ROCKDALE COUNTY BOARD OF COMMISSIONERS
ANIMAL CONTROL ADDITION

1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

PROJECT INFORMATION

SCOPE OF WORK = ADDITION OF OFFICE AND KENNELS
OCCUPANCY CLASSIFICATION = B
TYPE OF CONSTRUCTION IN SCOPE OF WORK = I I B
SPRINKLED = YES
TOTAL BUILDING AREA = 9,747 SF
NUMBER OF STORIES = 1
OCCUPANT LOAD = ???

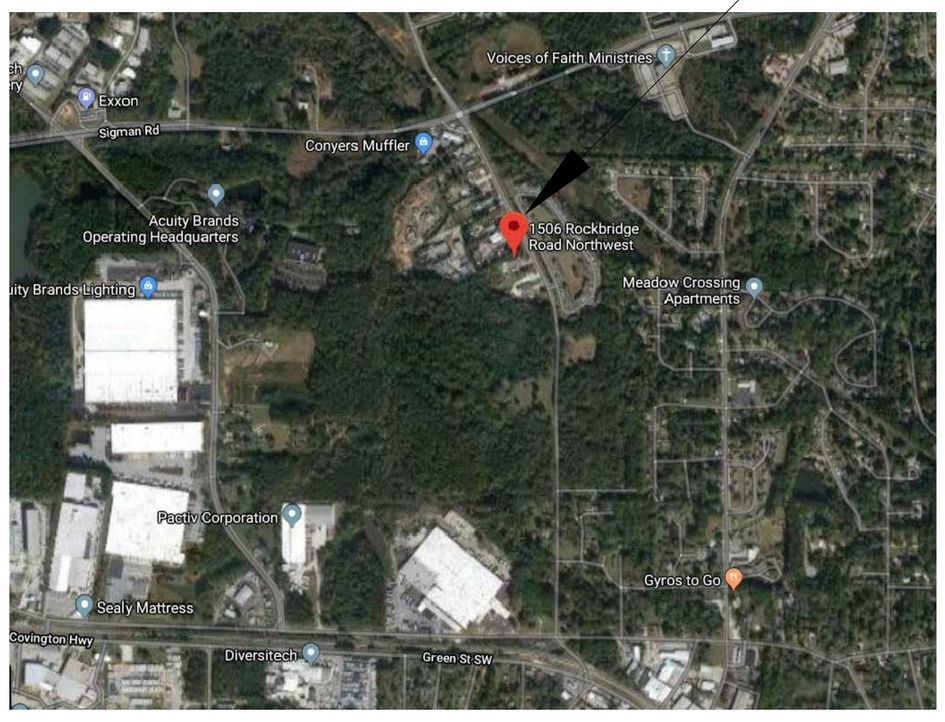
CODE REFERENCE

THE GEORGIA STATE MINIMUM STANDARD CODES:
- INTERNATIONAL BUILDING CODE, 2012 EDITION WITH 2014,2015, & 2017 GEORGIA AMENDMENTS
- INTERNATIONAL MECHANICAL CODE, 2012 EDITION WITH 2014 & 2015 GEORGIA AMENDMENTS
- INTERNATIONAL PLUMBING CODE, 2012 EDITION WITH 2014 & 2015 GEORGIA AMENDMENTS
- INTERNATIONAL FUEL GAS CODE, 2012 EDITION WITH 2014 & 2015 GEORGIA AMENDMENTS
- NFPA NATIONAL ELECTRIC CODE, 2014 EDITION
- INTERNATIONAL ENERGY CONSERVATION CODE, 2009 EDITION WITH 2011 & 2012 GEORGIA AMENDMENTS

NFPA 101 LIFE SAFETY CODE 2012 EDITION
INTERNATIONAL FIRE CODE 2012 EDITION
OCGA TITLES 25 AND 30 GEORGIA ACCESSIBILITY CODE/2010 ADA STANDARDS

PROJECT LOCATION

EXISTING FACILITY LOCATION



SHEET INDEX

IGARASHI DESIGNS

issue date/revisions

architect's seal

STATE OF GEORGIA
JAMES L. MITCHELL
CERTIFICATE NO. 030810
REGISTERED ARCHITECT

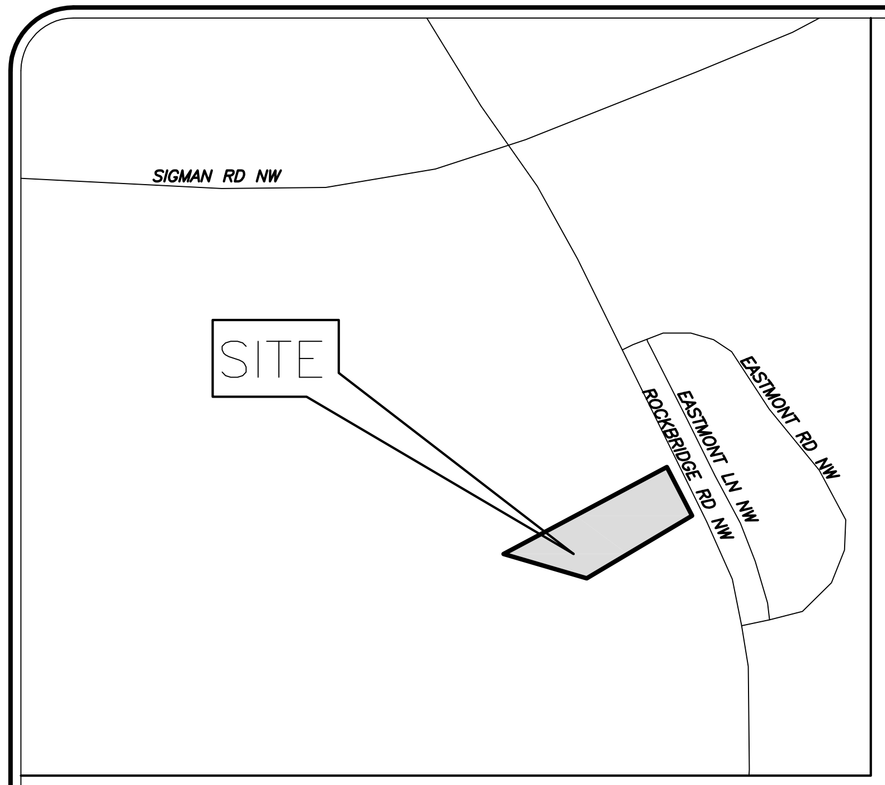
project name

ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

COVER SHEET

drawn by	MJAI
checked by	---
project no.	----
date	1-24-20
sheet no.	CVR



N.T.S.

SEDIMENT STORAGE CALCS

REQUIRED STORAGE: 67 CY/AC.11 =7 CY*
SEDIMENT STORAGE IN Ss
-MAX HEIGHT OF STORAGE=0.9'
-SLOPE ENTERING LINE A=1.5%
-8.3 SF OF SEDIMENT STORAGE PER LINEAR FOOT
-99 LF OF SD1 PROVIDED
*-8.3 SF*99 LF=822 CF*
-STORAGE PROVIDED IN SD1=30 CY

CLEAN OUT DEPTH=0.25' AT SILT FENCE

TOTAL STORAGE REQUIRED= 7 CY

TOTAL STORAGE PROVIDED= 30 CY

EXISTING IMPERVIOUS SURFACES =	14,760
EXISTING BUILDINGS =	1,696
PROPOSED ADDITION =	2,520
SF TOTAL =	18,976

SF EXISTING IMPERVIOUS SURFACE = 16,456
SF PROPOSED IMPERVIOUS SURFACE = 2,520
SF COVERAGE = 17%

113,124 SF
2.6 AC.

GPS LOCATION:
33.683173°
-84.030514°

PROJECT AREA= .11 AC.

39

1. EX. BUILDING, PARKING & PROPOSED EXPANSION SIZE AND LOCATION PER BUILDER'S DIRECTION.
2. THIS PROPERTY IS NOT LOCATED IN A FEDERAL FLOOD AREA AS INDICATED BY F.I.A. OFFICIAL HAZARD MAPS PANEL. PANEL #13247C0092D, DATED: 12/08/2016
3. BOUNDARY AND TOPOGRAPHY INFORMATION SHOWN ON THIS PLAN WERE PROVIDED BY OTHERS. NO WARRANTY IS MADE TO THEIR ACCURACY.
4. BUILDER IS RESPONSIBLE FOR INSTALLATION, AND MAINTENANCE OF EROSION CONTROL MEASURES.
6. ZONED M1
7. TAX PARCEL #0410010142

DS4 – ALL DISTURBED AREAS

OWNER:
NAME: COMMISSIONERS OF GEORGIA
ADDRESS: THE HURT BLDG SUITE 1000
50 HURT PLAZA
ATLANA, GA 30303

24-HOUR EMERGENCY CONTACT:
NAME: ANDREW HAMMER
DEPUTY DIRECTOR, RECREATION & MAINTENANCE
ROCKDALE COUNTY BOC
PO BOX 289
OFF: 770-278-7268
CELL: 678-387-7081
EMAIL: andrew.hammer@rockdalecountyga.gov

LEGEND:
Sd1-Silt Fence
Co-Construction Exit
Disturbed Area Stabilization
DS1-Mulching
DS2-Temp. Grassing
DS3-Perm. Grassing
DS4-Sod
Bf-Natural Buffer
(Tree Save Area)
•-Power pole
—P — Power line
W-M WATER METER
CB 4' X 8' METAL CATCH BASIN
DI DROP INLET
RCP REENFORCED CONCETE PIPE
—X— FENCE LINE
IPF IRON PIN FOUND
CMF-CONCRET MONUMENT FOUND
—— S ——SANITARY SEWER LINE

GSWCC #2494
CERTIFIED
DESIGN PROF.
EXP. 11/16/2020

GEORGIA REGISTERED No. 25865 PROFESSIONAL ENGINEER MARK H. WALTON

PATRICK & ASSOCIATES, INC.
SURVEYING & ENGINEERING
928 BLACKLAWN ROAD
CONYERS, GEORGIA 30094
PHONE: (770) 483-9745

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)		Ds4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.

Ds4 SOD MAINTENANCE AND INSTALLATION

SOD LAYOUT AND PREPARATION

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

INCORRECT CORRECT

BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED --- IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

APPEARANCE OF GOOD SOD

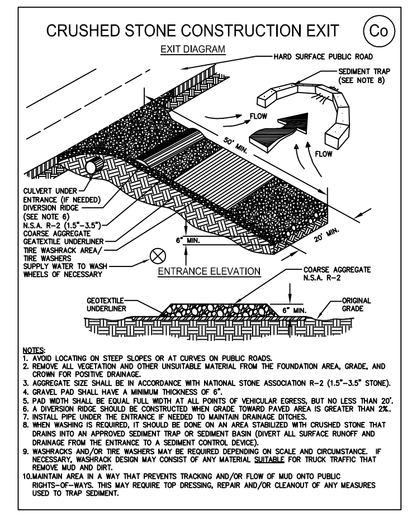
SHOOTS OR GRASS BLADES: GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

THATCH: GRASS CLIPPINGS AND DEAD LEAVES (UP TO 1/2" THICK).

ROOT ZONE: SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK WITH DENSE ROOT MAT FOR STRENGTH.

CRUSHED STONE CONSTRUCTION EXIT (Co)

EXIT DIAGRAM



NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PUBLIC AREA IS GREATER THAN 2%.
7. ALL SURFACE WATER FLOWING TOWARD THE EXIT SHALL BE PIPED ACROSS DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (INVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF REQUIRED, WASHRACKS AND DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

30 0 30 60
SCALE: 1"=30'

EROSION CONTROL PLAN FOR:

ROCKDALE COUNTY ANIMAL CONTROL

1506 NW ROCKBRIDGE RD

LAND LOT 265 – 16th DISTRICT

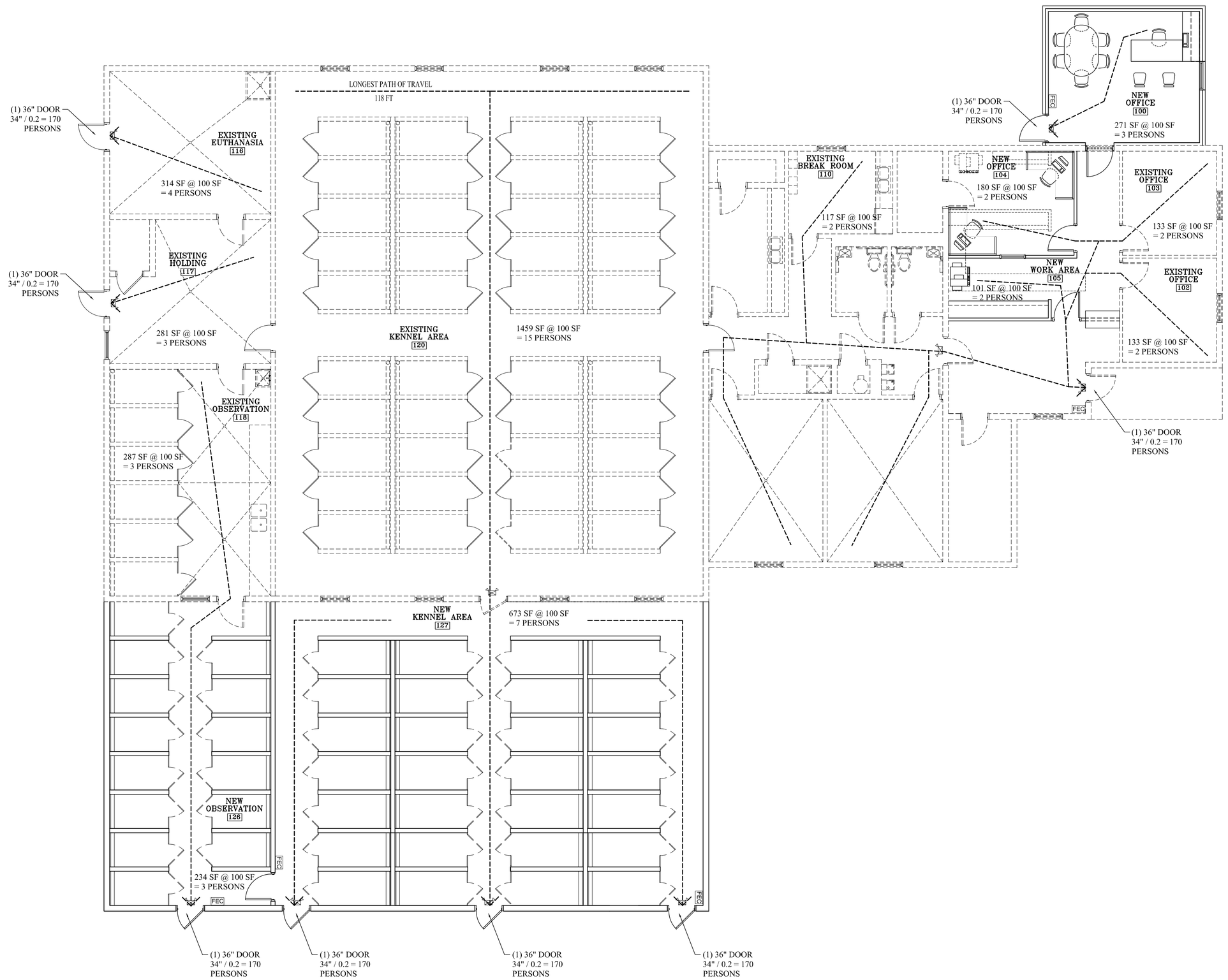
ROCKDALE COUNTY, GEORGIA

DATE: 1-23-2020

JOB 20-079

DWG 33227

20-079 Andrew Hammer – 1506 Rockbridge Road-SP .dwg



1 LIFE SAFETY PLAN
SCALE: 3/16" = 1'-0"

LIFE SAFETY CALCULATIONS

LOCATION	QTY
NEW OFFICE 100	3
EXISTING OFFICE 102	2
EXISTING OFFICE 103	2
NEW OFFICE 104	2
NEW WORK AREA 105	2
EXISTING BREAK ROOM 110	2
EXISTING KITTIES 115	3
EXISTING PUPPIES 114	3
EXISTING EUTHANASIA 116	3
EXISTING HOLDING 117	4
EXISTING OBSERVATION 118	3
EXISTING KENNEL 120	15
NEW OBSERVATION 126	3
NEW KENNEL 127	7
MAX OCCUPANCY	54

EGRESS WIDTH PROVIDED
(8) 36" DOORS
8 X 34" = 272" / 0.2 = 1360 PERSONS
MAX OCCUPANCY = 54 IS LESS THAN 1360 PERSONS
TRAVEL DISTANCE
SPRINKLED OCCUPANCY FOR BUSINESS = 300 FT MAX
LONGEST TRAVEL DISTANCE = 118 FT
MAX TRAVEL = 118 FT IS LESS THAN 300 FT

LEGEND	
	EMERGENCY FLOOD LIGHT FIXTURE
	EMERGENCY EXIT/FLOOD LIGHT COMBINATION FIXTURE
	EMERGENCY EXIT FIXTURE
FEC	FIRE EXTINGUISHER CABINET

IGARASHI DESIGNS

issue date/revisions

architect's seal

STATE OF GEORGIA
JAMES L. MITCHELL
CERTIFICATE NO. 019139
REGISTERED ARCHITECT

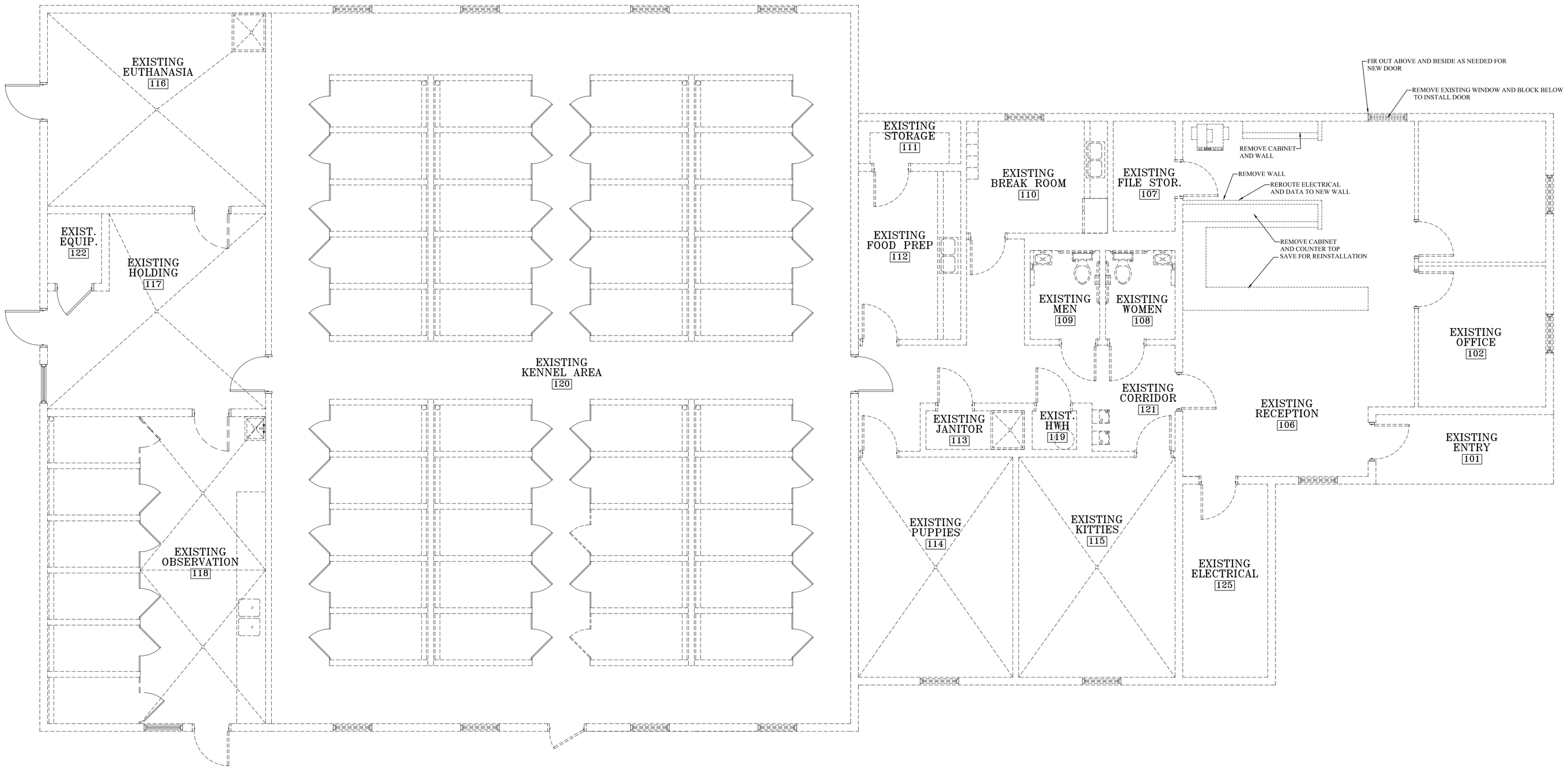
project name

ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

LIFE SAFETY PLAN

drawn by: MJAI	A0.1
checked by: ---	
project no.: ----	sheet no.
date: 1-24-20	



A OFFICE AREA DEMOLITION PLAN
SCALE: 3/16" = 1'-0"

IGARASHI DESIGNS

issue date/revisions

architect's seal

STATE OF GEORGIA
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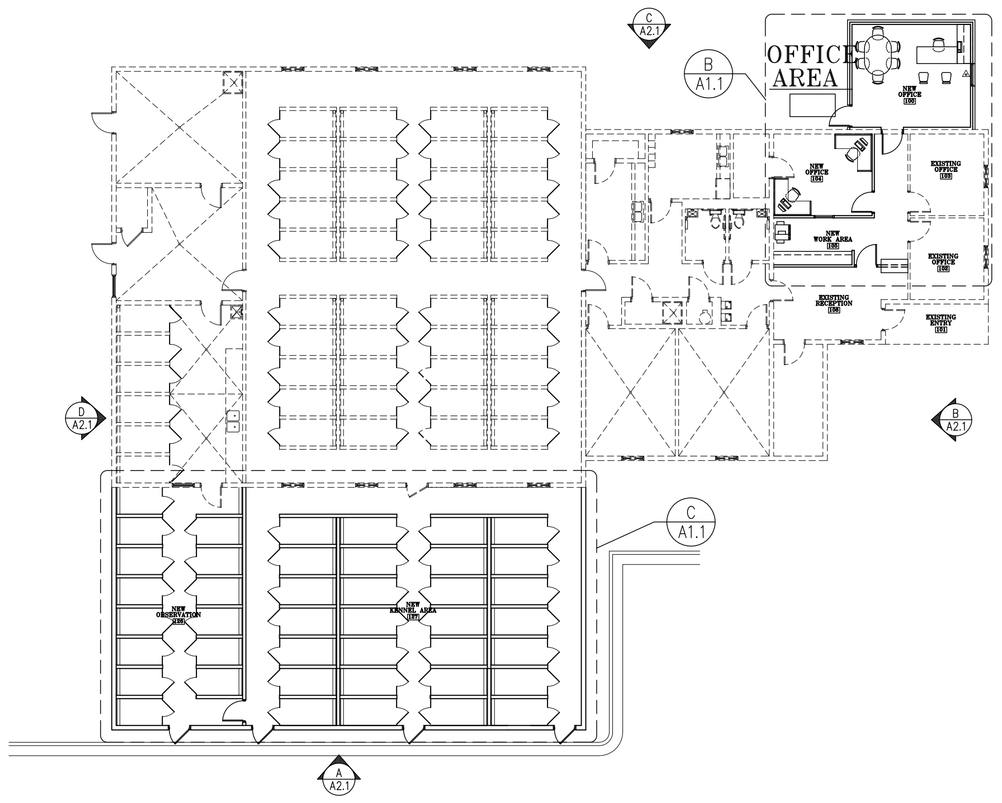
project name

ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

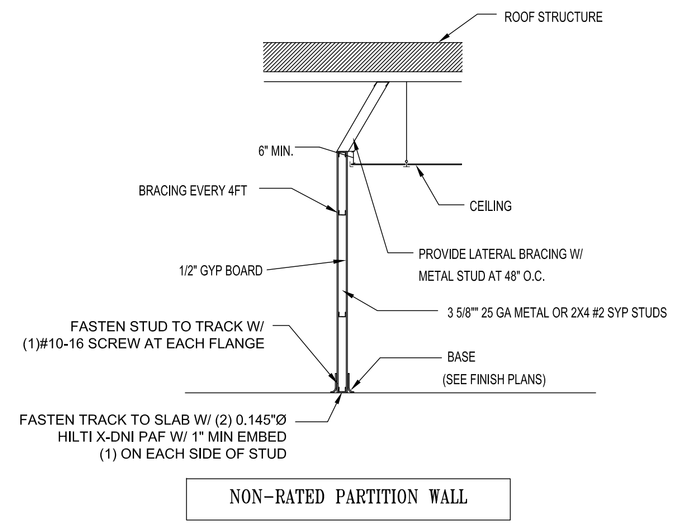
sheet title

DEMOLITION PLAN

drawn by: MJAI	A1.0
checked by: ---	
project no.: ----	
date: 1-24-20	sheet no.

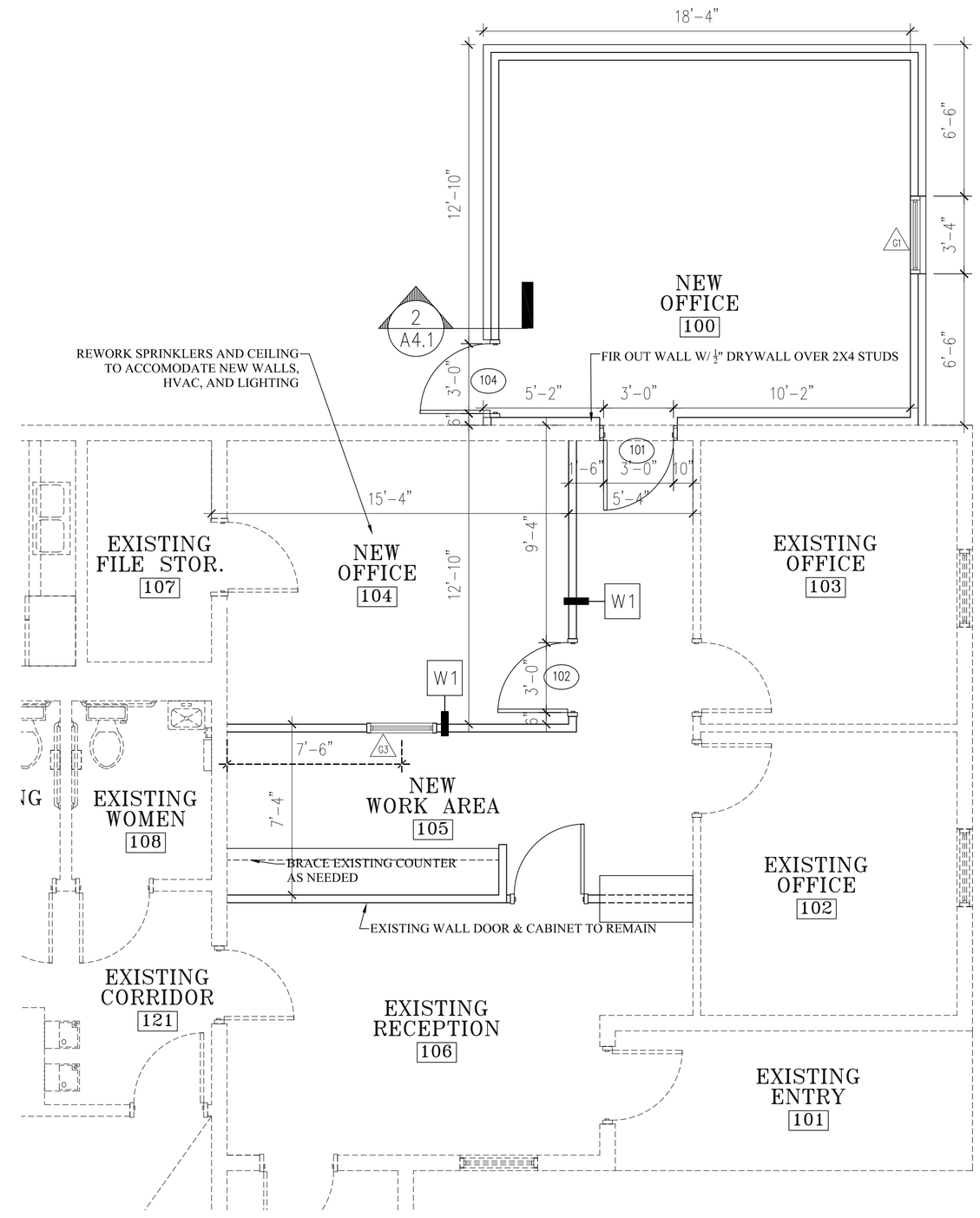


2 FULL FLOOR PLAN
SCALE: 1/16" = 1'-0"



NON-RATED PARTITION WALL

4 PARTITION WALL DETAIL
SCALE: 1/4" = 1'-0"



3 OFFICE AREA FLOOR PLAN
SCALE: 1/4" = 1'-0"

1 KENNEL AREA FLOOR PLAN
SCALE: 1/4" = 1'-0"

IGARASHI DESIGNS

issue date/revisions

architect's seal

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ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

FLOORPLAN

drawn by	MJAI
checked by	---
project no.	----
date	1-24-20

A1.1
sheet no.

FINISH SCHEDULE

No.	ROOM	WALL		CHAIRRAIL		CROWN		BASEBOARD		FLOOR	CEILING		REMARKS
		Type	Color	Type	Color	Type	Color	Type	Color		Type	Color	
100	NEW OFFICE	PD	WF1	-	-	-	-	R1	-	LVT	ACT	-	-
104	NEW OFFICE	PD	WF1	-	-	-	-	R1	-	LVT	ACT	-	-
105	WORK AREA	PD	WF1	-	-	-	-	R1	-	LVT	ACT	-	-
126	NEW OBSERVATION	PB	WF2	-	-	-	-	-	-	EPOXY	ACT	-	-
127	NEW KENNEL	PB	WF2	-	-	-	-	-	-	EPOXY	ACT	-	-

NOTES:
1.
2.

LEGEND

WALL
- PD = PAINTED DRYWALL
- UD = UNPAINTED DRYWALL
- PB = PAINTED CMU

CHAIR RAIL MOLDING
- W1 = WOOD CHAIR RAIL - RB-8806 W/ RB-8803

CROWN MOLDING
- W2 = WOOD CROWN - RB47

BASEBOARD MOLDING
- R1 = RUBBER BASEBOARD (COLOR TBD)
- CB1 = CERAMIC COVE BASE (COLOR TO MATCH CT1)
- W3 = WOOD BASE - 5" SPEED BASE
- W3S = WOOD BASE - 5" SPEED BASE WITH SHOE

FLOOR
- EPOXY = O-TEX EPOXY - POSI-TRED "O" MEDIUM PROFILE AGGREGATES OR EQUIVALENT
- LVT - LUXURY VINYL TILE - MANNINGTON PLANK "WALKWAY" COLOR TBD
- CT1 = CERAMIC TILE - $8/SF ALLOWANCE (COLOR TBD)
- CT2 = CERAMIC TILE - $8/SF ALLOWANCE (COLOR TBD)
- SC = SEALED CONCRETE

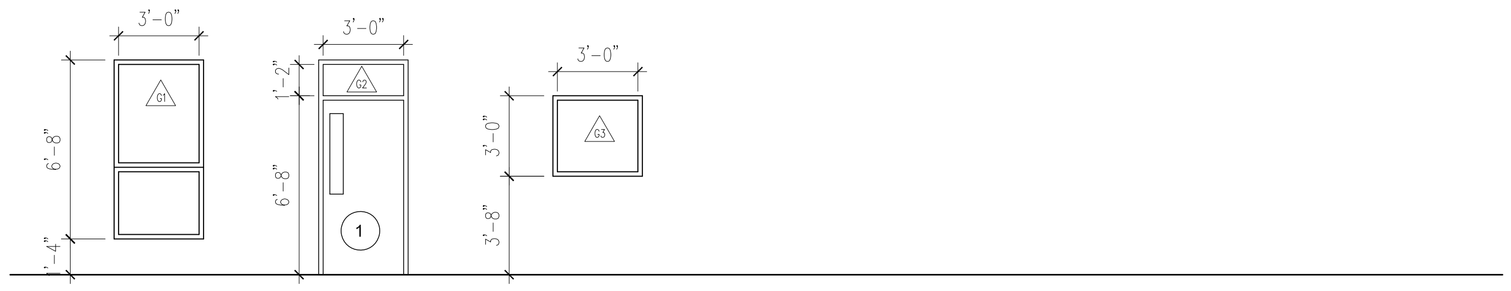
CEILING
- ACT = ACOUSTICAL TILE
- PD = PAINTED DRYWALL

COLOR
- TBD = TO BE DETERMINED
- WF1 = LATEX FLAT - COLOR TBD
- WF2 = FLAT (BLOCK FILLER & TOP COAT)
- SG1 = SEMI-GLOSS TRIM - COLOR PURE WHITE
- ST1 = STAIN - COLOR TBD
- CF = CEILING WHITE - FLAT FINISH

WINDOW SCHEDULE

Mark	Frame				Glazing					Remarks
	Width	Height	Material	Mullion	Pane	Insul	Tint	U-Factor	SHGC	
G1	3'-0"	6'-8"	METAL	AS SHOWN	DOUBLE	LOW-E	NONE	0.35	0.50	-
G2	3'-0"	1'-2"	METAL	AS SHOWN	DOUBLE	LOW-E	NONE	0.35	0.50	TRANSOM
G3	3'-0"	3'-0"	METAL	AS SHOWN	SINGLE	-	ONE WAY	-	-	ONE WAY GLASS

NOTES:
1. MANUFACTURER TO BE SELECTED BY CONTRACTOR AND SUBMITTED TO OWNER FOR APPROVAL.

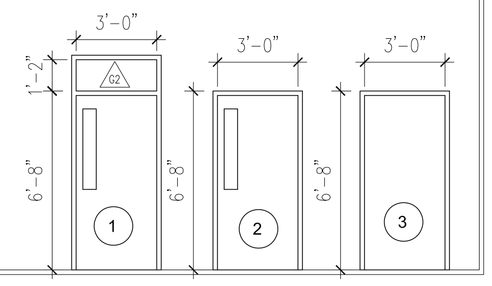


DOOR SCHEDULE

No.	Door						Frame		Hardware Set	Remarks
	Width	Height	Lable	Swing	Material	Type	Type	Depth		
101	3'-0"	6'-8"	-	RH	W	3	HM	7 3/4"	1	-
102	3'-0"	6'-8"	-	LH	W	3	HM	5 3/4"	1	-
104	3'-0"	6'-8"	-	LH	HM	2	HM	7 3/4"	3	-
105	3'-0"	6'-8"	-	LH	HM	1	HM	7 3/4"	3	BLANK ON OUTSIDE
106	3'-0"	6'-8"	-	LH	HM	1	HM	7 3/4"	3	BLANK ON OUTSIDE
107	3'-0"	6'-8"	-	LH	HM	1	HM	7 3/4"	3	BLANK ON OUTSIDE
108	3'-0"	6'-8"	-	LH	HM	2	HM	5 3/4"	2	-
109	3'-0"	6'-8"	-	LH	HM	1	HM	7 3/4"	3	BLANK ON OUTSIDE

LEGEND:
HM = HOLLOW METAL W = WOOD (SOLID CORE)

NOTES:
1. ALL HARDWARE TO BE COMMERCIAL GRADE BRUSHED STEEL - SCHLAGE.
2. PROVIDE FLOOR OR WALL DOORSTOPS FOR ALL DOORS AS APPROPRIATE.
3. SELF-CLOSING DEVICES (SEE LEGEND ABOVE) SHALL MEET THE REQUIREMENTS OF THE NFPA 101, 7.2.1.4.
4. ALL FIRE RATED DOORS SHALL RECEIVE SELF-CLOSING DEVICES AND POSITIVE LATCHES PER THE NFPA 101, SEC 8.4.1.1.
5. KEYING TO MATCH OWNER'S SECURED KEY SYSTEM



HARDWARE

SET #1
- HINGE BB
- LOCKSET - KEYED
- WALL STOP
- SILENCERS

SET #2
- HINGE BB
- LOCKSET - PUSH/PULL HANDLE
- CLOSER
- SILENCERS

SET #3
- HINGE BB
- LOCKSET - PANIC BAR
- DEADBOLT
- CLOSER
- SILENCERS

SET #4
- HINGE BB
- LOCKSET - PRIVACY
- CLOSER
- WALL STOP
- SILENCERS

IGARASHI DESIGNS

issue date/revisions

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STATE OF GEORGIA
JAMES L. IGARASHI
CERTIFICATE NO. 018112
REGISTERED ARCHITECT

project name

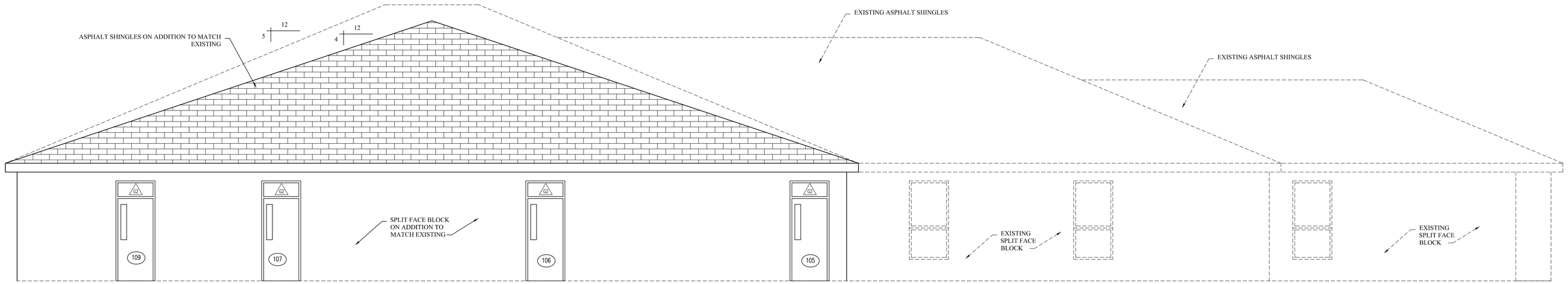
ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

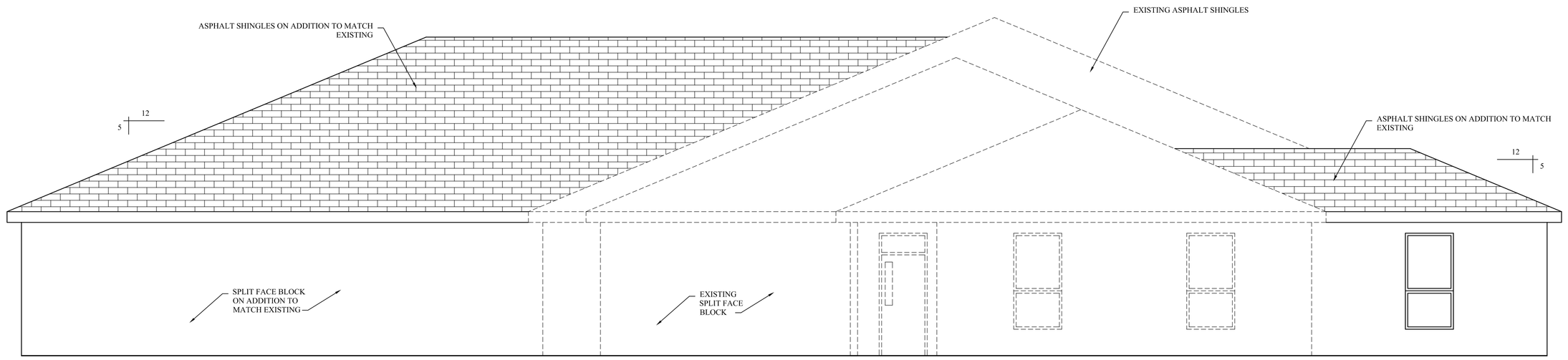
INTERIOR ELEVATION & SCHEDULES

drawn by	MJAI
checked by	---
project no.	----
date	1-24-20

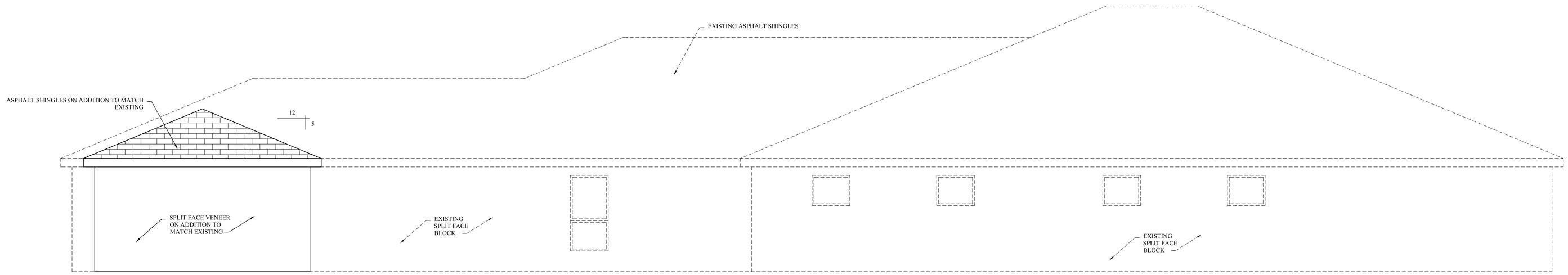
A1.2
sheet no.



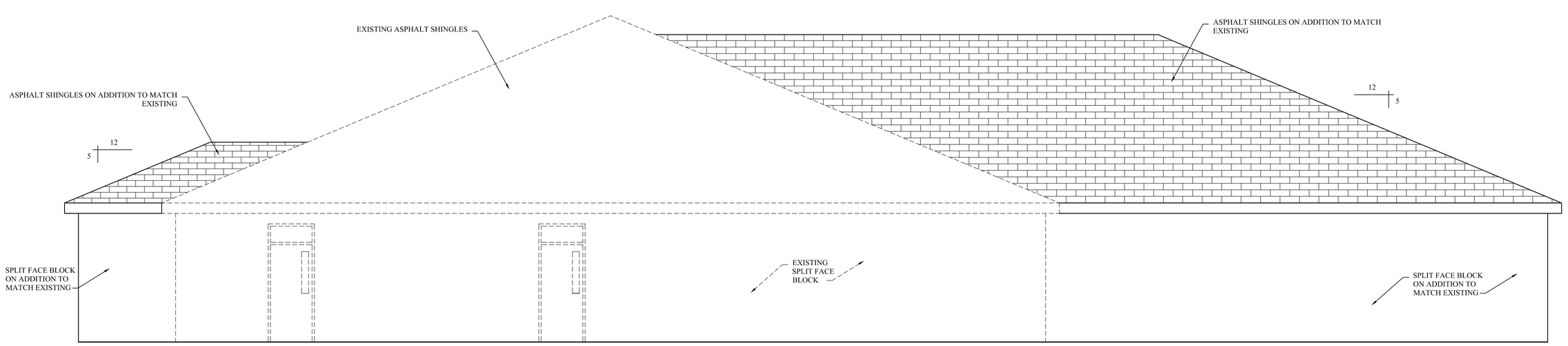
A LEFT SIDE ELEVATION
SCALE: 3/16" = 1'-0"



B FRONT ELEVATION
SCALE: 3/16" = 1'-0"



C RIGHT SIDE ELEVATION
SCALE: 3/16" = 1'-0"



D REAR ELEVATION
SCALE: 3/16" = 1'-0"

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STATE OF GEORGIA
JAMES L. MITCHELL
CERTIFICATE NO. 024139
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ELEVATIONS

drawn by	MJAI
checked by	---
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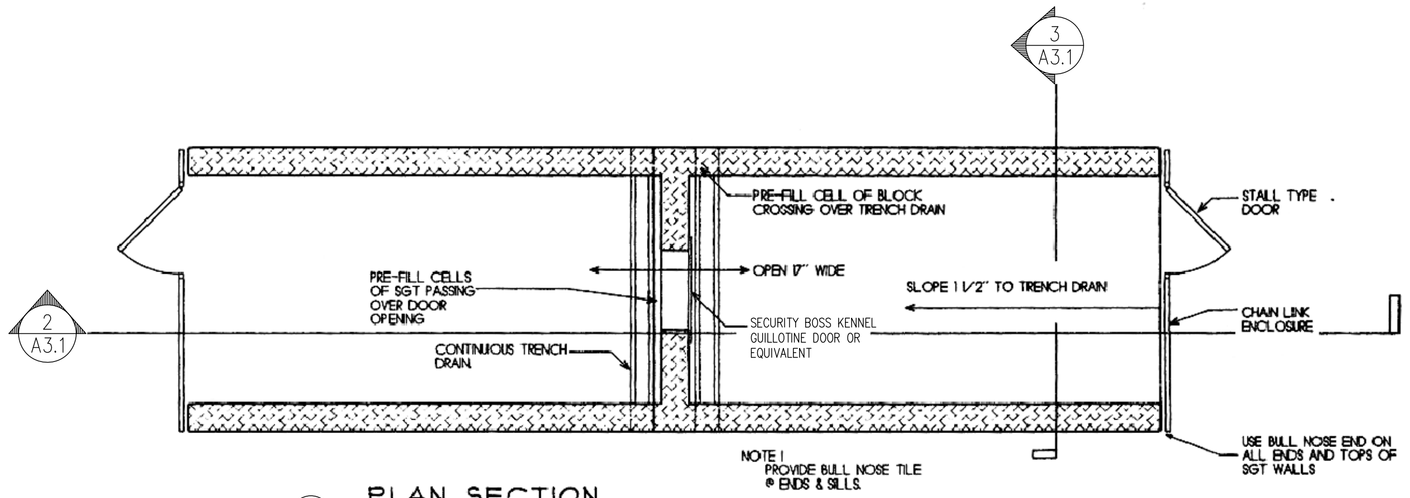
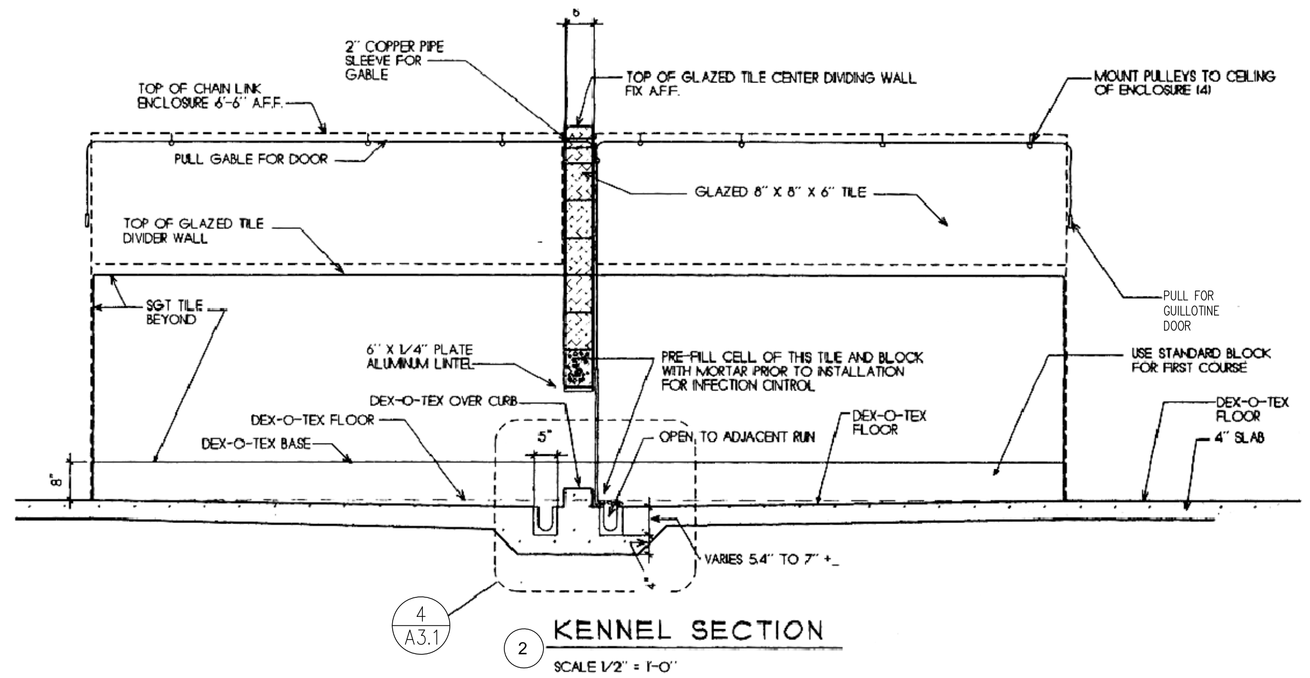
date	1-24-20

A2.1
sheet no.



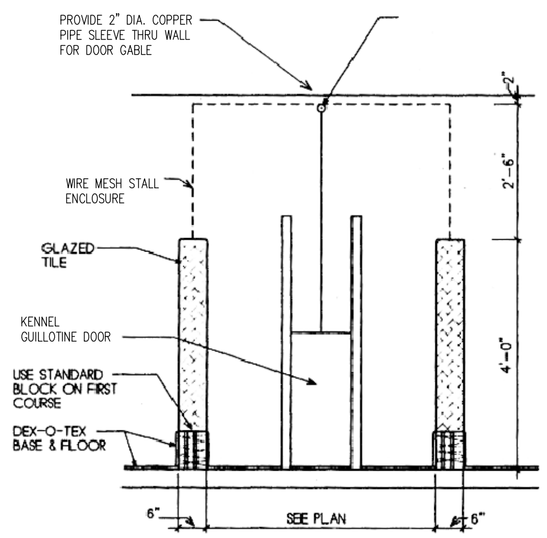
1 PLAN SECTION

SCALE 1/2" = 1'-0"



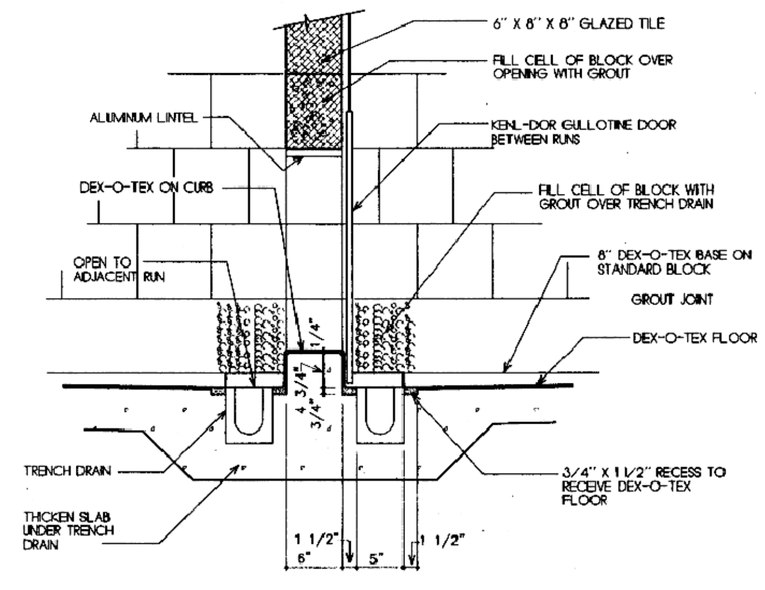
2 KENNEL SECTION

SCALE 1/2" = 1'-0"



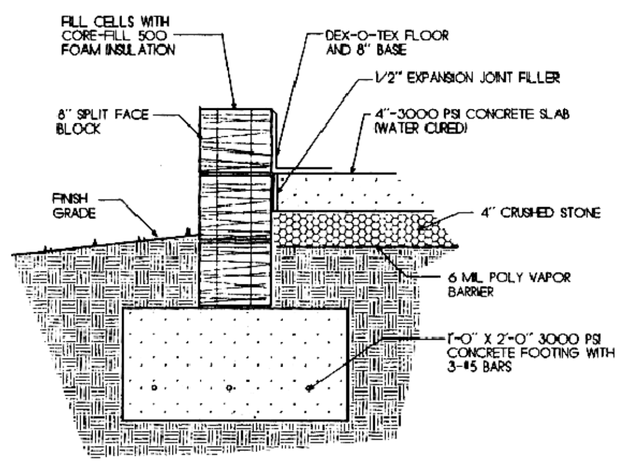
3 KENNEL SECTION

SCALE 1/2" = 1'-0"



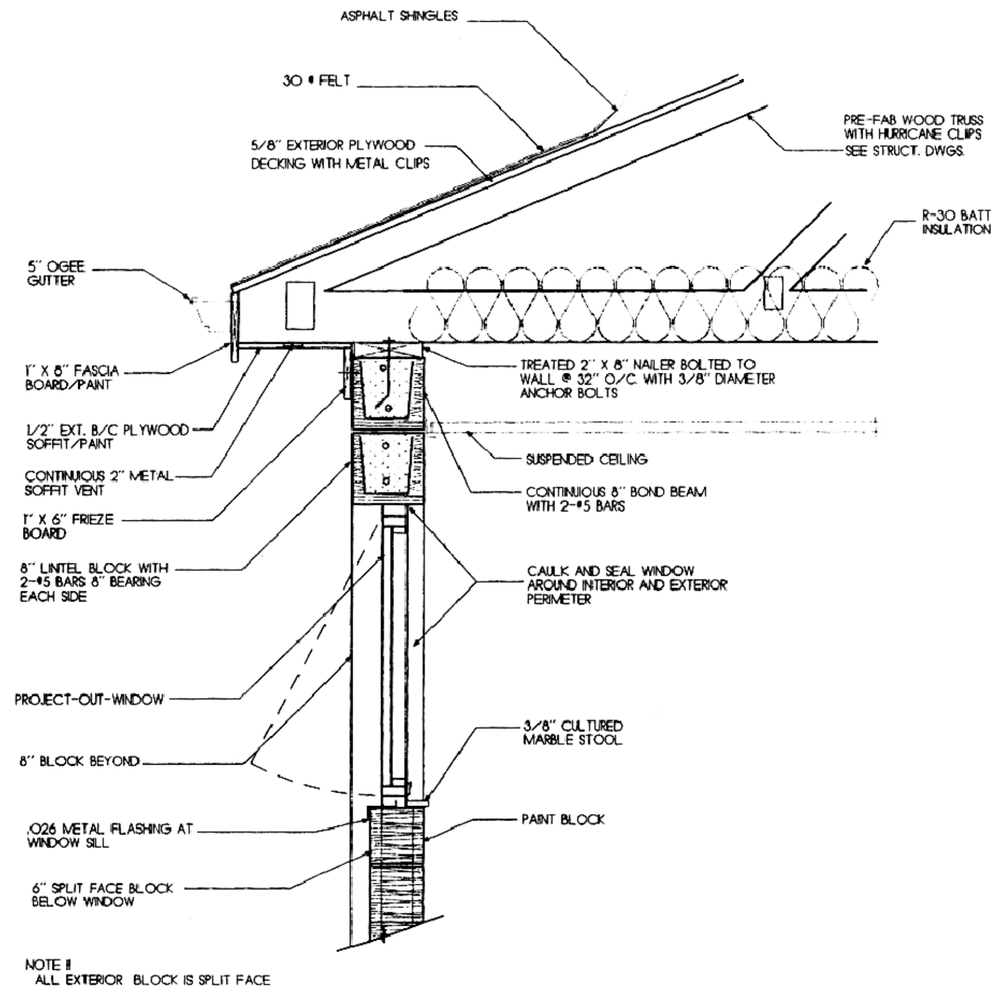
4 TRENCH DRAIN DETAIL

1" = 1'-0"



5 PARTIAL WALL SECTION

SCALE 1/2" = 1'-0"



6 PARTIAL WALL SECTION

SCALE 1" = 1'-0"

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STATE OF GEORGIA · JAMES L. IGARASHI · CERTIFICATE NO. 019118 · REGISTERED ARCHITECT

project name

ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

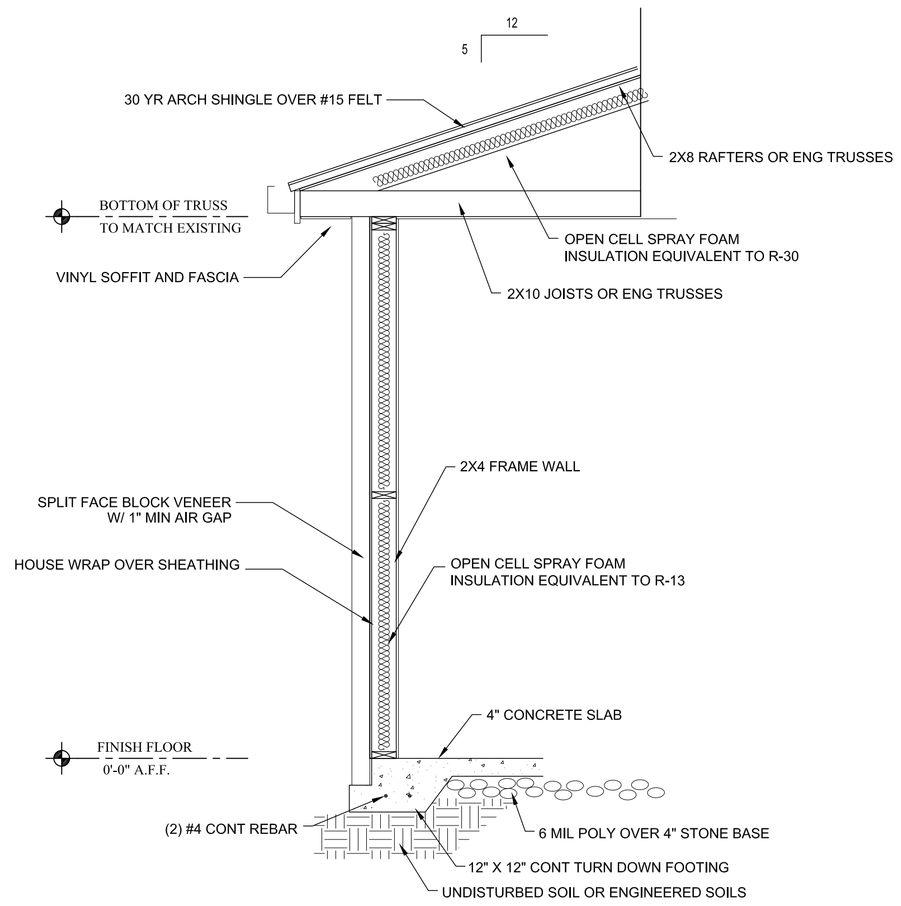
sheet title

STRUCTURAL DETAILS

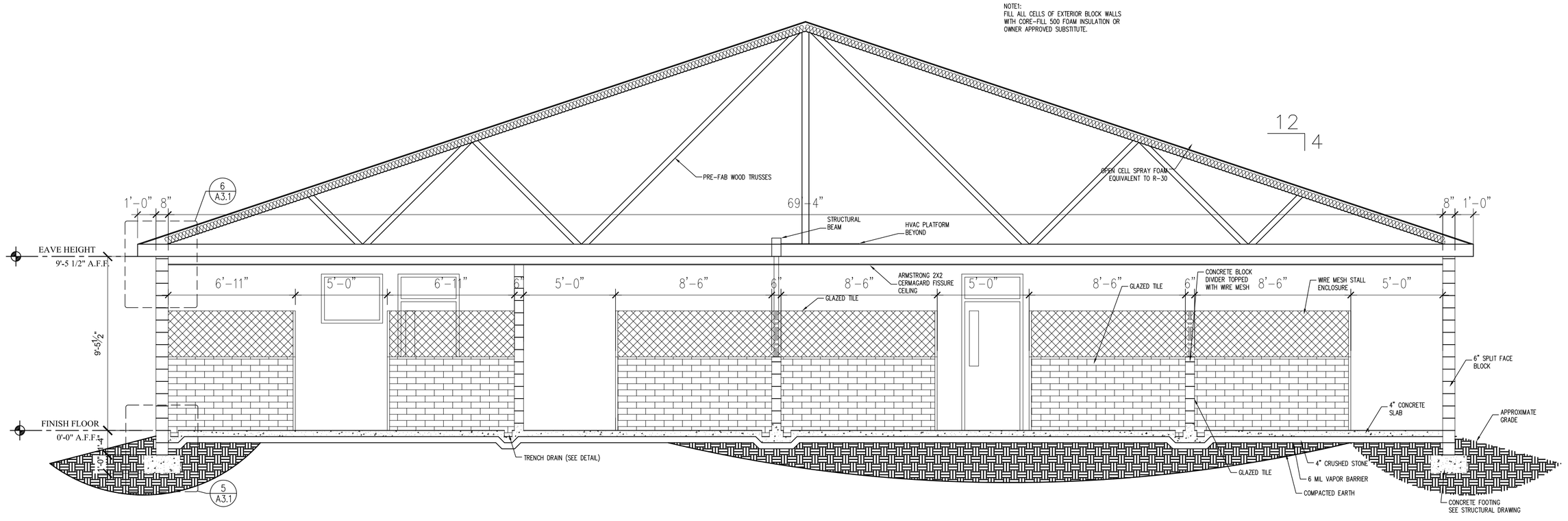
drawn by	MJAI
checked by	---
project no.	----
date	1-24-20

A3.1

sheet no.



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



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

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JAMES L. IGARASHI
CERTIFICATE NO. 018102
REGISTERED ARCHITECT

project name

ANIMAL CONTROL ADDITION
1506 ROCKBRIDGA ROAD
CONYERS, GA 30012

sheet title

BUILDING SECTION

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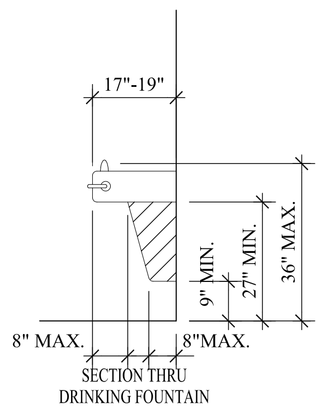
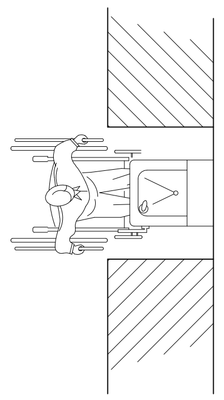
checked by	---
project no.	----
date	1-24-20

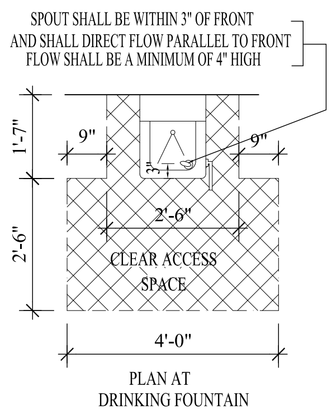
A4.1
sheet no.



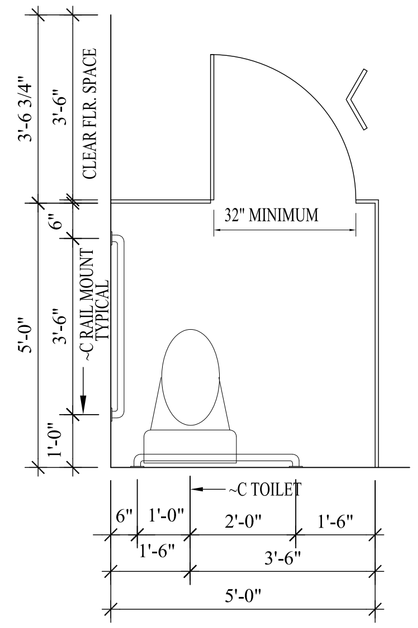
SECTION THRU
DRINKING FOUNTAIN



(B)
CLEAR FLOOR SPACE

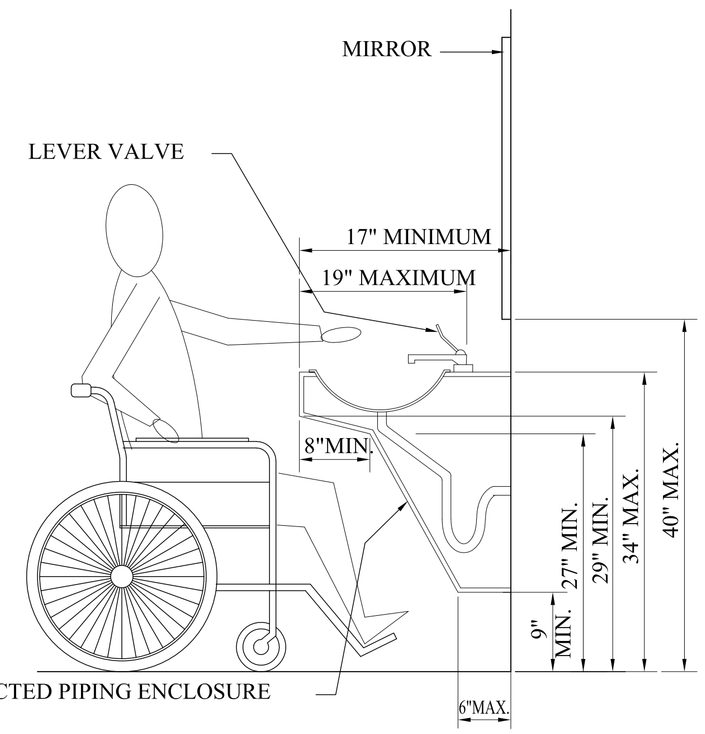


PLAN AT
DRINKING FOUNTAIN



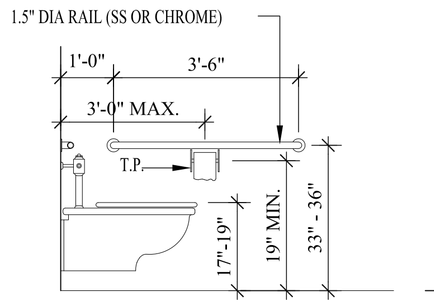
(A)
STANDARD STALL

EQUIPMENT PERMITTED IN SHADED AREA
(A)
SPOUT HEIGHT AND
KNEE CLEARANCE

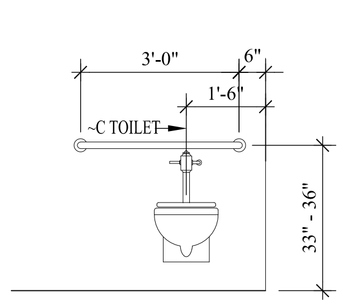


PROTECTED PIPING ENCLOSURE

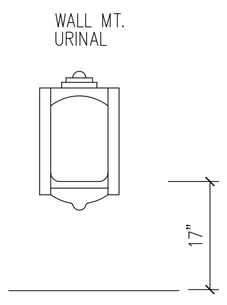
LAVATORY ELEVATION



(D)
SIDE WALLS



(C)
REAR WALL OF
STANDARD STALL



(B)
URINAL STALL

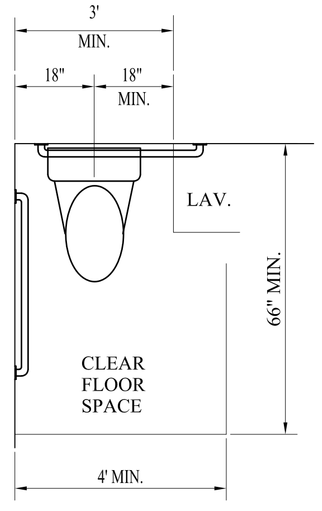
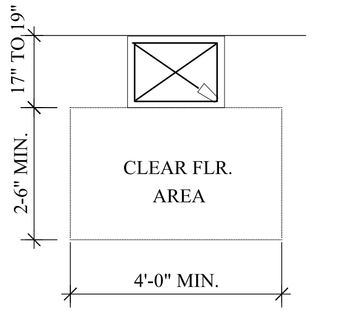
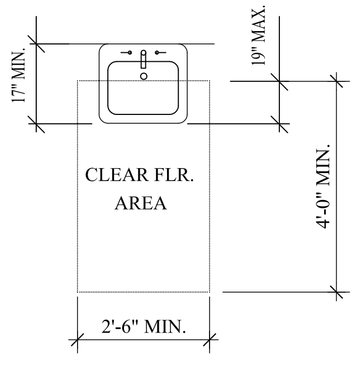


FIG. 28
CLEAR FLOOR SPACE
AT WATER CLOSETS



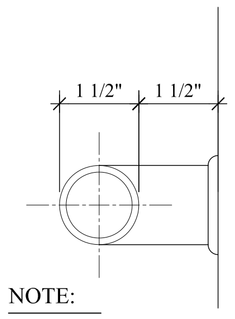
DRINKING FOUNTAIN PLAN

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



LAVATORY PLAN

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



NOTE:

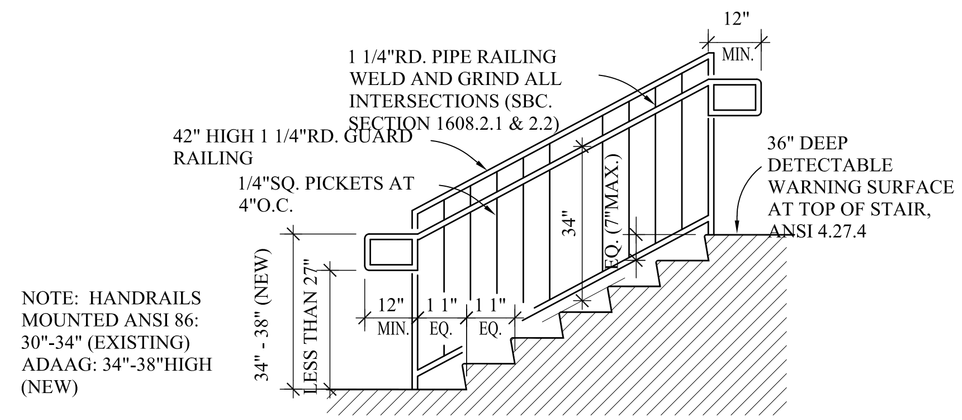
GRAB BAR SHALL BE DESIGNED
TO WITHSTAND A 250 LB. LOAD

DETAIL GRAB BAR

SCALE: 3" = 1'-0"

1 A.D.A. / G.A.C. DETAILS

NOT TO SCALE



6 A.D.A. TYPICAL STAIR DETAIL

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

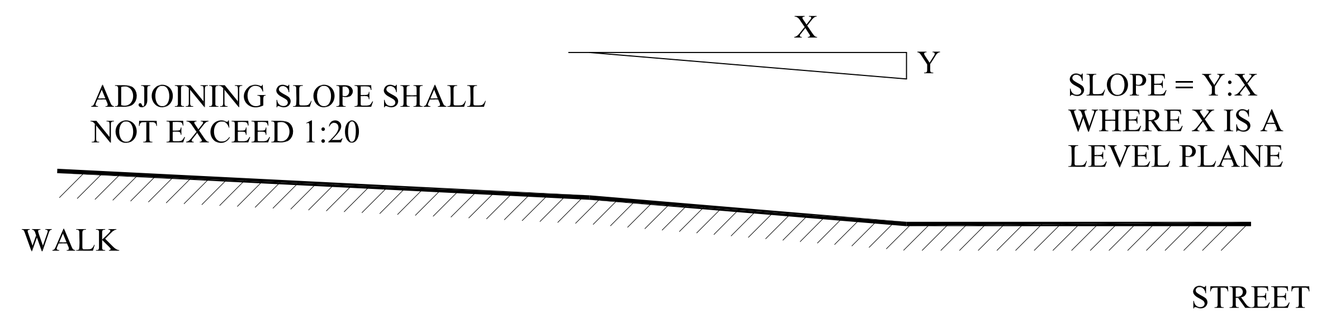
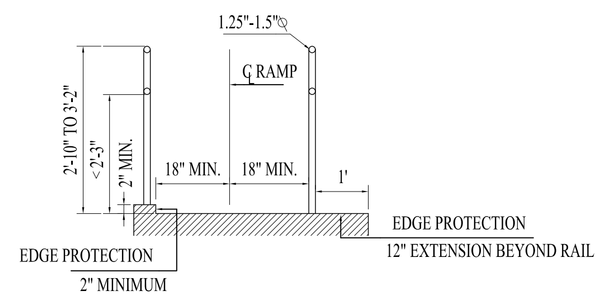
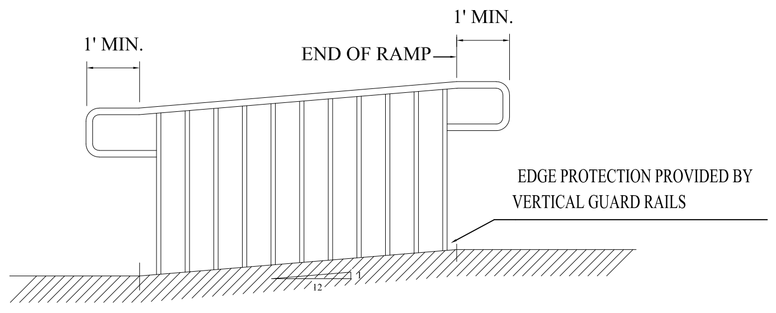


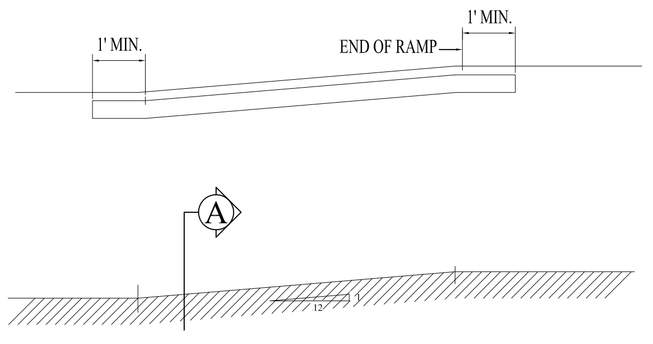
FIG. 11
MEASUREMENT OF CURB RAMP SLOPES



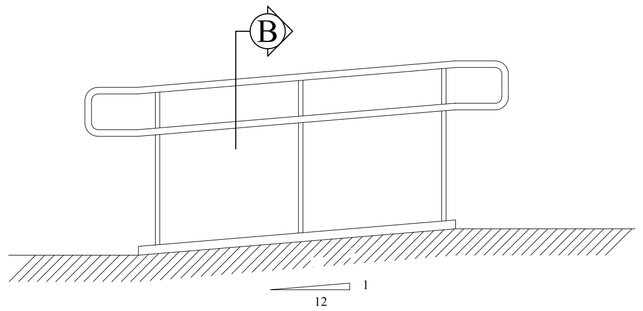
SECTION - B



ELEVATION - D



SECTION - C



ELEVATION - E

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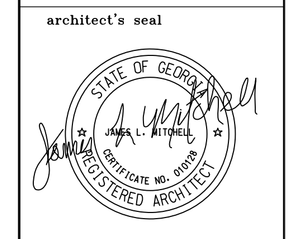

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ANIMAL CONTROL
ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

ADA STANDARD DETAILS

drawn by	MJAI
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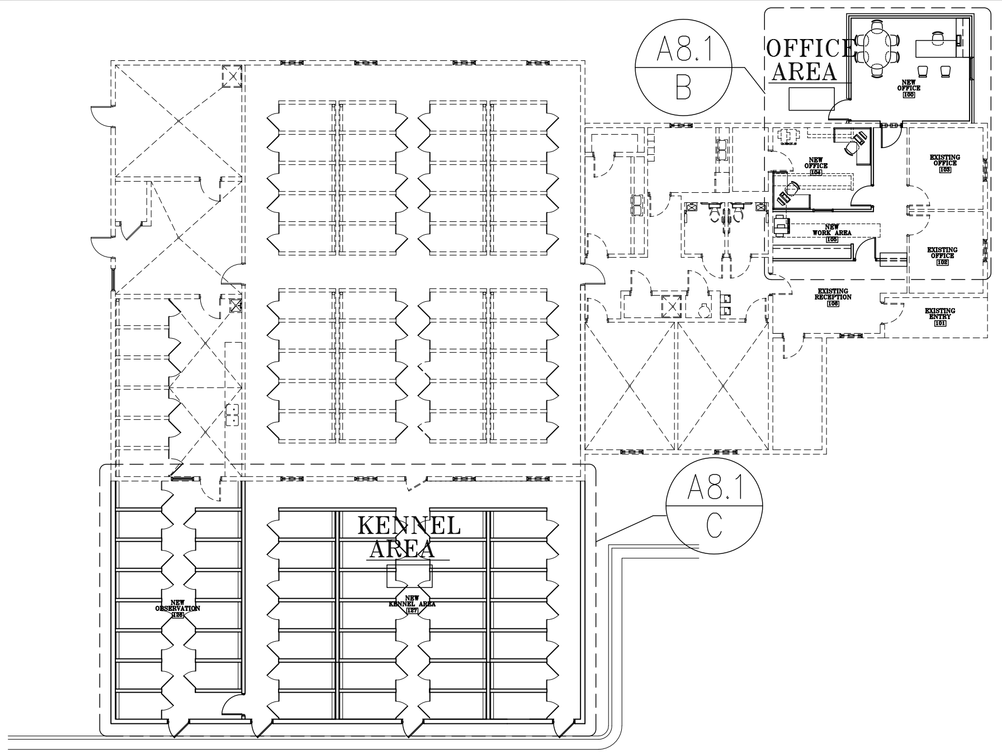
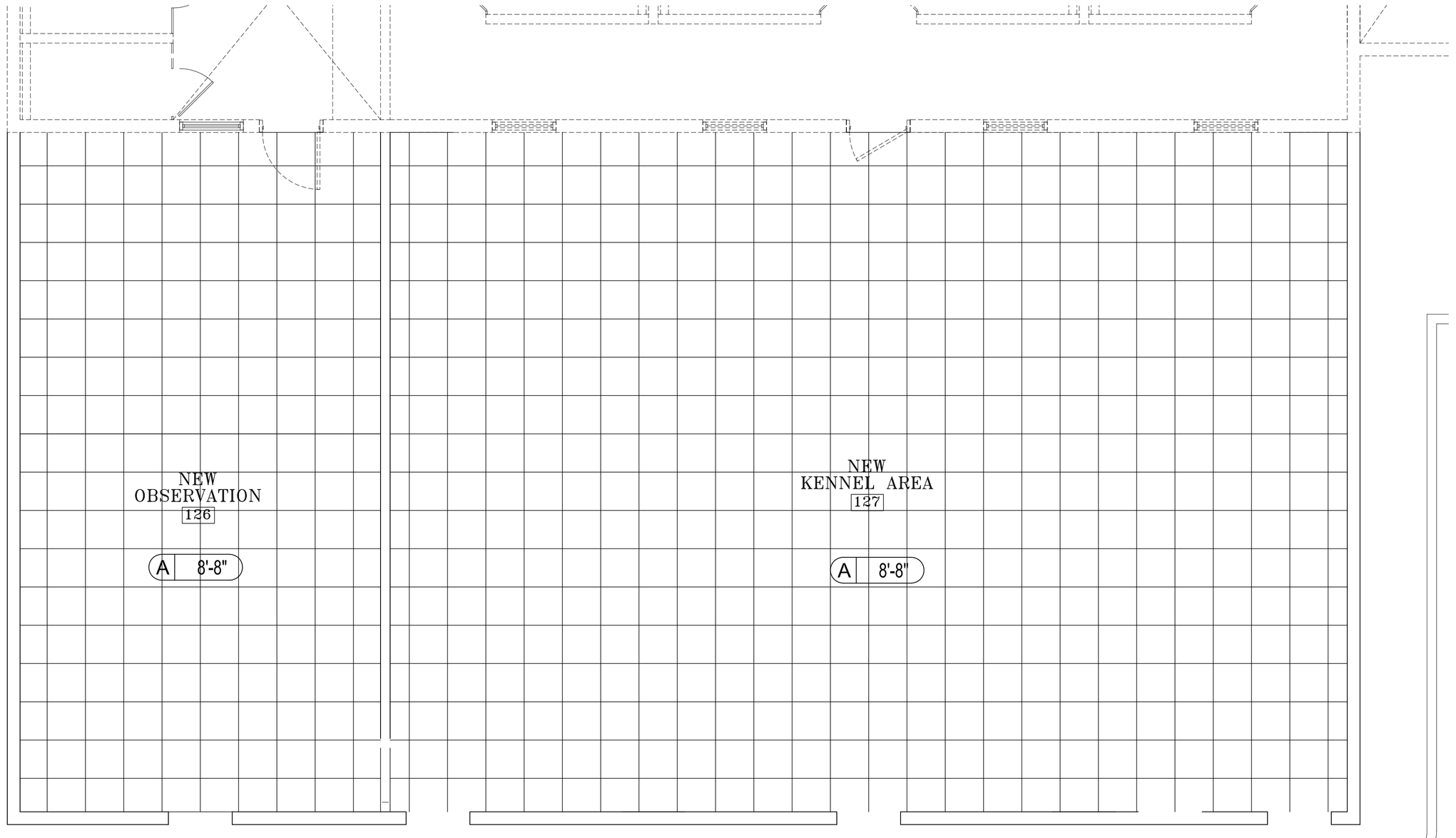
project no.	----
date	1-24-20

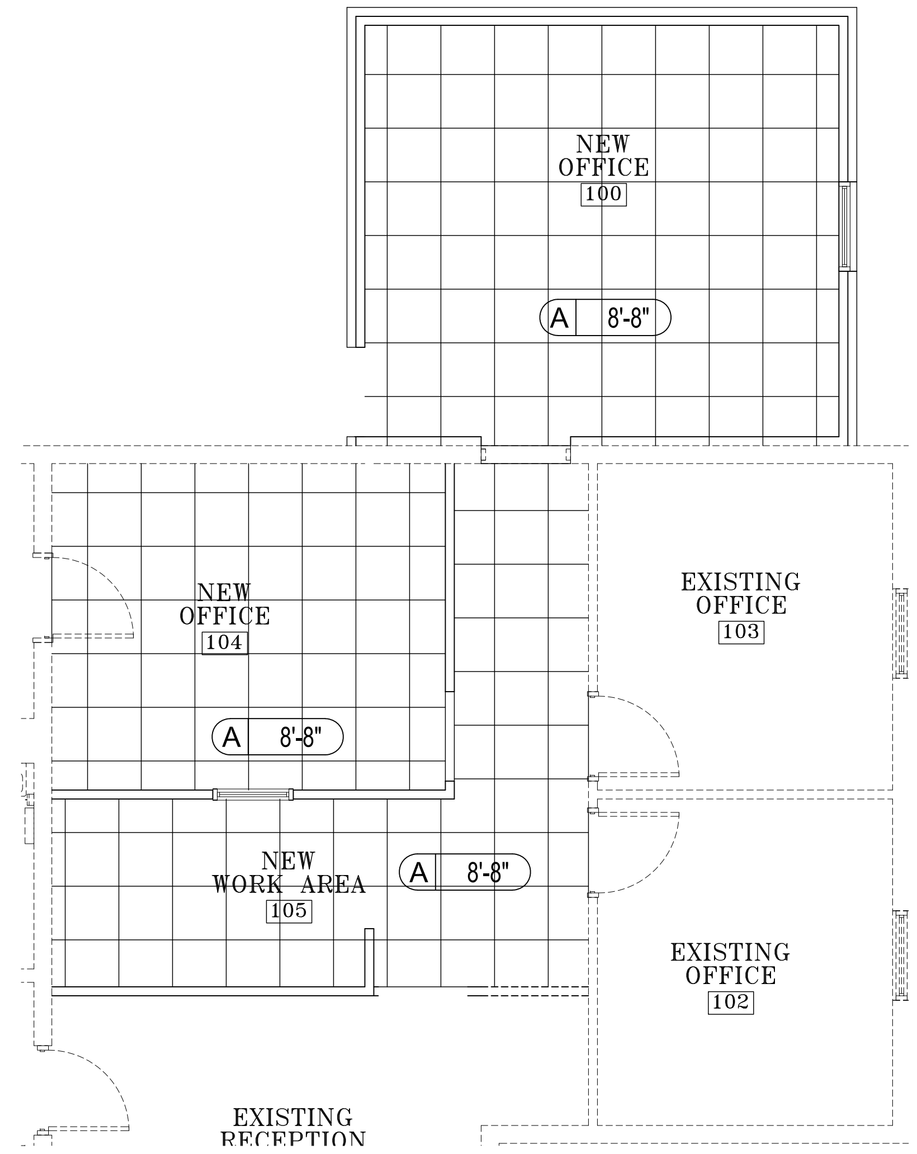
A5.1
sheet no.



A FULL FLOOR PLAN
SCALE: 1/16" = 1'-0"



C KENNEL AREA REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



B OFFICE AREA REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

CEILING LEGEND:

MARK	DESCRIPTION	MANUF	MODEL
A	24"X 24"X5/8" LAY-IN - 15/16"	ARMSTRONG	DUNE
B	SUSPENDED DRYWALL GRID - STANDARD	ARMSTRONG	-
C	OPEN TO DECK	-	-
D	24"X24"X5/8" LAY-IN - 15/16"	ARMSTRONG	DUNE
E	24"X24"X5/8" LAY-IN - 15/16" - WET LOCATIONS	ARMSTRONG	CERAMAGUARD

NOTES:
1. CEILING TILE SHALL BE AS NOTED OR AN APPROVED EQUAL.

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ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title

REFELCTED CEILING PLAN

drawn by: MJAI	A6.1
checked by: ---	
project no.: ----	
date: 1-24-20	sheet no.

MECHANICAL SPECIFICATIONS

1) Provide all heating, ventilation and air conditioning items indicated on the drawings, described in this specification or required for a complete and proper installation.

2) Comply with all pertinent codes, ordinances and regulations. Refer to website for Dept. of community Affairs at http://www.dca.state.ga.us/development/constructioncodes/programs/codes2.asp for current Codes Editions.

3) The contractor shall not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearances. The contractor shall verify all actual dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or the actual building construction, shall be made at no additional cost to the owner.

4) Furnish without extra charge, any additional material and labor required to comply with the above codes and standards, even though the work may not be described in the contract documents. Where the requirements of the contract documents exceed the requirements of the above codes and standards, the contract documents shall take precedence.

5) All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings and shall be UL listed.

6) Cooperate and coordinate with other trades in order that all systems in the work may be installed in the best arrangement.

7) Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Notify Architect of any discrepancies. Do not proceed until unsatisfactory conditions have been corrected.

8) Avoid interference with structure, and with work of other trades. Install all equipment per manufacturer's instructions. Install accessible parts, including equipment, coils, valves, dampers, controls, and filters with adequate clearance for inspection, adjustments, repair and replacement.

9) All other materials not specifically described but required for a complete and proper installation shall be as selected by the contractor subject to acceptance by the Engineer.

10) All ductwork shall be fabricated from galvanized sheet metal duct and conform to SMACNA "HVAC Duct Construction Standards. Seal all joints in ductwork with mastic sealant.

11) Flexible duct: Flexmaster; Atco UPC#31(R-4.2); Atco UPC#31 (R-8) or Thermaflex, Type 3, insulated. 5'-0" Maximum length unless noted otherwise. Class 1 rating with R-value of 4.2 when located inside building insulation envelope and R-8 when located outside building insulation envelope. Install with no more than 135 degrees maximum of total bends per run. Maximum individual bend shall not exceed 45 degrees each. Support at five feet on centers with hangers having at least 2-inches of width at duct contact points.

12) Indoor duct insulation: Foil-faced fiberglass, Owens Corning type 75 or equal, 2" thick, unless the insulated duct is outside building insulation envelope (attic, crawlspace or unconditioned space) in which case the duct insulation thickness shall be 3" thick. Duct shall have a flame spread rating of not more than 25 and smoke developed rating of not more than 50. Glass-Fiber Insulation: All service duct wrap with foil scrim and having backing and a k-value of 0.30 at 75° F mean temperature and an average maximum density of 0.75 lb/cu. ft.

13) Condensate drain piping shall be ASTM D2665 PVC with solvent welded fittings. Drain piping shall be no smaller than the drain connection size on equipment. Slope at 1/8 inch per foot continuously toward drains. All indoor condensate drain piping shall be insulated with preformed flexible plastic cellular foam. All outdoor condensate drain piping shall be primed and painted with a coating system recommended by the piping manufacturer for protection against deterioration from weather and UV-light exposure. All piping shall be adequately supported to maintain proper slope and avoid sagging.

14) Refrigerant piping shall conform to manufacturer's recommendations and installation instructions. Refrigerant piping shall be ASTM B280 Type ACR or ASTM B88 Type L drawn copper tubing with wrought copper fittings. Insulate suction line with ½" thick flexible foamed plastic cellular foam (Armaflex or equivalent). All piping shall be adequately supported. Insulation installed outdoors shall be painted with two coats of white vinyl paint.

15) Thermostats: Provide 24 volt, programmable 24 hour, 7 day thermostat to control heating stages in sequence with delay between stages and supply fan to maintain temperature setting. For Heat Pumps include system selection switch heat-off-cool and fan control switch (auto-on), emergency heat switch (auxiliary/emergency heat indicator lights).

16) Provide fire and smoke rated flexible connections between fans and ducts. Material shall comply with NFPA 90A requirements for material in supply air stream.

17) Install all equipment in accordance with manufacturer's instructions and recommendations including clearances recommended for proper operation or service. All filters and serviceable parts shall be readily available.

18) All supply, return and outside air ducts shall be insulated. Insulate the concealed tops of all ceiling mounted supply air diffusers. Insulation indoors shall be foil-faced fiberglass, 1.5 #/cubic foot density, 2" thick.

19) All low pressure duct branches shall contain manual balancing dampers. Manual balancing dampers shall also be installed in the continuation of the main, if the main duct is smaller or the same size as the branch duct, or if the continuation of the main serves only one device.

20) Make all duct elbows right angle type with single -thickness turning vanes or construct with centerline radius 1-1/2 times the duct width.

21) Duct sizes shown on plans are clear, interior dimensions.

22) Do not cut into or reduce the size of any structural member without the permission of the Architect.

23) Provide weather-proof flashing at all duct and pipe penetrations through the building walls and roof. As a minimum, flashings shall be designed and installed in accordance with SMACNA standards. Flashings shall be guaranteed weatherproof for the duration of the guarantee.

24) Support all HVAC units, ductwork, piping and other appurtenances from structure, provide vibration isolation at all fans. Do not screw or drive fasteners into non-structural components such as roof decks or non-load bearing walls.

25) Thoroughly clean all components and remove all dirt, scale, oil, and other foreign substances. Provide clean air filters for all equipment.

26) Perform all tests necessary to demonstrate the integrity of the complete installation to the approval of the Engineer and all other authorities having jurisdiction. Make all adjustments necessary and balance the completed system in accordance with the data shown. Balance the systems in accordance with NEBB or AABC standards. Acceptable tolerances shall be minus ten percent to plus five percent of all measurements. Balancing shall be done by an independent licensed (by NEBB or AABC) TAB contractor. Make the following tests and submit reports to the Architect:
   a) Airflow rate at each supply, return and exhaust outlet or inlet.
   b) Total airflow rate and total static pressure of each supply and exhaust fan. Test exhaust fans with room doors closed.
   c) Motor speed, for multiple speed fans (e.g. high, medium, low).
   d) Outside airflow rate to each HVAC unit and supply fan.
   e) Motor current (and compare with nameplate data) at all motors.
   f) Entering and leaving air dry-bulb and wet-bulb conditions at all coils.

28) The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. Compressors shall include a minimum of five (5) year warranty from the manufacturer. All labor and materials necessary to repair or replace the system, or portions thereof, during that time shall be warranted for a period of one (1) year from the repair of replacement.

29) SUBMITTAL PROCEDURES:
   a. Transmit each submittal electronically in PDF format.
   b. Sequentially number submittal files and transmittal form. Revise submittals with original number and a sequential alphabetic suffix. File names shall describe item included in file.
   c. Identify Project, the Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy. Each file shall include an index of items included in file.
   d. Apply the Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
   e. Submittal data for all items in project shall be submitted at one time. Submittal shall be divided into groups with file sizes not exceeding 6 MB. If there is unavailable data such as control submittal, etc., these may be submitted later if not doing so would delay project progress. Data shall include capacities, complete installation instructions, dimensional data and electrical data, BHP, motor HP, operating weights and load distribution at mounting points.
   f. Deliver submittals electronically to the Architect and Engineer.
   g. Schedule submittals to expedite the Project, and coordinate submission of related items.
   h. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
   i. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
   j. Provide space for the Contractor and the Architect/ review stamps.
   k. When revised for resubmission, identify all changes made since previous submission.
   l. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
   m. Submittals not requested will not be recognized or processed.
   n. Provide files containing only related items (such as piping, equipment, air distribution, etc.)

30) Instruct Owner's representative in the operation of the systems, using the operation and maintenance manual as a teaching aid.

31) Provide an operation and maintenance manual. As a minimum, the manual shall contain:
   a. A complete list of all equipment and appurtenances with equipment designations (per Drawings), manufacturers, and catalog numbers.
   b. Copies of manufacturers' brochures and instructions for operation and maintenance of all mechanical equipment, including replacement parts lists.
   c. Typed system operation and maintenance instructions, including inspection, lubrication, and service instructions and schedules.
   d. List of names, addresses and phone numbers of distributors of all equipment and appurtenances.
   e. Manufacturers' warranties.

32) Condensing Unit (CU-1): outdoor-mounted, air-cooled split system outdoor section suitable for rooftop installation, consisting of a hermetic compressor, an air-cooled coil, propeller-type blow-thru outdoor fans, accumulator, full refrigerant charge, and control box. Unit shall function as the outdoor component of an air-to air cooling system and used in a refrigeration circuit matched to the indoor unit. Unit construction shall comply with ANSI/ASHRAE 15, latest revision, the NEC, and UL standards.

33) Provide a duct smoke detector on the supply duct of each air handling unit or rooftop unit with design airflows exceeding 2,000 CFM, and where smaller air handling units serve common areas and the sum of these air handling units' airflows exceed 2,000 CFM. Install detector in accordance with the International Mechanical Code with Georgia Amendments. Detectors shall be provided by the electrical/fire alarm subcontractor and shall be installed by the mechanical subcontractor. For other fans, such as exhaust fans with design airflows exceeding 2,000 CFM, coordinate with the electrical/fire alarm subcontractor to provide room or duct smoke detectors. Provide contacts to automatically shut down all such fan motors when smoke is detected, to indicate detector status to the fire alarm system, and to require a manual reset of the shut-down relay.

34) Grilles, Registers and Diffusers: Grilles, registers, and diffusers as indicated on the drawings have been selected from the catalog of the manufacturer noted as the basis of design. Sizes, types, and performance of the devices to be provided must be coordinated to insure conformity with design basis. Sidewall supply grilles and registers shall have vertical front blades; sidewall return grilles shall have horizontal blades. Grilles and registers with borders shall have felt or rubber gaskets cemented to the back face and holding screws not over 18 inches on centers around the perimeter. Holding screws shall be counter-sunk to fit flush with face of grille or register. Grilles passing air through partitions shall be as described for wall return grilles, one for each side of partition. Register dampers shall be of the gang-operated, opposed blade type, operated through the face of the register. Operating mechanism shall not project through the register face. Mounting frame shall be coordinated with architectural reflected ceiling plans. Construction shall be of steel or aluminum as scheduled, with frame type to match ceiling construction. Sidewall supply grilles and registers shall be double-deflection type, with vertical front vanes. Construction shall be of steel, with 3/4 inch blade spacing. Return air grilles, return air registers, exhaust grilles, exhaust registers and transfer air grilles located in ceilings shall be constructed of aluminum with "egg-crate" design, with 1/2 inch x 1/2 inch x 1/2 inch grids. Frame style shall be compatible with ceiling construction. Install wall grilles and registers with horizontal edges parallel to ceiling. Concentric diffuser assemblies at roof top units shall have paint-ready exterior finish and 1-inch lined supply and return ducts that transition to diffuser size within 24 inches vertically of the bottom of roof top unit curb.

35) Basic motor requirements: basic requirements apply to mechanical equipment motors, unless otherwise indicated. Motors 1/2 hp and larger: Polyphase. Motors smaller than 1/2 hp: single phase. Frequency rating: 60 hz. Service factor: according to NEMA MG 1, general purpose continuous duty, design type "B." Enclosure: open drip-proof, unless otherwise indicated. Efficiency: motors shall have a higher efficiency rating than industry standard average motor as delineated in IEEE Standard 112, test method 13. Thermal protection: where indicated or required, internal protection automatically opens power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal protection device automatically resets when motor temperature returns to normal range, unless otherwise indicated.

36) Hangers and supports: Building attachments: concrete inserts or structural-steel fasteners appropriate for building materials, and beam clamps. Hanger materials: galvanized, sheet steel or round, threaded steel rod. Hangers installed in corrosive atmospheres: electrogalvanized, all-thread rod or galvanized rods with threads painted after installation. Straps and rod sizes: comply with SMACNA's "HVAC Duct Construction Standards--Metal and Flexible" for sheet steel width and thickness and for steel rod diameters. Duct attachments: sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials. Trapeze and riser supports galvanized steel shapes and plates: steel shapes complying with ASTM A 36/A 36M.

37) Sealant materials: joint and seam sealants, general: the term "sealant" is not limited to materials of adhesive or mastic nature but includes tapes and combinations of open-weave fabric strips and mastics. Joint and seam tape: 2 inches wide; glass-fiber fabric reinforced. Joint and seam sealant: one-part, nonsag, solvent-release-curing, polymerized butyl sealant, formulated with a minimum of 75 percent solids. Flanged joint mastics: one-part, acid-curing, silicone, elastomeric joint sealants, complying with ASTM C 920, type S, grade NS, class 25, use O.

38) Gravity Ventilators: Heavy gauge arched sheet aluminum with interlocking seams or spun aluminum with base for curb mounting. Provide matching pre-fabricated roof curb and bird screen. Provide normally closed gravity backdraft damper.

39) All HVAC equipment such as AH, CU, EF, AC, HP, and RTU shall have visible nameplates with their associated marks on them.

40) Energy Recovery Unit (ERV-1, ERV-2): Unit shall be fully assembled at the factory and consist of an insulated metal cabinet, total enthalpy energy wheel, motorized intake damper, motorized exhaust damper, curb assembly, service receptacle, filter assembly for intake and exhaust air, supply air blower assembly, exhaust air blower assembly and an electrical control center. Filters shall be MERV 8 or higher. All specified components and internal accessories factory installed and tested and prepared for single-point high voltage connection. Refer to schedule for layout basis. Substitutions shall match the features of specified model. Provide FIELD INSTALLED controls to interlock unit to operate when any AH fan coil unit is operating.

41) REFRIGERANT CAPACITY MODULATION SYSTEM-1.5 TO 10 TONS
   1. Provide a hot gas/liquid mixing system to provide refrigerant capacity control in condensing unit without piping to the indoor unit. System shall modulate hot gas and liquid in condensing unit to maintain evaporate coil above 36 degrees F.
   2. Unit shall be designed for use with R-410a / R-22. Contractor to verify type of refrigerant used on existing equipment and let engineer know if refrigerant charge is different from what engineer has scheduled.
   3. System shall consist of desuperheat chamber with thermostatically controlled liquid and hot gas injecting valves, each with temperature sensing bulbs. System shall mix liquid and hot gas to maintain superheat to coil at 12– 13 degrees F using liquid and hot gas from condensing unit.
   4. System shall be self-powered.
   5. Desuperheat chamber shall have schrader valve on bottom to allow pressure testing, evacuation and charging of system.
   6. Provide refrigerant grade ball valves in connection to liquid line, hot gas line and outlet connection. Valves shall be close when charging and during system start-up.
   7. Install unit in accordance with manufacturer's instructions and recommendations.
   8. Layout basis: Rowal Devices, Inc. , Woburn, MA. Website: www.rowal.com; Phone: 1-800-727-6447.

47) Electric duct heater: Provide duct heater with power voltage, phase, control voltage, wattage and duct size is per schedule. Heaters slip-in or flanged as required. Three phase heaters shall be balanced three phase steps unless specified otherwise. All heaters to be ETL listed for zero clearance to combustible surfaces. All heaters shall meet the requirements of the latest National Electric Code. Control panel, element housing, and all formed metal shall be of heavy gauge galvanized steel. All element coils to be made of high grade nichel/chromium resistance wire. Element to be machine crimped to terminal hardware. All terminal hardware to be insulated by a two piece ceramic bushing from the heater terminal box. Modular construction with each module independently and easily removable from the terminal or control panel. Each module to contain no more than two layers of element coils. Any individual coil can be replaced easily. Blank or overheated areas are reduced by staggering ceramic spacing in all coils and modules. Element housing shall be minimum 18 gauge galvanized steel. Roll-formed construction with ribs for stiffness and rigidity. Racks to support element coils on max. 3.5" centers. Heaters will be interchangeable for both vertical and horizontal mounting. Construction of control panel shall be heavy gauge galvanized steel. All boxes to have solid cover the same gauge as the control panel. Piano hinge on the longest side with latch and pull ring. Control panel shall have 1/2" insulation for vapor barrier attached to the back of enclosure. Element rack to be recessed for use in insulated ducts or air handling units. The element terminals are recessed to reduce overheating of terminations. Primary over temperature protection shall be provided by built-in disc type automatic rese thermal cutouts. Limit controls required and mounted per ETL specifications. Capillary type controls required for heaters exceeding 10' duct width. Secondary over temperature protection shall consist of a sufficient number of load carrying replaceable disc controls to de-energize the elements if the primary system fails. Fuse link type heat limiters shall not be acceptable. All manual safety devices shall be resettable thru the terminal box without removing the heater from the duct. All heater controls shall be factory mounted and wired. Provide 2-stage controller for the duct heater. A separate and complete wiring diagram shall be permanently attached to each heater. Typical diagrams are not allowed. Control and line terminals shall be marked identical to the wiring diagram.

48) Condensate pumps: Provide condensate pumps at each new air handler. Provide discharge tubing connected to pump discharge and route along with refrigerant piping to discharge adjacent to outdoor unit. Pump shall included Safety Switch, 6 ft. Power Cord, Thermal Overload Protector, Nylon Sump Pan, Control Float, check valve and Filter Screen. Manufacturer: Little Giant Model VCMA20ULS or equivalent. Minimum 18 gallon per hour at 12 ft. head capacity. Wire safety high level switch to stop unit if high water level condition occurs in sump. Provide 3/8" hard drawn copper for discharge at exposed location. Provide 3/8" vinyl tubing for discharge at concealed locations.

49) Duct DX Coil: Round seamless copper tubes are mechanically expanded into the fin collars of the secondary surface. The mechanical expansion shall provide a permanent metal-to- metal bond for efficient heat transfer. Tubes shall stagger in the direction of airflow and only return bends are used. Tube sizes shall be 5/8" O.D. x .020" wall thickness standard with optional wall thickness of (.025) (.035) and (.049). Centerlines are 1.5" in the tube face and1.299" between rows. 1/2" O.D. x .017" wall thickness standard with optional wall thickness of (.025). Centerlines are 1.25" in the tube face and 1.083" between rows. Secondary Surface shall be corrugated plate type fin that is die-formed. Fin collars are full-drawn to provide accurate control of fin spacing and maximum contact with tubes. Fin material shall be 5/8" tubes aluminum fin.008" thick. Headers shall be seamless copper with die-formed holes that provide a parallel surface to the coil tube for strong brazing joints. Connections shall be Copper O.D. sweat interchangeable nozzle type refrigerant distributors. Standard coil has one distributor for one compressor circuit. An intertwined coil shall have two distributors that provide full-face control using two compressor circuits. Face split coil shall have two or more distributors for multiple compressor circuits. Casing Materials shall be full G-90 galvanized steel standard with optional stainless, aluminum and copper. Coil casing shall be insulated. All coil assemblies are leak tested under water at 315 PSIG air. Coil Performance shall be certified under ARI Standard 410.

50) Acceptable Manufacturers are:

Air Handlers & Heat Pumps, Packaged Units:	Carrier, Trane, York.
Grilles, Registers & Diffusers:	Titus, Nailor, Price, Tuttle & Bailey (Color selection submitted to Architect)
Electric Heaters:	Warren, Markel, Q-Mark, Raywall
Louvers/Dampers/Fire Dampers:	United Enertech, Greenheck, Ruskin (Color selection submitted to Architect)
Controls:	Trane Tracer Summit ES or equal from, Carrier, Honeywell, Johnson Controls.

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REGISTRATION SEAL

A NEW ADDITION TO
ROCKDALE COUNTY ANIMAL CONTROL
1506 ROCKBRIDGE ROAD, CONYERS, GA 30012

MARK	DATE	DESCRIPTION
1	12/17/19	KENNEL LOCATIONS

DATE: 11-01-18 | PROJECT NUMBER: 18-059

DRAWN BY: JWK & KMP | CHECK BY: KMP

SHEET TITLE:
MECHANICAL SPECIFICATIONS

M0.1

MECHANICAL SYMBOLS & ABBREVIATIONS LEGEND

	NEW PIPE, DUCTWORK OR EQUIPMENT
24x12 24x12	DUCT SIZE: FIRST DIMENSION IS SIDE DRAWN
	FLEXIBLE ROUND DUCTWORK
F SCD SD	FIRE DAMPER, SMOKE DAMPER, SMOKE DETECTOR
	CEILING SUPPLY DIFFUSER
	CEILING RETURN OR EXHAUST AIR
	S.A DUCT OUT OF TU BOX WITH DUCT LINER FOR THR FIRST FIVE FEET OF DUCT OUT OF TU BOX
	SIDEWALL REGISTER OR GRILLE
	CHANGE IN PIPE OR DUCT SIZE OR SHAPE
R	REFRIGERANT PIPING
D	CONDENSATE OR OTHER DRAIN PIPING
	ELBOW TURNED DOWN OR TURNED UP IN PIPING
T	THERMOSTAT, ARROW SHOWS CONTROL WIRING PATH
TC	TIME CLOCK
ø	DIAMETER
U.C.	UNDER-CUT DOOR 3/4", UNLESS OTHER SIZE NOTED
20 ETR	INDICATES EQUIPMENT ON PLANS; TOP ITEM SHOWS TYPE OF EQUIPMENT AND BOTTOM ITEM SHOWS SPECIFIC MARK NUMBER
4 S1 8"ø 300	ITEM IN HEXAGON SHOWS AIR DEVICE MARK NUMBER, ITEM ABOVE LINE SHOWS NECK SIZE, ITEM BELOW LINE SHOWS AIR FLOW THROUGH DEVICE, AND NUMBER IN FRONT SHOWS QUANTITY IF MORE THAN ONE
AFF	ABOVE FINISHED FLOOR
AH	AIR HANDLING UNIT
BD	BYPASS DAMPER
BTUH, MBH	BRITISH THERMAL UNITS, THOUSAND BRITISH THERMAL UNITS
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CU	CONDENSING UNIT
DB, WB	DRY BULB TEMPERATURE, WET BULB TEMPERATURE
EA, EG	EXHAUST AIR, EXHAUST GRILLE
EF	EXHAUST FAN
EXT SP	EXTERNAL STATIC PRESSURE (USUALLY EXPRESSED IN INCHES OF WATER IN GAGE)
HP	HEAT PUMP UNIT
MVD, VD	MANUAL VOLUME DAMPER
OA	OUTSIDE AIR
RA, RG	RETURN AIR, RETURN GRILLE
RTU	PACKAGED ROOFTOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN FOR SHOP VENTILATION
VAC, PH	VOLTS ALTERNATING CURRENT, NUMBER OF PHASES
W, KW	WATTS, KILOWATTS
UH	UNIT HEATER
A	AUDIBLE/VISUAL ALARM DEVICE CONNECTED TO DUCT SMOKE DETECTOR
AD AD	ACCESS DOOR
	CONTROL DAMPER-OPPOSED BLADE
	CONTROL DAMPER-PARALLEL BLADE
	BACKDRAFT DAMPER
	RADIUS ELBOW (R=1.5)
	VANED ELBOW
MOD	MANUAL VOLUME DAMPER (MVD), MOTOR OPERATED DAMPER (MOD)
X XX	X INDICATES SECTION NUMBER/XX INDICATES ON WHICH DRAWING SECTION APPEARS
	CONNECT NEW TO EXISTING
	TERMINATION POINT OF DEMOLITION

ENERGY RECOVERY UNIT SCHEDULE

SYMBOL	SUPPLY CFM	EXHAUST CFM	MAX. MOTOR HP		TOTAL S.P. IN. H20		EXT. S.P. IN. H20		ENTHALPY WHEEL-SUMMER				ENTHALPY WHEEL-WINTER				MAX. DIMENSIONS			WEIGHT LBS	POWER VAC/PH	BASIS OF DESIGN	REMARKS
									SUPPLY		EXHAUST		SUPPLY		EXHAUST								
			SUPPLY	EXHAUST	SUPPLY	EXHAUST	SUPPLY	EXHAUST	EA DB/WB (°F)	LA DB/WB (°F)	EA DB/WB (°F)	LA DB/WB ° (F)	EA DB/WB (°F)	LA DB/WB (°F)	EADB/WB (°F)	LADB/WB (°F)	L (IN)	W (IN)	H (IN)				
ERV-1	1800	1600	2	1-1/2	1.518	0.951	1.25	0.75	95/76	80.0/67.0	75/62.5	91.6/73.7	23.5/19.6	57.1/46.1	70/54.3	31.2/27.2	62	51	34	732	208/1	GREENHECK ERV-20-30L-A	1:2:3:4
ERV-2	850	650	1/3	1/3	1.467	0.877	1.25	0.75	95/76	80.0/67.0	75/62.5	91.7/73.5	23.5/19.6	53.9/43.7	70/54.3	30.8/27.2	47	34	27	350	208/1	GREENHECK ERV-10-20L	1:2:3:4

1. MIN WHEEL EFFECTIVENESS = 80.9% FOR ERV-1, AND 80% FOR ERV-2.
2. PROVIDE PROVIDE MOTORIZED DAMPERS FOR OUTSIDE AIR AND EXHAUST AIR THAT ARE INTERLOCKED WITH ERV TO CLOSE WHEN ERV IS NOT RUNNING.
3. PROVIDE MERV 8 OUTDOOR AND EXHAUST AIR FILTERS, LOW LEAKAGE SUPPLY AND EXHAUST DAMPERS, INDEPENDENT BLOWER CONTROL, DOUBLE WALL CONST, DUCT FLANGE, AND HINGED ACCESS DOORS.
4. ERV FANS SHALL BE ON "ON" ALL TIME.
5. PROVIDE SMOKE DETECTOR IN SUPPLY AIR DUCT AS PER PLAN. SMOKE DETECTOR SHALL BE PROVIDED BY ELECTRICAL AND INSTALLED BY MECHANICAL.

GRAVITY VENTILATOR SCHEDULE

MARK	THROAT	MAX CFM	INTAKE AREA SF	GREENHECK MODEL	NOTES
GV-1-1	24"ø	1600	4.95	GRSR 24	1
GV-1-2	24"ø	1850	4.95	GRSI 24	1
GV-2-1	14"ø	660	2.57	GRSR 15	1
GV-2-2	16"ø	850	3.02	GRSI 16	1

1. SPUN ALUMINUM GRAVITY VENTILATOR.

DESIGN CRITERIA

INSIDE TEMPARATURE	80F DB
INSIDE RELITIVE HUMIDITY	60%RH

DUCTLESS SPLIT AIR CONDITIONING SYSTEM SCHEDULE

INDOOR UNIT MARK	OUTDOOR UNIT MARK	SERVICE	UNIT SIZE (BTU/HR.)	OUTSIDE AIR	VOLT.-PH.-CY.	MANUFACTURER & MODEL INDOOR UNIT/OUTDOOR UNIT	NOTES
ACU-1	HPU-1	NEW OFFICE	12,000	20	208/230-1-60	CARRIER 40MBCQ12---3/ 38MAQB12R--3	1:2:3:4:5
ACU-2	HPU-2	RENOVATED OFFICE	12,000	20	208/230-1-60	CARRIER 40MBCQ12---3/ 38MAQB12R--3	1:2:3:4:5

1. VERIFY ELECTRICAL POWER REQUIREMENTS WITH ELECTRICAL PLANS WHICH TAKES PRECEDENCE OVER THIS INFORMATION.,
2. PROVIDE THERMOSTAT, DISCONNECT AND ELECTRICAL CONNECTION TO OUTDOOR UNIT PER MANUFACTURER'S INSTRUCTIONS.
3. ROUTE CONDENSATE DRAIN AS SHOWN ON PLANS. PROVIDE MANUFACTURER'S INTEGRAL CONDENSATE PUMP.
4. PROVIDE MANUFACTURER'S GRILLE, CEILING PANEL.
5. 4-WAY CEILING CASSETTE. PROVIDE MANUFACTURER'S HEAT INSULATOR TO THE TOP SURFACE OF INDOOR UNIT.
6. PROVIDE MANUFACTURER'S WIRED THERMOSTAT RSACN05001AAA.

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	AHU SERVED	NOM. CAP. (TONS)	REFRIG	OA TEMP SUMMER (DB)	OA TEMP WINTER (DB)	WEIGHT (LBS)	POWER VAC/PH	BASIS OF DESIGN CARRIER	NOTES
CU-1	CC-1/ERV-1	5.0	R410A	93	17	300	208/1	24ACC460A003	1: 2: 3: 4: 5: 7
CU-2	CC-2/ERV-2	2.5	R410A	93	17	300	208/1	24ACC430A003	1: 2: 3: 4: 6: 7

1. PROVIDE WITH DEFROST CONTROLS, LOW AMBIENT HEAD PRESSURE CONTROLS, AND ANTI-SHORT CYCLE TIMER. PROVIDE COIL GUARD.
2. PROVIDE POWER CONNECTION TO INDOOR UNIT PER MANUFACTURER'S RECOMMENDATIONS.
3. VERIFY ELECTRIC POWER REQUIREMENTS WITH ELECTRICAL PLANS, WHICH TAKE PRECEDENCE OVER THIS INFORMATION.
4. PROVIDE LIQUID LINE SOLENOID, CRANKCASE HEATER, TXV, START CAPACITOR AND RELAY AS RECOMMENDED BY MANUFACTURER FOR LONG LINE APPLICATIONS.
5. PROVIDE RAWAL APR-410-2 HOT GAS BYPASS VALVE. REFER TO SPECIFICATION FOR FURTHER INFORMATION.
6. PROVIDE RAWAL APR-410-1 HOT GAS BYPASS VALVE. REFER TO SPECIFICATION FOR FURTHER INFORMATION.
7. PROVIDE LONG LINE ACCESSORIES NOTED ON NOTE 4 WHERE REFRIGERANT PIPE LENGTH IS GREATER THAN 80 EQUIVALENT FEET.

DX COOLING COIL SCHEDULE

MARK	TOTAL CFM	MAX COIL FACE VEL FPM	COIL ENTERING AIR DESIGN CONDITIONS		COIL LEAVING AIR DESIGN CONDITIONS		DIMENSIONS		AIR PRESSURE DROP "W.G	COIL ROWS	FIN SPACING FINS/IN	MANUFACTURER & MODEL	NOTES
							FINNED LENGTH	FINNED HEIGHT					
			DB °F	WB °F	DB °F	WB °F	INCHES	INCHES					
CC-1	1800	410	80.0	67.0	58.0	57.0	36.0	17.5	0.48	4	8	COMMERCIAL COILS 4DX	1:2:3:4
CC-2	850	430	81.9	69.5	59.0	58.0	21.0	18.5	0.48	4	14	COMMERCIAL COILS 4DX	1:2:3:4

1. PROVIDE MANUFACTURER'S SHIP LOOSE DRAIN PAN. DRAIN PAN SHALL BE 18 GA. STAINLESS STEEL.
2. PROVIDE FLOAT ACTIVATED SWITCH IN DRAIN PAN BELOW TO SHUT ERV-1/CU-1 DOWN IN CASE OF CONDENSATE OVER FLOW.
3. ROUTE CONDENSATE TO HUB DRAIN PROVIDED BY PLUMBING. REFER TO PLUMBING PLAN FOR LOCATION. COIL CABINET SHALL BE INSULATED. COIL SHALL HAVE TXV MOUNTED.
4. PROVIDE A COIL OUTLET SWITCH. REFER TO DETAIL PROVIDED. WIRE COIL OUTLET SWITCH IN SERIES WITH FLOAT ACTIVATED SWITCH.

ELECTRIC DUCT HEATER SCHEDULE

MARK	Kw	DUCT SIZE	No. STAGES	CFM	VOLTS	AMPERAGE	LAY-OUT BASIS: WARREN TECHNOLOGY	NOTES
DH-1	11.0	18"x18"	2-STAGE	1800	208/1ø	52.9	CBK	1
DH-2	8.0	14"x14"	2-STAGE	850	208/1ø	38.5	CBK	1

1. PROVIDE A 2-STAGE DUCT HEATER.

AIR DEVICE SCHEDULE

MARK	SERVICE	NECK SIZE	SIZE	MATERIAL	TYPE	PATTERN	MOUNTING TYPE	LAYOUT BASIS	NOTES
S1	SUPPLY	SEE PLANS	24" X 24"	STEEL	SQUARE CONE	4-WAY	LAY-IN	TITUS TMS	1:2:3:5
R1	RETURN	SEE PLANS	24" X 24"	ALUMINUM	EGGCRATE	---	LAY-IN	TITUS 50F	1:4

1. PROVIDE STANDARD WHITE FINISH.
2. INSULATE BACK OF DEVICE.
3. BALANCE AIRFLOW TO QUANTITY SHOWN.
4. PROVIDE FULL SIZE FIELD FABRICATED PLENUM ON TOP OF GRILL FOR DUCT CONNECTION.

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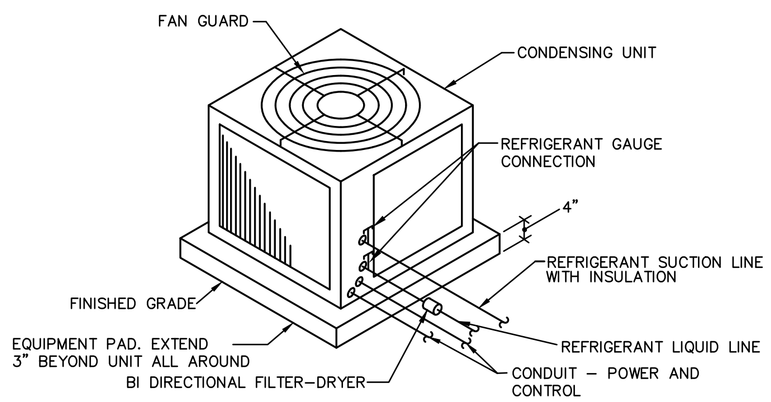
MARK	DATE	DESCRIPTION
1	12/17/19	KENNEL LOCATIONS

DATE: 11-01-18 | PROJECT NUMBER: 18-059

DRAWN BY: JWK & KMP | CHECK BY: KMP

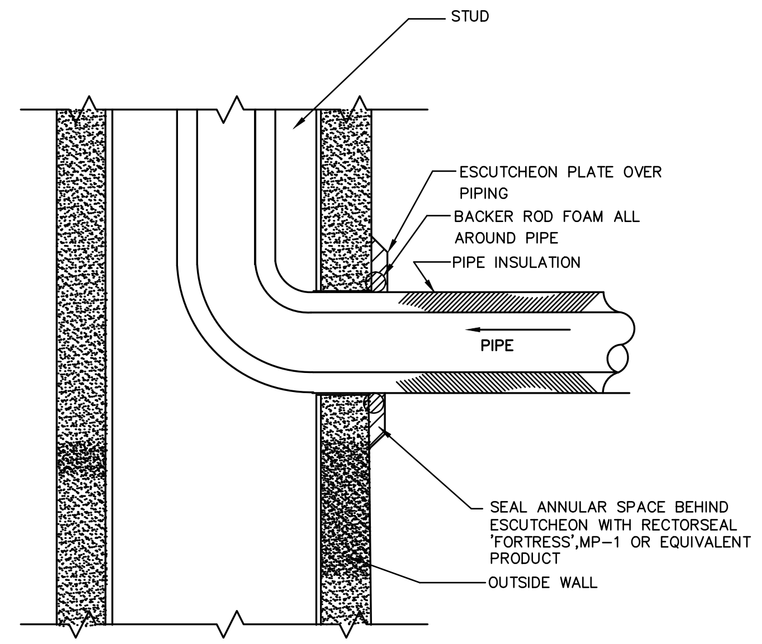
SHEET TITLE: MECHANICAL SCHEDULES

M0.2

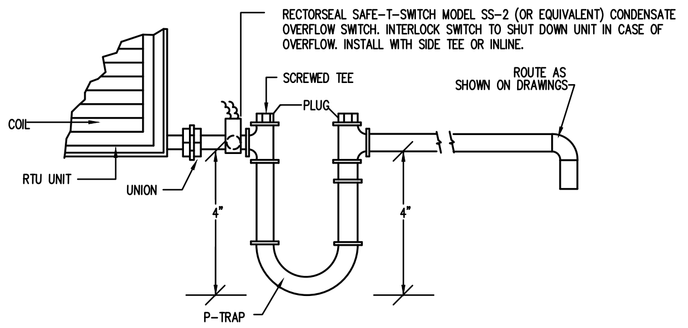


NOTE: 1) THIS DETAIL IS FOR HEAT PUMP UNIT 5 TONS AND UNDER
2) PROVIDE WELDED WIRE MESH FRAME FOR THE CONCRETE PAD.
3) PAD SHALL BE TYPICAL DIVERSITECH ULTRALITE EQUIPMENT PAD OR EQUIVALENT.

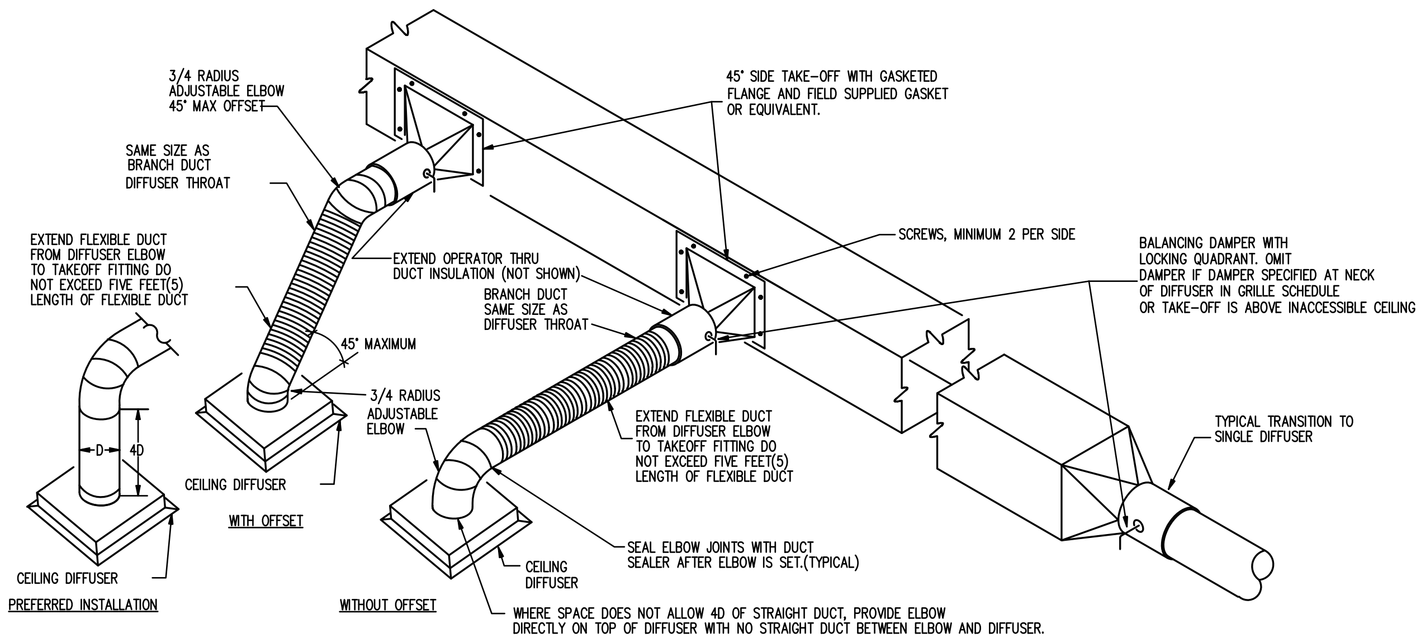
1 AIRCOOLED CONDENSING UNIT SLAB MOUNTED
SCALE: N.T.S.



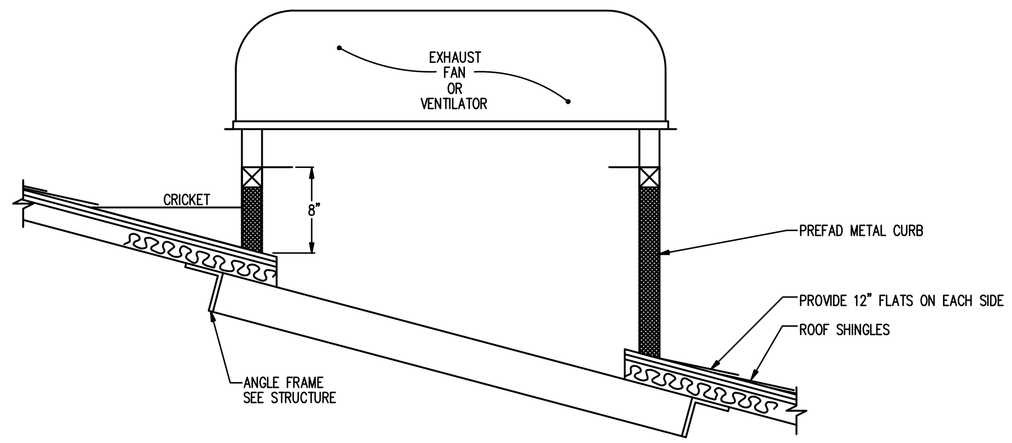
2 REFRIGERANT PIPE SLEEVE THRU WALL DETAIL
SCALE: N.T.S.



3 CONDENSATE DRAIN DETAIL
SCALE: N.T.S.

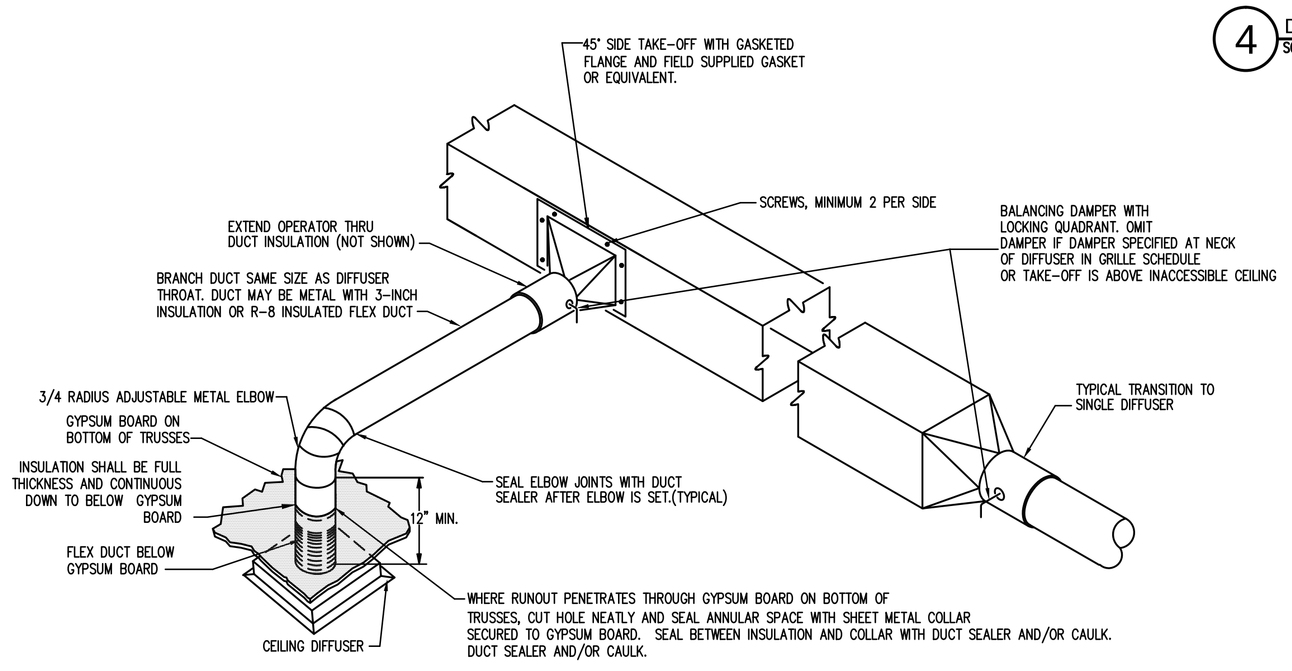


4 DIFFUSER RUN OUT DETAIL
SCALE: N.T.S.

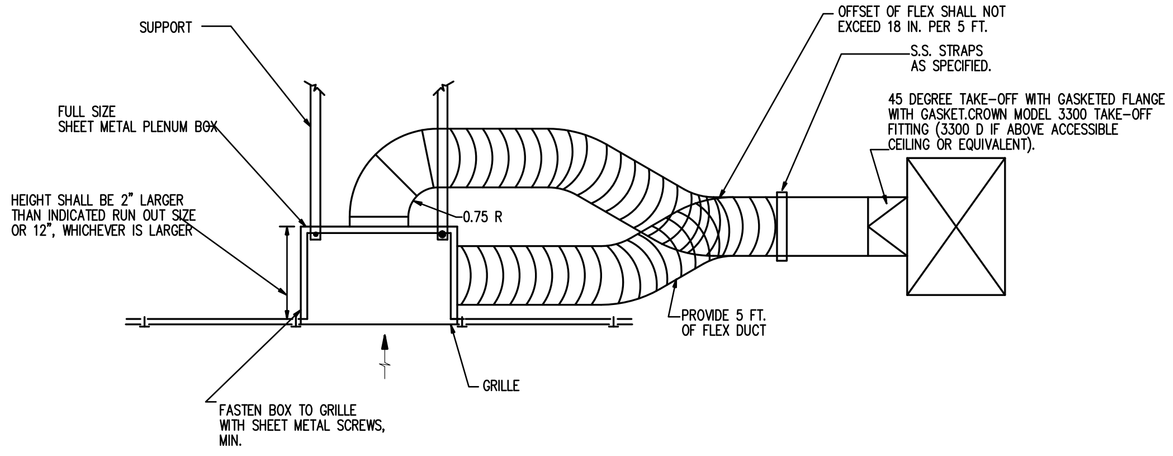


NOTE: REFER TO ARCHITECTURAL FOR ROOF SLOPES

5 FAN/VENTILATOR ON SLOPED ROOF DETAIL
SCALE: N.T.S.



6 DIFFUSER - GYPSUM BOARD ON TRUSS
SCALE: N.T.S.



7 TYPICAL GRILLE WITH LINED PLENUM DETAIL
SCALE: N.T.S.

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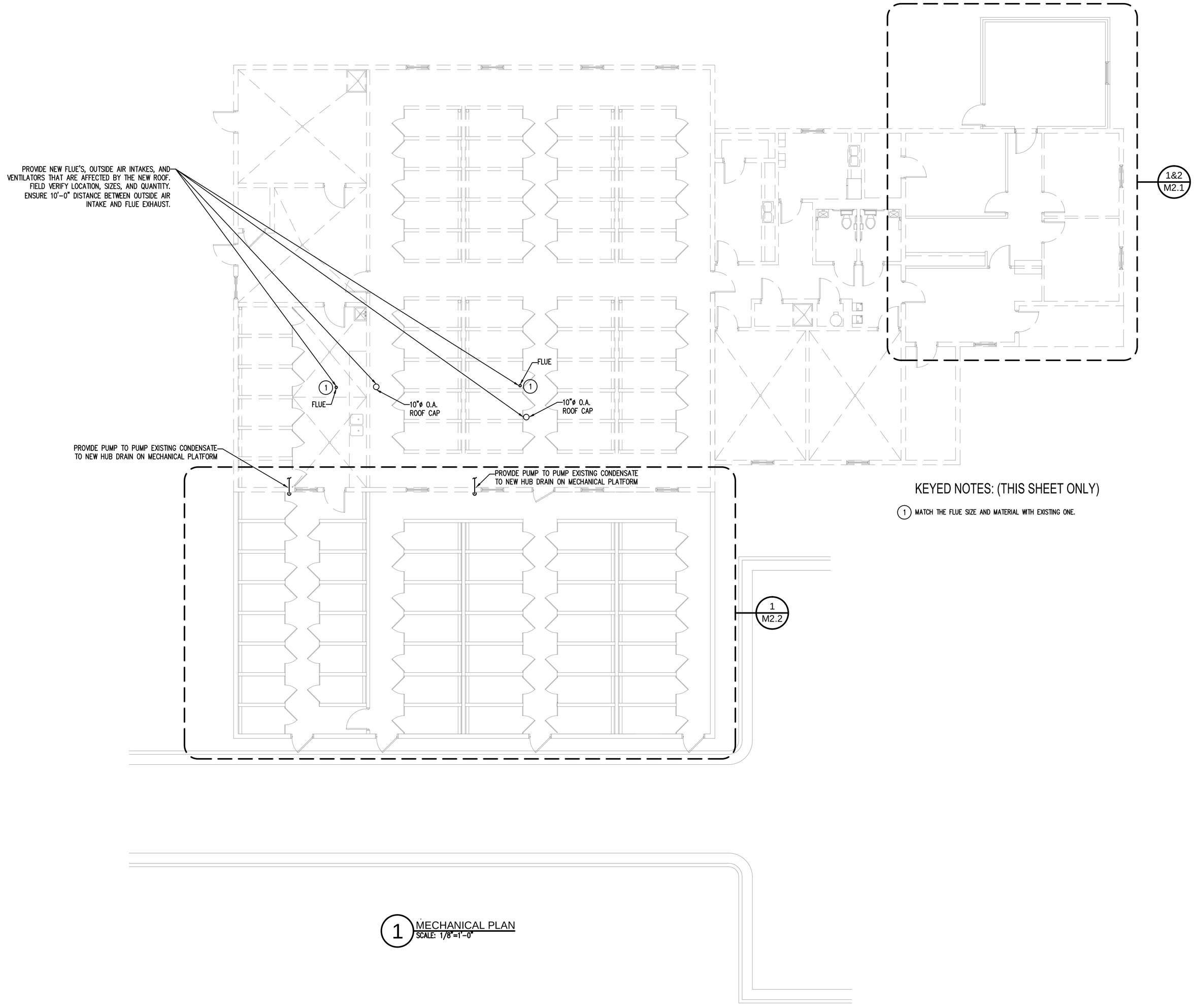
SHEET TITLE:
MECHANICAL DETAILS

M0.3



KEYED NOTES: (THIS SHEET ONLY)

(1) MATCH THE FLUE SIZE AND MATERIAL WITH EXISTING ONE.

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

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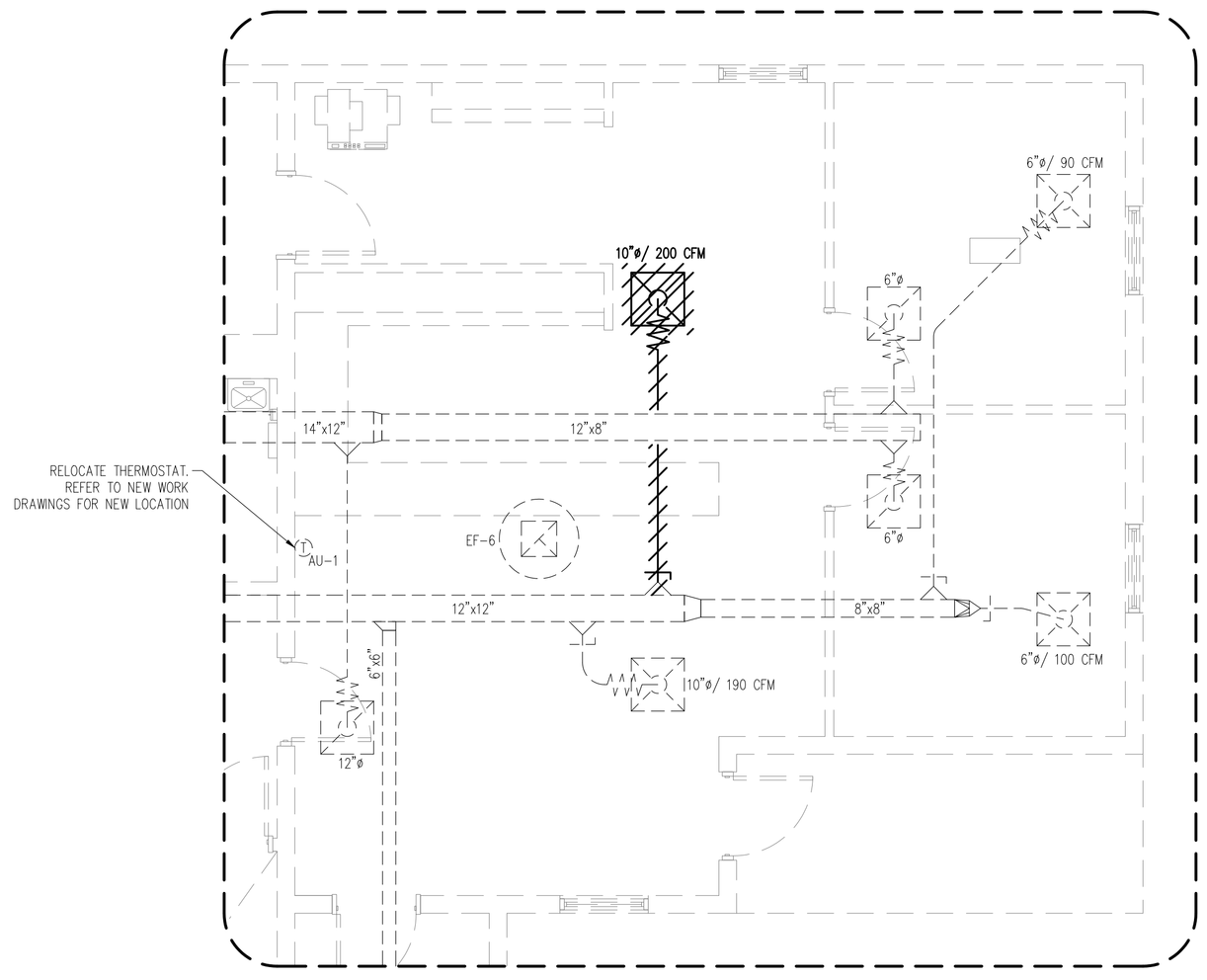
SHEET TITLE:
MECHANICAL PLAN

M1.1



1 ENLARGED MECHANICAL DEMOLITION PLAN
SCALE: 1/4"=1'-0"

GENERAL MECHANICAL NOTES:

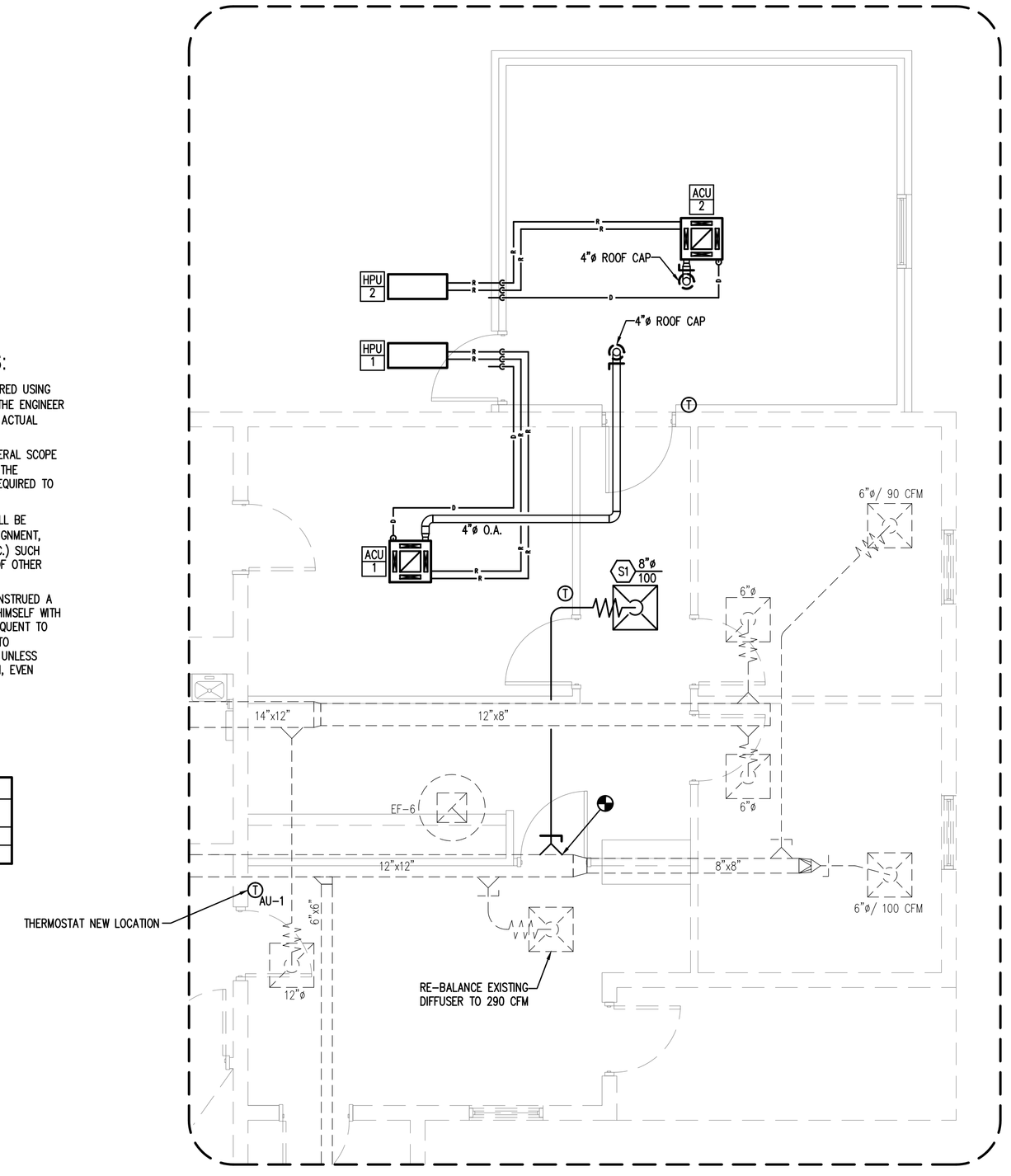
DRAWINGS FOR ENGINEERING WORK HAVE BEEN PREPARED USING "AS-DESIGN" DOCUMENTS. NEITHER THE OWNER NOR THE ENGINEER WARRANT THESE TO BE "AS-BUILT" DOCUMENTS AND ACTUAL CONDITIONS AT THE SITE MAY VARY.

THE WORK INDICATED IS INTENDED TO SHOW THE GENERAL SCOPE OF DEMOLITION/NEW WORK AND IN NO WAY RELIEVES THE CONTRACTOR FROM PROVIDING ANY AND ALL WORK REQUIRED TO COMPLETE THE DEMOLITION/NEW WORK.

WHERE SURFACES ARE DAMAGED BY DEMOLITION, SHALL BE REPAIRED TO MATCH EXISTING (IN MATERIAL, SIZE, ALIGNMENT, JOINT WORK, FINISHES, COLOR, TEXTURE, QUALITY, ETC.) SUCH SURFACES IT DOES NOT INTERFERE WITH NEW WORK OF OTHER TRADES.

THE SUBMISSION OF A BID OR PROPOSAL WILL BE CONSTRUED A EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND/OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED UNLESS THESE DIFFICULTIES COULD NOT HAVE BEEN FORESEEN, EVEN THOUGH PROPER EXAMINATION HAD BEEN MADE.

LINE LEGEND	
	DEMOLITION
	EXISTING TO REMAIN
	CONNECT TO EXISTING



2 ENLARGED MECHANICAL NEW WORK PLAN
SCALE: 1/4"=1'-0"

TOTAL ENGINEERS
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(478)741-4632

REGISTRATION SEAL

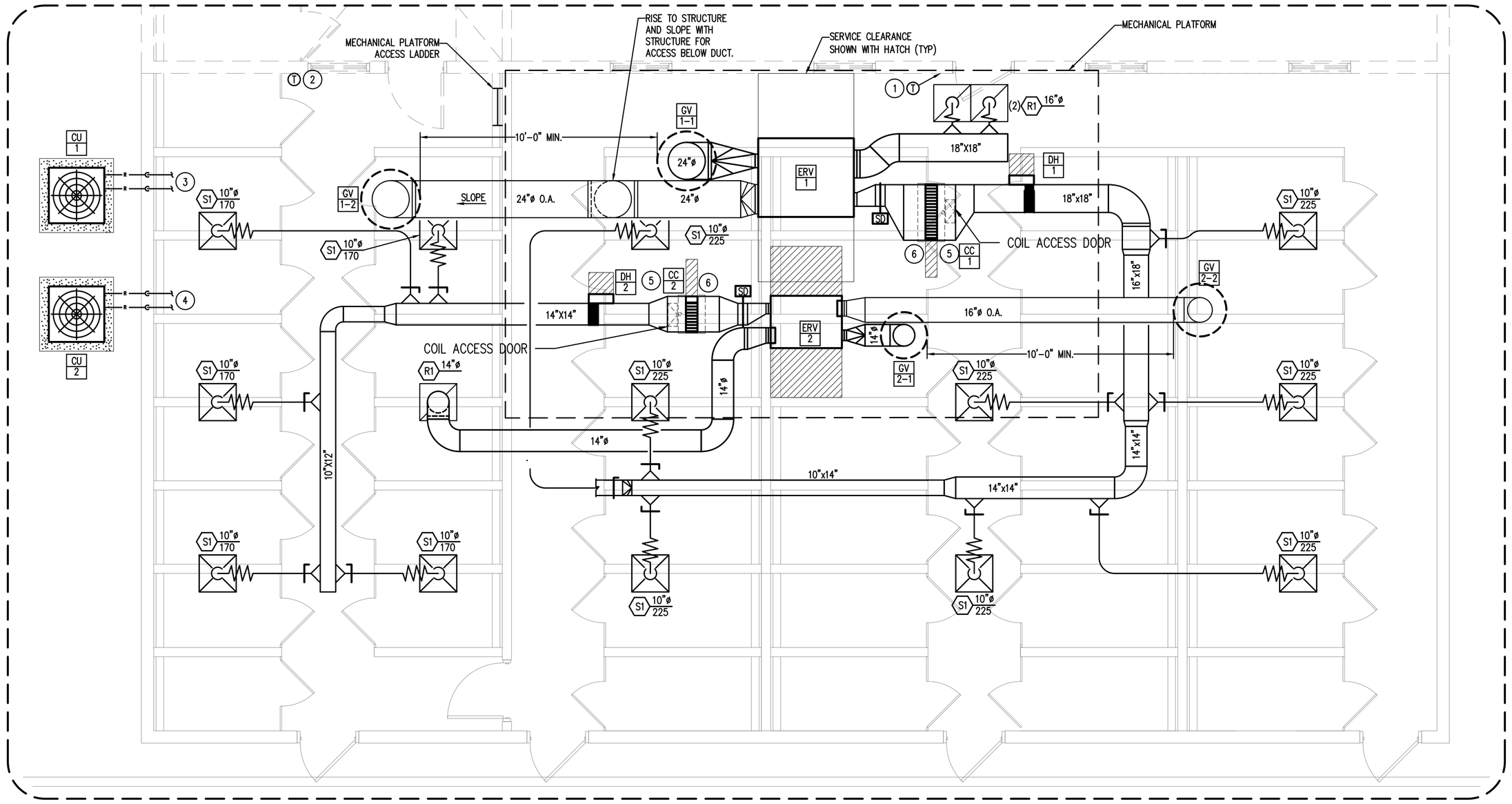
A NEW ADDITION TO
ROCKDALE COUNTY ANIMAL CONTROL
1506 ROCKBRIDGE ROAD, CONYERS, GA 30012

MARK	DATE	DESCRIPTION
1	12/17/19	KENNEL LOCATIONS

DATE: 11-01-18	PROJECT NUMBER: 18-059
DRAWN BY: JWK & KMP	CHECK BY: KMP

SHEET TITLE:
ENLARGED MECHANICAL PLANS - OFFICE AREA

M2.1



2 ENLARGED MECHANICAL PLAN
SCALE: 1/4"=1'-0"

BACKGROUND REVISED
MECHANICAL WORK UNCHANGED

KEYED NOTES: (THIS SHEET ONLY)

1. PROVIDE CONTROLS USING PROGRAMMABLE THERMOSTAT TO ENERGIZE COOLING WHEN SPACE TEMPERATURE IS ABOVE 80 DEGREES. THERMOSTAT SHALL PROVIDE DEHUMIDIFICATION SEQUENCE FOR TWO STAGE HEATER DH-1 AND COOLING COIL CC-1. SET POINT FOR HUMIDISTAT SHALL BE 60%RH FOR THIS SYSTEM. ERV-1 FANS SHALL OPERATE CONTINUOUSLY. SET THERMOSTAT FAN MODE TO "ON".
2. PROVIDE CONTROLS USING PROGRAMMABLE THERMOSTAT TO ENERGIZE COOLING WHEN SPACE TEMPERATURE IS ABOVE 80 DEGREES. THERMOSTAT SHALL PROVIDE DEHUMIDIFICATION SEQUENCE FOR TWO STAGE HEATER DH-2 AND COOLING COIL CC-2. SET POINT FOR HUMIDISTAT SHALL BE 60%RH FOR THIS SYSTEM. ERV-2 FANS SHALL OPERATE CONTINUOUSLY. SET THERMOSTAT FAN MODE TO "ON".
3. ROUTE REFRIGERANT PIPES TO CC-1. ROUTE AND SIZE PER MANUFACTURER'S INSTRUCTIONS.
4. ROUTE REFRIGERANT PIPES TO CC-2. ROUTE AND SIZE PER MANUFACTURER'S INSTRUCTIONS.
5. PROVIDE CONDENSATE TRAP, SAFETY SWITCH AND ROUTE PIPING TO HUB DRAIN ON MEZZANINE.
6. PROVIDE AIR-TIGHT INSTALLATION FOR DUCT COIL. 18" UPSTREAM AND 18" DOWNSTREAM DUCT SHALL BE SAME SIZE AS DX COIL.

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DRAWN BY: JWK & KMP	CHECK BY: KMP

SHEET TITLE:
ENLARGED MECHANICAL PLANS - KENNELS

M2.2

FIRE PROTECTION BASIC MATERIALS AND METHODS
(FIRE PROTECTION SECTION 1 OF 2)

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pipe, fittings, valves, and connections for combination sprinkler and standpipe systems.

1.2 REFERENCES

A. ASME B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250; The American Society of Mechanical Engineers.

B. ASME B16.3 – Malleable Iron Threaded Fittings; The American Society of Mechanical Engineers.

C. ASME B16.4 – Gray Iron Threaded Fittings; The American Society of Mechanical Engineers.

D. ASME B16.5 – Pipe Flanges and Flanged Fittings; The American Society of Mechanical Engineers; (ANSI/ASME B16.5).

E. ASTM A 47/A 47M – Standard Specification for Ferritic Malleable Iron Castings.

F. ASTM A 53/A 53M – Standard Specification for Pipe, Steel, Black and Hot–Dipped, Zinc–Coated, Welded and Seamless.

G. ASTM A 795/A 795M – Standard Specification for Black and Hot–Dipped Zinc–Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use.

H. NFPA 13 – Standard for the Installation of Sprinkler Systems; National Fire Protection Association.

I. NFPA 24 – Standard for the Installation of Private Fire Service Mains and Their Appurtenances; National Fire Protection Association.

J. NFPA 72 – National Fire Alarm Code.

K. NFPA 101 – Code for Safety to Life from Fire in Buildings and Structures.

L. Georgia State Minimum Standard Fire Prevention Code (International Fire Code), 2012 Edition, with Georgia State Amendments.

M. UL (FPED) – Fire Protection Equipment Directory; Underwriters Laboratories Inc.; current edition.

N. UL 262 – Gate Valves for Fire–Protection Service; Underwriters Laboratories Inc..

O. Chapter 120–3–3 of the Rules of the Safety Fire Commissioner.

P. Georgia State Minimum Standard Building Code (International Building Code), 2012 Edition, with Georgia State Amendments. NFPA Code, where more stringent, shall take precedence.

1.3 SUBMITTALS

A. Product Data: Provide manufacturers catalogue information. Indicate valve data and ratings.

B. Shop Drawings: Indicate pipe materials used, jointing methods, supports, floor and wall penetration seals. Indicate installation, layout, weights, mounting and support details, and piping connections.

C. Project As–Built Documents: Record actual locations of components and tag numbering.

D. Operation and Maintenance Data: Include installation instructions and spare parts lists.

1.4 QUALITY ASSURANCE

A. Fire Protection

1. The Contractor expressly warrants that the company performing the installation of the fire protection systems has demonstrated proficiency in the installation, start–up and adjustment of such systems by the successful performance of work of the nature specified herein on at least 5 commercial or institutional buildings, each containing minimum of 10,000 ft2 of protected area or greater.
2. The Contractor further warrants that the aforesaid subcontractor has trained personnel, instruments, tools, and equipment to perform the installation specified.
3. The Contractor also warrants that the aforesaid installer has been in business performing services of the nature specified herein for at least five–years.
4. Provide a certificate of competency as issued by the Georgia State Fire Marshal's Office.

B. Conform to UL and FM requirements.

C. Valves: Bear UL and FM label or marking. Provide manufacturer's name and pressure rating marked on valve body.

D. Products Requiring Electrical Connection: Listed and classified as suitable for the purpose specified and indicated.

1.5 DELIVERY, STORAGE, AND PROTECTION

A. Deliver and store valves in shipping containers, with labeling in place.

B. Provide temporary protective coating on cast iron and steel valves.

C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

1.6 EXTRA MATERIALS

A. Provide additional materials as provided in these specifications and by NFPA.

PART 2 PRODUCTS

2.1 GENERAL SYSTEM AND PRODUCT REQUIREMENTS

A. Sprinkler Systems: Conform work to NFPA 13.

B. Standpipe and Hose Systems: Conform to NFPA 14.

C. Welding Materials and Procedures: Conform to ASME Code.

D. Building is light hazard, ordinary hazard group, and extra hazard group. Pipe sizes shall be hydraulically calculated based upon flow test to be conducted by contractor.

E. Provide hydraulic calculations over the most remote 1500 square feet providing density required for hazard as indicated in NFPA 13. Minimum discharge pressure shall be 7.0 PSI. Minimum residual pressure at city water main in the street shall be 20.0 PSI. Provide 10.0 PSI minimum safety margin in hydraulic calculations at design point. Design area reduction per NFPA 13 is not allowed.

F. Basis of design: Contractor shall perform, or have performed, at the same time, a Fire Flow and Twenty Four Hour Static Test to assure flow equals or exceeds specified basis of design flow rate prior to preparing shop drawings, installing system or performing calculations. Prepare calculations based on confirmed flow data or basis of design flow data, whichever is lowest. Flow test shall be performed in accordance with NFPA 13 and Rules and Regulations of Safety Fire Commissioner, O.C.G.A. Chapter 120–3–3. Modify flow test pressures (static and residual), if pressure recorded in 24 hour test is lower than flow test pressures for one hour duration, to lowest hour test pressure.

G. No pipe shall be routed above electrical panels and equipment as required by National Electrical Code, on control side or beneath suspended mechanical equipment except where specifically required by Code, in which case, provisions shall be made for service access.

H. Inspectors test connection(s) shall discharge to the outside of the building in location(s) acceptable to the Architect.

I. Inside auxiliary drains, if needed, shall discharge in location(s) acceptable to the Architect.Drain and test connection piping, if in finished space, shall be installed concealed.

2.2 BURIED PIPING

A. Refer to Civil plans and specifications for piping type.

2.3 ABOVE GROUND WET SYSTEM PIPING

A. Steel Pipe: ASTM A 795 Schedule 10 or ASTM A 53 Schedule 40, black. Piping 2" and smaller shall be threaded. Piping 2 1/2" and larger shall be grooved with rigid couplings.

1. Cast Iron Fittings: ASME B16.1, flanges and flanged fittings and ASME B16.4, threaded fittings.
2. Malleable Iron Fittings: ASME B16.3, threaded fittings and ASTM A 47/A 47M.
3. Mechanical Grooved Couplings: Rigid malleable iron housing clamps to engage and lock, "C" shaped elastomeric sealing gasket, steel bolts, nuts, and washers; galvanized for galvanized pipe. Reducing couplings are NOT allowed.

2.4 PIPE HANGERS AND SUPPORTS

A. Hangers for Pipe Sizes 1/2 to 1–1/2 inch: Malleable iron, adjustable swivel, split ring.

B. Hangers for Pipe Sizes 2–inches and Over: Carbon steel, adjustable, clevis.

C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.

D. Vertical Support: Steel riser clamp.

E. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.

F. Provide support for any vertical pipe 36" in length or greater except armovers. Provide supports 12'–0" O.C. maximum or at floor levels.

G. Threaded rods shall NOT be bent. Bending is permitted only in unthreaded sections of hanger rods. Bending shall occur as close to the hanger as possible. Provide a swivel assembly if required.

2.5 GATE VALVES

A. Up to and including 2 inches:

1. Manufacturers:
   a. Nibco Scott; Product T–104–O
   b. Jenkins; Product 275U
   c. Hammond; Product 1B681
   d. Stockham; Product B–133
   e. Kennedy; Product Fig. 66
2. Bronze body, bronze trim, rising stem, handwheel, solid wedge or disc, threaded ends.

B. Over 2 inches:

1. Manufacturers:
   a. Nibco Scott; Product F–607–OTS
   b. Crane; Product 467
   c. Jenkins; Product 825–A
   d. Hammond; Product 1R1154
   e. Stockham; Product G–634
   f. Kennedy; Product Fig. 68
2. Iron body, bronze trim, rising stem pre–grooved for mounting tamper switch, handwheel, OS&Y, solid rubber covered bronze or cast iron wedge, flanged ends.

2.6 GLOBE VALVES

A. Bronze body, rubber disc, union bonnet, 174 W.W.P., threaded ends.

B. Up to and including 2 inches:

1. Manufacturers:
   a. Nibco–Scott; Product KT–65.
   b. Kennedy; Product 97SD.
   c. United; Product 125S.
   d. Fairbanks; Product 4691–3.

2.7 ANGLE VALVES

A. Bronze body, rubber disc, union bonnet, 174 non–shock cold water, threaded ends.

B. Up to and including 2 inches:

1. Manufacturers:
   a. Nibco–Scott; Product T–301–W.
   b. Kennedy; Product 985D.
   c. United; Product 126S.
   d. Fairbanks; Product 4691–3.

2.8 BUTTERFLY VALVES: Not allowed.

2.9 CHECK VALVES

A. Iron body, U.L. Listed– F.M. Approved, swing type, bronze trimmed, bronze seat and disc, flanged ends.

B. Manufacturers:

1. Jenkins; Product 629
2. Crane; Product 375
3. Stockham; Product G–939
4. Mueller; Product A–2120–6
5. Kennedy; Product #126

2.10 INDICATOR POSTS

A. Cast iron base, top section, & cap; malleable iron wrench and locking device; steel stem; cast iron coupling; bronze target holder with aluminum "shut" and "open" targets; Underwriters Laboratories listed, and Factory Mutual approved; available for varying trench depth; and with adjustable depth features.

B. Manufacturers:

1. Kennedy Fig. Series 741.
2. Nibco NIP–1.
3. Stockham G–951.
4. Mueller A–20804.

2.11UNDERGROUND GATE VALVES

A. 2 1/2–inch and larger, iron body, non–rising stem, bronze stem, iron mounted disc with bronze rings, cast iron 2–inch square operating nut, flange, ends, AWWA spec. C–500.

B. Manufacturers:

1. Kennedy Fig. 701X.
2. Nibco F–609.
3. Stockham G–635.
4. Mueller A–2075–20.
5. M & H Fig. 3067.

PART 3 EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and foreign material, from inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Storage: All piping shall be stored above ground and protected to prevent dirt and debris from entering pipe.

3.2 INSTALLATION

A. Install sprinkler system and service main piping, hangers, and supports in accordance with NFPA 13 and these specifications.

B. Install standpipe piping, hangers, and supports in accordance with NFPA 14.

C. Install post indicator valve (PIV) upstream of backflow device.

D. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.

E. Install piping to conserve building space, to not interfere with use of space and other work.

F. Group piping whenever practical at common elevations.

G. All piping shall be installed above ceilings in a concealed manner except where no ceilings are present

H. Sleeve pipes passing through partitions, walls, and floors.

I. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

J. Reducing Tees: Weld–on threaded outlet tees and Coupolet–300 by Bonney Forge Division of Energy Products Group, Central Sprink 701, "TEE–LET" 300 by Merit Manufacturing Corp., NAP300 by North Alabama Pipe Corp., F400 by Grinnell Corp. may be used for side outlet reducing tees more than two pipe sizes smaller than main. Discs shall be retrieved and connected to pipe at point of cutting. Cutting shall comply with NFPA 13, Chapter 6.5.2.9.

K. Couplings may be used on gridded systems at only one end of each gridded branch line or on 2 1/2" or larger riser nipple to 2" or smaller branch line to facilitate connection provided that the coupling is connected to piping by a cut groove. Rolled grooves are not acceptable.

L. Pipe Hangers and Supports:

1. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
2. Place hangers within 12 inches of each horizontal elbow.
3. Use hangers with 1–1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
4. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
5. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

M. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.

N. Prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

O. Do not penetrate building structural members unless indicated.

P. Provide sleeves when penetrating floors and walls. Seal pipe and sleeve penetrations to achieve fire resistance equivalent to fire separation required.

Q. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.

R. Die cut threaded joints with full cut standard taper pipe threads with red lead and linseed oil or other non–toxic joint compound applied to male threads only.

S. Install valves with stems upright or horizontal, not inverted. Remove protective coatings prior to installation.

T. Provide gate valves for shut–off or isolating service. No valve shall be installed with the centerline, if horizontal, or wheel, if vertical, more than 9'–0" AFF.

U. Provide drain valves at main shut–off valves, low points of piping and apparatus.

3.3 CLEANING AND PROTECTION

A. All materials, equipment and mechanical rooms shall be cleaned prior to the Final Inspection.

B. Wash down and scrub clean all mechanical room floors, walls, equipment bases and equipment.

C. Paint equipment where finish has been damaged requiring retouching of finish to match factory finish.

D. Chipped or scraped paint shall be retouched to match original finish.

E. All dents and sags in equipment casing shall be straightened.

F. All equipment, pipe, pipe fittings and appurtenances shall be free of rust and stains prior to substantial completion.

3.4 FINISHING EQUIPMENT AND MATERIAL

A. Use paint systems specified in Division 9 for the substrates to be finished.

B. Paint shop–primed equipment.

C. Re–install electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

D. Paint all exposed pipes, unless otherwise indicated.

E. All ferrous fasteners and hanger supports not having a corrosion resistant plated finish shall be painted to prevent rust.

F. Paint all equipment, including that which is factory–finished, exposed to weather or to view on the roof and outdoors.

G. Paint all exposed un–insulated ferrous materials.

END OF SECTION

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DATE: 11–01–18

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DRAWN BY: JWK & KMP

CHECK BY: KMP

SHEET TITLE:
FIRE PROTECTION (1 OF 2) SPECIFICATIONS

P0.1

FIRE SUPPRESSION SPRINKLERS
(FIRE PROTECTION SECTION 2 OF 2)

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wet Type Sprinkler System
B. Dry–pipe sprinkler system.
C. System design, installation, and certification.
D. Fire department connections.

1.2 REFERENCES

A. NFPA 13 – Standard for the Installation of Sprinkler Systems; National Fire Protection Association.
B. NFPA 14 – Standard for the Installation of Standpipe and Hose Systems; National Fire Protection Association.

1.3 SUBMITTALS

A. Product Data: Provide data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough–in details, weights, support requirements, and piping connections.
B. Shop Drawings:
   1. Indicate hydraulic calculations, detailed pipe layout, hangers and supports, sprinklers, components and accessories. Indicate system controls.
   2. Submit shop drawings, product data, and hydraulic calculations to Fire Marshall for approval and to Architect for review. Submit to Architect prior to submitting to Fire Marshal. Submit proof of approval to the Architect.
C. Project As–Built Documents: Record actual locations of sprinklers and deviations of piping from drawings. Indicate drain and test locations. Provide two (2) CD and three (3) paper copies of as–built drawings.
D. Manufacturer's Certificate: Certify that system has been tested and meets or exceeds specified requirements and code requirements. All certificates shall be signed by certificate holder.
E. Operation and Maintenance Data: Include components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

1.4 QUALITY ASSURANCE

A. Maintain one copy of referenced design and installation standard on site.
B. Conform to UL requirements.
C. Equipment and Components: Provide products that bear UL label or marking.
D. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.5 DELIVERY, STORAGE, AND PROTECTION

A. Store products in shipping containers and maintain in place until installation. Provide temporary inlet and outlet caps. Maintain caps in place until installation.
B. Store piping off floor and out of elements. Provide cover for piping to prevent dirt and debris from entering piping. Piping and fittings shall be rust free when installed.

1.6 EXTRA MATERIALS

A. Provide extra sprinklers of type and size matching those installed, in quantity required by referenced NFPA design and installation standard.
B. Provide suitable wrenches for each sprinkler type.
C. Provide metal storage cabinet located at piping entrance to building.

PART 2 PRODUCTS

2.1 SPRINKLER SYSTEM REQUIREMENTS

A. Sprinkler System: Provide coverage for entire building.
B. Occupancy: comply with NFPA 13.
C. Water Supply: Contractor shall perform or have performed an NFPA–13 water flow test data and a 24 hour static pressure test. Adjust flow test to lowest pressure recorded by 24 hour test of one hour duration.
D. Interface system with building fire alarm system.
E. Provide fire department connections where indicated on FP and civil drawings.

2.2 SPRINKLERS

A. Tyco and affiliates, Automatic Sprinkler, Reliable, Viking.
B. All sprinklers installed shall be by the same manufacturer.
C. Contractor shall select temperature ratings in accordance with NFPA 13, paragraph 8.3.2.
D. Suspended Ceiling Type: Recessed pendant type with matching flush push on escutcheon plate.
   1. Finish: Chrome plated.
   2. Escutcheon Plate Finish: Chrome plated.
   3. Quick response Glass bulb type temperature rated for specific area hazard.
E. Gypsum Board Ceiling Type: Concealed pendant type with matching push on escutcheon plate.
   1. Finish: Brass.
   2. Escutcheon Plate Finish: Enamel, Verify color with architect.
F. Exposed Area Type: Standard upright type.
   1. Finish: Brass.
   2. Fusible Link: Quick Response Fusible solder link type temperature rated for specific area hazard.
G. Sidewall Type: Standard horizontal sidewall type with matching flush push on two piece escutcheon plate.
   1. Finish: Chrome plated.
   2. Escutcheon Plate Finish: Chrome plated.
   3. Quick Response Fusible solder link type temperature rated for specific area hazard.
H. Guards: Finish to match sprinkler finish.

2.3 PIPING SPECIALTIES

A. Dry Pipe Sprinkler Alarm Valve: Check type valve with divided seat ring, rubber faced clapper to automatically actuate water motor alarm and electric alarm, with accelerator; with test and drain valve.
B. Water Motor Alarm: Hydraulically operated impeller type alarm with aluminum alloy chrome plated gong and motor housing, nylon bearings, and inlet strainer. By same manufacturer as Alarm Valve.
C. Electric Alarm: Electrically operated chrome plated gong with pressure alarm switch.
D. Water Flow Switch: Vane type switch for mounting horizontal or vertical, with two contacts; rated 10 amp at 125 volt AC and 2.5 amp at 24 volt DC. Notifier, Simplex, Potter, Grinnell.
E. Tamper Switch: Switch designed for installation on indicator valves with cased aluminum housing with red finish. Notifier, Simplex, Potter, Grinnell.
F. Fire Department Connections: Elkhart, Croker Standard, Potter Roemer.
   1. Type: Free standing type with ductile iron pedestal chrome plated finish.
   2. Outlets: Two way with thread size to suit fire department hardware; threaded dust cap and chain of matching material and finish.
   3. Drain: 3/4 inch automatic drip, outside.
   4. Label: "Sprinkler – Fire Department Connection".

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with referenced NFPA design and installation standard and these specifications.
B. Sprinklers shall be in line with and centered between down lights unless shown otherwise.
C. Install equipment in accordance with manufacturer's instructions.
D. Each floor of multi story buildings shall be zoned.
E. All dry system piping shall be galvanized down stream of dry valve.
F. Install buried shut–off valves in valve box. Provide post indicator.
G. Provide approved double detector check assembly at sprinkler system water source connection.
H. Locate fire department connection within forty (40'–0") feet of nearest fire hydrant and with sufficient clearance from walls, obstructions, or adjacent siamese connectors to allow full swing of fire department wrench handle.
I. Locate outside alarm gong on building wall at piping entrance to building.
J. Place pipe runs to minimize obstruction to other work.
K. Place piping in concealed spaces above finished ceilings.
L. Center sprinklers in two directions in ceiling tile and provide piping offsets as required.
M. Apply masking tape or paper cover to ensure concealed sprinklers, cover plates, and sprinkler escutcheons do not receive field paint finish. Remove after painting. Replace painted sprinklers.
N. Where sprinklers are required under rectangular duct, the centerline of the sprinkler shall be minimum 6" under duct
O. Install air compressor on vibration isolators.
P. Flush entire piping system of foreign matter.
Q. Hydrostatically test entire system.
R. Require test be witnessed by Fire Marshall.
S. All drain piping shall discharge to the outside 6" maximum above grade unless noted otherwise.
T. Where sprinklers are required under oval or round duct, the centerline of the sprinkler shall be under the centerline of the duct.

3.2 INTERFACE WITH OTHER PRODUCTS

A. Ensure required tamper and flow devices are installed and connected as required to fire alarm system including but not limited to Floor control valves, alarm check valve, elevator shaft isolation valve, Post Indicator Valve (PIV) and backflow device valves.

3.3 SCHEDULES

A. System Hazard Areas:
   1. Office & Public Areas and similar occupancies – Light Hazard Design; 0.10 GPM/sq. ft. over the most remote 1500 square foot.
   2. Building Service Areas, Electrical Equipment Rooms, General Storage Areas, Mechanical Equipment Rooms, and similar occupancies – Ordinary Hazard Group 1 Design; 0.15 GPM/sq.ft. over the most remote 1500 square foot.

END OF SECTION

PLUMBING SPECIFICATIONS

Provide all plumbing items indicated on the drawings, described herein or otherwise required for a complete and proper installation, including:

A. Plumbing fixtures, fittings and equipment.
B. Hot and cold water systems.
C. Drain waste and vent piping systems.
D. Indirect waste piping, including all valves, traps, piping and accessories for all equipment. Size per equipment requirements.

Comply with all applicable codes, standards and ordinances, including requirements of the Georgia State Minimum Standard Plumbing Code (2012 International Plumbing Code with all Georgia State Amendments).

The contractor should not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearance. The contractor shall verify all actual dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or to actual building construction, shall be made at no additional cost to the owner.

The submission of a bid or proposal will be construed a evidence that the contractor has familiarized himself with the plans and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

Fabrication or ordering of any material or equipment prior to verification of site conditions shall be done at the contractor's risk.

All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings.

Coordinate with all trades and verify all equipment rough–in items and locations with the equipment supplier or contractor. All re–work and corrections required due to lack of coordination shall be the contractor's responsibility, and done at no cost to the owner.

Submit shop drawings and material data submittals to the engineer for approval before installation. No substitutions shall be allowed without prior approval by the engineer. Product data for piping, insulation, valves, specialties and all fixtures and equipment scheduled and specified here. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

All equipment and flue materials shall be U.L. listed.

Installation shall comply with manufacturer requirements including all clearances recommended for proper operation of service. All serviceable parts shall be readily accessible.

Sanitary drain, roof drainage, overflow roof drainage, and vent piping shall be ASTM D2665 schedule 40 PVC with PVC Socket Fittings (ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe). Slope at 1/8 inch per foot continuously toward public sewer. All aboveground piping shall be adequately supported, Install underground, PVC plastic drainage piping according to ASTM D2321. Install aboveground PVC piping according to ASTM D 2665.

All above ground domestic water distribution piping shall be ASTM D 2846, SDR11, schedule 40 CPVC with socket fittings. All piping shall be adequately supported. Disinfect all domestic water piping after installation. All underground domestic water distribution piping shall be ASTM D 1785 schedule 40 PVC with ASTM D 2466 PVC socket fittings.

Insulate all above ceiling domestic water piping with 3/4" flexible elastomeric. Flexible Elastomeric Insulation shall be closed–cell, sponge– or expanded–rubber materials. Comply with ASTM C 534, Type I for tubular materials.

HW & CW Valves: Use pipe size valves, as shown below:

A. Ball: Watts #B–6000 or B–6001.
B. Check: Watts #600 or #601S.

Water Hammer Arresters shall comply with standard ASSE 1010, metal bellows type or copper piston type.

All pipe hangers, clamps and channels shall be adequately sized to carry pipe loads and prevent sagging.

All other materials not specifically described but required for a complete and proper installation of work of this section, shall be new, first quality of their respective kinds, and as selected by the contractor subject to acceptance by the engineer.

Lay out the plumbing system in careful coordination with the drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactorily functioning system. Follow the general layout shown on the drawings in all cases except where other work may interfere. Unless shown otherwise, lay out all pipes to fall within partition, wall floor, or roof cavities, and to not require furring other than as shown on the drawings.

Do not cut into or reduce the size of any load–carrying member without the prior approval of the architect. Install all pipes to clear all beams and obstructions.

Permanently close and make weatherproof any openings or penetrations of the building envelope made for plumbing systems. All wall and floor penetrations shall be sleeved. All exterior wall or foundation wall penetrations shall use a mechanical seal.

Coordinate all roof penetrations with architectural plans and building and roofing trades.

Isolate all dissimilar metals with "EPCO" dielectric unions, except for brass or bronze valves with steel pipe.

Protect the potable water supply against backflow and siphonage from equipment, fixtures, etc., using approved backflow and anti–siphon devices.

Thoroughly clean all piping and equipment. Removing all dirt, rust, oil, and plaster.

Test Sanitary drainage piping by plugging all openings and filling with water to a height equal to a 10 foot head. Allow to stand one hour or longer as required. Repair leaking joints and then re–test.

No work shall be covered until it has been inspected and accepted by the local authority and the engineer.

Test water lines at 100 PSIG. Retain for 24 hours, repair all leaks and retest.

The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. All labor and materials necessary to repair or replace the system, or portions thereof, during that time shall be warranted for a period of one (1) year from the repair or replacement.

Install piping in concealed locations, unless otherwise indicated and except in equipment rooms, and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Install piping to permit valve servicing. Install piping at indicated slopes. Install piping free of sags and bends. Install fittings for changes in direction and branch connections. Install piping to allow application of insulation. Select system components with pressure rating equal to or greater than system operating pressure. Install escutcheons for penetrations of walls, ceilings, and floors. Verify final equipment locations for roughing–in.

All vents thru roof (VTR) shall be offset a minimum of 10'–0" from all outside air intakes.

Approved manufactures: (Items submitted shall be approved by architect and engineer. Architect and engineer reserve the right to reject any item substituted for basis of design item for any reason.)

Flush Valves: Sloan, Delany, Zurn
Floor Drains & Cleanouts: Zurn, Jay R Smith, Proset, Watts, Mifab, Wade, Josam, Sioux Chief, Oatey
Wall Hydrants/ Hose Bibbs: MIFAB, Jay R. Smith, Wade, Watts, Woodford, Zurn
Water Hammer Arresters: AMTROL, Josam, MIFAB, PPP, Sioux Chief, Jay R. Smith, Wade, Watts, Zurn
Outlet Boxes: Acorn, IPS, Oatey
Brass Valves: American, Crane, Watts, Apollo

TOTAL ENGINEERS
169 New Street, Macon, GA 31201
(478)741-4632

REGISTRATION SEAL

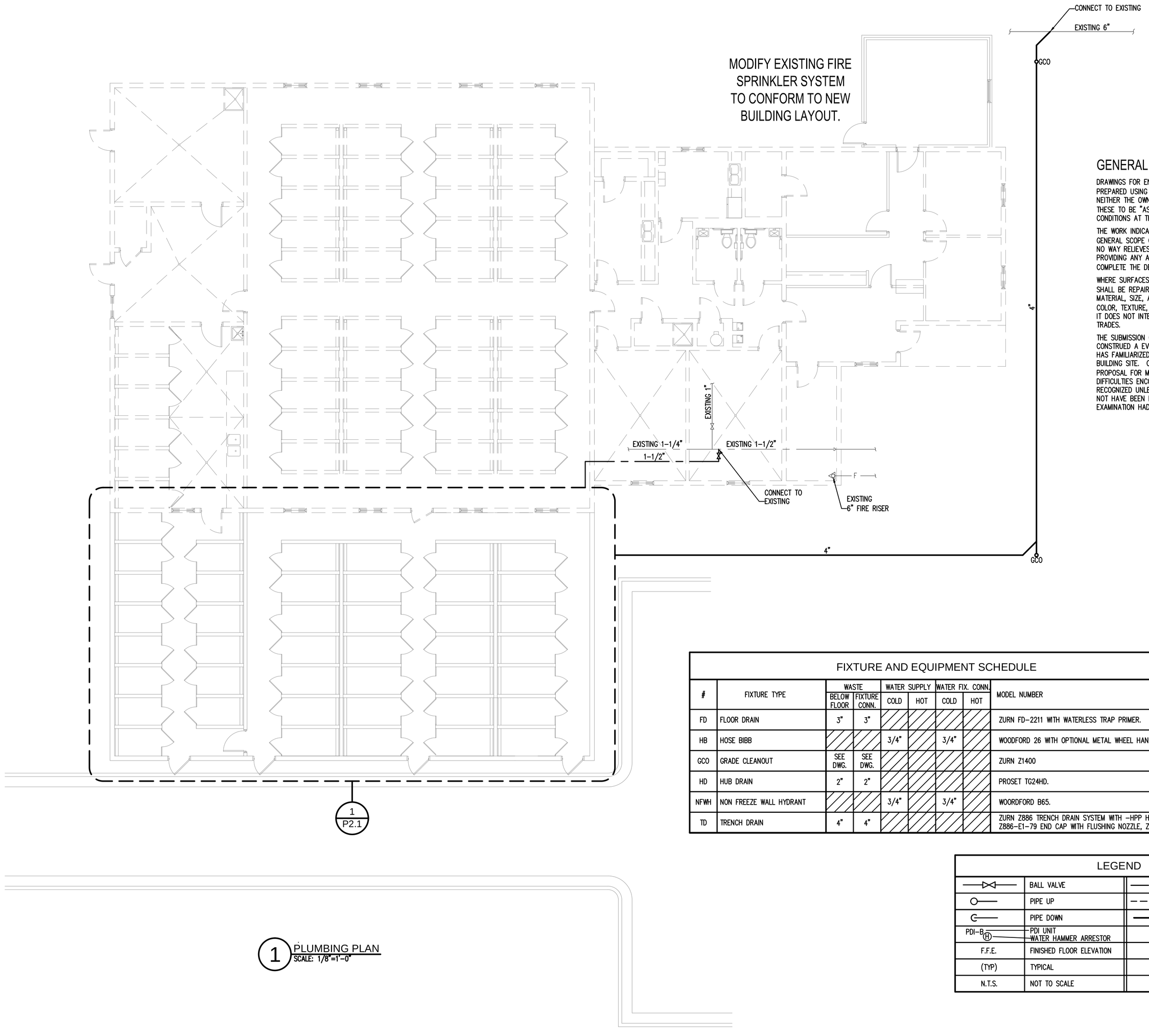
A NEW ADDITION TO
ROCKDALE COUNTY ANIMAL CONTROL
1506 ROCKBRIDGE ROAD, CONYERS, GA 30012

MARK	DATE	DESCRIPTION
1	12/17/19	KENNEL LOCATIONS

DATE: 11–01–18	PROJECT NUMBER: 18–059
DRAWN BY: JWK & KMP	CHECK BY: KMP

SHEET TITLE:
FIRE PROTECTION (2 OF 2) & PLUMBING SPECIFICATIONS

P0.2



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

GENERAL PLUMBING NOTES:

DRAWINGS FOR ENGINEERING WORK HAVE BEEN PREPARED USING "AS-DESIGN" DOCUMENTS. NEITHER THE OWNER NOR THE ENGINEER WARRANT THESE TO BE "AS-BUILT" DOCUMENTS AND ACTUAL CONDITIONS AT THE SITE MAY VARY.

THE WORK INDICATED IS INTENDED TO SHOW THE GENERAL SCOPE OF DEMOLITION/NEW WORK AND IN NO WAY RELIEVES THE CONTRACTOR FROM PROVIDING ANY AND ALL WORK REQUIRED TO COMPLETE THE DEMOLITION/NEW WORK.

WHERE SURFACES ARE DAMAGED BY DEMOLITION, SHALL BE REPAIRED TO MATCH EXISTING (IN MATERIAL, SIZE, ALIGNMENT, JOINT WORK, FINISHES, COLOR, TEXTURE, QUALITY, ETC.) SUCH SURFACES IT DOES NOT INTERFERE WITH NEW WORK OF OTHER TRADES.

THE SUBMISSION OF A BID OR PROPOSAL WILL BE CONSTRUED A EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND/OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED UNLESS THESE DIFFICULTIES COULD NOT HAVE BEEN FORESEEN, EVEN THOUGH PROPER EXAMINATION HAD BEEN MADE.

FIXTURE AND EQUIPMENT SCHEDULE

#	FIXTURE TYPE	WASTE		WATER SUPPLY		WATER FIX. CONN.		MODEL NUMBER
		BELOW FLOOR	FIXTURE CONN.	COLD	HOT	COLD	HOT	
FD	FLOOR DRAIN	3"	3"					ZURN FD-2211 WITH WATERLESS TRAP PRIMER.
HB	HOSE BIBB			3/4"		3/4"		WOODFORD 26 WITH OPTIONAL METAL WHEEL HANDLE.
GCO	GRADE CLEANOUT	SEE DWG.	SEE DWG.					ZURN Z1400
HD	HUB DRAIN	2"	2"					PROSET TG24HD.
NFWH	NON FREEZE WALL HYDRANT			3/4"		3/4"		WOORDFORD B65.
TD	TRENCH DRAIN	4"	4"					ZURN Z886 TRENCH DRAIN SYSTEM WITH -HPP HEEL-PROOF POLYENTHLENE GRATE, Z886-E1-79 END CAP WITH FLUSHING NOZZLE, Z6099-FF FLUSH VALVE.

LEGEND

⋈	BALL VALVE	— — —	COLD WATER
○—	PIPE UP	- - - - -	VENT
—○	PIPE DOWN	———	SEWER
PDI-B Ⓗ	PDI UNIT WATER HAMMER ARRESTOR	CW	COLD WATER
F.F.E.	FINISHED FLOOR ELEVATION	VTR	VENT THRU ROOF
(TYP)	TYPICAL		
N.T.S.	NOT TO SCALE		

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DATE: 11-01-18
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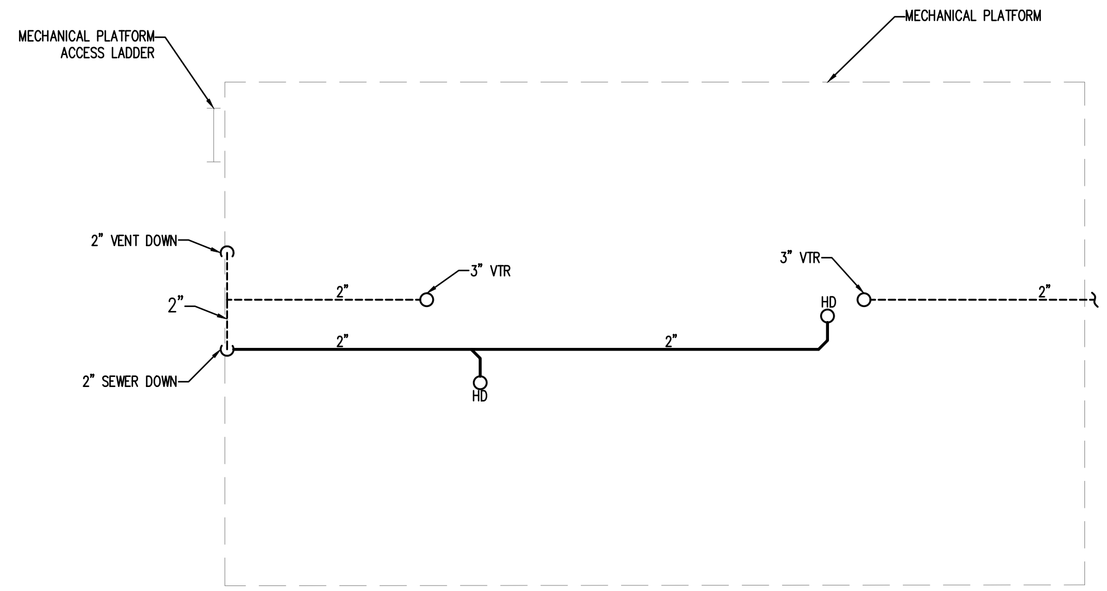
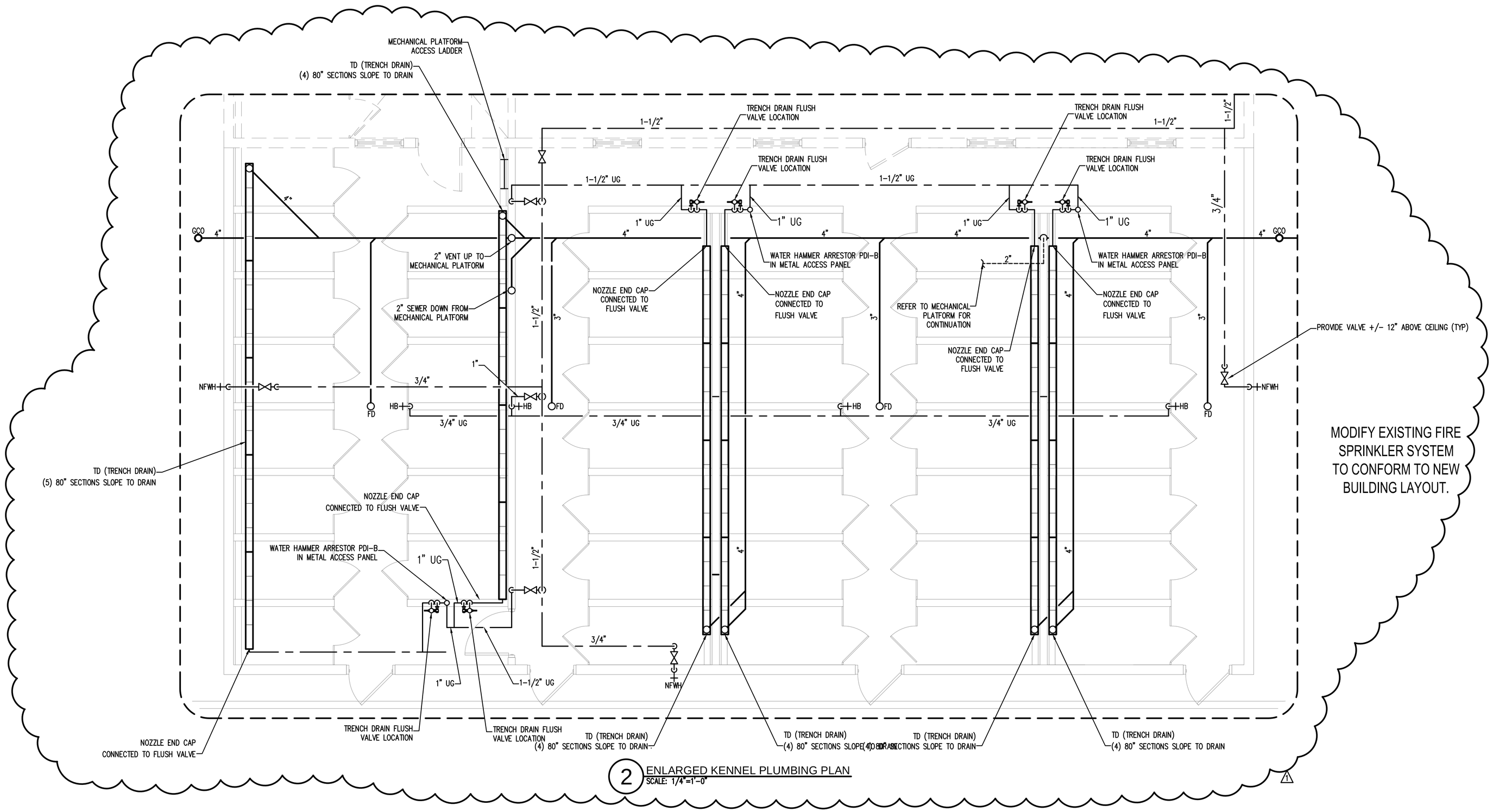
SHEET TITLE:
PLUMBING PLAN

P1.1



1 MECHANICAL PLATFORM PLUMBING PLAN
SCALE: 1/4"=1'-0"



2 ENLARGED KENNEL PLUMBING PLAN
SCALE: 1/4"=1'-0"

TOTAL ENGINEERS
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REGISTRATION SEAL

A NEW ADDITION TO

ROCKDALE COUNTY ANIMAL CONTROL

1506 ROCKBRIDGE ROAD, CONYERS, GA 30012

MARK	DATE	DESCRIPTION
1	12/17/19	KENNEL LOCATIONS

DATE: 11-01-18	PROJECT NUMBER: 18-059
DRAWN BY: JWK & KMP	CHECK BY: KMP

SHEET TITLE:
ENLARGED PLUMBING PLAN - KENNELS

P2.1

ELECTRICAL SPECIFICATIONS

DIVISION 16 +A1:A18

ELECTRICAL

SECTION A: GENERAL ELECTRICAL REQUIREMENTS

1. THESE PLANS AND SPECIFICATIONS APPLY TO THE RENOVATIONS OF ROCKDALE CO. ANIMAL CONTROL, CONYERS, GEORGIA. THE WORK DESCRIBED BY THESE PLANS AND SPECIFICATIONS APPLY TO THE INDICATED PROJECT AND MAY NOT BE MODIFIED OR REUSED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
2. ALL WORK SHALL BE PERFORMED BY LICENSED ELECTRICAL CONTRACTOR WITH MINIMUM OF TWO YEARS OF EXPERIENCE. LIST OF PREVIOUS JOBS AND REFERENCES SHALL BE MADE AVAILABLE UPON REQUEST. CONTRACTOR SHALL PROVIDE ADEQUATE INSURANCE FOR PERSONNEL AND SHALL REPAIR ANY DAMAGE OCCURRING AS THE RESULT OF THIS PROJECT SITE AND RELATED PROPERTY.
3. ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE NFPA 101, ADA CODE, GA ACCESSIBILITY CODE, STATE OF GEORGIA ENERGY CODE AND ALL OTHER APPLICABLE CODES AND ORDINANCES.

4. ALL PERMITS AND FEES SHALL BE OBATINED AND PAID FOR BY THE CONTRACTOR.

5. ALL EQUIPMENT, MATERIAL, AND DEVICES SHALL BE LISTED OR RECOGNIZED BY UNDERWRITER'S LABORATORY OR ELECTRICAL TESTING LABORATORY AND USED AND INSTALLED IN ACCORDANCE WITH IT'S LISTING.

6. ALL WORK PERFORMED SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE THE FINAL COMPLETION DATE EXCEPT FOR FUSES AND LAMPS IN LIGHT FIXTURES. UPON NOTIFICATION OF A PROBLEM, THE CONTRACTOR SHALL INVESTIGATE THE PROBLEM WITHIN 48 HOURS UNLESS A DIFFERENT TIME PERIOD IS AGREED TO. THE CONTRACTOR SHALL INVESTIGATE, REPAIR OR REPLACE ALL FAULTY EQUIPMENT WITHIN A REASONABLE TIME PERIOD WITHOUT CHARGE TO THE OWNER.
7. THE TERM 'PROVIDE' SHALL BE UNDERSTOOD TO MEAN, OBTAIN THE ITEM DESCRIBED, INSTALL ITEM IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS.

8. ALL PENETRATIONS MADE IN FIRE RATED BUILDING PORTIONS SHALL BE SEALED WITH A LISTED RESISTANT MATERIAL SUITABLE FOR THE APPLICATION.

9. ALL INSTALLATIONS OF ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION.
10. PLANS ARE DIAGRAMMATIC AND SHOW THE LOCATION OF THE EQUIPMENT, RACEWAY AND FIXTURES, AND ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED AT THE BUILDING SITE.

11. CONTRACTOR SHALL VERIFY AND COORDINATE ALL EQUIPMENT AND DEVICE LOCATIONS WITH OWNER'S PROJECT MANAGER PRIOR TO INSTALLATION.

12. EQUIPMENT BREAKER AND WIRING REQUIREMENTS; THE CONTRACTOR SHALL SUBMIT FOR REVIEW A TABULATED SHEET OF BREAKER AND WIRING REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT REQUIRING POWER AS SPECIFIED IN DIVISION 15. REQUIREMENTS SHALL BE IDENTIFIED BY HORSEPOWER OR KW, OPERATING AMPERAGE, REQUIRED VOLTAGE AND PHASE REQUIREMENTS, AND MANUFACTURERS SUGGESTED OVERCURRENT CIRCUIT PROTECTION DEVICE SIZE AND MINIMUM CIRCUIT AMPACITY SIZE. WHERE THE ELECTRICAL REQUIREMENTS SUBMITTED FOR MECHANICAL EQUIPMENT DIFFERS FROM THE BRANCH CIRCUITRY SHOWN ON THE ELECTRICAL DRAWINGS (WHEN USING THE BASIS OF DESIGN UNIT LISTED IN THE MECHANICAL SCHEDULES/SPECIFICATIONS OR A SIMILAR UNIT OF THE SAME SIZE FROM LISTED ALTERNATE MANUFACTURERS), THE CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS TO THE BRANCH CIRCUITRY PER THE CURRENT NEC AT NO ADDITIONAL COST TO THE OWNER. WHEN CHANGES ARE MADE TO POWER REQUIREMENTS FOR EQUIPMENT DUE TO OWNER, ARCHITECT/ENGINEER APPROVED VALUE ENGINEERING CHANGES TO EQUIPMENT, THE COST MUST NE INCLUDED IN THE VALUE ENGINEERING OVERALL CHANGE ORDER COST. COSTS DUE TO ADJUSTMENTS IN BRANCH CIRCUITRY TO EQUIPMENT DUE TO VALUE ENGINEERING CHANGES WILL NOT BE ALLOWED AFTER THE OVERALL VALUE ENGINEERING CHANGE ORDER HAS BEEN APPROVED. IN ALL CASES, BREAKER AND WIRING REQUIREMENTS FOR MECHANICAL EQUIPMENT MUST BE PROVIDED TO THE ENGINEER BEFORE OR AT THE SAME TIME AS THE SHOP DRAWINGS FOR THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT. IN NO CASE SHALL THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT BE ORDERED OR BRANCH CIRCUITRY ROUGHED IN PRIOR TO ENGINEER REVIEW AND COMMENT ON THIS DOCUMENT. ANY EQUIPMENT ORDERED OR BRANCH CIRCUITRY ROUGHED IN ON THE JOBSITE WITHOUT THIS REVIEW AND COMMENT WILL BE TOTALLY AT THE CONTRACTORS RISK.

SECTION B: BASIC MATERIALS

1. ALL CONDUCTORS USED FOR 600 VOLTS OR LESS SHALL BE HIGH GRADE COPPER CONDUCTORS WITH 75 DEGREE C, THHN OR THWN THERMOPLASTIC INSULATION. ALL CONDUCTORS SHALL BE MADE IN THE USA. ALL CONDUCTORS ROUTED IN UNDERGROUND CONDUIT SHALL BE RATED FOR WET LOCATIONS.
2. ALL INTERIOR 120/208 VOLT, 20 AMP POWER AND LIGHTING WIRING SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR 'MC' CABLE (IF NOT EXPOSED) FOR ALL INTERIOR CIRCUITS UNLESS OTHERWISE NOTED. IF 'MC' CABLE IS USED, HOMERUNS SHALL BE IN 3/4 IN. EMT. POWER CIRCUITS FOR HVAC EQUIPMENT SHALL BE IN 3/4" ELECTRICAL METALIC CONDUIT MINIMUM. ALL CONDUIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. IT SHALL NOT BE SUPPORTED FROM DUCTWORK, PIPING, CEILING GRID OR CEILING GRID SUPPORTS, OR ANY OTHER NON-STRUCTURAL ITEM. CONDUIT SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC. CONDUIT IN EXPOSED STRUCTURE AREAS SHALL BE EMT. GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN AREAS WHERE IT WILL BE EXPOSED TO PHYSICAL DAMAGE.
3. CONDUIT UNDERGROUND SHALL BE SCHEDULE 40 PVC. IF MORE THAN ONE CONDUIT IS PROVIDED IN A SINGLE TRENCH, THE CONDUIT SHALL BE RACKED WITH SPACERS EVERY FOUR FEET TO MAINTAIN A MINIMUM SPACING BETWEEN CONDUIT OF TWO INCHES. BACKFILL USED FOR UNDERGROUND INSTALLATIONS SHALL BE FREE OF FOREIGN MATTER. WHERE EXPOSED TO WEATHER, CONDUIT SHALL BE GALVANIZED RIGID STEEL OR INTERMEDIATE METALLIC CONDUIT. THE CONDUIT SHALL BE TERMINATED WITH LISTED FITTINGS AND ALL CONDUIT ENDS SHALL BE REAMED AND SMOOTH. ALL CONDUIT ENDS IN BOXES SHALL BE PROVIDED WITH INSULATED BUSHINGS.
4. A #12 INSULATED COPPER GROUND CONDUCTOR SHALL BE INCLUDED IN ALL BRANCH CIRCUITS RATED 20 AMPERES. ALL OTHER CIRCUITS AND FEEDERS WILL BE PROVIDED WITH AN INSULATED COPPER CONDUCTOR SIZED AS NOTED OR IN ACCORDANCE WITH THE NEC, WHICHEVER IS GREATER.
5. THE MINIMUM SIZE OF ALL CONDUCTORS NOT OTHERWISE INDICATED IS #12 AND THE MINIMUM SIZE OF ALL CONDUIT UNLESS OTHERWISE INDICATED IS 1/2 IN.
6. ALL JUNCTION BOXES SHALL BE PROVIDED WITH COVERS AND ALL UNUSED OPENINGS SHALL BE PLUGGED. ALL JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. COVERS OF BOXES SHALL BE LABELED WITH THE CIRCUIT NUMBER WITH A BLACK PERMANENT MARKER IN 3/4 IN. HIGH LETTERS (LEGIBLE HANDWRITTEN LETTERING IS ACCEPTABLE).
7. ALL OUTLET BOXES SHALL BE SQUARE METAL BOXES. PROVIDE PLASTER RINGS FOR ALL OUTLET BOXES CONTAINING DEVICES TO PROVIDE A FIRM MOUNTING SUPPORT FOR THE DEVICE.
8. ALL CONVENIENCE RECEPTACLES SHALL BE SPECIFICATION GRADE 20 AMP RECEPTACLES, OWNER TO SELECT COLOR.

9. ALL LIGHT SWITCHES SHALL BE SPECIFICATION GRADE 20 AMP TOGGLE SWITCHES FULL LOAD RATED FOR TUNGSTEN-HALOGEN LAMPS, OWNER TO SELECT COLOR.

10. PROVIDE FACEPLATES FOR ALL RECEPTACLES AND SWITCHES. COORDINATE STYLE AND COLOR WITH OWNER'S PROJECT MANAGER.
11. PROVIDE BETWEEN 12 AND 24 INCHES OF LIQUID TIGHT FLEXIBLE CONDUIT BETWEEN RIGID CONDUIT AND ANY EQUIPMENT CONTAINING MOTORS. THE FLEXIBLE CONDUIT SHALL BE SUPPORTED TO PREVENT THE CONDUIT FROM RESTING ON THE GROUND OR CONCRETE PAD.
12. PROVIDE WEATHERPROOF RECEPTACLE WITHIN 25 FEET OF EACH PIECE OF EXTERIOR EQUIPMENT. THIS RECEPTACLE SHALL BE MOUNTED HORIZONTALLY WITH METAL HINGED 'IN USE' COVER MOUNTED TO OPEN UP. THIS OUTLET SHALL BE A GFCI RECEPTACLE. THIS RECEPTACLE SHALL BE BE MOUNTED IN DIE CAST NON CORRODING METAL BOX.
13. WHEN OUTLETS OR BOXES ARE INDICATED INSTALLED ON OPPOSITE SIDES OF THE SAME WALL. THE CONTRACTOR SHALL ADJUST THE LOCATION TO OFFSET THE OUTLETS WITH A WALL STUD PROVIDING SEPERATION.

SECTION C: DISTRIBUTION EQUIPMENT

1. CONTRACTOR SHALL PROVIDE CONDUCTORS AND CONDUIT FOR ALL FEEDERS IN ACCORDANCE WITH THE PLANS.
2. SEPERATELY MOUNTED CIRCUIT BREAKERS SHALL BE MOUNTED IN NEMA TYPE 1 ENCLOSURES IN INDOOR APPLICATIONS AND IN NEMA 3R ENCLOSURES IN EXTERIOR OR WET LOCATIONS. ALL CIRCUIT BREAKER ENCLOSURES SHALL BE PROVIDED WITH HINGED COVERS AND PROVISIONS FOR PADLOCKING THE COVERS.
3. ALL EQUIPMENT CONTAINING MOTORS SHALL BE PROVIDED WITH A DISCONNECTING MEANS WITHIN TEN FEET OF THE UNIT UNLESS OTHERWISE NOTED. THIS DISCONNECTING MEANS SHALL AS A MINIMUM BE A NON-FUSED SWITCH OR TOGGLE STARTER SIZED TO MATCH THE EQUIPMENT. PROVIDE OTHER DEVICES AS NOTED ON THE PLANS. PROVIDE NEMA TYPE 1 ENCLOSURES INDOORS AND NEMA 3R OUTDOORS.

4. PROVIDE GFCI CIRCUIT BREAKERS AND RECEPTACLES AS INDICATED ON THE PLANS AND IN THESE SPECIFICATIONS. THESE DEVICES SHALL BE CLASS A GFCI DEVICES.

5. PROVIDE PANELS AS SCHEDULED ON PLANS. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC BREAKERS WITH A MINIMUM INTERRUPTING RATING OF 10,000 AIC FOR 120/208V AND 14,000 AIC FOR 277/480V OR AS INDICATED ON THE PLANS. BREAKERS SHALL HAVE 65/75 DEGREE C RATED TERMINATIONS. PANEL NOTED SHALL BE SERVICE ENTRANCE RATED. MOUNT PANELS WITH TOP OF PANEL 6 FT. ABOVE FLOOR. PROVIDE 3/4 IN., GREY PAINTED PLYWOOD BACKBOARD FOR ALL PANELS SECURED TO WALL WITH 1/4 IN. TOGGLE BOLTS. PANEL MANUFACTURERS: SQUARE D, GE, SEIMENS, AND CULTER HAMMER. ALL CURRENT CARRYING PARTS SHALL BE COPPER.
6. SYSTEM COORDINATION: THE MANUFACTURER OF THE PANELBOARDS SHALL PROVIDE SERIES RATED EQUIPMENT BASED ON U.L. LISTED TEST RESULTS. THE CONTRACTOR SHALL VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE SERVING TRANSFORMER.

7. PROVIDE EACH PANELBOARD WITH A TYPEWRITTEN CIRCUIT BREAKER DIRECTORY CARD INSIDE A PLASTIC COVERING (EVERY CIRCUIT AND CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. THE INDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS). THE DIRECTORY AND COVERING SHALL BE LOCATED INSIDE A STEEL FRAME PROVIDED INSIDE THE DOOR OF EACH PANELBOARD. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT BREAKER AND THE AREAS SERVED.

8. PROVIDE NAMEPLATES FOR ALL PANELBOARDS, DISCONNECT SWITCHES, ENCLOSED CIRCUIT BRAKERS, COMBINATION STARTERS, CONTACTORS, AND ALL OTHER ELECTRICAL DISTRIBUTION EQUIPMENT PANELS. MOUNT NAMEPLATES ON EXTERIOR OF THE DOOR OF ALL SURFACE MOUNTED PANELS AND EQUIPMENT. NAME PLATES SHALL BE LAMINATED PLASTIC PLATES WITH 3/16 IN. HIGH WHITE LETTERS ETCHED ON BLACK BACKGROUND. NAME PLATES SHALL BE INSTALLED PARALLEL TO EQUIPMENT LINES. THE NAME OR USEAGE OF EACH DEVICE OR BRANCH CIRCUIT SHALL BE ETCHED IN THE NAMEPLATE. CONTRACTOR TO COORDINATE EXACT EQUIPMENT IDENTIFICATION WITH THE OWNER. SECURE NAMEPLATES VIA EPOXY GLUE.

SECTION E: LIGHTING

1. TYPES AND SPECIFIC REQUIREMENTS ARE PROVIDED ON THE LIGHTING FIXTURE SCHEDULE ON THE PLANS. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH LAMPS, DRIVERS, BALLASTS, AND FULLY FUNCTIONING AT COMPLETION OF PROJECT.

2. ALL LED FIXTURES SHALL BE U.L. LISTED AND HAVE A MINIMUM OF 5 YEAR ON-SITE REPLACEMENT WARRANTY FOR DEFECTIVE OR NON-STARTING LED SOURCE ASSEMBLIES, DRIVERS, AND FOR LUMINAIRES EXHIBITING INADEQUATE LUMEN OUTPUT. IT SHALL COVER MATERIAL, FIXTURE FINISH, WORKMANSHIP, AND SHIPPING. ON-SITE REPLACEMENT SHALL INCLUDE TRANSPORTATION, REMOVAL, AND INSTALLATION OF NEW FIXTURE.

3. RATED LUMINAIRE WATTAGE SHALL BE ACTUAL, ACCOUNTING FOR ANY REDUCTION IN EFFICIENCY DUE TO SUB-OPTIMAL LOADING OF DRIVERS.

4. DRIVERS SHALL BE CAPABLE OF ACCEPTING THE VOLTAGE INDICATED ON THE LIGHTING FIXTURE SCHEDULE AND CAPABLE OF DIMMING IF REQUIRED. DRIVERS SHALL HAVE A CLASS A RATING, TOTAL HARMONIC DISTORTION OF LESS THAN 20%, AND SHALL NOT CONTAIN ANY POLYCHLORINATED BIPHENYL (PCB).
5. ALL LED FIXTURES SHALL BE TESTED TO IES LM-79 AND IES LM-80 STANDARDS. OUTDOOR FIXTURES SHALL BE IP65 RATED. LED'S, DRIVERS AND ALL COMPONENTS SHALL HAVE A SYSTEM LIFETIME OF 50,000 HOURS OR MORE AT 25 DEGREES CELSIUS AND SHALL MAINTAIN A MINIMUM OF 85% OF INITIAL LUMEN OUTPUT AFTER 55,000 HOURS OF OPERATION. LED'S SHALL HAVE COLOR RENDERING INDEX (CRI) OF 80 OR GREATER.

6. ALL SURFACE MOUNTED FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. ALL CEILING MOUNTED FIXTURES SHALL BE SUPPORTED FROM STRUCTURE AND BRACED TO PREVENT MOVEMENT IF IMPACTED.
7. ALL RECESSED FIXTURES IN LAY IN TYPE CEILINGS SHALL BE PROVIDED WITH GRID CLIPS TO FASTEN FIRMLY TO CEILING SUPPORT GRID. THE CEILING GRID SHALL BE SUPPORTED AT EACH CORNER OF A FIXTURE.

8. CONNECTION TO ALL FIXTURES IN LAYIN CEILING SHALL BE BY FLEXIBLE CONDUIT OF FOUR TO SIX FEET IN LENGTH. A GROUND CONDUCTOR WILL BE INCLUDED WITH THIS CONNECTION.
9. ALL LENSES ON FIXTURES SHALL BE 0.125 INCH THICK MINIMUM. ALL HOUSINGS SHALL BE 22 GAUGE STEEL MIN. AND HAVE A POST FABRICATION HIGH REFLECTIVE WHITE FINISH.

SECTION F: FIRE ALARM SYSTEM

1. ACCEPTABLE MANUFACTURERS: EXISTING COMPATIBLE

2. PROVIDE A COMPLETE ADDITION TO THE EXISTING FIRE ALARM SYSTEM FOR THIS PROJECT. THE MAIN PANEL SHALL BE LOCATED AS SHOWN. THE FIRE ALARM SYSTEM SHALL BE DESIGNED FOR CLASS B OPERATION. THE WIRING FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN 1/2 IN. ELECTRICAL METALLIC TUBING. PROVIDE INSULATED FITTINGS ON ALL CONDUIT ENDS. THE FIRE ALARM SHALL BE MADE IN THE USA AND BE UL LISTED. ALL WIRING AND DEVICES FOR THE SYSTEM SHALL BE SUPERVISED. COLOR CODE THE CONDUIT EVERY 24 IN. WITH RED MARKINGS (EXCEPT WHERE EXPOSED).

3. THE MAIN PANEL SHALL HAVE A BATTERY BACKUP AND BE SURGE PROTECTED. THE BATTERY SHALL BE CAPABLE OF PROVIDING NORMAL OPERATION FOR A PERIOD OF 24 HOURS WITH ENOUGH RESERVE TO ANNUCIATE A BUILDING ALARM FOR 15 MINUTES.

4. NEW DEVICES SHALL BE PROVIDED WITH RECESSED METAL BOXES. ALL DEVICES SHALL BE MOUNTED FLUSH WITH WALL EXCEPT FOR PULL STATIONS WHICH SHALL BE SEMI-FLUSH.

5. NEW HORN/STROBE DEVICES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. THE SPEAKER SHALL PRODUCE A SOUND LEVEL OF 90 DECIBELS AND THE STROBE SHALL PRODUCE A FLASHUNG PULSE OF LIGHT OF 75 CANDELA.

6. STROBE DEVICES SHALL PRODUCE A FLASHING PULSE OF LIGHT OF 75 CANDELLA.

7. NEW PULL STATIONS SHALL BE NON-GLASS-BREAK TYPE AND KEYED THE SAME AS THE FIRE ALARM PANEL.

8. THE SMOKE DETECTORS SHALL BE THE IONIZATION TYPE POWERED FROM THE MAIN FIRE ALARM PANEL.

9. THE GENERAL BUILDING ALARM WILL SOUND WHEN ACTIVATED AT THE CONTROL PANEL, BY SMOKE OR HEAT DETECTORS, OR BY A PULL STATION. ALARM WILL ALSO SOUND WHEN ACTIVATED BY A DUCT SMOKE DETECTOR OR SPRINKLER CONTROL VALVE FLOW SWITCH.

10. PROVIDE PHOTO ELECTRIC TYPE DUCT MOUNTED SMOKE DETECTORS WHERE SHOWN. UNIT SHALL HAVE SAMPLING TUBES THAT EXTEND THE WIDTH OF THE DUCT. PROVIDE REMOTE INDICATOR IN CEILING FOR EACH DETECTOR, WHICH WILL INDICATE WHICH DETECTOR IS ACTIVATED.

11. THE MAIN PANEL SHALL PROVIDE INDICATION OF EACH INITIATING DEVICE LOCATION FOR ALARM, TROUBLE AND SUPERVISORY CONDITIONS. THE PANEL SHALL HAVE LAMP TEST, ALARM SILENCE, TROUBLE AND SUPERVISORY SILENCE, SYSTEM RESET, AND ALARM INITIATE CONTROLS. THE PANEL SHALL ALSO INDICATE VOLTAGE AND BATTERY TEST. THE PANEL SHALL ALSO INCLUDE AN LCD DISPLAY. PANEL SHALL BE IN A SURFACE MOUNTED ENCLOSURE WITH LOCKABLE, SEE THROUGH, HINGED FRONT COVER.
12. THE OWNER IS NOT RESPONSIBLE FOR THE COST ASSOCIATED WITH RE-PROGRAMMING THE EXISTING FIRE ALARM SYSTEM. ALL COSTS SHALL BE PAID FOR BY THE CONTRACTOR.

SECTION G: TELEPHONE/DATA SYSTEMS, SECURITY, INTERCOM

WORK INCLUDED:

1. PROVIDE 1 IN. EMT FROM EACH OUTLET TO ABOVE 12 INCHES ABOVE ACCESSIBLE CEILING. PROVIDE 4 IN. SQUARE BACKBOX WITH SINGLE GANG PLASTER RING FOR EACH TELEPHONE/DATA OUTLET. ALL CONDUIT SHALL BE CONCEALED. PROVIDE FACEPLATE WITH MODULAR JACKS. PROVIDE PULL STRING IN ALL EMPTY CONDUITS.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER
A	4 FT LENS, VAPOR TIGHT, FIBERGLASS HOUSING, FROSTED ACRYLIC LEN, SURFACE/PENDANT MOUNTED, UL WET LISTED.. LAMPS: LED: 3000 LUMENS, 27 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT DRIVER	LITHONIA "DMW2" SERIES, COLUMBIA "LXEM" SERIES, SERIES
B	2 FT. X 4 FT. RECESSED LED TROFFER, A12.125 LENS, WHITE FLUSH STEEL DOOR WITH SMOOTH HEMMED SIDES. STANDARD 0-10 DIMMING. LAMPS: LED. 4800 LUMENS MINIMUM, 47 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT DRIVER	LITHONIA "GTL" SERIES COLUMBIA "LJT" SERIES
G	BUILDING MOUNTED WALL PACK WITH DIE-CAST ALUMINUM HOUSING AND GLASS LENS; UL LISTED FOR WET LOCATION. LAMPS: LED, 5000 LUMENS, 48 WATTS, 4000 DEGREE K DRIVER: UNV. VOLT DRIVER	JUNO "WP3" SERIES, HUBBELL "225L" SERIES, LUMARK "WP"
L	CEILING MOUNTED VAPOR TIGHT LED, FROSTED GLASS UL. LISTED WET LOCATION. LAMPS: LED, 1450 LUMENS, 23 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT DRIVER	LITHONIA "VT LED" SERIES COLUMBIA " SERIES METALUX
	WET LOCATION 2 HEAD EMERGENCY UNIT, LOW PROFILE DESIGN WITH THERMOPLASTIC HOUSING, IMPACT RESISTANT. (PROVIDE 90MIN. BACK-UP BATTERY). LAMPS: (2) 7W MR16 BALLAST: UNV. VOLT	COMPASS "CSWEU2" SERIES, LITHONIA "WLTU MR" SERIES, SURELITES "UEL" EVENLITE "TCS"
	LED THERMOPLASTIC EXIT, IMPACT/SCRATCH RESISTANT AND CORROSION PROOF; TOP, END, OR BACK MOUNTING STANDARD, WET LOCATION, (PROVIDE 90MIN. BACK-UP BATTERY). LAMPS: LED BALLAST: UNV. VOLT	COMPASS "CEW" SERIES, LITHONIA "LOM" SERIES,

LIGHTING FIXTURE SCHEDULE
NOTES:
1. CONTRACTOR TO VERIFY ALL VOLTAGES, GRID AND CEILING TYPES WITH THE ARCHITECT AND COORDINATE FIXTURE DIMENSION SIZE TO ENSURE A PROPER FIT IN ALL CEILING TYPES PRIOR TO ORDERING.

ELECTRICAL LEGEND

LIGHTING AND POWER

- CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL, HASH MARKS INDICATE NUMBER OF CONDUCTORS. (3 WIRE UNLESS SHOWN)
- CONDUIT RUN CONCEALED BELOW FLOOR SLAB, OR UNDERGROUND.
- A-2,4 — HOMERUN TO PANELBOARD, LETTER OR LETTERS INDICATE PANELBOARD. NUMBERS INDICATES CIRCUIT NUMBERS.
- LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING AND TYPE.
- LIGHTING FIXTURE, WALL BRACKET MOUNTED. (SEE ARCHITECTURAL FOR MOUNTING HEIGHT.)
- JUNCTION BOX FLUSH WALL MOUNTED, 18 IN. TO CENTER LINE UNLESS OTHERWISE NOTED.
- DUPLEX CONVENIENCE OUTLET, 18 IN. ABOVE FLOOR UNLESS OTHERWISE NOTED.
- DUPLEX CONVENIENCE OUTLET, GFI TYPE. 8 IN. ABOVE COUNTER TOP OR 42 IN. MOUNTING HEIGHT.
- WP — DUPLEX CONVENIENCE OUTLET, GFI TYPE. 18 IN. MOUNTING HEIGHT. "WP" WHERE SHOWN INDICATES WEATHERPROOF. PROVIDE METAL IN-USE WEATHERPROOF COVERPLATE.
- QUADRUPLEX CONVENIENCE OUTLET. 18 IN. TO CENTERLINE UNLESS OTHERWISE NOTED.
- FLUSH FLOOR BOX WITH DUPLEX CONVENIENCE OUTLET AND COMBINATION TELEPHONE AND DATA OUTLET IN FLUSH FLOOR BOX. PROVIDE WALKER 880 OMNIBOX SERIES TWO GANG CAST IRON OR PLASTIC FLOOR BOX WITH BRASS FLANGE AND COVERPLATE.
- $ — SINGLE POLE TOGGLE SWITCH, 42 IN. MOUNTING HEIGHT.
- $3 — THREE OR FOUR WAY SWITCH AS INDICATED, 42 IN. MOUNTING HEIGHT.
- $M — MANUAL MOTOR RATED SWITCH.
- PANELBOARD, SEE SCHEDULE.
- M — MOTOR
- DISCONNECT SWITCH, SIZE AS NOTED ON DRAWINGS.

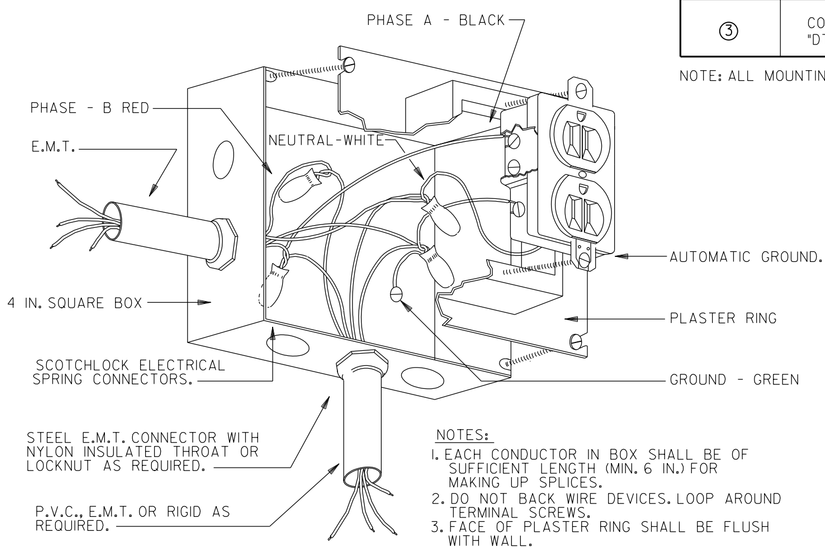
TELEPHONE/DATA/TELEVISION SYSTEMS

- COMBINATION COMPUTER AND TELEPHONE OUTLET, 18 IN. TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE. (2 DATA, 1 TEL)
- TV — TELEVISION OUTLET, 18 IN. TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE.

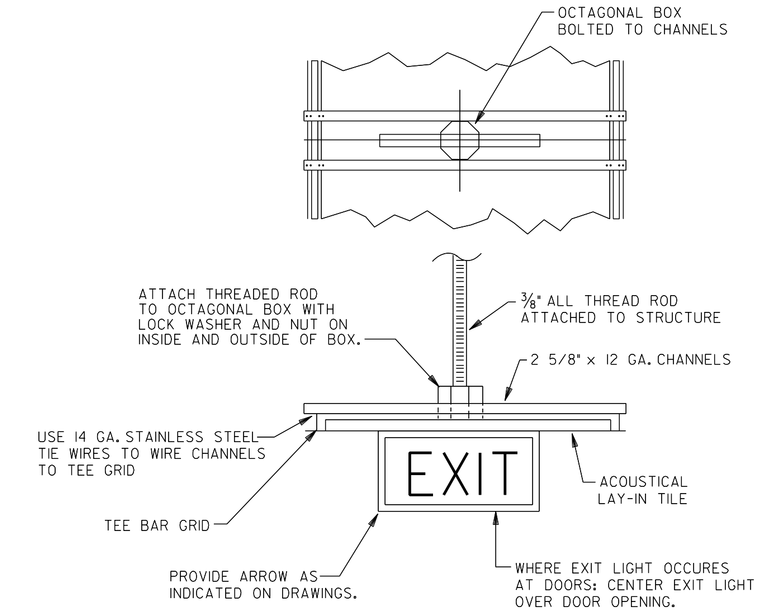
LIGHTING CONTROL SENSORS

- 3 — COMBINATION 360 DEGREE, ULTRASONIC AND PASSIVE INFRARED SENSOR (WATT STOPPER "DT-300", GREENGATE, NOVITAS, HUBBELL, LEVITON, SENSOR SWITCH).

NOTE: ALL MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET OR DEVICE.



1 / E-1 TYPICAL RECEPTACLE CONNECTION DETAIL
NOT TO SCALE



2 / E-1 TYPICAL EXIT LIGHT MOUNTING DETAIL
NOT TO SCALE

GENERAL NOTES:

A. ALL FLUSH RECESSED OUTLET BOXES SHALL BE INSTALLED SUCH THAT FRONT EDGE OF THE BOX WILL NOT BE SET BACK OF THE FINISHED SURFACE MORE THAN 1/4 IN. IN ORDER TO COMPLY WITH N.E.C. 314-20. SUPPORT OF OUTLET BOX BY RECEPTACLE AND COVERPLATE IS NOT ACCEPTABLE. CAREFULLY COORDINATE ROUGH-IN WITH BLOCK MASONS AND GROUT-IN CELL CONTAINING OUTLET BOX.

B. ALL VOICE AND DATA SYSTEM CABLING, DEVICES AND CONTROL EQUIPMENT BY OTHERS EXCEPT AS NOTED. RACEWAY SYSTEMS ONLY PROVIDED BY ELECTRICAL CONTRACTOR.

C. DO NOT SCALE DRAWINGS TO LOCATE EQUIPMENT OR OUTLETS. MOUNTING HEIGHTS AS INDICATED ON THE DRAWINGS SHALL BE FROM THE FINISHED FLOOR TO THE CENTER LINE OF THE OUTLET BOX.

D. THE ELECTRICAL DRAWINGS ARE ONLY A PART OF THE CONTRACT DOCUMENTS. ALL OF THE DRAWINGS AND SPECIFICATIONS MUST BE REVIEWED FOR THEIR INTERRELATIONSHIP AND REQUIRED COORDINATION BETWEEN DISCIPLINES.

ROCKDALE COUNTY
ANIMAL CONTROL

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JOB NO. MB1083
DATE 10-23-18

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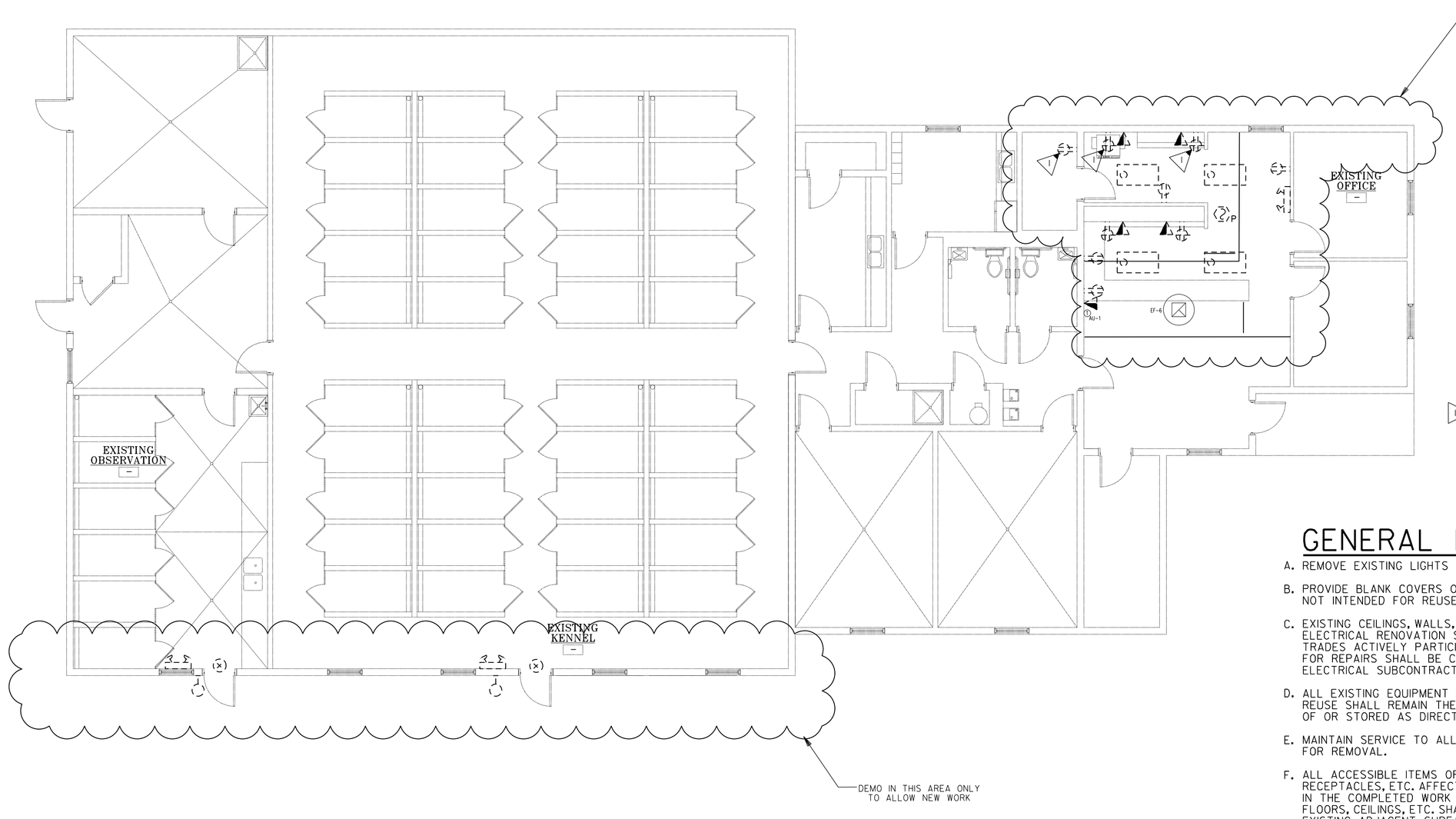
E-1



DEMOLOTION FLOOR PLAN - ELECTRICAL

I / E-2

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

0 4' 8'

KEYED NOTES: (THIS SHEET ONLY)

1. REUSE EXISTING CONDUIT AND BOXES WHERE POSSIBLE . REPLACE CONDUCTORS, RECEPTACLES AND FACEPLACES. SHOWN NEW WORK SHEET E-3.

GENERAL DEMOLITION NOTES: (THIS SHEET ONLY)

A. REMOVE EXISTING LIGHTS AND RETURN TO OWNER.

B. PROVIDE BLANK COVERS ON ALL JUNCTION BOXES AND OUTLET BOXES NOT INTENDED FOR REUSE.

C. EXISTING CEILINGS, WALLS, AND FLOORS DISTURBED OR DISFIGURED BY THE ELECTRICAL RENOVATION SHALL BE PATCHED, MENDED OR REPLACED BY TRADES ACTIVELY PARTICIPATING IN THIS TYPE OF WORK. RESPONSIBILITY FOR REPAIRS SHALL BE COORDINATED BETWEEN GENERAL CONTRACTOR AND ELECTRICAL SUBCONTRACTOR.

D. ALL EXISTING EQUIPMENT REMOVED FROM SERVICE AND NOT INTENDED FOR REUSE SHALL REMAIN THE PROPERTY OF OWNER AND SHALL BE DISPOSED OF OR STORED AS DIRECTED BY THE OWNER.

E. MAINTAIN SERVICE TO ALL EXISTING CIRCUITS THAT ARE NOT SCHEDULED FOR REMOVAL.

F. ALL ACCESSIBLE ITEMS OF ELECTRICAL EQUIPMENT CONDUITS, WIRING, LIGHTS, RECEPTACLES, ETC. AFFECTED BY THE RENOVATION WORK AND NOT REQUIRED IN THE COMPLETED WORK SHALL BE CAREFULLY REMOVED. DAMAGED WALLS, FLOORS, CEILINGS, ETC. SHALL BE PATCHED AND FINISHED TO MATCH THE EXISTING ADJACENT SURFACES. REMOVED ITEMS SHALL BE PROPERLY DISPOSED OF OFF SITE AND NOT REUSED EXCEPT AS NOTED. TURN OVER ALL EXISTING EQUIPMENT DESIRED BY BUILDING OWNER.

G. RECONNECT CIRCUITS AS REQUIRED TO MAINTAIN CONTINUITY TO EXISTING DEVICES AND EQUIPMENT TO REMAIN.

H. WHERE ONLY A PORTION OF A CIRCUIT'S LOAD IS SCHEDULED TO BE REMOVED. REMOVE ONLY THAT PORTION ASSOCIATED WITH THE DEMOLISHED DEVICE TO A POINT WHERE THE REMAINING LOAD IS ACTIVE AND MAINTAIN IN A GOOD OPERATING CONDITION.

J. EXISTING EQUIPMENT SHOWN ON ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS THAT WILL REMAIN SHALL HAVE SERVICE MAINTAINED OR RECONNECTED TO EXISTING OR NEW PANELBOARD AS NECESSARY.

K. TO MAINTAIN SERVICE OR TO EXTEND OR RECONNECT CIRCUITS WHERE CONDUIT CAN NOT BE CONCEALED, SURFACE METAL RACEWAY (WIREMOLD V700 SERIES PAINTED TO MATCH WALLS) MAY BE USED. VERIFY WITH ARCHITECT BEFORE INSTALLING.

L. ELECTRICAL CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS AND SITE CONDITIONS FOR DOOR SWINGS, CABINETS, COUNTERS AND OTHER BUILT-IN EQUIPMENT. CONDITIONS INDICATED ON ARCHITECTURAL DRAWING SHALL GOVERN.

M. COORDINATE ELECTRICAL WITH ARCHITECTURAL DETAILS, FLOOR PLANS, ELEVATIONS, STRUCTURAL, MECHANICAL AND PLUMBING DRAWINGS. PROVIDE FITTINGS, JUNCTION BOXES AND ACCESSORIES TO MEET CONDITIONS. COORDINATE ROUTING OF ALL NEW FEEDERS WITH EXISTING SITE ELEMENTS. ALL FEEDERS SHALL BE CONCEALED EXCEPT IN MECHANICAL/ELECTRICAL SPACES WITH SURFACE MOUNTED PANELS.

N. INSURE ALL EXISTING TELEPHONE, DATA, TELEVISION, INTERCOM, FIRE ALARM, SECURITY AND OTHER LOW VOLTAGE CABLING IS SECURED TO STRUCTURE AND PROTECTED FROM DAMAGE DURING DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL SYSTEMS IN WORKING ORDER.

VOLTAGE 120 / 208 — PHASE 3 WIRE 4 — BUS AMPS 400 — PANEL — MAIN AMPS LA 400 — LOCATION MAIN — MOUNTING SURFACE — BREAKER EDJ. RECEPTION 106

DESCRIPTION	VOLT AMPS A	VOLT AMPS B	VOLT AMPS C	BRKR AMP	BRKR P	CKT NO	BUS CONN	CKT NO	BRKR P	BRKR AMP	VOLT AMPS C	VOLT AMPS B	VOLT AMPS A	DESCRIPTION
OFFICES	560			20	1	1	A	2	1	20			720	OFFICE
RECPT. OFFICES		1031		20	1	3	B	4	1	20		720		OFFICE
R.R. BREAK			980	20	1	5	C	6	1	20	1080			RECEPTION
CORRIDOR	700			20	1	7	A	8	1	20			360	OPEN OFFICE
PUPPIES,CATS		900		20	1	9	B	10	1	20		360		OPEN OFFICE
KENNEL AREA			1500	20	1	11	C	12	1	20	540			WORK RM.
KENNEL AREA	1500			20	1	13	A	14	1	20			500	BREAK ROOM
OBSERVATION		1025		20	1	15	B	16	1	20		180		BREAK ROOM
HOLDING			725	20	1	17	C	18	1	20	180			BREAK ROOM
EUTHANASIA	725			20	1	19	A	20	1	20			540	CORRIDOR/BREAK
OUTSIDE		756		20	1	21	B	22	1	20		540		FOOD PREP
E.D.F			750	20	1	23	C	24	1	20	720			KENNEL AREA
E.D.F	750			20	1	25	A	26	1	20			540	KENNEL AREA
TELEPHONE		700		20	1	27	B	28	1	20		360		OBSERVATION
FIRE ALARM			300	20	1	29	C	30	1	20	360			OBSERVATION
•COPIER	1700			20	1	31	A	32	1	20			360	LOADING/OUT. EUTHANASIA
•CONFERENCE		800		20	1	33	B	34	1	20		360		EUTHANASIA
•KENNEL AREA			270	20	1	35	C	36	1	20	360			EUTHANASIA
•KENNEL AREA	800			20	1	37	A	38	1	20			180	HOLDING
•KENNEL AREA		600		20	1	39	B	40	1	20		360		PUPPIES/KITTENS
•KENNEL AREA			600	20	1	41	C	42	1	20	675			•KENNEL AREA
TOTALS	6735	5812	5125								3915	2880	3200	

VOLT AMPS — BUS A 9935 — BUS B 8692 — BUS C 9040 — TOTAL 27667

REMARKS: EXISTING • NEW BREAKER/LOAD

VOLTAGE 120 / 208 — PHASE 3 WIRE 4 — BUS AMPS 400 — PANEL — MAIN AMPS MA 400 — LOCATION MAIN — MOUNTING SURFACE — BREAKER EDJ. RECEPTION 106

DESCRIPTION	VOLT AMPS A	VOLT AMPS B	VOLT AMPS C	BRKR AMP	BRKR P	CKT NO	BUS CONN	CKT NO	BRKR P	BRKR AMP	VOLT AMPS C	VOLT AMPS B	VOLT AMPS A	DESCRIPTION
AIR PURIFIER				20	1	1	A	2	2	45			4388	CU-1
AIR PURIFIER				20	1	3	B	4				4388		
AIR PURIFIER				20	1	5	C	6	1	25	1656			AU-1 (3/4 H.P.)
AIR PURIFIER				20	1	7	A	8	1	25			1656	AU-2 (3/4 H.P.)
AIR PURIFIER				20	1	9	B	10	1	20		696		AU-3 (1/4 H.P.)
AIR PURIFIER				20	1	11	C	12	1	20	696			EF-1
FLOODS				20	1	13	A	14	1	20			696	EF-2
•OFFICE		400		20	1	15	B	16	1	20		696		EF-3
•OFFICE			400	20	1	17	C	18	1	20	696			EF-4
•OFFICE	600			20	1	19	A	20	1	20			696	E-5
•COPIER		1500		20	1	21	B	22	1	20		696		E-6
•CU-1			2860	40	2	23	C	24	2	15	936			•HPU-1
	2860					25	A	26					936	
•CU-2		1747		25	2	27	B	28	2	15		936		•HPU-2
			1747			29	C	30			936			
HEATM TAPE				20	1	31	A	32	2	40			2922	•ERV-1
RECIRC. PUMP				20	1	33	B	34				2922		
•DH-2			4004	50	2	35	C	36	2	15	1154			•ERV-2
	4004					37	A	38					1154	
•DH-1		4992		60	2	39	B	40	2	80		8320		PRESSURE WARMER
			4992			41	C	42			8320			
TOTALS	7464	8639	14003								14394	18654	12448	

VOLT AMPS — BUS A 19912 — BUS B 27293 — BUS C 28397 — TOTAL 75602

REMARKS: EXISTING •NEW BREAKER/LOAD

ROCKDALE COUNTY
ANIMAL CONTROL

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CHECKED JHM
JOB NO. M18083
DATE 10-23-18

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175 New Street, Suite 1, Macon, GA 31201
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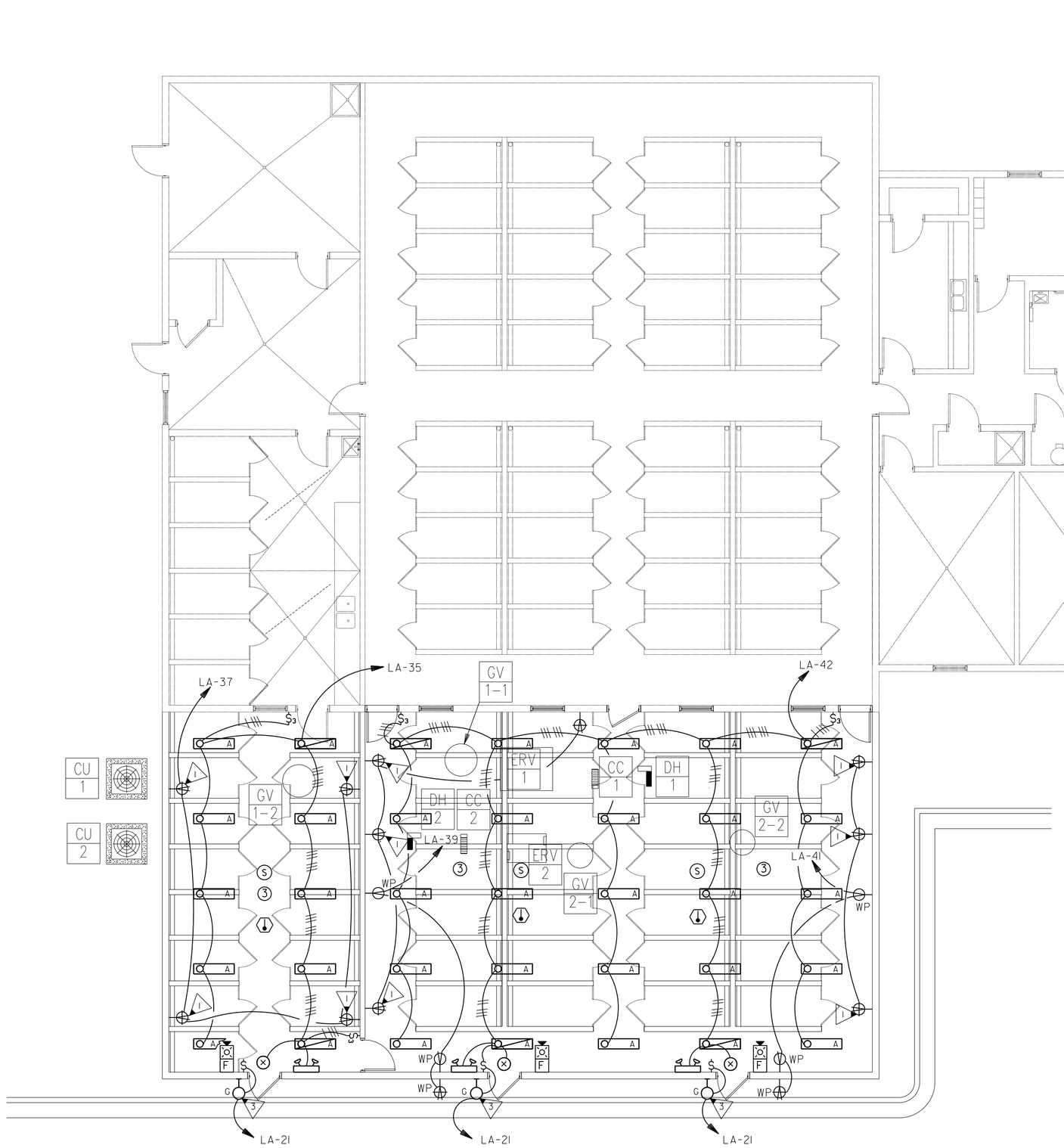
E-2



1 / E-3 FLOOR PLAN - ELECTRICAL

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

0 4' 8'

GENERAL NOTES:

A. THIS PLAN INDICATES AREAS TO BE CONTROLLED BY MOTION SENSORS. SINCE COVERAGES AND DEVICES VARY BETWEEN MANUFACTURERS IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE PROPER DEVICE LOCATION, ORIENTATION AND QUANTITIES WITH THE MANUFACTURER OF THE SYSTEM BEING INSTALLED TO MEET THE SPECIFIED CRITERIA.

B. SEE LIGHTING SENSOR LEGEND E2 (TYPICAL).

C. THERE ARE NO SWITCHPACKS SHOWN ON THIS PLAN. PROVIDE SWITCHPACKS AS REQUIRED WITH SENSORS. SWITCHPACKS ARE TO BE RATED AT 20A. PROVIDE ONE SWITCHPACK PER 20A LIGHTING CIRCUIT OR PER INDIVIDUAL AREA BEING CONTROLLED.

D. CEILING SENSORS ARE TO BE MOUNTED AWAY FROM ANY STRONG AIRFLOW. COORDINATE LOCATION OF SENSOR WITH MECHANICAL AND LIGHTING PLANS.

E. ALL SENSORS SHALL BE CEILING MOUNTED EXCEPT WHERE CEILING HEIGHTS EXCEED 15 FT.-0 IN. PROVIDE SENSOR WITH ADAPTOR PLATE FOR JUNCTION BOX MOUNTING (JUNCTION BOX SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING) JUNCTION BOX SHALL BE SUPPORTED FROM STRUCTURE UTILIZING A 3/8IN. THREADED ROD. WHERE CEILING HEIGHTS EXCEED 15 FT.-0 IN. WALL MOUNT SENSORS AT 12 FT.-0 IN.

F. PROVIDE UNSWITCHED HOT CONDUCTOR TO ALL EMERGENCY AND EXIT LIGHTS.

G. COORDINATE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT. PRIOR TO ELECTRICAL ROUGH-IN.

H. ALL FLEXIBLE CONDUIT SHALL BE METALLIC WATERPROOF.

I. COORDINATE EXACT CONDUIT REQUIREMENTS FOR THERMOSTATS TO ALL AIR HANDLING UNITS. SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS.

J. FIRE SEAL ALL FIREWALL PENETRATIONS.

KEYED NOTES: (THIS SHEET ONLY)

1. MOUNT 8'-0" AFF
2. CORRIDINATE MOUNTING LOCATION/ MOUNTING HEIGHT WITH OWNER/ARCHITECT PROIR TO INSTALLATION.
3. RUN VIA PHOTO-CELL ON ROOF. ALL CONDUCTORS #10.
4. POWER VIA LIGHTING EXISTING LIGHTING CIRCUIT (LA-3) THIS AREA.
5. CONTRACTOR TO REPLACE EXISTING PHOTO CELL CONTROLL EXTIOR FIXTURES FOR DAWN TO DUSK OPERATION.

MECHANICAL EQUIPMENT POWER SCHEDULE

UNIT NAME	VOLTAGE/ PHASE	CIRCUIT BREAKER	PANEL NAME/ CIRCUIT NUMBER	FEEDER	DISCONNECT SWITCH	NOTES
CU-1	208V/1Ø	40A/2P	MA-23	2#8, 1OG.	60A/2P/3R	1
CU-2	208V/1Ø	25A/2P	MA-27	3#12	30A/2P/3R	1
DH-2	208V/1Ø	50A/2P	MA-35	2#8, 1OG.	60A/2P	1
DH-1	208V/1Ø	60A/2P	MA-39	2#6, 1OG.	60A/2P	1
ERV-1	208V/1Ø	40A/2P	MA-32	2#8, 1OG.	60A/2P	1,2
ERV-2	208V/1Ø	15A/2P	MA-36	3#12	30A/2P	1,2
HPU-1	208V/1Ø	15A/2P	MA-24	4#12	30A/2P/3R	1
HPU-2	208V/1Ø	15A/2P	MA-28	4#12	30A/2P/3R	1
ACU-1	208V/1Ø	-	-	4#12	-	1,3
ACU-2	208V/1Ø	-	-	4#12	-	1,3

NOTES:
1. SEE MECHANICAL FOR EXACT CONTROL REQUIREMENTS.
2. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT.
3. INDOOR UNIT POWERED VIA OUTDOOR UNIT. PROVIDE MOTOR RATED SWITCH AT INDOOR UNIT.

ROCKDALE COUNTY ANIMAL CONTROL

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E-3

STRUCTURAL GENERAL NOTES

1. GENERAL

a. Provide construction conforming to the 2012 International Building Code with the 2014, 2015, 2017 and 2018 Georgia amendments. Reference to other standards, specifications, or codes means the latest standard or code published and adopted.

b. Material tests and inspections are required per Chapter 17 of the 2012 International Building Code. Refer to the project Statement of Special Inspections for required tests and inspections. Special inspection reports and a final report in accordance with Section 1704.2.4 of the 2012 International Building Code with the 2014, 2015, 2017 and 2018 Georgia amendments at the time the building is approved for occupancy.

c. The structural general notes apply except where indicated otherwise on the drawings or in the specifications. A detail shown for one condition applies for all like or similar conditions even though not specifically indicated on the drawings.

d. Verify all existing conditions, dimensions, and elevations before starting work. Notify the Architect and Structural Engineer of Record in writing of any discrepancy.

e. The Contractor is solely responsible for the design, adequacy, and safety of erection bracing, shoring, temporary supports, and all other means, methods, techniques, sequences, and procedures of construction.

f. Coordinate the structural contract documents with architectural, mechanical, electrical, plumbing, civil, and all other consultants. Notify the Architect and Structural Engineer of Record in writing of any conflict and/or omission.

g. Coordinate and verify floor and roof opening sizes and locations with architectural, mechanical, plumbing, and electrical drawings. For additional openings not shown on the structural drawings refer to the architectural and mechanical drawings.

h. Review of the submittals and/or shop drawings by the Structural Engineer of Record is only for general conformance with the contract documents and does not relieve the Contractor of the responsibility to review and check shop drawings before submittal to the Structural Engineer of Record. The Contractor must review and stamp all submittals prior to submission. The Contractor remains solely responsible for errors and omissions associated with the preparation of shop drawings as they pertain to member sizes, details, and dimensions specified in the contract documents. Do not begin fabrication until shop drawings are completed and reviewed by the Structural Engineer of Record.

i. Do not make shop drawings using reproductions of the contract documents or referencing the contract documents.

2. EXISTING CONDITIONS

a. Renovation of existing structures requires thorough coordination of the contract documents with existing conditions. The Contractor must verify all relevant existing conditions, dimensions, and details prior to beginning construction. Report any deviations from conditions or dimensions shown on the contract documents to the Architect and Structural Engineer of Record for review of the design and possible revision of the contract documents.

b. The nature of structural demolition and stabilization is inherently uncertain. The exact condition and capacity of each structural element cannot be verified prior to the commencement of work. As a result, it is imperative to report any discrepancies between the contract documents and actual field conditions, as well as any element of questionable structural integrity immediately to the Architect and Structural Engineer of Record for review.

c. No attempt has been made to define each specific structural element that must be removed, enhanced, or replaced. It is the responsibility of the Contractor to review the condition of individual elements, particularly rafters, joists, and structural deck boards, to determine which elements can be salvaged, which elements must be replaced, and which elements are questionable. The Contractor should consult with the Architect and Structural Engineer of Record to determine the appropriate procedure for handling elements in questionable condition.

3. REINFORCED CONCRETE

a. Provide reinforced concrete conforming to the following standards:
ACI 301-11, Specifications for Structural Concrete for Buildings
ACI 318-11, Building Code Requirements for Reinforced Concrete
ACI 302.1R-04, Guide for Concrete Floor and Slab Construction
ACI 360R-10, Design of Slabs-on-Ground

b. Unless noted otherwise, provide normal weight concrete with 3,000 PSI compressive strength at 28 days.

c. Provide 4% to 6% entrained air by volume in concrete permanently exposed to weather.

d. Provide concrete with a maximum water-to-cementitious materials ratio of 0.50.

e. Fully document and submit for review the proposed materials and mix design for all concrete. The Contractor is responsible for obtaining the required design strength. All concrete test data must be available at the job site.

f. The use of calcium chloride, chloride ions, or other salts is not permitted.

g. Place concrete at a slump of 5" ± 1".

h. Unless noted otherwise, provide construction or contraction joints in slabs-on-grade such that the maximum area between joints does not exceed 225 square feet with the length not exceeding twice the width.

i. Unless noted otherwise, provide construction or contraction joints in elevated slabs on metal deck (including topping slabs but not including composite slabs) such that the maximum area between joints does not exceed 225 square feet with the length not exceeding twice the width.

j. The location of construction joints requires the approval of the Structural Engineer of Record. Unless noted otherwise, thoroughly roughen (by mechanical means) and clean construction joints.

k. Chamfer or round all exposed corners a minimum of 3/4".

l. Detail concrete reinforcement according to ACI SP-66 detailing manual. Submit shop drawings for approval, showing all fabrication dimensions and locations for placing concrete reinforcing and accessories. Do not begin fabrication until shop drawings are completed and reviewed by the Structural Engineer of Record. Unless specifically approved otherwise, detail all concrete walls and beams in elevation.

m. Unless noted otherwise, provide reinforcing steel conforming to ASTM A 615, Grade 60.

n. Provide welded wire fabric (mesh) in flat sheets (rolls not permitted) conforming to ASTM A 185 and ASTM A 82. Lap welded wire fabric a minimum of 6" at each splice. Place welded wire fabric 1" below the top of slabs-on-grade.

o. Unless noted otherwise, provide 6x6 - W1.4xW1.4 welded wire fabric in 4" thick slabs-on-grade. Place welded wire fabric 1" below the top of the slab.

p. Tie all reinforcing steel and embedded items securely in place prior to placing concrete. Provide sufficient supports to maintain the position of the reinforcement within specified tolerances during all construction activities. "Sticking" dowels, anchor rods, or other embedded items into wet concrete is not permitted.

q. Provide corner bars at all corners and intersections of all footings, beams, and walls.

r. Provide basic class "B" tension laps in all reinforcing bars indicated as continuous.

s. The placement of all reinforcing steel must be reviewed by a professional engineer registered in the state of Georgia or by a representative responsible to him (Ref: ACI 318, 1.3.1).

t. Unless noted otherwise, provide the following concrete cover on all reinforcing steel:

Concrete against earth (not formed):	3"
Formed concrete exposed to earth or weather:	
#5 bars and smaller:	1 1/2"
Formed concrete not exposed to earth or weather:	
Slabs, joists, and walls:	3/4"

u. Do not place pipes or ducts with a maximum dimension exceeding one-third the slab or wall thickness within the slab or wall unless specifically shown and detailed on the structural drawings.

v. Do not weld or tack weld reinforcing steel unless approved or directed by the Structural Engineer of Record. Provide reinforcing steel conforming to ASTM A 706, Grade 60 where welding is approved or directed.

w. Provide an allowance of 5% of reinforcing bars to be fabricated and placed during progress of work as may be directed by the Structural Engineer of Record in addition to all reinforcing steel indicated on the contract documents. Credit any unused quantity at the end of the project.

4. MASONRY

a. Provide concrete masonry conforming to the following standards:
ACI 530/ASCE 5/TMS 402, Building Code Requirements for Concrete Masonry Structures
ACI 530.1/ASCE 6/TMS 602, Specifications for Concrete Masonry Structures

b. Load bearing masonry walls are designed in accordance with Chapters 1 and 2 of ACI 530.

c. Brick veneer is designed in accordance with Chapter 6 of ACI 530.

d. Provide light-weight, hollow, load bearing concrete masonry units conforming to ASTM C 90 with a compressive strength of masonry (f'm) of 1500 PSI and a net strength of 2000 PSI on the net cross-sectional area of CMU determined in accordance with ASTM C 140.

e. Provide mortar conforming to ASTM C 270, Type M or S. Standard mortar bed joint thickness is 3/8" and must not exceed 5/8".

f. Unless noted otherwise, provide grout for reinforced masonry conforming to ASTM C 476 with minimum compressive strength of 2500 PSI. Pea gravel concrete with a minimum compressive strength of 3000 PSI may be substituted for grout only with approval of the Structural Engineer of Record.

g. Unless noted otherwise, lay masonry units in running bond.

h. Provide ladder type horizontal joint reinforcing conforming to ASTM A 82. Unless noted otherwise, place 9 gage or heavier, zinc coated ladder type horizontal joint reinforcing at 16" on center. Lap horizontal joint reinforcing minimum 12". Use prefabricated 'L's and 'T's at corners and intersections.

i. For grouted walls, the maximum height of grout lifts must not exceed 5'-0". The maximum ungrouted height of 8" or thicker CMU walls prior to grouting must not exceed 12'-0". Refer to Table 7 of ACI 530.1 for the maximum ungrouted height of CMU walls thinner than 8". Consolidate and reconsolidate grout in accordance with paragraph 3.5.E of ACI 530.1. Walls higher than 5'-0" must have inspection holes at the base of the wall.

j. Lap vertical masonry wall reinforcing as as follows:

#4 Bars	25"
#5 Bars	31"
#6 Bars	57"

k. Provide vertical control joints in all masonry walls not retaining earth. Unless noted otherwise on the architectural drawings, place vertical control joints at three times the wall height, but not closer than 25'-0" on center or farther than 50'-0" on center.

l. Unless noted otherwise, provide minimum (1) #5 vertical bar, grouted full height, at each side of openings and at all corners and ends of walls, including both sides at ends of wall panels at vertical control joints.

m. Unless noted otherwise, anchor sides and tops of masonry wall panels to the structure by dovetail anchors, metal straps, or equivalent.

n. Place ties for brick veneers at not more than 16" vertically or 24" horizontally.

5. STRUCTURAL STEEL

a. Provide structural steel conforming to the following standards:
AISC Manual of Steel Construction, 14th Edition
AISC 360-10, Specification for Structural Steel Buildings
AISC 303-10, Code of Standard Practice for Structural Steel Buildings and Bridges
AISC 326-09, Detailing for Steel Construction, 2nd Edition

b. Unless noted otherwise, provide steel shapes made of material conforming to the following standards:

Wide flange and WT shapes:	ASTM A 992
Angles, plates, and channels:	ASTM A 36
Hollow Structural Sections (HSS):	ASTM A 500, Grade B
Headed studs:	ASTM A 29

c. Unless noted otherwise, provide anchor rods conforming to ASTM F 1554, Grade 36.

d. Unless noted otherwise, make all connections with 3/4" diameter ASTM A 325 bolts. Assemble and inspect bolted connections in accordance with AISC "Specification for Joints Using ASTM A 325 or ASTM A 490 Bolts", 2009.

e. Make all welded connections in accordance with AWS D1.1-10 "Structural Welding Code", using type E70XX electrodes. Use only certified welders. Proof of certification must be maintained at the job site.

f. Unless specifically detailed on the contract documents, provide the following beam connections:
•• Where beam reactions are shown, provide connections to develop the reaction shown.
•• Where beam reactions are not shown, provide connections to develop one-half the total uniform load capacity shown in the Maximum Total Uniform Load Tables, in Part 3 of the AISC Manual.
•• Where reactions are subject to eccentricity, the eccentricity must be accounted for.

g. Submit shop drawings prepared in accordance with AISC 326-09. Provide complete welding information using AWS symbols. Use prequalified welded joints per AISC and AWS D1.1-10 "Structural Welding Code." Do not begin fabrication until shop drawings are completed and reviewed by the Structural Engineer of Record.

h. Do not use gas cutting torches to correct fabrication errors in structural steel framing.

i. Provide temporary bracing for structural steel framing until all permanent bracing, moment connections, and floor/roof decks (diaphragms) are completely installed.

j. Paint structural steel in accordance with the project specifications. Do not paint steel surfaces to be encased in concrete, surfaces to receive fireproofing, connections designated as friction type, surfaces to be welded, or surfaces receiving welded studs or DBA's in the field.

k. Provide an allowance of 3% of structural/miscellaneous steel to be fabricated and placed during progress of work as may be directed by the Structural Engineer of Record in addition to all steel indicated on the contract documents. Credit any unused quantity at the end of the project.

6. STRUCTURAL LUMBER

a. Provide Structural lumber conforming to the following standards:
NDS-2012, National Design Specification, 2012 Edition

b. Unless noted otherwise, provide #2 Grade Southern Yellow Pine or equivalent for dimensional framing lumber. Unless noted otherwise, provide #3 SPF or #3 Hem-Fir or equivalent for stud lumber and other miscellaneous framing/blocking.

c. Provide American Plywood Association (APA) rated sheathing with an exposure classification of exposure 1, unless noted otherwise. Refer to the construction documents for thickness and span rating. Store structural sheathing in accordance with the manufacturer's recommendations.

d. All wood fastenings must conform to Part 10 of the National Design Specification.

e. Fastenings not indicated on plans and details must be in accordance with Table 2304.9.1 of the 2012 International Building Code.

f. Unless noted otherwise, toe nailing and end nailing are acceptable for bearing type connections. Provide metal connectors for all other connections.

g. Provide common wire nails unless noted otherwise on the drawings or recommended otherwise by the framing connector manufacturer.

h. Provide fasteners and metal framing hardware with a corrosion resistant metal or with a minimum G90 galvanized finish. For metal in contact with pressure treated lumber provide stainless steel or G185 galvanized finish.

i. Unless noted otherwise, provide blocking or bridging 8'-0" on center maximum and at all bearing points for all joists and rafters.

j. Unless noted otherwise, provide solid horizontal blocking 6'-0" on center maximum for all load bearing stud walls.

k. Provide solid wood blocking behind all horizontal panel joints of exterior wall sheathing and interior shear wall sheathing.

l. Provide reinforcement (wood or steel side pieces) for any member cut for the installation of plumbing or wiring such that the member is of equal strength to the member prior to cutting.

m. Provide joists and rafters cut to have horizontal contact for the full width of the supporting member.

n. Unless noted otherwise, fasten multiple-ply beams together with 16d nails at 12 inches on center (staggered).

o. Provide ASTM A 36 steel plates with bolting as indicated on the contract documents for all flitch beams noted as multiple 2x or LVL members with one or more plates.

p. Submit shop drawings for all manufactured wood framing. Do not begin fabrication until shop drawings are completed and reviewed by the Structural Engineer of Record.

7. PLATE CONNECTED WOOD TRUSSES

a. Provide wood trusses connected with light gage metal plates designed and fabricated in accordance with the following standards:
ANSI/TPI 1-2014, National Design Standards for Metal-plate-connected Wood Truss Construction

b. The maximum allowable duration factor for short term loading is 1.25.

c. Truss Design Loads:

Roof Trusses:			
Top Chord LL	=	20	PSF
Top Chord DL	=	15	PSF
Mechanical LL	=	10	PSF
Bottom Chord DL	=	10	PSF
Total Load	=	55	PSF

Design Trusses to accommodate the loads indicated above with the following deflection criteria:
Total Load Deflection L/240
Live Load Deflection L/360
Design trusses for wind and seismic loads (in addition to the loads indicated above) acting in the plane of the truss (calculated per sections 1609 and 1613 of the 2012 International Building Code) and/or any axial forces specified on the drawings.

d. Handle, install, and brace plate connected wood trusses in accordance with Building Component Safety Information (BCSI) Summary Sheets B1, B2, and B3.

e. Provide 'X' or 'V' bridging at 8'-0" on center for all floor trusses and roof trusses. Provide 2x4 bridging material on roof trusses, and provide 1x4 bridging material on floor trusses.

f. Coordinate the location of roof mechanical units, access doors, and duct runs with individual truss geometry. Design trusses for the weight of mechanical units in addition to the loads indicated above.

g. The design of connections between wood trusses and the supporting structure is based on preliminary design. Connectors are shown for informational purposes only. Final sizes and spacing will be based on final reactions provided by the truss manufacturer. Unless the truss manufacturer specifies a stronger connector, provide the connector indicated in the contract documents.

h. Provide double top chords for flat trusses at wells.

i. Where truss member sizes specifically indicated on plans, sections, or details exceed the size required by analysis, provide the larger member indicated in the contract documents.

j. Submit shop drawings for each truss indicating the design loads and spacing sealed by a professional engineer registered in the state of Georgia. Provide a layout plan indicating the location of each truss and all bridging. The layout plan must conform to the layout indicated on the structural contract documents. Do not begin fabrication until shop drawings are completed and reviewed by the Structural Engineer of Record.

8. FOUNDATIONS

a. The Owner must commission a geotechnical exploration of the site by a properly insured professional engineer registered in the state of Georgia and forward the Geotechnical Engineer's report to the Structural Engineer of Record. The Geotechnical Engineer's report must conform to section 1802.6 of the 2012 International Building Code. The design of foundations is based on the following assumed soil criteria:
Allowable Soil Bearing Pressure: 2,000 PSF
Redesign of foundations my be required if the recommendations in the Geotechnical Report are different than the values listed above. The following conditions could also result in redesign of foundations: presence of expansive soils, high water table, potential for large settlements, or any other recommendations stated in the Geotechnical Engineer's report.

b. The Geotechnical Engineer must verify the condition and/or adequacy of all subgrades, fills, and backfills prior to the placement of foundations, footings, slabs, walls, etc.

c. If any interference appears between existing foundations and the specified design, notify the Architect so that the foundations may be redesigned as required.

d. Coordinate top of footing elevations with the requirements of other trades (plumbing, electrical, etc.).

e. Place all column footings and wall footings monolithically with adjacent footings at the same elevation.

f. All footings must bear on original undisturbed soil where possible.

g. Remove all organic soils and replace with clean structural fill at the direction of the Geotechnical Engineer. Place fill soils in 6" maximum (loose) lifts at moisture contents as described in the geotechnical report. Compact all fill within 10'-0" of the building limit to 95% Standard Proctor. Field density tests must be made as described in the geotechnical report to verify adequate compaction and design bearing pressure.

h. Sides of foundations must be formed unless conditions permit earth forming. Foundations placed against the earth require the following precautions: slope sides of excavations as approved by the Geotechnical Engineer and clean up sloughing before and during concrete placement.

i. Where footing steps are necessary, slope no steeper than one vertical to two horizontal.

j. Unless noted otherwise, place all slabs on grade on a 10 mil polyethylene vapor retarder and a crushed stone base over a properly compacted subgrade.

9. DESIGN LOADS

a. Live Loads:

Roof	20 PSF

b. Wind Design Data:

Ultimate Wind Speed	115 MPH
Risk Category	Category II
Wind Exposure	Exposure B
Internal Pressure Coefficient	± 0.18
Components & Cladding Pressures	See Table

c. Seismic Design Data:

Seismic Importance Factor	I = 1.0
Risk Category	Category II
Mapped Spectral Response Accelerations	Ss = 0.180
	S1 = 0.089
Site Class	Site Class D
Spectral Response Coefficients	Sds = 0.192
	Sd1 = 0.142
Seismic Design Category	Category C
Basic Seismic Force Resisting System	Ordinary Reinforced Masonry Shear Walls
(Response Modification Factor)	(R = 2.0)
Design Base Shear	V = 2.0W kips
Analysis Procedure	Equivalent Lateral Force Procedure

d. Snow Loads:

Ground Snow Load	Pg < 5 PSF

ENCLOSED STRUCTURE
COMPONENTS & CLADDING
DESIGN WIND PRESSURES

		A	B	C	D
ROOF	1	10	16.0	-23.8
	1	20	16.0	-23.2
	1	50	16.0	-22.4
	1	100	16.0	-21.8
	2	10	16.0	-39.9
	2	20	16.0	-35.7
	2	50	16.0	-30.1
	2	100	16.0	-25.8
	3	10	16.0	-60.1
	3	20	16.0	-49.8
	3	50	16.0	-36.1
	3	100	16.0	-25.8
WALL	4	10	21.8	-23.6
	4	20	20.8	-22.6
	4	50	19.5	-21.3
	4	100	18.6	-20.4
	4	500	16.3	-18.1
	5	10	21.8	-29.0
	5	20	20.8	-27.1
	5	50	19.5	-24.6
	5	100	18.6	-22.6
	5	500	16.3	-18.1

ZONE WIDTH: a = 9.8 FEET
COLUMN A: Zone per Figure 30.5-1 in ASCE 7-10
COLUMN B: Effective Wind Area in square feet
COLUMN C: Maximum Positive Pressure in LBS/FT^2. Positive pressure indicates pressure toward the building.
COLUMN D: Maximum Negative Pressure in LBS/FT^2. Negative pressure indicates pressure away from the building.
Pressures shown are **Ultimate Loads**. To convert to an Allowable Load, multiply value by 0.6.

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IGARASHI DESIGNS

issue date/revisions
12-18-18 FOR CONSTRUCTION

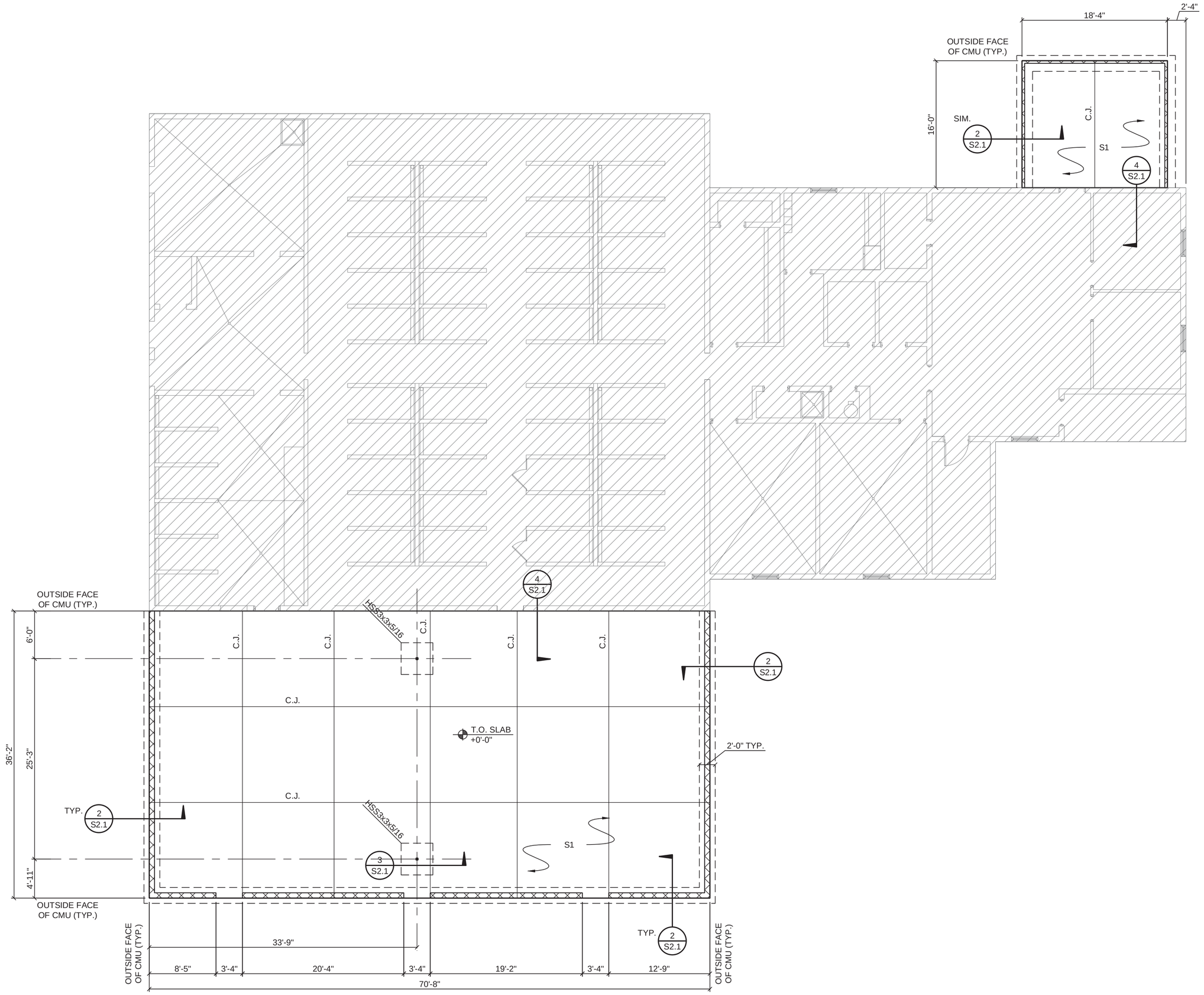
seal
GEORGIA REGISTERED No. PE043186 PROFESSIONAL 12-18-18 ENGINEER BRIAN M. RIVERS

project name
ANIMAL CONTROL ADDITION
1506 ROCKBRIDGE ROAD
CONYERS, GA 30012

sheet title
GENERAL NOTES

drawn by MKG
checked by BMR
project no. ---
date 12-04-18

S1.0
sheet no.



FOUNDATION PLAN

1 / S1.1

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

NORTH

NOTES & LEGEND:

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SLOPES, ELEVATIONS AND OTHER INFORMATION NOT SHOWN.
2. FIELD VERIFY ALL EXISTING CONDITIONS.
3. REFERENCE TOP OF EXISTING SLAB ELEVATION = +0'-0". SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION.

S1 INDICATES NEW 4" THICK SLAB-ON-GRADE. SEE GENERAL NOTES FOR MORE INFORMATION.

C.J. INDICATES CONTRACTION JOINT. SEE 1/S2.1.

INDICATES LOAD BEARING CMU SHEAR WALL WITH #4 @ 48" o/c VERTICAL REINFORCEMENT. PROVIDE LINTELS WITH 2 #5 HORIZONTALS AT ALL OPENINGS. SEE GENERAL NOTES FOR MORE INFORMATION.

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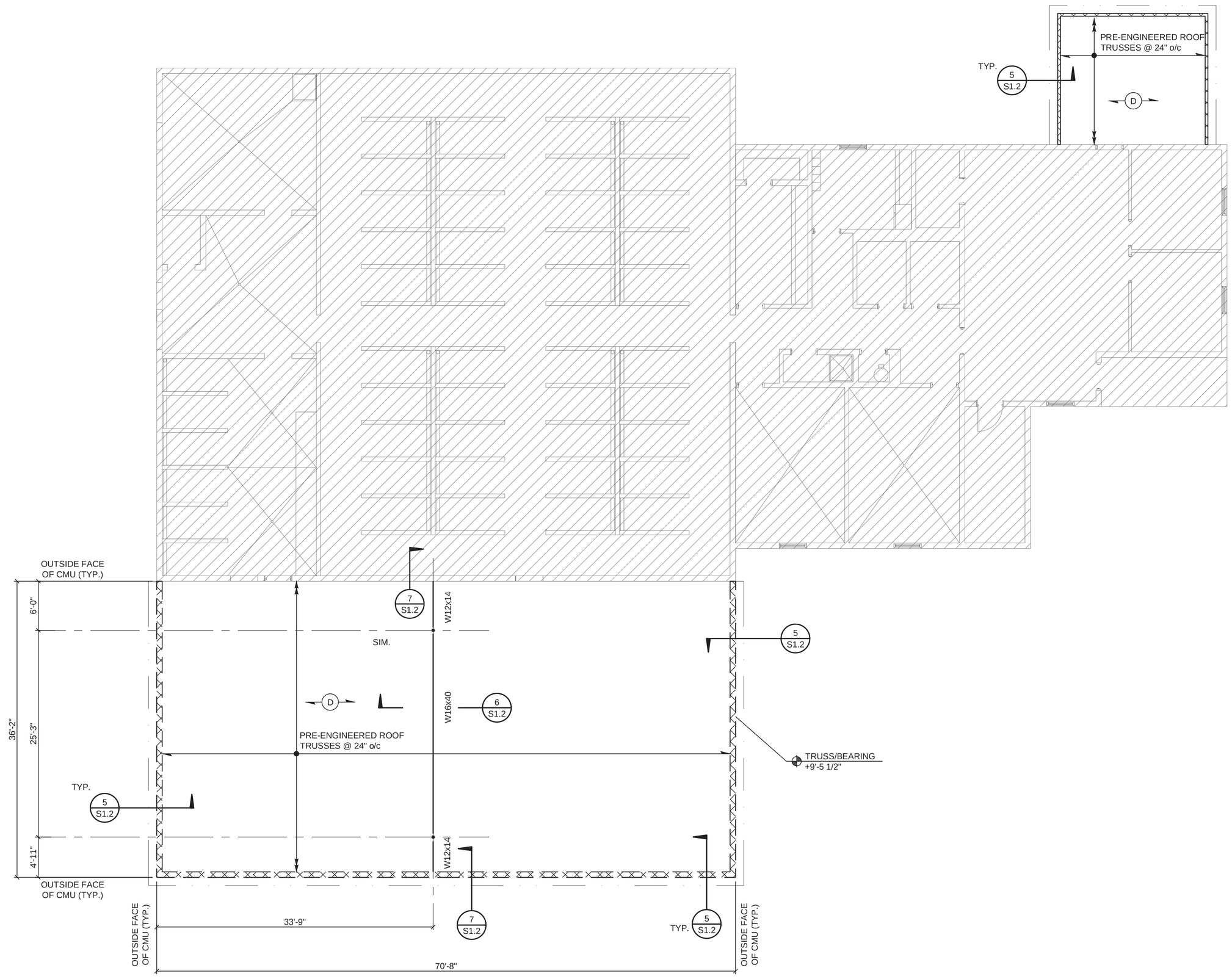
S1.1 sheet no.



ROOF FRAMING PLAN

1
S1.2

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

NORTH

NOTES & LEGEND:

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SLOPES, ELEVATIONS AND OTHER INFORMATION NOT SHOWN.
2. FIELD VERIFY ALL EXISTING CONDITIONS.

D — INDICATES SPAN DIRECTION OF ROOF SHEATHING 7/16" APA RATED SHEATHING WITH 8d NAILS @ 6" o/c AT PERIMETER AND IN FIELD.

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FRAMING PLAN

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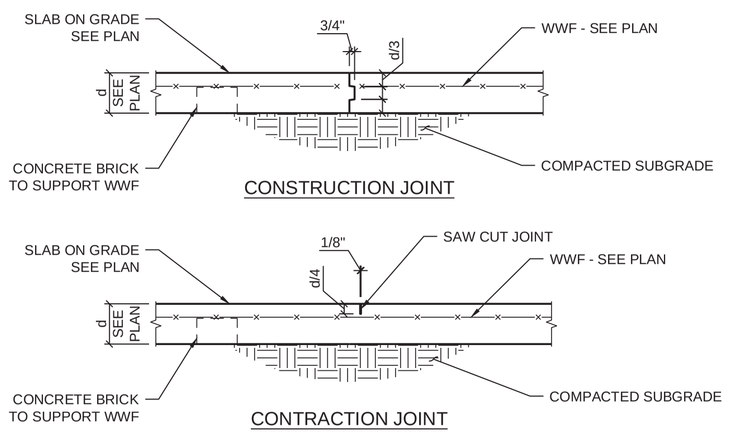
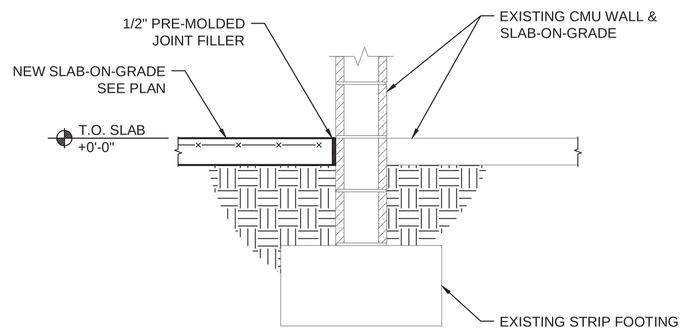
S1.2
sheet no.

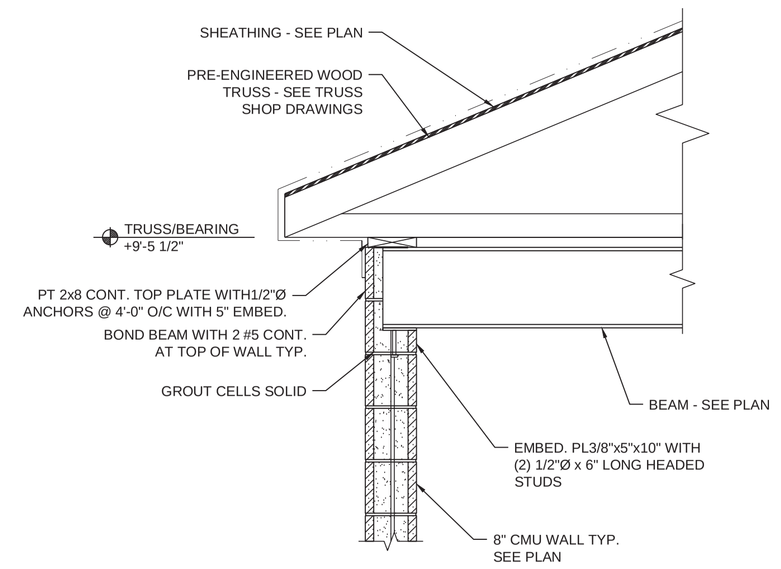


NOTE: SEE GENERAL NOTES FOR ADDITIONAL CONTRACTION JOINT SPACING AND PLACING REQUIREMENTS.

DETAIL — TYPICAL SLAB ON GRADE JOINTS — 1 / S2.1
SCALE: 3/4" = 1'-0"



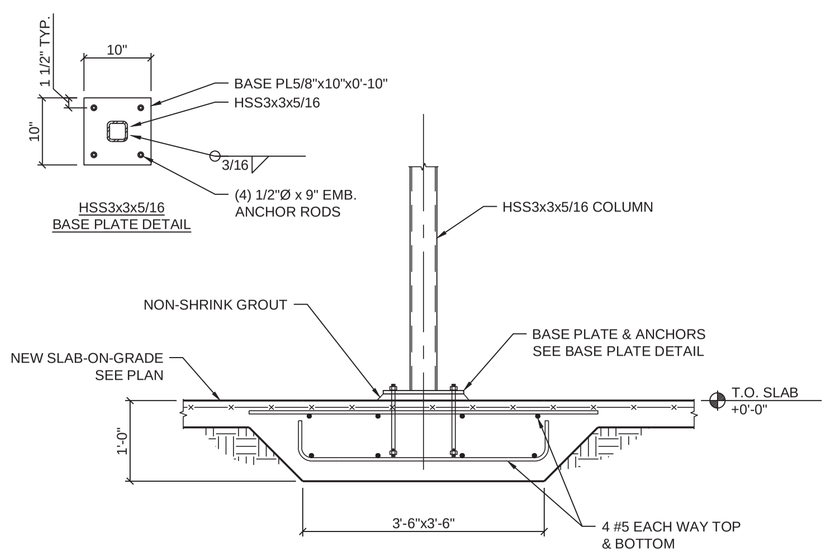
SECTION — SLAB AT EXISTING FOOTING — 4 / S2.1
SCALE: 3/4" = 1'-0"



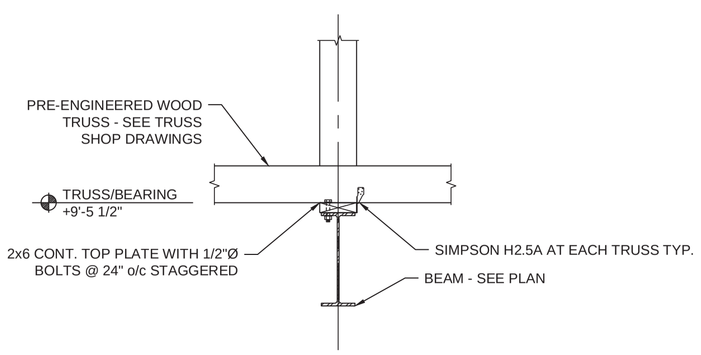
SECTION — BEAM BEARING — 7 / S2.1
SCALE: 3/4" = 1'-0"

SECTION — CMU WALL FOUNDATION — 2 / S2.1
SCALE: 3/4" = 1'-0"

SECTION — TYPICAL TRUSS BEARING — 5 / S2.1
SCALE: 3/4" = 1'-0"



SECTION — COLUMN FOOTING — 3 / S2.1
SCALE: 3/4" = 1'-0"



SECTION — TRUSS BEARING AT STEEL BEAM — 6 / S2.1
SCALE: 3/4" = 1'-0"

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