350 KCM, EACH SET IN A 3" CONDUIT.
16. EXISTING PANEL IN ELECTRIC ROOM.
17. EXISTING POLE AND OVERHEAD DROP SERVING REMODELED PORTION OF ELEMENTARY SCHOOL.
18. ROUTE RISER UP POLE PER UTILITY COMPANY REQUIREMENTS.
19. ROUTE 4#600 KCM IN A 4" CONDUIT.
20. NEW BUILDING SERVICE DISCONNECT. REFERENCE DISCONNECT SCHEDULE FOR MORE INFORMATION. FIELD COORDINATE EXACT LOCATION.
21. ROUTE 4#600 KCM AND 1#3 GROUND IN A 4" CONDUIT. ROUTE UP EXTERIOR WALL AND PENETRATE ABOVE CEILING. FIELD COORDINATE EXACT ROUTING THROUGH INTERIOR OF BUILDING.



01 ELECTRICAL RISER DIAGRAM - CAREER CENTER
SCALE: NONE



02 ELECTRICAL RISER DIAGRAM - ELEMENTARY EXISTING
SCALE: NONE



03 ELECTRICAL RISER DIAGRAM - ELEMENTARY RENO. AREA
SCALE: NONE

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO. 94813 on: 04/04/2019

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

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RISER DIAGRAM - ELECTRICAL **E1.03**

CIRCUIT BREAKER PANELBOARD ' L1 '
BRADY ISD - ELEMENTARY

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/240 VOLT, 3 PHASE, 4 WIRE, 400 A. MCB, KA. RMS SYM.
SURFACE MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	E	HRU-OSA-E1	20	10.5	45/3	45/3	10.5	20	HRU-OSA-E2	E	2
3		" "	--	--	--	--	--	--	" "		4
5		" "	--	--	--	--	--	--	" "		6
7	S	SPARE	--	--	45/3	45/3	--	--	SPARE	S	8
9		" "	--	--	--	--	--	--	" "		10
11		" "	--	--	--	--	--	--	" "		12
13	S	SPACE	--	--	--	200/2	33.2	(g)	PANEL 'L2'	E	14
15	E	PANEL 'LE'	(g)	47.3	225/2	--	--	--	" "		16
17		" "	--	--	--	--	--	--	SPACE	S	18
19	S	SPACE	--	--	--	60/3	--	--	SPD	E	20
21	S	SPACE	--	--	--	--	--	--	" "		22
23	S	SPACE	--	--	--	--	--	--	" "		24

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 0.0 KVA	X 1.25	LIGHTING = 0.0 KVA	EXISTING INCOMING SERVICE TO BUILDING
RECEPTACLE = 0.0 KVA	NEC 220 - 14	RECEPTACLE = 0.0 KVA	IS 120/240 VOLT, 3 PHASE, 4 WIRE
EQUIPMENT = 101.5 KVA	X 1.0	EQUIPMENT = 101.5 KVA	DELTA. PROVIDE PLACARD INDICATING
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	VOLTAGE AND LOCATION OF HIGH LEG.
SPARES = 0.0 KVA	X 0.5	SPARES = 0.0 KVA	
TOTAL = 101.5 KVA		TOTAL = 101.5 KVA	282 AMPS

CIRCUIT BREAKER PANELBOARD ' LDP '
BRADY ISD - HIGH SCHOOL

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 600 A. MCB, KA. RMS SYM.
SURFACE MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	E	PANEL 'LA'	(g)	100.7	400/3	225/3	39.0	(g)	PANEL 'LK'	E	2
3		" "	--	--	--	--	--	--	" "		4
5		" "	--	--	--	--	--	--	" "		6
7	E	PANEL 'LP'	(g)	64.0	225/3						8
9		" "	--	--	--						10
11		" "	--	--	--						12
13											14
15											16
17											18
19						60/3	--	--	SURGE SUPPRESSION	E	20
21						--	--	--	" "		22
23						--	--	--	" "		24

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 0.0 KVA	X 1.25	LIGHTING = 0.0 KVA	
RECEPTACLE = 0.0 KVA	NEC 220 - 14	RECEPTACLE = 0.0 KVA	
EQUIPMENT = 203.7 KVA	X 1.0	EQUIPMENT = 203.7 KVA	
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES 0.0 KVA	
TOTAL = 203.7 KVA		TOTAL = 203.7 KVA	566 AMPS

CIRCUIT BREAKER PANELBOARD ' LP '
BRADY ISD - HIGH SCHOOL

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 225 A. MCB, KA. RMS SYM.
FLUSH MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	L	LIGHTING	2	1.3	20/1	20/1	1.0	2	RECEPTACLES	R	2
3	R	RECEPTACLES	2	1.0	20/1	20/1		2	EF-7	E	4
5	R	RECEPTACLES	2	1.0	20/1	20/1	1.0	2	RECEPTACLES	R	6
7	R	RECEPTACLES	2	1.0	20/1	20/1	1.0	2	RECEPTACLES	R	8
9	E	GUH-1	3	0.7	20/2	20/2	0.7	3	GUH-2	E	10
11		" "	--	--	--	--	--	--	" "		12
13	E	CORD REEL	2	1.0	20/1	20/1	1.0	2	CORD REEL	E	14
15	E	CORD REEL	2	1.0	20/1	20/1	1.0	2	CORD REEL	E	16
17	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	18
19	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	20
21	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	22
23	S	SPACE	--	--	--	--	--	--	SPACE	S	24
25	S	SPACE	--	--	--	--	--	--	SPACE	S	26
27	S	SPACE	--	--	--	--	--	--	SPACE	S	28
29	S	SPACE	--	--	--	--	--	--	SPACE	S	30
31	S	SPACE	--	--	--	--	--	--	SPACE	S	32
33	S	SPACE	--	--	--	--	--	--	SPACE	S	34
35	S	SPACE	--	--	--	--	--	--	SPACE	S	36
37	S	SPACE	--	--	--	60/3	--	--	SPD	E	38
39	S	SPACE	--	--	--	--	--	--	" "		40
41	S	SPACE	--	--	--	--	--	--	" "		42

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 1.3 KVA	X 1.25	LIGHTING = 1.6 KVA	
RECEPTACLE = 6.0 KVA	NEC 220 - 14	RECEPTACLE = 6.0 KVA	
EQUIPMENT = 5.4 KVA	X 1.0	EQUIPMENT = 5.4 KVA	
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES = 0.0 KVA	
TOTAL = 12.7 KVA		TOTAL = 13.0 KVA	36 AMPS

CIRCUIT BREAKER PANELBOARD ' L2 '
BRADY ISD - ELEMENTARY

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/240 VOLT, 1 PHASE, 3 WIRE, 200 A. MLO, KA. RMS SYM.
SURFACE MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	L	LIGHTING	2	1.4	20/1	20/1	1.2	2	LIGHTING	L	2
3	L	LIGHTING	2	1.0	20/1	20/1	1.2	2	LIGHTING	L	4
5	L	LIGHTING	2	1.2	20/1	20/1	0.9	2	RECEPTACLES	R	6
7	R	RECEPTACLES	2	0.9	20/1	20/1	0.7	2	RECEPTACLES	R	8
9	R	RECEPTACLES	2	0.5	20/1	20/1	0.7	2	RECEPTACLES	R	10
11	R	RECEPTACLES	2	0.5	20/1	20/1	0.9	2	RECEPTACLES	R	12
13	E	REFRIGERATOR	2	1.0	20/1	20/1	0.9	2	RECEPTACLES	R	14
15	R	RECEPTACLES	2	0.9	20/1	20/1	0.7	2	RECEPTACLES	R	16
17	E	EWC	2	1.0	20/1	20/1	0.7	2	RECEPTACLES	R	18
19	R	RECEPTACLES	2	0.9	20/1	20/1	0.9	2	RECEPTACLES	R	20
21	R	RECEPTACLES	2	0.7	20/1	20/1	0.9	2	RECEPTACLES	R	22
23	R	RECEPTACLES	2	0.7	20/1	20/1	0.7	2	RECEPTACLES	R	24
25	R	RECEPTACLES	2	0.9	20/1	20/1	0.7	2	RECEPTACLES	R	26
27	R	RECEPTACLES	2	0.9	20/1	20/1	0.9	2	RECEPTACLES	R	28
29	R	RECEPTACLES	2	0.7	20/1	20/1	0.9	2	RECEPTACLES	R	30
31	R	RECEPTACLES	2	0.7	20/1	40/2	6.0	17	WH-E1	E	32
33	R	RECEPTACLES	2	0.9	20/1	--	--	--	" "		34
35	R	RECEPTACLES	2	1.1	20/1	20/1	0.3	2	HWRP-E1	E	36
37	E	EF-1	2	0.7	20/1	20/1	1.1	2	RECEPTACLES	R	38
39	E	EF-2	2	0.7	20/1	20/1	1.0	2	ACCESS CONTROL PANEL	E	40
41	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	42
43	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	44
45	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	46
47	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	48
49	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	50
51	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	52
53	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	54
55	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	56
57	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	58
59	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	60
61	S	SPACE	--	--	--	--	--	--	SPACE	S	62
63	S	SPACE	--	--	--	--	--	--	SPACE	S	64
65	S	SPACE	--	--	--	--	--	--	SPACE	S	66
67	S	SPACE	--	--	--	--	--	--	SPACE	S	68
69	S	SPACE	--	--	--	--	--	--	SPACE	S	70
71	S	SPACE	--	--	--	--	--	--	SPACE	S	72
73	S	SPACE	--	--	--	--	--	--	SPACE	S	74
75	S	SPACE	--	--	--	--	--	--	SPACE	S	76
77	S	SPACE	--	--	--	--	--	--	SPACE	S	78
79	S	SPACE	--	--	--	--	--	--	SPACE	S	80
81	S	SPACE	--	--	--	--	--	--	SPACE	S	82
83	S	SPACE	--	--	--	--	--	--	SPACE	S	84

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 6.0 KVA	X 1.25	LIGHTING = 7.5 KVA	
RECEPTACLE = 21.9 KVA	NEC 220 - 14	RECEPTACLE = 16.0 KVA	
EQUIPMENT = 10.7 KVA	X 1.0	EQUIPMENT = 10.7 KVA	
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES 0.0 KVA	
TOTAL = 38.6 KVA		TOTAL 34.2 KVA	142 AMPS

CIRCUIT BREAKER PANELBOARD ' LA '
BRADY ISD - HIGH SCHOOL

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 400 A. MCB, KA. RMS SYM.
SURFACE MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	R	RECEPTACLES	2	1.1	20/1	20/1	1.1	2	RECEPTACLES	R	2
3	R	IDF RECEPTACLES	2	1.0	20/1	20/1	0.9	2	RECEPTACLES	R	4
5	R	IDF RECEPTACLES	2	1.0	20/1	20/1	0.9	2	RECEPTACLES	R	6
7	E	DRYER	12	5.0	30/2	20/1	1.0	2	RECEPTACLES	R	8
9		" "	--	--	--	20/1	1.0	2	RECEPTACLES	R	10
11	E	WASHER	2	1.0	20/1	20/1	1.0	2	RECEPTACLES	R	12
13	E	HWRP-H1	2	0.3	20/1	20/1	1.0	2	RECEPTACLES	R	14
15	E	WH-H1	17	6.0	40/2	20/1	1.0	2	RECEPTACLES	R	16
17		" "	--	--	--	20/1	1.0	2	RECEPTACLES	R	18
19	E	EWC	2	1.0	20/1	20/1	1.0	2	RECEPTACLES	R	20
21	E	WASHER/DRYER	3	5.0	30/2	20/1	1.0	2	RECEPTACLES	R	22
23		" "	--	--	--	20/1	1.0	2	RECEPTACLES	R	24
25	R	RECEPTACLES	2	0.5	20/1	20/1	1.0	2	RECEPTACLES	R	26
27	R	RECEPTACLES	2	0.5	20/1	20/1	1.0	2	RECEPTACLES	R	28
29	R	RECEPTACLES	2	1.0	20/1	20/1	1.0	2	LIGHTING	L	30
31	L	LIGHTING	2	1.4	20/1	20/1	1.5	2	LIGHTING	L	32
33	E	HP-H3		4.8	35/2	15/2	1.1		AHU-H3	E	34
35		" "	--	--	--	--	--	--	" "		36
37	E	HP-H2		2.7	25/2	15/2	0.8		AHU-H2	E	38
39		" "	--	--	--	--	--	--	" "		40
41	E	HP-H4		2.7	25/2	15/2	0.8		AHU-H4	E	42
43		" "	--	--	--	--	--	--	" "		44
45	E	HP-H1		4.8	35/2	15/2	1.1		AHU-H1	E	46
47		" "	--	--	--	--	--	--	" "		48
49	E	HP-H5		2.7	25/2	15/2	0.8		AHU-H5	E	50
51		" "	--	--	--	--	--	--	" "		52
53	E	HRU-OSA-H1		10.5	45/3	60/2	7.7		FCU-OSA-H1	E	54
55		" "	--	--	--	--	--	--	" "		56
57		" "	--	--	--	20/1	0.6	2	EXTERIOR LIGHTING	L	58
59	E	EF-1	3	1.1	20/2	20/1	1.1	2	HAIKU CEILING FANS	E	60
61	E	" "	--	--	--	30/3	6.2	12	MAU-1 (CONDENSOR)	E	62
63	E	EF-2	3	1.1	20/2	--	--	--	" "		64
65	E	" "	--	--	--	--	--	--	" "		66
67	E	EF-3	2	0.4	20/1	20/3	1.4	6	MAU-1 (EXHAUST FAN)	E	68
69	E	DBF-H1, EF-8	2	0.7	20/1	--	--	--	" "		70
71	E	EF-4, EF-5, EF-6	2	1.0	20/1	--	--	--	" "		72
73	E	FACP	2	1.0	20/1	20/2	4.0	3	AC-H1 (OUTDOOR)	E	74
75	E	COOLER CONDENSER (E4)	3	1.2	20/2	--	--	--	" "		76
77		" "	--	--	--	20/3	3.0	3	FREEZER CONDENSER (E5)	E	78
79	E	ACCESS CONTROL PANEL	2	1.0	20/1	--	--	--	" "		80
81	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	82
83	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	84

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 4.5 KVA	X 1.25	LIGHTING = 5.6 KVA	
RECEPTACLE = 19.0 KVA	NEC 220 - 14	RECEPTACLE = 14.5 KVA	
EQUIPMENT = 82.0 KVA	X 1.0	EQUIPMENT = 82.0 KVA	
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES 0.0 KVA	
TOTAL = 105.5 KVA		TOTAL 102.1 KVA	284 AMPS

CIRCUIT BREAKER PANELBOARD ' LE '
BRADY ISD - ELEMENTARY

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE PANEL EXTENSION WITH PHASE MONITORING PROTECTION.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.

120/240 VOLT, 1 PHASE, 3 WIRE, 225A. MLO, KA. RMS SYM.
SURFACE MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	E	CC-E1,E2,E3,E4,E5,E6,E7	3	0.8	20/2	20/2	0.8	3	CC-E8,E9,E10,E11,E12,E13	E	2
3		" "	--	--	--	--	--	--	" "		4
5	E	HP-E1	3	2.7	20/2	20/2	2.7	3	HP-E2	E	6
7		" "	--	--	--	--	--	--	" "		8
9	E	HP-E3	3	2.7	20/2	20/2	2.7	3	HP-E4	E	10
11		" "	--	--	--	--	--	--	" "		12
13	E	HP-E5	3	1.5	20/2	20/2	1.5	3	HP-E6	E	14
15		" "	--	--	--	--	--	--	" "		16
17	E	HP-E7	3	1.5	20/2	20/2	1.5	3	HP-E8	E	18
19		" "	--	--	--	--	--	--	" "		20
21	E	HP-E9	3	2.7	20/2	20/2	2.7	3	HP-E10	E	22
23		" "	--	--	--	--	--	--	" "		24
25	E	HP-E11	3	2.7	20/2	20/2	2.7	3	HP-E12	E	26
27		" "	--	--	--	--	--	--	" "		28
29	E	HP-E13	3	2.7	20/2	45/2	7.7	17	FCU-OSA-E1	E	30
31		" "	--	--	--	--	--	--	" "		32
33	S	SPARE	--	--	20/2	45/2	7.7	17	FCU-OSA-E2	E	34
35		" "	--	--	--	--	--	--	" "		36
37	S	SPACE	--	--	--	--	--	--	SPACE	S	38
39	S	SPACE	--	--	--	--	--	--	SPACE	S	40
41	S	SPACE	--	--	--	--	--	--	SPACE	S	42

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 0.0 KVA	X 1.25	LIGHTING = 0.0 KVA	
RECEPTACLE = 0.0 KVA	NEC 220 - 14	RECEPTACLE = 0.0 KVA	
EQUIPMENT = 47.3 KVA	X 1.0	EQUIPMENT = 47.3 KVA	
KITCHEN = 0.0 KVA	NEC 220 - 56	KITCHEN = 0.0 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES = 0.0 KVA	
TOTAL = 47.3 KVA		TOTAL = 47.3 KVA	197 AMPS

CIRCUIT BREAKER PANELBOARD ' LK '
BRADY ISD - HIGH SCHOOL

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 225 A. MCB, KA. RMS SYM.
FLUSH MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	K	REFREGERATOR (E7)	2	1.0	20/1	40/3	10.7	21	DISH MACHINE (E15)	K	2
3	E	FREEZER (E2)	2	1.2	20/1	--	--	--	" "		4
5	R	RECEPTACLES (E25)	2	0.5	20/1	--	--	--	" "		6
7	K	ICE MACHINE (E6)	2	1.8	20/1	20/1	1.5	2	RECEPTACLES (E29)	R	8
9	E	AIR DOOR (E24)	2	1.8	20/1	20/1	1.5	2	RECEPTACLES (E16)	R	10
11	R	RECEPTACLES (E25)	2	1.5	20/1	30/1	2.1	3	HEATED HOLDING UNIT (E10)	K	12
13	E	COOLER DOOR HEATER (E1)	2	0.3	20/1	20/1	1.8	2	MICROWAVE/TOASTER (E20)	K	14
15	E	COOLER EVAPORATOR (E2)	2	0.2	20/1	20/1	0.4	2	DRESSING TABLE (E21)	K	16
17	E	FREEZER DOOR HEATER (E1)	2	0.3	20/1	20/1	1.5	2	RECEPTACLES (E16)	R	18
19	E	FREEZER EVAPORATOR (E3)	3	2.2	20/2	20/1	1.0	2	MIXER (E19)	K	20
21		" "	--	--	--	20/1	0.8	2	FOOD PROCESSER (E9)	K	22
23	R	RECEPTACLES (E16)	2	0.5	20/1	20/1	0.7	2	SLICER (E18)	K	24
25	E	HEATED HOLDING UNIT (E10)	2	2.1	30/1	20/1	0.5	2	RECEPTACLES	R	26
27	R	RECEPTACLES (E16)	2	1.5	20/1	40/2	6.0	17	COFFEE MAKER (E23)	K	28
29	K	MERCHANDISER (E26)	2	0.4	20/1	--	--	--	" "		30
31	K	TEA BREWER (E22)	2	1.7	20/1	20/1	1.5	2	RECEPTACLES (E16)	R	32
33	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	34
35	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	36
37	E	PANEL 'LKS'	(g)	2.2	60/3	60/1	--	--	SPD	E	38
39		" "	--	--	--	60/1	--	--	SPD	E	40
41		" "	--	--	--	60/1	--	--	SPD	E	42

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 0.0 KVA	X 1.25	LIGHTING = 0.0 KVA	
RECEPTACLE = 10.5 KVA	NEC 220 - 14	RECEPTACLE = 10.3 KVA	
EQUIPMENT = 10.3 KVA	X 1.0	EQUIPMENT = 10.3 KVA	
KITCHEN = 28.4 KVA	NEC 220 - 56	KITCHEN = 18.5 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES = 0.0 KVA	
TOTAL = 49.2 KVA		TOTAL = 39.0 KVA	108 AMPS

CIRCUIT BREAKER PANELBOARD ' LKS '
BRADY ISD - HIGH SCHOOL

STANDARD NOTES:
1. PROVIDE BALANCED LOAD ON EACH PHASE. CIRCUIT NUMBERS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY.
2. REFERENCE BRANCH CIRCUIT WIRE AND CONDUIT SCHEDULE.

NOTES: (THESE ITEMS APPLY ONLY WHERE SPECIFIED BELOW)
(a) REFERENCE SPLIT SYSTEM / ROOFTOP ELECTRICAL CONNECTION SCHEDULE.
(b) REFERENCE TRANSFORMER SCHEDULE.
(c) REFERENCE FAN POWERED BOX / VAV CONNECTION SCHEDULE.
(d) PROVIDE WITH SHUNT TRIP BREAKER.
(e) PROVIDE WITH PERMANANTLY INSTALLED LOCKING DEVICE
(f) PROVIDE WITH GFCI BREAKER.
(g) REFERENCE ASSOCIATED PANEL SCHEDULE.
(h) PROVIDE 6" PANEL EXTENSION AND CT'S AS NOTED.

120/208 VOLT, 3 PHASE, 4 WIRE, 60 A. MCB, KA. RMS SYM.
FLUSH MOUNTED, NEMA 1 ENCLOSURE, S/N
FEEDER: REFERENCE PANELBOARD CONNECTION SCHEDULE

CKT		LOAD DESCRIPTION	WIRE/CONDUIT	KVA	C/B	C/B	KVA	WIRE/CONDUIT	LOAD DESCRIPTION		CKT
1	K	CONVECTION OVEN (E11)	2	0.9	20/1	20/1	0.5	2	GRIDDLE AND OVEN (E13)	K	2
3	K	CONVECTION OVEN (E11)	2	0.9	20/1	20/1	0.8	2	FRYER DUMP STATION (E14)	K	4
5	K	STEAMER (E12)	2	0.1	20/1	20/1	--	--	SPARE	S	6
7	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	8
9	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	10
11	S	SPARE	--	--	20/1	20/1	--	--	SPARE	S	12
13	S	SPACE	--	--	--	--	--	--	SPACE	S	14
15	S	SPACE	--	--	--	--	--	--	SPACE	S	16
17	S	SPACE	--	--	--	--	--	--	SPACE	S	18
19	S	SPACE	--	--	--	--	--	--	SPACE	S	20
21	S	SPACE	--	--	--	--	--	--	SPACE	S	22
23	S	SPACE	--	--	--	--	--	--	SPACE	S	24
25	S	SPACE	--	--	--	--	--	--	SPACE	S	26
27	S	SPACE	--	--	--	--	--	--	SPACE	S	28
29	S	SPACE	--	--	--	--	--	--	SPACE	S	30
31	S	SPACE	--	--	--	--	--	--	SPACE	S	32
33	S	SPACE	--	--	--	--	--	--	SPACE	S	34
35	S	SPACE	--	--	--	--	--	--	SPACE	S	36
37	S	SPACE	--	--	--	--	--	--	SPACE	S	38
39	S	SPACE	--	--	--	--	--	--	SPACE	S	40
41	S	SPACE	--	--	--	--	--	--	SPACE	S	42

ELECTRICAL LOAD CALCULATIONS:

CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	REMARKS:
LIGHTING = 0.0 KVA	X 1.25	LIGHTING = 0.0 KVA	
RECEPTACLE = 0.0 KVA	NEC 220 - 14	RECEPTACLE = 0.0 KVA	
EQUIPMENT = 0.0 KVA	X 1.0	EQUIPMENT = 0.0 KVA	
KITCHEN = 3.2 KVA	NEC 220 - 56	KITCHEN = 2.2 KVA	
SPARES = 0.0 KVA	X 0.5	SPARES = 0.0 KVA	
TOTAL = 3.2 KVA		TOTAL = 2.2 KVA	6 AMPS

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STATE OF TEXAS
B.J. HENDRIX
94813
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO: 94813 ON: 04/04/2019

Brady Independent School District
Bond 2018
Brady, Texas

REFERENCE GENERAL NOTES ON SHEETS M1.01, P1.01, AND E1.01 FOR ADDITIONAL INFORMATION

HCE HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

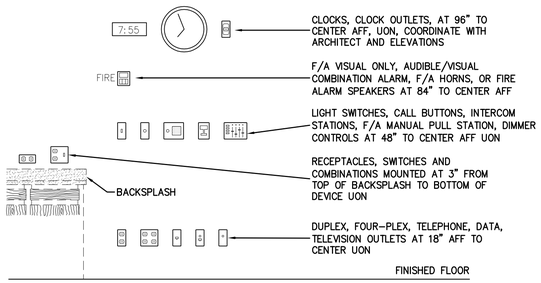
Revision:

Project Number
1703

Date:
04/04/2019

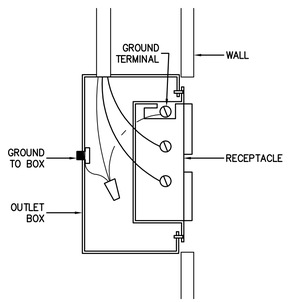
Sheet Number

SCHEDULES - ELECTRICAL **E1.04**



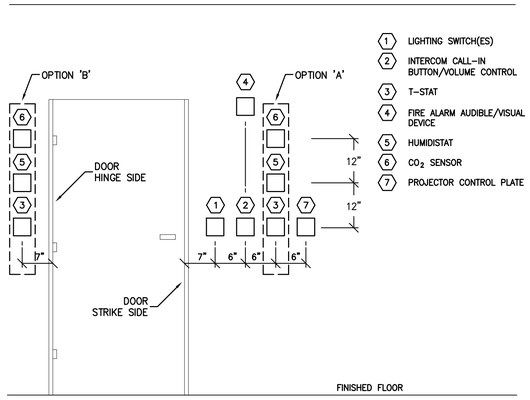
MOUNTING HEIGHT DETAIL

NO SCALE EDE-10



RECEPTACLE GROUNDING DETAIL

NO SCALE EDE-57

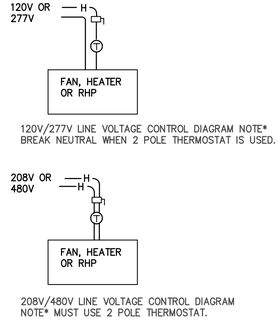


NOTES:

1. THE PURPOSE OF THIS DETAIL IS TO SET A STANDARD FOR DEVICE ROUGH-IN. ADJUSTMENT FOR FIELD CONDITIONS WILL BE ALLOWED.
2. PROVIDE HORIZONTAL MULTI-DEVICE BRACKET AS REQUIRED.
3. MARKER BOARD IN CLASSROOMS SHOULD BE 30" FROM DOOR TO ALLOW ALL DEVICES TO BE ROUGHED-IN PER DETAIL.
4. MECHANICAL CONTROL DEVICES MAY BE ON EITHER SIDE OF DOOR, DEPENDING ON JOB CONDITIONS. REFERENCE OPTION 'A' AND OPTION 'B'. T-STAT MAY NOT BE BEHIND DOOR WHEN OPEN.

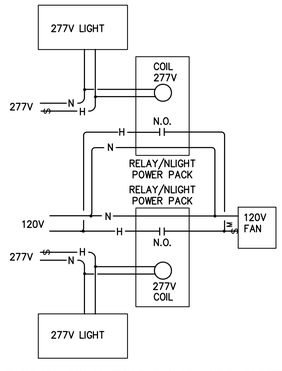
TYPICAL DEVICE OUTLET LOCATIONS ADJACENT TO DOORS

NO SCALE EDE-91

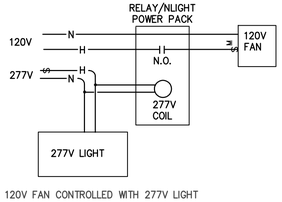


120V/277V LINE VOLTAGE CONTROL DIAGRAM NOTE* BREAK NEUTRAL WHEN 2 POLE THERMOSTAT IS USED.

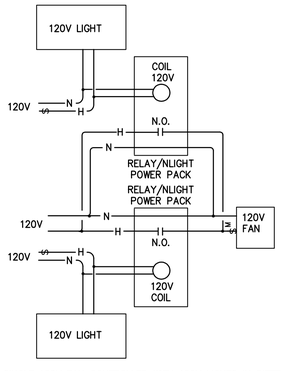
208V/480V LINE VOLTAGE CONTROL DIAGRAM NOTE* MUST USE 2 POLE THERMOSTAT.



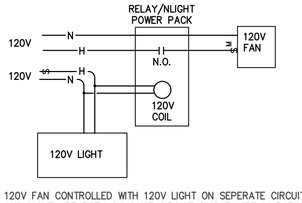
SINGLE 120V FAN CONTROLLED WITH 277V LIGHTS IN DIFFERENT ROOMS ADD 1 RELAY PER ADDITIONAL ROOM AS REQUIRED.



120V FAN CONTROLLED WITH 277V LIGHT



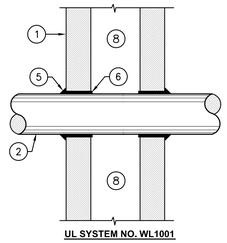
SINGLE 120V FAN CONTROLLED WITH 120V LIGHTS IN DIFFERENT ROOMS ADD 1 RELAY PER ADDITIONAL ROOM AS REQUIRED.



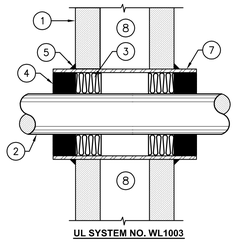
120V FAN CONTROLLED WITH 120V LIGHT ON SEPERATE CIRCUIT. IF FAN AND LIGHT ARE BOTH ON SAME CIRCUIT SIMPLE WIRE IN PARALLEL.

EXHAUST FAN/HEATER CONTROL

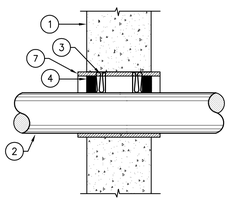
SCALE: NONE EDE-90



UL SYSTEM NO. WL1001



UL SYSTEM NO. WL1003



UL SYSTEM NO. CAJ1175 CONDUIT

KEYED NOTES

1. RATED WALL BARRIER
2. PIPE OR CONDUIT
3. FORMING MATERIAL (MINERAL - WOOL BATT INSULATION
4. FIRE CAULK
5. FIRE CAULK - CONTINUOUS BEAD AROUND PENETRATING ITEM
6. FIRE CAULK - CONTINUOUSLY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT THROUGHOUT THICKNESS OF WALL BOARD LAYERS
7. SLEEVE FOR UL SYSTEM NO. WL1003, OPTIONAL FOR UL SYSTEM NO. CAJ1175
8. WALL CAVITY

GENERAL NOTES

A. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL RATED WALLS, FLOORS AND CEILINGS.

B. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION CONCERNING MATERIALS AND METHODS.

C. REFERENCE UL FIRE RESISTANCE DIRECTORY FOR ADDITIONAL DATA, INCLUDING WALL RATINGS FOR WHICH DETAILS ARE AND SUPPORT REQUIREMENTS.

D. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH UL SYSTEM NUMBER AND MANUFACTURER'S INSTRUCTIONS PROVIDED WITH MATERIALS.

E. ONLY MATERIALS TESTED FOR SPECIFIC UL SYSTEM NUMBER MAY BE USED.

F. ANNULAR SPACE BETWEEN FIRE BARRIER SURFACE AND PENETRATING ITEM IS EXTREMELY CRITICAL. REFER TO PARTICULAR UL SYSTEM NUMBER AND FIRE RATING FOR THIS CRITERIA.

TYPICAL CONDUIT PENETRATION

NO SCALE (FIRE RATED GYPSUM/STUD WALL ASSEMBLY AND CONCRETE WALL/FLOOR ASSEMBLY) EDE-96

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HENDRIX CONSULTING ENGINEERS

HCE job no.: 19-004

Brady Independent School District
Bond 2018
Brady, Texas

Revision:

Project Number
1703

Date:
04/04/2019

Sheet Number

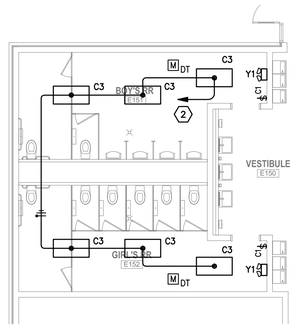
DETAILS - ELECTRICAL E1.05

KEYED NOTES

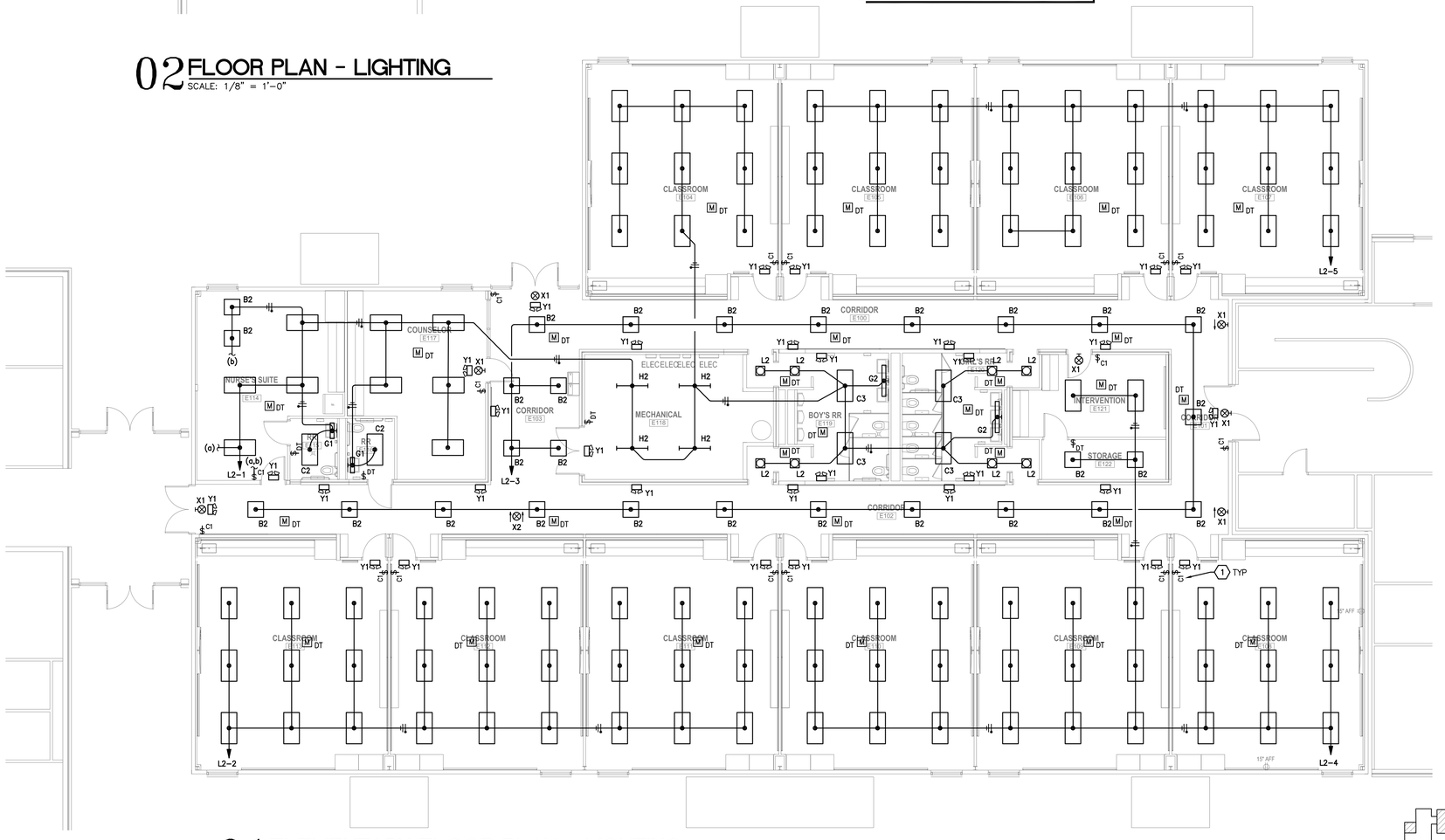
THESE NOTES APPLY TO THIS SHEET ONLY

1. LOW VOLTAGE LIGHTING CONTROL BUTTON. REFERENCE MISCELLANEOUS EQUIPMENT SCHEDULE AND NLIGHT INTERIOR LIGHTING SCHEDULE.
2. CONNECT TO 20A/1P BREAKER IN NEAREST 120V PANEL WITH CAPACITY.

NO NEW EXTERIOR LIGHTING.
RE-CONNECT EXISTING LIGHTING.



02 FLOOR PLAN - LIGHTING
SCALE: 1/8" = 1'-0"



01 ELEMENTARY FLOOR PLAN - LIGHTING
SCALE: 1/8" = 1'-0"

ALL LIGHT FIXTURES ARE TYPE 'A3' UNLESS OTHERWISE NOTED.

KEYPLAN

ELEMENTARY FLOOR PLAN - LIGHTING E2.01

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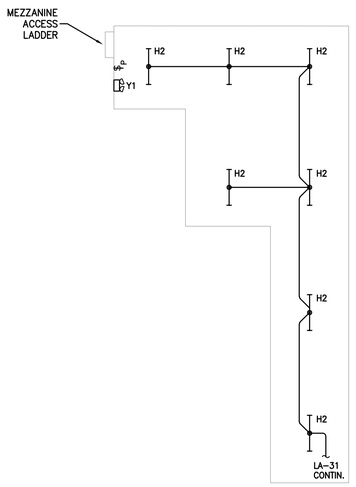
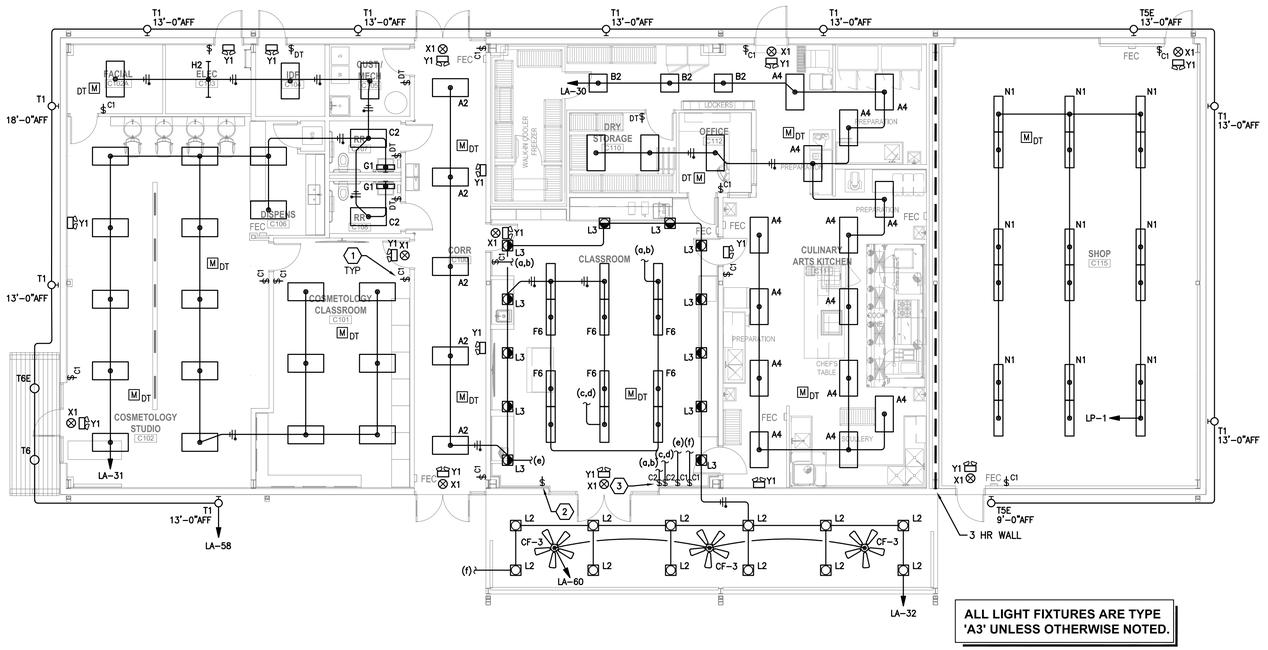


02 MEZZANINE PLAN - LIGHTING

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



01 FLOOR PLAN - LIGHTING

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

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

1. LOW VOLTAGE LIGHTING CONTROL BUTTON. REFERENCE MISCELLANEOUS EQUIPMENT SCHEDULE AND NLIGHT INTERIOR LIGHTING SCHEDULE.
2. CONTROLLER FOR FANS ON PATIO. FIELD COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
3. FIELD COORDINATE EXACT LOCATION FOR SWITCHES PRIOR TO ROUGH IN.

KEYPLAN

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CAREER CENTER FLOOR PLAN - LIGHTING E2.02

FOR LOCATIONS WHERE POWER AND DATA ARE SHOWN TOGETHER, DEVICE ROUGH-IN IS TO BE A MAXIMUM OF 6" APART. PROVIDE CADDY BRACKETS AS REQUIRED.

ELECTRICAL CONTRACTORS SHALL REFERENCE ALL TECHNOLOGY SHEETS FOR ADDITIONAL SCOPE OF WORK TO BE INCLUDED IN THEIR PRICING. COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY DRAWINGS AND CONSULTANT PRIOR TO ROUGH-IN.

ELECTRICAL DEVICE MOCK-UP

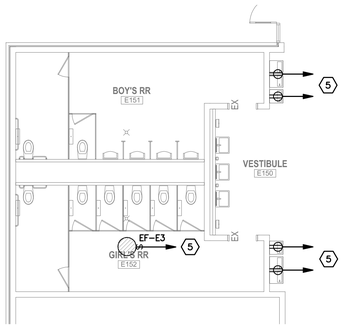
ROUGH-IN ONE ENTIRE CLASSROOM FOR MOCK-UP APPROVAL. IN MOCK-UP, ROUGH-IN ALL DEVICES IN ROOM INCLUDING LIGHT SWITCHES, THERMOSTATS, F/A, RECEPTACLES, DATA, ETC. DO NOT ROUGH-IN ANY ADDITIONAL DEVICES UNTIL MOCK-UP IS APPROVED BY THE OWNER, ARCHITECT AND ENGINEER. ANY DEVICES THAT DON'T MEET APPROVED MOCK-UP LOCATIONS WILL BE REMOVED AND REINSTALLED IN CORRECT LOCATION AT CONTRACTOR'S EXPENSE.

KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

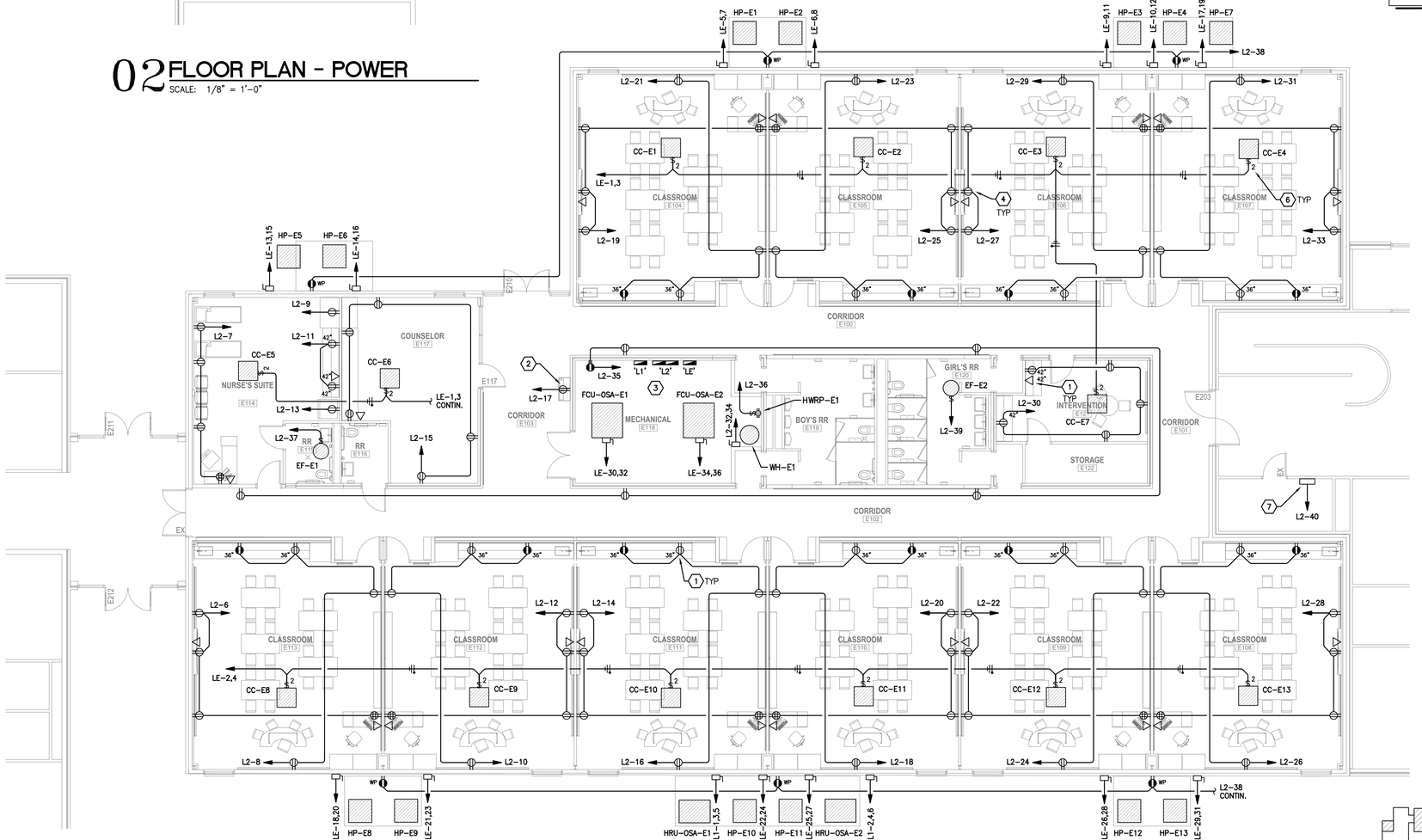
1. COORDINATE FINAL RECEPTACLE LOCATIONS WITH MILLWORK PRIOR TO ROUGH-IN. REVIEW FINAL ARCHITECTURAL INTERIOR ELEVATIONS FOR FINAL LAYOUTS OF EQUIPMENT TO BE POWERED.
2. EWC POWER. RECEPTACLE FOR POWER BEHIND EWC TO HAVE GFCI BREAKER AT PANEL. COORDINATE FINAL ROUGH-IN LOCATION.
3. ELECTRICAL PANELS. DO NOT RUN ANY PIPING OR DUCTWORK OVER ELECTRIC PANELS.
4. POWER AND DATA FOR FLAT PANEL DISPLAYS IN CLASSROOMS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT.
5. PROVIDE A 20A/1P GFCI BREAKER IN NEAREST 120V PANEL WITH CAPACITY.
6. PROVIDE A 2-POLE MOTOR RATED SWITCH AS DISCONNECTING MEANS FOR CASSETTES.
7. ACCESS CONTROL PANEL. REFERENCE TECHNOLOGY DRAWINGS FOR MORE INFORMATION. PROVIDE A DEDICATED 120V CIRCUIT TO PANEL.

REFERENCE MECHANICAL FAN SCHEDULE FOR EXHAUST FAN SWITCHING REQUIREMENTS



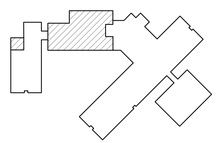
02 FLOOR PLAN - POWER

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



01 ELEMENTARY FLOOR PLAN - POWER

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



KEYPLAN

ELEMENTARY FLOOR PLAN - POWER

Sheet Number **E3.01**

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Brady Independent School District
Bond 2018
Brady, Texas

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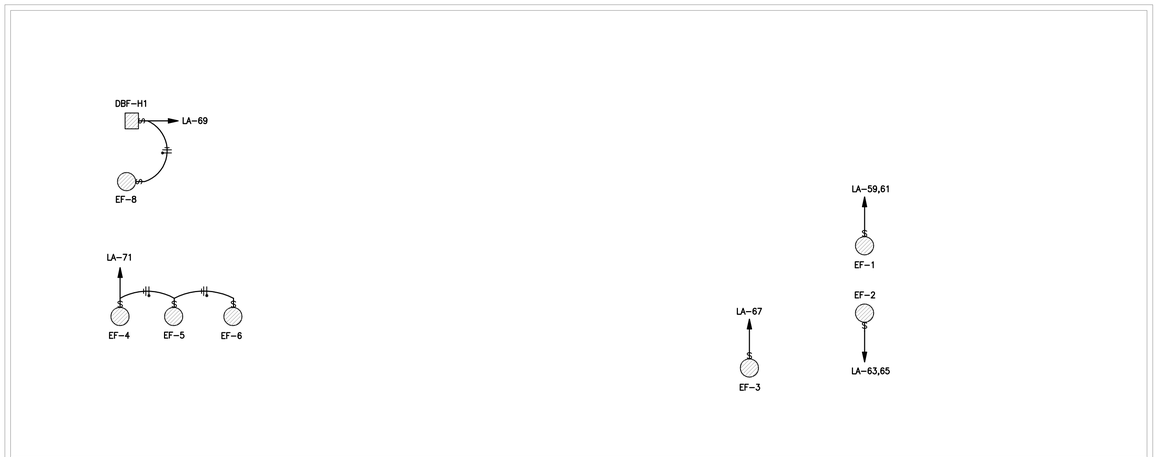


03 ROOF PLAN - POWER
SCALE: 1/8" = 1'–0"

ELECTRICAL CONTRACTORS SHALL REFERENCE ALL TECHNOLOGY SHEETS FOR ADDITIONAL SCOPE OF WORK TO BE INCLUDED IN THEIR PRICING. COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY DRAWINGS AND CONSULTANT PRIOR TO ROUGH-IN.

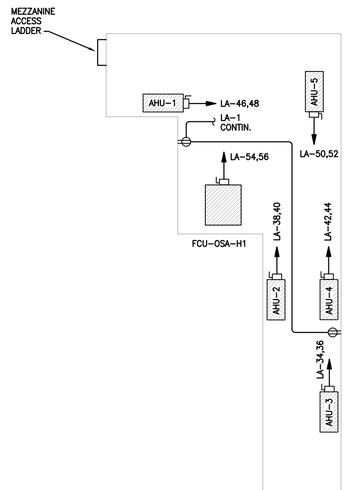
KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

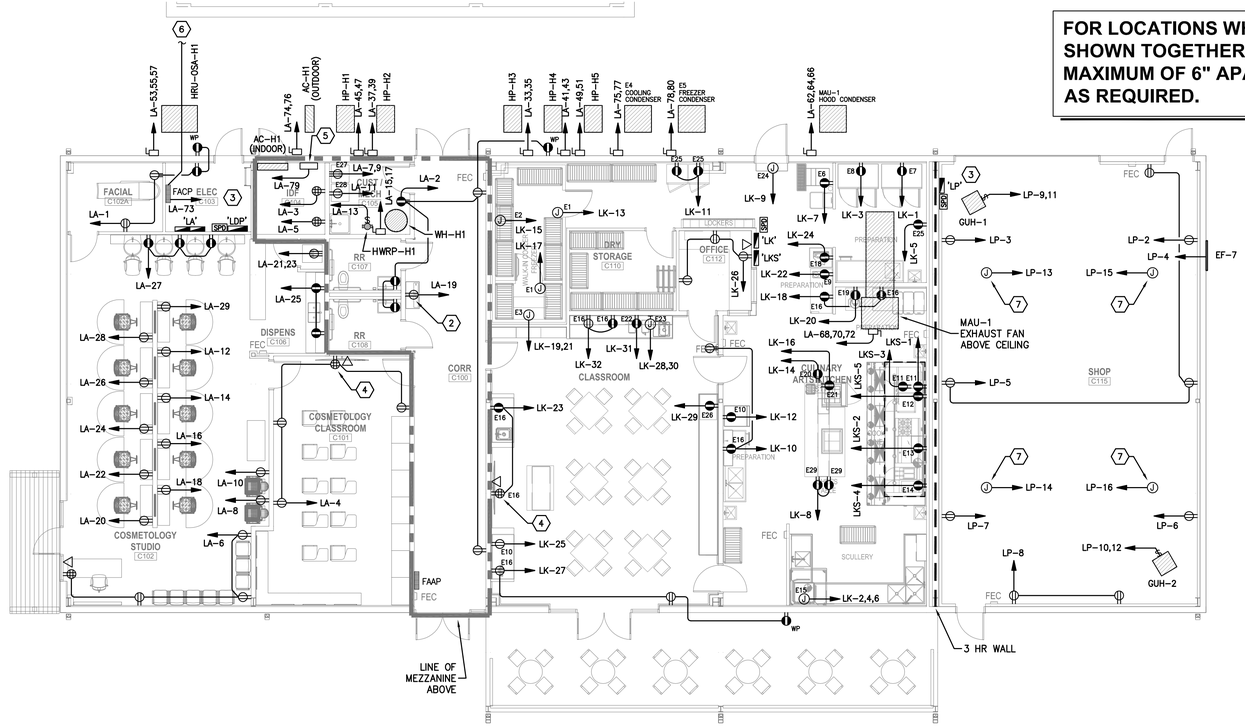
1. COORDINATE FINAL RECEPTACLE LOCATIONS WITH MILLWORK PRIOR TO ROUGH-IN. REVIEW FINAL ARCHITECTURAL INTERIOR ELEVATIONS FOR FINAL LAYOUTS OF EQUIPMENT TO BE POWERED.
2. EWC POWER. RECEPTACLE FOR POWER BEHIND EWC TO HAVE GFCI BREAKER AT PANEL. COORDINATE FINAL ROUGH-IN LOCATION.
3. ELECTRICAL PANELS. DO NOT RUN ANY PIPING OR DUCTWORK OVER ELECTRIC PANELS.
4. POWER AND DATA FOR FLAT PANEL DISPLAYS IN CLASSROOMS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECT.
5. ACCESS CONTROL PANEL. REFERENCE TECHNOLOGY DRAWINGS FOR MORE INFORMATION. PROVIDE A DEDICATED 120V CIRCUIT.
6. PROVIDE CONDUIT AND WIRING FROM NEW CAREER CENTER TO EXISTING TECHNOLOGY BUILDING FOR FIRE ALARM. CONNECT TO FIRE ALARM SYSTEM PANEL IN TECHNOLOGY BUILDING. FIELD VERIFY THAT PANEL IS EXPANDABLE TO INCORPORATE ALL POINTS REQUIRED FOR NEW BUILDING. REFERENCE SPECIFICATIONS.
7. CEILING MOUNTED J-BOX FOR POWER TO FUTURE CORD REELS. COORDINATE FINAL ROUGH-IN LOCATION.

ELECTRICAL DEVICE MOCK-UP

ROUGH-IN ONE ENTIRE CLASSROOM FOR MOCK-UP APPROVAL. IN MOCK-UP, ROUGH-IN ALL DEVICES IN ROOM INCLUDING LIGHT SWITCHES, THERMOSTATS, F/A, RECEPTACLES, DATA, ETC. DO NOT ROUGH-IN ANY ADDITIONAL DEVICES UNTIL MOCK-UP IS APPROVED BY THE OWNER, ARCHITECT AND ENGINEER. ANY DEVICES THAT DON'T MEET APPROVED MOCK-UP LOCATIONS WILL BE REMOVED AND REINSTALLED IN CORRECT LOCATION AT CONTRACTOR'S EXPENSE.



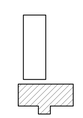
02 MEZZANINE PLAN - POWER
SCALE: 1/8" = 1'–0"



01 FLOOR PLAN - POWER
SCALE: 1/8" = 1'–0"

FOR LOCATIONS WHERE POWER AND DATA ARE SHOWN TOGETHER, DEVICE ROUGH-IN IS TO BE A MAXIMUM OF 6" APART. PROVIDE CADDY BRACKETS AS REQUIRED.

REFERENCE MECHANICAL FAN SCHEDULE FOR EXHAUST FAN SWITCHING REQUIREMENTS



KEYPLAN

CAREER CENTER FLOOR PLAN - POWER

E3.02

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