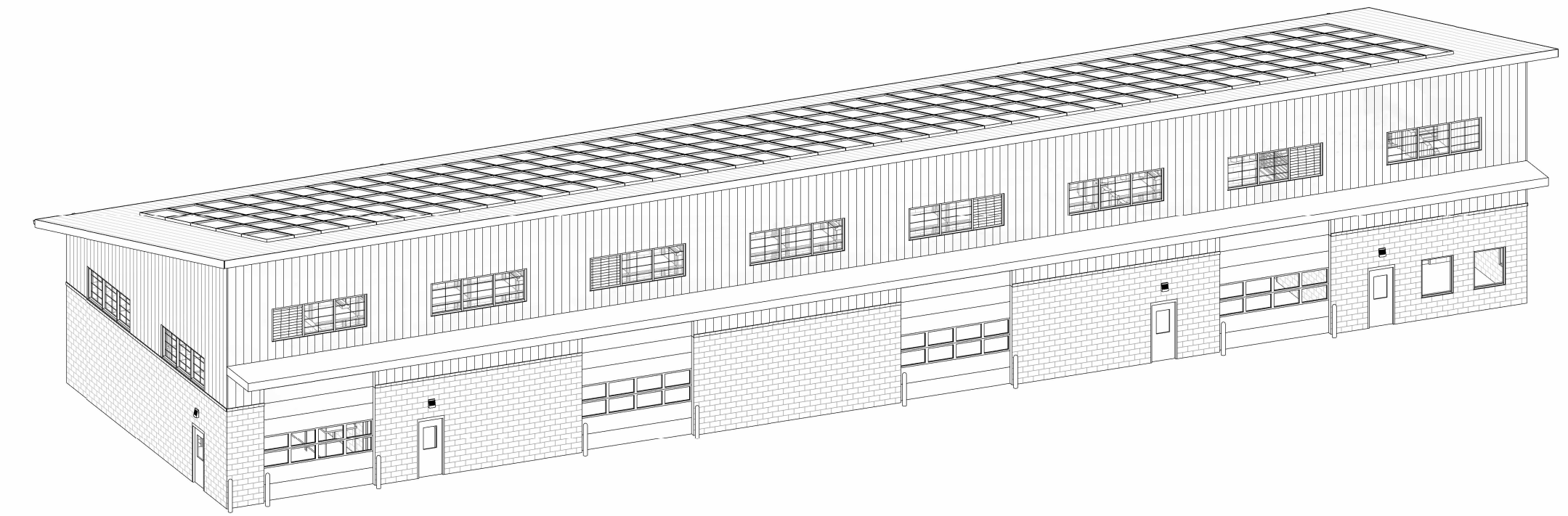


South Cary Water Reclamation Facility – Maintenance Facility with Solar

Apex

4900 W Lake Rd, Apex, NC 27539



CONSULTANT LOGO

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

VICINITY MAP

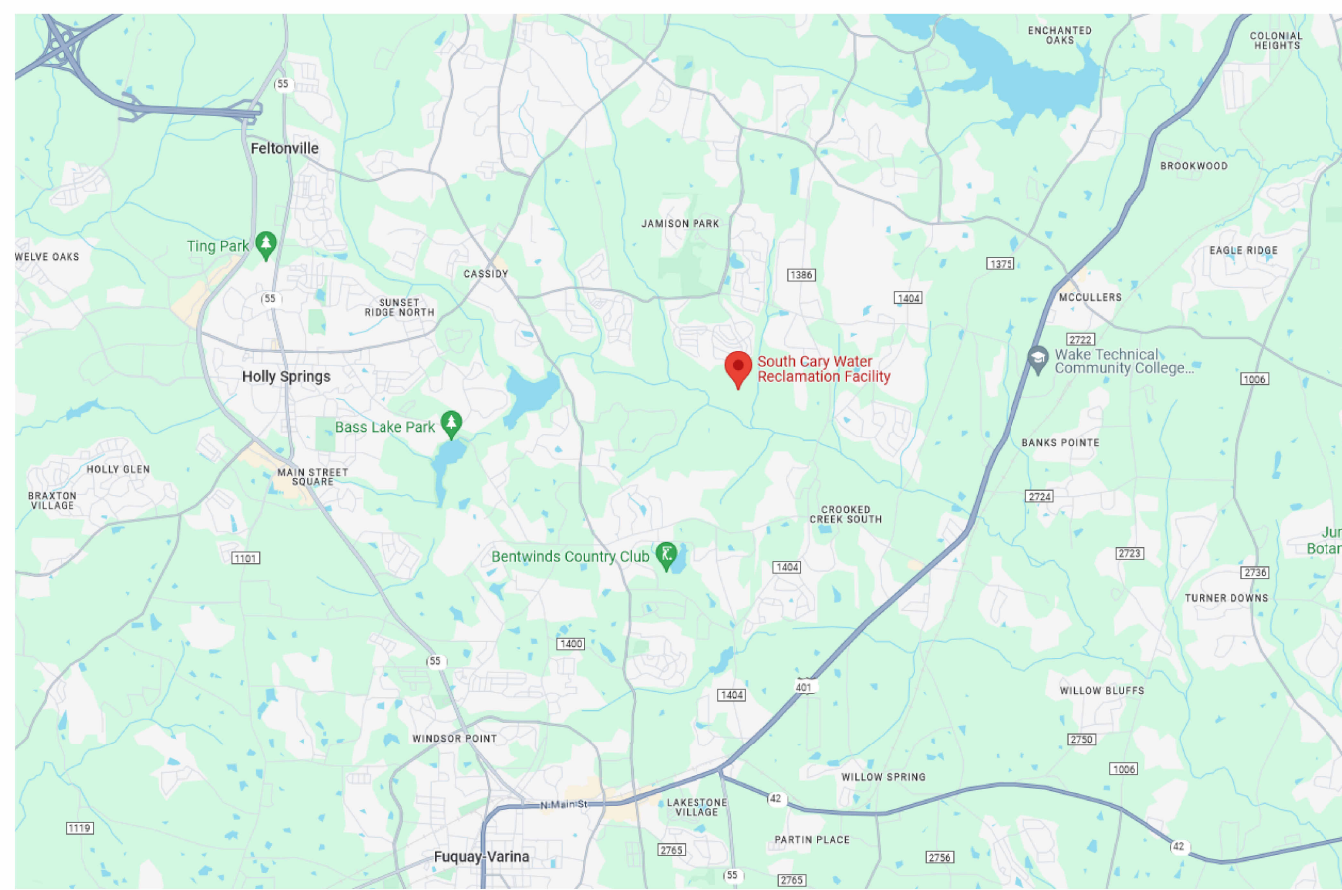


IMAGE REPRINTED FROM GOOGLE MAPS

NTS

DRAWING INDEX

R203 Unnamed

TITLE

- G001 COVER SHEET
- G002 CODE SUMMARY
- G003 CODE SUMMARY
- G004 LIFE SAFETY PLAN

CIVIL

- C000 COVER SHEET
- C001 DRAINAGE AREA ANALYSIS
- C101 EXISTING CONDITIONS & DEMOLITION PLAN
- C201 STAKING & LANDSCAPE PLAN
- C301 EROSION CONTROL & GRADING PLAN
- C401 UTILITY PLAN
- C701 EROSION CONTROL DETAILS
- C702 SITE DETAILS
- C703 UTILITY DETAILS

ARCHITECTURAL

- A001 GENERAL NOTES AND LEGENDS
- A100 FLOOR PLANS
- A110 REFLECTED CEILING PLAN
- A120 ROOF PLAN
- A201 BUILDING ELEVATIONS AND SECTIONS
- A300 WALL SECTIONS
- A310 DETAILS
- A311 DETAILS
- A700 DOOR SCHEDULE AND NOTES

INTERIORS

- I100 FINISH SCHEDULES AND PLANS

STRUCTURAL

- S001 GENERAL NOTES
- S002 GENERAL NOTES
- S101 FOUNDATION PLAN
- S102 SLAB PLAN
- S111 MECHANICAL PLATFORM FRAMING PLAN
- S112 MECHANICAL PLATFORM SLAB PLAN
- S301 SECTIONS
- S302 SECTIONS
- S501 TYPICAL DETAILS
- S502 TYPICAL DETAILS
- S503 TYPICAL DETAILS

PLUMBING

- P000 PLUMBING NOTES, LEGENDS, DETAILS & FIXTURE SCHEDULE
- P100 PLUMBING PLAN
- P200 PLUMBING DETAILS AND WASTE RISER

MECHANICAL

- M000 NOTES, LEGEND, AND SCHEDULES
- M100 MECHANICAL PLAN
- M200 MECHANICAL DETAILS

ELECTRICAL

- E000 LEGEND, NOTES, FIXTURE SCHEDULE, DETAILS
- E100 LIGHTING PLAN POWER PLAN
- E101 ELECTRICAL ROOF PLAN AND SITE PLAN
- E200 POWER RISER PANEL SCHEDULE
- E201 PV SYSTEM DETAILS AND DIAGRAM

DESIGN TEAM

OWNER

Town of Cary
Cary, North Carolina
Contact: John Holloway
919-462-3875
john.holloway@townofcary.org

CIVIL/LANDSCAPE

CLH
Cary, North Carolina
Contact: Keith Downing
919.319.6716
kdowning@clhdesignpa.com

ARCHITECT

Davis Kane Architects, P.A.
Raleigh, North Carolina
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cvolk@davisokane.com

STRUCTURAL ENGINEER

Lynch Mykins Structural Engineers
Raleigh, North Carolina
Contact: Jeff Morrison, PE
919-782-1833
jmorrison@lynchmykins.com

PME/FA/FP ENGINEER

Atlantec (now IMEG) Engineers
Raleigh, North Carolina
Contact: Brad Felts
919-571-1111
brad.w.felts@imegcorp.com

SOLAR PV CONSULTANT

Pisgah Energy
Asheville, North Carolina
Contact: Phelps Clarke
828.713.8003
phelps.clarke@pisgahenergy.com

BID DOCUMENTS

SEALS



DKA JOB NUMBER

2403

REVISIONS

NO.	DESCRIPTION

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1/13/2025

SHEET TITLE

COVER SHEET

G001

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

NAME OF PROJECT: South Cary Water Treatment Maintenance Building
ADDRESS: 4900 W Lake Rd, Apex, NC **ZIP CODE:** 27539
OWNER/AUTHORIZED AGENT: John Holloway **PHONE #:** (919) 462-3875
E-MAIL: john.holloway@carync.gov
OWNED BY: CITY/COUNTY PRIVATE STATE
CODE ENFORCEMENT JURISDICTION: CITY COUNTY STATE
NAME OF JURISDICTION: Town of Cary

CONTACT: Robert Stevenson, ARCHITECT

DESIGNER	FIRM	NAME	LIC. #	PHONE #	EMAIL
ARCHITECTURAL	Davis Kane Architects	Robert Stevenson	6214	(919) 833-3737	rstevenson@davis Kane.com
CIVIL	CLH Design	Keith Downing	1047	(919) 319-6716	kdowning@clhdesignpa.com
LANDSCAPE	-	-	-	-	-
ELECTRICAL	Atlantec/MEG Engineers	Sujin Pramojaney	27479	(919) 571-1111	sujin.pramojaney@imegcorp.com
FIRE ALARM	-	-	-	-	-
PLUMBING	Atlantec/MEG Engineers	Bradley Felts	25036	(919) 571-1111	brad.w.felts@imegcorp.com
MECHANICAL	Atlantec/MEG Engineers	Bradley Felts	25036	(919) 571-1111	brad.w.felts@imegcorp.com
SPRINKLER / STANDPIPE	-	-	-	-	-
STRUCTURAL	Lynch Mykins	Anna Lynch	35055	(919) 782-1833	anna@lynchmykins.com
RETAINING WALLS >5' HIGH	-	-	-	-	-
OTHER	-	-	-	-	-
OTHER	-	-	-	-	-

YEAR EDITION OF CODE:
2018 NC BUILDING CODE: NEW BUILDING SHELL / CORE 1ST TIME INTERIOR COMPLETIONS
 ADDITION PHASED CONSTRUCTION - SHELL CORE
2018 NC EXISTING BUILDING CODE: PRESCRIPTIVE ALTERATION LEVEL I HISTORIC PROPERTY
 REPAIR ALTERATION LEVEL II CHANGE OF USE
 CHAPTER 14 ALTERATION LEVEL III

CONSTRUCTED (DATE): - **CURRENT OCCUPANCY(S) (CH. 3):** -
RENOVATED (DATE): - **PROPOSED OCCUPANCY(S) (CH. 3):** -
OCCUPANCY CATEGORY (TABLE 1604.5): **CURRENT:** - **PROPOSED:** -
RISK CATEGORY (table 1604.5) **Current:** I II III IV
Proposed: I II III IV

BASIC BUILDING DATA:
CONSTRUCTION TYPE: (CHECK ALL THAT APPLY) I-A II-A III-A IV V-A
 I-B II-B III-B V-B
SPRINKLERS: NO PARTIAL NFPA 13 NFPA 13R NFPA 13D
STANDPIPES: NO CLASS - I CLASS - II CLASS - III WET DRY
PRIMARY FIRE DISTRICT: NO YES
FLOOR HAZARD AREA: NO YES
SPECIAL INSPECTIONS REQUIRED: NO YES
GROSS BUILDING AREA:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
4TH FLOOR	-	-	-
3RD FLOOR	-	-	-
2ND FLOOR	-	-	-
1ST FLOOR	-	7,892	7,892
TOTAL:			7,892

ALLOWABLE AREA
PRIMARY OCCUPANCY CLASSIFICATION(S):
ASSEMBLY: A-1 A-2 A-3 A-4 A-5
BUSINESS:
EDUCATIONAL:
FACTORY: F-1 MODERATE F-2 LOW
HAZARDOUS: H-1 DETONATE H-2 DEFLAGATE H-3 COMBUST H-4 HEALTH H-5 HPM
INSTITUTIONAL: I-1 I-2 I-3 I-4
I-1 CONDITION 1 2
I-2 CONDITION 1 2
I-3 CONDITION 1 2 3 4 5
MERCANTILE:
RESIDENTIAL: R-1 R-2 R-3 R-4
STORAGE: S-1 MODERATE S-2 LOW HIGH-PILED ENCLOSED OPEN
 PARKING GARAGE REPAIR GARAGE
UTILITY AND MISC:

ACCESSORY OCCUPANCY CLASSIFICATION(S): B-Business
INCIDENTAL USES (TABLE 509): -
THIS SEPARATION IS NOT EXEMPT AS A NON-SEPARATED USE (SEE EXCEPTIONS).
SPECIAL USES (CHAPTER 4 - LIST CODE SECTIONS): -
Section 505 Mezzanines, Mechanical Platform = 525 sf and 2
SPECIAL PROVISIONS (CHAPTER 5 - LIST CODE SECTIONS): -occupants
MIXED OCCUPANCY: NO **SEPARATION:** N/A **EXCEPTION:** -

$\frac{\text{ACTUAL AREA OF OCCUPANCY A}}{\text{ALLOWABLE AREA OF OCCUPANCY A}} + \frac{\text{ACTUAL AREA OF OCCUPANCY B}}{\text{ALLOWABLE AREA OF OCCUPANCY B}} \leq 1$

STORY NO.	DESCRIPTION AND USE	(A) BUILDING AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ²
1	BUSINESS	371	26,000	75%	45,500 SF
1	STORAGE (S-2)	7,045	26,000	75%	45,500 SF

- Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = (F)
b. Total Building Perimeter = (P)
c. Ratio (F/P) = (F/P)
d. Minimum Width of Public Way = (W)
e. Percentage of frontage increase If = 100(F/P - 0.25) x W/30 = (%)
- Unlimited area applicable under conditions of Section 507.
- Maximum Building Area = total number of stories in the building x D (506.2)
- The maximum area of open parking garages must comply with 406.5.4. The maximum area of traffic control towers must comply with Table 412.3.1.
- Frontage increase is based on the un-sprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

BUILDING HEIGHT IN FEET	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
BUILDING HEIGHT IN FEET	40'-0"	27'-4"	602.5
BUILDING HEIGHT IN STORIES	2	1	-

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

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPAR. DISTANCE (FEET)	RATING REQ.	PROVIDED (w/ *Reduction)	DETAIL # AND SHEET	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
STRUCTURAL FRAME (INCLUDING COLUMNS, GIRDERS, TRUSSES)	-	-	N/A	-	-	-	-
BEARING WALLS	-	-	-	-	-	-	-
EXTERIOR NORTH	>30'	0	-	-	-	-	-
EXTERIOR EAST	>30'	0	-	-	-	-	-
EXTERIOR WEST	>30'	0	-	-	-	-	-
EXTERIOR SOUTH	>30'	0	-	-	-	-	-
INTERIOR	-	-	-	-	-	-	-
NONBEARING WALLS AND PARTITIONS	-	-	-	-	-	-	-
EXTERIOR NORTH	>30'	0	-	-	-	-	-
EXTERIOR EAST	>30'	0	-	-	-	-	-
EXTERIOR WEST	>30'	0	-	-	-	-	-
EXTERIOR SOUTH	>30'	0	-	-	-	-	-
INTERIOR WALLS AND PARTITIONS	-	-	-	-	-	-	-
FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)	-	-	-	-	-	-	-
FLOOR CEILING ASSEMBLY	-	-	-	-	-	-	-
COLUMNS SUPPORTING FLOORS	-	-	-	-	-	-	-
ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS)	-	0	-	-	-	-	-
ROOF CEILING ASSEMBLY	-	-	-	-	-	-	-
COLUMNS SUPPORTING ROOF	-	-	-	-	-	-	-
SHAFT ENCLOSURES - EXIT	-	-	-	-	-	-	-
SHAFT ENCLOSURES - OTHER	-	-	-	-	-	-	-
CORRIDOR SEPARATION	-	-	-	-	-	-	-
OCCUPANCY / FIRE BARRIER SEPARATION	-	-	-	-	-	-	-
PARTY / FIRE WALL SEPARATION	-	-	-	-	-	-	-
SMOKE BARRIER SEPARATION	-	-	-	-	-	-	-
SMOKE PARTITION	-	-	-	-	-	-	-
TENANT / DWELLING UNIT / SLEEPING UNIT SEPARATION	-	-	-	-	-	-	-
INCIDENTAL USE SEPARATION	-	-	-	-	-	-	-

*Indicate section number permitting reduction

PERCENT OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
180	UP, NS	NO LIMIT	-
-	-	-	-
-	-	-	-

LIFE SAFETY SYSTEM REQUIREMENTS
EMERGENCY LIGHTING: NO YES
EXIT SIGNS: NO YES
FIRE ALARM: NO YES
SMOKE DETECTION SYSTEMS: NO YES
CARBON MONOXIDE DETECTION: NO YES

LIFE SAFETY PLAN REQUIREMENTS
LIFE SAFETY PLAN SHEET: G004 - LIFE SAFETY PLANS
 FIRE AND / OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
 ASSUMED AND REAL PROPERTY LINE LOCATIONS (IF NOT ON THE SITE PLAN)
 EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
 OCCUPANCY USE FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
 OCCUPANT LOADS FOR EACH AREA
 EXIT ACCESS TRAVEL DISTANCES (1017)
 COMMON PATH OF TRAVEL DISTANCES (1016.2.1 & 1006.3.2(1))
 DEAD END LENGTHS (1020.4)
 CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
 MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
 ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
 A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR / CEILING AND / OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
 LOCATION OF DOORS WITH PANIC HARDWARE (1010.1.10)
 LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND THE AMOUNT OF DELAY (1010.1.9.7)
 LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1010.1.9.9)
 LOCATION OF DOORS EQUIPPED WITH HOLD-OPEN DEVICES
 LOCATION OF EMERGENCY ESCAPE WINDOWS (1030)
 THE SQUARE FOOTAGE OF EACH FIRE AREA (202)
 THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT FOR OCCUPANCY CLASSIFICATION I-2 (407.4)
 NOTE ANY CODE EXCEPTION OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE.

ACCESSIBLE DWELLING UNITS (SECTION 1107)

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

ACCESSIBLE PARKING (SECTION 1106)

LOT OR AREA PARKING	TOTAL # OF PARKING SPACES		TOTAL # OF PARKING SPACES			TOTAL ACCESSIBLE UNITS PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESSIBLE ISLE	132" ACCESSIBLE AISLE	8' ACCESSIBLE AISLE	
-	-	-	-	-	-	-
-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS		URINALS	LAVATORIES		SHOWERS / TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE EXISTING	-	-	-	-	-	-	-	-
NEW	1	-	-	1	-	-	-	-
REQUIRED	1	1	-	1	1	-	-	-

SPECIAL APPROVALS
SPECIAL APPROVAL REQUIRED: NO YES
 LOCAL JURISDICTION OSC DHHS
 DEPARTMENT OF INSURANCE DPI OTHER: N/A
DESCRIPTION: -



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



DKA JOB NUMBER
2403

REVISIONS

NO.	DATE	DESCRIPTION

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SHEET TITLE
CODE SUMMARY

G002

**APPENDIX B
2018 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)**

ENERGY SUMMARY

ENERGY REQUIREMENTS:
THE FOLLOWING DATA SHALL BE CONSIDERED MINIMUM AND ANY SPECIAL ATTRIBUTE REQUIRED TO MEET THE ENERGY CODE SHALL ALSO BE PROVIDED. EACH DESIGNER SHALL FURNISH THE REQUIRED PORTIONS OF THE PROJECT INFORMATION FOR THE PLAN DATA SHEET. IF PERFORMANCE METHOD, STATE THE ANNUAL ENERGY COST FOR THE STANDARD REFERENCE DESIGN VS ANNUAL ENERGY COST FOR THE PROPOSED DESIGN.

EXISTING BUILDING ENVELOPE COMPLIES WITH CODE: -

EXEMPT BUILDING (PROVIDE CODE OR STATUTORY REFERENCE): -

CLIMATE ZONE: 3A 4A 5A

METHOD OF COMPLIANCE: Energy Code: Prescriptive Performance
ASHRAE 90.1: Prescriptive Performance

(IF "OTHER", SPECIFY SOURCE HERE) EXEMPT BY 2018 NCECC C101.2

THERMAL ENVELOPE (PRESCRIPTIVE METHOD ONLY)

ROOF / CEILING ASSEMBLY (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: BUILDING IS HEATED ONLY. STANDING SEAM METAL ROOF OVER INSULATED LINER SYSTEM
U-VALUE OF TOTAL ASSEMBLY: N/A
R-VALUE OF INSULATION: R19 + R11
SKYLIGHTS IN EACH ASSEMBLY: N/A
U-VALUE OF SKYLIGHT: N/A
TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY: N/A

EXTERIOR WALLS (EACH ASSEMBLY) BUILDING IS HEATED ONLY. 8" SPLIT FACE CMU AND METAL WALL PANELS OVER INSULATED LINER SYSTEM
DESCRIPTION OF ASSEMBLY: -
U-VALUE OF TOTAL ASSEMBLY: 0.45
R-VALUE OF INSULATION: R-0 + R-13 and R-7.6

OPENINGS (WINDOWS OR DOORS WITH GLAZING)
U-VALUE OF ASSEMBLY: -
SOLAR HEAT GAIN COEFFICIENT: -
PROJECTION FACTOR: -
DOOR R-VALUES: -

WALLS BELOW GRADE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: -
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: -

FLOORS OVER UNCONDITIONED SPACE (EACH ASSEMBLY)
DESCRIPTION OF ASSEMBLY: -
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: -

FLOORS SLAB ON GRADE
DESCRIPTION OF ASSEMBLY: 4" Concrete Slab on Vapor Retarder on Grade
U-VALUE OF TOTAL ASSEMBLY: -
R-VALUE OF INSULATION: -
HORIZONTAL / VERTICAL REQUIREMENT: -
SLAB HEATED: -

STRUCTURAL DESIGN SUMMARY

DESIGN LOADS

IMPORTANCE FACTORS
SNOW (Is): -
SEISMIC (Is): -

LIVE LOADS
ROOF (PSF): -
MEZZANINE (PSF): -
FLOOR (PSF): -

GROUND SNOW LOAD (PSF): -

WIND LOAD
BASIC WIND SPEED (MPH) (ASCE-7): -
EXPOSURE CATEGORY: -

SEISMIC DESIGN CATEGORY:
PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS

RISK CATEGORY (TABLE 1604.5): I II III IV

SPECTRAL RESPONSE ACCELERATION:
S_s - %g
S₁ - %g

SITE CLASSIFICATION (ASCE 7): A B C D E F
DATA SOURCE: Field Test Presumptive Historical Data

BASIC STRUCTURAL SYSTEM: Bearing Wall Dual w/ Special Moment Frame
 Building Frame Dual w/ Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum

ANALYSIS PROCEDURE: Simplified Equivalent Lateral Force Dynamic

ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES (PSF): -
Field Test (psf) -
Presumptive Bearing Capacity (psf) -
Pile Size, Type and Capacity -

MECHANICAL DESIGN SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE 3A
WINTER DRY BULB: 16°F
SUMMER DRY BULB: -

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB: 65°F
SUMMER DRY BULB: -
RELATIVE HUMIDITY: -

BUILDING HEATING LOAD: 103.5 MBH
BUILDING COOLING LOAD: -

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY
DESCRIPTION OF UNIT: -
HEATING EFFICIENCY: -
COOLING EFFICIENCY: -
SIZE CATEGORY OF UNIT: -
SEE SCHEDULES ON SHEET M600

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

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

LIST EQUIPMENT EFFICIENCIES: -

ELECTRICAL DESIGN SUMMARY

ELECTRICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE: Energy Code: Prescriptive Performance
ASHRAE 90.1: Prescriptive Performance

LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN FIXTURE -
NUMBER OF LAMPS IN THE FIXTURE -
BALLAST TYPE USED IN THE FIXTURE -
NUMBER OF BALLASTS IN THE FIXTURE -
TOTAL WATTAGE PER FIXTURE -
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED - 1697W VS. 2697W
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED - 210W VS. 750W

SEE LIGHT FIXTURE/LUMINAIRE SCHEDULE

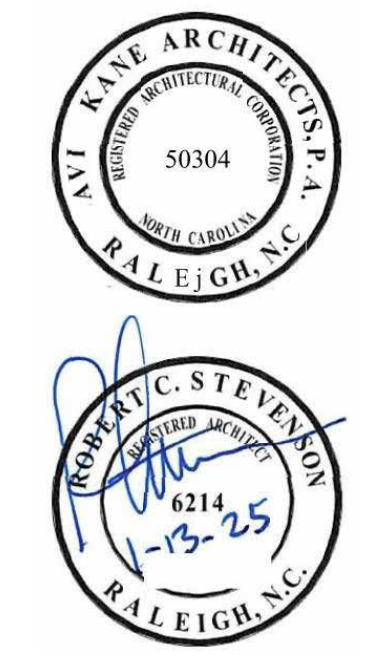
ADDITIONAL EFFICIENCY PACKAGE OPTIONS (WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)
 C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
 C406.3 REDUCED LIGHTING POWER DENSITY
 C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
 C406.5 ON-SITE RENEWABLE ENERGY
 C406.6 DEDICATED OUTDOOR AIR SYSTEM
 C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

REVISIONS

NO.	DATE	DESCRIPTION

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Bid Documents
1/13/2025

SHEET TITLE

CODE SUMMARY

G003

SOUTH CARY WATER RECLAMATION FACILITY - MAINTENANCE FACILITY WITH SOLAR

4900 WEST LAKE ROAD, APEX NC 27539

BID DOCUMENTS CLH PROJECT # 24-103

DRAWING INDEX

C000 COVER SHEET
C101 EXISTING CONDITIONS & DEMOLITION PLAN
C201 STAKING & LANDSCAPE PLAN
C301 EROSION CONTROL & GRADING PLAN
C401 UTILITY PLAN
C701 EROSION CONTROL DETAILS
C801 SITE DETAILS
C901 UTILITY DETAILS

VICINITY MAP



PROJECT SCOPE SUMMARY

ARCHITECTURAL SCOPE: OWNER TO DEMOLISH THE EXISTING STORAGE/MAINTENANCE BUILDING PRIOR TO CONSTRUCTION OF THIS PROJECT. NEW WORK INCLUDES THE CONSTRUCTION OF A NEW 7,350 SQ FT PRE-ENGINEERED METAL BUILDING WITH SOLAR AND SLAB ON GRADE FOUNDATION. WORK SHALL BE UNDER THE BUILDING PERMIT. NO MAJOR EXTERIOR IMPROVEMENTS. REFER TO THE ARCHITECTURAL ELEVATIONS.

SITE IMPROVEMENTS SCOPE: SITE WORK INCLUDES MISCELLANEOUS GRADING/EARTHWORK, EROSION AND SEDIMENT CONTROL, INSTALLATION OF EXTERIOR CONCRETE SIDEWALK/PADS, MODIFICATIONS OF EXISTING ASPHALT APRON/DRIVE AND CONCRETE CURB & GUTTER. THE SITE WORK CONSISTS OF A NEW WATER AND SANITARY SEWER SERVICE TO SERVE THE NEW MAINTENANCE BUILDING. NO CHANGE IN OCCUPANCY OR LAND USE.

SITE DATA TABLE

OWNER:	TOWN OF CARY
OWNER CONTACT:	JOHN HOLLOWAY PO BOX 8005 CARY NC, 27512-8005 919-462-3875 JOHN.HOLLOWAY@CARYNC.GOV
LANDSCAPE ARCHITECT:	CLH DESIGN, PA
LANDSCAPE ARCHITECT CONTACT:	TROY OLSON, PLA, ASLA 400 REGENCY FOREST DRIVE, SUITE 120 CARY, NC 27518 919-319-6716 TOLSON@CLHDESIGNPA.COM
CIVIL ENGINEER:	CLH DESIGN, PA
ENGINEER CONTACT:	STEVE MILLER, PE 400 REGENCY FOREST DRIVE, SUITE 120 CARY, NC 27518 919-319-6716 SMILLER@CLHDESIGNPA.COM
ARCHITECT:	DAVIS KANE ARCHITECTS, PA
ARCHITECT CONTACT:	CHAD VOLK, AIA 503 OBERLIN RD. STE. 300 RALEIGH, NC 27605 919-833-3737 CVOLK@DAVISKANE.COM
PROJECT ADDRESS:	4900 WEST LAKE ROAD APEX, NC 27539
PLANNING JURISDICTION:	TOWN OF CARY
PIN:	0679214790
REAL ESTATE ID:	0150419
DEEDED ACREAGE:	118.11 ACRES
DEED BOOK & PAGE REF:	BK 003765, PG 00182
ZONING:	R40
OVERLAY DISTRICT:	N/A
EXISTING/PROPOSED USE:	PUBLIC UTILITY FACILITY
TOWN OF CARY SETBACK REQUIREMENTS	
ROADWAY:	50'
SIDE:	15'
REAR:	30'
TOWN OF CARY PARKING REQUIREMENTS	
PARKING REQUIREMENTS ARE BASED ON 'SCHEDULE C' PER THE TOWN'S LDO (7.8.2(D)(3)). PARKING SPACES ARE NOT PROPOSED TO BE ALTERED (REMOVED OR NEW PROVIDED) SINCE THERE IS NO CHANGE IN USE OR OCCUPANCY ASSOCIATED WITH THIS PROJECT.	
TOWN OF CARY BIKE SPACE REQUIREMENTS	
BIKE SPACES ARE NOT REQUIRED (N/A) SINCE THIS IS A 'GOVT SERVICES' FACILITY AND THE LAND USE IS DEEMED A 'PUBLIC UTILITY FACILITIES' PER TOWN'S LDO.	
WATERSHED:	MIDDLE CREEK
STREAM BUFFERS:	N/A
EXISTING BLDG/STRUCTURE AREA:	3,600 SF (TO BE DEMOLISHED)
NEW BLDG/STRUCTURE AREA:	7,350 SF
NET BLD/STRUCTURE INCREASE:	3,750 SF (BELOW 5,000 SF THRESHOLD PER LDO)
DISTURBED AREA (PROJECT AREA):	0.76 ACRES (33,216 SF)
EXISTING IMPERVIOUS:	0.31 ACRES
PROPOSED IMPERVIOUS:	0.40 ACRES
NET IMPERVIOUS INCREASE:	0.09 ACRES
THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AS DETERMINED BY FEMA AND AND DEPICTED ON F.I.R.M. MAP 3720067900K, DATED JULY 19, 2022 (MAP REVISED) AS BEING WITHIN ZONE X.	

NOTE: CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DIGGING. 1-800-632-4949



2403

24-103

NO.	DESCRIPTION	DATE

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PM: TO
Drawn By: CR
Plot Date: 1/13/2025

Bid Documents
01/13/2025

COVER SHEET

C000

PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

CLH JOB NUMBER

24-103

REVISIONS

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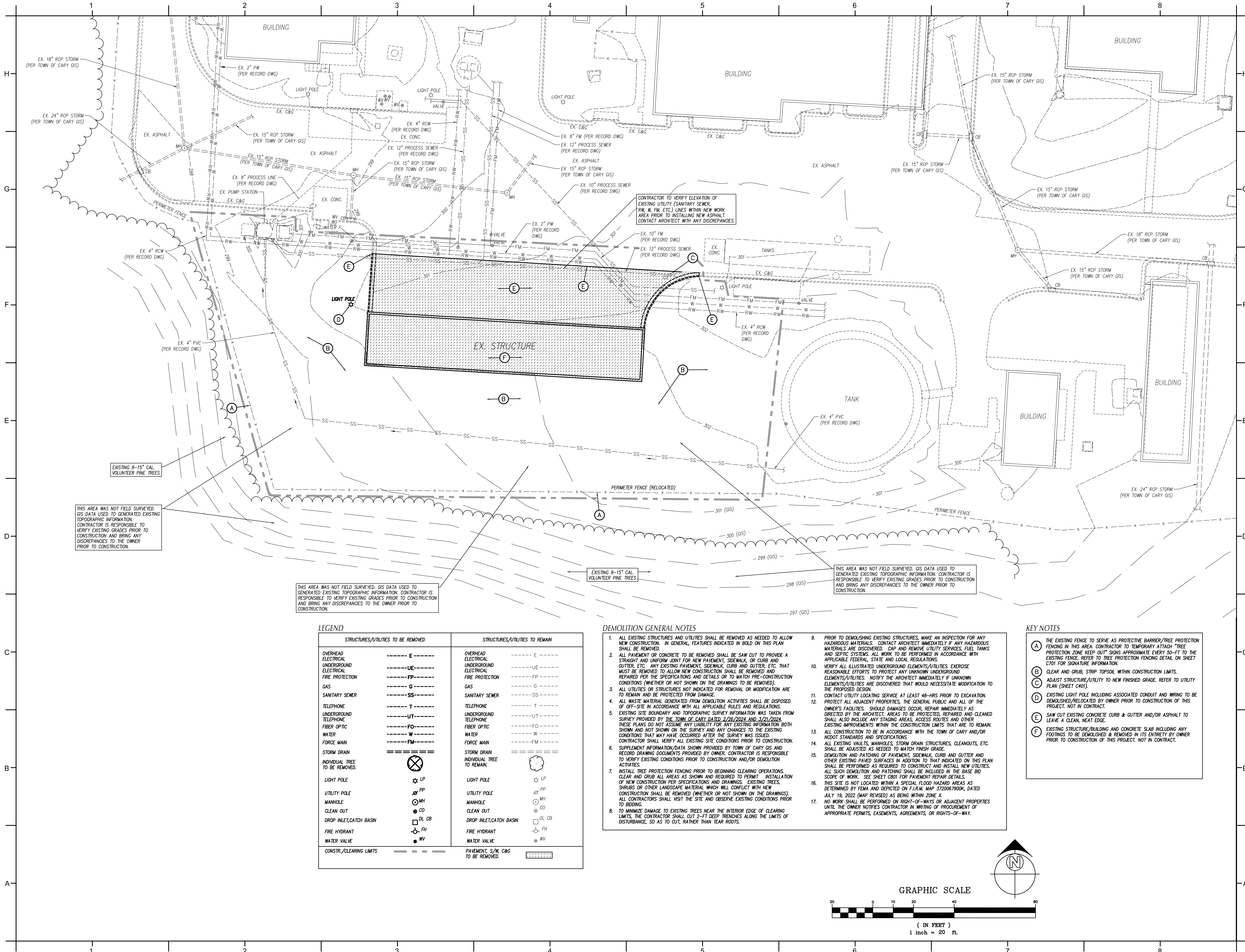
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DATE ISSUED

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01/13/2025

SHEET TITLE
EXISTING CONDITIONS & DEMOLITION PLAN

C101



THIS AREA WAS NOT FIELD SURVEYED. GIS DATA USED TO GENERATE EXISTING TOPOGRAPHIC INFORMATION. CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING GRADES PRIOR TO CONSTRUCTION AND BRING ANY DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.

THIS AREA WAS NOT FIELD SURVEYED. GIS DATA USED TO GENERATE EXISTING TOPOGRAPHIC INFORMATION. CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING GRADES PRIOR TO CONSTRUCTION AND BRING ANY DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.

EXISTING 8-15" CAL. VOLUNTEER PINE TREES

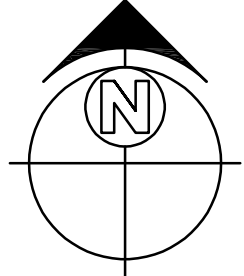
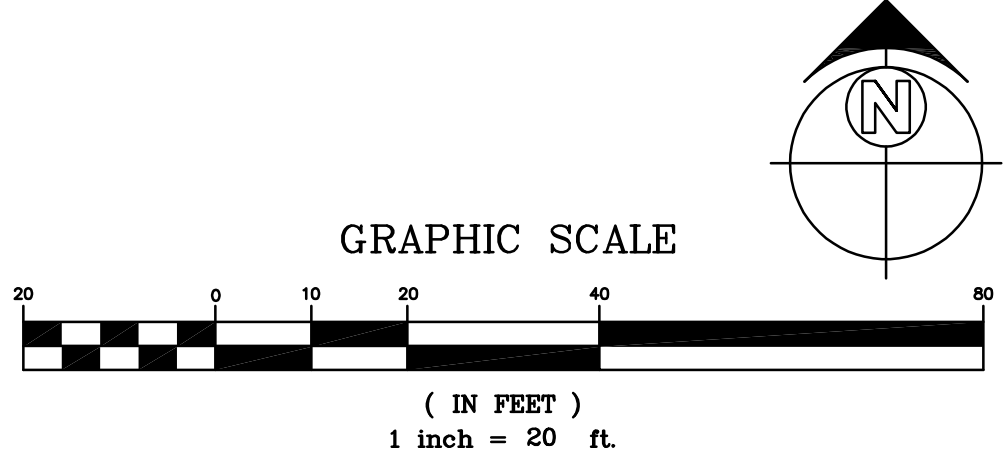
THIS AREA WAS NOT FIELD SURVEYED. GIS DATA USED TO GENERATE EXISTING TOPOGRAPHIC INFORMATION. CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING GRADES PRIOR TO CONSTRUCTION AND BRING ANY DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.

LEGEND

STRUCTURES/UTILITIES TO BE REMOVED	STRUCTURES/UTILITIES TO REMAIN
OVERHEAD ELECTRICAL ----- E -----	OVERHEAD ELECTRICAL ----- E -----
UNDERGROUND ELECTRICAL ----- UE -----	UNDERGROUND ELECTRICAL ----- UE -----
FIRE PROTECTION ----- FP -----	FIRE PROTECTION ----- FP -----
GAS ----- G -----	GAS ----- G -----
SANITARY SEWER ----- SS -----	SANITARY SEWER ----- SS -----
TELEPHONE ----- T -----	TELEPHONE ----- T -----
UNDERGROUND TELEPHONE ----- UT -----	UNDERGROUND TELEPHONE ----- UT -----
FIBER OPTIC ----- FO -----	FIBER OPTIC ----- FO -----
WATER ----- W -----	WATER ----- W -----
FORCE MAIN ----- FM -----	FORCE MAIN ----- FM -----
STORM DRAIN ----- SD -----	STORM DRAIN ----- SD -----
INDIVIDUAL TREE TO BE REMOVED. (Symbol)	INDIVIDUAL TREE TO REMAIN. (Symbol)
LIGHT POLE (Symbol)	LIGHT POLE (Symbol)
UTILITY POLE (Symbol)	UTILITY POLE (Symbol)
MANHOLE (Symbol)	MANHOLE (Symbol)
CLEAN OUT (Symbol)	CLEAN OUT (Symbol)
DROP INLET, CATCH BASIN (Symbol)	DROP INLET, CATCH BASIN (Symbol)
FIRE HYDRANT (Symbol)	FIRE HYDRANT (Symbol)
WATER VALVE (Symbol)	WATER VALVE (Symbol)
CONSTR./CLEARING LIMITS (Symbol)	PAVEMENT, S/W, C&G TO BE REMOVED. (Symbol)

- DEMOLITION GENERAL NOTES**
- ALL EXISTING STRUCTURES AND UTILITIES SHALL BE REMOVED AS NEEDED TO ALLOW NEW CONSTRUCTION. IN GENERAL, FEATURES INDICATED IN BOLD ON THIS PLAN SHALL BE REMOVED.
 - ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT FOR NEW PAVEMENT, SIDEWALK, OR CURB AND GUTTER, ETC. ANY EXISTING PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH PRE-CONSTRUCTION CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS) TO BE REMOVED.
 - ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
 - ALL WASTE MATERIAL GENERATED FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
 - EXISTING SITE BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM SURVEY PROVIDED BY THE TOWN OF CARY DATED 2/26/2024 AND 3/21/2024. THESE PLANS DO NOT ASSUME ANY LIABILITY FOR ANY EXISTING INFORMATION BOTH SHOWN AND NOT SHOWN ON THE SURVEY AND ANY CHANGES TO THE EXISTING CONDITIONS THAT MAY HAVE OCCURRED AFTER THE SURVEY WAS ISSUED. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
 - SUPPLEMENT INFORMATION/DATA SHOWN PROVIDED BY TOWN OF CARY GIS AND RECORD DRAWING DOCUMENTS PROVIDED BY OWNER. CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND/OR DEMOLITION ACTIVITIES.
 - INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB ALL AREAS AS SHOWN AND REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS). ALL CONTRACTORS SHALL VISIT THE SITE AND OBSERVE EXISTING CONDITIONS PRIOR TO BIDDING.
 - TO MINIMIZE DAMAGE TO EXISTING TREES NEAR THE INTERIOR EDGE OF CLEARING LIMITS, THE CONTRACTOR SHALL CUT 2-FT DEEP TRENCHES ALONG THE LIMITS OF DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR ROOTS.
 - PRIOR TO DEMOLISHING EXISTING STRUCTURES, MAKE AN INSPECTION FOR ANY HAZARDOUS MATERIALS. CONTACT ARCHITECT IMMEDIATELY IF ANY HAZARDOUS MATERIALS ARE DISCOVERED. CAP AND REMOVE UTILITY SERVICES, FUEL TANKS AND SEPTIC SYSTEMS. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
 - VERIFY ALL ILLUSTRATED UNDERGROUND ELEMENTS/UTILITIES. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS/UTILITIES. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS/UTILITIES ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
 - CONTACT UTILITY LOCATING SERVICE AT LEAST 48-HRS PRIOR TO EXCAVATION.
 - PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, REPAIR IMMEDIATELY AS DIRECTED BY THE ARCHITECT. AREAS TO BE PROTECTED, REPAIRED AND CLEANED SHALL ALSO INCLUDE ANY STAGING AREAS, ACCESS ROUTES AND OTHER EXISTING IMPROVEMENTS WITHIN THE CONSTRUCTION LIMITS THAT ARE TO REMAIN.
 - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE TOWN OF CARY AND/OR NDOT STANDARDS AND SPECIFICATIONS.
 - ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISH GRADE.
 - DEMOLITION AND PATCHING OF PAVEMENT, SIDEWALK, CURB AND GUTTER AND OTHER EXISTING PAVED SURFACES IN ADDITION TO THAT INDICATED ON THIS PLAN SHALL BE PERFORMED AS REQUIRED TO CONSTRUCT AND INSTALL NEW UTILITIES. ALL SUCH DEMOLITION AND PATCHING SHALL BE INCLUDED IN THE BASE BID SCOPE OF WORK. SEE SHEET C201 FOR PAVEMENT REPAIR DETAILS.
 - THIS SITE IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREAS AS DETERMINED BY FEMA AND DEPICTED ON F.I.R.M. MAP 3720067900K, DATED JULY 19, 2022 (MAP REVISED) AS BEING WITHIN ZONE X.
 - NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNLESS THE OWNER NOTICES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.

- KEY NOTES**
- (A) THE EXISTING FENCE TO SERVE AS PROTECTIVE BARRIER/TREE PROTECTION FENCING IN THIS AREA. CONTRACTOR TO TEMPORARILY ATTACH "TREE PROTECTION ZONE KEEP OUT" SIGNS APPROXIMATE EVERY 50-FT TO THE EXISTING FENCE. REFER TO TREE PROTECTION FENCING DETAIL ON SHEET C701 FOR SIGNATURE INFORMATION.
 - (B) CLEAR AND GRUB, STRIP TOPSOIL WITHIN CONSTRUCTION LIMITS.
 - (C) ADJUST STRUCTURE/UTILITY TO NEW FINISHED GRADE. REFER TO UTILITY PLAN (SHEET C401).
 - (D) EXISTING LIGHT POLE INCLUDING ASSOCIATED CONDUIT AND WIRING TO BE DEMOLISHED/RELOCATED BY OWNER PRIOR TO CONSTRUCTION OF THIS PROJECT. NOT IN CONTRACT.
 - (E) SAW CUT EXISTING CONCRETE CURB & GUTTER AND/OR ASPHALT TO LEAVE A CLEAN, NEAT EDGE.
 - (F) EXISTING STRUCTURE/BUILDING AND CONCRETE SLAB INCLUDING ANY FOOTINGS TO BE DEMOLISHED & REMOVED IN ITS ENTIRETY BY OWNER PRIOR TO CONSTRUCTION OF THIS PROJECT. NOT IN CONTRACT.





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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd., Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

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24-103

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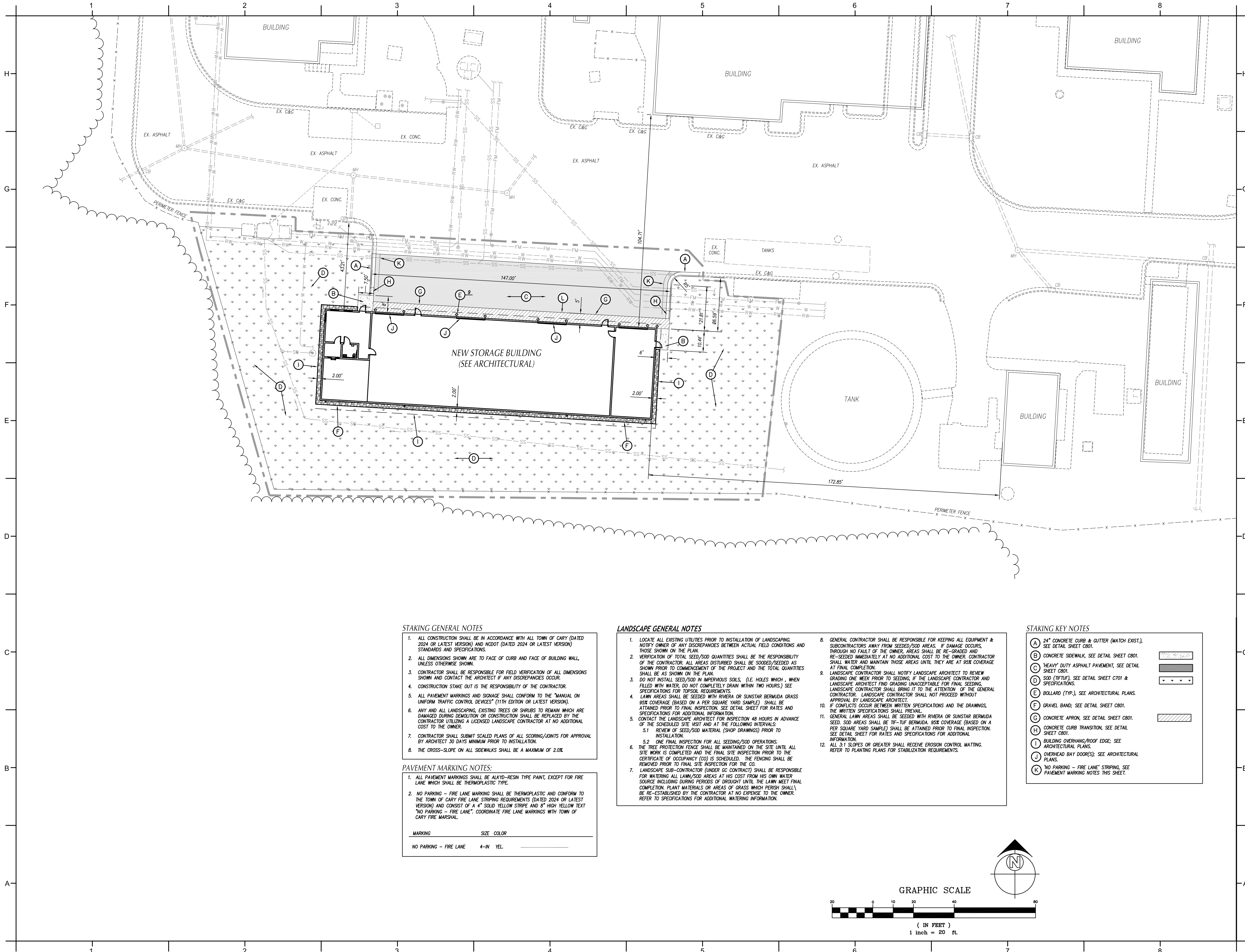
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01/13/2025

SHEET TITLE
STAKING & LANDSCAPE PLAN

C201



- STAKING GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF CARY (DATED 2024 OR LATEST VERSION) AND NCDOT (DATED 2024 OR LATEST VERSION) STANDARDS AND SPECIFICATIONS.
 - ALL DIMENSIONS SHOWN ARE TO FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
 - CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (11TH EDITION OR LATEST VERSION).
 - ANY AND ALL LANDSCAPING, EXISTING TREES OR SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 - CONTRACTOR SHALL SUBMIT SCALED PLANS OF ALL SCORING/JOINTS FOR APPROVAL BY ARCHITECT 30 DAYS MINIMUM PRIOR TO INSTALLATION.
 - THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%.

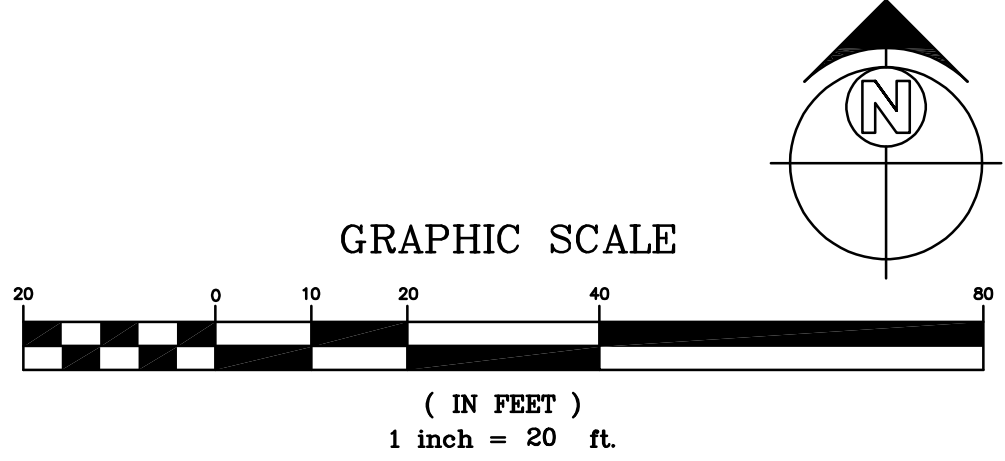
PAVEMENT MARKING NOTES:

- ALL PAVEMENT MARKINGS SHALL BE ALKYD-RESIN TYPE PAINT, EXCEPT FOR FIRE LANE WHICH SHALL BE THERMOPLASTIC TYPE.
- NO PARKING - FIRE LANE MARKING SHALL BE THERMOPLASTIC AND CONFORM TO THE TOWN OF CARY FIRE LANE STRIPING REQUIREMENTS (DATED 2024 OR LATEST VERSION) AND CONSIST OF A 4" SOLID YELLOW STRIPE AND 8" HIGH YELLOW TEXT "NO PARKING - FIRE LANE". COORDINATE FIRE LANE MARKINGS WITH TOWN OF CARY FIRE MARSHAL.

MARKING	SIZE	COLOR
NO PARKING - FIRE LANE	4-IN	YEL.

- LANDSCAPE GENERAL NOTES**
- LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF LANDSCAPING. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
 - VERIFICATION OF TOTAL SEED/SOD QUANTITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL AREAS DISTURBED SHALL BE SOODED/SEEDED AS SHOWN PRIOR TO COMMENCEMENT OF THE PROJECT AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
 - DO NOT INSTALL SEED/SOD IN IMPERVIOUS SOILS, (I.E. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS). SEE SPECIFICATIONS FOR TOPSOIL REQUIREMENTS.
 - LAWN AREAS SHALL BE SEEDED WITH RIVERIA OR SUNSTAR BERMUDDA GRASS 95% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION. SEE DETAIL SHEET FOR RATES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
 - REVIEW OF SEED/SOD MATERIAL (SHOP DRAWINGS) PRIOR TO INSTALLATION.
 - ONE FINAL INSPECTION FOR ALL SEEDING/SOD OPERATIONS.
 - THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. THE FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
 - LANDSCAPE SUB-CONTRACTOR (UNDER GC CONTRACT) SHALL BE RESPONSIBLE FOR WATERING ALL LAWN/SOD AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL THE LAWN MEET FINAL COMPLETION. PLANT MATERIALS OR AREAS OF GRASS WHICH PERISH SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. REFER TO SPECIFICATIONS FOR ADDITIONAL WATERING INFORMATION.
 - GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED/SOD AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE RE-GRADED AND RE-SEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT FINAL COMPLETION.
 - LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING. IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.
 - IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.
 - GENERAL LAWN AREAS SHALL BE SEEDED WITH RIVERIA OR SUNSTAR BERMUDDA SEED. SOD AREAS SHALL BE TIF-TUF BERMUDDA. SOG COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION. SEE DETAIL SHEET FOR RATES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - ALL 3:1 SLOPES OR GREATER SHALL RECEIVE EROSION CONTROL MATTING. REFER TO PLANTING PLANS FOR STABILIZATION REQUIREMENTS.

- STAKING KEY NOTES**
- (A) 24" CONCRETE CURB & GUTTER (MATCH EXIST). SEE DETAIL SHEET C801.
 - (B) CONCRETE SIDEWALK. SEE DETAIL SHEET C801.
 - (C) "HEAVY" DUTY ASPHALT PAVEMENT. SEE DETAIL SHEET C801.
 - (D) SOD (TIF/TUF). SEE DETAIL SHEET C701 & SPECIFICATIONS.
 - (E) BOLLARD (TYP.). SEE ARCHITECTURAL PLANS.
 - (F) GRAVEL BAND. SEE DETAIL SHEET C801.
 - (G) CONCRETE APRON. SEE DETAIL SHEET C801.
 - (H) CONCRETE CURB TRANSITION. SEE DETAIL SHEET C801.
 - (I) BUILDING OVERHANG/ROOF EDGE; SEE ARCHITECTURAL PLANS.
 - (J) OVERHEAD BAY DOOR(S); SEE ARCHITECTURAL PLANS.
 - (K) NO PARKING - FIRE LANE STRIPING. SEE PAVEMENT MARKING NOTES THIS SHEET.

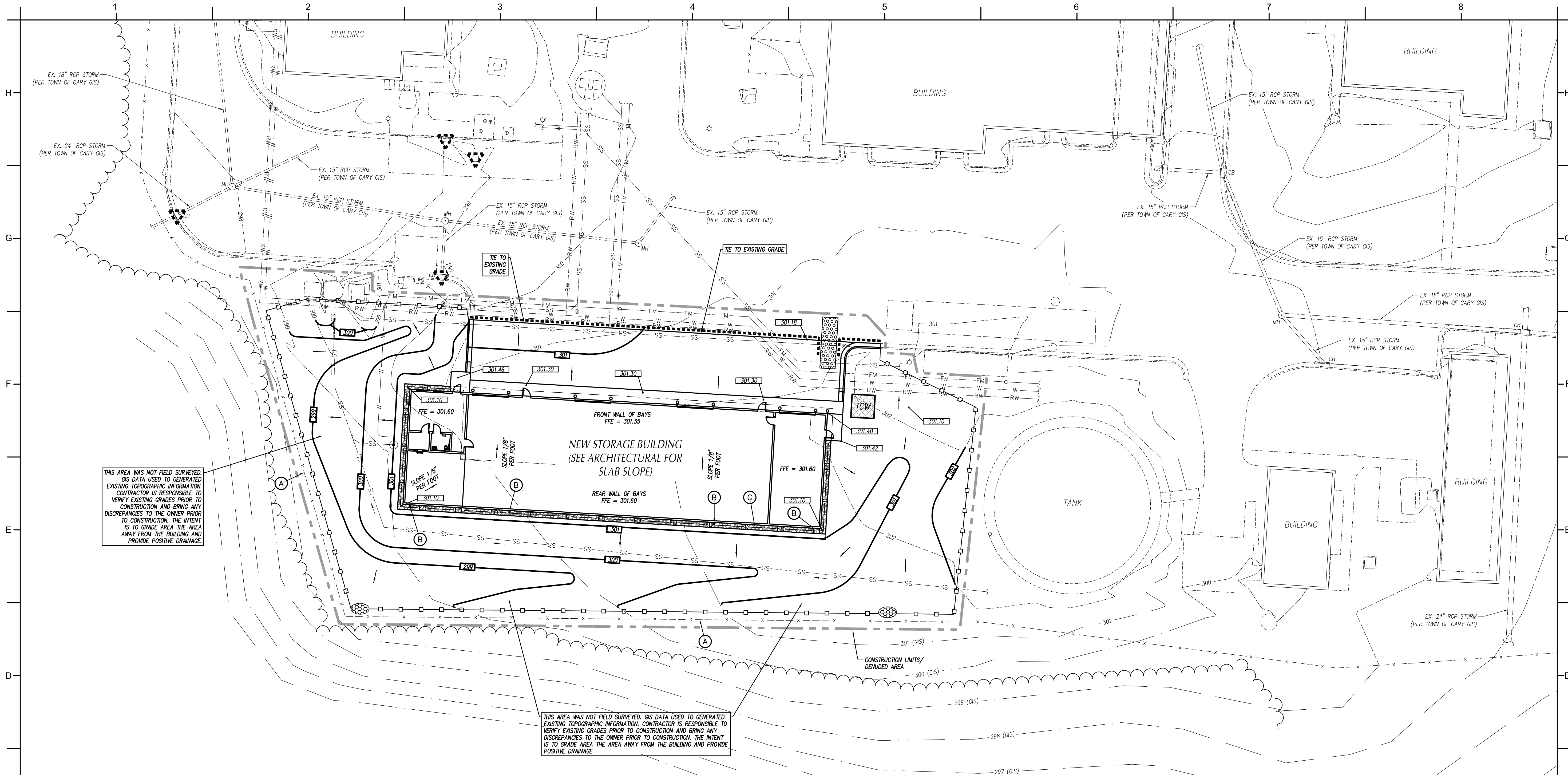




NO.	DATE	DESCRIPTION

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Drawn By: CR
Plot Date: 1/13/2025



EROSION MAINTENANCE PLAN

- DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (SHEET C701) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (SHEET C701) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
- SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
- ALL OTHER SEEDING AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

SELF-INSPECTION RULES

THE FINANCIALLY RESPONSIBLE PERSON AND/OR HIS AGENT WILL PERFORM SELF INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES USING NCDDE'S SELF INSPECTION REPORT (WORKSHEET) AND THIS WILL BE KEPT ON-SITE.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION NOTES. SEE SHEET C701.

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION II.B(2) (b)).

THE REQUIREMENTS ON SHEET C701 ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED MINIMUM REQUIREMENTS.

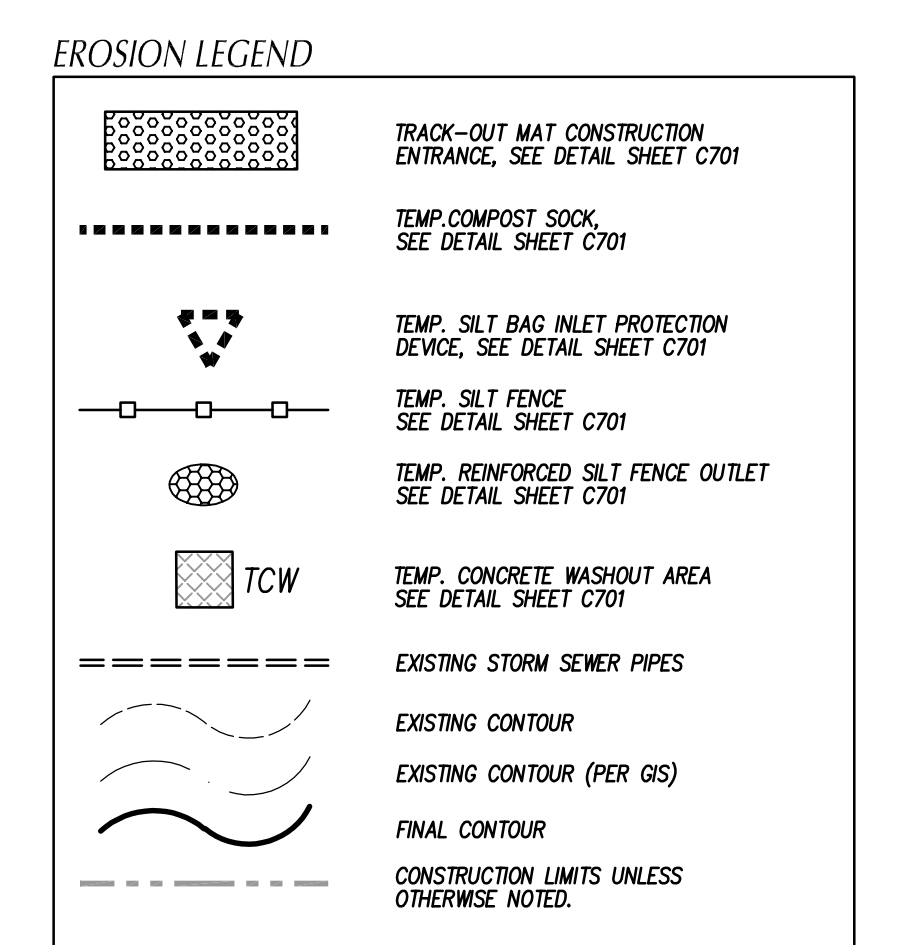
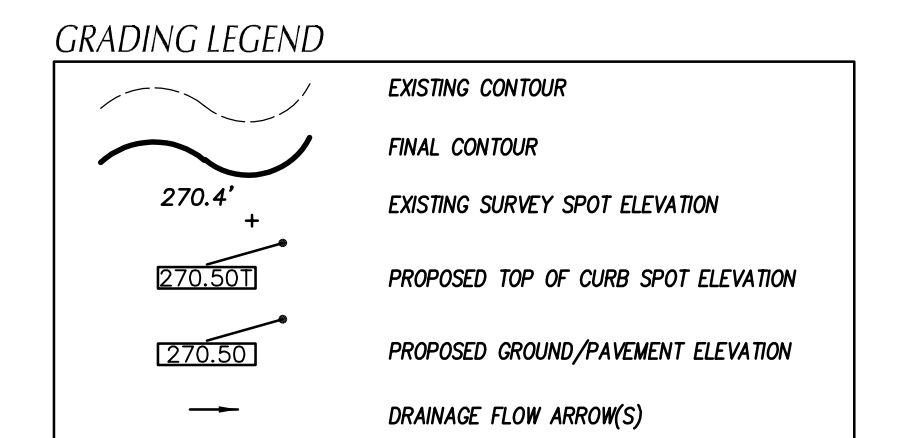
INSTALL TEMPORARY EROSION CONTROL MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER) AND AREAS OF CONCENTRATED FLOW (CHANNELS, DITCHES, SWALES, ETC.). UTILIZE TEMPORARY COCOMAT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 312500 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

EROSION GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF CARY (DATED 2024 OR LATEST EDITION), NCDDE (LATEST EDITION), AND NCODOT STANDARDS (DATED 2024 OR LATEST VERSION), SPECIFICATIONS AND DETAILS.
- THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEDIMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER PRIOR TO RELOCATING ANY STOCKPILE MATERIALS.
- THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECT.
- TOTAL DISTURBED (DENuded) AREA: 0.76 AC. (33,216 SF)
- THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINE GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES.
- SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
- THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CO). THE FENCING SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FINAL SITE INSPECTION FOR THE SITE.
- TREE PROTECTION FENCING SHALL NOT BE MOVED AND THERE SHALL BE NO ENCROACHMENT INTO SUCH PROTECTED AREA(S) WITHOUT WRITTEN AUTHORIZATION OF THE COUNTY ZONING COMPLIANCE STAFF. ANY ACTIVITY (LANDSCAPING, FENCING, OR UTILITY INSTALLATION) SHOWN ON THE APPROVED PLANS IN A TREE PROTECTION AREA, SHALL ALSO NOT OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE COUNTY ZONING COMPLIANCE STAFF. ANY UNAUTHORIZED ENCROACHMENT OR DISTURBANCE WITHIN THE BOUNDARIES OF A TREE PROTECTION AREA SHALL AUTOMATICALLY RESULT IN FINES AND THE REPLACEMENT OF ANY DAMAGED VEGETATION IN ACCORDANCE WITH THE LAND DEVELOPMENT ORDINANCE.
- ANY Dewatering OF SEDIMENT CONTAINMENT DEVICES FOR MAINTENANCE, REMOVAL OR CONVERSION PURPOSES IS TO BE DONE THROUGH A SILT BAG.
- ANY Dewatering OF STORM/UTILITY TRENCHES IS TO BE DONE THROUGH A SILT BAG.
- GROUND COVER IS TO BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR AT THE END OF THE DAY IN CRITICAL AREAS.

GRADING GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF CARY STANDARDS AND SPECIFICATIONS (DATED 2024 OR LATEST VERSION).
- ALL SPOT ELEVATIONS INDICATED AT CURB AND GUTTER AND ARE DENOTED TO TOP OF CURB, UNLESS OTHERWISE SHOWN.
- CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
- ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNERS INDEPENDENT TESTING LABORATORY. (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION)
- EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED, UNLESS NOTED OTHERWISE.
- ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
- THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY STATE AUTHORITIES OR THE ARCHITECT.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
- THE CROSS-SLOPE ON ALL SIDEWALKS SHALL BE A MAXIMUM OF 2.0%.
- CONTRACTOR SHALL VERIFY ALL EXISTING ELEVATIONS WHERE NEW CONSTRUCTION JOIN OR CONNECT TO EXISTING PAVEMENT, CURB AND OTHER RIGID STRUCTURES. NOTIFY ARCHITECT IF DISCREPANCIES OCCUR.



CONSTRUCTION SEQUENCE

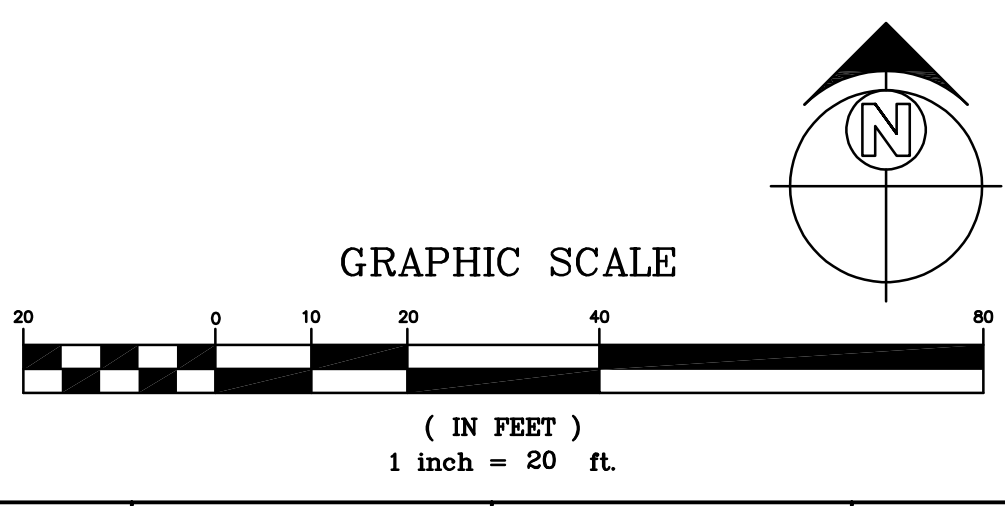
- OBTAIN APPROVED PLAN AND APPROVAL PLACARD. A COPY OF THE APPROVED PLAN MUST BE ON FILE AT THE JOB SITE NOTIFY EROSION CONTROL AUTHORITIES OF PROPOSED STARTING DATE OF LAND DISTURBING ACTIVITIES.
- CONDUCT PRE-CONSTRUCTION MEETING W/ ARCHITECT/OWNER PRIOR TO CONSTRUCTION ACTIVITIES.
- THE FOLLOWING MUST BE KEPT ON SITE UNTIL THE E&S PLAN HAS BEEN CLOSED OUT BY LAND QUALITY: RAIN GAUGE, A COPY OF APPROVED E&S PLAN WITH APPROVAL DOCUMENTATION AND MOST RECENT 30 DAYS OF SELF-INSPECTION RECORDS (SEE SELF-INSPECTION REQUIREMENTS BELOW).
- DEMOLITION AREAS ONLY AS REQUIRED FOR INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES. INSTALL TREE PROTECTION FENCING AND BACKFILL SOIL MATERIAL OVER EXISTING GULCHES.
- INSTALL SILT BAG INLET PROTECTION ON EXISTING INLETS IN ROADWAY.
- INSTALL PERIMETER SILT FENCE AND SILT BAG INLET PROTECTION AS SHOWN ON PLANS. ALL BARE SOILS ARE TO BE STABILIZED UNDER CONDITIONS OUTLINED IN THE CURRENT NPDES PERMIT.
- IF ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED, CONTRACTOR TO BEGIN NEW WORK.
- STABILIZE/REPAVE HARD SURFACES IMMEDIATELY AFTER INSTALLATION.
- ALL BARE AREAS TO BE TEMPORARILY SEED AND STABILIZED.
- ONCE CONSTRUCTION HAS BEEN COMPLETED, CONTRACTOR TO REMOVE ALL TEMPORARY MEASURES, GRADE AND SEED AREAS ACCORDINGLY TO STABILIZE REQUIREMENTS.

KEY NOTES (EROSION CONTROL & GRADING)

(A) THE EXISTING FENCE TO SERVE AS PROTECTIVE BARRIER/TREE PROTECTION FENCING IN THIS AREA. CONTRACTOR TO TEMPORARILY CONTROL AUTHORITIES OF PROPOSED STARTING DATE OF LAND DISTURBING ACTIVITIES. EVERY 50-FT TO THE EXISTING FENCE. REFER TO TREE PROTECTION FENCING DETAIL ON SHEET C701 FOR SIGNATURE INFORMATION.

(B) DOWNSPOUT. SEE ARCHITECTURAL PLANS.

(C) PROPOSED FOUNDATION DRAIN (FULL PERIMETER OF BUILDING). REFER TO ARCHITECTURAL PLANS FOR LOCATION ALONG BLDG WALL AND DETAIL. EXTEND FOUNDATION DRAIN AWAY FROM BUILDING AND DAYLIGHT DRAINAGE PIPE TO PROVIDE POSITIVE DRAINAGE.





DAVIS KANE ARCHITECTS, P.A.

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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd., Apex, NC 27539

SEALS

DKA JOB NUMBER

2403

CLH JOB NUMBER

24-103

REVISIONS

NO.	DESCRIPTION	DATE

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PA: ROBERT STEVENSON
FM: TO
Drawn By: CR
Plot Date: 1/13/2025

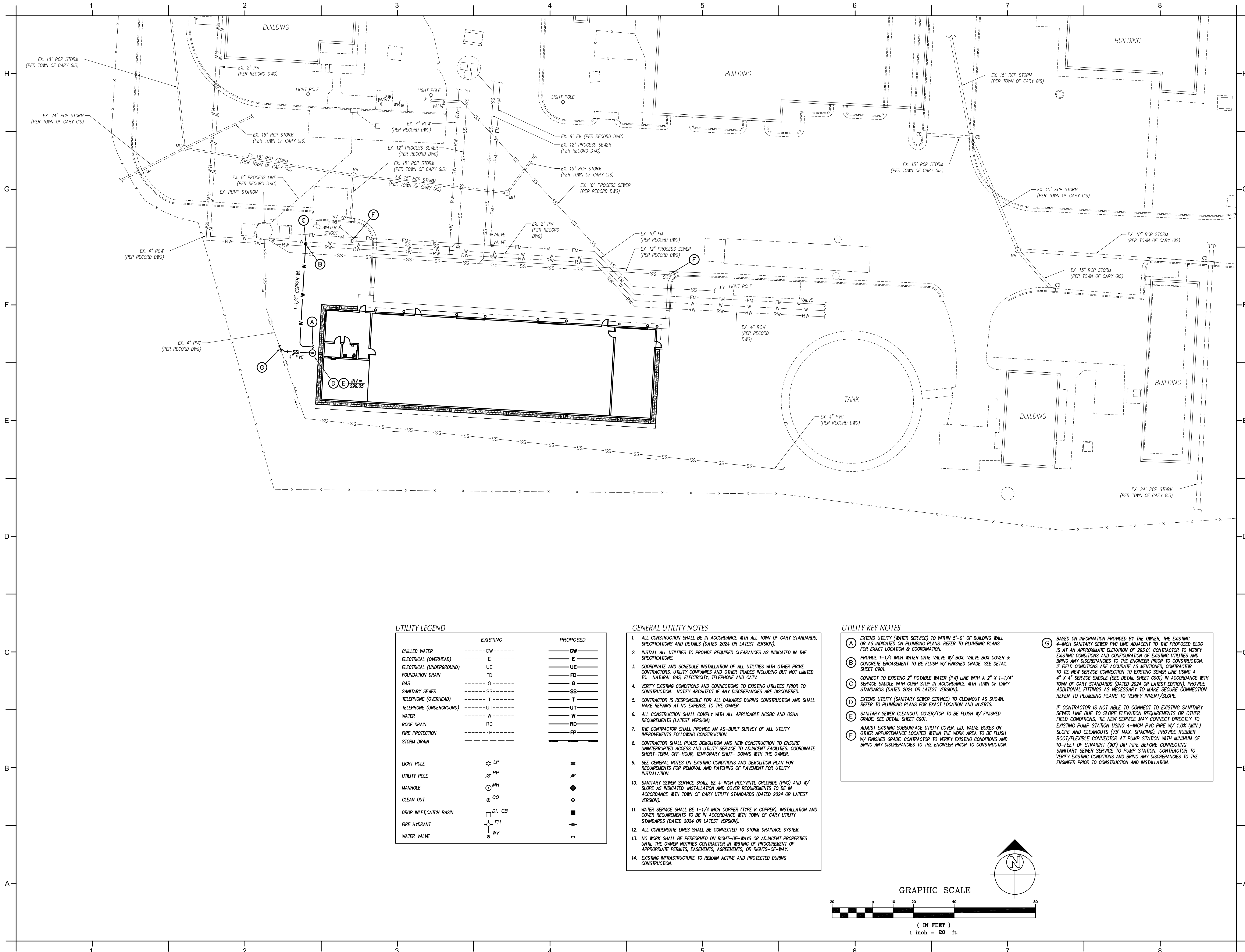
DATE ISSUED

Bid Documents
01/13/2025

SHEET TITLE

UTILITY PLAN

C401

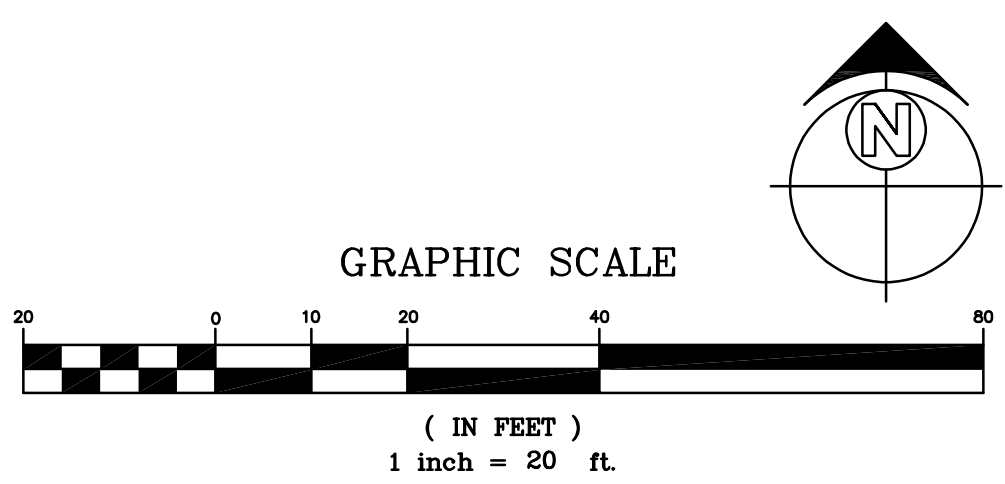


UTILITY LEGEND

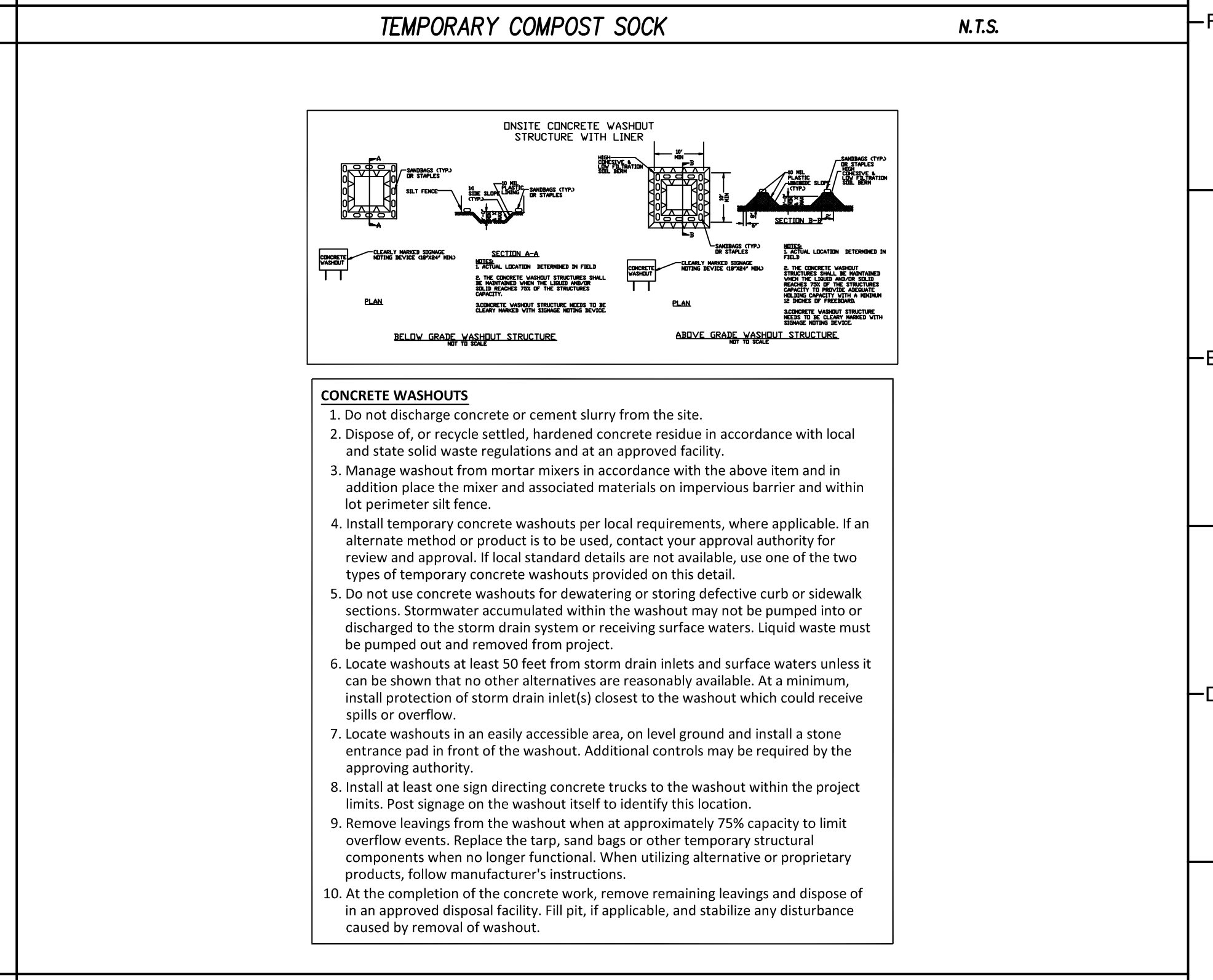
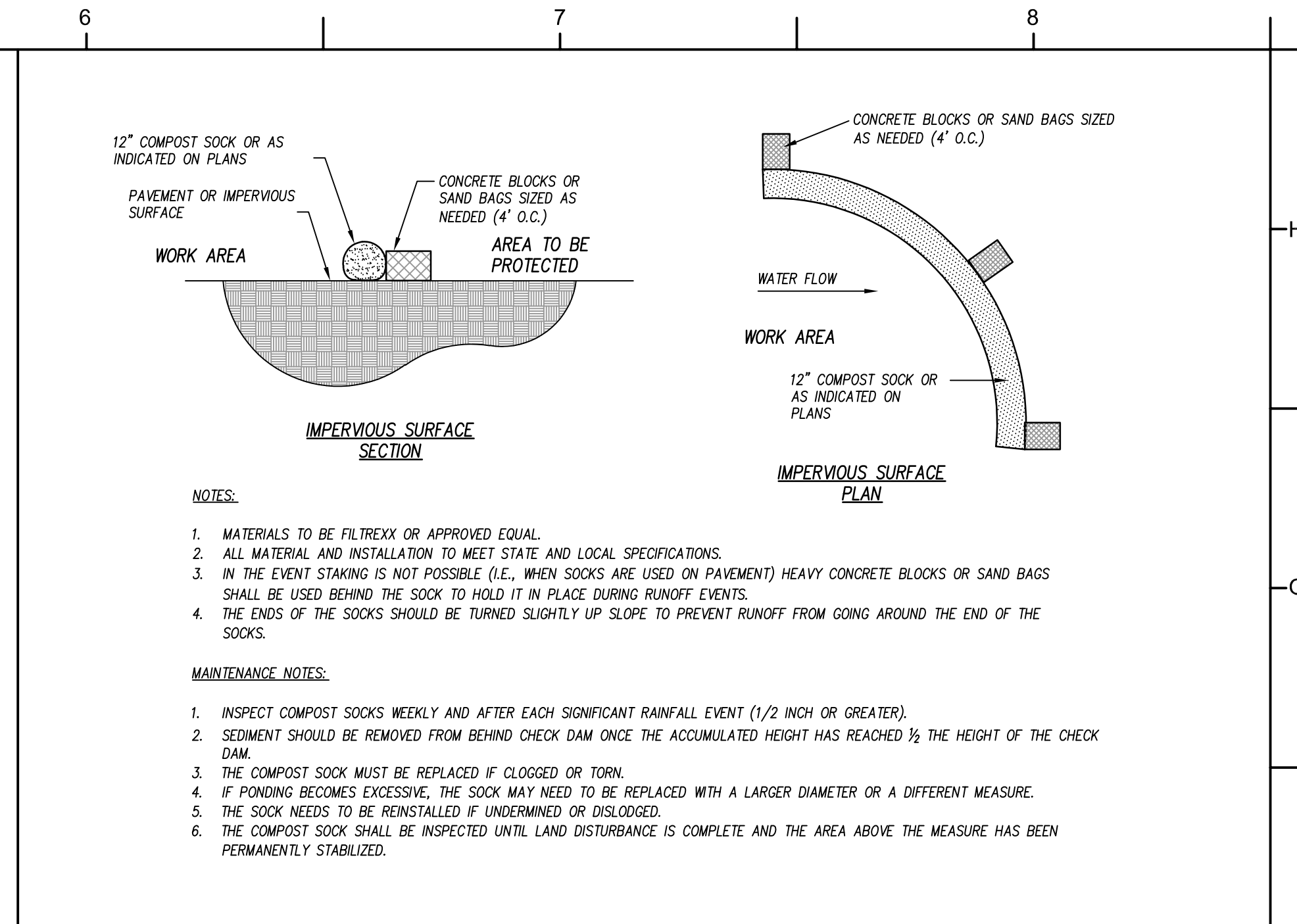
EXISTING	PROPOSED
CHILLED WATER --- CW ---	CW
ELECTRICAL (OVERHEAD) --- E ---	E
ELECTRICAL (UNDERGROUND) --- UE ---	UE
FOUNDATION DRAIN --- FD ---	FD
GAS --- G ---	G
SANITARY SEWER --- SS ---	SS
TELEPHONE (OVERHEAD) --- T ---	T
TELEPHONE (UNDERGROUND) --- UT ---	UT
WATER --- W ---	W
ROOF DRAIN --- RD ---	RD
FIRE PROTECTION --- FP ---	FP
STORM DRAIN --- SD ---	SD
LIGHT POLE LP	*
UTILITY POLE PP	+
MANHOLE MH	●
CLEAN OUT CO	○
DROP INLET,CATCH BASIN DI, CB	■
FIRE HYDRANT FH	+
WATER VALVE WV	+

- GENERAL UTILITY NOTES
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF CARY STANDARDS, SPECIFICATIONS AND DETAILS (DATED 2024 OR LATEST VERSION).
 2. INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
 3. COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
 4. VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
 5. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
 6. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS (LATEST VERSION).
 7. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY IMPROVEMENTS FOLLOWING CONSTRUCTION.
 8. CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT-DOWNS WITH THE OWNER.
 9. SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
 10. SANITARY SEWER SERVICE SHALL BE 4-INCH POLYVINYL CHLORIDE (PVC) AND W/ SLOPE AS INDICATED. INSTALLATION AND COVER REQUIREMENTS TO BE IN ACCORDANCE WITH TOWN OF CARY UTILITY STANDARDS (DATED 2024 OR LATEST VERSION).
 11. WATER SERVICE SHALL BE 1-1/4 INCH COPPER (TYPE K COPPER). INSTALLATION AND COVER REQUIREMENTS TO BE IN ACCORDANCE WITH TOWN OF CARY UTILITY STANDARDS (DATED 2024 OR LATEST VERSION).
 12. ALL CONDENSATE LINES SHALL BE CONNECTED TO STORM DRAINAGE SYSTEM.
 13. NO WORK SHALL BE PERFORMED ON RIGHT-OF-WAYS OR ADJACENT PROPERTIES UNTIL THE OWNER NOTIFIES CONTRACTOR IN WRITING OF PROCUREMENT OF APPROPRIATE PERMITS, EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY.
 14. EXISTING INFRASTRUCTURE TO REMAIN ACTIVE AND PROTECTED DURING CONSTRUCTION.

- UTILITY KEY NOTES
- (A) EXTEND UTILITY (WATER SERVICE) TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR EXACT LOCATION & COORDINATION.
 - (B) PROVIDE 1-1/4 INCH WATER GATE VALVE W/ BOX, VALVE BOX COVER & CONCRETE ENCASUREMENT TO BE FLUSH W/ FINISHED GRADE. SEE DETAIL SHEET C901.
 - (C) CONNECT TO EXISTING 2" POTABLE WATER (PW) LINE WITH A 2" X 1-1/4" SERVICE SADDLE WITH CORP STOP IN ACCORDANCE WITH TOWN OF CARY STANDARDS (DATED 2024 OR LATEST VERSION). PROVIDE ADDITIONAL FITTINGS AS NECESSARY TO MAKE SECURE CONNECTION. REFER TO PLUMBING PLANS TO VERIFY INVERT/SLOPE.
 - (D) EXTEND UTILITY (SANITARY SEWER SERVICE) TO CLEANOUT AS SHOWN. REFER TO PLUMBING PLANS FOR EXACT LOCATION AND INVERTS.
 - (E) SANITARY SEWER CLEANOUT, COVER/TOP TO BE FLUSH W/ FINISHED GRADE. SEE DETAIL SHEET C901.
 - (F) ADJUST EXISTING SUBSURFACE UTILITY COVER, LID, VALVE BOXES OR OTHER APPURTENANCE LOCATED WITHIN THE WORK AREA TO BE FLUSH W/ FINISHED GRADE. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND BRING ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
 - (G) BASED ON INFORMATION PROVIDED BY THE OWNER, THE EXISTING 4-INCH SANITARY SEWER PVC LINE ADJACENT TO THE PROPOSED BLDG IS AT AN APPROXIMATE ELEVATION OF 283.0'. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND CONFIGURATION OF EXISTING UTILITIES AND BRING ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE ACCURATE AS MENTIONED, CONTRACTOR TO THE NEW SERVICE CONNECTION TO EXISTING SEWER LINE USING A 4" X 4" SERVICE SADDLE (SEE DETAIL SHEET C901) IN ACCORDANCE WITH TOWN OF CARY STANDARDS (DATED 2024 OR LATEST EDITION). PROVIDE RUBBER BOOT/FLEXIBLE CONNECTOR AT PUMP STATION WITH MINIMUM OF 10'-FEET OF STRAIGHT (90°) DIP PIPE BEFORE CONNECTING SANITARY SEWER SERVICE TO PUMP STATION. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND BRING ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.



NO.	DATE	DESCRIPTION



CONCRETE WASHOUT

1. Do not discharge concrete or cement slurry from the site.
 2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
 3. 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.
 4. 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.
 5. 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.
 6. 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.
 7. 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.
 8. 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.
 9. 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.
 10. 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.

SURFACE STABILIZATION REQUIREMENTS

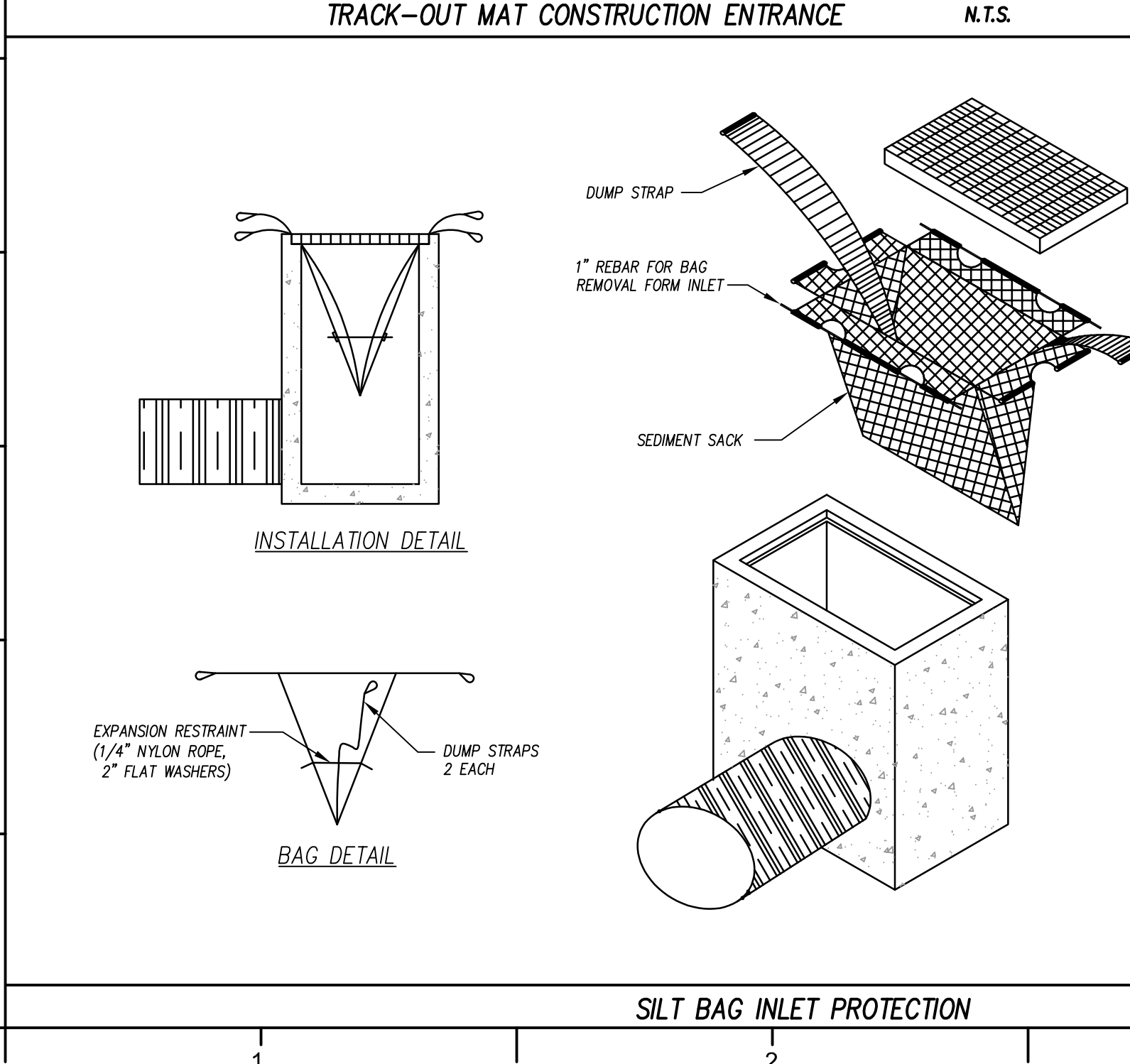
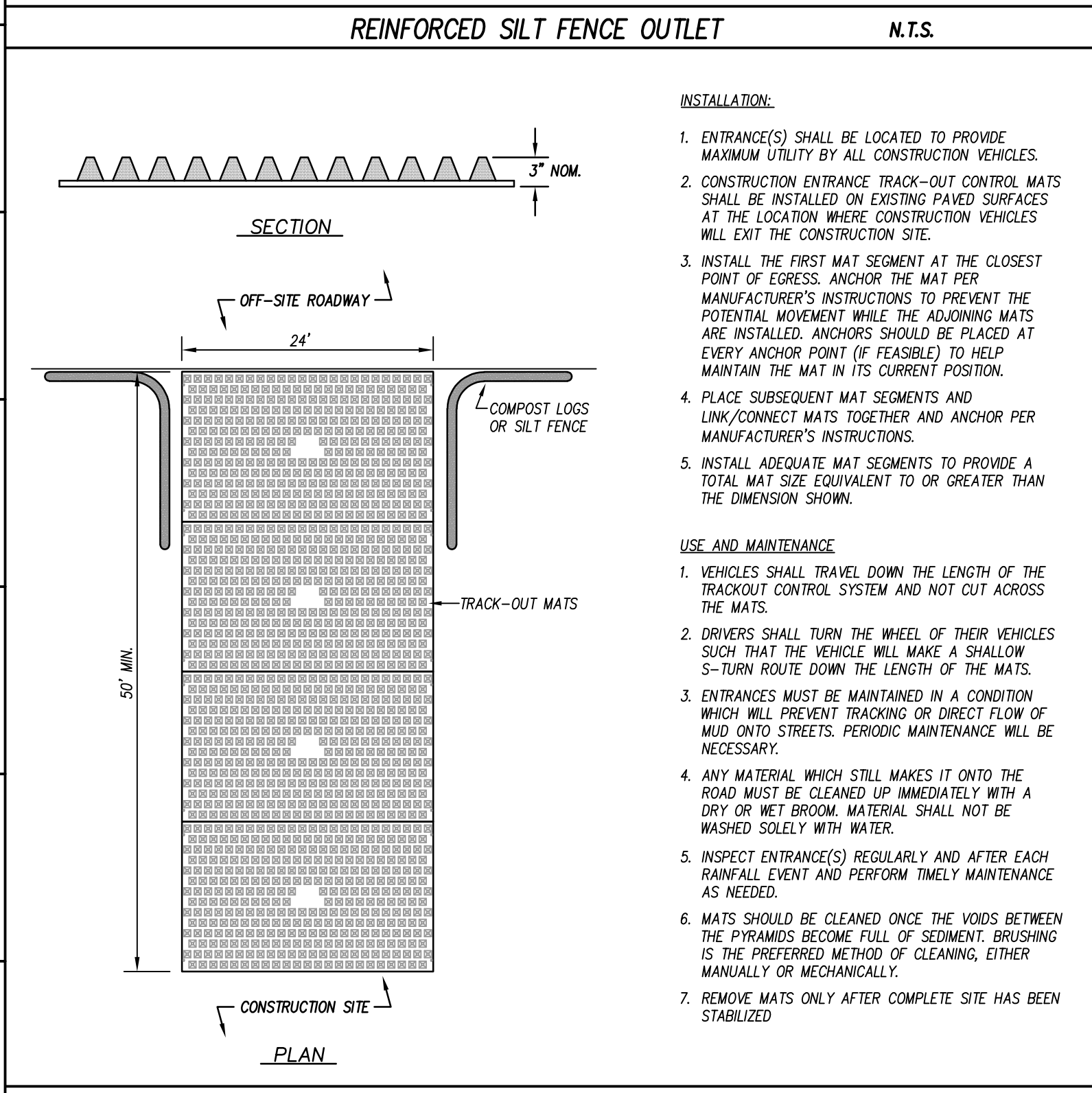
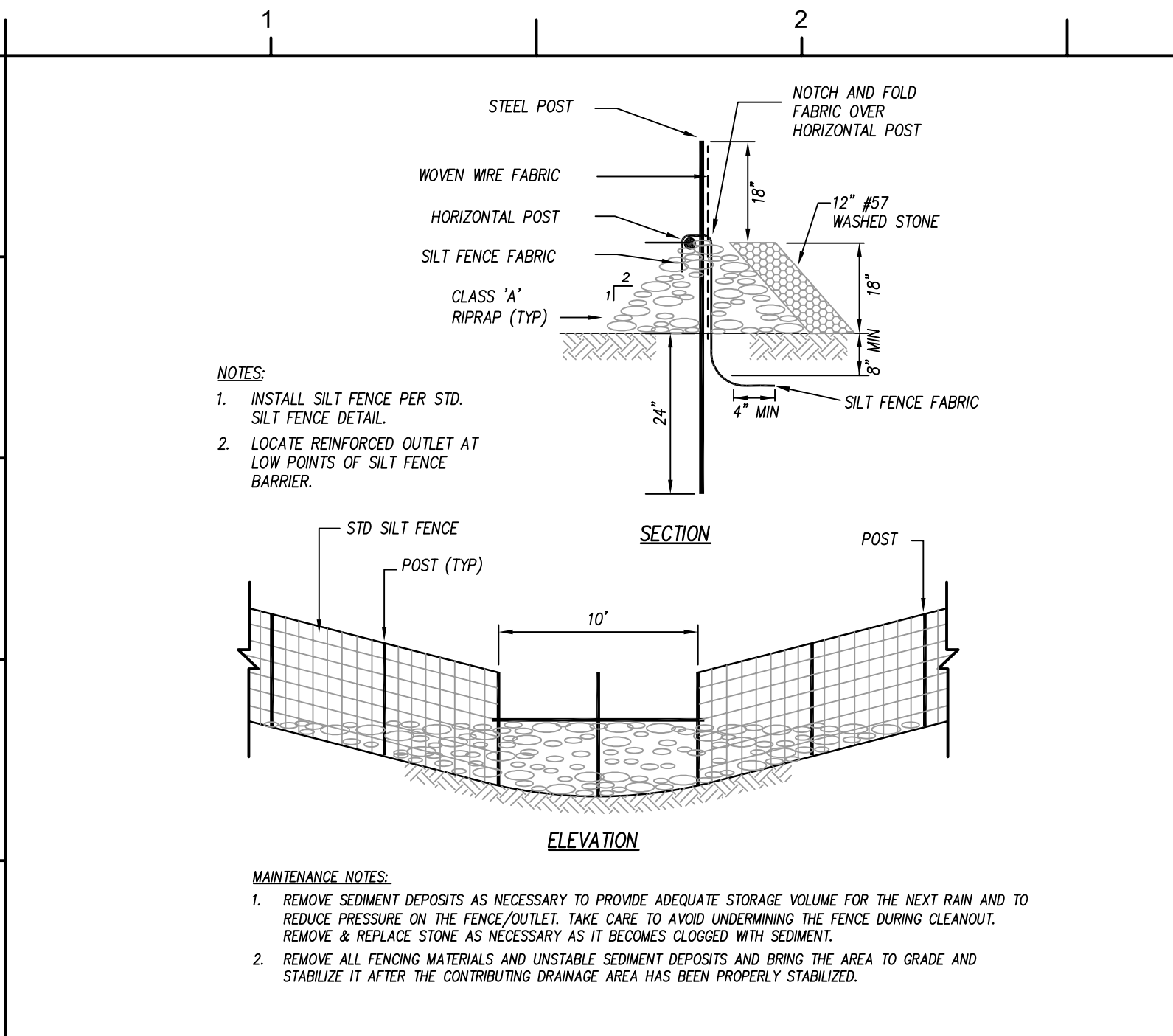
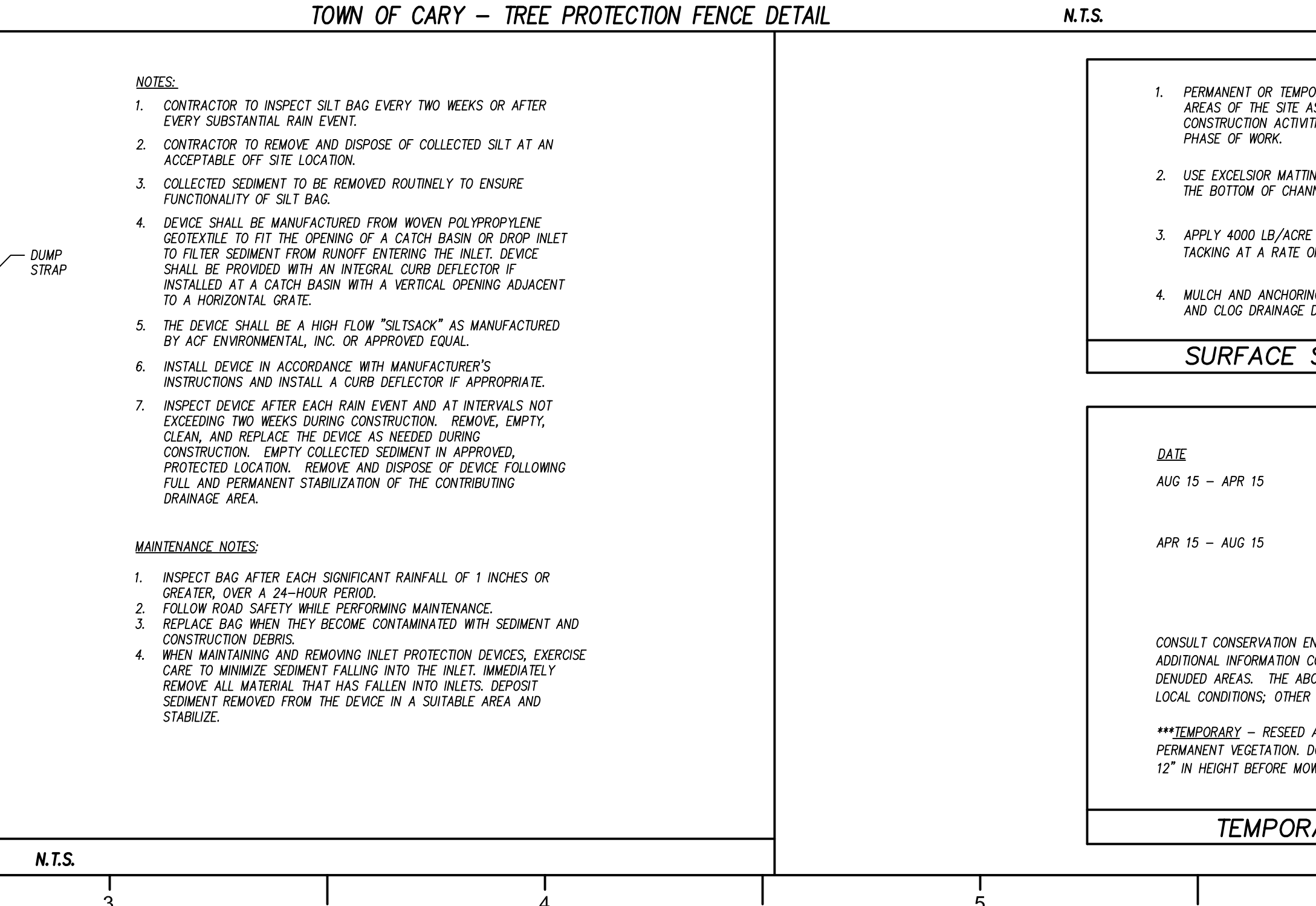
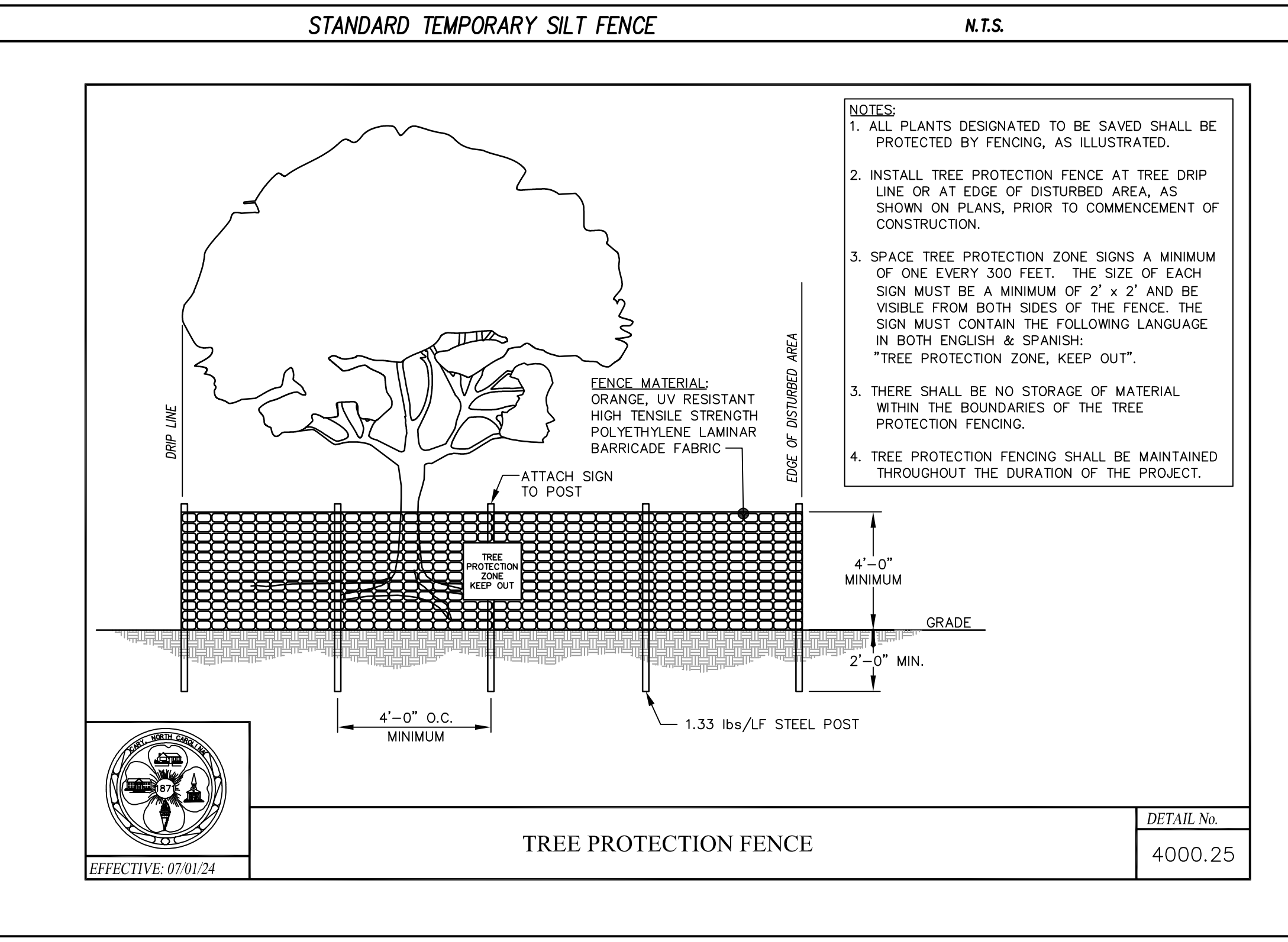
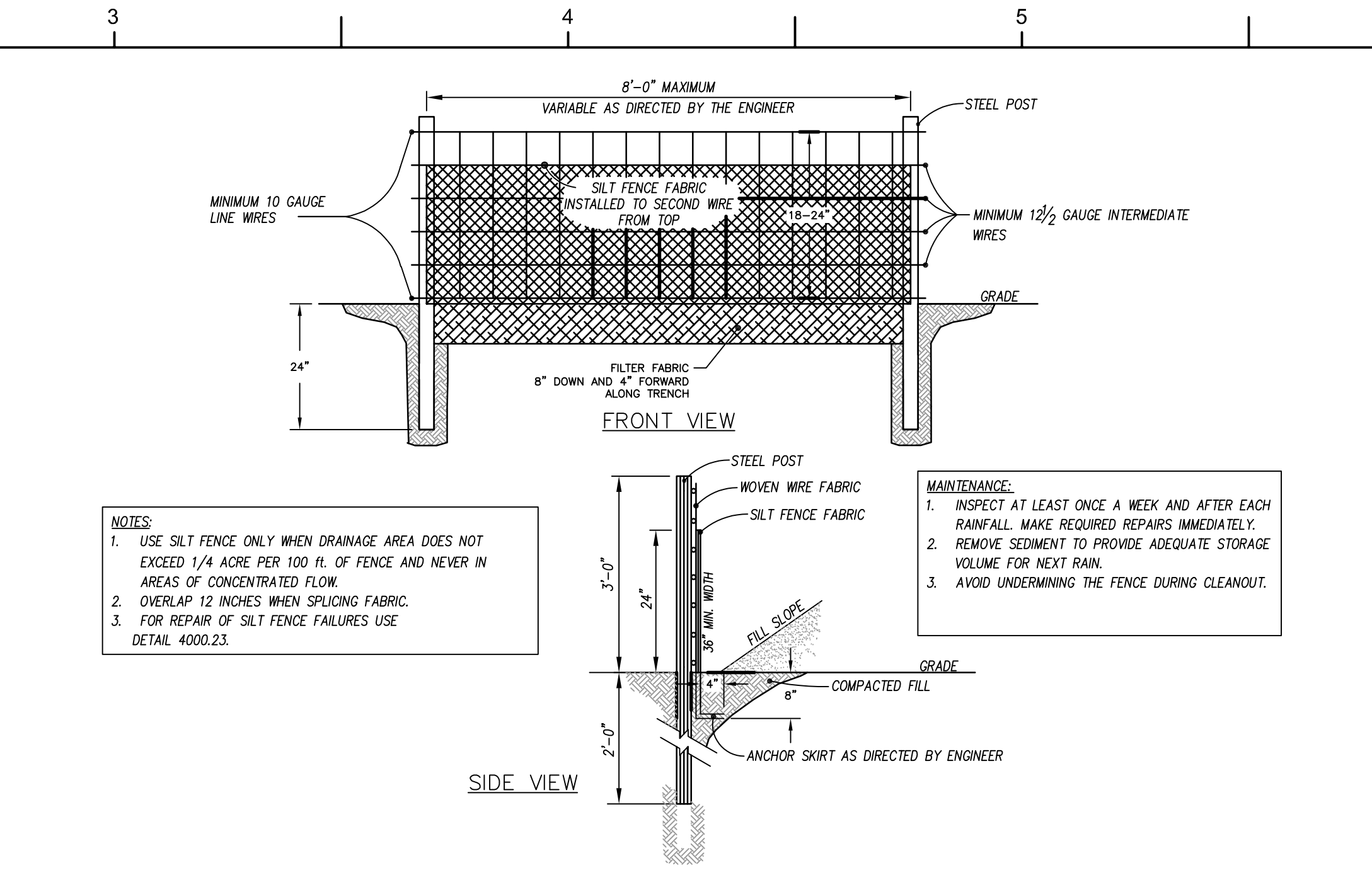
- PERMANENT OR TEMPORARY GROUND COVER SHALL BE PROVIDED OVER ALL DISTURBED AREAS OF THE SITE AS SOON AS POSSIBLE, HOWEVER, NO LATER 21 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED DURING ANY PHASE OF WORK.
- USE EXCELSIOR MATTING OR OTHER APPROVED CHANNEL LINING MATERIAL TO COVER THE BOTTOM OF CHANNELS.
- APPLY 4000 LB/ACRE GRAIN STRAW OVER SEEDED AREAS AND APPLY ASPHALT TACKING AT A RATE OF 400 GAL/ACRE.
- MULCH AND ANCHORING MATERIALS MUST NOT BE ALLOWED TO WASH DOWN SLOPES AND CLOG DRAINAGE DEVICES.

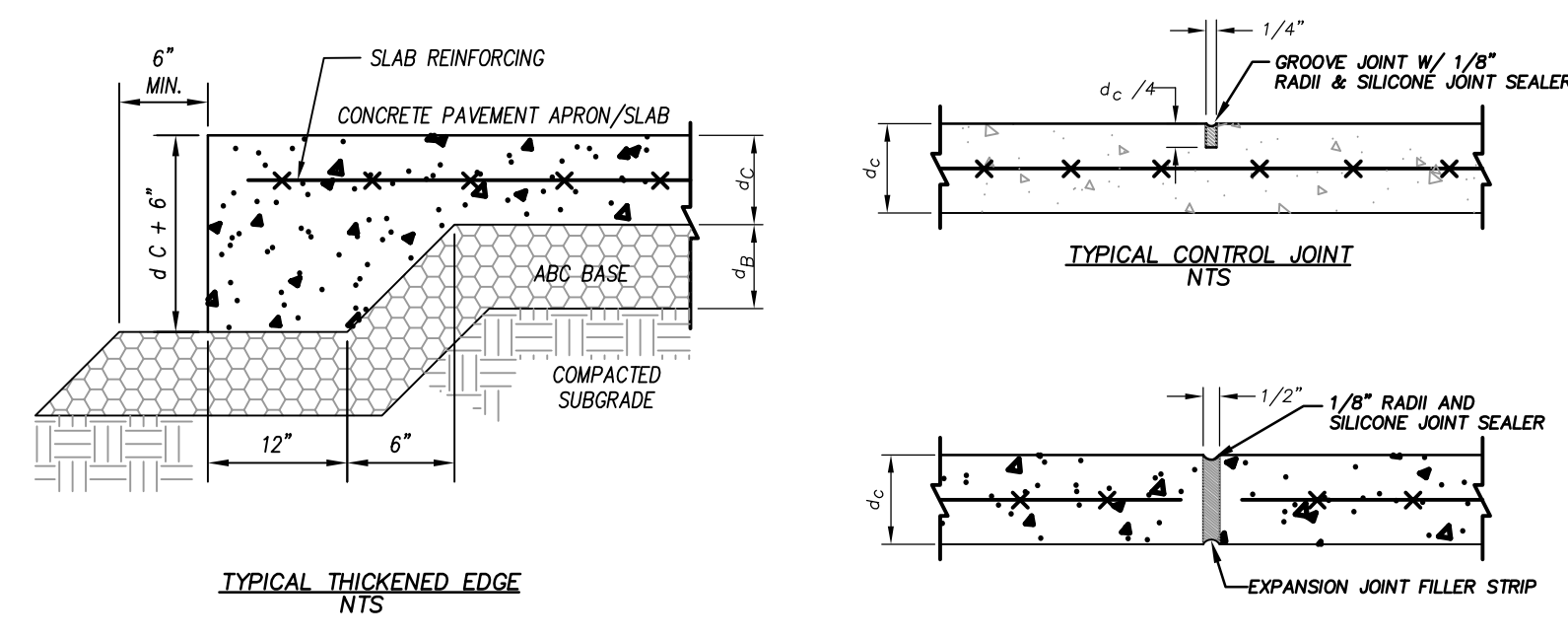
TEMPORARY SEEDING SCHEDULE

DATE	TYPE	PLANTING RATE
AUG 15 - APR 15	3-WAY TALL FESCUE BLEND AND WINTER RYE (GRAIN)	240 LBS/ACRE 25 LBS/ACRE
APR 15 - AUG 15	3-WAY TALL FESCUE BLEND AND GERMAN MILLET *** OR SUDANGRASS (SMALL-STEMMED VAR.) ***	240 LBS/ACRE 25 LBS/ACRE 30 LBS/ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENIED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

***TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.





HEAVY DUTY CONCRETE PAVEMENT DIMENSIONS

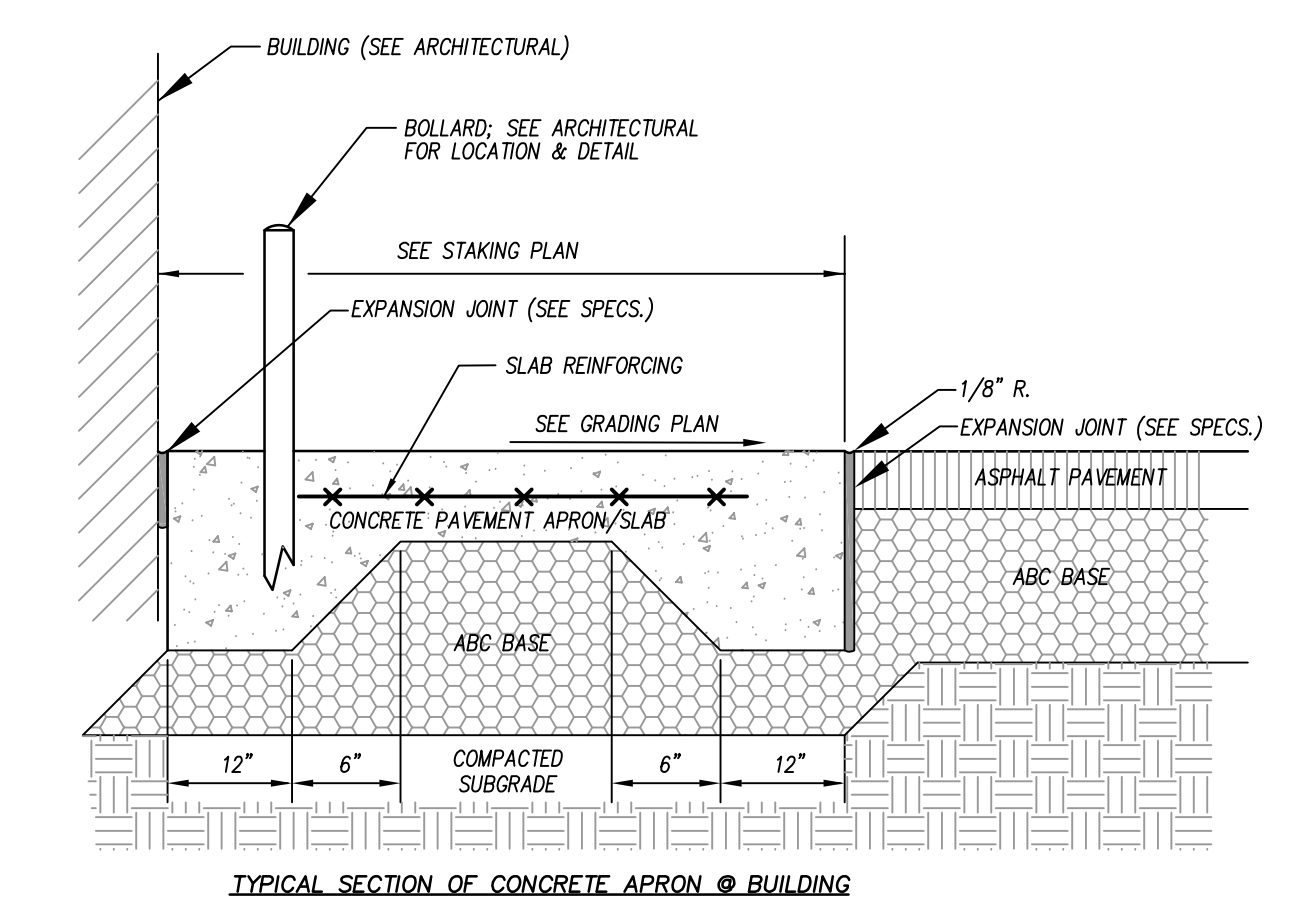
CONC SLAB THICKNESS, d_c	6"
ABC THICKNESS, d_b	4"
REINFORCEMENT	6x6-W2.9xW2.9

NOTES:

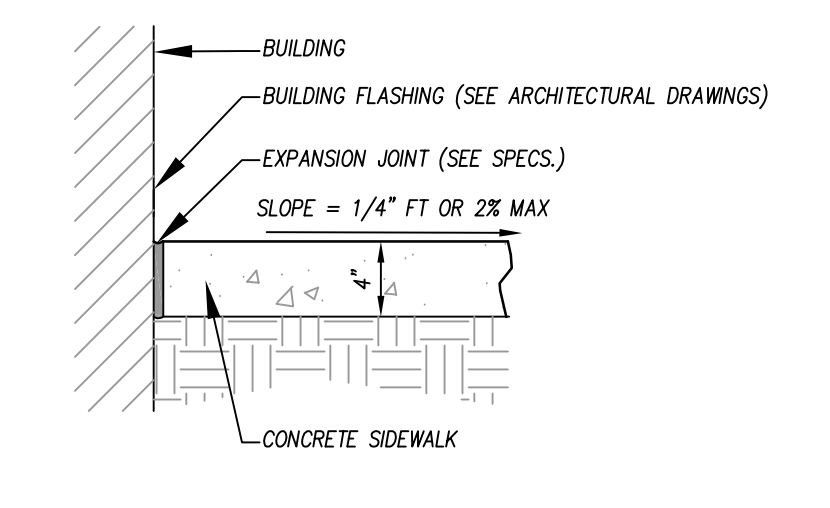
ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI (ASTM C39).

CONTRACTION JOINTS SHALL BE SPACED AT 15 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN.

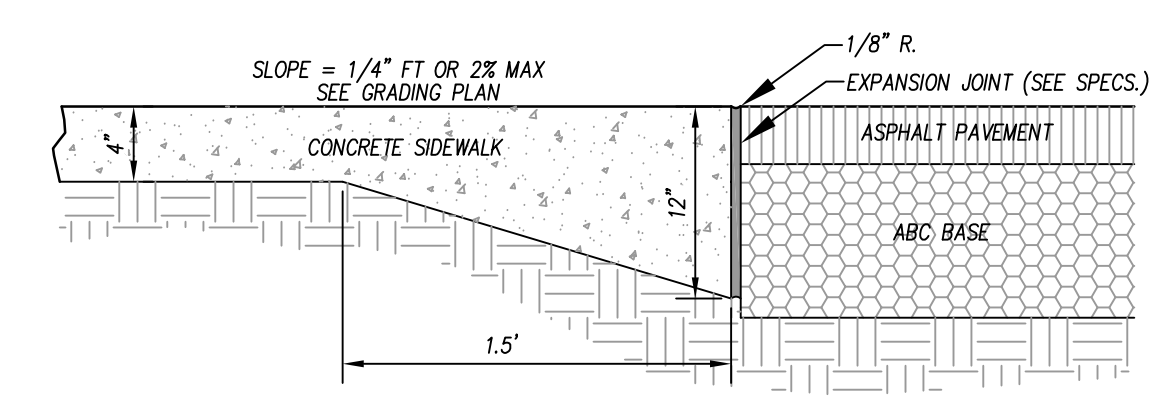
EXPANSION JOINTS SHALL BE SPACED AT 50 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN AND WHERE CONCRETE PAVEMENT ABUTS ANY RIGID OBJECT.



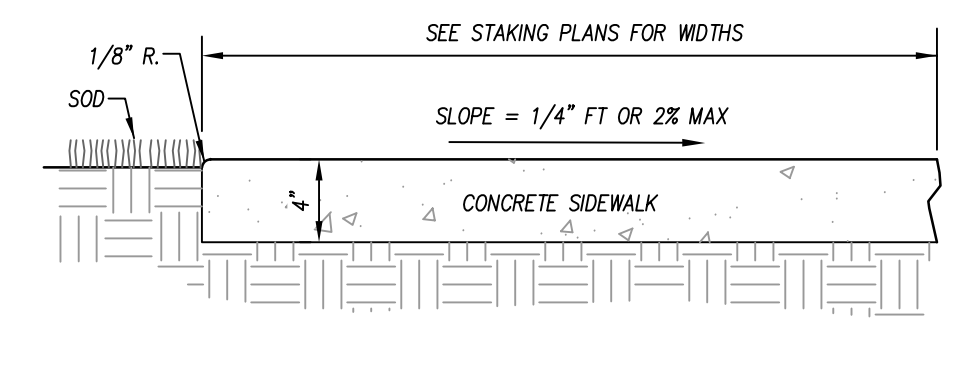
CONCRETE APRON N.T.S.



TYPICAL SECTION OF SIDEWALK MEETING BUILDING

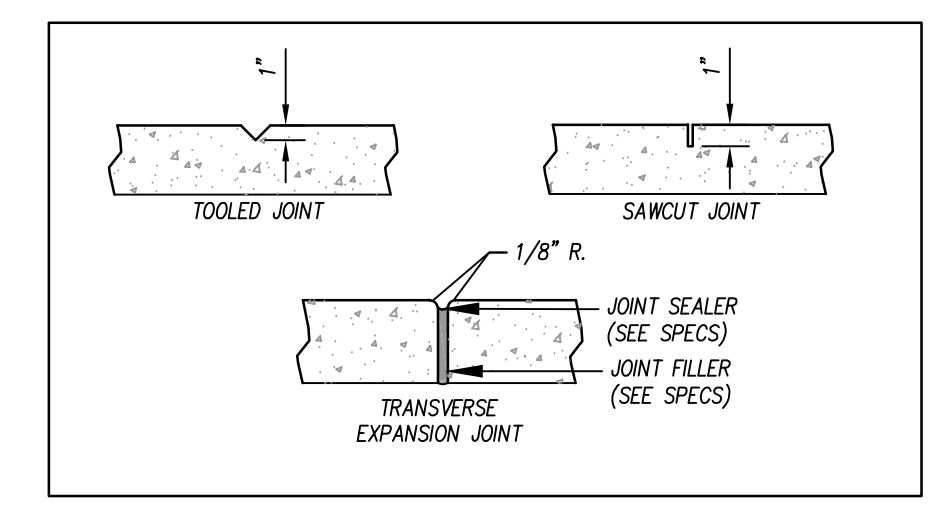


SECTION OF SIDEWALK ABUTTING PAVEMENT FLUSH



TYPICAL SECTION OF SIDEWALK ABUTTING SOD

STANDARD CONCRETE SIDEWALK N.T.S.



GENERAL NOTES:

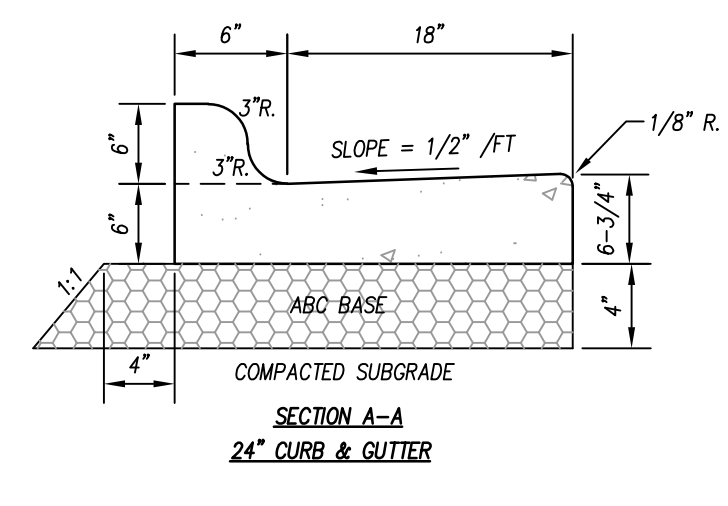
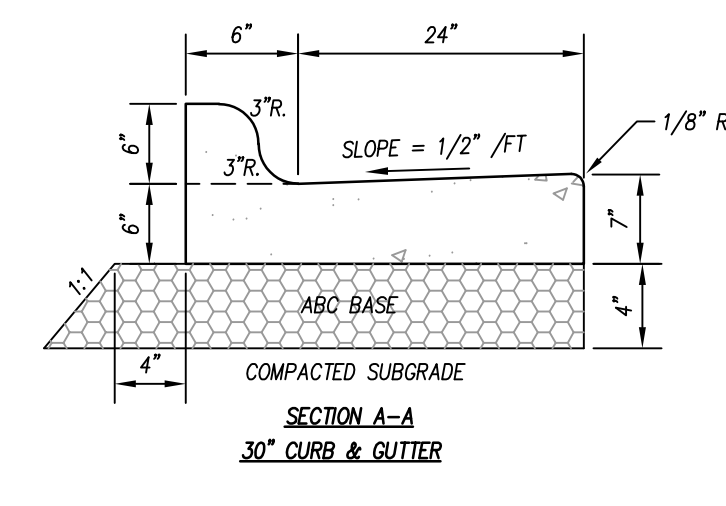
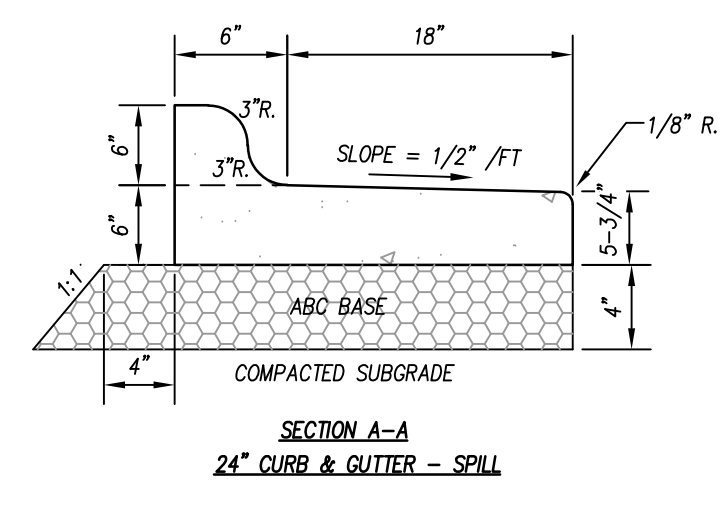
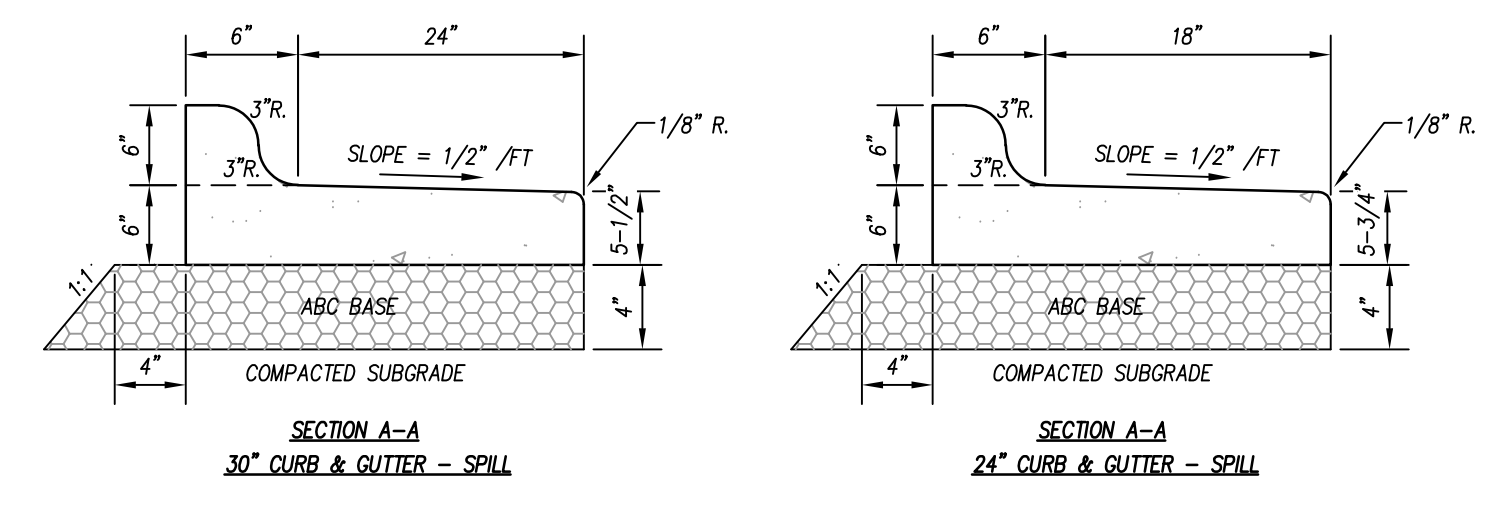
A GROOVE JOINT 1" DEEP WITH 1/8" RADI SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS UNLESS INDICATED OTHERWISE. SEE SPECS FOR ADDITIONAL JOINT SPACING REQUIREMENTS.

ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS.

A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

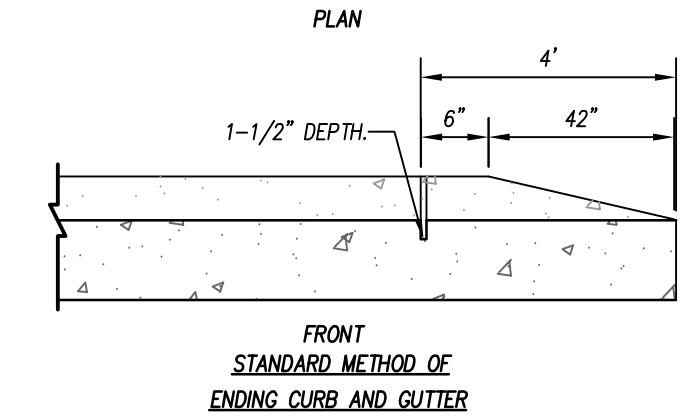
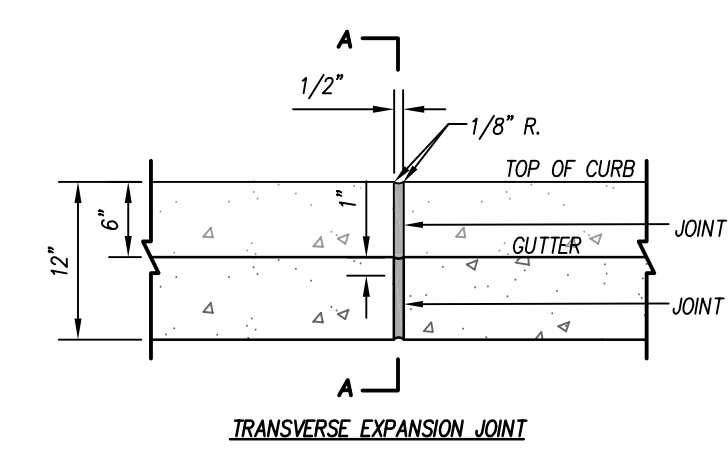
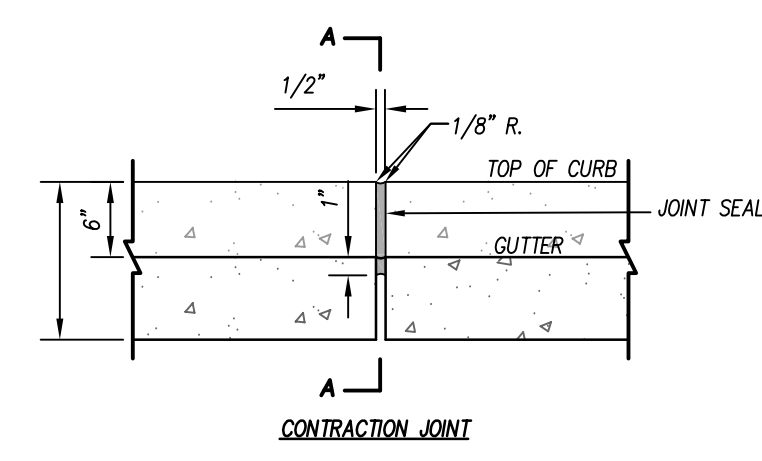
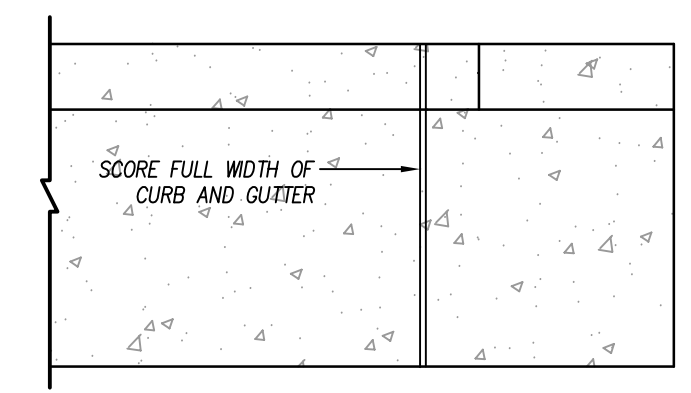
CONCRETE SHALL BE 4,000 PSI @ 28 DAYS.

FINISH SHALL BE [BROOM]



NOTES:

- ALL CONCRETE SHALL BE 4,000 P.S.I. @ 28 DAYS
- CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS, SPACING MAY BE INCREASED TO 15' IF MACHINE IS USED.
- CONTRACTION JOINTS SHALL BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1-1/2" SHALL BE OBTAINED.
- EXPANSION JOINTS SHALL BE SPACED AT 90' MAX INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS.
- ALL JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER.
- SEE SPECIFICATION SECTION 32 13 13 FOR ADDITIONAL INFORMATION



STANDARD CONCRETE CURB AND GUTTER N.T.S.

HEAVY DUTY ASPHALT

SURFACE COURSE	TYPE S-9.5C 1.5-IN
BINDER COURSE	TYPE I-19.0C 2.5-IN
AGGREGATE BASE COURSE	8-IN

COMPACTED SUBGRADE

SEE SPECIFICATIONS FOR PROOFROLLING, COMPACTION & TESTING REQUIREMENTS.

DETAIL IS FOR ON-SITE PAVING OPERATIONS ONLY.

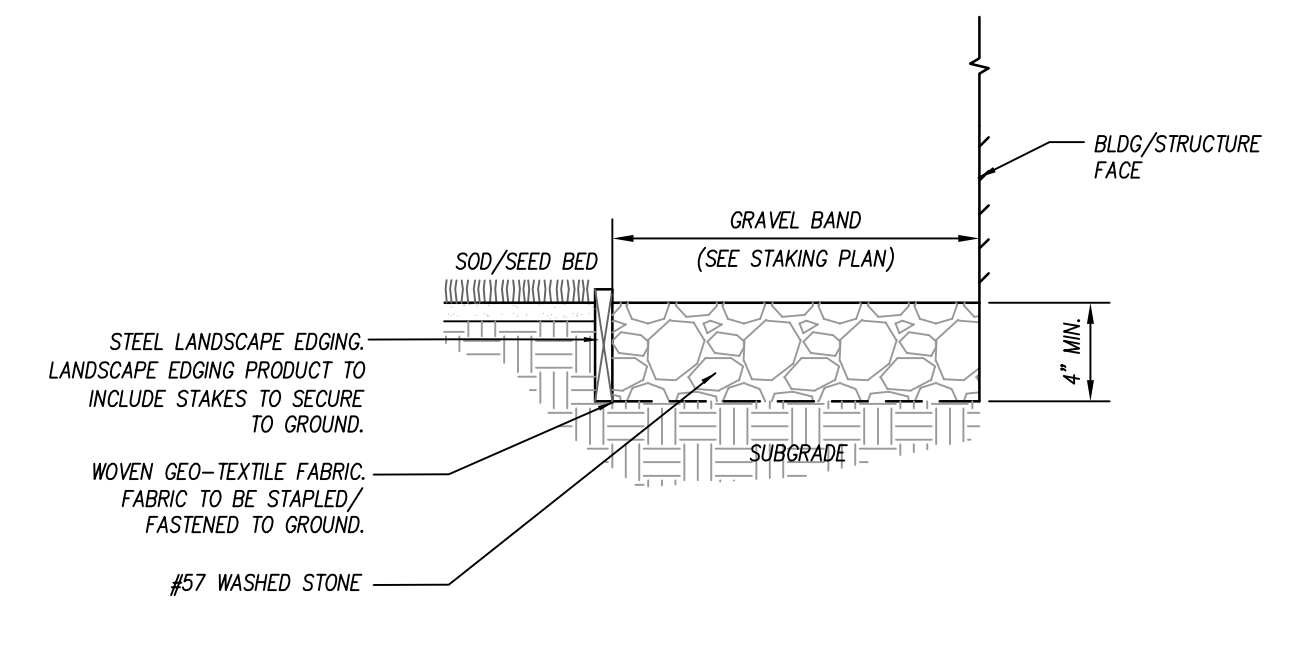
THE CONTRACTOR MAY CHOOSE TO INSTALL INTERMEDIATE COURSES OF PAVEMENT TO STABILIZE THE SITE DURING CONSTRUCTION AT NO ADDITIONAL COST.

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ADEQUATE THICKNESS REQUIRED FOR INTERMEDIATE PAVING. INCREASES IN THE DESIGN PAVEMENT SECTION TO FACILITATE INTERMEDIATE PAVING SHALL BE PROVIDED AT NO ADDITIONAL COST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO SUBGRADE, INSTALLED BASE COURSE AND/OR INTERMEDIATE PAVING PRIOR TO PLACING SUBSEQUENT PAVEMENT LIFTS AT NO ADDITIONAL COST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PAVEMENT DURING ALL PHASES OF WORK. THE FINAL SURFACE OF PAVEMENT SHALL BE FREE OF ALL DEFECTS OR DAMAGE.

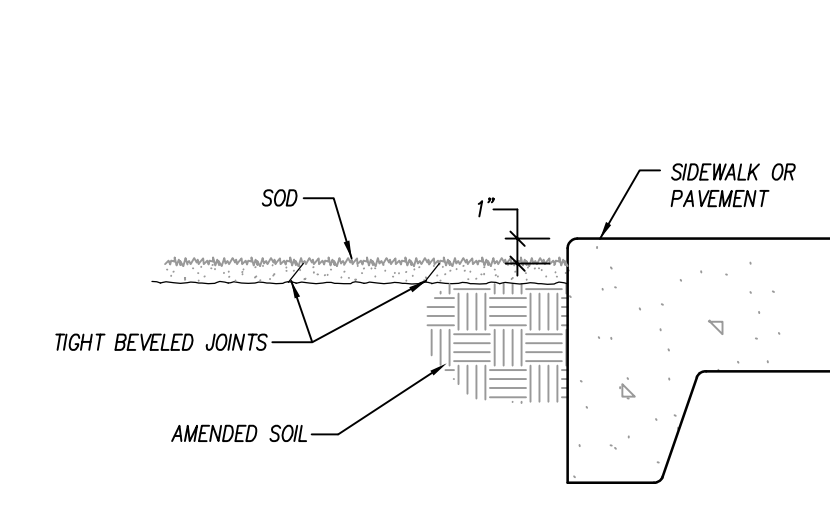
PAVEMENT SECTIONS N.T.S.



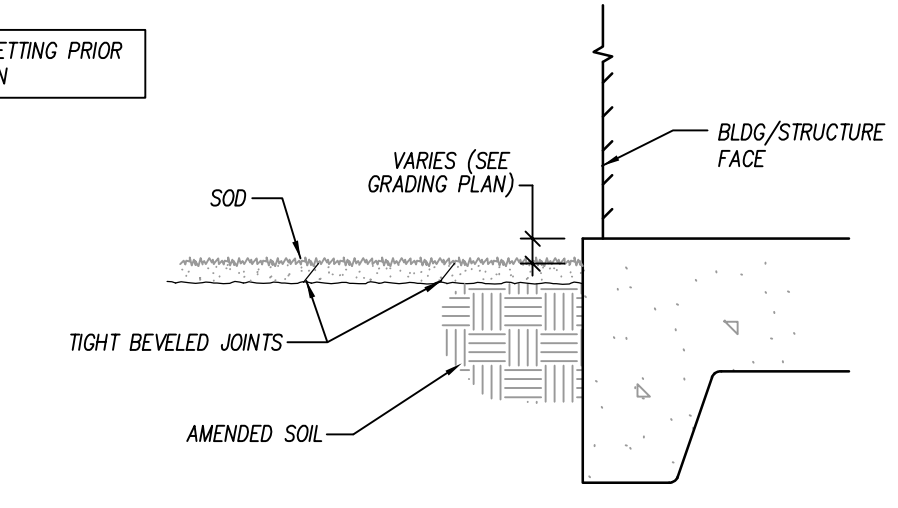
GRAVEL BAND N.T.S.

SOD MAINTENANCE NOTES:

- AFTER THE FIRST WEEK, WATER AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE IN THE ROOT ZONE AND PREVENT DORMANCY OF THE SOD.
- DO NOT REMOVE MORE THAN ONE-THIRD OF THE SHOOT IN ANY MORNING. GRASS HEIGHT SHOULD BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED.
- AFTER THE FIRST GROWING SEASON, ESTABLISHED SOD REQUIRES FERTILIZATION, AND MAY ALSO REQUIRE LINE. FOLLOW SOIL TEST REQUIREMENTS.



AT HARD SURFACES



AT BUILDINGS/STRUCTURES

SOD INSTALLATION N.T.S.



REVISIONS

NO.	DESCRIPTION



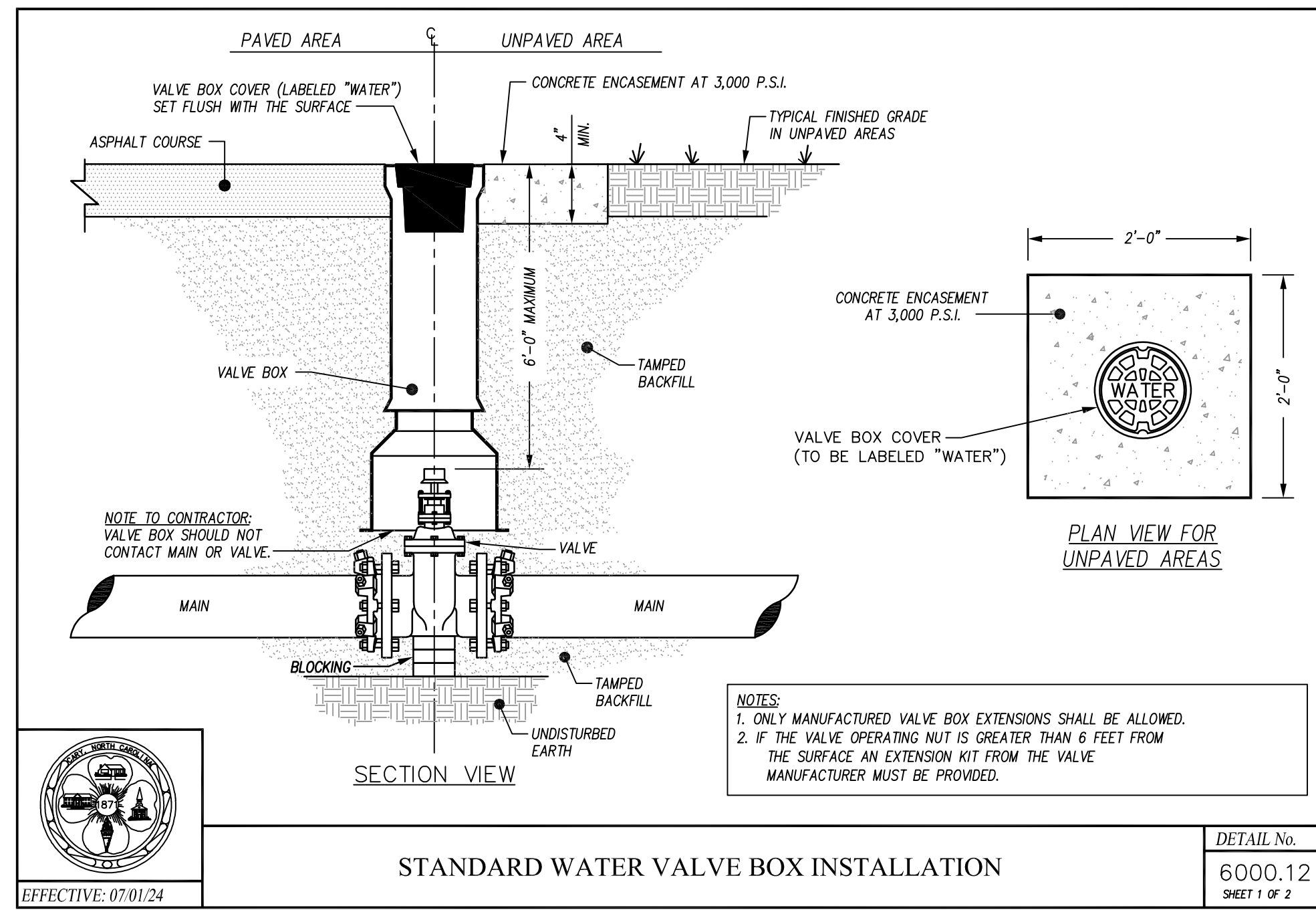
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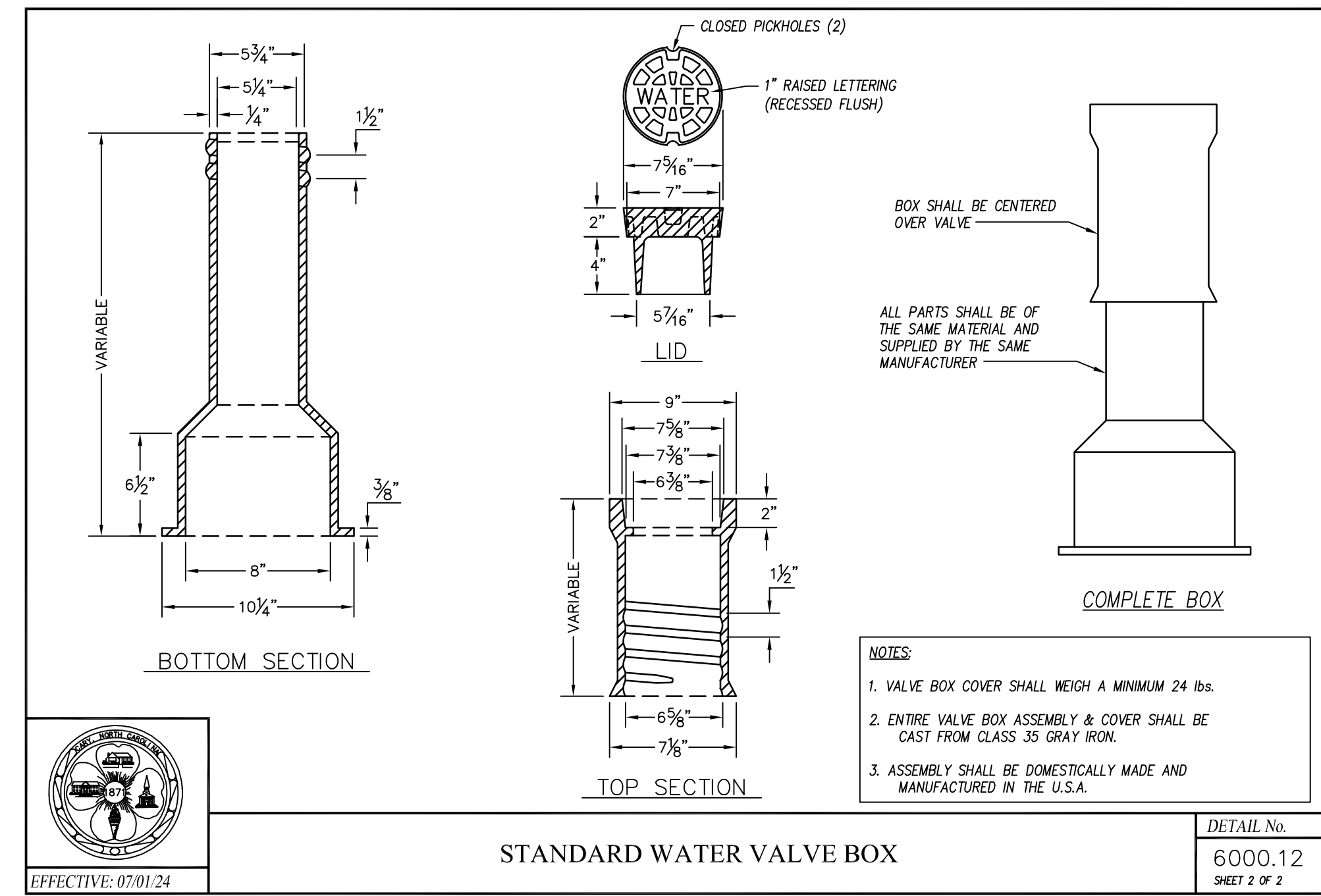


PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd., Apex, NC 27539



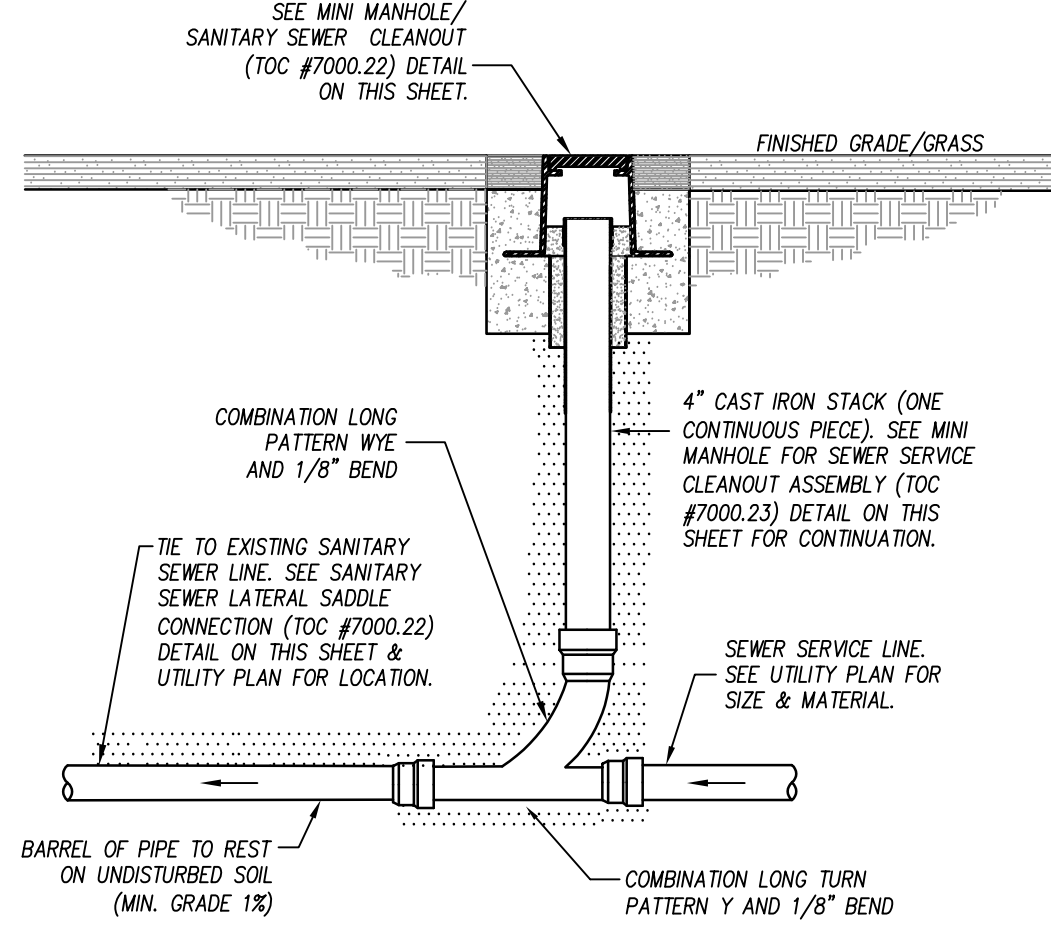
STANDARD WATER VALVE BOX INSTALLATION



STANDARD WATER VALVE BOX

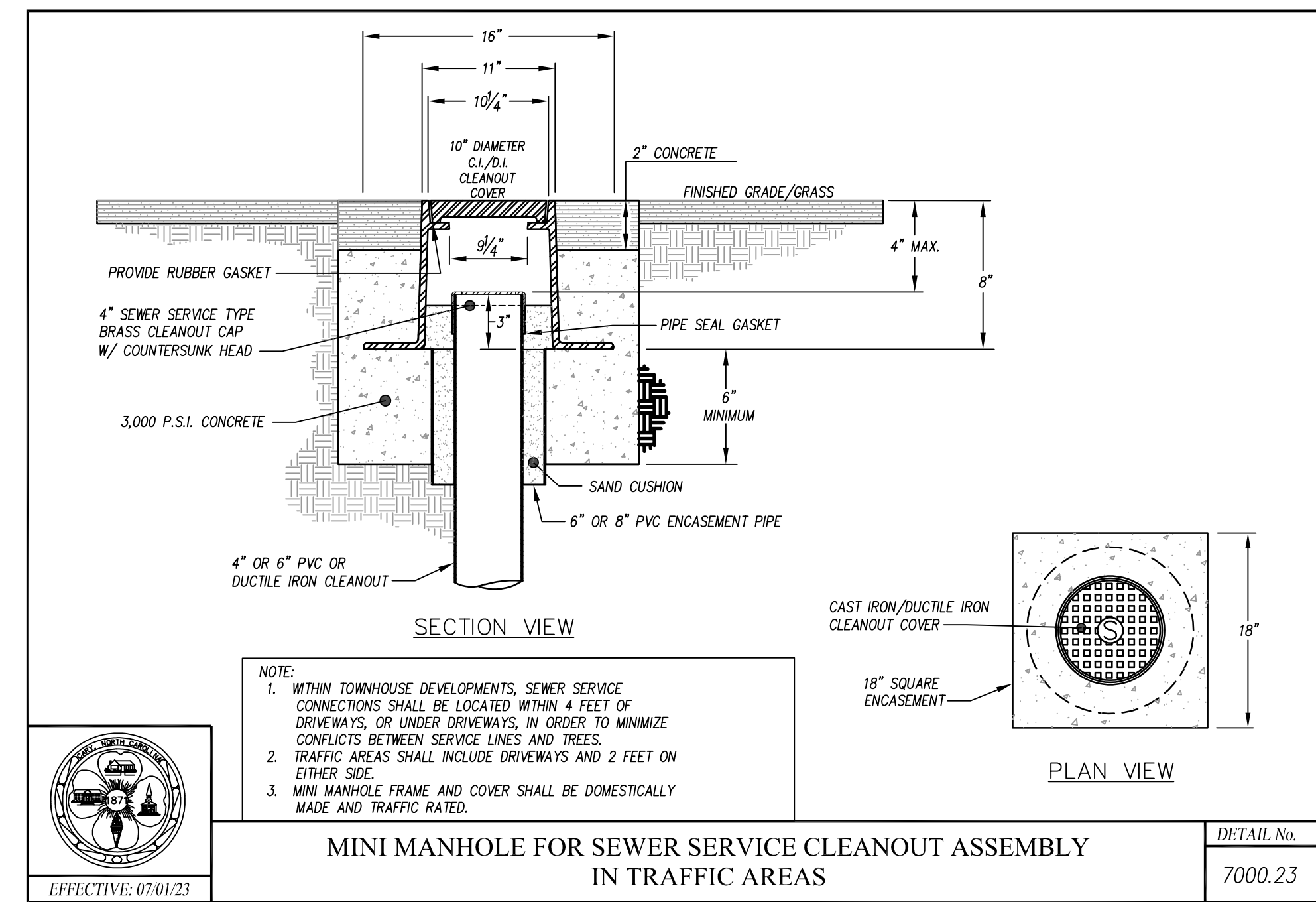
TOWN OF CARY - STANDARD WATER VALVE BOX DETAIL

N.T.S.



SANITARY SEWER SERVICE/CLEANOUT DETAIL

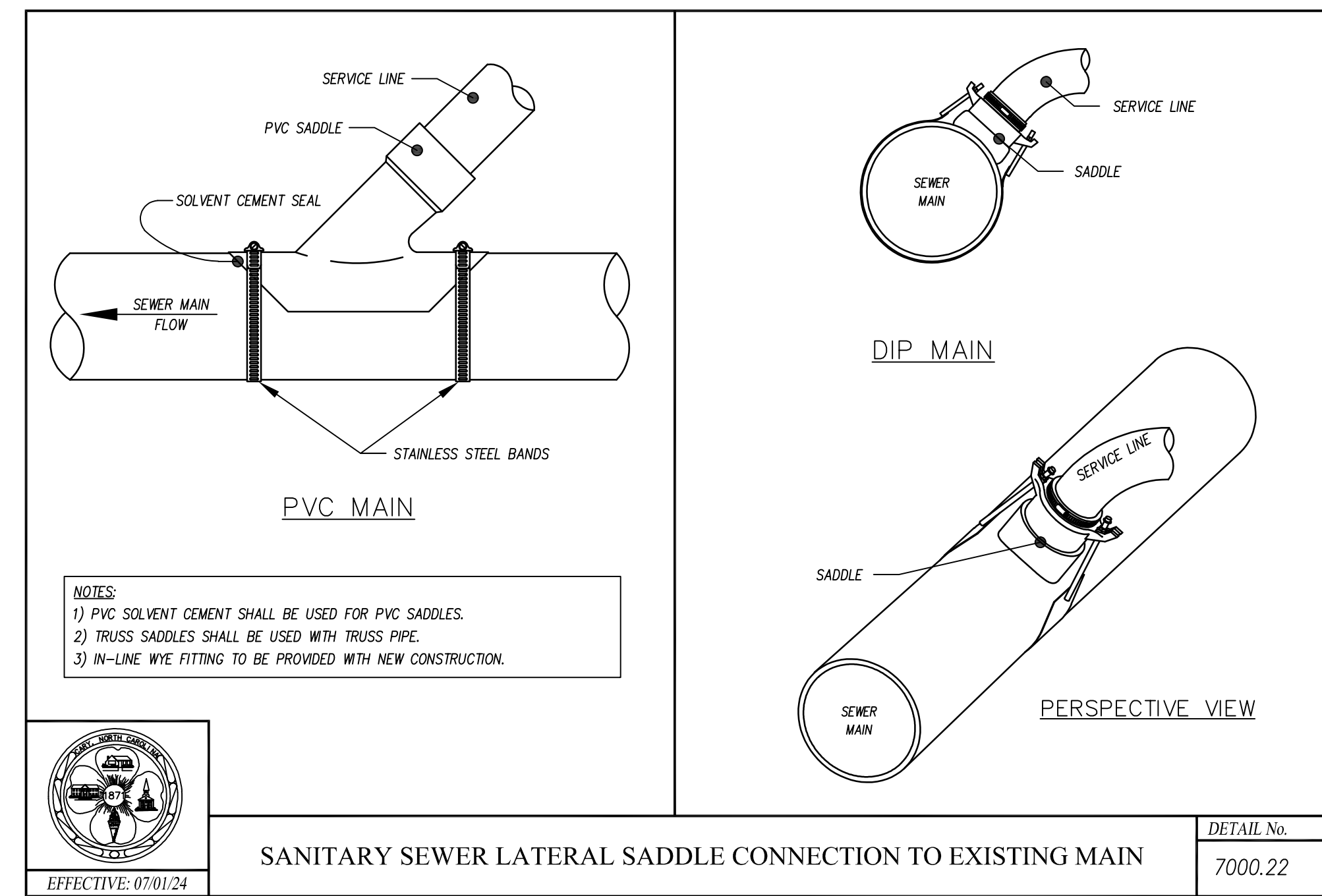
N.T.S.



MINI MANHOLE FOR SEWER SERVICE CLEANOUT ASSEMBLY IN TRAFFIC AREAS

TOWN OF CARY - SANITARY SEWER SERVICE DETAILS

N.T.S.



SANITARY SEWER LATERAL SADDLE CONNECTION TO EXISTING MAIN

SEALS

DKA JOB NUMBER

2403

CLH JOB NUMBER

24-103

REVISIONS

NO.	DESCRIPTION

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PM: TO
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SHEET TITLE
UTILITY
DETAILS

C901

ABBREVIATIONS

@	AT
AB	ANCHOR BOLT
ACCESS	ACCESSORY
ACT	ACOUSTIC(AL) CEILING TILE
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTUR(AL)
AV	AUDIO VISUAL
BD	BOARD
BEJ	BUILDING EXPANSION JOINT
BFF	BELOW FINISHED FLOOR
BID	BID
BLDG	BUILDING
BLKG	BLOCKING
BOD	BOTTOM OF DECK
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR
CLSM	CLASSROOM
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPT	CARPET
CR	CARD READER
CSK	COUNTER SUNK
CT	CERAMIC TILE
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DS	DOWN SPOUT
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
EJC	EXPANSION JOINT COVER
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR
EXTG	EXISTING
FACT	FACTORY FINISH
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FF&E	FURNITURE, FIXTURES & EQUIPMENT
FFE	FINISHED FLOOR ELEVATION
FIN	FINISH
FLR	FLOOR
FLUOR	FLUORESCENT
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FRP	GLASS FIBER REINFORCED PLASTIC PANELS
FRT	FIRE-RETARDANT-TREATED
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACT(OR)
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS
GLZ	GLAZING
GWB	GYPSUM WALL BOARD
GYP BD	GYPSUM BOARD

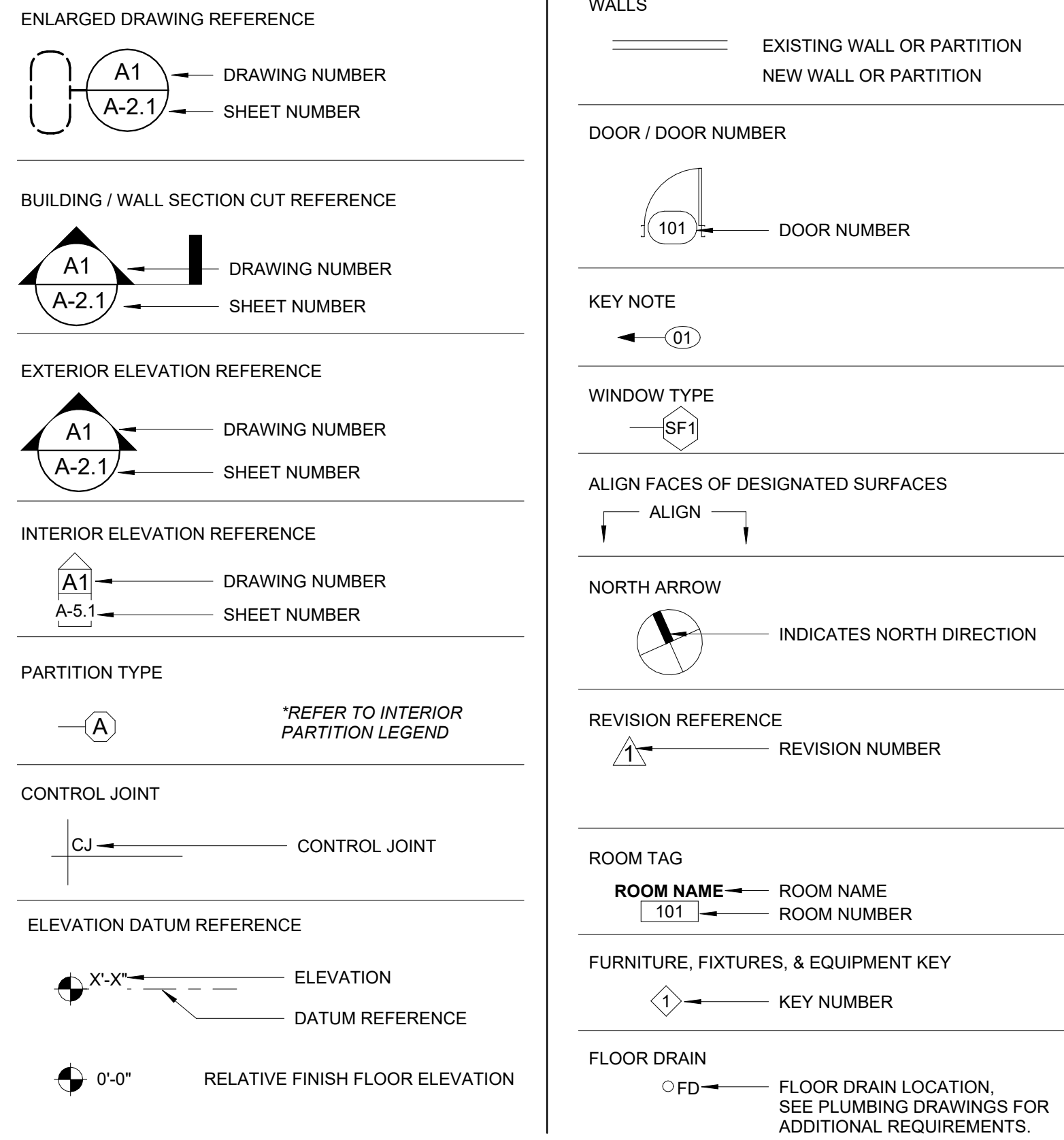
HB	HOSE BIBB
HD	HEAVY DUTY
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HT	HEIGHT
ID	INSIDE DIAMETER
IF	INSIDE FACE
INSUL	INSULATION
INT	INTERIOR
KLP	KICKPLATE
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LIN	LINOLEUM
LVR	LOUVER
LVT	LUXURY VINYL TILE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBL	MARBLE
MECH	MECHANICAL
MEMB	MEMBRANE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVERHANG
OHD	OVER HEAD
OPCI	OWNER PROVIDED CONTRACTOR INSTALLED
OPNG	OPENING(S)
OPP	OPPOSITE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNT	PAINT(ED)
PROP	PROPERTY
PSF	POUNDS / SQUARE FOOT
PSI	POUNDS / SQUARE INCH
PT	PRESERVATIVE-TREATED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
QTY	QUANTITY
R	RADIUS
RA	RETURN AIR
RB	RUBBER BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
REBAR	STEEL REINFORCING BAR
REF	REFER(ENCE)
REINF	REINFORCE(D)(ING)(MENT)
REQD	REQUIRED
REV	REVISION(S) REVISED
RM	ROOM
SC	SOLID CORE
SECT	SECTION
SF	SQUARE FEET (FOOT)
SFRM	SPRAYED FIRE-RESISTIVE MATERIAL
SHT	SHEET
SIM	SIMILAR
SLSF	SOLID SURFACE
SPEC	SPECIFICATION(S)
SPKLR	SPRINKLER
SQ IN	SQUARE INCH(ES)
SS	STAINLESS STEEL
ST	SIGN TYPE
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRFR	STOREFRONT
STRUCT	STRUCTURE

SUSP	SUSPENDED
SYS	SYSTEM(S)
TEL	TELEPHONE
THRES	THRESHOLD
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TYP	TYPICAL
TZ	TERRAZZO
UNLESS OTHERWISE NOTED	
UTIL	UTILIT(IES)(Y)
VB	VINYL BASE
VCT	VINYL COMPOSITE TILE
VERT	VERTICAL(LY)
VIF	VERIFY IN FIELD
W	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WG	WIRED GLASS
WSCT	WAINSCOT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

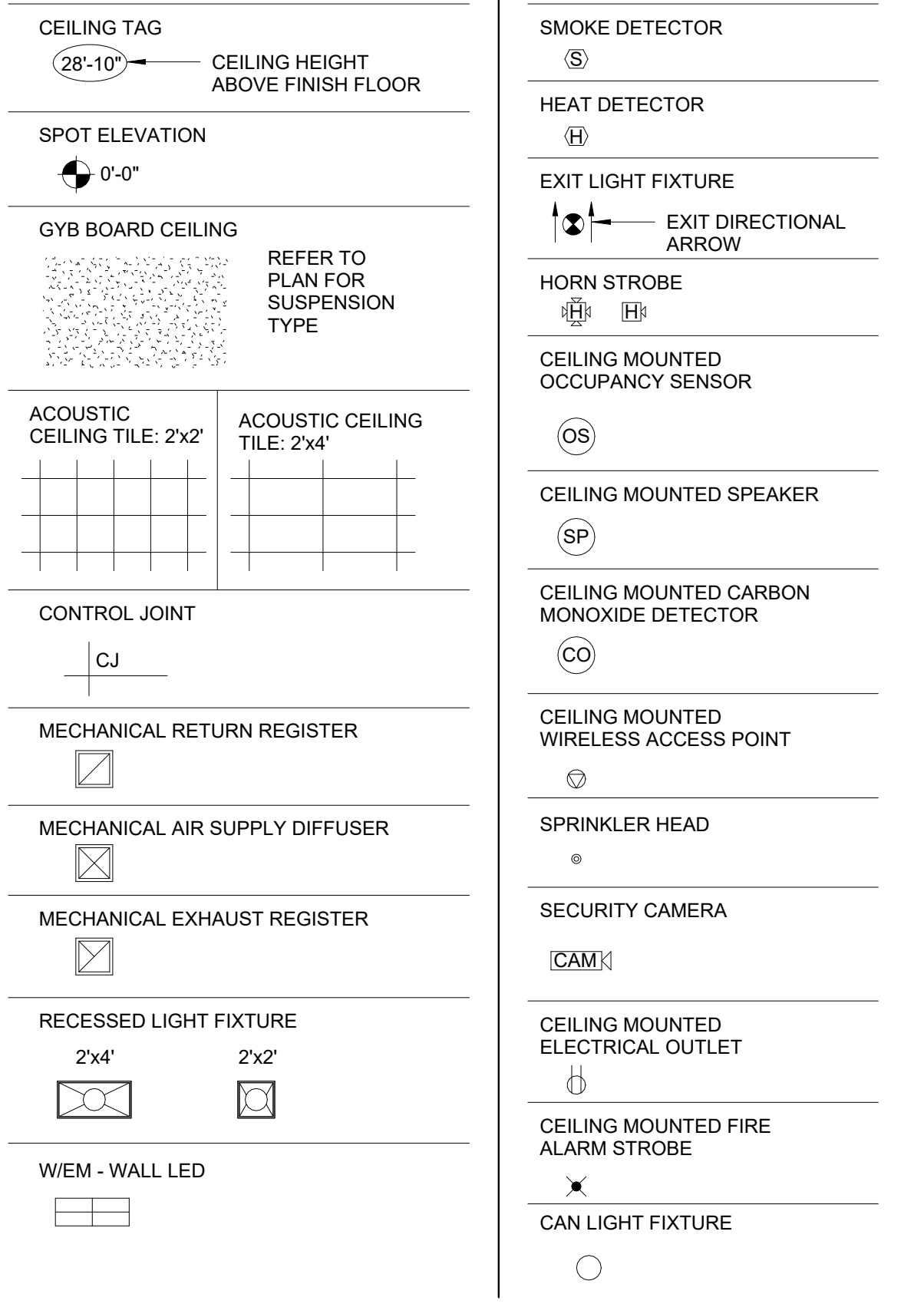
FURNITURE, FIXTURES, AND EQUIPMENT LEGEND

01	PAPER TOWEL DISPENSER, NIC
02	SOAP DISPENSER, NIC
03	SURFACE MOUNTED FIRE EXTINGUISHER
04	TOILET PAPER DISPENSER, OPCI
05	MIRROR
06	EYEWASH
07	STEEL LADDER
08	PIPE HANDRAIL
09	STORAGE SHELF (48" d x 72" w) - OWNER PROVIDED, OWNER INSTALLED
10	STORAGE SHELF (24" d x 72" w) - OWNER PROVIDED, OWNER INSTALLED

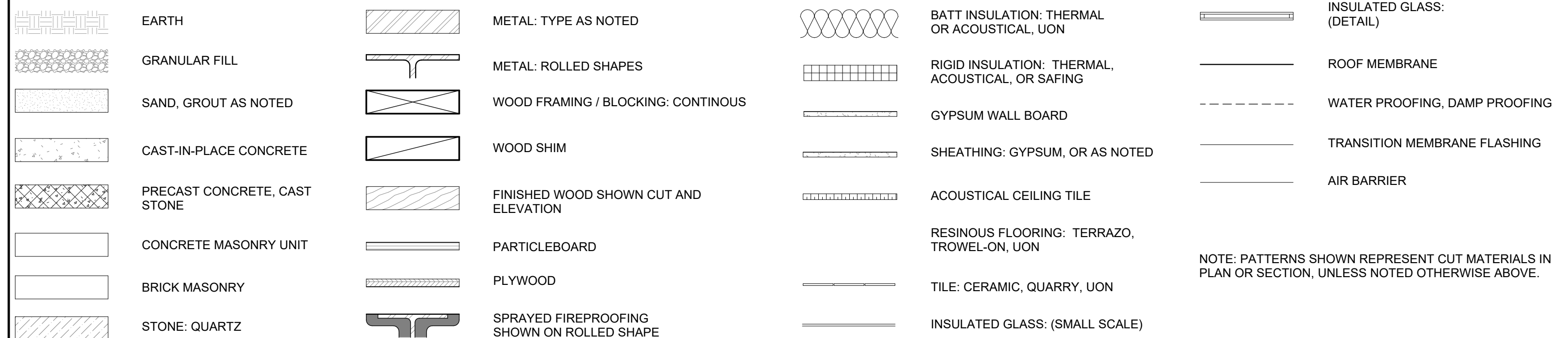
GENERAL SYMBOL LEGEND



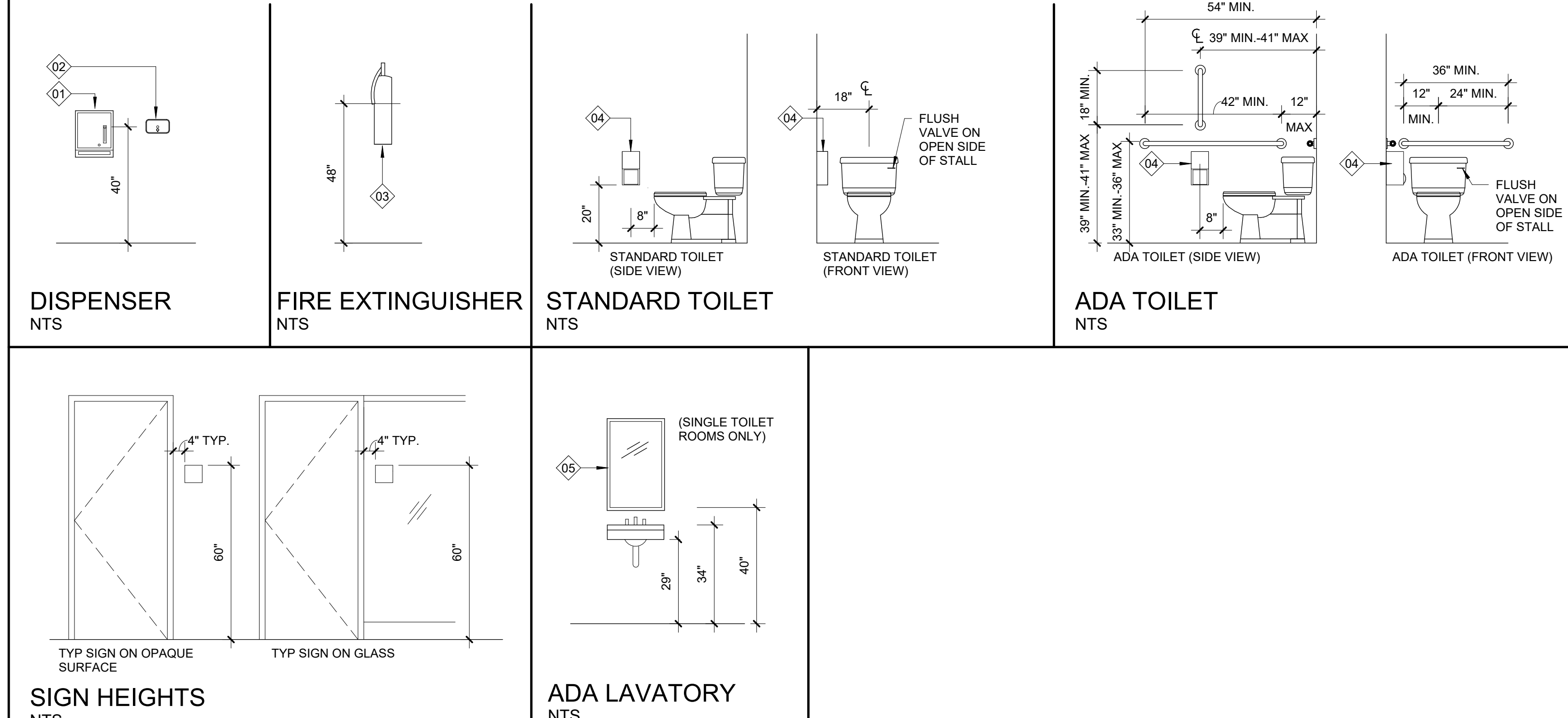
REFLECTED CEILING PLAN SYMBOL LEGEND



ARCHITECTURAL MATERIALS LEGEND:



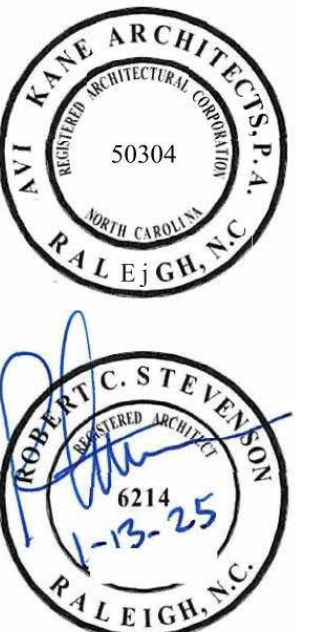
TYPICAL MOUNTING HEIGHTS AND DIMENSIONS



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



DKA JOB NUMBER

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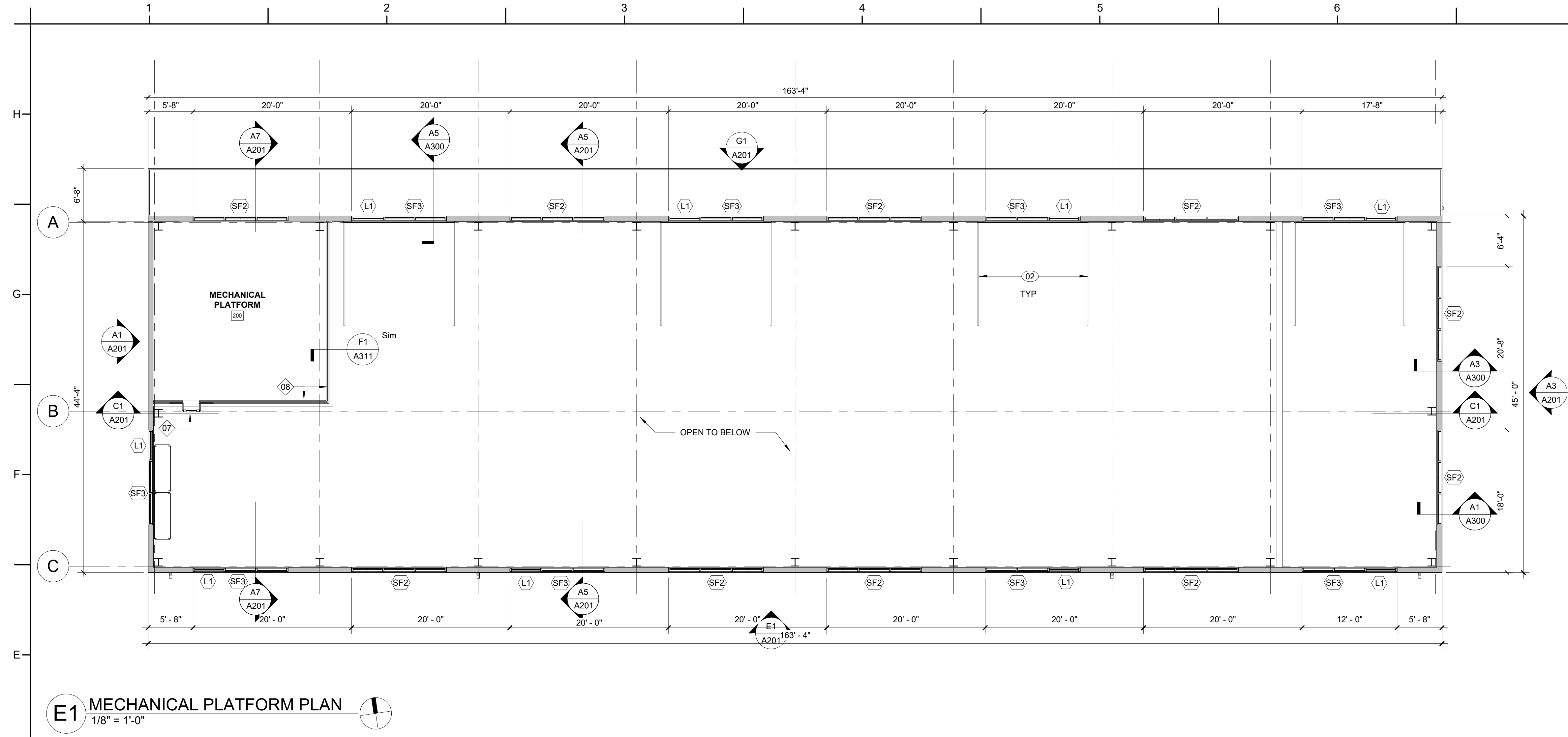
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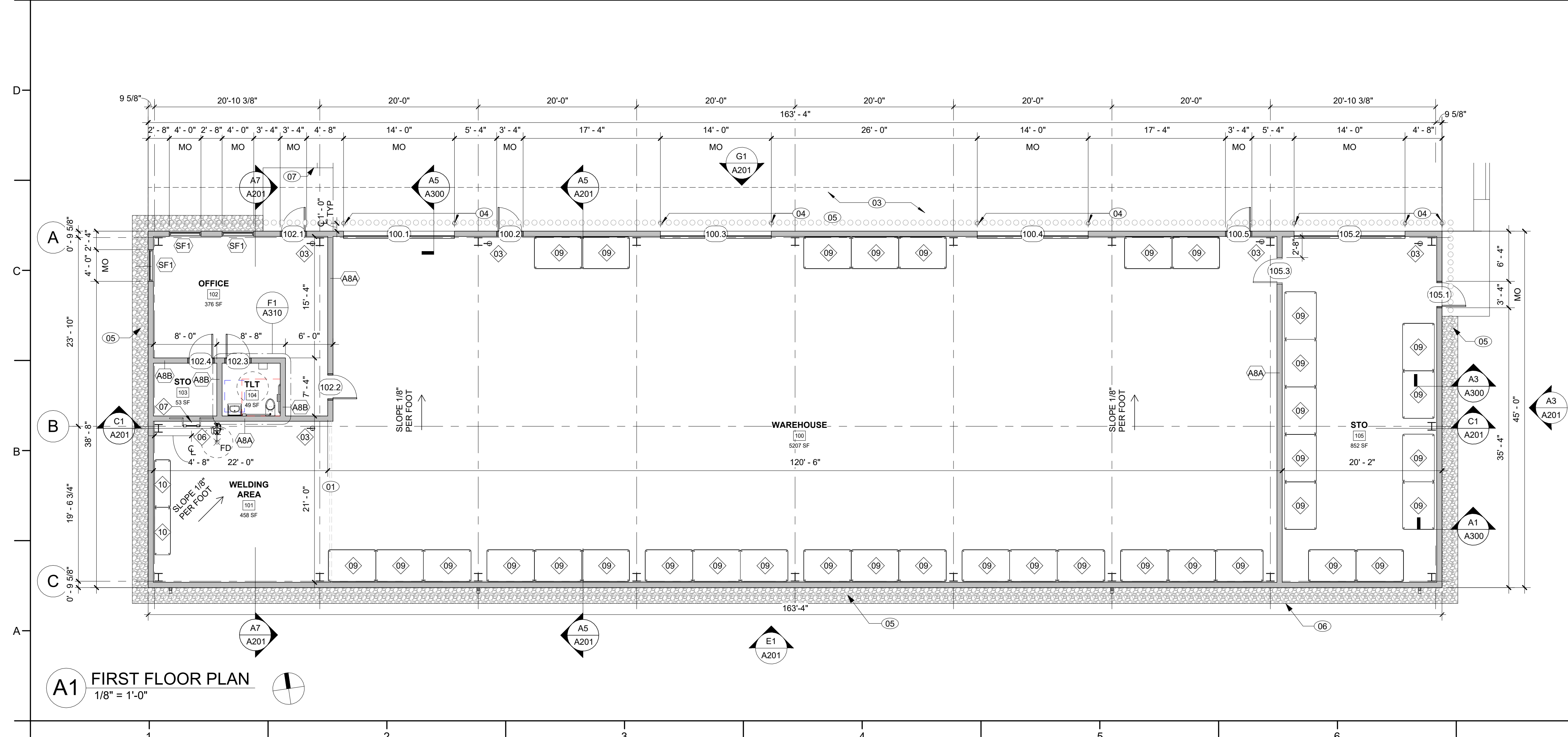
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SHEET TITLE
GENERAL NOTES AND LEGENDS

A001



E1 MECHANICAL PLATFORM PLAN
1/8" = 1'-0"



A1 FIRST FLOOR PLAN
1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES:

- DO NOT SCALE DRAWINGS. REFER DIMENSION QUESTIONS TO ARCHITECT FOR INTERPRETATION.
- ALL HINGE-SIDE JAMBS IN CMU WALLS TO BE 4" TO 8" AT A MASONRY HEAD JOINT TO INSIDE OF ADJACENT PERPENDICULAR WALL, UNLESS DIMENSIONED OTHERWISE.
- ALL DIMENSIONS TO FACE OF MASONRY OR COLUMN CENTERLINE, UNLESS OTHERWISE NOTED.
- PROVIDE CONTROL JOINTS IN INTERIOR AND EXTERIOR CMU WALLS EVERY 20' O.C. MAX. UNLESS OTHERWISE NOTED. MAINTAIN 2'-0" MINIMUM FROM JAMBS AT ALL OPENINGS.
- SEE KEY NOTES AND NOTES ON PLANS FOR SPECIFIC NOTES FOR EACH DRAWING AREA.
- SEE PLUMBING, MECHANICAL, ELECTRICAL, FIRE PROTECTION, CIVIL AND STRUCTURAL DRAWINGS FOR RELATED WORK AND ADDITIONAL REQUIREMENTS.
- COORDINATE EQUIPMENT WORK WITH MANUFACTURERS AND SUPPLIERS TO ENSURE PROPER ROUGH-IN CLEARANCES FOR INSTALLATION, USE AND MAINTENANCE.
- ALL OPENINGS IN MASONRY WALLS ARE TO RECEIVE LINTEL OR BOND BEAM. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE SEALANT AT JUNCTION OF DIFFERENT MATERIALS UNLESS OTHER MEANS OF SEALING AND CLOSURE IS SPECIFIED.
- PROVIDE THOROUGH FINAL CLEANING THROUGHOUT INTERIOR PRIOR TO OWNER OCCUPANCY. INTERIOR CLEANING TO INCLUDE FLOORS, BASE, WALLS, WALL-MOUNTED EQUIPMENT, FIXTURES, FURNISHINGS, DOORS, WINDOWS, FRAMES, SILLS, CEILINGS, CEILING MOUNTED EQUIPMENT AND FIXTURES.
- VERIFY MOUNTING HEIGHTS OF ACCESSORIES, EQUIPMENT, DOOR HARDWARE, CASEWORK, ETC., AND PROVIDE SOLID BLOCKING BEHIND ITEMS REQUIRING ANCHORAGE. WHERE MOUNTING HEIGHTS ARE NOT INDICATED, MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS. COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR INTERPRETATION.

FLOOR PLAN KEY NOTES

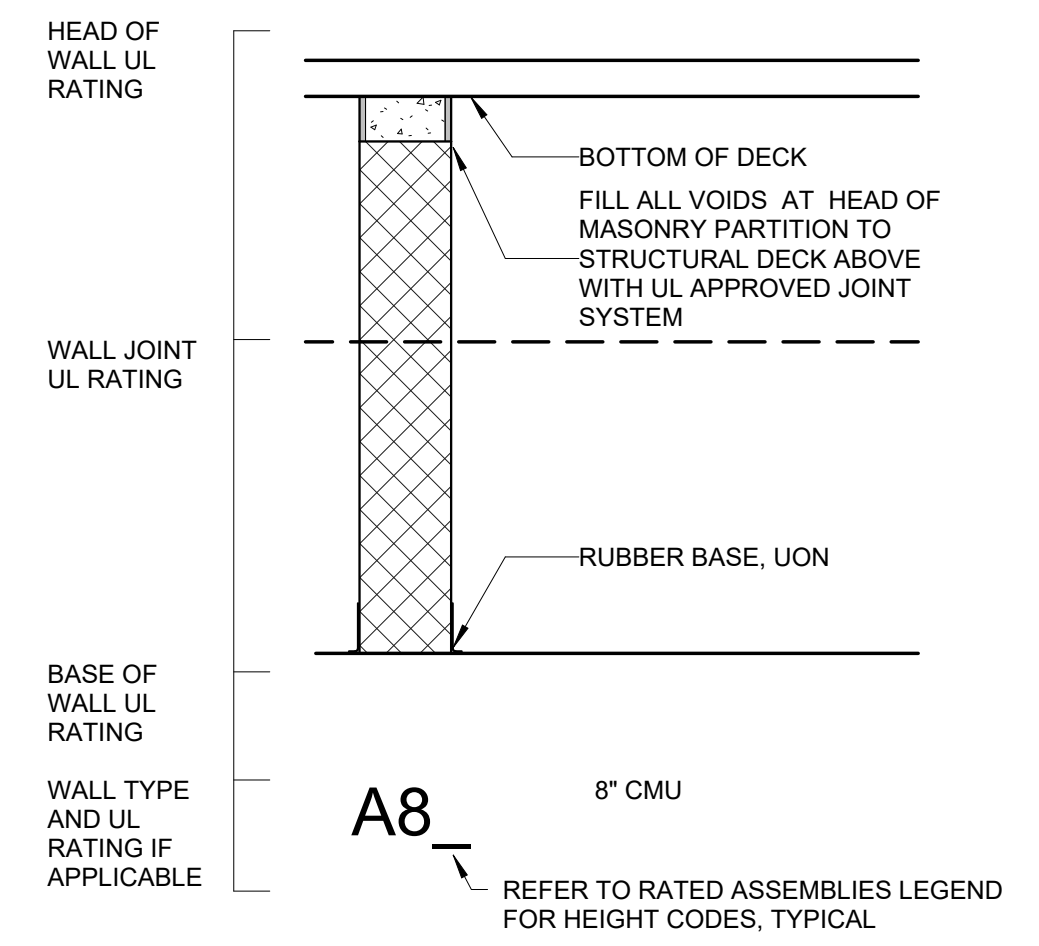
NOTE: NOT ALL KEY NOTES BELOW ARE APPLICABLE TO THIS SHEET. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE SHEETS A001 & A002 FOR FLOOR PLAN GENERAL NOTES, PARTITION GENERAL NOTES, LEGENDS, AND ADDITIONAL REQUIREMENTS.

Number	Description
01	3" CAUTION STRIP TO BE PAINTED ON CONCRETE FLOOR
02	OVERHEAD DOOR TRACK
03	CONCRETE APRON, SEE CIVIL DRAWINGS
04	BOLLARD, TYP
05	FOUNDATION DRAIN, FULL PERIMETER OF BUILDING. EXTEND TO DAYLIGHT. SEE CIVIL FOR ADDITIONAL INFORMATION
06	GRAVEL, REFER TO CIVIL DRAWINGS
07	CONCRETE SIDEWALK. REFER TO CIVIL DRAWINGS.

FURNITURE, FIXTURES, AND EQUIPMENT LEGEND

01	PAPER TOWEL DISPENSER, NIC
02	SOAP DISPENSER, NIC
03	SURFACE MOUNTED FIRE EXTINGUISHER
04	TOILET PAPER DISPENSER, OPC1
05	MIRROR
06	EYEWASH
07	STEEL LADDER
08	PIPE HANDRAIL
09	STORAGE SHELF (48" d x 72" w) - OWNER PROVIDED, OWNER INSTALLED
10	STORAGE SHELF (24" d x 72" w) - OWNER PROVIDED, OWNER INSTALLED

INTERIOR PARTITIONS LEGEND



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
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SHEET TITLE

FLOOR PLANS
A100



DAVIS KANE ARCHITECTS, P.A.

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SHEET TITLE

ROOF PLAN

A120

ROOF PLAN GENERAL NOTES:

- NEW ROOF SYSTEM INCLUDES ALL COMPONENTS AND ACCESSORIES REQUIRED TO PROVIDE A COMPLETE, WATERTIGHT AND WARRANTED SYSTEM. ITEMS INCLUDE BUT ARE NOT LIMITED TO INSULATION, TAPERED INSULATION, ADHESIVE, PRIMER, FASTENERS, ANCHORS, MEMBRANE, METAL FLASHING, COPING, GRAVEL STOP, BLOCKING PLYWOOD, DRAINS, SUMPS, CURBS, PATCHING MATERIALS, AGGREGATES, ETC.
- COORDINATE INSTALLATION OF NEW ROOF SYSTEM TO MINIMIZE THE TIME WHEN ROOF DECK IS EXPOSED TO WEATHER AND BUILDING IS SUBJECT TO WATER INTRUSION. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT WATER INTRUSION INTO BUILDING DURING CONSTRUCTION INCLUDING TEMPORARY COVERS.
- SLOPE INDICATED IN LEGEND IS A MINIMUM SLOPE MEASURED AT THE ROOF SURFACE.
- VERIFY SIZE, LOCATION, AND NUMBER OF ROOF PENETRATIONS INCLUDING VENTS, PIPES, CURBS, CONDUITS, ETC. PROVIDE PROPER FLASHING AND SEAL PENETRATIONS.
- PROVIDE A MINIMUM THERMAL VALUE OF R-30 AT ALL LOCATIONS.

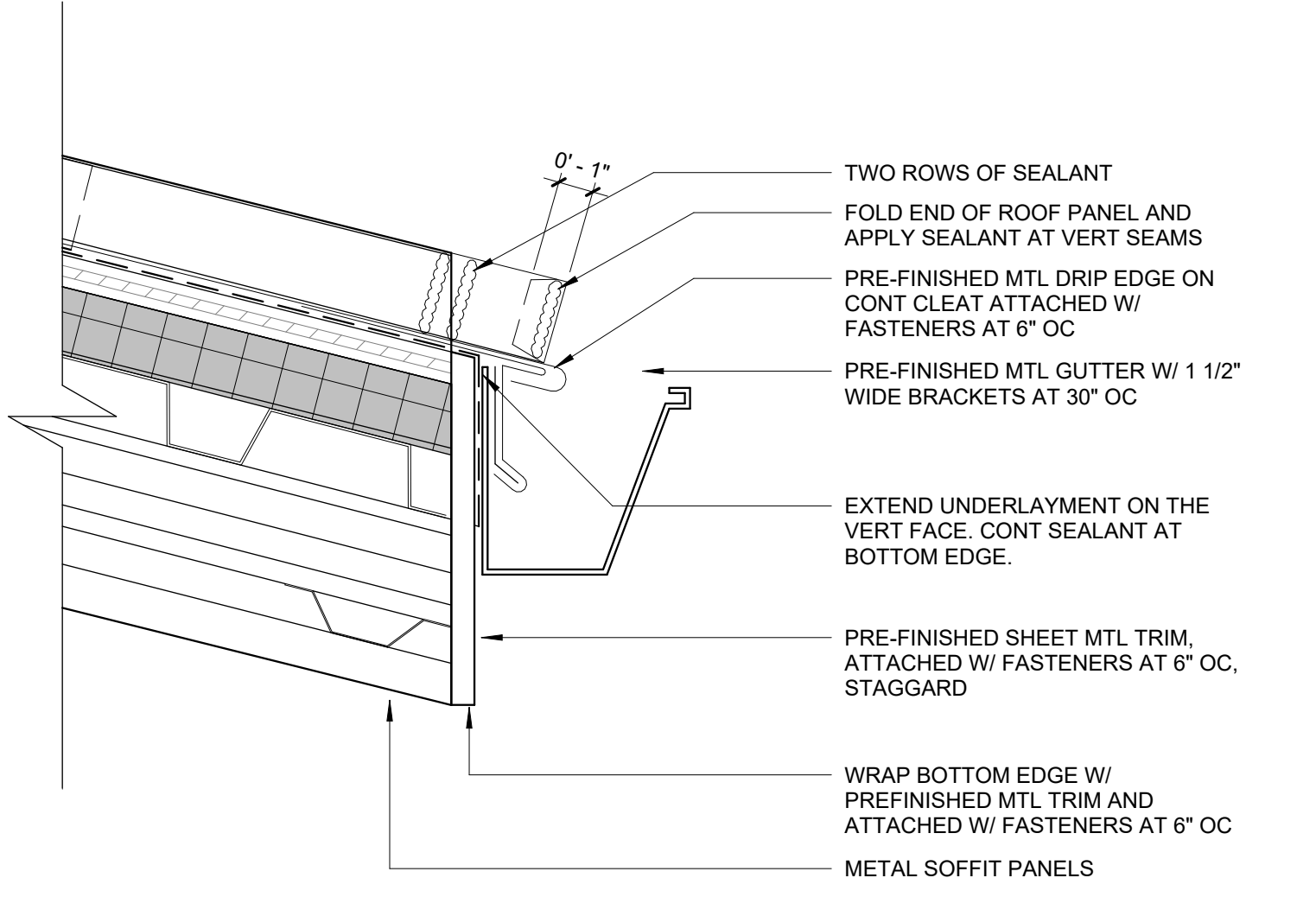
ROOF PLAN KEY NOTES

NOTE: KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE PLANS FOR KEYED ITEM LOCATIONS.

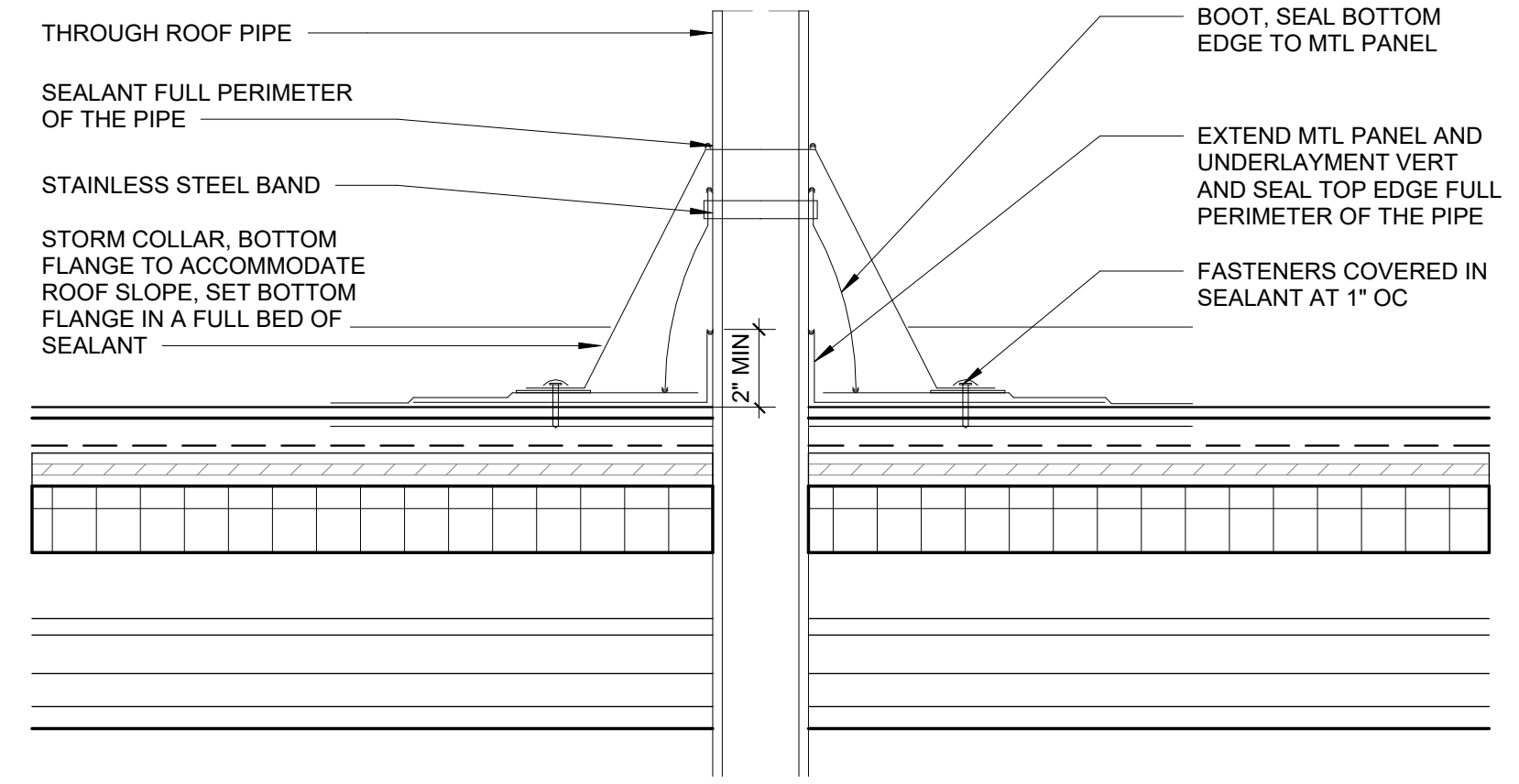
Number	Description
01	SNOW GUARD
02	PHOTOVOLTAIC PANELS, SEE PISGAH ENERGY DRAWINGS

ROOF SYMBOL LEGEND

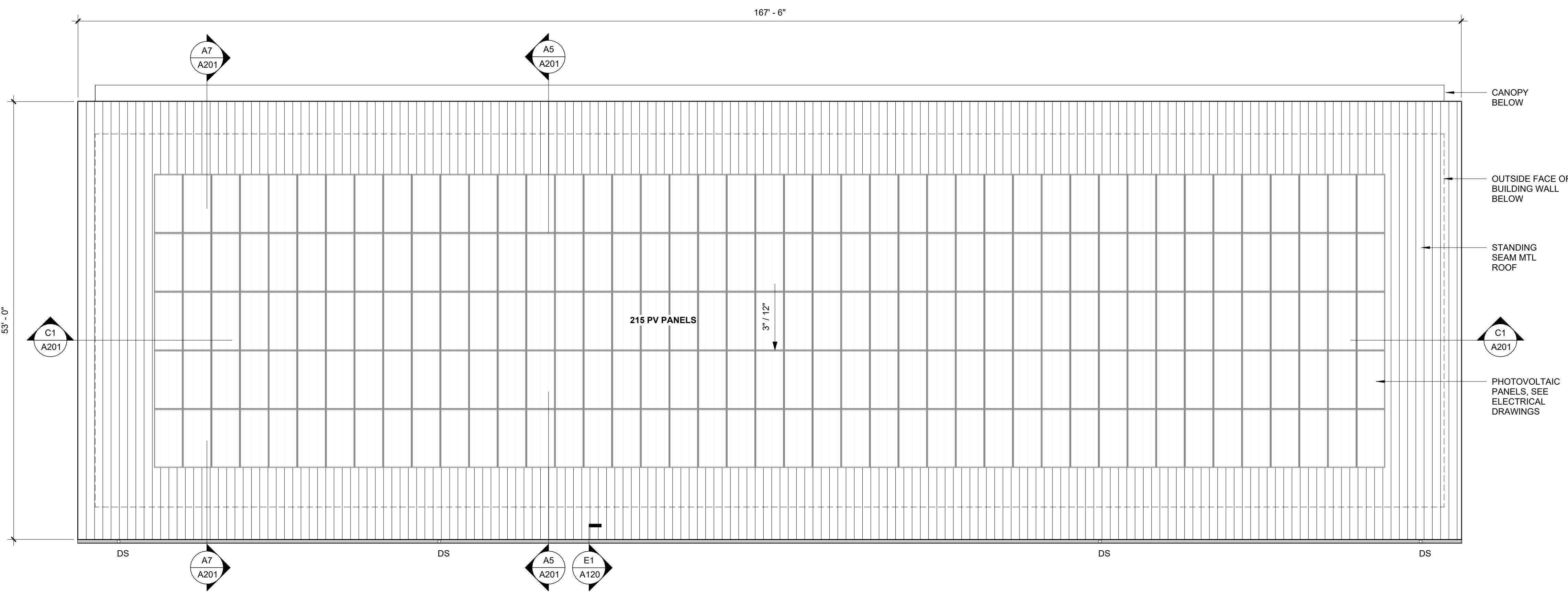
- ROOF SLOPE & DIRECTION
- EXHAUST FAN
- DS DOWNSPOUT
- VTR VENT THROUGH ROOF



E1 GUTTER DETAIL
3" = 1'-0"



E5 TYP ROOF PENETRATION
3" = 1'-0"



A1 ROOF PLAN
1/8" = 1'-0"



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SHEET TITLE

REFLECTED CEILING PLAN

A110

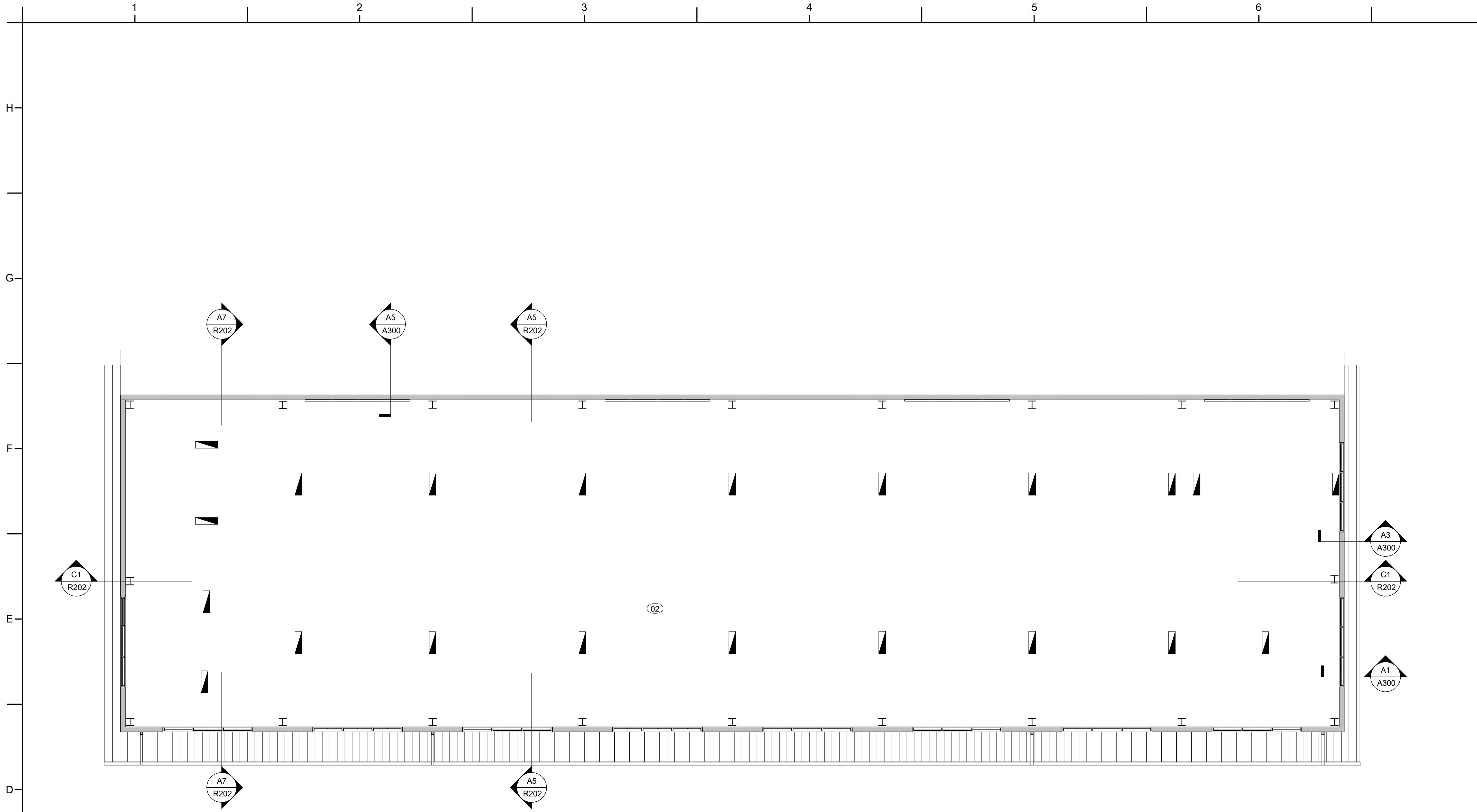
REFLECTED CEILING PLAN
GENERAL NOTES:

1. CEILING GRIDS TO BE CENTERED IN ROOM AS SHOWN, UNLESS DIMENSIONED OTHERWISE.
2. DOUBLE CEILING TRACK AT THE EDGE OF ANY LAY-IN AREAS IS NOT ACCEPTABLE. PROVIDE A 2'x4' TILE CUT TO FIT THE LARGER OPENING WHERE A STRIP OF TILE LESS THAN 2 1/2" IN EITHER DIRECTION WOULD HAVE TO BE USED. TYP.
3. MECHANICAL, ELECTRICAL, FIRE PROTECTION, AND AV COMPONENTS ARE SHOWN FOR COORDINATION PURPOSES ONLY. SEE PLUMBING, ELECTRICAL, MECHANICAL, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF MECHANICAL, FIRE PROTECTION, ELECTRICAL, AND PLUMBING WORK ABOVE CEILING, IN ORDER TO PROVIDE FINISHED CEILINGS AT HEIGHTS REQUIRED ON CEILING PLAN.
5. PRIME AND PAINT ALL NON-GALVANIZED STEEL LINTELS THAT ARE TO REMAIN EXPOSED.
6. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC. UON
7. USE OVERSIZE 2'x4' MATCHING CEILING PANEL CUT TO SIZE AT ROOM PERIMETER WHERE CEILING AND GRID LAYOUT RESULTS IN PANEL WIDTH LESS THAN 3 INCHES.
8. SUBMIT COORDINATION DRAWINGS AND LAYOUT FOR APPROVAL IN ALL AREAS WITH EXPOSED STRUCTURE PRIOR TO INSTALLATION.

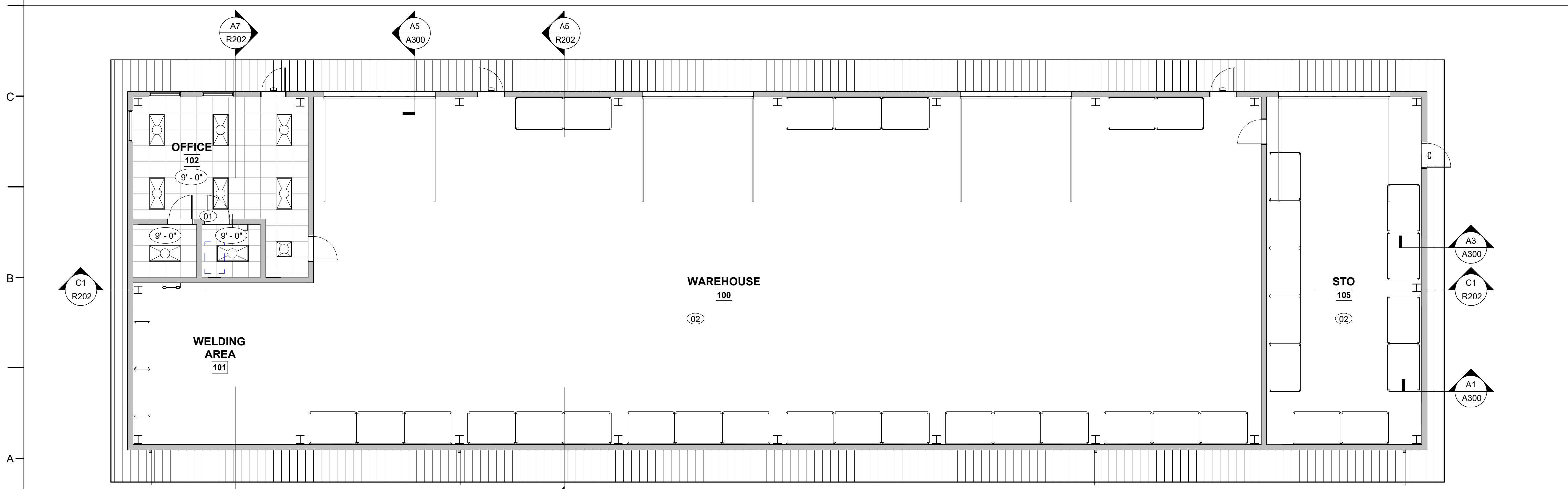
REFLECTED CEILING PLAN KEY NOTES:

NOTE: KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS. SEE PLANS FOR KEYED ITEM LOCATIONS. SEE SHEET A110 FOR REFLECTED CEILING PLAN GENERAL NOTES, REFLECTED CEILING PLAN LEGEND AND FF&E LEGEND.

01 HIGH VOLUME, LOW SPEED INDUSTRIAL FAN
02 WHERE NO CEILING IS SCHEDULED, PAINT ALL EXPOSED AND SEMI-EXPOSED SURFACES INCLUDING STEEL STRUCTURE, STEEL DECK, PIPING, DUCT, CONDUIT, BOXES, ETC. DO NOT PAINT EXPOSED CONCRETE SURFACES. MASK AND PROTECT FROM PAINT THOSE ITEMS THAT WILL NOT PROPERLY OPERATE WITH FIELD-APPLIED COATINGS, INCLUDING SPRINKLER HEADS, CONTROLS, LEVERS, VALVES, SENSORS, ETC. SEE F, P, M, AND E DRAWINGS FOR ADDITIONAL REQUIREMENTS.



D1 MECHANICAL PLATFORM RCP
1/8" = 1'-0"



A1 FIRST FLOOR RCP
1/8" = 1'-0"

EXTERIOR ELEVATION GENERAL NOTES:

- FOR SYMBOLS LEGEND, SEE A001.
- LOUVERS NOT TAGGED IN EXTERIOR ELEVATIONS ARE TAGGED IN BUILDING AREA PLANS.
- PROVIDE CONTROL JOINTS (CJ) IN MASONRY CONSTRUCTION AS INDICATED.
- PROVIDE CONTROL JOINTS (CJ) AT ALL INSIDED CORNERS.
- VERIFY FINAL CONTROL JOINT (CJ) LOCATIONS WITH ARCHITECT PRIOR TO STARTING WORK.
- AIR BARRIER AND ASSOCIATED FLASHING SHALL BE CONTINUOUS AND UNBROKEN AT ALL SURFACES OF WALL MEMBRANE TO BE FLASHED TO ALL OTHER COMPONENTS AND ASSEMBLIES TO PROVIDE AIR-TIGHT CONDITION.
- PROPOSED BUILDING IS EXEMPT FROM ARCHITECTURAL REQUIREMENTS OF CAM, AS IT IS AN INSTITUTIONAL BUILDING, AND IT IS NOT VISIBLE FROM A ROADWAY OR PUBLICLY ACCESSIBLE PARKING AREA.

EXTERIOR ELEVATIONS KEY NOTES

NOTE: SEE ELEVATIONS FOR KEYED ITEM LOCATIONS. KEY NOTES SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THE DRAWINGS.

Number	Description	Color
01	VERTICAL METAL WALL PANELS	STONE WHITE
02	8" SPLIT FACE CMU	MEDIUM/DARK GRAY
03	8" SPLIT FACE CMU SILL BLOCK	MEDIUM/DARK GRAY
04	OVERHEAD DOORS	REGAL WHITE
05	EXTERIOR METAL DOORS AND FRAMES	CHARCOAL GRAY
06	INSULATED TRANSLUCENT FIBERGLASS SANDWICH PANEL	FROSTED WHITE
07	ALUMINUM STOREFRONT WINDOW	CLEAR ANODIZED
08	LOUVERS	CHARCOAL GRAY
09	STANDING SEAM METAL ROOF	REGAL WHITE
10	GUTTER	CHARCOAL GRAY
11	DOWNSPOUT	CHARCOAL GRAY
12	FRONT AWNING	CHARCOAL GRAY
13	BOLLARD, TYP	CHARCOAL GRAY
14	SOLAR PANELS	SAFETY YELLOW

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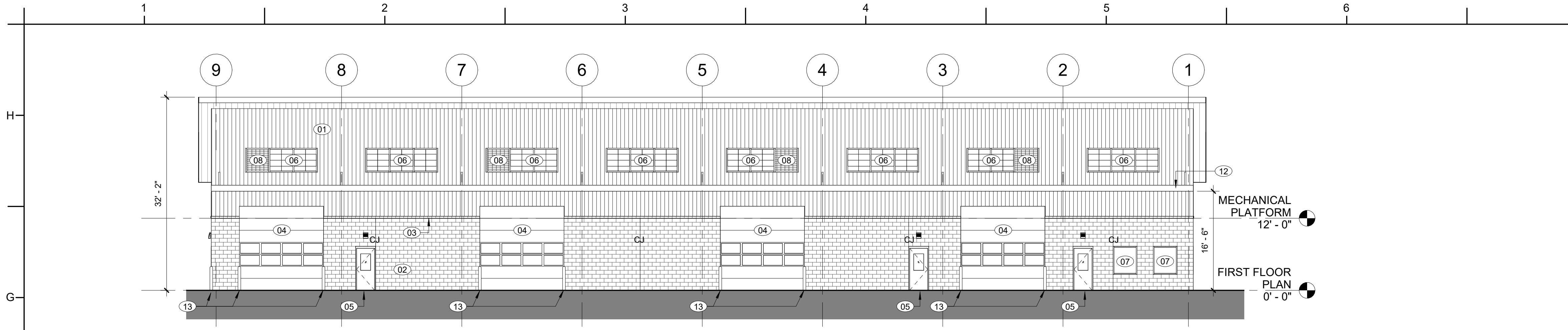
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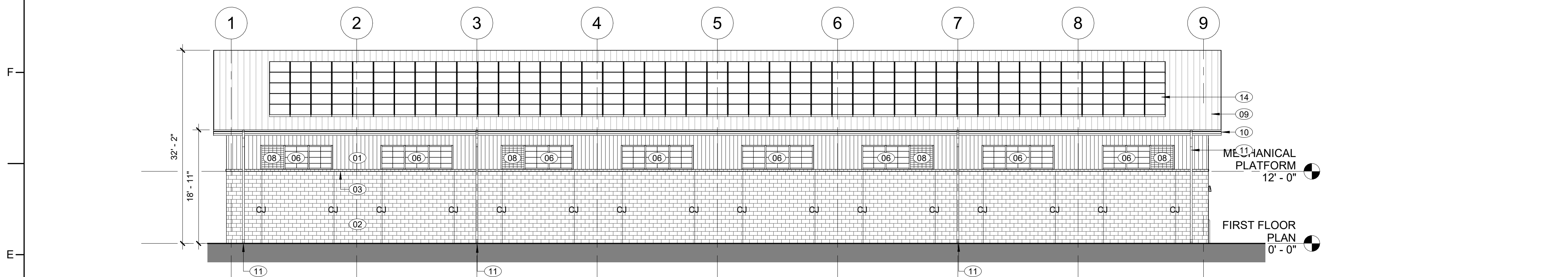
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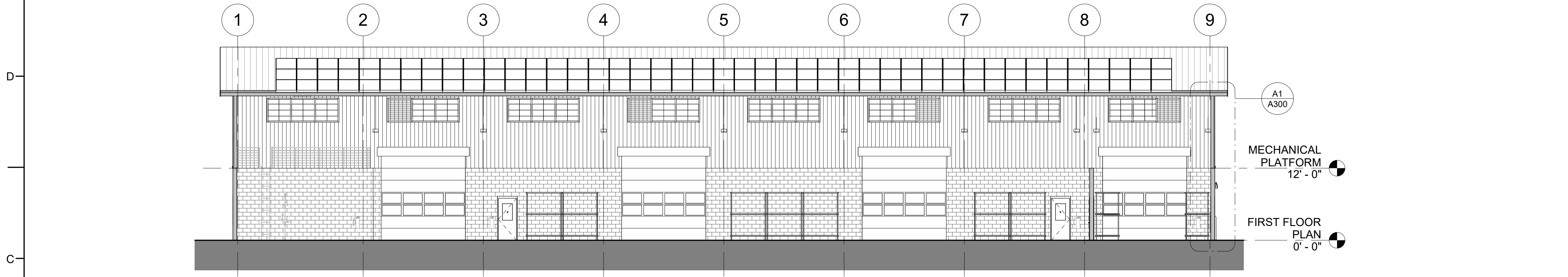
BUILDING ELEVATIONS AND SECTIONS
A201



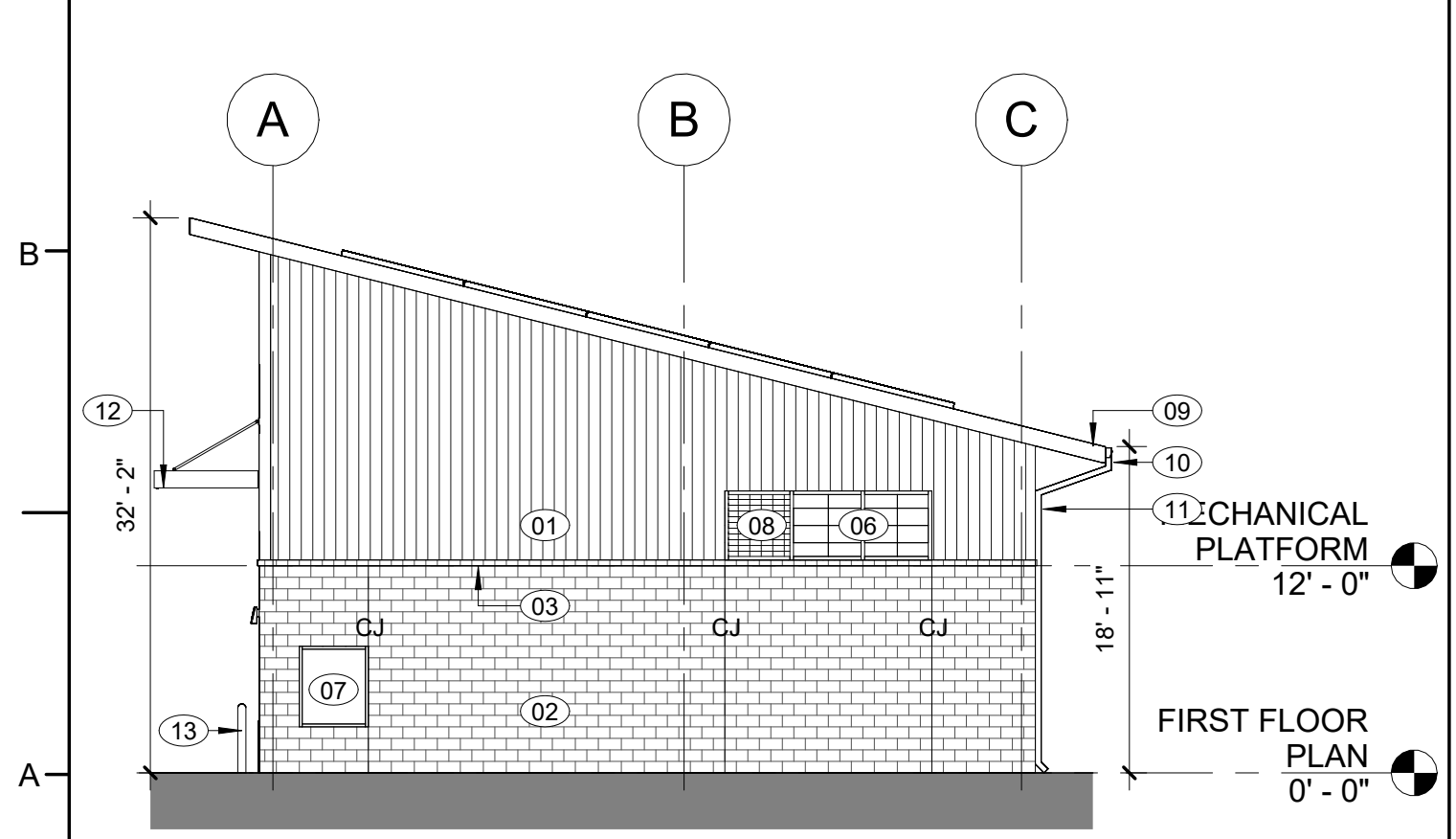
G1 ELEVATION - NORTH
3/32" = 1'-0"



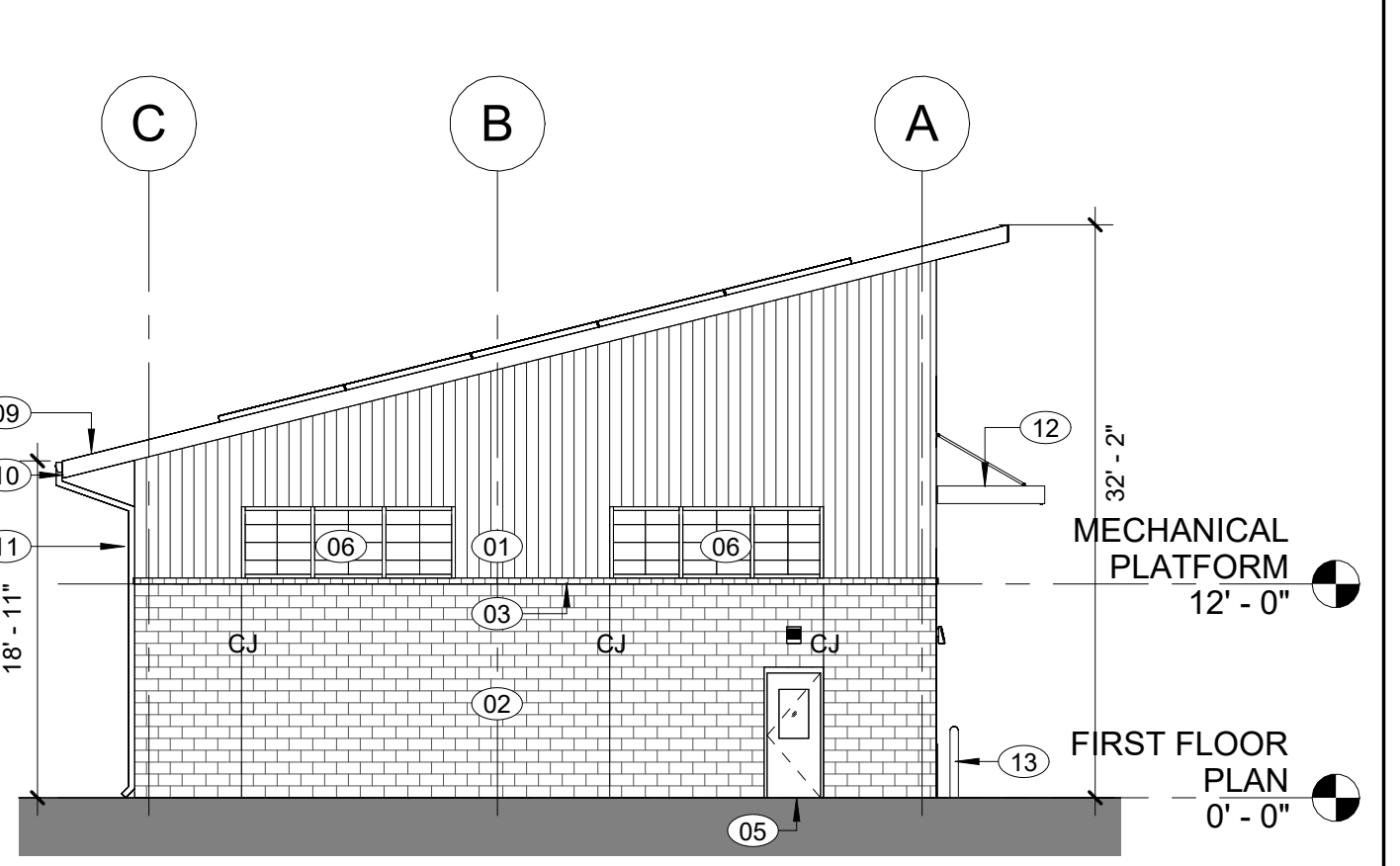
E1 ELEVATION - SOUTH
3/32" = 1'-0"



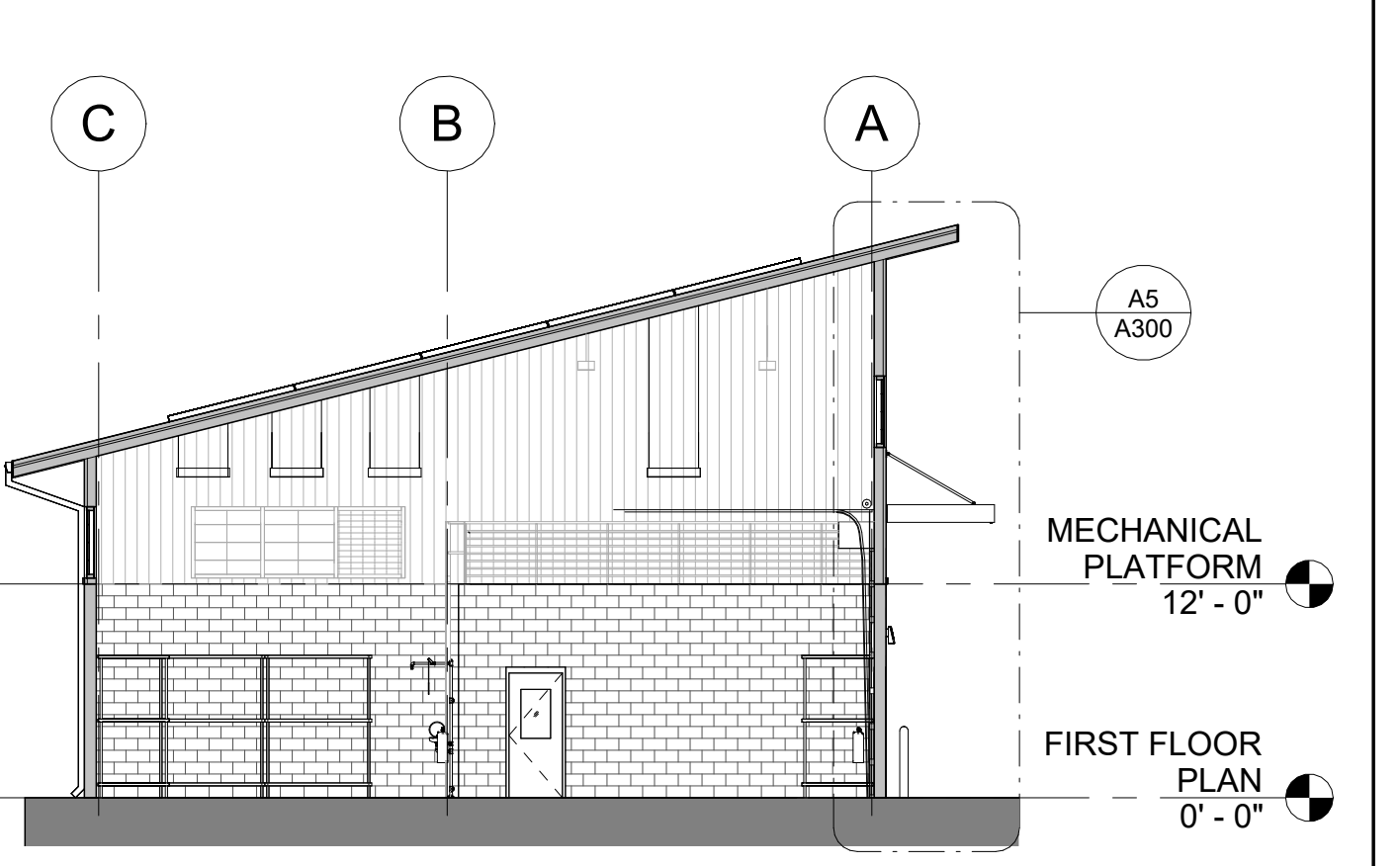
C1 SECTION 1
3/32" = 1'-0"



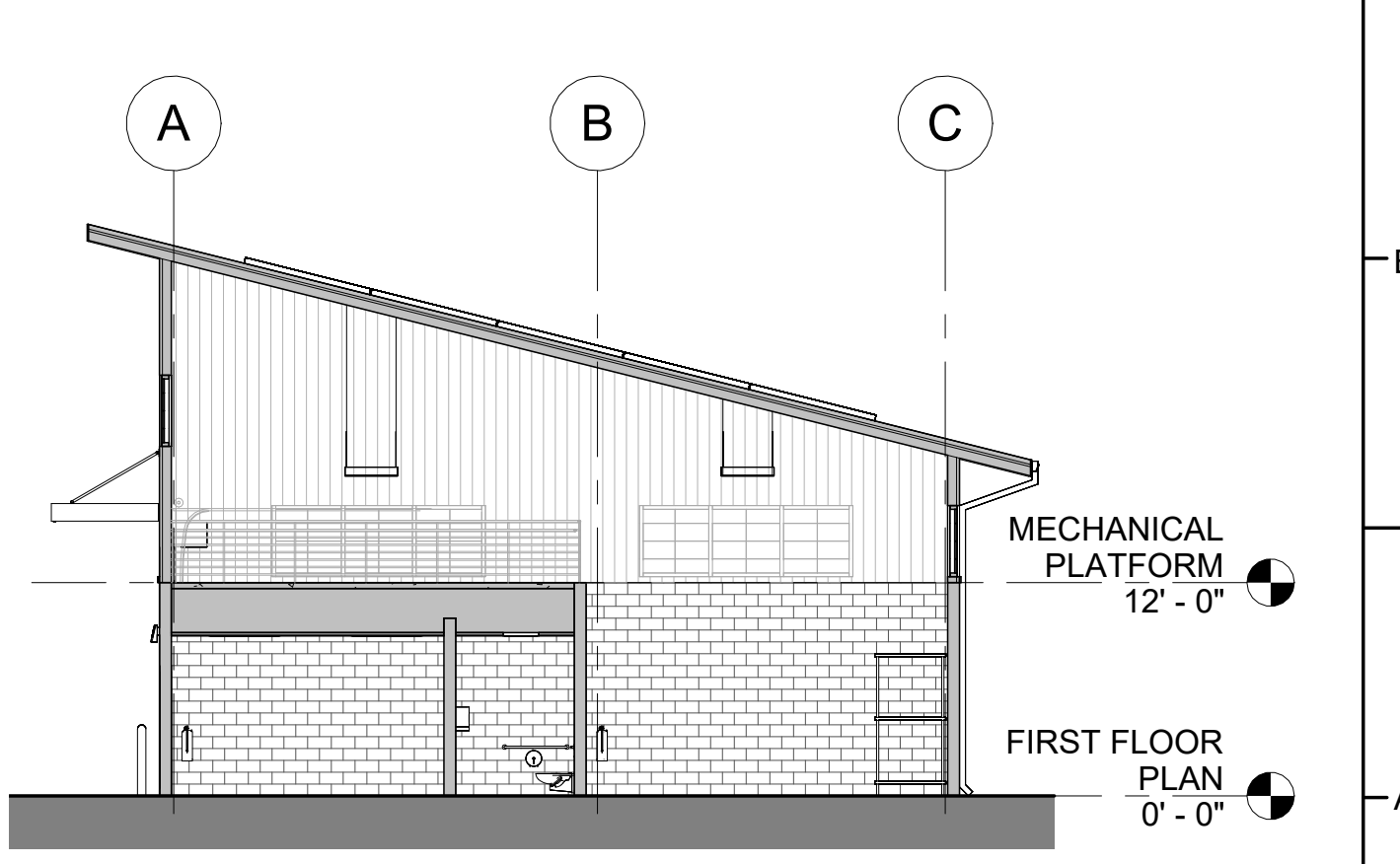
A1 ELEVATION - WEST
3/32" = 1'-0"



A3 ELEVATION - EAST
3/32" = 1'-0"



A5 SECTION 2
3/32" = 1'-0"



A7 SECTION 3
3/32" = 1'-0"



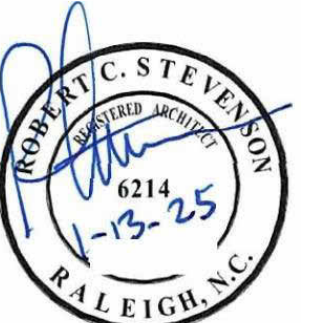
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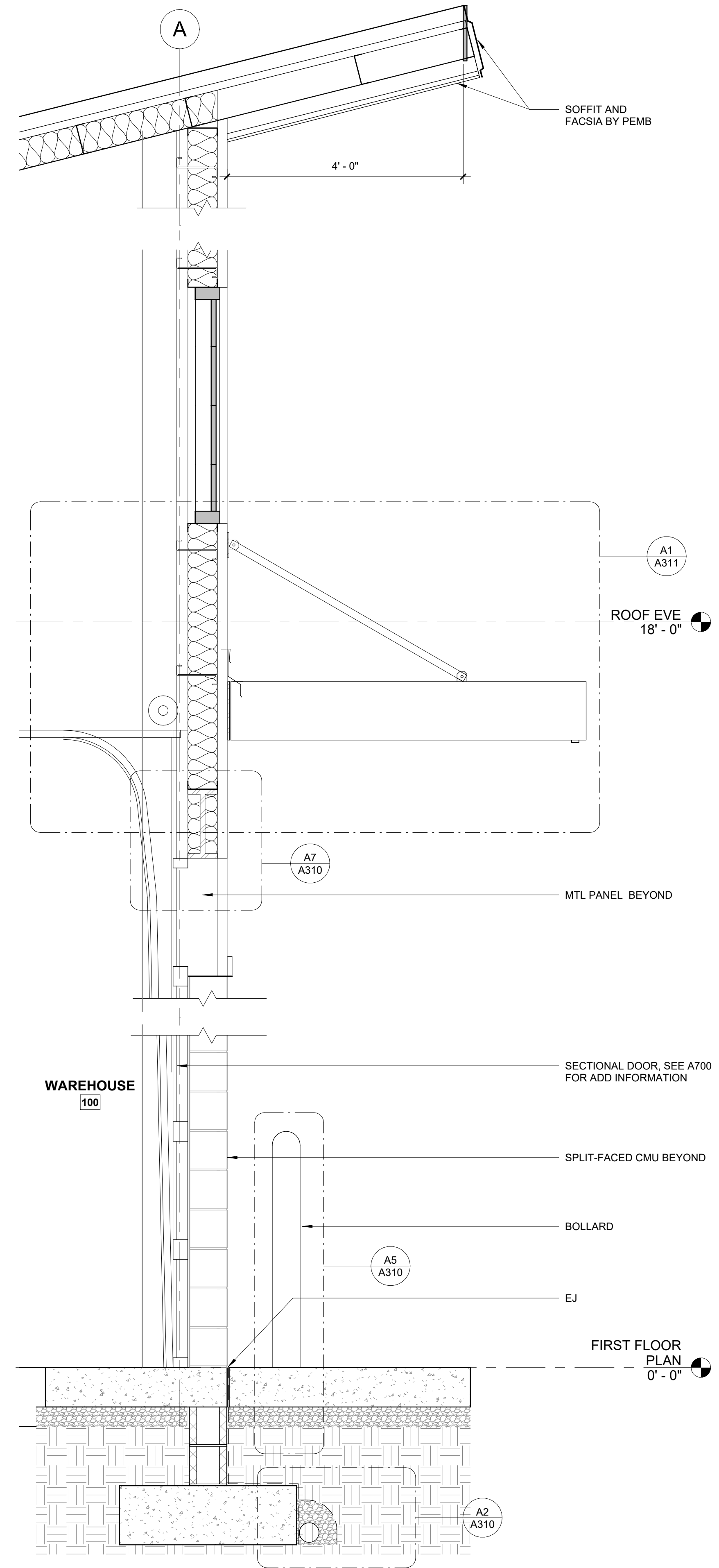
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PM: CV
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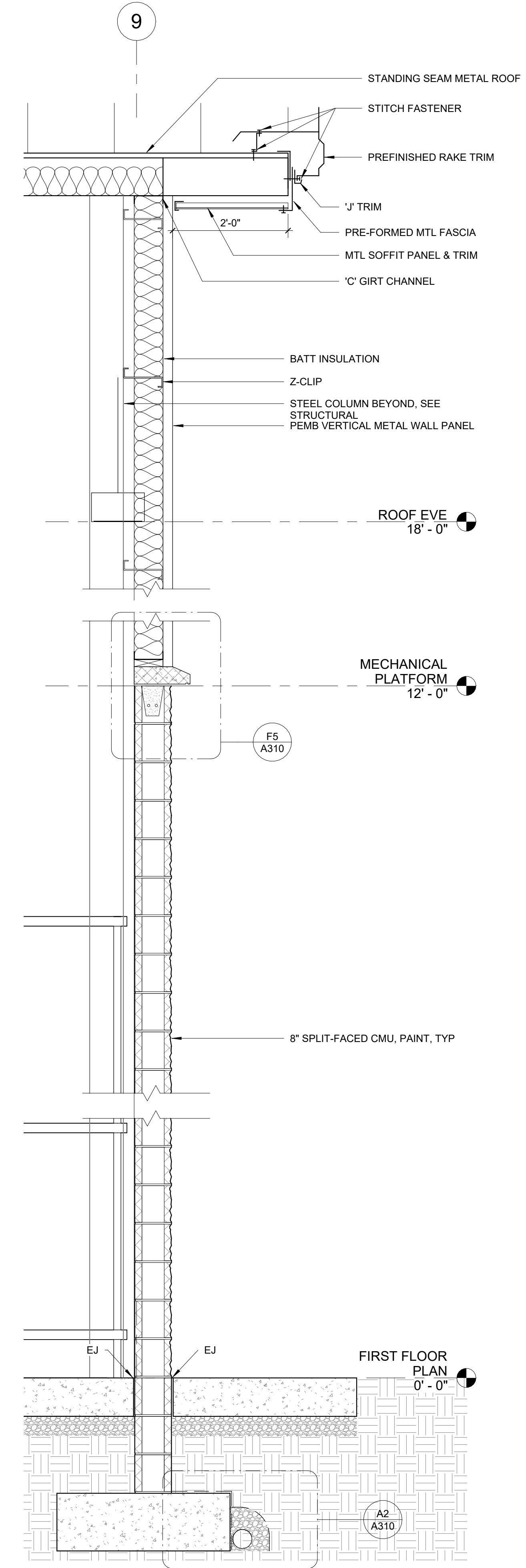
Bid Documents
1/13/2025

SHEET TITLE
WALL SECTIONS

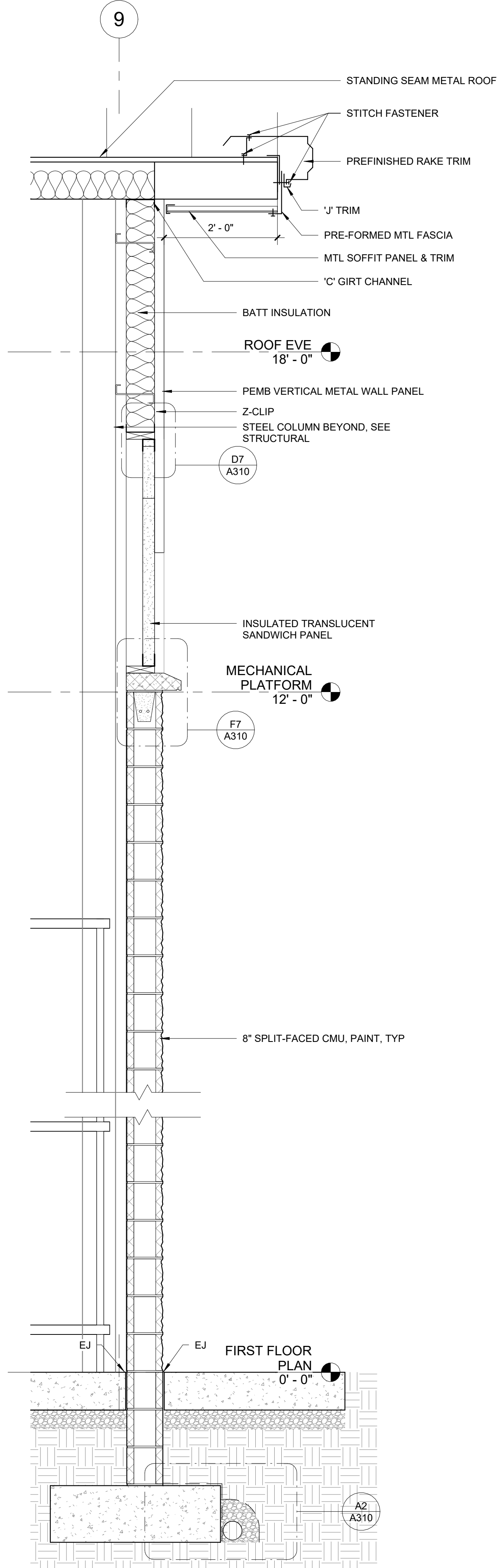
A300



A5 WALL SECTION 3
3/4" = 1'-0"



A3 WALL SECTION 2
3/4" = 1'-0"



A1 WALL SECTION 1
3/4" = 1'-0"



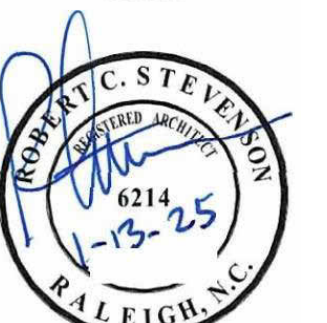
DAVIS KANE ARCHITECTS, P.A.

503 OBERLIN ROAD | SUITE 300
RALEIGH, NC 27605
919.833.3757
www.davis-kane.com

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd., Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

REVISIONS

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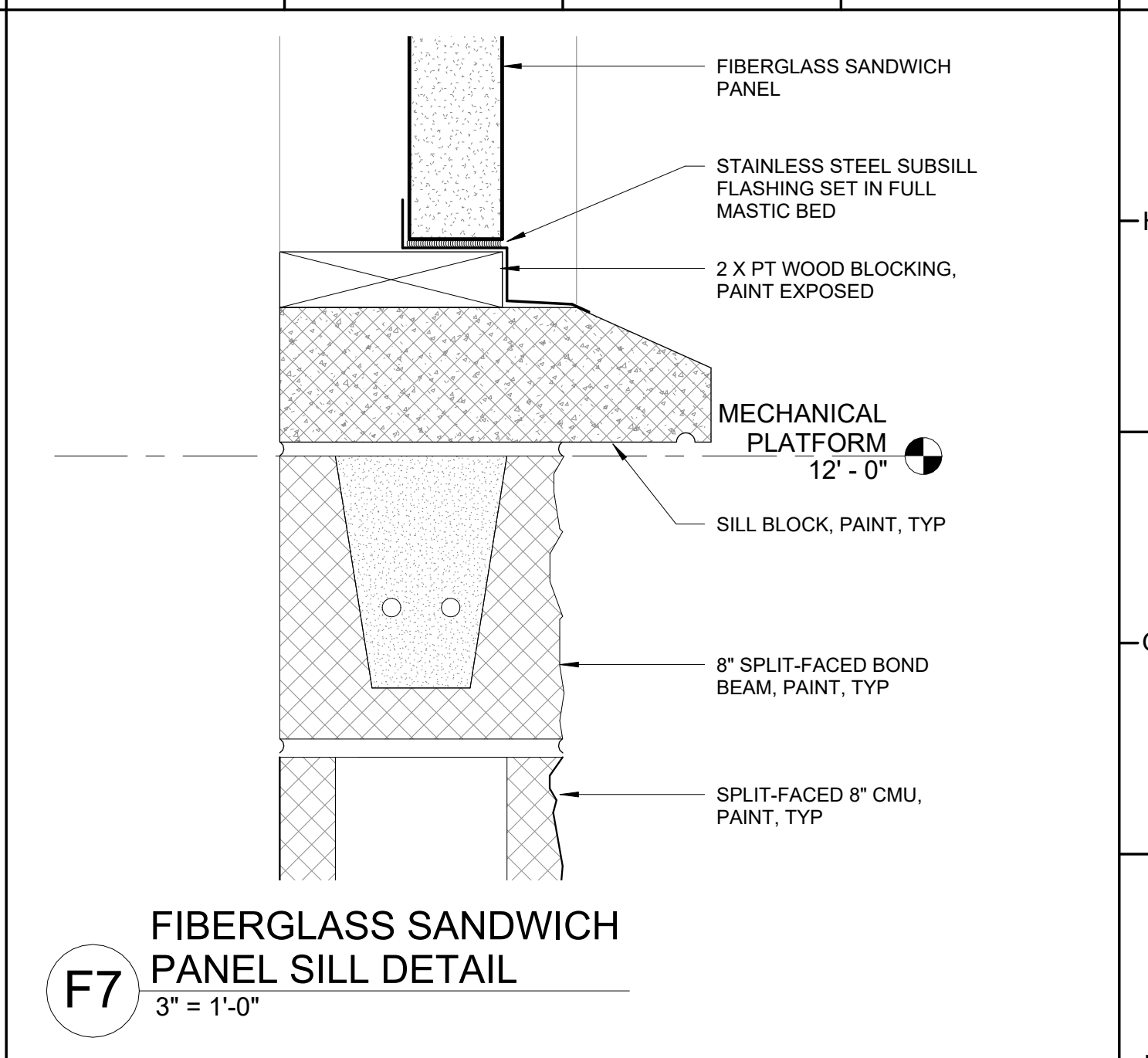
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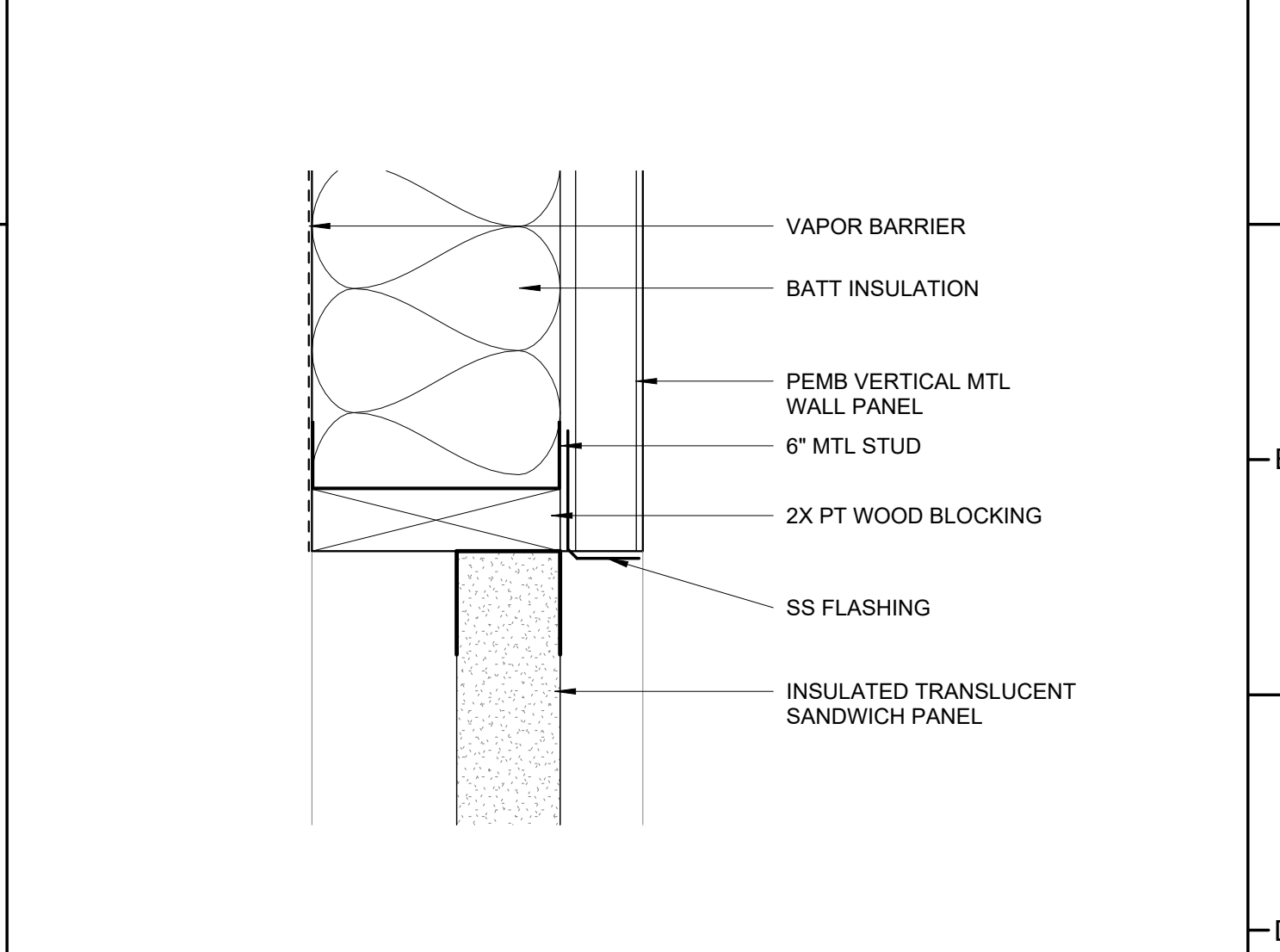
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DETAILS

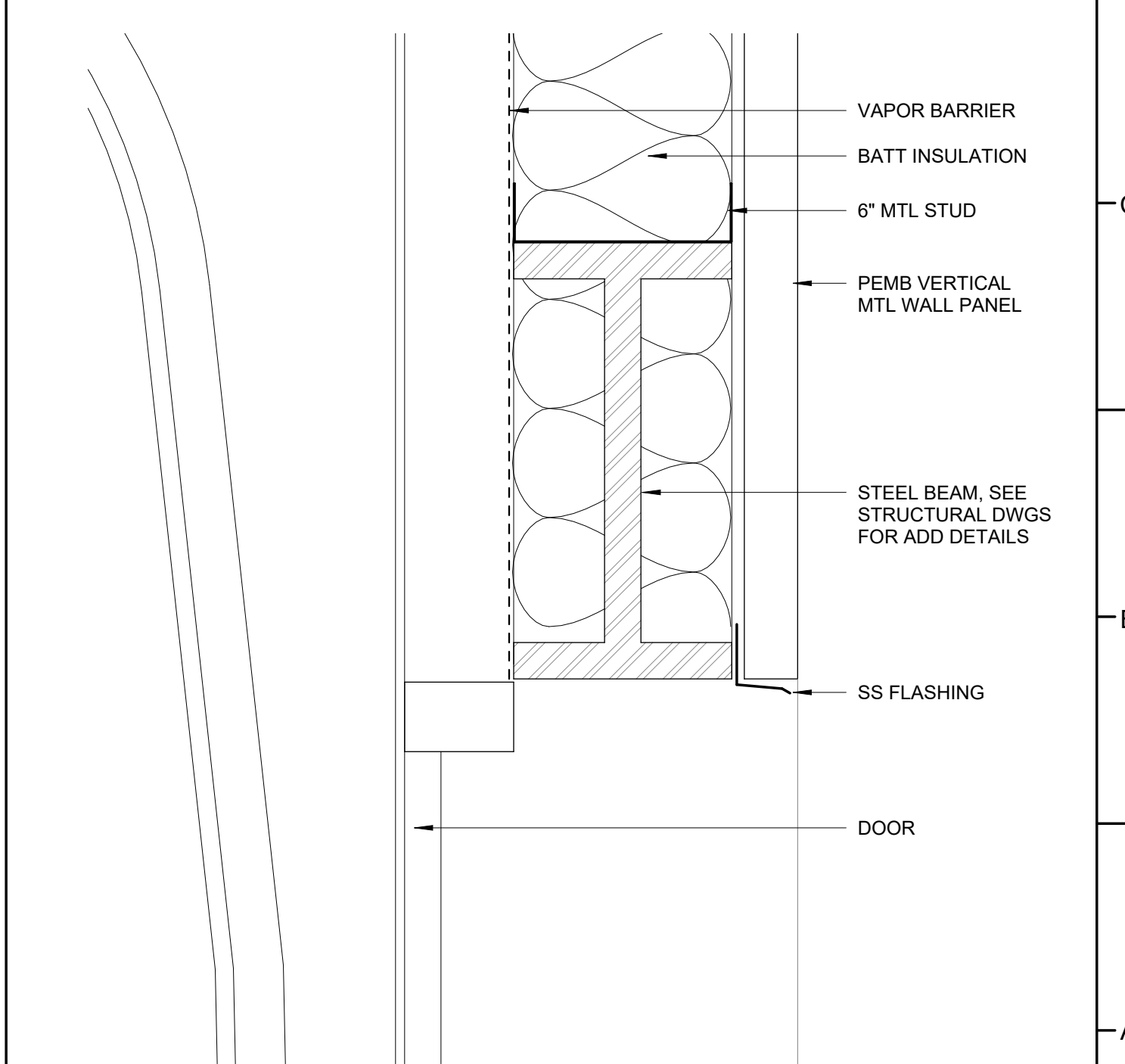
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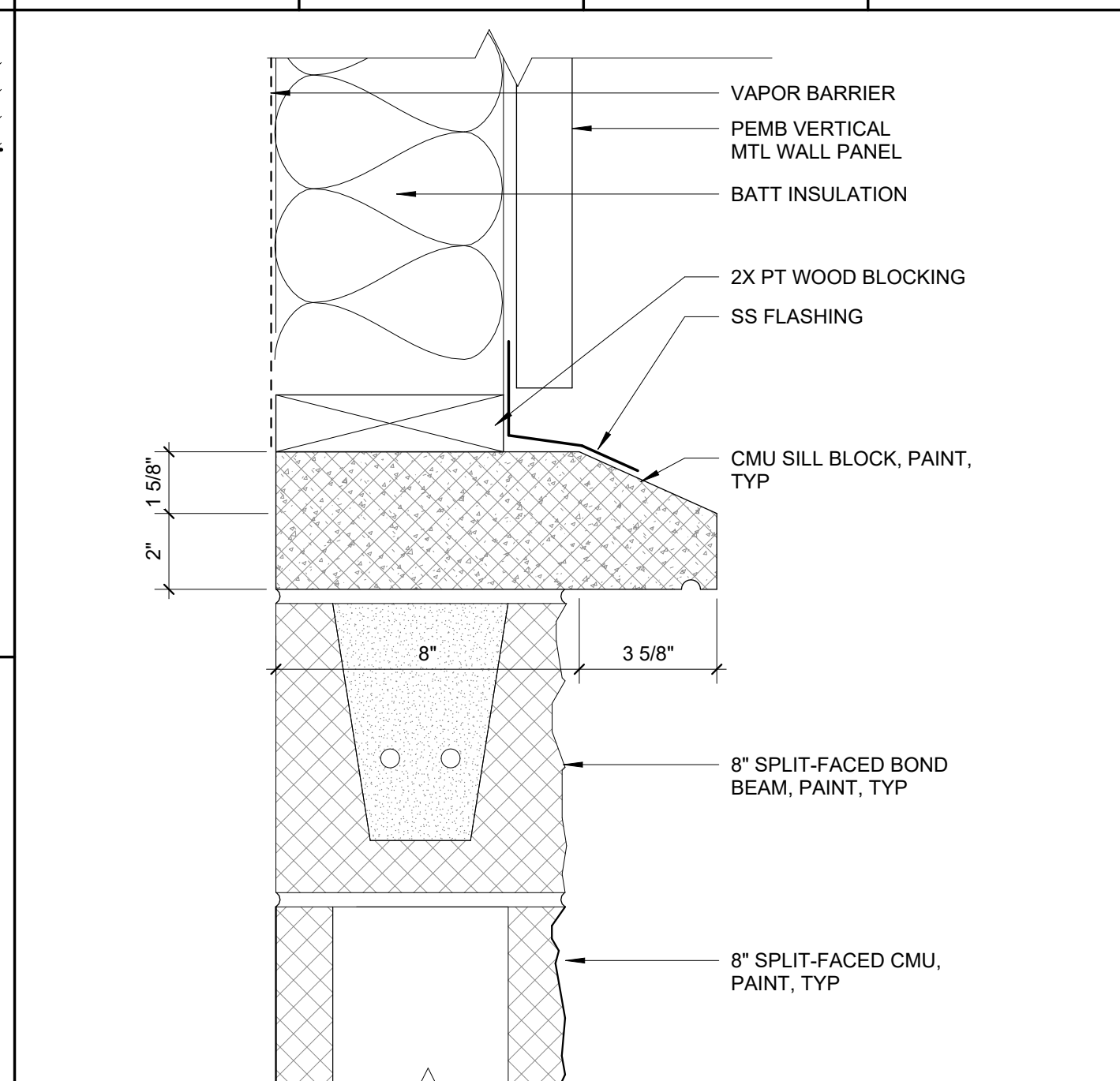
F7 FIBERGLASS SANDWICH PANEL SILL DETAIL
3" = 1'-0"



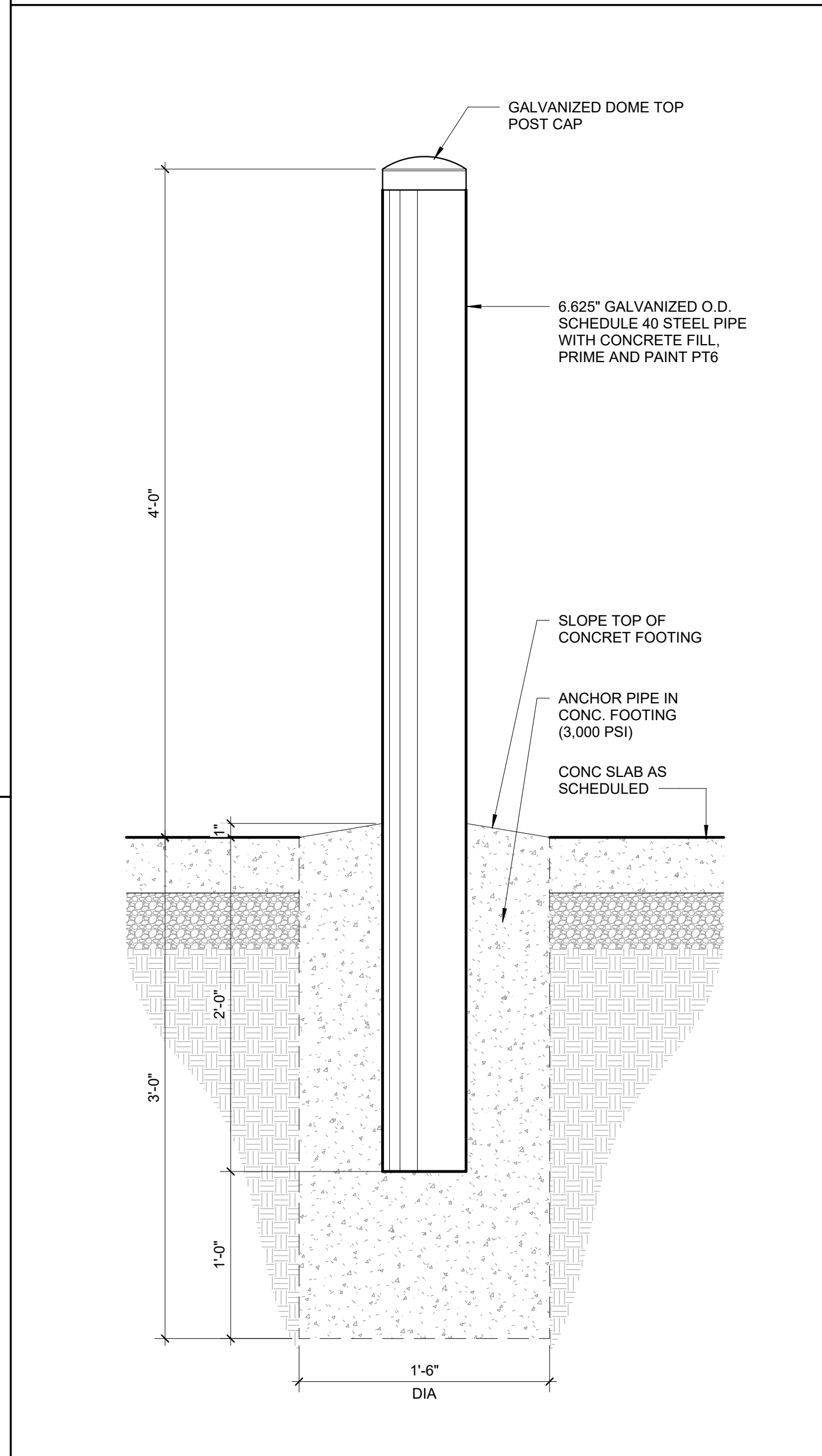
D7 FIBERGLASS SANDWICH PANEL HEAD DETAIL
3" = 1'-0"



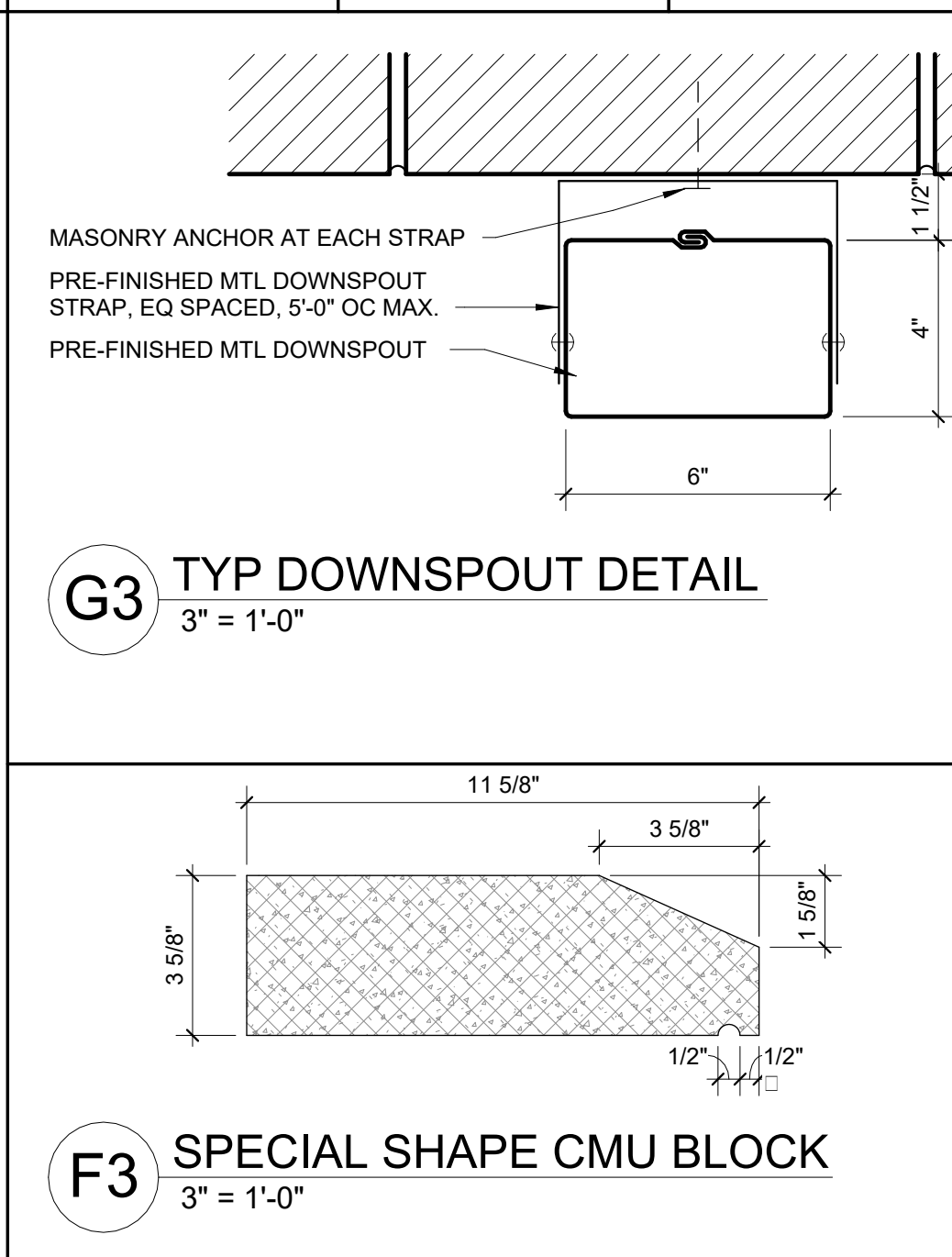
A7 OVERHEAD DOOR DETAIL
3" = 1'-0"



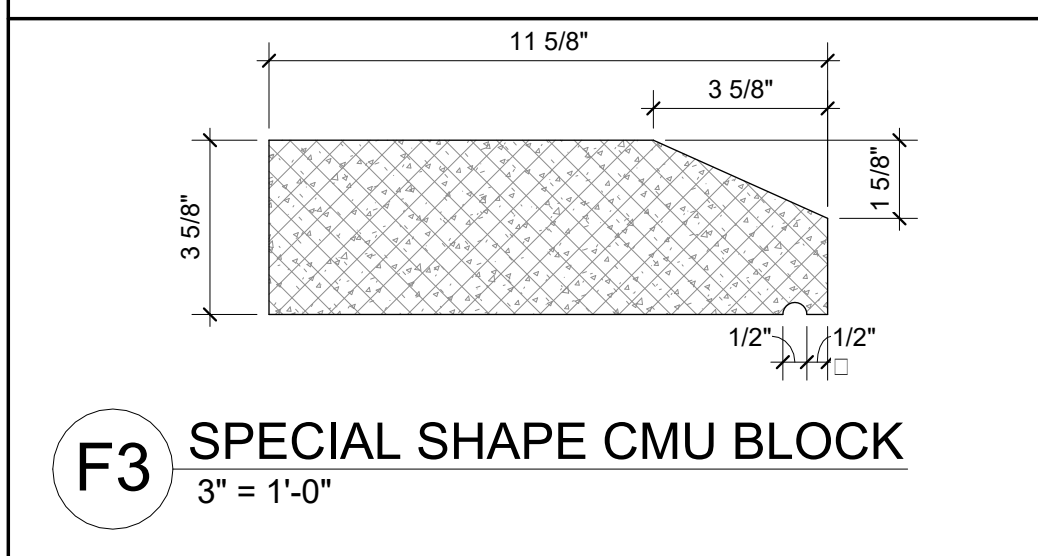
F5 CMU TO MTL PANEL TRANSITION
3" = 1'-0"



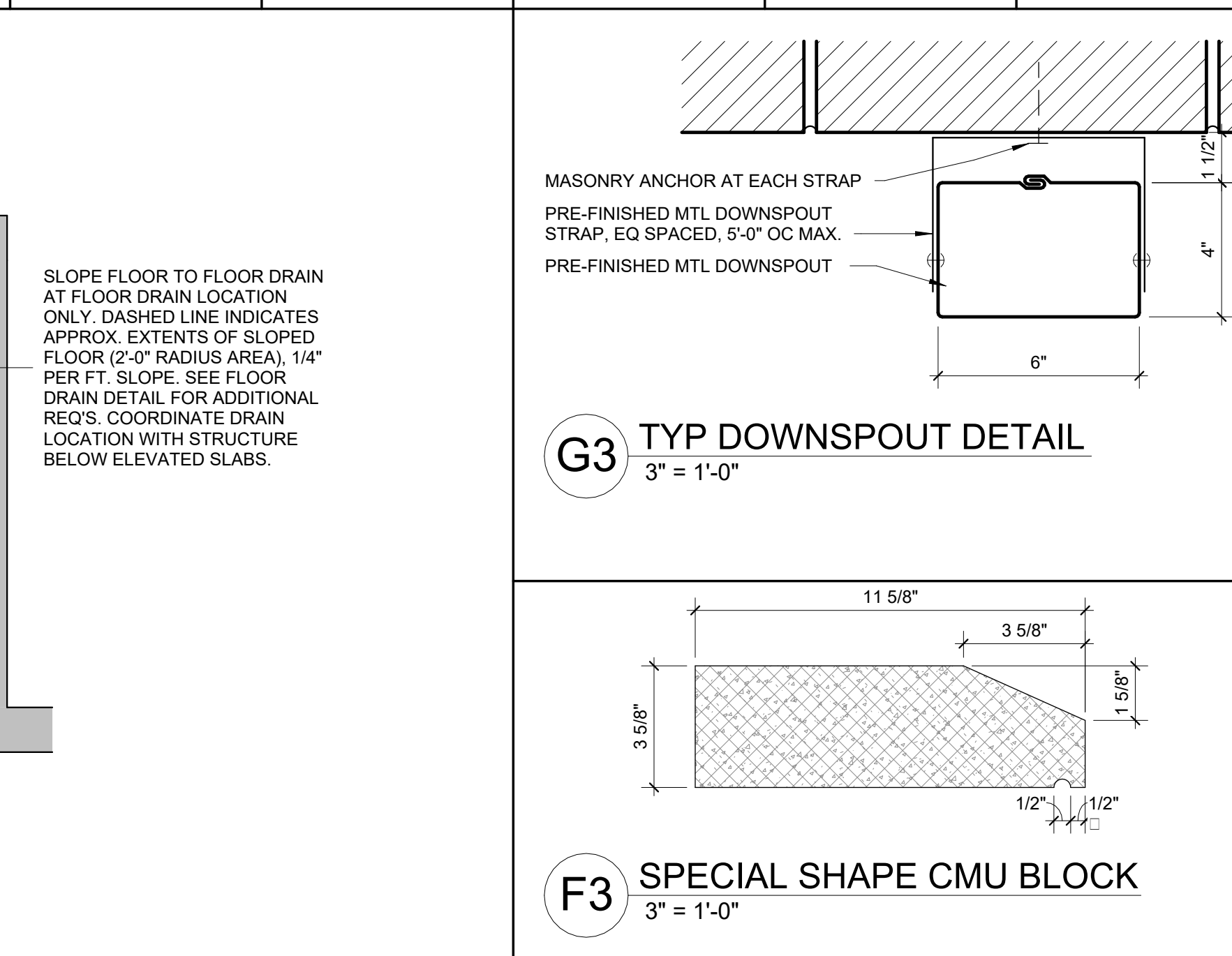
A5 PIPE BOLLARD DETAIL
1 1/2" = 1'-0"



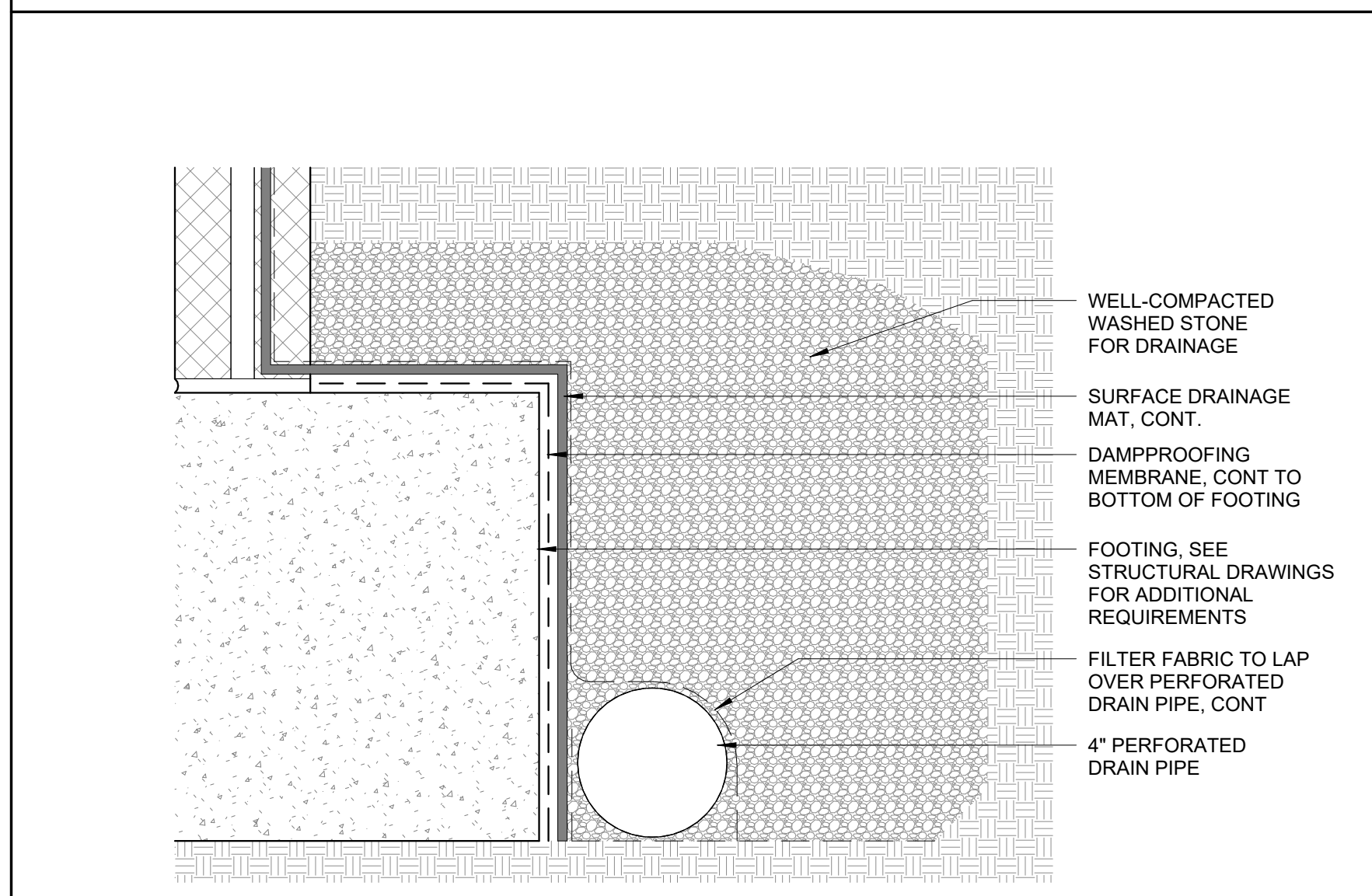
G3 TYP DOWNSPOUT DETAIL
3" = 1'-0"



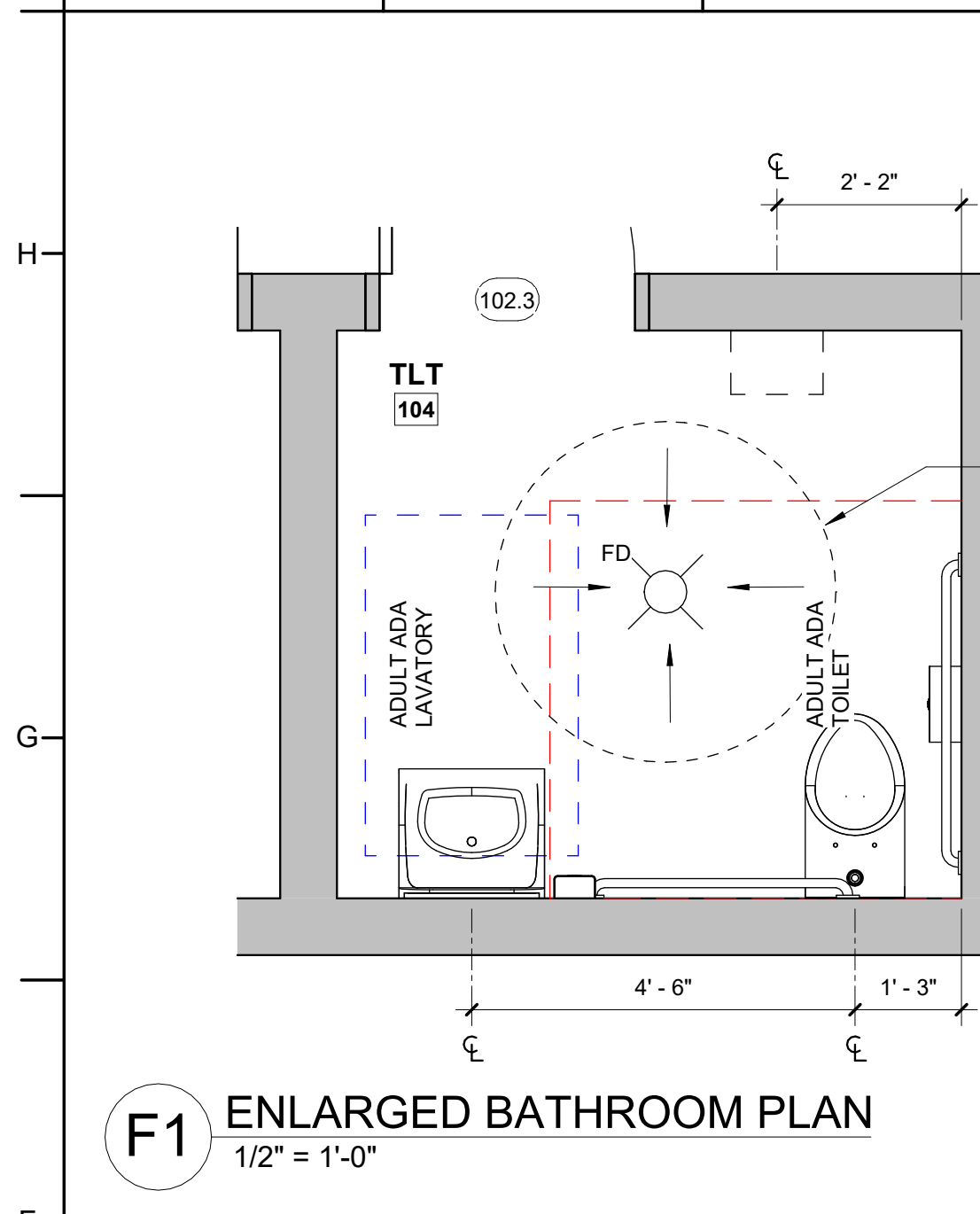
F3 SPECIAL SHAPE CMU BLOCK
3" = 1'-0"



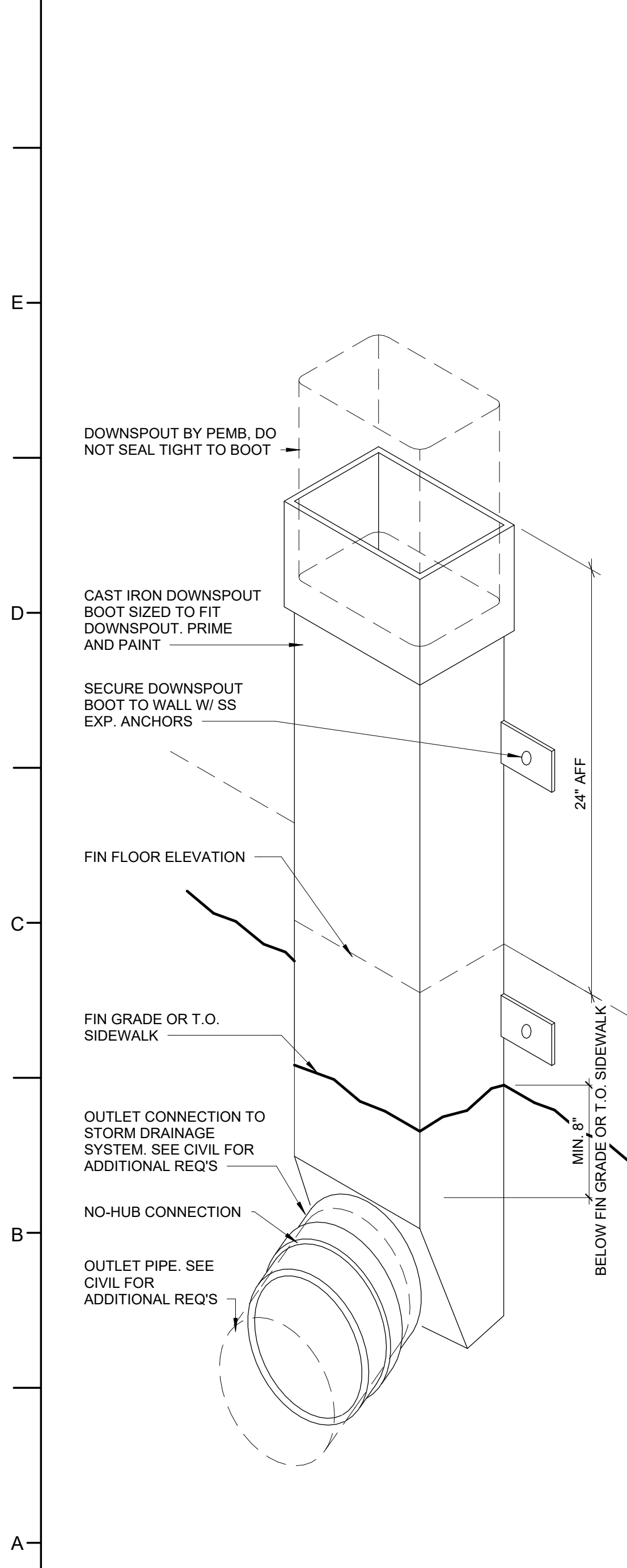
C2 TYP PEMB ROOF ASSEMBLY
3" = 1'-0"



A2 TYP FOUNDATION DRAIN
3" = 1'-0"



F1 ENLARGED BATHROOM PLAN
1/2" = 1'-0"



A1 TYP DOWNSPOUT BOOT DETAIL
3" = 1'-0"



A1 TYP DOWNSPOUT BOOT DETAIL
3" = 1'-0"

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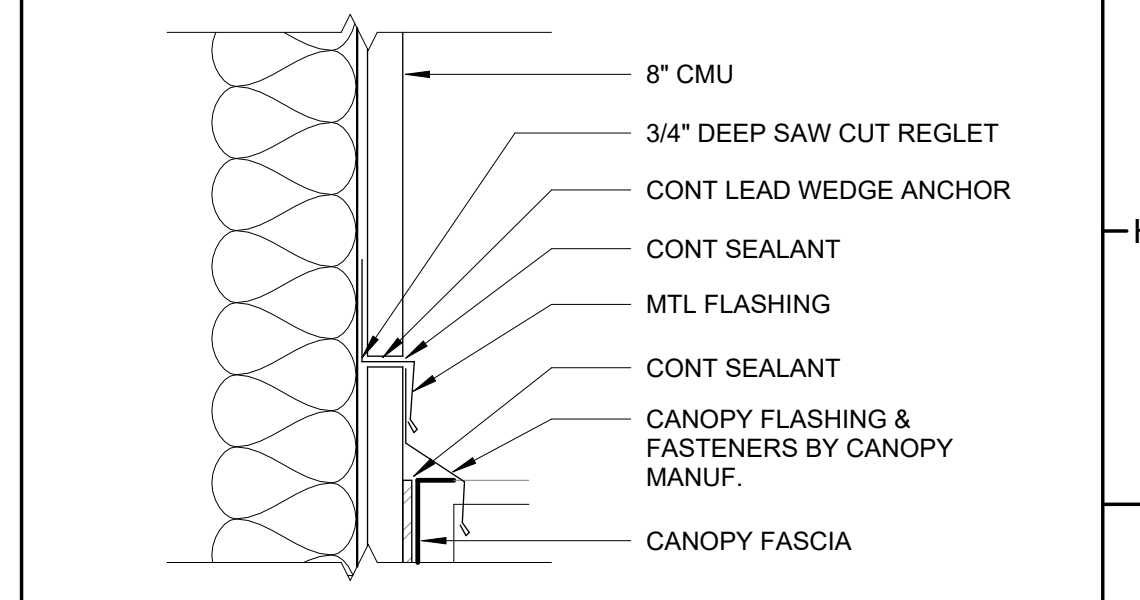
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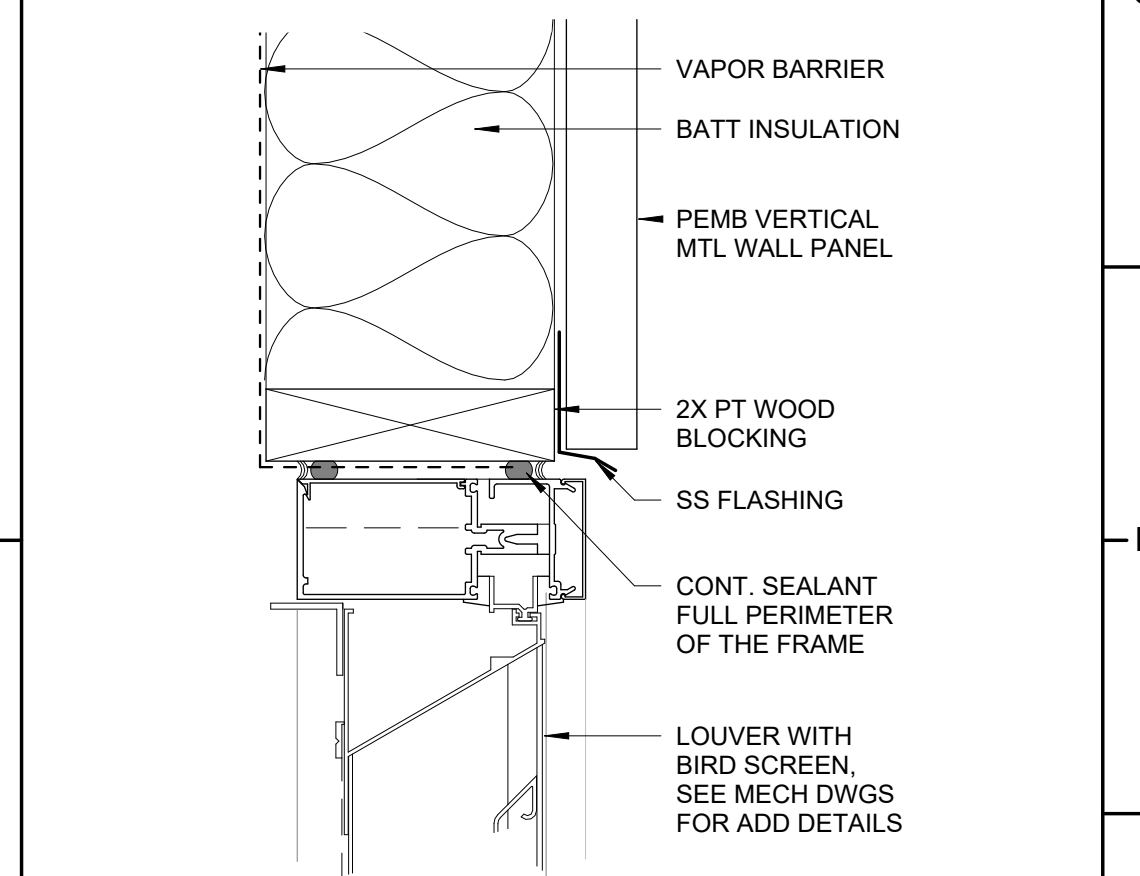
SHEET TITLE

DETAILS

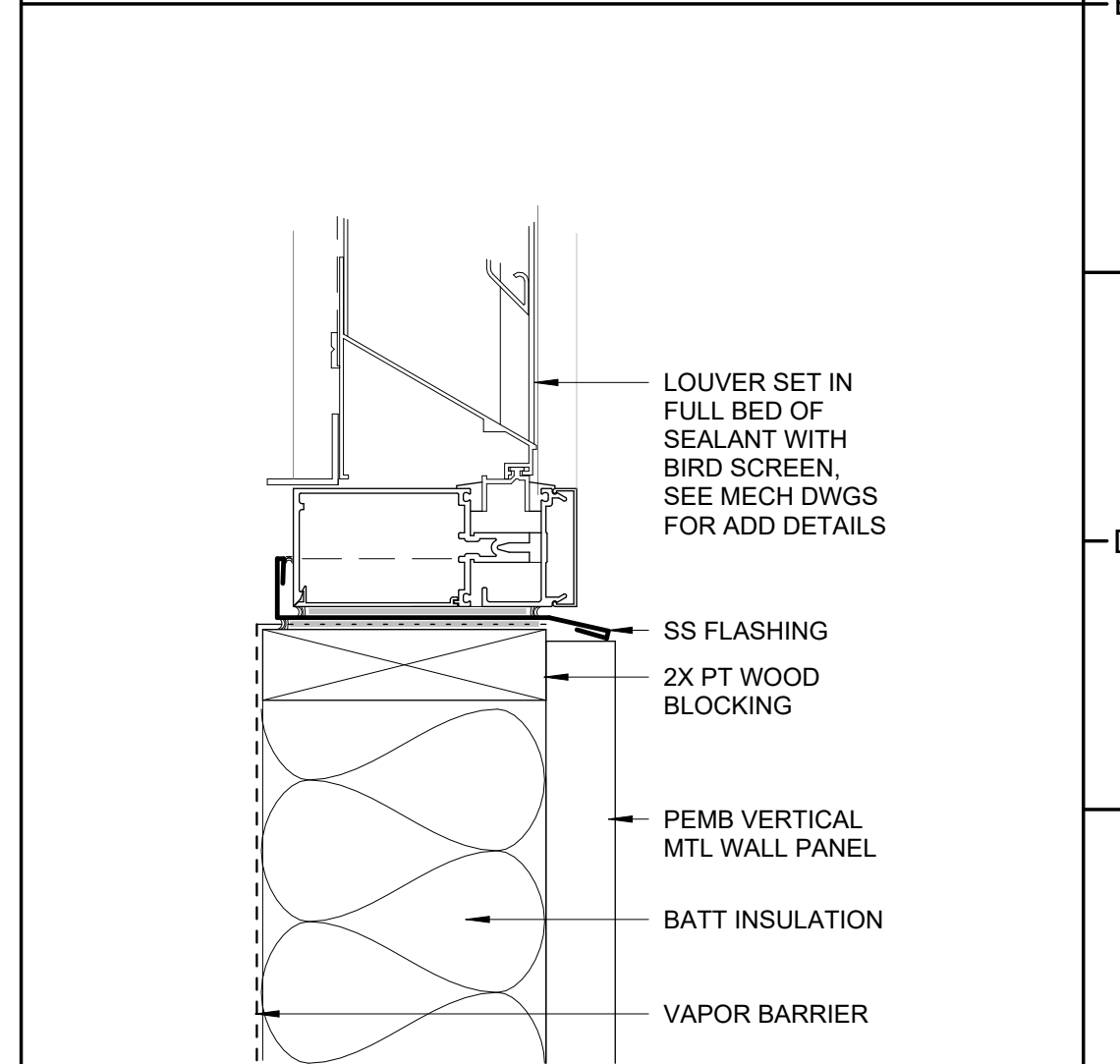
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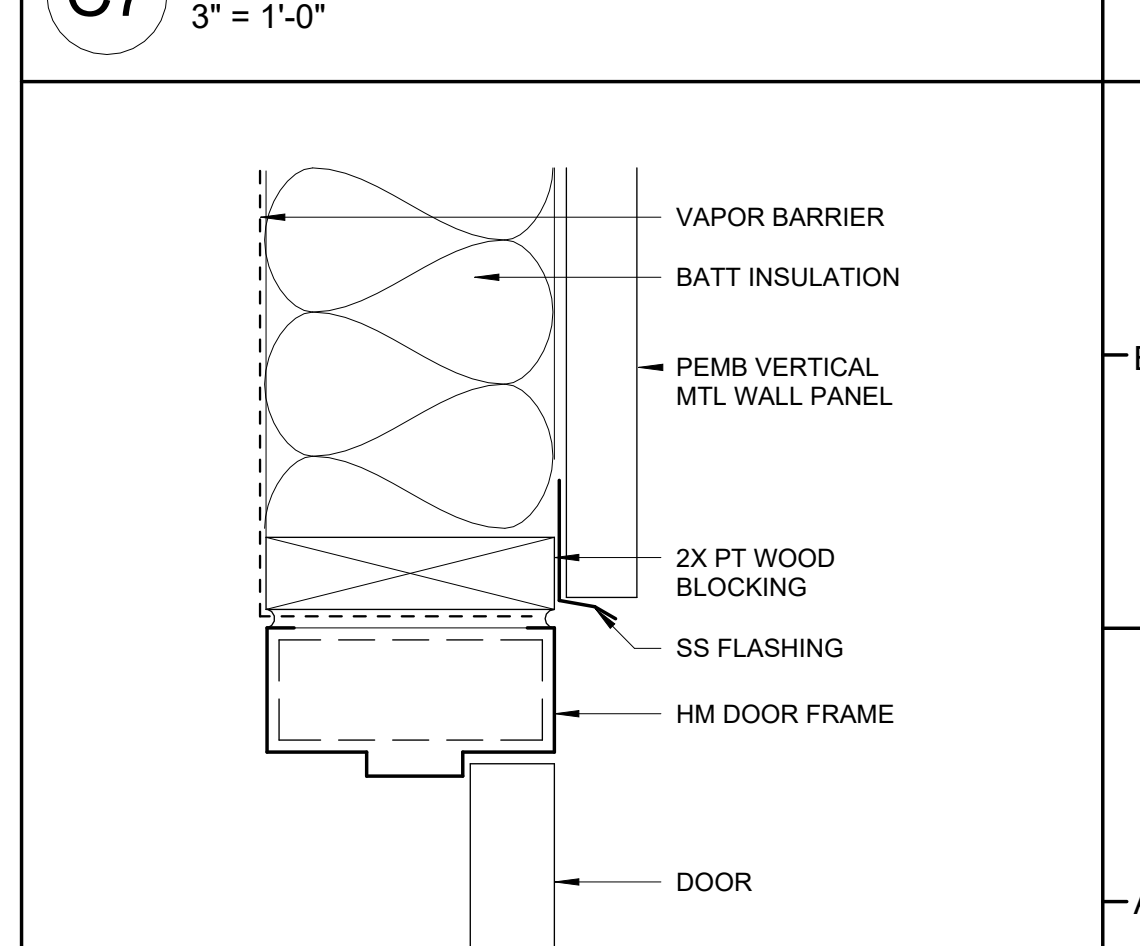
G7 WALL FLASHING AT DOOR AWNING
1 1/2" = 1'-0"



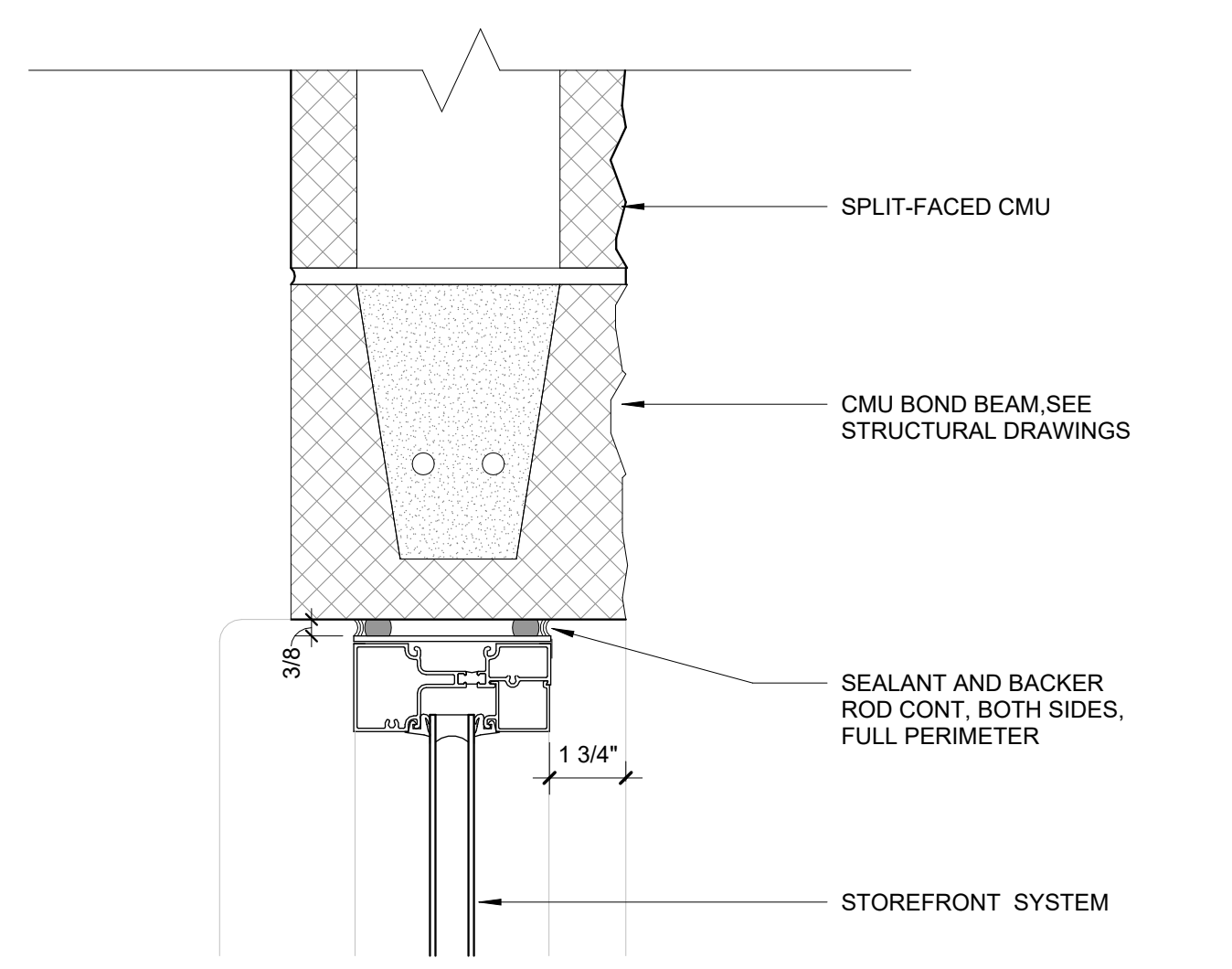
E7 LOUVER HEAD DETAIL
3" = 1'-0"



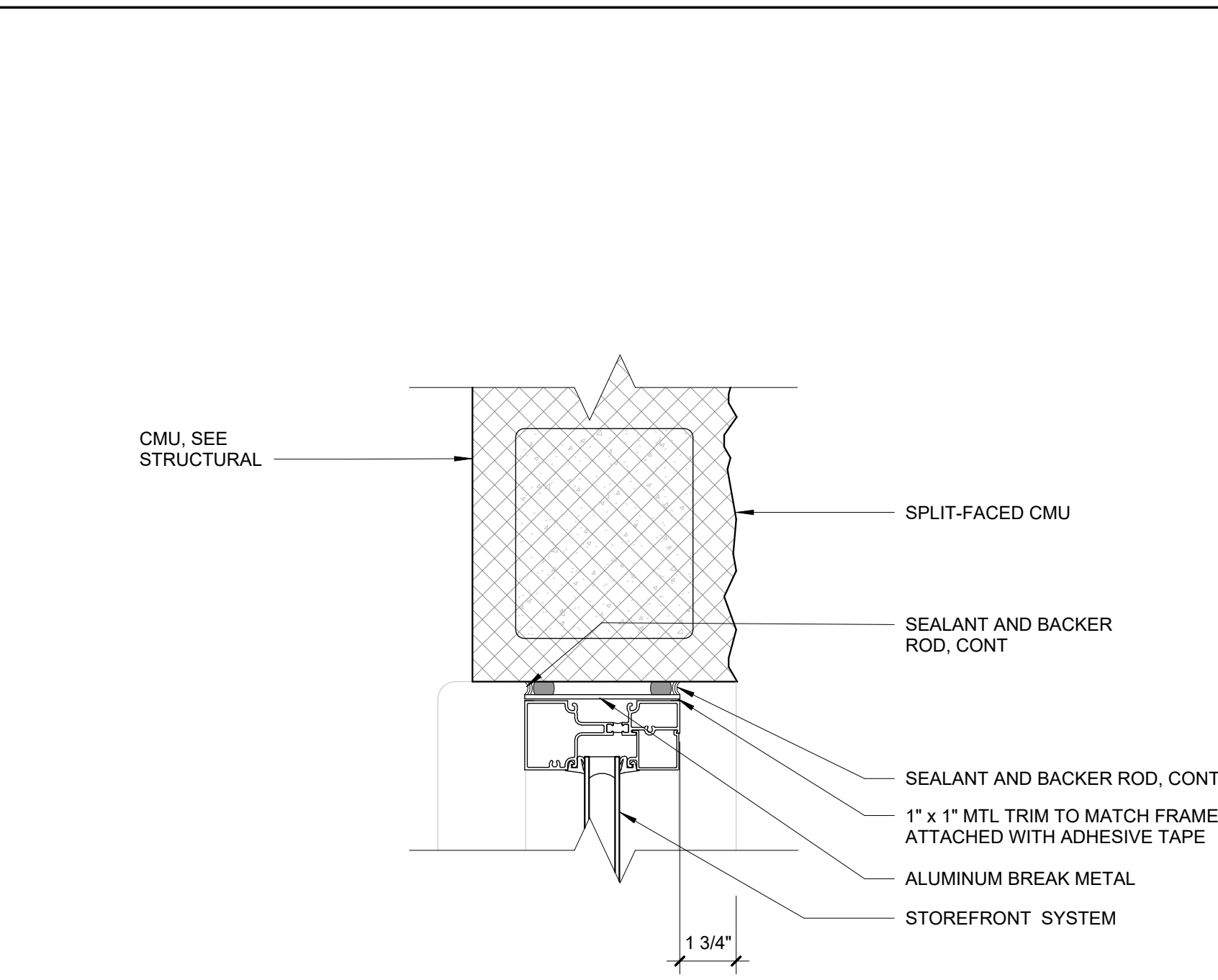
C7 LOUVER SILL DETAIL
3" = 1'-0"



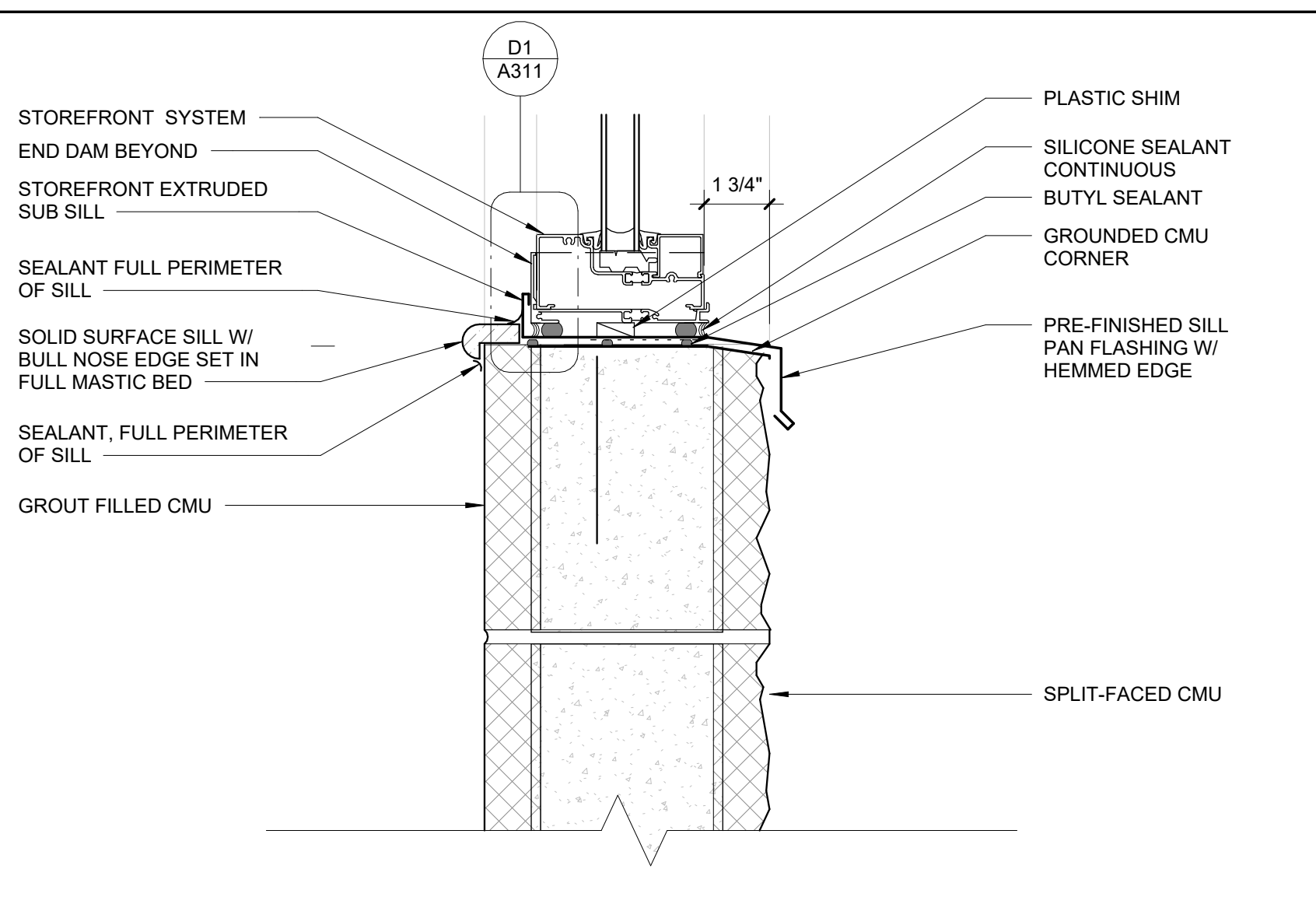
A7 DOOR HEAD
3" = 1'-0"



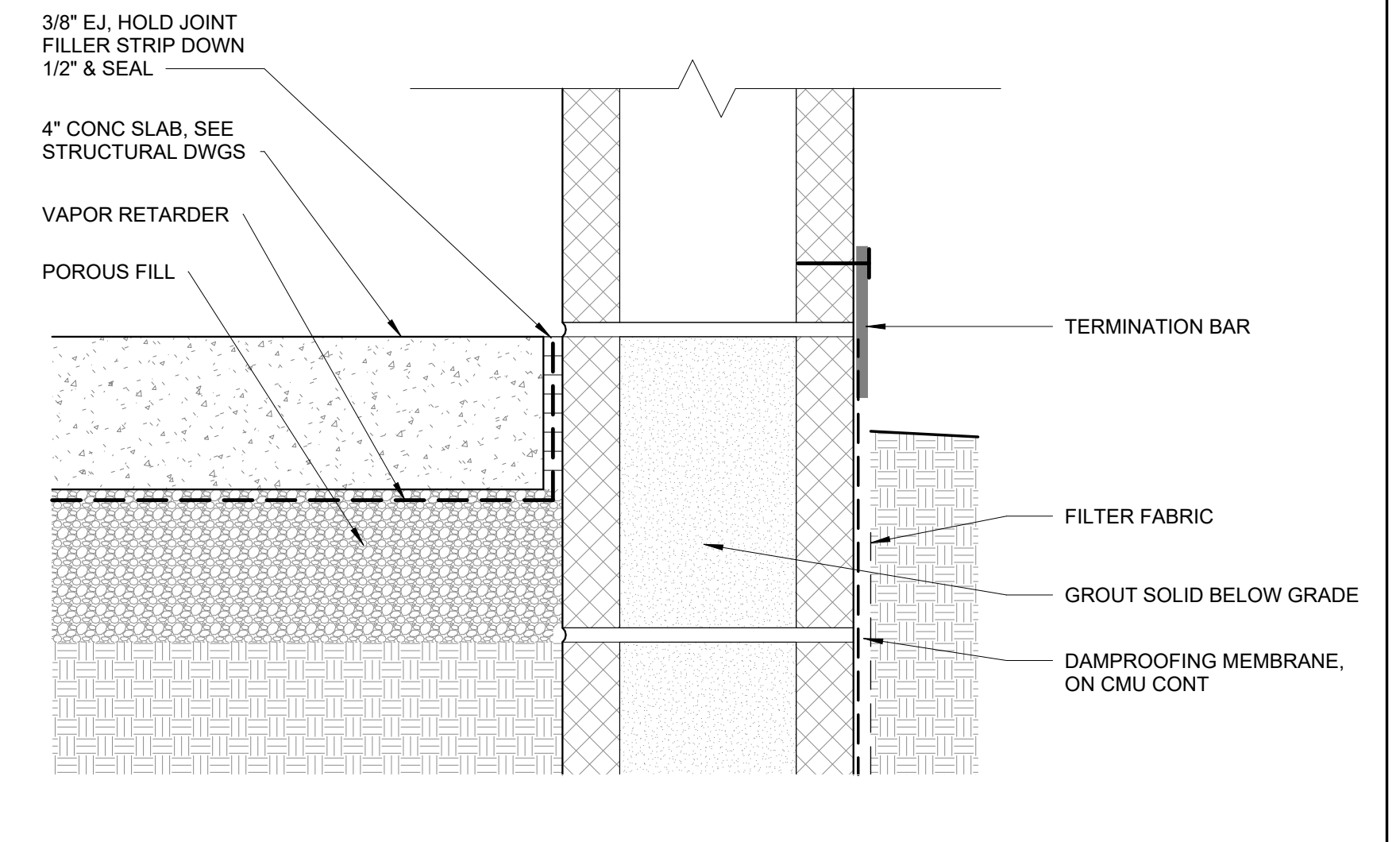
F5 STOREFRONT HEAD AT CMU
3" = 1'-0"



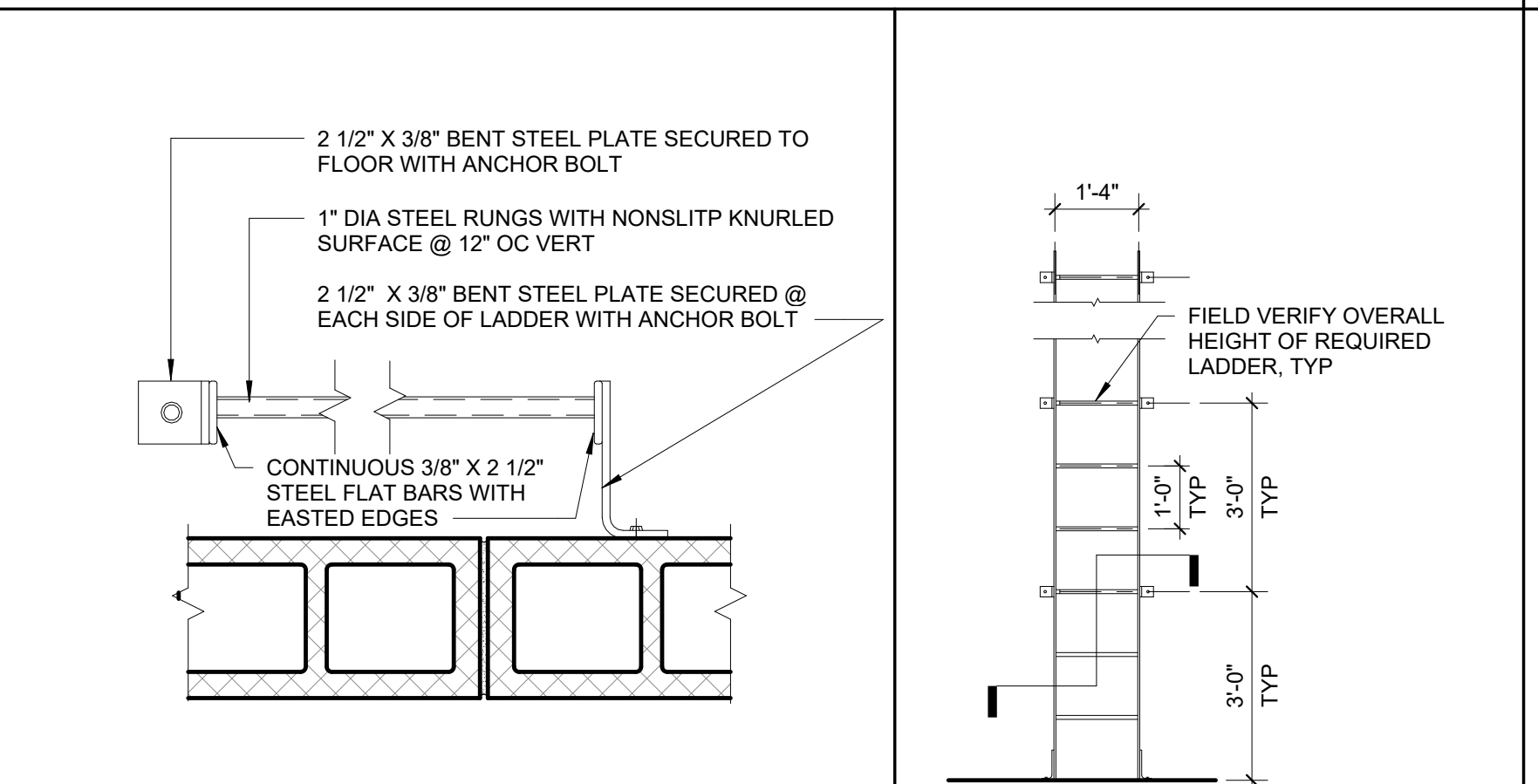
C5 STOREFRONT JAMB AT CMU
3" = 1'-0"



A5 STOREFRONT SILL AT CMU
3" = 1'-0"

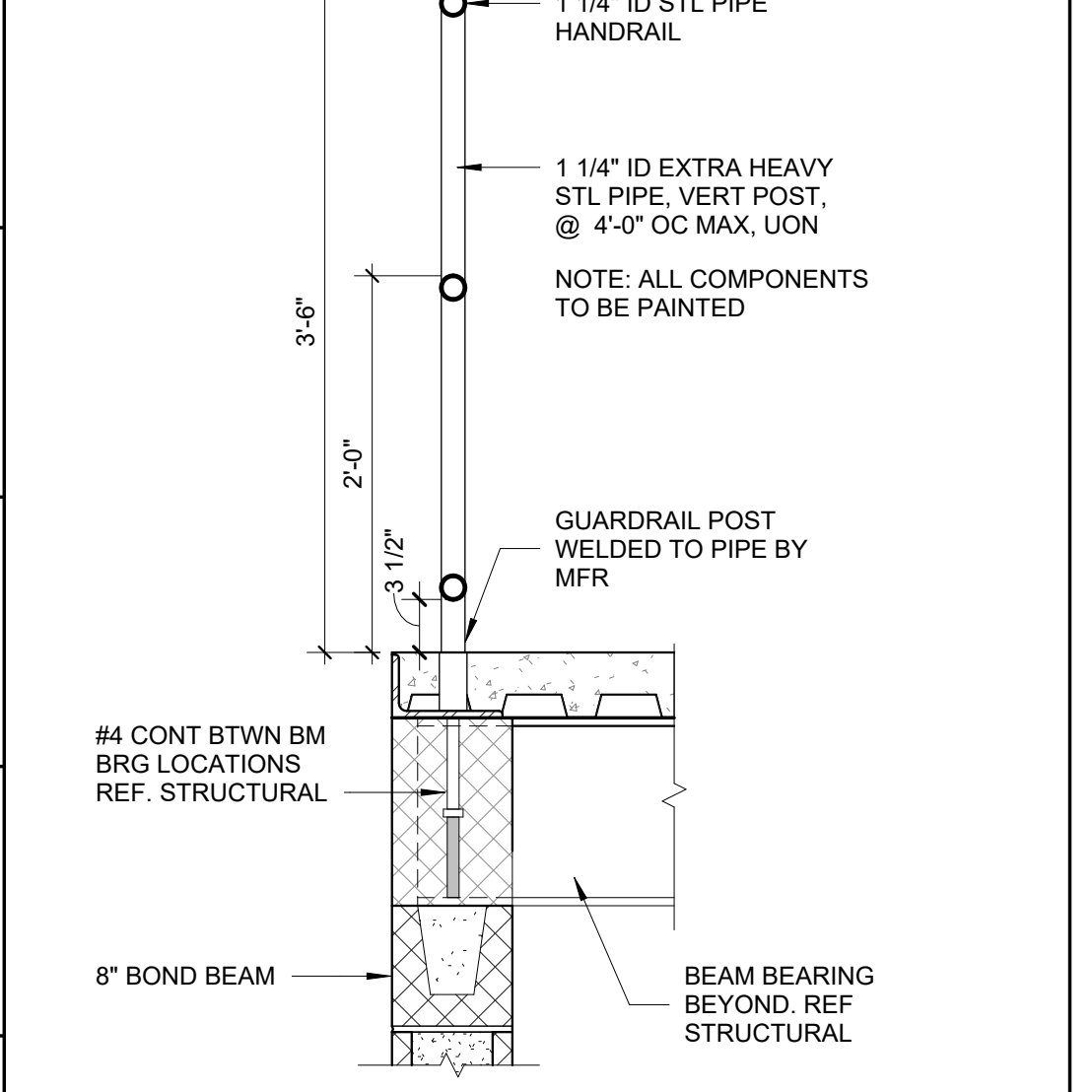


F2 EXTERIOR WALL FOUNDATION
3" = 1'-0"

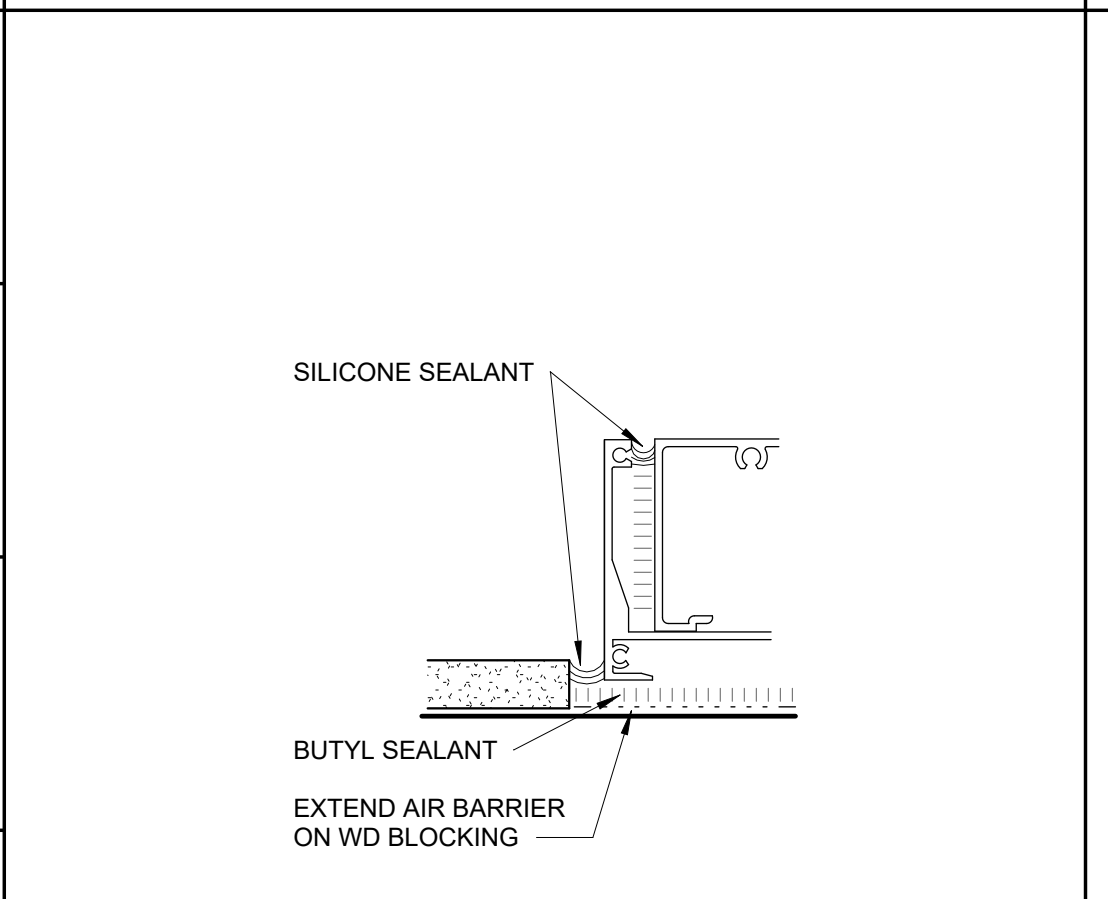


D2 PLAN OF LADDER
1 1/2" = 1'-0"

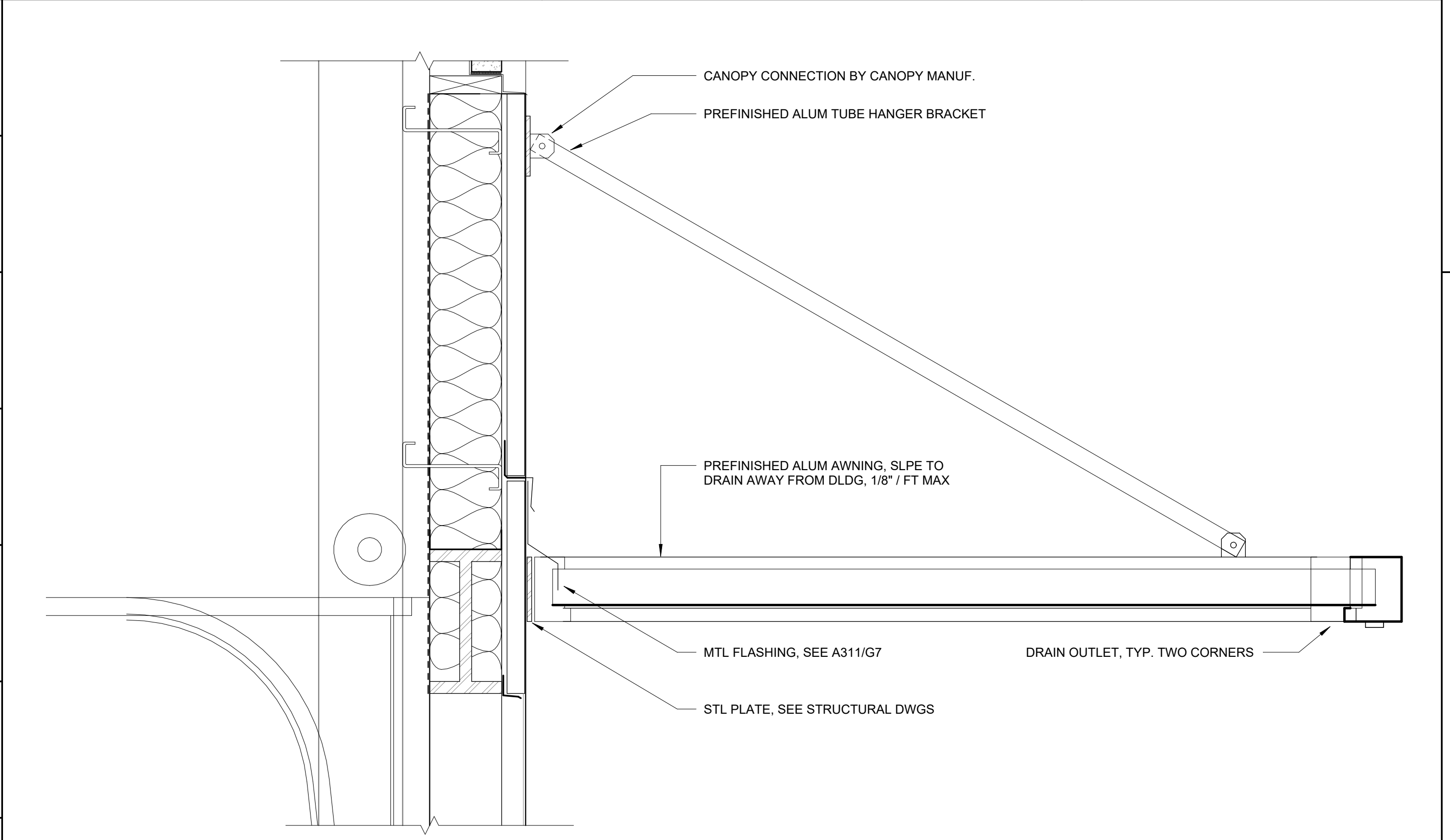
D4 LADDER ELEVATION
3/8" = 1'-0"



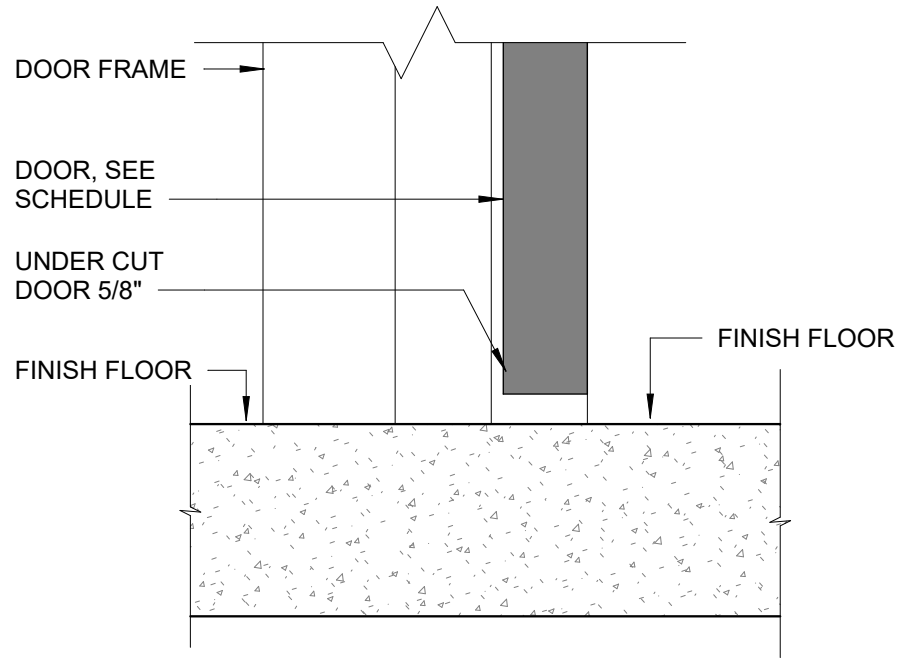
F1 TYP INTERIOR STAIR PIPE CENTER HANDRAIL SECTION
1" = 1'-0"



D1 TYP STOREFRONT SEALANT DETAIL
6" = 1'-0"



A1 DOOR CANOPY
1 1/2" = 1'-0"



G1 TYP INT DOOR SILL
3" = 1'-0"

DOOR NUMBER	TYPE	DOOR					FRAME			HARDWARE	SIGN TYPE	COMMENTS
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH			
100.1	A	14'-0"	14'-0"	0'-3"	ALUM	FACT	*	ALUM	FACT	SET 2		EXTERIOR, OVERHEAD SECTIONAL DOOR, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING.
100.2	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 1		
100.3	A	14'-0"	14'-0"	0'-3"	ALUM	FACT	*	ALUM	FACT	SET 2		EXTERIOR, OVERHEAD SECTIONAL DOOR, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING.
100.4	A	14'-0"	14'-0"	0'-3"	ALUM	FACT	*	ALUM	FACT	SET 2		EXTERIOR, OVERHEAD SECTIONAL DOOR, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING.
100.5	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 1		
102.1	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 1		
102.2	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 2		
102.3	C	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 3		
102.4	C	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 2		
105.1	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 1		
105.2	A	14'-0"	14'-0"	0'-3"	ALUM	FACT	*	ALUM	FACT	SET 2		EXTERIOR, OVERHEAD SECTIONAL DOOR, PROVIDE MANUFACTURERS UV TINTED INSULATED GLAZING TO MATCH SCHEDULED WINDOW GLAZING.
105.3	B	3'-0"	7'-0"	0'-1 3/4"	HM	PNT-1	I	HM	PNT-1	SET 2		

INTERIOR SIGNAGE NOTES:

- REFERENCE DOOR SCHEDULE FOR SIGNAGE LOCATIONS.
- TEXT SHOWN ON SIGNS IS SAMPLE TEXT ONLY.
- SEE SHEET A000 FOR MOUNTING HEIGHTS.
- SEE INTERIOR FINISHES PLANS FOR SIGNAGE LOCATIONS NOT NOTED IN DOOR, FRAME AND SIGNAGE SCHEDULE. ON FINISHES PLANS, "ST" DENOTES SIGN TYPE. FOR EXAMPLE, "ST-K" DENOTES SIGN TYPE K.

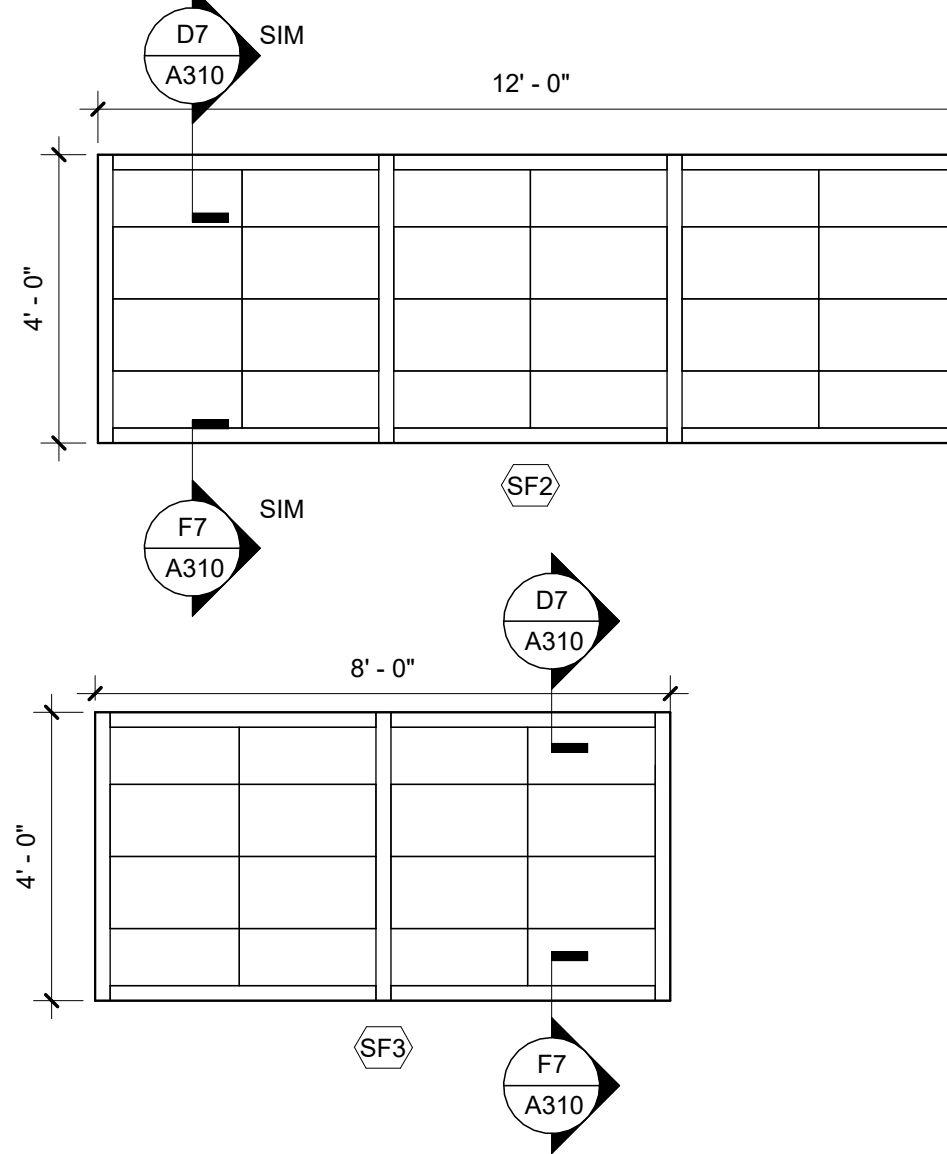
DOOR & FRAME GENERAL NOTES:

- ALL FACE FRAME WIDTHS TO BE 2" UNON.
- PAIN ALL HM FRAMES. PAINT ALL HM DOORS.
- ADJUST MASONRY TO PROVIDE A 3/8" JOINT AT EACH JAMB OF A DOOR FRAME OPENING.
- SEE DOOR FRAME DETAILS ON SHEET A701 FOR FRAME DEPTHS.

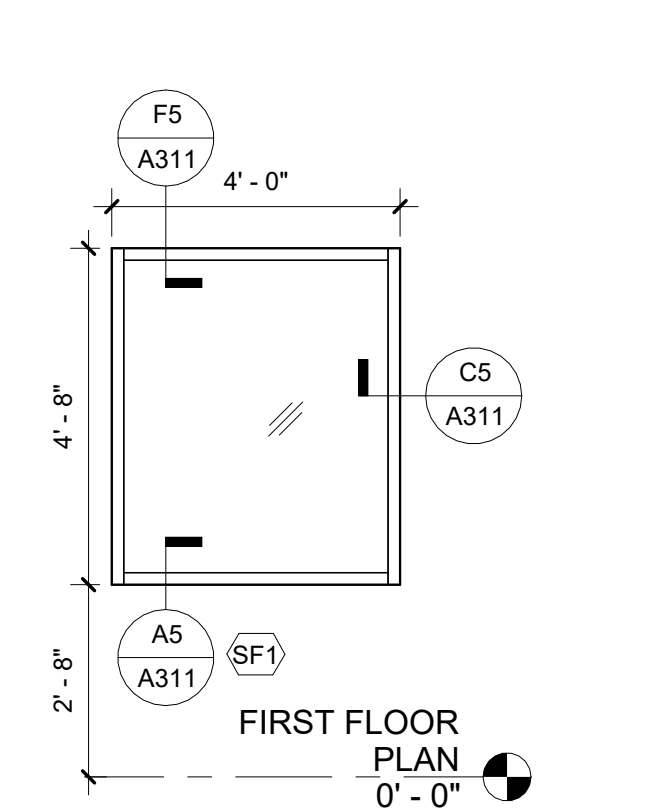
DOOR & FRAME SYMBOL LEGEND:

- INDICATES GLAZING
- INDICATES TEMPERED GLAZING
- INDICATES SPANDREL GLAZING

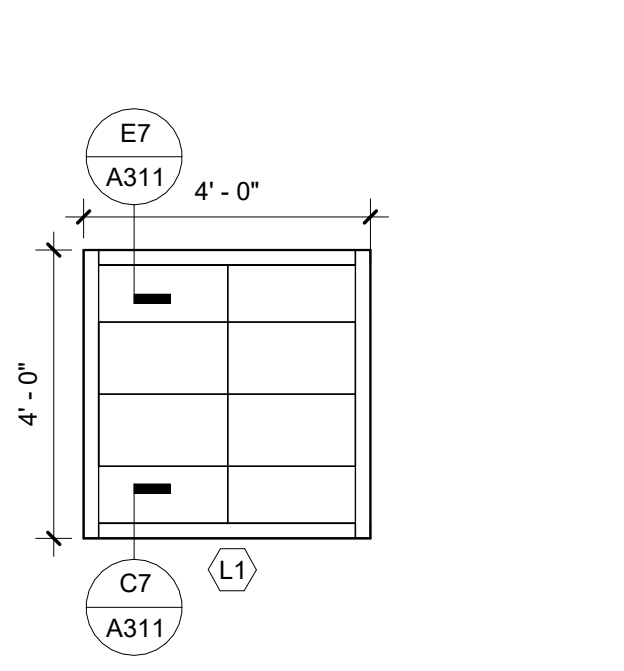
INSULATED TRANSLUCENT SANDWICH PANEL SCHEDULE



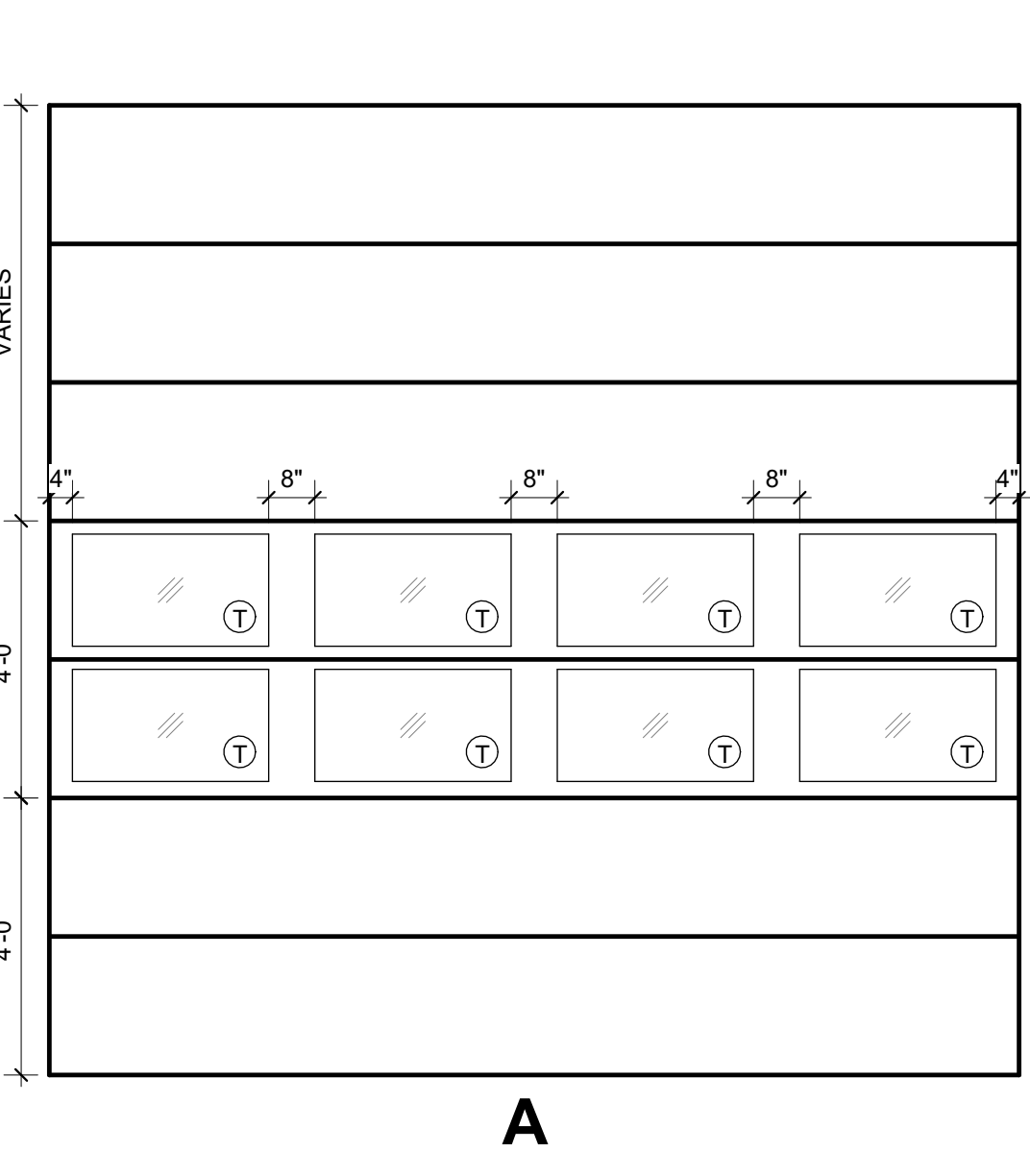
STOREFRONT



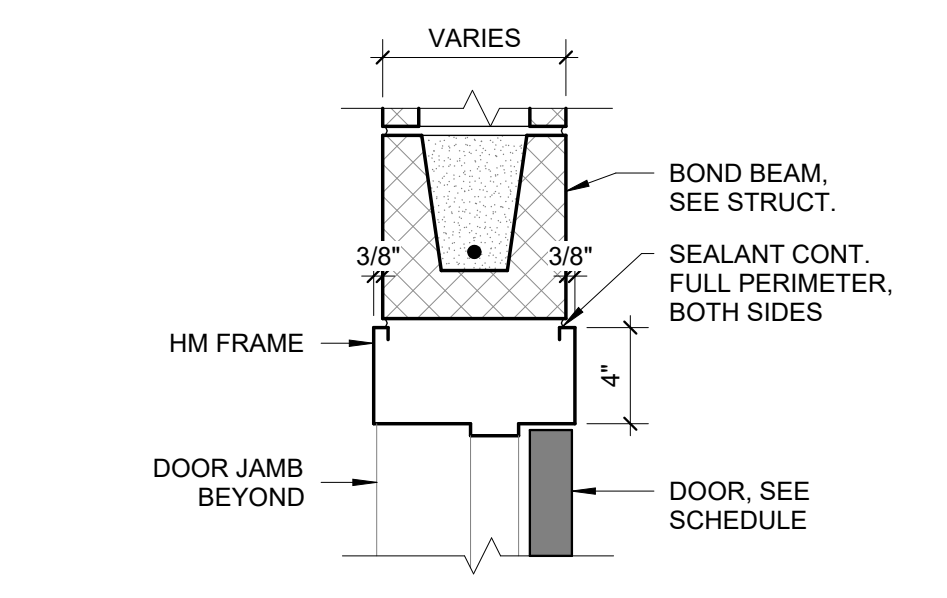
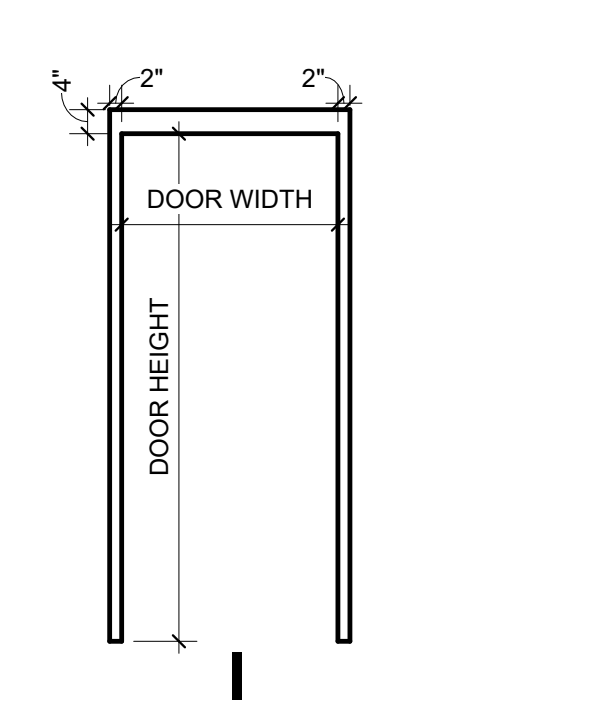
LOUVER



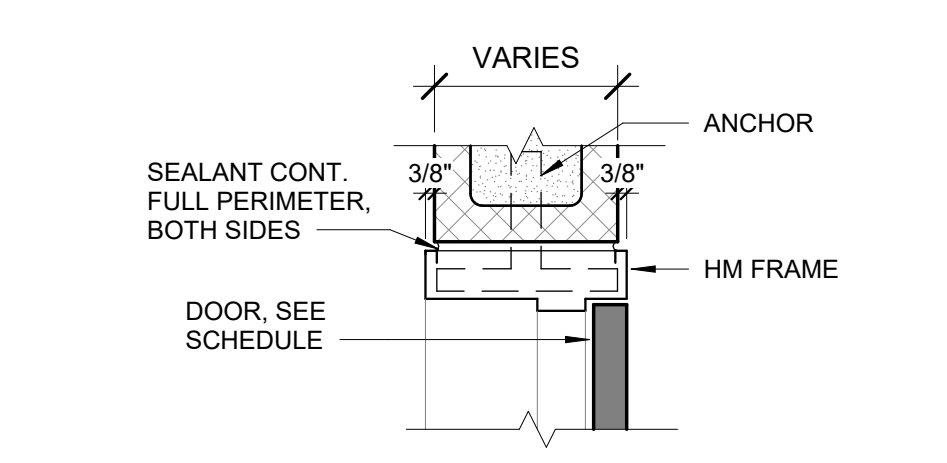
DOOR TYPES:



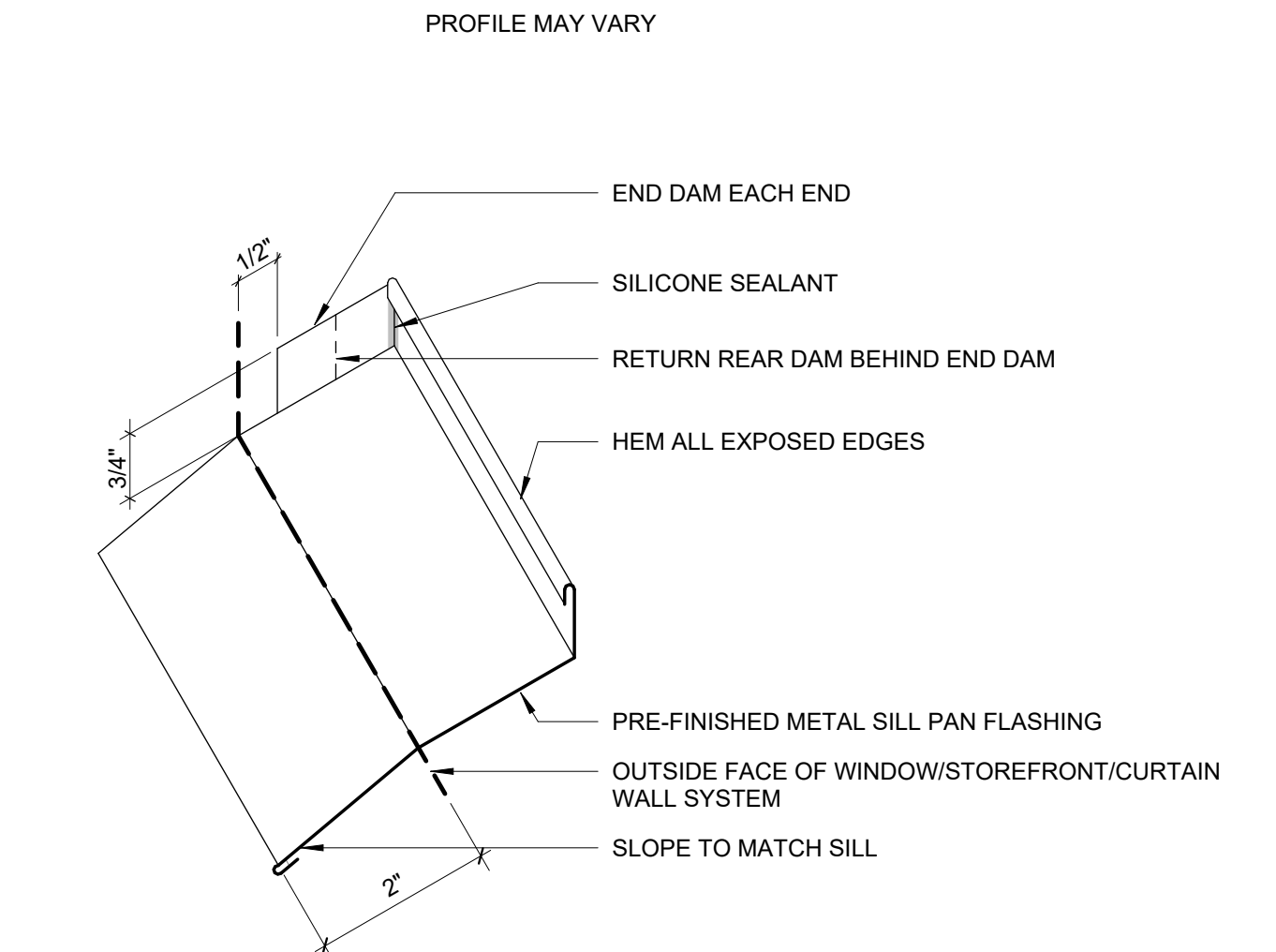
DOOR FRAME TYPES:



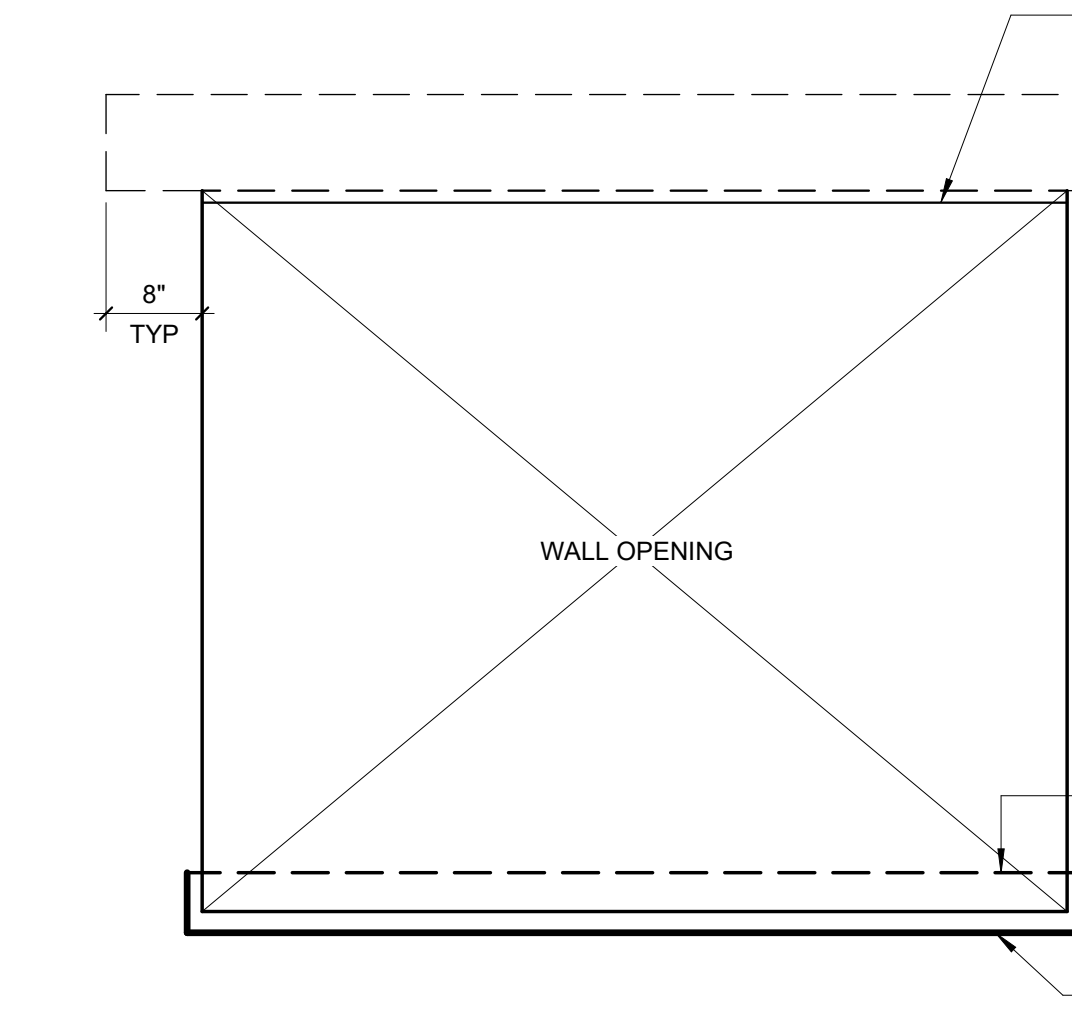
B1 TYP INT HM DOOR HEAD AT CMU
1 1/2" = 1'-0"



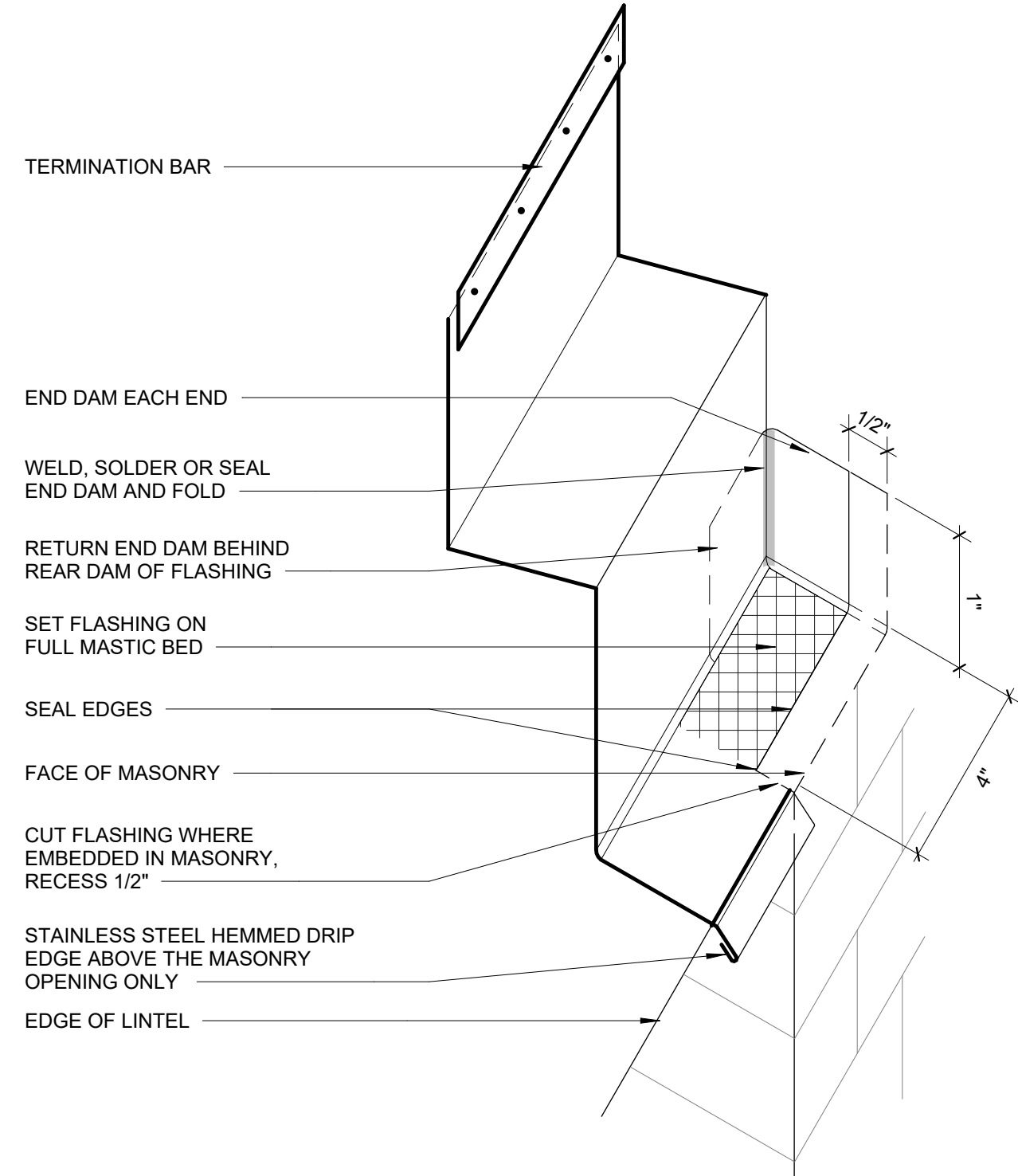
A1 TYP INT HM DOOR JAMB AT CMU
1 1/2" = 1'-0"



A2 TYP SILL PAN FLASHING AXON
6" = 1'-0"



A4 TYP FLASHING AT WALL OPENING
3/4" = 1'-0"



A7 TYP HEAD FLASHING AXON
6" = 1'-0"

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



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SHEET TITLE
DOOR SCHEDULE AND NOTES

A700

INTERIOR FINISHES LEGEND			
NUMBER CATEGORY	DESIGNATION	BASIS OF DESIGN MANUFACTURER	EQ MANUFACTURERS
ACOUSTICAL CEILING TILE 1	ACT 1	ARMSTRONG	USG CEILINGS, CERTAINTEED, ROCKFON
BASE	B1	TARKETT/JOHNSONITE	FLEXCO, ROPPE, PATCRAFT
PAINT	PNT1	SHERWIN WILLIAMS	BENJAMIN MOORE, PPG PAINTS, GLIDDEN
SEALED/ STAINED CONCRETE	S.CONC	LATICRETE	

Room Finish Schedule					
NUMBER	NAME	FLOOR FINISH	WALL FINISH	BASE FINISH	CEILING FINISH
100	WAREHOUSE	S.CONC	PNT1	-	PNT1
101	WELDING AREA	S.CONC	PNT1	-	PNT1
102	OFFICE	S.CONC	PNT1	B1	ACT1
103	STO	S.CONC	PNT1	B1	ACT1
104	TLT	S.CONC	PNT1	B1	ACT1
105	STO	S.CONC	PNT1	-	PNT1
200	MECHANICAL PLATFORM	S.CONC	PNT1	-	PNT1

FINISHES GENERAL NOTES:

- SEE FLOOR PLANS FOR WALL TYPES.
- SEE INTERIOR ELEVATIONS AND DETAILS FOR LOCATION OF CASEWORK AND WALL FINISH SELECTIONS NOT SHOWN ON PLAN.
- WHERE PAINT IS INDICATED ON LEGEND, PROVIDE THE FOLLOWING:
FINISH: SEMI-GLOSS SATIN GLOSS
LOCATION: MASONRY WALLS, UON RAILINGS
- PAINT COLORS PROVIDED IN FINISHES LEGEND ARE FOR COLOR MATCH ONLY.
- INTERIOR FINISHES INDICATED BY AREA UON.
- INTERIOR FINISH ACCENTS INDICATED AT LOCATION BY SYMBOL, WITH LEADER DESIGNATION.
- FOR CEILING FINISH REFER TO REFLECTED CEILING PLANS.
- PAINT ALL STAIR STRINGERS, GUARDRAILS, HANDRAILS, BRACKETS AND UNDERSIDE OF STAIRS THROUGHOUT ALL THREE STAIRS.

FINISHES PLAN KEY:

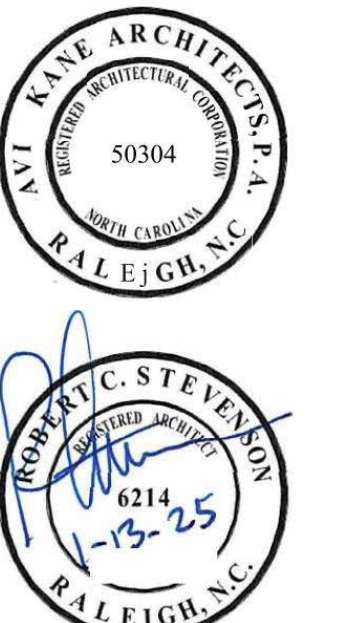
- FLOORING
- WALL
BASE
- STAINED AND SEALED CONCRETE WITH GRIT



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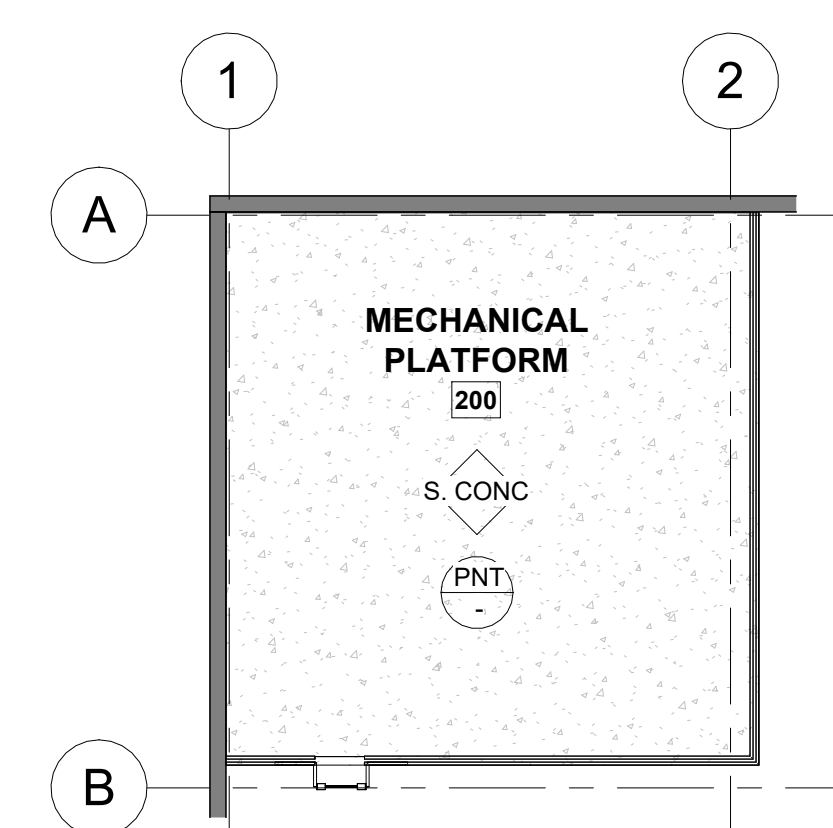
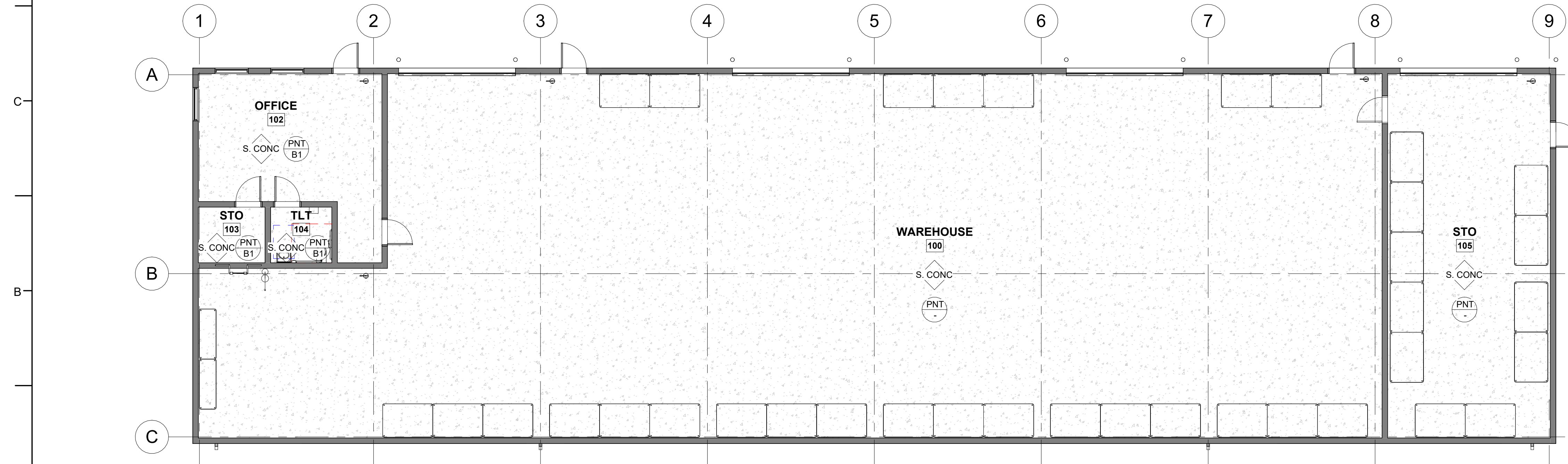
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PM: CV
Drawn By: Author
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SHEET TITLE
FINISH SCHEDULES AND PLANS

1100



A1 FIRST FLOOR PLAN - FINISH PLAN
1/8" = 1'-0"

A7 MECHANICAL PLATFORM - FINISHES PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR MUST VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION.
3. THE CONTRACTOR MUST PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.
4. THESE STRUCTURAL DRAWINGS ARE ISSUED ON THE DATE INDICATED FOR THE PURPOSE DESIGNATED. THESE DRAWINGS MUST NOT BE ISSUED OR RELEASED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN AUTHORIZATION OF THE STRUCTURAL ENGINEER OF RECORD.
5. DETAILS LABELED "TYPICAL DETAIL" WITHIN THE DOCUMENTS APPLY TO SITUATIONS ON THE PROJECT THAT MAY OCCUR THROUGHOUT THE PROJECT. SUCH DETAILS APPLY WHETHER OR NOT THE DETAIL IS SPECIFICALLY REFERENCED AT EACH INSTANCE. NOTIFY ENGINEER IF CLARIFICATIONS ARE REQUIRED REGARDING THE APPLICABILITY OF THE "TYPICAL DETAIL".
6. DESIGN CRITERIA:

CLASSIFICATION OF BUILDING

RISK CATEGORY II

LIVE LOADS - UNIFORM:

SLAB ON GRADE 500 PSF/40,000 LBS MAX VEHICLE WEIGHT
 MEZZANINE 150 PSF
 ROOF 20 PSF

RAIN LOADS:

RAIN INTENSITY (15 MINUTE) 6.23 IN/HR

SNOW LOADS:

GROUND SNOW LOAD (Pg) 15 PSF
 SLOPED ROOF LOAD (Ps) 15 PSF
 IMPORTANCE FACTOR (Is) 1.0
 THERMAL FACTOR (Ct) 1.2 (UNHEATED)
 EXPOSURE FACTOR (Ce) 1.0

WIND LOADS:

BASIC WIND SPEED (Vult) 115 MPH
 ALLOWABLE STRESS DESIGN WIND SPEED (Vasd) 90 MPH
 EXPOSURE CATEGORY C
 INTERNAL PRESSURE COEFFICIENT ±0.18

COMPONENT AND CLADDING PRESSURES:

WALLS, ZONE 5 (10 SF) 43 PSF
 ROOF, ZONE 3 (10 SF) 84 PSF

MEZZANINE ULTIMATE WIND BASE SHEARS (FOR MWFRS):

VE-W 3 KIPS
 VN-S 3 KIPS

SEISMIC LOADS:

SITE CLASSIFICATION D
 SEISMIC DESIGN CATEGORY B
 IMPORTANCE FACTOR (IE) 1.0
 SPECTRAL RESPONSE ACCELERATIONS:

Ss 0.164 S1 0.08
 Sms 0.262 Sm 0.192
 Sps 0.175 Sd1 0.128

MEZZANINE:

ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
 LATERAL FORCE RESISTING SYSTEM INTERMEDIATE REINFORCED MASONRY SHEAR WALLS

RESPONSE MODIFICATION COEFFICIENT (R) 3.5
 SEISMIC RESPONSE COEFFICIENT (Cs) 0.05
 ULTIMATE SEISMIC BASE SHEAR (V) 2 KIPS

FOUNDATION NOTES:

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SUBSURFACE INVESTIGATION AND GEOTECHNICAL ENGINEERING REPORT PREPARED BY FALCON ENGINEERING, DATED JUNE 6, 2024.
2. FOUNDATIONS HAVE BEEN DESIGNED FOR A NET ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF.
3. FOOTING BEARING ELEVATIONS MUST BE A MINIMUM DEPTH OF -2' - 0" BELOW LOWEST ADJACENT SOIL GRADE.
4. PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS MUST BE INSPECTED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY TO EXPLORE THE EXTENT OF LOOSE, SOFT, EXPANSIVE, OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. DIRECTION FOR CORRECTIVE ACTION WILL BE PROVIDED BY THE OWNER'S GEOTECHNICAL TESTING AGENCY WHERE UNSATISFACTORY SOILS ARE PRESENT.
5. CONTROL GROUNDWATER AND SURFACE RUNOFF THROUGHOUT THE CONSTRUCTION PROCESS. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES WHICH RESULT IN DETERIORATION OF BEARING MUST BE PREVENTED.

CAST-IN-PLACE CONCRETE NOTES:

1. CONCRETE MUST BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301 AND 318.
2. CONCRETE MUST BE NORMAL WEIGHT UNLESS OTHERWISE DENOTED AS LW (LIGHTWEIGHT) AND MUST OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
 A. FOOTINGS AND PIERS 3,000 PSI
 B. SLAB-ON-GRADE 4,000 PSI
 C. SUPPORTED FLOOR SLABS 4,000 PSI LW
3. LIGHTWEIGHT CONCRETE MUST HAVE A DRY UNIT WEIGHT OF NOT LESS THAN 110 PCF AND NOT MORE THAN 116 PCF AFTER 28 DAYS WITH 4% TO 7% ENTRAINED AIR.
4. REINFORCING MATERIALS MUST BE AS FOLLOWS:
 A. REINFORCING BARS - ASTM A615, GRADE 60, DEFORMED.
 B. WELDED WIRE REINFORCEMENT - ASTM A1064, WELDED STEEL WIRE REINFORCEMENT; PROVIDE SHEET TYPE, ROLL TYPE IS NOT ACCEPTABLE.
5. ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR RODS AND WELD PLATES MUST BE ACCURATELY PLACED AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
6. CONCRETE COVER TO REINFORCING STEEL MUST CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318, UNLESS THE DRAWINGS SHOW GREATER COVER REQUIREMENTS.
7. LAP CONTINUOUS REINFORCING STEEL 57 X BAR DIAMETER, TYPICAL UNLESS OTHERWISE NOTED.

CONCRETE MASONRY NOTES:

1. CONCRETE MASONRY MATERIALS AND CONSTRUCTION MUST CONFORM TO THE AMERICAN CONCRETE INSTITUTE (ACI) 530.
2. CONCRETE MASONRY UNITS MUST CONFORM TO ASTM C90 AND MUST BE MADE WITH LIGHTWEIGHT AGGREGATE. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNITS MUST BE 2,000 PSI AT 28 DAYS.
3. COMPRESSIVE STRENGTH OF MASONRY MUST BE DETERMINED BY THE UNIT STRENGTH METHOD AS SET FORTH IN ACI 530.1. THE NET AREA COMPRESSIVE STRENGTH OF MASONRY, fm, MUST BE 2,000 PSI AT 28 DAYS.
4. MORTAR MUST BE TYPE 'M' OR 'S' AND MUST COMPLY WITH ASTM C270, PROPORTIONS OR PROPERTIES SPECIFICATION.
5. GROUT MUST COMPLY WITH EITHER THE PROPORTIONS OR PROPERTIES SPECIFICATION OF ASTM C476 AND AS FOLLOWS:
 A. PROPORTIONS SPECIFICATION: THIS MIX CANNOT CONTAIN ADMIXTURES. WATER MUST BE ADDED IN THE FIELD IN ORDER TO ACHIEVE A SLUMP OF 8-11 INCHES WHEN PLACED IN THE CONCRETE MASONRY UNITS. MORTAR, PEA-GRAVEL CONCRETE, OR "CHAT" MIXES ARE NOT ACCEPTABLE SUBSTITUTES FOR THE SPECIFIED GROUT.
 B. PROPERTIES SPECIFICATION: THIS MIX MUST BE PROPORTIONED TO OBTAIN A DOCUMENTED 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI, WITH AN 8-11 INCH SLUMP WHEN PLACED IN THE CONCRETE MASONRY UNITS.
6. REINFORCING STEEL MUST COMPLY WITH ASTM A615, GRADE 60. SHOP FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.
7. ALL BOND BEAMS, REINFORCED CELLS AND CELLS WITH EXPANSION BOLTS, EMBED PLATES OR OTHER ANCHORS AND ALL CELLS BELOW GRADE MUST BE GROUTED SOLID. GROUT PROCEDURE MUST COMPLY WITH ACI 530.1.
8. ALL CMU WALLS MUST BE REINFORCED CONTINUOUSLY FROM FOUNDATION TO TOP OF WALL. WHERE REINFORCING IS INTERRUPTED, OFFSET AND LAP ADDITIONAL BARS PER THE "TYPICAL OFFSET SPLICE AT MASONRY WALL DETAILS."
9. ALL NON-BEARING MASONRY WALLS MUST BE REINFORCED WITH #5 VERTICAL BARS AT 48 INCHES ON CENTER, TYPICAL UNLESS OTHERWISE NOTED.
10. PROVIDE REINFORCING STEEL DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM THE SUPPORTING STRUCTURE. DOWELS MUST HAVE STANDARD ACI HOOKS.
11. PROVIDE HORIZONTAL BOND BEAMS WITH CONTINUOUS REINFORCING AS SHOWN IN THE SECTIONS AND DETAILS. DISCONTINUE ALL HORIZONTAL REINFORCING AT CONTROL JOINTS.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL MUST BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360.
2. STRUCTURAL STEEL MUST COMPLY WITH THE FOLLOWING SPECIFICATIONS:
 A. STRUCTURAL STEEL SHAPES, PLATES AND BARS UNLESS OTHERWISE NOTED - ASTM A36, Fy = 36 KSI
 B. STRUCTURAL STEEL W-SHAPES - ASTM A992, Fy = 50 KSI
 C. ANCHOR RODS - ASTM F1554, GRADE 55
 D. HIGH STRENGTH BOLTS - ASTM A325 (TYPICAL UON)
 E. WASHERS - ASTM F436
 F. NUTS - ASTM A563
3. UNLESS OTHERWISE NOTED, ALL REQUIRED DESIGN STRENGTHS AND REACTIONS INDICATED ARE BASED ON THE "LOADING COMBINATIONS USING STRENGTH DESIGN OR LOAD AND RESISTANCE FACTOR DESIGN" PER SECTION 1605.2 OF THE BUILDING CODE.
4. UNLESS OTHERWISE NOTED, BEAM CONNECTIONS MUST BE AISC "SIMPLE SHEAR CONNECTIONS" WITH ASTM A325 BOLTS DESIGNED FOR ONE HALF THE MAXIMUM TOTAL UNIFORM LOAD FOR LATERALLY SUPPORTED BEAMS GIVEN IN TABLE 3-6 OF THE "STEEL CONSTRUCTION MANUAL."
5. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS OF "DELEGATED DESIGN" CONNECTIONS.
6. FOR STRUCTURAL STEEL CONNECTIONS INDICATED AS "DELEGATED DESIGN", INCLUDE STRUCTURAL CALCULATIONS SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA RESPONSIBLE FOR THEIR PREPARATION. IN ADDITION, THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST REVIEW THE SHOP DRAWINGS PRIOR TO SUBMITTAL TO VERIFY THAT THE CONNECTIONS AS DETAILED ON THE SHOP DRAWINGS COMPLY WITH THE CONNECTION DESIGN REQUIREMENTS OF THE FINAL CALCULATIONS. A REVIEW LETTER, SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CONNECTION DESIGN MUST BE PROVIDED WITH THE SHOP DRAWINGS AND CALCULATION SUBMITTAL STATING THAT THIS REVIEW AND VERIFICATION HAS BEEN COMPLETED.
7. HIGH STRENGTH BOLTS MUST BE FULLY PRETENSIONED USING LOAD INDICATOR WASHERS OR TENSION CONTROL "TWIST OFF" BOLTS.
8. WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL." WELD ELECTRODES MUST BE E70XX LOW HYDROGEN. UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS WITH MINIMUM SIZE REQUIRED BY TABLE J2.4 AISC 360.
9. COORDINATE ALL MEMBER LOCATIONS, UNIT WEIGHTS, OPENING SIZES, AND CURB DIMENSIONS FOR MECHANICAL EQUIPMENT WITH THE ACTUAL EQUIPMENT FURNISHED.
10. STRUCTURAL STEEL SCHEDULED TO RECEIVE SPRAYED-ON FIREPROOFING MUST NOT BE PRIME PAINTED.
11. HOT-DIP GALVANIZE AFTER FABRICATION THE FOLLOWING:
 A. ANGLES AND PLATES SUPPORTING MASONRY IN EXTERIOR WALLS.
 B. LINTELS AND LINTEL ASSEMBLIES SUPPORTING MASONRY IN EXTERIOR WALLS.
 C. ALL STEEL EXPOSED TO WEATHER IN THE FINAL CONSTRUCTION.
 D. ITEMS IDENTIFIED AS GALVANIZED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS.
12. STEEL MEMBERS MUST BE SPLICED ONLY WHERE INDICATED.

STEEL DECK NOTES:

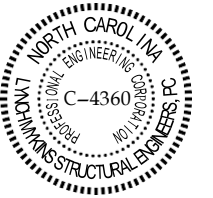
1. STEEL DECK MUST BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE STEEL DECK INSTITUTE (SDI), "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS."
2. STEEL DECK INSTALLATION MUST COMPLY WITH THE FOLLOWING:
 A. COMPOSITE DECK: 2' x 20 GAGE GALVANIZED, UNLESS OTHERWISE NOTED, ATTACH DECK TO SUPPORTS WITH 5/8 INCH DIAMETER PUDDLE WELDS AT 12 INCHES ON CENTER. FASTEN SIDELAPS WITH #10 SELF-TAPPING HEX HEAD SCREWS AT 1/3 POINTS BETWEEN SUPPORTS. FASTEN EDGESTMOST DECK PANEL TO STEEL FRAMING WITH 5/8 INCH DIAMETER PUDDLE WELDS AT SAME SPACING AS SIDELAP FASTENERS.
3. STEEL DECK MUST BE INSTALLED PERPENDICULAR TO SUPPORTS AND MUST HAVE A MINIMUM OF THREE CONTINUOUS SPANS. ENDLAPS MUST ONLY OCCUR AT SUPPORTS.
4. WELDING MUST BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL".
5. STEEL DECK SCHEDULED TO RECEIVE SPRAYED-ON FIREPROOFING MUST BE GALVANIZED.
6. SHEAR CONNECTORS FOR COMPOSITE FLOOR SYSTEMS MUST BE 3/4 INCH DIAMETER HEADED STUDS CONFORMING WITH ASTM A108, GRADE 1015 OR 1020. PROVIDE HEADED STUDS AS SHOWN ON PLANS AND DETAILS. NET IN-PLACE LENGTH MUST BE 1 1/2 INCHES ABOVE TOP OF COMPOSITE STEEL DECK.
7. CONDUIT AND PIPING MUST NOT BE PLACED IN ELEVATED SLABS.



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
 Town of Cary
 4900 W Lake Rd, Apex, NC 27539

SEALS



01/13/2025

DKA JOB NUMBER

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REVISIONS

NO.	DESCRIPTION

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 01/13/2025

SHEET TITLE

GENERAL NOTES

S001



PRE-ENGINEERED METAL BUILDING SYSTEM NOTES:

- 1. METAL BUILDING SYSTEM MUST BE IN ACCORDANCE WITH THE METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) "DESIGN PRACTICES MANUAL."
- 2. THE PRE-ENGINEERED BUILDING MANUFACTURER WILL BECOME THE ENGINEER OF RECORD FOR HIS WORK AND SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF METAL BUILDING SYSTEMS. SHOP DRAWINGS MUST INCLUDE DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE A SUMMARY OF CONTROLLING LOAD CASE FOR EACH LOCATION.
- 3. THE PRE-ENGINEERED BUILDING MANUFACTURER SHALL DESIGN THE STRUCTURE TO RESIST THE GRAVITY AND LATERAL LOADS GIVEN IN THE GENERAL NOTES AND BELOW, AND OTHER APPLICABLE LOCAL BUILDING CODES. THE LOADS AND CRITERIA GIVEN ARE MINIMUM REQUIREMENTS AND IN NO WAY RELIEVE THE MANUFACTURER FROM ADHERING TO ANY ADDITIONAL, MORE STRINGENT CODE REQUIREMENTS. THE MANUFACTURER SHALL ALSO CONSIDER ANY ADDITIONAL COLLATERAL LOADS TO BE SUPPORTED BY THE STRUCTURE.
 - A. DEAD LOADS..... WEIGHT OF ALL SUPPORTED EQUIPMENT, PLUS WEIGHT OF THE BUILDING
 - B. COLLATERAL LOADS..... 12 PSF (7 PSF + 5 PSF FOR SOLAR PV ARRAY)
- 4. DESIGN OF THE STRUCTURE SHALL BE PERFORMED SO AS TO NOT EXCEED THE DESIGN LOADS SHOWN BELOW. RE-DESIGN OF THE FOUNDATIONS TO ACCOMMODATE LOADS GREATER THAN THOSE SHOWN WILL BE AT THE MANUFACTURER'S EXPENSE.
- 5. THE ASSUMED DESIGN REACTIONS USED ARE ALLOWABLE STRESS DESIGN (ASD) AND ARE AS FOLLOWS:

COLUMN GRID	GRAVITY (KIPS)	UPLIFT (KIPS)	SHEAR (KIPS)
A PORTAL FRAMES	20	25	10
B PORTAL FRAMES	20	25	10
1	25	20	10
2	25	20	10
3	25	20	10
4	25	20	10
5	25	20	10
6	25	20	10
7	25	20	10
8	25	20	10
9	25	20	10

SHOP DRAWINGS AND SUBMITTALS:

- 1. THESE DRAWINGS SHALL BE CHECKED AND COORDINATED WITH OTHER MATERIALS AND CONTRACTS BY THE GENERAL CONTRACTOR. SHOP DRAWINGS AND SUBMITTALS MUST BEAR THE CONTRACTOR'S REVIEW STAMP WITH CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL.
- 2. WHEN THE FABRICATOR HAS BEEN AUTHORIZED TO USE THE ARCHITECT'S AND / OR ENGINEER'S DRAWINGS AS ERECTION DRAWINGS, THE FABRICATOR MUST REMOVE ALL TITLE BLOCKS, PROFESSIONAL SEALS, AND ANY OTHER REFERENCE TO THE ARCHITECT AND / OR ENGINEER FROM THAT ERECTION DRAWING.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	KCJ	KEYED CONSTRUCTION JOINT
ARCH	ARCHITECT	Ld	REBAR TENSION
BD	BAR DIAMETER		DEVELOPMENT LENGTH
BF	BRACED FRAME	Ldc	REBAR COMPRESSION DEVELOPMENT LENGTH
BEJ	BUILDING EXPANSION JOINT	Ldh	HOOKED REBAR TENSION DEVELOPMENT LENGTH
BLDG	BUILDING	Ls	REBAR TENSION SPLICE LENGTH
BM	BEAM	Lsc	REBAR COMPRESSION SPLICE LENGTH
BOD	BOTTOM OF DECK	L	LOW
BOS	BOTTOM OF STEEL	LLH	LONG LEG HORIZONTAL
BOT, B	BOTTOM	LLV	LONG LEG VERTICAL
BRG	BEARING	LSH	LONG SIDE HORIZONTAL
BTWN	BETWEEN	LSV	LONG SIDE VERTICAL
C TO C	CENTER TO CENTER	LTWT	LIGHTWEIGHT
CFMF	COLD-FORMED METAL FRAMING	LWC	LIGHTWEIGHT CONCRETE
		MAS	MASONRY
CJ	CONTROL JOINT	MATL	MATERIAL
CL	CENTERLINE	MAX	MAXIMUM
CLR	CLEAR	MECH	MECHANICAL
CMU	CONCRETE MASONRY UNIT	MF	MOMENT FRAME
COL	COLUMN	MFR	MANUFACTURER
CONC	CONCRETE	MID	MIDDLE
CONN	CONNECTION	MIN	MINIMUM
CONSTR	CONSTRUCTION	MOD	MODIFY
CONT	CONTINUOUS	MOS	MIDDEPTH OF SLAB
COORD	COORDINATE	NOM	NOMINAL
CTR	CENTER	NS	NEAR SIDE
CTRD	CENTERED	NTS	NOT TO SCALE
DBA	DEFORMED BAR ANCHOR	OC	ON CENTER
DBL	DOUBLE	OPH	OPPOSITE HAND
DC	DIAPHRAGM CHORD	OPNG	OPENING
DCJ	DOWELED CONSTRUCTION JOINT	PAF	POWDER ACTUATED FASTENER
		PAR	PARALLEL
DIA, Ø	DIAMETER	PC	PIECE
DIST	DISTANCE	PEMB	PRE-ENGINEERED METAL BUILDING
DJ	DOUBLE JOIST	PEN	PENETRATE, PENETRATION
DWGS	DRAWINGS	PERP	PERPENDICULAR
EA	EACH	PL	PLATE
EF	EACH FACE	PT	POST-TENSIONED (CONC)
EJ	EXPANSION JOINT	R	PRESSURE TREATED (WOOD)
EL	ELEVATION	REF	RADIUS
ELEV	ELEVATOR	REIN	REFERENCE, REFER TO REINFORCE, REINFORCED, REINFORCING
EMBED	EMBEDMENT		REQUIRED
EOD	EDGE OF DECK	REQD	REQUIRED
EOS	EDGE OF SLAB	REQMTS	REQUIREMENTS
EQ	EQUAL	SCHED	SCHEDULE
EW	EACH WAY	SF	STEPPED FOOTING
EXIST	EXISTING	SGB	STEPPED GRADE BEAM
EXP	EXPANSION	SIM	SIMILAR
EXT	EXTERIOR	SJ	SAWED JOINT
FD	FLOOR DRAIN	SL	SLOPE
FDN	FOUNDATION	SOG	SLAB-ON-GRADE
FO	FACE OF	SPF	SIDEPLATE FRAME
FF EL	FINISHED FLOOR ELEVATION	STD	STANDARD
		STIFF	STIFFENER
FIN	FINISH	TBE	TRUSS BEARING ELEVATION
FIN FLR	FINISHED FLOOR	T&B	TOP & BOTTOM
FOB	FACE OF BUILDING	T&G	TONGUE AND GROOVE
FOC	FACE OF CONCRETE	THK	THICKNESS
FOM	FACE OF MASONRY	TOC	TOP OF CONCRETE
FOS	FACE OF SLAB/ STUD	TOF	TOP OF FOOTING
FRMG	FRAMING	TOM	TOP OF MASONRY
FTG	FOOTING	TOCP	TOP OF CONCRETE PEDESTAL
FS	FAR SIDE	TOS TS	TOP OF STEEL
FV, ±	FIELD VERIFY	TS/STR	THICKENED SLAB
GALV	GALVANIZED	TYP	THICKENED SLAB AT STAIR SECTION
GC	GENERAL CONTRACTOR	UON	TYPICAL
GEN	GENERAL	VERT	UNLESS OTHERWISE NOTED
GR BM	GRADE BEAM	W/	VERTICAL
H	HIGH	WP	WITH
HK	HOOK	WSP	WORKING POINT
HORIZ	HORIZONTAL	WWR	WOOD STRUCTURAL PANEL(S)
HSS	HOLLOW STRUCTURAL SECTION		WELDED WIRE REINFORCING
HSA	HEADED STUD ANCHOR		
HT	HEIGHT		
HVY	HEAVY		
INT	INTERIOR		
JBE	JOIST BEARING ELEVATION		
JT	JOINT		
KCJ	KEYED CONSTRUCTION JOINT		

DRAWINGS LEGEND

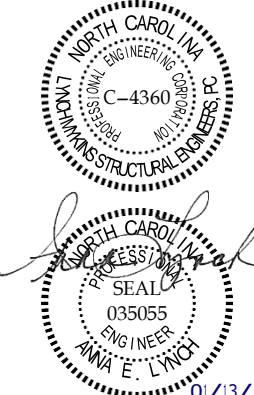
GENERAL ANNOTATIONS	
SECTIONS	
	SECTION/DETAIL NUMBER/LETTER = SECTION/DETAIL MARK
	SHEET NUMBER WHERE SECTION/DETAIL MARK IS DRAWN
COLUMNS	
	= COLUMN GRID MARK
GENERAL PLANS	
X	= PLAN KEY NOTE MARK
	= CHANGE IN SLOPE
	= DIRECTION OF SLOPE
SHALLOW FOUNDATIONS	
	= SLAB-ON-GRADE JOINT
WFX	= WALL FOOTING MARK
CFX	= COLUMN FOOTING MARK
ELEVATIONS	
FOUNDATIONS	
	TOP OF FOOTING ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"
	TOP OF SLAB ELEVATION MEASURED FROM REFERENCED FINISHED FLOOR ELEVATION = 0'-0"



PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



DKA JOB NUMBER
2403

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SHEET TITLE
GENERAL NOTES
S002



WALL FOOTING SCHEDULE					
MARK	SIZE		REINFORCING		REMARKS
	WIDTH	DEPTH	CONTINUOUS	TRANSVERSE	
WF2.5	2' - 6"	1'-0"	(3) #5 BOT	#4 AT 48" OC BOT	-
WF5	5' - 0"	2'-0"	(5) #5 T&B	#5 AT 12" OC T&B	-

COLUMN FOOTING SCHEDULE						
MARK	SIZE			REINFORCING		REMARKS
	LENGTH	WIDTH	DEPTH	BOTTOM	TOP	
CF8.5	8' - 6"	8' - 6"	2'-0"	(11) #6 EW	(11) #6 EW	-

KEY NOTES

- 116 2'-0" SQUARE CONCRETE PIER. REFERENCE SECTIONS A6/S501 AND A1/S301.
- 117 FRAME LOCATIONS AND TYPES ARE ASSUMED. PEMB MANUFACTURER TO DESIGN PEMB BUILDING FRAMES.

FOUNDATION PLAN NOTES

- A. REFERENCE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING WALLS, WALL CONTROL JOINTS AND OPENINGS.
- B. UNLESS OTHERWISE NOTED, ALL ELEVATIONS ARE BASED ON A FINISHED FIRST FLOOR REFERENCE OF 0'-0". ACTUAL FINISHED FLOOR ELEVATION IS 301.25'. FINISHED FLOOR ELEVATIONS AT EACH LEVEL ARE INDICATED ON SLAB PLANS. REFERENCE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIALS.
- C. TOP OF ALL FOOTINGS MUST BE AT ELEVATION -2'-0" UNLESS OTHERWISE NOTED.
- D. UTILITY LOCATIONS ARE NOT SHOWN ON PLAN. THE CONTRACTOR MUST COORDINATE THE LOCATIONS, SIZES, AND INVERTS OF UTILITIES. AT LOCATIONS WHERE UTILITIES PASS BELOW THE TOP OF FOOTING ELEVATION, STEP THE TOP OF FOOTING DOWN ON EACH SIDE PER THE "TYPICAL STEPPED FOOTING DETAIL" AND SLEEVE THE UTILITY THROUGH THE FOUNDATION WALL. THE CONTRACTOR MAY, AT HIS/HER OPTION, SLEEVE THE UTILITY THROUGH THE FOUNDATION PER THE "TYPICAL PIPE SLEEVE AT WALL FOOTING DETAILS."
- E. UNLESS OTHERWISE INDICATED, EXTEND WALL FOOTINGS A MINIMUM OF 6 INCHES BEYOND ENDS OF WALLS.
- F. SITE WALLS ARE NOT SHOWN ON PLAN. CONTRACTOR MUST COORDINATE CIVIL AND LANDSCAPE DRAWINGS FOR SITE WALL INFORMATION.
- G. DIMENSIONS SHOWN ON FOUNDATION PLAN ARE TO COLUMN GRIDLINES AND OUTSIDE FACE OF FOUNDATION WALLS, UNLESS OTHERWISE NOTED.



DAVIS KANE
ARCHITECTS, P.A.

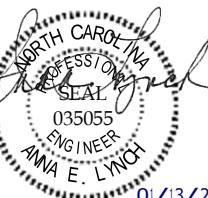
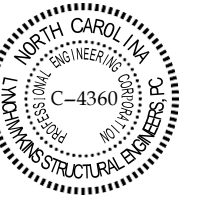
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PROJECT INFORMATION

**South Cary Water Reclamation
Facility – Maintenance Facility
with Solar**

Town of Cary
4900 W Lake Rd, Apex, NC 27539

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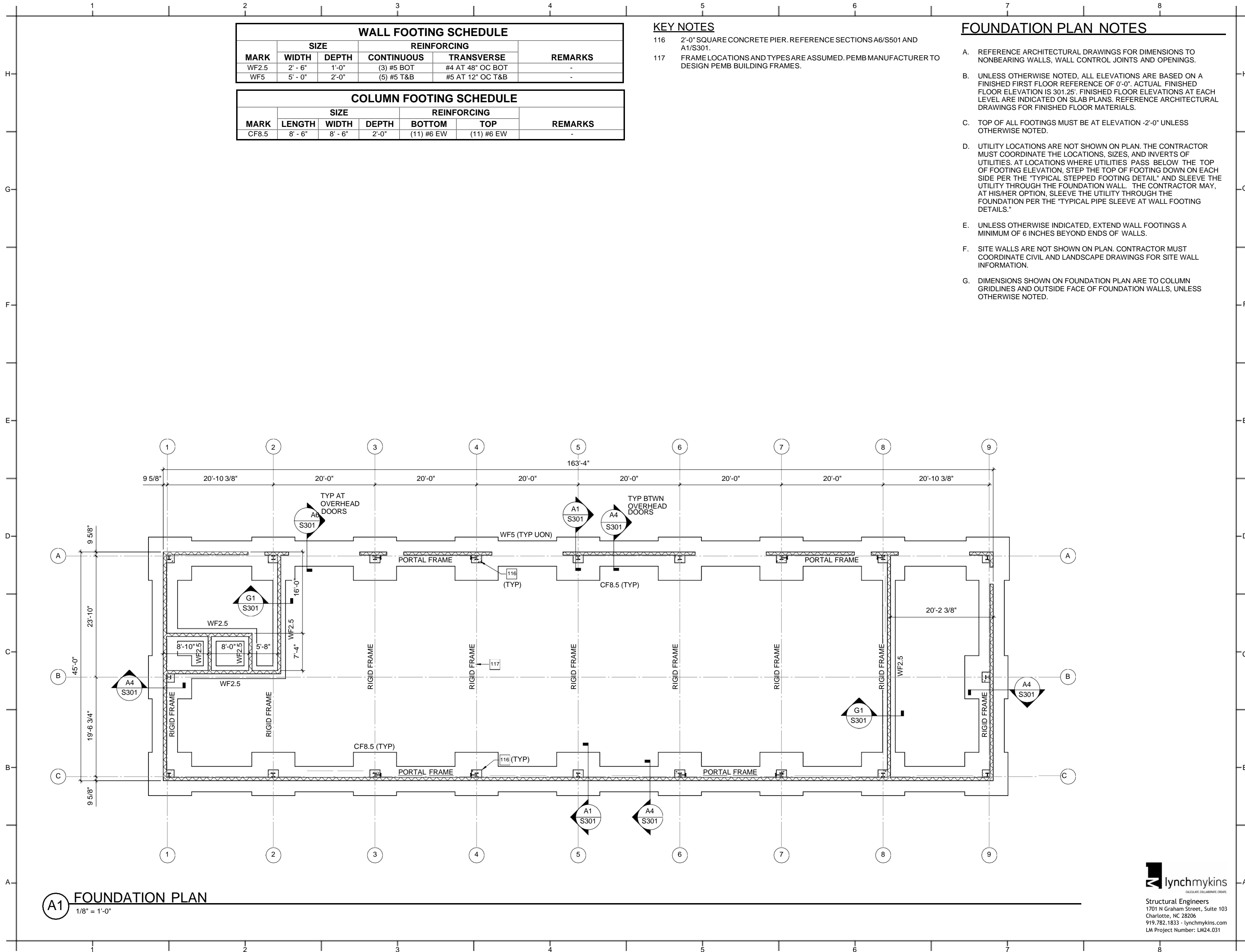
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SHEET TITLE

FOUNDATION PLAN

S101



A1 FOUNDATION PLAN
1/8" = 1'-0"

lynchmykins
STRUCTURAL ENGINEERS
1701 N Graham Street, Suite 103
Charlotte, NC 28206
919.782.1833 - lynchmykins.com
LM Project Number: LM24.031



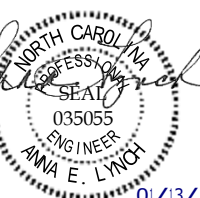
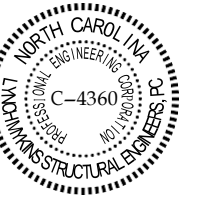
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SHEET TITLE

SLAB PLAN

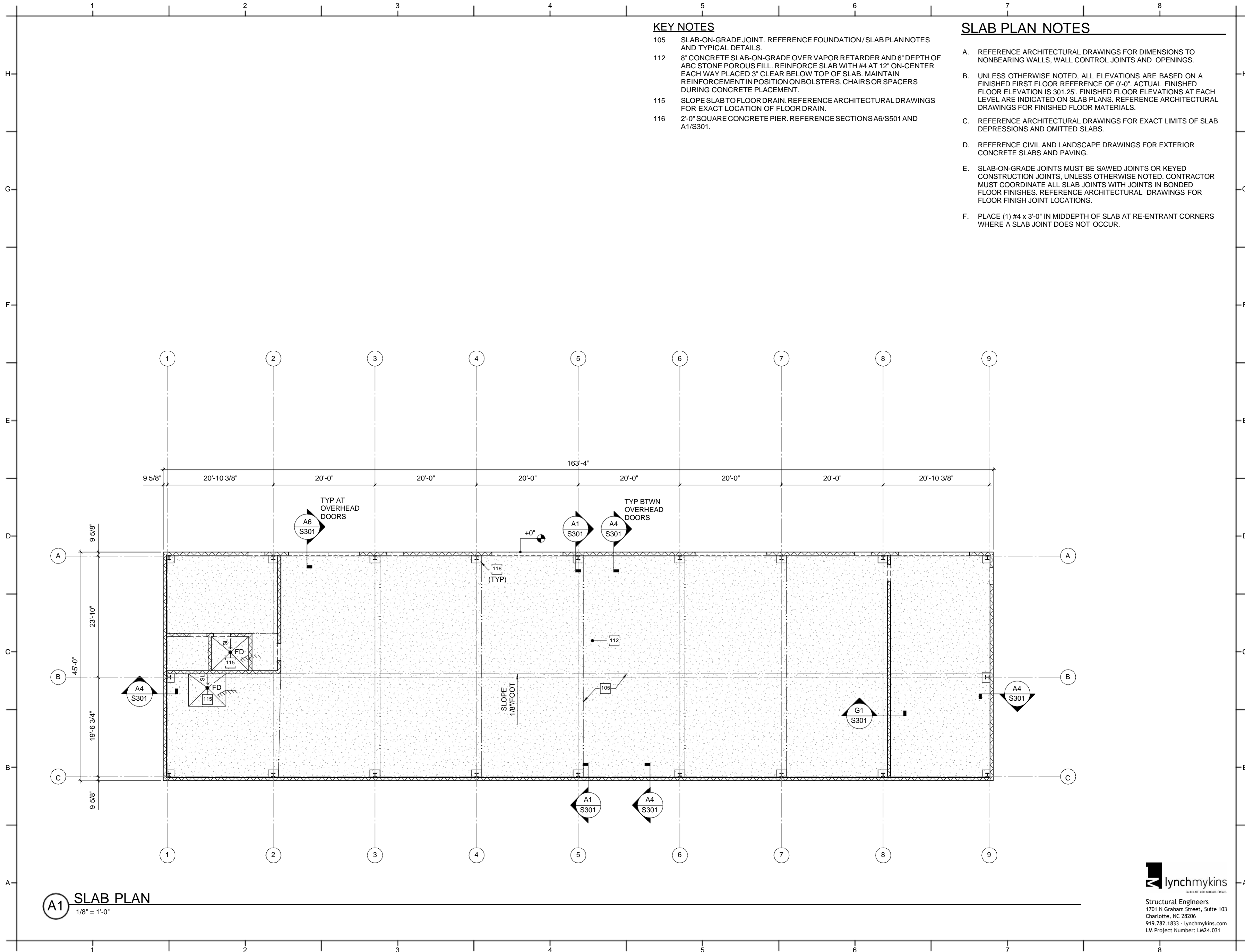
S102

KEY NOTES

- 105 SLAB-ON-GRADE JOINT. REFERENCE FOUNDATION / SLAB PLAN NOTES AND TYPICAL DETAILS.
- 112 8" CONCRETE SLAB-ON-GRADE OVER VAPOR RETARDER AND 6" DEPTH OF ABC STONE POROUS FILL. REINFORCE SLAB WITH #4 AT 12" ON-CENTER EACH WAY PLACED 3" CLEAR BELOW TOP OF SLAB. MAINTAIN REINFORCEMENT IN POSITION ON BOLSTERS, CHAIRS OR SPACERS DURING CONCRETE PLACEMENT.
- 115 SLOPE SLAB TO FLOOR DRAIN. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF FLOOR DRAIN.
- 116 2'-0" SQUARE CONCRETE PIER. REFERENCE SECTIONS A6/S501 AND A1/S301.

SLAB PLAN NOTES

- A. REFERENCE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING WALLS, WALL CONTROL JOINTS AND OPENINGS.
- B. UNLESS OTHERWISE NOTED, ALL ELEVATIONS ARE BASED ON A FINISHED FIRST FLOOR REFERENCE OF 0'-0". ACTUAL FINISHED FLOOR ELEVATION IS 301.25'. FINISHED FLOOR ELEVATIONS AT EACH LEVEL ARE INDICATED ON SLAB PLANS. REFERENCE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIALS.
- C. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LIMITS OF SLAB DEPRESSIONS AND OMITTED SLABS.
- D. REFERENCE CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE SLABS AND PAVING.
- E. SLAB-ON-GRADE JOINTS MUST BE SAWED JOINTS OR KEYED CONSTRUCTION JOINTS, UNLESS OTHERWISE NOTED. CONTRACTOR MUST COORDINATE ALL SLAB JOINTS WITH JOINTS IN BONDED FLOOR FINISHES. REFERENCE ARCHITECTURAL DRAWINGS FOR FLOOR FINISH JOINT LOCATIONS.
- F. PLACE (1) #4 x 3'-0" IN MIDDEPTH OF SLAB AT RE-ENTRANT CORNERS WHERE A SLAB JOINT DOES NOT OCCUR.



A1 SLAB PLAN
1/8" = 1'-0"

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LM Project Number: LM24.031

KEY NOTES

207 COORDINATE CHANNEL LOCATIONS AND EDGE OF SLAB WITH PEMB COLUMN SIZE. PROVIDE 1 1/2" CLEAR MINIMUM BETWEEN ALL SIDES OF COLUMN AND EDGE OF SLAB. PROVIDE CONTINUOUS BENT PL5/16 W/ 1/2" DIAMETER x 6" LONG HEADED STUDS AT 24" ON CENTER AT EDGE OF SLAB. WELD BENT PLATE TO CHANNEL W/ 1/4" FILLET x 2" LONG AT 6" ON CENTER.

FRAMING PLAN NOTES

- A. REFERENCE FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
- B. TOP OF FINISHED FLOOR ELEVATION MUST BE AS NOTED ON SLAB PLANS.
- C. STEEL BEAM FRAMING MUST BE EQUALLY SPACED BETWEEN POINTS OF KNOWN DIMENSIONS (NOT TO EXCEED 10'-0" ON-CENTER).
- D. CONTRACTOR MUST INCLUDE IN THEIR BID THE COST TO PLACE THE SLAB TO FINISHED FLOOR ELEVATION ACCOUNTING FOR ANTICIPATED SLAB AND BEAM DEFLECTIONS.



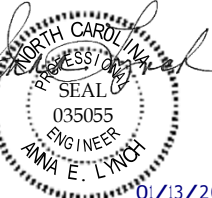
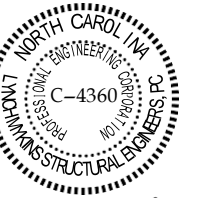
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PROJECT INFORMATION

**South Cary Water Reclamation
Facility – Maintenance Facility
with Solar**
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



01/13/2025

DKA JOB NUMBER

2403

REVISIONS

NO.	DESCRIPTION

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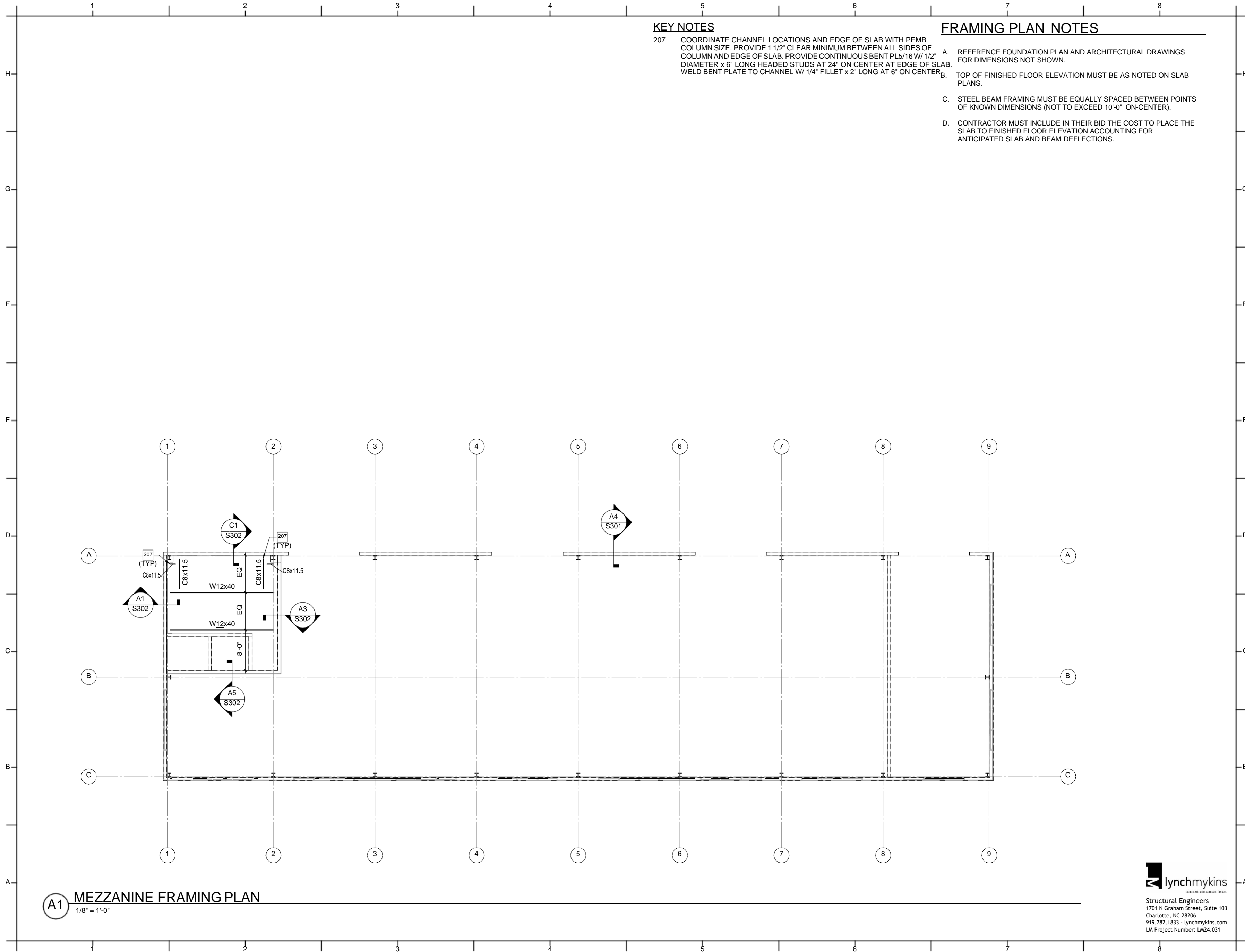
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01/13/2025

SHEET TITLE

MEZZANINE
FRAMING PLAN

S111



A1 MEZZANINE FRAMING PLAN
1/8" = 1'-0"

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LM Project Number: LM24.031

KEY NOTES

- 201 3 1/4" LIGHTWEIGHT CONCRETE SLAB ON 2" COMPOSITE FLOOR DECK, (5 1/4" TOTAL) REINFORCED WITH 6x6-W2.1xW2.1 WELDED WIRE REINFORCING LOCATED 1" CLEAR BELOW TOP OF SLAB.
- 207 COORDINATE CHANNEL LOCATIONS AND EDGE OF SLAB WITH PEMB COLUMN SIZE. PROVIDE 1 1/2" CLEAR MINIMUM BETWEEN ALL SIDES OF COLUMN AND EDGE OF SLAB. PROVIDE CONTINUOUS BENT PL5/16 W/ 1/2" DIAMETER x 6" LONG HEADED STUDS AT 24" ON CENTER AT EDGE OF SLAB. WELD BENT PLATE TO CHANNEL W/ 1/4" FILLET x 2" LONG AT 6" ON CENTER.

SLAB PLAN NOTES

- A. REFERENCE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING WALLS, WALL CONTROL JOINTS AND OPENINGS.
- B. UNLESS OTHERWISE NOTED, ALL ELEVATIONS ARE BASED ON A FINISHED FIRST FLOOR REFERENCE OF 0'-0". ACTUAL FINISHED FLOOR ELEVATION IS 301.25'. FINISHED FLOOR ELEVATIONS AT EACH LEVEL ARE INDICATED ON SLAB PLANS. REFERENCE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIALS.
- C. REFERENCE ARCHITECTURAL DRAWINGS FOR EXACT LIMITS OF SLAB DEPRESSIONS AND OMITTED SLABS.
- D. REFERENCE CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE SLABS AND PAVING.
- E. SLAB-ON-GRADE JOINTS MUST BE SAWED JOINTS OR KEYED CONSTRUCTION JOINTS, UNLESS OTHERWISE NOTED. CONTRACTOR MUST COORDINATE ALL SLAB JOINTS WITH JOINTS IN BONDED FLOOR FINISHES. REFERENCE ARCHITECTURAL DRAWINGS FOR FLOOR FINISH JOINT LOCATIONS.
- F. PLACE (1) #4 x 3'-0" IN MIDDEPTH OF SLAB AT RE-ENTRANT CORNERS WHERE A SLAB JOINT DOES NOT OCCUR.



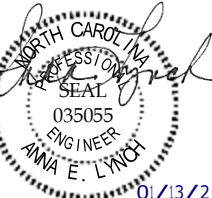
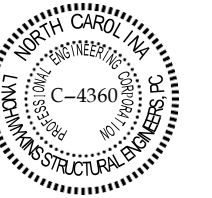
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PROJECT INFORMATION

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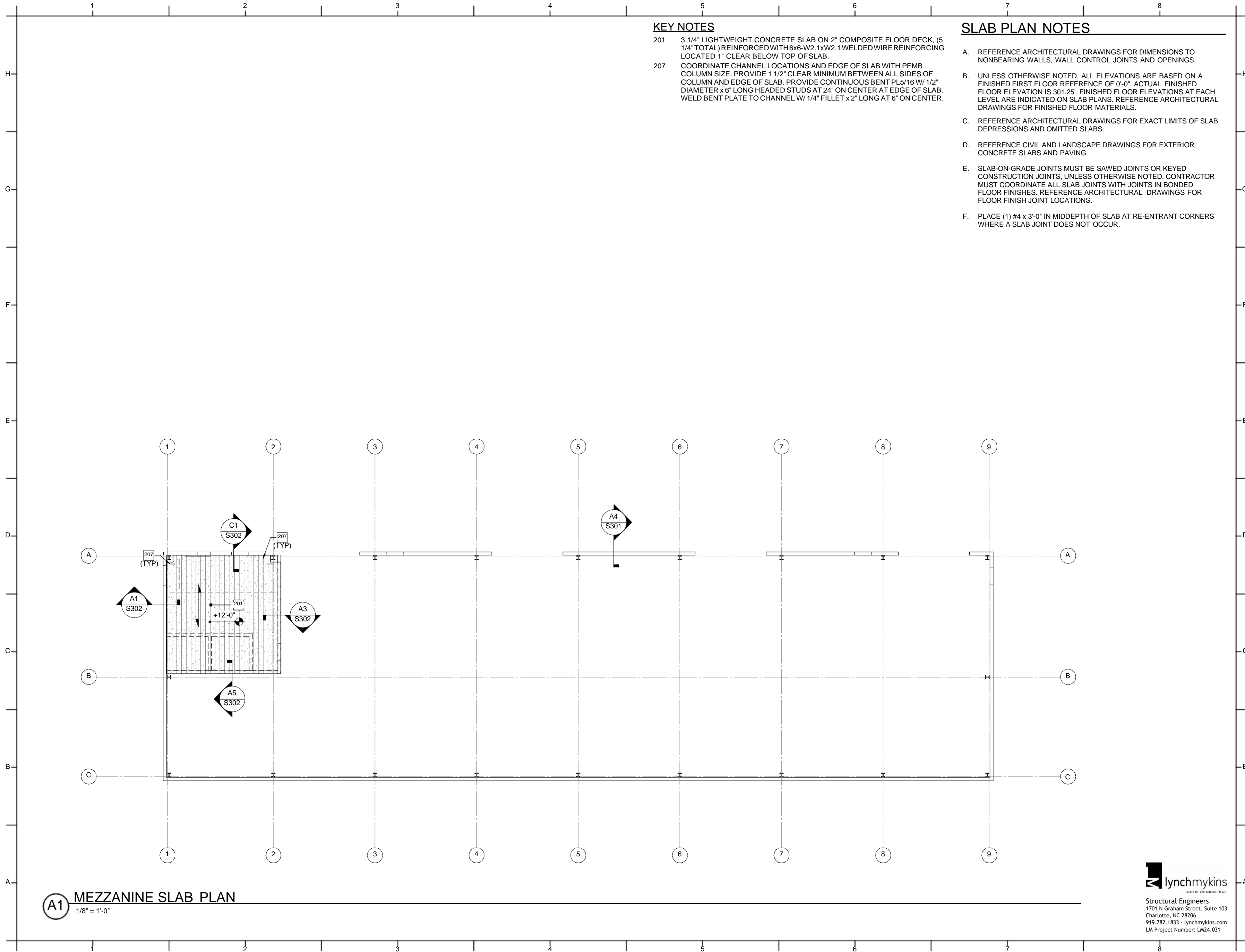
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SHEET TITLE

MEZZANINE SLAB
PLAN

S112



A1 MEZZANINE SLAB PLAN
1/8" = 1'-0"

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PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

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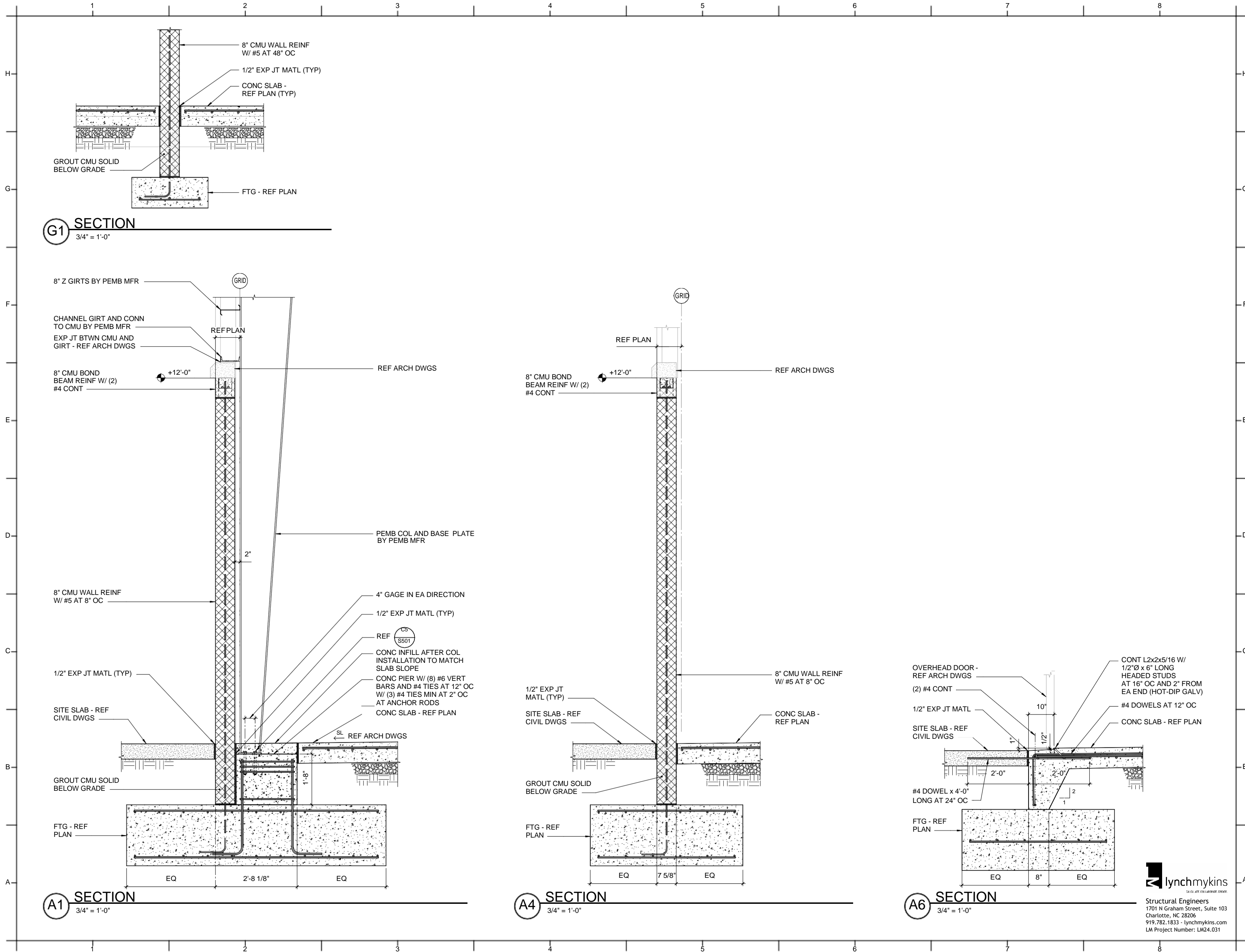
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SHEET TITLE

SECTIONS

S301



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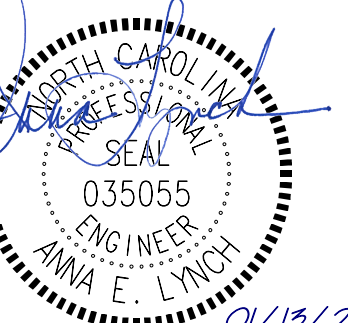
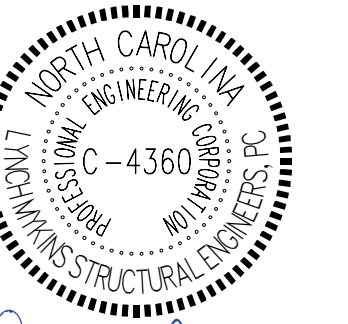
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PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar

Town of Cary
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SEALS



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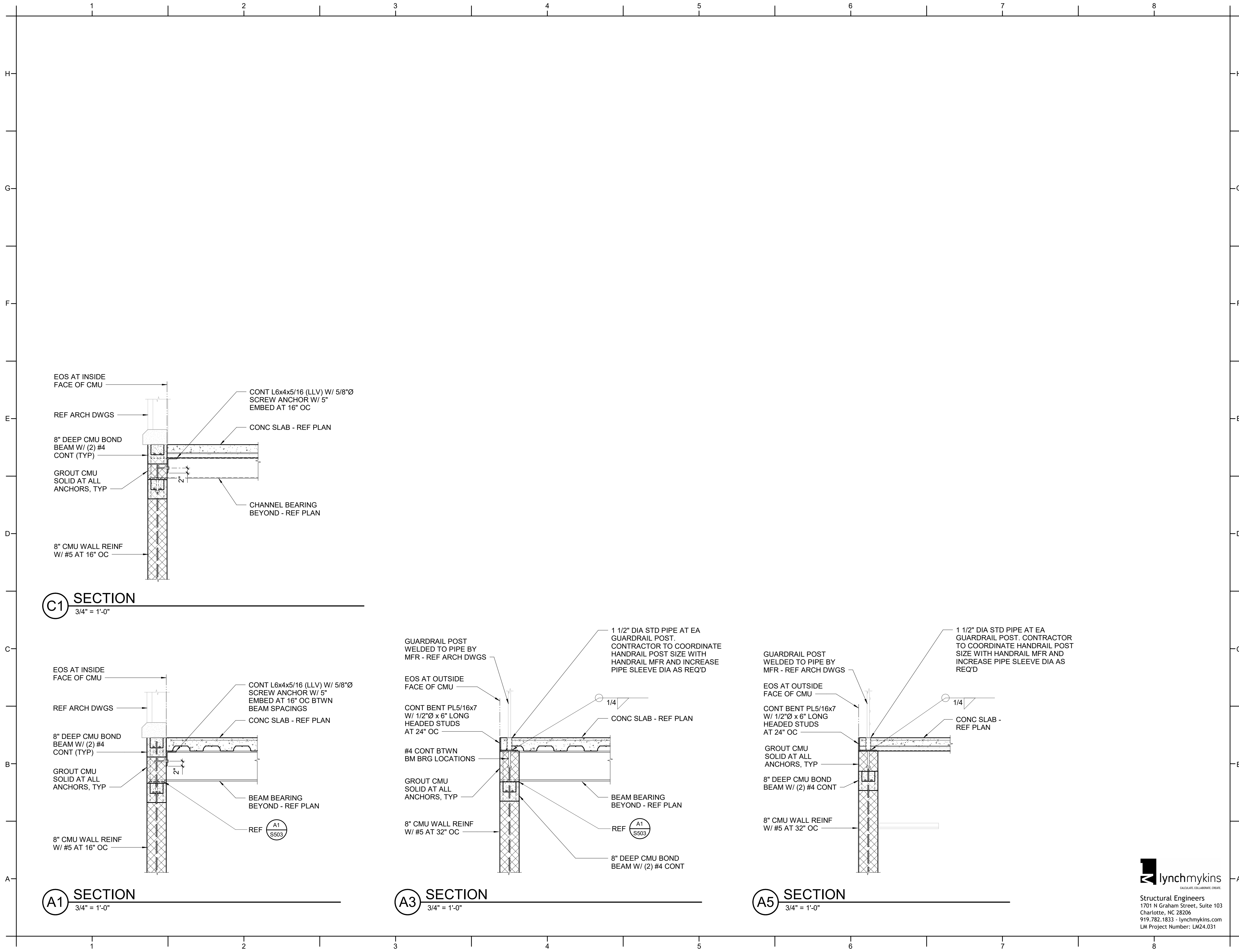
SHEET TITLE

SECTIONS

S302



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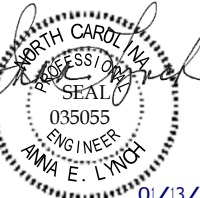
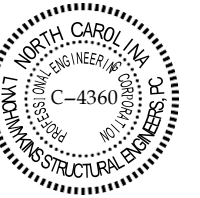
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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
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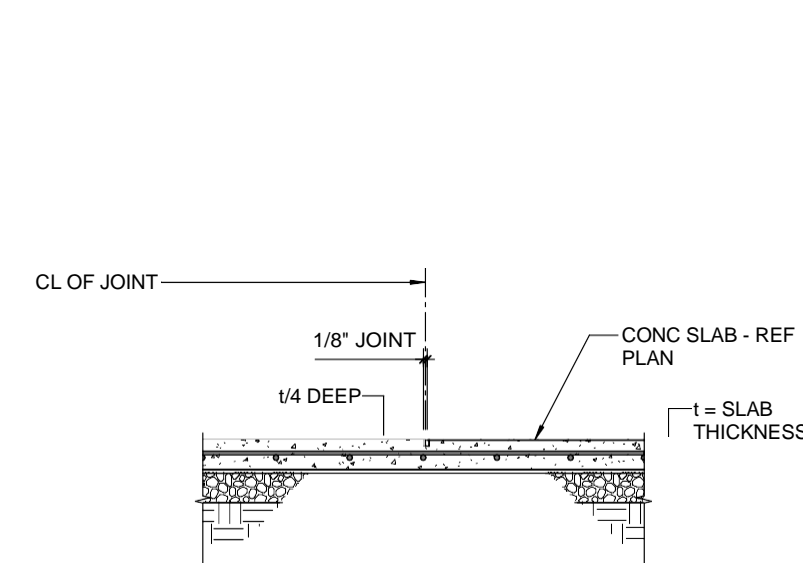
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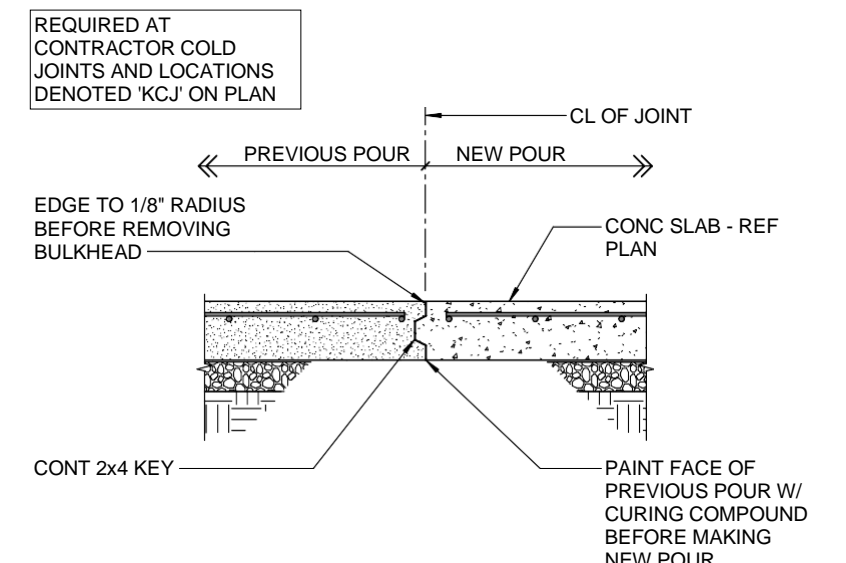
SHEET TITLE

TYPICAL DETAILS

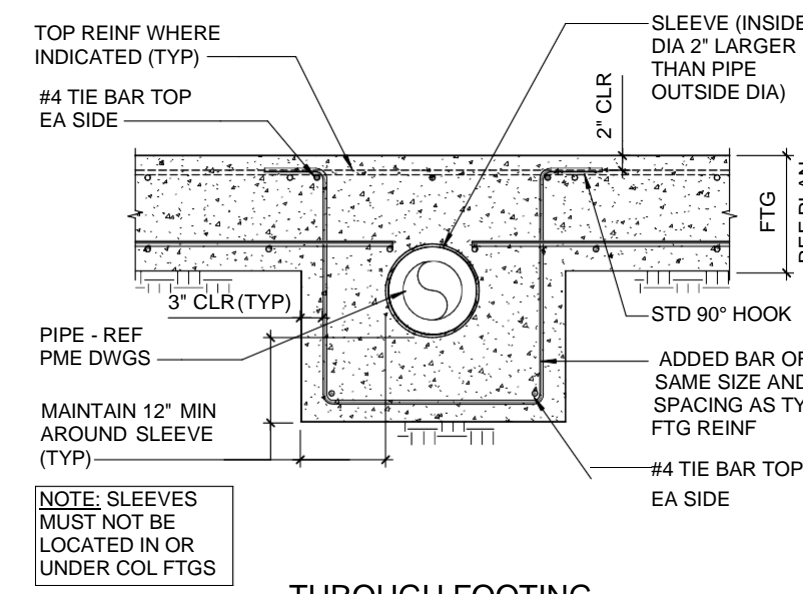
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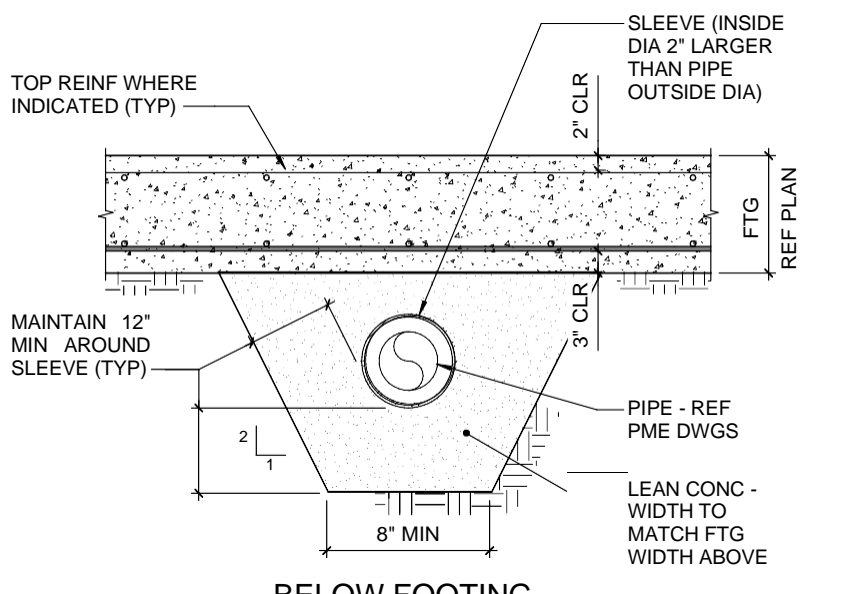
E1 TYPICAL SAWED JOINT DETAIL NTS



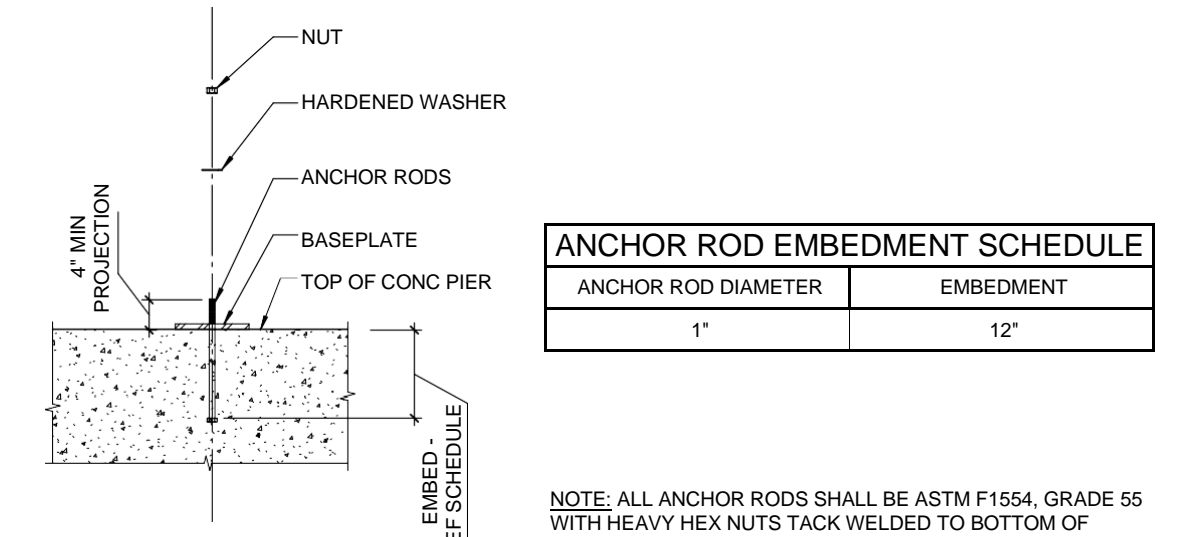
E3 TYPICAL KEYED CONSTRUCTION JOINT DETAIL NTS



C1 TYPICAL PIPE SLEEVE AT WALL FOOTING DETAILS NTS



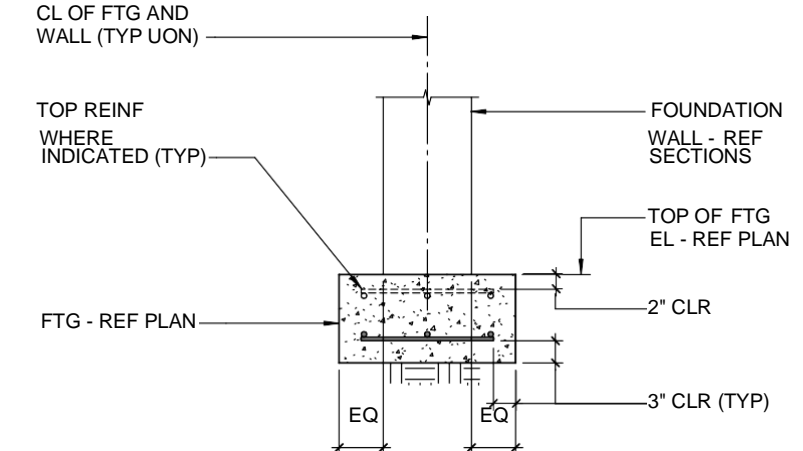
C1 TYPICAL PIPE SLEEVE AT WALL FOOTING DETAILS NTS



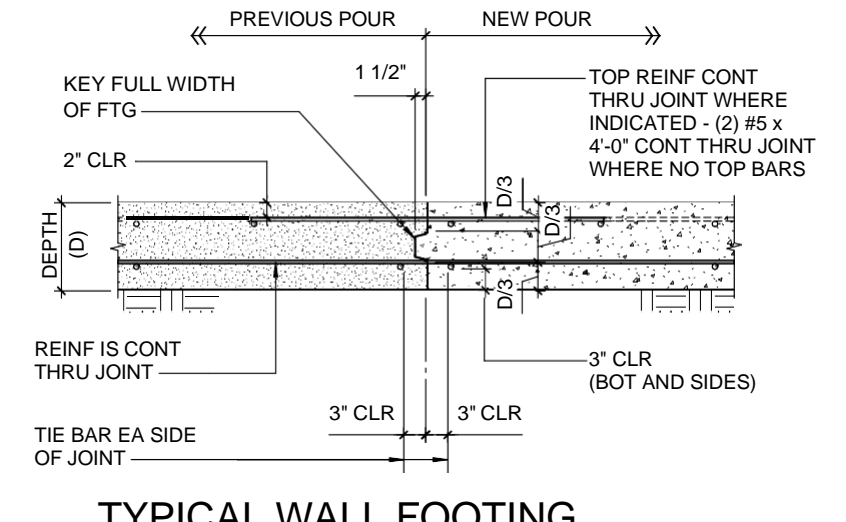
C5 TYPICAL ANCHOR ROD EMBEDMENT DETAIL NTS

ANCHOR ROD EMBEDMENT SCHEDULE table with columns for Anchor Rod Diameter and Embedment.

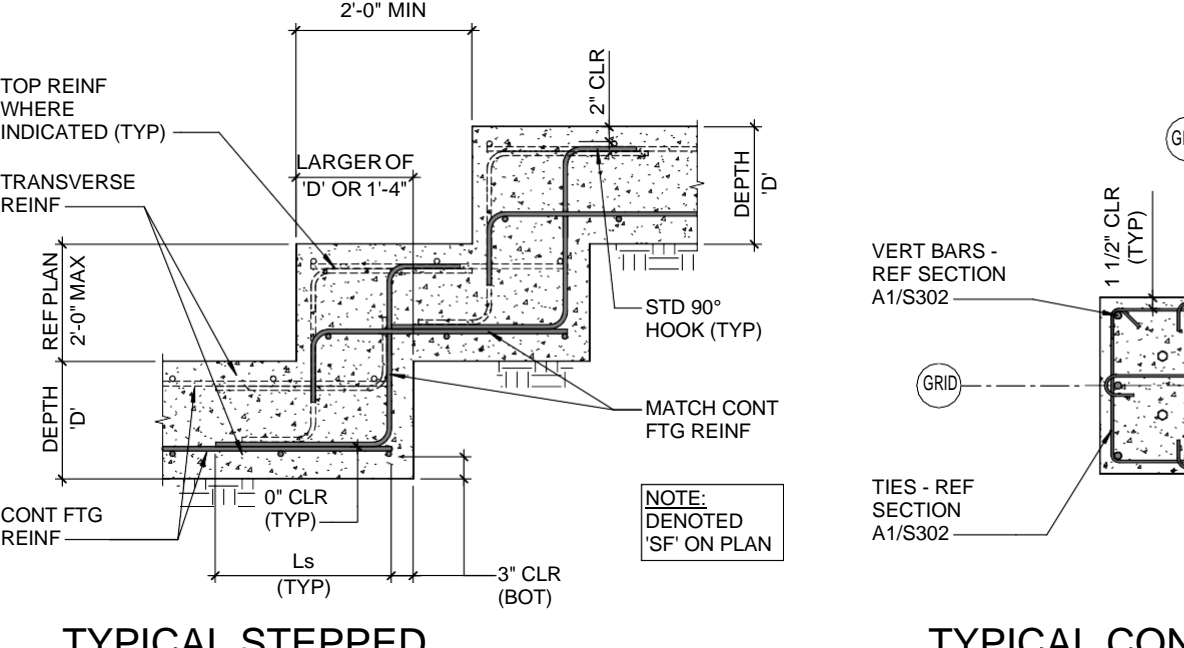
NOTE: ALL ANCHOR RODS SHALL BE ASTM F1554, GRADE 55 WITH HEAVY HEX NUTS TACK WELDED TO BOTTOM OF ANCHOR RODS.



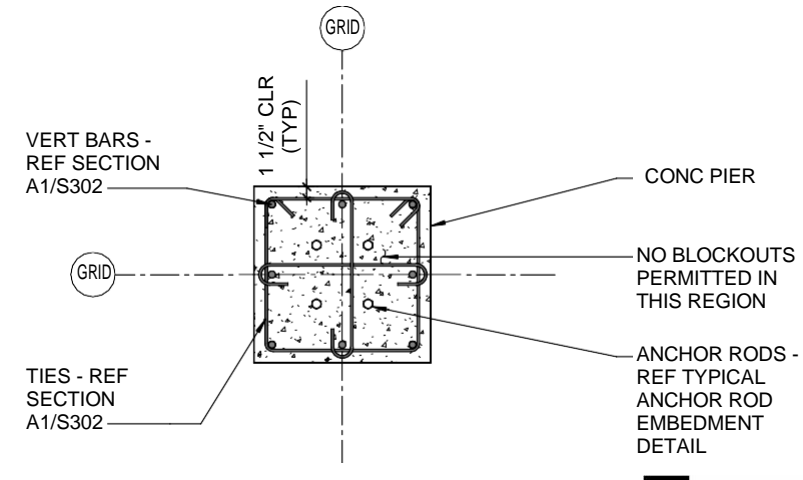
A1 TYPICAL WALL FOOTING DETAIL NTS



A3 TYPICAL WALL FOOTING CONSTRUCTION JOINT DETAIL NTS



A5 TYPICAL STEPPED WALL FOOTING DETAIL NTS



A7 TYPICAL CONCRETE PIER REINFORCING DETAIL NTS

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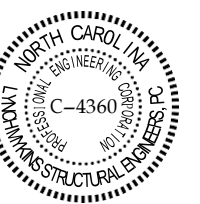
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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



01/13/2025

DKA JOB NUMBER

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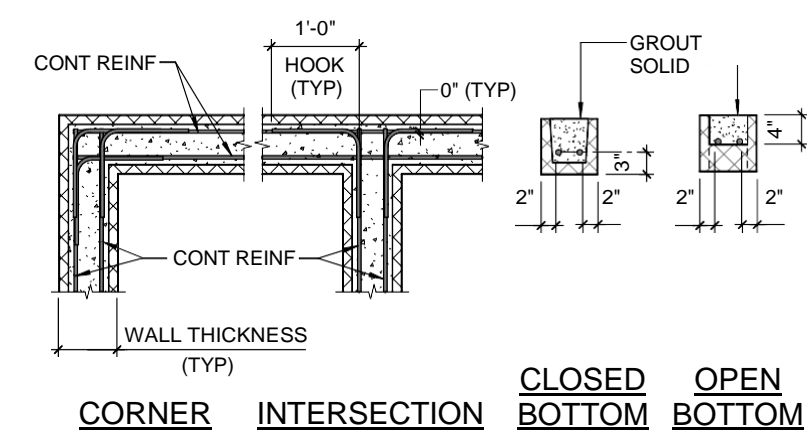
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SHEET TITLE

TYPICAL DETAILS

S502

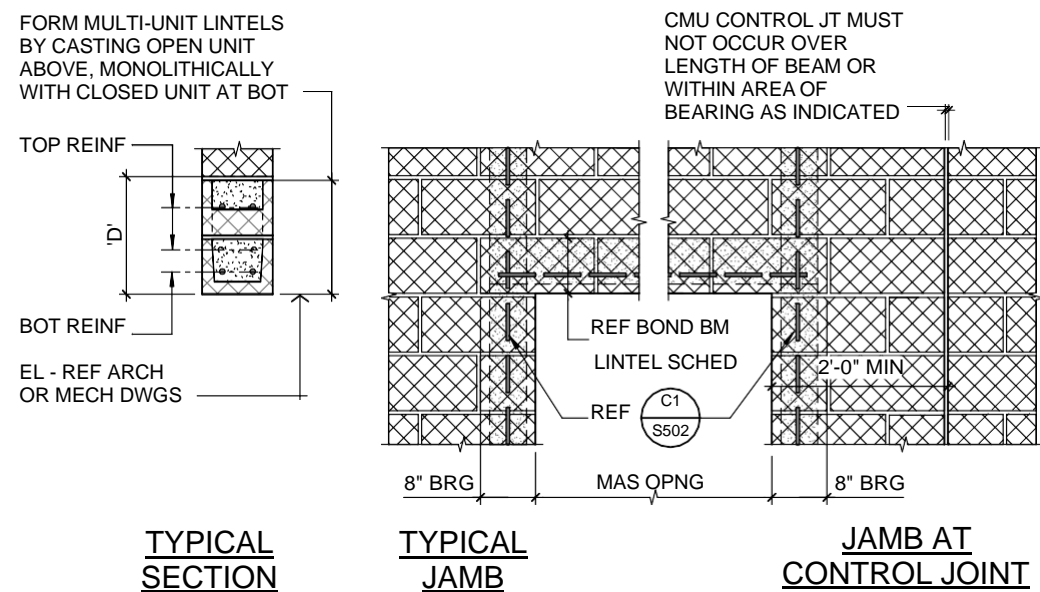


F1 TYPICAL BOND BEAM REINFORCING DETAILS NTS

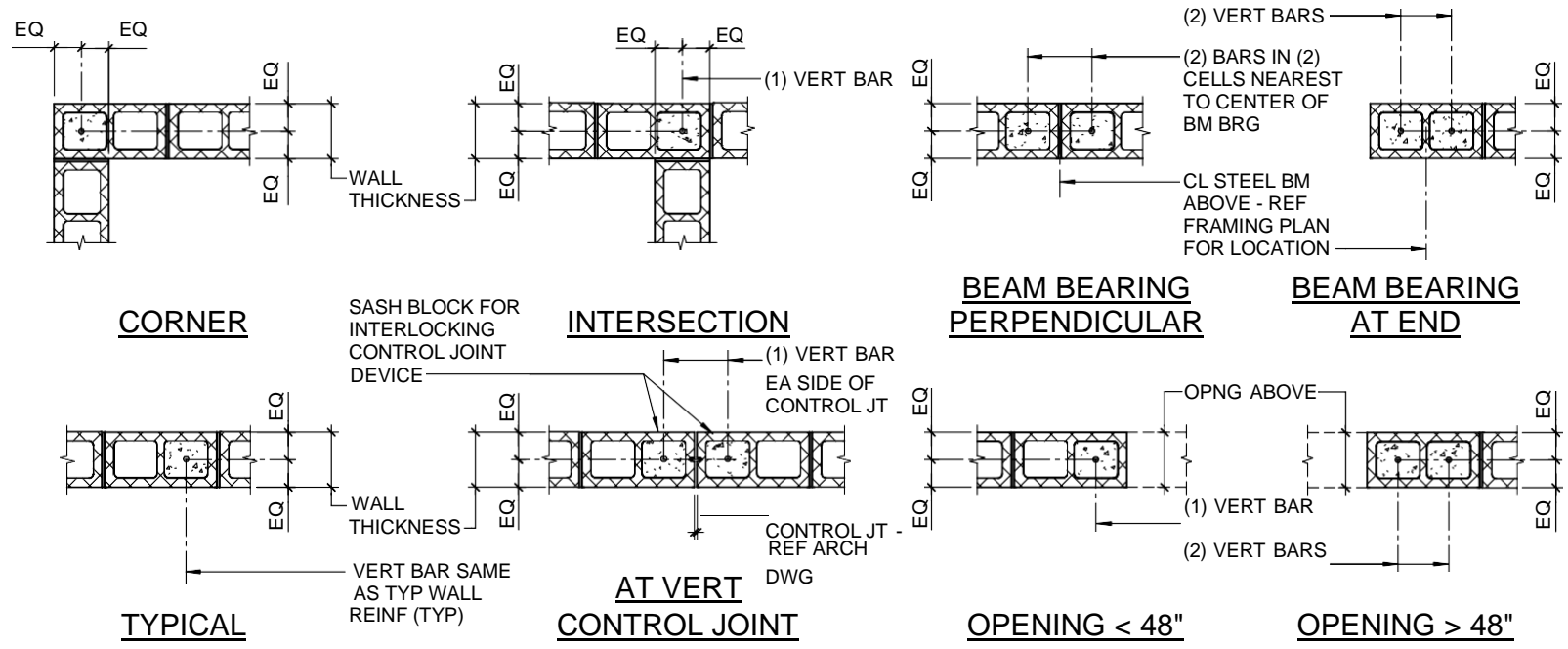
BOND BEAM LINTEL SCHEDULE table with columns: CLEAR SPAN, DEPTH 'D', REINFORCING. Includes notes for architectural drawings and lintel application.

NOTES: 1. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS... 2. REFER TO ARCHITECTURAL DRAWINGS FOR WIDTH OF LINTEL... 3. SCHEDULE APPLIES ONLY TO LINTELS NOT OTHERWISE SHOWN ON THE DRAWINGS.

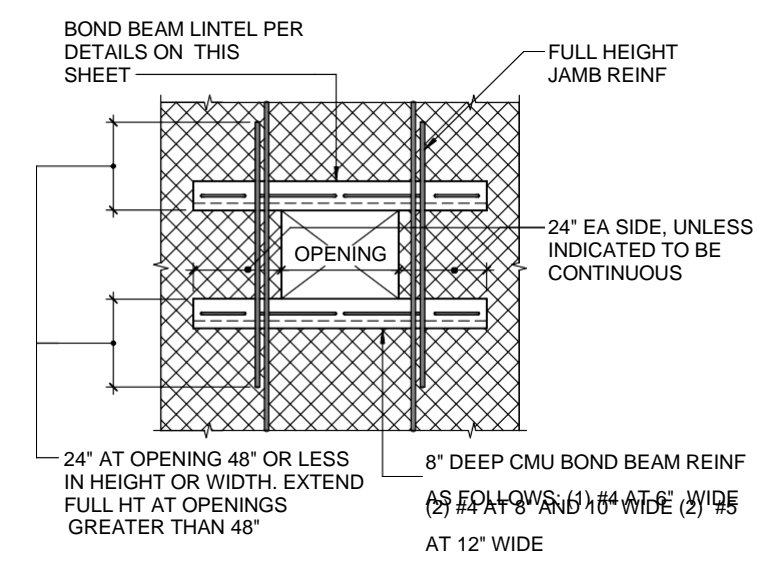
F3 BOND BEAM LINTEL DETAILS NTS



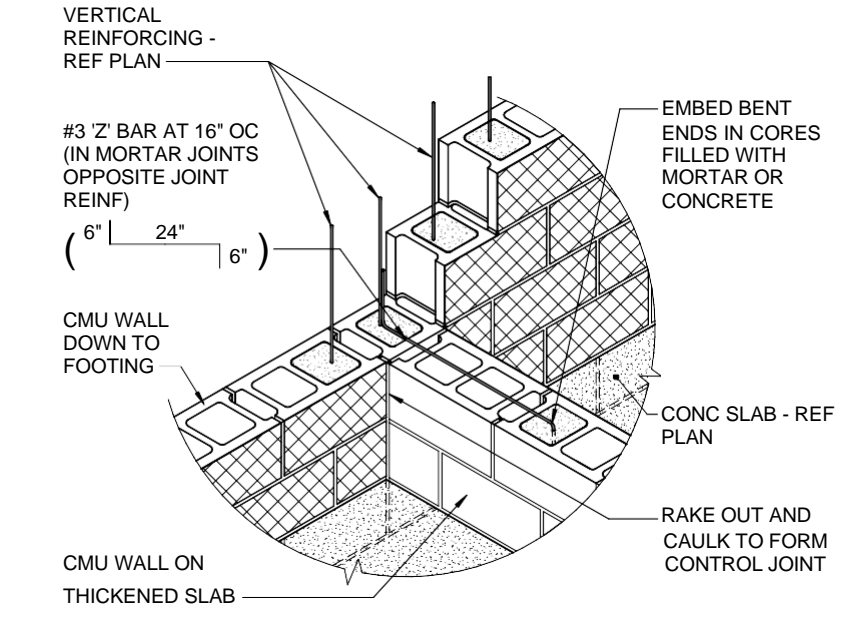
TYPICAL SECTION, TYPICAL JAMB, JAMB AT CONTROL JOINT



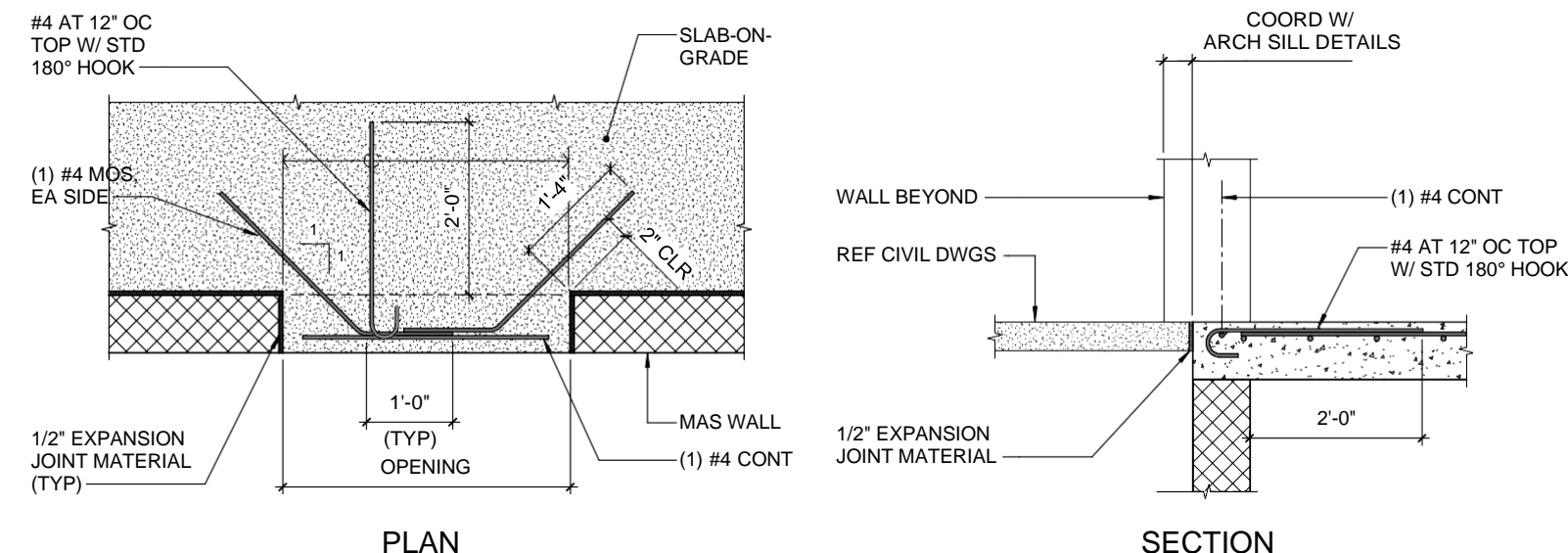
C1 TYPICAL CONCRETE MASONRY REINFORCING DETAILS NTS



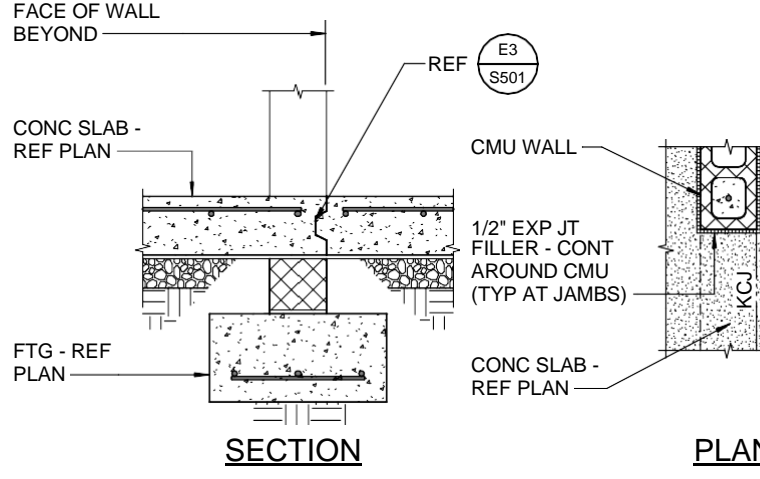
C5 TYPICAL MASONRY REINFORCING AT WALL OPENING DETAIL NTS



C7 TYPICAL DETAIL AT INTERSECTION OF CMU WALLS NTS



A1 TYPICAL EXTERIOR DOORS / OPENINGS DETAIL NTS



A5 TYPICAL DETAIL AT INTERIOR DOOR OPENINGS NTS

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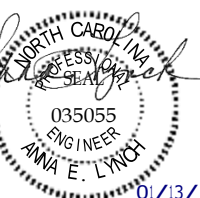
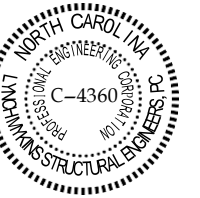
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PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar

Town of Cary
4900 W Lake Rd, Apex, NC 27539

SEALS



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DKA JOB NUMBER

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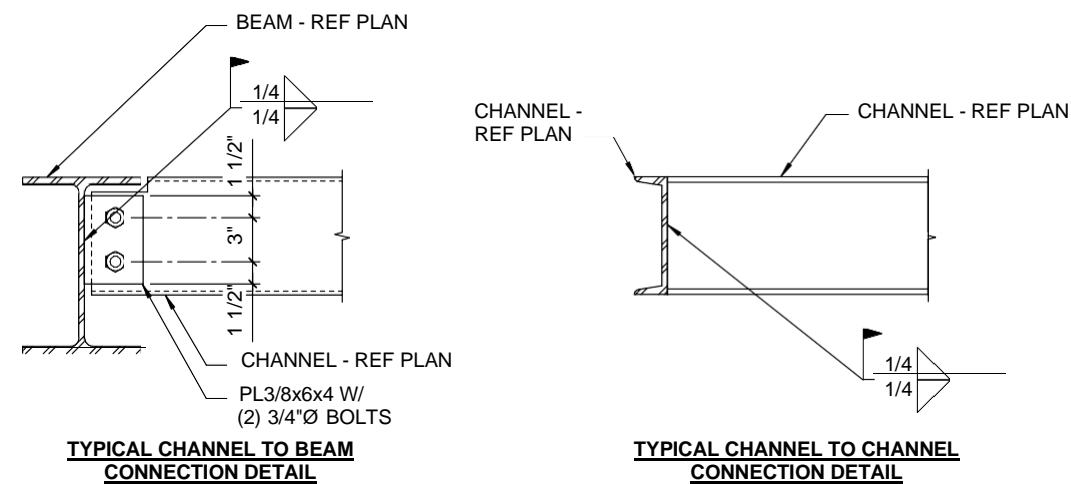
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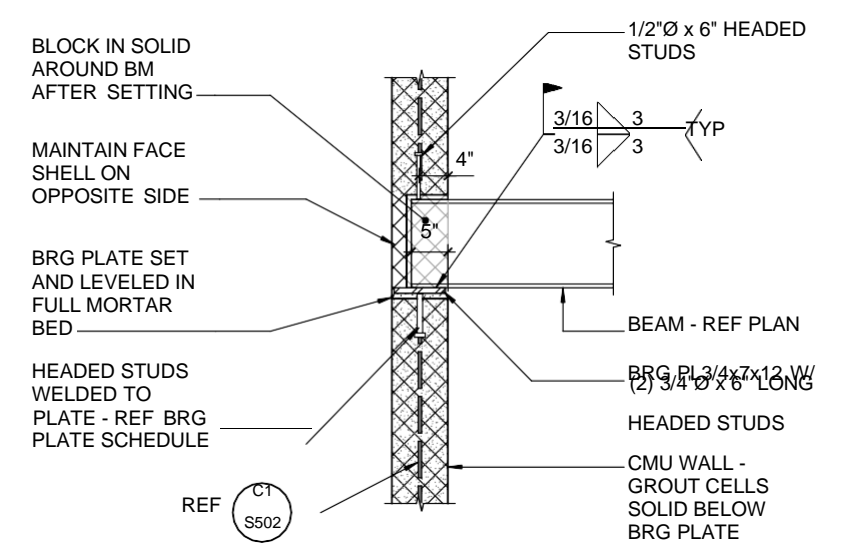
TYPICAL DETAILS

S503

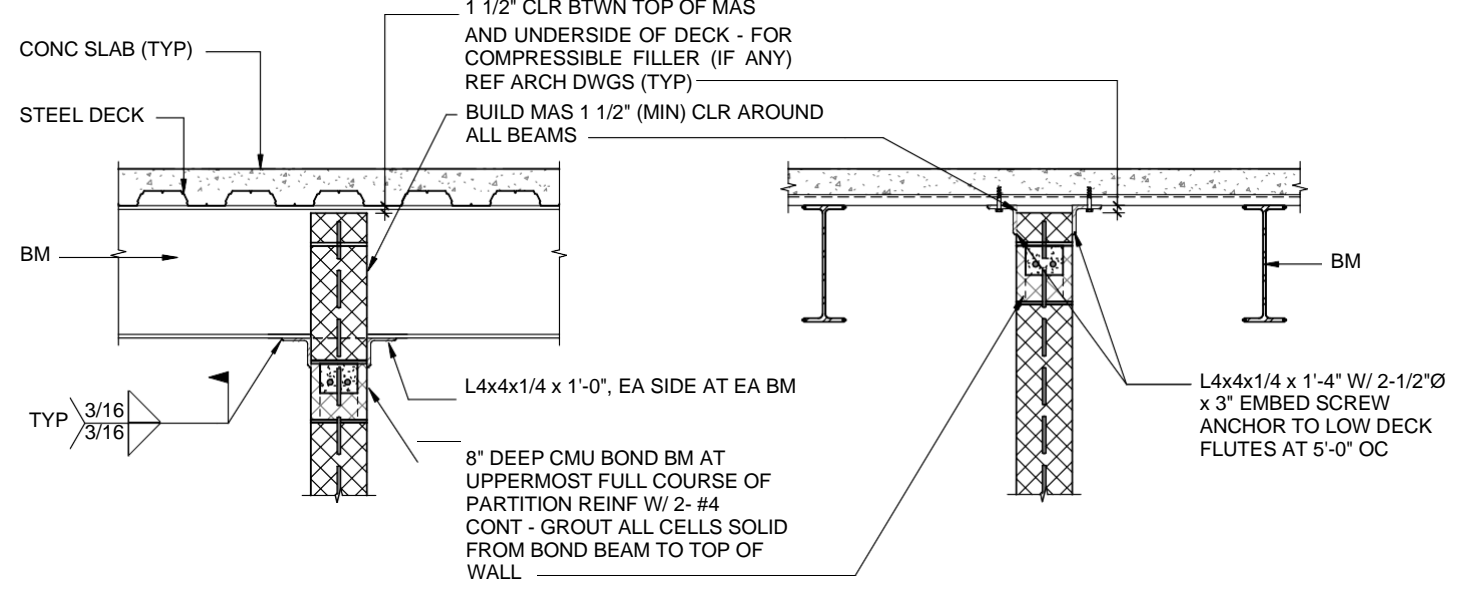
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LM Project Number: LM24.031



C1 TYPICAL CHANNEL CONNECTION DETAILS
NTS



A1 TYPICAL STEEL BEAM BEARING ON MASONRY DETAILS
NTS



A3 TYPICAL NON-BEARING MASONRY PARTITION BRACING DETAILS
NTS

TYPICAL STEEL BEAM BEARING ON MASONRY DETAILS

CMU TO BOTTOM OF FLOOR DECK

TYPICAL NON-BEARING MASONRY PARTITION BRACING DETAILS



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PROJECT INFORMATION

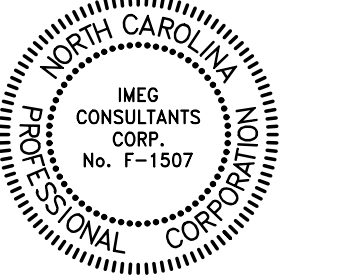


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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar Town of Cary 4900 W. Lake Rd., Apex, NC 27539

SEALS



DKA JOB NUMBER 2403

REVISIONS

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SHEET TITLE PLUMBING NOTES, LEGEND, DETAILS & FIXTURE SCHEDULE

P000

PLUMBING GENERAL NOTES

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE PLUMBING CONTRACTOR.
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMAN...
4. THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION...
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS...
6. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK...
7. ALL PIPE, FITTINGS, FIXTURES, AND SOLDER TO BE LEAD FREE.
8. WATER PIPING BELOW GRADE SHALL BE TYPE 1" COPPER AND JOINTS BELOW GRADE AND ABOVE GRADE TYPE 1" COPPER...
9. WATER PIPING LOCATED ABOVE CEILING AND IN EXTERIOR WALLS SHALL BE ROUTED ON HEATED SIDE OF CEILING INSULATION...
10. ALL COLD AND HOT WATER PIPING SHALL BE INSULATED...
11. WATER SHUT-OFF VALVES ABOVE FINISHED CEILING ARE TO BE FREE FROM OBSTRUCTIONS...
12. PLUMBING CONTRACTOR SHALL PROVIDE A DIELECTRIC UNION WHEN CONNECTING DISSIMILAR MATERIAL.
13. WATER HEATERS SHALL HAVE AN EFFICIENCY MEETING REQUIREMENTS OF THE NORTH CAROLINA BUILDING CODE.
14. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL AND CONTROL CONNECTIONS...
15. SANITARY SEWER AND VENT PIPING SHALL BE SCHEDULE 40 PVC, CELLULAR CORE (FOAM CORE) IS NOT ALLOWED...
16. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION OF ANY WORK.
17. THE PLUMBING CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS FOR WORK BY OTHERS...
18. LOCATIONS OF UTILITIES (WASTE AND WATER PIPING, ETC.) PROVIDED BY OTHERS...
19. VERIFY THE LOCATION OF ALL EQUIPMENT SUPPLIED BY OTHERS.
20. ALL EQUIPMENT DIRECTLY CONNECTED TO THE WATER SYSTEM SHALL BE PROVIDED WITH A DOUBLE CHECK VALVE...
21. ALL VENT PIPING THROUGH THE ROOF SHALL BE A MINIMUM OF 5'-0" FROM ALL MAKE-UP AIR INLETS...
22. SEE ARCHITECTURAL DRAWINGS FOR PLUMBING MINIMUM FACILITY CALCULATIONS.
23. ALL INDIRECT WASTE IS TO BE PROVIDED WITH AN AIR GAP 2 TIMES THE SIZE OF THE WASTE INLET.
24. THE PLUMBING CONTRACTOR SHALL VERIFY BUILDING FLOOR ELEVATION IS ABOVE MANHOLE RIM ELEVATION...
25. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR DEMOLITION AT NO COST TO THE OWNER.
26. THE PLUMBING CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS UPON COMPLETION OF PROJECT.

PLUMBING SYMBOL LEGEND

Table with 2 columns: SYMBOL, DESCRIPTION. Lists symbols for cold water piping, hot water piping, ball valve, water piping turned down, piping side connection, sanitary sewer/waste piping, vent piping, non freeze wall hydrant, hose bibb, floor cleanout, wall cleanout, floor drain, floor sink, electrical equipment.

PLUMBING LOAD SUMMARY

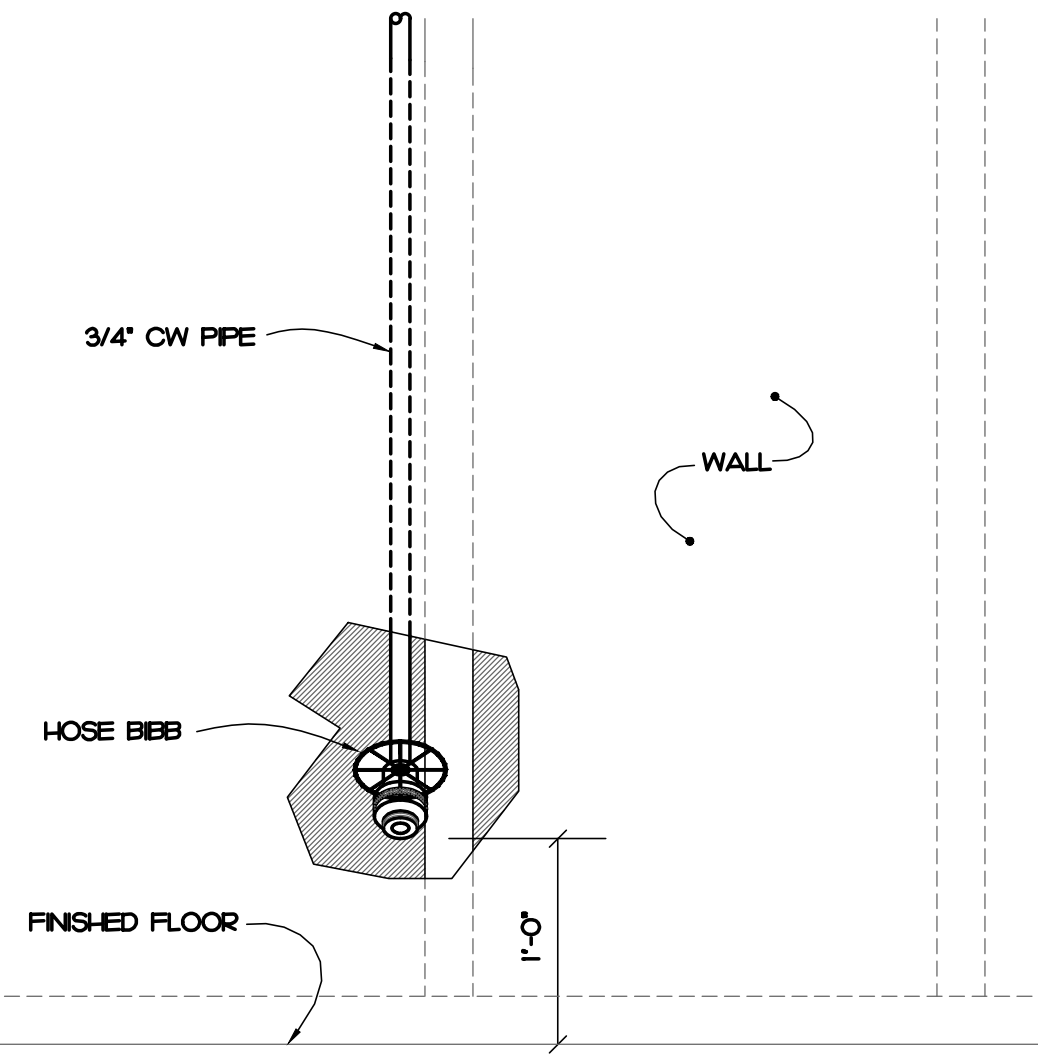
Table with 3 columns: SANITARY SEWER DEMAND FU, WATER DEMAND FU, WATER DEMAND GPM. Values: 11.0, 23.0, 21.0

IMEG logo and contact information: 3221 BLUE RIDGE ROAD, STE 113 RALEIGH, NC 27612 P: 919.571.1111

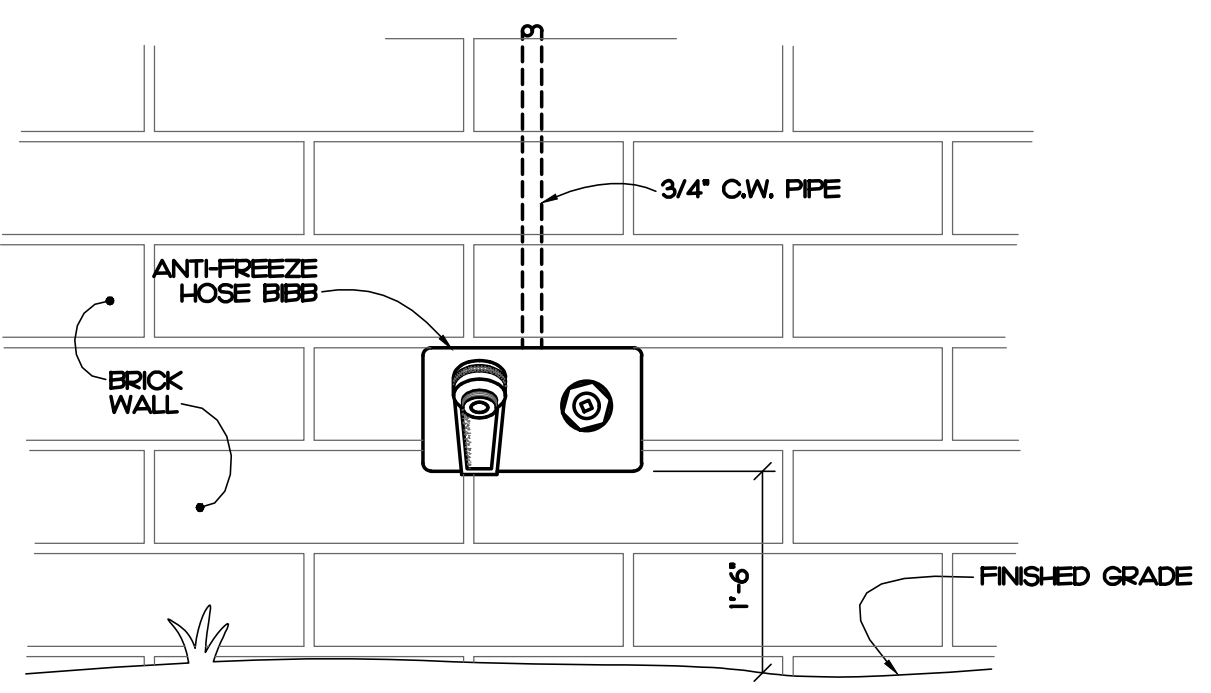
PLUMBING FIXTURE SCHEDULE

Main fixture schedule table with columns: SYMBOL / IMAGE, DESCRIPTION, MANUFACTURER, MODEL NUMBER, 3 - EQUALS, PIPING CONNECTIONS. Includes items like Backflow Preventor, Wall Cleanout, Floor Cleanout, Exterior Cleanout, Emergency Eyewash Shower, Floor Drain, Antifreeze Hose Bibb, Lavatory, Water Closet, Water Heater.

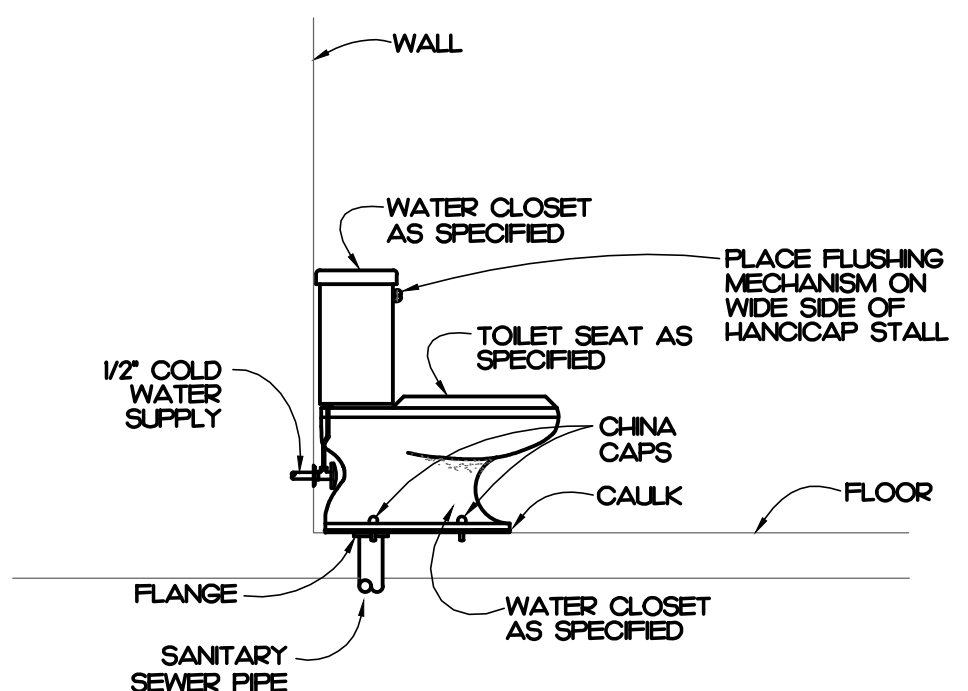
- PLUMBING SCHEDULE NOTES AND LEGEND:
1. THE PLUMBING CONTRACTOR MAY SUBSTITUTE FIXTURES WITH OWNERS' APPROVAL.
2. SUBMIT CUT SHEETS FOR ALL PROPOSED FIXTURES TO ARCHITECT PRIOR TO BIDDING.
3. PROVIDE VACUUM BREAKER ON ALL EQUIPMENT REQUIRING PLUMBING.
4. REFER TO MANUFACTURERS WEB SITE FOR CUT SHEETS AND DATA ON THE FIXTURES AND AFFURTENANCES USED IN THIS SCHEDULE.
5. ADA COMPLIANT
6. ELECTRICAL POWER
7. GAS FRED



3 INTERIOR HOSE BIBB DETAIL NOT TO SCALE



2 EXTERIOR HOSE BIBB DETAIL NOT TO SCALE



1 WATER CLOSET DETAIL NOT TO SCALE

Vertical grid lines and labels: 1, 2, H, G, F, E, D, C, B, A

Horizontal grid lines and labels: 3, 4, 5, 6

Horizontal grid lines and labels: 7, 8



DAVIS KANE ARCHITECTS, P.A.

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PROJECT INFORMATION

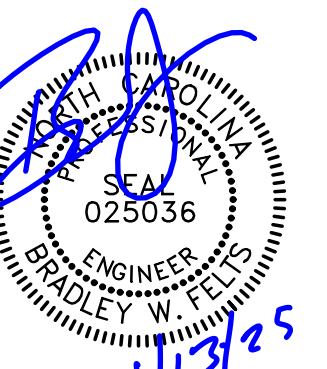
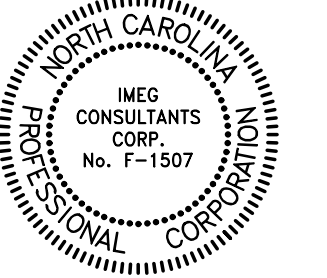


322 BLUE RIDGE ROAD, SUITE 103
RALEIGH, NC 27602
919.574.2404

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd. Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

REVISIONS

NO.	DESCRIPTION

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PE: BWF
Drawn By: JAD
Plot Date: 1/13/2025

DATE ISSUED

1/13/2025

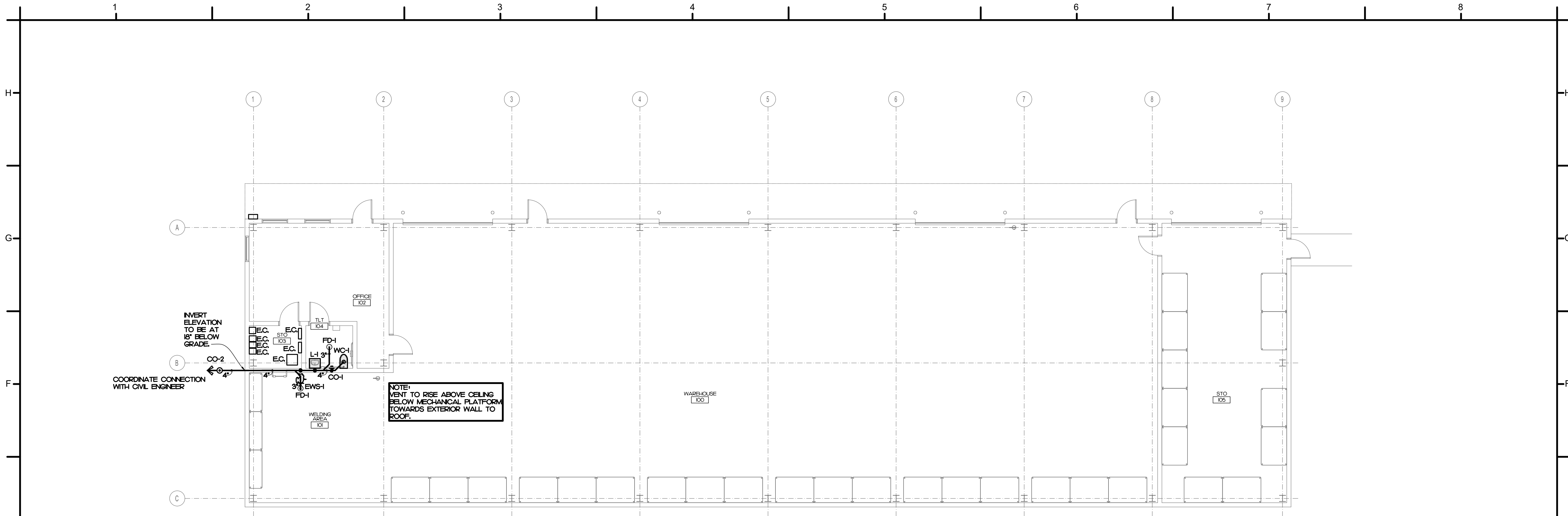
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1/13/2025

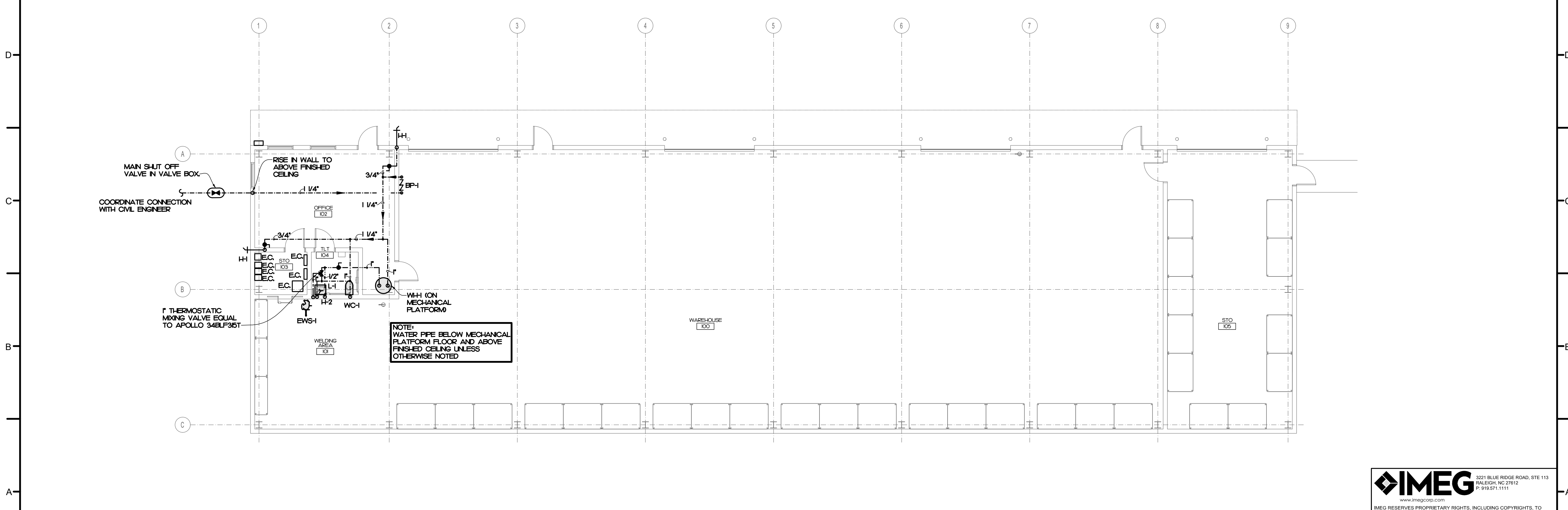
SHEET TITLE

PLUMBING PLAN

P100



2 PLUMBING PLAN - WASTE
1/8" = 1'-0"



1 PLUMBING PLAN - WATER
1/8" = 1'-0"

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REF. SCALE IN INCHES PROJECT # 24041



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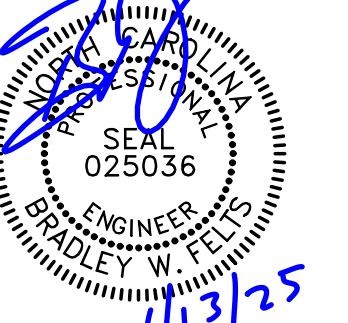
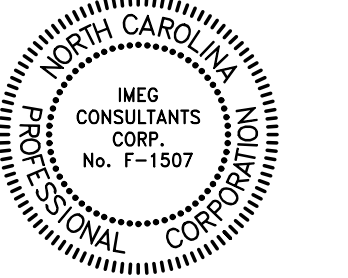
PROJECT INFORMATION

ATLANTEC ENGINEERS, PA IMEG CONSULTANTS CORP. 322 BLUE RIDGE ROAD, SUITE B3 RALEIGH, NC 27602 919.574.1111 24041

PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar Town of Cary 4900 W Lake Rd. Apex, NC 27539

SEALS



DKA JOB NUMBER

2403

REVISIONS

Table with 2 columns: Description, Date. It is currently empty.

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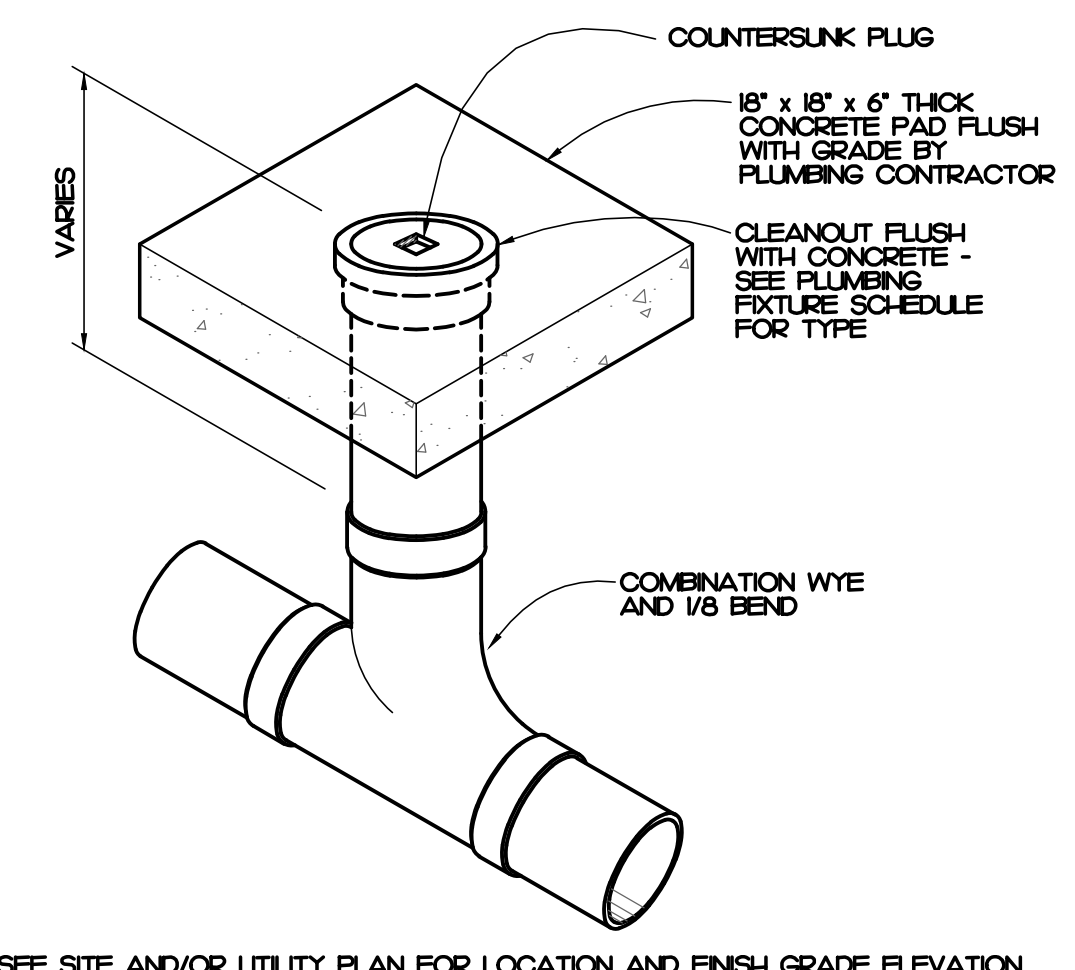
PE: BWF Drawn By: JAD Plot Date: 1/13/2025

DATE ISSUED

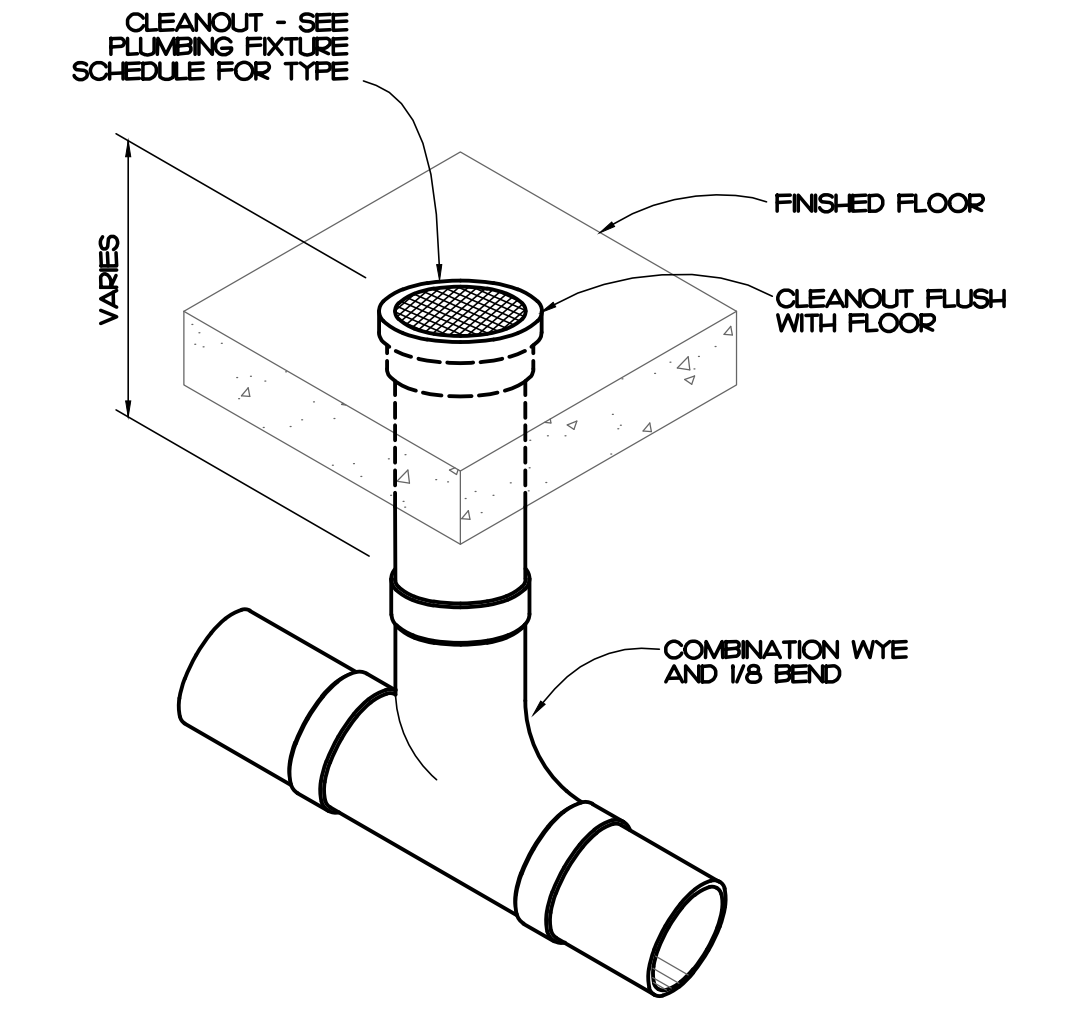
Bid Documents 1/13/2025

SHEET TITLE PLUMBING DETAILS CONTINUED AND WASTE RISER

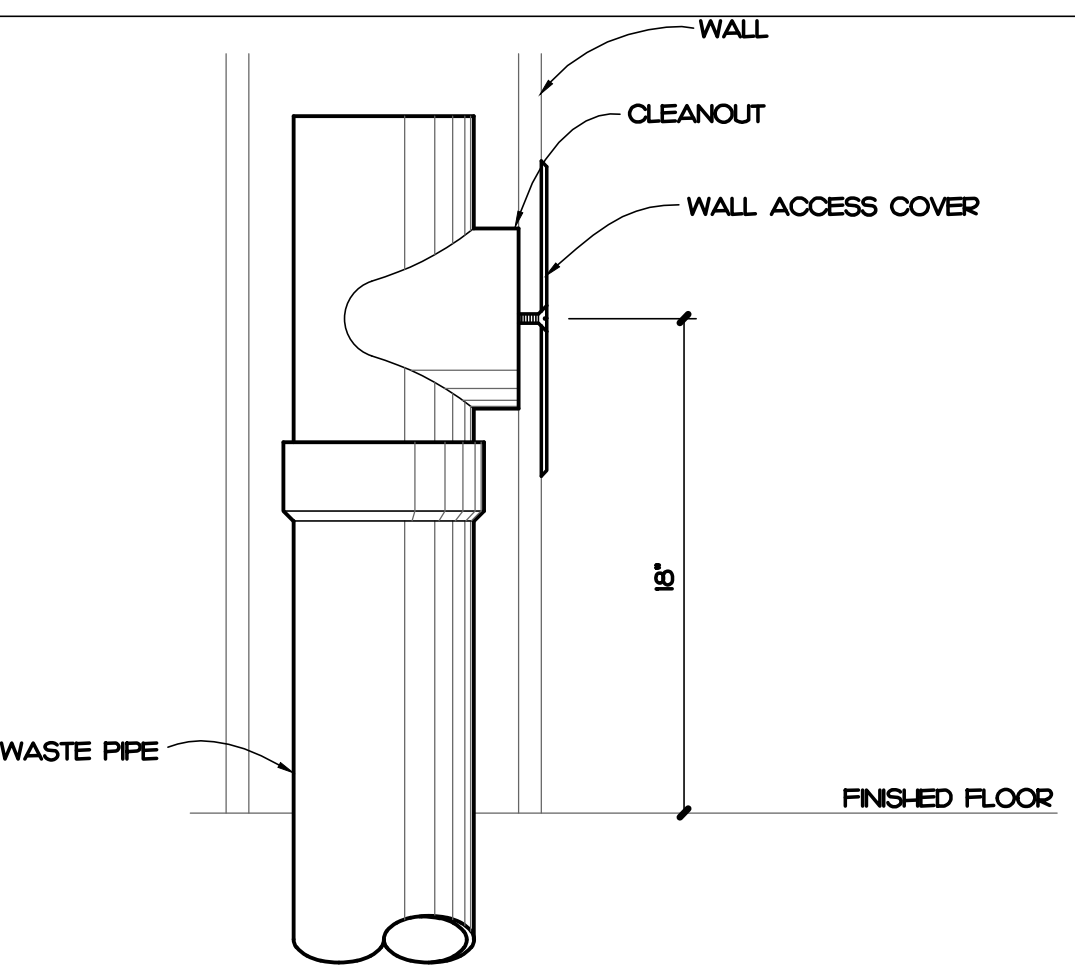
P200



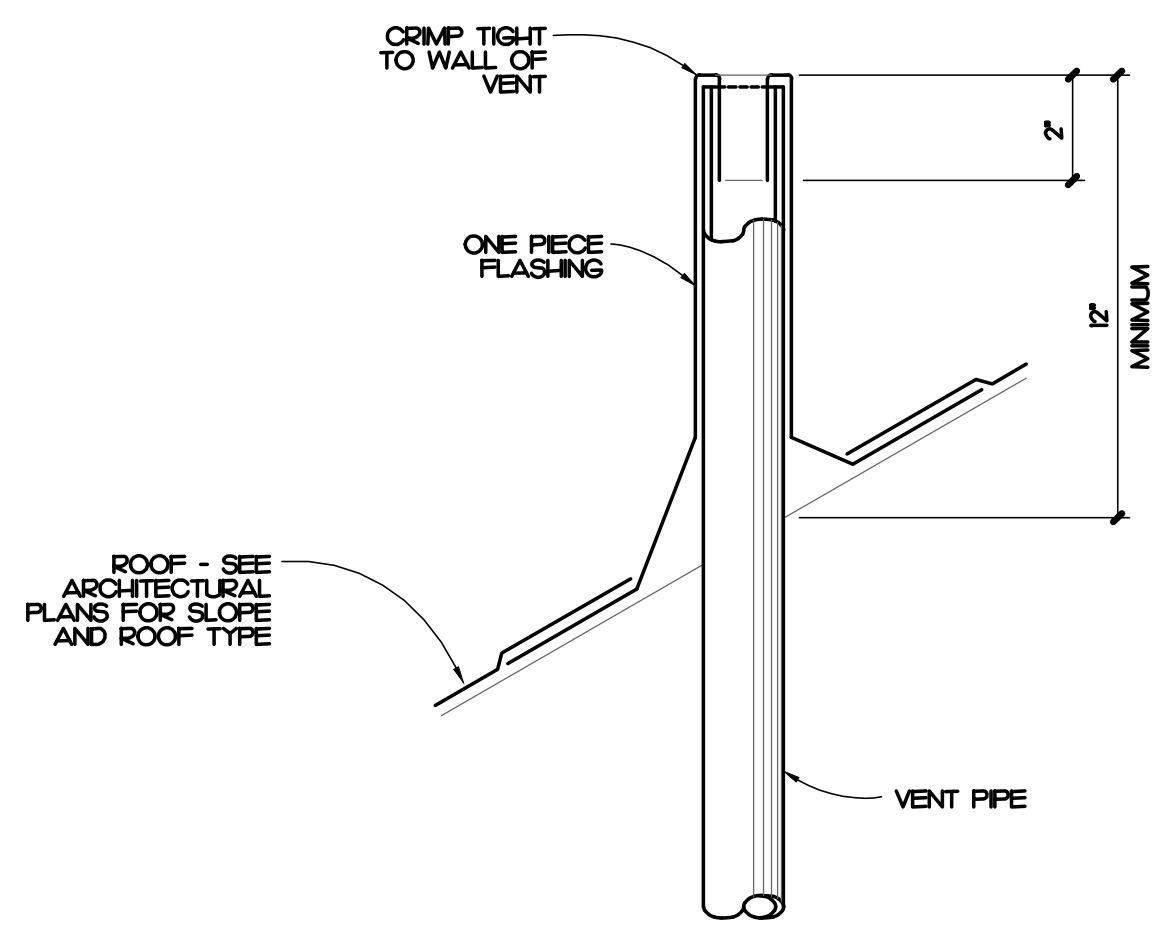
3 EXTERIOR CLEANOUT DETAIL NOT TO SCALE



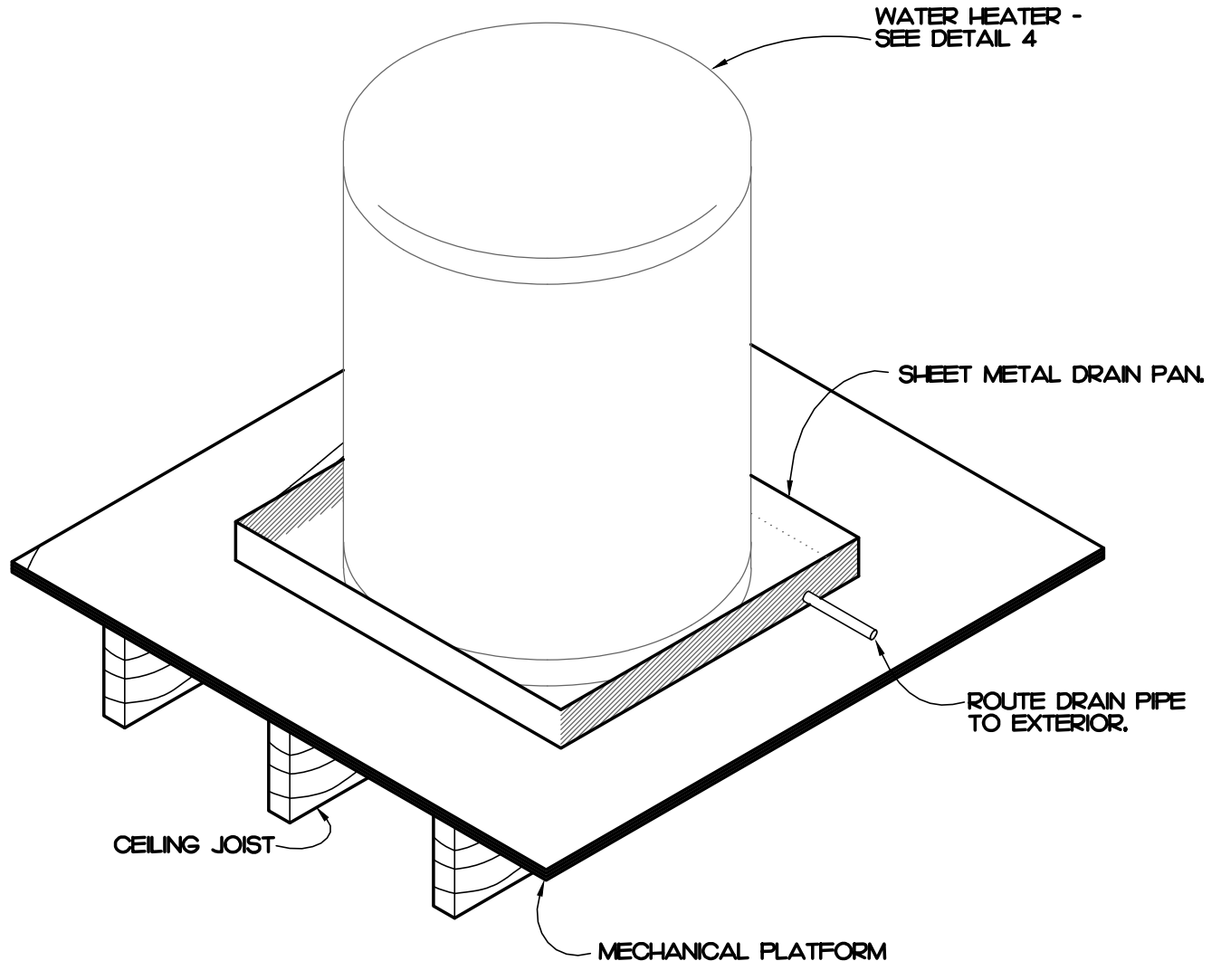
2 FLOOR CLEANOUT DETAIL NOT TO SCALE



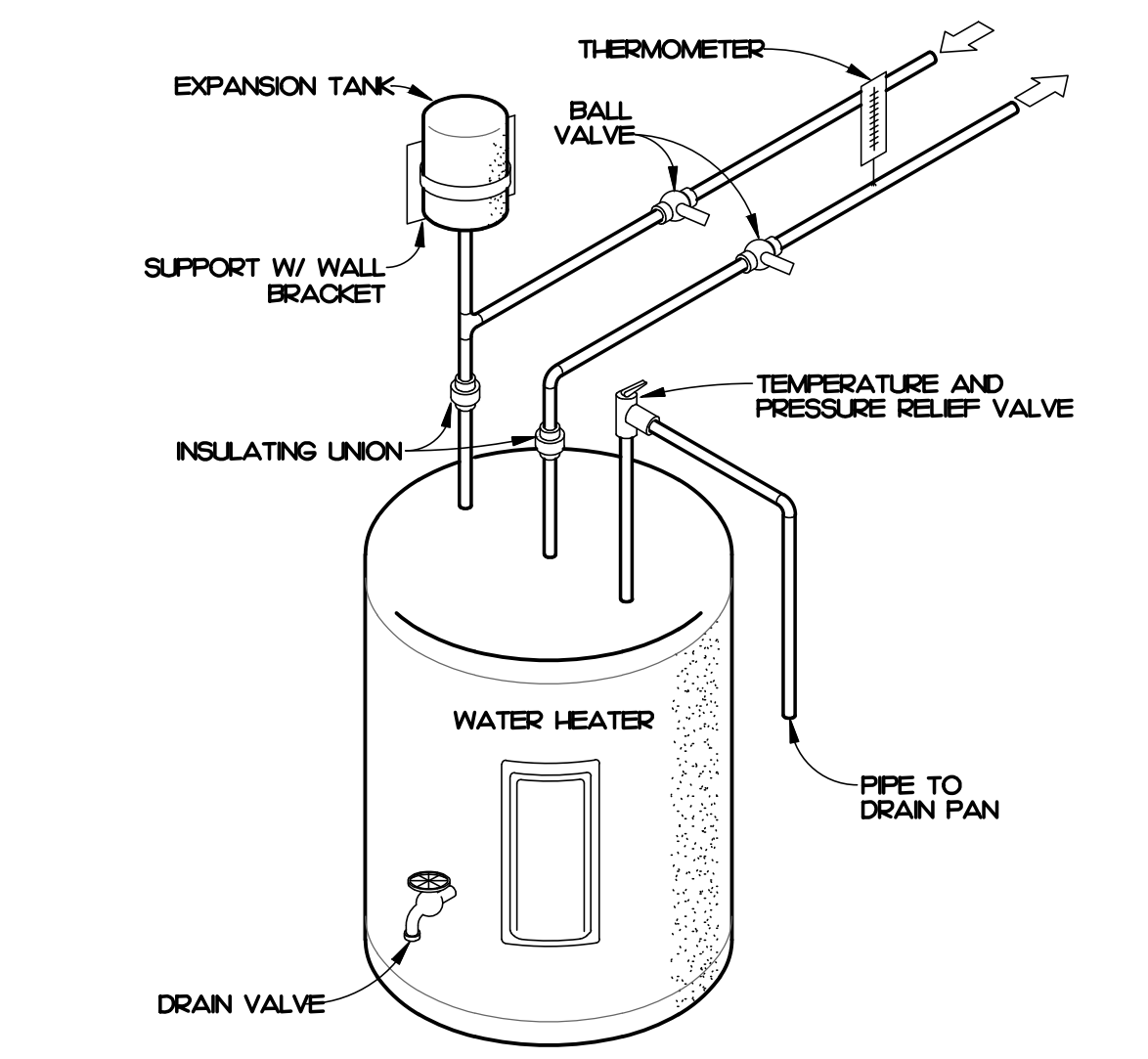
1 WALL CLEANOUT DETAIL NOT TO SCALE



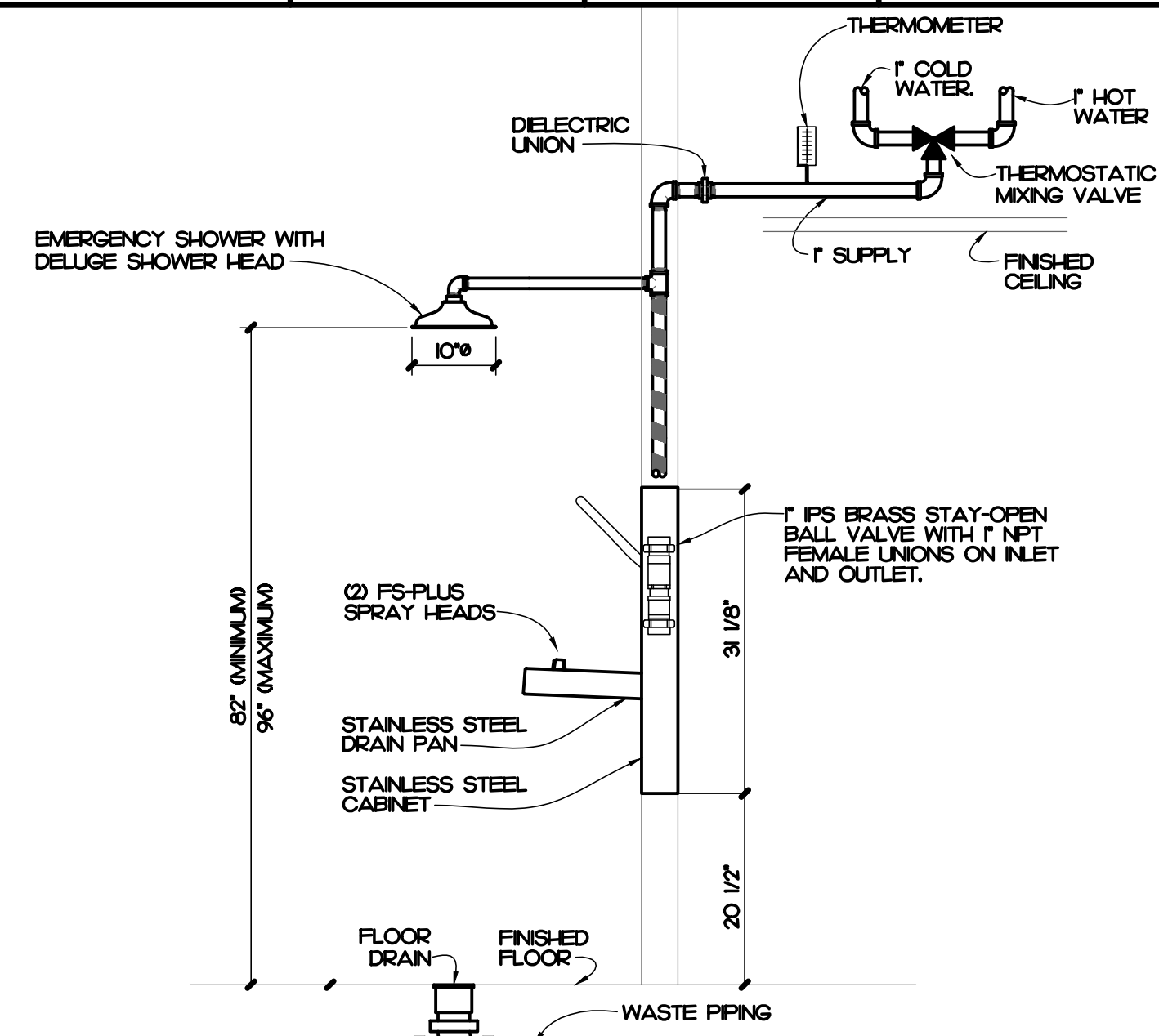
6 VENT THROUGH ROOF DETAIL NOT TO SCALE



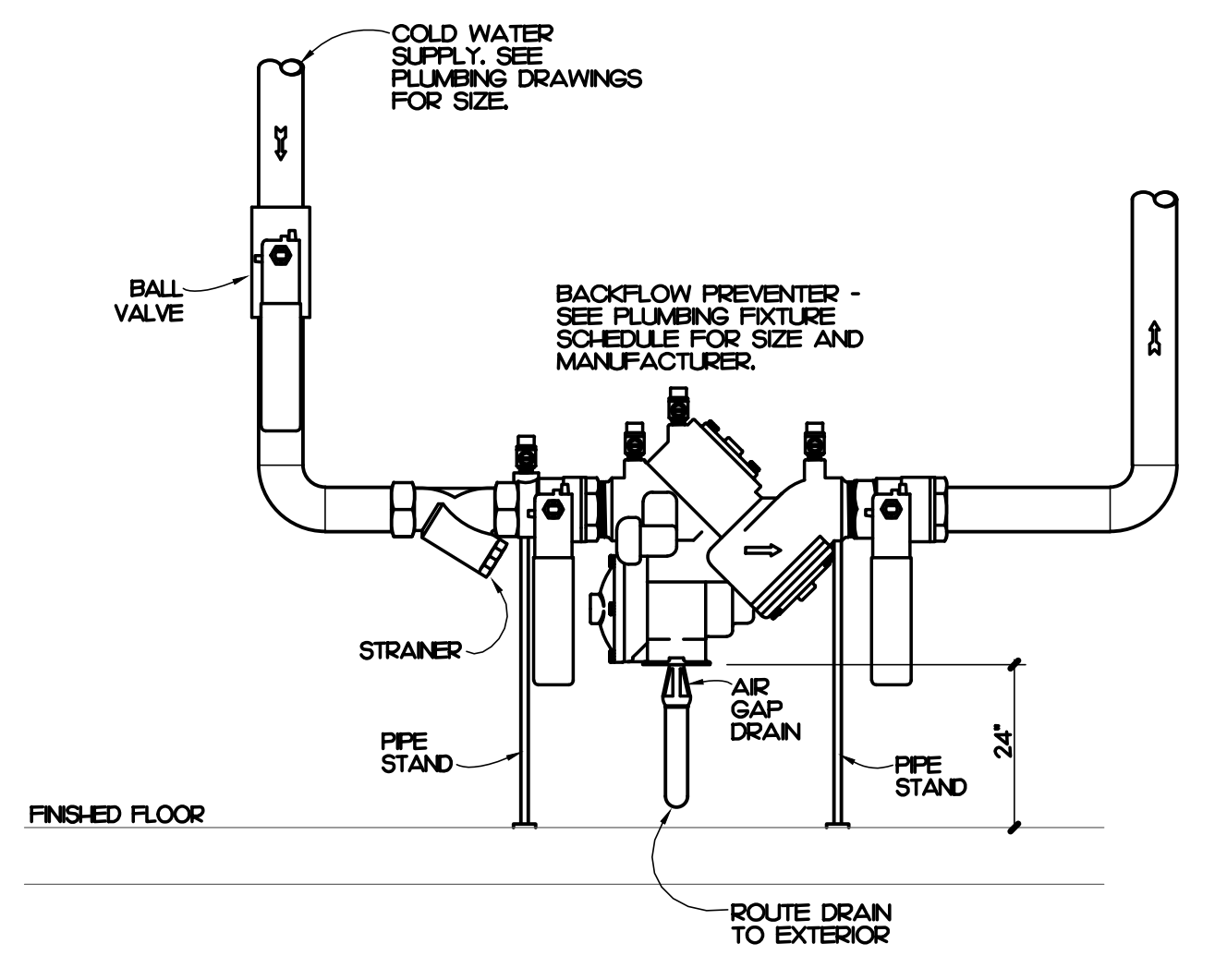
5 WATER HEATER MOUNTING DETAIL NOT TO SCALE



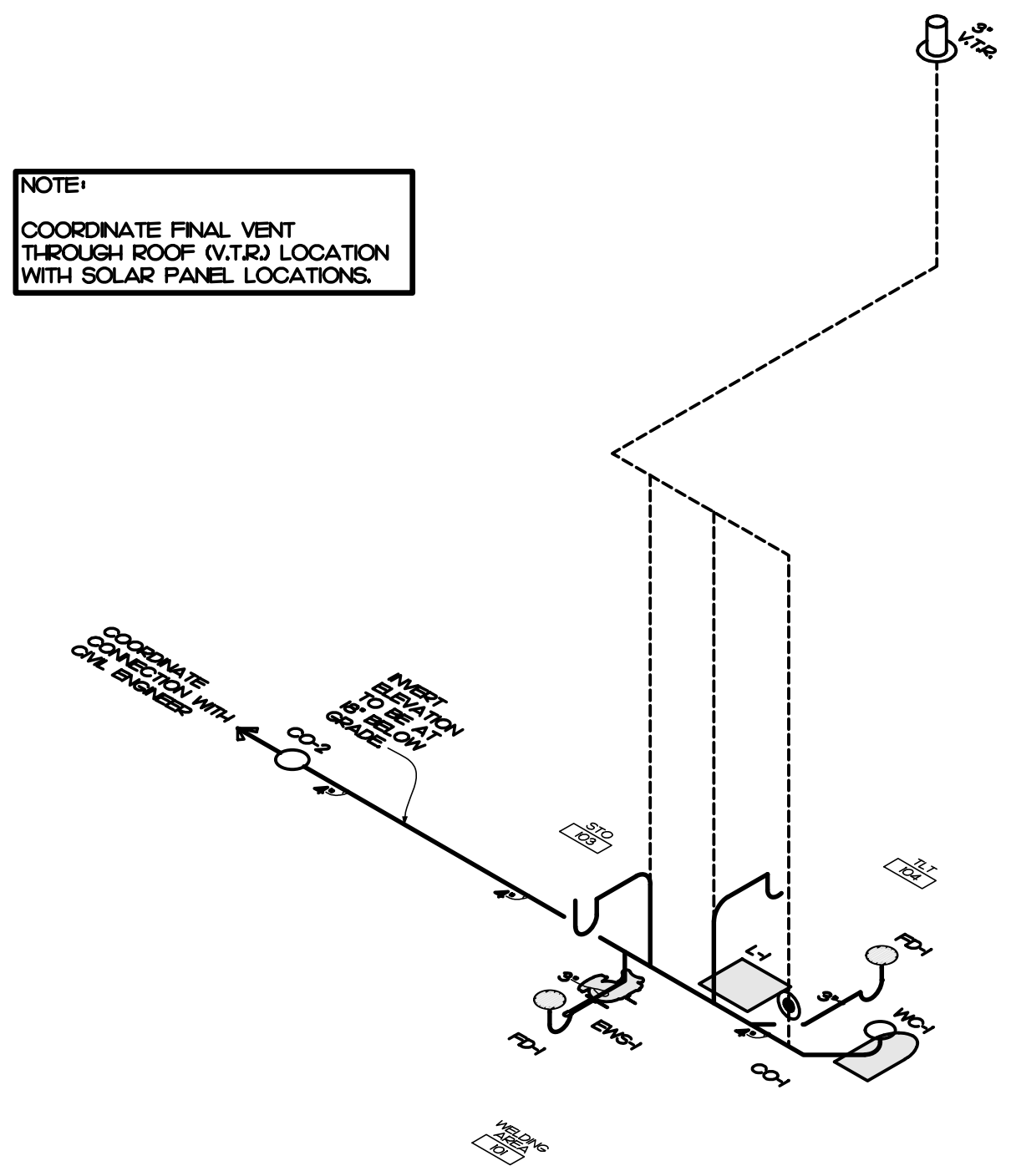
4 WATER HEATER DETAIL NOT TO SCALE



7 EMERGENCY SHOWER / EYEWASH DETAIL NOT TO SCALE



9 BACKFLOW PREVENTER DETAIL NOT TO SCALE



8 WASTE RISER NOT TO SCALE

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GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
- ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (M/C).
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMAN. THE M/C SHALL COORDINATE ALL OF HIS WORK WITH ALL OTHER CONTRACTORS.
- THE MECHANICAL PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION. ALL DISCREPANCIES OR INTERFERENCES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
- THE M/C SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS, INTERLOCKS, CONTROL WIRING, THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING, CONDUIT FROM THE DISCONNECT TO M/C EQUIPMENT. THE M/C SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTION TO HIS EQUIPMENT.
- INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AT ALL AIR HANDLING UNITS.
- INSTALL TURNING VANES IN ALL DUCTS AT ELBOWS. PROVIDE BALANCING AND SPLITTER DAMPERS WHERE SHOWN AND AS REQUIRED FOR SYSTEM BALANCING.
- ALL THERMOSTATS AND DISCONNECTS TO BE FURNISHED BY THE M/C. MOUNT THERMOSTATS 4'-0" ABOVE THE FLOOR, UNLESS OTHERWISE NOTED.
- THE M/C SHALL INSURE THAT ALL MECHANICAL EQUIPMENT INSTALLED UNDER HIS CONTRACT SHALL OPERATE FREE OF OBJECTIONABLE NOISE AND VIBRATION.
- THE M/C SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
- FLEXIBLE DUCT RUNOUTS SHALL BE A MAXIMUM OF 14'-0".
- ALL FLEXIBLE DUCT RUNOUTS SHALL INCLUDE INSULATED DAMPERED BOOTS AT THE POINT OF CONNECTION WITH RECTANGULAR DUCT. PROVIDE ALL FLEXIBLE DUCTWORK WITH POLY-BACKED, EXTERNALLY WRAPPED INSULATION FOR A MINIMUM OF R-8.
- ALL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL INSTALLED IN ACCORDANCE WITH ALL CODES. THE M/C SHALL COORDINATE GAS PIPE CONNECTION SIZE WITH EQUIPMENT.
- MECHANICAL CONTRACTOR SHALL WORK WITH TEST AND BALANCE CONTRACTOR TO REMEDY ANY DIFFERENCES TO INCLUDE FAN DRIVE CHANGES, INSTALLATION OF DAMPERS OR OTHER MINOR DUCT MODIFICATIONS TO PROVIDE AIRFLOW TO WITHIN +/- 10% OF THE DESIGN VALUES LISTED ON THESE PLANS.
- THE AIR HANDLING UNIT SHALL OPERATE AT ALL TIMES DURING OCCUPIED HOURS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS UPON COMPLETION OF JOB.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF DUCT SHOP DRAWINGS FOR APPROVAL.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A BALANCE REPORT BY A CERTIFIED TEST AND BALANCE COMPANY.
- PROVIDE PERMIT LABEL ENGRAVED PLASTIC LAMINATE MECHANICALLY FASTENED TO OUTDOOR UNITS.
- LABEL CEILING GRID WHERE EQUIPMENT IS LOCATED ABOVE LAY-IN CEILING, WITH EQUIPMENT IDENTIFIER. ALSO LABEL ALL TEMPERATURE SENSORS AND THERMOSTATS WITH EQUIPMENT IDENTIFIER.

SPLIT SYSTEM HEAT PUMP SCHEDULE

INSIDE UNIT				OUTSIDE UNIT								
MARK	BASIS OF DESIGN	FAN CFM	FAN FLA	MARK	BASIS OF DESIGN	COOLING / HEATING CAPACITY	ELECTRICAL POWER (MCA) (MOP)	EFFICIENCY COOLING	EFFICIENCY HEATING	NOTES		
FC-1	MITSUBISHI PAK-AIZLA	375	0.9	HP-1	MITSUBISHI PLZ-AIZNKA7	12.0/14.0 MBH	208/1	II	5	21.0 SEER	10.2 HSPFF	I-5

- NOTES:
- PROVIDE HEAVY DUTY FUSIBLE DISCONNECT ON OUTDOOR UNIT.
 - PROVIDE MOTOR RATED SWITCH FOR INDOOR UNIT.
 - ROUTE CONDENSATE DISCHARGE TO EXTERIOR.
 - PROVIDE WITH WIRED THERMOSTAT.
 - PROVIDE WITH LOW AMBIENT CONTROLS DOWN TO 0F.

REFRIGERANT NOTE:

FC-1/HP-1 IS BASED ON R-410A REFRIGERANT. IF EQUIPMENT USING AN A2L REFRIGERANT IS USED AS AN EQUIVALENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, COSTS, AND LABOR FOR ALL REFRIGERANT MONITORING AND SAFETY EQUIPMENT REQUIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PRIOR TO PURCHASING OF A2L REFRIGERANT EQUIPMENT, SUBMITTALS SHALL BE PROVIDED TO, AND REVIEWED BY THE ENGINEER OF RECORD.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

PREScriptive ENERGY COST BUDGET

THERMAL ZONE 4A

EXTERIOR DESIGN CONDITIONS
winter dry bulb: 16°F
summer dry bulb: 93°F
relative humidity: 46%

INTERIOR DESIGN CONDITIONS
winter dry bulb: 70°F
summer dry bulb: 75°F
relative humidity: 50%

BUILDING HEATING LOAD: BLOCK LOAD = 99.0 MBH (OFFICE + WAREHOUSE)
BUILDING COOLING LOAD: BLOCK LOAD = 10.6 MBH (0.9 TONS) (OFFICE)

MECHANICAL SPACING CONDITIONING SYSTEM

Unitary:
description of unit:
heating efficiency:
cooling efficiency:
heat output of unit:
cooling output of unit:

Boiler: NA
total boiler capacity, if oversized state reason.

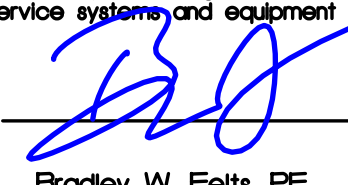
Chiller: NA
total chiller capacity, if oversized state reason.

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON THIS SHEET

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
motor horsepower:
number of phases:
minimum efficiency:
motor type:
of poles:

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina State Energy Code.

SIGNED: 

NAME: Bradley W. Felts, PE

TITLE: Professional Engineer

EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN	SERVICE	TYPE	CFM	RPM	HP/AMPS	SP.	POWER	NOTES
EF-1	COOK GC-140	TOILET	CABINET FAN	106	1500	67 Watts	0.25'	120/1	I-3
EF-2	COOK 24XVPH	WAREHOUSE	BELT SIDEWALL	4,800	1262	1.0 HP	0.375'	208/1	2,4-6
EF-3	COOK 24XVPH	STORAGE	BELT SIDEWALL	2,200	941	1/2 HP	0.375'	208/1	2,4-6
EF-4	COOK 14XW20017	VENTILATION	DIRECT DRIVE	400	1009	1/4 HP	0.25'	120/1	1,2,6-8
EF-5	COOK GC-220	ELECTRICAL	CABINET FAN	400	1000	220 Watts	0.25'	120/1	1,2,5

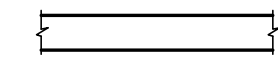


- NOTES:
- PROVIDE WITH DISCONNECT SWITCH.
 - PROVIDE WITH BACKDRAFT DAMPER.
 - CONTROL VIA LIGHT SWITCH BY EC.
 - PROVIDE WITH COMBINATION STARTER/DISCONNECT.
 - CONTROL VIA WALL MOUNTED THERMOSTAT.
 - PROVIDE WITH WALL COLLAR AND MOTOR SIDE GALLOD.
 - FAN TO RUN CONTINUOUSLY FOR MINIMUM VENTILATION.
 - PROVIDE WITH ECM VARI-FLOW MOTOR.

ELECTRIC UNIT HEATER SCHEDULE

MARK	BASIS OF DESIGN	LOCATION	CFM	CAPACITY (BTU)	ELECTRICAL (A) (W) (POWER)	NOTES
EU-H	MARKEL 900	WAREHOUSE	700	25,600	9.3 7.5 480/3	I-3

- NOTES:
- PROVIDE WITH HEAVY DUTY POWER DISCONNECT.
 - SUSPEND FROM STRUCTURE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - PROVIDE WITH WALL MOUNTED THERMOSTAT.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
	SHEET METAL DUCT
	CABINET FAN
	THERMOSTAT - MOUNTED 48" ABOVE FINISHED FLOOR

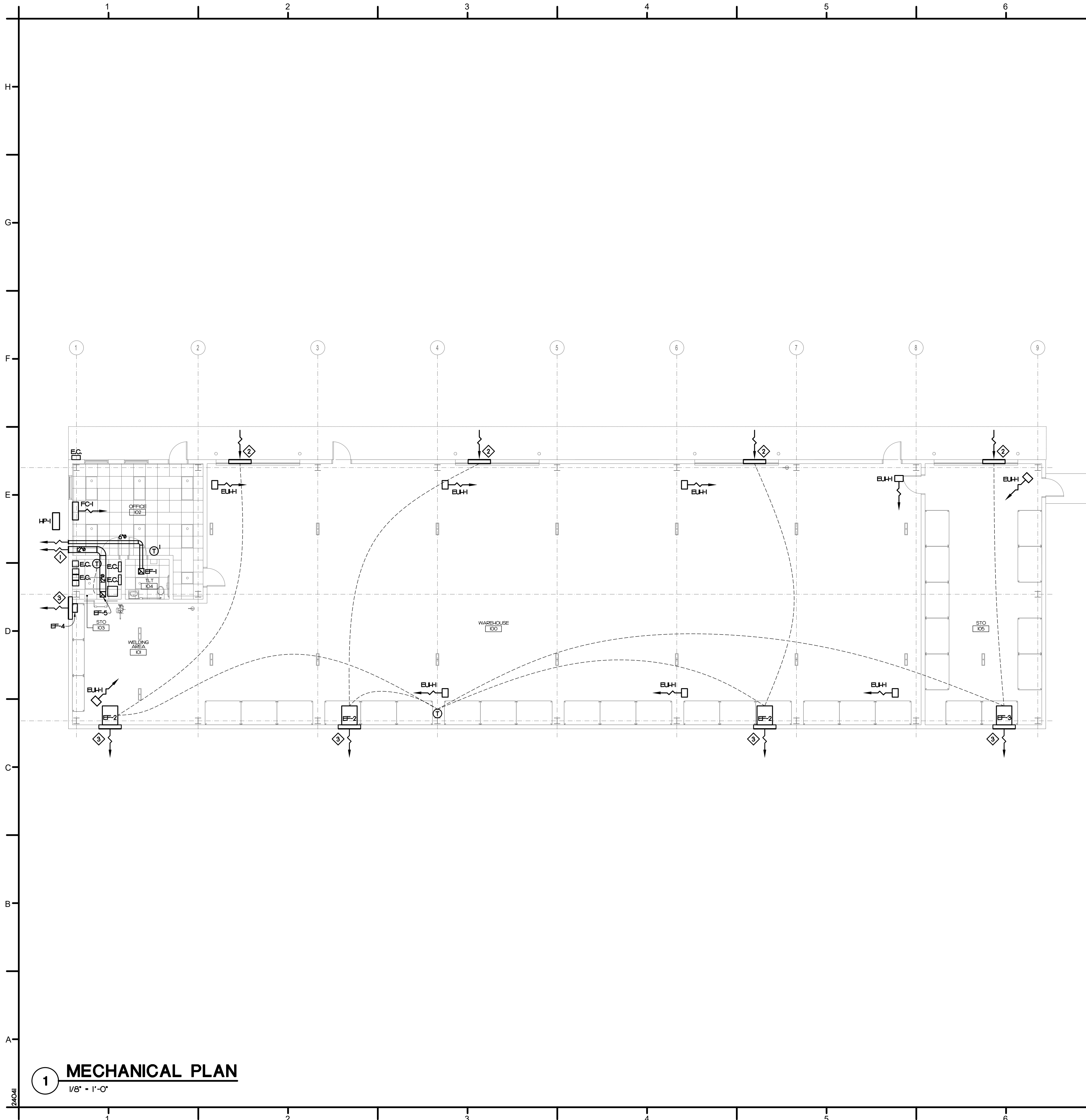
OUTSIDE AIR SUMMARY

REQUIRED:
WAREHOUSE: 5747 SQFT * 0.06 CFM/SQFT = 345 CFM
STORAGE: 859 SQFT * 0.06 CFM/SQFT = 52 CFM
TOTAL REQUIRED = 397 CFM

PROVIDED:
EF-1: 400 CFM
TOTAL PROVIDED = 400 CFM

NOTE:
VENTILATION FOR OFFICE AREA IS PROVIDED THROUGH NATURAL VENTILATION BY 1 NEW DOOR (2 SQFT) WHICH EXCEEDS THE REQUIRED 19 SQFT (4% OF 307 SQFT) PER NCMC SECTION 402.2

NOTE:
EF-2 AND EF-3 PROVIDE 6 AIR CHANGES PER HOUR TO WAREHOUSE AND STORAGE AREAS.



MECHANICAL KEY NOTES

- 1 ROUTE EXHAUST DUCT TO EXTERIOR. TERMINATE WITH WALL CAP.
- 2 PROVIDE POTORFF MODEL EKD-437-45x45 INTAKE LOUVER/DAMPER FOR 4800 CFM AND 60 SQFT. OF FREE AREA. PROVIDE WITH 24V ACTUATOR, INTERLOCK OPERATION WITH EXHAUST FAN. PROVIDE WITH BIRD SCREEN. COORDINATE LOUVER SIZE WITH INSULATED WINDOW PANEL BY ARCHITECT. COORDINATE MOUNTING HEIGHT, LOCATION, AND FINISH WITH ARCHITECT. SEE ARCHITECTURAL SHEETS FOR ELEVATIONS. SEE DETAIL 2/M200.
- 3 PROVIDE POTORFF MODEL EFD-435-45x45 EXHAUST LOUVER FOR 7.9 SQFT. OF FREE AREA. PROVIDE WITH BIRD SCREEN. COORDINATE LOUVER SIZE WITH INSULATED WINDOW PANEL BY ARCHITECT. COORDINATE MOUNTING HEIGHT, LOCATION, AND FINISH WITH ARCHITECT. SEE ARCHITECTURAL SHEETS FOR ELEVATIONS. SEE DETAIL 1/M200.

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

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REF. SCALE IN INCHES PROJECT # 24041

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PROJECT INFORMATION

ATLANTEC
ENGINEERS, P.A.
IMEG

322 BLUE RIDGE ROAD, SUITE 113
RALEIGH, NC 27612 24041
919 571-1111

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd., Apex, NC 27539

SEALS

1/13/25

DKA JOB NUMBER
2403

REVISIONS

NO.	DESCRIPTION

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Plot Date: 1/13/2025

DATE ISSUED

Bid Documents
1/13/2025

SHEET TITLE
MECHANICAL PLAN

M100



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PROJECT INFORMATION

ATLANTEC ENGINEERS, PA and IMEG ENGINEERS, PA logos and contact information.

PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar Town of Cary 4900 W Lake Rd., Apex, NC 27539

SEALS

Professional seals for IMEG CONSULTANTS CORP. and BRADLEY W. FELLS, ENGINEER.

DKA JOB NUMBER

2403

REVISIONS

Table with 2 columns: Description, Date. It is currently empty.

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PE: BWF Drawn By: NGB Plot Date: 1/13/2025

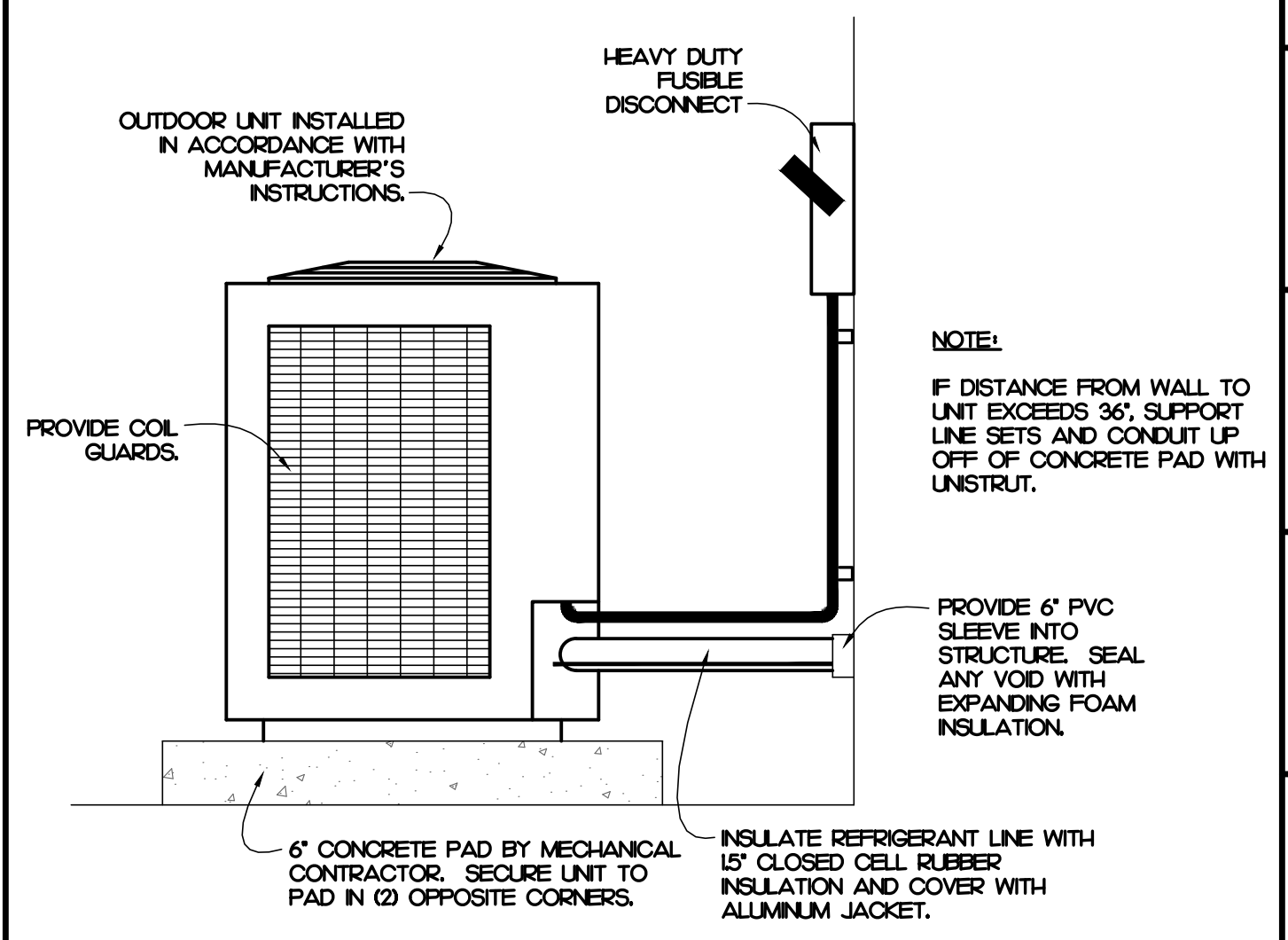
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Bid Documents 1/13/2025

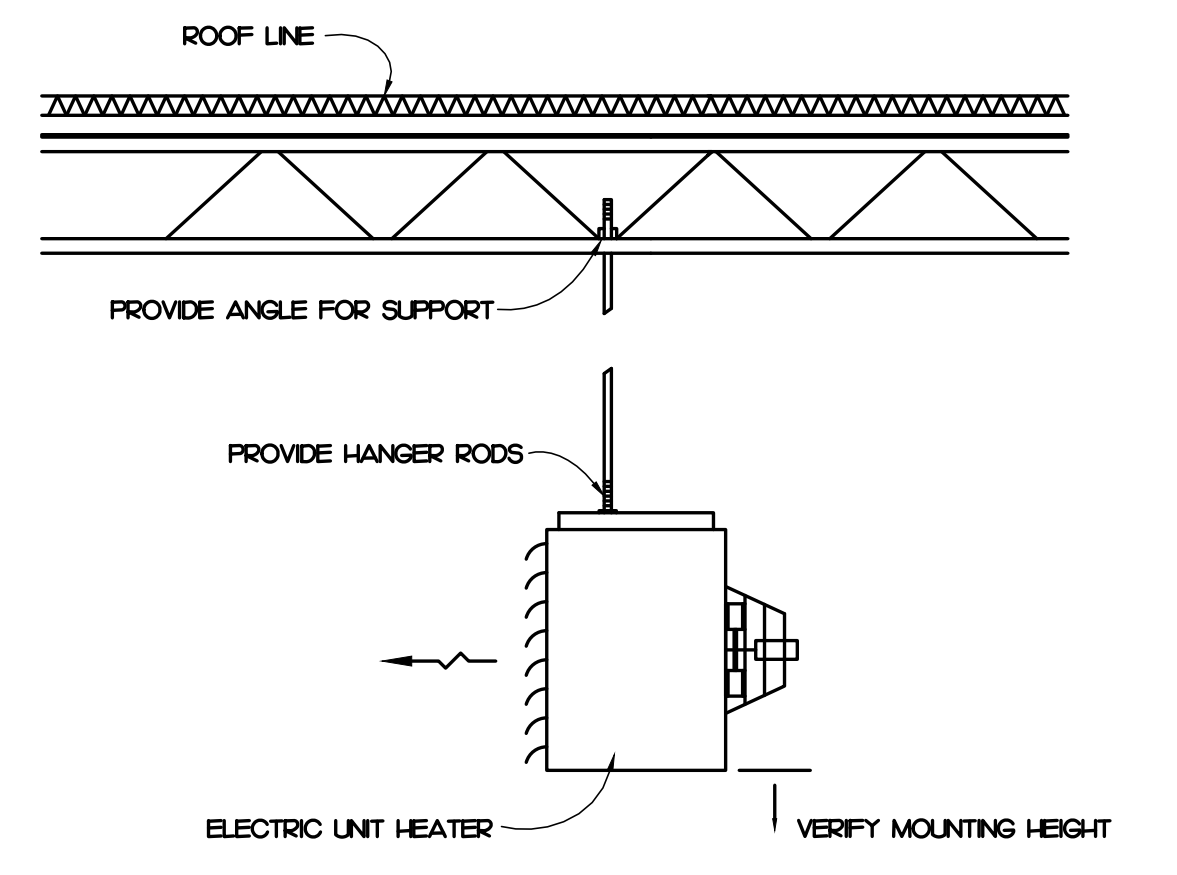
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MECHANICAL DETAILS

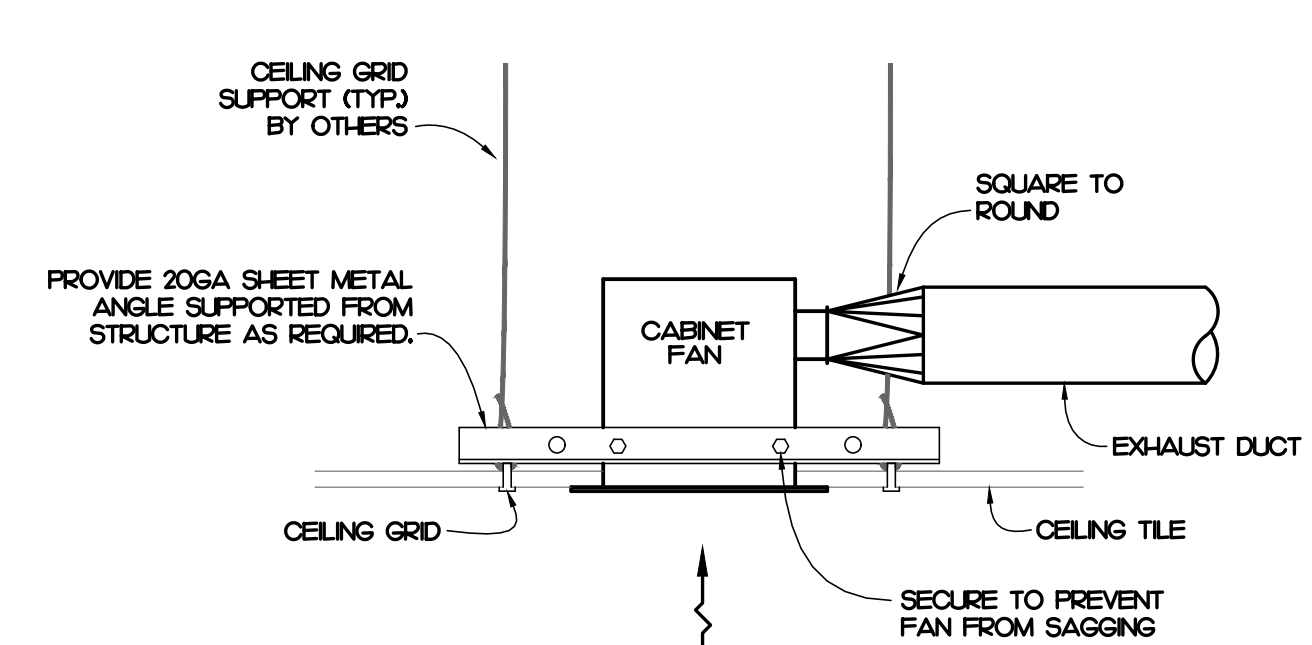
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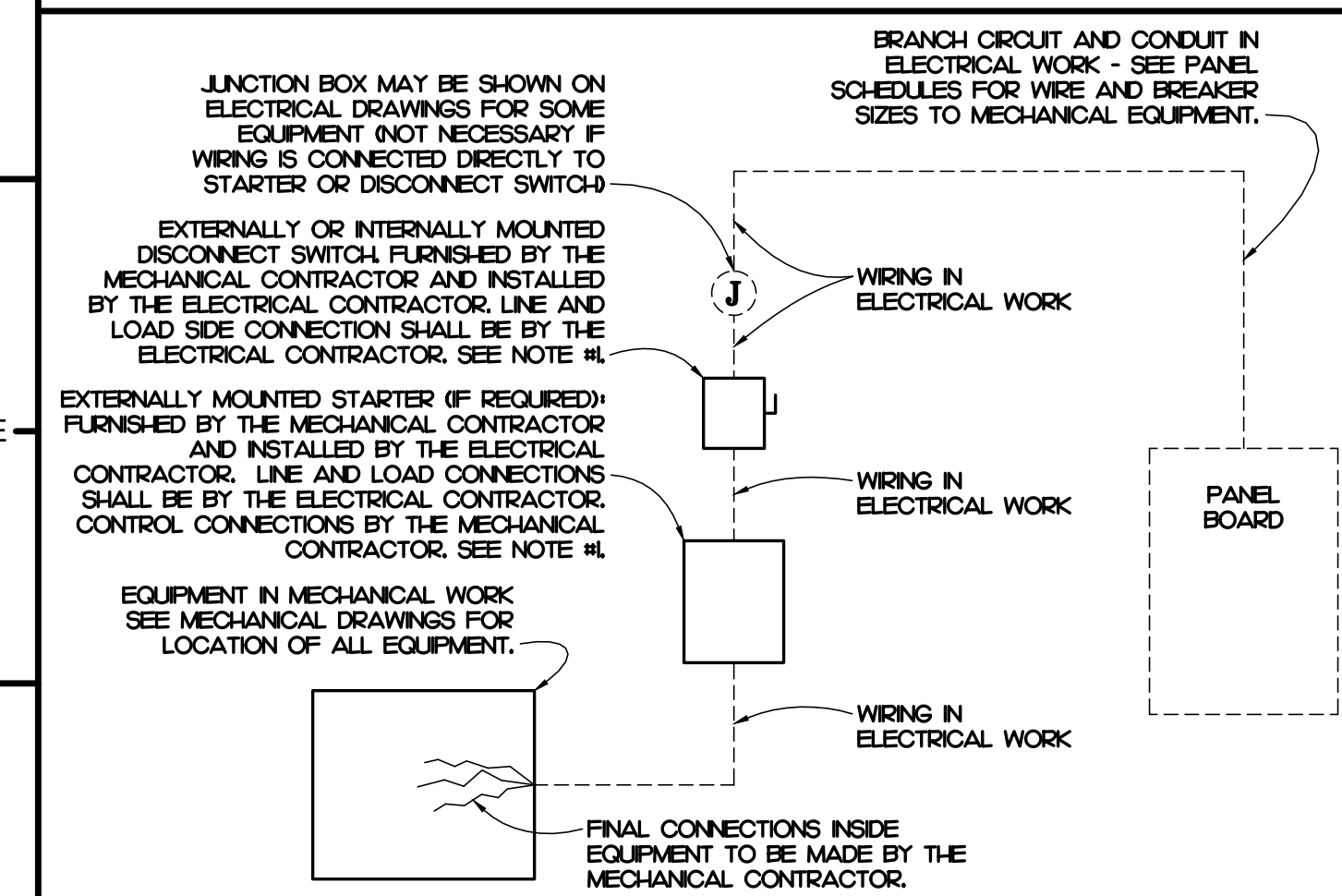
3 OUTDOOR UNIT DETAIL NOT TO SCALE



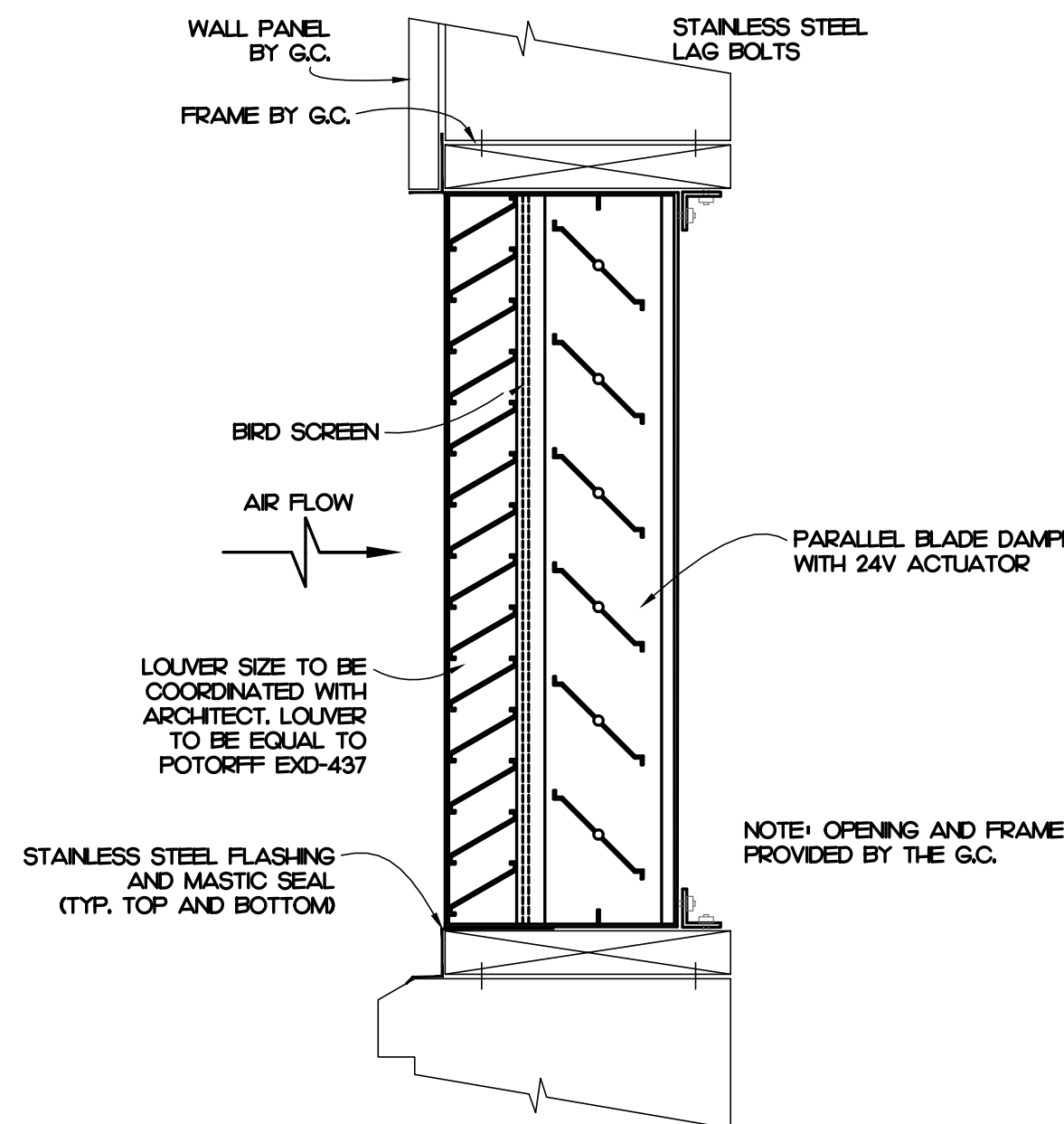
4 ELECTRIC UNIT HEATER DETAIL NOT TO SCALE



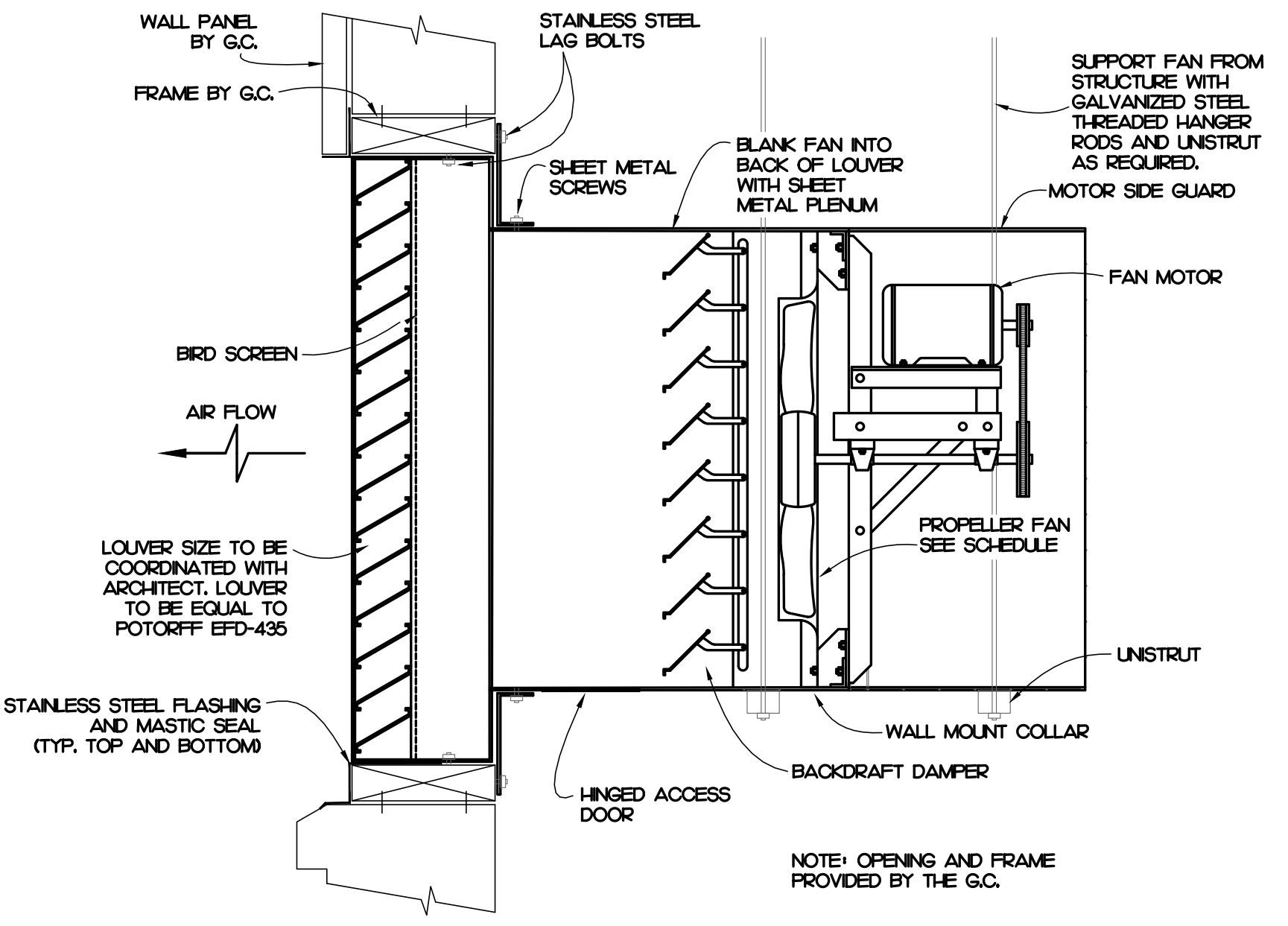
5 CABINET FAN DETAIL NOT TO SCALE



6 TYPICAL WIRING DETAIL NOT TO SCALE



2 INTAKE LOUVER DETAIL NOT TO SCALE



1 SIDEWALL EXHASUT FAN DETAIL NOT TO SCALE

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SYMBOL LEGEND

SYMBOL	DESCRIPTION	REMARKS
	2 X 4 LAY-IN FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHED.
	2 X 2 LAY-IN FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHED.
	LINEAR H-BAY FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHED.
	WALL PACK LIGHT FIXTURE - LETTER DESIGNATES TYPE	SEE FIXTURE SCHED.
	EMERGENCY WITH EXIT LIGHT - CONNECT UNSWITCHED	SEE FIXTURE SCHED.
	BATTERY BACKUP EMERGENCY LIGHT - CONNECT UNSWITCHED	SEE FIXTURE SCHED.
	PHOTOCELL, 105-305VAC, 50/60HZ, 1800VA BALLAST LOAD, 1000W TUNGSTEN LOAD, 8A LED LOAD (UP TO 220W @ 427V)	TORX ¹ ZSS24
	SINGLE POLE TOGGLE SWITCH, MOUNT 42" AFF, UNLESS NOTED OTHERWISE.	HUBBELL I221-11 WITH SI COVER PLATE
	THREE WAY TOGGLE SWITCH, MOUNT 42" AFF, UNLESS NOTED OTHERWISE.	HUBBELL I223-11 WITH SI COVER PLATE
	SINGLE POLE TOGGLE SWITCH FOR EQUIPMENT DISCONNECT, MOUNT ADJACENT TO EQUIPMENT.	HUBBELL I221-11 WITH METAL COVER PLATE
	WALL MOUNTED OCCUPANCY SENSOR SWITCH, PASSIVE INFRARED, MOUNT 42" AFF, UNLESS NOTED OTHERWISE, 800W/120VAC OR 1200W/277VAC	SENSORWORK SWX-10-11 N126 COVER PLATE
	CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGIES, 800W/120VAC OR 1200W/277VAC, 28 FT. RADII	SENSORWORK SWX-23-2
	WALL MOUNTED OCCUPANCY SENSOR, PASSIVE INFRARED WITH DAYLIGHT, 800W/120VAC OR 1200W/277VAC, MOUNT BOTTOM 7 FT. AFF.	SENSORWORK SWX-44-2-2
	SPECIFICATION GRADE DUPLEX TAMPER RESISTANT RECEPTACLE, MOUNT 16" AFF, UNLESS OTHERWISE NOTED.	HUBBELL HBL5362-11-TR WITH S2 COVER PLATE
	SPECIFICATION GRADE TAMPER RESISTANT GFCI RECEPTACLE, MOUNT 16" AFF, UNLESS OTHERWISE NOTED.	HUBBELL GFT1R120-11 WITH S26 COVER PLATE
	SPECIFICATION GRADE TAMPER RESISTANT, WEATHER RESISTANT AND GFCI DUPLEX RECEPTACLE WITH INUSE WEATHER PROOF COVER, MOUNT 16" AFF, UNLESS OTHERWISE NOTED.	HUBBELL GFTWR120-11 WITH WFP2M COVER PLATE
	SPECIFICATION GRADE QUAD TAMPER RESISTANT RECEPTACLE, MOUNT 16" AFF, UNLESS OTHERWISE NOTED.	HUBBELL (2) HBL5362-11-TR WITH S82 COVER PLATE
	SPECIFICATION GRADE TAMPER RESISTANT QUAD RECEPTACLE WITH (4) TYPE A USB PORTS, 5A 5V USB OUTPUT, RECEPTACLE - MOUNT 16" AFF, UNLESS NOTED OTHERWISE.	HUBBELL (2) USB20A-11 WITH S262 COVER PLATE
	250 VOLT RECEPTACLE WITH GROUND, "AMP" DESIGNATED RATING, FIELD VERIFY NUMBER OF POLE AND NEUTRAL WITH STAINLESS STEEL WITH STAINLESS PLATE	HUBBELL TO MATCH EQUIPMENT
	CEILING PANEL CABINET FAN, FURNISHED AND INSTALLED BY M.C. WIRED BY E.C.	SEE MECH. PLAN.
	JUNCTION BOX SIZED PER NEC.	
	DISCONNECT SWITCH SEE PLANS FOR SIZE AND TYPE	SQUARE D HEAVY DUTY
	NEW CONCEALED WIRING	PER NEC.
	UNSWITCHED LIGHTING CONDUCTOR	PER NEC.
	HOME RUN TO PANEL BOARD, NUMBERS OF ARROW INDICATE CIRCUITS	PER NEC.
	120/208V 3Ø, 4W PANEL BOARD - SEE PANEL SCHEDULES	SQUARE D NO OR EQUAL
	277/480V 3Ø, 4W PANEL BOARD - SEE PANEL SCHEDULES	SQUARE D NF OR EQUAL
	DRY TYPE DISTRIBUTION TRANSFORMER, SEE POWER RISER	SQUARE D OR EQUAL
	COMMUNICATION OUTLET - MOUNT 16" AFF, UNLESS OTHERWISE NOTED, STUB 3/4" CONDUIT TO COMMUNICATION BOARD, PROVIDE WITH PULL WIRE, OUTLET, COVER PLATE AND WIRING BY OTHERS.	SINGLE GANG BOX HUBBELL NPJ3 COVER PLATE
	COMMUNICATION BACKBOARD, 3/4" THICK FIREPROOFED PLYBOARD MOUNTED TO WALL, PROVIDE GROUND BAR AND CONNECT 1#6 AWG GROUND IN 1/2" C. TO PANEL	
	ABOVE FINISHED CEILING	
	ABOVE FINISHED FLOOR - NOTE ALL MOUNTING DIMENSIONS GIVEN ARE TO THE BOTTOM OF THE OUTLET BOX	
	BELOW FINISHED FLOOR	
	BELOW FINISHED GRADE	

NOTE:
1. E.C. SHALL SUBMIT CATALOG SHEETS FOR COLOR AND MATERIAL APPROVAL OF ALL SWITCH, RECEPTACLE AND WALL PLATE TO ARCHITECT PRIOR TO ORDERING.

GENERAL NOTES

- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO THE INSTALLATION OF HIS EQUIPMENT SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE.
- USE OF THE CONDUIT SYSTEM FOR EQUIPMENT GROUNDING SHALL NOT BE ACCEPTABLE. A SEPARATE GREEN GROUND WIRE SHALL BE RUN WITH THE CIRCUIT CONDUCTORS IN EACH CONDUIT.
- ALL BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND THE MECHANICAL CONTRACTOR.
- ALL WORK AND MATERIAL SHALL BE PROVIDED IN ACCORDANCE WITH THE STATE, LOCAL AND NATIONAL CODES, ORDINANCES AND 2020 NATIONAL ELECTRICAL CODE (NFPA 70).
- EACH CONTRACTOR SHALL 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. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT, PRIOR TO INSTALLATION FOR USE WITH THE ACTUAL EQUIPMENT, CASEWORK, AND MILLWORK TO BE FURNISHED.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, AND RECEPTACLES UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS TO AND FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS. SEE DETAILS FOR CONNECTION TO EQUIPMENT PROVIDED BY MECHANICAL AND PLUMBING CONTRACTORS.
- PENETRATION:**
 - WHERE ELECTRICAL EQUIPMENT PENETRATES RATED WALLS AND CEILINGS, EXTERIOR WALLS, THEY SHALL BE PROPERLY SEALED PER APPROVED UL METHODS.
 - WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS, THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ENGINEER. SUBMIT DETAIL OF PROPOSED SEALING METHODS.
- ALL PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID BY THE ELECTRICAL CONTRACTOR.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE COMPLETE UPDATED TYPED WRITTEN PANEL SCHEDULES FOR ALL PANELBOARDS.
- AS BUILT DRAWINGS SHALL BE GIVEN TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL VERIFY THE CEILING TYPES WITH THE GENERAL CONTRACTOR PRIOR TO THE PURCHASE OF ANY LIGHT FIXTURES SO THAT THE PROPER TRIM WILL BE PROVIDED FOR ALL FIXTURES. ANY DIFFERENCES WILL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- ALL WIRE SIZES INDICATED ON THE PANEL SCHEDULES ARE BASED ON 75 DEGREE COPPER THHN/THWN WIRE. ALL WIRE TERMINALS AND EQUIPMENT SHALL BE LISTED AND APPROVED FOR 75°C. ONLY THWN-2 WIRE SHALL BE INSTALLED IN WET AND EXTERIOR LOCATIONS.
- MINIMUM CONDUIT SIZE SHALL BE 1/2" AND MINIMUM WIRE SIZE SHALL BE #12 AWG.
- ARMORED CABLE (TYPE AC) AND METAL-CLAD CABLE (TYPE MC) ARE NOT ALLOWED IN THIS PROJECT.
- THE MAXIMUM NUMBER OF HOMERUNS IN A CONDUIT SHALL NOT EXCEED THREE (3). FEEDING CIRCUITS WITH SHARED NEUTRAL SHALL BE SWITCHED TOGETHER.
- WHERE OUTLETS ARE SHOWN BACK TO BACK ON RATED WALLS, STAGGER OUTLETS SO THAT THEY ARE SEPARATED BY A MINIMUM OF 24".
- ALL DISCONNECTS SHALL HAVE SEPARATE NEUTRAL AND GROUND BARS.
- ALL PANELS SHALL BE THREE PHASE, FOUR WIRE UNLESS OTHERWISE NOTED.
- BOXES AND CONDUITS SHALL NOT BE INSTALLED RECESSED IN A 3-HOUR OR HIGHER RATED WALL, WHEN OUTLETS ARE INDICATED ON THESE WALLS, FIELD COORDINATE CONDUIT AND BOX INSTALLATION.
- SEE SPECIFICATIONS.

2018 NORTH CAROLINA ENERGY CODE

LAMP TYPE REQUIRED ¹	ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE - PRESCRIPTIVE LIGHTING SCHEDULE ¹			
	FLUORESCENT T8/T5	LED	CFL	INCAN
NUMBER OF LAMPS ¹	N/A	SEE	N/A	N/A
BALLAST TYPE USED ¹	N/A	FIXTURE	N/A	N/A
NUMBER OF BALLASTS ¹	N/A	SCHEDULE	N/A	N/A
TOTAL WATTAGE PER FIXTURE ¹	N/A		N/A	N/A

	SPECIFIED	ALLOWED BY CODE
INTERIOR WATTAGE		
STORAGE BUILDING	264	4099 **
EXTERIOR WATTAGE	ZONE 2	
ALLOWANCE	44	600

NOTES:

- ** PER SECTION C406.3, THE WHOLE AREA ALLOWED BY CODE IS REQUIRED TO BE 10% LOWER THAN THOSE CALCULATED PER SECTION C406.4.2.
 - VALUE CALCULATE PER SECTION C406.4.2: 4554 WATTS
 - VALUE PER SECTION C406.3: 4099 WATTS
- ALL EXTERIOR LIGHTS:
 - CONTROLLED BY PHOTOCELL THAT WILL NOT INTENDED TO BE ON FOR 24 HOUR OPERATION.

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 - ENERGY.

SIGNED:
NAME: SULIM PRAMOJANEY, P.E.
TITLE: ENGINEER

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG	ELECTRICAL DATA	NOTES
A	2x4 LED FLAT PANEL FIXTURE RECESSED MOUNTED 4000/5000/6000 LUMEN	LITHONIA ¹ OPX-2X4-AL08-80CRI-SWW7-SWL -MVOLT	4000/5000/6000 LUMEN LED, 3500K/4000K/5000K 0-10V ELECTRONIC DIMMING DRIVER 29/36/50 WATTS - 32/40/55 VA 120-277V	SET COLOR TO 4000K SEE NOTE ON PLAN FOR LUMEN SETTING.
B	2x2 LED FLAT PANEL FIXTURE RECESSED MOUNTED 2500/3200/4000 LUMEN	LITHONIA ¹ OPX-2X2-AL07-80CRI-SWW7-SWL -MVOLT	2500/3200/4000 LUMEN LED, 3500K/4000K/5000K 0-10V ELECTRONIC DIMMING DRIVER 20/27/34 WATTS - 22/30/38 VA 120-277V	SET COLOR TO 4000K SEE LUMEN TO 3200 LUMEN
H1	H-BAY LED LIGHT FIXTURE WITH MOTION SENSOR WITH PHOTOCELL 18000 LUMEN	LITHONIA ¹ IBG-18000LM-SEF-AFL-GND-MVOLT -G210-40K-80CRI-L5XR6-P	18000 LUMEN LED, 4000K 0-10V ELECTRONIC DIMMING DRIVER 105 WATTS - 15 VA, 120-277V	HANG BOTTOM 18 FT. AFF, SET TIME OUT TO 5 MIN, SET PHOTOCELL TO 40 FC
H2	H-BAY LED LIGHT FIXTURE WITH MOTION SENSOR WITH PHOTOCELL 30000 LUMEN	LITHONIA ¹ IBG-30000LM-SEF-AFL-GND-MVOLT -G210-40K-80CRI-L5XR6-P	30000 LUMEN LED, 4000K 0-10V ELECTRONIC DIMMING DRIVER 178 WATTS - 200 VA, 120-277V	HANG BOTTOM 18 FT. AFF, SET TIME OUT TO 5 MIN, SET PHOTOCELL TO 100 FC
H3	8 FT. STRIP LED LIGHT FIXTURE WITH MOTION SENSOR 8000 LUMEN	LITHONIA ¹ CSS-16-8000LM-MVOLT-40K-80CRI -SFR7CSS120/277	8000 LUMEN LED, 4000K ELECTRONIC DRIVER 72 WATTS - 80 VA, 120-277V	HANG BOTTOM 12 FT. ABOVE MECH. PLATFORM SET TIME OUT TO 5 MIN.
W2	WALL PACK FIXTURE 10000 LUMEN	LITHONIA ¹ TWX3-LED-P2-40K-MVOLT-DBXD	10000 LUMEN LED, 4000K ELECTRONIC DRIVER 79 WATTS - 88 VA, 120-277V	MOUNT BOTTOM ABOVE 12 FT. AFF, FIELD VERIFY EXACT HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
WEM	EXTERIOR WALL MOUNTED CUT-OFF 600 LUMEN LISTED FOR WET LOCATION AND 0" WITH EMERGENCY BATTERY BACKUP	LITHONIA ¹ WPX-LED-P1-40K-MVOLT-EI4WC-11	1500 LUMEN LED, 4000K ELECTRONIC DRIVER 11 WATTS - 14 VA, 120-277V	** FINISH COLOR PER ARCHITECT INSTRUCTION, MOUNT BOTTOM 8 FT. AFF.
EGX	EMERGENCY WITH EXIT LIGHT 1 SIDE RED LETTER	LITHONIA ¹ ECC-R	(2) 0.75W LED HEADS, LED FOR PANEL 1 WATTS - 11 VA, 120/277V	
EG	EMERGENCY LIGHT	LITHONIA ¹ EU2L-M2	(2) 0.75W LED HEADS, 0.33 WATTS - 6 VA, 120/277V	
EG2	EMERGENCY LIGHT 100 LUMEN TOTAL	LITHONIA ¹ ELM6L-UVOLT-LTP	(2) 5.3W LED HEADS 4.7 WATTS - 6 VA, 120-277V	MOUNT BOTTOM ABOVE 12 FT. AFF, FIELD VERIFY EXACT HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.

NOTES:

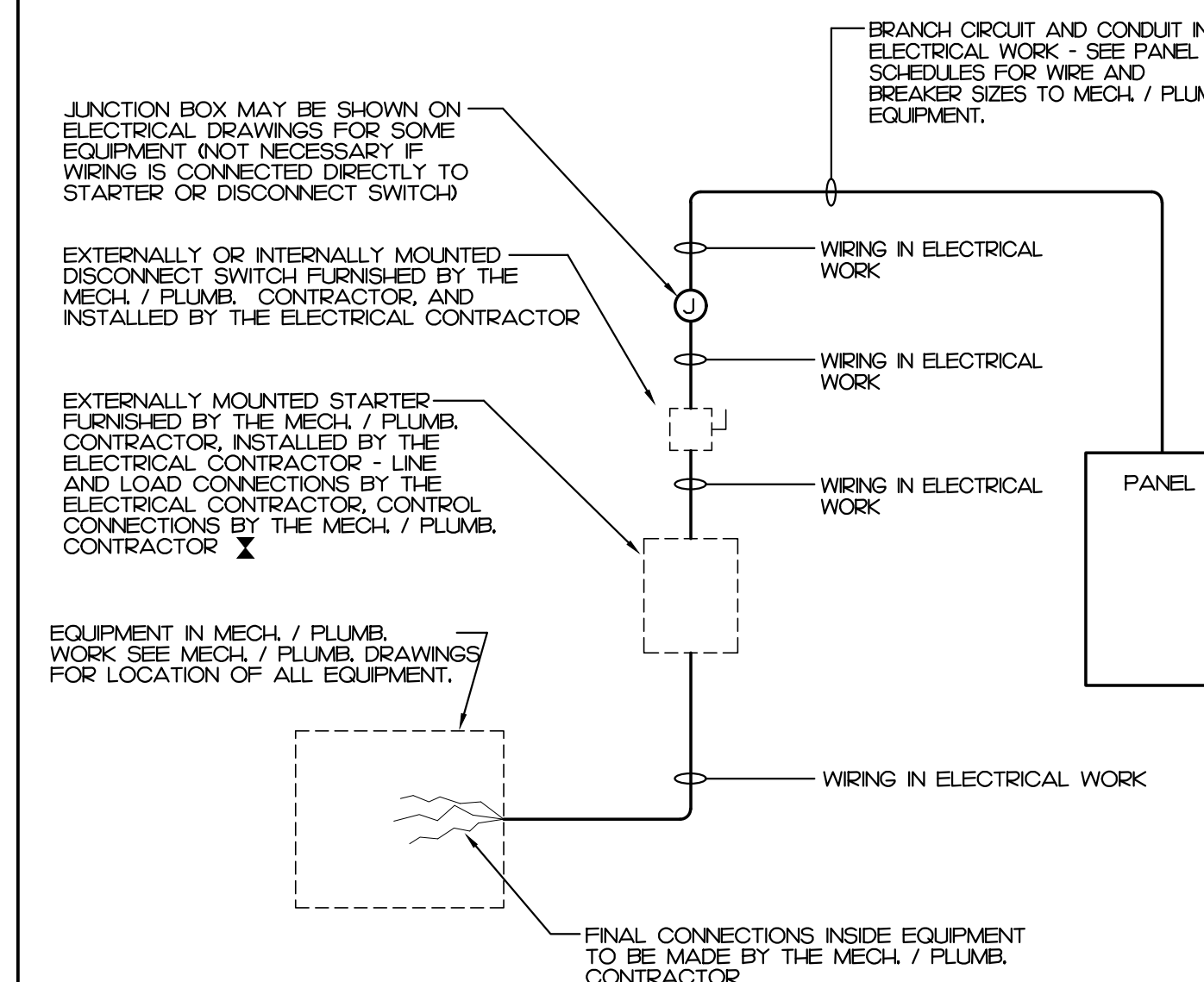
- SEE ARCHITECTURAL PLAN FOR MOUNTING, FIELD COORDINATE MOUNTING HEIGHT WITH ARCHITECT IF NOT SHOWN ON ARCHITECTURAL PLAN.
- E.C. SHALL SUBMIT CATALOG TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING. FINISH COLOR/TRIM SUBJECT TO BE CHANGED PER ARCHITECT.
- FIELD VERIFY LED COLOR WITH ARCHITECT PRIOR TO ORDERING.

A3 FIXTURE SCHEDULE

NO SCALE

A7 WIRING TO MECH./PLUMB. EQUIPMENT

NO SCALE



NOTES:

- A COMBINATION STARTER MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER
- E.C. SHALL FURNISH ALL REQUIRED FUSES.

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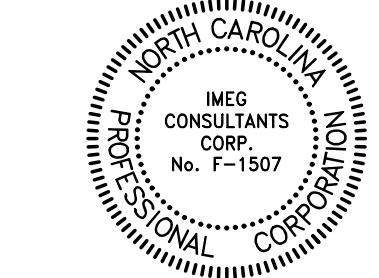
REF. SCALE IN INCHES PROJECT # 24041

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PROJECT INFORMATION

South Cary Water Reclamation Facility - Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd. Apex, NC 27539

SEALS



DKA JOB NUMBER 2403

REVISIONS

NO.	DESCRIPTION

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PE: SP
Drawn By: SP
Plot Date: 1/13/2025

DATE ISSUED

Bid Documents 1/13/2025

SHEET TITLE
LEGEND, NOTES, FIXTURE SCHEDULE, DETAIL

E000



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PROJECT INFORMATION

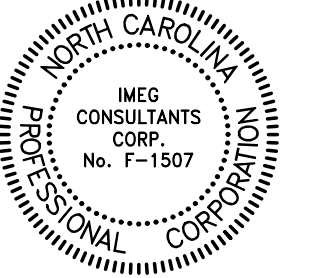
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322 BLUE RIDGE ROAD, SUITE B3
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899 57141

PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
Town of Cary
4900 W Lake Rd. Apex, NC 27539

SEALS



DKA JOB NUMBER 2403

REVISIONS

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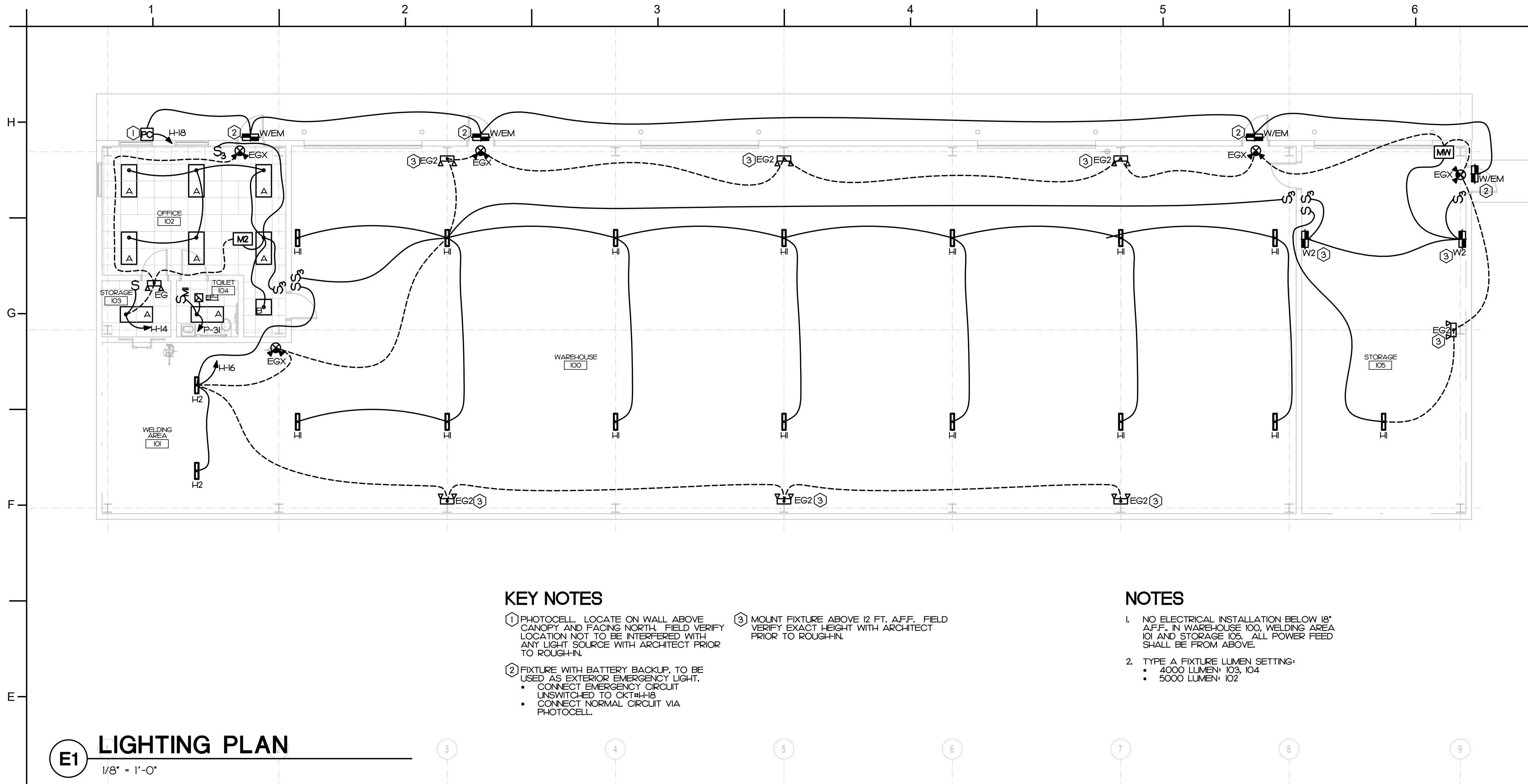
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Plot Date: 1/13/2025

DATE ISSUED

Bid Documents
1/13/2025

SHEET TITLE
LIGHTING PLAN
POWER PLAN

E100

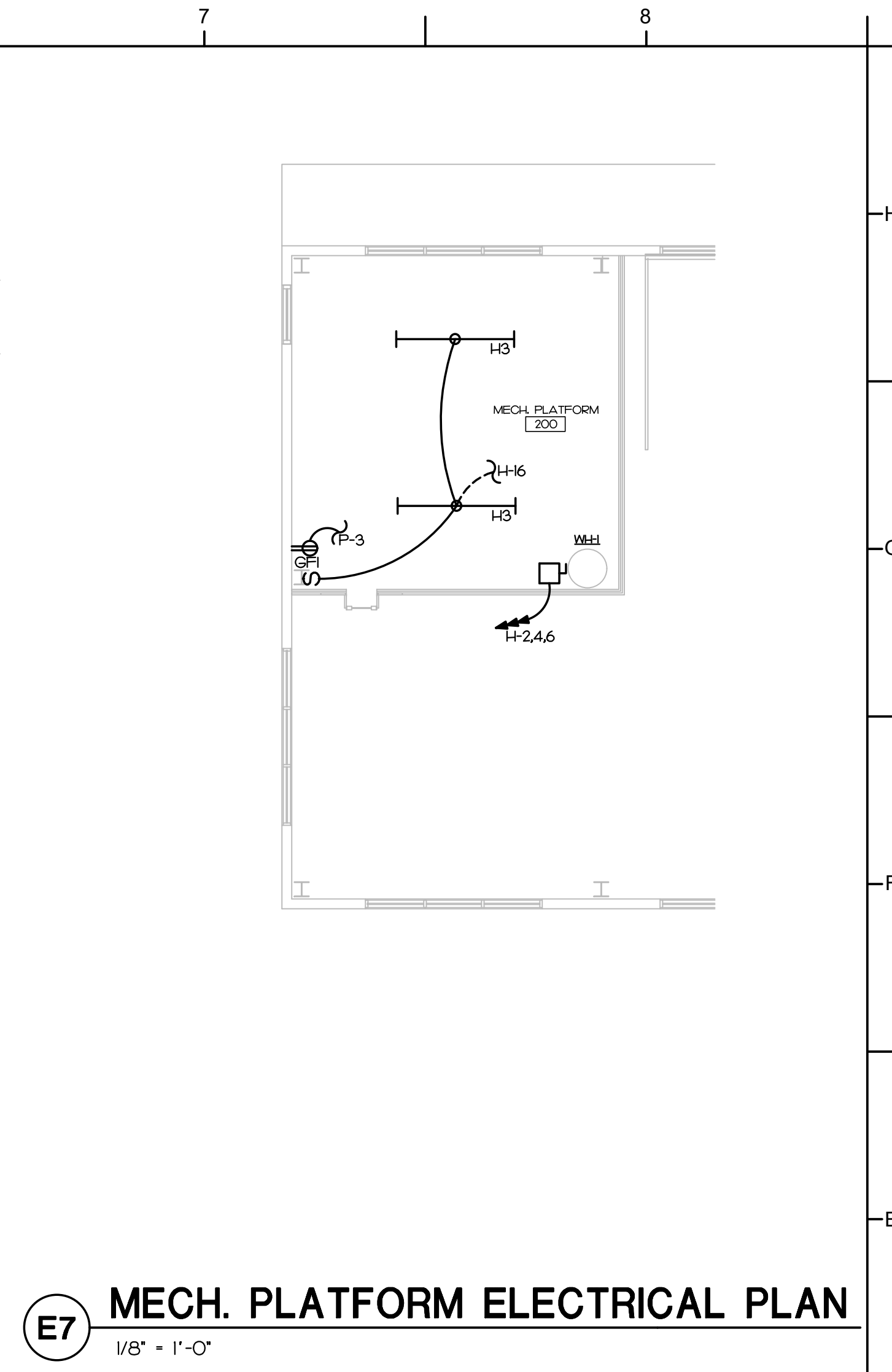


KEY NOTES

- 1 PHOTOCELL. LOCATE ON WALL ABOVE CANOPY AND FACING NORTH. FIELD VERIFY LOCATION NOT TO BE INTERFERED WITH ANY LIGHT SOURCE WITH ARCHITECT PRIOR TO ROUGH-IN.
- 2 FIXTURE WITH BATTERY BACKUP, TO BE USED AS EXTERIOR EMERGENCY LIGHT.
 - CONNECT EMERGENCY CIRCUIT UNSWITCHED TO CKTH18
 - CONNECT NORMAL CIRCUIT VIA PHOTOCELL.
- 3 MOUNT FIXTURE ABOVE 12 FT. AFF. FIELD VERIFY EXACT HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.

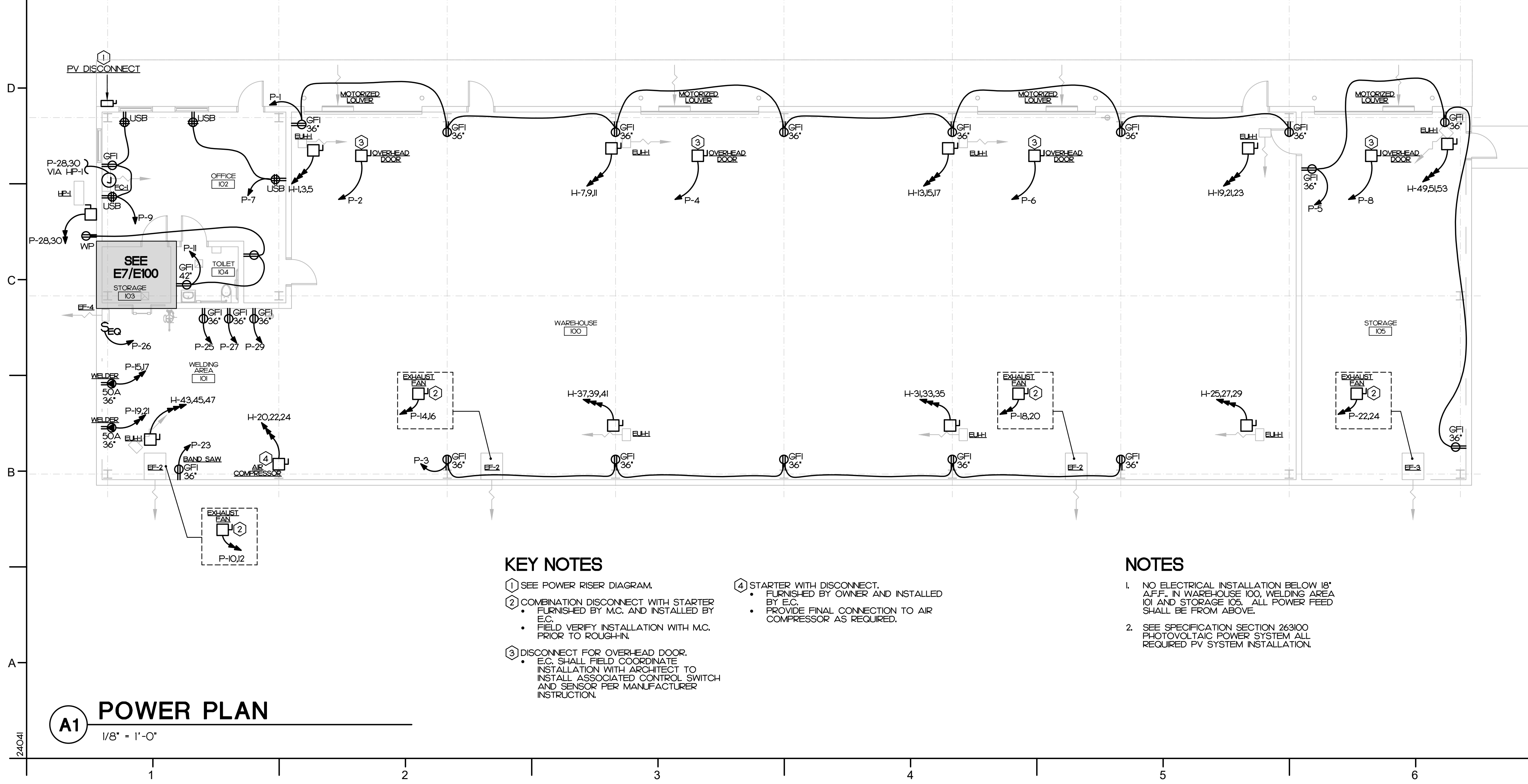
NOTES

- 1. NO ELECTRICAL INSTALLATION BELOW 18" AFF. IN WAREHOUSE 100, WELDING AREA 101 AND STORAGE 105. ALL POWER FEED SHALL BE FROM ABOVE.
- 2. TYPE A FIXTURE LUMEN SETTING:
 - 4000 LUMEN: 103, 104
 - 5000 LUMEN: 102



E7 MECH. PLATFORM ELECTRICAL PLAN

1/8" = 1'-0"

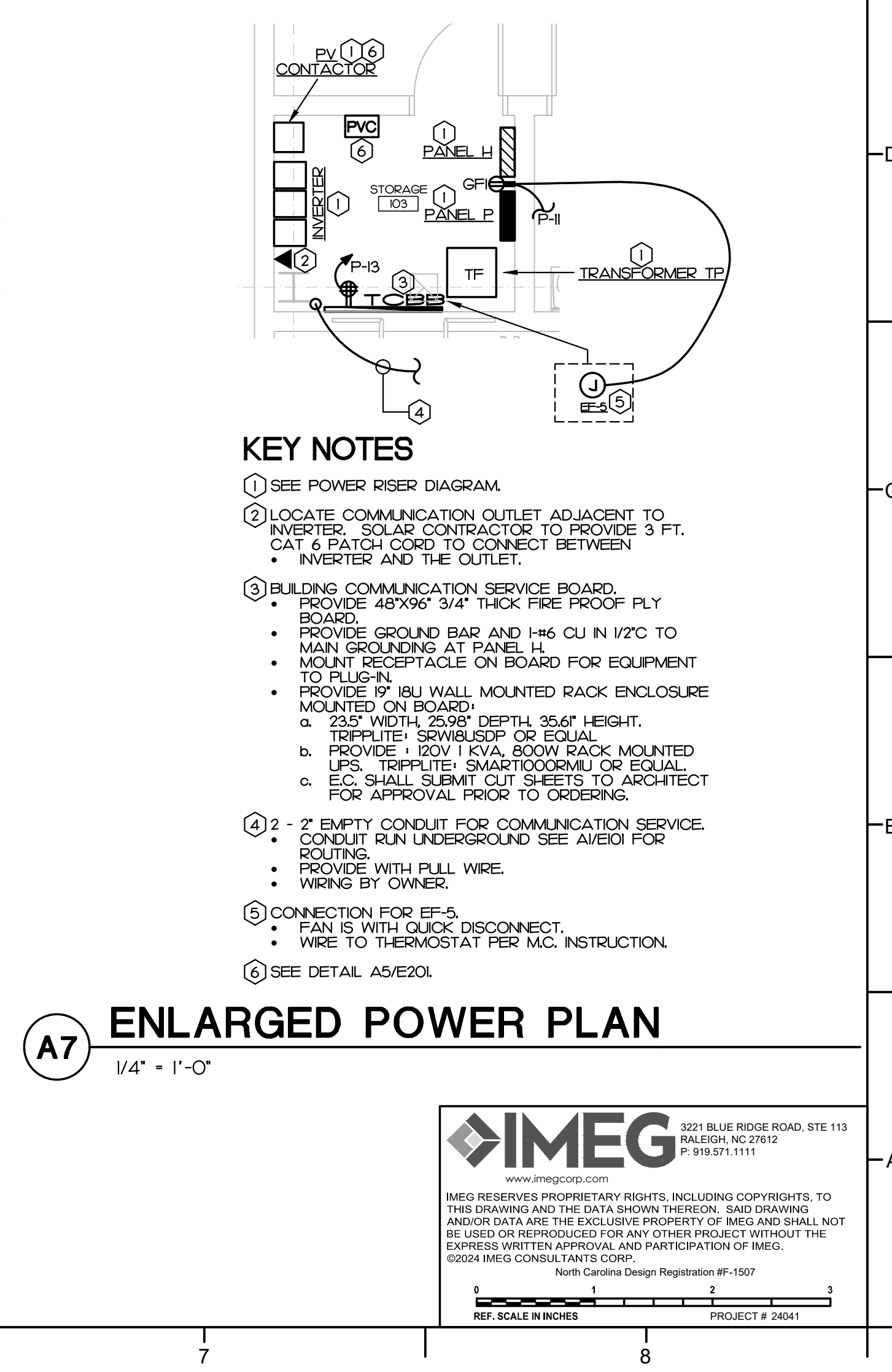


KEY NOTES

- 1 SEE POWER RISER DIAGRAM.
- 2 COMBINATION DISCONNECT WITH STARTER
 - FURNISHED BY OWNER AND INSTALLED BY E.C.
 - FIELD VERIFY INSTALLATION WITH M.C. PRIOR TO ROUGH-IN.
- 3 DISCONNECT FOR OVER-HEAD DOOR.
 - E.C. SHALL FIELD COORDINATE INSTALLATION WITH ARCHITECT TO INSTALL ASSOCIATED CONTROL SWITCH AND SENSOR PER MANUFACTURER INSTRUCTION.
- 4 STARTER WITH DISCONNECT.
 - FURNISHED BY OWNER AND INSTALLED BY E.C.
 - PROVIDE FINAL CONNECTION TO AIR COMPRESSOR AS REQUIRED.

NOTES

- 1. NO ELECTRICAL INSTALLATION BELOW 18" AFF. IN WAREHOUSE 100, WELDING AREA 101 AND STORAGE 105. ALL POWER FEED SHALL BE FROM ABOVE.
- 2. SEE SPECIFICATION SECTION 26300 PHOTOVOLTAIC POWER SYSTEM ALL REQUIRED PV SYSTEM INSTALLATION.



A7 ENLARGED POWER PLAN

1/4" = 1'-0"

KEY NOTES

- 1 SEE POWER RISER DIAGRAM.
- 2 LOCATE COMMUNICATION OUTLET ADJACENT TO INVERTER. SOLAR CONTRACTOR TO PROVIDE 3 FT. CAT 6 PATCH CORD TO CONNECT BETWEEN INVERTER AND THE OUTLET.
- 3 BUILDING COMMUNICATION SERVICE BOARD.
 - PROVIDE 48X96" 3/4" THICK FIRE PROOF PLY BOARD.
 - PROVIDE GROUND BAR AND H#6 CU IN 1/2" TO MAIN GROUNDING AT PANEL H.
 - MOUNT RECEPTACLE ON BOARD FOR EQUIPMENT TO PLUG-IN.
 - PROVIDE 17" BU WALL MOUNTED RACK ENCLOSURE MOUNTED ON BOARD:
 - 23.5" WIDTH, 25.98" DEPTH, 35.6" HEIGHT.
 - TRIPPLITE SENSUS50P OR EQUAL.
 - PROVIDE 1 1/2" V KVA, 800W RACK MOUNTED UPS. TRIPPLITE SMART000RMU OR EQUAL.
 - E.C. SHALL SUBMIT CUT SHEETS TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING.
- 4 2" EMPTY CONDUIT FOR COMMUNICATION SERVICE.
 - CONDUIT RUN UNDERGROUND SEE A5/E10 FOR ROUTING.
 - PROVIDE WITH FULL WIRE.
 - WIRING BY OWNER.
- 5 CONNECTION FOR EF-5.
 - FAN IS WITH QUICK DISCONNECT.
 - WIRE TO THERMOSTAT PER M.C. INSTRUCTION.
- 6 SEE DETAIL A5/E20.

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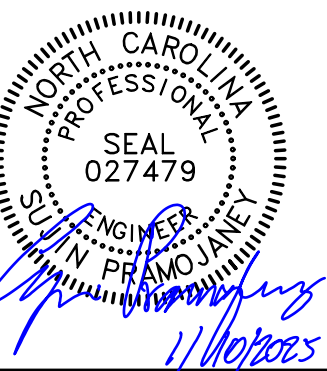
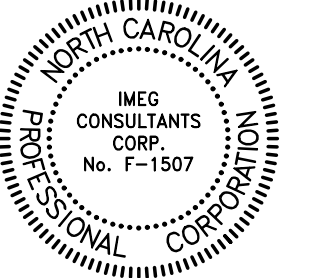
PROJECT INFORMATION

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PROJECT INFORMATION

South Cary Water Reclamation Facility – Maintenance Facility with Solar
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SEALS



DKA JOB NUMBER
2403

REVISIONS

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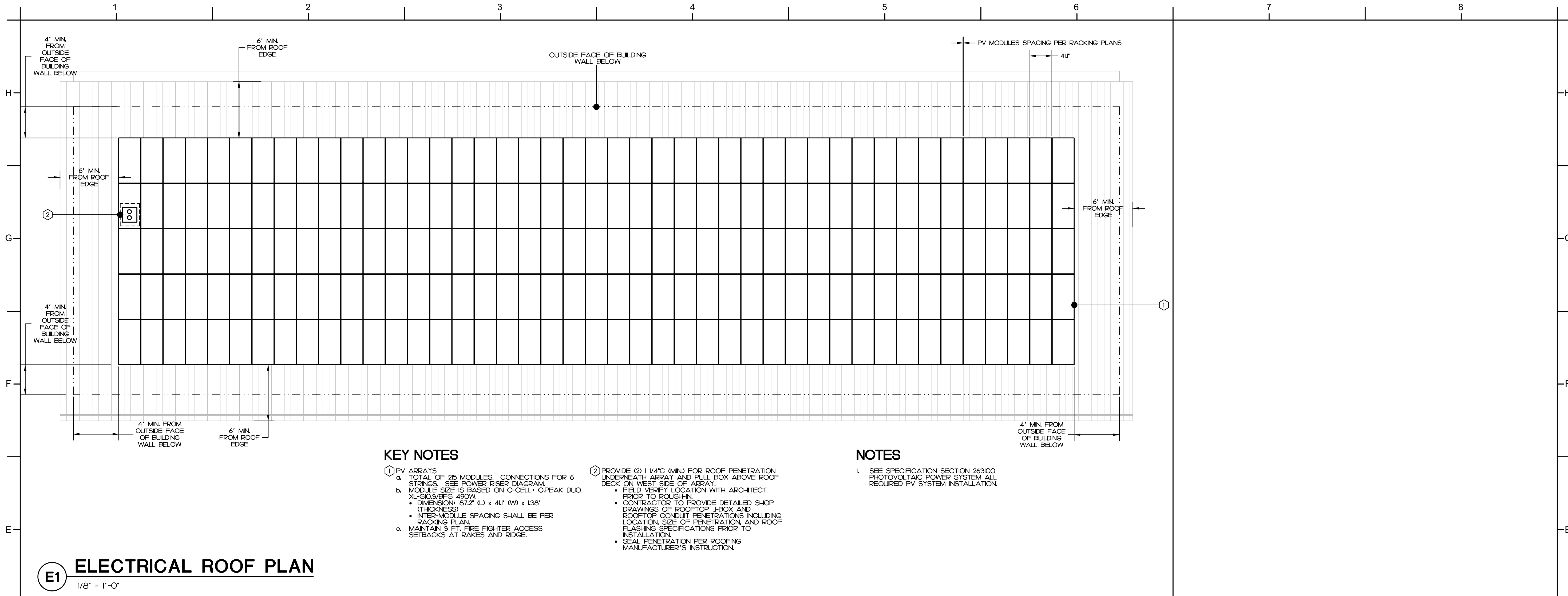
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SHEET TITLE
ELECTRICAL ROOF PLAN AND SITE PLAN

E101



KEY NOTES

- 1 PV ARRAYS
a. TOTAL OF 215 MODULES. CONNECTIONS FOR 6 STRINGS. SEE POWER RISER DIAGRAM.
b. MODULE SIZE IS BASED ON Q-CELL QPEAK DUO XL-610/3FFG 490W.
• DIMENSION: 67.2" (L) x 41" (W) x 1.38" (THICKNESS)
• INTER-MODULE SPACING SHALL BE PER RACKING PLAN.
c. MAINTAIN 3 FT. FIRE FIGHTER ACCESS SETBACKS AT RAKES AND RIDGE.

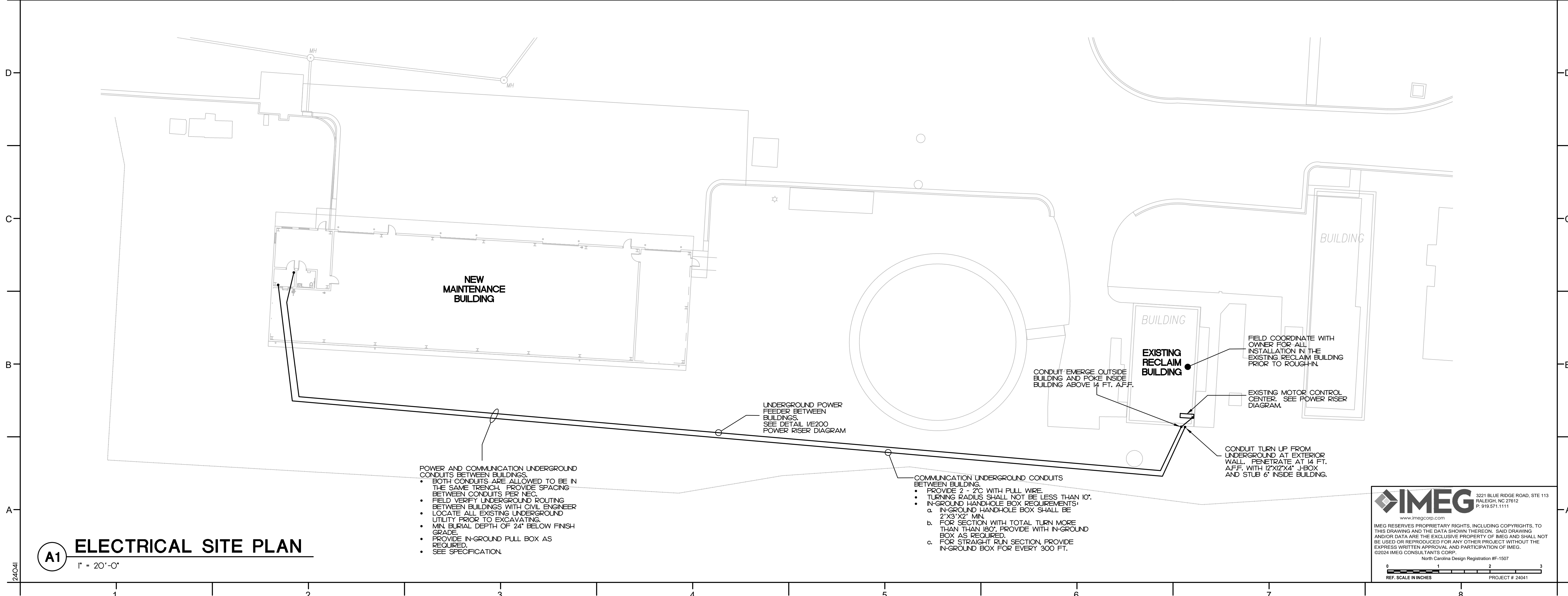
- 2 PROVIDE 2 1 1/4" (MIN) FOR ROOF PENETRATION UNDERNEATH ARRAY AND PULL BOX ABOVE ROOF DECK ON WEST SIDE OF ARRAY.
• FIELD VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
• CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS OF ROOFTOP J-BOX AND ROOFTOP CONDUIT PENETRATIONS INCLUDING LOCATION, SIZE OF PENETRATION, AND ROOF FLASHING SPECIFICATIONS PRIOR TO INSTALLATION.
• SEAL PENETRATION PER ROOFING MANUFACTURER'S INSTRUCTION.

NOTES

- 1. SEE SPECIFICATION SECTION 263100 PHOTOVOLTAIC POWER SYSTEM ALL REQUIRED PV SYSTEM INSTALLATION.

E1 ELECTRICAL ROOF PLAN

1/8" = 1'-0"



- POWER AND COMMUNICATION UNDERGROUND CONDUITS BETWEEN BUILDINGS.
• BOTH CONDUITS ARE ALLOWED TO BE IN THE SAME TRENCH. PROVIDE SPACING BETWEEN CONDUITS PER NEC.
• FIELD VERIFY UNDERGROUND ROUTING BETWEEN BUILDINGS WITH CIVIL ENGINEER.
• LOCATE ALL EXISTING UNDERGROUND UTILITY PRIOR TO EXCAVATING.
• MIN. BURIAL DEPTH OF 24" BELOW FINISH GRADE.
• PROVIDE IN-GROUND PULL BOX AS REQUIRED.
• SEE SPECIFICATION.

- COMMUNICATION UNDERGROUND CONDUITS BETWEEN BUILDINGS.
• PROVIDE 2 - 20 WITH FULL WIRE.
• TURNING RADIUS SHALL NOT BE LESS THAN 10'.
• IN-GROUND HAND-HOLE BOX REQUIREMENTS:
a. IN-GROUND HAND-HOLE BOX SHALL BE 2'X3'2" MIN.
b. FOR SECTION WITH TOTAL TURN MORE THAN 180°, PROVIDE WITH IN-GROUND BOX AS REQUIRED.
c. FOR STRAIGHT RUN SECTION, PROVIDE IN-GROUND BOX FOR EVERY 300 FT.

- CONDUIT EMERGE OUTSIDE BUILDING AND POKE INSIDE BUILDING ABOVE 14 FT. AFF.
- FIELD COORDINATE WITH OWNER FOR ALL INSTALLATION IN THE EXISTING RECLAIM BUILDING PRIOR TO ROUGH-IN.
- EXISTING MOTOR CONTROL CENTER. SEE POWER RISER DIAGRAM.
- CONDUIT TURN UP FROM UNDERGROUND AT EXTERIOR WALL. PENETRATE AT 14 FT. AFF. WITH 2"X12" J-BOX AND STUB 6" INSIDE BUILDING.

A1 ELECTRICAL SITE PLAN

1" = 20'-0"

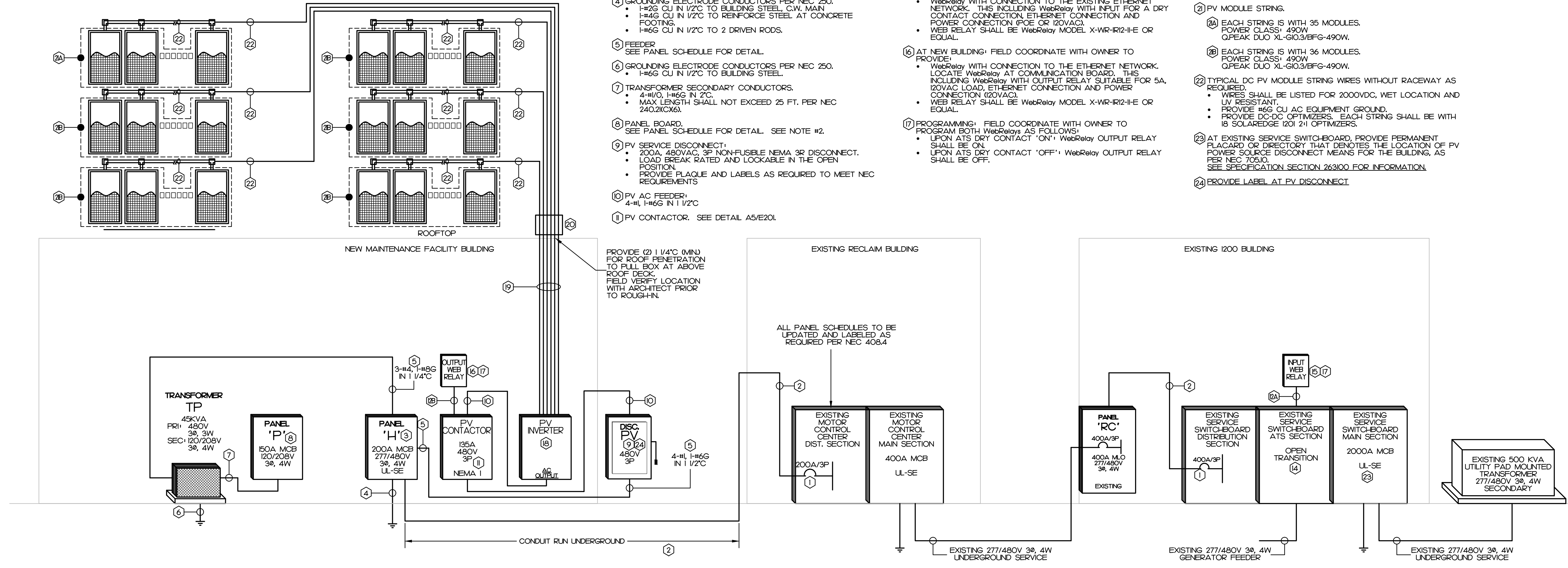
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North Carolina Design Registration #F-1507
REF. SCALE IN INCHES PROJECT # 24041

NOTES

- PV CONTRACTOR SCOPE OF WORK:
 - SEE SPECIFICATION SECTION 26300 PHOTOVOLTAIC POWER SYSTEM FOR ALL REQUIRED PV SYSTEM INSTALLATION
 - KEY NOTE #18 TO #23 ARE PART OF SOLAR CONTRACTOR SCOPE OF WORK.
 - FAULT CURRENTS:
 - E.C. SHALL OBTAIN AVAILABLE FAULT CURRENT AT TRANSFORMER FROM UTILITY AND PROVIDE INFORMATION TO ENGINEER TO CALCULATE AVAILABLE FAULT CURRENTS FOR ALL NEW PANEL BOARDS.
 - E.C. SHALL PROVIDE LABEL INDICATING FAULT CURRENTS ON ALL NEW PANEL BOARDS PER ENGINEER INSTRUCTION.
- PV CONTRACTOR SCOPE WORK:**
- PV INVERTER:
 - MAX. VDC INPUT: 1000VDC
 - MAX. INPUT CURRENT: 965A
 - MAX. OUTPUT: 480V 3Ø, 4W
 - MAX. OUTPUT CURRENT: 965A
 - SOLAREDGE SEROKUS
 - CONTRACTOR TO INSTALL INVERTER A MINIMUM OF 4' ABOVE FLOOR, COORDINATE FINAL INSTALLATION HEIGHT WITH BUILDING OWNER
 - DC FEEDER FROM PV INVERTER TO THE PV PULL BOX UNDER ROOFDECK AT ROOF PENETRATION:
 - Ø 6-#10, 1-#10G IN 1 1/4" VC
 - WIRES SHALL BE LISTED FOR 2000VDC AND WET LOCATION.
 - FIELD VERIFY CONDUIT ROUTING WITH ARCHITECT PRIOR TO ROUGH-IN
 - PV PULL BOX ABOVE ROOF DECK AT ROOF PENETRATION. SEE KEY NOTE #2 IN ELEC01.
 - PV MODULE STRING:
 - EACH STRING IS WITH 35 MODULES. POWER CLASS: 490W OPEAK DUO XL-G10.3/BFG-490W.
 - EACH STRING IS WITH 36 MODULES. POWER CLASS: 490W OPEAK DUO XL-G10.3/BFG-490W.
 - TYPICAL DC PV MODULE STRING WIRES WITHOUT RACEWAY AS REQUIRED:
 - WIRES SHALL BE LISTED FOR 2000VDC, WET LOCATION AND UV RESISTANT
 - PROVIDE #6G CU AC EQUIPMENT GROUND.
 - PROVIDE DC-DC OPTIMIZERS. EACH STRING SHALL BE WITH 16 SOLAREDGE 1201 24 OPTIMIZERS.
 - AT EXISTING SERVICE SWITCHBOARD, PROVIDE PERMANENT PLAQUARD OR DIRECTORY THAT DENOTES THE LOCATION OF PV POWER SOURCE DISCONNECT MEANS FOR THE BUILDING, AS PER NEC 705.10. SEE SPECIFICATION SECTION 26300 FOR INFORMATION.
 - PROVIDE LABEL AT PV DISCONNECT.

KEY NOTES

- AT EXISTING MOTOR CONTROL CENTER, LOCATE SPARE CABINET AND PROVIDE 200A/3P BREAKER. MIN. AIC RATING OF 35KA.
 - FEEDER FROM EXISTING RECLAIM BUILDING TO NEW MAINTENANCE FACILITY BUILDING:
 - PROVIDE 4-#4/0, 1-#4G IN 2 1/2" VC
 - FIELD VERIFY INSIDE BUILDING ROUTING WITH ARCHITECT PRIOR TO ROUGH-IN
 - FIELD VERIFY UNDERGROUND ROUTING BETWEEN BUILDINGS WITH CIVIL ENGINEER AND LOCATE ALL EXISTING UNDERGROUND UTILITY PRIOR TO EXCAVATING. MIN. BURIAL DEPTH OF 24" BELOW FINISH GRADE.
 - BUILDING SERVICE PANEL BOARD:
 - UL LISTED FOR USE AS SERVICE EQUIPMENT.
 - SEE PANEL SCHEDULE FOR DETAIL.
 - DO NOT BOND NEUTRAL TO GROUND BAR.
 - LABEL MAIN BREAKER 'SERVICE DISCONNECT'
 - SEE NOTE #2.
 - GROUNDING ELECTRODE CONDUCTORS PER NEC 250:
 - #2G CU IN 1/2" VC TO BUILDING STEEL, C.W. MAIN
 - #4G CU IN 1/2" VC TO REINFORCE STEEL AT CONCRETE FOOTING.
 - #6G CU IN 1/2" VC TO 2 DRIVEN RODS.
 - FEEDER SEE PANEL SCHEDULE FOR DETAIL.
 - GROUNDING ELECTRODE CONDUCTORS PER NEC 250:
 - #6G CU IN 1/2" VC TO BUILDING STEEL.
 - TRANSFORMER SECONDARY CONDUCTORS:
 - 4-#10, 1-#6G IN 2" VC
 - MAX. LENGTH SHALL NOT EXCEED 25 FT. PER NEC 240.2(C)(6).
 - PV SERVICE DISCONNECT:
 - 200A, 480VAC, 3P, NON-FUSIBLE NEMA 3R DISCONNECT.
 - LOAD BREAK RATED AND LOCKABLE IN THE OPEN POSITION.
 - PROVIDE PLAQUE AND LABELS AS REQUIRED TO MEET NEC REQUIREMENTS
 - PV AC FEEDER:
 - 4-#1, 1-#6G IN 1 1/2" VC
 - PV CONTRACTOR. SEE DETAIL A5/E20L.
- OWNER SCOPE OF WORK**
- AT EXISTING ATS: FIELD COORDINATE WITH OWNER TO PROVIDE:
 - DRY CONTACT AT EXISTING ATS. THE DRY CONTACT SHALL FUNCTION AS FOLLOWS:
 - ON: UPON ATS POWER SOURCE FROM UTILITY.
 - OFF: UPON ATS POWER SOURCE FROM GENERATOR.
 - AT EXISTING 1200 BUILDING: FIELD COORDINATE WITH OWNER TO PROVIDE:
 - WebRelay WITH CONNECTION TO THE EXISTING ETHERNET NETWORK. THIS INCLUDING WebRelay WITH INPUT FOR A DRY CONTACT CONNECTION, ETHERNET CONNECTION AND POWER CONNECTION (POE OR 120VAC).
 - WEB RELAY SHALL BE WebRelay MODEL X-WR-R12-IE OR EQUAL.
 - AT NEW BUILDING: FIELD COORDINATE WITH OWNER TO PROVIDE:
 - WebRelay WITH CONNECTION TO THE ETHERNET NETWORK. LOCATE WebRelay AT COMMUNICATION BOARD. THIS INCLUDING WebRelay WITH OUTPUT RELAY SUITABLE FOR 5A, 120VAC LOAD, ETHERNET CONNECTION AND POWER CONNECTION (20VAC).
 - MAX. LENGTH SHALL BE WebRelay MODEL X-WR-R12-IE OR EQUAL.
 - PROGRAMMING: FIELD COORDINATE WITH OWNER TO PROGRAM BOTH WebRelays AS FOLLOWS:
 - UPON ATS DRY CONTACT 'ON': WebRelay OUTPUT RELAY SHALL BE ON.
 - UPON ATS DRY CONTACT 'OFF': WebRelay OUTPUT RELAY SHALL BE OFF.
- WIRING FROM WEB RELAY BY E.C.:**
- WIRING IN CONDUIT. WIRE TYPE PER OWNER INSTRUCTION.
 - 2-#12, 1-#12G IN 1/2" VC
 - NOT USED



D1 POWER RISER DIAGRAM
NO SCALE

EXISTING MOTOR CENTER LOAD STATEMENT

POSSIBLE MAX. CURRENT	20	AMPS
MAX. KVA	174.51	KVA
ADDITIONAL LOAD PER THIS PLAN		
PANEL H	121.87	KVA
NEW DEMAND LOAD		
200A MCB	296.38	KVA
3Ø, 4W	357	AMPS

NOTES

- POSSIBLE MAX. CURRENT AT EXISTING MOTOR CENTER IS MEASURED BY FACILITY ENGINEER. THE FACILITY ENGINEER IS A QUALIFIED PERSON PER NEC. THE CURRENT IS MEASURED WHEN ALL EXISTING POSSIBLE LOADS ARE ENERGIZED IN THE SAME TIME.

KEY NOTES

- PV BREAKER MUST LOCATE ON OPPOSITE END OF BUS FROM THE MAIN BREAKER.
- PROVIDE INTERNAL SURGE PROTECTION MODULE:
 - L-L, L-N, L-G PROTECTION WITH MIN. 120KA.
 - WITH SURGE COUNTER.
 - 3Ø/4P BREAKER IS NOT REQUIRED IF A DISCONNECT IS FURNISHED WITH THE MODULE.

PANEL H 277/480V, 3 PHASE, 4 WIRE

OKT	DESCRIPTION	KVA	C	G	W	ØB	ØKT	OKT	ØB	W	G	C	KVA	DESCRIPTION	OKT	
1	UNIT HEATER	100	25	3/4	12	12	15	1	2	20	12	12	3/4	41	MEZZANINE WATER HEATER	2
3		25	--	--	12	3P	3	4	3P	12	--	--	41		4	
5		25	--	--	12	--	5	6	--	12	--	--	41		6	
7	UNIT HEATER	100	25	3/4	12	12	15	7	8	70	4	8	1 1/4	120	PANEL P, 8	
9		25	--	--	12	3P	9	10	3P	4	--	--	14.3	VIA 48KVA TX	10	
11		25	--	--	12	--	11	12	--	4	--	--	16		12	
13	UNIT HEATER	100	25	3/4	12	12	15	13	14	20	12	12	1/2	0.4	OFFICE LIGHTS	14
15		25	--	--	12	3P	15	16	20	12	12	1/2	2.4	WAREHOUSE LIGHTS	16	
17		25	--	--	12	--	17	18	20	12	12	1/2	0.1	EXTERIOR LIGHTS	18	
19	UNIT HEATER	100	25	3/4	12	12	15	19	20	20	12	12	3/4	3.7	AIR COMPRESSOR	20
21		25	--	--	12	3P	21	22	3P	12	--	--	3.7	75 HP	22	
23		25	--	--	12	--	23	24	--	12	--	--	3.7		24	
25	UNIT HEATER	100	25	3/4	12	12	15	25	26	--	--	--	0.0	SPACE ONLY	26	
27		25	--	--	12	3P	27	28	--	--	--	--	0.0	SPACE ONLY	28	
29		25	--	--	12	--	29	30	--	--	--	--	0.0	SPACE ONLY	30	
31	UNIT HEATER	100	25	3/4	12	12	15	31	32	--	--	--	0.0	SPACE ONLY	32	
33		25	--	--	12	3P	33	34	--	--	--	--	0.0	SPACE ONLY	34	
35		25	--	--	12	--	35	36	--	--	--	--	0.0	SPACE ONLY	36	
37	UNIT HEATER	100	25	3/4	12	12	15	37	38	--	--	--	0.0	SPACE ONLY	38	
39		25	--	--	12	3P	39	40	--	--	--	--	0.0	SPACE ONLY	40	
41		25	--	--	12	--	41	42	--	--	--	--	0.0	SPACE ONLY	42	
43	UNIT HEATER	100	25	3/4	12	12	15	43	44	30	--	--	0.0	SURGE PROTECTOR	44	
45		25	--	--	12	3P	45	46	3P	--	--	--	0.0		46	
47		25	--	--	12	--	47	48	--	--	--	--	0.0		48	
49	UNIT HEATER	105	25	3/4	12	12	15	49	50	125	1	6	1 1/2	0.0	PV DISCONNECT	50
51		25	--	--	12	3P	51	52	3P	1	--	--	0.0	PROVIDE #1 NEUTRAL	52	
53		25	--	--	12	--	53	54	--	1	--	--	0.0		54	

DESCRIPTION	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
CONT. LOAD	3.38	125%	4.22
RECEPTACLE	5.76	100%/50%	5.76
MTRS/COOLS	2750	100%	2750
HEATS	6750	80%	5400
WATER HEATER EQUIPMENT	120	100%	120
KITCHEN EQUIP.	0.00	65%	0.00
WELDER	14.9	100%	14.9
25% OF LARGEST HVAC/MOTOR	2.80		2.80
TOTAL DEMAND	12.87		12.87

400 A MINIMUM BUS SIZE
200 A MAIN CIRCUIT BREAKER
18 K MINIMUM AIC RATING

SURFACE MOUNTING
NEMA 1 ENCLOSURE
GROUND BAR
UL LISTED FOR USE AS SERVICE EQUIPMENT

CONNECTED LOADS
PHASE A: 42.8 KVA
PHASE B: 47 KVA
PHASE C: 41.9 KVA
TOTAL: 131.7 KVA
DEMAND: 147 AMP

PANEL P 120/208V, 3 PHASE, 4 WIRE

OKT	DESCRIPTION	KVA	C	G	W	ØB	ØKT	OKT	ØB	W	G	C	KVA	DESCRIPTION	OKT	
1	REC	100	13	1/2	10	10	20	1	2	20	12	12	1/2	17	100 OVER-HEAD DOOR	2
3	REC	100, 200	11	1/2	10	10	20	3	4	20	12	12	1/2	17	100 OVER-HEAD DOOR	4
5	REC	105	0.5	1/2	10	10	20	5	6	20	12	12	1/2	17	100 OVER-HEAD DOOR	6
7	REC	102	0.7	1/2	12	12	20	7	8	20	12	12	1/2	17	105 OVER-HEAD DOOR	8
9	REC	102	0.7	1/2	12	12	20	9	10	15	12	12	1/2	0.9	100 EF-1	10
11	REC	102-104, EXT.	0.9	1/2	12	12	20	11	12	2P	12	--	--	0.9	1 HP	12
13	REC	103	0.2	1/2	12	12	20	13	14	15	12	12	1/2	0.9	100 EF-2	14
15	WELDER	101	3.5	3/4	10	8	50	15	16	2P	12	--	--	0.9	1 HP	16
17		3.5	--	--	8	2P	17	18	15	12	12	1/2	0.9	100 EF-2	18	
19	WELDER	101	3.5	3/4	10	8	50	19	20	2P	12	--	--	0.9	1 HP	20
21		3.5	--	--	8	2P	21	22	15	12	12	1/2	0.6	100 EF-3	22	
23	BANDSAW	101	1.2	1/2	12	12	20	23	24	2P	12	--	--	0.6	1/2 HP	24
25	REC	101	0.2	1/2	12	12	20	25	26	15	12	12	1/2	0.6	101 1/4 HP	26
27	REC	101	0.2	1/2	12	12	20	27	28	15	12	12	1/2	0.6	101 HP	28
29	REC	101	0.2	1/2	12	12	20	29	30	2P	12	--	--	U		30
31	LIGHTS/FAN	104	0.2	1/2	12	12	20	31	32	15	12	12	1/2	0.3	103 PV CONTRACTOR	32
33	SPARE	0.0	--	--	20	33	34	--	--	--	--	--	0.0	SPACE ONLY	34	
35	SPARE	0.0	--	--	20	35	36	--	--	--	--	--	0.0	SPACE ONLY	36	
37	SPARE	0.0	--	--	20	37	38	--	--	--	--	--	0.0	SPACE ONLY	38	
39	SPACE ONLY	0.0	--	--	39	40	--	--	--	--	--	--	0.0	SPACE ONLY	40	
41	SPACE ONLY	0.0	--	--	41	42	--	--	--	--	--	--	0.0	SPACE ONLY	42	

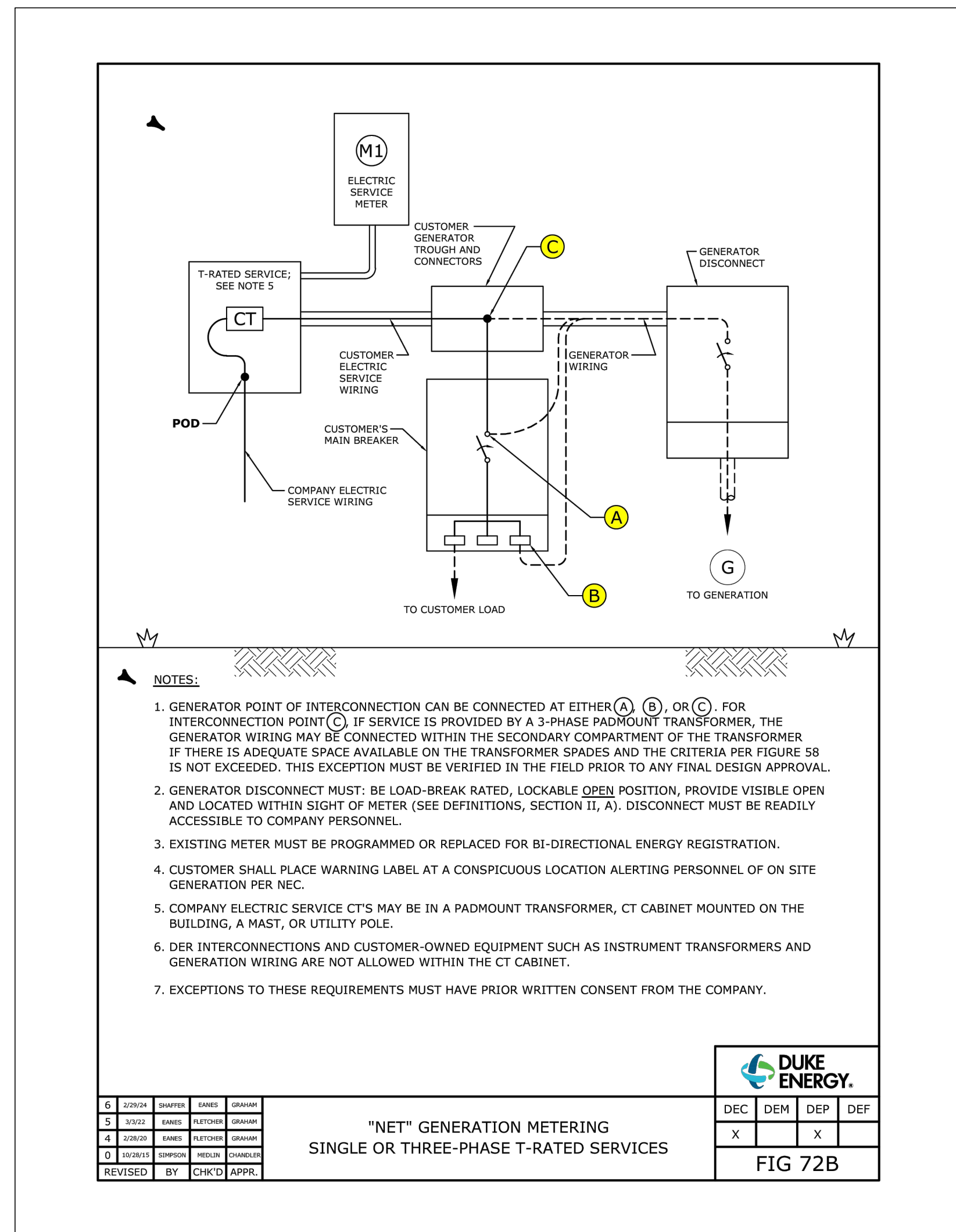
DESCRIPTION	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA
CONT. LOAD	0.46	125%	0.57
RECEPTACLE	5.76	100%/50%	5.76
MTRS/COOLS	6.28	100%	6.28
HEATS	0.00	100%	0.00
WATER HEATER EQUIPMENT	1.20	100%	1.20
KITCHEN EQUIP.	0.00	65%	0.00
WELDER	14.9	100%	14.9
25% OF LARGEST HVAC/MOTOR	0.46		0.46
TOTAL DEMAND	18.45		18.45

200 A MINIMUM BUS SIZE
50 A MAIN CIRCUIT BREAKER
10 K MINIMUM AIC RATING

SURFACE MOUNTING
NEMA 1 ENCLOSURE
GROUND BAR

CONNECTED LOADS
PHASE A: 12 KVA
PHASE B: 14.3 KVA
PHASE C: 1.6 KVA
TOTAL: 37.9 KVA
DEMAND: 107 AMP

A1 LOAD SUMMARY AND PANEL SCHEDULES
NO SCALE



NOTES:

1. GENERATOR POINT OF INTERCONNECTION CAN BE CONNECTED AT EITHER (A), (B), OR (C). FOR INTERCONNECTION POINT (C), IF SERVICE IS PROVIDED BY A 3-PHASE PADMOUNT TRANSFORMER, THE GENERATOR WIRING MAY BE CONNECTED WITHIN THE SECONDARY COMPARTMENT OF THE TRANSFORMER IF THERE IS ADEQUATE SPACE AVAILABLE ON THE TRANSFORMER SPADES AND THE CRITERIA PER FIGURE 58 IS NOT EXCEEDED. THIS EXCEPTION MUST BE VERIFIED IN THE FIELD PRIOR TO ANY FINAL DESIGN APPROVAL.
2. GENERATOR DISCONNECT MUST BE LOAD-BREAK RATED, LOCKABLE OPEN POSITION, PROVIDE VISIBLE OPEN AND LOCATED WITHIN SIGHT OF METER (SEE DEFINITIONS, SECTION II, A). DISCONNECT MUST BE READILY ACCESSIBLE TO COMPANY PERSONNEL.
3. EXISTING METER MUST BE PROGRAMMED OR REPLACED FOR BI-DIRECTIONAL ENERGY REGISTRATION.
4. CUSTOMER SHALL PLACE WARNING LABEL AT A CONSPICUOUS LOCATION ALERTING PERSONNEL OF ON SITE GENERATION PER NEC.
5. COMPANY ELECTRIC SERVICE CT'S MAY BE IN A PADMOUNT TRANSFORMER, CT CABINET MOUNTED ON THE BUILDING, A MAST, OR UTILITY POLE.
6. DER INTERCONNECTIONS AND CUSTOMER-OWNED EQUIPMENT SUCH AS INSTRUMENT TRANSFORMERS AND GENERATION WIRING ARE NOT ALLOWED WITHIN THE CT CABINET.
7. EXCEPTIONS TO THESE REQUIREMENTS MUST HAVE PRIOR WRITTEN CONSENT FROM THE COMPANY.

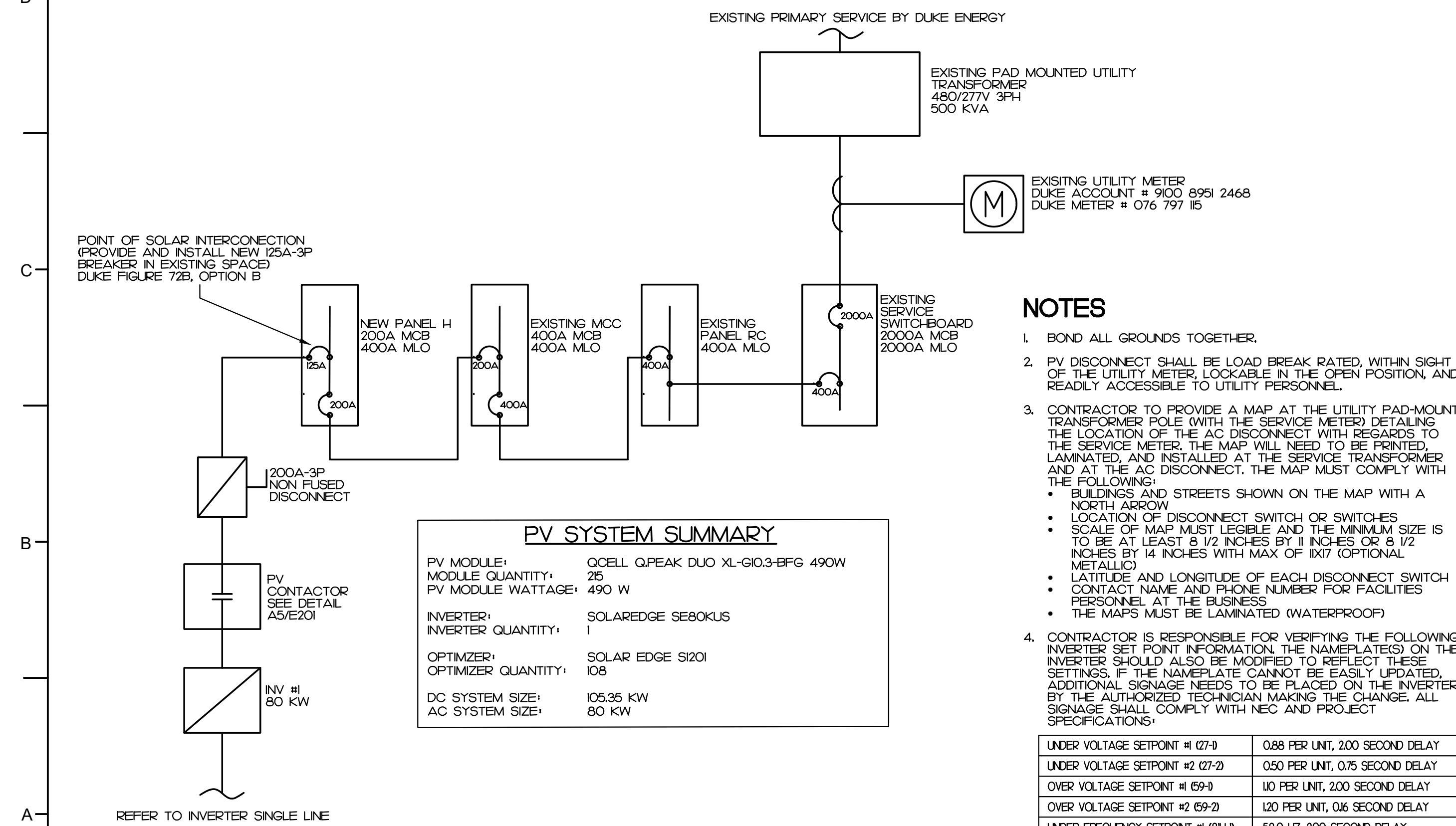
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5	3/20/21	JAMES	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS
4	8/20/21	MARK	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS
0	10/20/21	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS	REYNOLDS
REVISED	BY	CHKD	APPR.				

"NET" GENERATION METERING
SINGLE OR THREE-PHASE T-RATED SERVICES

DEC	DEM	SEP	DEF
X		X	

DUKE ENERGY
FIG 72B

D1 DUKE ENERGY: 'NET' GENERATION METERING
NO SCALE

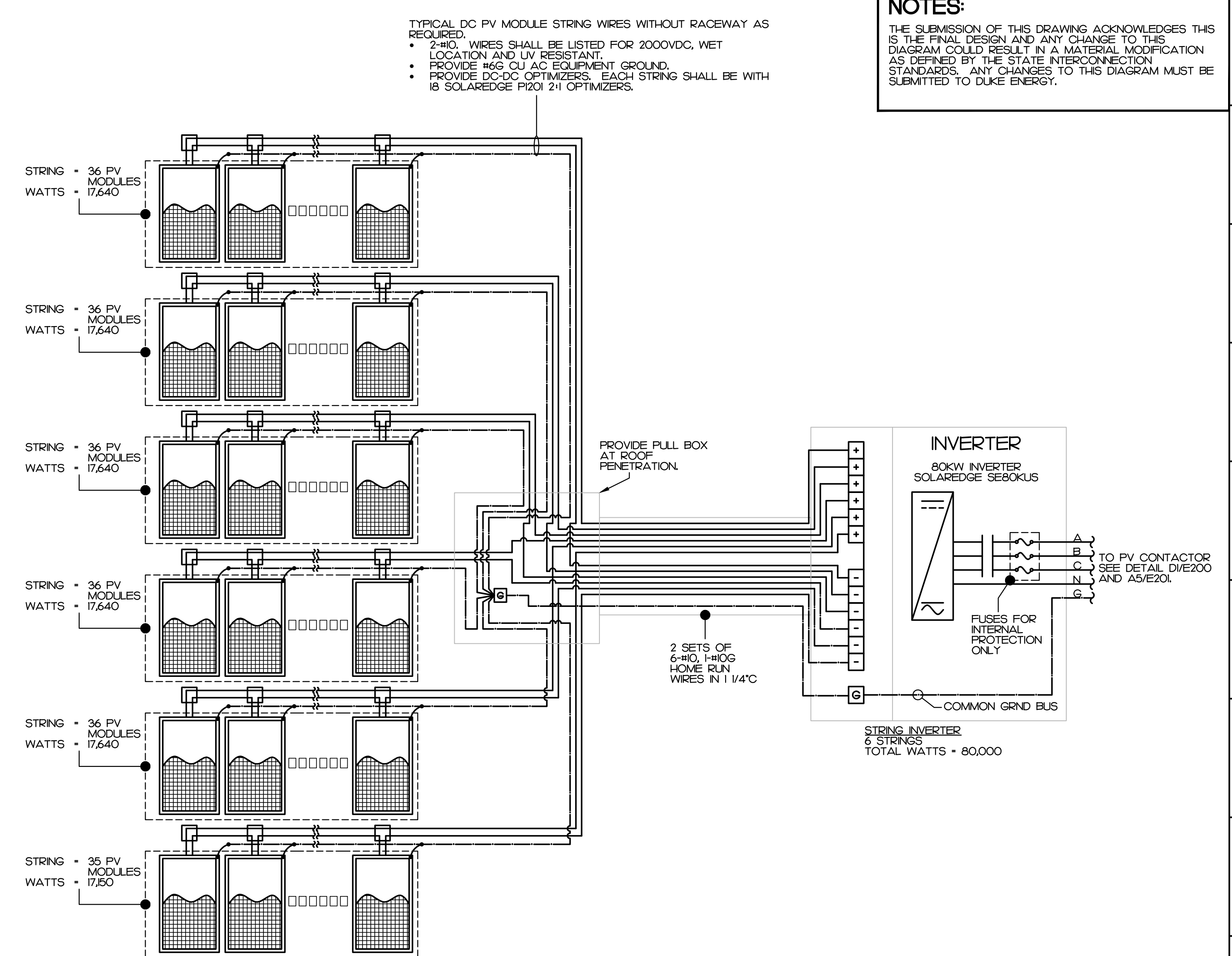


NOTES

1. BOND ALL GROUNDS TOGETHER.
2. PV DISCONNECT SHALL BE LOAD BREAK RATED, WITHIN SIGHT OF THE UTILITY METER, LOCKABLE IN THE OPEN POSITION, AND READILY ACCESSIBLE TO UTILITY PERSONNEL.
3. CONTRACTOR TO PROVIDE A MAP AT THE UTILITY PAD-MOUNT TRANSFORMER POLE (WITH THE SERVICE METER) DETAILING THE LOCATION OF THE AC DISCONNECT WITH REGARDS TO THE SERVICE METER. THE MAP WILL NEED TO BE PRINTED, LAMINATED, AND INSTALLED AT THE SERVICE TRANSFORMER AND AT THE AC DISCONNECT. THE MAP MUST COMPLY WITH THE FOLLOWING:
 - BUILDINGS AND STREETS SHOWN ON THE MAP WITH A NORTH ARROW.
 - LOCATION OF DISCONNECT SWITCH OR SWITCHES.
 - SCALE OF MAP MUST LEGIBLE AND THE MINIMUM SIZE IS TO BE AT LEAST 9 1/2 INCHES BY 11 INCHES OR 9 1/2 INCHES BY 14 INCHES WITH MAX OF 1/16" (OPTIONAL METALLIC).
 - LATITUDE AND LONGITUDE OF EACH DISCONNECT SWITCH.
 - CONTACT NAME AND PHONE NUMBER FOR FACILITIES PERSONNEL AT THE BUSINESS.
 - THE MAPS MUST BE LAMINATED (WATERPROOF).
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE FOLLOWING INVERTER SET POINT INFORMATION. THE NAMEPLATES ON THE INVERTER SHOULD ALSO BE MODIFIED TO REFLECT THESE SETTINGS. IF THE NAMEPLATE CANNOT BE EASILY UPDATED, ADDITIONAL SIGNAGE NEEDS TO BE PLACED ON THE INVERTER BY THE AUTHORIZED TECHNICIAN MAKING THE CHANGE. ALL SIGNAGE SHALL COMPLY WITH NEC AND PROJECT SPECIFICATIONS.

UNDER VOLTAGE SETPOINT #1 (27-0)	0.88 PER UNIT, 200 SECOND DELAY
UNDER VOLTAGE SETPOINT #2 (27-2)	0.50 PER UNIT, 0.75 SECOND DELAY
OVER VOLTAGE SETPOINT #1 (59-0)	1.0 PER UNIT, 200 SECOND DELAY
OVER VOLTAGE SETPOINT #2 (59-2)	1.20 PER UNIT, 0.6 SECOND DELAY
UNDER FREQUENCY SETPOINT #1 (81U-0)	58.0 HZ, 300 SECOND DELAY
UNDER FREQUENCY SETPOINT #2 (81U-2)	57.0 HZ, 100 SECOND DELAY
OVER FREQUENCY SETPOINT #1 (81O-0)	64.4 HZ, 300 SECOND DELAY
OVER FREQUENCY SETPOINT #2 (81O-2)	62.0 HZ, 100 SECOND DELAY

A1 AC SINGLE LINE DIAGRAM
NO SCALE

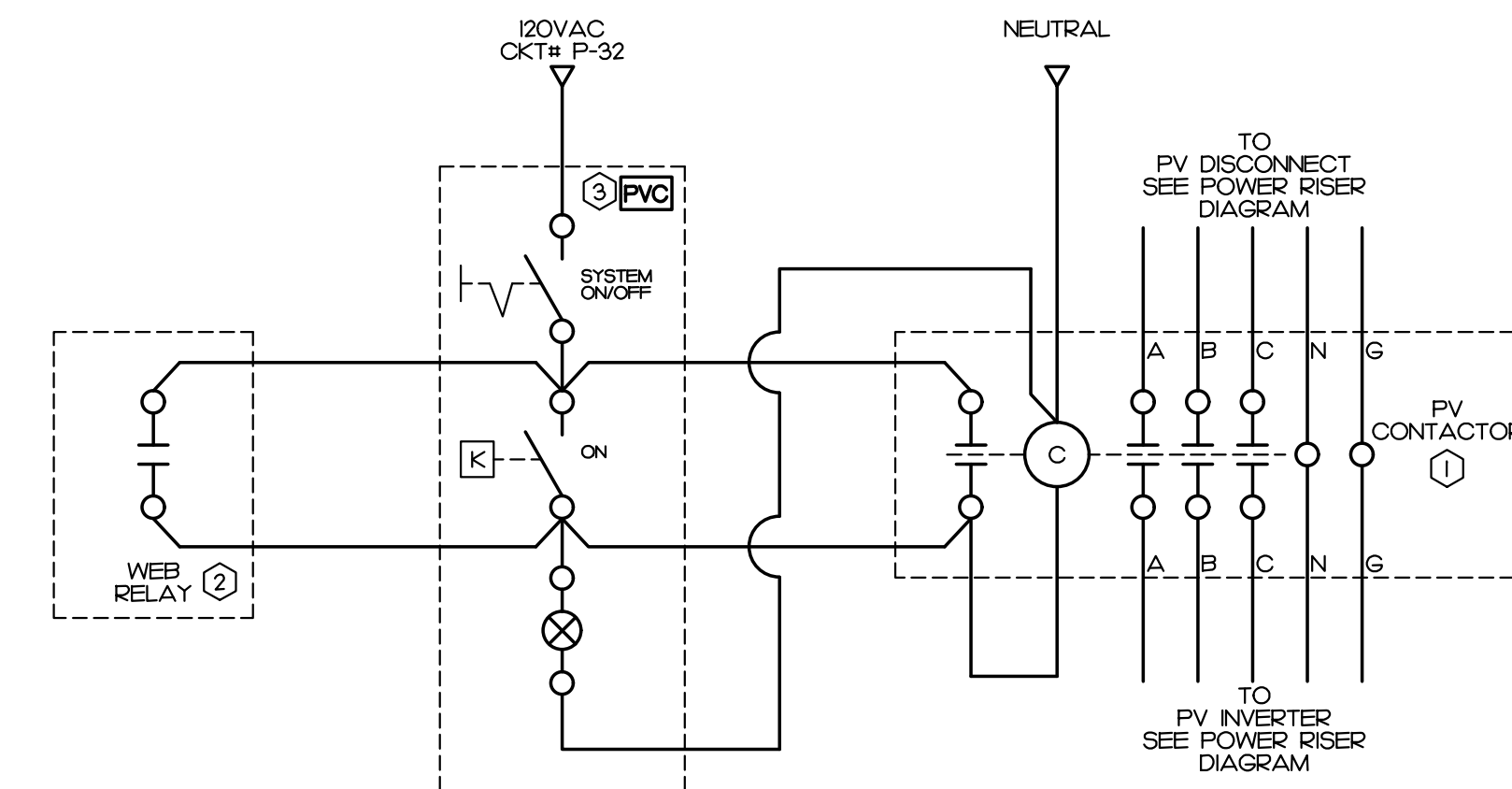


- TYPICAL DC PV MODULE STRING WIRES WITHOUT RACEWAY AS REQUIRED.
- 2-#10 WIRES SHALL BE LISTED FOR 2000VDC, WET LOCATION AND UV RESISTANT.
 - PROVIDE #6 CU AC EQUIPMENT GROUND.
 - PROVIDE DC-DC OPTIMIZERS. EACH STRING SHALL BE WITH 18 SOLAREEDGE P1201 21 OPTIMIZERS.

NOTES:

THE SUBMISSION OF THIS DRAWING ACKNOWLEDGES THIS IS THE FINAL DESIGN AND ANY CHANGE TO THIS DIAGRAM COULD RESULT IN A MATERIAL MODIFICATION AS DEFINED BY THE STATE INTERCONNECTION STANDARDS. ANY CHANGES TO THIS DIAGRAM MUST BE SUBMITTED TO DUKE ENERGY.

D5 INVERTER SINGLE LINE DIAGRAM
NO SCALE



KEY NOTES

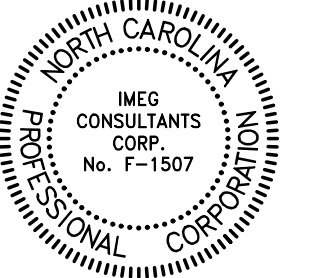
1. PV CONTACTOR:
 - NEMA SIZE 4 (35A CONT.), 480VAC, 3P CONTACTOR
 - 2 AUX. INCL. CONTACT
 - NEMA 1 ENCLOSURE
 - 120VAC CONTACTOR COIL.
2. WEB RELAY WITH I.N.O. OUTPUT RELAY. FURNISHED AND INSTALLED BY OWNER. SEE KEY NOTE #16 IN D/E200.
3. PV CONTACTOR CONTROL PANEL IN NEMA 1 ENCLOSURE.
 - 1 - RED MANUAL ON/OFF SWITCH. LABEL "SYSTEM OFF" AT OFF POSITION AND "SYSTEM ON" AT ON POSITION.
 - 1 - MOMENTARILY KEY PUSH BUTTON (N.O.) FOR ON. LABEL "ON". PROVIDE 2 KEYS TO OWNER.
 - 1 - GREEN PILOT LIGHT FOR ON INDICATOR.
 - PROVIDE PLAQUE: "PV CONTACTOR CONTROL PANEL."

NOTES

1. THE SHOWN DIAGRAM IS A GUIDELINE. CONTRACTOR SHALL SUBMIT CONTROL DIAGRAM AND CUT SHEETS TO ARCHITECT FOR APPROVAL. CONTRACTOR SHALL FIELD COORDINATE WITH OWNER AND ENGINEER TO ENSURE THE CIRCUITRY FUNCTIONS AS FOLLOWS:
 - a. PV CONTACTOR SHALL BE OFF UPON:
 - PUSHING KEY SWITCH IN PV CONTACTOR CONTROL PANEL.
 - WEB RELAY OUTPUT RELAY ACTIVATION. THIS WILL OCCUR UPON THE ATS POWER SOURCE FROM UTILITY.
 - b. PV CONTACTOR SHALL BE OFF UPON:
 - SYSTEM ON/OFF SWITCH IN CONTACTOR CONTROL.
 - SWITCH IS AT "SYSTEM OFF" POSITION. PV CONTACTOR WILL NOT BE ON UPON ACTIONS PER #1a.
 - POWER OUTAGE MORE THAN 5 SECOND. WHEN SYSTEM ON/OFF AT ON POSITION, CONTACTOR SHALL REMAIN OFF WHEN POWER IS BACK ON LINE. THE SYSTEM COULD BE ON AGAIN UPON ACTION PER #1a.

A5 PV CONTACTOR DIAGRAM
NO SCALE

SEALS



DKA JOB NUMBER
2403

REVISIONS

NO.	DESCRIPTION

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PE: SP
Drawn By: SP
Plot Date: 1/13/2025

DATE ISSUED

Bid Documents
1/13/2025

SHEET TITLE
PV SYSTEM DETAILS AND DIAGRAMS

E201