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PROJECT:

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 at Sandclay Road
Harnett County, North Carolina

PIN 0513-86-6595.000



CODE REVIEW:

APPLICABLE CODES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

- 2018 NORTH CAROLINA STATE BUILDING CODE for BUILDING
- 2018 NORTH CAROLINA STATE BUILDING CODE for PLUMBING
- 2018 NORTH CAROLINA STATE BUILDING CODE for MECHANICAL
- 2017 NATIONAL ELECTRICAL CODE
- 2003 STANDARD & COMMENTARY ICC/ANSI A117.1-2003 on ACCESSIBILITY
- 2012 NORTH CAROLINA STATE BUILDING CODE for ENERGY
- 2012 NORTH CAROLINA STATE BUILDING CODE for FIRE PREVENTION

BUILDING DATA:

THE FACILITY IS A NEW BUILDING TO BE USED FOR MERCANTILE AND BUSINESS.

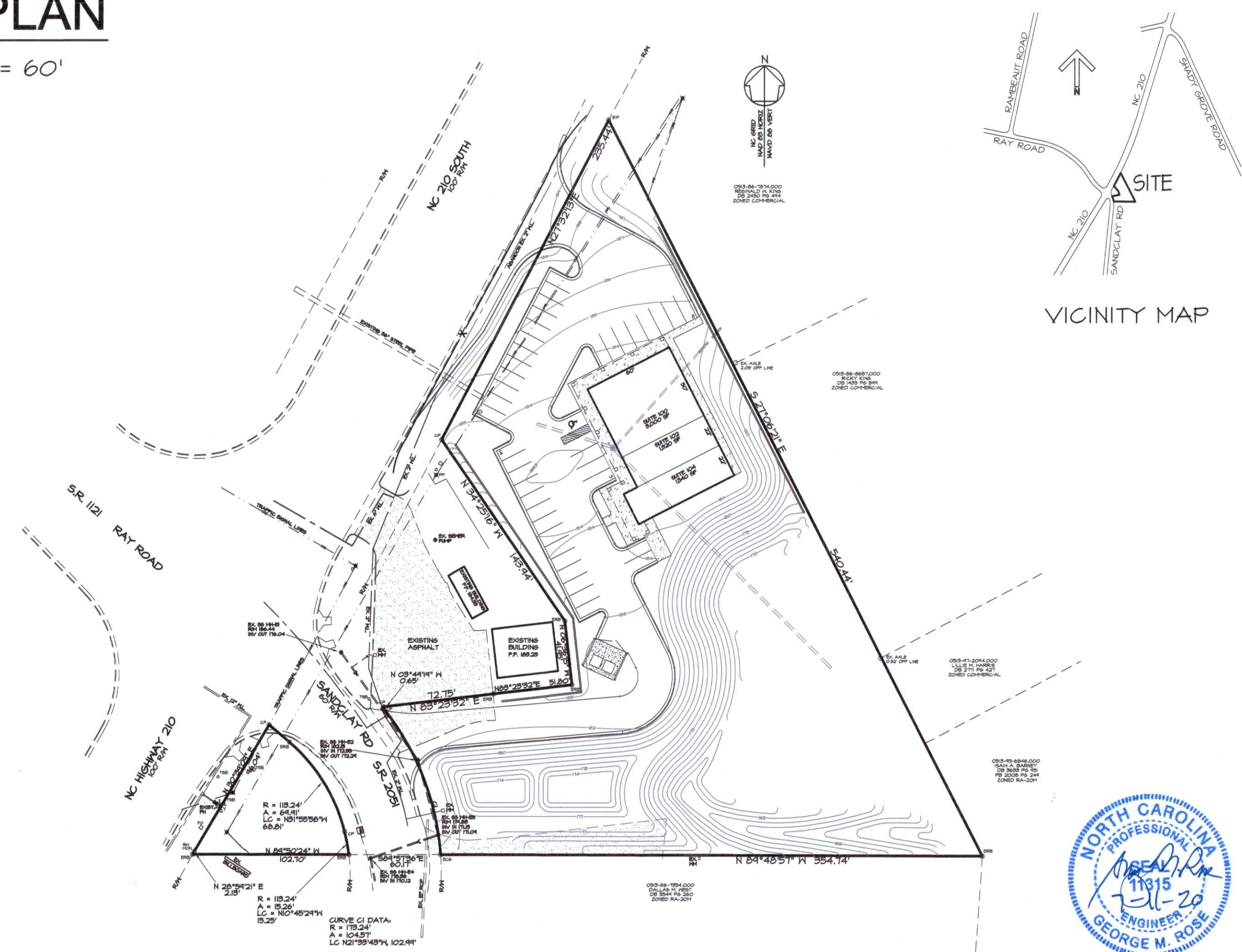
THE BUILDING IS NOT SPRINKLERED.

SITE MEETS ALL A.D.A. PARKING & RAMP REQUIREMENTS FOR THE BLDG.

SEE BUILDING CODE SUMMARY (SHEET BC) FOR ADDITIONAL INFORMATION.

SITE PLAN

SCALE 1" = 60'



PROJECT DEVELOPER

HONG NAM
 7521 DECATUR DRIVE
 FAYETTEVILLE, NC 28303

PROJECT DESIGNER:

GEORGE M. ROSE, P.E.
 P.O. BOX 53441
 FAYETTEVILLE, NC 28305
 910-977-5822



2018 APPENDIX B BUILDING CODE SUMMARY

Project Name: WH PLACE RETAIL AND BUSINESS CENTER
Address: NC HIGHWAY 210 AT SANDCLAY ROAD, HARNETT COUNTY, NC
Proposed Use: MERCANTILE
Owner or Authorized Agent: HONG NAM (aka BYTANS PARK) Phone: (910) 464-8665

PROJECT SUMMARY: LEASE SPACE FOR BUSINESS (EXERCISE 6TH USE)
Building Description: FIRST TIME TENANT LEASE
Scope of Work: FIRST TIME TENANT LEASE

LEAD DESIGN PROFESSIONAL: GEORGE M. ROSE, P.E.
DESIGNER: GEORGE M. ROSE, P.E.
FIRM: COASTAL PLANS ENGINEERING

BUILDING CODE: North Carolina Building Code-Building Code 2018
North Carolina Building Code-Fire Prevention Code 2018
North Carolina Building Code-Plumbing Code 2018

Existing Building: Renovation
New Building: Addition
Shell Building: Alteration to Shell

Notes: Zoning Review is Required for Change of Use or Occupancy
Original Use/Occupancy (Ch. 3):
Current Use/Occupancy (Ch. 3):
Proposed Use/Occupancy (Ch. 3):

BASIC BUILDING DATA: Construction Type: II-B
Mixed Construction: No
Sprinklers: No
Fire Alarm: No

FLOOR EXISTING (SQ FT): 1st Floor, 2nd Floor, Mezzanine, 3rd Floor, 4th Floor, 5th Floor, 6th Floor, 7th Floor, 8th Floor, 9th Floor, 10th Floor, 11th Floor, 12th Floor, 13th Floor, 14th Floor, 15th Floor, 16th Floor, 17th Floor, 18th Floor, 19th Floor, 20th Floor, 21st Floor, 22nd Floor, 23rd Floor, 24th Floor, 25th Floor, 26th Floor, 27th Floor, 28th Floor, 29th Floor, 30th Floor, 31st Floor, 32nd Floor, 33rd Floor, 34th Floor, 35th Floor, 36th Floor, 37th Floor, 38th Floor, 39th Floor, 40th Floor, 41st Floor, 42nd Floor, 43rd Floor, 44th Floor, 45th Floor, 46th Floor, 47th Floor, 48th Floor, 49th Floor, 50th Floor, 51st Floor, 52nd Floor, 53rd Floor, 54th Floor, 55th Floor, 56th Floor, 57th Floor, 58th Floor, 59th Floor, 60th Floor, 61st Floor, 62nd Floor, 63rd Floor, 64th Floor, 65th Floor, 66th Floor, 67th Floor, 68th Floor, 69th Floor, 70th Floor, 71st Floor, 72nd Floor, 73rd Floor, 74th Floor, 75th Floor, 76th Floor, 77th Floor, 78th Floor, 79th Floor, 80th Floor, 81st Floor, 82nd Floor, 83rd Floor, 84th Floor, 85th Floor, 86th Floor, 87th Floor, 88th Floor, 89th Floor, 90th Floor, 91st Floor, 92nd Floor, 93rd Floor, 94th Floor, 95th Floor, 96th Floor, 97th Floor, 98th Floor, 99th Floor, 100th Floor

OCCUPANCY INFORMATION: Primary Occupancy: Mercantile
Accessory Occupancies: Assembly, Business, Educational, Factory, Hazardous, Institutional, Mercantile, Residential, Storage, Utility and Miscellaneous

Incidental Uses (Table 508.2.3): Furnace room where any piece of equipment is over 400,000 Btu per hour input
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower

Special Uses: 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425
Special Provisions: 509.2, 509.3, 509.4, 509.5, 509.6, 509.7, 509.8, 509.9
Mixed Occupancy: Yes

Separated Use Formula 508.4.2: Actual Area of Occupancy A / Allowable Area of Occupancy A + Actual Area of Occupancy B / Allowable Area of Occupancy B <= 1

ALLOWABLE AREA & ALLOWABLE HEIGHT INCREASES (CALCULATIONS): EXTERIOR WALL, ACTUAL LENGTH, OPEN LENGTH, WIDTH OF PUBLIC WAY OR OPEN SPACE

FRONTAGE INCREASE FORMULA: I1 = 100(F/P-0.25)/(W/30)

BUILDING CODE SUMMARY (continued)

ALLOWABLE AREA AND HEIGHT CALCULATIONS (CONTINUED): BOTH BUILDING AND TENANT MUST BE INDICATED ON CHART BELOW (THIS SECTION FOR NEW ADDITION, CHANGE OF USE AND INTERIOR COMPLETIONS)

ALLOWABLE AREA CALCULATIONS: STORY NO., OCCUPANCY, BLDG AREA PER STORY (ACTUAL), TABLE 506.2 AREA, % OPEN SPACE INCREASE, SPRINKLER INCREASE, ALLOWABLE FLOOR AREA OR UNLIMITED, RATIO OF ACTUAL/ALLOWABLE A/E, MAXIMUM BUILDING AREA, SEPARATION RATINGS REQUIRED

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 =
b. Total Building Perimeter =
c. Ratio (F/P) =

ALLOWABLE HEIGHT CALCULATIONS: TYPE OF CONSTRUCTION, BUILDING HEIGHT IN FEET, BUILDING HEIGHT IN STORIES, INCREASE FOR SPRINKLERS, SHOWN ON PLANS, CODE REFERENCE

FIRE PROTECTION REQUIREMENTS: BUILDING ELEMENT, FIRE SEPARATION DISTANCE (FEET), RATINGS ** (TABLE 601) PROVIDED (w/REDUCTION), DETAIL # AND SHEET #, DESIGN # FOR RATED ASSEMBLY, DESIGN # FOR RATED PENETRATION, DESIGN # FOR RATED JOINTS

PERCENTAGE OF WALL OPENINGS CALCULATIONS: ALLOWABLE OPENINGS per Table TQ4.6

WALL LEGENDS (THIS SECTION REQUIRED FOR ALL PROJECTS): CHECK IF THE FOLLOWING ARE PRESENT AND INDICATE BY A WALL LEGEND ON ALL PLANS

LIFE SAFETY SYSTEM REQUIREMENTS (THIS SECTION REQUIRED FOR ALL PROJECTS): Emergency Lighting, Exit Signs, Fire Alarm, Smoke Detection Systems, Panic Hardware, Life safety systems generator

EXIT REQUIREMENTS NUMBER & ARRANGEMENT OF EXITS (THIS SECTION REQUIRED FOR ALL PROJECTS): FLOOR, ROOM AND/OR SPACE DESIGNATION, MINIMUM NUMBER OF EXITS, TRAVEL DISTANCE, ARRANGEMENT MEANS OF EGRESS, REQUIRED DISTANCE BETWEEN DOORS, ACTUAL DISTANCE SHOWN ON PLANS

OCCUPANT LOAD AND EXIT WIDTH (THIS SECTION REQUIRED FOR ALL PROJECTS): USE GROUP AND/OR SPACE DESIGNATION, AREA (SQ. FT.), AREA PER OCCUPANT, NUMBER OF OCCUPANTS, EGRESS WIDTH PER OCCUPANT (SECTION 1005.1) (a)(6), REQUIRED WIDTH (SECTION 1005.1) (a)(6)(i), ACTUAL WIDTH SHOWN ON PLANS

1 Corridor dead ends (Section 1018.4)
2 Single exits (Section 1015.1; Section 1020.2)
3 Common Path of Egress Travel (Section 1014.3)

ASSEMBLY OCCUPANCY INFORMATION (THIS SECTION REQUIRED FOR ASSEMBLY USE AREAS): SPACE DESCRIPTION, AREA (SQ. FT.), OCCUPANT LOAD FACTOR, OCCUPANT LOAD (b)(6), EXIT WIDTH, EXIT QUANTITY

TOTAL # OF ASSEMBLY OCCUPANTS

BUILDING CODE SUMMARY (continued)

LIFE SAFETY PLAN REQUIREMENTS (THIS SECTION REQUIRED FOR ALL PROJECTS): Life Safety Plan Sheet #: L5
Fire and/or smoke rated wall locations (Chapter 7)
Assumed and real property line locations

ACCESSIBLE DWELLINGS UNITS (SECTION 1107) (THIS SECTION REQUIRED FOR ALL RESIDENTIAL PROJECTS): 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

PLUMBING FIXTURE REQUIREMENTS (THIS SECTION REQUIRED FOR ALL PROJECTS): OCCUPANCY, WATER CLOSETS, URINALS, LAVATORIES, SHOWERS/TUBS, DRINKING FOUNTAINS

STRUCTURAL DESIGN LOADS (THIS SECTION REQUIRED FOR NEW CONSTRUCTION PROJECTS): 1. Yes, continue No, Go to Line 4
2. Roof Live Load = 20 PSF
3. Floor Live Load = 100 PSF

ACCESSIBLE PARKING (SECTION 1106) (THIS SECTION FOR NEW ADDITION, CHANGE OF USE AND INTERIOR COMPLETIONS): LOT OR PARKING AREA, TOTAL # OF PARKING SPACES, # OF ACCESSIBLE SPACES PROVIDED, TOTAL # ACCESSIBLE PROVIDED

ENERGY REQUIREMENTS: ENERGY SUMMARY (THIS SECTION FOR NEW ADDITION, CHANGE OF USE AND INTERIOR COMPLETIONS)

MECHANICAL SUMMARY (SEE DRAWING SHEET M) (THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE MECHANICAL DESIGN)
ELECTRICAL SUMMARY (SEE DRAWING SHEET E) (THIS SECTION REQUIRED FOR ALL PROJECTS THAT INCLUDE ELECTRICAL DESIGN)

BUILDING CODE SUMMARY (continued)

SHELL VARIABLE FORM (THIS SECTION REQUIRED FOR ALL SHELL ALTERATIONS TO SHELL AND INTERIOR COMPLETION PROJECTS): Check each applicable line to match scope of work. Edit as necessary to provide clear detail of installation.

Plumbing: No work, Install water service and sewer, Install building drain, Install complete plumbing system
Sprinkler: Install complete sprinkler system

SPECIAL INSTRUCTIONS (CHAPTER 17): To schedule a required pre-construction meeting with the City of Fayetteville, please call Doug Maples at (910) 493-1103

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

Other: SUITE PANEL AND SERVICE ARE EXISTING (PRESENTLY INSTALLED).

List whom will inspect the required special inspections: Fabricator of load bearing components

Soil tests: Concrete, caissons, piles, piers, pre-cast

Post tension concrete: Modular construction

Steel and connections, welds, bolts, anchors

Fire spray tests: Smoke control

Retaining walls: Masonry

Wood: Alternate Methods

EIFS: Other (describe)

Owner or agent: SPECIAL APPROVALS: SPECIAL APPROVAL: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

None

2018 APPENDIX B BUILDING CODE SUMMARY for:

WH PLACE RETAIL AND BUSINESS CENTER PROPERTY OF HONG NAM NC 210 AT SANDCLAY ROAD HARNETT COUNTY, NORTH CAROLINA



REVISIONS
1-24-20 DOOR SIZES, BATHROOMS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305

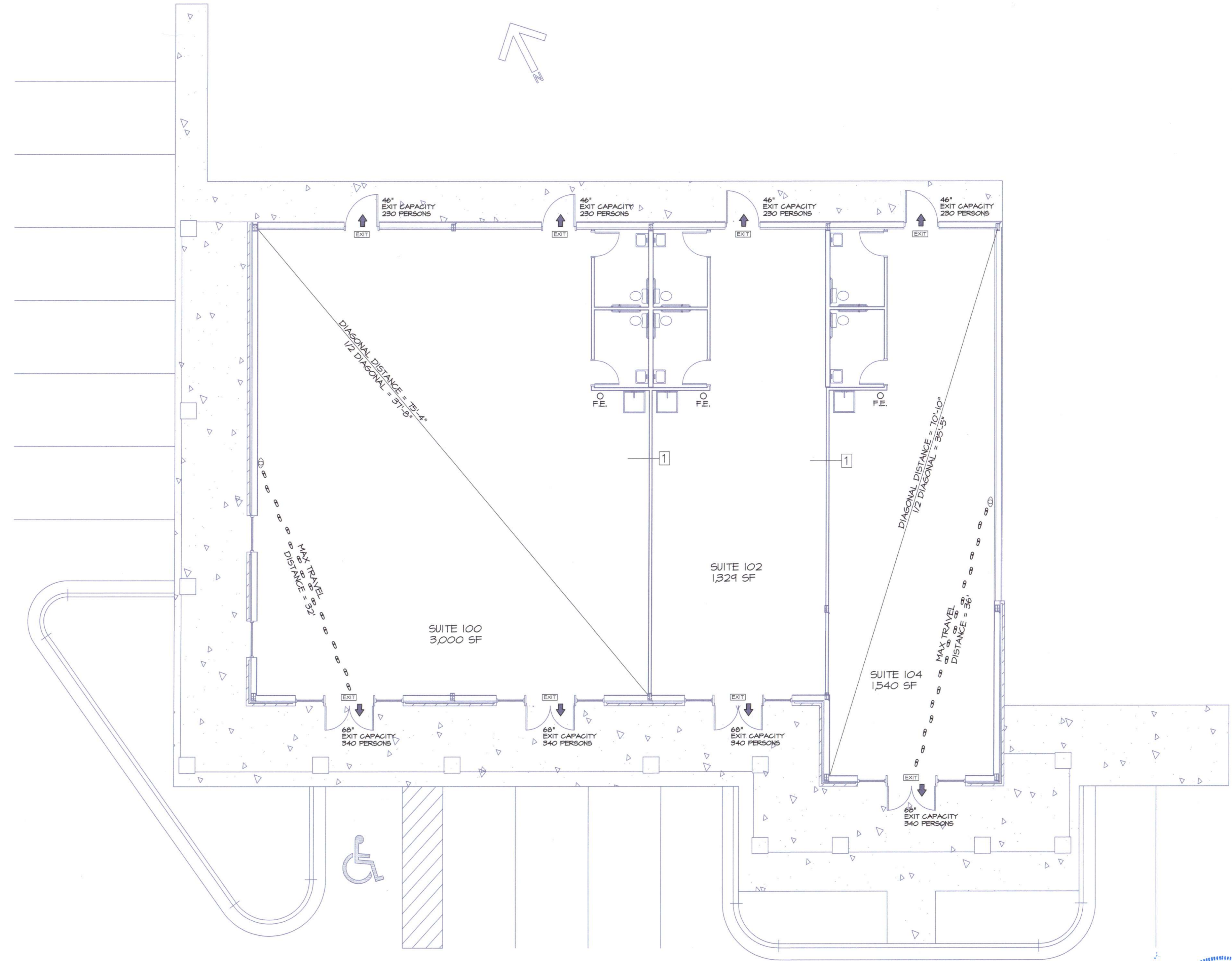
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
HARNETT COUNTY, NC
NC 210 S. AT SAND CLAY DRIVE
LIFE SAFETY/EGRESS PLAN

DATE: JULY 2020
DRAWN BY: GMR
CHECKED: GMR
SCALE: NOTED

SHEET NO.
LS

OCCUPANCY AND PLUMBING FIXTURE INFORMATION
GROSS EXTERIOR SQUARE FOOTAGE = 5,869 SF
TYPE OF CONSTRUCTION: III-B
SPACE OCCUPANCY BY GROSS SF USING TABLE 1004.1.1
MERCANTILE: 5869/30 PERSONS PER SF = 196 PERSONS
OCCUPANCY BY INDIVIDUAL SUITE:
SUITE 100: 3000 SF/30 SF PER PERSON = 100 PERSONS
= 50 MALES, 50 FEMALES
SUITE 102: 1324 SF/30 SF PER PERSON = 45 PERSONS
= 22 MALES, 23 FEMALES
SUITE 104: 1540 SF/30 SF PER PERSON = 52 PERSONS
= 26 MALES, 26 FEMALES
MALE/FEMALE TOILETS REQUIRED PER SUITE = 1 PER 500 = 1 TOTAL
MALE/FEMALE LAVATORIES REQUIRED PER SUITE = 1 PER 150 = 1 TOTAL
MAXIMUM TRAVEL DISTANCE: 36 FEET (SUITE 104)
MAXIMUM ALLOWABLE TRAVEL DISTANCE: 75 FEET (PER 1006.3.2(2))
THE COMMON PATH OF TRAVEL IS LESS THAN 75 FEET. (PER 1024.2)
THERE ARE NO DEAD END CORRIDORS OVER 20 FEET. (PER 1024.4.5)
MIN. NO. OF EXITS REQ'D: (PER TABLE 1006.2.1)
SUITE 100 - 2, SUITES 102 AND 104 - 1
NUMBER OF EXITS PROVIDED: MIN TWO FOR EACH SUITE



LEGEND

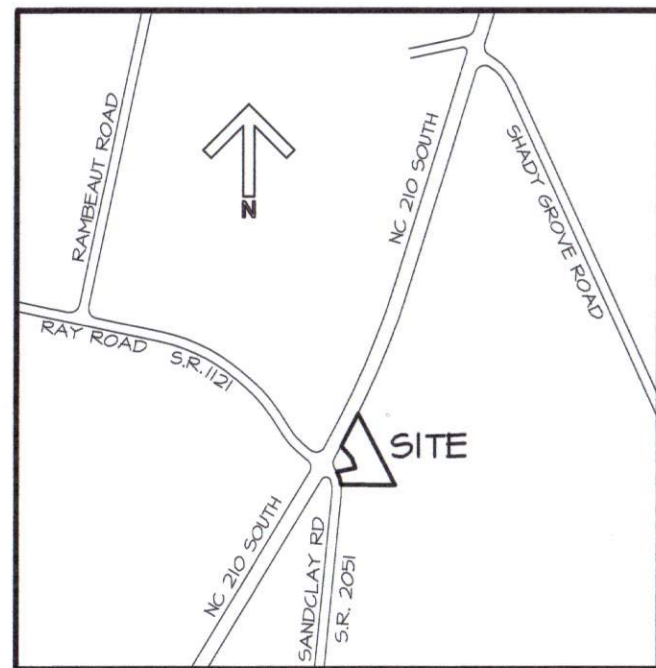
F.E. O	ABC FIRE EXTINGUISHER SUGGESTED LOCATION
⊙ ⊙	EXIT ROUTE
➔	36" EXIT WIDTH
⬇	EMERGENCY EGRESS LIGHTING
EXIT	EXIT SIGN

WALL TYPES

1 10 GA, 3-5/8" METAL STUDS AT 16" O.C. TO ROOF DECK 1-HOUR WALL PER UL U419 SEE DETAIL 1, SHEET G3

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





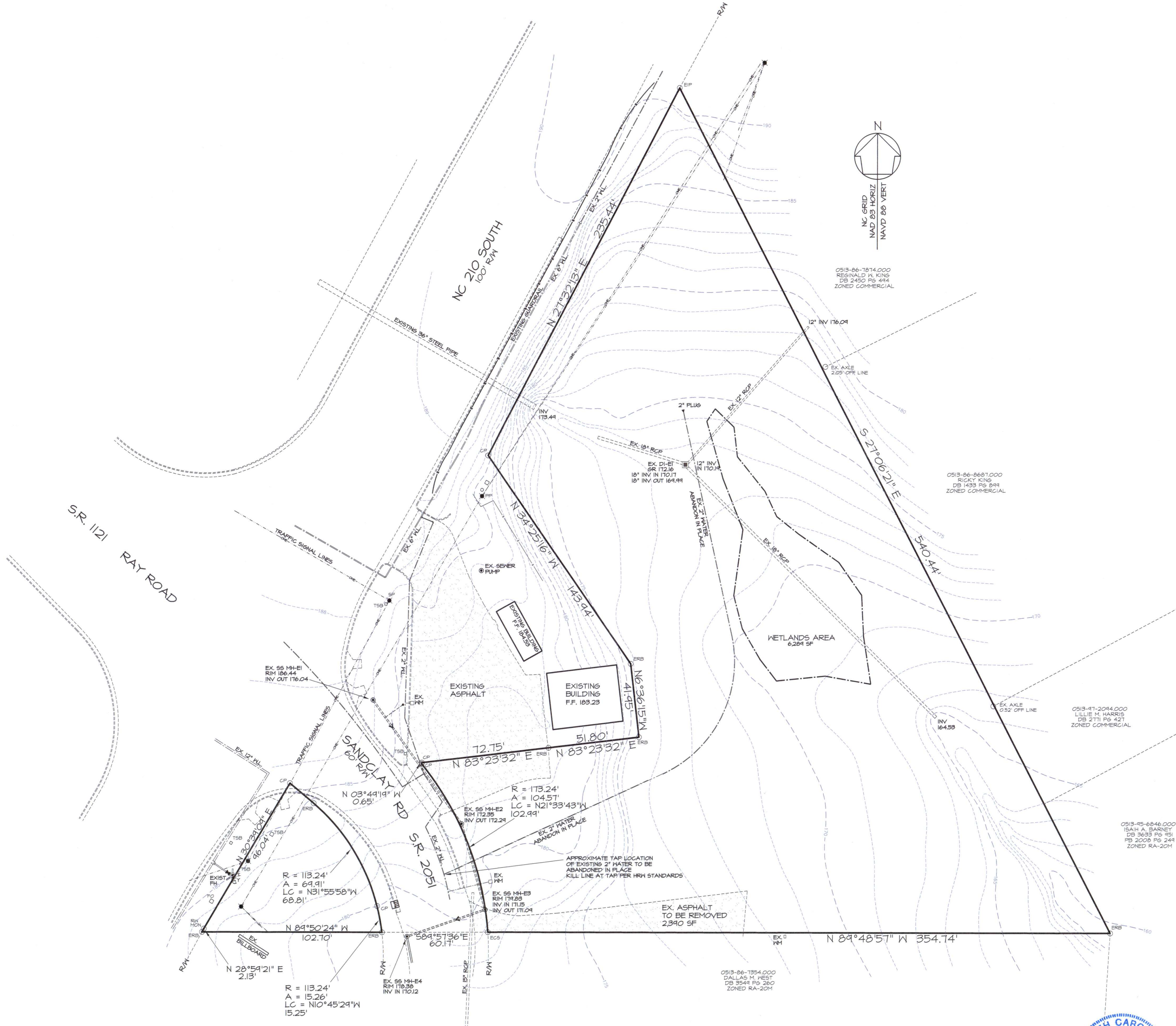
VICINITY MAP
NO SCALE

LEGEND

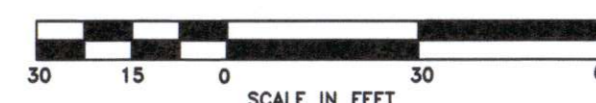
- CP COMPUTED POINT (PROPERTY CORNER)
- EIP EXIST IRON PIPE (PROPERTY CORNER)
- TSB TRAFFIC SIGNAL BOX
- FO FIBER OPTIC OR TELEPHONE
- SP SIGNAL POLE
- PP EXISTING POWER POLE
- GUY--- EXISTING GUY WIRE
- OHE--- EXISTING OVERHEAD ELECTRICAL
- 124--- EXISTING CONTOUR
- EXISTING NATURAL GAS LINE

NOTES

1. TOTAL AREA IN TRACT = 92,625 SF = 2.13 ACRES
2. OWNER/DEVELOPER:
HONG NAM
7521 DECATUR DRIVE
FAYETTEVILLE, NC 28303
C/O: byungpark1234@gmail.com
910-464-8665
3. REFERENCE: DB 3795 PG 133
4. PIN NO: 0513-06-0590.000
5. ZONING: COMMERCIAL, HARNETT COUNTY
6. PROPERTY IS IN ANDERSON CREEK TOWNSHIP.



EXISTING CONDITIONS
WATER DEMOLITION PLAN
SCALE 1" = 30'



REVISIONS

3-21-20	ROAD NAMES, ZONING
6-29-20	ADD WETLANDS
7-16-20	WATER DEMO PLAN
7-21-20	EX. 6" N.G. LOCATION

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose69295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE HARNETT COUNTY, NC
EXISTING CONDITIONS AND WATER DEMO PLAN

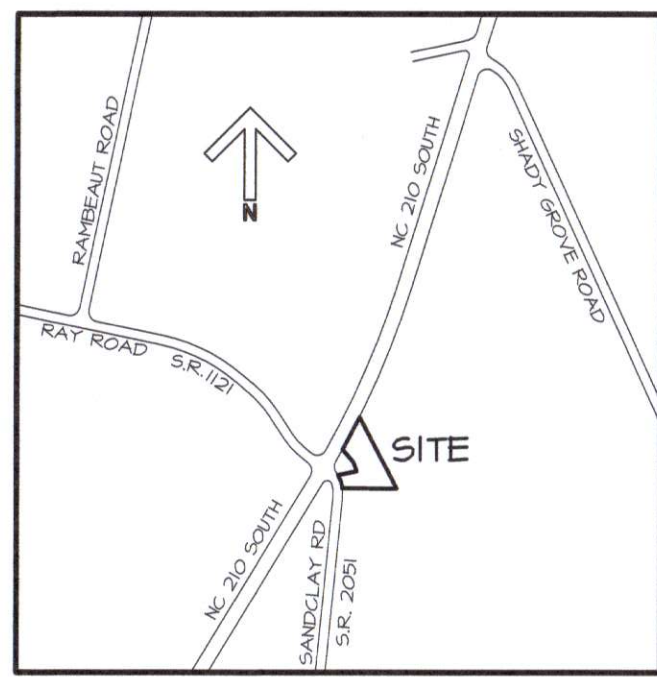
DATE: MAY 2020

DRAWN BY: GMR

CHECKED: GMR

SCALE: NOTED

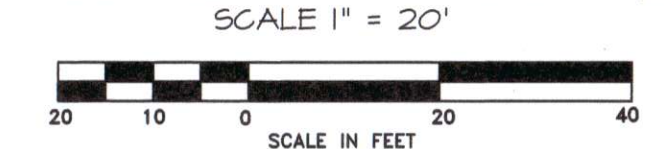
SHEET NO.
SP1



- LEGEND**
- TC 181.50 NEH TOP OF CURB ELEVATION
 - GR 181.00 TOP OF GRATE ELEVATION
 - TK 185.0 TOP OF RETAINING WALL
 - STORM OR SEWER MANHOLE
 - CURB INLET
 - DROP INLET
 - TRAFFIC SIGNAL BOX
 - FO EXIST FIBER OPTIC OR TELEPHONE
 - SP SIGNAL POLE
 - ERB EXIST REBAR (PROPERTY CORNER)
 - EIP EXIST IRON PIPE (PROPERTY CORNER)
 - CP COMPUTED POINT
 - PP EXISTING POWER POLE
 - ▬ PROPOSED RETAINING WALL
 - GUY --- EXISTING GUY WIRE
 - OHE --- EXISTING OVERHEAD ELECTRICAL
 - 18-4 --- EXISTING CONTOUR
 - 18-4 --- PROPOSED FINISHED CONTOUR
 - --- EXISTING NATURAL GAS LINE
 - ⊕ TEMPORARY BLOCK & GRAVEL INLET PROTECTION
 - SF --- TEMPORARY SILT FENCE

- NOTES**
- TOTAL AREA IN TRACT = 42,625 SF = 2.13 ACRES
 - OWNER/DEVELOPER:
HONG NAM
7521 DECATUR DRIVE
FAYETTEVILLE, NC 28303
C/O: hnamgong1234@gmail.com
410-464-8665
 - REFERENCE: DB 3735 PG 133
 - PIN NO: 0513-06-6540.000
 - ZONING: COMMERCIAL, HARNETT COUNTY
 - PROPERTY IS IN ANDERSON CREEK TOWNSHIP.

SEDIMENT TRAP DETAIL



SCALE 1" = 20'

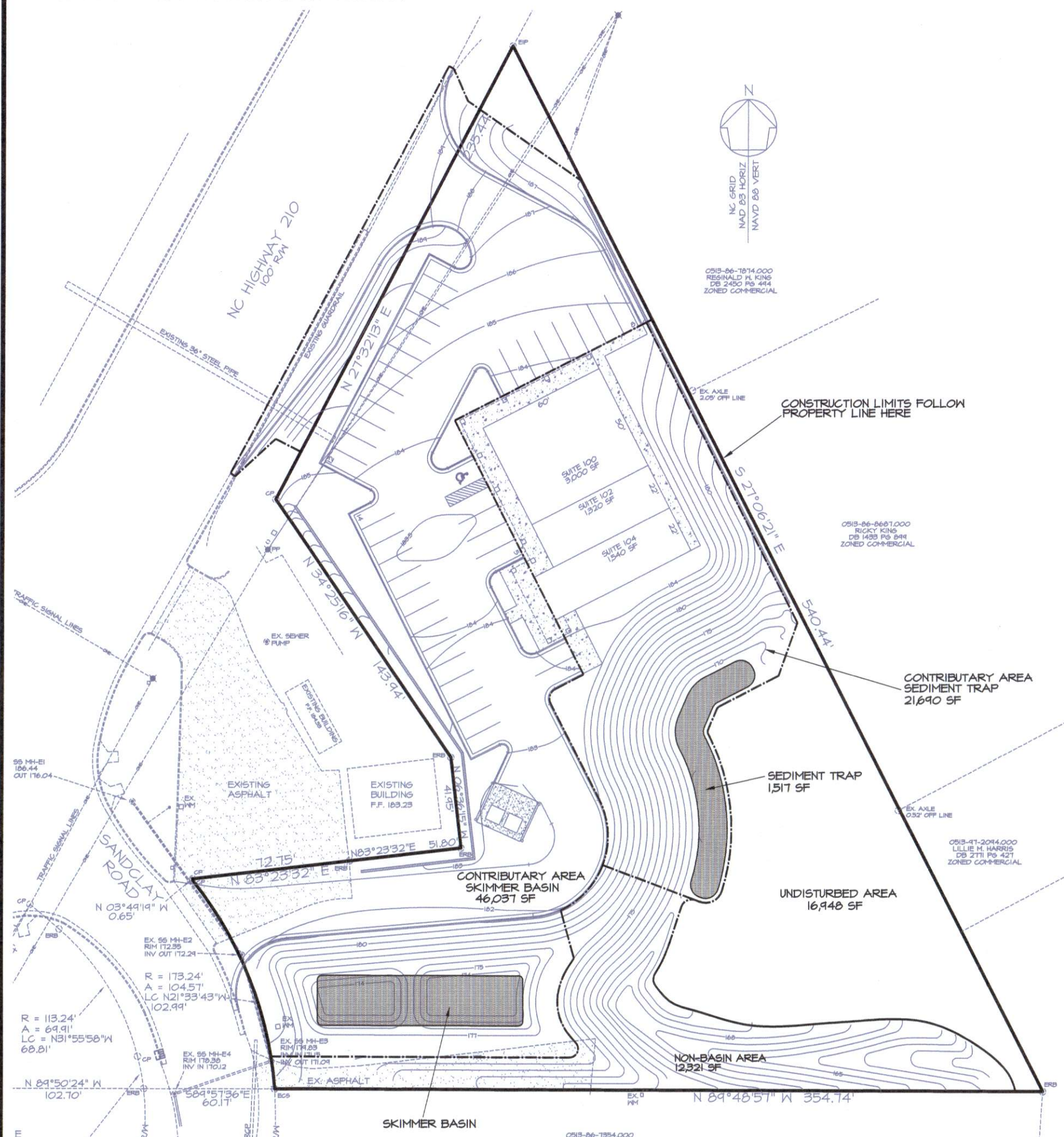
CONSTRUCTION SEQUENCE:

- INSTALL CONSTRUCTION ENTRANCE.
- CONTACT DENR LAND QUALITY AT 910-433-3300 BEFORE BEGINNING ANY ADDITIONAL WORK ON THE SITE.
- PERFORM MINIMUM NECESSARY GRADING TO PREPARE THE TEMPORARY SKIMMER BASIN.
- INSTALL ALL SEDIMENTATION AND EROSION CONTROL MEASURES AS INDICATED ON THE PLAN.
- SITE ROUGH GRADING OPERATIONS.
- INSTALL SANITARY SEWER AND WATER UTILITIES.
- INSTALL STORM DRAINAGE AND INLET PROTECTION DEVICES.
- FINE GRADE PARKING AREAS, INSTALL CURB AND GUTTER AND PAVING.
- REMOVAL OF SEDIMENT FROM BASIN AREAS.
- CONSTRUCT SAND FILTER BASIN.
- FINAL SEEDING AND LANDSCAPING.

PERMANENT GROUND COVER SHOULD BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING THE COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

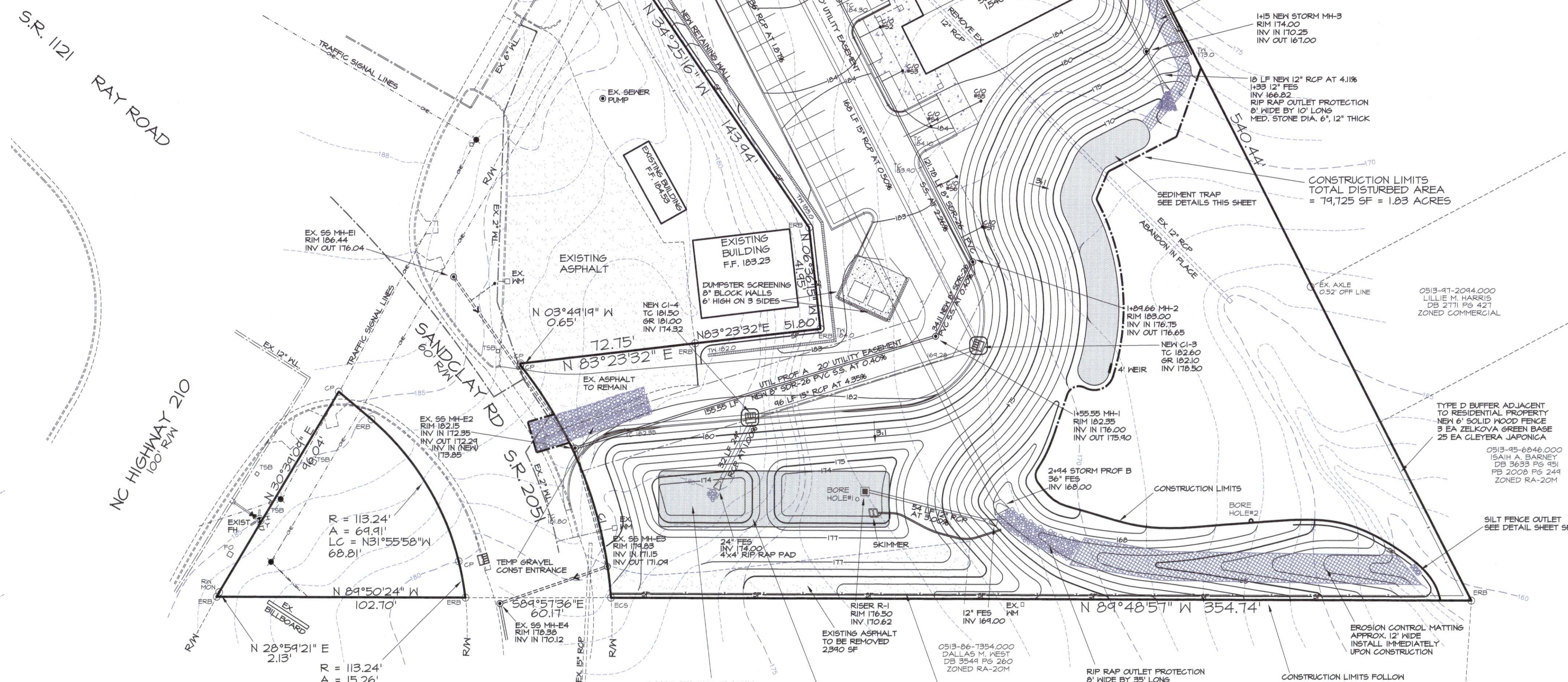
GENERAL MAINTENANCE REQUIREMENTS:

- ALL EROSION CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATION PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.



Basin/Sediment Trap Areas

SCALE 1" = 50'



PLAN

SCALE 1" = 30'



REVISIONS

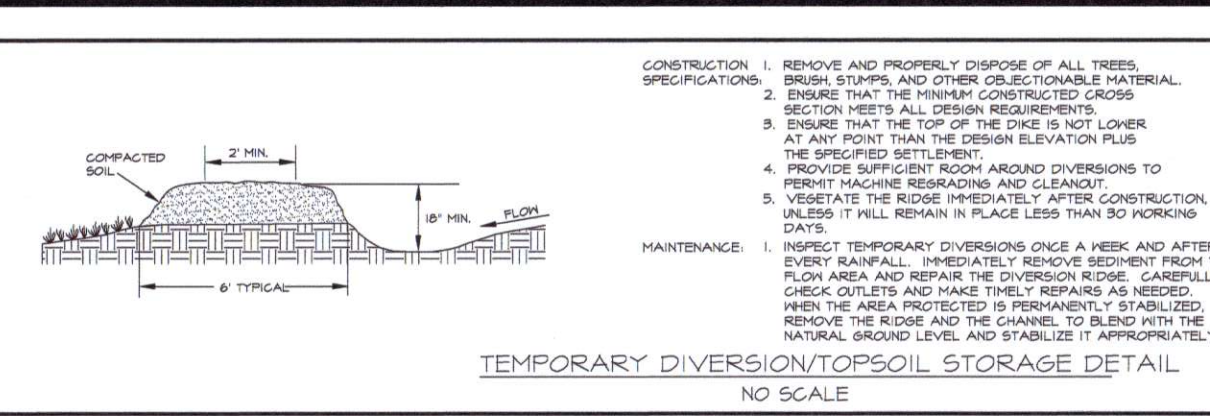
9-11-20	CONSTRUCTION SEQUENCE
9-21-20	PER DENR REVIEW
9-28-20	MATTS NOTE
7-21-20	EX. 6" P.L. LOCATION

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE
HARNETT COUNTY, NC
EROSION CONTROL PLAN

DATE: MAY 2020
DRAWN BY: GMR
CHECKED: GMR
SCALE: NOTED
SHEET NO.
SP2





SEEDING SPECS. FOR EROSION CONTROL:

EROSION CONTROL SHALL BE PERFORMED AS DETAILED IN THE STANDARD SPECIFICATIONS FOR EROSION CONTROL AND STRUCTURES, 1. THE USE OF TEMPORARY EROSION CONTROL MATERIALS SHALL BE LIMITED TO THE PERIOD OF CONSTRUCTION AND SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PERMANENT EROSION CONTROL STRUCTURES. THE USE OF SALT IS PROHIBITED.

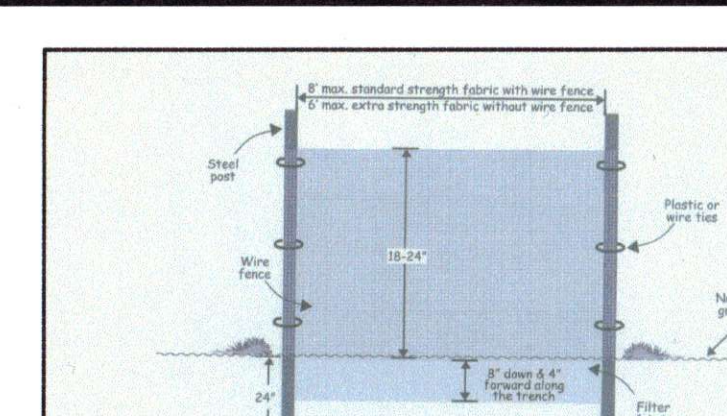
GROUND STABILIZATION OF PERIMETER AREAS AND SLOPES GREATER THAN 3:1 SHALL OCCUR WITHIN 7 DAYS. DIVERSIONS AND DIVERSION BARRIERS SHALL BE STABILIZED WITHIN 7 DAYS.

PERMANENT GROUNDCOVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED IMMEDIATELY UPON COMPLETION OF THE PERMANENT EROSION CONTROL STRUCTURES. THE USE OF TEMPORARY EROSION CONTROL MATERIALS SHALL BE LIMITED TO THE PERIOD OF CONSTRUCTION AND SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PERMANENT EROSION CONTROL STRUCTURES. THE USE OF SALT IS PROHIBITED.

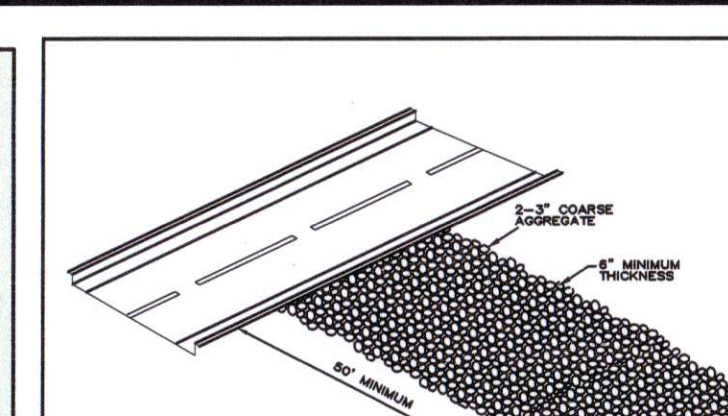
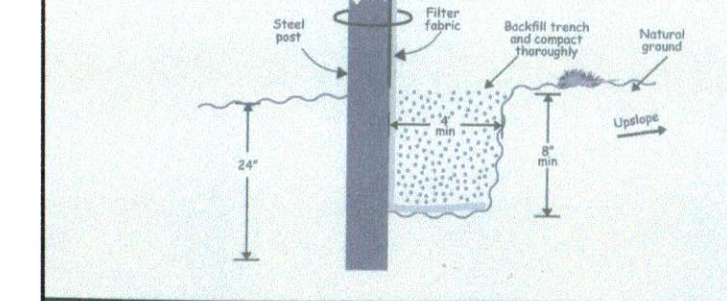
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TEMPORARY SEEDING SPECIFICATIONS:

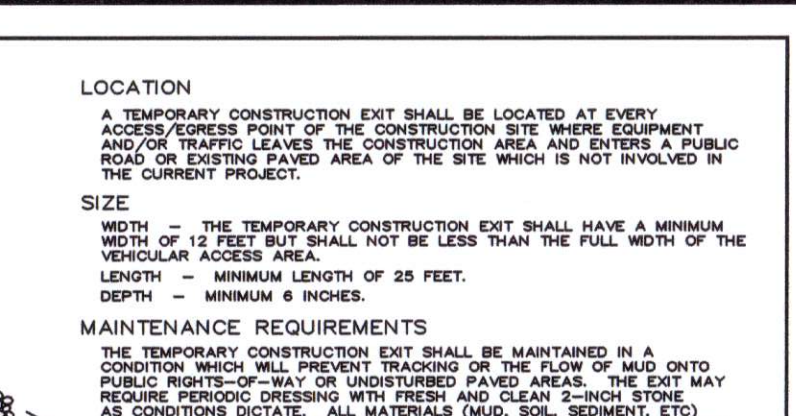
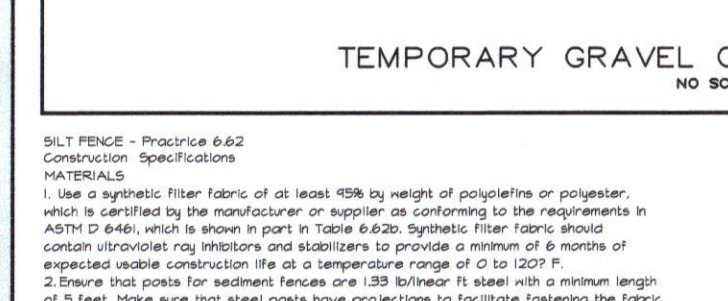
Seeding Mixture Species (By Gram)	Rates (lb/acre)
30% Fescue	120
30% Ryegrass	120
30% Sorghum	120
30% Annual Ryegrass	120



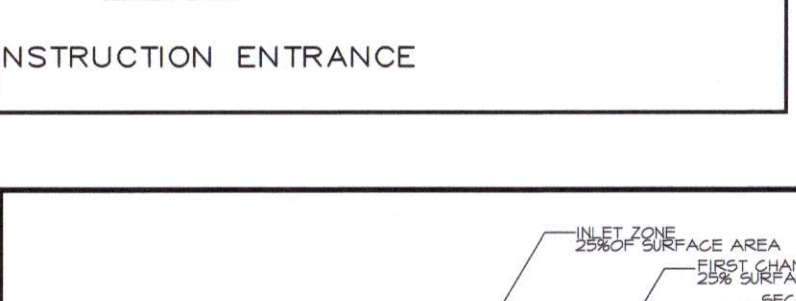
TEMPORARY SILT FENCE



TEMPORARY SILT FENCE

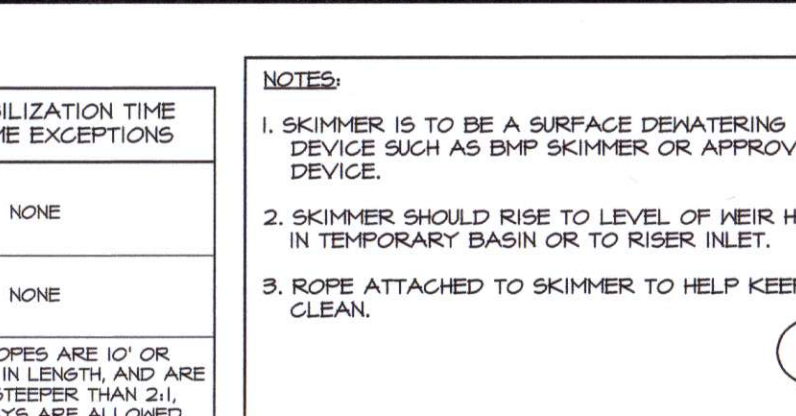


TEMPORARY SILT FENCE



GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIVERSION BARRIERS, SHOULDS, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (H2O) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10% OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES STEEPER THAN 3:1	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS (EXCEPT FOR PERIMETERS AND HIGH ZONES)	14 DAYS	NONE



SKIMMER CALCULATIONS

USING 1' OF FREEBOARD, VOLUME OF SKIMMER BASIN B (50)(60)(9.5) = 103500 CF FOR DRAIN/DOWN THE OF 3 DAYS, Q = VA

$$Q = \frac{103500}{3} = 34500 \text{ CF PER DAY}$$

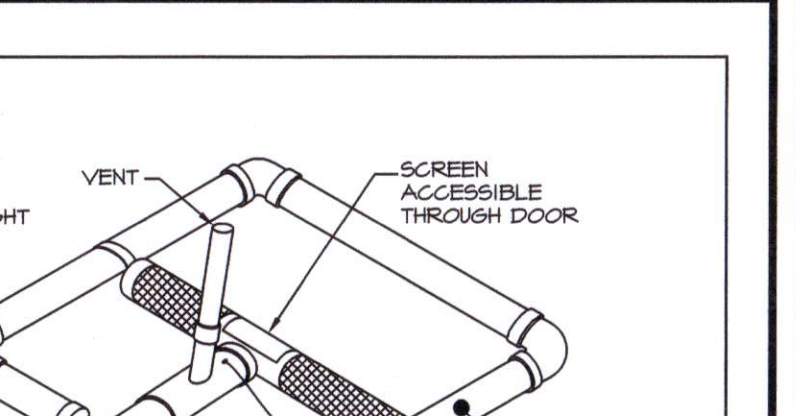
DESIGN DIAMETER OF ORIFICE $D = \sqrt{\frac{Q(230)(\pi)}{V}}$

TRY 2' SKIMMER, WITH H = 0.61 FT

$$D = \sqrt{\frac{34500(230)(\pi)}{0.61}}$$

D = 1.92 INCHES

USE 2-INCH DIAMETER SKIMMERS FOR BASINS B + C



SKIMMER CALCULATIONS

USING 1' OF FREEBOARD, VOLUME OF SKIMMER BASIN B (50)(60)(9.5) = 103500 CF FOR DRAIN/DOWN THE OF 3 DAYS, Q = VA

$$Q = \frac{103500}{3} = 34500 \text{ CF PER DAY}$$

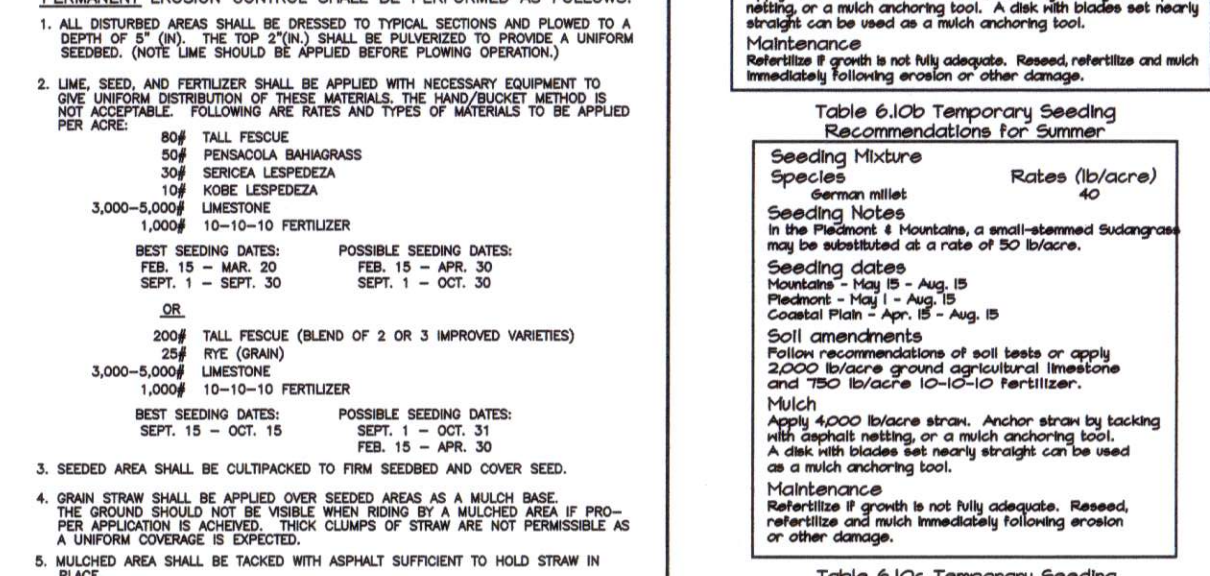
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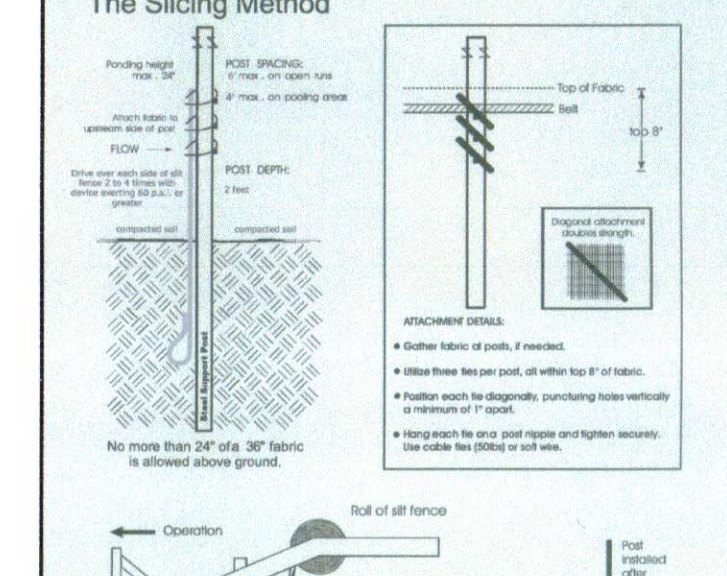
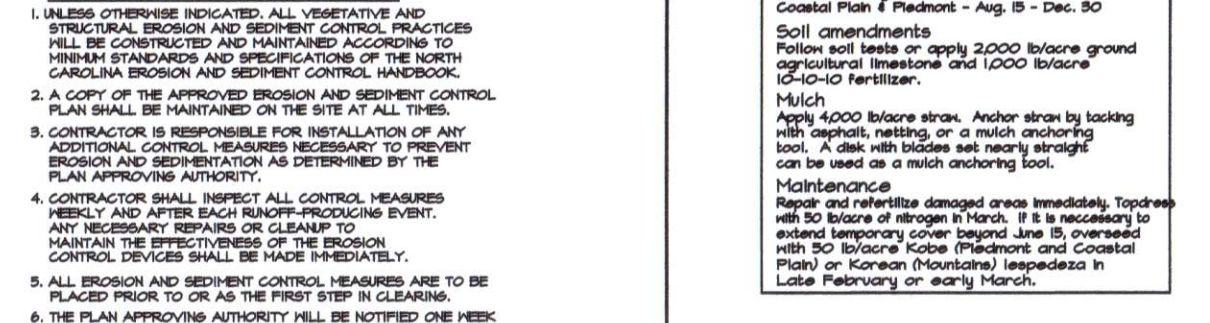
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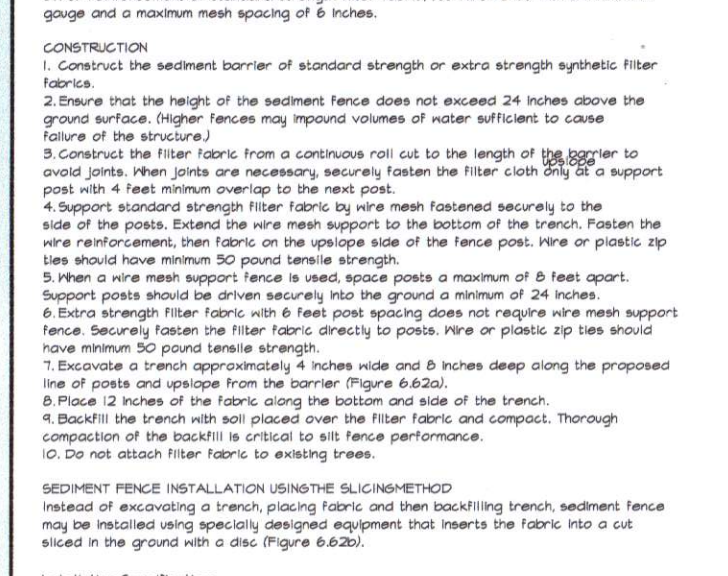
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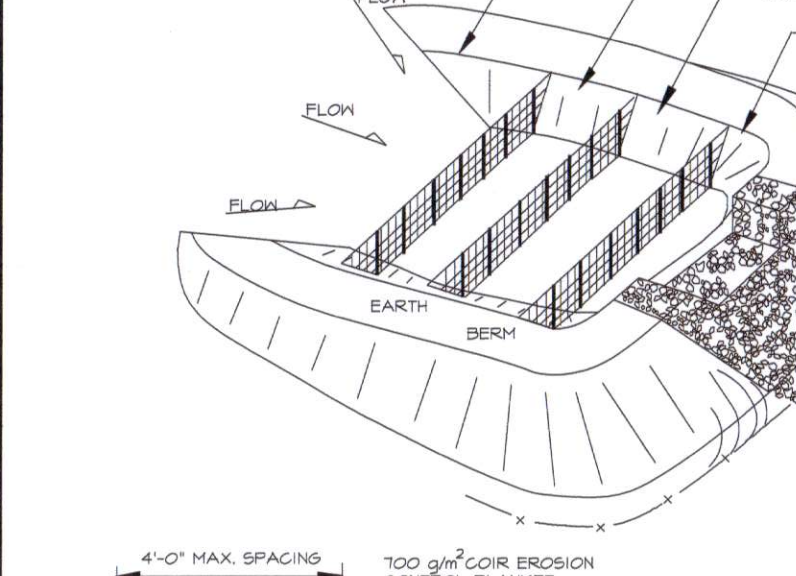
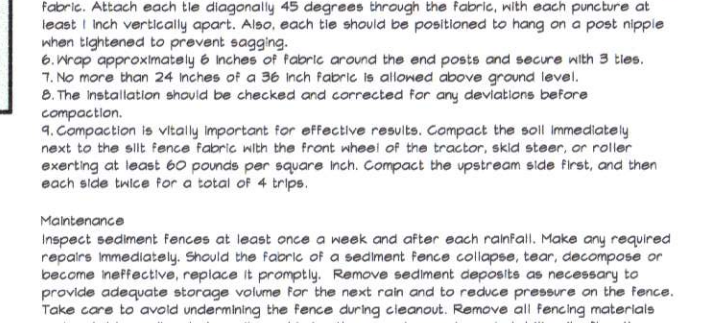
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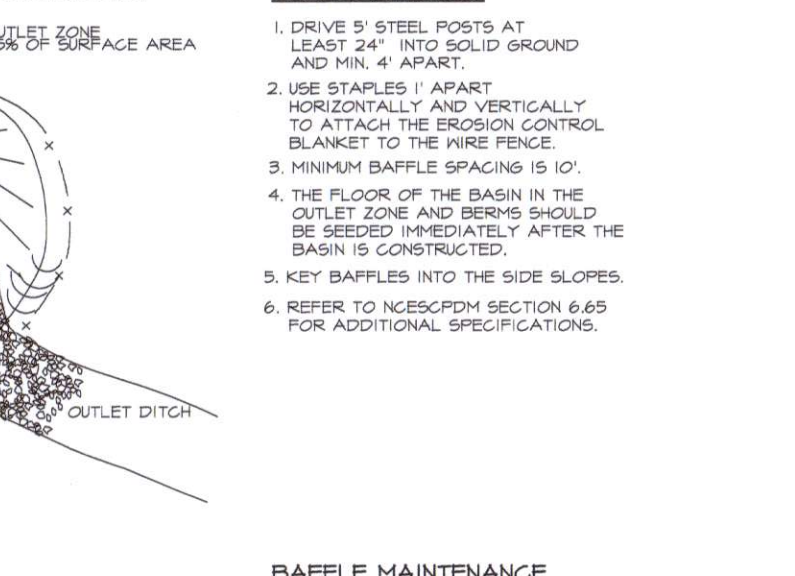
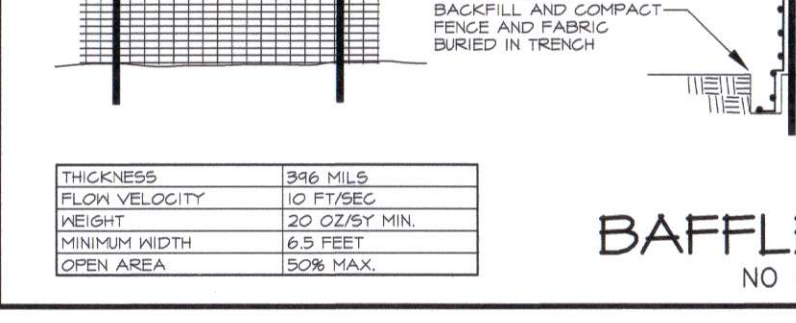
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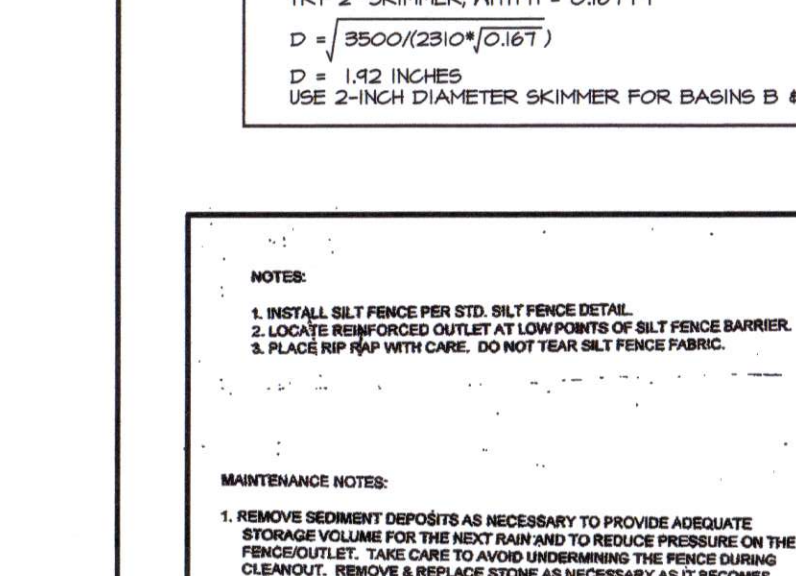
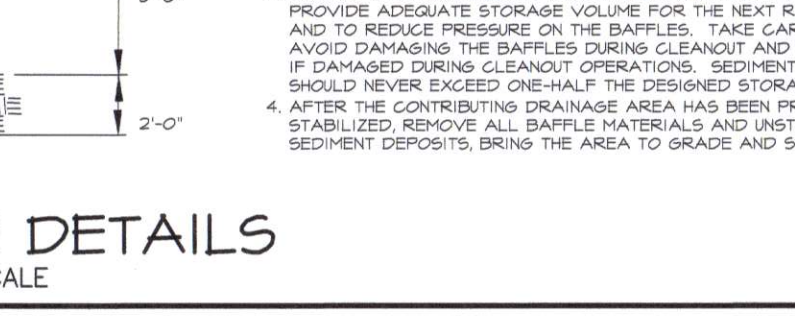
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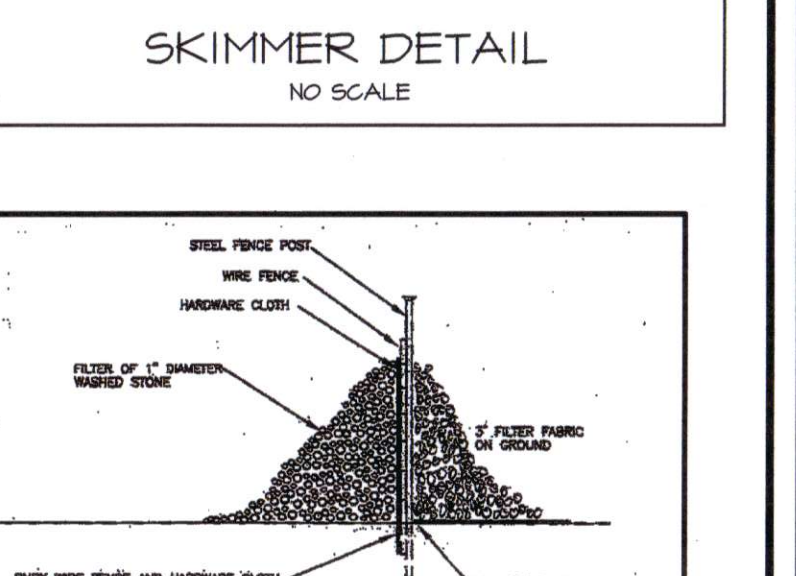
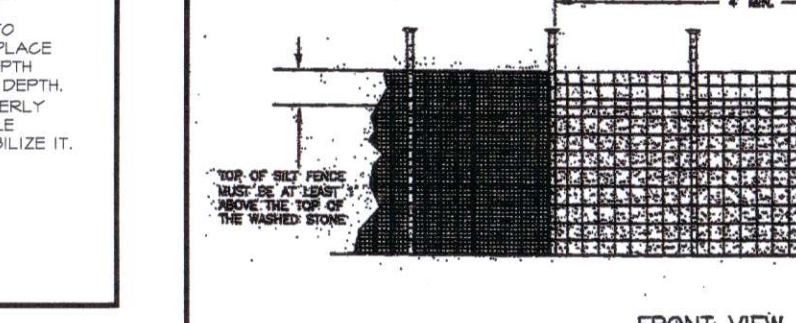
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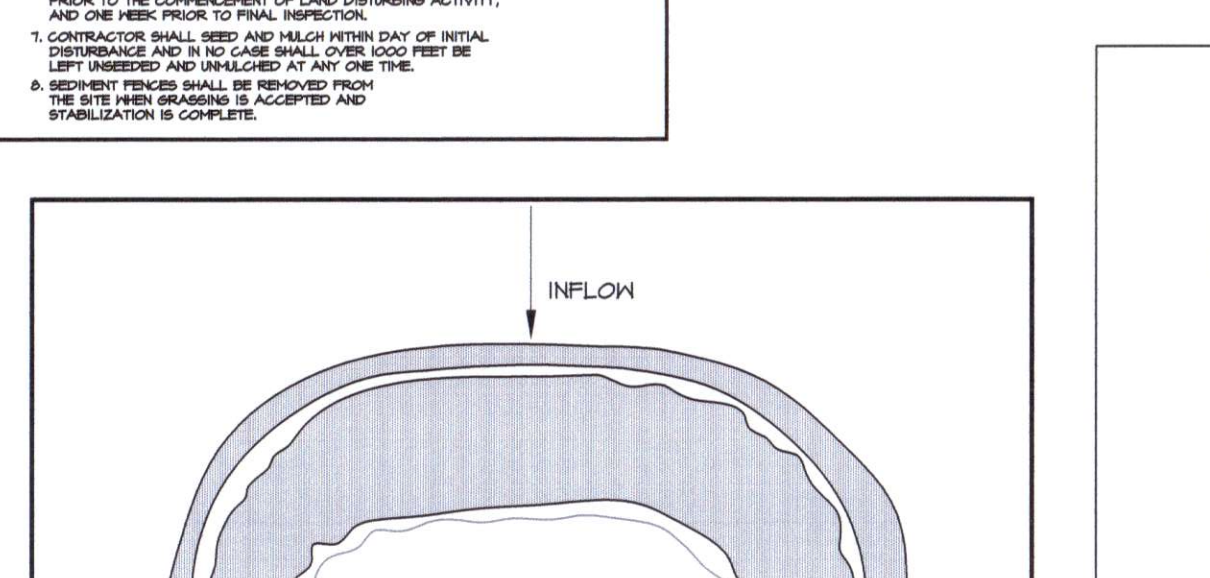
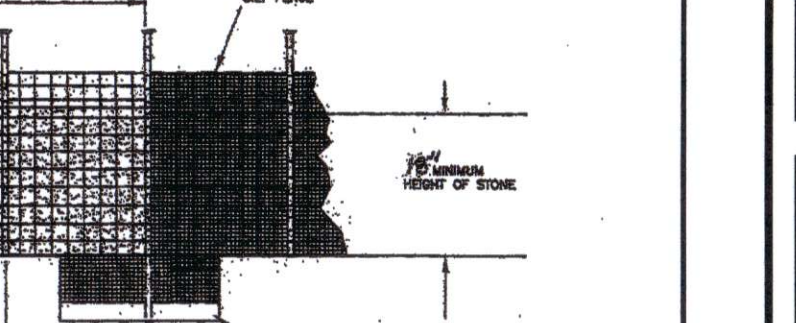
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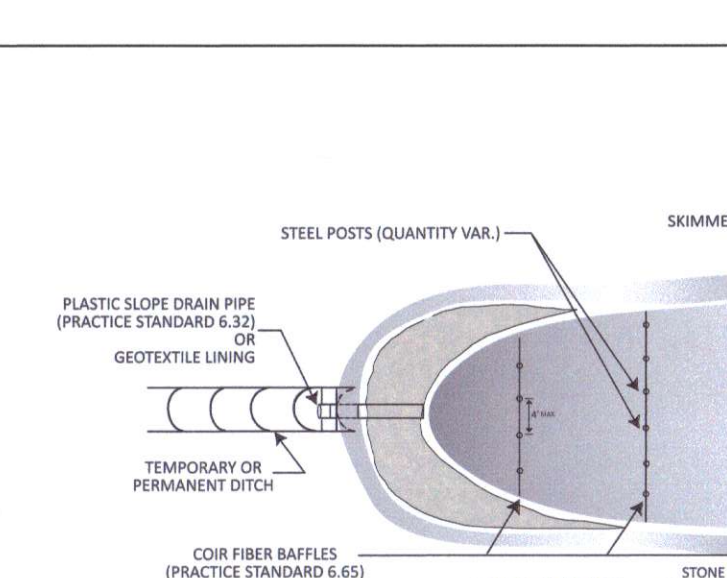


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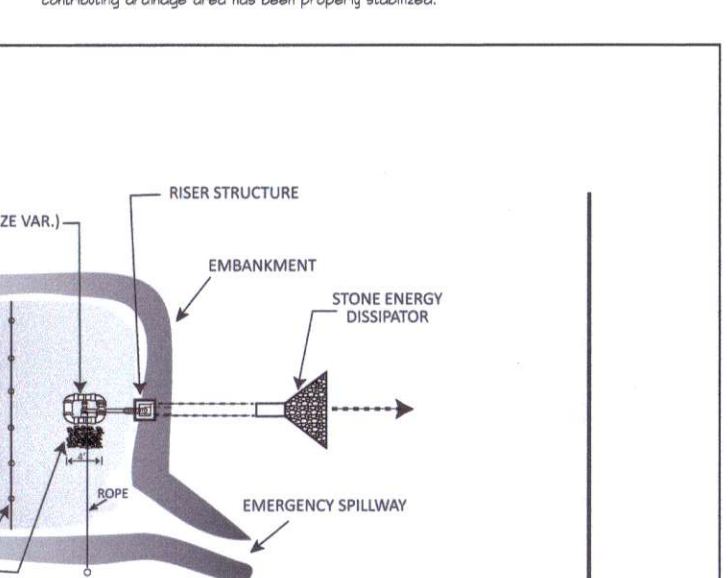
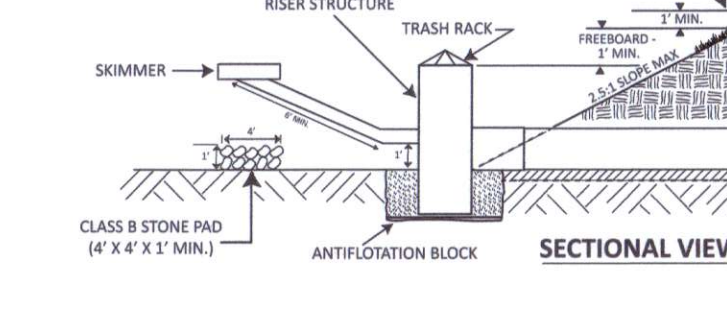


SKIMMER SEDIMENT BASIN MAINTENANCE

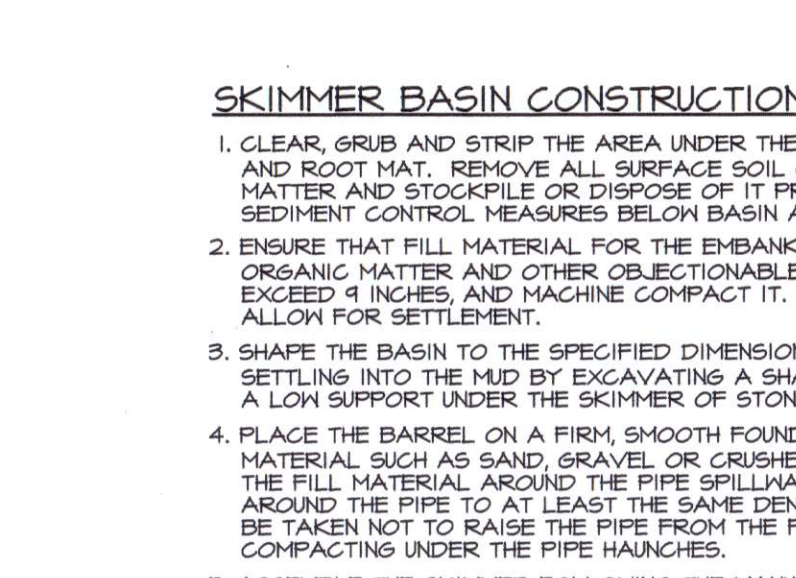
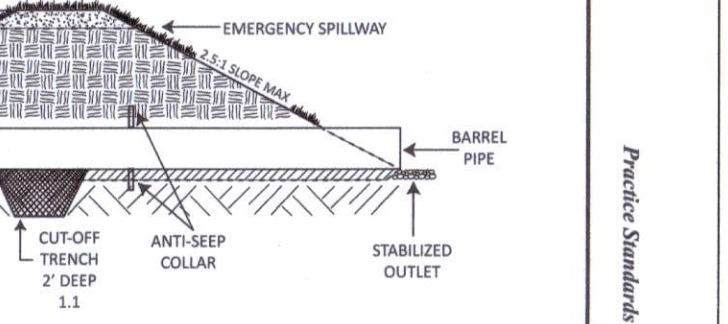
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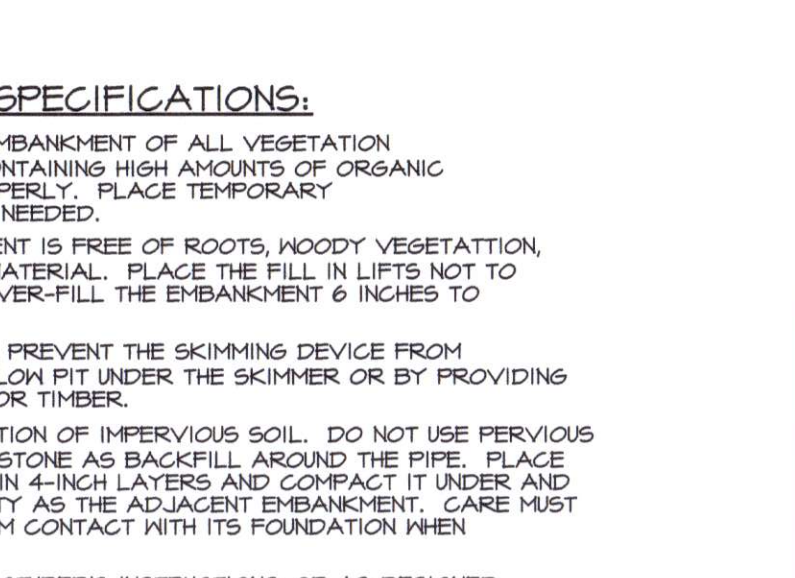
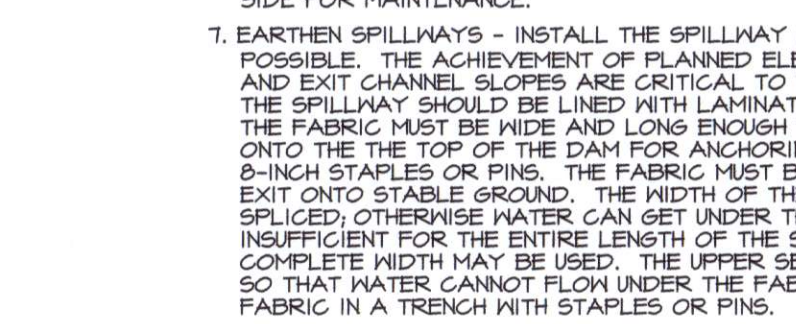
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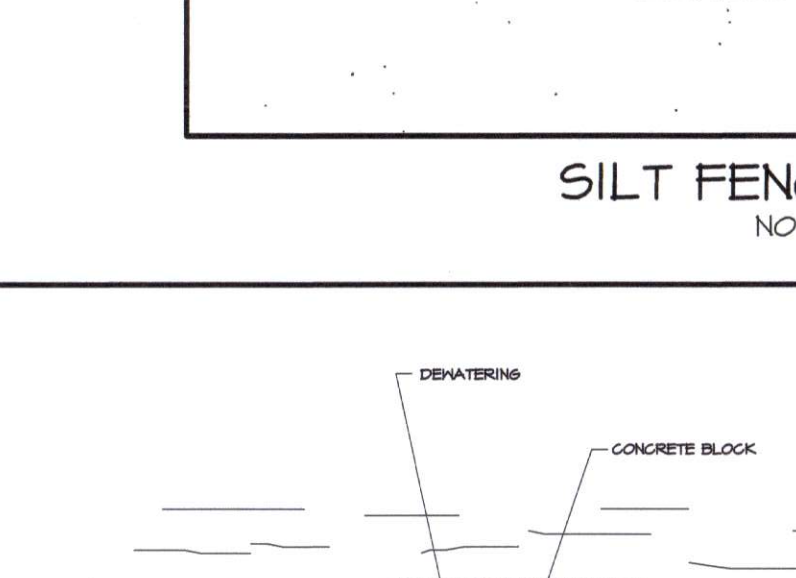
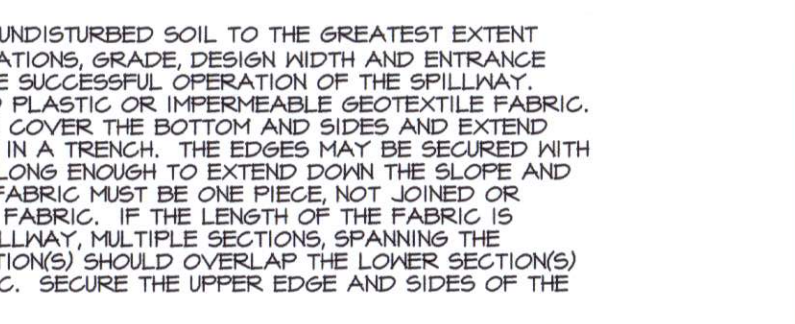
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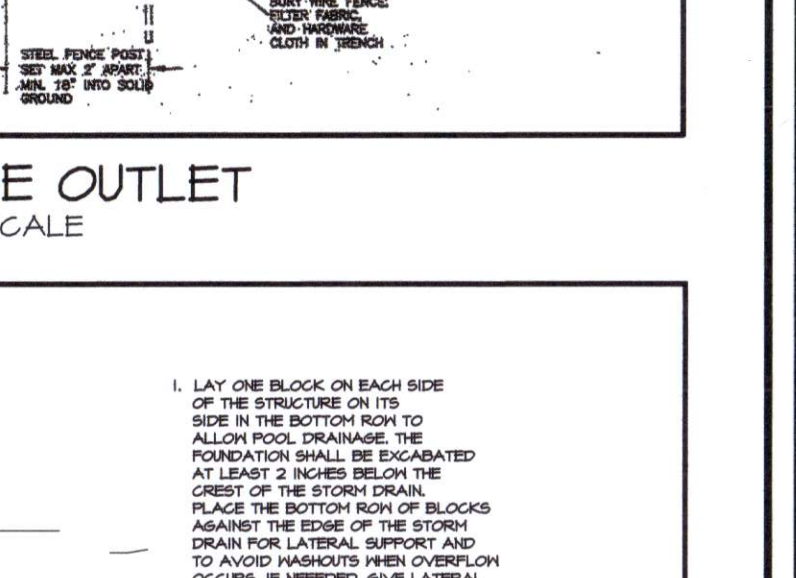
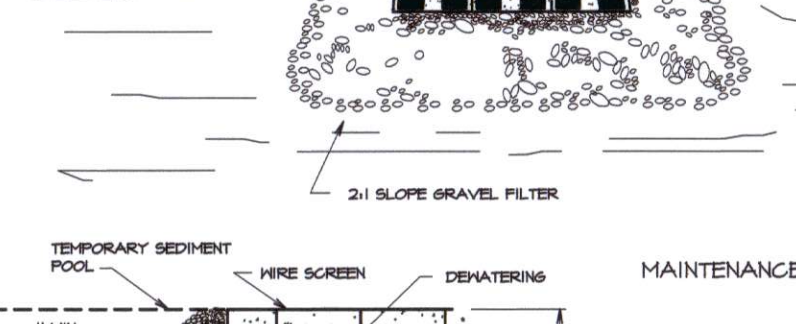
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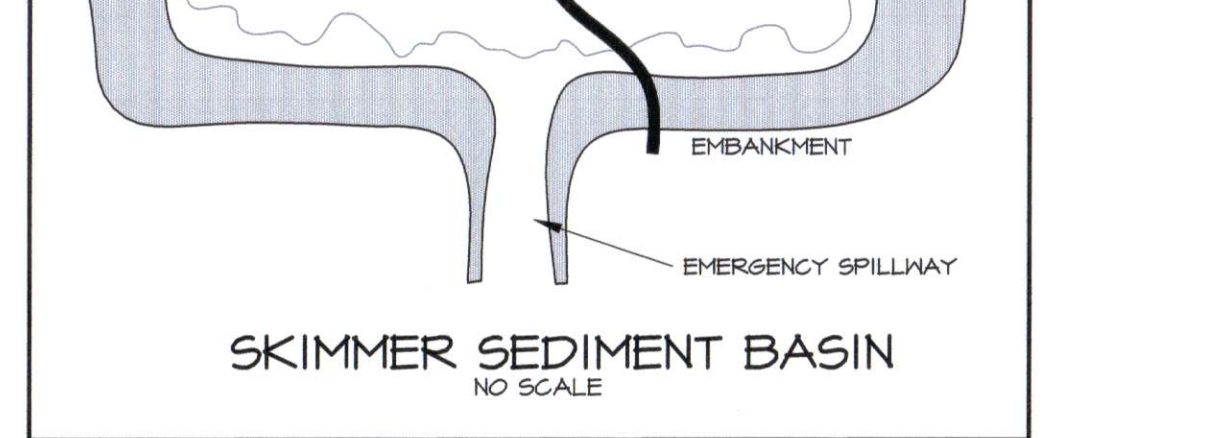
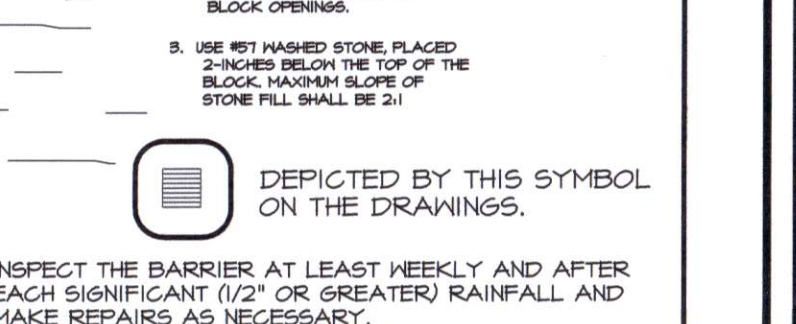
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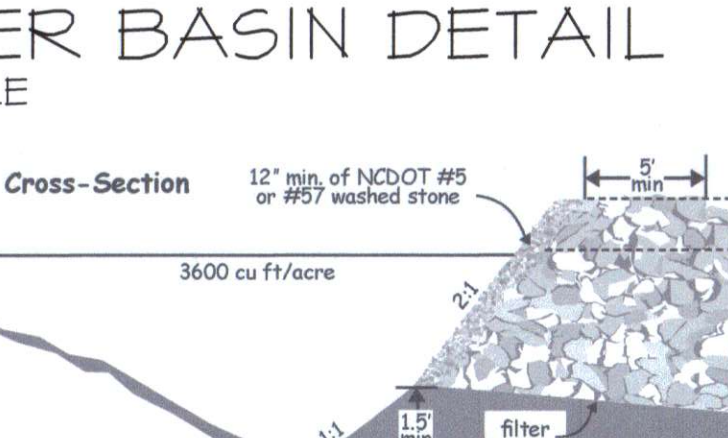
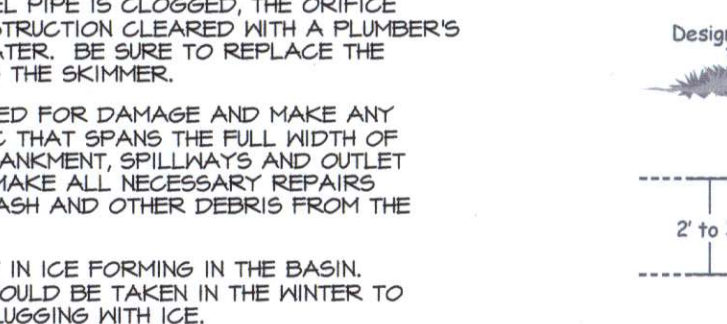


SKIMMER SEDIMENT BASIN MAINTENANCE

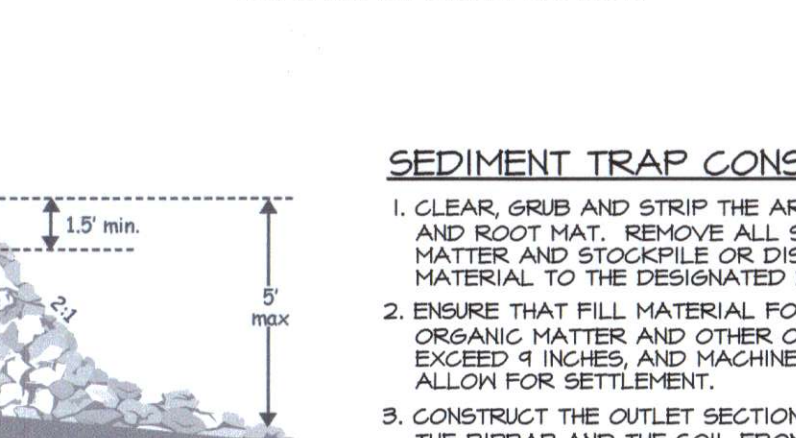
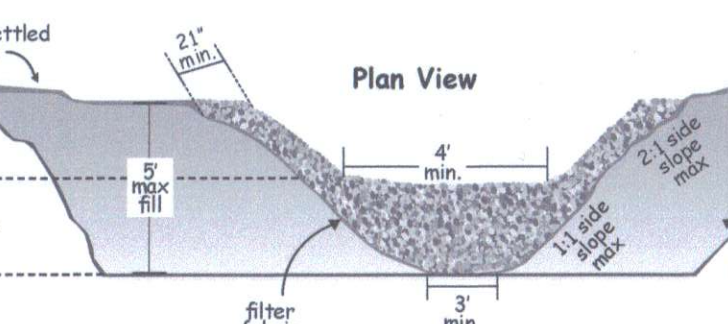
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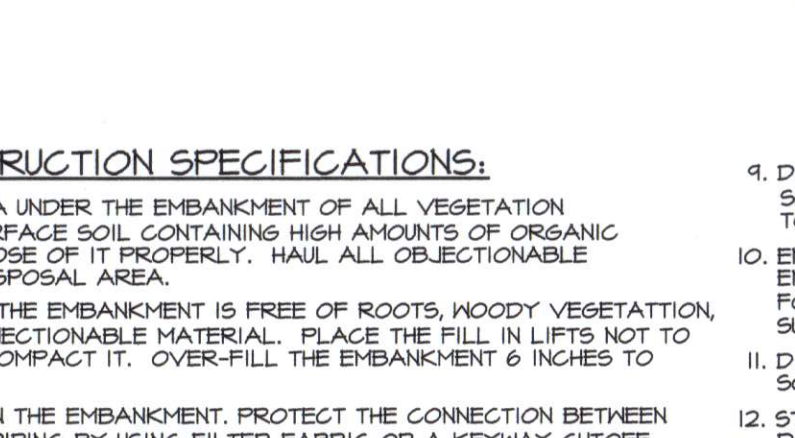
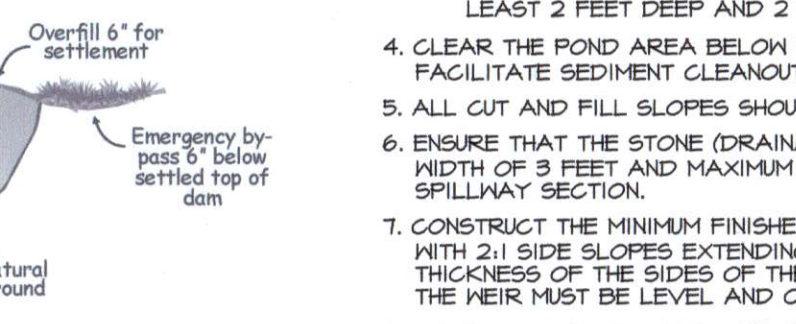
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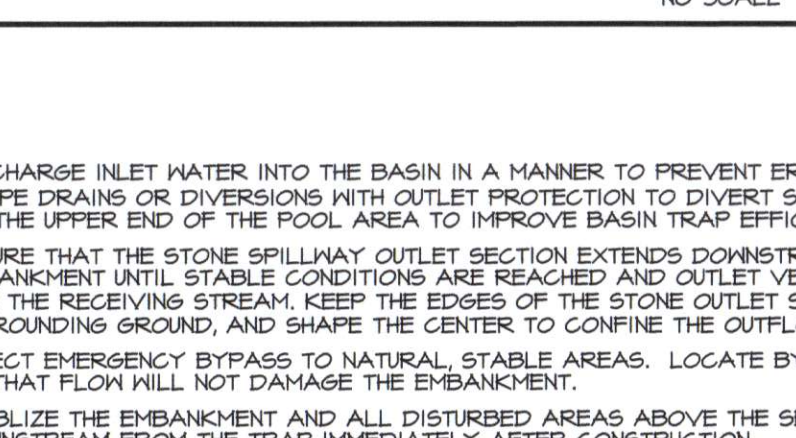
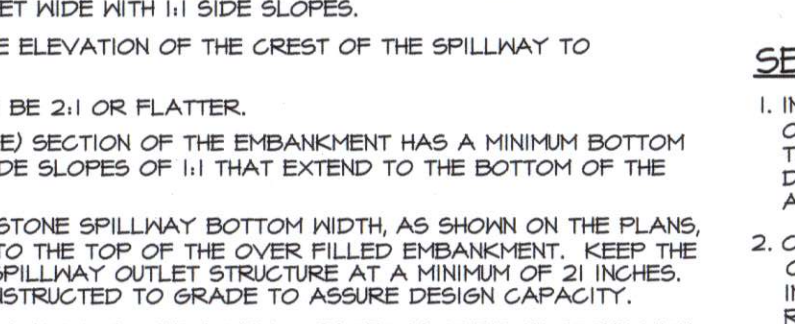
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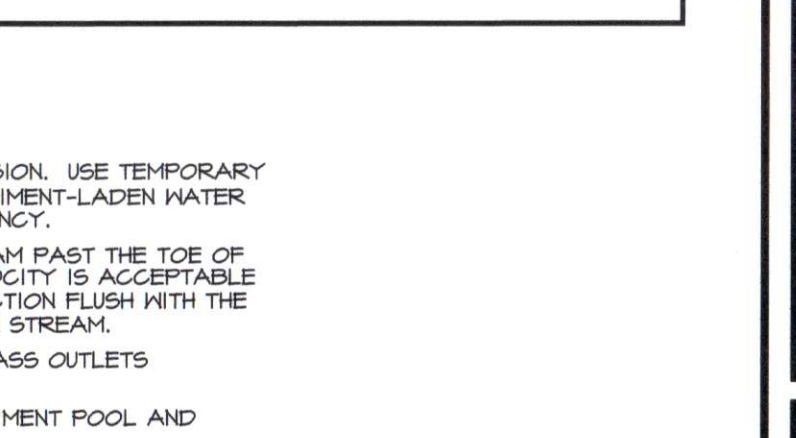
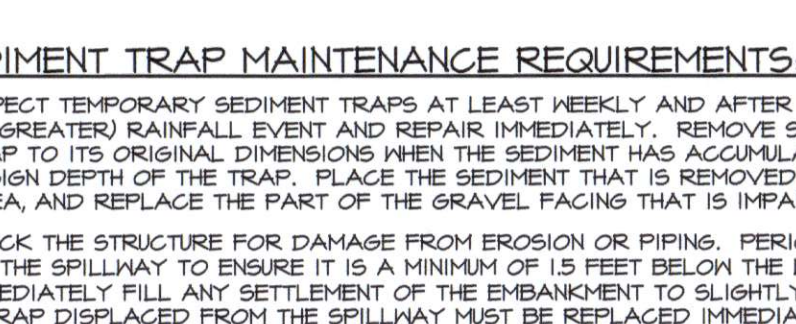
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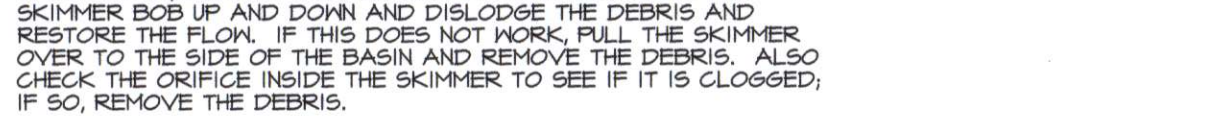
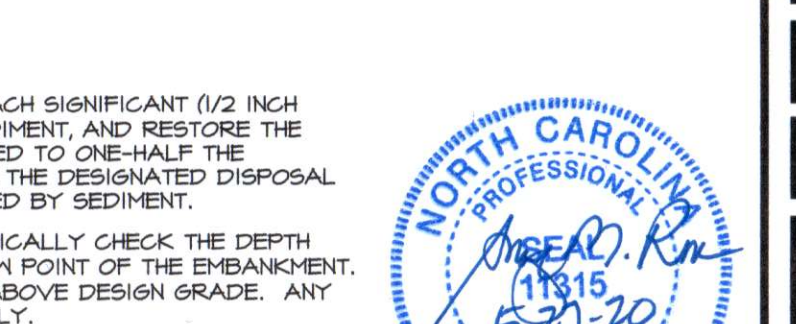
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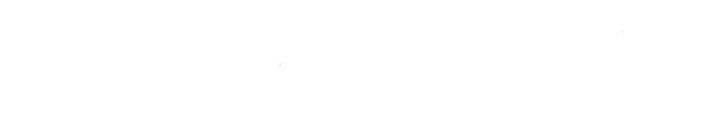


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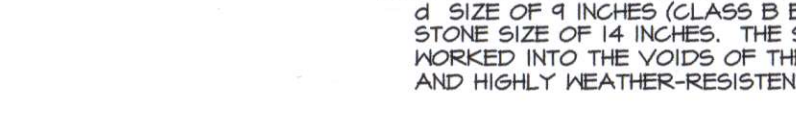
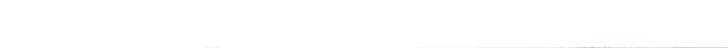
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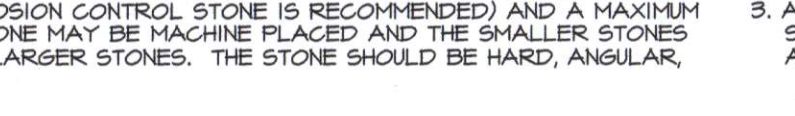
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REVISIONS:

NO.	DATE	DESCRIPTION
1	5-27-20	SED TRAP DETAILS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305

910-977-5822 FAX 910-485-5833
EMAIL: grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
HARNETT COUNTY, NC

NC 210 S. AT SAND CLAY DRIVE
EROSION CONTROL DETAILS

DATE: MAY 2020
DRAWN BY: GMR
CHECKED: GMR
SCALE: NOTED

SHEET NO. **SP3**



GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Roller erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Roller erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

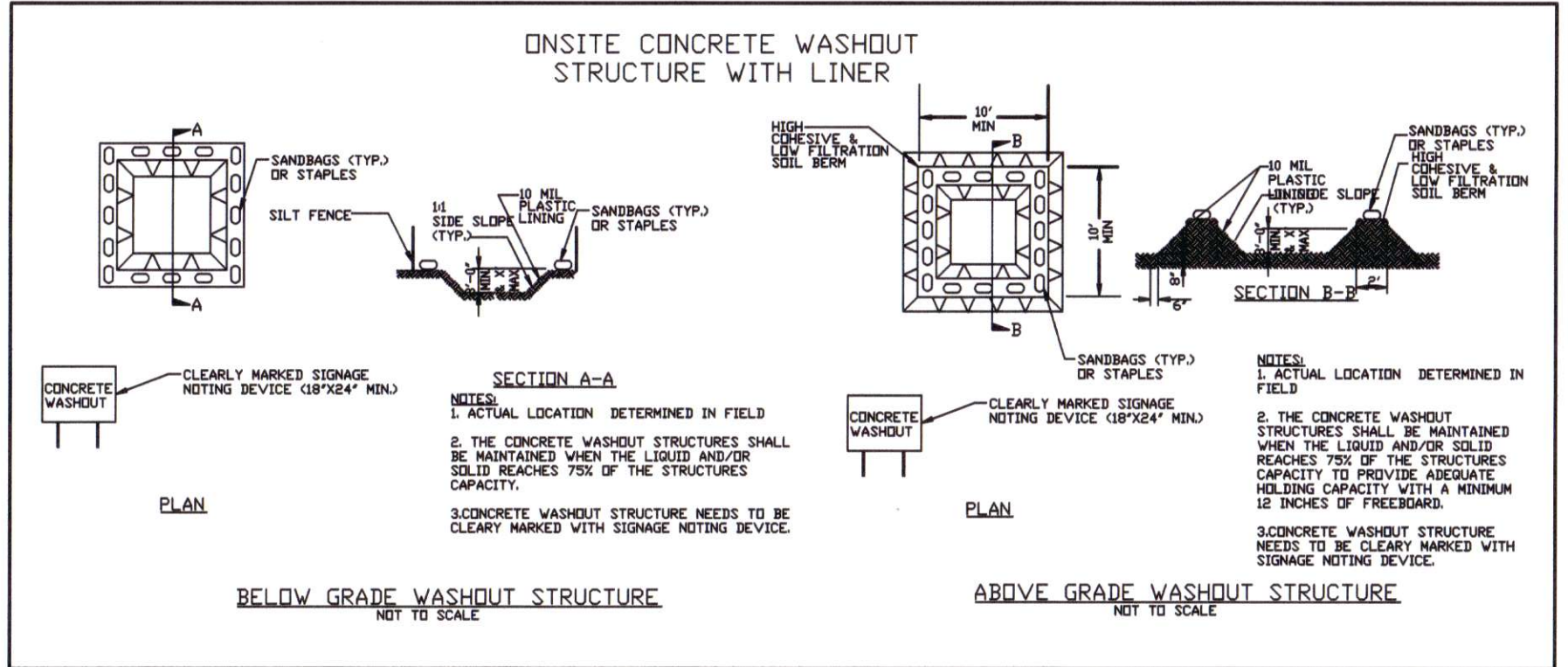
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event \geq 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> • Within 24 hours, an oral or electronic notification. • Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)]. • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)

DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

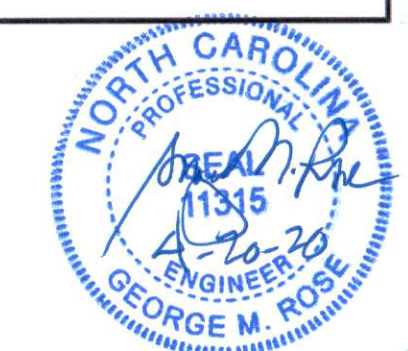
Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING



EFFECTIVE: 04/01/19



REVISIONS:

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305

910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
HARNETT COUNTY, NC
NC 210 AT SAND CLAY DRIVE

SELF-INSPECTION, RECORDKEEPING AND REPORTING

DATE: APR 2020

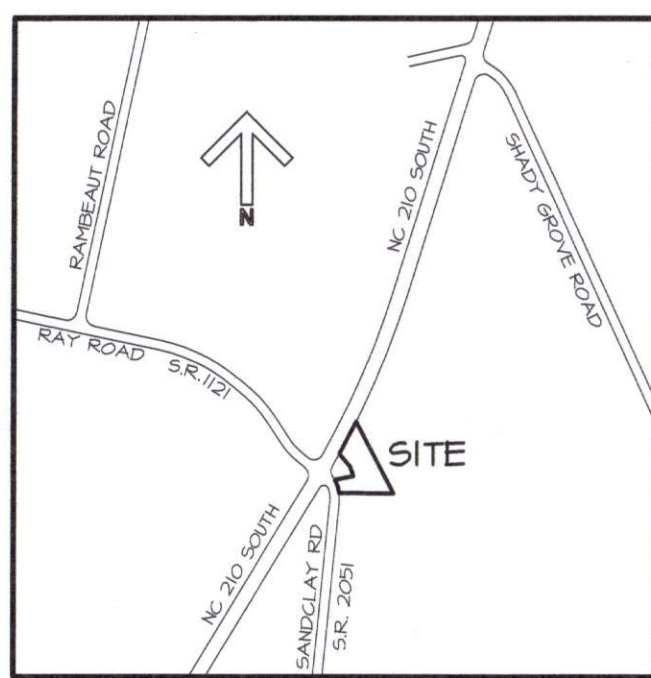
DRAWN BY: GMR

CHECKED: GMR

SCALE: NOTED

SHEET NO.

SP5



VICINITY MAP
NO SCALE

LEGEND

- TC 181.50 NEW TOP OF CURB ELEVATION
- GR 181.00 TOP OF GRATE ELEVATION
- TR 185.0 TOP OF RETAINING WALL
- SM STORM OR SEWER MANHOLE
- CI CURB INLET
- DI DROP INLET
- TSB TRAFFIC SIGNAL BOX
- FO EXIST FIBER OPTIC OR TELEPHONE
- SP SIGNAL POLE
- ERB EXIST REBAR (PROPERTY CORNER)
- EIP EXIST IRON PIPE (PROPERTY CORNER)
- CP COMPUTED POINT
- PP EXISTING POWER POLE
- PROPOSED RETAINING WALL
- GUY --- EXISTING GUY WIRE
- OHE --- EXISTING OVERHEAD ELECTRICAL
- 184 --- EXISTING CONTOUR
- 184 --- PROPOSED FINISHED CONTOUR
- --- EXISTING NATURAL GAS LINE

NOTES

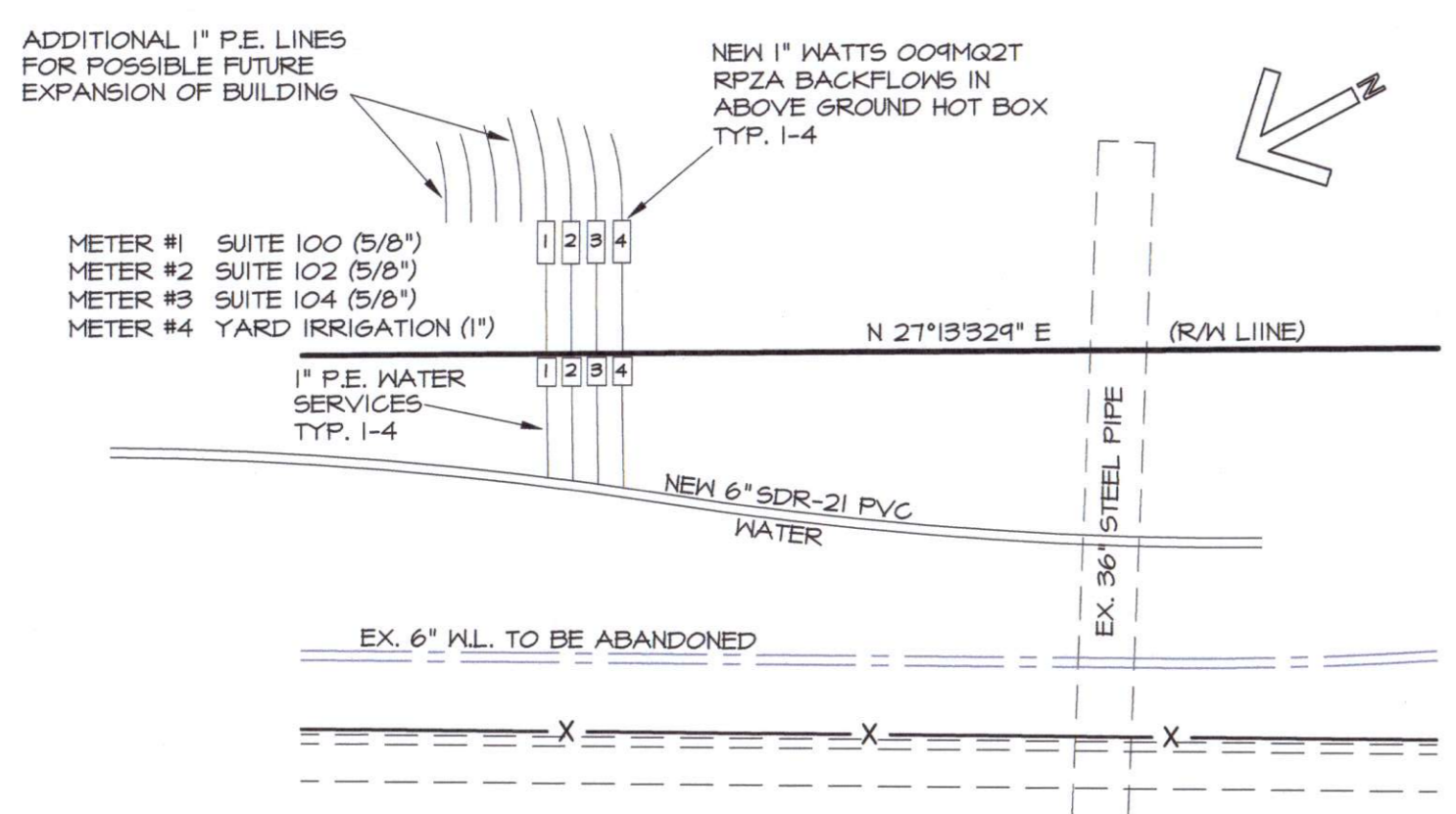
1. TOTAL AREA IN TRACT = 42,625 SF = 2.13 ACRES
2. OWNER/DEVELOPER: HONG NAM, 7521 DECATUR DRIVE, FAYETTEVILLE, NC 28303, C/O: dyoung@nc294@gmail.com, 910-464-8665
3. REFERENCE: DB 3735 PG 193
4. PIN NO. 0513-86-6540.000
5. ZONING: COMMERCIAL, HARNETT COUNTY
6. PROPERTY IS IN ANDERSON CREEK TOWNSHIP.
7. THERE ARE NO EXISTING IMPERVIOUS SURFACES ON THIS SITE.
8. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
9. THE CONTRACTOR MUST CONTACT THE NORTH CAROLINA CALL CENTER AT 800-652-4844 PRIOR TO DIGGING IN ORDER TO LOCATE ALL EXISTING UTILITIES.
10. NC 210 IS ON THE HARNETT COUNTY COMPREHENSIVE TRANSPORTATION PLAN.
11. THIS DEVELOPMENT IS WITHIN ONE MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.
12. THIS DEVELOPMENT IS WITHIN THE FIVE MILE MILITARY CORRIDOR OVERLAY ZONE, AND MAY BE SUBJECT TO MILITARY TRAINING ACTIVITIES.
13. A LICENSED UTILITY CONTRACTOR WILL INSTALL THE WATER AND SEWER SERVICES SHOWN ON THIS PLAN.
14. NC 210 IS ON THE HARNETT COUNTY COMPREHENSIVE TRANSPORTATION PLAN.
15. EXTERIOR MECHANICAL UNITS/SYSTEMS ASSOCIATED WITH THE BUILDINGS WILL BE LOCATED ON THE ROOF AND SCREENED BY THE ROOF PARAPET WALL.
16. THIS DEVELOPMENT IS WITHIN ONE MILE OF A VOLUNTARY AGRICULTURAL DISTRICT.
17. THIS DEVELOPMENT IS WITHIN THE FIVE MILE MILITARY CORRIDOR OVERLAY ZONE, AND MAY BE SUBJECT TO MILITARY TRAINING ACTIVITIES.

LANDSCAPING NOTES

1. SHRUBBERY IS TO BE PLANTED MIN. 30' FROM CURBING AND PARKING SPACES TO PREVENT DAMAGE FROM CAR OVERHANGS.
2. SHRUBS INSTALLED AS VEHICULAR USE SCREENING ARE TO BE MAINTAINED AT MIN. HEIGHT 36". MIN. INSTALLATION HEIGHT 24".
3. LIGHT POLES TO BE MIN. 15' FROM TREES. ANY FIELD ADJUSTMENTS MUST COMPLY WITH THIS STANDARD AND BE APPROVED BY CITY STAFF PRIOR TO INSTALLATION.
4. CREPE MYRTLES MAY BE USED FOR SHRUBS BUT NOT AS UNDERSTORY TREES.
5. EACH TREE SHALL BE PLANTED SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE ROOT FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE ROOT FLARE WITH MULCH.
6. DO NOT PLACE MULCH IN CONTACT WITH THE TREE TRUNK. KEEP MULCH A MINIMUM OF 4 INCHES AWAY FROM THE TRUNK BASE.
7. ANY CHANGES TO THE PROPOSED PLANT SCHEDULE MUST BE APPROVED BY THE DESIGNER OF RECORD AND THE CITY. IN CASES WHERE THE PLANT SCHEDULE ONLY INCLUDES THE PLANT TYPE AND DOES NOT INCLUDE THE PLANT SPECIES, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT TO THE CITY FOR APPROVAL A DETAILED PLANT SCHEDULE AND ASSOCIATED PLANTING PLAN PREPARED BY A PROFESSIONAL KNOWLEDGEABLE ABOUT PLANT MATERIAL AND DESIGN, PRIOR TO PROCEEDING WITH INSTALLATION.
8. PROJECT DEVELOPER/OWNER WILL BE RESPONSIBLE FOR MAINTENANCE OF PARKING AREAS, DRIVE AISLES AND ALL LANDSCAPE BUFFERING.

SYMBOL	QTY	CLASS	TYPE	SIZE	NOTES
	3	LARGE SHADE	ZELKOVA GREEN BASE	2'	MIN. 8' HEIGHT
	2	UNDERSTORY	NELLY STEVENS HOLLY	2'	MIN. 8' HEIGHT
	6	UNDERSTORY	EASTERN REDBUD	1-1/2'	MIN. 8' HEIGHT
60 TOTAL SHRUBS SHOWN (3 VARIETIES)					
	34	EVERGREEN	CLEYERA JAPONICA	MIN 24"	3' HGT AT MATURITY
	22	EVERGREEN	ILEX VOMITORIA NANA DWARF YAUPON HOLLY	MIN 24"	
	4	DECIDUOUS	DOUBLE KNOCKOUT ROSES	MIN 24"	

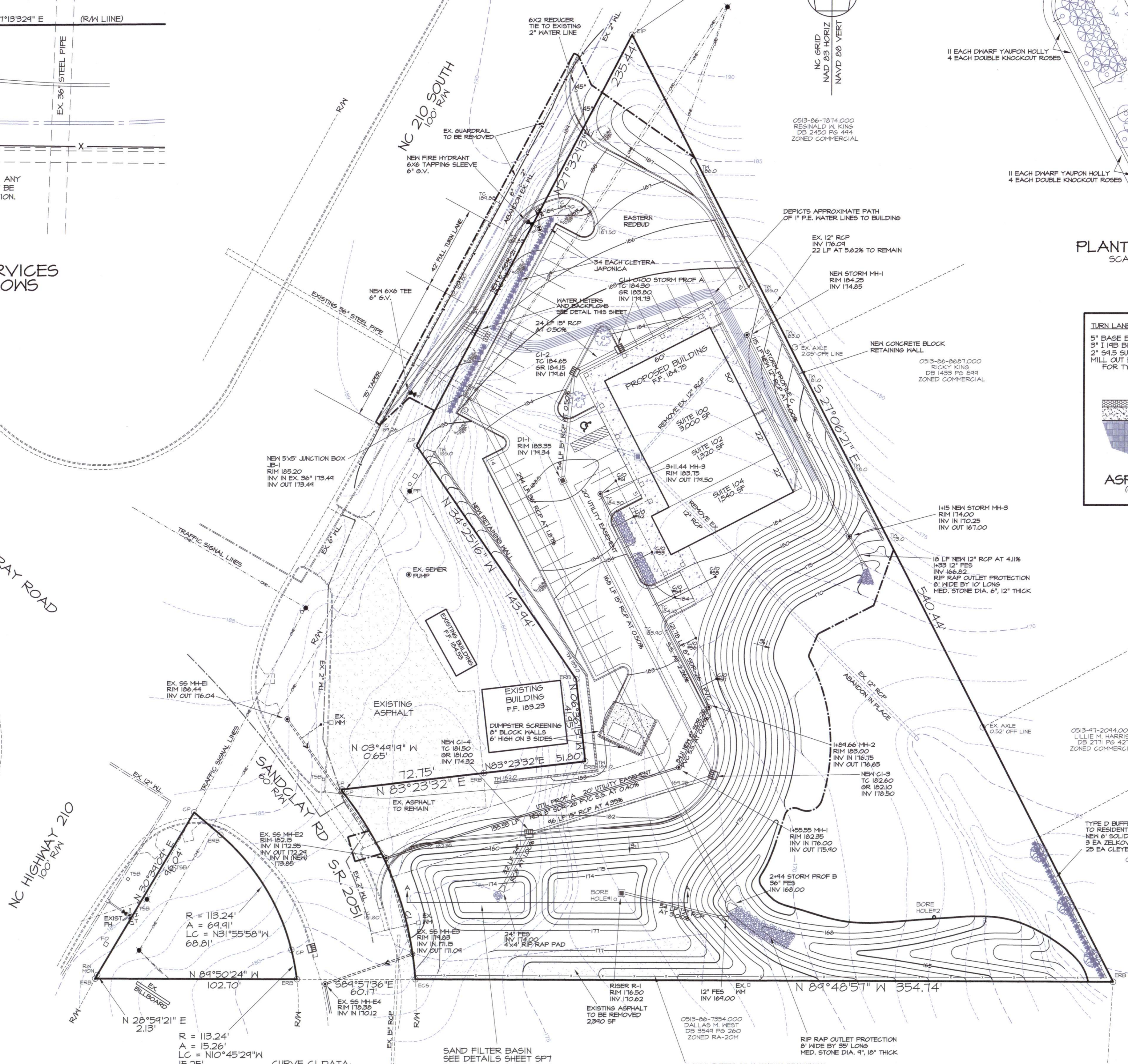
NEW WATER SERVICES AND BACKFLOWS
SCALE 1" = 10'



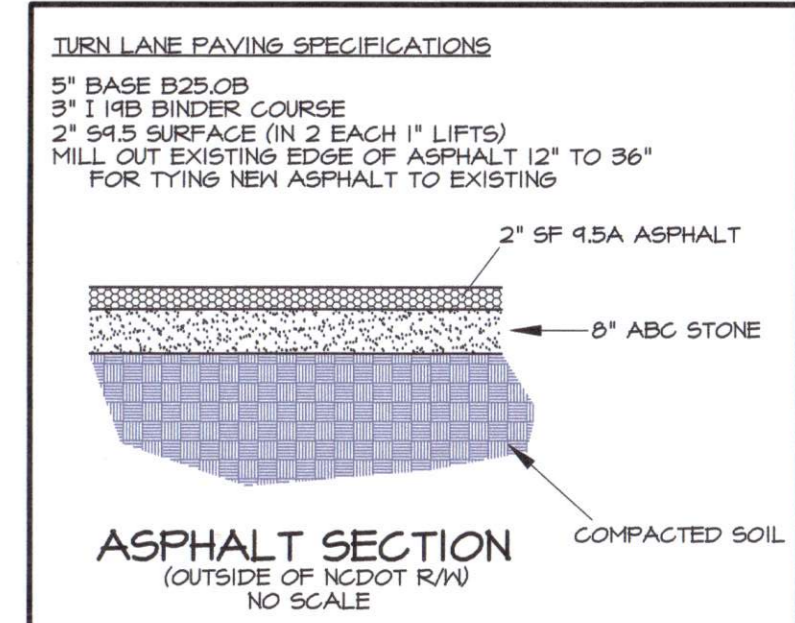
NOTE: NO LANDSCAPING PROPOSED IN THIS AREA. ANY ADDITIONAL LANDSCAPING PROPOSED MUST BE APPROVED BY HCDPU PRIOR TO CONSTRUCTION.

SEWER CLEANOUT TABLE

SS CLEANOUT	STATION	CAP ELEV	INV ELEV	MATERIAL
51	3+11.44	188.75	174.80	4" SDR-26 PVC
52	2+18.45	184.50	174.60	4" SDR-26 PVC
53	2+18.45	184.65	174.15	4" SDR-26 PVC
54	2+47.70	184.00	178.60	4" SDR-26 PVC
55	2+47.70	189.50	174.10	4" SDR-26 PVC
56	2+24.00	189.50	178.10	4" SDR-26 PVC
57	2+00.75	180.50	177.50	4" SDR-26 PVC



PLANTING DETAIL
SCALE 1" = 10'



PLAN
SCALE 1" = 30'



AS THE OWNER OF RECORD, I HEREBY FORMALLY CONSENT TO THE PROPOSED DEVELOPMENT SHOWN ON THIS SITE PLAN AND ALL REGULATIONS AND REQUIREMENTS OF THE HARNETT COUNTY ORDINANCES.

DATE: 7-21-20
HONG NAM



REVISIONS

NO.	DATE	DESCRIPTION
1	5-21-20	ROAD NAMES, ZONING
2	6-25-20	EXIST. WATER LINES
3	7-09-20	NEW 2" M.L.
4	7-16-20	NOTES 19-17, P. BUFFER
5	7-21-20	EX. 6" M.L. LOCATION

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL: groses9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE
HARNETT COUNTY, NC

SITE, UTILITY AND LANDSCAPE PLAN

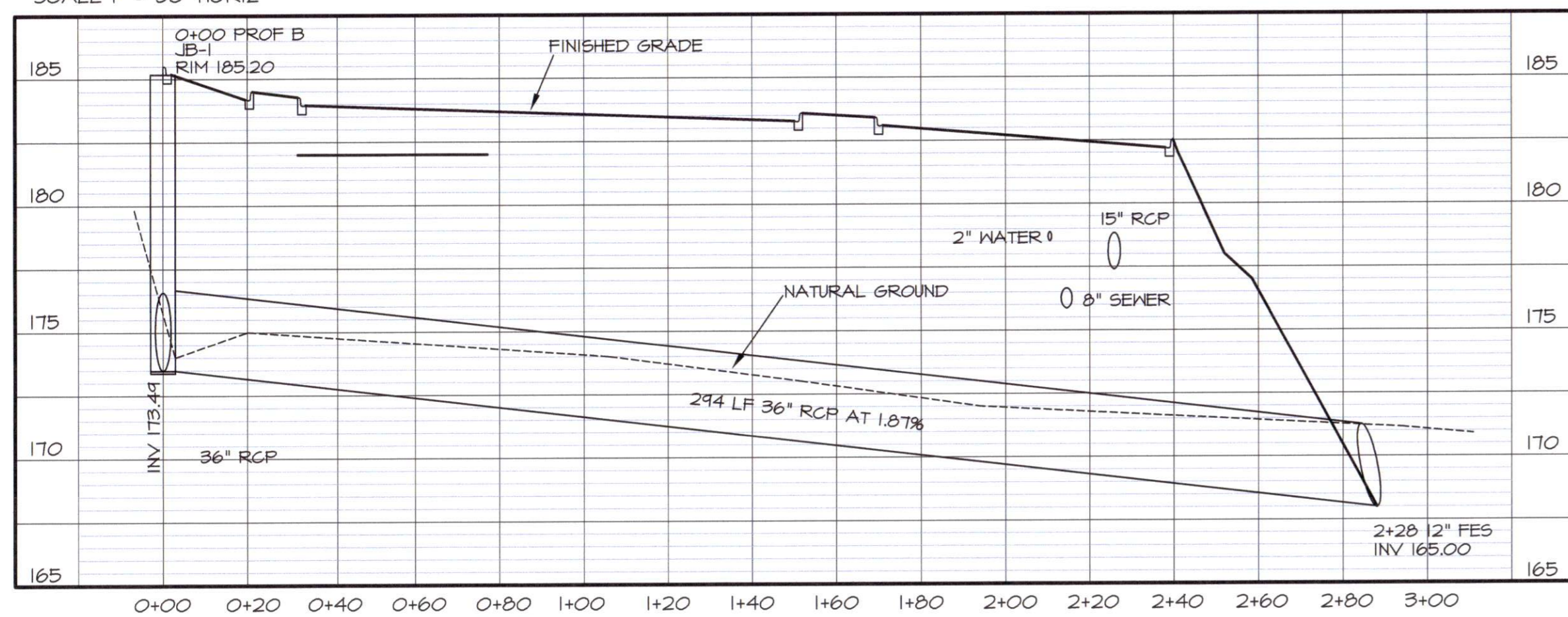
DATE: MAY 2020
DRAWN BY: GMR
CHECKED: GMR
SCALE: NOTED

SHEET NO.
SP6

REVISIONS

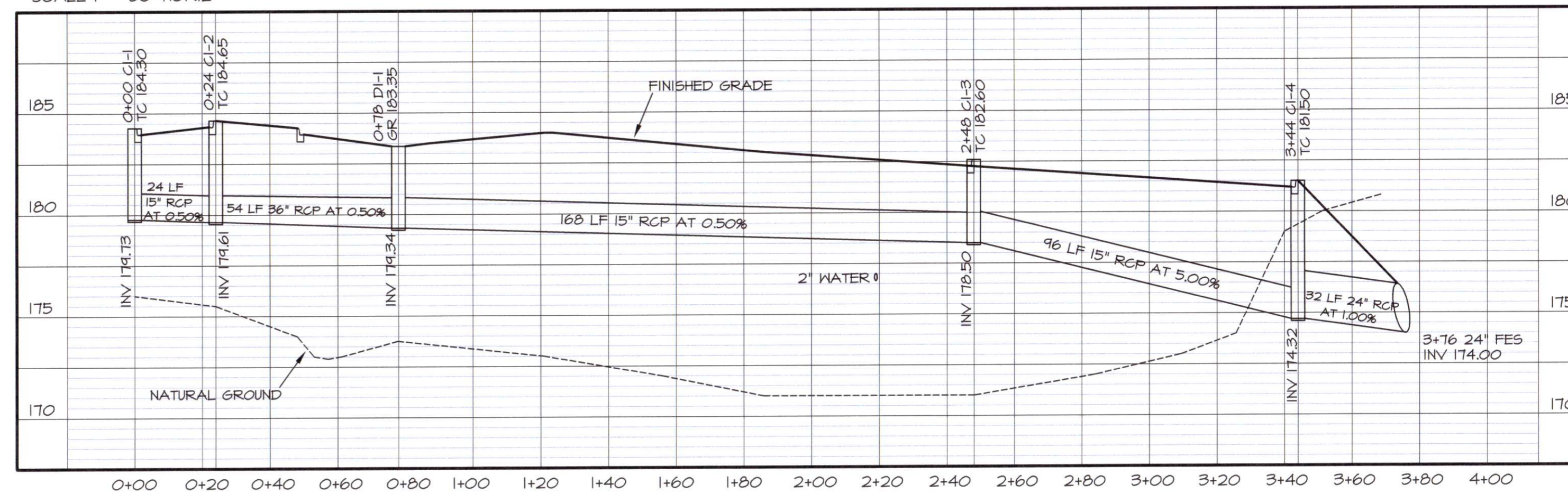
STORM PROFILE B

SCALE 1" = 5' VERT
SCALE 1" = 30' HORIZ



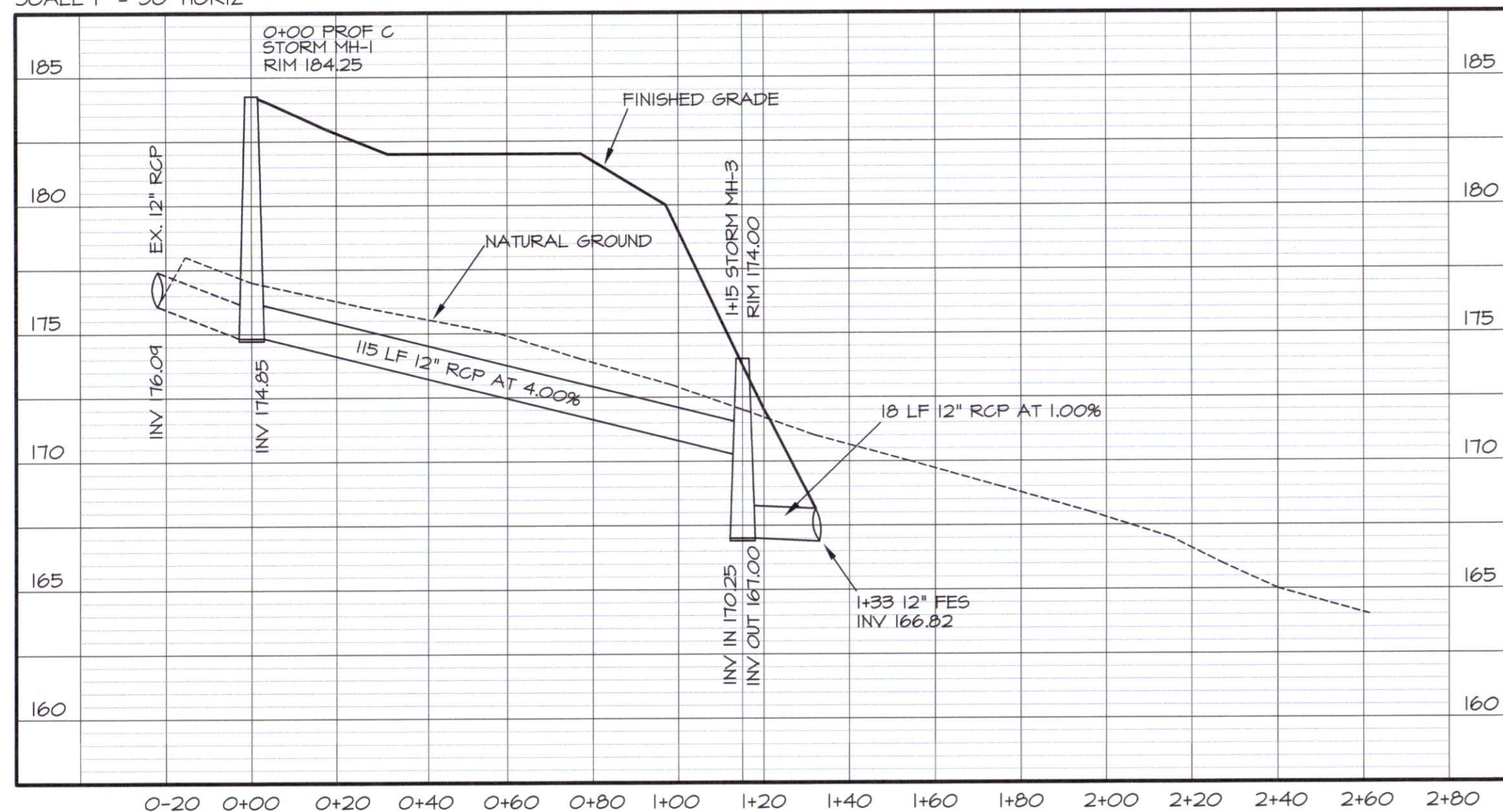
STORM PROFILE A

SCALE 1" = 5' VERT
SCALE 1" = 30' HORIZ



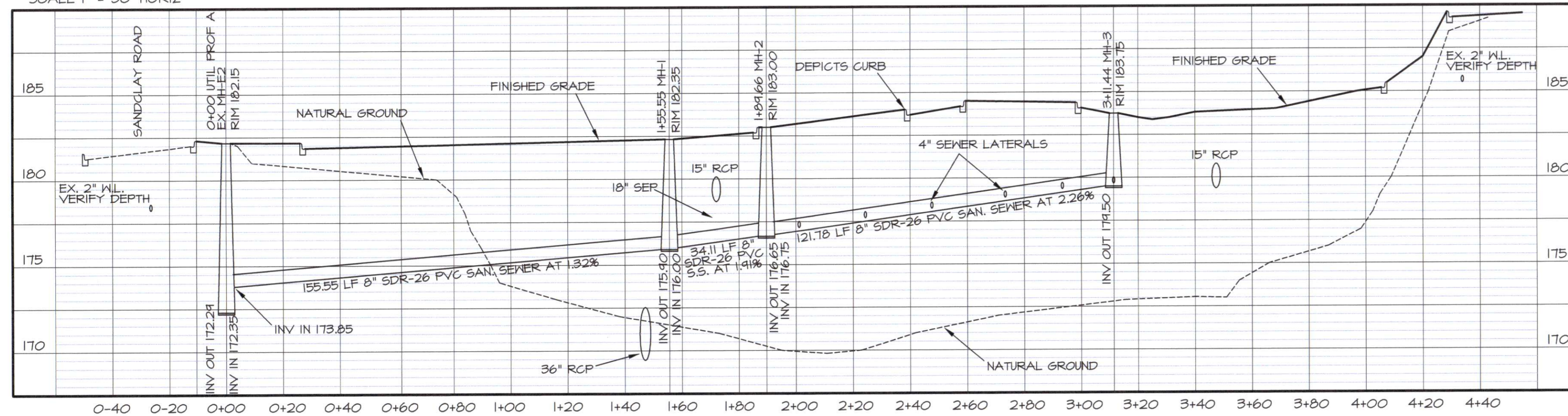
STORM PROFILE C

SCALE 1" = 5' VERT
SCALE 1" = 30' HORIZ



UTILITY PROFILE A

SCALE 1" = 5' VERT
SCALE 1" = 30' HORIZ



GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 AT SAND CLAY DRIVE HARNETT COUNTY, NC
UTILITY AND DRAINAGE PROFILES

DATE: APR 2020
DRAWN BY: GMR
CHECKED: GMR
SCALE: NOTED

SHEET NO.
SP8

GENERAL CONDITIONS

THE GENERAL CONTRACTOR SHALL MAKE ADEQUATE SANITARY PROVISIONS.
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY AND COMPLIANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT AS IT MAY REGARD ANY PHASE OF THE WORK ON THIS PROJECT.

SOIL COMPACTION AND TESTING

THE GENERAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A TESTING LABORATORY, SUCH AS SAME OR LAM ENGINEERING FOR THE PURPOSE OF DETERMINING THE SUITABILITY OF THE SUBSURFACE CONDITIONS AND THE BEARING CAPACITIES OF ALL AREAS BELOW CONCRETE.
THE SOIL AND BEARING REPORT SHALL BE SUBMITTED PRIOR TO EXCAVATING, WHERE POSSIBLE, BUT PRIOR TO PLACEMENT OF ANY REINFORCING AND CONCRETE. SOIL BEARING TO BE MIN. 2,000 PSF.

CONCRETE WORK

- ALL CONCRETE FOR THE PROJECT SHALL BE "READY MIX" AND SHALL COMPLY WITH ASTM C-94. ALL SECTIONS OF THE CONCRETE WORK SHALL COMPLY WITH ALL ASTM AND A.C.I. REQUIREMENTS.
- FORM WORK - ALL FORMS TO BE CAREFULLY BUILT AND SECURED IN PLACE IN SUCH A MANNER AS TO HAVE SUFFICIENT STRENGTH TO CARRY THE DEAD WEIGHT OF THE CONSTRUCTION AS A LIQUID, WITHOUT DEFLECTION OR VIBRATION. FORMS TO BE BUILT TIGHT, TRUE TO POSITION AND DIRECTION, THOROUGHLY BRACED, WEDGED AND SPIKED OR OTHERWISE FASTENED TOGETHER.
- CONCRETE - MINIMUM OF 3,000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM OF FIVE SACKS OF CEMENT PER CUBIC YARD OF CONCRETE, MAXIMUM OF 4" SLUMP.
- FINISHING - IN ACCORDANCE WITH THE LATEST A.C.I. CODE, PLUMB, LEVEL, TRUE IN LINE, FREE OF HONEYCOMB. BUILDING SLAB SHALL HAVE A HARD STEEL TROYEL FINISH. WALLS SHALL HAVE BROOMED FINISH, AND EXPANSION JOINTS AT APPROXIMATELY 50' O.C. AND DUMMY JOINTS AS SHOWN ON THE SITE PLAN.
- REMOVAL OF FORMS - FORMS SHALL BE CAREFULLY REMOVED SO AS NOT TO IMPAIR THE FACE OF THE CONCRETE. IMMEDIATELY AFTER THE FORMS ARE REMOVED ALL DAMAGE OF IMPERFECT WORK SHALL BE PATCHED IN A NEAT AND WORKMANLIKE MANNER, OR IF BADLY DAMAGED, IN THE OPINION OF THE OWNER, THE WORK SHALL BE REBUILT. THE MINIMUM TIME BEFORE ANY FORMS CAN BE REMOVED IS SEVEN (7) DAYS FOR SUCH MEMBERS AS ARE SUBJECT TO BENDING STRESSES, SUCH AS SLABS.
- CURING - USE MEMBRANE CURING METHOD, USE MFG. RATE, SPRAY IMMEDIATELY FOLLOWING FINISHING. PROTECT FROM FREEZING WEATHER, CURE A TOTAL OF 28 DAYS USING A.C.I. METHODS.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO A.S.T.M. A615, GRADE 60.
ALL REINFORCING STEEL SHALL BE MANUFACTURED, DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH A.C.I. 318R, 318R AND A.C.I. SP 66.
WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A105, IN AS LONG A LENGTH AS IS PRACTICAL. WELDED WIRE FABRIC SHALL BE LAPPED AT LEAST ONE GRID WIDTH PLUS 2". REINFORCEMENT SHALL BE BENT GOLD AND SHALL NOT BE WELDED.

SPLICES
REINFORCEMENT IN CONCRETE AND MASONRY SHALL HAVE LAP LENGTHS AS FOLLOWS, UNLESS OTHERWISE SPECIFIED ON DRAWINGS:

BAR SIZE:	IN CONCRETE:	IN MASONRY:
#3	1'-6"	2'-0"
#4	2'-0"	2'-6"
#5	2'-6"	3'-0"

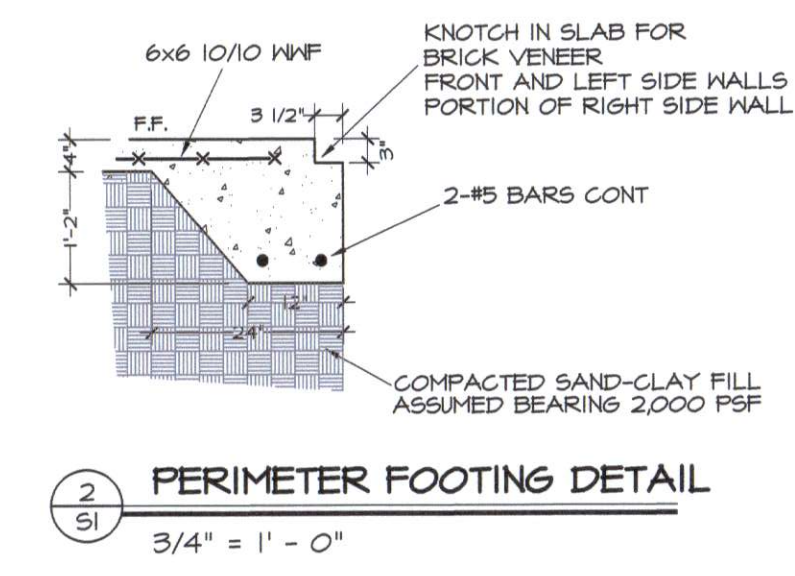
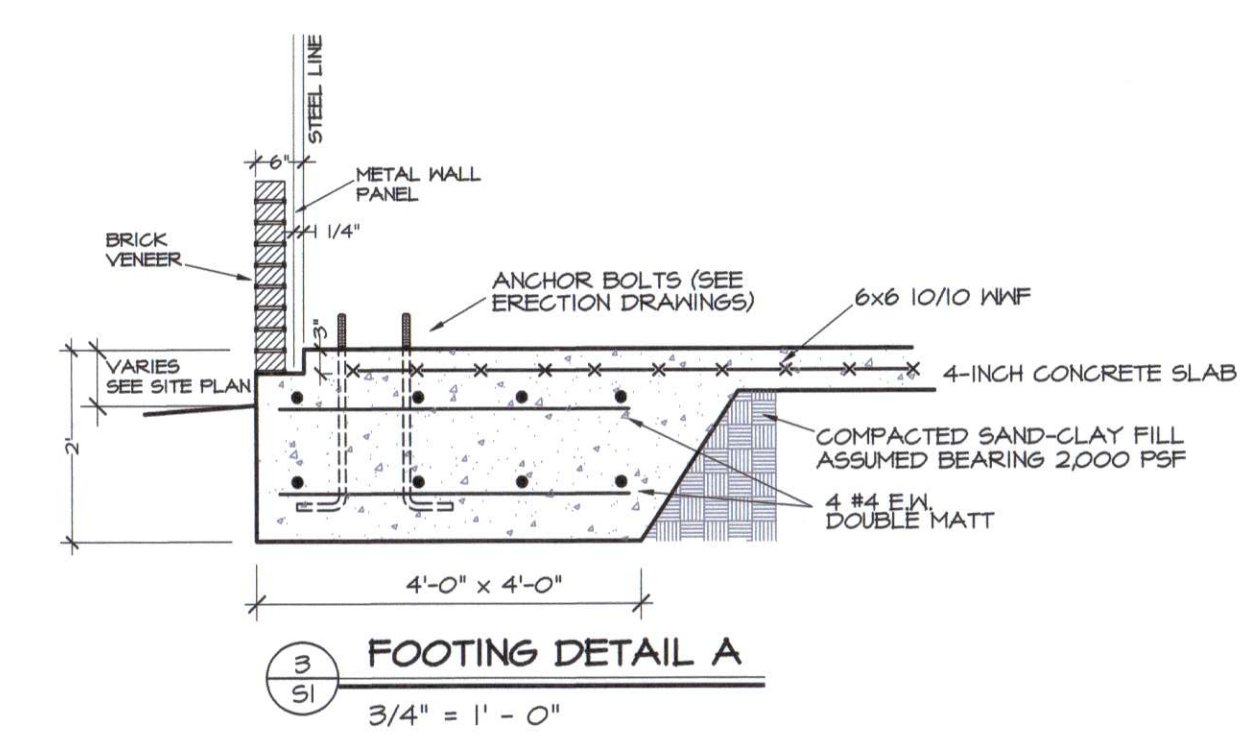
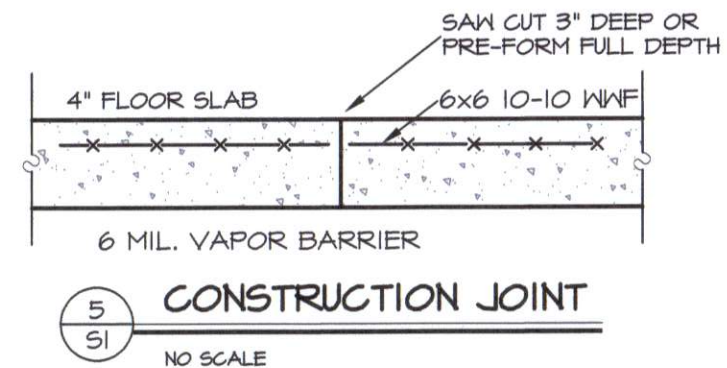
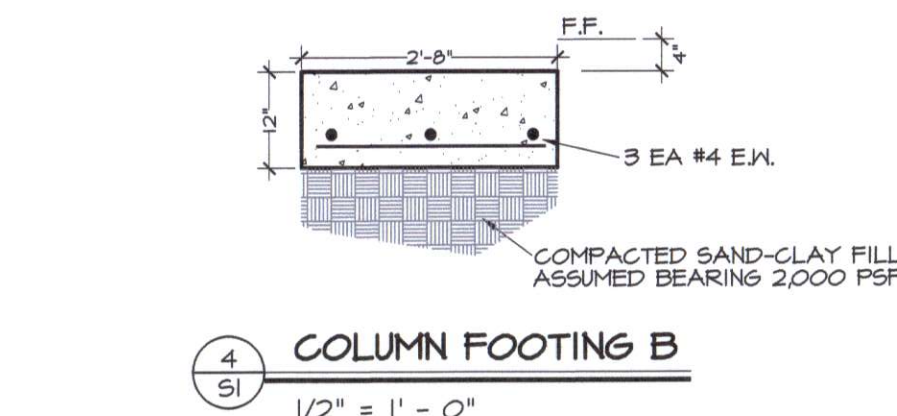
PLACEMENT
REINFORCEMENT SHALL BE ACCURATELY PLACED AND SUPPORTED BY CONCRETE, METAL, OR OTHER APPROVED CHAIRS, SPACERS OR TIES, AND SECURED AGAINST DISPLACEMENT DURING CONCRETE OR GROUT PLACEMENT.

EXCEPT WHERE OTHERWISE NOTED, REINFORCEMENT SHALL HAVE CONCRETE COVER AS FOLLOWS:

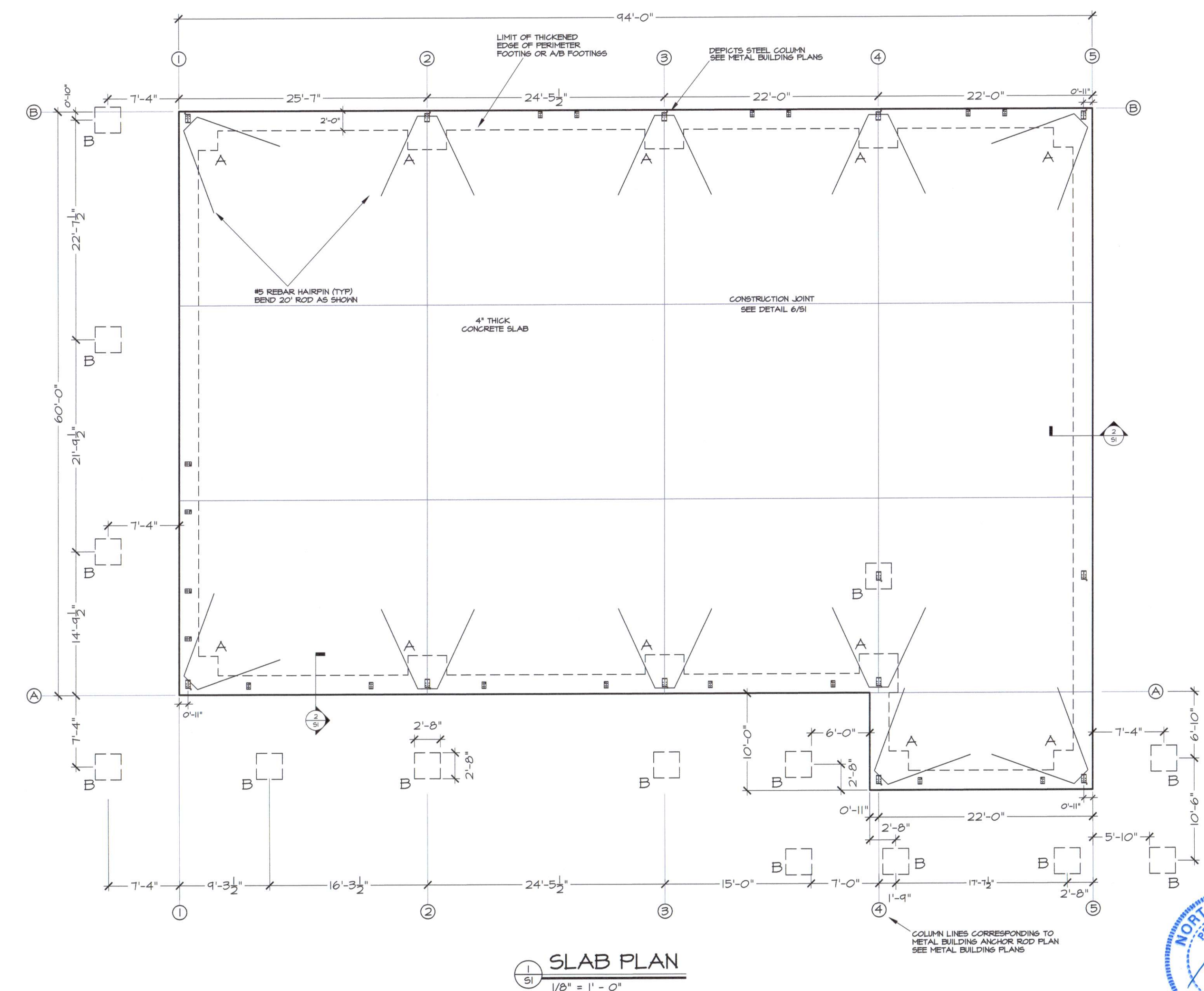
CONCRETE DEPOSITED AGAINST EARTH	3"
FORMED CONCRETE AGAINST EARTH	2"
EXTERIOR FACES OF WALLS	1"
TO TOP OF SLABS-ON-GRADE	3/4"

ALL SCALES, LOOSE RUST, GREASE OR DIRT SHALL BE REMOVED FROM THE REINFORCING BEFORE IT IS PLACED. PROVIDE #5 HAIRPIN X 10" LONG AT EXTERIOR COLUMN LINES. ANCHOR BOLTS SHALL BE (A - 30T) HIGH STRENGTH.

SOIL TREATMENT
ADMINISTRATION AS ACCEPTABLE.



NOTE: FOUNDATION PLAN SUBJECT TO CHANGE PENDING FINAL DESIGN FROM PRE-ENGINEERED METAL BUILDING VENDOR



REVISIONS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE HARNETT COUNTY, NC
SLAB PLAN AND FOUNDATION DETAILS

DATE: JULY 2020
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CHECKED: GMR
SCALE: NOTED

SHEET NO.
S1

REVISIONS
1-24-20 WINDOW A, BATHS

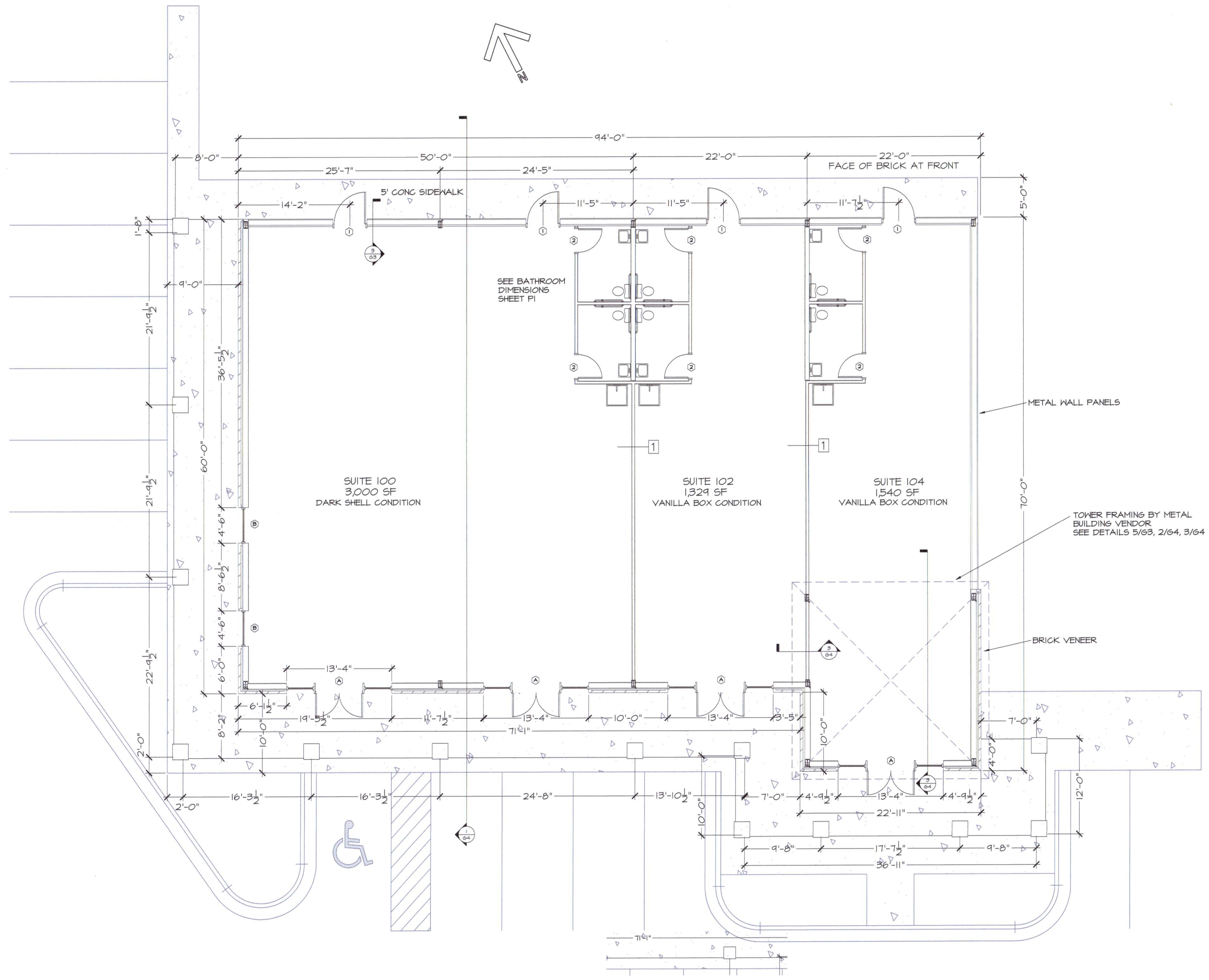
GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
HARNETT COUNTY, NC
NC 210 S. AT SAND CLAY DRIVE
FLOOR PLAN

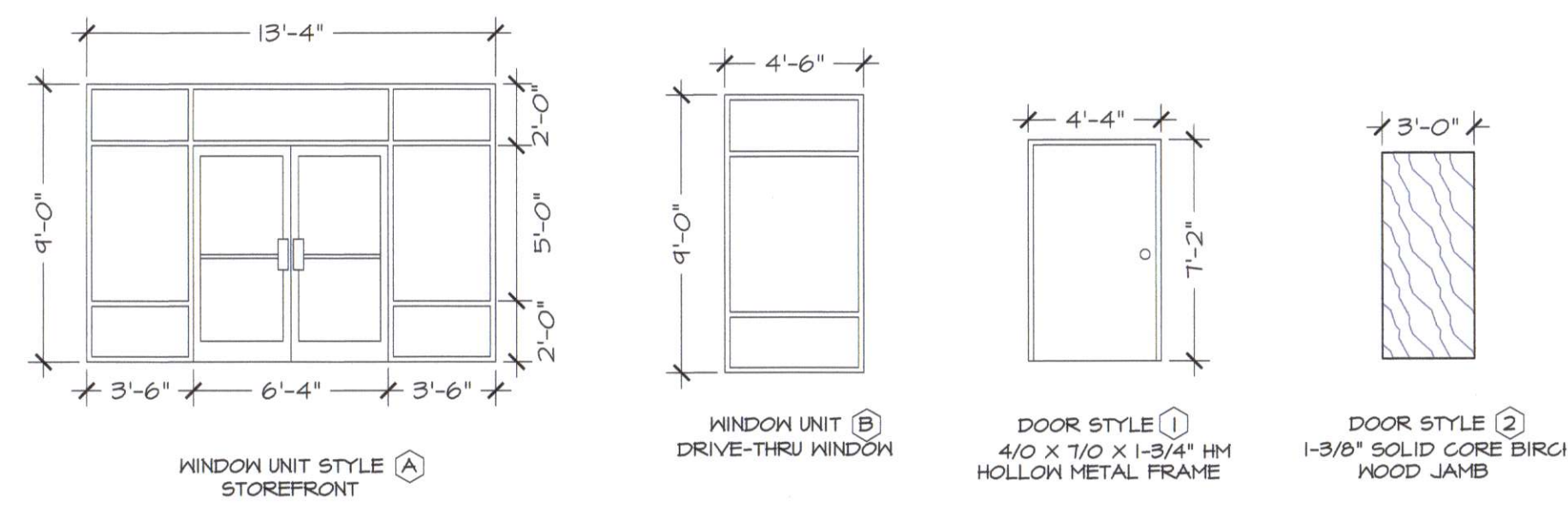
DATE: JULY 2020
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SHEET NO.
G1

- NOTES:**
- INTERIOR WALLS ARE 3-5/8", 18 GA METAL STUDS AT 16" O.C. WITH 5/8" SHEETROCK EACH SIDE.
 - DIMENSIONS SHOWN ARE FRAMING DIMENSIONS TO FACE OF STUD AND DO NOT CONSIDER SHEETROCK DIMENSIONS.
 - LATCH SIDE CLEARANCES AT ALL DOORWAYS SHALL BE IN ACCORDANCE WITH ANSI A117.1-2003, SECTION 404.2.3.1
 - ALL EXITS TO BE LABELED.
 - PAINT BATHROOM WALLS TO 48" ABOVE FINISH FLOOR WITH EPOXY PAINT.



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



WALL TYPES

1 18 GA, 3-5/8" METAL STUDS AT 16" O.C. TO ROOF DECK
1-HOUR WALL PER UL U419
SEE DETAIL 1, SHEET G3



DOOR AND WINDOW STYLES
3/16" = 1' - 0"

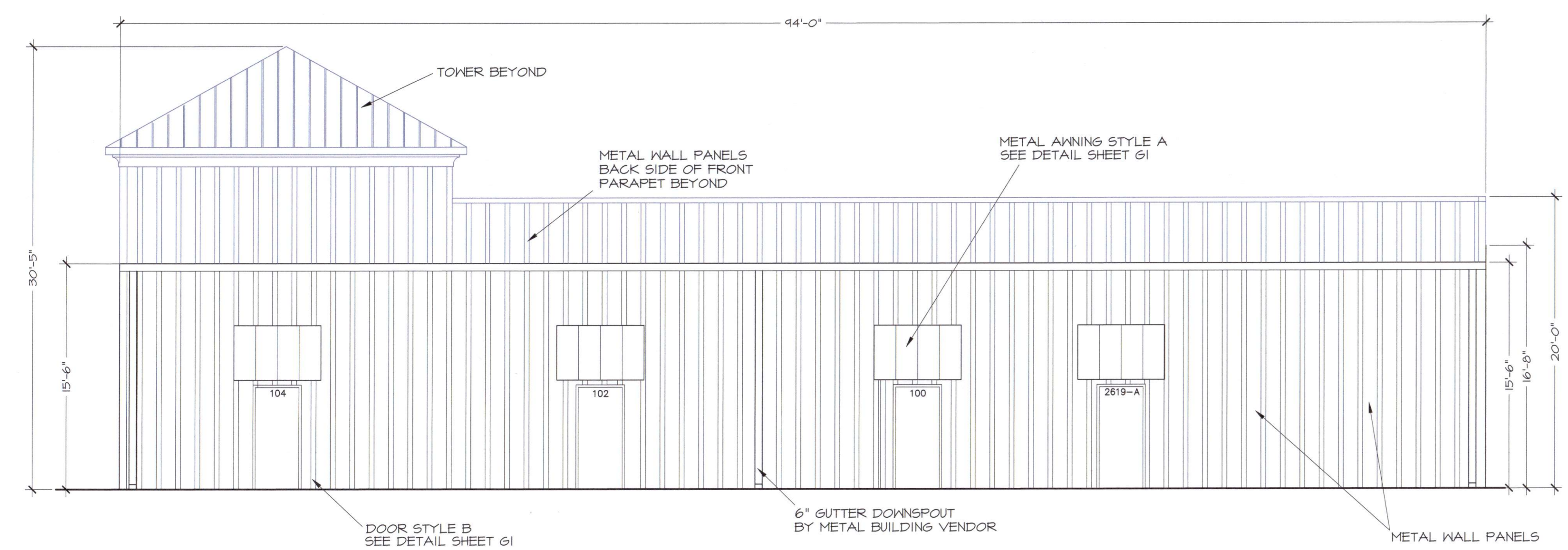
REVISIONS
7-24-20 FRONT ELEVATION

GEORGE M. ROSE, P.E.
 P.O. BOX 53441
 FAYETTEVILLE, NC 28305
 910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

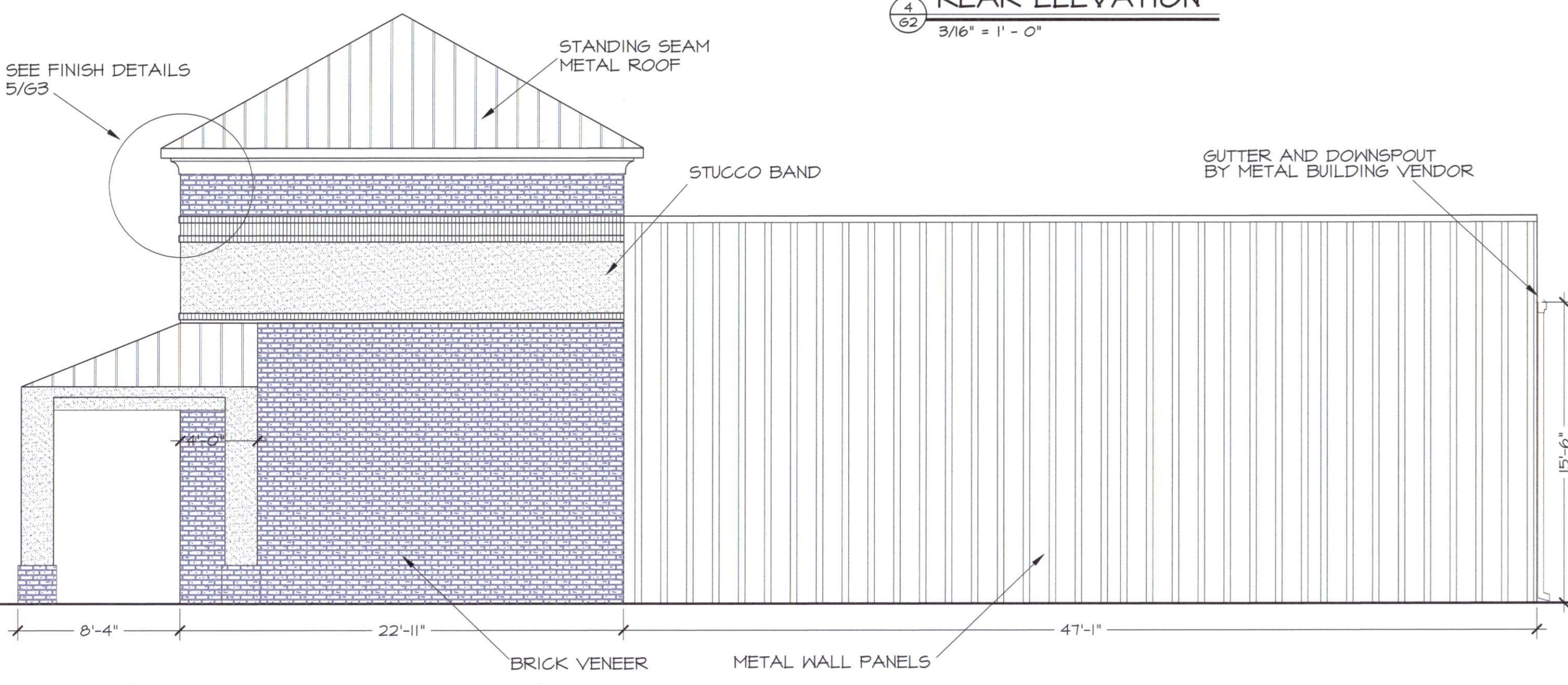
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 NC 210 S. AT SAND CLAY DRIVE

DATE: JULY 2020
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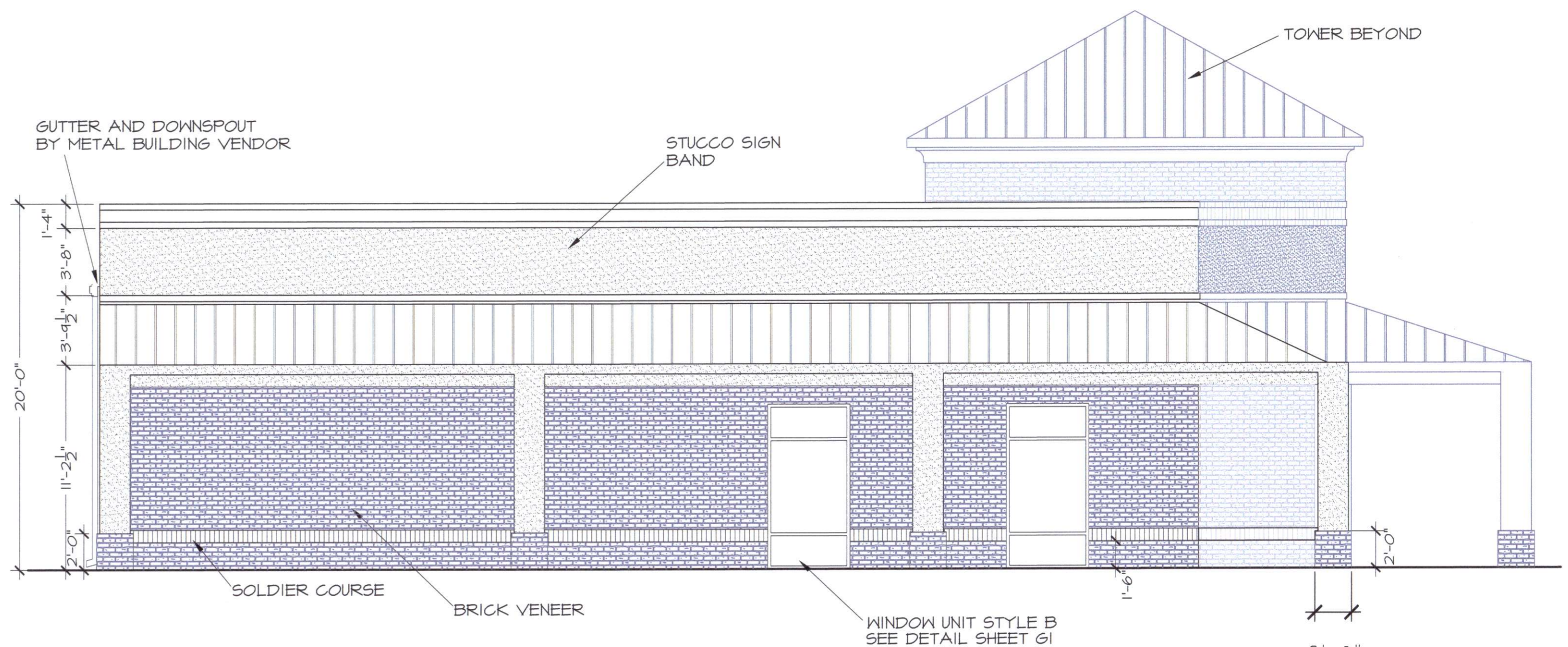
SHEET NO.
G2



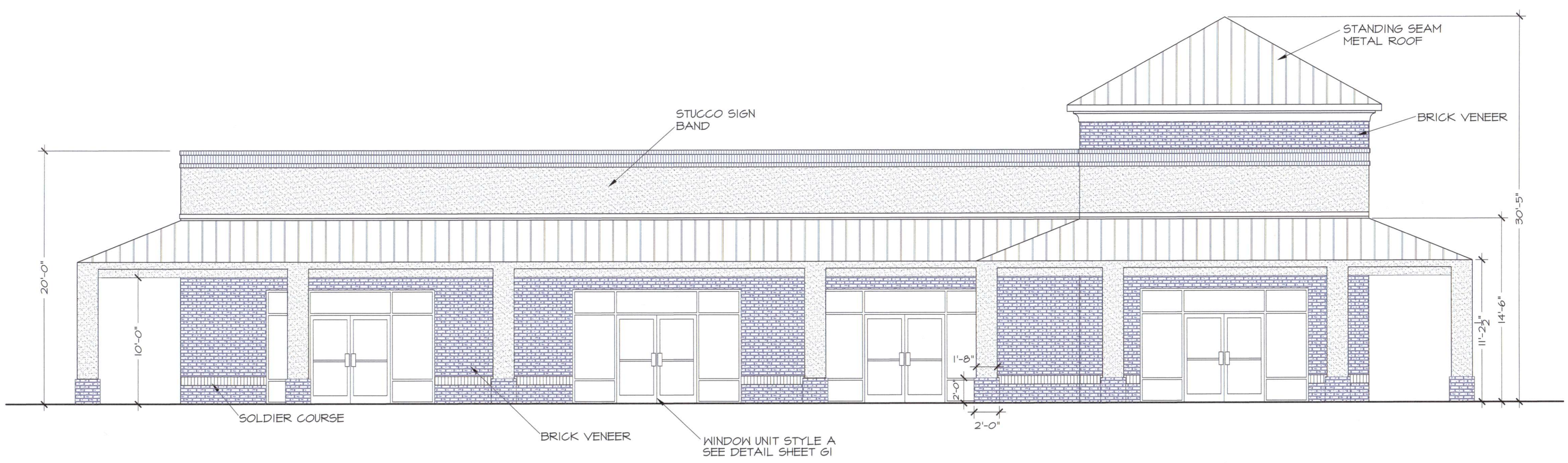
REAR ELEVATION
 3/16" = 1' - 0"



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

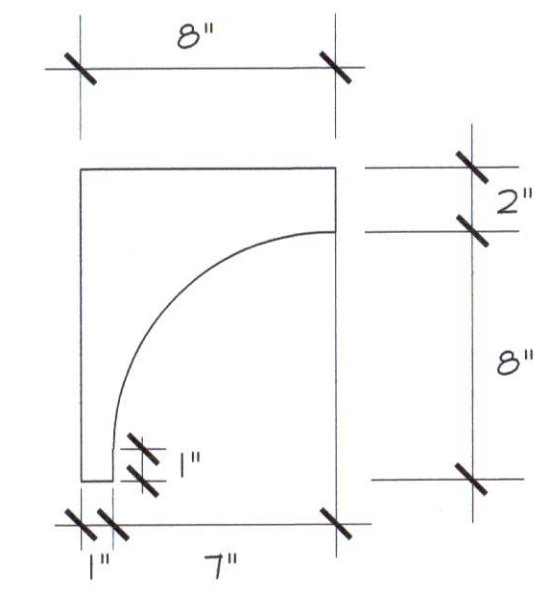


LEFT SIDE ELEVATION
 3/16" = 1' - 0"

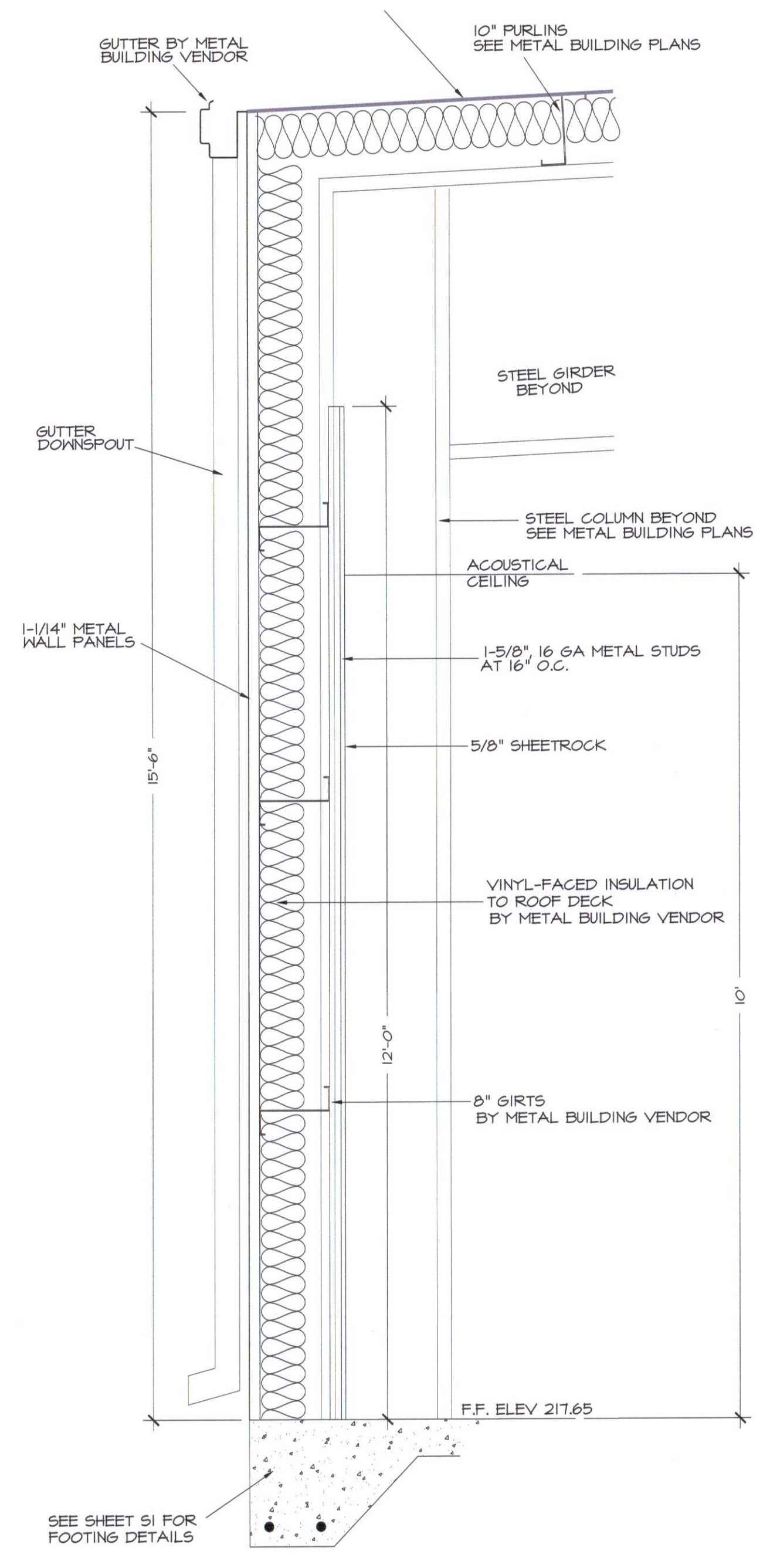


FRONT ELEVATION
 3/16" = 1' - 0"

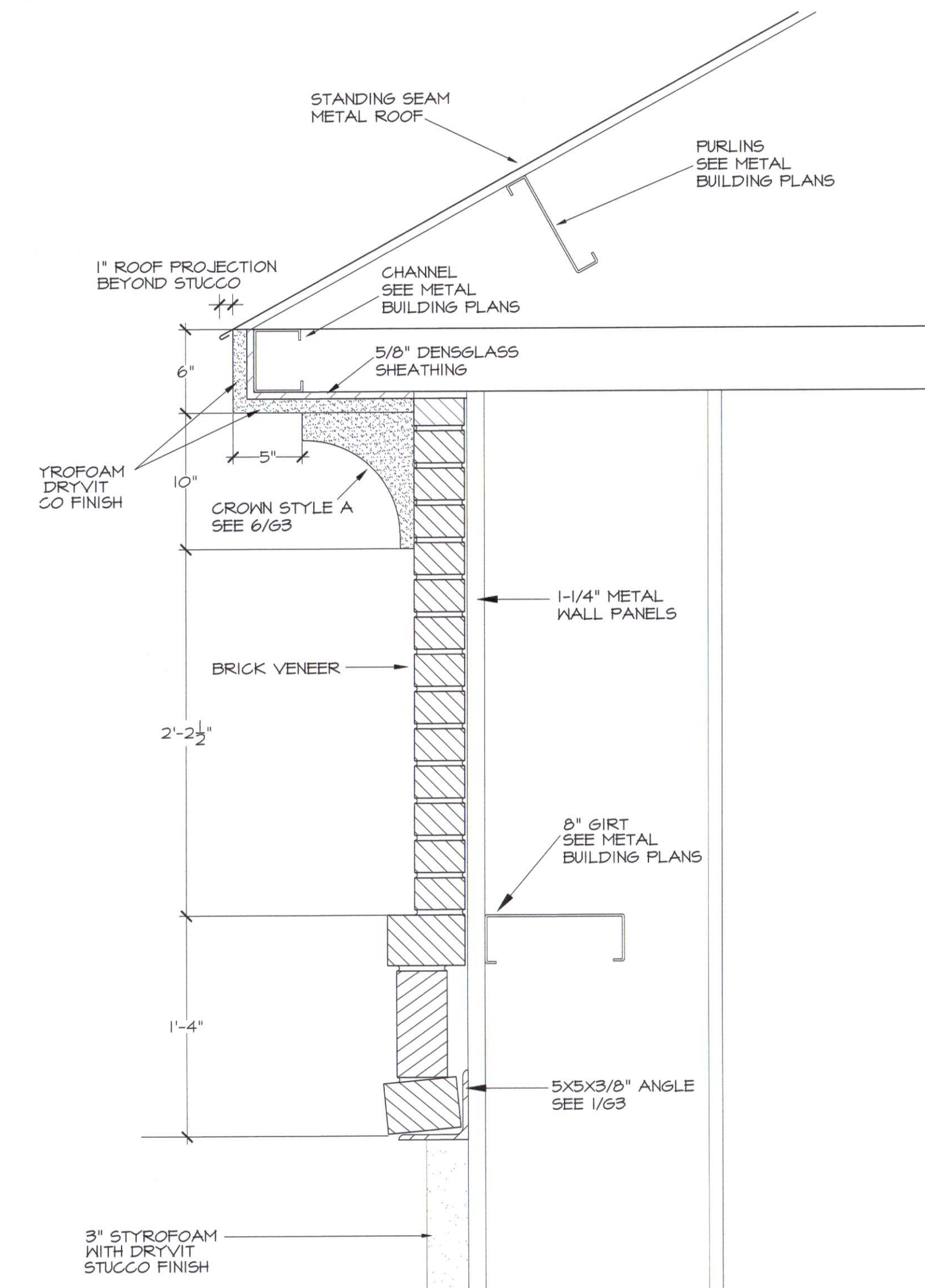




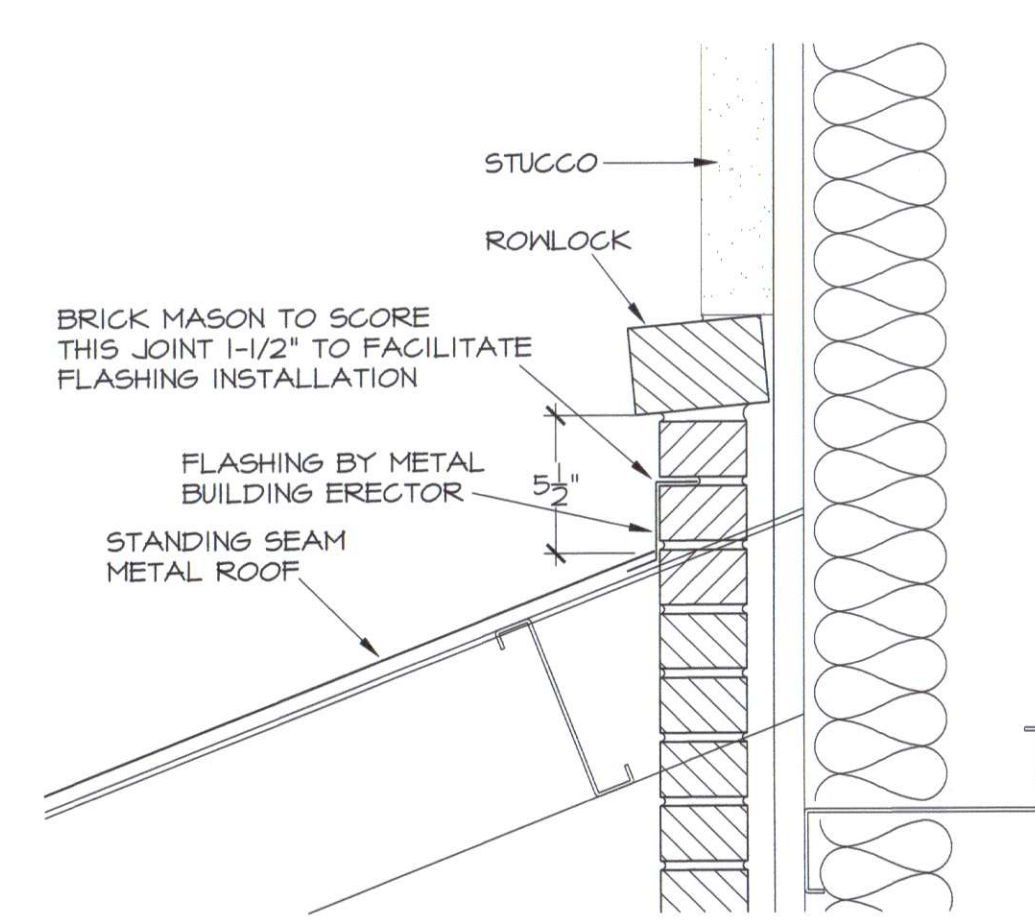
6
63 CROWN STYLE A
1-1/2" = 1' - 0"



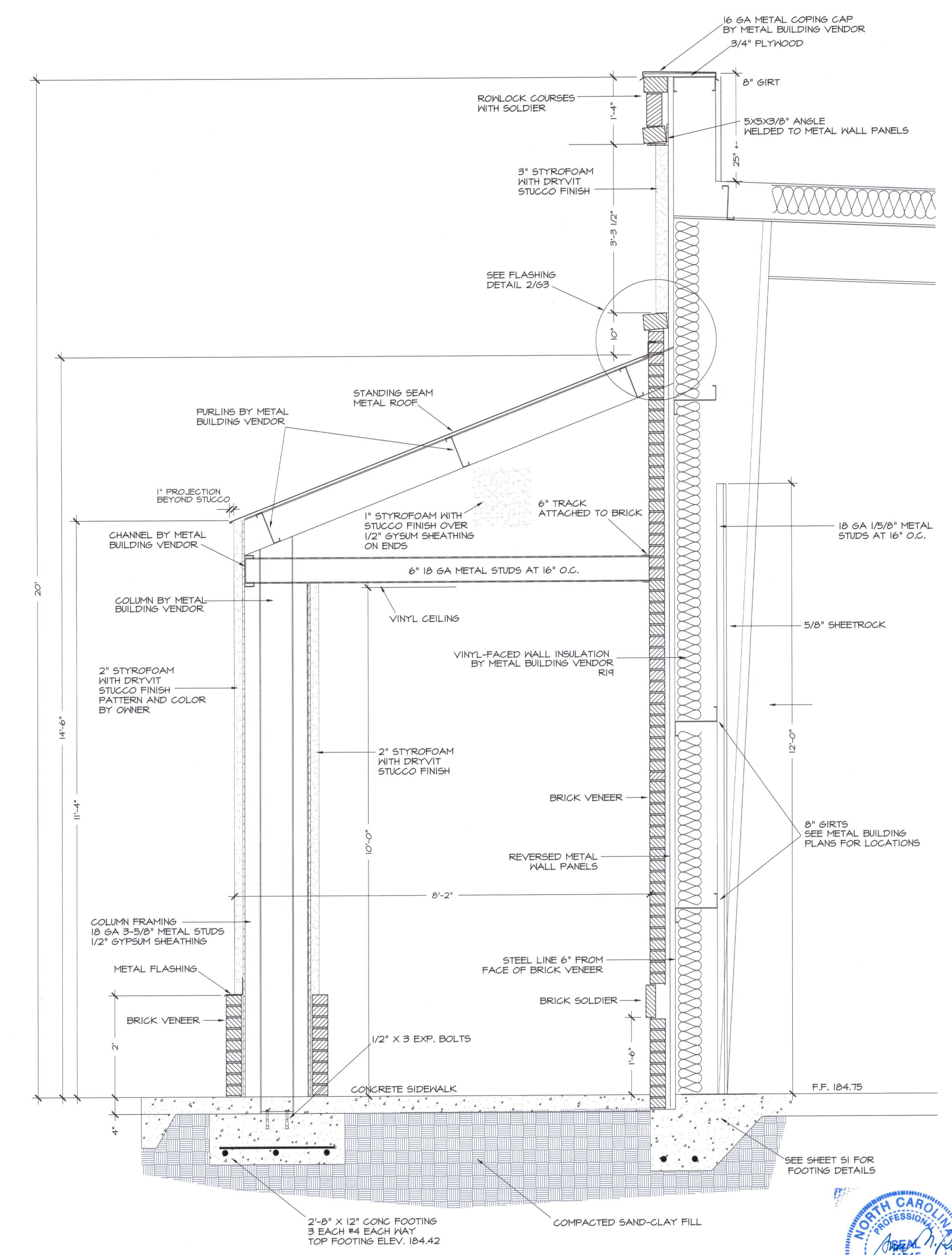
3
63 WALL SECTION
3/4" = 1' - 0"



5
63 TOWER FINISHES
1-1/2" = 1' - 0"



2
63 FLASHING DETAIL
1-1/2" = 1' - 0"



1
63 COVERED WALK
3/4" = 1' - 0"

REVISIONS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

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NC 210 S. AT SAND CLAY DRIVE
HARNETT COUNTY, NC
BUILDING AND WALL SECTIONS

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SHEET NO.
G3



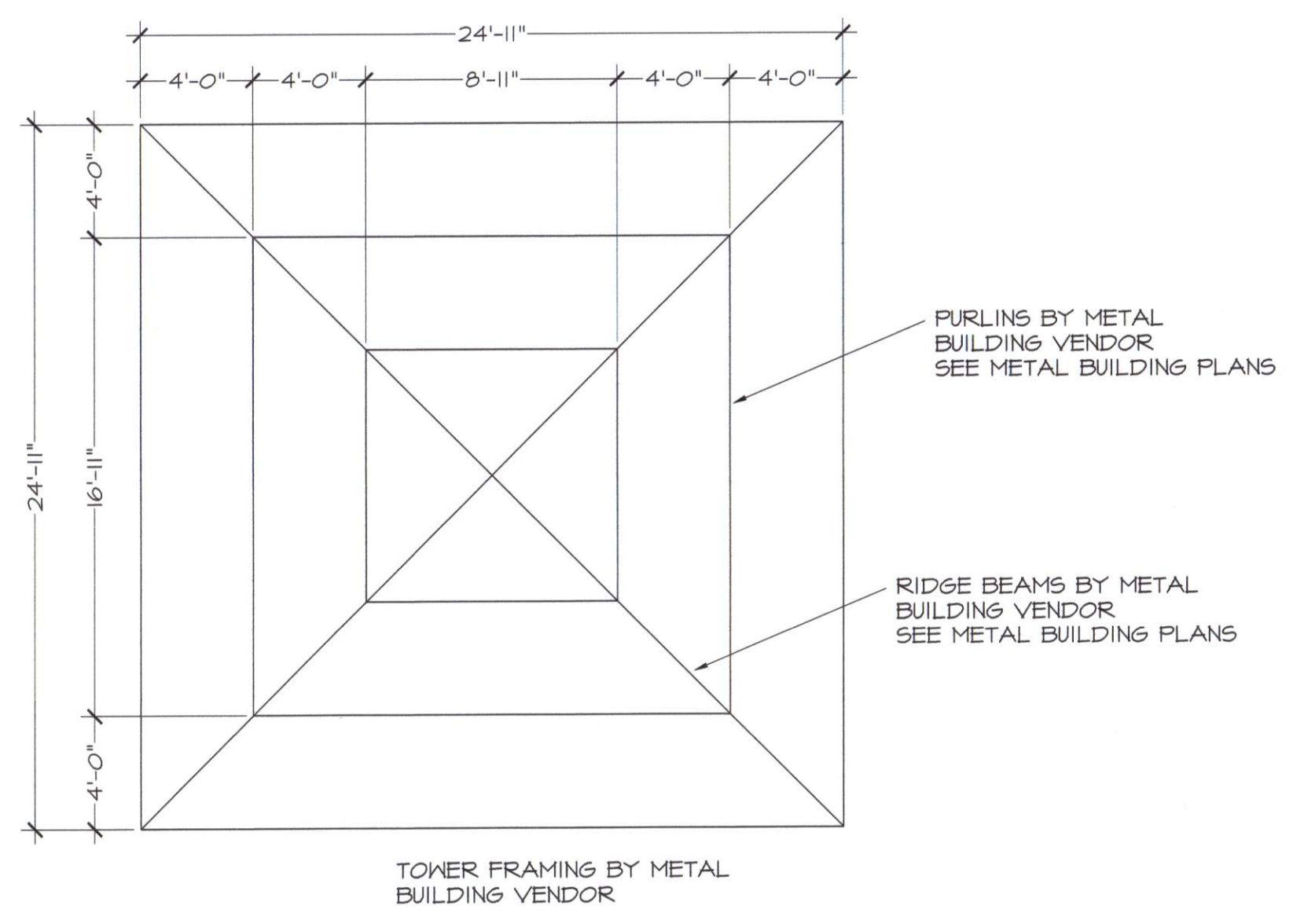
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GEORGE M. ROSE, P.E.
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 FAYETTEVILLE, NC 28305
 910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

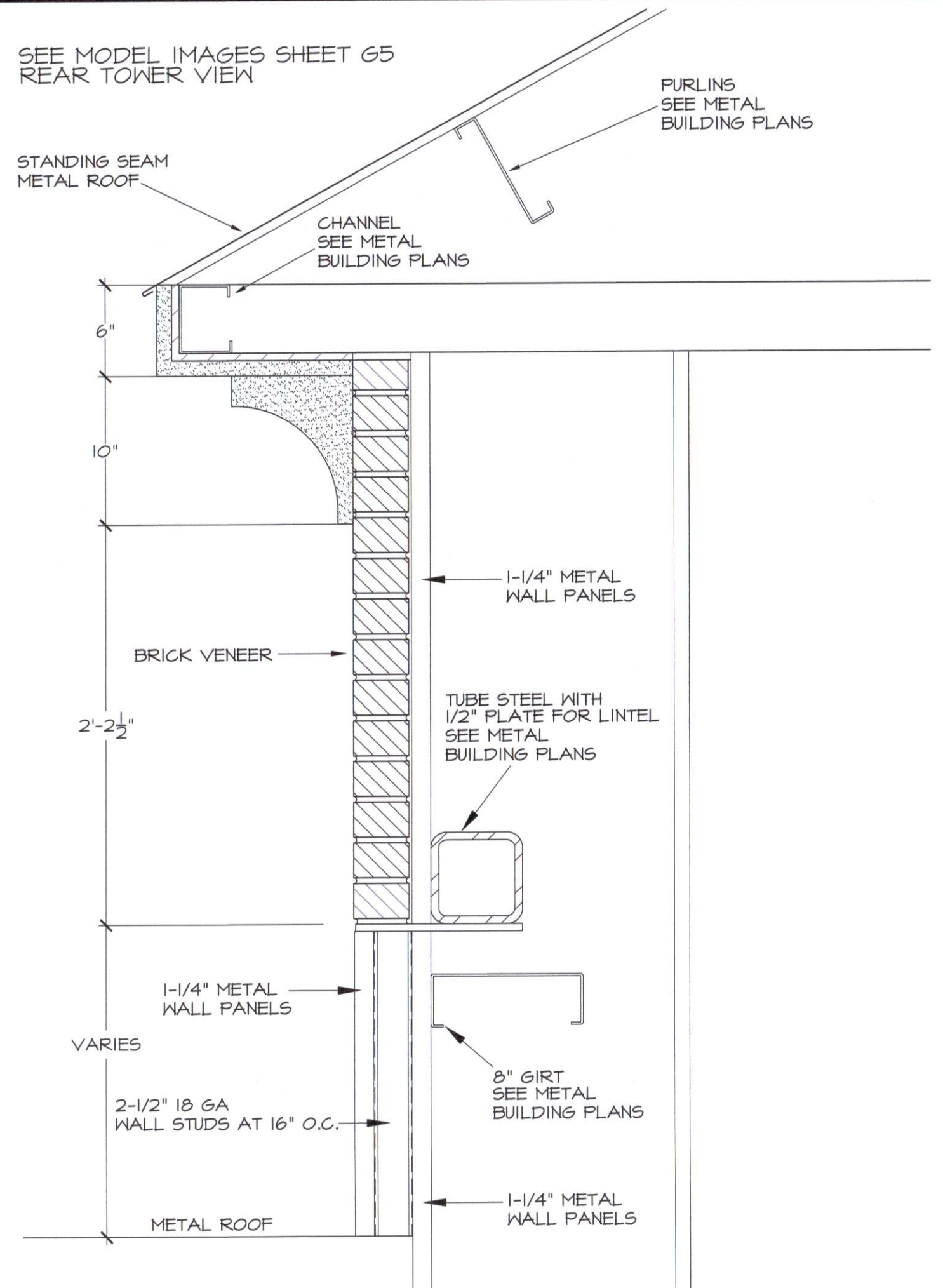
WH PLACE RETAIL AND BUSINESS CENTER
 HARNETT COUNTY, NC
 NC 210 S. AT SAND CLAY DRIVE
 BUILDING AND WALL SECTIONS

DATE: JULY 2020
 DRAWN BY: GMR
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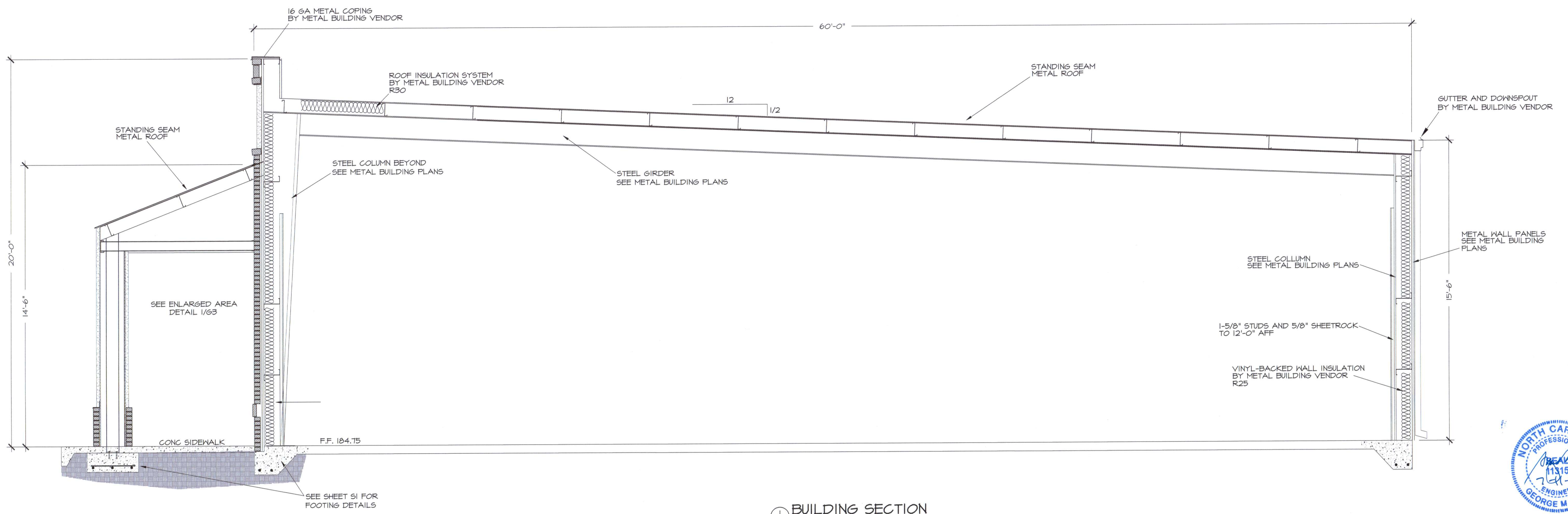
SHEET NO.
G4



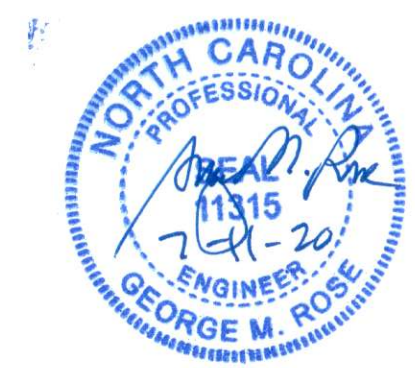
2
 64
TOWER ROOF FRAMING
 3/4" = 1' - 0"



3
 64
TOWER SECTION
 1-1/2" = 1' - 0"



1
 64
BUILDING SECTION
 3/8" = 1' - 0"



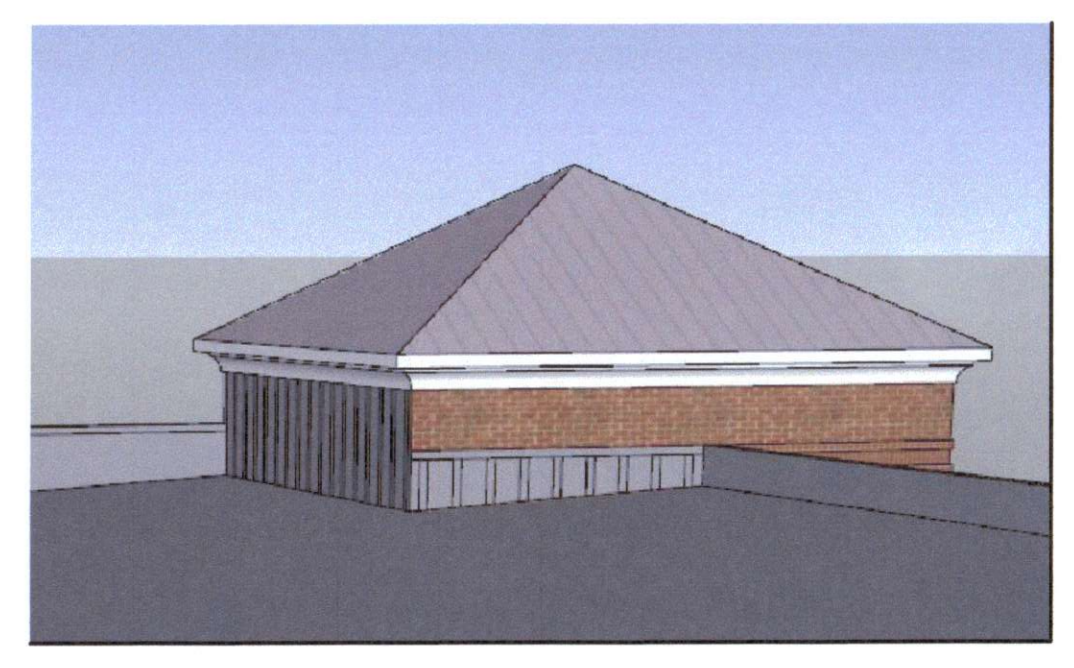
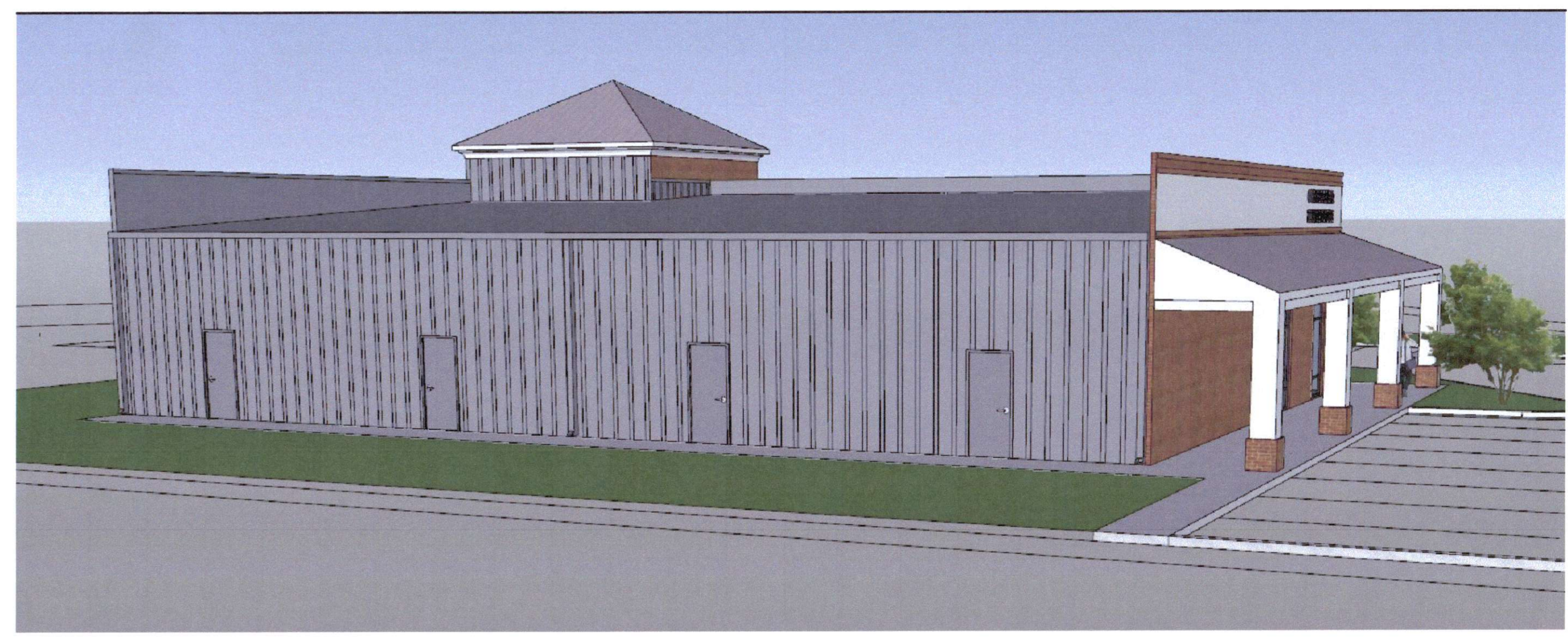
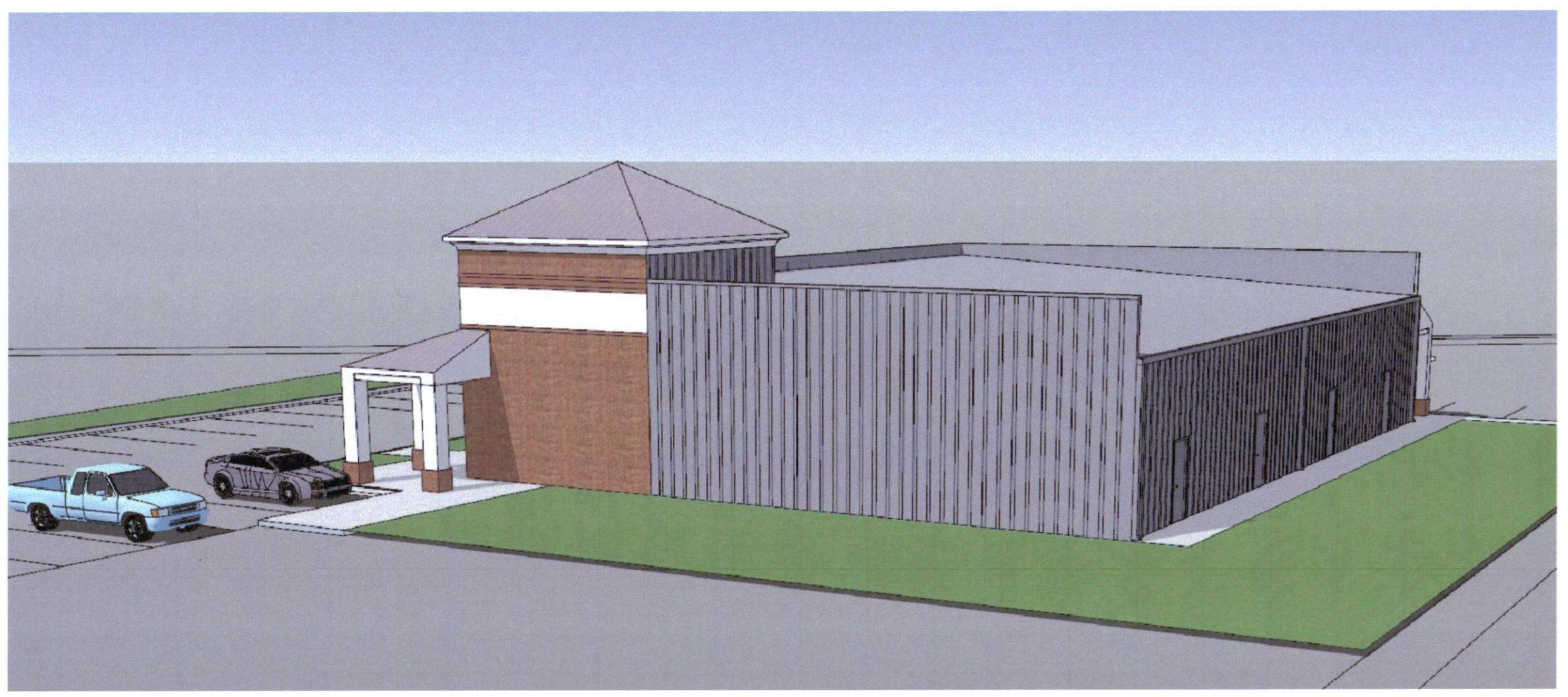
REVISIONS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE HARNETT COUNTY, NC
MODEL VIEWS

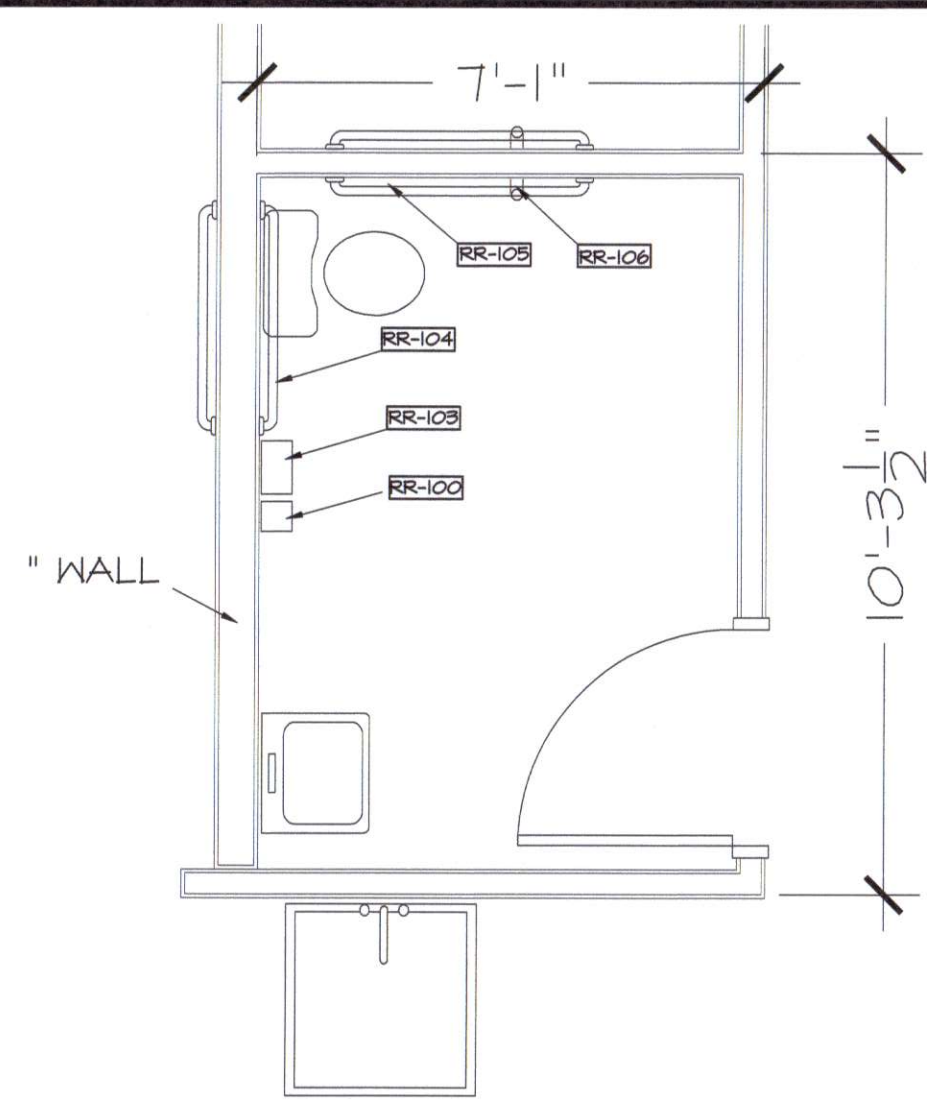
DATE: JULY 2020
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SHEET NO.
G5



MODEL VIEWS
NO SCALE

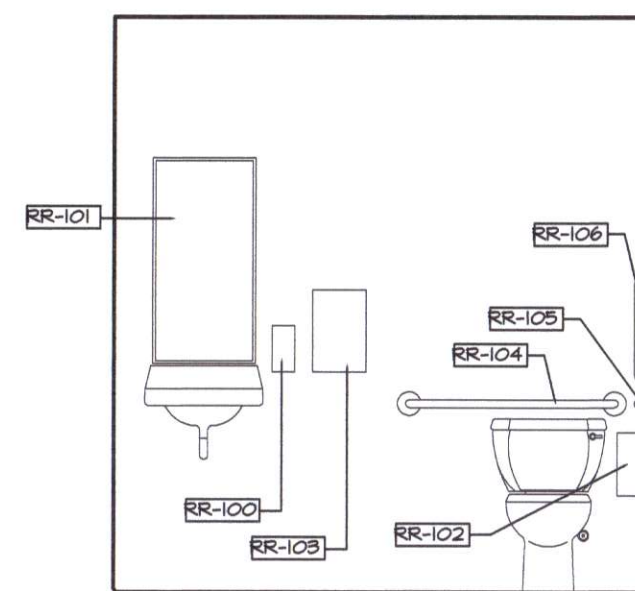




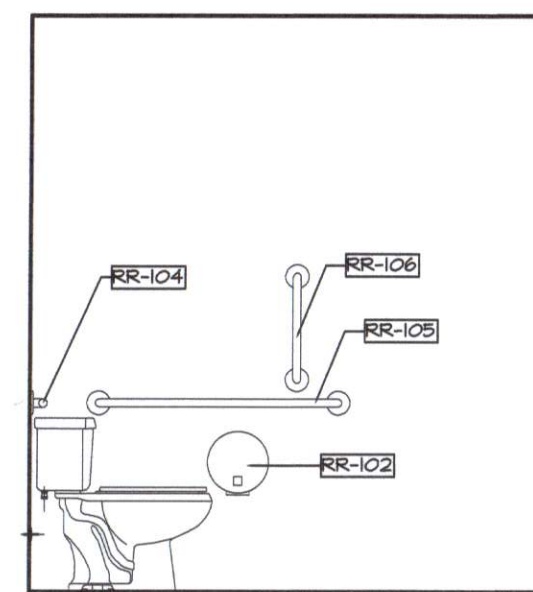
2 ENLARGED PLAN
PI 3/8" = 1'-0"

ACCESSORY LEGEND			
NO.	QTY	G.C. INST.	ITEM DESCRIPTION
RR-100	1	YES	SOAP DISPENSER (WALL MOUNT)
RR-101	1	YES	MIRROR, 18" X 36"
RR-102	1	YES	TOILET PAPER DISPENSER
RR-103	1	YES	PAPER TOWEL DISPENSER
RR-104	1	YES	GRAB BAR, 1-1/2" DIA X 36" STAINLESS STEEL FIN.
RR-105	1	YES	GRAB BAR, 1-1/2" DIA X 42" STAINLESS STEEL FIN.
RR-105	1	YES	GRAB BAR, 1-1/2" DIA X 18" STAINLESS STEEL FIN.

NOTES
1. PROVIDE BLOCKING AT ALL WALL MOUNTED ACCESSORIES.
2. GRAB BARS, FASTENERS AND MOUNTING DEVICES SHALL BE INSTALLED PER ADA REQUIREMENTS.

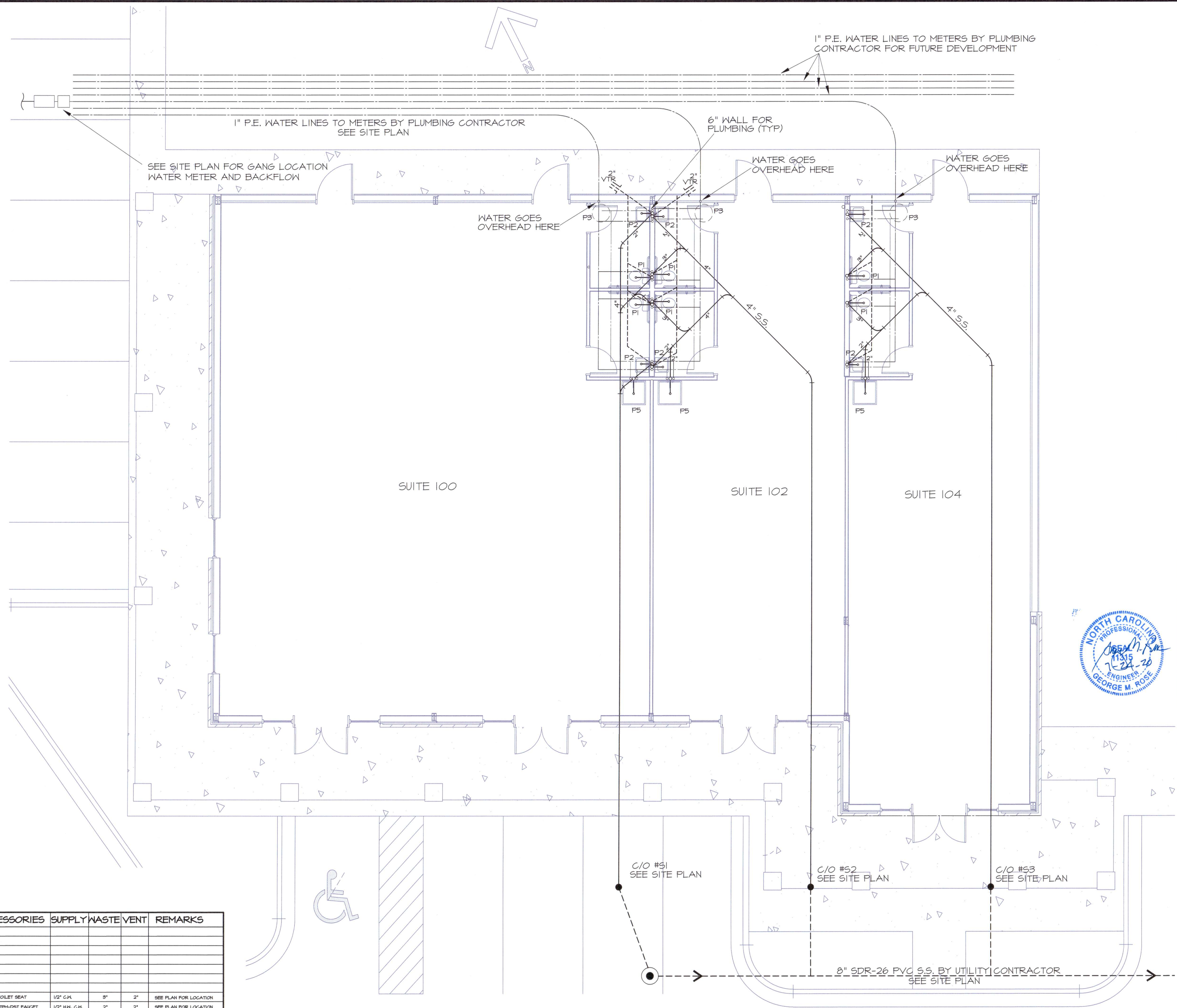


3 INTERIOR ELEVATION
PI 3/8" = 1'-0"



4 INTERIOR ELEVATION
PI 3/8" = 1'-0"

SYMBOL	DESCRIPTION	MANUFACTUR	MODEL #	ACCESSORIES	SUPPLY	WASTE	VENT	REMARKS
SV	GATE VALVE							
CP	COLD WATER PIPE							
HP	HOT WATER PIPE							
TR	VENT THROUGH ROOF							
VP	VENT PIPE							
US	SAN. SEWER BY UTILITY CONTRACTOR							
NS	NEW SANITARY SEWER PIPE							
P1	TOILET WITH TANK (ADA)	HANFIELD	187-180	DEL45 H85 TOILET SEAT	1/2" C.K.	3"	2"	SEE PLAN FOR LOCATION
P2	HCP HALL HNS LAVATORY	HANFIELD	2018 HB-NS	DELTA 520-TFH-DST FAUCET	1/2" HXL C.K.	2"	2"	SEE PLAN FOR LOCATION
P3	WATER HEATER & SALLON	BRADFORD WHITE	H66655	3/4" T&P RELIEF VALVE	3/4" C.K.	-	-	SEE PLAN FOR LOCATION
P4	THERMAL EXPANSION TANK 2 GAL	BACKSTOP	12-A101		3/4" C.K.	-	-	SEE PLAN FOR LOCATION
P5	UTILITY SINK	HUSTEE	HP	DELTA 218L/F FAUCET	1/2" HXL C.K.	2"	1-1/2"	SEE PLAN FOR LOCATION



1 PLUMBING PLAN
PI 3/16" = 1'-0"



REVISIONS	
NO.	DESCRIPTION

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

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NC 210 S. AT SAND CLAY DRIVE HARNETT COUNTY, NC
PLUMBING PLAN

DATE: JULY 2020
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SHEET NO.
P1

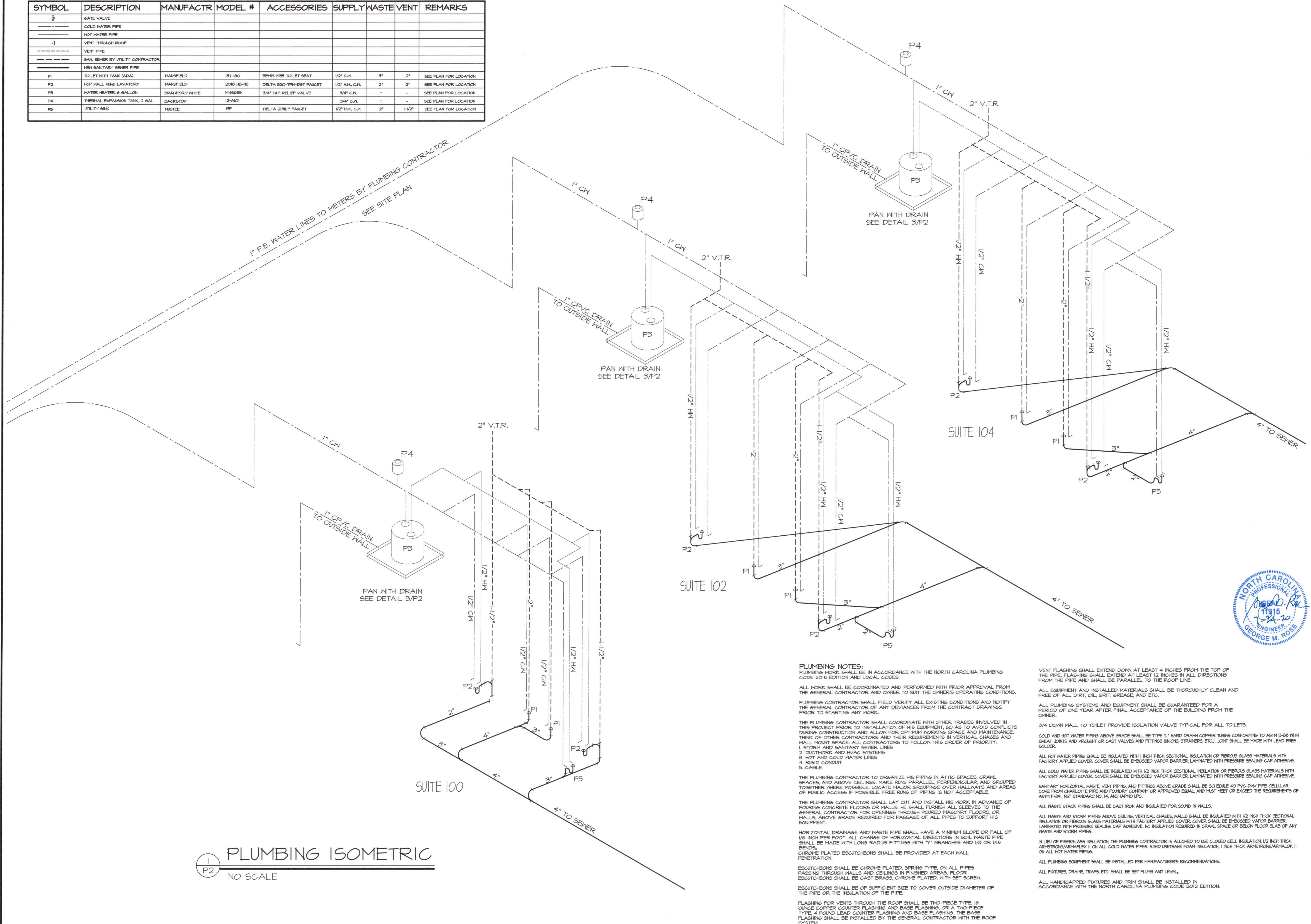
SYMBOL	DESCRIPTION	MANUFACTUR	MODEL #	ACCESSORIES	SUPPLY	WASTE	VENT	REMARKS
⊞	GATE VALVE							
—	COLD WATER PIPE							
—	HOT WATER PIPE							
⊥	VENT THROUGH ROOF							
—	VENT PIPE							
—	SAN. SEWER BY UTILITY CONTRACTOR							
—	NEW SANITARY SEWER PIPE							
P1	TOILET WITH TANK (ADA)	HANSFIELD	197-100	BE55 R55 TOILET SEAT	1/2" C.P.K.	3"	2"	SEE PLAN FOR LOCATION
P2	HCP WALL HAND LAVATORY	HANSFIELD	2010 HB-N6	DELTA 520-TPH-DST FAUCET	1/2" HXL C.P.K.	2"	2"	SEE PLAN FOR LOCATION
P3	WATER HEATER, 6 GALLON	BRADFORD WHITE	M66655	3/4" TAP RELIEF VALVE	3/4" C.P.K.	-	-	SEE PLAN FOR LOCATION
P4	THERMAL EXPANSION TANK, 2 GAL.	BACKSTOP	12-A01		3/4" C.P.K.	-	-	SEE PLAN FOR LOCATION
P5	UTILITY SINK	MARTEE	HP	DELTA 218LP FAUCET	1/2" HXL C.P.K.	2"	1-1/2"	SEE PLAN FOR LOCATION

REVISIONS
1-24-20 BATH LAYOUTS

GEORGE M. ROSE, P.E.
P.O. BOX 53441
FAYETTEVILLE, NC 28305
910-977-5822 FAX 910-485-5823 EMAIL grose9295@gmail.com

WH PLACE RETAIL AND BUSINESS CENTER
NC 210 S. AT SAND CLAY DRIVE
HARNETT COUNTY, NC
PLUMBING ISOMETRIC

DATE: JULY 2020
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SCALE: NOTED
SHEET NO.
P2



PLUMBING ISOMETRIC
NO SCALE

PLUMBING NOTES:
PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2018 EDITION AND LOCAL CODES.
ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE GENERAL CONTRACTOR AND OWNER TO SUIT THE OWNER'S OPERATING CONDITIONS.
PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE GENERAL CONTRACTOR OF ANY DEVIANCES FROM THE CONTRACT DRAWINGS PRIOR TO STARTING ANY WORK.
THE PLUMBING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE. ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:
1. STORM AND SANITARY SEWER LINES
2. DUCTWORK AND HVAC SYSTEMS
3. HOT AND COLD WATER LINES
4. RIGID CONDUIT
5. CABLE
THE PLUMBING CONTRACTOR TO ORGANIZE HIS PIPING IN ATTIC SPACES, CRAWL SPACES, AND ABOVE CEILINGS, MAKE RUNS PARALLEL, PERPENDICULAR, AND GROUPED TOGETHER WHERE POSSIBLE. LOCATE MAJOR GROUPINGS OVER HALLWAYS AND AREAS OF PUBLIC ACCESS IF POSSIBLE. FREE RUNS OF PIPING IS NOT ACCEPTABLE.
THE PLUMBING CONTRACTOR SHALL LAY OUT AND INSTALL HIS WORK IN ADVANCE OF POURING CONCRETE FLOORS OR WALLS. HE SHALL FURNISH ALL SLEEVES TO THE GENERAL CONTRACTOR FOR OPENINGS THROUGH POURED MASONRY FLOORS, OR WALLS, ABOVE GRADE REQUIRED FOR PASSAGE OF ALL PIPES TO SUPPORT HIS EQUIPMENT.
HORIZONTAL DRAINAGE AND WASTE PIPE SHALL HAVE A MINIMUM SLOPE OR FALL OF 1/8" INCH PER FOOT. ALL CHANGES OF HORIZONTAL DIRECTIONS IN SOIL WASTE PIPE SHALL BE MADE WITH LONG RADIUS FITTINGS WITH "Y" BRANCHES AND 1/8" OR 1/16" BENDS.
CHROME PLATED ESCUTCHEONS SHALL BE PROVIDED AT EACH WALL PENETRATION.
ESCUTCHEONS SHALL BE CHROME PLATED, SPRING TYPE, ON ALL PIPES PASSING THROUGH WALLS AND CEILINGS IN FINISHED AREAS. FLOOR ESCUTCHEONS SHALL BE CAST BRASS, CHROME PLATED, WITH SET SCREWS.
ESCUTCHEONS SHALL BE OF SUFFICIENT SIZE TO COVER OUTSIDE DIAMETER OF THE PIPE OR THE INSULATION OF THE PIPE.
FLASHING FOR VENTS THROUGH THE ROOF SHALL BE TWO-PIECE TYPE, 16 OUNCE COPPER COUNTER FLASHING AND BASE FLASHING, OR A TWO-PIECE TYPE, 4 POUND LEAD COUNTER FLASHING AND BASE FLASHING. THE BASE FLASHING SHALL BE INSTALLED BY THE GENERAL CONTRACTOR WITH THE ROOF SYSTEM.
VENT FLASHINGS SHALL EXTEND DOWN AT LEAST 4 INCHES FROM THE TOP OF THE PIPE. FLASHINGS SHALL EXTEND AT LEAST 12 INCHES IN ALL DIRECTIONS FROM THE PIPE AND SHALL BE PARALLEL TO THE ROOF LINE.
ALL EQUIPMENT AND INSTALLED MATERIALS SHALL BE THOROUGHLY CLEAN AND FREE OF ALL DIRT, OIL, GRIT, GREASE, AND ETC.
ALL PLUMBING SYSTEMS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING FROM THE OWNER.
3/4" DOWN HALL TO TOILET PROVIDE ISOLATION VALVE TYPICAL FOR ALL TOILETS.
COLD AND HOT WATER PIPING ABOVE GRADE SHALL BE TYPE "L" HARD DRAWN COPPER TUBING CONFORMING TO ASTM B-88 WITH SWEAT JOINTS AND BROUGHT OR CAST VALVES AND FITTINGS (NIBS, STRAINERS, ETC.). JOINT SHALL BE MADE WITH LEAD FREE SOLDER.
ALL HOT WATER PIPING SHALL BE INSULATED WITH 1 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.
ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.
SANITARY HORIZONTAL WASTE, VENT PIPING, AND FITTINGS ABOVE GRADE SHALL BE SCHEDULE 40 PVC-DWV PIPE-CELLULAR CORE FROM CHARLOTTE PIPE AND FOUNDRY COMPANY OR APPROVED EQUAL, AND MUST MEET OR EXCEED THE REQUIREMENTS OF ASTM F-491, NSF STANDARD NO. 14, AND LARNO IFC.
ALL WASTE STACK PIPING SHALL BE CAST IRON AND INSULATED FOR SOUND IN WALLS.
ALL WASTE AND STORM PIPING ABOVE CEILING, VERTICAL CHASES, WALLS SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE. NO INSULATION REQUIRED IN CRAWL SPACE OR BELOW FLOOR SLAB OF ANY WASTE AND STORM PIPING.
IN LIEU OF FIBERGLASS INSULATION, THE PLUMBING CONTRACTOR IS ALLOWED TO USE CLOSED CELL INSULATION, 1/2 INCH THICK ARBSTRONG/ARMAFLEX 1 ON ALL COLD WATER PIPES, RIGID URETHANE FOAM INSULATION, 1 INCH THICK ARBSTRONG/ARMAFLEX 1 ON ALL HOT WATER PIPES.
ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
ALL FIXTURES, DRAINS, TRAPS, ETC. SHALL BE SET PLUMB AND LEVEL.
ALL HANDICAPPED FIXTURES AND TRIM SHALL BE INSTALLED IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2012 EDITION.





HEAT PUMP UNIT SCHEDULE														
UNIT NO.	OUTDOOR UNIT						CAPACITIES				MFG & MODEL	REMARKS		
	COMPRESSOR AMPS	NO. OF COMPR.	FAN AMPS	NO. OF FANS	UNIT VOLT	UNIT PHASE	MOCP	MCA	WIRE SIZE (DU. 75 C)	TOTAL COOLING			MIN. SEER	HEATING
HP-1	23.1	1	1.3	1	240	1	50	30	8	48,000	13.00	46,500	TRANE 4TWB3048A1	4 TON HEAT PUMP UNIT
HP-2	23.1	1	1.3	1	240	1	50	30	8	48,000	13.00	46,500	TRANE 4TWB3048A1	4 TON HEAT PUMP UNIT
HP-3	15.4	1	1.3	1	240	1	35	21	10	34,600	13.00	34,600	TRANE 4TWB3036A1	3 TON HEAT PUMP UNIT
HP-4	23.1	1	1.3	1	240	1	50	30	8	48,000	13.00	46,500	TRANE 4TWB3048A1	4 TON HEAT PUMP UNIT

AIR HANDLING UNIT SCHEDULE													
UNIT NO.	CFM	OA CFM	ESP IN WG	FAN MOTOR						MFG. & MODEL	REMARKS		
				HP	VOLTS	PHASE	CYCLE	FLA	MCA			MOCP	
AHU-1	1600	120	0.50	3/4	240	1	60	6.0	58	60	TRANE GAMS0A048	4 TON AIR HANDLER W/ 9.60 KW STRIPS	
AHU-2	1600	120	0.50	3/4	240	1	60	6.0	58	60	TRANE GAMS0A048	4 TON AIR HANDLER W/ 9.60 KW STRIPS	
AHU-3	1200	110	0.50	1/2	240	1	60	4.1	45	45	TRANE GAMS0A036	3 TON AIR HANDLER W/ 7.68 KW STRIPS	
AHU-4	1600	118	0.50	3/4	240	1	60	6.0	58	60	TRANE GAMS0A048	4 TON AIR HANDLER W/ 9.60 KW STRIPS	

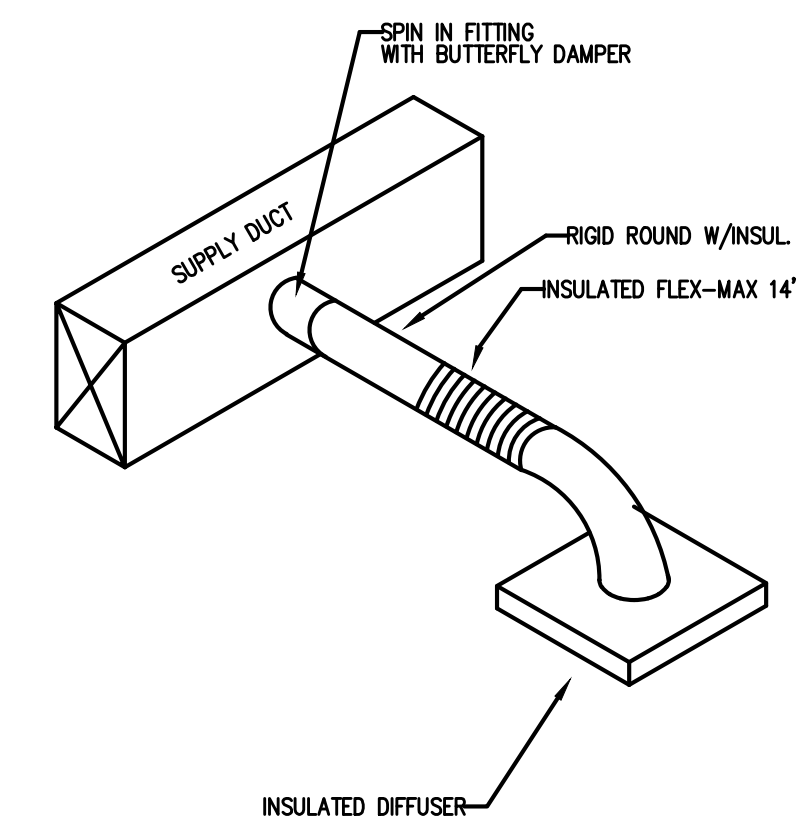
OUTSIDE AIR CALCULATION - 2018 NC MECHANICAL CODE (TABLE 403.3.1.1) Vbz = RpPz + RaAz

OCCUPANCY TYPE:	SF (Az)	# OF OCCUPANTS (Pz)	O.A. CFM PER PERSON (Rp)		O.A. CFM PER SqFt (Ra)		O.A. CFM REQUIRED (Vbz)	EXHAUST CFM REQUIRED
			O.A. CFM PER PERSON (Rp)	O.A. CFM PER SqFt (Ra)	O.A. CFM PER PERSON (Rp)	O.A. CFM PER SqFt (Ra)		
AHU1-4 TENANT 1	2796	14	5	0.06		237.76		
TENANT 2	1244	7	5	0.06		109.64		
TENANT 3	1375	7	5	0.06		117.5		
TOTAL CFM REQUIRED						464.9	0	
TOTAL CFM FURNISHED						464.9	0	

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR CEILING MOUNTED S/A DIFFUSER
	RECTANGULAR CEILING MOUNTED R/A OR EXHAUST GRILLE
	RUNOUT TO DIFFUSER W/VOLUME DAMPER AND CONE EXTRACTOR
	90 DEG. ELBOW W/ TURNING VANES
	CONDENSATE DRAIN PIPING
	REFRIGERANT PIPING
	HEATING AND COOLING THERMOSTAT, MOUNT 5'-0" A.F.F. AUTOMATIC CHANGEOVER.
	SYSTEM EMERGENCY SHUT-OFF SWITCH (RED LABELED)
	DUCT SMOKE DETECTOR - FURNISHED BY M.C., INSTALLED BY M.C., WIRED BY M.C.
S/A	SUPPLY AIR
R/A	RETURN AIR
O/A	OUTSIDE AIR
S/D	SPLITTER DAMPER
M.D.	MANUAL DAMPER WITH LOCKING QUADRANTS
B.D.D.	BACKDRAFT DAMPER
A.F.F.	ABOVE FINISHED FLOOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
	CEILING FIRE/RADIATION DAMPER
	VERTICAL FIRE DAMPER

LAY-IN DIFFUSER/RETURN SCHEDULE					
MARK ON PLANS	CFM	AIR PATTERN	NECK SIZE	RUNOUT SIZE	REMARKS
(A)	50-125	4 WAY	6 X 6	6"	PRICE SERIES ASCD OFF WHITE, ALUM.
(B)	150-275	4 WAY	8 X 8	8"	PRICE SERIES ASCD OFF WHITE, ALUM.
(C)		N/A	20 X 20	SEE PLAN	PRICE SERIES 630FF OFF WHITE, ALUM., FILTER RETURN

FAN SCHEDULE										
MARK	LOCATION	SERVICE	CFM	S.P.	WATTS	RPM	VOLT	PHASE	DRIVE	REMARKS
EF1	CEILING	TOILETS	80	0.1"	60	1690	120	1	DIRECT	CEILING MOUNTED FAN, PROVIDE W/B.D.D. AND WALL CAP BROAN #684 OR EQ. 4" FLEX TO ROOF/WALL CAP CLASS 0 OR 1 FLEX ONLY NO RES I DENTAL TYPE FLEX PERMITTED
EF5										
EF6	SIDEWALL	WARE HOUSE	4409	.125"	.25HP	860	120	1	DIRECT	GREENHECK SIDEWALL FAN SE1-24-432-C4 OR EQ.



3 DIFFUSER TAKE OFF DETAIL
M1 N.T.S.

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 4A
 winter dry bulb: 18'
 summer dry bulb: 97'

Interior design conditions
 winter dry bulb: 75'
 summer dry bulb: 75'
 relative humidity: 50%

Building heating load: 77,344
 Building cooling load: 87,551

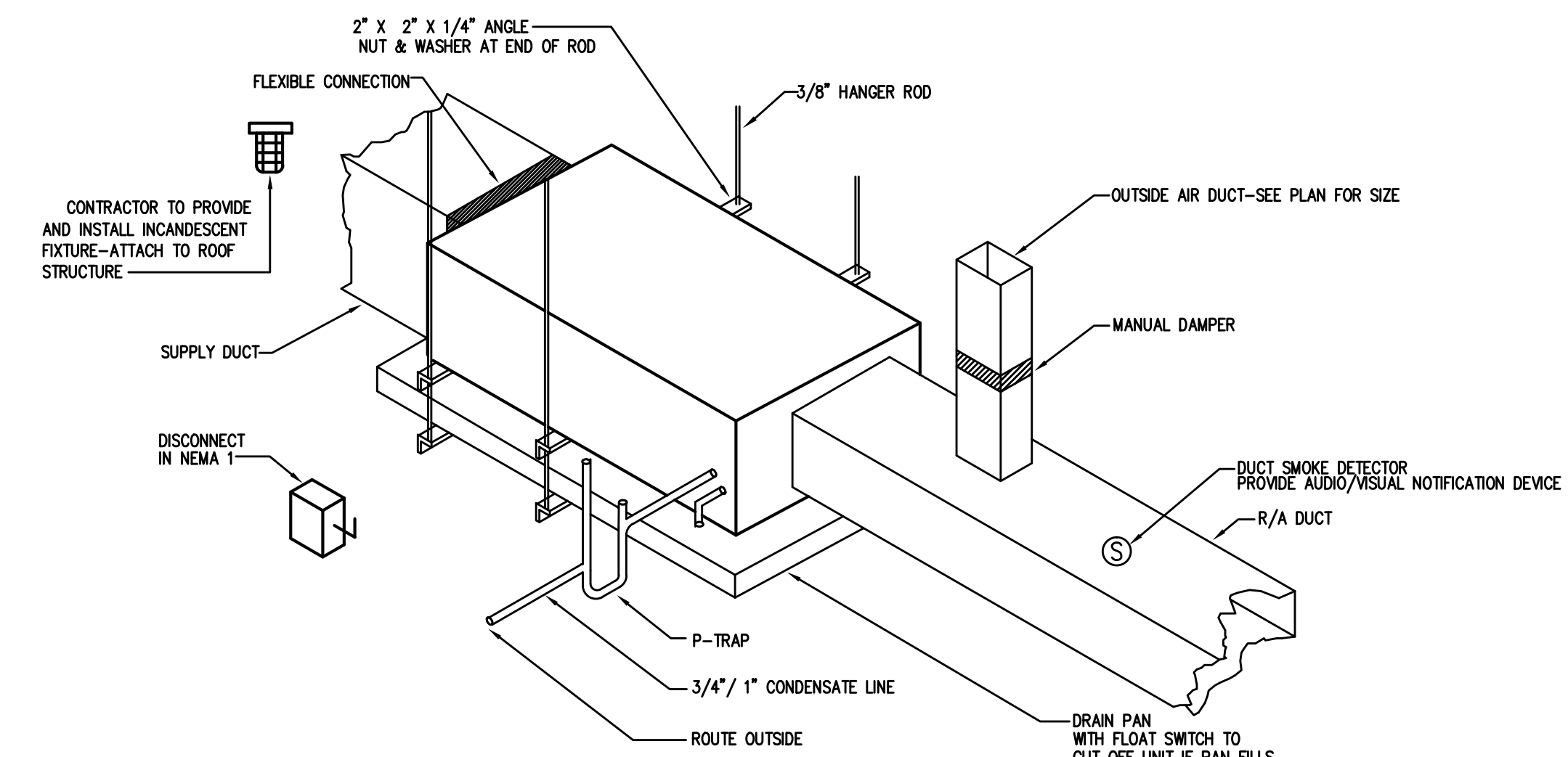
Mechanical Spacing Conditioning System

Unitary
 description of unit: SPLIT SYS. HEAT PUMP
 heating efficiency: 8.5
 cooling efficiency: 14.50
 size category of unit: <65,000 BTU

Boiler
 Size category. If oversized, state reason: _____

Chiller
 Size category. If oversized, state reason: _____

List equipment efficiencies: _____



2 AIR HANDLER DETAIL
M1 N.T.S.

Coastal Plains Engineering, P.A.
 License No. C-2050
 505 LOCKLEAR RD
 P.O. Box 1117
 Kannapolis, NC 28026
 Phone: 815-521-7213
 www.coastalplainseng.com

HONGNAM BUILDING
 HARNETT COUNTY, NORTH CAROLINA

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PROJECT NO: 2020-061
 DRAWN BY: CSL-MJL
 DATE: 05-28-20
 REVISIONS:

SHEET NO:
 M1

Jun 11, 2020



Coastal Plains Engineering, P.A.

205 LOCKLEAR RD
P.O. Box 1117
Kannapolis, NC 28026
Phone: 815-521-7213
www.coastalplainseng.com
License No. C-2059

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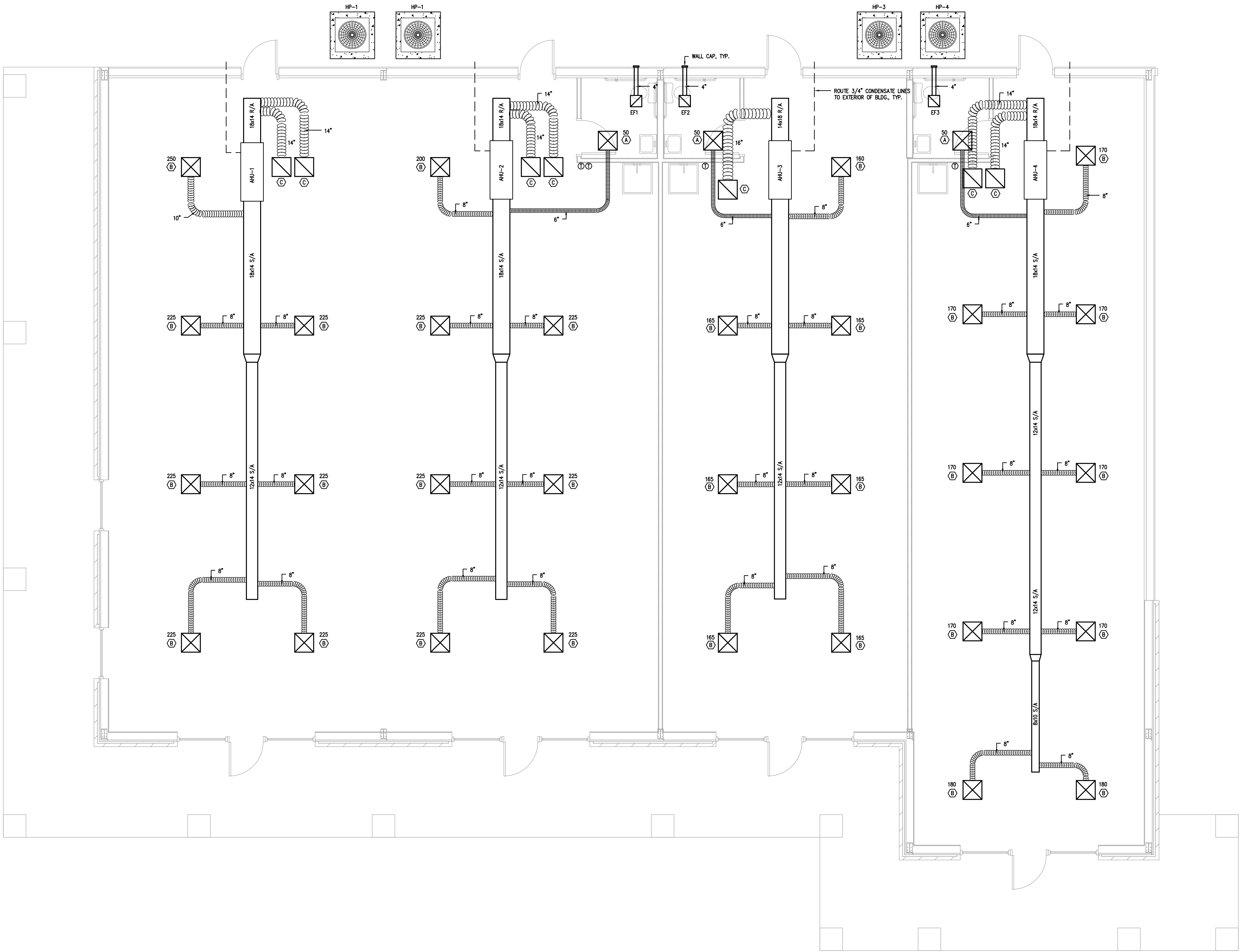
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DRAWN BY: CSL-MJL
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SHEET NO:
M2



CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY FOR SERVICE. A COMPLETE AND WORKING SYSTEM IS REQUIRED FOR COMPLIANCE WITH THESE DOCUMENTS. DETERMINE THE POINT OF CONNECTION TO THE UTILITY WITH THE UTILITY REPRESENTATIVE AND PROVIDE ACCORDINGLY FOR A COMPLETE WORKING SYSTEM.

WIRE AND CABLE SHALL BE INSULATED, TYPE THHN OR THWN, 600 VOLTS, WITH COPPER CONDUCTORS. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTORS SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED. NO ROMEX PERMITTED.

EMT SHALL BE GALVANIZED STEEL TUBING, 1/2-INCH MINIMUM SIZE, EQUAL TO ELECTRUNITE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS.

PLASTIC CONDUIT SHALL BE RIGID, 3/4-INCH MINIMUM NON-METALLIC, HEAVY DUTY, HIGH IMPACT, POLYVINYLCHLORIDE (PVC), TYPE I WILL BE USED FOR CONCRETE ENCASUREMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT.

FLEXIBLE METAL CONDUIT SHALL BE 1/2-INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, MAXIMUM LENGTH 72 INCHES FOR LIGHTING AND 36" FOR MOTORS. FLEXIBLE METAL CONDUIT SHALL BE LIQUIDTIGHT OR WATERTIGHT WITH PVC JACKET WHERE USED IN DAMP, WET OR OUTSIDE AREAS, AND LIQUIDTIGHT OR WATERTIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TEL. OUTLETS TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 2 INCHES BETWEEN RECEPTACLES AND TEL. OUTLETS.

ALL CONDUCTOR SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA.

CONTRACTOR SHALL ALIGN FIXTURES, SMOKE DETECTORS, CEILING DIFFUSERS ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION. AT NO TIME WILL AN IONIZATION DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN AIR GRILLE.

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT THE CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED, RECOMPUTING WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

ALL CONDUIT TERMINATING IN THE CEILING CAVITIES IS TO BE LABELED.

ALL CONDUIT SHALL BE COLOR CODED WITH 1/2" WIDE TAPE, 10'-0" ON CENTER IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT AND OWNER, PRIOR TO INSTALLATION, FOR USE WITH ACTUAL EQUIPMENT.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER/ARCHITECT. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER/ARCHITECT AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE.

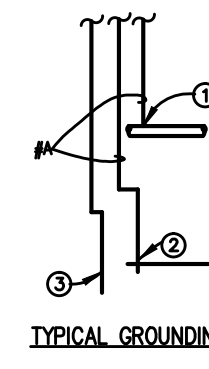
ALL FUSES DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.

WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ARCHITECT/ENGINEER.

ALL WORK IS TO BE DONE IN STRICT COMPLIANCE WITH THE LATEST VERSION OF THE NEC AND APPLICABLE STATE CODES

RECESSED FIXTURES INSTALLED IN RATED ASSEMBLIES SHALL BE INSTALLED WITH AN ENCLOSURE SO AS TO MAINTAIN THE RATING OF ASSEMBLY.

1
E1
ELECTRICAL NOTES
N.T.S.

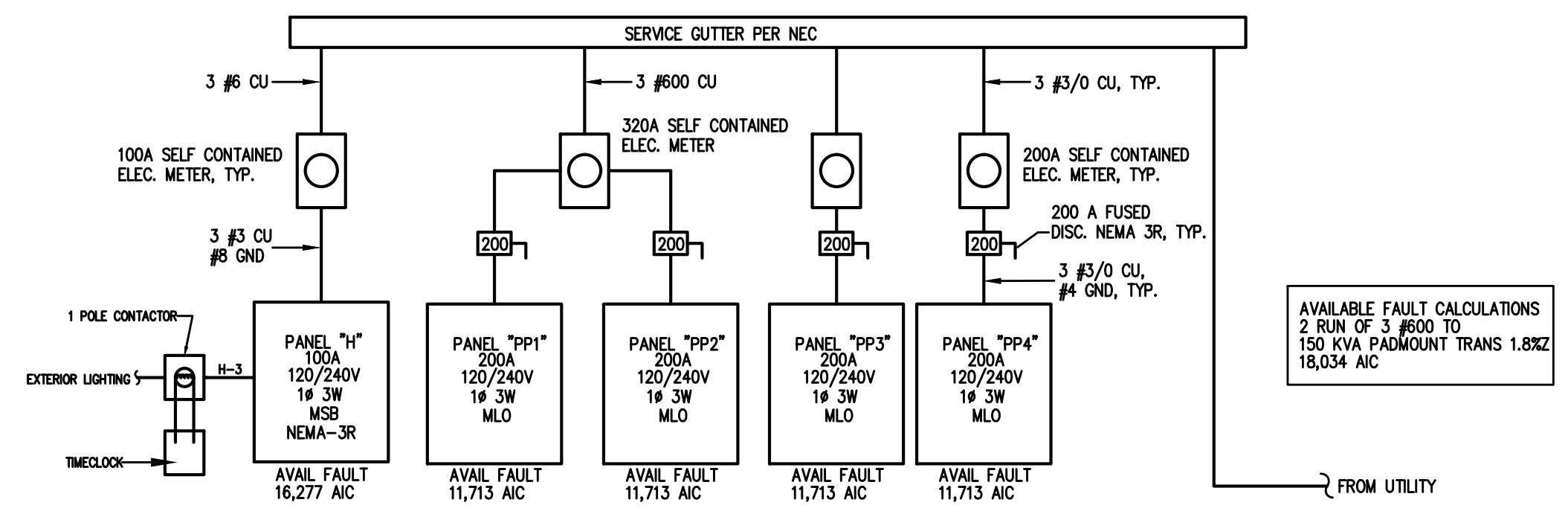


GROUNDING ELECTRODE DETAILS

GROUNDING ELECTRODE CONDUCTORS SHALL BE #4 BARE COPPER. OTHER MATERIAL AND INSTALLATION PER NEC 250

- ① CONNECT TO METALLIC WATER PIPE AS REQ'D.
- ② #4 COPPER GROUND PLACED TO BLDG STEEL
- ③ 3/4"x10' LONG COPPER CLAD GROUNDING ROD W/ #6 COPPER GROUND.

A=#4 CU PPI,2,3 & 4
A=#6 CU H



2
E1
ELECTRICAL RISER DETAIL
N.T.S.

AVAILABLE FAULT CALCULATIONS
2 RUN OF 3 #600 TO
150 KVA PADMOUNT TRANS 1.8KZ
18,034 AIC

ELECTRICAL SYMBOL LIST

○	LIGHT FIXTURE INCANDESCENT OR H.I.D.	⊕	EXIT LIGHT FIXTURE
○+	LIGHT FIXTURE WALL MOUNTED	NL	NIGHT LIGHT
□	FLOURESCENT LIGHT FIXTURE	⚡	EMERGENCY LIGHT W/ 90 MIN. BATTERY
⊕	DUPLEX RECEPTACLE (+18")	⊕	GFI TYPE RECEPTACLE
⊕	ISOLATED GROUND TYPE D.R.	D.R.	DUPLEX RECEPTACLE
(+0")	CENTERLINE HEIGHT OF DEVICE BOX ABOVE FINISH FLOOR		
S	SINGLE POLE SWITCH (+42")	SW	SW. WITH PILOT LIGHT
S ₃	3-WAY SWITCH (+42")	SW ₃	3-WAY SW. W/ PILOT LIGHT(+42")
S ₄	4-WAY SWITCH (+42")	⊕	SPECIAL PURPOSE OUTLET
S _K	KEYED SINGLE POLE SWITCH (+42")	S ₃	KEYED THREE-WAY SWITCH
□	N/F DISCONNECT SWITCH	⊕	FUSED DISCONNECT SWITCH
RT	RAINTIGHT (NEMA 3R)	(60/50/3)	AMP SIZE/FUSE SIZE/POLES
⊕	STARTER	⊕	DUPLEX RECEPT. FLOOR MTD.
⊕	MOTOR SYMBOL	SW	MANUAL STARTER SWITCH
⊕	RELAY	⊕	PHOTOCONTROL
⊕	PUSHBUTTON OR CONTROL STATION	⊕	JUNCTION BOX (J.B.)
◁	TELEPHONE O.B. (3/4" C. TO CEILING SPACE)	O.B.	OUTLET BOX
◁	DATA O.B. (3/4" C. TO CEILING SPACE)	⊕	CHILD-PROOF
◁	TELEPHONE & DATA O.B. (3/4" C. TO CEILING SPACE)		
□	PLAN NOTE SYMBOL	WP	WEATHERPROOF
C/B	CIRCUIT BREAKER	CKT.	CIRCUIT
---	CONCEALED CONDUIT (2#12 AWG AND APPROVED GROUND MINIMUM - TYPICAL)	C.	CONDUIT
---	CONDUIT BELOW FLOOR OR GRADE	---	CONDUIT EXPOSED
H	HOMERUN: NUMBER OF WIRES, PANEL DESIGNATION, CIRCUIT NUMBERS	A.F.F.	ABOVE FINISH FLR.
⊕	BRANCH CIRCUIT PANELBOARD	⊕	MAIN DISTRIBUTION PANEL
⊕	QUAD RECEPTACLE	⊕	CATV OUTLET
⊕	ALARM OUTLET BOX (3/4" CONDUIT TO CEILING SPACE)		

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code: Prescriptive Performance
ASHRAE 90.1: Prescriptive Performance

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
 SEE FIXTURE SCHEDULE

2050/4041 total interior wattage specified vs. allowed (whole building or space by space)
543/642 total exterior wattage specified vs. allowed

- Additional Prescriptive Compliance**
- 506.2.1 More Efficient HVAC Equipment
 - 506.2.2 Reduced Lighting Power Density
 - 506.2.3 Energy Recovery Ventilation Systems
 - 506.2.4 Higher Efficiency Service Water Heating
 - 506.2.5 On-Site Supply of Renewable Energy
 - 506.2.6 Automatic Daylighting Control Systems

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	MOUNTING	MODEL	INPUT WATTS	VOLTS	TOTAL LUMENS
A		(1) LED	2 X 4 LED LAY-IN FIXTURE	RECESSED	COLUMBIA LTRE244OMLGRFAEU	41	120V 1P 2W	4650
AE		(1) LED	2 X 4 LED LAY-IN FIXTURE W/ EMER. BATT	RECESSED	COLUMBIA LTRE244OMLGRFAEU14	41	120V 1P 2W	4650
EMER/EXIT		(2) 1.5W LED	COMBINATION EXIT/EMERGENCY UNIT WITH SEALED BEAM DUAL REMOTE HEADS	WALL/CEILING	LITHONIA LHQM S W 1 R 120/277 ELA NX H0606	3	120V 1P 2W	0
G		(1) 42.4W	4'-0" LINEAR LED FIXTURE	CEILING	METALUX 4WNLEDL450SLFUNVL840	42.4	120V 1P 2W	5064
H		(1)	LED WALL PACK FIXTURE	WALL	LUMARK WFSQLED100UNVPC	101	120V 1P 2W	11043

Jun 11, 2020



Coastal Plains Engineering, P.A.
 License No. C-4050
 505 LUCKSTAR RD
 P.O. Box 1117
 Kannapolis, NC 28082
 Phone: 815-521-7213
 www.coastalplainseng.com

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PROJECT NO: 2020-061
 DRAWN BY: CSL:MJL
 DATE: 05-28-20
 REVISIONS:

SHEET NO:
 E1



Coastal Plains Engineering, P.A.

205 LOCKLEAR RD
P.O. Box 1117
Raleigh, NC 27672
Phone: 919-851-7213
www.coastalplainseng.com

License No. C-2050

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PROJECT NO: 2020-061
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E2

PP1		ROOM MOUNTING FLUSH BUS AMPS 200 NEUTRAL 100%		VOLTS 240/120V 2P 3W		AIC 22,000 MAIN BKR MLO LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.498	LIGHTING	a 2	20/1	0.9	RECEPTACLE
3	60/2	13.9	AHU-1	b 4	20/1	0.72	RECEPTACLE
5				a 6	50/2	7.2	HP-1
7	20/1	1.2	SIGN	b 8			
9	20/1	0	SPACE	a 10	20/1	0	SPACE
11	20/1	0	SPACE	b 12	20/1	0	SPACE
13	20/1	0	SPACE	a 14	20/1	0	SPACE
15	20/1	0	SPACE	b 16	20/1	0	SPACE
17	20/1	0	SPACE	a 18	20/1	0	SPACE
19	20/1	0	SPACE	b 20	20/1	0	SPACE
21	20/1	0	SPACE	a 22	20/1	0	SPACE
23	20/1	0	SPACE	b 24	20/1	0	SPACE
25	20/1	0	SPACE	a 26	20/1	0	SPACE
27	20/1	0	SPACE	b 28	20/1	0	SPACE
29	20/1	0	SPACE	a 30	20/1	0	SPACE
31	20/1	0	SPACE	b 32	20/1	0	SPACE
33	20/1	0	SPACE	a 34	20/1	0	SPACE
35	20/1	0	SPACE	b 36	20/1	0	SPACE
37	20/1	0	SPACE	a 38	20/1	0	SPACE
39	20/1	0	SPACE	b 40	20/1	0	SPACE
41	20/1	0	SPACE	a 42	20/1	0	SPACE

	CONN KVA	CALC KVA		CONN KVA	CALC KVA
LIGHTING	0.498	0.623	(125%)	CONTINUOUS	1.2
RECEPTACLES	1.62	1.62	(50%>10)	NONCONTINUOUS	21.1
				TOTAL LOAD	24.9
				BALANCED LOAD	104 A
				PHASE A	97.9%
				PHASE B	102%

PP2		ROOM MOUNTING FLUSH BUS AMPS 200 NEUTRAL 100%		VOLTS 240/120V 2P 3W		AIC 22,000 MAIN BKR MLO LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	60/2	13.9	AHU-2	a 2	30/2	4.5	WH-1
3				b 4			
5	50/2	7.2	HP-2	a 6	20/1	0.72	RECEPTACLE
7				b 8	20/1	0	SPACE
9	20/1	0.598	EF1, LIGHTING	a 10	20/1	0	SPACE
11	20/1	0	SPACE	b 12	20/1	0	SPACE
13	20/1	0	SPACE	a 14	20/1	0	SPACE
15	20/1	0	SPACE	b 16	20/1	0	SPACE
17	20/1	0	SPACE	a 18	20/1	0	SPACE
19	20/1	0	SPACE	b 20	20/1	0	SPACE
21	20/1	0	SPACE	a 22	20/1	0	SPACE
23	20/1	0	SPACE	b 24	20/1	0	SPACE
25	20/1	0	SPACE	a 26	20/1	0	SPACE
27	20/1	0	SPACE	b 28	20/1	0	SPACE
29	20/1	0	SPACE	a 30	20/1	0	SPACE
31	20/1	0	SPACE	b 32	20/1	0	SPACE
33	20/1	0	SPACE	a 34	20/1	0	SPACE
35	20/1	0	SPACE	b 36	20/1	0	SPACE
37	20/1	0	SPACE	a 38	20/1	0	SPACE
39	20/1	0	SPACE	b 40	20/1	0	SPACE
41	20/1	0	SPACE	a 42	20/1	0	SPACE

	CONN KVA	CALC KVA		CONN KVA	CALC KVA
LIGHTING	0.498	0.623	(125%)	MOTORS	4.6
LARGEST MOTOR	4.5	1.13	(25%)	RECEPTACLES	0.72
				NONCONTINUOUS	21.1
				TOTAL LOAD	28.2
				BALANCED LOAD	117 A
				PHASE A	105%
				PHASE B	95.1%

H		ROOM MOUNTING FLUSH BUS AMPS 60 NEUTRAL 100%		VOLTS 240/120V 2P 3W		AIC 22,000 MAIN BKR 60 LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.72	RECEPTACLE	a 2	20/1	0	SPACE
3	20/1	0.642	LIGHTING	b 4	20/1	0	SPACE
5	20/1	0	SPACE	a 6	20/1	0	SPACE
7	20/1	0	SPACE	b 8	20/1	0	SPACE
9	20/1	0	SPACE	a 10	20/1	0	SPACE
11	20/1	0	SPACE	b 12	20/1	0	SPACE
13	20/1	0	SPACE	a 14	20/1	0	SPACE
15	20/1	0	SPACE	b 16	20/1	0	SPACE
17	20/1	0	SPACE	a 18	20/1	0	SPACE
19	20/1	0	SPACE	b 20	20/1	0	SPACE

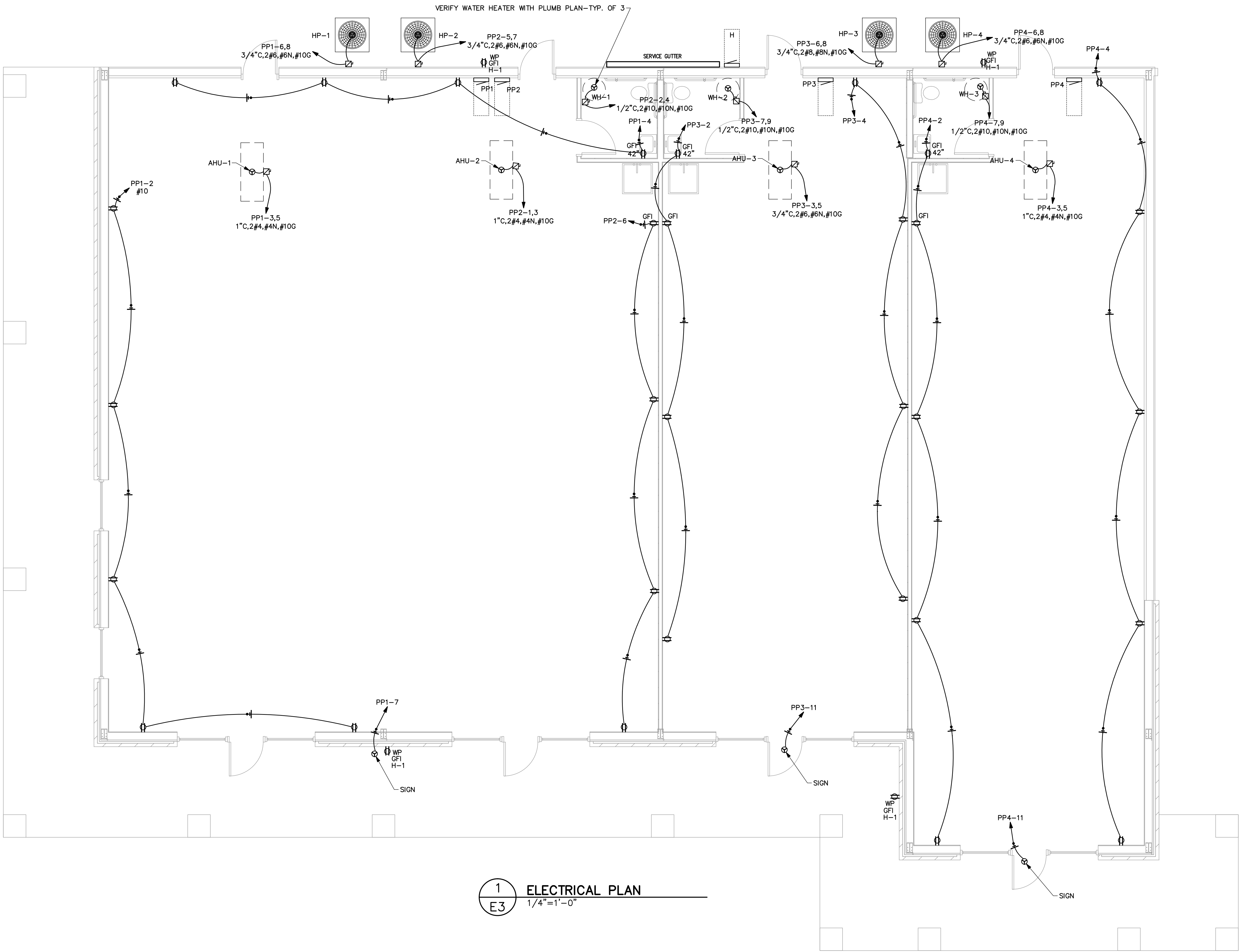
	CONN KVA	CALC KVA		CONN KVA	CALC KVA
LIGHTING	0.642	0.803	(125%)	TOTAL LOAD	1.52
RECEPTACLES	0.72	0.72	(50%>10)	BALANCED LOAD	6.34 A
				PHASE A	106%
				PHASE B	94.3%

PP3		ROOM MOUNTING FLUSH BUS AMPS 200 NEUTRAL 100%		VOLTS 240/120V 2P 3W		AIC 22,000 MAIN BKR MLO LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.598	EF2, LIGHTING	a 2	20/1	0.72	RECEPTACLE
3	45/2	10.8	AHU-3	b 4	20/1	0.72	RECEPTACLE
5				a 6	35/2	5.04	HP-3
7	30/2	4.5	WH-2	b 8			
9				a 10	20/1	0	SPACE
11	20/1	1.2	SIGN	b 12	20/1	0	SPACE
13	20/1	0	SPACE	a 14	20/1	0	SPACE
15	20/1	0	SPACE	b 16	20/1	0	SPACE
17	20/1	0	SPACE	a 18	20/1	0	SPACE
19	20/1	0	SPACE	b 20	20/1	0	SPACE
21	20/1	0	SPACE	a 22	20/1	0	SPACE
23	20/1	0	SPACE	b 24	20/1	0	SPACE
25	20/1	0	SPACE	a 26	20/1	0	SPACE
27	20/1	0	SPACE	b 28	20/1	0	SPACE
29	20/1	0	SPACE	a 30	20/1	0	SPACE
31	20/1	0	SPACE	b 32	20/1	0	SPACE
33	20/1	0	SPACE	a 34	20/1	0	SPACE
35	20/1	0	SPACE	b 36	20/1	0	SPACE
37	20/1	0	SPACE	a 38	20/1	0	SPACE
39	20/1	0	SPACE	b 40	20/1	0	SPACE
41	20/1	0	SPACE	a 42	20/1	0	SPACE

	CONN KVA	CALC KVA		CONN KVA	CALC KVA
LIGHTING	0.498	0.623	(125%)	MOTORS	4.6
LARGEST MOTOR	4.5	1.13	(25%)	RECEPTACLES	1.44
				CONTINUOUS	1.2
				NONCONTINUOUS	15.8
				TOTAL LOAD	25.1
				BALANCED LOAD	105 A
				PHASE A	97.4%
				PHASE B	103%

PP4		ROOM MOUNTING FLUSH BUS AMPS 200 NEUTRAL 100%		VOLTS 240/120V 2P 3W		AIC 22,000 MAIN BKR MLO LUGS STANDARD	
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.68	EF3, LIGHTING	a 2	20/1	0.9	RECEPTACLE
3	60/2	13.9	AHU-4	b 4	20/1	0.9	RECEPTACLE
5				a 6	50/2	7.2	HP-4
7	30/2	4.5	WH-3	b 8			
9				a 10	20/1	0	SPACE
11	20/1	1.2	SIGN	b 12	20/1	0	SPACE
13	20/1	0	SPACE	a 14	20/1	0	SPACE
15	20/1	0	SPACE	b 16	20/1	0	SPACE
17	20/1	0	SPACE	a 18	20/1	0	SPACE
19	20/1	0	SPACE	b 20	20/1	0	SPACE
21	20/1	0	SPACE	a 22	20/1	0	SPACE
23	20/1	0	SPACE	b 24	20/1	0	SPACE
25	20/1	0	SPACE	a 26	20/1	0	SPACE
27	20/1	0	SPACE	b 28	20/1	0	SPACE
29	20/1	0	SPACE	a 30	20/1	0	SPACE
31	20/1	0	SPACE	b 32	20/1	0	SPACE
33	20/1	0	SPACE	a 34	20/1	0	SPACE
35	20/1	0	SPACE	b 36	20/1	0	SPACE
37	20/1	0	SPACE	a 38	20/1	0	SPACE
39	20/1	0	SPACE	b 40	20/1	0	SPACE
41	20/1	0	SPACE	a 42	20/1	0	SPACE

	CONN KVA	CALC KVA		CONN KVA	CALC KVA
LIGHTING	0.58	0.725	(125%)	MOTORS	4.6
LARGEST MOTOR	4.5	1.13	(25%)	RECEPTACLES	1.8
				CONTINUOUS	1.2
				NONCONTINUOUS	21.1
				TOTAL LOAD	30.9
				BALANCED LOAD	129 A
				PHASE A	98.2%
				PHASE B	102%



1 ELECTRICAL PLAN
 E3 1/4" = 1'-0"

Coastal Plains Engineering, P.A.
 License No. C-2059

CHRISTOPHER S. LOCKLEAR, PE
 P.O. Box 1117
 Kannapolis, NC 28026
 Phone: 815-521-7213
 www.coastalplainseng.com

HONGNAM BUILDING
 HARNETT COUNTY, NORTH CAROLINA

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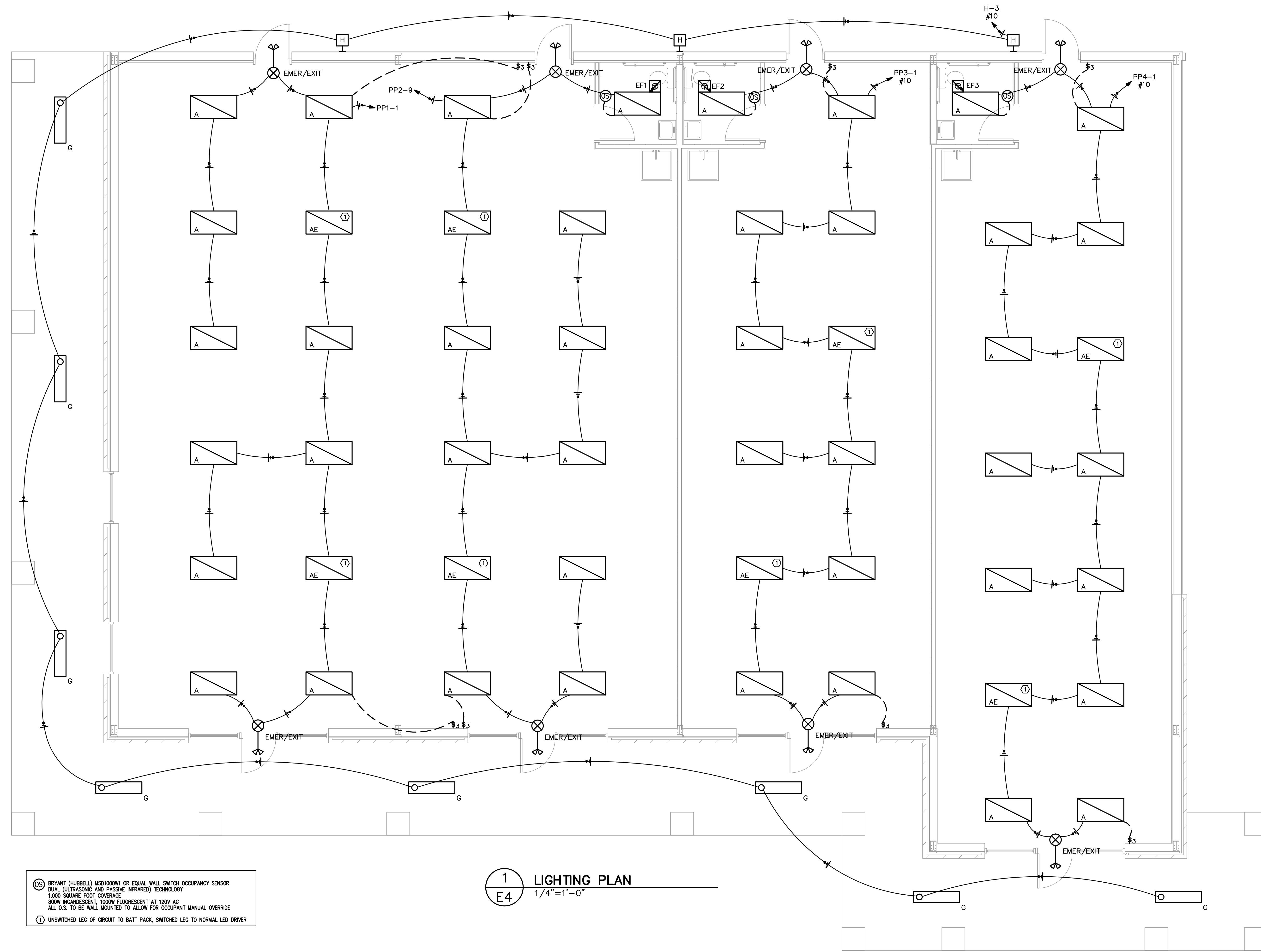
SHEET NO:
E3

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E4



OS BRYANT (HUBBELL) MSD1000W1 OR EQUAL WALL SWITCH OCCUPANCY SENSOR DUAL (ULTRASONIC AND PASSIVE INFRARED) TECHNOLOGY 1,000 SQUARE FOOT COVERAGE 800W INCANDESCENT, 1000W FLUORESCENT AT 120V AC ALL O.S. TO BE WALL MOUNTED TO ALLOW FOR OCCUPANT MANUAL OVERRIDE

① UNSWITCHED LEG OF CIRCUIT TO BATT PACK, SWITCHED LEG TO NORMAL LED DRIVER

1 LIGHTING PLAN
 E4 1/4"=1'-0"