LIFE SAFETY PLAN REQUIREMENTS:

- ☒ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7) – SEE NOTE 1
- ☒ ASSUMED AND REAL PROPERTY LINE LOCATIONS – SEE NOTE 2
- ☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8) – SEE NOTE 3
- ☒ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
- ☒ OCCUPANT LOADS FOR EACH AREA
- ☒ EXIT ACCESS TRAVEL DISTANCES (1017)
- ☒ COMMON PATH OF TRAVEL DISTANCES (1006.2.1 & 1006.3.2(1))
- ☒ DEAD END LENGTHS (1020.4) – SEE NOTE 4
- ☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
- ☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
- ☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
- ☒ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION. SEE NOTE 5
- ☒ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10) – SEE NOTE 6
- ☒ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND AND THE AMOUNT OF DELAY (1008.1.9.7) – SEE NOTE 7
- ☒ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8) – SEE NOTE 7
- ☒ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES – SEE NOTE 7
- ☒ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029) – SEE NOTE 7
- ☒ THE SQUARE FOOTAGE OF EACH FIRE AREA (902) – SEE NOTE 8
- ☒ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.5) – SEE NOTE 9
- ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

LIFE SAFETY PLAN NOTES:

1. NO RATED WALLS.
2. ALL ASSUMED AND REAL PROPERTY LINES ≥30'
3. ASSUMED PROPERTY LINES = 35'; UNLIMITED; 705.8.1 EXC. 2
4. NO DEAD ENDS OVER 20'; 20' ALLOWED
5. NO RATING REQUIRED FOR THIS STRUCTURE.
6. PANIC HARDWARE NOT REQUIRED.
7. NO DELAYED EGRESS LOCKS, ELECTROMAGNETIC LOCKS, HOLD OPEN DEVICES, OR EMERGENCY ESCAPE WINDOWS
8. FIRE AREAS DO NOT EXCEED CODE ALLOWANCE
9. BUILDING MEETS CODE REQUIREMENTS WITHOUT SUBDIVISION INTO SMOKE COMPARTMENTS; NO SMOKE COMPARTMENTS

EXIT REQUIREMENTS: NUMBER AND ARRANGEMENTS OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NO. OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS [1,3] (SECTION 1016–1021)	
	REQ'D.	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
BUILDING 1	2	2	200'	132'–0"	85'–6"	145'–6"
OFFICE	1	2	200'	48'–6"	31'–3"	36'

1. CORRIDOR DEAD ENDS (SECTION 1020.4)
2. BUILDINGS W/SINGLE EXITS (TABLE 1006.3.2(2)), SPACES W/ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)
3. COMMON PATH OF TRAVEL (SECTION 1029.8)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a)	(b)		(c)		EXIT WIDTH (In)			
	AREA[1] SQ. FT.	AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a/b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUILDING 1	9,600	500 GROSS	20	N/A	.2	N/A	4.4"	N/A	94"
OFFICE	1,200	100 GROSS	12	N/A	.2	N/A	2.4"	N/A	108"
TOTAL	10,800								

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002, DEFINED IN CHAPTER 2)
2. MINIMUM STAIRWAY WIDTH (SECTION 1011.2); MIN. CORRIDOR WIDTH (SECTION 1020.2); MIN. DOOR WIDTH (SECTION 1010.1.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1024)
4. SEE SECTION 1005.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.5)
6. ASSEMBLY OCCUPANCIES (SECTION 1029)

MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)

△1 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 10 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

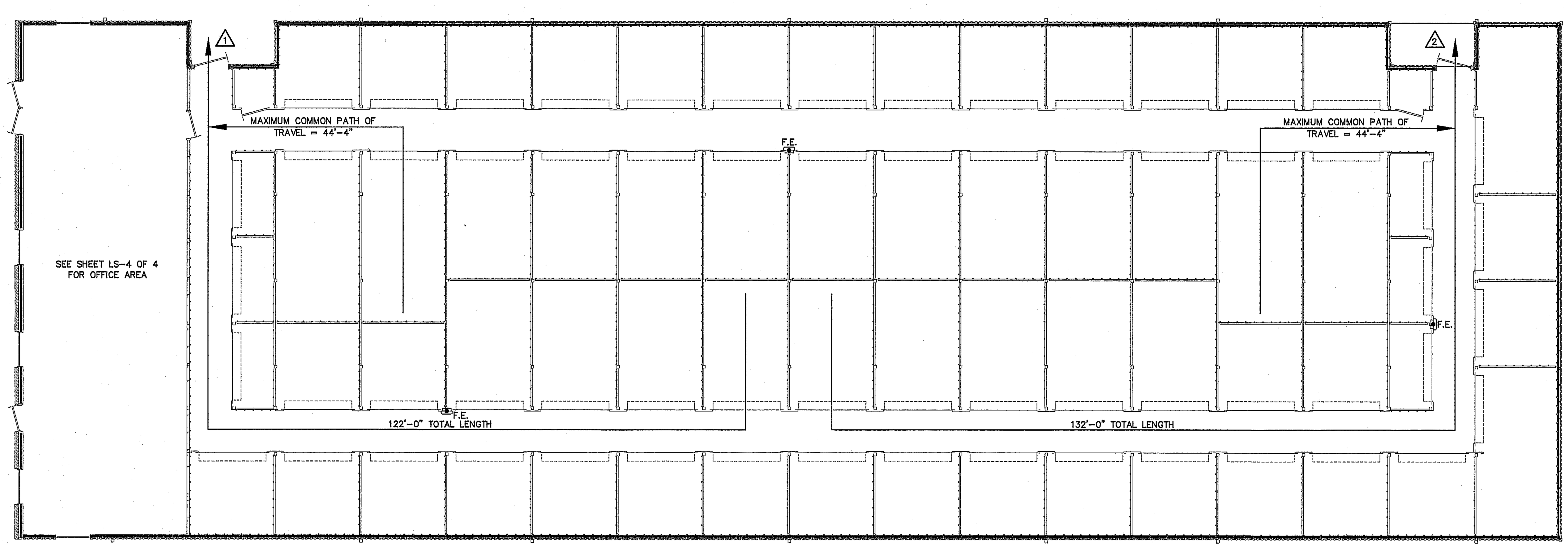
△2 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 10 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

Reviewed for Code Compliance

05/30/2025

Harnett COUNTY NORTH CAROLINA



LIFE SAFETY PLAN BUILDING "1"

SCALE: 1/8" = 1'–0"

NOTE:
AREA/ROOM/SPACE DESIGNATIONS USED ON LIFE SAFETY PLANS ARE EXCLUSIVE TO LIFE SAFETY PLAN ONLY, AND ARE NOT INDICATIVE OF ANY ACTUAL SPACE DESIGNATIONS USED ELSEWHERE.

LEGEND
F.E. FIRE EXTINGUISHER CLASS ABC 10 POUNDS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 8909 RANDY L. CRUSE 02–25–25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892–4429
FAX: (910) 892–5162
LICENSE NO.: C–1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02–25–25
DRAWN BY BAM
JOB NO. 24–31

SHEET NO.
LS-1 OF 4

LIFE SAFETY PLAN REQUIREMENTS:

- ☒ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7) – SEE NOTE 1
- ☒ ASSUMED AND REAL PROPERTY LINE LOCATIONS – SEE NOTE 2
- ☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8) – SEE NOTE 3
- ☒ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
- ☒ OCCUPANT LOADS FOR EACH AREA
- ☒ EXIT ACCESS TRAVEL DISTANCES (1017)
- ☒ COMMON PATH OF TRAVEL DISTANCES (1006.2.1 & 1006.3.2(1))
- ☒ DEAD END LENGTHS (1020.4) – SEE NOTE 4
- ☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
- ☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
- ☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
- ☒ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION. SEE NOTE 5
- ☒ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10) – SEE NOTE 6
- ☒ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND AND THE AMOUNT OF DELAY (1008.1.9.7) – SEE NOTE 7
- ☒ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8) – SEE NOTE 7
- ☒ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES – SEE NOTE 7
- ☒ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029) – SEE NOTE 7
- ☒ THE SQUARE FOOTAGE OF EACH FIRE AREA (902) – SEE NOTE 8
- ☒ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.5) – SEE NOTE 9
- ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

LIFE SAFETY PLAN NOTES:

1. SEE LEGEND FOR RATED WALLS.
2. ALL ASSUMED AND REAL PROPERTY LINES $\geq$30'
3. ASSUMED PROPERTY LINES = 10'; UNLIMITED; 705.8.1 EXC. 2
4. NO DEAD ENDS OVER 20'; 20' ALLOWED
5. NO RATING REQUIRED FOR THIS STRUCTURE.
6. PANIC HARDWARE NOT REQUIRED.
7. NO DELAYED EGRESS LOCKS, ELECTROMAGNETIC LOCKS, HOLD OPEN DEVICES, OR EMERGENCY ESCAPE WINDOWS
8. FIRE AREAS DO NOT EXCEED CODE ALLOWANCE
9. BUILDING MEETS CODE REQUIREMENTS WITHOUT SUBDIVISION INTO SMOKE COMPARTMENTS; NO SMOKE COMPARTMENTS

EXIT REQUIREMENTS:
NUMBER AND ARRANGEMENTS OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NO. OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS [1,3] (SECTION 1016–1021)	
	REQ'D.	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
BUILDING 2 (AREA 1)	2	2	200'	142'–9"	106'–0"	175'–0"
BUILDING 2 (AREA 2)	2	2	200'	102'–0"	102'–0"	140'–0"

1. CORRIDOR DEAD ENDS (SECTION 1020.4)
2. BUILDINGS W/SINGLE EXITS (TABLE 1006.3.2(2)), SPACES W/ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)
3. COMMON PATH OF TRAVEL (SECTION 1029.8)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a)	(b)		(c)		EXIT WIDTH (in)			
	AREA[1] SQ. FT.	AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a/b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUILDING 2 (AREA 1)	12,000	500 GROSS	24	N/A	.2	N/A	4.8"	N/A	94"
BUILDING 2 (AREA 2)	11,700	500 GROSS	24	N/A	.2	N/A	4.8"	N/A	94"
TOTAL	23,700		48						

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002, DEFINED IN CHAPTER 2)
2. MINIMUM STAIRWAY WIDTH (SECTION 1011.2); MIN. CORRIDOR WIDTH (SECTION 1020.2); MIN. DOOR WIDTH (SECTION 1010.1.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1024)
4. SEE SECTION 1005.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.5)
6. ASSEMBLY OCCUPANCIES (SECTION 1029)

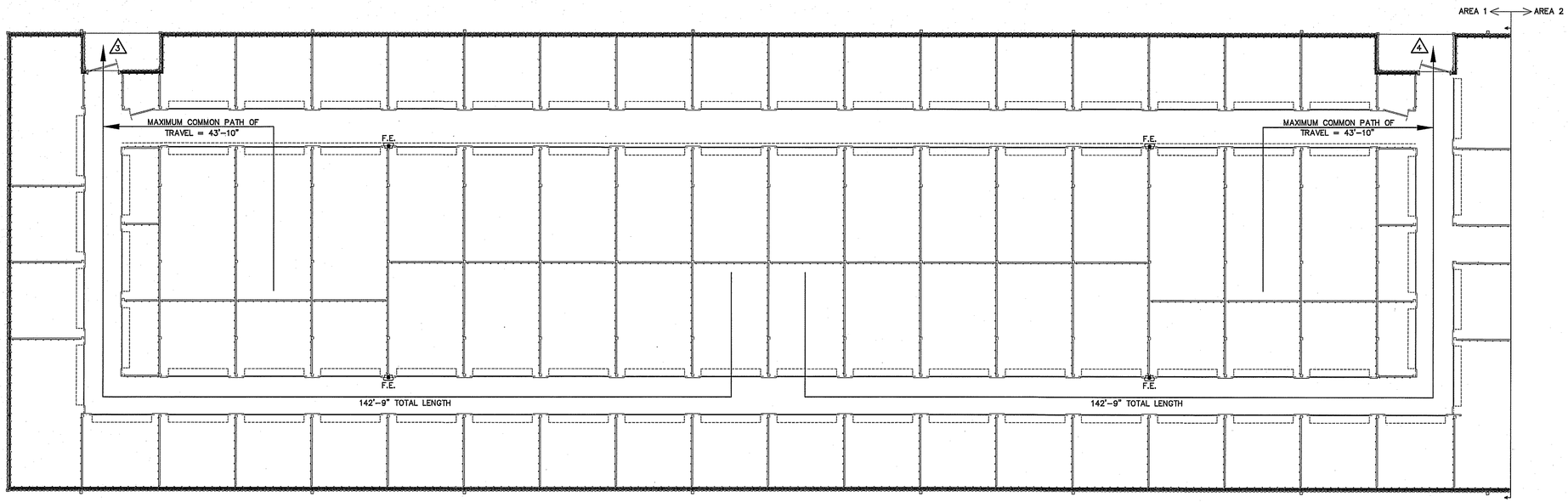
MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)

3 — 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

4 — 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

5 — 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PERSON CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

6 — 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.



LEGEND

3 HOUR RATED WALL U419

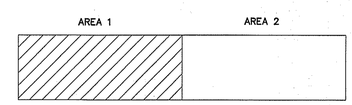
NOTE:
AREA/ROOM/SPACE DESIGNATIONS USED ON LIFE SAFETY PLANS ARE EXCLUSIVE TO LIFE SAFETY PLAN ONLY, AND ARE NOT INDICATIVE OF ANY ACTUAL SPACE DESIGNATIONS USED ELSEWHERE.

LEGEND

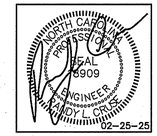
F.E. FIRE EXTINGUISHER CLASS ABC 10 POUNDS

LIFE SAFETY PLAN BUILDING "2"

SCALE: 1/8" = 1'–0"



KEYPLAN



PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/10/2025

Cruse And Associates, P.A.
414 E. Edgerton St.
Raleigh, North Carolina 28534
PH: (919) 832-4439
FAX: (919) 832-5182
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE	02–25–25
DRAWN BY	BAM
JOB NO.	24–31

SHEET NO.
LS-2 OF 4

LIFE SAFETY PLAN REQUIREMENTS:

- ☒ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7) – SEE NOTE 1
- ☒ ASSUMED AND REAL PROPERTY LINE LOCATIONS – SEE NOTE 2
- ☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8) – SEE NOTE 3
- ☒ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
- ☒ OCCUPANT LOADS FOR EACH AREA
- ☒ EXIT ACCESS TRAVEL DISTANCES (1017)
- ☒ COMMON PATH OF TRAVEL DISTANCES (1006.2.1 & 1006.3.2(1))
- ☒ DEAD END LENGTHS (1020.4) – SEE NOTE 4
- ☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
- ☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
- ☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
- ☒ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION. SEE NOTE 5
- ☒ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10) – SEE NOTE 6
- ☒ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND AND THE AMOUNT OF DELAY (1008.1.9.7) – SEE NOTE 7
- ☒ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8) – SEE NOTE 7
- ☒ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES – SEE NOTE 7
- ☒ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029) – SEE NOTE 7
- ☒ THE SQUARE FOOTAGE OF EACH FIRE AREA (902) – SEE NOTE 8
- ☒ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.5) – SEE NOTE 9
- ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)

3 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

4 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

5 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PERSON CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

6 47" CLEAR WIDTH DIVIDED BY .2" = 235 OCCUPANTS CALCULATED OCCUPANCY PER EXIT = 12 PEOPLE CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

LIFE SAFETY PLAN NOTES:

1. SEE LEGEND FOR RATED WALLS.
2. ALL ASSUMED AND REAL PROPERTY LINES ≥30'
3. ASSUMED PROPERTY LINES = 10'; UNLIMITED; 705.8.1 EXC. 2
4. NO DEAD ENDS OVER 20'; 20' ALLOWED
5. NO RATING REQUIRED FOR THIS STRUCTURE.
6. PANIC HARDWARE NOT REQUIRED.
7. NO DELAYED EGRESS LOCKS, ELECTROMAGNETIC LOCKS, HOLD OPEN DEVICES, OR EMERGENCY ESCAPE WINDOWS
8. FIRE AREAS DO NOT EXCEED CODE ALLOWANCE
9. BUILDING MEETS CODE REQUIREMENTS WITHOUT SUBDIVISION INTO SMOKE COMPARTMENTS; NO SMOKE COMPARTMENTS

EXIT REQUIREMENTS:
NUMBER AND ARRANGEMENTS OF EXITS

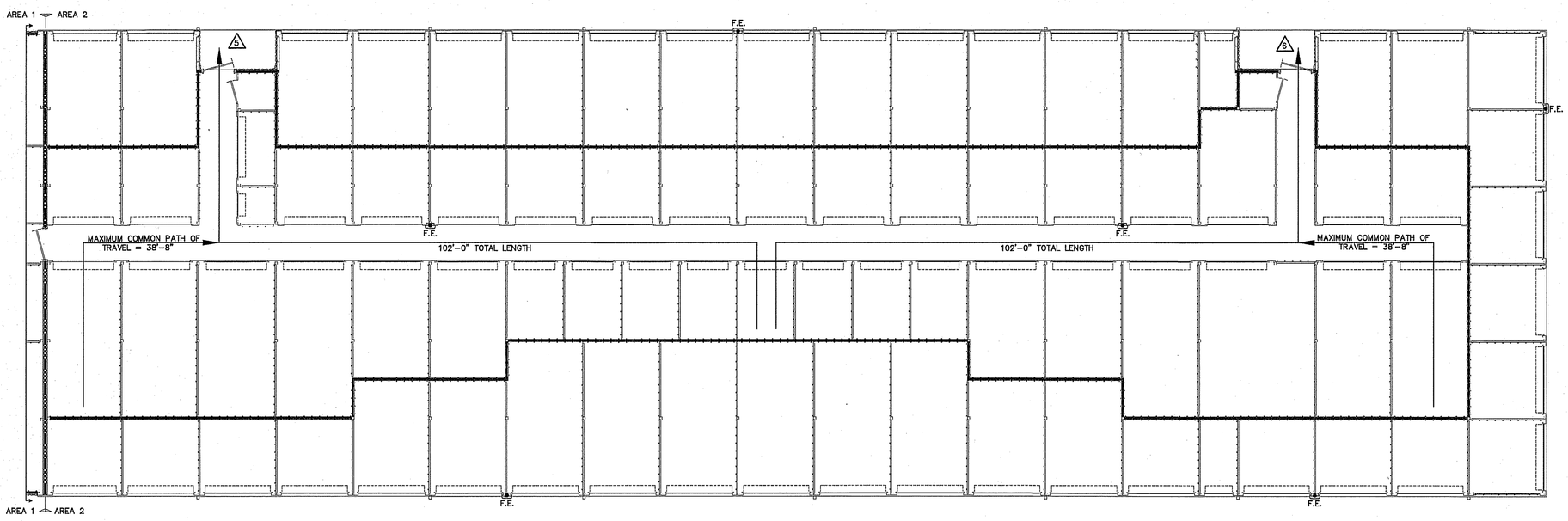
FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NO. OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS [1,3] (SECTION 1016–1021)	
	REQ'D.	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
BUILDING 2 (AREA 1)	2	2	200'	142'–9"	106'–0"	175'–0"
BUILDING 2 (AREA 2)	2	2	200'	102'–0"	102'–0"	140'–0"

1. CORRIDOR DEAD ENDS (SECTION 1020.4)
2. BUILDINGS W/SINGLE EXITS (TABLE 1006.3.2(2)), SPACES W/ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)
3. COMMON PATH OF TRAVEL (SECTION 1029.8)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a)	(b)		(c)		EXIT WIDTH (in)			
	AREA[1] SQ. FT.	AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a/b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUILDING 2 (AREA 1)	12,000	500 GROSS	24	N/A	.2	N/A	4.8"	N/A	94"
BUILDING 2 (AREA 2)	11,700	500 GROSS	24	N/A	.2	N/A	4.8"	N/A	94"
TOTAL	23,700		48						

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002, DEFINED IN CHAPTER 2)
2. MINIMUM STAIRWAY WIDTH (SECTION 1011.2); MIN. CORRIDOR WIDTH (SECTION 1020.2); MIN. DOOR WIDTH (SECTION 1010.1.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1024)
4. SEE SECTION 1005.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.5)
6. ASSEMBLY OCCUPANCIES (SECTION 1029)



LEGEND

3 HOUR RATED WALL U419

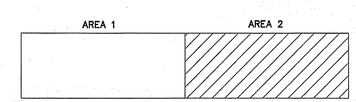
NOTE:
AREA/ROOM/SPACE DESIGNATIONS USED ON LIFE SAFETY PLANS ARE EXCLUSIVE TO LIFE SAFETY PLAN ONLY, AND ARE NOT INDICATIVE OF ANY ACTUAL SPACE DESIGNATIONS USED ELSEWHERE.

LEGEND

F.E. FIRE EXTINGUISHER CLASS ABC 10 POUNDS

LIFE SAFETY PLAN BUILDING "2"

SCALE: 1/8" = 1'–0"



KEYPLAN

NORTH CAROLINA PROFESSIONAL SEAL 5909 ENGINEER RANDY L. CRUSE 02–25–25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/10/2025

Cruse And Associates, P.A.
416 E. Edgerton St.
Raleigh, North Carolina 28534
PH: (919) 832-4459
FAX: (919) 832-4162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE	02–25–25
DRAWN BY	BAM
JOB NO.	24–31

SHEET NO.
LS-3 OF 4

LIFE SAFETY PLAN REQUIREMENTS:

- ☒ FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7) – SEE NOTE 1
- ☒ ASSUMED AND REAL PROPERTY LINE LOCATIONS – SEE NOTE 2
- ☒ EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8) – SEE NOTE 3
- ☒ OCCUPANCY TYPES FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
- ☒ OCCUPANT LOADS FOR EACH AREA
- ☒ EXIT ACCESS TRAVEL DISTANCES (1017)
- ☒ COMMON PATH OF TRAVEL DISTANCES (1006.2.1 & 1006.3.2(1))
- ☒ DEAD END LENGTHS (1020.4) – SEE NOTE 4
- ☒ CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
- ☒ MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
- ☒ ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
- ☒ A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION. SEE NOTE 5
- ☒ LOCATION OF DOORS WITH PANIC HARDWARE (1008.1.10) – SEE NOTE 6
- ☒ LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND AND THE AMOUNT OF DELAY (1008.1.9.7) – SEE NOTE 7
- ☒ LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1008.1.9.8) – SEE NOTE 7
- ☒ LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES – SEE NOTE 7
- ☒ LOCATION OF EMERGENCY ESCAPE WINDOWS (1029) – SEE NOTE 7
- ☒ THE SQUARE FOOTAGE OF EACH FIRE AREA (902) – SEE NOTE 8
- ☒ THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT (407.5) – SEE NOTE 9
- ☐ NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

LIFE SAFETY PLAN NOTES:

1. NO RATED WALLS.
2. ALL ASSUMED AND REAL PROPERTY LINES ≥30'
3. ASSUMED PROPERTY LINES = 35'; UNLIMITED; 705.8.1 EXC. 2
4. NO DEAD ENDS OVER 20'; 20' ALLOWED
5. NO RATING REQUIRED FOR THIS STRUCTURE.
6. PANIC HARDWARE NOT REQUIRED.
7. NO DELAYED EGRESS LOCKS, ELECTROMAGNETIC LOCKS, HOLD OPEN DEVICES, OR EMERGENCY ESCAPE WINDOWS
8. FIRE AREAS DO NOT EXCEED CODE ALLOWANCE
9. BUILDING MEETS CODE REQUIREMENTS WITHOUT SUBDIVISION INTO SMOKE COMPARTMENTS; NO SMOKE COMPARTMENTS

EXIT REQUIREMENTS:
NUMBER AND ARRANGEMENTS OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NO. OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS [1,3] (SECTION 1016–1021)	
	REQ'D.	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
BUILDING 1	2	2	200'	132'–0"	85'–6"	145'–6"
OFFICE	1	2	200'	48'–6"	31'–3"	36"

1. CORRIDOR DEAD ENDS (SECTION 1020.4)
2. BUILDINGS W/SINGLE EXITS (TABLE 1006.3.2(2)), SPACES W/ONE EXIT OR EXIT ACCESS DOORWAY (TABLE 1006.2.1)
3. COMMON PATH OF TRAVEL (SECTION 1029.8)

EXIT WIDTH

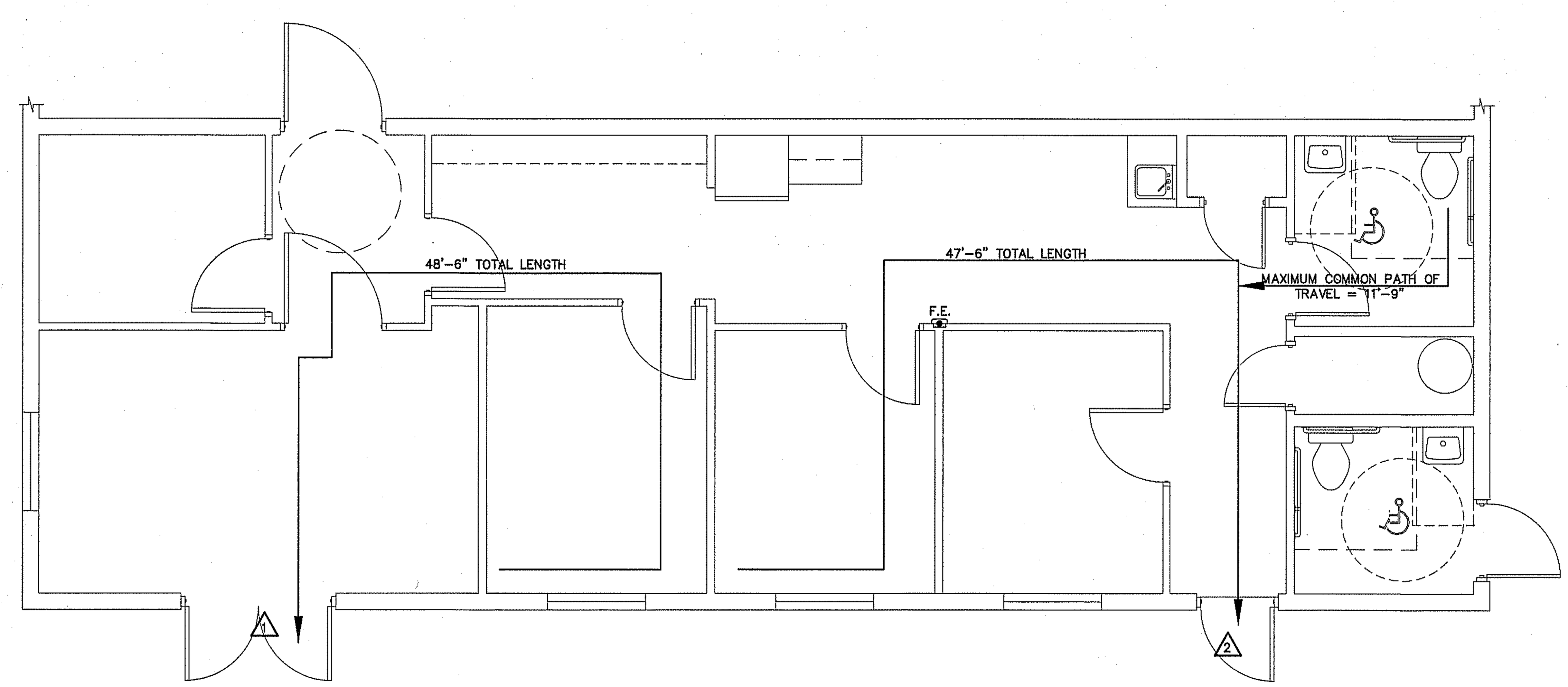
USE GROUP OR SPACE DESCRIPTION	(a)	(b)		(c)		EXIT WIDTH (In)			
	AREA[1] SQ. FT.	AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD (a/b)	EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		REQUIRED WIDTH (SECTION 1005.1) (a/b) x c		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUILDING 1	9,600	500 GROSS	20	N/A	.2	N/A	4.4"	N/A	94"
OFFICE	1,200	100 GROSS	12	N/A	.2	N/A	2.4"	N/A	108"
TOTAL	10,800								

1. SEE TABLE 1004.1.2 TO DETERMINE WHETHER NET OR GROSS AREA IS APPLICABLE SEE DEFINITION "AREA, GROSS" AND "AREA, NET" (SECTION 1002, DEFINED IN CHAPTER 2)
2. MINIMUM STAIRWAY WIDTH (SECTION 1011.2); MIN. CORRIDOR WIDTH (SECTION 1020.2); MIN. DOOR WIDTH (SECTION 1010.1.1)
3. MINIMUM WIDTH OF EXIT PASSAGEWAY (SECTION 1024)
4. SEE SECTION 1005.6 FOR CONVERGING EXITS.
5. THE LOSS OF ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE TOTAL REQUIRED (SECTION 1005.5)
6. ASSEMBLY OCCUPANCIES (SECTION 1029)

MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.1)

(1) 35" CLEAR WIDTH DIVIDED BY .2" = 175 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 6 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.

(2) 70" CLEAR WIDTH DIVIDED BY .2" = 350 OCCUPANTS
CALCULATED OCCUPANCY PER EXIT = 6 PEOPLE
CALCULATED OCCUPANCY DOES NOT EXCEED MAXIMUM CAPACITY OF EXIT.



LIFE SAFETY PLAN BUILDING "1" (OFFICE)

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

NOTE:
AREA/ROOM/SPACE DESIGNATIONS USED ON LIFE SAFETY PLANS ARE EXCLUSIVE TO LIFE SAFETY PLAN ONLY, AND ARE NOT INDICATIVE OF ANY ACTUAL SPACE DESIGNATIONS USED ELSEWHERE.

LEGEND
F.E. FIRE EXTINGUISHER CLASS ABC 10 POUNDS

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO. LS-4 OF 4

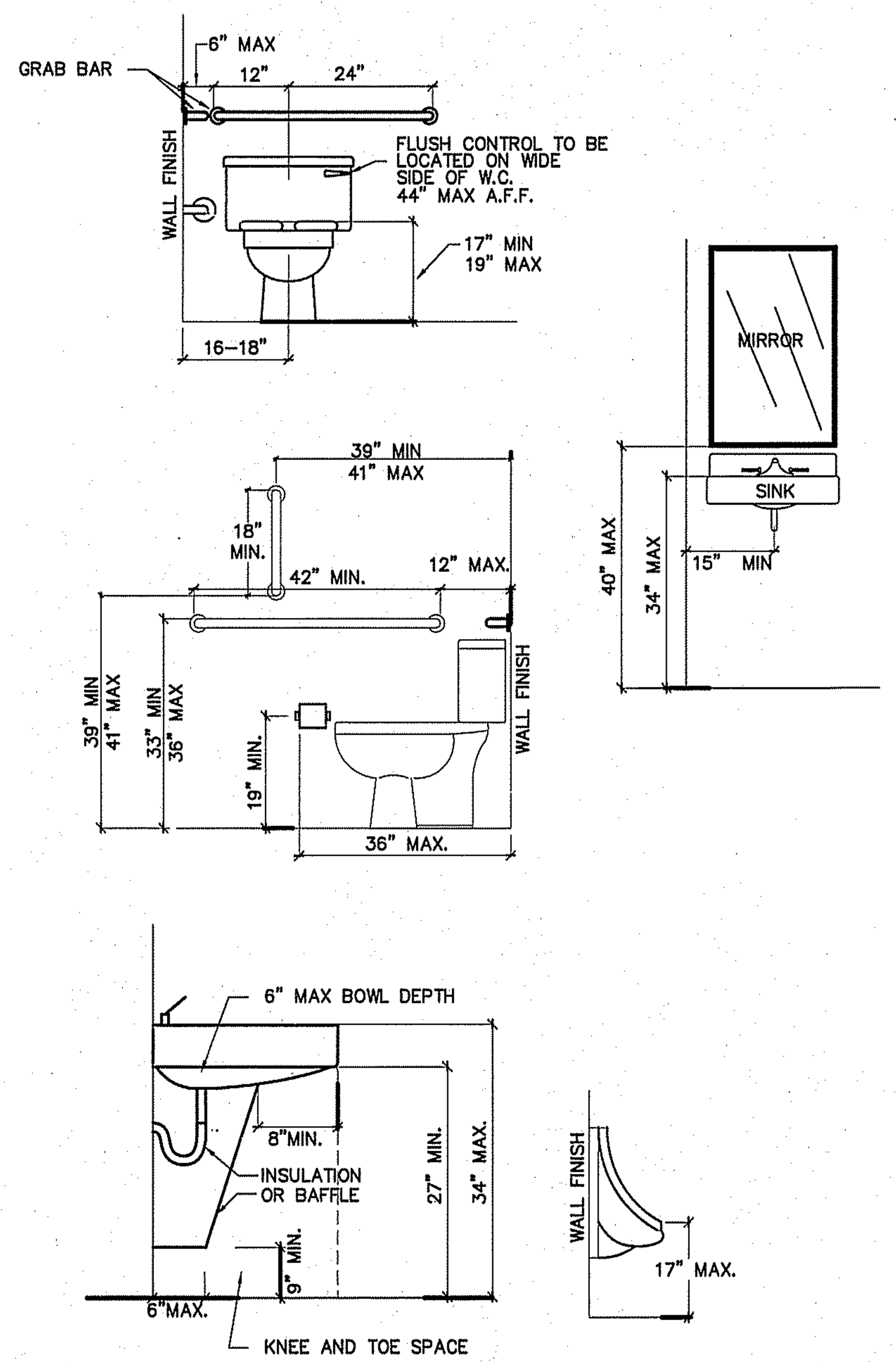
ROOM		FLOOR						BASE				WALLS				CEIL. HT.	CLG.				REMARKS
ROOM NO.	ROOM NAME	CONCRETE	CARPET*	TILE	VCT	LVT		WOOD	CERAMIC TILE	RUBBER BASE	NONE	BRICK	5/8" DRYWALL	CERAMIC TILE	FRP		2X4 CEILING TILE	NONE	DRYWALL	VINYL	
100	SALES OFFICE				X					X			X			8'-0"+/-			X		
101	MECHANICAL ROOM				X					X			X			8'-0"+/-			X		
102	LOCKER ROOM				X					X			X			8'-0"+/-			X		
103	OFFICE # 1				X					X			X			8'-0"+/-			X		
104	OFFICE # 2				X					X			X			8'-0"+/-			X		
105	OFFICE #3				X					X			X			8'-0"+/-			X		
106	KITCHENETTE				X					X			X			8'-0"+/-			X		
107	CLOSET				X					X			X			8'-0"+/-			X		
108	RESTROOM #1				X					X			X			8'-0"+/-			X		
109	CLOSET				X					X			X			8'-0"+/-			X		
110	RESTROOM #2				X					X			X			8'-0"+/-			X		

OWNER TO VERIFY ALL COLORS AND FINISHES BEFORE ORDERING MATERIALS
COORDINATE ALL CEILING HEIGHTS WITH DUCTWORK

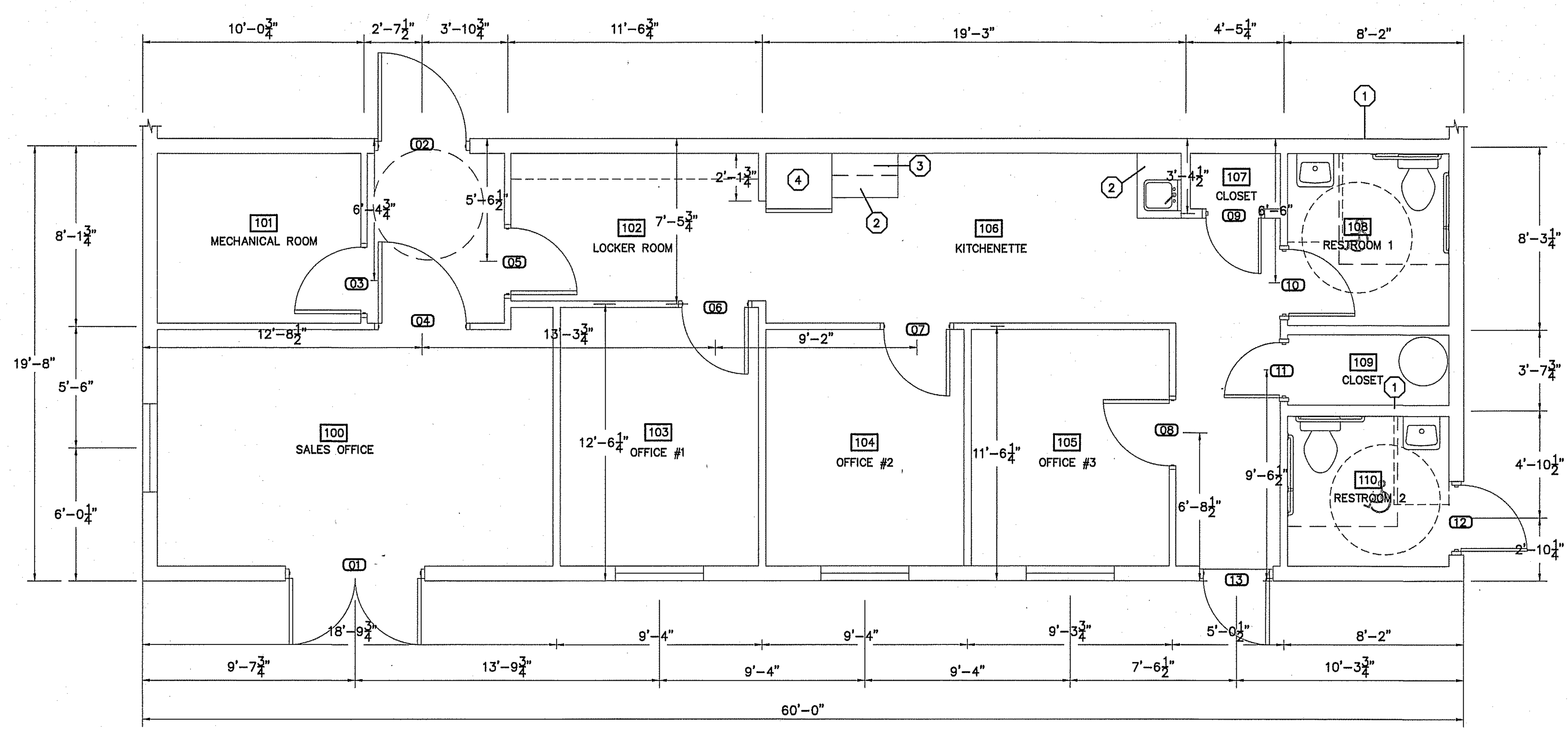
DOOR SCHEDULE

DOOR NO.	DOOR SIZE			REMARKS
	WIDE	HIGH	THICK.	
01	6'-0"	7'-0"	1 3/4"	EXTERIOR STOREFRONT DOOR WITH H.M. FRAME
02	4'-0"	7'-0"	1 3/4"	INTERIOR METAL DOOR WITH H.M. FRAME
03	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
04	4'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
05	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
06	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
07	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
08	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
09	2'-6"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
10	3'-0"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
11	2'-6"	7'-0"	1 3/4"	INTERIOR WOOD DOOR WITH H.M. FRAME
12	3'-0"	7'-0"	1 3/4"	EXTERIOR METAL DOOR WITH H.M. FRAME
13	3'-0"	7'-0"	1 3/4"	EXTERIOR STOREFRONT DOOR WITH H.M. FRAME

VERIFY TYPES AND SIZES WITH OWNER BEFORE ORDERING.
PROVIDE ALL HARDWARE AS REQUIRED. ALL HARDWARE TO BE A.D.A. COMPLIANT.
VERIFY HARDWARE FINISHES & STYLES WITH OWNER BEFORE ORDERING.



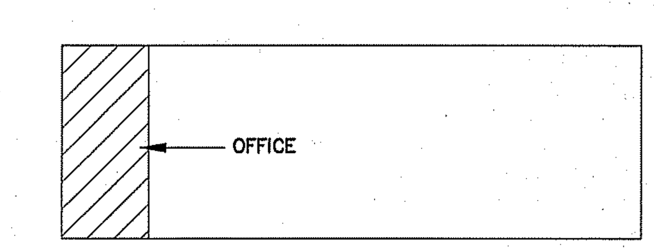
RESTROOM ACCESSIBILITY DETAILS
SCALE: 1/2" = 1'-0"



PROPOSED FLOOR PLAN BUILDING "1" (OFFICE)
SCALE: 1/4" = 1'-0"

KEY NOTES:
1. WET WALLS. SEE NOTES.
2. BASE CABINET SELECTED BY OWNER
3. WALL CABINET SELECTED BY OWNER
4. REFRIGERATOR, SELECTED BY OWNER

NOTES:
INTERIOR WALLS; 3-5/8", 20 GA. METAL STUDS @ 16" O.C.
"WET WALLS" (1): 6", 20 GA METAL STUDS @ 16" O.C.



KEY PLAN
SCALE: NTS

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St. Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
F-1 OF 1

PLUMBING LEGEND

DESCRIPTION	SYMBOL
COLD WATER	CW
HOT WATER	HW
COLD WATER (FILTERED)	
RECIRCULATED WATER	HWR
VENT PIPING	V
WASTE PIPING	NEW / EXISTING W
CLEAN OUT IN GRADE	C.O.I.G.
FLOOR CLEAN OUT	F.C.O.
NON FREEZE HOSE BIBB	NFHB
FLOOR DRAIN	F.D.
CHECK VALVE	
BALL VALVE	
GATE VALVE	
SHUT-OFF VALVE	
DOUBLE CHECK VALVE	
FIXTURE DESIGNATION	P--
MOUNTING HEIGHT	MH
POINT OF CONNECTION NEW TO EXISTING	
FLOOR SINK	
SHOCK ABSORBER W/BALL VALVE SHUT-OFF	SA SIZE PER MANUF. RECOMMENDATIONS
CHANGE IN PIPE SIZE	

PLUMBING FIXTURE SCHEDULE

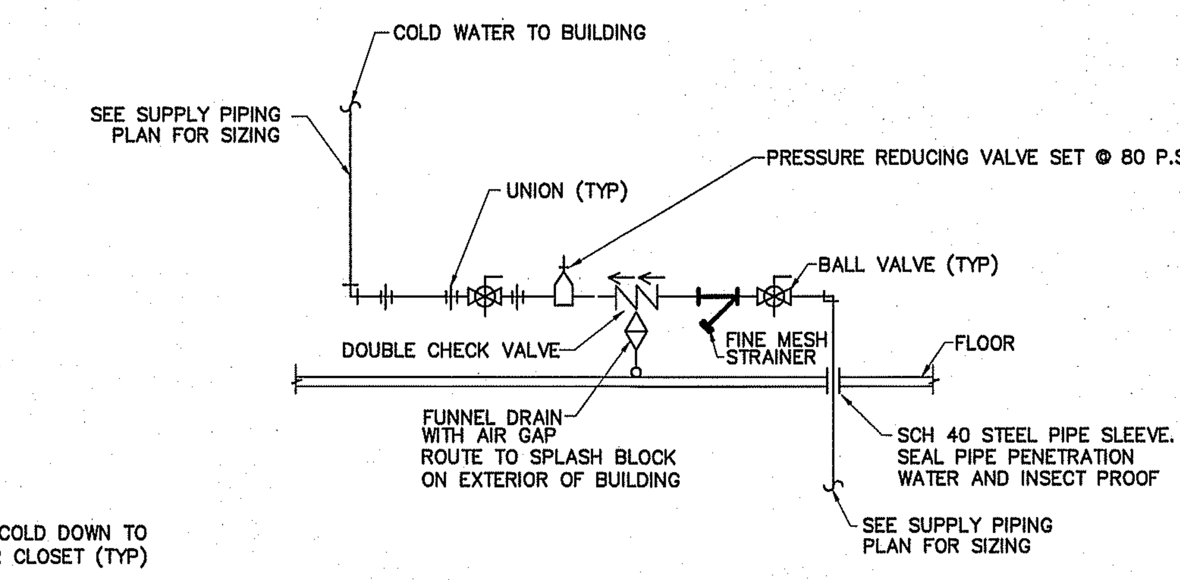
MARK	MAKE	MODEL	DESCRIPTION	NOTES
P-1	AMERICAN STANDARD	CADET 2377.100	EL 1.6/PA 16.5"HC ELONGATED WATER CLOSET HC ACCESSIBLE, TANK TYPE	WHITE 5311.012 SEAT
P-2	AMERICAN STANDARD	LUCERNE 0355	WALL HUNG LAVATORY	1340.225 FAUCET. PROVIDE W/BASKET DRAIN FAUCET HOLES 4" O..C.
P-3	–	–	SINGLE BOWL SINK	VERIFY SIZE, TYPE, & MOUNTING W/OWNER BEFORE ORDERING FIXTURE. COORDINATE WITH COUNTER TOP SUPPLIER. PROVIDE WITH FAUCET & DRAIN.
P-4	STATE	4.5KW WATER HEATER		240V, 1ø

* VERIFY ALL FIXTURES WITH OWNER BEFORE PURCHASE OR INSTALLATION

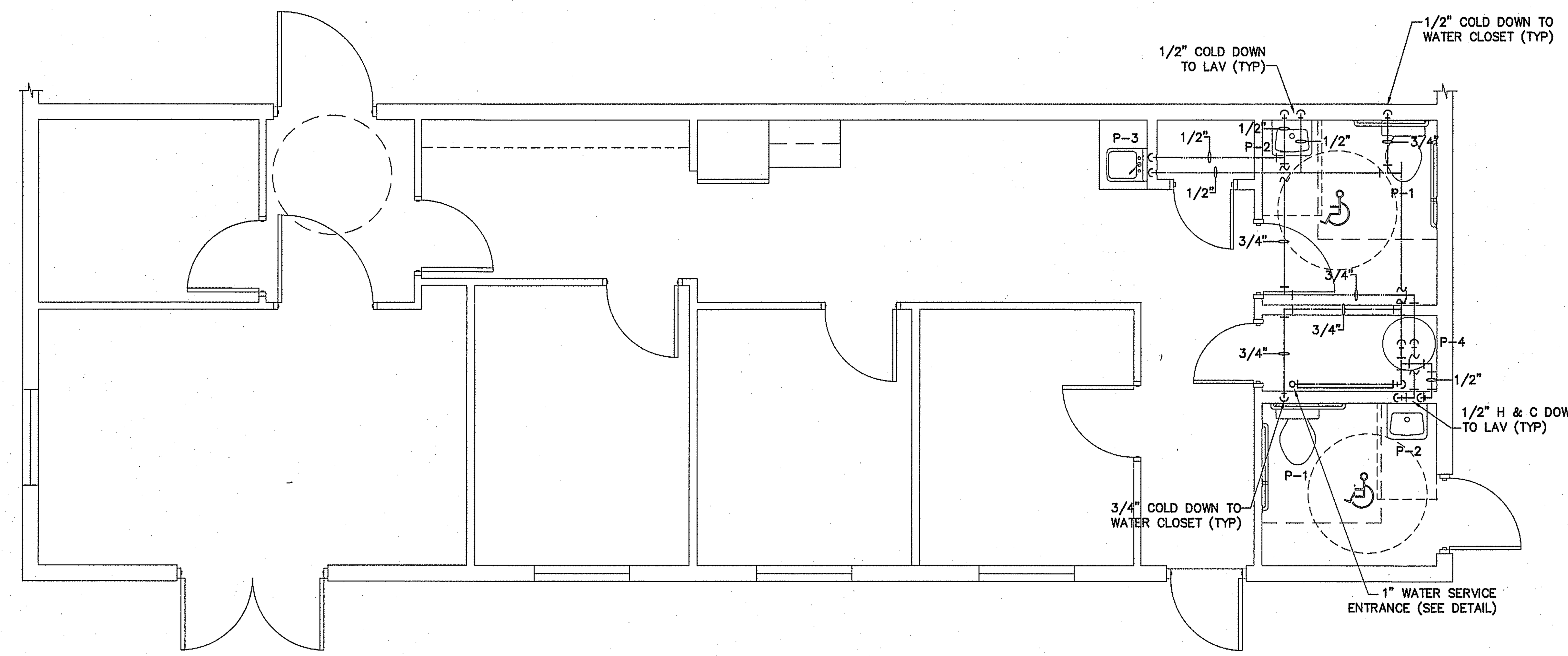
PLUMBING CALCULATIONS

ITEM	# OF	FIXTURE	UNITS	(EACH)	FIXTURE	UNITS	(TOTAL)	FIXTURE UNITS (WASTE)
		COLD	HOT	TOTAL	COLD	HOT	TOTAL	
FLUSH TANK WATER CLOSET	2	5.0	–	5.0	10.0	–	10.0	4/8
LAVATORY	3	1.5	1.5	2	4.5	4.5	6.0	1/3
TOTAL		–	–	–	14.5	4.5	16.0	11.0

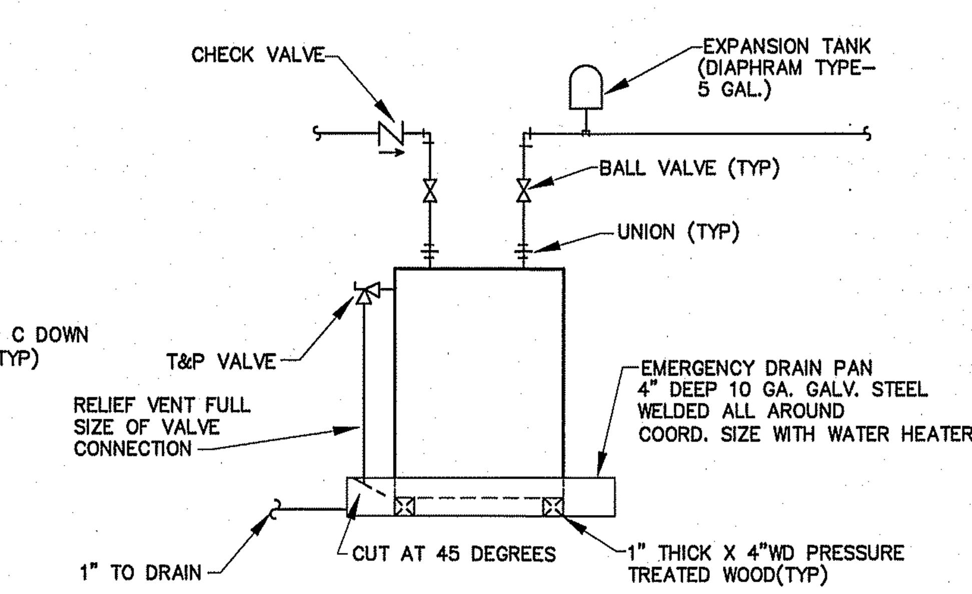
18.0 GPM
WATER SUPPLY PIPE SIZE: MINIMUM 1"



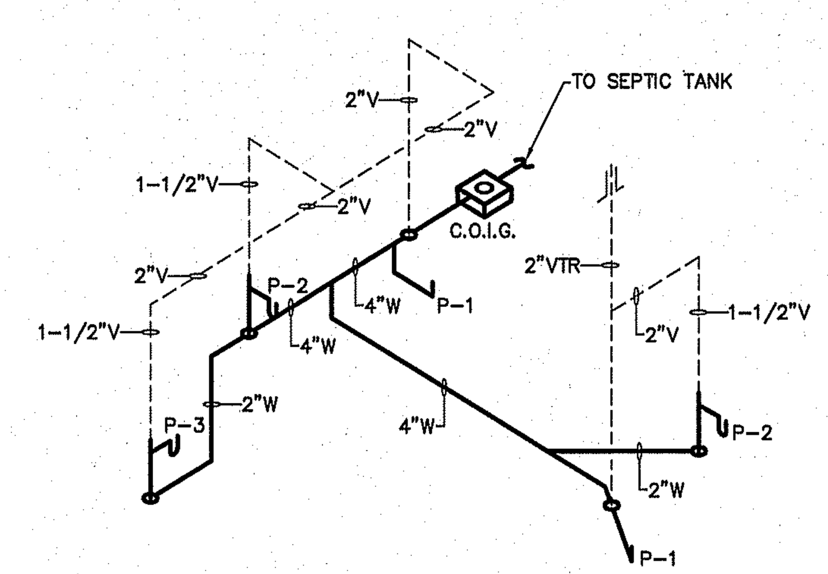
DETAIL-WATER SERVICE ENTRANCE
NOT TO SCALE



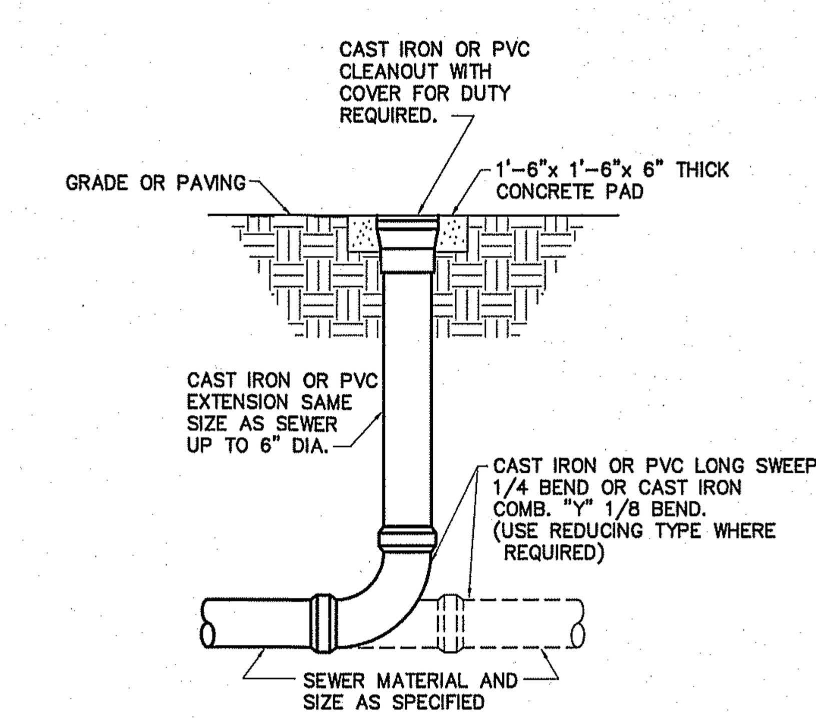
PLUMBING SUPPLY PLAN BUILDING "1" (OFFICE)
SCALE: 1/4" = 1'-0"



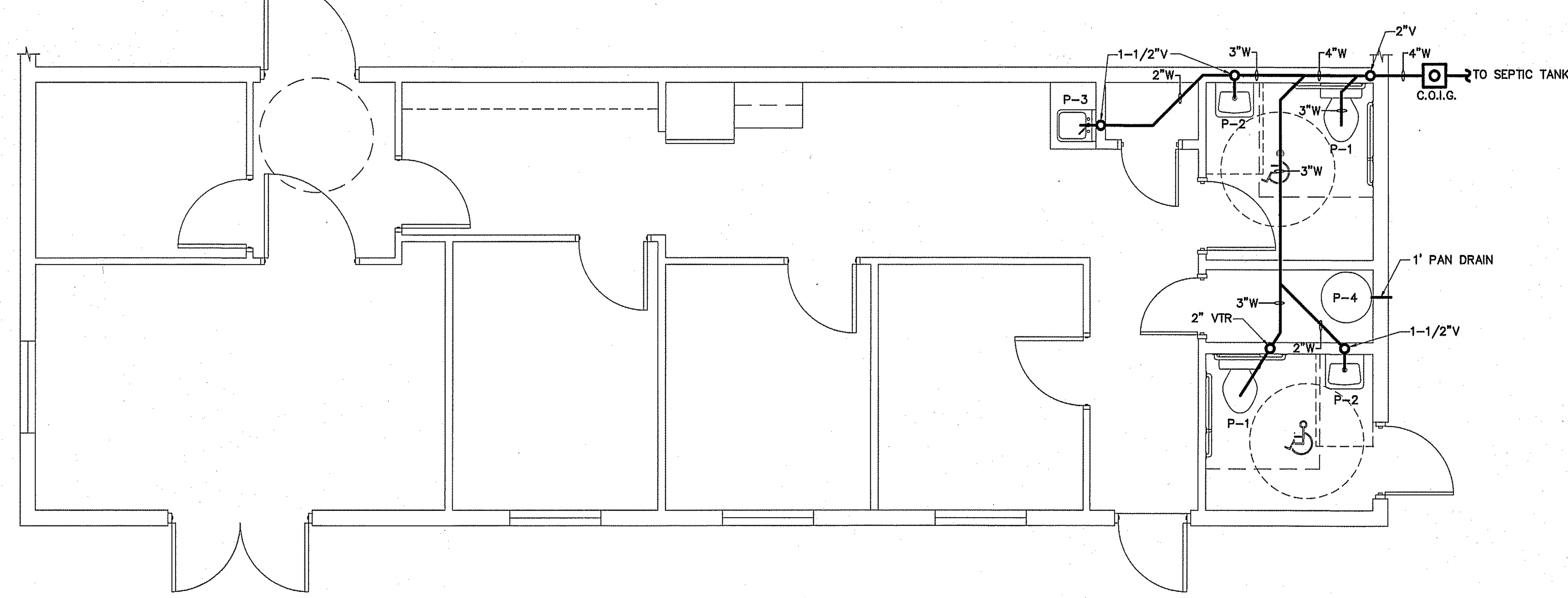
DETAIL-WATER HEATER
NOT TO SCALE



WASTE & VENT RISER DIAGRAM
NOT TO SCALE



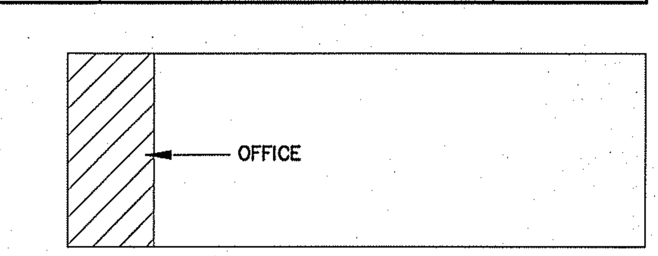
DETAIL-CLEAN OUT AT GRADE
NOT TO SCALE



PLUMBING WASTE PLAN BUILDING "1" (OFFICE)
SCALE: 1/4" = 1'-0"

PLUMBING CONNECTION SCHEDULE

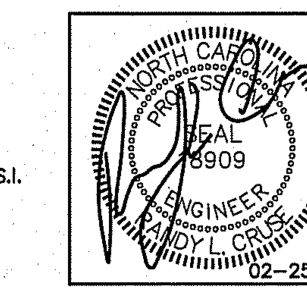
FIXTURE	C.W.	H.W.	WASTE	VENT
FLUSH TANK WATER CLOSET	1/2"	–	3"	2"
LAVATORY	1/2"	1/2"	2"	1 1/2"
FLOOR DRAIN			3"	2"



KEY PLAN
SCALE: NTS

GENERAL PLUMBING NOTES

1. ALL WORK SHALL BE IN COMPLIANCE WITH APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
2. CONTRACTORS SHALL COORDINATE PIPING WITH ALL OTHER TRADES.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL/STRUCTURAL DRAWINGS FOR DIMENSIONS.
4. CONTRACTOR SHALL FURNISH AND INSTALL DIELECTRIC UNIONS AT ALL CONNECTIONS BETWEEN DISSIMILAR METALS.
5. CONTRACTOR SHALL FURNISH AND INSTALL ESCUTCHEONS AND COVER PLATES AT ALL FINISHED WALLS, CEILINGS AND FLOOR OPENINGS.
6. PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH STATE AND LOCAL CODE. (REFER TO SPECIFICATIONS.)
7. ALL PIPING SHALL BE TESTED FOR LEAKS. IF ANY LEAKS ARE DETECTED THE PIPING SHALL BE REPAIRED, RESOLDERED OR REPLACED AND RETESTED.
8. ALL SOLDER SHALL BE OF THE LEAD FREE TYPE.
9. WATER HEATER SHALL BE SUPPLIED WITH FACTORY INSTALLED T&P VALVES AND SHALL HAVE UNIONS AND ISOLATION VALVES.
10. DOMESTIC WATER SUPPLY PIPING SHALL BE COPPER OR CPVC. PEX IS ALLOWED WHERE PERMITTED BY CODE.
11. WASTE AND VENT PIPING SHALL BE SCH. 40 PVC OR HEAVY DUTY CAST IRON UNDER TRAFFIC AREAS.
12. INSTALL THERMOSTATICALLY CONTROLLED MIXING VALVES AS NEEDED TO ENSURE HOT WATER TEMPERATURE TO ALL HAND WASHING LOCATIONS DOES NOT EXCEED 110°F.
13. ALL FLOOR DRAINS & HUB DRAINS SHALL BE PROVIDED WITH TRAP PRIMER EXCEPT FLOOR DRAINS IN TOILETS WHERE HOSE BIBS ARE PROVIDED.
14. HOT WATER PIPING SHALL BE INSULATED WITH 1" THICK FIBROUS GLASS INSULATION. COLD WATER PIPING SHALL BE INSULATED WITH 1/2" FIBROUS GLASS INSULATION. VAPOR BARRIER SHALL BE APPLIED TO EACH.



PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
P-1 OF 1

CONNECTION SCHEDULE

TO PANEL BY E.C.

STARTER, COMBINATION STARTER/DISCONNECT, AND DISCONNECTING MEANS. SUPPLIED BY E.C., INSTALLED BY E.C.

TO MECHANICAL DEVICE. BY M.C.

ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

NOTE:

VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING.

GENERAL NOTE:

MAINTAIN MANUFACTURER'S REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.

GENERAL NOTES:

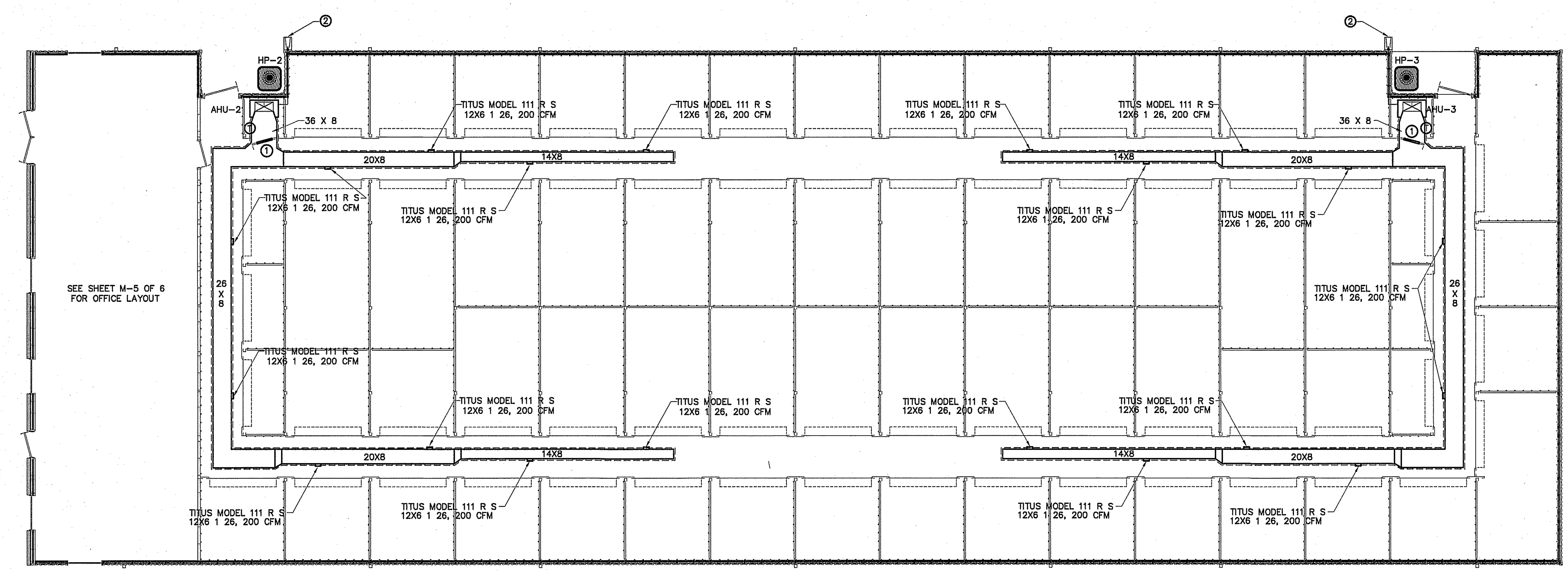
1. RUN ALL DUCTWORK TIGHT TO CEILING INSULATION.
2. FASTEN ALL CONDENSATE LINES TO WALLS OR CEILINGS WHERE APPLICABLE.
3. 7-DAY PROGRAMMABLE T'STAT WITH LOCKING COVER.
4. PROVIDE AND INSTALL CONCRETE SPLASH BLOCK, ONE PER 3 HEAT PUMPS MIN.
5. INSTALL FLOAT SWITCH IN AUXILIARY PAN TO STOP UNIT IN EVENT OF CONDENSATE OVERFLOW.

MECHANICAL SYMBOL LEGEND

SINGLE LINE	DOUBLE LINE	DESCRIPTION
-		TAKE OFF TO SUPPLY AIR REGISTER WITH EXT. INSUL. DUCTWORK
-		BRANCH TAKEOFF FROM MAIN TRUNK DUCT WITH EXT. INSUL. DUCTWORK
-		END CAP
D OR DD -	D OR DD	DUCT SMOKE DETECTOR
A.D. -		ACCESS DOOR (DOOR SIZE / DUCT HEIGHT: 8X8 / 10"; 10X10 / 12"; 12X12 / 14" & LARGER)
-	VOLUME CONTROL DAMPER (TYP); CEILING DIFFUSER; FLEXIBLE DUCTWORK (14' MAX.)	
-		ONE SIDED REDUCING TRANSITION
F.D.(1-1/2)		F.D.=FIRE DAMPER (1-1/2)=RATED FOR 1-1/2 HRS.
-		RETURN AIR OR EXHAUST GRILLE
-		TWO SIDED TRANSITION
(1-WAY) (2-WAY) (3-WAY) (4-WAY) -		SUPPLY AIR CEILING DIFFUSER, ARROW INDICATES DIRECTION OF BLOW & ACTIVE DIFFUSER SIDES
CUSHION HEAD -		(1)CUSHION HEAD @ BRANCH OR DIFFUSER RUNOUT (2)CUSHION HEAD IS EQUAL TO 1-1/2 WIDTH OF THE BRANCH DUCT OR DIFFUSER RUNOUT
-		R.A. OR EXHAUST DUCT TURNS DOWN @ 90 DEGS.
-		MANUAL VOLUME CONTROL DAMPER W/ QUADRANT LOCKING DEVICE
-		TWO SIDED TRANSITION
-		ELECT. DUCT INSERT HEATER WITH CONTROL PANEL
-		AHU W/FLEXIBLE CONNECTION AT SUPPLY AND RETURN DUCT
-		KEY NOTE
X / XXX		MARK; CFM-DIFFUSER, REGISTER OR GRILLE (SEE SCHEDULE)
-		EXHAUST FAN

KEY NOTES:

1. 16" X 16" TRANSFER GRILL INSTALLED IN DOOR (TYPICAL)
2. 3/4" CONDENSATE LINE FROM EACH AHU TO SPLASH BLOCKS



MECHANICAL HVAC PLAN BUILDING "1"

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

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 6909 ENGINEER RANDY L. CRUSE 02-25-25

REVISIONS

NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
M-1 OF 5

CONNECTION SCHEDULE

TO PANEL BY E.C.

STARTER, COMBINATION STARTER/DISCONNECT, AND DISCONNECTING MEANS. SUPPLIED BY E.C., INSTALLED BY E.C.

TO MECHANICAL DEVICE. BY M.C.

ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

NOTE:

VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING.

GENERAL NOTE:

MAINTAIN MANUFACTURER'S REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.

GENERAL NOTES:

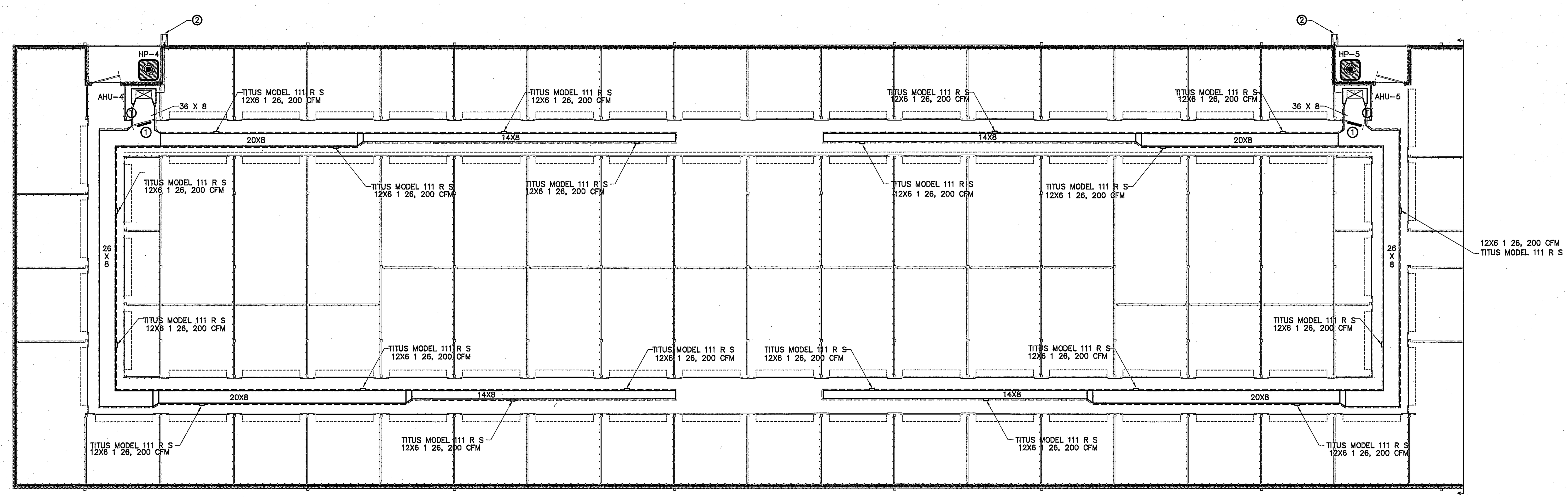
1. RUN ALL DUCTWORK TIGHT TO CEILING INSULATION.
2. FASTEN ALL CONDENSATE LINES TO WALLS OR CEILINGS WHERE APPLICABLE.
3. 7-DAY PROGRAMMABLE T'STAT WITH LOCKING COVER.
4. PROVIDE AND INSTALL CONCRETE SPLASH BLOCK, ONE PER 3 HEAT PUMPS MIN.
5. INSTALL FLOAT SWITCH IN AUXILIARY PAN TO STOP UNIT IN EVENT OF CONDENSATE OVERFLOW.

MECHANICAL SYMBOL LEGEND

SINGLE LINE	DOUBLE LINE	DESCRIPTION
		TAKE OFF TO SUPPLY AIR REGISTER WITH EXT. INSUL. DUCTWORK
		BRANCH TAKEOFF FROM MAIN TRUNK DUCT WITH EXT. INSUL. DUCTWORK
		END CAP
D OR DD	D OR DD	DUCT SMOKE DETECTOR
A.D.		ACCESS DOOR — DOOR SIZE / DUCT HEIGHT: 8X8 / 10"; 10X10 / 12"; 12X12 / 14" & LARGER
		VOLUME CONTROL DAMPER (TYP); CEILING DIFFUSER; FLEXIBLE DUCTWORK (14' MAX.)
		ONE SIDED REDUCING TRANSITION
F.D.(1-1/2)		F.D.=FIRE DAMPER (1-1/2)=RATED FOR 1-1/2 HRS.
		RETURN AIR OR EXHAUST GRILLE
		TWO SIDED TRANSITION
(1-WAY) (2-WAY) (3-WAY) (4-WAY)		SUPPLY AIR CEILING DIFFUSER, ARROW INDICATES DIRECTION OF BLOW & ACTIVE DIFFUSER SIDES
CUSHION HEAD		(1)CUSHION HEAD @ BRANCH OR DIFFUSER RUNOUT (2)CUSHION HEAD IS EQUAL TO 1-1/2 WIDTH OF THE BRANCH DUCT OR DIFFUSER RUNOUT
		R.A. OR EXHAUST DUCT TURNS DOWN @ 90 DEGS.
		MANUAL VOLUME CONTROL DAMPER W/ QUADRANT LOCKING DEVICE
		TWO SIDED TRANSITION
		ELECT. DUCT INSERT HEATER WITH CONTROL PANEL
		AHU W/FLEXIBLE CONNECTION AT SUPPLY AND RETURN DUCT
		KEY NOTE
X / XXX		MARK; CFM-DIFFUSER, REGISTER OR GRILLE (SEE SCHEDULE)
		EXHAUST FAN

KEY NOTES:

1. 16" X 16" TRANSFER GRILL INSTALLED IN DOOR (TYPICAL)
2. 3/4" CONDENSATE LINE FROM EACH AHU TO SPLASH BLOCKS
3. PROVIDE CONDENSATE PUMP IF GRAVITY DRAIN IS NOT AVAILABLE. COORDINATE ELECTRICAL REQUIREMENTS WITH E.C. AS APPLICABLE.

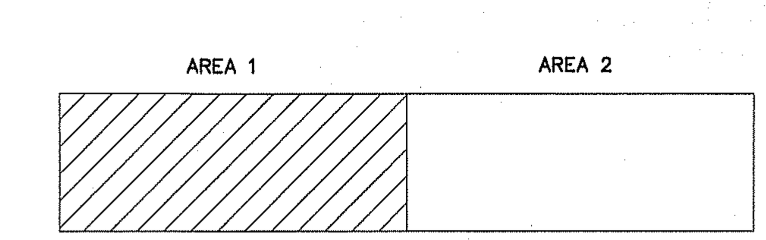


MECHANICAL HVAC PLAN BUILDING "2"

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

LEGEND

3 HOUR RATED WALL U419



KEYPLAN

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/11/2025

Cruse And Associates, P.A.
414 E. Edgerton St. Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
M-2 OF 5

CONNECTION SCHEDULE

TO PANEL BY E.C.

STARTER, COMBINATION STARTER/DISCONNECT, AND DISCONNECTING MEANS. SUPPLIED BY E.C., INSTALLED BY E.C.

TO MECHANICAL DEVICE. BY M.C.

ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

GENERAL NOTES:

1. RUN ALL DUCTWORK TIGHT TO CEILING INSULATION.
2. FASTEN ALL CONDENSATE LINES TO WALLS OR CEILINGS WHERE APPLICABLE.
3. 7-DAY PROGRAMMABLE T'STAT WITH LOCKING COVER.
4. PROVIDE AND INSTALL CONCRETE SPLASH BLOCK, ONE PER 3 HEAT PUMPS MIN.
5. INSTALL FLOAT SWITCH IN AUXILIARY PAN TO STOP UNIT IN EVENT OF CONDENSATE OVERFLOW.

MECHANICAL SYMBOL LEGEND

SINGLE LINE	DOUBLE LINE	DESCRIPTION
		TAKE OFF TO SUPPLY AIR REGISTER WITH EXT. INSUL. DUCTWORK
		BRANCH TAKEOFF FROM MAIN TRUNK DUCT WITH EXT. INSUL. DUCTWORK
		END CAP
D OR DD	D OR DD	DUCT SMOKE DETECTOR
A.D.		ACCESS DOOR — DOOR SIZE / DUCT HEIGHT: 8X8 / 10"; 10X10 / 12"; 12X12 / 14" & LARGER
		VOLUME CONTROL DAMPER (TYP); CEILING DIFFUSER; FLEXIBLE DUCTWORK (14' MAX.)
		ONE SIDED REDUCING TRANSITION
F.D.(1-1/2)		F.D.=FIRE DAMPER (1-1/2)=RATED FOR 1-1/2 HRS.
		RETURN AIR OR EXHAUST GRILLE
		TWO SIDED TRANSITION
(1-WAY) (2-WAY) (3-WAY) (4-WAY)		SUPPLY AIR CEILING DIFFUSER, ARROW INDICATES DIRECTION OF BLOW & ACTIVE DIFFUSER SIDES
CUSHION HEAD		(1)CUSHION HEAD @ BRANCH OR DIFFUSER RUNOUT (2)CUSHION HEAD IS EQUAL TO 1-1/2 WIDTH OF THE BRANCH DUCT OR DIFFUSER RUNOUT
		R.A. OR EXHAUST DUCT TURNS DOWN @ 90 DEGS.
		MANUAL VOLUME CONTROL DAMPER W/ QUADRANT LOCKING DEVICE
		TWO SIDED TRANSITION
		ELECT. DUCT INSERT HEATER WITH CONTROL PANEL
		AHU W/FLEXIBLE CONNECTION AT SUPPLY AND RETURN DUCT
		KEY NOTE
X / XXX		MARK; CFM-DIFFUSER, REGISTER OR GRILLE (SEE SCHEDULE)
		EXHAUST FAN

NOTE:

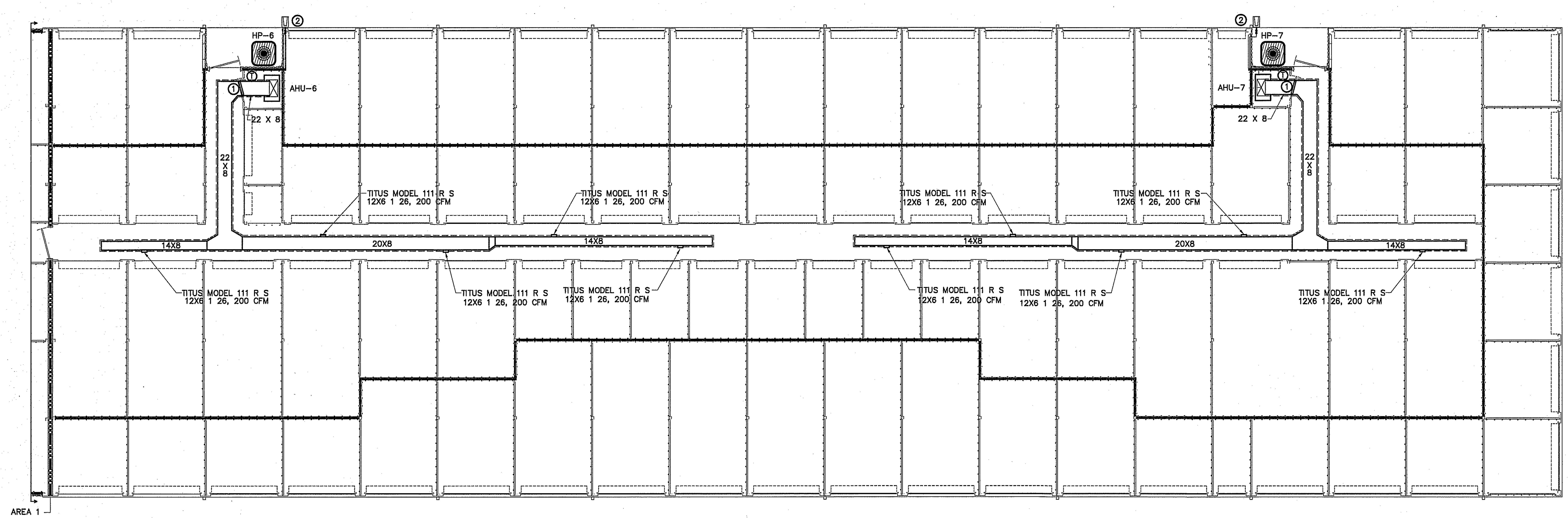
VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING.

GENERAL NOTE:

MAINTAIN MANUFACTURER'S REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.

KEY NOTES:

1. 16" X 16" TRANSFER GRILL INSTALLED IN DOOR (TYPICAL)
2. 3/4" CONDENSATE LINE FROM EACH UNIT TO SPLASH BLOCKS
3. PROVIDE CONDENSATE PUMP IF GRAVITY DRAIN IS NOT AVAILABLE. COORDINATE ELECTRICAL REQUIREMENTS WITH E.C. AS APPLICABLE.



MECHANICAL HVAC PLAN BUILDING "2"

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

LEGEND

3 HOUR RATED WALL U419

AREA 1 AREA 2

KEYPLAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 6909 02-25-25

PROPOSED BUILDINGS FOR: HIGHWAY 42 STORE ALL HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/11/2025

Cruse And Associates, P.A.

LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.

© COPY RIGHT

DATE 02-25-25

DRAWN BY BAM

JOB NO. 24-31

SHEET NO. M-3 OF 5

MECHANICAL SYMBOL LEGEND

SINGLE LINE	DOUBLE LINE	DESCRIPTION
		TAKE OFF TO SUPPLY AIR REGISTER WITH EXT. INSUL. DUCTWORK
		BRANCH TAKEOFF FROM MAIN TRUNK DUCT WITH EXT. INSUL. DUCTWORK
		END CAP
D OR DR	D OR DR	DUCT SMOKE DETECTOR
A.D.		ACCESS DOOR — DOOR SIZE / DUCT HEIGHT: 8X8 / 10", 10X10 / 12", 12X12 / 14" & LARGER
		VOLUME CONTROL DAMPER (TYP); CEILING DIFFUSER; FLEXIBLE DUCTWORK (14' MAX.)
		ONE SIDED REDUCING TRANSITION
F.D.(1-1/2)		F.D.=FIRE DAMPER (1-1/2)=RATED FOR 1-1/2 HRS.
	A / 70	RETURN AIR OR EXHAUST GRILLE
		TWO SIDED TRANSITION
		SUPPLY AIR CEILING DIFFUSER, ARROW INDICATES DIRECTION OF BLOW & ACTIVE DIFFUSER SIDES (1-WAY) (2-WAY) (3-WAY) (4-WAY)
CUSHION HEAD		(1)CUSHION HEAD @ BRANCH OR DIFFUSER RUNOUT (2)CUSHION HEAD IS EQUAL TO 1-1/2 WIDTH OF THE BRANCH DUCT OR DIFFUSER RUNOUT
		R.A. OR EXHAUST DUCT TURNS DOWN @ 90 DEGS.
		MANUAL VOLUME CONTROL DAMPER W/ QUADRANT LOCKING DEVICE
		TWO SIDED TRANSITION
		ELECT. DUCT INSERT HEATER WITH CONTROL PANEL
		AHU W/FLEXIBLE CONNECTION AT SUPPLY AND RETURN DUCT
		KEY NOTE
X / XXX		MARK; CFM-DIFFUSER, REGISTER OR GRILLE (SEE SCHEDULE)
		EXHAUST FAN

NOTE:
VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING. FILTER ALL OUTSIDE AIR.

GENERAL NOTE:
MAINTAIN MANUFACTURER'S REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.

OUTSIDE AIR REQUIREMENTS
OFFICE – 0.06 CFM/SF X 1200 SF = 72 CFM 12 PEOPLE X 5 CFM/PERSON = 60 CFM 132 CFM FOR OFFICE AHU-1.

REGISTER, GRILLE, & DIFFUSER SCHEDULE*

MARK	DESCRIPTION	MAX. NC	NECK	BORDER TYPE	MATERIAL	FINISH	MANUFACTURER	MODEL NUMBER	ACCESSORIES / NOTES
A	DIFFUSER-4-WAY	30	6"X6"	LAY-IN	STEEL	WHITE	TITUS	TDC 6X6 3 26 4	SQ-TO-RND
B	DIFFUSER-2-WAY	30	6"X6"	LAY-IN	STEEL	WHITE	TITUS	TDC 6X6 3 26 2	SQ-TO-RND
R1	RETURN GRILLE	30	20"X20"	LAY-IN	STEEL	WHITE	TITUS	23RL 20X20 24X24 3 26	SQ-TO-RND

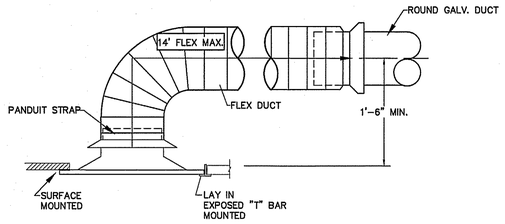
* VERIFY CEILING TYPE BEFORE ORDERING, NARROW TEE REQUIREMENTS, PLASTER FRAMES ETC. TO BE INCLUDED WITH DIFFUSERS AT NO ADDITIONAL COST TO OWNER

EXHAUST FAN SCHEDULE

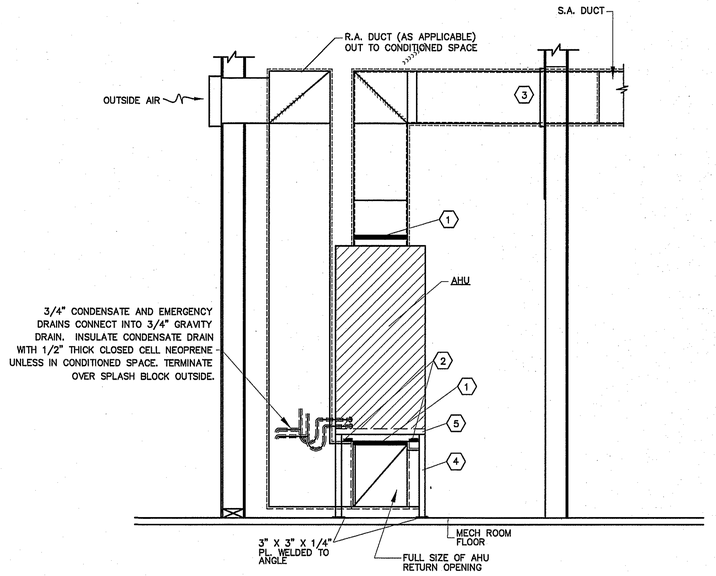
MARK	MAKE	MODEL	TYPE	CFM	EXTERNAL S.P. IN (W.G.)	AMPS	ELECTRICAL VOLT	PH	HZ	NOTES
EF-1,2	GREENHECK	SP-A90	CEILING FAN	70	.125	.34	115	1ø	60	WC-8 WALL CAP

LOUVER SCHEDULE

MARK	DESCRIPTION	SERVES	CFM	APPROXIMATE OUTSIDE DIMENSIONS (W X H)	MODEL
L1	OUTSIDE AIR LOUVER	VARIES	*	12"X12"	HART & COOLEY 15302F 12X12 W/ INSECT SCREEN



DIFFUSER DETAIL
NOT TO SCALE



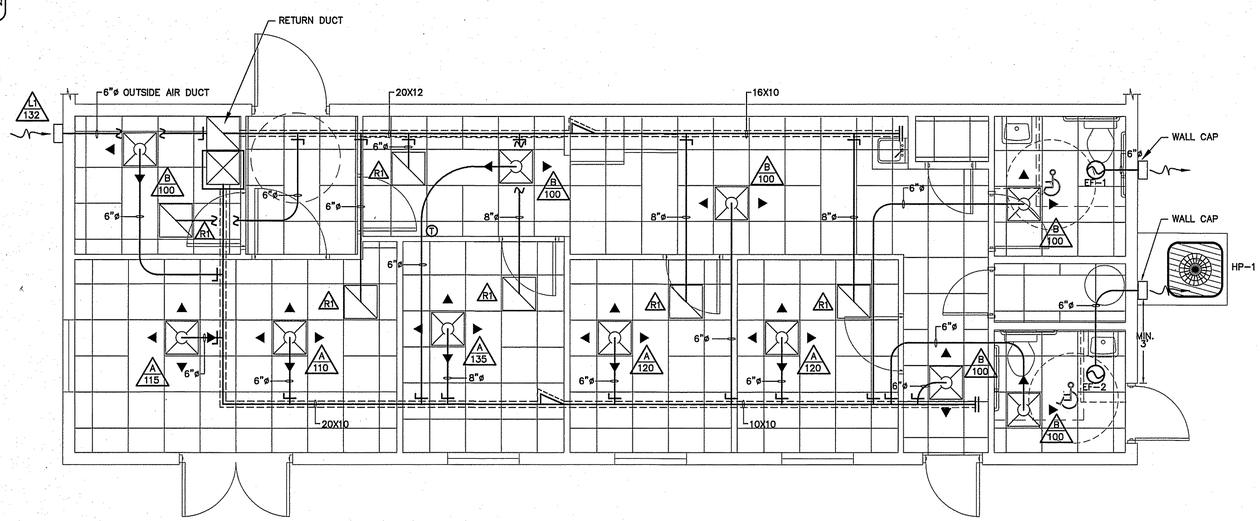
TYPICAL DETAIL–FLOOR MOUNTED AHU (OFFICE)
NOT TO SCALE

NOTES:

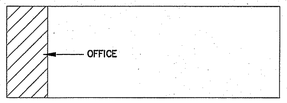
1. FLEXIBLE CONNECTION
2. NEOPRENE-IN-SHEAR VIBRATION ISOLATORS
3. SHEET METAL COLLAR AT WALL PENETRATION
4. 1-1/2" X 1-1/2" X 3/16" ANGLE AHU SUPPORT STAND WITH ALL WELDED CONSTRUCTION. PAINT WITH 1 COAT OF PRIMER AND FINISH WITH (2) COATS GRAY HIGH GLOSS MACHINE ENAMEL, MARTIN SENOUR OR EQUAL.
5. 1" PLEATED FILTER

PROVIDE PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM.

GENERAL NOTE:
COORDINATE CEILING HEIGHT WITH TRUNK DUCT HEIGHT. CEILING COULD REQUIRE LOWERING TO LESS THAN 8' IN SOME AREAS.



HVAC MECHANICAL PLAN BUILDING "1" (OFFICE)
SCALE: 1/4" = 1'-0"



KEY PLAN
SCALE: NTS

NORTH CAROLINA PROFESSIONAL SEAL 18909 ENGINEER BARRY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS
NO.

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
(910) 892-5162
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE	02-25-25
DRAWN BY	BAM
JOB NO.	24-31

SHEET NO.
M-4 OF 5

AIR HANDLER UNIT

AHU NO.	MANUFACTURER	MODEL	VOLTAGE	E.S.P.	OUTSIDE AIR (CFM)	CFM	UNIT FLA	REF LINES GAS	REF LINES LIQ.	SEER	HTR KW (240)	COOLING CAPACITY (MBH) TOTAL	COOLING CAPACITY (MBH) SENS.	HEATING CAPACITY (MBH) HIGH	HEATING CAPACITY (MBH) LOW	HSPF	MIN. CIRC. AMPACITY	M.O.C.P.
AHU-6,7	TRANE	TEM4A0B31M31	240/1/60	.46	–	1000	32.0	3/4	3/8	14.3	7.68	28.4	22.4	27.2	18.5	8.5	43	45
AHU-1	TRANE	TEM4A0B42S41	240/1/60	.46	N/A	1200	32.0	7/8	3/8	14.8	7.68	38.4	26.8	34.0	22.4	9.0	45	45
AHU-2,3	TRANE	TEM4A0C61M51	240/1/60	.46	–	2000	32.0	1-1/8	3/8	14.5	7.68	56.8	42.8	54.9	36.2	8.5	48	50
AHU-4,5	TRANE	TEM4A0C61M51	240/1/60	.46	–	2000	32.0	1-1/8	3/8	14.5	7.68	56.8	42.8	54.9	36.2	8.5	48	50

** PROVIDE OUTDOOR THERMOSTAT TO LOCK OUT SUPPLEMENTAL ELECTRIC HEAT AT OUTDOOR TEMPERATURES ABOVE 40°F.

SPLIT SYSTEM HEAT PUMP UNITS

MARK	MANUF.	MODEL	VOLTAGE	# COMP.	MIN. CIRC. AMPACITY	M.O.C.P.	UNIT FLA.	ACCESSORIES
HP-6,7	TRANE	4TWR5030N1000A	240/1/60	1	17	25	13.6	EXCLUDE 8,18
HP-1	TRANE	4TWR5036N1000A	240/1/60	1	18	30	14.8	EXCLUDE 8,18
HP-2,3	TRANE	4TWR5048N1000A	240/1/60	1	26	40	21.3	EXCLUDE 8,18
HP-4,5	TRANE	4TWR5060H1000A	240/1/60	1	32	50	26.5	EXCLUDE 8,18

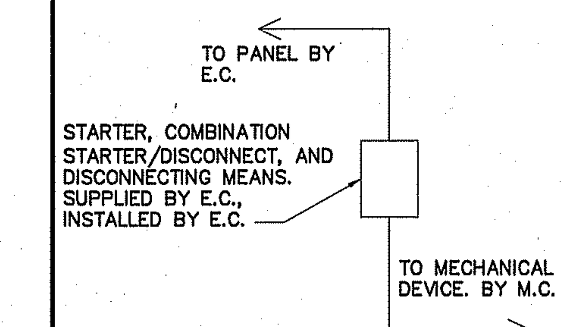
ACCESSORIES

1 TIME-DELAY RELAY
2 CYCLE PROTECTOR
3 EVAPORATOR FREEZE PROTECTOR
4 ISOLATION RELAY
5 TXV
6 HIGH PRESSURE SWITCH
7 LIQUID SOLENOID VALVE
8 LOW-AMBIENT CONTROLLER
9 FILTER DRIER (LIQUID LINE)
10 OUTDOOR T'STAT TO LOCK OUT AUX. HT. (SET @ 40° F ADJ)
11 LOW PRESSURE CONTROL
12 CRANKCASE HEATER
13 DISCHARGE LINE MUFFLER
14 SUCTION AND LIQUID LINE SHUT OFF VALVES
15 THERMOSTAT (SEE NOTE)
16 SUPPORT FEET
17 COIL GUARDS
18 HUMIDISTAT

COOLING CAPACITY @ 80 DEG. F DB/67 DEG WB AIR ENTERING INDOOR UNIT & 95 DEG. F DB AIR ENTERING OUTDOOR UNIT
HEATING CAPACITY: HIGH TEMP = 70 DEG F DB INDOOR EAT & 47 DEG F DB/43 DEG F WB AIR ENTERING OUTDOOR UNIT
LOW TEMP = 70 DEG F DB INDOOR EAT & 17 DEG F DB/15 DEG F WB ENTERING OUTDOOR UNIT

T-STAT: THE NUMBER OF STAGES OF HEATING/COOLING SHALL MATCH THE NUMBER OF STAGES OF HEAT AVAILABLE IN THE HPIU OR THE NUMBER OF STAGES OF COOLING AVAILABLE IN THE HPOU. PROVIDE WITH T-STAT; 7 DAY PROGRAMMABLE, DIGITAL.

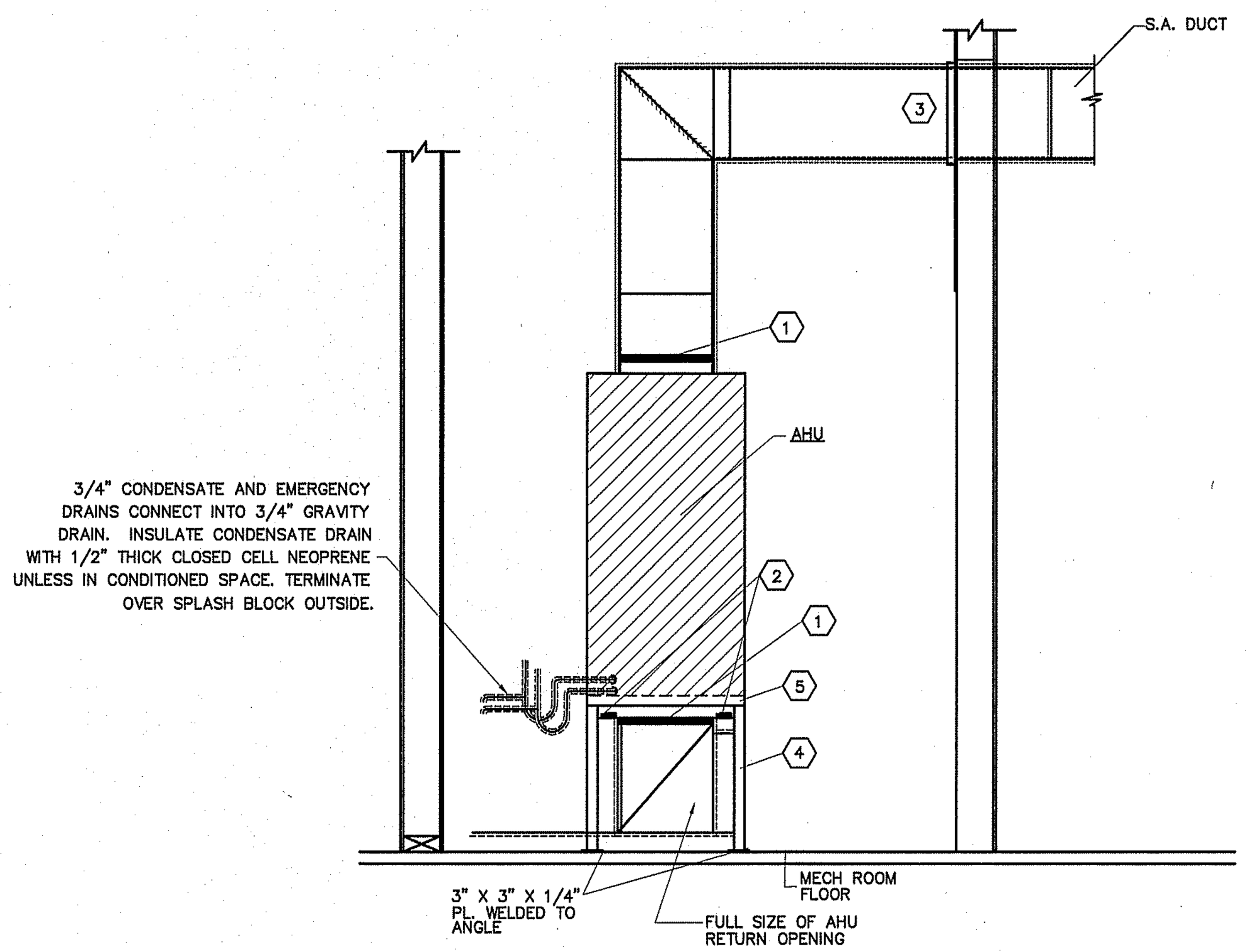
CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

GENERAL NOTE:

ELECTRICAL & MECHANICAL CONTRACTORS TO COORDINATE & VERIFY ALL EQUIPMENT REQUIREMENTS BEFORE ORDERING EQUIPMENT.



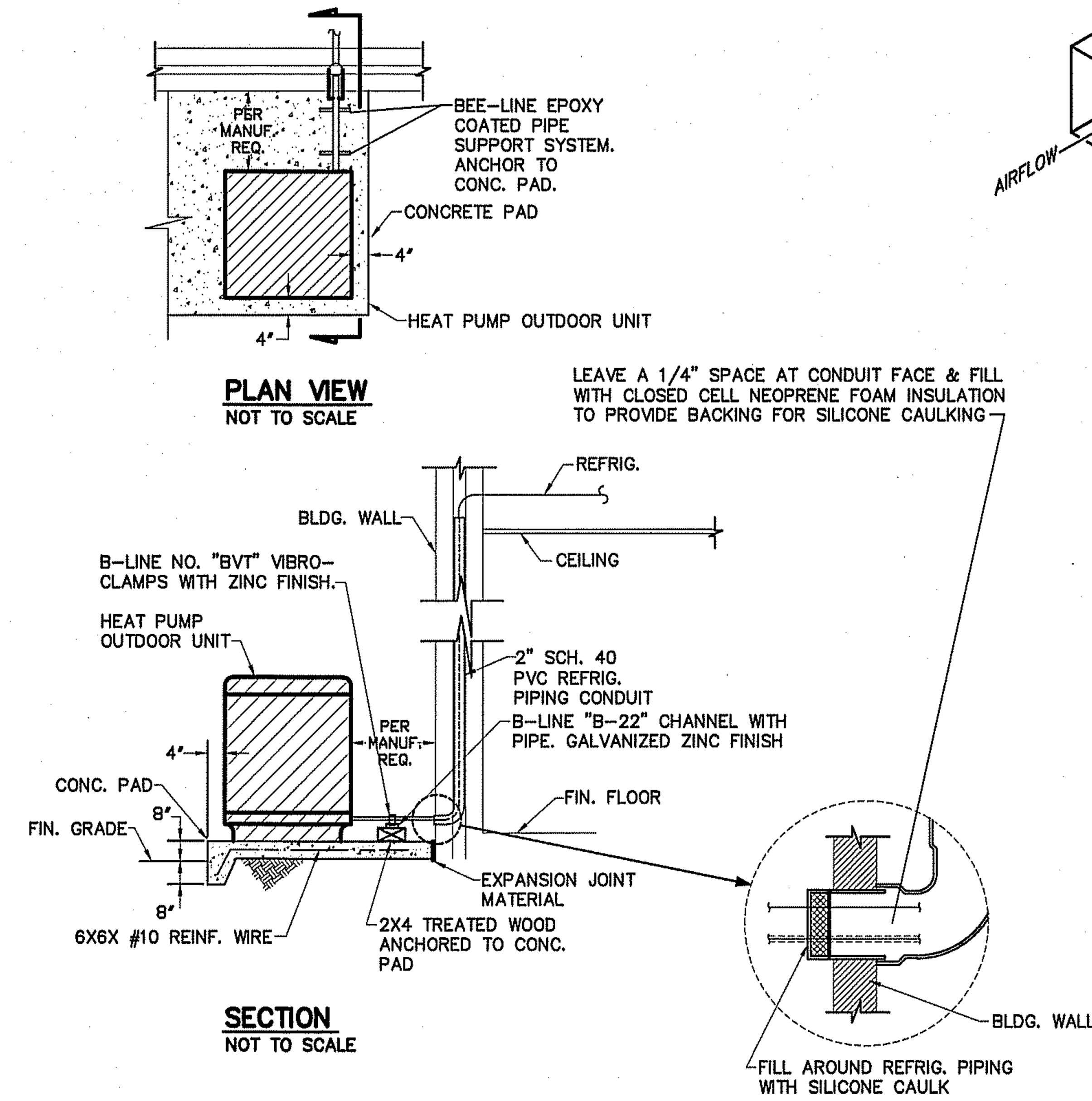
TYPICAL DETAIL – FLOOR MOUNTED AHU (STORAGE UNITS)

NOT TO SCALE

NOTES:

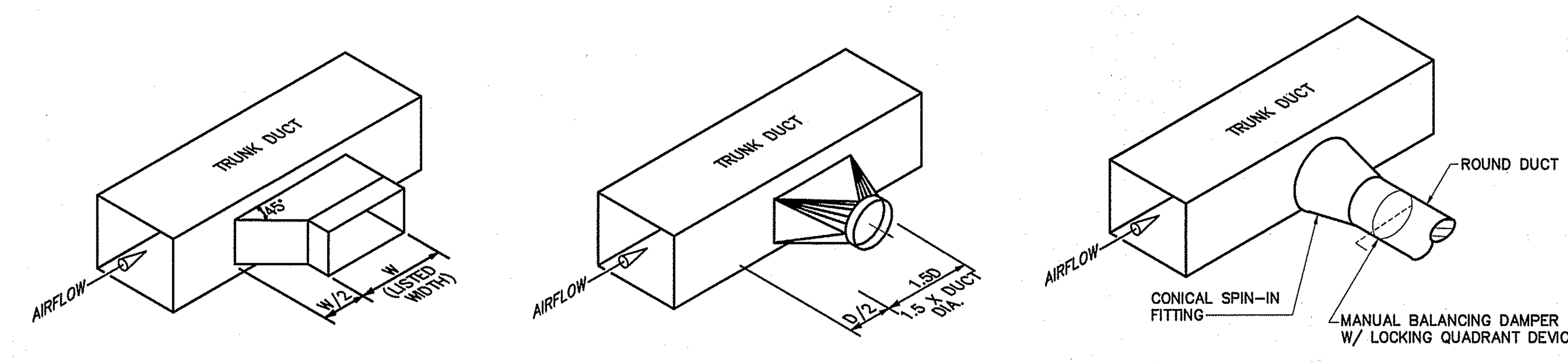
1. FLEXIBLE CONNECTION
2. NEOPRENE-IN-SHEAR VIBRATION ISOLATORS
3. SHEET METAL COLLAR AT WALL PENETRATION
4. 1-1/2" X 1-1/2" X 3/16" ANGLE AHU SUPPORT STAND WITH ALL WELDED CONSTRUCTION. PAINT WITH 1 COAT OF PRIMER AND FINISH WITH (2) COATS GRAY HIGH GLOSS MACHINE ENAMEL, MARTIN SENOUR OR EQUAL.
5. 1" PLEATED FILTER

PROVIDE PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM.



DETAIL-TYPICAL HEAT PUMP OUTDOOR UNIT

NOT TO SCALE



TYPICAL LATERAL TO REGISTER OR BRANCH DUCT

NOT TO SCALE

MECHANICAL NOTES (GENERAL)

1. DUCTWORK LAYOUTS ARE SCHEMATIC. ALL RISES, DROPS, OFFSETS, AND TRANSITIONS REQUIRED BUT ARE NOT SHOWN SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
2. DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE CONSTRUCTED IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW VELOCITY DUCTWORK. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. FLEXIBLE RUNOUTS SHALL NOT EXCEED 15' AND SHALL NOT BE USED TO FORM ELBOWS. CONNECTIONS FROM RECTANGULAR TO ROUND DUCT SHALL BE MADE WITH MANUFACTURED 45 DEG. LATERAL TAPS.
3. ALL DUCTWORK SHALL BE SEALED AIR TIGHT WITH SEALING COMPOUND.
4. ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS, UNLESS NOTED OTHERWISE. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES. DUCT SIZES SHOWN ARE NET INTERIOR DIMENSIONS.
5. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES PRIOR TO INSTALLATION OF ANY OF HIS PIPING, DUCTWORK, OR EQUIPMENT.
6. THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
7. IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE AND INTENT MEANING OF THE PLANS AND SPECIFICATIONS. HE SHALL PROVIDE THE ENGINEER SCALED DRAWINGS OF ALL MECHANICAL DRAWINGS.
8. ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.
9. PROVIDE FACTORY OR FIELD INSTALLED DRAIN PANS UNDER ALL COOLING COIL UNITS. INSTALL DRAIN PAN FLOAT TO SHUT DOWN UNIT FAN IN EVENT THAT CONDENSATE BEGINS TO FILL EMERGENCY DRAIN PAN. RUN ALL CONDENSATE DRAIN LINES TO APPROPRIATE DRAIN.

"OFFICE"
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 4A - HARNETT COUNTY, NC

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB 22 DEG. F.

SUMMER DRY BULB 96 DEG. F.

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 70 DEG. F.

SUMMER DRY BULB 75 DEG. F.

RELATIVE HUMIDITY 55%

BUILDING HEATING LOAD 26 MBH

BUILDING COOLING LOAD 3 TONS

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY
DESCRIPTION OF UNIT – HEAT PUMP
HEATING EFFICIENCY – 9.0 HSPF
COOLING EFFICIENCY – 14.8 SEER
SIZE CATEGORY OF UNIT – $\leq$ 65,000 BTUH

BOILER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

CHILLER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES SEE SCHEDULE

BUILDING "1"
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 4A - HARNETT COUNTY, NC

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB 22 DEG. F.

SUMMER DRY BULB 96 DEG. F.

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 59 DEG. F.

SUMMER DRY BULB 80 DEG. F.

RELATIVE HUMIDITY 55%

BUILDING HEATING LOAD 64 MBH

BUILDING COOLING LOAD 8.0 TONS

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY
DESCRIPTION OF UNIT – HEAT PUMP
HEATING EFFICIENCY – 8.5 HSPF
COOLING EFFICIENCY – 14.5 SEER
SIZE CATEGORY OF UNIT – $\leq$ 65,000 BTUH

BOILER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

CHILLER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES SEE SCHEDULE

BUILDING "2"
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
THERMAL ZONE 4A - HARNETT COUNTY, NC

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB 22 DEG. F.

SUMMER DRY BULB 96 DEG. F.

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 59 DEG. F.

SUMMER DRY BULB 80 DEG. F.

RELATIVE HUMIDITY 55%

BUILDING HEATING LOAD 142 MBH

BUILDING COOLING LOAD 15.0 TONS

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY
DESCRIPTION OF UNIT – HEAT PUMP
HEATING EFFICIENCY – 8.5 HSPF
COOLING EFFICIENCY – 15.0 SEER
SIZE CATEGORY OF UNIT – $\leq$ 65,000 BTUH

BOILER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

CHILLER
SIZE CATEGORY. IF OVERSIZED, STATE REASON: N/A

LIST EQUIPMENT EFFICIENCIES SEE SCHEDULE

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS

NO.	

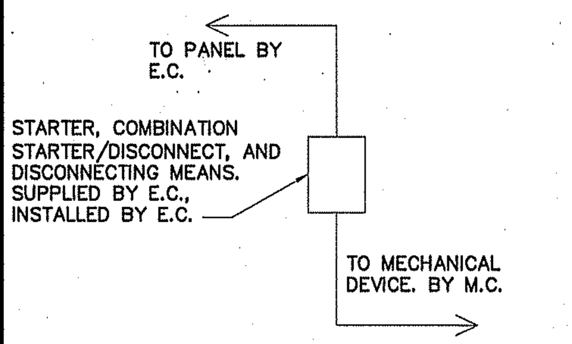
Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
M-5 OF 5

CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	BALLASTS	WATTAGE	REMARKS
A	8' LED STRIP W/WIRE GUARD	DAYBRITE	CLX L96 10000LM SEF WD MVOLT 40K 80 CRI WH	LED		71.0	WITH (2) 48" WIRE GUARDS WGCLX48
B	KEYLESS FIXTURE WITH WIREGUARD AND LED LAMP	–	–	LED A19	–	13	WITH WIRE GUARD
C	3" LED RECESSED DOWNLIGHT	ACULUX	AX3 D G4 12LM 35K 80CRI 50D GZ1 120 ICAT 3DP CS SF WET	LED		11.0	TO BE ON PHOTOCELL
D	LED WALL PACKS	LITHONIA	TWR1 LED 3 50K MVOLT ON TIMER	18 LEDS	LED	58.4	W/CUTOFF
EM	EMERGENCY LIGHT WITH BATTERY BACKUP	MCPHILBEN	CAXR6L24W6				
EX	LED TYPE EXIT LIGHT WITH BATTERY BACKUP	MCPHILBEN	CXXL3RW				
EM2	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)	MCPHILBEN	CR2CSWA				

1. ALL FIXTURE SELECTIONS TO BE VERIFIED BY OWNER BEFORE PURCHASE.
2. SIGN LETTERING TO BE ON TIMECLOCK OR PHOTOCELL
3. LED WALLPACKS ON PHOTOCELL.

LIGHTING DATA FOR N.C. ENERGY CODE (BUILDING "1")

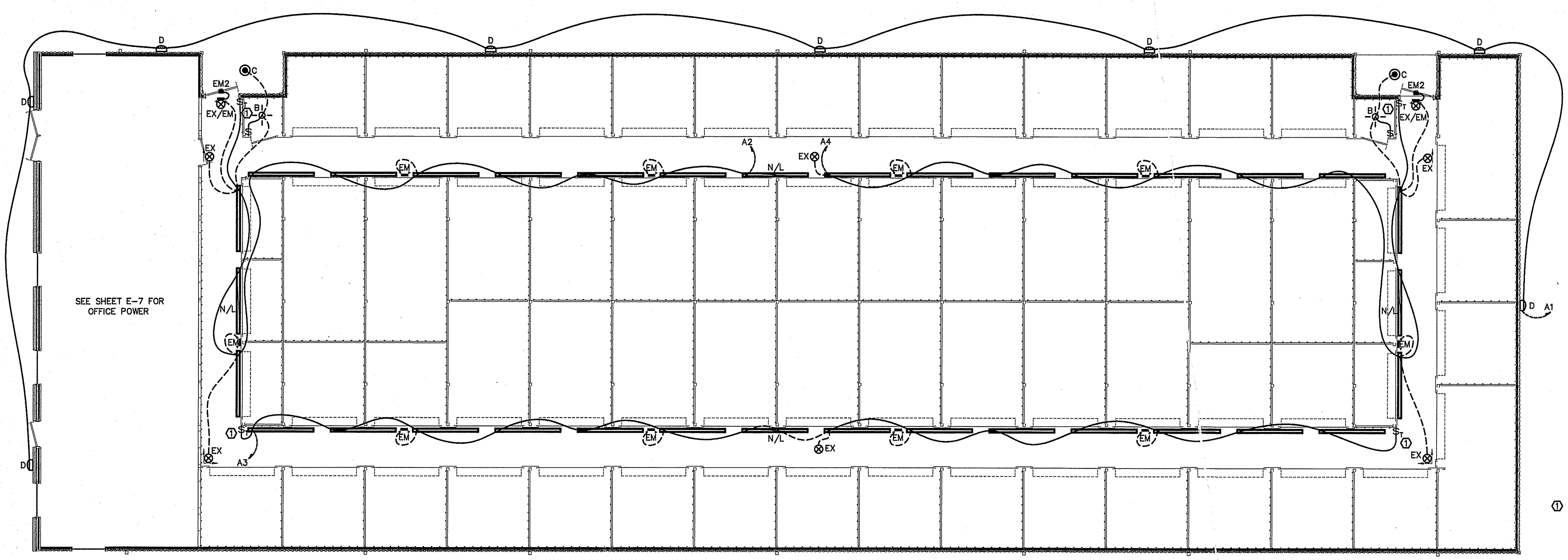
AREA USE	AREA FT^2	WATTS PER FT^2 ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
STORAGE	9,600	0.63	11,520	2,440	9,080
OFFICE	1,200	1.3	1,560	552	1,008
TOTAL	10,800		13,080	2,992	10,088

NOTE:

1. VERIFY LOCATION OF LIGHTS & RECEPTACLES WITH OWNER BEFORE CONSTRUCTION.
2. COORDINATE LOCATION OF 8' STRIP LIGHTS IN CORRIDOR WITH DUCT WORK WHERE APPLICABLE.
3. ALL LIGHT FIXTURES IN CORRIDORS TO BE MOUNTED ON THE WALLS WHERE APPLICABLE.
4. ALL CORRIDOR LIGHTS TO BE SWITCHED BY MOTION SENSORS OR TIMERS LOCATED AS SHOWN. PROVIDE 30 MINUTE RUN TIME SETTING AND NO HOLD CAPABILITY. VERIFY WHICH TYPE OF DEVICE AND IT'S CAPABILITIES WITH THE OWNER BEFORE ORDERING EQUIPMENT.

ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$\$_M$	MOTION DETECTING SINGLE–POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2–HEAD, WALL MTD.)
$\$_{3(4)}$	MOTION DETECTING 3–WAY SWITCH (4–WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
◁	TELEPHONE
J	JUNCTION BOX
$\$_T$	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$\$_O$	OCCUPANCY SENSING SINGLE–POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



KEY NOTE:
(1) SEE NOTE 4.

ELECTRICAL LIGHTING PLAN BUILDING "1"

SCALE: 1/8" = 1'–0"

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02–25–25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

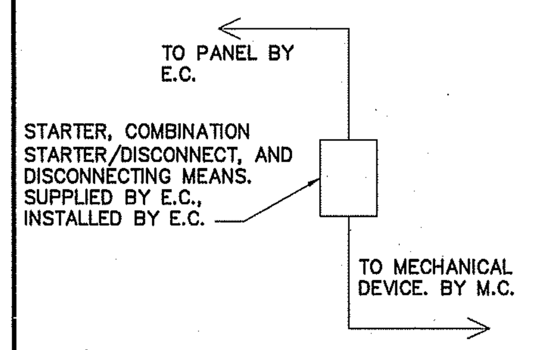
Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892–4429
FAX: (910) 892–5162
LICENSE NO.: C–1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02–25–25
DRAWN BY BAM
JOB NO. 24–31

SHEET NO.
E–1 OF 8

CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	BALLASTS	WATTAGE	REMARKS
A	8' LED STRIP W/WIRE GUARD	DAYBRITE	CLX L96 10000LM SEF WD MVOLT 40K 80 CRI WH	LED		71.0	WITH (2) 48" WIRE GUARDS WGCLX48
B	KEYLESS FIXTURE WITH WIREGUARD AND LED LAMP	–	–	LED A19	–	13	WITH WIRE GUARD
C	3" LED RECESSED DOWNLIGHT	ACULUX	AX3 D G4 12LM 35K 80CRI 50D GZ1 120 ICAT 3DP CS SF WET	LED		11.0	TO BE ON PHOTOCELL
D	LED WALL PACKS	LITHONIA	TWR1 LED 3 50K MVOLT ON TIMER	18 LEDS	LED	58.4	W/CUTOFF
EM	EMERGENCY LIGHT WITH BATTERY BACKUP	MCPHILBEN	CAXR6L24W6				
EX	LED TYPE EXIT LIGHT WITH BATTERY BACKUP	MCPHILBEN	CXXL3RW				
EM2	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)	MCPHILBEN	CR2CSWA				

1. ALL FIXTURE SELECTIONS TO BE VERIFIED BY OWNER BEFORE PURCHASE.
2. SIGN LETTERING TO BE ON TIMECLOCK OR PHOTOCELL
3. LED WALLPACKS ON PHOTOCELL.

LIGHTING DATA FOR N.C. ENERGY CODE (BUILDING "2")

AREA USE	AREA FT^2	WATTS PER FT^2 ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
STORAGE	23,700	1.2	28,440	4,470	23,970
TOTAL	23,700		28,440	4,470	23,970

NOTE:

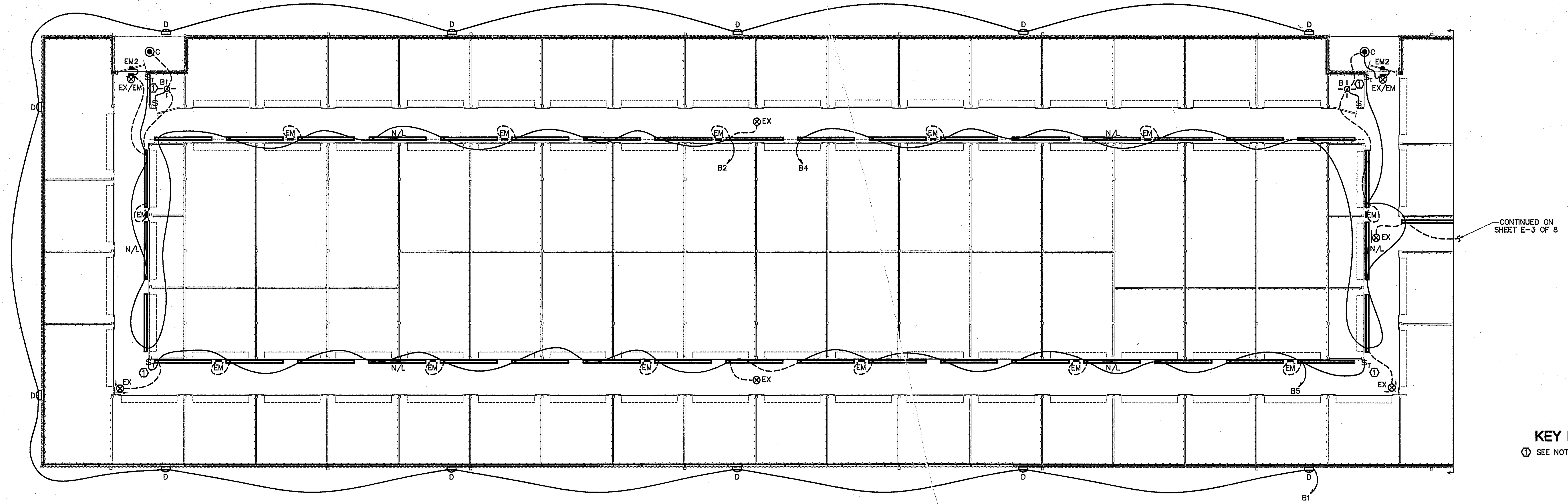
1. VERIFY LOCATION OF LIGHTS & RECEPTACLES WITH OWNER BEFORE CONSTRUCTION.
2. COORDINATE LOCATION OF 8' STRIP LIGHTS IN CORRIDOR WITH DUCT WORK WHERE APPLICABLE.
3. ALL LIGHT FIXTURES IN CORRIDORS TO BE MOUNTED ON THE WALLS WHERE APPLICABLE.
4. ALL CORRIDOR LIGHTS TO BE SWITCHED BY MOTION SENSORS OR TIMERS LOCATED AS SHOWN. PROVIDE 30 MINUTE RUN TIME SETTING AND NO HOLD CAPABILITY. VERIFY WHICH TYPE OF DEVICE AND IT'S CAPABILITIES WITH THE OWNER BEFORE ORDERING EQUIPMENT.

ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$\$_M$	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
$\$_{3(4)}$	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
◁	TELEPHONE
J	JUNCTION BOX
$\$_T$	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$\$_O$	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

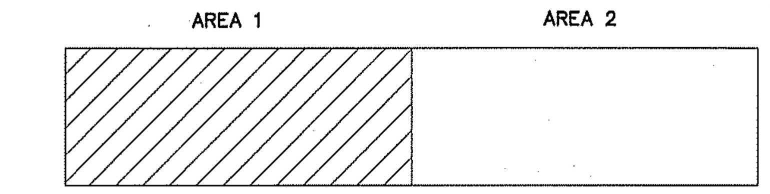


KEY NOTE:
① SEE NOTE 4.

ELECTRICAL LIGHTING PLAN BUILDING "2"

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

AREA 1 AREA 2



KEYPLAN

LEGEND
3 HOUR RATED WALL U419

REVISIONS	
NO.	
1.	03/11/2025

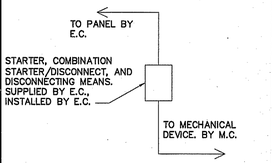
Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
E-2 OF 8

CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	BALLASTS	WATTAGE	REMARKS
A	8' LED STRIP W/WIRE GUARD	DAYBRITE	CLX L96 10000LM SEF WD MVOLT 40K 80 CRI WH	LED		71.0	WITH (2) 48" WIRE GUARDS WGCLX48
B	KEYLESS FIXTURE WITH WIREGUARD AND LED LAMP	–	–	LED A19	–	13	WITH WIRE GUARD
C	3" LED RECESSED DOWNLIGHT	ACULUX	AX3 D G4 12LM 35K 80CRI 50D GZ1 120 ICAT 3DP CS SF WET	LED		11.0	TO BE ON PHOTOCELL
D	LED WALL PACKS	LITHONIA	TWR1 LED 3 50K MVOLT ON TIMER	18 LEDS	LED	58.4	W/CUTOFF
EM	EMERGENCY LIGHT WITH BATTERY BACKUP	MCPHILBEN	CAXR6L24W6				
EX	LED TYPE EXIT LIGHT WITH BATTERY BACKUP	MCPHILBEN	CXXL3RW				
EM2	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)	MCPHILBEN	CR2CSWA				

1. ALL FIXTURE SELECTIONS TO BE VERIFIED BY OWNER BEFORE PURCHASE.
2. SIGN LETTERING TO BE ON TIMECLOCK OR PHOTOCELL
3. LED WALLPACKS ON PHOTOCELL.

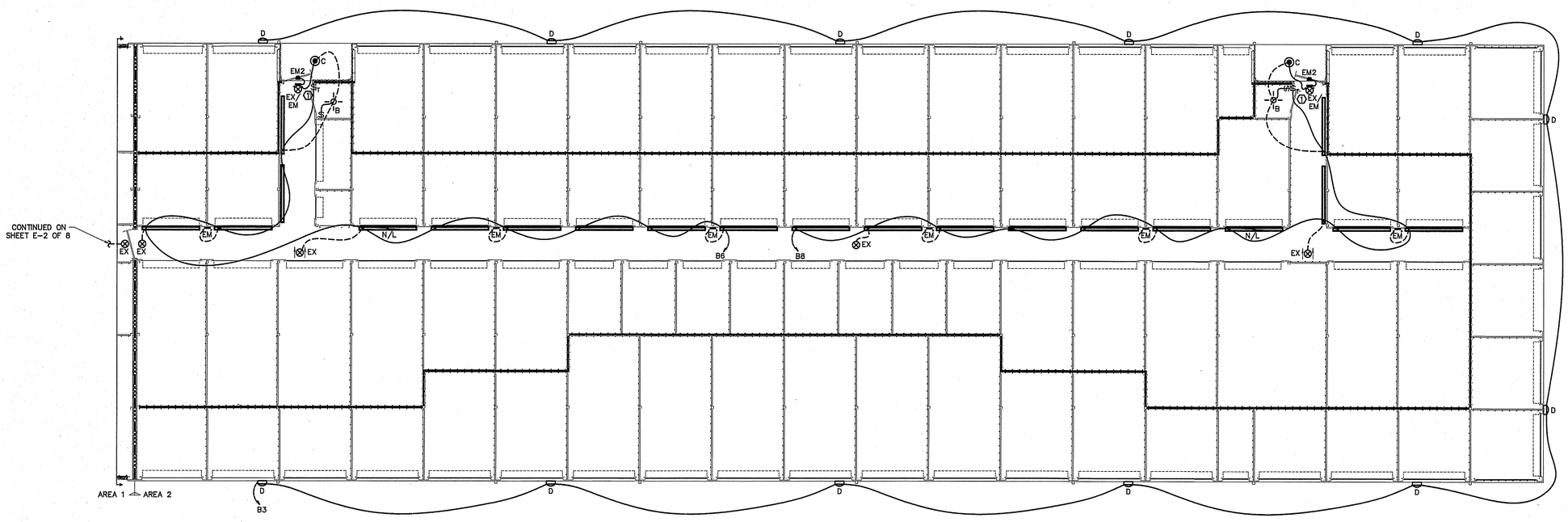
LIGHTING DATA FOR N.C. ENERGY CODE (BUILDING "2")

AREA USE	AREA FT^2	WATTS PER FT^2 ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
STORAGE	23,700	1.2	28,440	4,470	23,970
TOTAL	23,700		28,440	4,470	23,970

NOTE:
1. VERIFY LOCATION OF LIGHTS & RECEPTACLES WITH OWNER BEFORE CONSTRUCTION.
2. COORDINATE LOCATION OF 8' STRIP LIGHTS IN CORRIDOR WITH DUCT WORK WHERE APPLICABLE.
3. ALL LIGHT FIXTURES IN CORRIDORS TO BE MOUNTED ON THE WALLS WHERE APPLICABLE.
4. ALL CORRIDOR LIGHTS TO BE SWITCHED BY MOTION SENSORS OR TIMERS LOCATED AS SHOWN. PROVIDE 30 MINUTE RUN TIME SETTING AND NO HOLD CAPABILITY. VERIFY WHICH TYPE OF DEVICE AND IT'S CAPABILITIES WITH THE OWNER BEFORE ORDERING EQUIPMENT.

ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$M	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
$3(4)	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
	TELEPHONE
J	JUNCTION BOX
$T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$O	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



KEY NOTE:
1. SEE NOTE 4.

ELECTRICAL LIGHTING PLAN BUILDING "2"

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

LEGEND

3 HOUR RATED WALL U419

AREA 1 AREA 2

KEYPLAN

NORTH CAROLINA PROFESSIONAL SEAL 19909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/11/2025

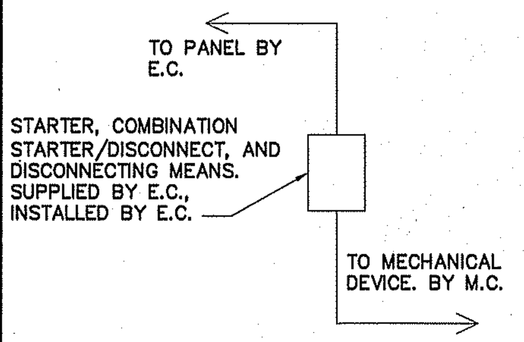
Cruse And Associates, P.A.
414 E. Blount St.
Wilmington, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-3182
LICENSE NO.: C-17721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPYRIGHT

DATE	02-25-25
DRAWN BY	BAM
JOB NO.	24-31

SHEET NO.
E-3 OF 8

CONNECTION SCHEDULE



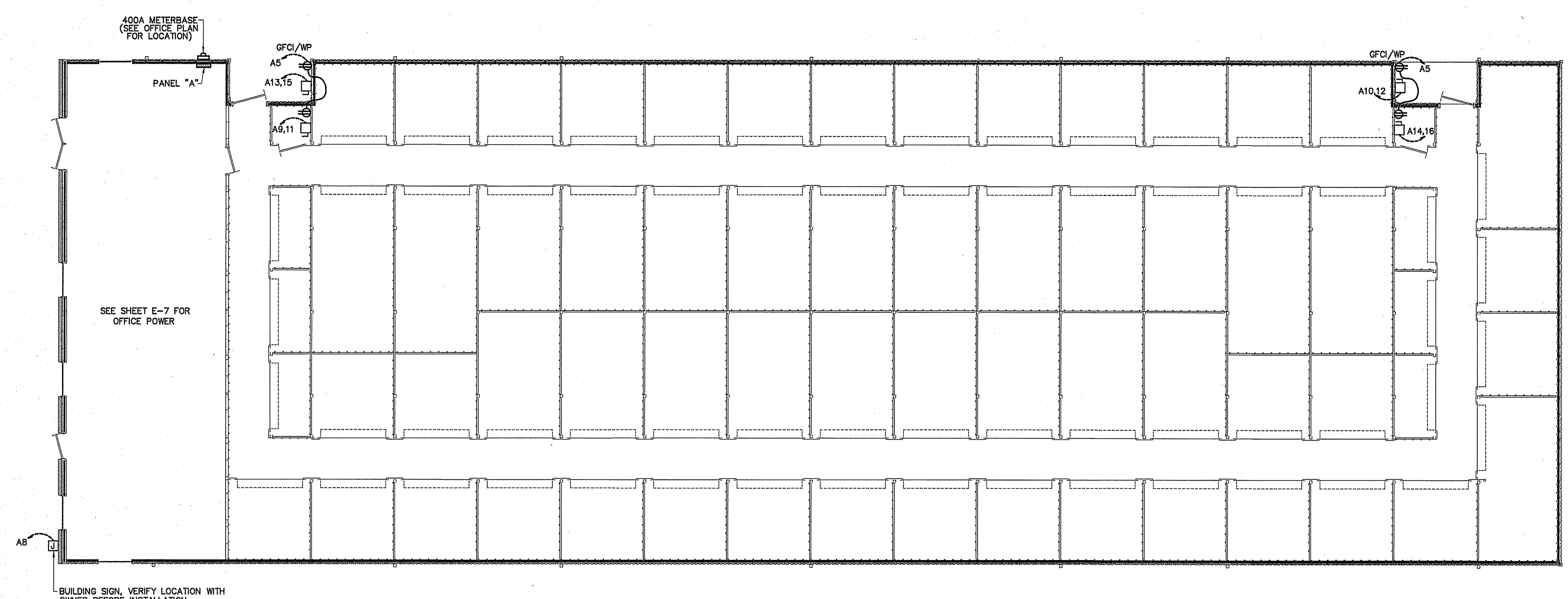
ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

NOTE:

1. VERIFY LOCATION OF LIGHTS & RECEPTACLES WITH OWNER BEFORE CONSTRUCTION.
2. COORDINATE LOCATION OF 8' STRIP LIGHTS IN CORRIDOR WITH DUCT WORK WHERE APPLICABLE.
3. ALL LIGHT FIXTURES IN CORRIDORS TO BE MOUNTED ON THE WALLS WHERE APPLICABLE.
4. ALL CORRIDOR LIGHTS TO BE SWITCHED BY MOTION SENSORS OR TIMERS LOCATED AS SHOWN. PROVIDE 30 MINUTE RUN TIME SETTING AND NO HOLD CAPABILITY. VERIFY WHICH TYPE OF DEVICE AND IT'S CAPABILITIES WITH THE OWNER BEFORE ORDERING EQUIPMENT.

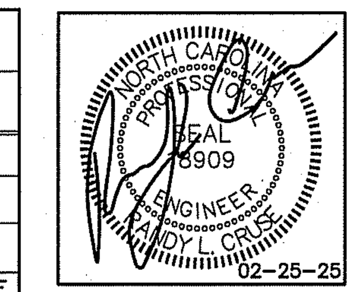
ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
[T]	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$\$_M$	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
$\$_{3(4)}$	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
◁	TELEPHONE
[J]	JUNCTION BOX
[T]	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$\$_O$	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



ELECTRICAL POWER PLAN BUILDING "1"

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



PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
E-4 OF 8

CONNECTION SCHEDULE

TO PANEL BY E.C.

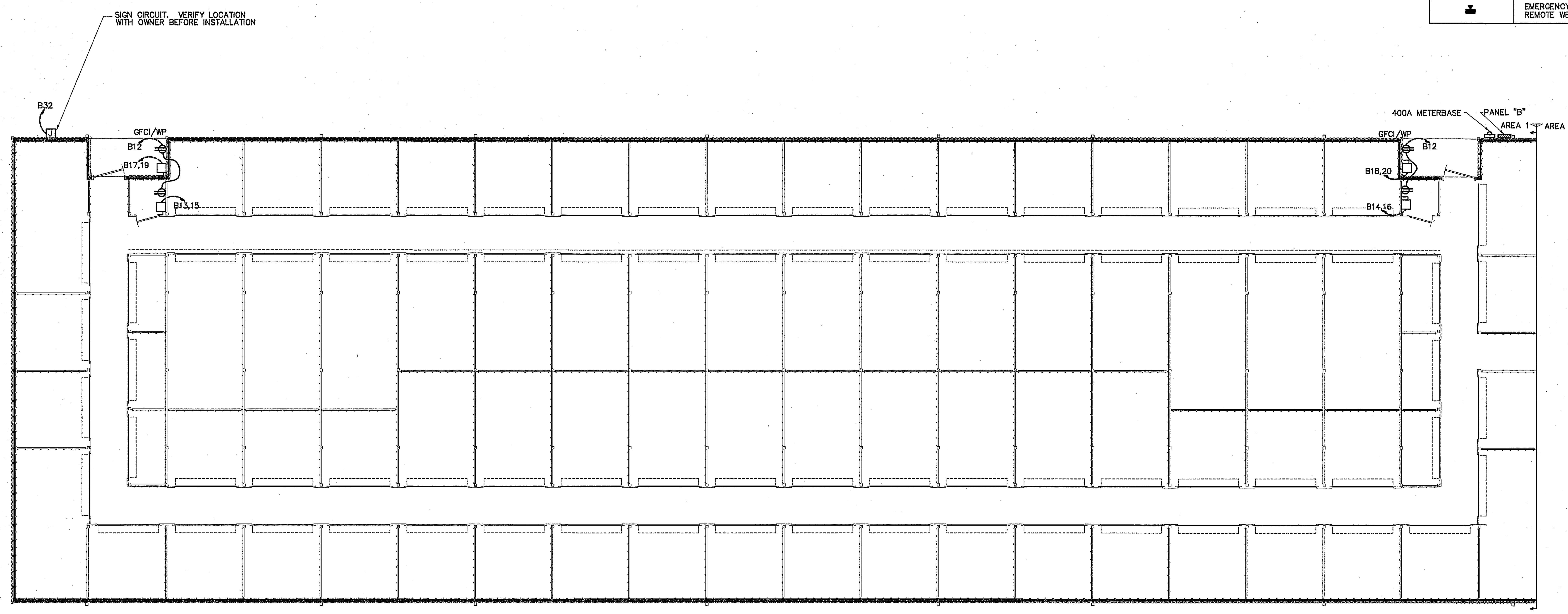
STARTER, COMBINATION STARTER/DISCONNECT, AND DISCONNECTING MEANS. SUPPLIED BY E.C., INSTALLED BY E.C.

TO MECHANICAL DEVICE. BY M.C.

ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

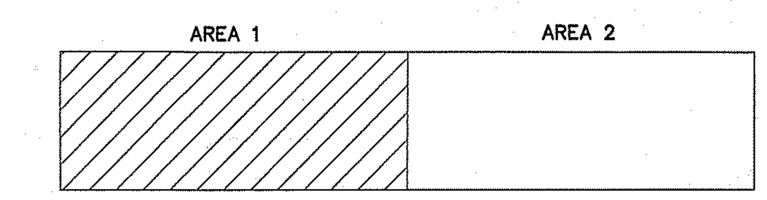
ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$\$_M$	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
$\$_{3(4)}$	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
◁	TELEPHONE
J	JUNCTION BOX
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$\$_O$	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



ELECTRICAL POWER PLAN BUILDING "2"

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



KEYPLAN

LEGEND

3 HOUR RATED WALL U419

NORTH CAROLINA PROFESSIONAL SEAL 8909 ENGINEER RANDY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/11/2025

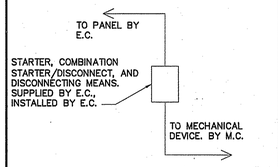
Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892-4429
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02-25-25
DRAWN BY BAM
JOB NO. 24-31

SHEET NO.
E-5 OF 8

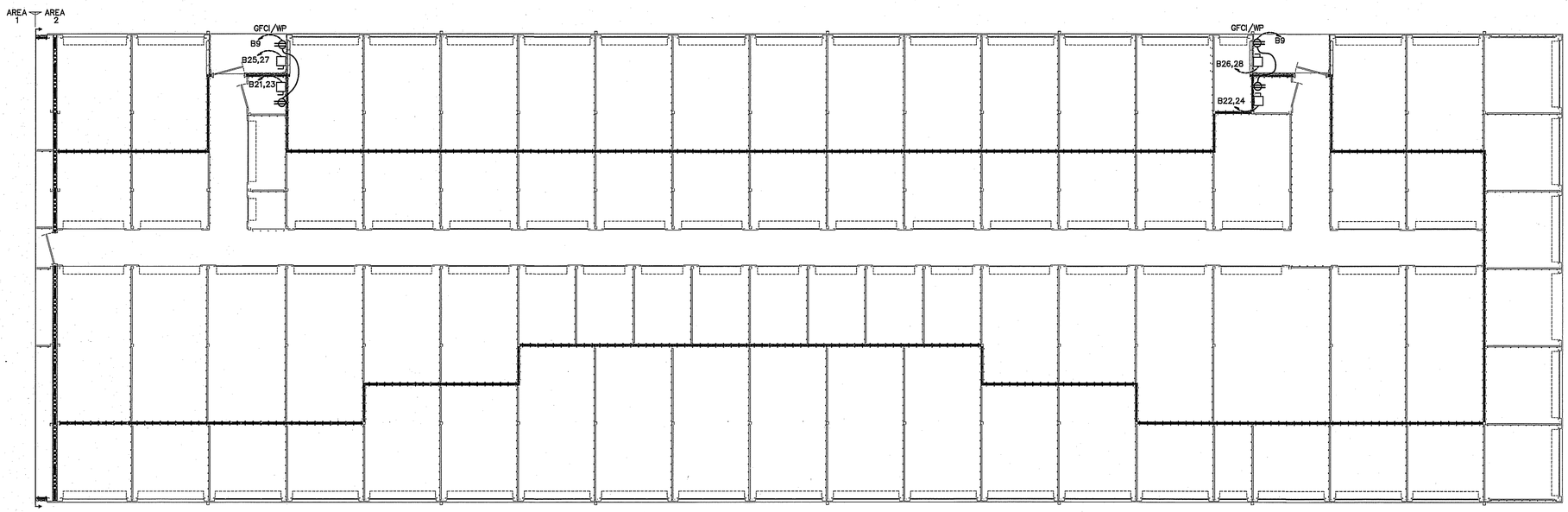
CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.

ELECTRICAL LEGEND

MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$M	MOTION DETECTING SINGLE-POLE SWITCH ON TIMER
⊗	"EXIT" LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2-HEAD, WALL MTD.)
$3(4)	MOTION DETECTING 3-WAY SWITCH (4-WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
	TELEPHONE
J	JUNCTION BOX
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$O	OCCUPANCY SENSING SINGLE-POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)

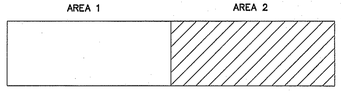


ELECTRICAL POWER PLAN BUILDING "2"

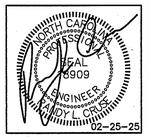
SCALE: 1/8" = 1'-0"

LEGEND

3 HOUR RATED WALL
U419



KEYPLAN



PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	
1.	03/11/2025

Cruse And Associates, P.A.
414 E. Edgerton St.
Raleigh, North Carolina 28634
PH: (919) 892-4189
FAX: (919) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE	02-25-25
DRAWN BY	BAM
JOB NO.	24-31

SHEET NO.
E-6 OF 8

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	BALLASTS	WATTAGE	REMARKS
A	8' LED STRIP W/WIRE GUARD	DAYBRITE	CLX L96 10000LM SEF WD MVOLT 40K 80 CRI WH	LED		71.0	WITH (2) 48" WIRE GUARDS WGCLX48
B	KEYLESS FIXTURE WITH WIREGUARD AND LED LAMP	–	–	LED A19	–	13	WITH WIRE GUARD
C	3" LED RECESSED DOWNLIGHT	ACULUX	AX3 D G4 12LM 35K 80CRI 50D GZ1 120 ICAT 3DP CS SF WET	LED		11.0	TO BE ON PHOTOCELL
D	LED WALL PACKS	LITHONIA	TWR1 LED 3 50K MVOLT ON TIMER	18 LEDS	LED	58.4	W/CUTOFF
F	SURFACE MOUNTED 2X4 LED FLAT PANEL	LITHONIA	CPANL 2X4 40/50/60LM 35K–40LM	LED		42.0	INCLUDE WSX D DIMMING OCCUPANCY WALL SWITCH
G	SURFACE MOUNTED 2X4 LED FLAT PANEL	LITHONIA	CPANL 2X4 40/50/60LM 35K–40LM	LED		32.0	INCLUDE WSX D DIMMING OCCUPANCY WALL SWITCH
EM	EMERGENCY LIGHT WITH BATTERY BACKUP	MCPHILBEN	CAXR6L24W6				
EX	LED TYPE EXIT LIGHT WITH BATTERY BACKUP	MCPHILBEN	CXXL3RW				
EM2	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)	MCPHILBEN	CR2CSWA				

1. ALL FIXTURE SELECTIONS TO BE VERIFIED BY OWNER BEFORE PURCHASE.
2. SIGN LETTERING TO BE ON TIMECLOCK OR PHOTOCELL
3. LED WALLPACKS ON PHOTOCELL.

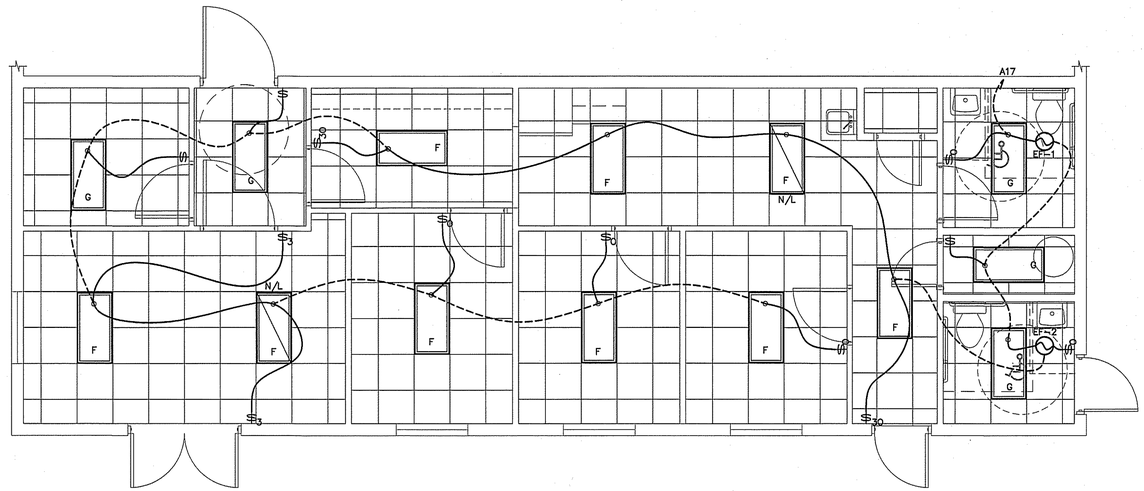
LIGHTING DATA FOR N.C. ENERGY CODE (BUILDING "I")

AREA USE	AREA FT^2	WATTS PER FT^2 ALLOWED	TOTAL WATTS ALLOWED	TOTAL WATTS USED	TOTAL WATTS LEFT OVER
STORAGE	9,600	0.63	11,520	2,440	9,080
OFFICE	1,200	1.3	1,560	538	1,022
TOTAL	10,800		13,080	2,978	10,102

NOTE:
COORDINATE LOCATION OF SECURITY, CATV, INTERNET, PHONE, OR OTHER SYSTEMS OUTLETS WITH OWNER BEFORE BEGINNING CONSTRUCTION.

ELECTRICAL LEGEND

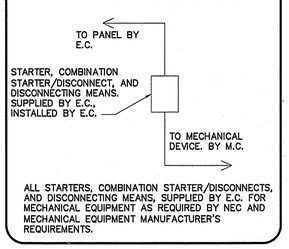
MARK	DESCRIPTION
	QUAD RECEPTACLE
	DUPLEX RECEPTACLE
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
	HIGH WALL MOUNTED DUPLEX RECEPTACLE APROXIMATELY 12" BELOW CEILING
	FLUORESCENT FIXTURE
	SWITCHED BRANCH CIRCUIT
	UNSWITCHED BRANCH CIRCUIT
	120/208 VOLT CIRCUIT
$_M	MOTION DETECTING SINGLE–POLE SWITCH ON TIMER
⊗	'EXIT' LIGHT FIXTURE, TYPE 'EX'
	BATTERY OPERATED EMERG. LT. (2–HEAD, WALL MTD.)
$_{3(4)}	MOTION DETECTING 3–WAY SWITCH (4–WAY SWITCH) WITH TIMER
	FUSED DISCONNECT SWITCH
	CEILING MOUNTED FUSED DISCONNECT SWITCH
	TELEPHONE/DATA
J	JUNCTION BOX
T	SINGLE POLE SWITCH OR TIMER AS APPLICABLE
N/L	UNSWITCHED FIXTURE
$_O	OCCUPANCY SENSING SINGLE–POLE SWITCH NOT ON TIMER
	280V RECEPTACLE
	EMERGENCY LIGHT REMOTE WEATHERHEAD(S)



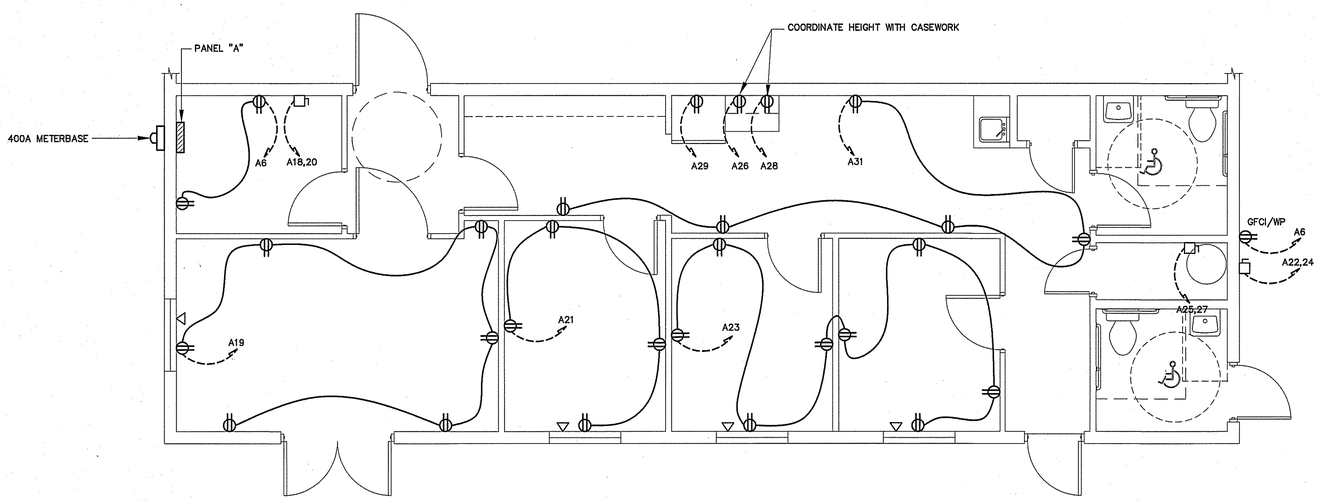
ELECTRICAL LIGHTING PLAN OFFICE

SCALE: 1/4" = 1'–0"

CONNECTION SCHEDULE



ALL STARTERS, COMBINATION STARTER/DISCONNECTS, AND DISCONNECTING MEANS, SUPPLIED BY E.C. FOR MECHANICAL EQUIPMENT AS REQUIRED BY NEC AND MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.



ELECTRICAL POWER PLAN OFFICE

SCALE: 1/4" = 1'–0"

NORTH CAROLINA PROFESSIONAL SEAL 19909 ENGINEER MANDY L. CRUSE 02–25–25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS
NO.

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH.: (910) 892-5168
FAX: (910) 892-5162
LICENSE NO.: C-1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE	02–25–25
DRAWN BY	BAM
JOB NO.	24–31

SHEET NO.
E-7 OF 8

ELECTRICAL NOTES (GENERAL)

1. THE ELECTRICAL INSTALLATION, EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL, AS A MINIMUM, BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), ALL APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES, LAWS, AND ORDINANCES, AND RULINGS OF THE INSPECTION AUTHORITIES HAVING JURISDICTION. ALL FEES, PERMITS, ETC., ASSOCIATED WITH THE ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

2. THE DRAWINGS GENERALLY INDICATE THE WORK TO BE INSTALLED, BUT DO NOT SHOW ALL BENDS, BOXES, FITTINGS, AND SPECIALTIES WHICH MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SUCH ITEMS REQUIRED TO COMPLETE THE INSTALLATION ACCORDING TO INDUSTRY ACCEPTED PRACTICES SHALL BE INCLUDED IN THE BID.

3. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC.

4. ALL PENETRATIONS OF FIRE WALLS SHALL BE SEALED WITH APPROVED SEALING MATERIALS TO MAINTAIN THE FIRE RATING OF THE WALLS.

5. THE CONTRACTOR SHALL VERIFY WIRE AND FUSE/CIRCUIT BREAKER SIZING FOR ALL MECHANICAL EQUIPMENT PRIOR TO PURCHASING MATERIALS AND INSTALLING BRANCH CIRCUITS.

6. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES AND CONFLICTS. APPARENT INTERFERENCES OR CONFLICTS SHALL BE REPORTED TO THE PRIME CONTRACTOR AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.

7. THE ELECTRICAL CONTRACTOR SHALL CONNECT BRANCH CIRCUITS TO THE MAIN LINE TERMINALS OF EQUIPMENT FURNISHED BY OTHER CONTRACTORS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY NECESSARY SWITCHES, DISCONNECTS, OR OVERCURRENT PROTECTION AHEAD OF SUCH EQUIPMENT.

8. RACEWAYS ARE SHOWN SCHEMATICALLY AND MAY BE REROUTED IN THE FIELD. THEY SHALL BE INSTALLED AT RIGHT ANGLES TO OR PARALLEL WITH BUILDING LINES. THEY SHALL BE RUN CONCEALED WITHIN WALLS OR BUILDING STRUCTURES WHEREVER POSSIBLE.

9. ALL RACEWAYS, EQUIPMENT, ETC., ABOVE A SUSPENDED CEILING SHALL BE MOUNTED A MINIMUM OF 18" ABOVE THE CEILING SO AS NOT TO BLOCK ANY TILE OR FIXTURE ACCESS.

10. THE MINIMUM ALLOWABLE SIZE FOR ANY CONDUIT, IMC, OR EMT SHALL BE 1/2" AND MAY BE USED FOR 2#12 WIRE SWITCHLEGS ONLY. A SWITCHLEG SHALL BE DEFINED AS THE RUN OF CONDUIT FROM THE SWITCH OUTLET BOX TO THE FIRST OUTLET BEING SWITCHED.

11. FULL WEIGHT GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN THE FOLLOWING AREAS:

A. ON THE EXTERIOR OF THE BUILDING OR ROOF,

B. VERTICAL DROPS WHERE THE CONDUIT CANNOT BE ANCHORED TO WALLS OR OTHER SUPPORT STRUCTURES,

C. WHERE SUBJECT TO MECHANICAL DAMAGE.

12. ALL WIRE AND CABLE SHALL BE COPPER AND HAVE 600 VOLT THHN–THWN INSULATION. ALUMINUM WIRING SHALL NOT BE PERMITTED.

13. THE MINIMUM WIRE SIZE SHALL BE #12 AWG EXCEPT FOR CONTROL WIRING, WHICH MAY BE #14 AWG. CONTROL WIRING SHALL USE STRANDED CONDUCTORS UNLESS OTHERWISE NOTED.

14. ALL METAL RACEWAY SYSTEMS SHALL BE MADE ELECTRICALLY CONTINUOUS. THE RACEWAY SYSTEM SHALL NOT BE THE SOLE GROUNDING METHOD. AN INSULATED COPPER GROUNDING CONDUCTOR SHALL BE INSTALLED FOR ALL FEEDERS AND BRANCH CIRCUITS. AT RECEPTACLES, A GREEN GROUND CONDUCTOR SHALL BE CONNECTED TO THE GROUND TERMINAL OF THE RECEPTACLE.

15. THE ELECTRICAL CONTRACTOR SHALL COORDINATE FUSE AND DISCONNECT SWITCH SIZES WITH THE MECHANICAL EQUIPMENT SUPPLIER PRIOR TO PURCHASE AND INSTALLATION OF BRANCH CIRCUIT EQUIPMENT. IF EQUIPMENT SIZING CHANGES FROM DESIGN SIZES, CIRCUITS SHALL BE RESIZED ACCORDINGLY.

16. LIGHT FIXTURES FOR INSTALLATION IN A SUSPENDED CEILING SHALL BE SECURELY FASTENED TO THE CEILING SUSPENSION SYSTEM IN A MANNER TO PREVENT FIXTURES FROM FALLING. IN ADDITION, 16 GAGE WIRE HANGERS SHALL BE FASTENED TO THE FOUR CORNERS OF THE FIXTURES.

17. CONNECTIONS TO FIXTURES INSTALLED IN SUSPENDED CEILINGS SHALL BE MADE WITH FLEXIBLE METAL CONDUIT TO ALLOW THE FIXTURE TO BE LIFTED OUT OF THE GRID AND MOVED TO AN ADJACENT GRID LOCATION.

18. BREAKERS SUPPLYING HVAC OR REFRIGERATION EQUIPMENT SHALL BE HACR TYPE.

19. 3/4" CONDUIT IS MINIMUM ALLOWABLE SIZE EXCEPT AS INDICATED IN #10. CONDUIT FILL NOT TO EXCEED 40% AS PERMITTED BY THE NATIONAL ELECTRIC CODE.

20. ALL CONDUCTORS TO BE INSTALLED IN CONDUIT (EXCEPT WHERE ROMEX IS INSTALLED). EMT FITTINGS TO BE COMPRESSION TYPE, INSULATED THROAT.

21. NOT USED

22. DATA, SECURITY, THEATRICAL, AND VIDEO SYSTEMS TO BE PROVIDED BY OWNER. ROUGH–IN OF OUTLETS AND CONDUIT WILL BE BY CONTRACTOR AS SHOWN ON DRAWINGS.

23. NOT USED

24. NO. 10 CU AWG CONDUCTORS SHALL BE USED FOR 20 AMP BRANCH CIRCUIT HOMERUNS EXCEEDING 50 FT. TO THE JUNCTION POINT.
20 AMP BRANCH CIRCUIT WIRING SHALL BE NO. 10 CU AWG THROUGHOUT IF THE CIRCUIT IS LONGER THAN 100 FEET TOTAL LENGTH.
20 AMP BRANCH CIRCUIT WIRING SHALL BE NO. 8 CU AWG THROUGHOUT IF THE CIRCUIT IS LONGER THAN 200 FEET TOTAL LENGTH.
20 AMP BRANCH CIRCUIT WIRING SHALL BE NO. 6 CU AWG THROUGHOUT IF THE CIRCUIT IS LONGER THAN 400 FEET TOTAL LENGTH.
20 AMP BRANCH CIRCUIT SHALL BE NOT EXCEED 500' FEET IN TOTAL LENGTH. (UNLESS MARKED OTHERWISE)

25. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET. SPLICES WILL NOT BE MADE EXCEPT WITHIN ACCESSIBLE OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS.

26. MAKE CONDUCTOR LENGTHS FOR PARALLEL CIRCUITS EQUAL.

27. INSTALL TELEPHONE OUTLETS WITH 3/4" EMPTY CONDUIT AND PULL CORD. STUB OUT ABOVE CEILING. PHONE SYSTEM INSTALLED BY OWNER.

28. ALL CONDUIT WITHOUT CONDUCTORS SHALL HAVE NYLON PULLCORDS INSTALLED.

29. THE CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION, AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.

30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES FOR PERMITS AND INSPECTIONS. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ELECTRIC UTILITY CONNECTION FEES AND LINE EXTENSION FEES.

31. ELECTRICAL CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION WHICH DEVELOPS OBJECTIONABLE NOISES SHALL BE MADE FROM THE CONDUIT SYSTEM WITH SHORT LENGTHS OF FLEXIBLE "LIQUID–TITE" CONDUIT.

32. ALL WIRE TERMINATIONS AND EQUIPMENT TO BE RATED FOR 75° C MINIMUM.

33. ELECTRICAL CONTRACTOR TO MAINTAIN 2' OF SEPARATION ON RECEPTACLES ON OPPOSITE SIDES OF ANY FIRE RATED WALL PER 2021 N.E.C. 300.21.

34. WIRING TO DISCONNECT SWITCH AND DISCONNECT SWITCH SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR. WIRING FROM THE DISCONNECT TO THE EQUIPMENT SHALL BE BY THE MECHANICAL CONTRACTOR.

BUILDING "1"

PANEL: "A" SCHEDULE: ___ MANUFACTURER: SQ. D. NO. OF SPACES 42
VOLTS: 120/240 AMPS: 400 TYPE: "NQOD" MOUNTING: SURFACE
ENCLOSURE: NEMA 1 ϕ:1 SHORT CIRCUIT RATING: 22,000
MAIN: ☒ MLO: ☐ TOP FEED: ☐ BOTTOM FEED: ☒ COPPER BUS: ☒ GROUND BAR KIT: ☐ NEUTRAL BAR KIT: ☐

L1	L2	CIRCUIT	POLES	TRIP	ASSIGNMENT	PHASE L1	PHASE L2	ASSIGNMENT	TRIP	POLES	CIRCUIT	L1	L2
3.4		1	1	20	WALLPACKS	o		LEFT FRONT CORRIDOR LTS.	20	1	2	6.1	
	8.3	3	1	20	REAR CORRIDOR LIGHTS		o	RIGHT FRONT CORRIDOR LTS.	20	1	4		6.1
3.0		5	1	20	HVAC UNITS #2 CONV. RECS.	o		HVAC #1/MECH. RM. RECS.	20	1	6	4.5	
	X	7	1	20	SPARE		o	BUILDING SIGN	20	1	8		5.0
32.0		9	2	50	AHU–2	o		HP–3	40	2	10	21.3	
	32.0	11					o				12		21.3
21.3		13	2	40	HP–2	o		AHU–3	50	2	14	32.0	
	21.3	15					o				16		32.0
5.8		17	1	20	OFFICE LIGHTING	o		AHU–1	45	2	18	32.0	
	9.0	19	1	20	RECEPTIONIST		o				20		32.0
6.0		21	1	20	OFFICE 1 RECEPTACLES	o		HP–1	30	2	22	14.8	
	12.0	23	1	20	OFFICES 2 & 3 RECEPTS.		o				24		14.8
18.8		25	2	30	WATER HEATER	o		MICROWAVE	20	1	26	12.5	
	18.8	27					o	COFFEE MAKER	20	1	28		8.0
6.7		29	1	20	REFRIGERATOR	o		SPARE	20	1	30	X	
	7.5	31	1	20	BREAK ROOM RECEPTACLES		o	SPARE	20	1	32		X
X		33	1	20	SPARE	o		SPARE	20	1	34	X	
	X	35	1	20	SPARE		o	SPARE	20	1	36		X
X		37	1	20	SPARE	o		SPARE	20	1	38	X	
	X	39	1	20	SPARE		o	SPARE	20	1	40		X
X		41	1	20	SPARE	o		GATE OPENER	20	1	42	5.0	

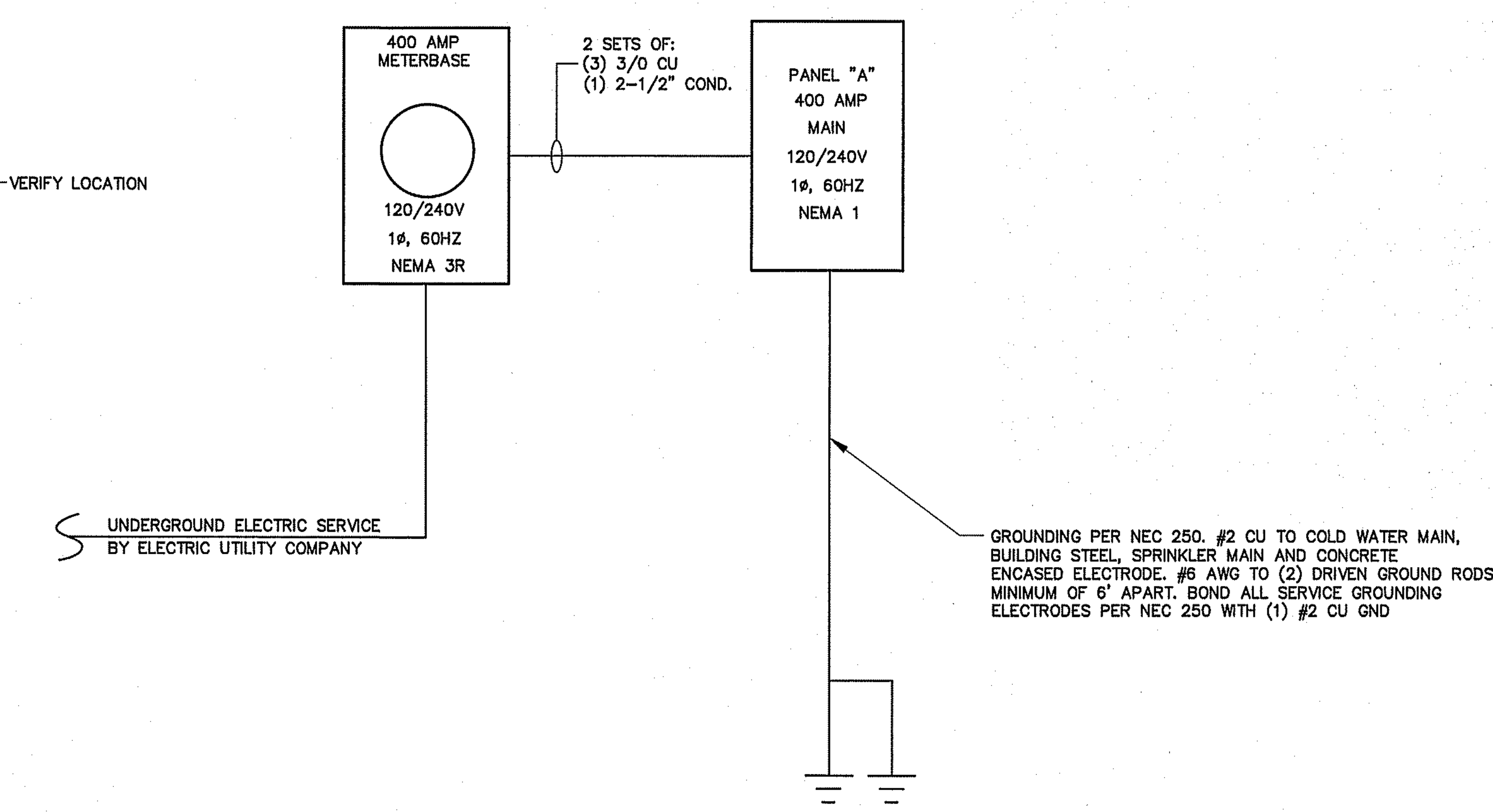
VERIFY LOCATION (circuit 42)

L1 = 225.2 A
L2 = 228.1 A

NOTE:
VERIFY AIC RATING & LUG SPACE WITH UTILITY COMPANY BEFORE ORDERING PANELS.

FEEDER SCHEDULE

UNIT	FEEDERS	FUSED DISCONNECT	CONDUIT
AHU–1,2,5,6	2#8 CU, 1#10 CU GND	60	3/4"
AHU–3,4,7	2#6 CU, 1#8 CU GND	60	3/4"
HEAT PUMP 1,6	2#12 CU, 1#12 CU GND	30	3/4"
HEAT PUMP 2,7	2#10 CU, 1#12 CU GND	30	3/4"
HEAT PUMP 3,4,5	2#8 CU, 1#10 CU GND	60	3/4"



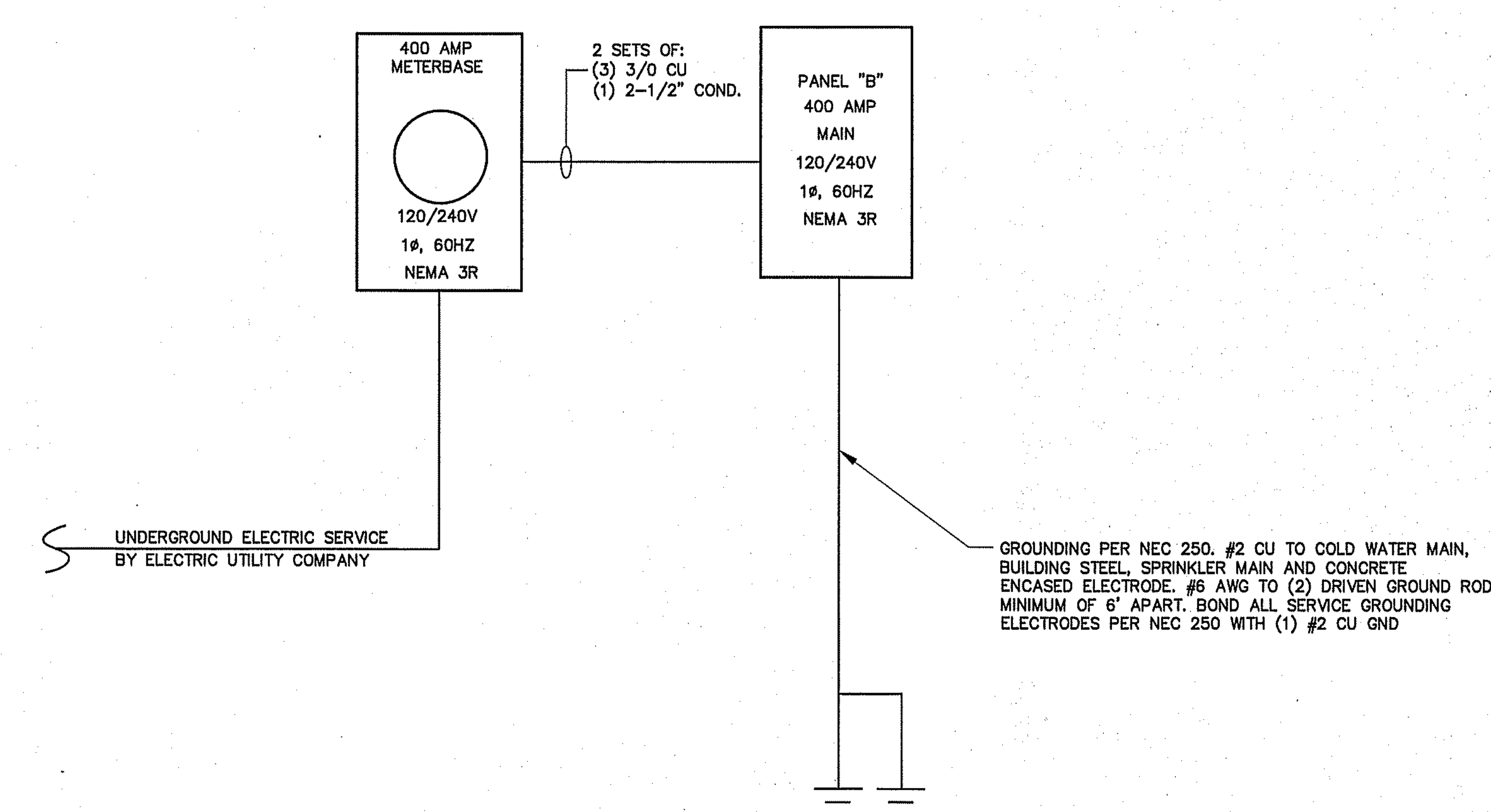
ELECTRICAL RISER DIAGRAM
NOT TO SCALE
(BUILDING 1)

BUILDING "2"

PANEL: "B" SCHEDULE: ___ MANUFACTURER: SQ. D. NO. OF SPACES 42
VOLTS: 120/240 AMPS: 400 TYPE: "NQOD" MOUNTING: SURFACE
ENCLOSURE: NEMA 3R ϕ:1 SHORT CIRCUIT RATING: 22,000
MAIN: ☒ MLO: ☐ TOP FEED: ☐ BOTTOM FEED: ☒ COPPER BUS: ☒ GROUND BAR KIT: ☐ NEUTRAL BAR KIT: ☐

L1	L2	CIRCUIT	POLES	TRIP	ASSIGNMENT	PHASE L1	PHASE L2	ASSIGNMENT	TRIP	POLES	CIRCUIT	L1	L2
5.8		1	1	20	WALLPACKS	o		RIGHT FRONT CORRIDOR LTS.	20	1	2	7.2	
	5.8	3	1	20	WALLPACKS		o	RIGHT FRONT CEN. CORR. LTS.	20	1	4		6.7
10.1		5	1	20	REAR RIGHT SIDE CORR. LTS.	o		LEFT FRONT CEN. CORR. LTS.	20	1	6	6.1	
	X	7	1	20	SPARE		o	LEFT FRONT CORRIDOR LTS.	20	1	8		6.7
6.0		9	1	20	HVAC UNITS 6/7 CONV. RECS.	o		SPARE	20	1	10	X	
	X	11	1	20	SPARE		o	HVAC UNITS 4/5 CONV RECS	20	1	12		6.0
32.0		13	2	50	AHU–4	o		AHU–5	50	2	14	32.0	
	32.0	15					o				16		32.0
26.5		17	2	25	HP–4	o		HP–5	50	2	18	26.5	
	26.5	19					o				20		26.5
32.0		21	2	45	AHU–6	o		AHU–7	45	2	22	32.0	
	32.0	23					o				24		32.0
13.6		25	2	25	HP–6	o		HP–7	25	2	26	13.6	
	13.6	27					o				28		13.6
X		29	1	20	SPARE	o		SPARE	20	1	30	X	
	X	31	1	20	SPARE		o	BUILDING SIGN	20	1	32		5.0
X		33	1	20	SPARE	o		SPARE	20	1	34	X	
	X	35	1	20	SPARE		o	SPARE	20	1	36		X
X		37	1	20	SPARE	o		SPARE	20	1	38	X	
	X	39	1	20	SPARE		o	SPARE	20	1	40		X
X		41	1	20	SPARE	o		SPARE	20	1	42	X	

L1 = 243.4 A
L2 = 238.4 A



ELECTRICAL RISER DIAGRAM
NOT TO SCALE
(BUILDING 2)

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE:

ENERGY CODE: PRESCRIPTIVE ☒ PERFORMANCE ☐
ASHRAE 90.1: PRESCRIPTIVE ☐ PERFORMANCE ☐

REFER TO DRAWINGS FOR RISER DIAGRAM AND PANEL SCHEDULES

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE: SEE SCHEDULE
NUMBER OF LAMPS IN FIXTURE:
BALLASTS TYPE USED IN FIXTURE:
NUMBER OF BALLASTS IN FIXTURE:
TOTAL WATTAGE PER FIXTURE:
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED:
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED:

ADDITIONAL PRESCRIPTIVE COMPLIANCE

506.2.1 MORE EFFICIENT MECHANICAL EQUIPMENT ☐
506.2.2 REDUCED LIGHTING POWER DENSITY ☒
506.2.3 ENERGY RECOVERY VENTILATION SYSTEMS ☐
506.2.4 HIGHER EFFICENCY SERVICE WATER HEATING ☐
506.2.5 ON–SITE SUPPLY OF RENEWABLE ENERGY ☐
506.2.6 AUTOMATIC DAYLIGHTING CONTROL SYSTEMS ☐

BUILDING 1

ELECTRICAL LOAD CALCULATIONS

10,800 SQUARE FEET		VA
NONCONTINUOUS LOADS:		
30 RECEPTACLES @ 180 VA EA.		5400
1ST 10000		5400
REMAINDER @ 50%		0
TOTAL		5400
CONTINUOUS LOADS:		
GENERAL LIGHTING LOAD	VA/SQ. FT.	
9600 SQ. FT.	1.2	11520
11520 x 1.25		14400
GENERAL LIGHTING LOAD	VA/SQ. FT.	
1200 SQ. FT.	1.3	1560
1560 x 1.25		1950
AIR HANDLER UNIT		23040
HEAT PUMPS		13776
EQUIPMENT:		7760
25% OF LARGEST MOTOR		1092
GRAND TOTAL		67418

281 AMPS @ 120/240V, 1ø, 60HZ

BUILDING 2

ELECTRICAL LOAD CALCULATIONS

23,700 SQUARE FEET		VA
NONCONTINUOUS LOADS:		
8 RECEPTACLES @ 180 VA EA.		1440
1ST 10000		1440
REMAINDER @ 50%		0
TOTAL		1440
CONTINUOUS LOADS:		
GENERAL LIGHTING LOAD	VA/SQ. FT.	
23,700 SQ. FT.	0.25	5925
5925 x 1.25		7406
AIR HANDLER UNIT		30720
HEAT PUMPS		19248
EQUIPMENT:		600
25% OF LARGEST MOTOR		1092
GRAND TOTAL		60506

252 AMPS @ 120/240V, 1ø, 60HZ

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 8909 RANDY L. CRUSE 02–25–25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS	
NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Dunn, North Carolina 28334
PH: (910) 892–4429
FAX: (910) 892–5162
LICENSE NO.: C–1721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

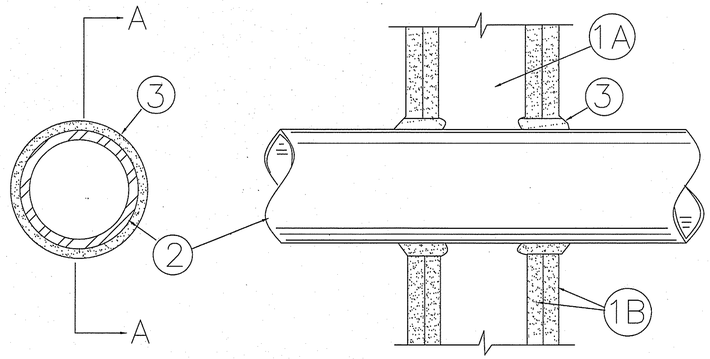
DATE 02–25–25
DRAWN BY BAM
JOB NO. 24–31

SHEET NO.
E–8 OF 8

System No. W-L-1001

June 15, 2005

F Ratings — 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings — 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient — less than 1 CFM/sq ft
L Rating At 400 F — less than 1 CFM/sq ft



SECTION A–A

1. Wall Assembly — The 1, 2, 3 or 4 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3–5/8 in. (92 mm) wide by 1–3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. Through–Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in / (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. Through Penetrating Product* — Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEFLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG L L C

3. Fill, Void or Cavity Material* — Caulk or Sealant — Min 5/8. , 1–1/4,1–7/8 and 2–1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In (mm)	F Rating Hr	T Rating Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

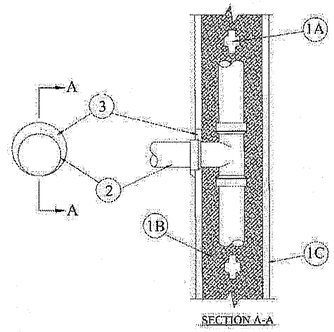
3M COMPANY ? CP 25WB+ or FB–3000 WT.

*Bearing the UL Classification Mark

System No. W-L-2179

September 17, 2001

F Rating — 1 Hr
T Rating — 1 Hr



SECTION A-A

1. Wall Assembly — The fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. The steel studs to be min 3–5/8 in. wide and spaced max 24 in. OC.

B. Insulation, Glass Fiber* — R–13 fiber glass insulation installed entirely within single stud cavity of nonmetallic pipe (item 2).

C. Gypsum Board* — One layer of nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 3–3/4 in.

2. Nonmetallic Pipe — Nonmetallic pipe, installed within stud cavity and connected to nonmetallic tee. Nonmetallic pipe penetrating wall assembly on one side of wall to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1 in. Pipe to be rigidly supported on penetrating side of wall assembly. The following types of and sizes of nonmetallic pipes and tees may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 2 in. diam (or smaller) Schedule 40 cellular core or solid core PVC pipe and tee for use in vented (drain, waste or vent) or closed (process and supply) piping systems.

B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. diam (or smaller) SDR17 CPVC pipe and tee for use in vented (drain, waste or vent) or closed (process and supply) piping systems.

C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 2 in. diam (or smaller) Schedule 40 cellular or solid core ABS pipe and tee for use in vented (drain, waste or vent) or closed (process and supply) piping systems.

3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact locations between wallboard and pipe, a min 1/2 in. diam bead of fill material shall be applied at the pipe/wallboard interface.

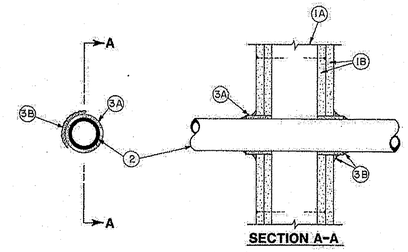
JOHNS MANVILLE INTERNATIONAL INC — FireTemp™ CI, FireTemp™ CE

*Bearing the UL Classification Mark

System No. W-L-2003

November 20, 2009

F Ratings — 1 and 2 Hr (See Item 3)
T Ratings — 1 and 2 Hr (See Item 3)
L Rating At Ambient — 7 CFM/sq ft (See Item 3B)
L Rating At 400 F — less than 1 CFM/sq ft (See Item 3B)



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire–rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3–5/8 in. (92 mm) wide by 1–3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3–1/8 in. (79 mm).

2. Through Penetrants — One nonmetallic pipe or conduit to be centered in the through opening. The annular space between pipe or conduit and periphery of opening shall be min 1/4 in. (6 mm) and max 3/8 in. (10 mm). Pipe or conduit to be rigidly supported on both sides of the floor–ceiling assembly. The following types and sizes of nonmetallic pipes or conduits may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

B. Rigid Nonmetallic Conduit++ — Nom 2 in. (51 mm) diam (or smaller)(Schedule 40 or 80) PVC conduit installed in accordance with the National electric Code (NFPA No. 70).

C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

D. Cellular Core Polyvinyl Chloride (ccPVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

E. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

F. Cellular Core Acrylonitrile Butadiene Styrene (ccABS) Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

3. Firestop System — Installed symmetrically on both sides of wall assembly. The hourly F and T Ratings for the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The details of the firestop system shall be as follows.

A. Fill, Void or Cavity Material* — Wrap Strip — Nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. (51 mm) wide strips. Nom 2 in. (51 mm) wide strip tightly wrapped around nonmetallic pipe (foil side out) with seam butted. Wrap strip layer securely bound with steel wire or aluminum foil tape and slid into annular space approx 1–1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip protrudes from the wall surface.

3M COMPANY — FS–195+

B. Fill, Void or Cavity Material* — Caulk, Sealant or Putty — Min 5/8 in. (16 mm) thickness of caulk or putty applied into annular space between wrap strip and periphery of opening. A nom 1/4 in. (6 mm) diam bead of caulk or putty to be applied to the wrap strip/wall interface and to the exposed edge of the wrap strip layers approx 3/4 in. (19 mm) from the wall surface.

3M COMPANY — CP 25WB+ caulk or MP+ Stix putty, IC 15WB+ caulk, FireDam 150+ caulk or FB–3000 WT sealant. (Note: L Ratings apply only when Type CP 25WB+ caulk or FB–3000 WT sealant is used. CP 25WB+ and FireDam 150+ not suitable for use with CPVC pipes.)

C. Foil Tape — (not shown) — Nom 4 in. (102 mm) wide, 3 mil thick aluminum tape wrapped around pipe prior to the installation of the wrap strip (item 3A). Min of one wrap, flush with both sides of wall and proceeding outward. Tape is not required for pipes shown in Items 2A, 2B and 2C.

*Bearing the UL Classification Mark

PENETRATION DETAILS

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 19909 ENGINEER BARRY L. CRUSE 02-25-25

PROPOSED BUILDINGS FOR:
HIGHWAY 42 STORE ALL
HOLLY SPRINGS, NORTH CAROLINA

REVISIONS

NO.	

Cruse And Associates, P.A.
414 E. Edgerton St.
Raleigh, North Carolina 28304
PH: (919) 832-4439
FAX: (919) 832-3182
LICENSE NO. C-17721

THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND AS SUCH THESE DRAWINGS, DESIGNS, AND DESIGN CONCEPTS PRESENTED REMAIN THE PROPERTY OF THE ENGINEER. PUBLISH OR DUPLICATE THE DRAWINGS OR DESIGNS ONLY WITH THE WRITTEN PERMISSION OF THE ENGINEER.
© COPY RIGHT

DATE 02–25–25
DRAWN BY BAM
JOB NO. 24–31

SHEET NO.
PME 1 OF 1

BETCO

HWY 42 STORE ALL

HOLLY SPRINGS, NORTH CAROLINA

SUBMITTED TO :

F & S LAND DEVELOPMENT LLC.
ATTN: DREW STEPHENSON
460 AUSLEY ROAD
FUQUAY VARINA, NORTH CAROLINA 27526

PHONE: (919) 730-7802

NOTE: DETAIL LABELS CONTAINED WITHIN THIS SET OF PLANS MAY REFERENCE THE ERECTION DRAWINGS MARKED IN THIS SCHEDULE.
EXAMPLE: DETAIL A/900 REFERS TO DETAIL "A" LOCATED ON ERC900X

ERECTION DRAWINGS

ERC010X		ERC200X		ERC420X		ERC619X		ERC752X	
ERC016X	X	ERC201X	X	ERC500X		ERC620X		ERC753X	
ERC100X	X	ERC202X	X	ERC505X	X	ERC621X		ERC754X	
ERC105X	X	ERC203X	X	ERC506X	X	ERC622X		ERC800X	
ERC106X		ERC204X		ERC515X		ERC623X		ERC900X	
ERC110X	X	ERC206X		ERC600X	X	ERC624X		ERC901X	
ERC112X	X	ERC207X		ERC601X	X	ERC625X		ERC902X	
ERC115X	X	ERC208X	X	ERC602X	X	ERC626X		ERC903X	
ERC125NXT		ERC209X		ERC603X		ERC630X	X	ERC904X	
ERC130X	X	ERC250X	X	ERC604X		ERC631X	X	ERC905X	
ERC150X		ERC250XFHP		ERC605X		ERC650X	X	ERC907X	
ERC151X		ERC251X		ERC606X		ERC651X		ERC908X	
ERC152X		ERC251XFHP		ERC607X		ERC652X		ERC910X	
ERC153X		ERC252X	X	ERC608X		ERC700X	X	ERC911X	
ERC154X		ERC252XFHP		ERC609X		ERC710X		ERC912X	
ERC155X		ERC253X		ERC610X		ERC711NXT		ERC913X	
ERC175X		ERC254X	X	ERC611X		ERC713NXT		ERC914X	
ERC176X		ERC255X		ERC612X		ERC720X		ERC915X	
ERC177X		ERC256X		ERC613X		ERC730X		ERC916X	
ERC178X		ERC257X		ERC614X		ERC731X		ERC917X	
ERC179X		ERC260X		ERC615NXT		ERC731XFHP		ERC918X	
ERC180X		ERC262X		ERC616X		ERC732X		ERC919X	
ERC181X		ERC302X	X	ERC617X	X	ERC732XFHP			
ERC182X		ERC410XFL	X	ERC618X	X	ERC750X			
ERC183X		ERC411X		ERC618XALT	X	ERC751X			

SCHEDULE OF DRAWINGS

DRAWING NO.	DESCRIPTION
CS1	COVER SHEET
CS2	BUILDING NOTES
CS3	APPENDIX B
CS4	UL SPECIFICATIONS
F1	FOUNDATION PLAN, DETAIL & NOTES
F2	FOUNDATION PLANS & NOTES
F3	FOUNDATION PLAN & NOTES
F4	FOUNDATION PLAN & NOTES
F5	FOUNDATION DETAILS
S1	ELEVATIONS & NOTES
S2	FLOOR PLAN, SECTION, DETAIL & NOTES
S3	FLOOR PLAN & NOTES
S4	FLOOR PLAN, & NOTES
S5	CROSS SECTION, & DETAILS
S6	FLOOR PLAN, CROSS SECTION, DETAILS & NOTES
S7	BUILDING DETAILS
S8	FRAMING ELEVATIONS

WIND LOAD DESIGN DATA:

ULTIMATE DESIGN WIND SPEED (V_{ULT}): 115 MPH
NOMINAL DESIGN WIND SPEED (V_{ASD}): 90 MPH
RISK CATEGORY: II
WIND EXPOSURE: B
INTERNAL PRESSURE COEFFICIENT: ± 0.18

SNOW LOAD DESIGN DATA:

GROUND SNOW LOAD (P_g): 15.0 PSF
FLAT-ROOF SNOW LOAD (P_f): 12.1 PSF
SNOW EXPOSURE FACTOR (C_e): 1.2
SNOW LOAD IMPORTANCE FACTOR (I_S): 1.0
THERMAL FACTOR (C_t): 1.2

EARTHQUAKE LOAD DESIGN DATA:

- RISK CATEGORY: II
- SEISMIC IMPORTANT FACTOR (I_E): 1.0
- SEISMIC DESIGN CATEGORY: C
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7-10 SECTION 12.8)
- BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT FRAMED WALLS WITH STEEL SHEAR PANELS
- SITE CLASS:D
- DESIGN BASE SHEAR:
  BUILDING "1": 1.837^K
  BUILDING "2": 3.200^K
  BUILDING "3": 0.729^K
- RESPONSE MODIFICATION FACTOR (R): 7.0

SEISMIC RESPONSE COEFFICIENT (C_S): 0.027
- MAPPED SPECTRAL RESPONSE ACCELERATION:
  (S_S): 17.4% G
  (S_1); 8.4% G
- SPECTRAL RESPONSE COEFFICIENTS:
  (S_{DS}): 18.6% G
  (S_{D1}): 13.4% G

BUILDING DATA :

BUILDING DESCRIPTION:

SINGLE STORY METAL BUILDINGS BOLTED TO CONCRETE SLAB FOUNDATIONS.

BUILDING SIZE:

BUILDING "1"	60' x 180' =	10,800 sq. ft.	9'-4" EAVE HGT.
BUILDING "2"	60' x 395' =	23,700 sq. ft.	9'-4" EAVE HGT.
BUILDING "3"	20' x 270' =	5,400 sq. ft.	8'-6" EAVE HGT.
	TOTAL =	39,900 sq. ft.	

PARKING DATA:

SEE SITE PLAN BY OTHERS

BUILDING CODE:

THE 2018 NORTH CAROLINA BUILDING CODE

DESIGN CRITERIA:

THESE BUILDINGS HAVE BEEN DESIGNED TO CONFORM TO THE STRUCTURAL REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE WITH CURRENT REVISIONS.

THESE BUILDINGS HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOADINGS IN ADDITION TO THE DEAD LOADINGS :

ROOF LIVE LOADING: 20 psf

FLOOR LIVE LOADING: 125 psf

USE GROUP: S-1

TYPE OF CONSTRUCTION: II-B

IT IS THE RESPONSIBILITY OF THE BUYER/OWNER TO VERIFY THE FIREWALL, LIVE LOAD AND WIND LOAD REQUIREMENTS WITH THE LOCAL CODE AUTHORITY.

PROJECT NUMBER:

NC24204

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF 1-7-2025

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

© 2024 BETCO, INC. ALL RIGHTS RESERVED. NO PART OF THESE DRAWINGS MAY BE REPRODUCED, DISTRIBUTED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, INCLUDING PHOTOCOPYING, RECORDING, OR OTHER ELECTRONIC OR MECHANICAL MEANS, WITHOUT THE PRIOR WRITTEN PERMISSION OF THE COPYRIGHT OWNER. THESE DRAWINGS ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED AND MAY NOT BE USED FOR OTHER PROJECTS OR PURPOSES WITHOUT EXPLICIT AUTHORIZATION FROM THE COPYRIGHT OWNER.

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:11 AM

GENERAL NOTES:

1. CONCRETE FOUNDATIONS AND FLOOR SLAB ARE TO EE SUPPLIED AND INSTALLED BY OTHERS . WEDGE ANCHORS FOR INTERIOR AND EXTERIOR FOOTINGS SUPPLIED AND INSTALLED BY BETCO.
2. EXTERIOR OPENINGS, NOT DESIGNATED AS DOOR LOCATIONS, TO BE COMPLETED USING EXTERIOR WALL PANELS FURNISHED BY BETCO.
3. USE DOW 791 SILICONE CAULK AND 1/2" WIDE BUTYL RUBBER TAPE SEALANT FOR ROOF INSTALLATION. USE DOW 799 SILICONE CAULK AT DOWNSPOUT TO GUTTER JOINT.
4. INTERIOR PARTITIONS PERPENDICULAR TO ROOF BEAM(S) MUST BE COMPLETED BEFORE ROOF PANELS ARE INSTALLED. USE PARTITION FRAMING TO PLUMB AND SQUARE COLUMNS AND HEADER SECTIONS. CHECK BUILDING WIDTH AT TOP OF COLUMNS PRIOR TO ROOF INSTALLATION.
5. THOROUGHLY SWEEP ROOF PANELS FOLLOWING INSTALLATION TO REMOVE METAL DRILLINGS.
6. THIS DESIGN IS BASED ON USING ONLY METAL BUILDING COMPONENTS WHICH ARE PROPRIETARY TO BETCO. FURTHER, THE PROFESSIONAL ENGINEER'S SEAL IS INVALID UNLESS ONLY BETCO METAL BUILDING COMPONENTS ARE UTILIZED.
7. METAL STUDS (IF APPLICABLE) MAY REQUIRE FIELD CUTTING DEPENDING UPON THE EAVE HEIGHT OF THE STRUCTURE.
8. UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.
9. THESE DRAWINGS ARE THE PROPERTY OF BETCO, INC. AND MAY NOT BE USED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN CONSENT OF BETCO, INC.
10. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.
11. THE GENERAL CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL SLEEVES, PADS, DEPRESSIONS, OPENINGS, ETC. AS REQUIRED BY THE VARIOUS TRADES.

FOUNDATIONS:

1. THE FOUNDATION DESIGN IS BASED ON A PRESUMED ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF. NOTIFY ENGINEER IF SITE CONDITIONS DIFFER FROM DESIGN ASSUMPTIONS SPECIFIED.
2. IF FOOTING ELEVATIONS SHOWN OCCUR IN A DISTURBED, UNSTABLE OR UNSUITABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.
3. TOP OF FOOTING ELEVATIONS ARE SHOWN ON THE DRAWINGS ARE TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD IN ACCORDANCE WITH THE GUIDE LINES SET FORTH IN THE DRAWINGS AND SPECIFICATIONS.
4. FILL MATERIAL SHALL BE FREE OF ROOTS, WOOD OR OTHER ORGANIC MATERIAL AND COMPLY WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT. MATERIALS USED FOR FILL UNDER FOOTINGS AND WITHIN BUILDING LIMITS SHALL BE TESTED AND APPROVED FOR THE USE BY THE GEOTECHNICAL TESTING AGENCY.
5. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEERS APPROVAL.
6. FOUNDATION WALLS RETAINING EARTH SHALL BE BRACED AGAINST BACK FILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE.
7. FOUNDATION WALLS OR GRADE BEAMS HAVING EARTH PLACED ON EACH SIDE SHALL HAVE BOTH FILLED SIMULTANEOUSLY TO MAINTAIN A COMMON ELEVATION.
8. DO NOT PLACE CONCRETE IN ANY EXCAVATION CONTAINING ICE, FROST, FROZEN GROUND OR FREE WATER. FROZEN SUB GRADES MUST BE THAWED AND RECOMPACTED PRIOR TO PLACING CONCRETE.
9. EARTH FORMED FOOTINGS SHALL CONFORM TO THE SHAPE, LINES, AND DIMENSIONS AS SHOWN ON THE FOUNDATION PLAN. ALL WATER SHALL BE REMOVED BEFORE DEPOSITING CONCRETE.
10. BEFORE PLACING CONCRETE, ALL EMBEDDED ITEMS SHALL BE PROPERLY LOCATED, ACCURATELY POSITIONED, AND MAINTAINED SECURELY IN PLACE.
11. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
12. PERIMETER FOUNDATION MUST NOT EXCEED 1/4" ELEVATION VARIATION ALONG ANY 50' DISTANCE OF BUILDING LENGTH.
13. PERIMETER FOUNDATION TO EXTEND BELOW FROST LINE. VERIFY REQUIRED DEPTH WITH LOCAL BUILDING OFFICIALS PRIOR TO PROCEEDING WITH FOUNDATION WORK AND NOTIFY ENGINEER OF DEVIATION FROM DRAWING.
14. THE AMERICAN CONCRETE INSTITUTE DOES NOT RECOGNIZE FIBERMESH AS A SUBSTITUTE FOR WIRE MESH REINFORCED CONCRETE WHEN SUBJECTED TO TENSILE STRESS
15. SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE NEW BILLET STEEL, DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60 (F_y=60,000 PSI).
2. FIELD BENDING OF CONCRETE REINFORCING STEEL IS NOT PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
3. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI SP-66 "ACI DETAILING MANUAL-1994" AND THE "CRSI MANUAL OF STANDARD PRACTICE", LATEST EDITION.
4. PLACE REINFORCEMENT AND TIES IN GROUT SPACES PRIOR TO GROUTING.
5. CONCRETE COVERAGE OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE UNLESS NOTED OTHERWISE.
   - A. FOOTING AND GRADE BEAMS IN GROUND CONTACT — 3 INCHES
   - B. BEAMS AND COLUMNS — 2 INCHES
   - C. SLABS, WALLS, AND JOISTS — 3/4 INCH - NOT EXPOSED TO EARTH, LIQUID OR WEATHER
   - D. SLABS ON GRADE — 2 INCHES FROM TOP
   - E. FORMED SURFACES IN GROUND CONTACT — 2 INCHES
6. DEVELOPMENT LENGTHS AND LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318-14 CHAPTER 12 AND AS INDICATED ON THE DRAWINGS. WHERE SPLICES ARE NOT CALLED OUT ON THE DRAWINGS, USE CLASS "B", BUT IN NO CASE SHALL ANY SPLICE BE LESS THAN 12 INCHES. FOR BARS AS INDICATED BELOW THE BASIC DEVELOPMENT LENGTH SHALL BE MULTIPLIED BY THE FACTORS AS INDICATED FOR TENSION OR COMPRESSION AND THEN ROUNDED UP TO THE NEAREST WHOLE INCH. THE FACTORS INDICATED BELOW ARE CUMULATIVE FOR EACH OF THE CONDITIONS APPLICABLE.
7. WELDED WIRE MAT/FABRIC SHALL CONFORM TO ASTM A184 AND A185 RESPECTIVELY AND BE LAPPED 1'-0" AT ALL SPLICES.
8. ALL REINFORCING TERMINATING AT THE TOPS OF COLUMNS AND PILASTERS SHALL BE HOOKED UNLESS OTHERWISE NOTED.
9. SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. COMPLY WITH ACI DETAILING MANUAL (SP-66) SHOWING BAR SCHEDULES, STIRRUP SPACING, DIAGRAMS OF BENT BARS, ARRANGEMENT OF CONCRETE REINFORCEMENT. INCLUDE SPECIAL REINFORCEMENT REQUIRED AT OPENINGS THROUGH CONCRETE STRUCTURES. INCLUDE ALL ACCESSORIES SPECIFIED/ REQUIRED TO SUPPORT REINFORCING.
10. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMISSION. DRAWINGS SHALL BEAR THE CONTRACTOR'S APPROVAL STAMP ACCEPTING RESPONSIBILTY FOR DIMENSIONS, QUANTITIES AND COORDINATION WITH THE OTHER TRADES.
11. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AND TESTING AGENCY A MINIMUM OF 48 HOURS PRIOR TO ALL CONCRETE POURS IN ORDER TO PERMIT REINFORCING STEEL REVIEW AS REQUIRED BY THE INSPECTION SCHEDULE.
12. REINFORCING IN ALL CONTINUOUS STRIP FOOTINGS SHALL HAVE CORNER BARS OR DOWELS. PROVIDE AT ALL CORNERS AND INTERSECTIONS.

CONSTRUCTION AND SAFETY:

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE OR LOSS.
3. MEANS AND METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIALS ARE SOLELY THE CONTRACTORS RESPONSIBILITY.
4. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE DRAWINGS OF OTHER CONSULTANTS AND TRADES. THE CONTRACTOR SHALL COORDINATE THE VARIOUS REQUIREMENTS.
5. NO OPENINGS NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE STRUCTURE AT ANY TIME.
7. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER, CLEARLY AND EXPLICITLY IN WRITING, OF ANY DEVIATION OR SUBSTITUTION OF REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS NOT RELIEVED OF ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS BY VIRTUE OF THE STRUCTURAL ENGINEERS REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS CLEARLY AND EXPLICITLY INFORMED THE STRUCTURAL ENGINEER IN WRITING OF ANY DEVIATIONS OR SUBSTITUTIONS AT TIME OF SUBMISSION, AND THE STRUCTURAL ENGINEER HAS GIVEN WRITTEN APPROVAL FOR THE SPECIFIC DEVIATIONS OR SUBSTITUTIONS.
9. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES IN THE DRAWINGS OR SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER. CORRECTIONS OR WRITTEN INTERPRETATIONS SHALL BE ISSUED BEFORE AFFECTED WORK MAY PROCEED.
10. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY THE EXISTING CONDITIONS. STRUCTURAL ENGINEER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS. INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT, SHOP, FABRICATION, OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH AFFECTED WORK.
12. DO NOT SCALE THESE DRAWINGS, USE THE DIMENSIONS SHOWN.

CONCRETE:

1. SUBMIT WRITTEN REPORTS OF EACH PROPOSED CONCRETE DESIGN MIX NOT LESS THAN 15 DAYS PRIOR TO THE START OF WORK. DESIGN MIXES PREPARED MORE THAN TWELVE (12) MONTHS PRIOR TO THE DATE THE SUBMITTAL ARE NOT PERMITTED.
2. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14).
3. ALL CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY FOR STANDARD PARAMETERS (SLUMP, COMPRESSIVE STRENGTH, ETC.) TWO COPIES OF ALL REPORTS SHALL BE SUBMITTED TO THE ENGINEER/ ARCHITECT.
4. ALL NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C-33 AGGREGATE WITH MAXIMUM UNIT WEIGHT OF 150 PCF. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, MINIMUM FOR FOUNDATIONS AND SLABS ON GRADE. ALL CONCRETE FOR FLOOR SLABS ON METAL DECK FORMS SHALL BE NORMAL WEIGHT CONCRETE WITH COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
5. MIX DESIGNS, INCLUDING WATER CEMENT RATIOS AND SLUMPS, SHALL BE PREPARED IN ACCORDANCE WITH MOST CURRENT ACI 301 CHAPTER 3, EXCEPT WHERE NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS. CEMENT SHALL CONFORM TO ASTM C 150 TYPE I OR AT CONTRACTOR'S OPTION, ASTM C 595 TYPE IP WHERE FLY ASH IS PERMITTED. NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33 AGGREGATE WITH MAXIMUM UNIT WEIGHT OF 150 PCF AND LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C 330 AGGREGATE. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED IN ANY CONCRETE.

   AGGREGATE SIZES SHALL BE:
   - I. FORMED CONCRETE ELEMENTS, U.N.O. _____ #67 STONE (3/4" MAX)
   - II. GRADE SLABS AND EARTH FORMED ELEMENTS _____ #57 STONE (1" MAX)
   - III. COARSE MASONRY GROUT REQUIRED _____ #67 STONE (3/4" MAX)
   - IV. FINE MASONRY GROUT REQUIRED _____ #8 STONE (3/8" MAX)
6. WATER REDUCING ADMIXTURE SHALL BE USED IN ALL CONCRETE.
7. AIR ENTRAINING ADMIXTURE IN ACCORDANCE WITH ACI 301-84 TABLE 3.4.1. SHALL BE USED IN ALL CONCRETE EXPOSED TO FREEZING AND THAWING DURING CONSTRUCTION OR SERVICE CONDITIONS.
8. WATER/CEMENT RATIO SHALL NOT EXCEED 0.45 FOR ANY CONCRETE SUBJECTED TO FREEZING/THAWING.
9. ALL PUMPED CONCRETE SHALL HAVE A WATER/CEMENT RATIO LESS THAN 0.45 AND SHALL CONTAIN A HIGH RANGE WATER REDUCING ADMIXTURE (SUPERPLASTICIZER).
10. IN NO CASE SHALL A WATER/CEMENT RATIOS EXCEED THE FOLLOWING:
    - I. ALL FOUNDATION CONCRETE f'c 3000 psi _____ 0.55 MAX. W/C RATIO
    - II. EXTERIOR PAVING CONCRETE f'c 3500 psi _____ 0.50 MAX. W/C RATIO
    - III. ALL EXPOSED C.I.P. WATERTABLE, PIERS, ETC.. f'c 3500 psi _____ 0.45 MAX. W/C RATIO
    - IIII. SLABS ON GRADE f'c 3000 psi _____ 0.45 MAX. W/C RATIO
11. LIQUID MEMBRANE CURING COMPOUND WITH A MINIMUM 30% SOLIDS CONTENT SHALL BE APPLIED WITHIN TWO (2) HOURS AFTER COMPLETION OF FINISHING TO ALL CONCRETE FLATWORK AND WALLS, U.N.O., OTHER THAN FOOTINGS AND GRADE BEAMS.
12. FLOORS IN AREAS RECEIVING QUARRY TILE, CERAMIC TILE AND LIQUID FLOOR HARDENER SHALL BE CURED WITH DISSIPATING LIQUID MEMBRANE CURING COMPOUND OR WET CURED BY USE OF MOISTURE RETAINING COVER. DISSIPATING CURING COMPOUND SHALL BE THOROUGHLY BROOMED AND WASHED OFF PRIOR TO APPLICATION OF FLOOR FINISH.
13. USE A NON-CORROSIVE, NON-CHLORIDE ACCELERATING ADMIXTURE IN CONCRETE EXPOSED TO TEMPERATURES BELOW 40 DEGREES. UNIFORMLY HEAT THE WATER AND AGGREGATES TO A TEMPERATURE OF NOT LESS THAN 50 DEGREES. PLACE AND CURE CONCRETE IN ACCORDANCE WITH ACI 306.
14. ALL CONSTRUCTION JOINTS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE UNLESS THEIR ELIMINATION IS APPROVED BY THE STRUCTURAL ENGINEER.
15. REINFORCING IN ALL ABUTTING CONCRETE, INCLUDING FOOTINGS, SHALL BE CONTINUOUS THROUGH OR AROUND ALL CORNERS OR INTERSECTIONS. DOWELS OR SPLICES SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE ABUTTING MEMBERS.
16. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIPS, REGLETS, WASHES, MASONRY ANCHORS, BRICK LEDGE ELEVATIONS, SLAB DEPRESSIONS AND MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
17. FORMS FOR ROUND COLUMNS SHALL BE ONE PIECE FIBERGLASS FORM TO PRODUCE SMOOTH FINISH ON EXPOSED COLUMNS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.
19. BASE PLATES, ANCHOR RODS, SUPPORT ANGLES AND OTHER STEEL EXPOSED TO EARTH OR GRANULAR FILL SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE.
20. FINISHING TOLERANCE SHALL BE WITHIN CLASS B IN ACCORDANCE WITH ACI 301 AND CONSIDERATION SHALL BE GIVEN TO SEQUENCING OF CONCRETE PLACEMENT TO FACILIATE CONTROL OF FINISH ELEVATIONS.
21. NON-SHRINK GROUT SHALL BE PRE-MIXED, NON-CORROSIVE, NON-METALLIC, NON-STAINING CONTAINING SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AND WATER REDUCING AGENTS. PRODUCTS SHALL ONLY REQUIRE THE ADDITION OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AFTER ONE DAY AND 10000 PSI AFTER 28 DAYS. GROUT SHALL BE FREE OF GAS PRODUCING OR AIR RELEASING AND OXIDIZING AGENTS AND CONTAIN NO CORROSIVE IRON, ALUMINUM OR GYPSUM.
22. PROVIDE CONCRETE GROUT - NOT MORTAR - FOR REINFORCING MASONRY LINTEL AND BOND BEAMS WHERE INDICATED ON DRAWINGS OR AS SCHEDULED.
23. TOLERANCE FOR ANCHOR RODS AND OTHER EMBEDDED ITEMS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE SECTION 7.5.
24. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL COLUMN, WALL, SLAB, OR BEAM EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.

BRICK VENEER - STEEL STUDWALLS:

1. AIR SPACE:
   - a. 2 in (51 mm) MINIMUM AIR SPACE RECOMMENDED ± 1 in (245 mm) MINIMUM AIR SPACE REQUIRED.
   - b. 4 1/2 in (114 mm) MAXIMUM DISTANCE REQUIRED BETWEEN BACK OF BRICK VENEER AND STEEL FRAMING UNLESS ANCHORS ARE RATIONALLY DESIGNED.
2. FLASHING:
   - a. DO NOT STOP FLASHING BEHIND FACE OF THE BRICKWORK.
   - b. PLACE FLASHING AT ALL POINTS WHERE AIR SPACE IS INTERRUPTED.
   - c. EXTEND FLASHING VERTICALLY UP THE BACKING TO 8 in (203 mm) MINIMUM HEIGHT.
   - d. LAP FLASHING 4 in (102 mm) MINIMUM HEIGHT UNDER WATER-RESISTANT BARRIER OR BEHIND SHEATHING ABOVE GRADE.
   - e. INSTALL BASE FLASHING MINIMUM 6 in (152 mm) ABOVE GRADE.
   - f. TURN UP FLASHING ENDS INTO HEAD JOINT A MINIMUM OF 1 in (25.4 mm) FOR FORM END DAM.
3. WEEPS:
   - a. OPEN HEAD JOINT WEEPS SPACED AT NO MORE THAN 24 in (610 mm) O.C. RECOMMENDED.
   - b. MOST BUILDING CODES PERMIT WEEPS NO LESS THAN 3/16" in (4.8 mm) DIAMETER AND SPACED NO MORE THAN 33 in (838 mm) O.C.
   - c. WICK AND TUBE WEEP SPACING RECOMMENDED AT NO MORE THAN 16 in (406 mm) O.C.
4. ANCHORS:
   - a. CORRUGATED ANCHORS NOT PERMITTED WITH STEEL STUD BLOCKING.
   - b. MINIMUM W.1 (9 gage) ADJUSTABLE WIRE ANCHORS, HOT-DIPPED GALVANIZED, TWO PIECE PER ASTM A153 CLASS B-2.
   - c. VERTICAL SPACING: MAXIMUM 16 in (406 mm) O.C.
   - d. HORIZONTAL SPACING: MAXIMUM 24 in (610 mm) O.C.
   - e. SECURELY ATTACH ANCHORS TO THE STEEL STUDS THROUGH THE SHEATHING, NOT THE SHEATHING ALONE.
5. SHELF ANGLES AND LINTELS:
   - a. SHELF ANGLES LOCATED ABOVE THE HEIGHT LIMIT MAY SUPPORT NO MORE THAN 1 STORY OF BRICK.
   - b. SIZE HORIZONTAL LEG OF ALL SHELF ANGLES AND LINTELS TO PROVIDE A MINIMUM BEARING OF 2/3 THICKNESS OF THE BRICK WYTHE.
6. SHEATHING:
   - a. EXTERIOR GRADE GYPSUM SHEATHING OR OSB OR GLASS FIBER MAT-FACED SHEATHING OR CEMENT BOARD, MINIMUM 1/2 in (12.7 mm) THICK.
7. WATER-RESISTANT BARRIER:
   - a. WATER-RESISTANT BARRIERS INCLUDE 15 ASPHALT FELT, BUILDING PAPER, QUALIFYING HIGH-DENSITY POLYETHYLENE OR POLYPROPYLENE PLASTICS (HOUSEWRAPS).
   - b. INSTALL WATER-RESISTANT BARRIER OVER SHEATHING.
   - c. SEAL WATER-RESISTANT SHEATHING PER MANUFACTURER TO PERFORM AS WATER-RESISTANT BARRIER.
   - d. SHIP LAP WATER-RESISTANT BARRIER PIECES MINIMUM 6 in (152 mm).
8. STEEL STUDS:
   - a. GALVANIZED STEEL STUDS WITH MINIMUM G-90 COATING.
   - b. RESTRICT ALLOWABLE OUT-OF-PLANE DEFLECTION OF STEEL STUDS TO L/600 USING SERVICE LEVEL LOADS.
   - c. MINIMUM 0.043 in (18 gage ± 1.09 mm) STUDS FOR EXTERIOR WALLS.
   - d. DO NOT FIELD WELD STEEL STUDS.
9. MORTAR:
   - a. COMPLY WITH ASTM C270.
   - b. TYPE N RECOMMENDED ± TYPE S ALTERNATE.
10. EXPANSION JOINTS:
   - a. PROVIDE VERTICAL AND HORIZONTAL EXPANSION JOINTS THROUGH BRICK VENEER.

BRICK LINTEL SCHEDULE

MAX OPENING WIDTH	STEEL ANGLE
4'-0"	L 3" x 3 1/2" x 1/4" LLH
6'-0"	L 4" x 3 1/2" x 1/4" LLV
8'-0"	L 5" x 3 1/2" x 1/4" LLV
10'-0"	L 6" x 3 1/2" x 5/16" LLV
12'-0"	L 7" x 4" x 3/8" LLV
14'-0"	L 7" x 4" x 3/8" LLV

NOTES:
1. PROVIDE 8" MINIMUM BEARING.
2. ALL EXPOSED LINTELS TO BE HOT DIP GALVANIZED.
3. ABOVE SCHEDULE FOR LOOSE LINTELS. (NOT BY BETCO)

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

REVISIONS	DATE	BY

DATE: 12/9/24
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: BUILDING NOTES
DRAWING NUMBER: CS2 OF 4

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:12 AM

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Hwy 42 Storage All
Address: Holly Springs, NC Zip Code: 27540
Owner/Authorized Agent: Drew Stephenson Phone # (919) 730-7802 E-Mail:
Owned By: Private
Code Enforcement Jurisdiction: Select one

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(__)____	
Civil				(__)____	
Electrical				(__)____	
Fire Alarm				(__)____	
Plumbing				(__)____	
Mechanical				(__)____	
Sprinkler-Standpipe				(__)____	
Structural	Betco	Self	27355	(704)872-2999	reed@bcicsinc.com
Retaining Walls >5' High				(__)____	
Other				(__)____	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building
2018 NC EXISTING BUILDING CODE: N/A N/A N/A
CONSTRUCTED: (date)____ **CURRENT OCCUPANCY(S)** (Ch. 3):
RENOVATED: (date)____ **PROPOSED OCCUPANCY(S)** (Ch. 3):
OCCUPANCY CATEGORY (Table 1604.5): **Current:** N/A **Proposed:** I

BASIC BUILDING DATA
Construction Type: II-B
Sprinklers: N/A N/A
Standpipes: N/A
Primary Fire District: Select one **Flood Hazard Area:** Select one
Special Inspections Required: No

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
Building 1		10800	10800
Building 2		23700	23700
Building 3		5400	5400
TOTAL		39900	39900

ALLOWABLE AREA
Primary Occupancy Classification(s): Storage - S-1 N/A N/A N/A N/A N/A
Accessory Occupancy Classification(s):

Incidental Uses (Table 509):
Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: No Separation: Select one Exception:

Select one

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

____ + ____ + ... = ____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY ON UNLIMITED[2,3]
Bldg 1	S-1	10800	17500	0	17500
Bldg 2	S-1	23700	17500	0	17500
Bldg 3	S-1	5400	17500	0	17500

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = ____ (F)
b. Total Building Perimeter = ____ (P)
c. Ratio (F/P) = ____ (F/P)
d. W = Minimum width of public way = ____ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30$ = ____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55 ft	Bldg. 1 & 2; 9.33 ft Bldg 3; 8.5 ft	
Building Height in Stories (Table 504.4)	2	1	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ __ HR REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		NC					
Bearing Walls							
Exterior	>= 10 ft						
North	>= 10 ft						
East	>= 10 ft						
West	>= 10 ft						
South	>= 10 ft						
Interior							
Nonbearing Walls and Partitions	N/A						

Exterior walls							
North	N/A						
East	N/A						
West	N/A						
South	N/A						
Interior walls and partitions	N/A						
Floor Construction Including supporting beams and joists	N/A						
Floor Ceiling Assembly	N/A						
Columns Supporting Floors							
Roof Construction, including supporting beams and joists		NC					
Roof Ceiling Assembly	N/A						
Columns Supporting Roof	N/A						
Shaft Enclosures - Exit	N/A						
Shaft Enclosures - Other	N/A						
Corridor Separation	N/A						
Occupancy/Fire Barrier Separation	N/A						
Party/Fire Wall Separation	N/A						
Smoke Barrier Separation	N/A						
Smoke Partition	N/A						
Tenant/Dwelling Unit/ Sleeping Unit Separation	N/A						
Incidental Use Separation	N/A						

* Indicate section number permitting reduction NC=Non-combustible

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Select one
Exit Signs: Select one
Fire Alarm: Select one
Smoke Detection Systems: Select one
Carbon Monoxide Detection: Select one

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #:

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)

- ☐ Occupant loads for each area
- ☐ Exit access travel distances (1017)
- ☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALES	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQ'D										

SPECIAL APPROVALS
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: Select one

Exempt Building: Yes Provide code or statutory reference: N.C.G.S 143-138

Climate Zone: Select one

Method of Compliance: Select one
(If "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly:
U-Value of total assembly:
R-Value of insulation:
Skylights in each assembly:
U-Value of skylight:
total square footage of skylights in each assembly:

Exterior Walls (each assembly)
Description of assembly:
U-Value of total assembly:
R-Value of insulation:
Openings (windows or doors with glazing)
U-Value of assembly:
Solar heat gain coefficient:
projection factor:
Door R-Values:

Walls below grade (each assembly)
Description of assembly:
U-Value of total assembly:
R-Value of insulation:

Floors over unconditioned space (each assembly)
Description of assembly:
U-Value of total assembly:
R-Value of insulation:

Floors slab on grade
Description of assembly:
U-Value of total assembly:
R-Value of insulation:
Horizontal/vertical requirement:
slab heated:

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_S) 1.0; Seismic (I_E) 1.0

Live Loads: Roof 20 psf; Mezzanine N/A psf; Floor 125 psf

Ground Snow Load: 15 psf

Wind Load: Design Wind Speed V(ultimate)= 115mph (ASCE 7-10)
Exposure Category B
Wind Base Shear (MWFRS): Bldg 1; Vx= 27.2 k Vy= 174 k
Bldg 2; Vx= 59.3 k Vy= 383 k
Bldg 3; Vx= 37.0 k Vy= 93.1 k

SEISMIC DESIGN CATEGORY: C
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) I
Spectral Response Acceleration S_S =17.4 %g S_1 8.4 %g
Site Classification (ASCE 7) D
Data Source: Presumptive
Basic structural system Building Frame
Seismic Base Shear: Bldg 1; Vx=1.837 k Vy=1.837 k
Bldg 2; Vx=3.200 k Vy=3.200 k
Bldg 3; Vx=0.729 k Vy=0.729 k

Analysis Procedure: Equivalent Lateral Force
Architectural, Mechanical, Components anchored? Yes

LATERAL DESIGN CONTROL: Wind

SOIL BEARING CAPACITIES:
Presumptive Bearing Capicity 3000 psf
Pile size, type, and capacity

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb:
summer dry bulb:

Interior design conditions
winter dry bulb:
summer dry bulb:
relative humidity:

Building heating load:

Building cooling load:

Mechanical Spacing Conditioning System
Unitary
description of unit:
heating efficiency:
cooling efficiency:
size category of unit:
Boiler
Size category. If oversized, state reason.:
Chiller
Size category. If oversized, state reason.:

List equipment efficiencies:

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☐ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

REVISIONS	DATE	BY

DATE: 12/9/24
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: APPENDIX B
DRAWING NUMBER: CS3 OF 4

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:12 AM

UL Product iQ™

BXUV.U419 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

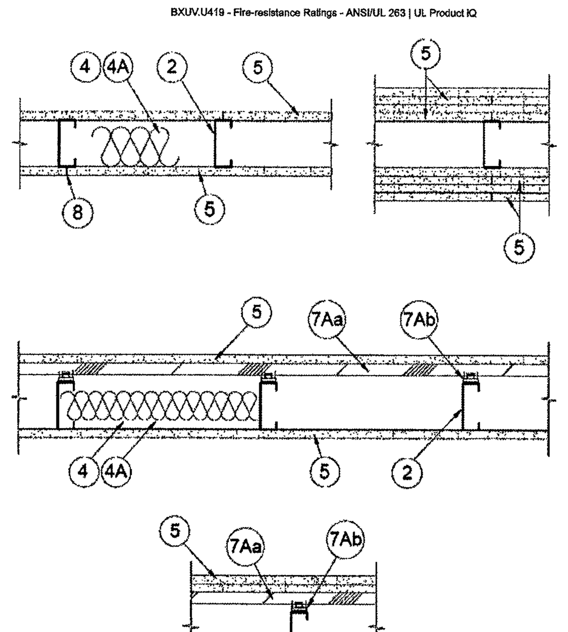
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U419

December 10, 2020

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5J)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners** — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

FUSION BUILDING PRODUCTS — Viper25™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

TELLING INDUSTRIES L L C — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1D. **Floor and Ceiling Runners** — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners** — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner** — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track VT100

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners** — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

1K. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1L. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RESCUE METAL FRAMING, L L C — AlphaTRAK

1M. **Framing Members* — Floor and Ceiling Runners** — Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. **Framing Members* — Floor and Ceiling Runners** — Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Track

1O. **Framing Members* — Floor and Ceiling Runner** — Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs** — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J or Type ULIX) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs** — (As an alternate to Item 2, For use with Items 5C, 5I or Type ULIX) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

FUSION BUILDING PRODUCTS — Viper25™

IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. **Framing Members* — Steel Studs** — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

TELLING INDUSTRIES L L C — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2E. **Framing Members* — Steel Studs** — (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or Type ULIX only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs** — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs** —

2J. **Framing Members* — Metal Studs** — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

2K. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut

3/8 to 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2L. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members*— Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.
RESCUE METAL FRAMING, L L C — AlphaSTUD

2O. **Framing Members* — Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members* — Steel Studs** — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Stud

2Q. **Framing Members* — Steel Studs** — Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. **Wood Structural Panel Sheathing** — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets*** — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Fiber, Sprayed*** — (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Gypsum Board*** — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Type C and 5/8 in. thick Type SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board*** — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board*** — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC — Type SCX, ULIX.

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

UNITED STATES GYPSUM CO — Type SCX, SGX, ULIX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG BORAL DRYWALL SFZ LLC — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only. Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX

UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX, ULIX

USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type SCX, SGX

5G. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX or 3/4 in. thick Types IP-X3 or ULTRACODE

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Types C and 5/8 in. thick SCX

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board*** — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC — Type ULIX, ULX

UNITED STATES GYPSUM CO — Type ULIX, ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Bozrd*** — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

6. **Fasteners** — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Single layer system with Type ULIX:** 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer-

1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels** — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. **Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members*** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members*** — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of

No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. **Steel Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7F. **Steel Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

7G. **Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. or 1-1/2 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco** — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants*** — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips** — (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips** — (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs** — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs** — (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips** — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs** — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

15. **Barrier Mesh** — (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.
CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2020-12-10

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2021 UL LLC"

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REED N. SELF

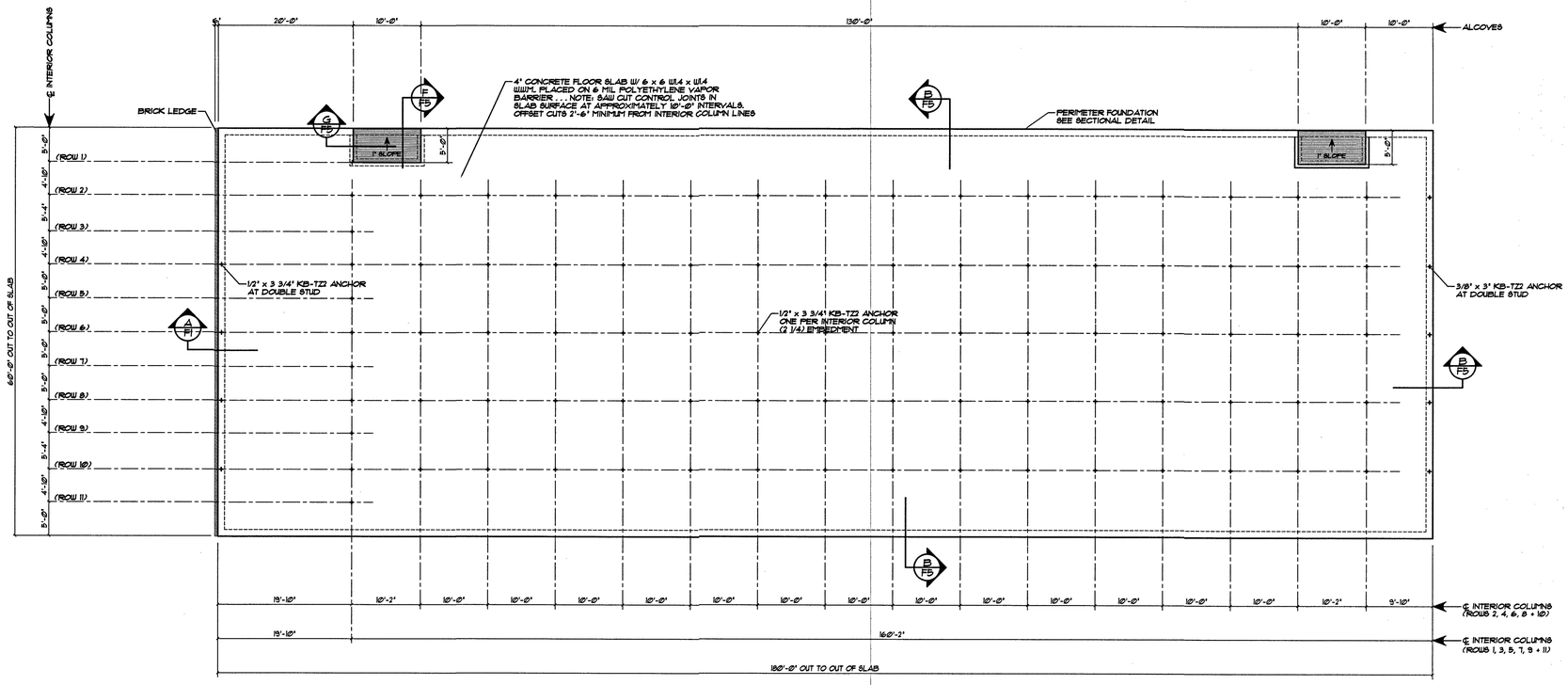
REVISIONS	DATE	BY

DATE: 12/9/24
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: UL SPECIFICATIONS
DRAWING NUMBER: CS4 OF 4

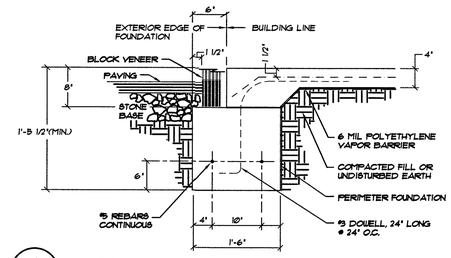
RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:13 AM



FOUNDATION PLAN . . . BUILDING "1"

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

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.



A / F1 PERIMETER FOUNDATION AT BRICK VENEER

NOT TO SCALE

ACI 318 – TABLE 19.3.1.1
EXPOSURE CATEGORIES AND CLASSES

CATEGORY	SEVERITY	CLASS	CONDITION	
F FREEZING AND THAWING	NOT APPLICABLE	F0	CONCRETE NOT EXPOSED TO FREEZING–AND–THAWING CYCLES	
S SULFATE			WATER–SOLUBLE SULFATE (SO_4) IN SOIL, PERCENT BY WEIGHT	DISSOLVED SULFATE (SO_4) IN WATER, ppm
	NOT APPLICABLE	S0	SO_4 < 0.10	SO_4 < 150
W REQUIRING LOW PERMEABILITY	NOT APPLICABLE	W0	CONCRETE DRY IN SERVICE, CONCRETE IN CONTACT WITH WATER AND LOW PERMEABILITY IS NOT REQUIRED	
C CORROSION PROTECTION OF REINFORCEMENT	MODERATE	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDES	

NOTE: ABOVE REPRESENTS "ASSUMED" CONDITIONS BY ENGINEER. IF CONTRACTOR KNOWS OR HAS REASON TO BELIEVE OTHERWISE, ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CONSTRUCTION.

REFERENCE ACI 318–14 – TABLE 19.3.1.1 FOR REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS.

NOTE:
KB-TZ2 ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE TO OWNER / CONTRACTOR:
DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REED N. SELF

REVISIONS	DATE	BY

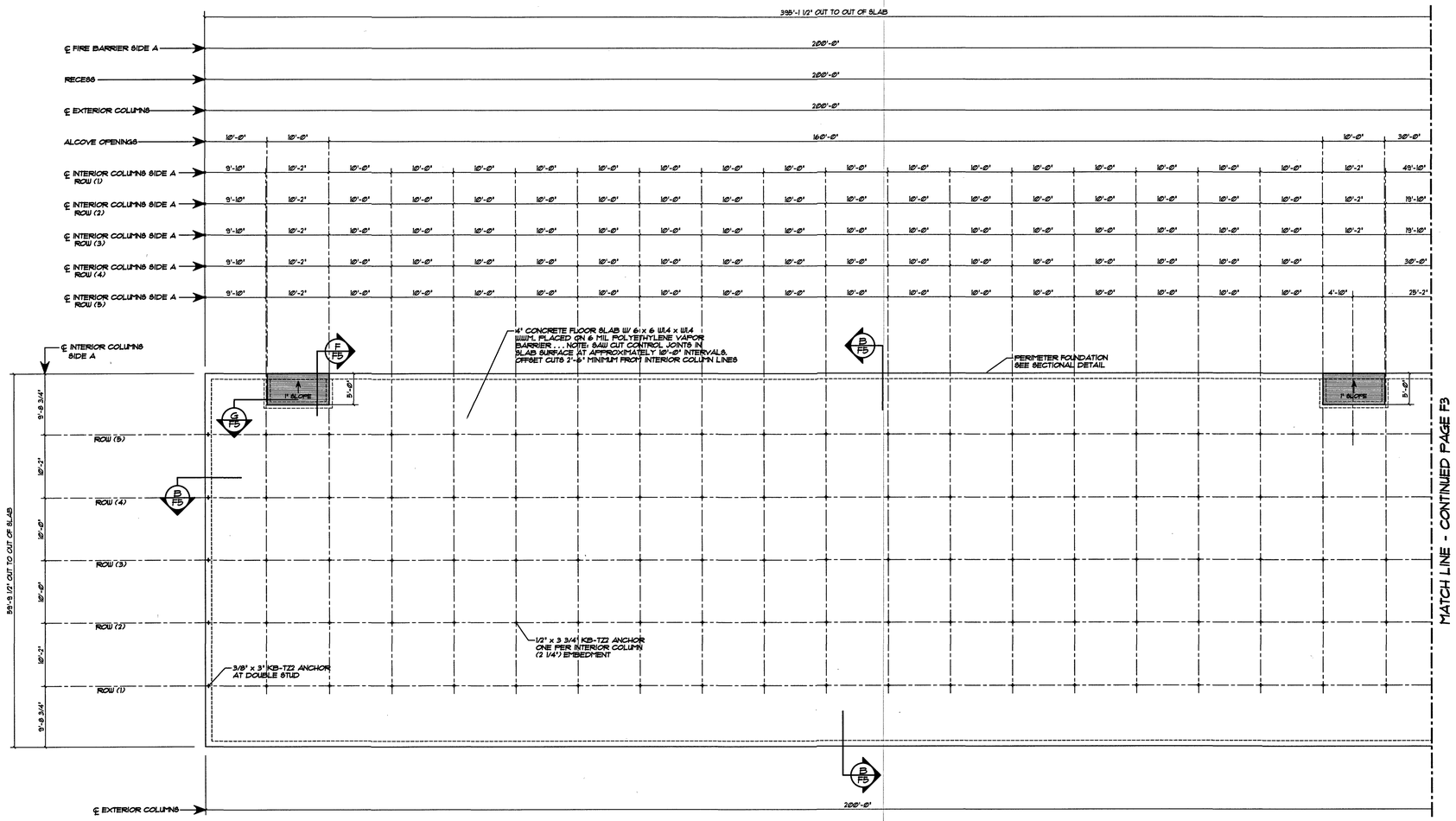
DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654–7813

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC
PROJECT NO.: NC24204
SHEET TITLE: FOUNDATION PLAN, DETAIL & NOTES – BUILDING "1"
DRAWING NUMBER: F1 OF 5

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:13 AM



FOUNDATION PLAN . . . BUILDING '2A'

SCALE: 1/8" = 1'-0" =OR= 0.13" = 10'-0"

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'–0" INTERVALS . . . OFFSET CUTS 2'–6" MINIMUM FROM INTERIOR COLUMN LINES.

NOTE:
KB-TZ2 ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE TO OWNER / CONTRACTOR:
DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REEDING SELF

REVISIONS	DATE	BY
⚠ ADJUSTED DIMENSIONS	3/14/25	KEM

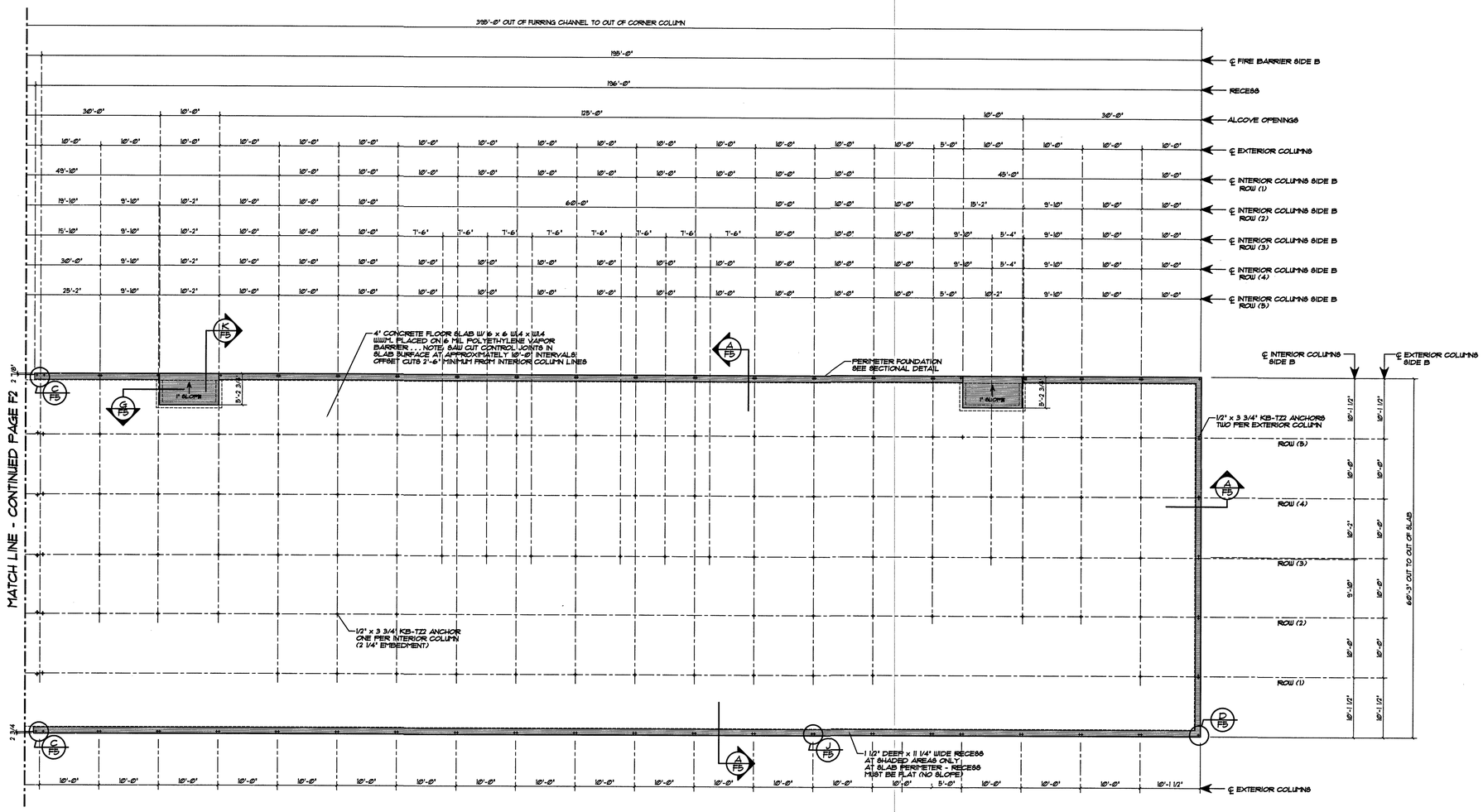
DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654–7813

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC
PROJECT NO.: NC24204
SHEET TITLE: FOUNDATION PLAN & NOTES – BUILDING "2"
DRAWING NUMBER: F2 OF 5

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:55 AM



FOUNDATION PLAN . . . BUILDING "2B"

SCALE: 1/8" = 1'-0" **OR** 0.8" = 10'-0"

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.

NOTE:
KB-TZ2 ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE TO OWNER / CONTRACTOR:
DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

NOTE:
FIELD LOCATE WEDGE ANCHORS AT 3 HOUR FIRE BARRIER.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SEITZ

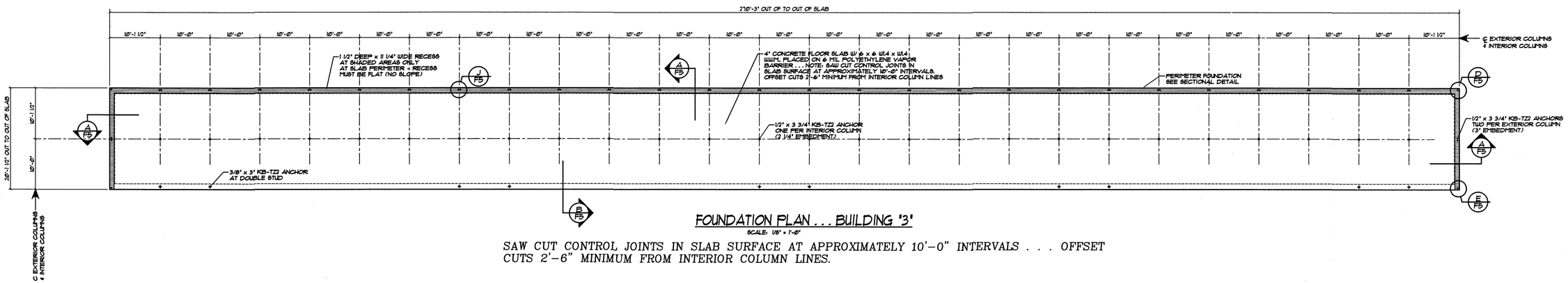
REVISIONS	DATE	BY
⚠ ADJUSTED DIMENSIONS	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC
PROJECT NO.: NC24204
SHEET TITLE: FOUNDATION PLAN & NOTES – BUILDING "2"
DRAWING NUMBER: F3 OF 5

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:57 AM



FOUNDATION PLAN . . . BUILDING '3'

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

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.

NOTE:
KB-TZ2 ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE TO OWNER / CONTRACTOR:
DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

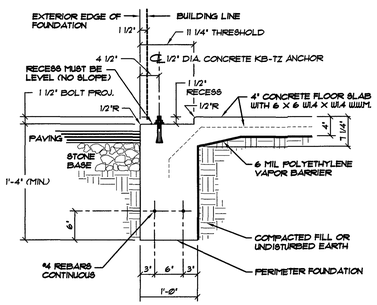
REVISIONS	DATE	BY

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

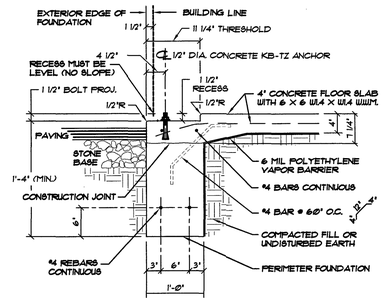
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC
PROJECT NO.: NC24204
SHEET TITLE: FOUNDATION PLAN & NOTES – BUILDING "3"
DRAWING NUMBER: F4 OF 5

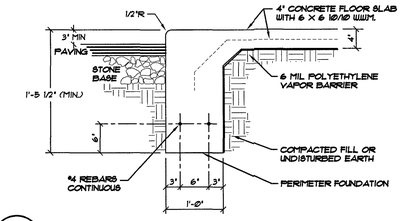
RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:15 AM



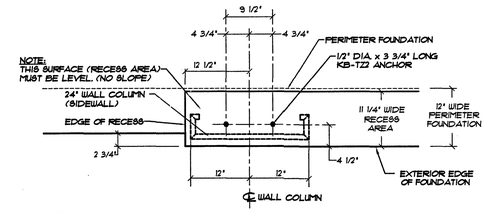
A/F5 TYPICAL PERIMETER FOUNDATION SECTION
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE



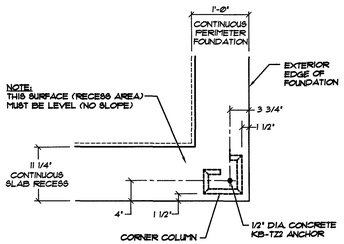
A/F5 ALTERNATE PERIMETER FOUNDATION SECTION
(TWO STAGE CONCRETE PLACEMENT)
NOT TO SCALE



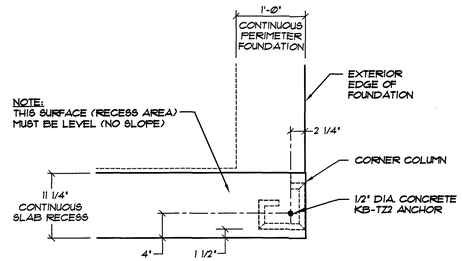
B/F5 PERIMETER FOUNDATION SECTION AT EXTERIOR STUDWALL
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE



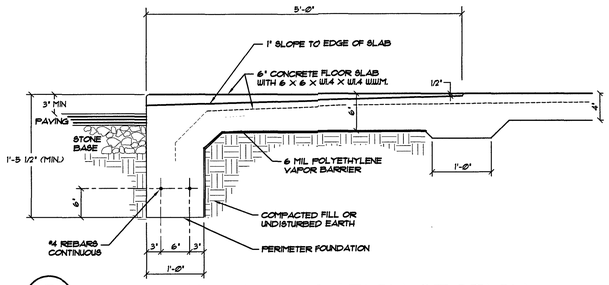
C/F5 RECESS AT WALL COLUMN AND STUDWALL
NOT TO SCALE



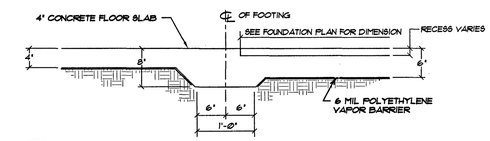
D/F5 TYPICAL CORNER KB-TZ2 ANCHORS
NOT TO SCALE



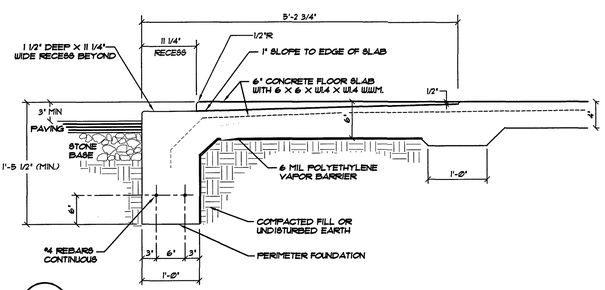
E/F5 CORNER KB-TZ2 ANCHORS AT STUDWALL
NOT TO SCALE



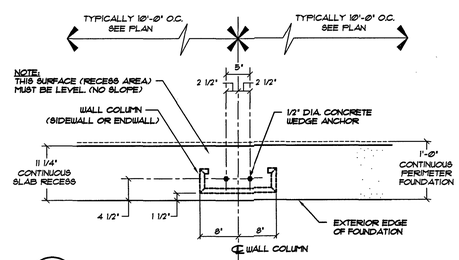
F/F5 PERIMETER FOUNDATION SECTION AT 5'-0" ALCOVE AREAS
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE



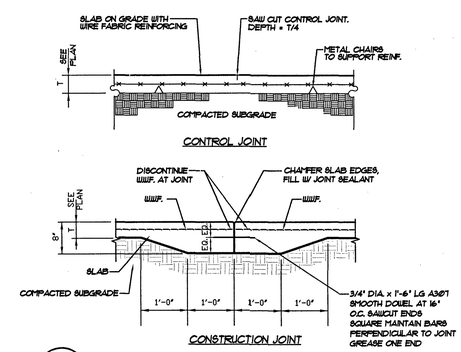
G/F5 CONTINUOUS THICKENED SLAB SECTION
NOT TO SCALE



K/F5 PERIMETER FOUNDATION SECTION AT 5'-0" ALCOVE AREAS
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE



J/F5 TYPICAL WALL COLUMN WEDGE ANCHORS
NOT TO SCALE



H/F5 CONTROL JOINT & CONSTRUCTION JOINT IN CONCRETE SLAB
NOT TO SCALE

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 1-07-2025 ENGINEER REED N. SELF

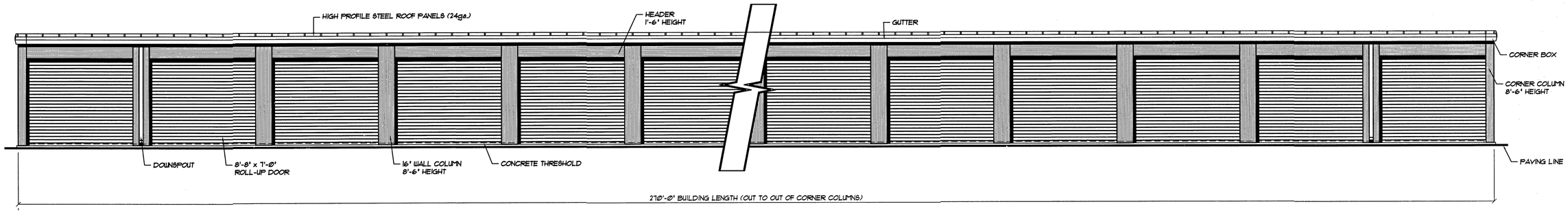
REVISIONS	DATE	BY

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

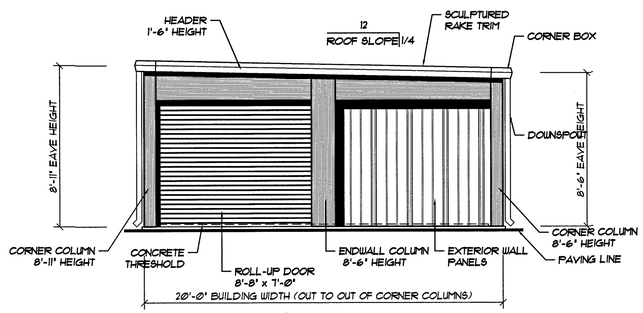
PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT
PROJECT NO.: NC24204
SHEET TITLE: FOUNDATION DETAILS LLC
DRAWING NUMBER: F5 OF 5

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:16 AM



A/S1 SIDEWALL ELEVATION . . . BUILDING "3"

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



B/S1 ENDWALL ELEVATION . . . BUILDING "3"

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

NOTE:
DOWNSPOUTS LOCATIONS SHOWN FOR ELEVATION PURPOSE ONLY. REFER TO FLOOR PLAN SHEETS FOR LOCATIONS

NOTE: . . . SEE OWNER FOR BUILDING ORIENTATION ON SITE

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER JARED N. SELF

REVISIONS	DATE	BY

DATE: 12/9/24
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: ELEVATIONS & NOTES BUILDING "3"
DRAWING NUMBER: S1 OF 8

RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:16 AM

(1) EXTERIOR STUDWALL CONSTRUCTION @ FLAT SLAB:
- -3 5/8' x 1 5/8' FLANGE METAL STUDS @ 24' O.C. - 20ga.
- -3 5/8' CONTINUOUS CEILING TRACK - 18ga.
- -3 5/8' CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8' x 3' KB-TZ2 ANCHORS (2' MIN. EMBEDMENT) @ 30' O.C. MAX)
- -2 ROWS CONTINUOUS 20ga. FURRING CHANNELS
- -PRE-PAINTED EXTERIOR 236A WALL PANELS
- -WALL PANEL BASE SUPPORT
- -DRIP CAP (#T60120)
- *-4' THICK FIBERGLASS INSULATION
- *-4 MIL POLYETHYLENE VAPOR BARRIER
- *-230 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8' SDF's)
- *-J-TRIM @ TOP OF LINER PANELS

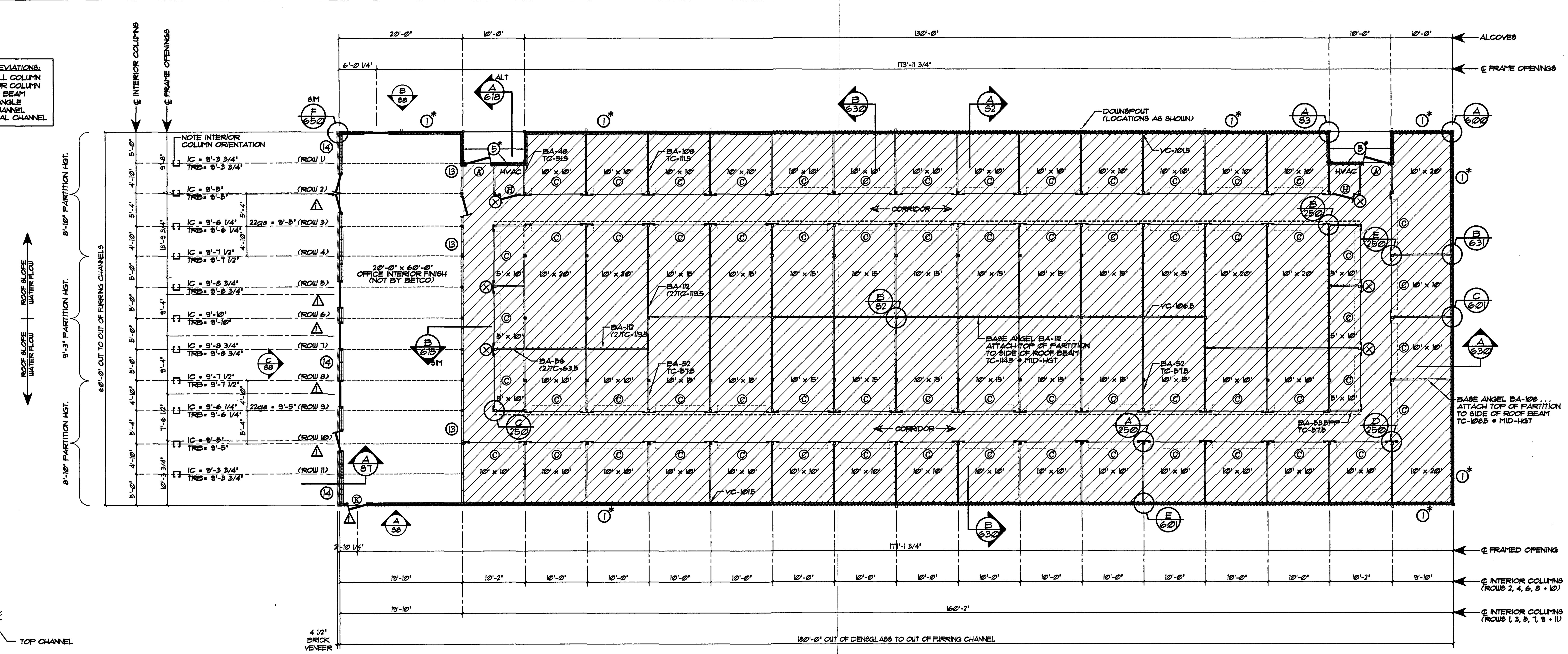
(5) EXTERIOR STUDWALL CONSTRUCTION @ HVAC INSET/ALCOVE:
- -3 5/8' x 1 5/8' FLANGE METAL STUDS @ 24' O.C. - 20ga.
- -3 5/8' CONTINUOUS CEILING TRACK - 18ga.
- -3 5/8' CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8' x 3' KB-TZ2 ANCHORS (2' MIN. EMBEDMENT) @ 30' O.C. MAX)
- -3 ROWS CONTINUOUS 20ga. FURRING CHANNELS
- -PRE-PAINTED EXTERIOR 236A WALL PANELS
- -DRIP CAP (#T50032)
- *-4' THICK FIBERGLASS INSULATION
- *-4 MIL POLYETHYLENE VAPOR BARRIER
- *-230 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8' SDF's)
- *-J-TRIM @ TOP OF LINER PANELS

(13) INTERIOR STUDWALL CONSTRUCTION
- -3 5/8' x 1 5/8' FLANGE METAL STUDS @ 24' O.C. - 20ga
- -3 5/8' CONTINUOUS FLOOR and CEILING TRACK - 20 ga. (SECURE FLOOR TRACK w/ 7/8' PDF'S @ 24' O.C.)
- *-230 LINER PANELS @ STORAGE SIDE (ATTACH EACH PANEL AT BASE AND TOP w/ (4) EACH #10 SDF's)

(14) EXTERIOR STUDWALL CONSTRUCTION @ BRICK VENEER:
- -6' x 2' FLANGE METAL STUDS @ 24' O.C. - 16ga
- -6' CONTINUOUS FLOOR and CEILING TRACK - 18 ga. (SECURE FLOOR TRACK w/ 3/8' x 3' KB-TZ2 ANCHORS @ 30' O.C.)
- -DOUBLE STUD AT ENDWALL (TYPICAL AT ALL ROOF BEAM LOCATIONS)
- -HORIZONTAL 136 PANELS @ EXTERIOR
- -BRICK VENEER AND BRICK TIES NOT BY BETCO
- -BLOCK STUDS AS SHOWN ON DETAIL C/S8
- -236A PANELS AT BACK OF PARAPET
- -20ga. FURRING CHANNELS AT BACK OF PARAPET (2 ROWS)
- *-6' THICK FIBERGLASS INSULATION (NOT BY BETCO)
- *-4 MIL VAPOR BARRIER (NOT BY BETCO)
- - INTERIOR FINISH (NOT BY BETCO)

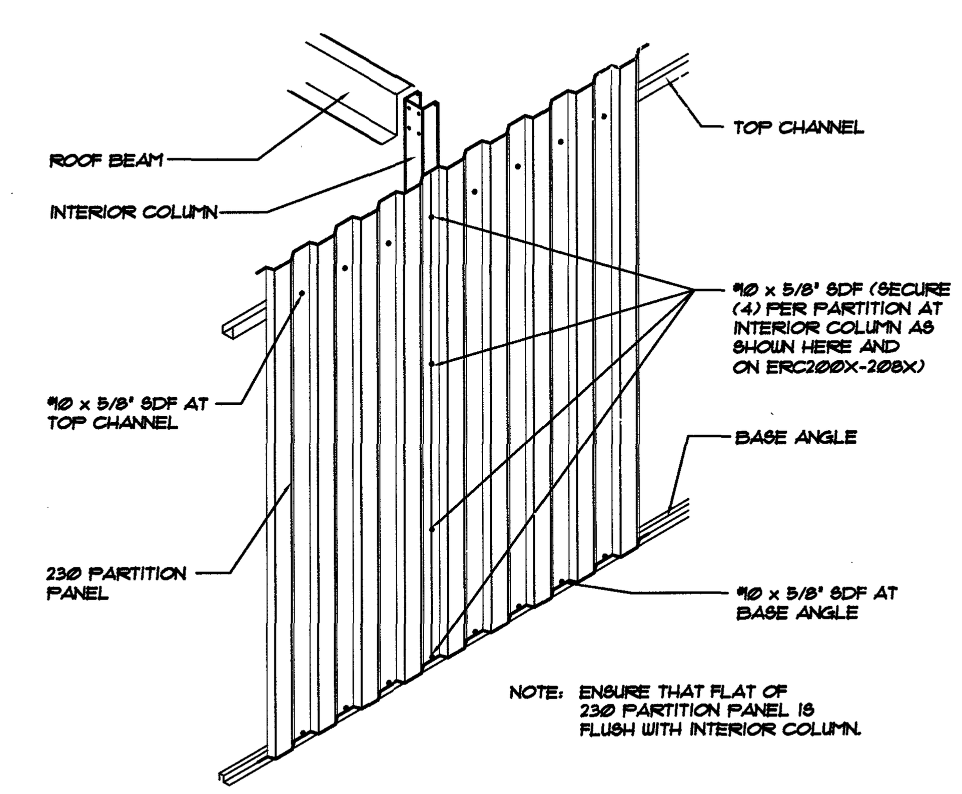
NOTE: GENERAL STUDWALL CONSTRUCTION:
A) -ATTACH STUDS W/ #10 X 5/8' SDF'S EACH SIDE OF TRACK (4 PER STUD)
B) -WALLS MUST EXTEND FROM ROOF TO FLOOR DECK AND INTO WALL COLUMN CAVITY.
C) -TOP TRACK MUST FOLLOW SLOPE OF ROOF LINE.

KEY TO ABBREVIATIONS:
- EC = ENDWALL COLUMN
- IC = INTERIOR COLUMN
- TB = TOP OF BEAM
- BA = BASE ANGLE
- TC = TOP CHANNEL
- VC = VERTICAL CHANNEL



FLOOR PLAN . . . BUILDING "1"

SCALE: 1' = 10'-0'



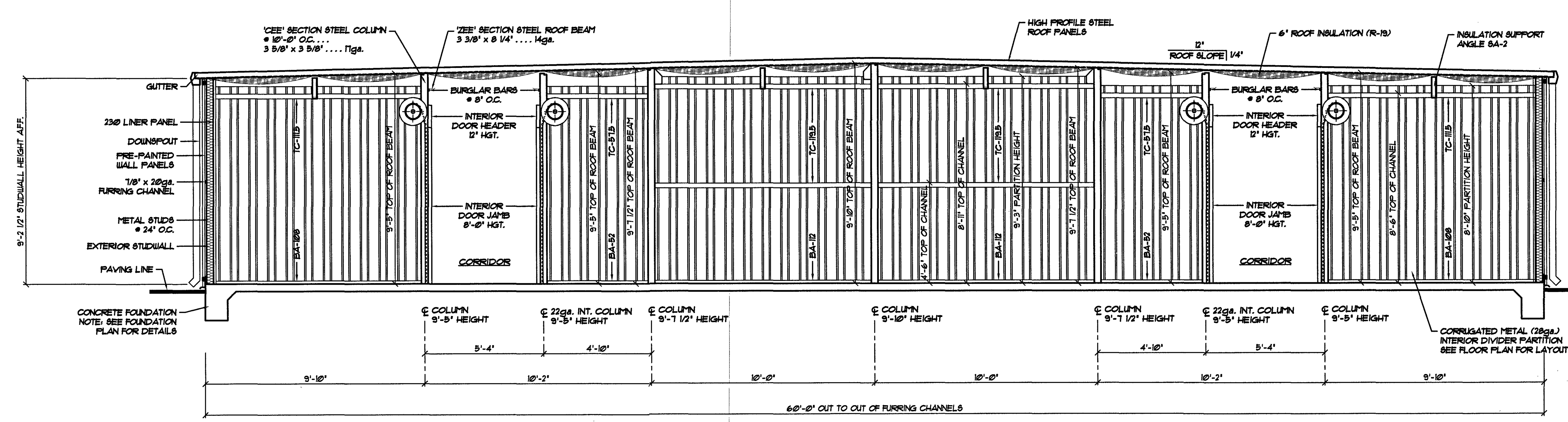
B/S2 PARTITION ATTACHMENT @ INTERIOR COLUMNS

NOT TO SCALE

NOTE COLUMN ORIENTATION @ CORRIDORS PARALLEL TO ROOF BEAMS

CORRIDOR

LEGEND:
- (⊗) 22ga. INTERIOR COLUMN
- (-----) 22 ga. INTERIOR DOOR STRUCTURE
- (hatched) CLIMATE CONTROL



A/S2 60'-0" WIDE CROSS SECTION . . . BUILDING "1"

SCALE: 3' = 10'-0'

NOTES:
- --- 6' ROOF INSULATION (R-19) INCLUDED AT ENTIRETY OF BUILDING "1".
- --- 4' WALL INSULATION (R-13) INCLUDED AT STUD WALL OF BUILDING "1"
- --- 4' x 5' KICK-OUT DOWNSPOUTS ARE INCLUDED.
- --- CORRIDOR WIDTH WILL BE A MINIMUM OF APPROXIMATELY 56' FROM FACE TO FACE OF DOOR JAMBS.
- --- ATTACH ALL STUDS TO TRACKS WITH #10 x 5/8' SDF (4 PER STUD).
- --- BURGLAR BARS ARE PROVIDED ABOVE INTERIOR ROLL-UP DOORS AS REQUIRED.
- --- INTERIOR DOOR FRAMES AND PARTITIONS AT HALLWAYS ARE PREPAINTED.
- --- ALL PERSONNEL DOORS ARE GLOBAL AND INCLUDE LOCK-OPEN TYPE CLOSERS.
- --- ALL ROLL-UP DOORS ARE BY BETCO & INCLUDE TENSION ADJUSTERS & BEARINGS.
- --- SECURE INTERIOR PARTITION TO INTERIOR COLUMNS WITH (4) #10 x 5/8' SDF'S AS SHOWN ON ERC200X - ERC208X.
- --- INTERIOR DOOR JAMBS INCLUDE PARTITION CLOSURE ANGLES.
- --- NOTE FOR INTERIOR BEARING STUDWALLS: (SECURE BOTTOM TRACK W/ 3/8' x 3' KB-TZ2 ANCHORS (2' MIN. EMBEDDMENT @ 30' O.C. MAXIMUM)
- --- NOTE FOR ALL EXTERIOR STUDWALLS: (SECURE FLOOR TRACK w/ 3/8' x 3' KB-TZ2 ANCHORS (2' MIN. EMBEDDMENT @ 30' O.C. MAXIMUM)

NOTE:
SEE ERC602X FOR EXTERIOR SWING DOOR FRAMING IN STUDWALL.

NOTE:
UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.

NOTE:
20ft. ROOF BEAMS ARE 3' x 12' x 12ga. ZEE'S.

STUDWALL LEGEND — BUILDING # 1

INTERIOR STUDWALL | EXTERIOR STUDWALL

DESCRIPTION	UNINSULATED	INSULATED*
(1) EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	0 L.F.	400 L.F.
(5) EXTERIOR STUDWALL CONSTRUCTION AT HVAC (BLOCK @ MID-HGT.)	0 L.F.	40 L.F.
(13) NON-LOAD BEARING STUDWALL	55 L.F.	0 L.F.
(14) PARAPET STUDWALL w/ BLOCK VENEER	0 L.F.	60 L.F.

NOTE #1: SEE BLOCKING DETAIL A/631 ON ERC631X

JAMB	ROLL-UP HEADER	SWING DOOR HEADER
8'-0'	12'	10 1/2'

DOOR SCHEDULE

ID	DOOR SIZE	TYPE
(A)	4'–0" x 7'–0" (4070 – 2 – G) (ERC254X)	1/2 GLASS PERSONNEL
(B)	3'–0" x 7'–0"	INTERIOR ROLL–UP
(C)	8'–0" x 7'–0"	INTERIOR ROLL–UP
(D)	5'–6" x 7'–0"	INTERIOR ROLL–UP
(E)	3'–8" x 7'–10"	EXTERIOR ROLL–UP
(F)	8'–8" x 7'–10"	EXTERIOR ROLL–UP
(G)	8'–4" x 7'–10"	EXTERIOR ROLL–UP
(H)	3'–0" x 7'–0" w/ LOUVER	INTERIOR SWING DOOR
(J)	4'–0" x 7'–0" (4070 – 1 – A) (ERC254X)	A–LABEL FIRE DOOR
(J)	3'–0" x 7'–0" (3070 – 1) (ERC254X)	SOLID PERSONNEL

NOTE: BLOCK ALL LOAD–BEARING INTERIOR & EXTERIOR STUD WALLS AS SHOWN IN DETAIL A OF ERC631X.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REED N. SELF

REVISIONS	DATE	BY
△ LOCATED WINDOWS/DOORS @ OFFICE	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

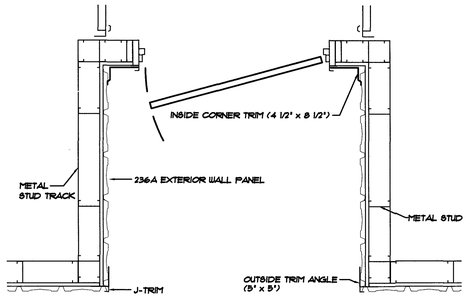
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654–7813

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: FLOOR PLAN, SECTION, DETAIL, & NOTES – BUILDING "1"
DRAWING NUMBER: S2 OF 8

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:58 AM

KEY TO ABBREVIATIONS:
EC = ENDWALL COLUMN
IC = INTERIOR COLUMN
TB = TOP OF BEAM
BA = BASE ANGLE
TC = TOP CHANNEL
VC = VERTICAL CHANNEL



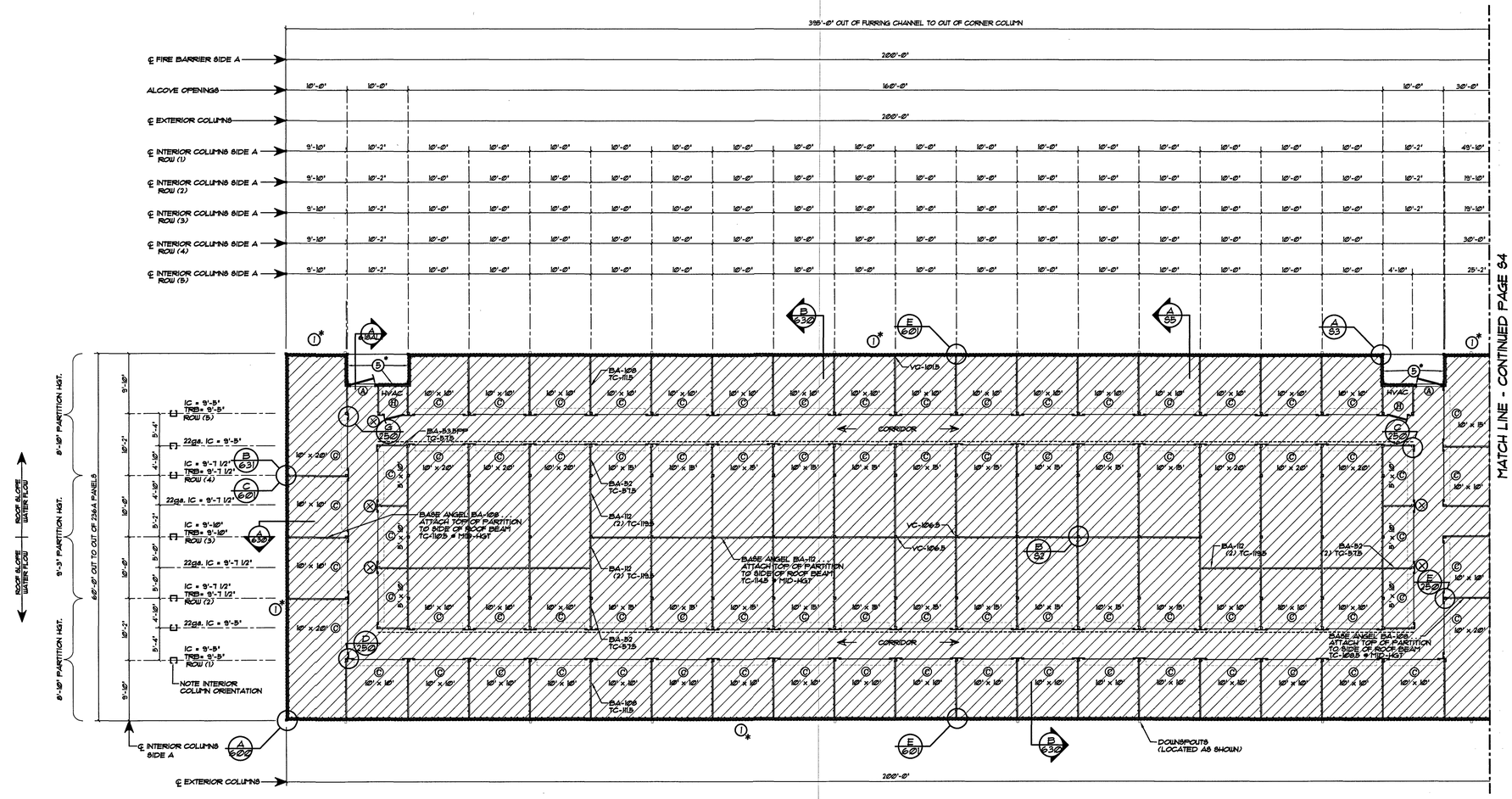
A/S3 TRIM AT ALCOVE
NOT TO SCALE

JAMB	ROLL-UP HEADER	SWING DOOR HEADER
8'-0"	12'	10 1/2'

NOTE:
SEE ERC600X FOR EXTERIOR SWING DOOR FRAMING IN STUDWALL.

LEGEND:
22ga. INTERIOR COLUMN
(-----) 22 ga. INTERIOR DOOR STRUCTURE
CLIMATE CONTROL

NOTES:
--- 6" ROOF INSULATION (R-19) INCLUDED AT ENTIRETY OF BUILDING "2".
--- 4" WALL INSULATION (R-13) INCLUDED AT STUD WALL OF BUILDING "2"
--- 4" x 5" KICK-OUT DOWNSPOUTS ARE INCLUDED.
--- CORRIDOR WIDTH WILL BE A MINIMUM OF APPROXIMATELY 56" FROM FACE TO FACE OF DOOR JAMBS.
--- ATTACH ALL STUDS TO TRACKS WITH #10 x 5/8" SDF (4 PER STUD).
--- BURGLAR BARS ARE PROVIDED ABOVE INTERIOR ROLL-UP DOORS AS REQUIRED.
--- INTERIOR DOOR FRAMES AND PARTITIONS AT HALLWAYS ARE PREPAINTED.
--- ALL PERSONNEL DOORS ARE GLOBAL AND INCLUDE LOCK-OPEN TYPE CLOSERS.
--- ALL ROLL-UP DOORS ARE BY BETCO & INCLUDE TENSION ADJUSTERS & BEARINGS.
--- SECURE INTERIOR PARTITION TO INTERIOR COLUMNS WITH (4) #10 x 5/8" SDF'S AS SHOWN ON ERC200X - ERC200X.
--- INTERIOR DOOR JAMBS INCLUDE PARTITION CLOSURE ANGLES.
--- NOTE FOR INTERIOR BEARING STUDWALLS: (SECURE BOTTOM TRACK W/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDDMENT @ 32" O.C. MAXIMUM)
--- NOTE FOR ALL EXTERIOR STUDWALLS: (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDDMENT @ 32" O.C. MAXIMUM)



FLOOR PLAN . . . BUILDING "2" - SIDE A
SCALE: 1" = 10'-0"

MATCH LINE - CONTINUED PAGE S4

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:58 AM

① EXTERIOR STUDWALL CONSTRUCTION @ FLAT SLAB:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 32" O.C. MAX)
-2 ROWS CONTINUOUS 20ga. FURRING CHANNELS
-PRE-PAINTED EXTERIOR 236-A WALL PANELS
-WALL PANEL BASE SUPPORT
-DRIP CAP (#T60102)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-23@ LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

③ INSULATED LOAD BEARING STUDWALL:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 32" O.C. MAX)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-23@ LINER PANELS (EACH SIDE - ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

④ INSULATED NON-LOAD BEARING STUDWALL:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS FLOOR AND CEILING TRACK - 20ga. (SECURE FLOOR TRACK TO CONCRETE FLOOR SLAB WITH 1/8" PDF's @ 24" O.C)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-23@ LINER PANELS (EACH SIDE - ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

⑤ EXTERIOR STUDWALL CONSTRUCTION @ HVAC INSET/ALCOVE:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 32" O.C. MAX)
-3 ROWS CONTINUOUS 20ga. FURRING CHANNELS
-PRE-PAINTED EXTERIOR 236-A WALL PANELS
-DRIP CAP (#T60103)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-23@ LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

⑪ FIRE RESISTANT PARTITION . . . 3 HOUR RATED UL @ U419 . . . (NON-LOAD BEARING) (SEE SHEET C84)
-3 5/8" METAL STUDS @ 24" O.C. - 20ga
-3 5/8" CONTINUOUS FLOOR and CEILING TRACK - 20ga (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK) (SECURE BOTTOM TRACK w/ 1/8" PDF's AT 24" O.C.)
-5/8" GYPSUM BOARD (X-RATED) 3 LAYERS EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
-GYPSUM BOARD (NOT BY BETCO) SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF-TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
-VINYL OR CASE-IN, DRY OR PRE-MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW-HEADS, PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER

NOTE: GENERAL STUDWALL CONSTRUCTION:
A) -ATTACH STUDS W/ #10 x 5/8" SDF'S EACH SIDE OF TRACK (4 PER STUD)
B) -WALLS MUST EXTEND FROM ROOF TO FLOOR DECK AND INTO WALL COLUMN CAVITY.
C) -TOP TRACK MUST FOLLOW SLOPE OF ROOF LINE.

STUDWALL LEGEND	BUILDING # 2	
INTERIOR STUDWALL	EXTERIOR STUDWALL	
DESCRIPTION	UNINSULATED	INSULATED*
① EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	0 L.F.	440 L.F.
③ INTERIOR LOAD BEARING STUDWALL	0 L.F.	350 L.F.
④ INTERIOR NON-LOAD BEARING STUDWALL	0 L.F.	95 L.F.
⑤ EXTERIOR STUDWALL CONSTRUCTION AT HVAC (BLOCK @ MID-HGT.)	20 L.F.	60 L.F.
⑪ 3 HOUR FIRE RESISTANT PARTITION (STUD AND TRACK BY BETCO)	35 L.F.	25 L.F.

NOTE #1: SEE BLOCKING DETAIL A/631 ON ERC631X

NOTE:
15ft. ROOF BEAMS ARE 3' x 10" x 12ga. ZEE'S.
20ft. ROOF BEAMS ARE 3' x 12" x 12ga. ZEE'S.

DOOR SCHEDULE

ID	DOOR SIZE	TYPE
Ⓐ	4'-0" x 7'-0" (4070 - 2 - G) (ERC254X)	1/2 GLASS PERSONNEL
Ⓑ	3'-0" x 7'-0"	INTERIOR ROLL-UP
Ⓒ	8'-0" x 7'-0"	INTERIOR ROLL-UP
Ⓓ	5'-6" x 7'-0"	INTERIOR ROLL-UP
Ⓔ	3'-8" x 7'-10"	EXTERIOR ROLL-UP
Ⓕ	8'-8" x 7'-10"	EXTERIOR ROLL-UP
Ⓖ	8'-4" x 7'-10"	EXTERIOR ROLL-UP
Ⓗ	3'-0" x 7'-0" w/ LOUVER	INTERIOR SWING DOOR
Ⓙ	4'-0" x 7'-0" (4070 - 1 - A) (ERC254X)	A-LABEL FIRE DOOR

NOTE: BLOCK ALL LOAD-BEARING INTERIOR & EXTERIOR STUD WALLS AS SHOWN IN DETAIL A OF ERC631X.

NOTE:
UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 JARED N. SELLS

REVISIONS	DATE	BY
⚠ FLIPPED FLOOR PLAN	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: FLOOR PLAN, DETAIL & NOTES - BUILDING "2"
DRAWING NUMBER: S3 OF 8

① EXTERIOR STUDWALL CONSTRUCTION @ FLAT SLAB:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga.
(SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 30" O.C. MAX)
-2 ROWS CONTINUOUS 20ga. FURRING CHANNELS
-PRE-PAINTED EXTERIOR 236A WALL PANELS
-WALL PANEL BASE SUPPORT
-DRIP CAP (*T60020)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-236 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE 4 TOP TRACK WITH 4 EACH #10 x 3/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

③ INSULATED LOAD BEARING STUDWALL:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga.
(SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 30" O.C. MAX)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-236 LINER PANELS (EACH SIDE - ATTACH EACH PANEL TO BASE 4 TOP TRACK WITH 4 EACH #10 x 3/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

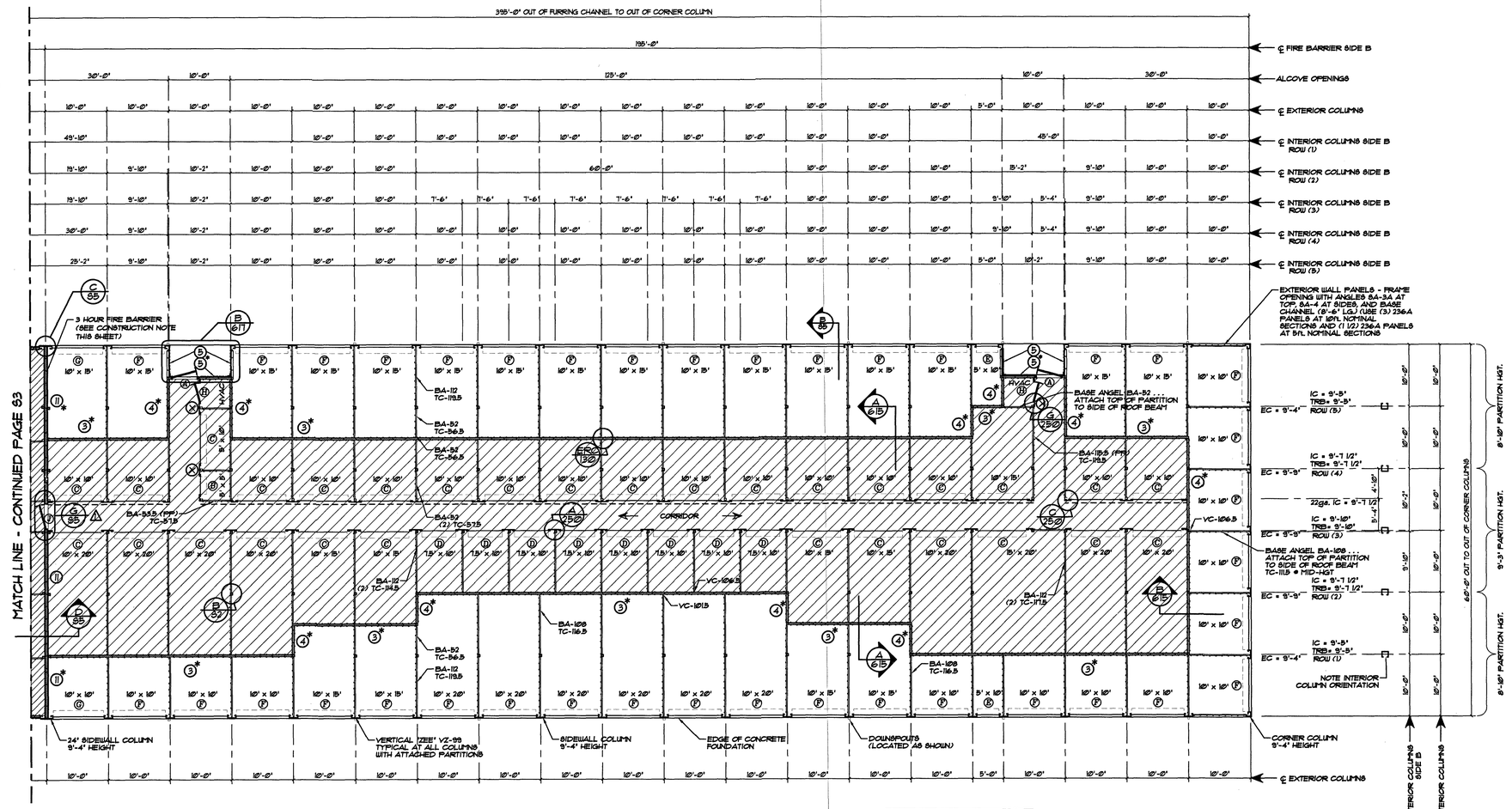
④ INSULATED NON-LOAD BEARING STUDWALL:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS FLOOR AND CEILING TRACK - 20ga.
(SECURE FLOOR TRACK TO CONCRETE FLOOR SLAB WITH 7/8" PDF's @ 24" O.C)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-236 LINER PANELS (EACH SIDE - ATTACH EACH PANEL TO BASE 4 TOP TRACK WITH 4 EACH #10 x 3/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

⑤ EXTERIOR STUDWALL CONSTRUCTION @ HVAC INSET/ALCOVE:
-3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
-3 5/8" CONTINUOUS CEILING TRACK - 18ga.
-3 5/8" CONTINUOUS FLOOR TRACK - 18ga.
(SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 30" O.C. MAX)
-3 ROWS CONTINUOUS 20ga. FURRING CHANNELS
-PRE-PAINTED EXTERIOR 236A WALL PANELS
-DRIP CAP (*T60032)
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER
*-236 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE 4 TOP TRACK WITH 4 EACH #10 x 3/8" SDF's)
*-J-TRIM @ TOP OF LINER PANELS

⑪ FIRE RESISTANT PARTITION . . . 3 HOUR RATED UL #U419 . . . (NON-LOAD BEARING) (SEE SHEET C84)
-3 5/8" METAL STUDS @ 24" O.C. - 20ga
-3 5/8" CONTINUOUS FLOOR and CEILING TRACK - 20ga (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK)
(SECURE BOTTOM TRACK w/ 7/8" PDF's AT 24" O.C.)
-5/8" GYPSUM BOARD (X-RATED) 3 LAYERS EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
-GYPSUM BOARD (NOT BY BETCO) SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE 'S' SELF-TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
-VINYL OR CASE-IN, DRY OR PRE-MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW-HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*-4" THICK FIBERGLASS INSULATION
*-4 MIL POLYETHYLENE VAPOR BARRIER

NOTE: GENERAL STUDWALL CONSTRUCTION:
A) -ATTACH STUDS W/ #10 x 3/8" SDF'S EACH SIDE OF TRACK (4 PER STUD)
B) -WALLS MUST EXTEND FROM ROOF TO FLOOR DECK AND INTO WALL COLUMN CAVITY.
C) -TOP TRACK MUST FOLLOW SLOPE OF ROOF LINE.

KEY TO ABBREVIATIONS:
EC = ENDWALL COLUMN
IC = INTERIOR COLUMN
TB = TOP OF BEAM
BA = BASE ANGLE
TC = TOP CHANNEL
VC = VERTICAL CHANNEL



FLOOR PLAN . . . BUILDING "2" - SIDE B

SCALE: 1" = 10'-0"

NOTE: BUILDING "2" IS PROVIDED W/(4) ADJUSTABLE CONTROL JOINT COLUMNS. 9'-4" HEIGHT

NOTE COLUMN ORIENTATION @ CORRIDORS PARALLEL TO ROOF BEAMS

CORRIDOR

LEGEND:
22ga. INTERIOR COLUMN
22 ga. INTERIOR DOOR STRUCTURE
CLIMATE CONTROL

NOTES:
--- 6" ROOF INSULATION (R-19) INCLUDED AT ENTIRETY OF BUILDING "2".
--- 4" WALL INSULATION (R-13) INCLUDED AT STUD WALL OF BUILDING "2"
--- 4" x 5" KICK-OUT DOWNSPOUTS ARE INCLUDED.
--- CORRIDOR WIDTH WILL BE A MINIMUM OF APPROXIMATELY 56" FROM FACE TO FACE OF DOOR JAMBS.
--- ATTACH ALL STUDS TO TRACKS WITH #10 x 5/8" SDF (4 PER STUD).
--- BURGLAR BARS ARE PROVIDED ABOVE INTERIOR ROLL-UP DOORS AS REQUIRED.
--- INTERIOR DOOR FRAMES AND PARTITIONS AT HALLWAYS ARE PREPAINTED.
--- ALL PERSONNEL DOORS ARE GLOBAL AND INCLUDE LOCK-OPEN TYPE CLOSERS.
--- ALL ROLL-UP DOORS ARE BY BETCO & INCLUDE TENSION ADJUSTERS & BEARINGS.
--- SECURE INTERIOR PARTITION TO INTERIOR COLUMNS WITH (4) #10 x 5/8" SDF'S AS SHOWN ON ERC200X - ERC208X.
--- INTERIOR DOOR JAMBS INCLUDE PARTITION CLOSURE ANGLES.
--- NOTE FOR INTERIOR BEARING STUDWALLS: (SECURE BOTTOM TRACK W/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDDMENT @ 30" O.C. MAXIMUM)
--- NOTE FOR ALL EXTERIOR STUDWALLS: (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDDMENT @ 30" O.C. MAXIMUM)

NOTE:
SEE ERC602X FOR EXTERIOR SWING DOOR FRAMING IN STUDWALL.

NOTE:
UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.

NOTE:
15ft. ROOF BEAMS ARE 3" x 10" x 12ga. ZEE'S.

STUDWALL LEGEND — BUILDING # 2

INTERIOR STUDWALL	EXTERIOR STUDWALL	
DESCRIPTION	UNINSULATED	INSULATED*
① EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	0 L.F.	440 L.F.
③ INTERIOR LOAD BEARING STUDWALL	0 L.F.	350 L.F.
④ INTERIOR NON-LOAD BEARING STUDWALL	0 L.F.	95 L.F.
⑤ EXTERIOR STUDWALL CONSTRUCTION AT HVAC (BLOCK @ MID-HGT.)	20 L.F.	60 L.F.
⑪ 3 HOUR FIRE RESISTANT PARTITION (STUD AND TRACK BY BETCO)	35 L.F.	25 L.F.

NOTE #1: SEE BLOCKING DETAIL A/631 ON ERC631X

JAMB	ROLL-UP HEADER	SWING DOOR HEADER
8'-0"	12"	10 1/2"

DOOR SCHEDULE

ID	DOOR SIZE	TYPE
Ⓐ	4'-0" x 7'-0" (4070 – 2 – G) (ERC254X)	1/2 GLASS PERSONNEL
Ⓑ	3'-0" x 7'-0"	INTERIOR ROLL-UP
Ⓒ	8'-0" x 7'-0"	INTERIOR ROLL-UP
Ⓓ	5'-8" x 7'-0"	INTERIOR ROLL-UP
Ⓔ	3'-8" x 7'-10"	EXTERIOR ROLL-UP
Ⓕ	8'-8" x 7'-10"	EXTERIOR ROLL-UP
Ⓖ	8'-4" x 7'-10"	EXTERIOR ROLL-UP
Ⓗ	3'-0" x 7'-0" w/ LOUVER	INTERIOR SWING DOOR
Ⓙ	4'-0" x 7'-0" (4070 – 1 – A) (ERC254X)	A-LABEL FIRE DOOR

NOTE: BLOCK ALL LOAD-BEARING INTERIOR & EXTERIOR STUD WALLS AS SHOWN IN DETAIL A OF ERC631X.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELL

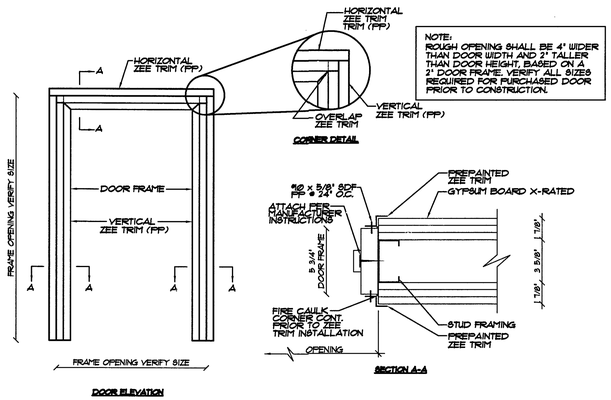
REVISIONS	DATE	BY
1 FLIPPED FLOOR PLAN, ADDED FIRE DOOR	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

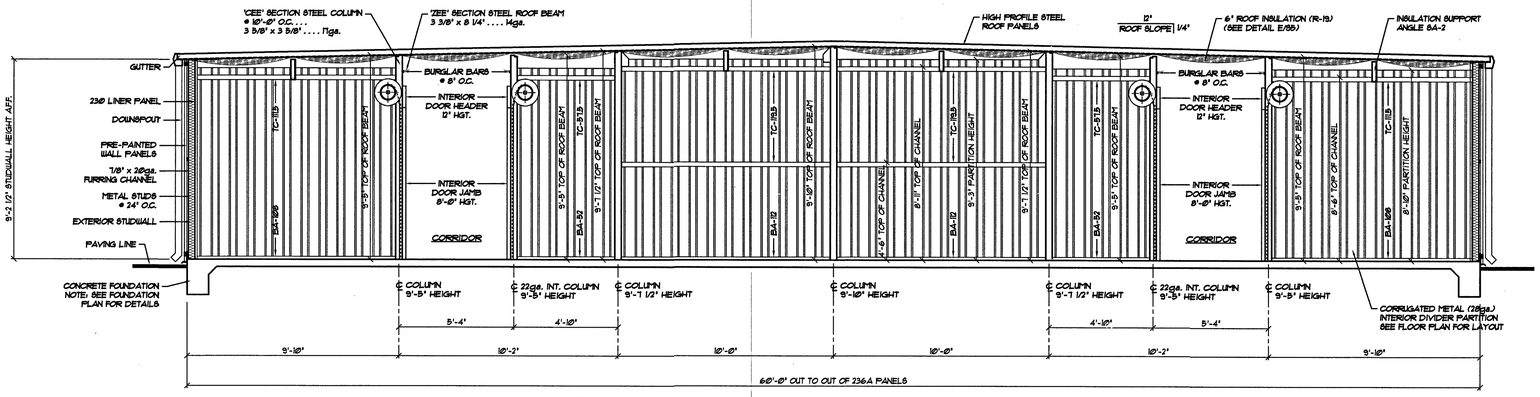
PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: FLOOR PLAN & NOTES – BUILDING "2"
DRAWING NUMBER: S4 OF 8

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:58 AM



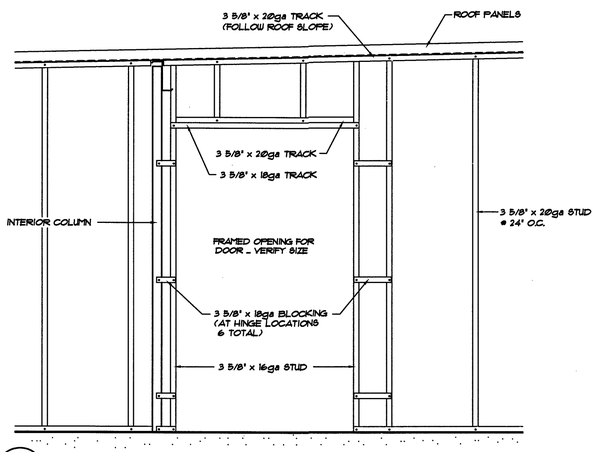
G/S5 3 HOUR FIRE RATED DOOR INSTALLATION DETAIL

NOT TO SCALE



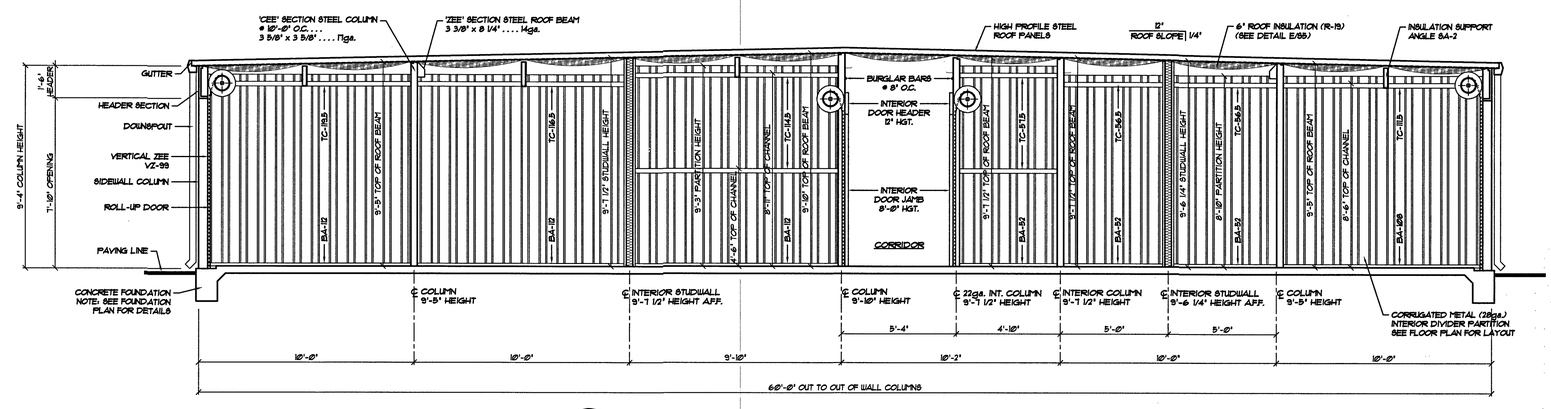
A/S5 60'-0" WIDE CROSS SECTION . . . BUILDING '2' - SIDE 'A'

SCALE: 3" = 10'-0"



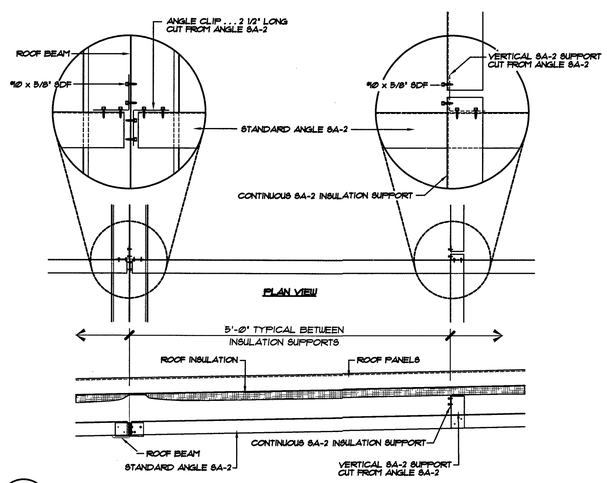
H/S5 INTERIOR DOOR FRAMING DETAIL FOR 4'-0" WIDE "A" LABEL DOOR

NOT TO SCALE



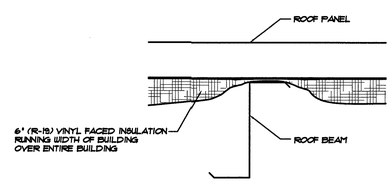
B/S5 60'-0" WIDE CROSS SECTION . . . BUILDING '2' - SIDE 'B'

SCALE: 3" = 10'-0"



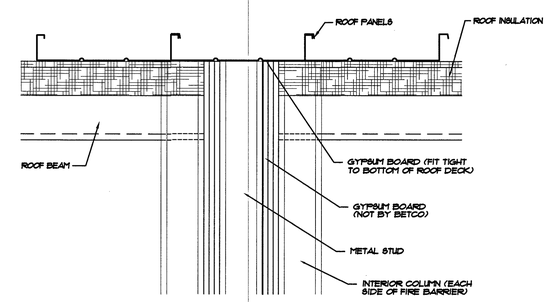
F/S5 INTERMEDIATE INSULATION SUPPORT ELEVATION

NOT TO SCALE



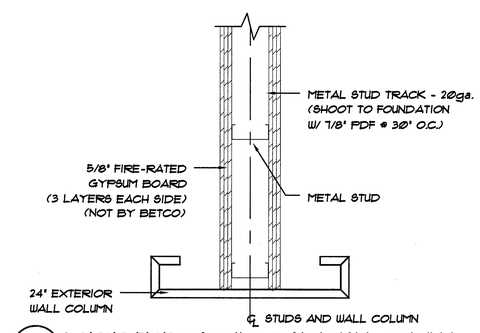
E/S5 INSULATION @ ROOF BEAM

NOT TO SCALE



D/S5 SECTION AT 3 HOUR FIRE BARRIER

NOT TO SCALE



C/S5 3-HOUR FIRE BARRIER @ SIDEWALL COLUMN

NOT TO SCALE

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF 3/14/2025

REVISIONS	DATE	BY
⚠ ADDED DETAILS	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: CROSS SECTION & DETAILS - BUILDING "2"
DRAWING NUMBER: S5 OF 8

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 10:59 AM

KEY TO ABBREVIATIONS:

- EC = ENDWALL COLUMN
- IC = INTERIOR COLUMN
- TB = TOP OF BEAM
- BA = BASE ANGLE
- TC = TOP CHANNEL
- VC = VERTICAL CHANNEL

GENERAL STUDWALL CONSTRUCTION:

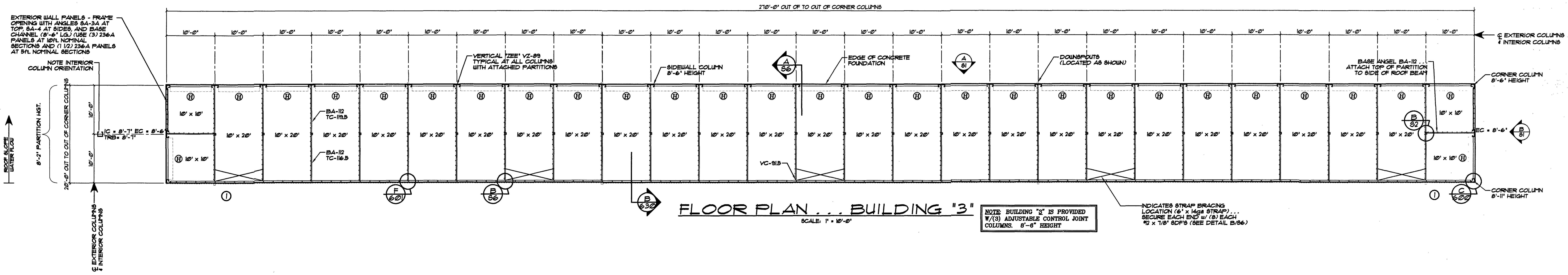
A) -ATTACH STUDS W/ #10 X 5/8" SDF'S EACH SIDE OF TRACK (4 PER STUD)

B) -WALLS MUST EXTEND FROM ROOF TO FLOOR DECK AND INTO WALL COLUMN CAVITY.

C) -TOP TRACK MUST FOLLOW SLOPE OF ROOF LINE.

(1) EXTERIOR STUDWALL CONSTRUCTION @ FLAT SLAB:

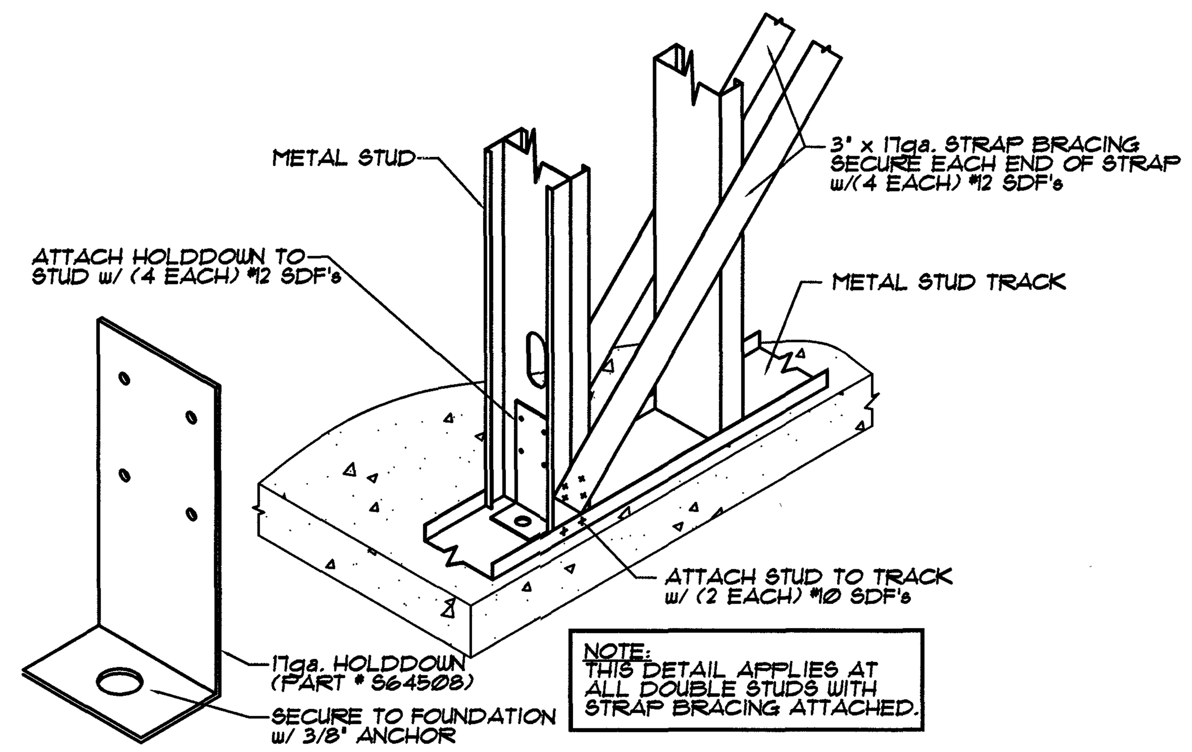
- -3 5/8" x 1 5/8" FLANGE METAL STUDS @ 24" O.C. - 20ga.
- -3 5/8" CONTINUOUS CEILING TRACK - 18ga.
- -3 5/8" CONTINUOUS FLOOR TRACK - 18ga. (SECURE FLOOR TRACK w/ 3/8" x 3" KB-TZ2 ANCHORS (2" MIN. EMBEDMENT) @ 30" O.C. MAX)
- -2 ROWS CONTINUOUS 20ga. FURRING CHANNELS
- -PRE-PAINTED EXTERIOR 236A WALL PANELS
- -WALL PANEL BASE SUPPORT
- -DRIP CAP (#T60120)



FLOOR PLAN . . . BUILDING "3"

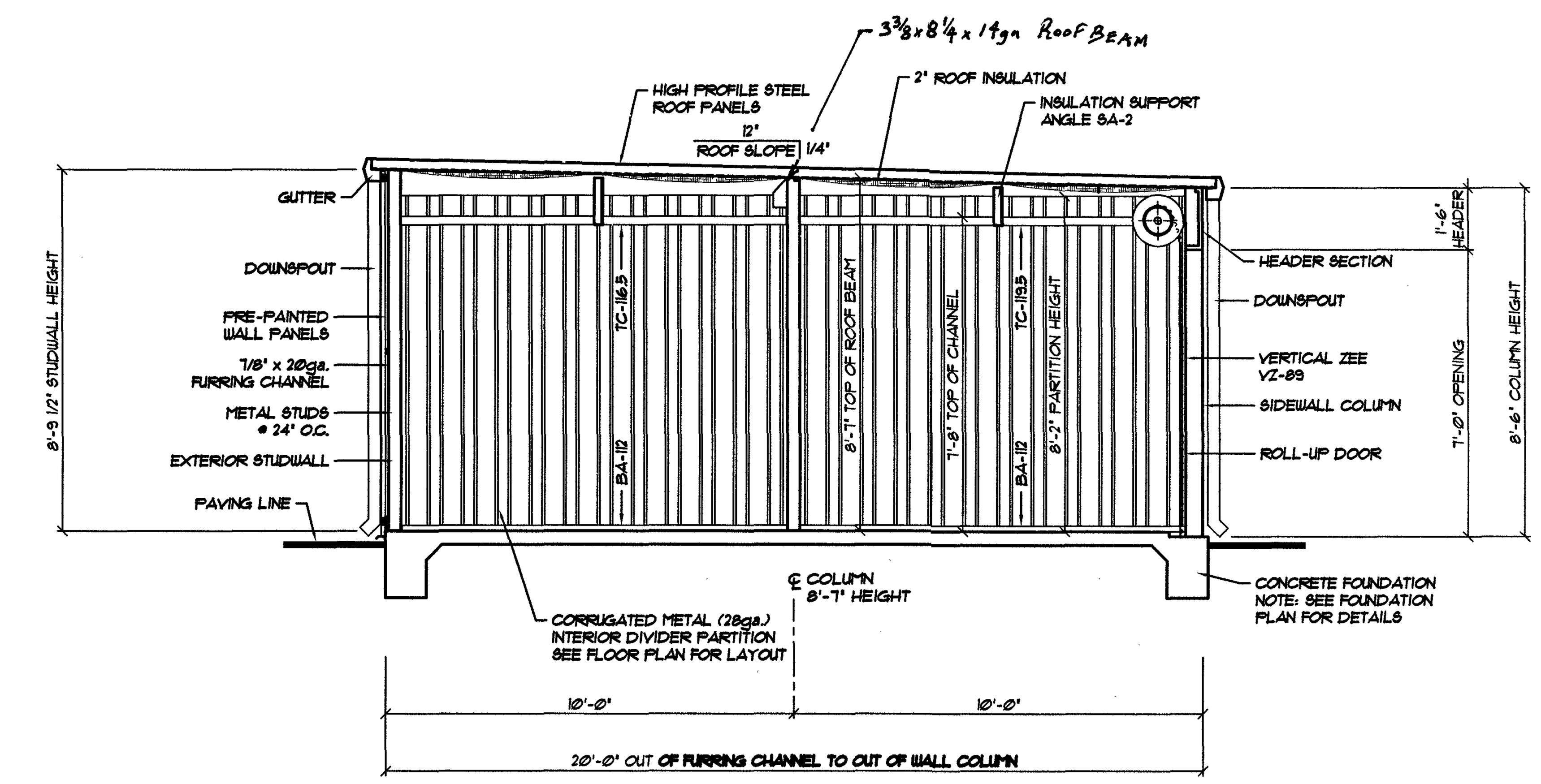
SCALE: 1" = 10'-0"

NOTE: BUILDING "3" IS PROVIDED W/(3) ADJUSTABLE CONTROL JOINT COLUMNS. 8'-6" HEIGHT



B/S6 STRAP BRACING CONNECTION

NOT TO SCALE



A/S6 20'-0" WIDE CROSS SECTION . . . BUILDING '3'

SCALE: 3" = 10'-0"

NOTE: BLOCK ALL LOAD-BEARING INTERIOR & EXTERIOR STUD WALLS AS SHOWN IN DETAIL A OF ERC631X.

STUDWALL LEGEND		BUILDING # 3
INTERIOR STUDWALL	EXTERIOR STUDWALL	
DESCRIPTION	UNINSULATED	INSULATED*
(1) EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	270 L.F.	0 L.F.
NOTE #1: SEE BLOCKING DETAIL A/631 ON ERC631X		

DOOR SCHEDULE

ID	DOOR SIZE	TYPE
(A)	4'-0" x 7'-0" (4070 - 2 - G) (ERC254X)	1/2 GLASS PERSONNEL
(B)	3'-0" x 7'-0"	INTERIOR ROLL-UP
(C)	8'-0" x 7'-0"	INTERIOR ROLL-UP
(D)	5'-6" x 7'-0"	INTERIOR ROLL-UP
(E)	3'-8" x 7'-10"	EXTERIOR ROLL-UP
(F)	8'-8" x 7'-10"	EXTERIOR ROLL-UP
(G)	8'-4" x 7'-10"	EXTERIOR ROLL-UP
(H)	8'-8" x 7'-0"	EXTERIOR ROLL-UP

NOTE: UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER

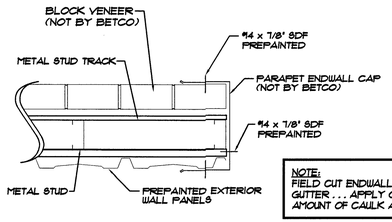
REVISIONS	DATE	BY

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD. STATESVILLE, NC 28625 (800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: FLOOR PLAN, CROSS SECTION, DETAIL & NOTES – BUILDING "3"
DRAWING NUMBER: S6 OF 8

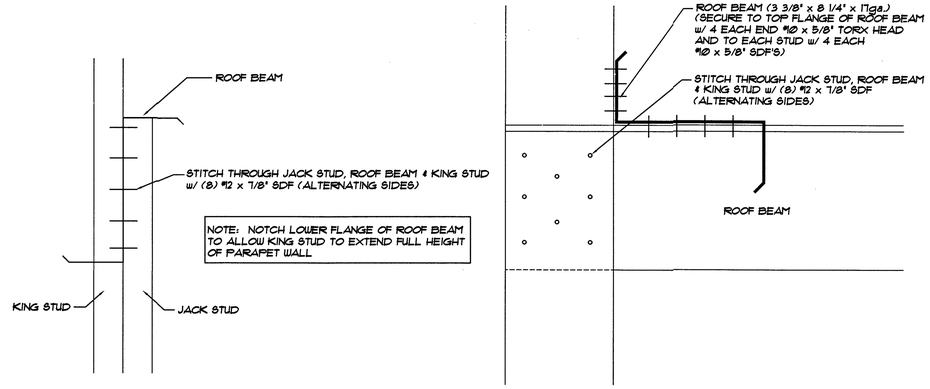
RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:19 AM



NOTE:
FIELD CUT ENDWALL CAP AT GUTTER . . . APPLY GENEROUS AMOUNT OF CAULK AS NEEDED

C / S7 ENDWALL CAP FLASHING @ PARAPET WALL

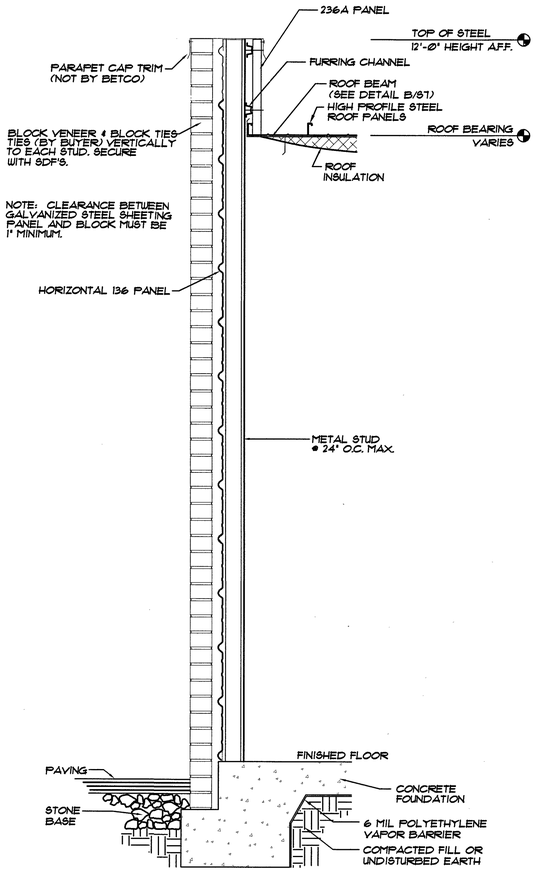
NOT TO SCALE



NOTE: NOTCH LOWER FLANGE OF ROOF BEAM TO ALLOW KING STUD TO EXTEND FULL HEIGHT OF PARAPET WALL

B / S7 DETAIL AT ROOF BEAM TIE IN TO PARAPET WALL

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



A / S7 SECTION AT EXTERIOR STUD WALL w/ VENEER

NOT TO SCALE

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

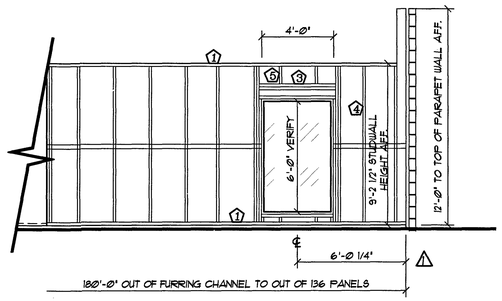
REVISIONS	DATE	BY

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: BUILDING DETAILS BUILDING "1"
DRAWING NUMBER: S7 OF 8

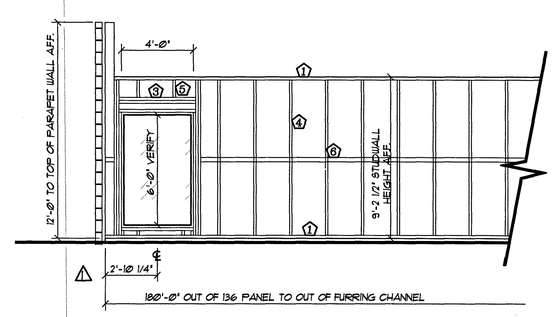
RELEASED FOR CONSTRUCTION DATE: 1/8/2025 TIME: 9:19 AM



B / S8 FRAMING ELEVATION SIDEWALL . . . BUILDING "1"

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

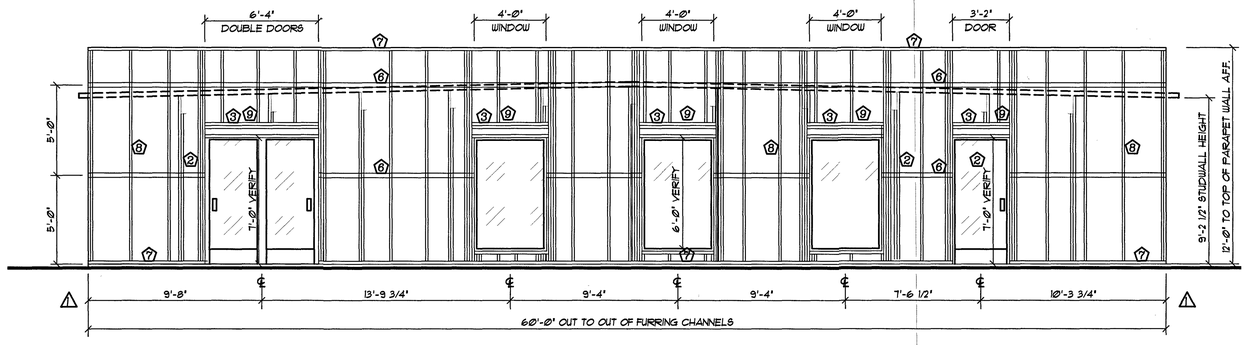
(NOTE: VERIFY ALL ROUGH OPENING LOCATIONS AND SIZES)



A / S8 FRAMING ELEVATION SIDEWALL . . . BUILDING "1"

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

(NOTE: VERIFY ALL ROUGH OPENING LOCATIONS AND SIZES)



C / S8 FRAMING ELEVATION ENDWALL . . . BUILDING "1"

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

(NOTE: VERIFY ALL ROUGH OPENING LOCATIONS AND SIZES)

LEGEND:

1. METAL STUD TRACK (3 5/8" x 1 1/4" LEG x 18ga) FASTEN TO EACH METAL STUD WITH 2 EACH #10 x 5/8" SDF PER FLANGE
2. 2 EACH - METAL STUD AT EACH ROOF BEAM LOCATION - SIMILAR TO C/602X.
3. DH-1 - DOUBLE CEE BOXED HEADER - 6' (SEE ERC602X) w/ 16ga STUDS. USE 14GA AT OPENINGS OVER 5'-0" WIDE.
4. 1 EACH - METAL STUD (3 5/8" x 1 5/8" x 18ga)
5. METAL STUD TRACK ABOVE HEADER (3 5/8" x 1 1/4" x 18ga) FASTEN TO EACH METAL STUD WITH 2 EACH #10 x 5/8" SDF PER FLANGE - FASTEN TO TOP OF DH-1 WITH 2 EACH #12 x 1/8" SDF AT 12" O.C.
6. STRAP BRACING FOR BLOCKING (SEE DETAIL 'A' ON ERC631X)
7. METAL STUD TRACK (6" x 1 1/4" LEG x 18ga) FASTEN TO EACH METAL STUD WITH 2 EACH #10 x 5/8" SDF PER FLANGE
8. 1 EACH - METAL STUD (6" x 2" x 16ga)
9. METAL STUD TRACK ABOVE HEADER (6" x 1 1/4" x 18ga) FASTEN TO EACH METAL STUD WITH 2 EACH #10 x 5/8" SDF PER FLANGE - FASTEN TO TOP OF DH-1 WITH 2 EACH #12 x 1/8" SDF AT 12" O.C.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SEELY

REVISIONS	DATE	BY
1 LOCATED WINDOWS/DOORS @ OFFICE	3/14/25	KEM

DATE: 12/9/2024
DRAWN BY: R. KEATH
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

PROJECT NAME: HWY 42 STORE ALL
PROJECT ADDRESS: HOLLY SPRINGS, NORTH CAROLINA
OWNER: F & S LAND DEVELOPMENT LLC.
PROJECT NO.: NC24204
SHEET TITLE: FRAMING ELEVATIONS BUILDING "1"
DRAWING NUMBER: S8 OF 8

RELEASED FOR CONSTRUCTION DATE: 3/20/2025 TIME: 11:00 AM