

Contract : C201598 K - 4904 I-95 NBL/SBL, Cumberland County Rest Area

STATE NC	T.I.P. # K-4904	SHEET # 1 of
WBS # 40223.1.1	FA Project # IMS-95-1(63)47	Description P.E.
40223.3.1		RW
		CONST.

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CUMBERLAND COUNTY**

**Location: Rest Area I-95 North and South Bound Lanes, 1 mile south of Fayetteville, NC**

**Type of Work: Rest Area Renovation; New Building, Renovation of Old Service Building, Site, and Utility Work**

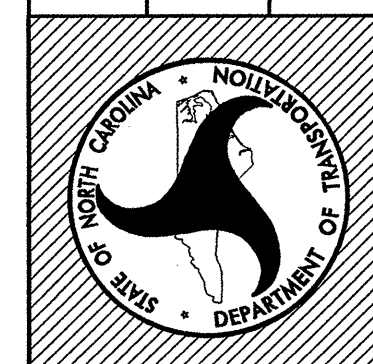


2006 Standard Specifications

*Letting Date*

March 18, 2008

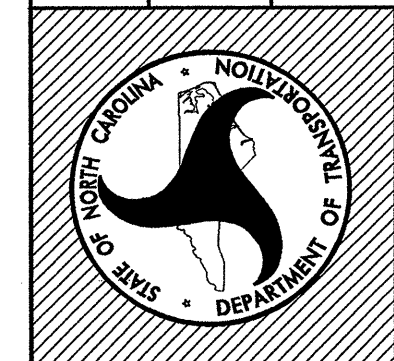
North Carolina Department of Transportation  
Division of Highways  
1 South Wilmington Street Raleigh, North Carolina



Cumberland County, I - 95  
North and South Bound Lanes  
Rest Area Renovation

Site /Landscape Design	Site /Utility Design	Architectural/Engineering
<b>LANDSCAPE DESIGN &amp; DEVELOPMENT</b>	<b>REST AREA SECTION</b>	<b>FACILITIES DESIGN</b>
Roadside Environmental Unit 1 South Wilmington Street 1557 Mail Service Center Raleigh, North Carolina 27601 Office (919) 733-2920 Fax (919) 733-9810	Roadside Environmental Unit 1 South Wilmington Street 1557 Mail Service Center Raleigh, North Carolina 27601 Office (919) 733-2920 Fax (919) 733-9810	General Services Division, NCDOT 1 South Wilmington Street 1525 Mail Service Center Raleigh, North Carolina 27601 Office (919) 715-0400 Fax (919) 715-0399

Plans Drawn By:	BMinter
Scale	Not to Scale
Date	12 / 1 / 07
Letting Date	Mar. 18, 2008
2006 Standard Specifications	
Sheet Description	Cumberland NBL/SBL RA
Title Sheet	
Sheet #	1



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**Roadway Standard Drawings**

The following Roadway Standards appear in 'Roadway Standard Drawings' - Highway Design Branch - N.C. Department of Transportation - Raleigh N.C., Dated July 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
840.00	- CONC. BASE PAD FOR DRAINAGE STRUCTURE
840.14	- CONC. DROP INLET
840.16	- DROP INLET FRAME AND GRATE
846.01	- CONC. CURB, GUTTER, AND CURB & GUTTER
848.05	- WHEELCHAIR RAMP

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201598

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
2286000000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.16
2605000000-N	848	2	EA	CONCRETE WHEELCHAIR RAMPS
2738000000-E	SP	187	SY	GENERIC PAVING ITEM 4" CONCRETE SIDEWALK
3656000000-E	876	150	SY	FILTER FABRIC FOR DRAINAGE
6000000000-E	1605	185	LF	TEMPORARY SILT FENCE
6006000000-E	1610	50	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	30	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	15	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	2	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6030000000-E	1630	35	CY	SILT EXCAVATION
6036000000-E	1631	75	SY	MATTING FOR EROSION CONTROL
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
6135000000-E	SP	2	ACR	GENERIC EROSION CONTROL ITEM SEEDING AND MULCHING OF REST AREA LAWN
6900000000-E	SP	1,000	CY	TOPSOIL
6970000000-N	SP	3	EA	GENERIC REST AREA ITEM 3" GATE VALVE & BOX
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM 4" SANITARY SEWER CLEANOUT
6970000000-N	SP	9	EA	GENERIC REST AREA ITEM 4" STORM DRAIN CLEANOUT

ItemNumber	Sec #	Quantity	Unit	Description
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM CONNECTION TO SEWER MANHOLE/SEWER LINE
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM DOUBLE GATES, 72" HIGH, 8" WIDE, 16" OPENING
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM RELOCATE POST TOP LIGHT & POLE
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL CONSTRUCTION OF I-95 REST AREA BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL CONSTRUCTION OF I-95 VENDING BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION OF I-95 REST AREA BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION OF I-95 VENDING BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE & SITE GRADING
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM MECHANICAL CONSTRUCTION OF I-95 REST AREA BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM MECHANICAL CONSTRUCTION OF I-95 VENDING BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING CONSTRUCTION OF I-95 REST AREA BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING CONSTRUCTION OF I-95 VENDING BLDGS NBL/SBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE DEMOLITION
6980000000-E	SP	25	LF	GENERIC REST AREA ITEM 2" SLEEVE FOR UNDERGROUND ELEC. (SCH 40 PVC)
6980000000-E	SP	395	LF	GENERIC REST AREA ITEM 3" PVC WATER PIPE, SCH 80
6980000000-E	SP	40	LF	GENERIC REST AREA ITEM 3/4"-2" (SCH 80 PVC) WATER LINE REPAIR
6980000000-E	SP	455	LF	GENERIC REST AREA ITEM 4" PVC/ABS -DWV, SCH 40 DRAIN PIPE

ItemNumber	Sec #	Quantity	Unit	Description
6980000000-E	SP	180	LF	GENERIC REST AREA ITEM 6" PVC (SDR-35) GRAVITY SEWER LINE
6980000000-E	SP	350	LF	GENERIC REST AREA ITEM 6" PVC/ABS -DWV, SCH 40 DRAIN PIPE
6980000000-E	SP	47	LF	GENERIC REST AREA ITEM BRICK SEATWALL
6980000000-E	SP	1,772	LF	GENERIC REST AREA ITEM CHAIN LINK FENCE, 72" FABRIC
6980000000-E	SP	488	LF	GENERIC REST AREA ITEM TREE PROTECTION FENCE

SHEET # 2 of 4  
WBS # 40223.3.1  
FED. PROJ. # IHS-95-1(63)47  
T.I.P. # K-4904

North Carolina Department of Transportation  
Roadside Environmental Unit  
Landscape Design & Development Section



PROJECT TITLE:  
**Rest Area Renovation  
I - 95 (NBL & SBL Pair)  
Cumberland County**

Plans Drawn By:  
Scale  
**Not to Scale**  
Date  
**12 / 1 / 07**  
Sheet Description  
**Summary of Quantities**  
Sheet #  
**3**



# BUILDING CODE SUMMARY: New Rest Area Bldg.

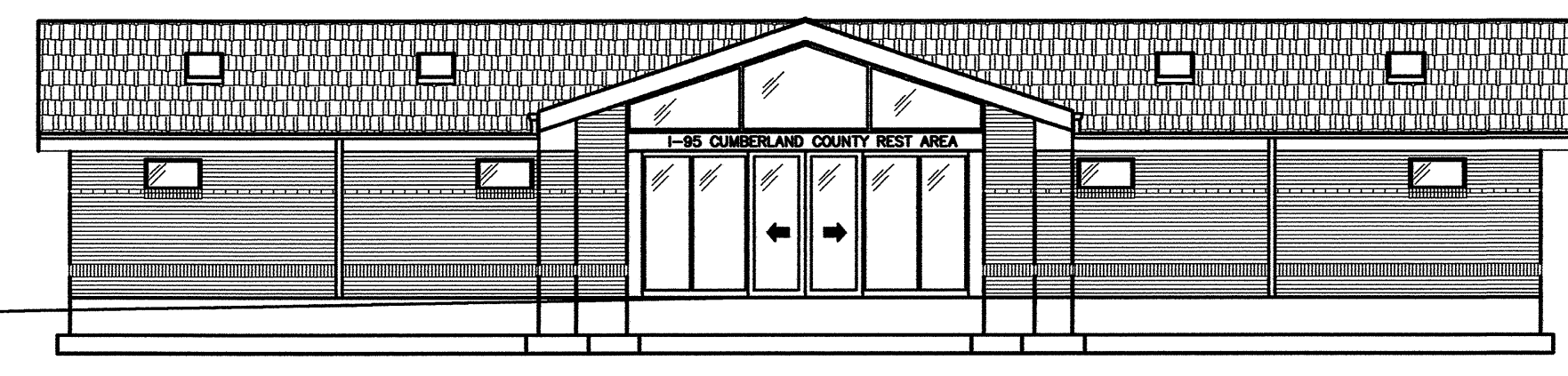
# 1-95 REST AREA REPLACEMENT

## NEW REST AREA BLDG. & VENDING BLDG. REMODELING

### CUMBERLAND COUNTY, NORTH CAROLINA

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Name of Project: 1-95 REST AREA & VENDING  
 Address: CUMBERLAND COUNTY, NC  
 Proposed Use: BUSINESS (Rest Area)  
 Owner or Authorized Agent: GENERAL SERVICES, NCDOT  
 Telephone # (919) 715-0400  
 Owned By: State of North Carolina  
 Code Enforcement Jurisdiction: State

Use Group or Space	(a)		(c)		Exit Width (in)	
	Area <sup>1</sup> sq. ft.	Area <sup>1</sup> per Occupant (Table 1003.2.2.2)	Egress Width per Occupant (Table 1003.2.3)	Required Width (Table 1003.2.3) (a/b) x c	Actual Width Shown on Plans	Level
REST AREA						
Business	2,427	100	N/A	.2	N/A	66"
Storage/Mech	293	300	N/A	.2	N/A	33"

LEAD DESIGN PROFESSIONAL: FACILITIES DESIGN, NCDOT  
 Telephone # (919) 715-0400  
 Architectural: Victor M. Buzard, Jr. RA. Licence # 4241  
 Plumbing & Electrical: Joel Hobby, PE License # 7911  
 Mechanical: Richard Keil, PE License # 16343  
 Structural: W. E. Ratterree, PE License # 16394

STRUCTURAL DESIGN  
 DESIGN LOADS:  
 Importance Factors: Wind(Iw) 1.0, Snow(Is) 1.0, Seismic (IE) 1.0  
 Live Loads: Roof 20 psf, Mezzanine NA psf, Floor 100 psf  
 Snow Load: 10 psf  
 Wind Load: Basic Wind Speed 100 mph (ASCE-7-02), Exposure Category B, Wind Base Shears (for MWFRS) Vx=11,400#, Vy=18,200#

ALLOWABLE AREA:  
 Primary Occupancy: Business (Rest Area Bldg)  
 Secondary Occupancy: N/A  
 Special Occupancy: N/A  
 Mixed Occupancy: No Separation: -

Story No.	Description and Use	Bldg Area per Story (Actual)	Table 503 Area	Area for Open Space Increase	Allowable Area	Max Bldg Area
1	Business(B)	2,720	9,000	N/A	-	-

SEISMIC DESIGN CATEGORY "C"  
 Seismic Use Group: D  
 Spectral Response Acceleration Sms 0.480%g, Sm1 0.176%g  
 Site Classification: D  
 Basic structural system (check one):  
 Bearing Wall  
 Building Frame  
 Moment Frame Vx=7,700#, Vy=7,700#  
 Seismic base shear Analysis Procedure Simplified, Equivalent Lateral Force Modals  
 Architectural, Mechanical, Components anchored? YES  
 LATERAL DESIGN CONTROL: Earthquake, Wind X  
 SOIL BEARING CAPACITIES:  
 Field Test (provide copy of test report) 2000 psf  
 Presumptive Bearing capacity  
 Pile size, Type and Capacity

Type of Construction	Allowable Table 503	Increase for Sprinklers	Shown on Plans	Code Reference
Type V-B	-	-	V-B	-
Bldg Height in Feet	40'	N/A	11'-7"	-
Bldg Height in Stories	2-Story	N/A	1-Story	-

PLUMBING FIXTURE REQUIREMENTS  
 Rest Area Total Occupants is 29 Persons x 75% = 22 Persons by Code, [fixtures #'s provided]

Bldg or Occupancy	Total Occupants		Waterclosets		Urinals		Lavatories		Showers/		Drinking Fountains	
	Male	Female	Male	Female	Male	Female	Male	Female	Tubs	Regular	Accessible	Accessible
Rest Area	9	13	1	2	1	2	1	2	N/A	1	1	1

FIRE PROTECTION REQUIREMENTS:  
 Life Safety Plan Sheet #, N/A

Bldg Element	Fire Separation Distance (Feet)	Req'd	Rating Provided w/ Reduction	Detail and # of Sheets	Design # for Rated Assembly	Design # for Rated Penetration	Design # for Rated Joints
Structural Frame including columns, girders, trusses	-	0	0	-	-	-	-
Exterior Bearing Walls							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Interior Bearing Walls							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Ext. Nonbearing walls & partitions							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Interior Nonbearing							
North	0	0	0	-	-	-	-
East	0	0	0	-	-	-	-
West	0	0	0	-	-	-	-
South	0	0	0	-	-	-	-
Floor construction including supporting beams & joists	-	0	0	-	-	-	-
Roof construction incl. support'g beams & truss @ Jan. Clos. only	-	0	0	-	-	-	-
Shafts - Exit	-	N/A	-	-	-	-	-
Shafts - Other	-	N/A	-	-	-	-	-
Corridor Separation	-	N/A	-	-	-	-	-
Occupancy Separation	-	N/A	-	-	-	-	-
Party/Fire Wall Separation	-	N/A	-	-	-	-	-
Smoke Barrier Separation	-	N/A	-	-	-	-	-
Tenant Separation	-	N/A	-	-	-	-	-

Lot or Parking Area	Total # of Parking Spaces		# of Accessible Spaces Provided		Total # Accessible Provided
	Required	Provided	Regular w/ 5' Access Aisle	Van Spaces w/ 8' Access Aisle	
Cars		51	2	1	3
Trucks/Trailers		27			
Total		78			

SPECIAL APPROVALS  
 Special Approval: N/A

Component Name / Description	Gross Area	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor (e)
ROOF 1: ALL-WOOD JOIST/RAFTER/TRUSS	2,975	0.0	30.0	0.032	0.069
SKYLIGHT 1: WOOD FRAME, DOUBLE PANE, CLEAR, SHGC: 0.0	64	---	---	0.800	0.069
EXTERIOR WALL 1: WOOD FRAME, ANY SPACING	1691	0.0	19.0	0.046	0.133
WINDOW 1: WOOD FRAME, DOUBLE PANE WITH LOW-E CLEAR, SHGC 0.70, PF 1.00	361	---	---	0.590	0.706
FLOOR 1: UNHEATED SLAB-ON-GRADE, HORIZONTAL - 2 FT.	228	---	7.5	---	---

Envelope Passes: Design 24% Better Than Code

### SYMBOLS

	SILT FENCE		RIGID INSULATION		REVISION NUMBER		CMU
	ELEVATION MARK		BATT INSULATION / BLOWN		ELEVATION NUMBER		CONCRETE
	DRAINAGE / SLOPE ARROW		DRYWALL OR PLASTER		DRAWING SHEET NUMBER		STEEL
	EXISTING CONTOURS		GRAVEL		DRAWING SHEET REFERENCE NUMBER		ROUGH CARPENTRY
	EXISTING ELEVATION		UNDISTURBED EARTH		BUILDING OR WALL SECTION NO.		FINISH CARPENTRY
	NEW CONTOURS		COMPACTED FILL		DRAWING SHEET NUMBER		
	NEW ELEVATION						
	EXISTING TREE						
	FIRE EXTINGUISHER						

### ABBREVIATIONS & SYMBOLS

<	ANGLE	EA.	EYE WASH	M.O.	MASONRY OPENING	STL.	STEEL
AL.	ALUMINUM	EW.	ELECTRICAL	MAT.	MATERIAL	STG.	STORAGE
AB.	ANCHOR BOLT	ELEC.	ELEVATION	MAX.	MAXIMUM	S.A.C.	SUSPENDED ACOUSTICAL CEILING
APPROX.	APPROXIMATE	ELEV.	EXISTING	MIN.	MINIMUM	T&G	TONGUE AND GROOVE
ARCH.	ARCHITECTURAL	EXIST.	EXISTING	MNTD.	MOUNTED	T.O.F.	TOP OF FOOTING
AWC	AVERAGE	EW	ELECTRIC WATER COOLER	MLDG.	MOLDING	T.O.J.	TOP OF JOIST
AVG.	AVERAGE	E/U	EXPANSION JOINT	N.T.S.	NOT TO SCALE	T.O.S.	TOP OF STEEL
BB	BACK TO BACK	EXT.	EXTENDED BOTTOM CHORD	NO.	NUMBER	T.O.W.	TOP OF WALL
BSMT.	BASEMENT	EXT.	EXTERIOR	O.C.	ON CENTER	T.	TREAD
BRG.	BEARING	FF	FINISH FLOOR ELEVATION	OPNG.	OPENING	TYP.	TYPICAL
BM.	BENCH MARK	FIN.FL.	FINISH FLOOR	PNL.	PANEL	UNFN.	UNFINISHED
BLKG.	BLOCKING	F.E.	FIRE EXTINGUISHER	PLAS.LAM.	PLASTIC LAMINATE	U.O.N.	UNLESS OTHERWISE NOTED
BD.	BOARD	F.D.	FLOOR DRAIN	PLATE	PLATE	VERT.	VERTICAL
BLDG.	BUILDING	FTG.	FOOTING	PLMB.	PLUMBING	W.W.M.	WELDED WIRE MESH
CH	CEILING HEIGHT	FRGWB	FIRE RATED GYPSUM WALLBOARD	PLYWD.	PLYWOOD	W/	WITH
CL.	CENTER LINE	GALV.	GALVANIZED	P.	PREFABRICATED	WD.	WOOD
CC	CENTER TO CENTER	GA.	GAUGE	P.S.I.	POUNDS PER SQUARE INCH	102	ROOM/SPACE NUMBER
C.I.	CAST IRON	GL.	GLASS	REFAB.	REQUIRED	(B)	WINDOW TYPE
COL.	COLUMN	OP.	GLAZED PAVER TILE	R.	RISER	(2)	DOOR TYPE
CONC.	CONCRETE	GWB	GYPSUM SHEATHING	SAN.	SANITARY	---	CENTER LINE
CMU	CONCRETE MASONRY UNIT	GYP.	GYPSUM	SEC.	SECTION	---	HIDDEN LINE
CONT.	CONTINUOUS	HM	HOLLOW METAL	SHT.	SHEET	---	BREAK LINE
CJ	CONSTRUCTION JOINT	H.R.	HORIZONTAL	SHTHG.	SHEATHING	---	CONSTRUCTION FENCE
C/U	COURSES	H.B.	HOSE BIBB	SIM.	SIMILAR		
CRS	COURSES	INSUL.	INSULATION	SPEC.	SPECIFICATIONS		
DET.	DETAIL	INT.	INTERIOR	SQ.	SQUARE		
DIA.	DIAMETER	JST.	JOIST	SS	SERVICE SINK		
DBL	DOUBLE	LAV.	LAVATORY	STD.	STANDARD		
DS	DOWN SPOUT	M.H.	MAN HOLE				

LIFE SAFETY SYSTEM REQUIREMENTS:  
 Emergency Lighting: Yes  
 Exit Signs: Yes  
 Fire Alarm: No  
 Smoke Detection System: Yes, local  
 Panic Hardware: No

Floor, Room or Space Designation	Minimum Number of Exits		Travel Distance		Arrangement Means of Egress (Section 1004.1)	
	Required	Shown on Plans (Actual)	Allowable Travel Distance (Table 1004.2.4)	Actual Travel Distance Shown on Plans	Required Distance Between Exit Doors	Actual Distance Shown on Plans
Business 2B-occupants	1	2	200'	41'	N/A	30'

PROJECT: 1-95 REST AREA CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS: FACILITIES DESIGN GENERAL SERVICES DIVISION, NCDOT 1 SOUTH WILMINGTON STREET RALEIGH, NORTH CAROLINA 27601 (919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: BUILDING CODE SUMMARY

DRAWN BY: RA CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 12.11.07 NORTH CAROLINA RALEIGH, NC.	T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO.
			T1 OF 2



### BUILDING CODE SUMMARY-EXISTING VENDING

Name of Project: I-95 REST AREA & VENDING  
 Address: CUMBERLAND COUNTY, NC  
 Proposed Use: STORAGE (Vending Bldg.)  
 Owner or Authorized Agent: GENERAL SERVICES, NCDOT  
 Telephone # (919) 715-0400  
 Owned By: State of North Carolina  
 Code Enforcement Jurisdiction: State

LEAD DESIGN PROFESSIONAL: FACILITIES DESIGN, NCDOT  
 Telephone # (919) 715-0400

Architectural: Victor M. Buzard, Jr. RA. Licence # 4241  
 Plumbing & Electrical: Joel Hobby, PE License # 7911  
 Mechanical: Richard Keil, PE License # 16343  
 Structural: W. E. Ratterree, PE Licence # 16394

YEAR EDITION OR CODE: 2006, NC STATE BUILDING CODE

**BUILDING DATA:**  
 Construction Type: V-B Mixed Construction: No  
 Sprinklers: No NFPA 13  
 Standpipes: No  
 Fire District: No  
 Building Height: 11'-4" Number of Stories: 1  
 Mezzanine: No  
 High Rise: No  
 Gross Building Area: Exist'g Vending Bldg. 1,557sf

**ALLOWABLE AREA:**  
 Primary Occupancy: Storage (S-2)  
 Secondary Occupancy: N/A  
 Special Occupancy: N/A  
 Mixed Occupancy: No Separation: -

Story No.	Description and Use	Bldg Area per Story (Actual)	Table 503 Area	Area for Open Space Increase	Allowable Area	Max Bldg Area
1	Storage	1,557	13,500	N/A	-	-

**ALLOWABLE HEIGHT:**

	Allowable Table 503	Increase for Sprinklers	Shown on Plans	Code Reference
Type of Construction	Type V-B	-	V-B	-
Bldg Height in Feet	40'	N/A	15'-8"	-
Bldg Height in Stories	2-Story	N/A	1-Story	-

**FIRE PROTECTION REQUIREMENTS:**  
 Life Safety Plan Sheet #, N/A

Bldg Element	Fire Separation Distance (Feet)	Req'd	Rating Provided and Reduction	Detail # and Sheet #	Design # for Rated Assembly	Design # for Rated Penetration	Design # for Rated Joints
Structural Frame including columns, girders, trusses	-	0	0	-	-	-	-
Exterior Bearing Walls							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Interior Bearing Walls							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Interior Nonbearing							
North	30	0	0	-	-	-	-
East	30	0	0	-	-	-	-
West	30	0	0	-	-	-	-
South	30	0	0	-	-	-	-
Floor construction including supporting beams & joists	-	0	0	-	-	-	-
Roof construction including supporting beams & joists	-	0	0	-	-	-	-
Shafts - Exit	-	N/A	-	-	-	-	-
Shafts - Other	-	N/A	-	-	-	-	-
Corridor Separation	-	N/A	-	-	-	-	-
Occupancy Separation	-	N/A	-	-	-	-	-
Party/Fire Wall Separation	-	N/A	-	-	-	-	-
Smoke Barrier Separation	-	N/A	-	-	-	-	-
Tenant Separation	-	N/A	-	-	-	-	-

**LIFE SAFETY SYSTEM REQUIREMENTS:**  
 Emergency Lighting: Yes  
 Exit Signs: Yes  
 Fire Alarm: No  
 Smoke Detection System: Yes, local  
 Panic Hardware: No

**EXIT REQUIREMENTS:**  
 NUMBER & ARRANGEMENT OF EXITS

Floor, Room or Space Designation	Minimum Number of Exits		Travel Distance		Arrangement Means of Egress (Section 1004.1)	
	Required	Shown on Plans (Actual)	Allowable Travel Distance (Table 1004.2.4)	Actual Travel Distance Shown on Plans	Required Distance Between Exit Doors	Actual Distance Shown on Plans
Storage 6-occupants	1	2	200'	33'	N/A	39'

**EXIT WIDTH**

Use Group or Space	Area sq. ft.	Area per Occupant (Table 1003.2.2.2)	Egress Width per Occupant (Table 1003.2.3)		Required Width (a/b) x c		Exit Width (Table 1003.2.3)	
			Stair	Level	Stair	Level	Stair	Level
VENDING	1,557	300	N/A	.2	N/A	1.04"	N/A	132"

**STRUCTURAL DESIGN; EXISTING (OLD BLDG. CODE)**

**PLUMBING FIXTURE REQUIREMENTS**

Adjacent Rest Area provides fixtures for the 6 occupants that may occupy the bldg. temporarily.

Bldg or Occupancy	Total Occupants		Waterclosets		Urinals	Lavatories		Showers/Tubs	Drinking Fountains	
	Male	Female	Male	Female		Male	Female		Regular	Accessible


ACCESSIBLE PARKING: See Sheet T1.

**SPECIAL APPROVALS**

Special Approval: N/A

ENERGY SUMMARY: EXISTING BLDG.

PROJECT: I-95 REST AREA  
 CUMBERLAND COUNTY NORTH CAROLINA



ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
 GENERAL SERVICES DIVISION, NCDOT  
 1 SOUTH WILMINGTON STREET  
 RALEIGH, NORTH CAROLINA 27601  
 (919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
**BUILDING CODE SUMMARY**

DRAWN BY: RA CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

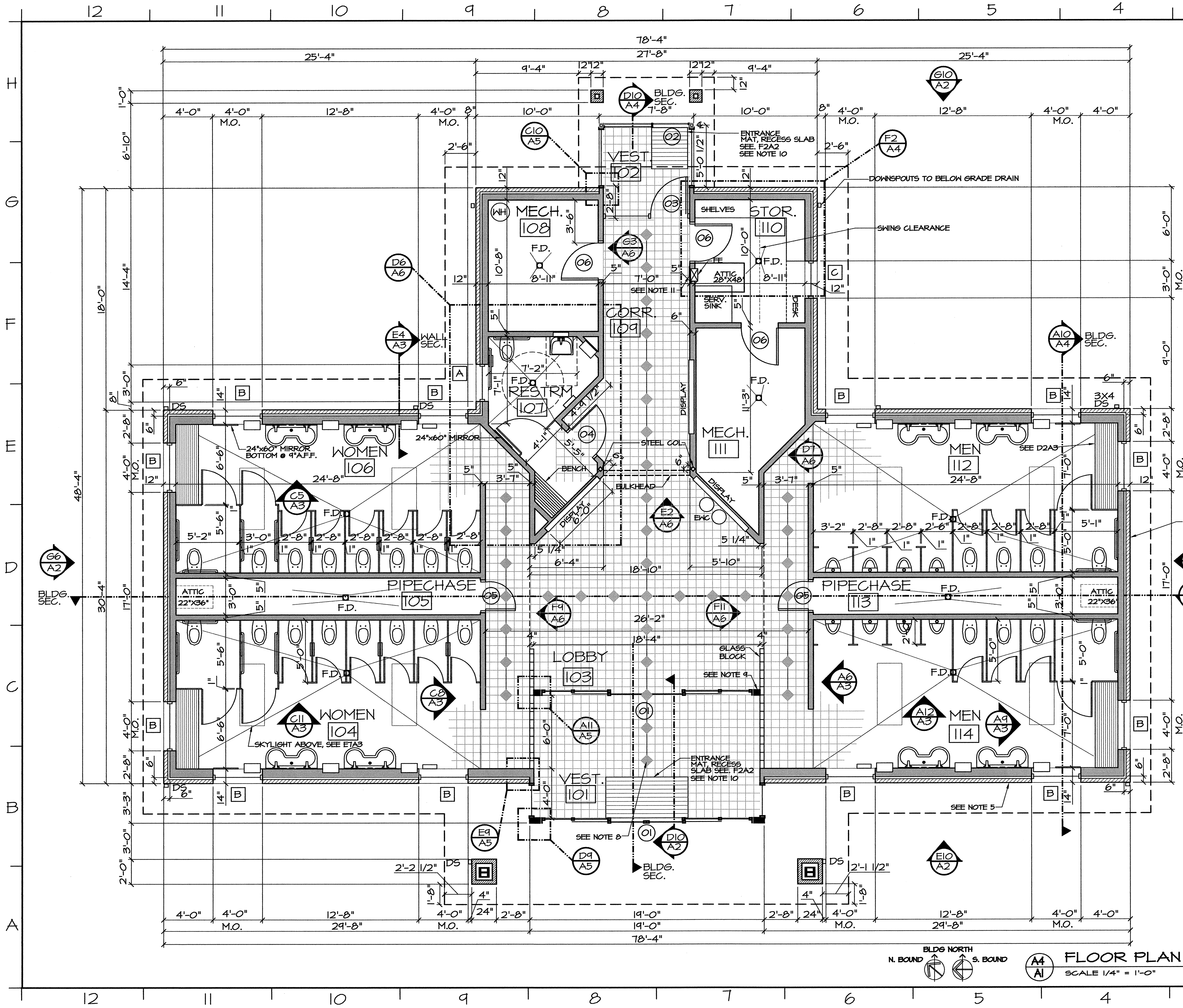
SEAL: VICTOR M. BUZARD, JR. RA. LIC. # 4241  
 12-11-07  
 NORTH CAROLINA RALEIGH, N.C.

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

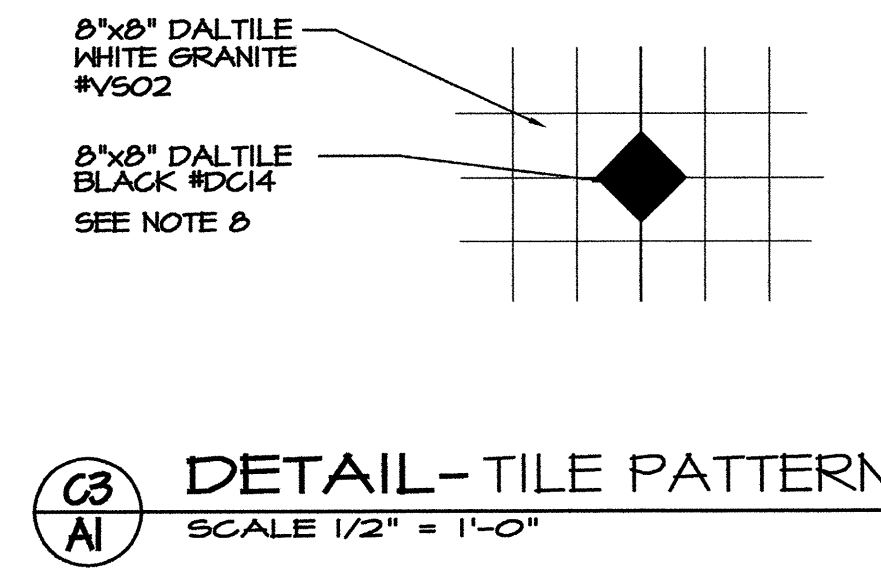
SHEET NO. T2 OF 2



S:\FDREST AREA, WELCOME CENTERS\95 Cumberland Co. I-95 Rest Area\ARCHA\updated.dwg, 1/18/2008 7:54:25 AM



- ### GENERAL NOTES:
1. USE THIN-SET TILE INSTALLATION AT CONCRETE FLOORS & TILE BACKER PANELS AT WOOD STUD WALLS.
  2. INTERIOR ELEVATIONS FOR WOMEN 104 & MEN 114 SIMILAR TO ADJACENT ROOMS 106 & 112 RESPECTIVELY.
  3. PROVIDE 5/8" DRYWALL @ ALL CEILING/ROOF JOIST.
  4. ALL FINISHED FLOOR ELEVATIONS ARE 100'-0" AND ALL FLOOR DRAINS SHALL BE SET AT 99'-10 1/2" (99'-11" @ 107).
  5. ALL EXTERIOR WOOD STUDS SHALL BE 2x6's @ 16" O.C. / EXCEPT @ LAVATORY WALLS ARE 2x8's @ 16" O.C. PROVIDE TOILET ACCESSORY BLOCK-OUTS PER ELEVATIONS.
  6. DIMENSIONS ARE NOMINAL AND ARE TO ALLOW FOR FINISHES.
  7. PROVIDE TOILET PARTITION DOOR W/ FILASTERS @ INTERIOR OF RESTROOM 107. PROVIDE SOLID WOOD BLOCKING FOR ALL TOILET PARTITIONS & ACCESSORIES.
  8. CENTER FLOOR ACCENT GLAZED PAVERS OFF ENTRY & PIPE CHASE DOORS.
  9. PAINT SUPPORT COLUMNS AGAINST GLASS BLOCK GRAY.
  10. PROVIDE ENTRANCE MAT. & ALUM. RECESS FRAME. (SEE F2A2).
  11. SEE SIGN SECTIONS 10425 FOR FIRE EXTINGUISHER SIGN OF THE SPEC.
  12. CAULK ALL INSIDE CORNERS AT TILE.



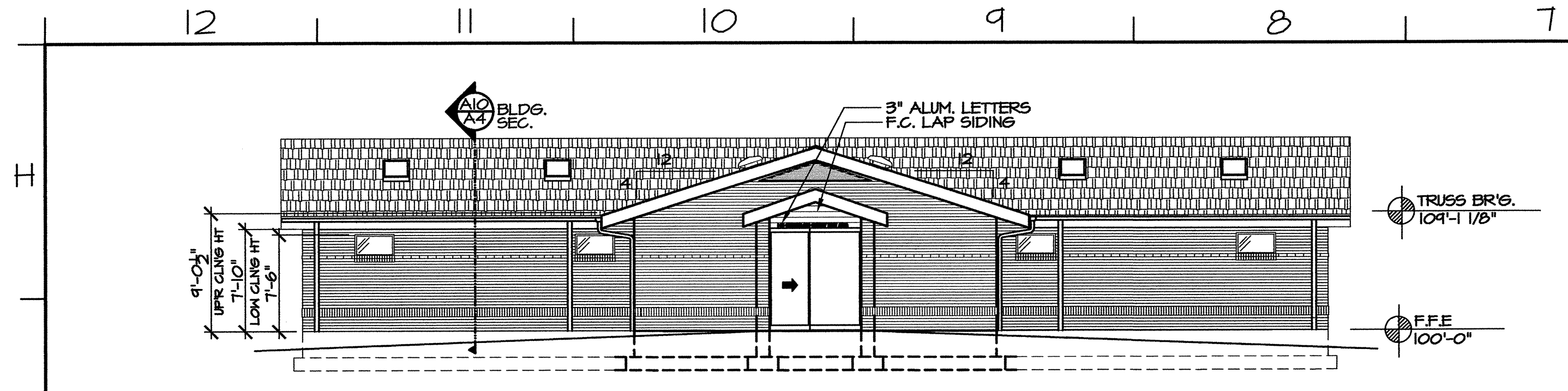
**(C3)** DETAIL-TILE PATTERN  
SCALE 1/2" = 1'-0"

PROJECT:			
<b>I-95 REST AREA</b>		CUMBERLAND COUNTY NORTH CAROLINA	
			
ARCHITECT/ENGINEERS:			
<b>FACILITIES DESIGN</b>			
GENERAL SERVICES DIVISION, NCDOT 1 SOUTH WILMINGTON STREET RALEIGH, NORTH CAROLINA 27601 (919) 715-0400 FAX (919) 715-0399			
DRAWING TITLE:			
<b>FLOOR PLAN</b>			
DRAWN BY:		CHECKED BY: V. BUZARD	
ISSUE DATE: 31 AUGUST 07			
SEAL:	T.I.P. PROJ. NO.	FED. PROJ. NO.	STATE PROJ. NO.
	K-4904	IMS-95-1(63)47	40223.1.1
NO.		REVISIONS/SUBMISSIONS	DATE
			SHEET NO.
			<b>A1</b>
			OF 6

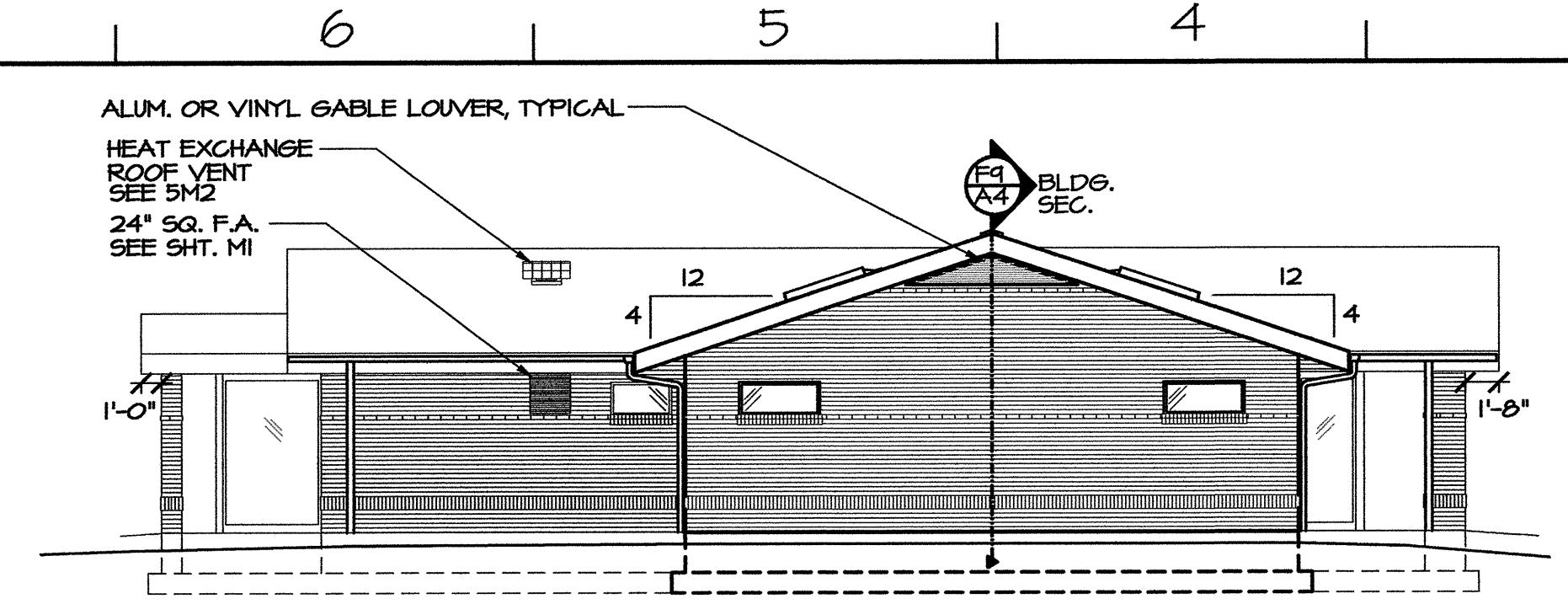
BLDG NORTH  
N. BOUND S. BOUND

**(A4)** FLOOR PLAN  
SCALE 1/4" = 1'-0"

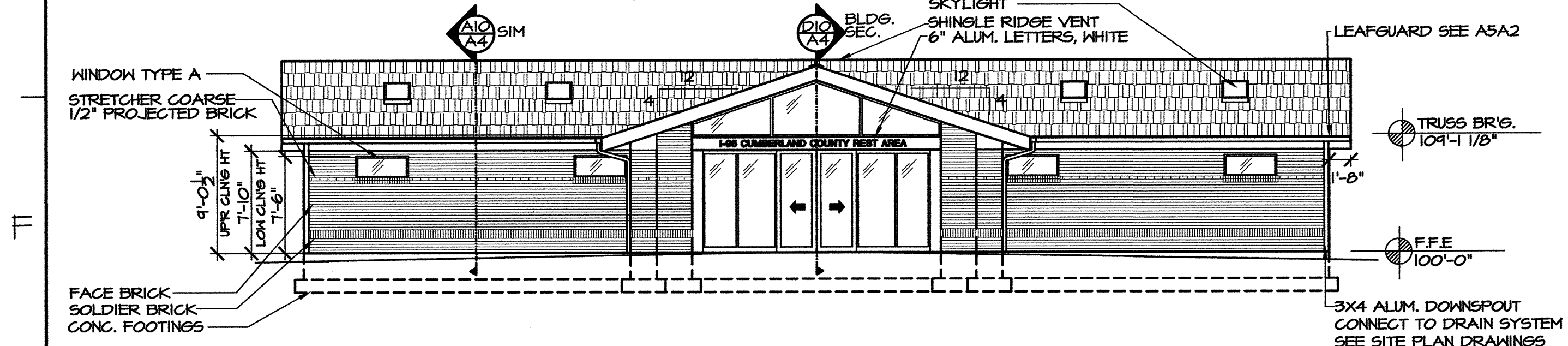




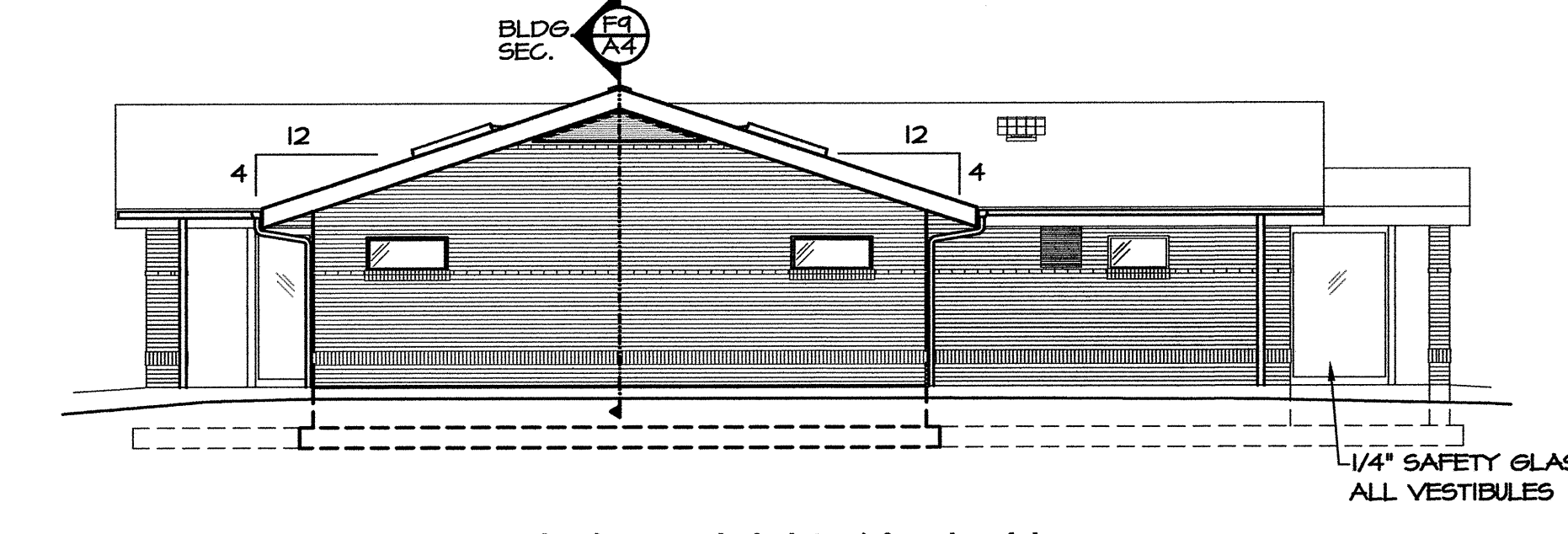
**E10 A2 NORTH ELEVATION**  
SCALE 1/8" = 1'-0"



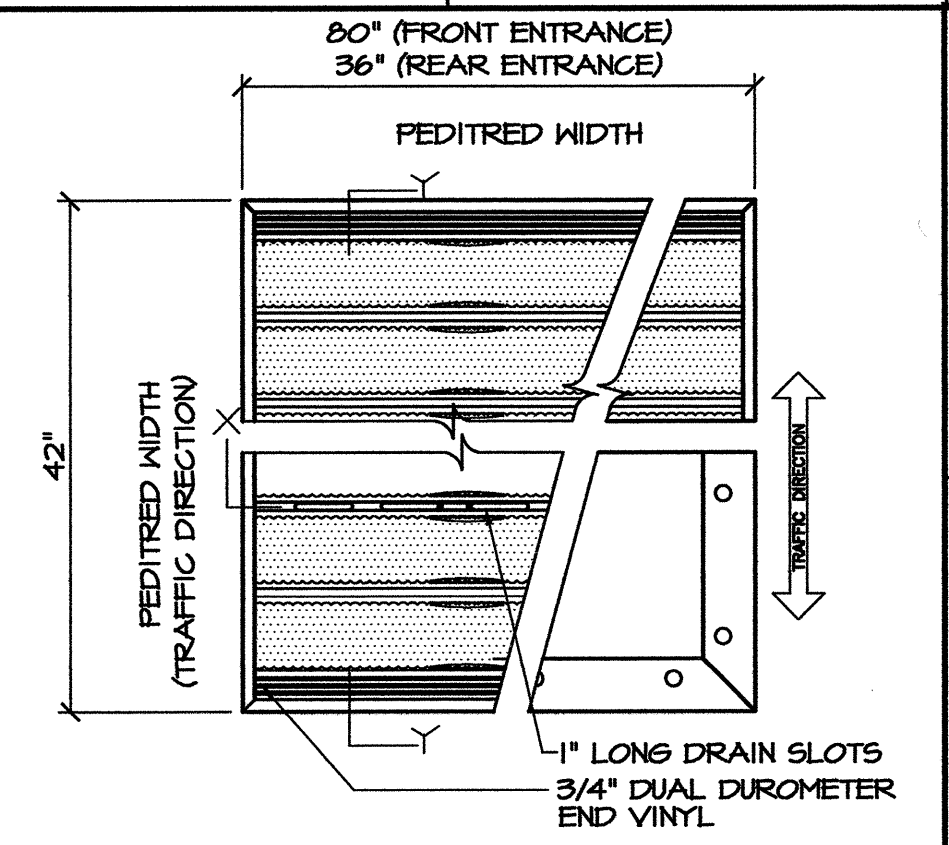
**E6 A2 WEST ELEVATION**  
SCALE 1/8" = 1'-0"



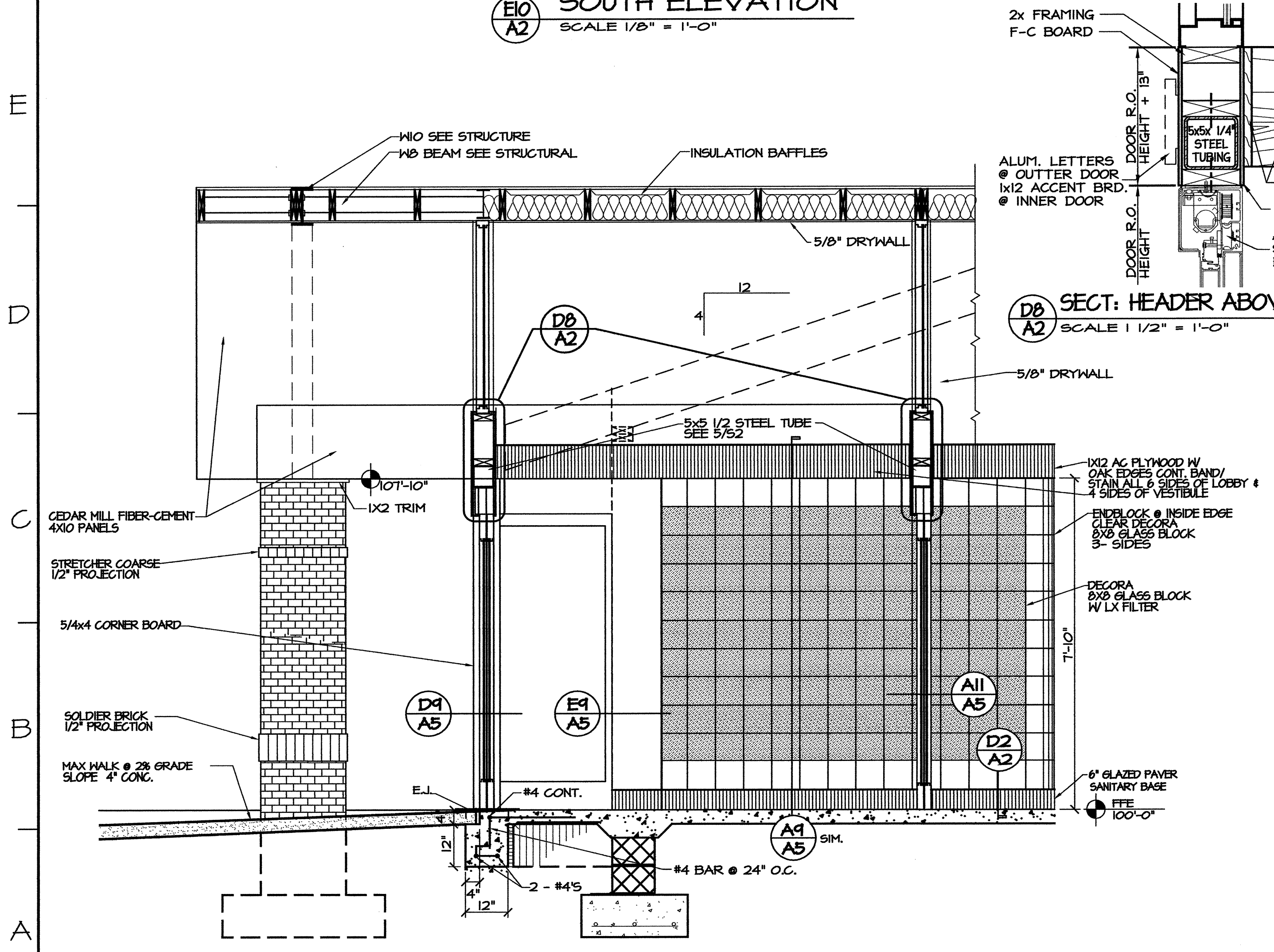
**E10 A2 SOUTH ELEVATION**  
SCALE 1/8" = 1'-0"



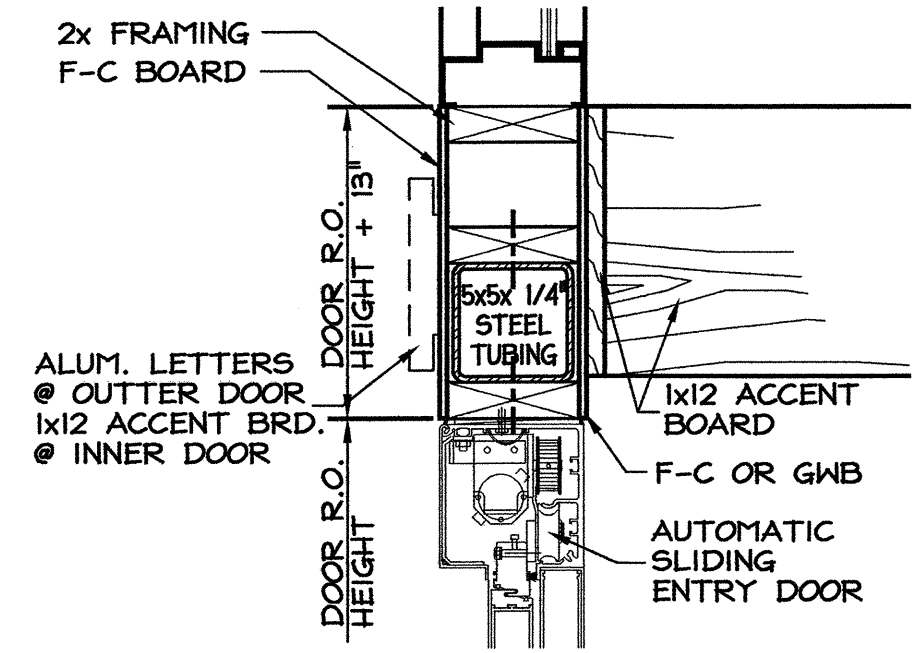
**E6 A2 EAST ELEVATION**  
SCALE 1/8" = 1'-0"



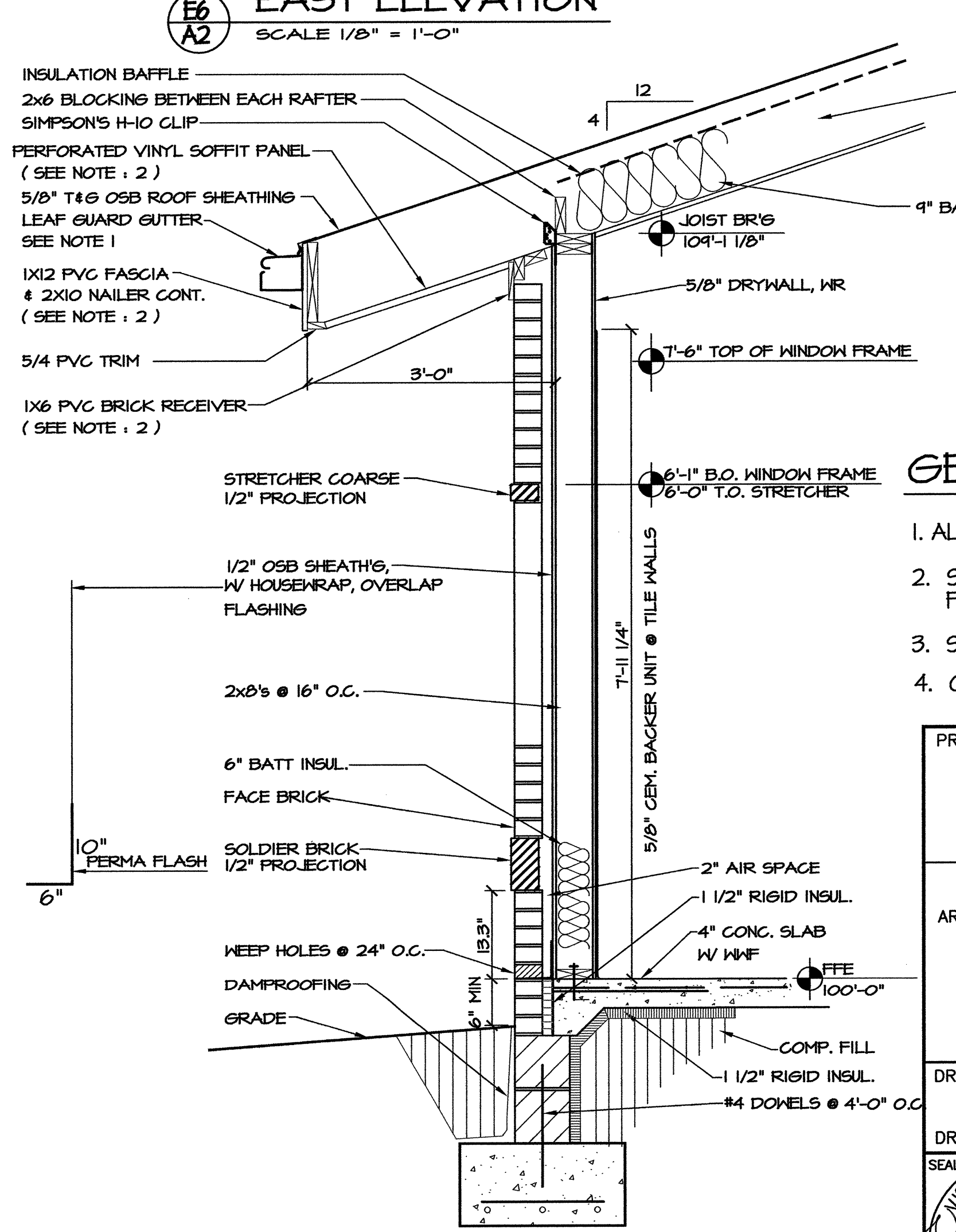
**F2 A2 PLAN DETAIL**  
SCALE 1/2" = 1'-0"



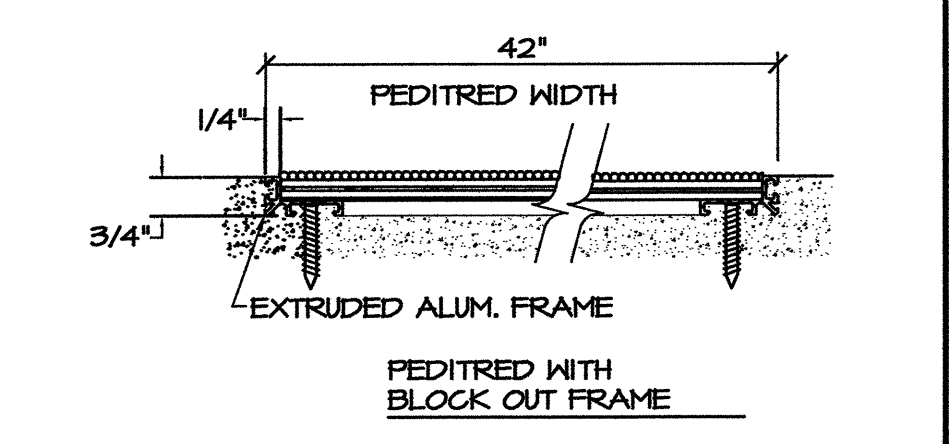
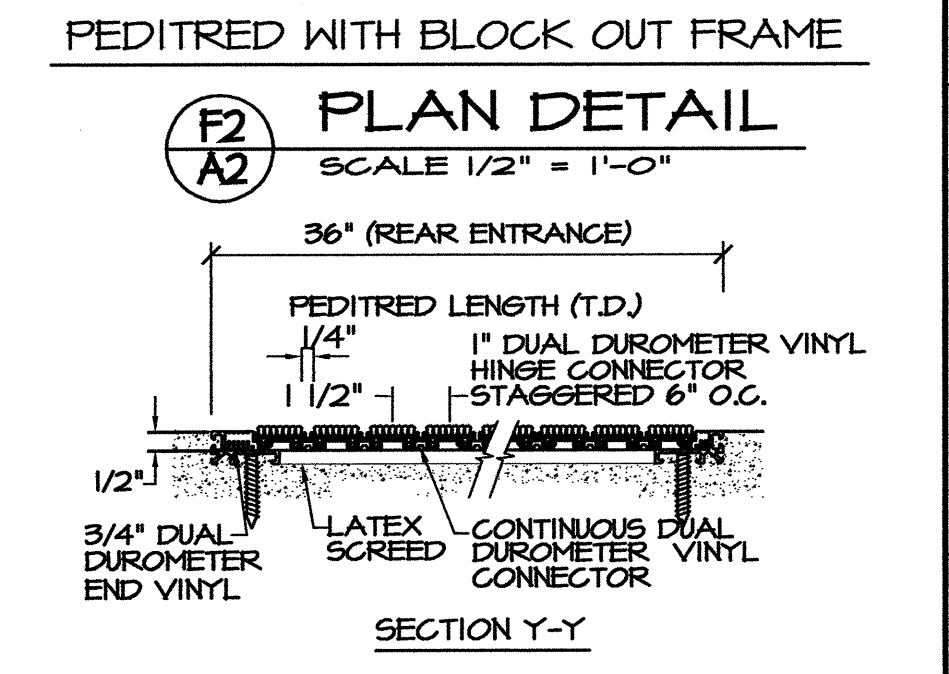
**A10 A2 SECTION-ENTRY**  
SCALE 1/2" = 1'-0"



**D8 A2 SECT: HEADER ABOVE DOOR**  
SCALE 1/2" = 1'-0"



**A5 A2 WALL SECTION**  
SCALE 3/4" = 1'-0"



**D2 A2 PEDITRED DETAIL**  
SCALE 1/2" = 1'-0"

- GENERAL NOTES:**
1. ALUMINUM "LEAFGUARD" GUTTER, W/ ANCHOR AT 24" O.C.
  2. SEE SPEC. SECTION 07460 FOR EQUAL OR COMPETITIVE FINISH PRODUCT MANUFACTURING.
  3. SEE BEARING HEIGHT NOTE ON SHEET S2.
  4. CAULK ALL INSIDE CORNERS AT TILE.

PROJECT:  
**I-95 REST AREA**  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET  
RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
**ELEVATIONS (INT. & EXT.)**

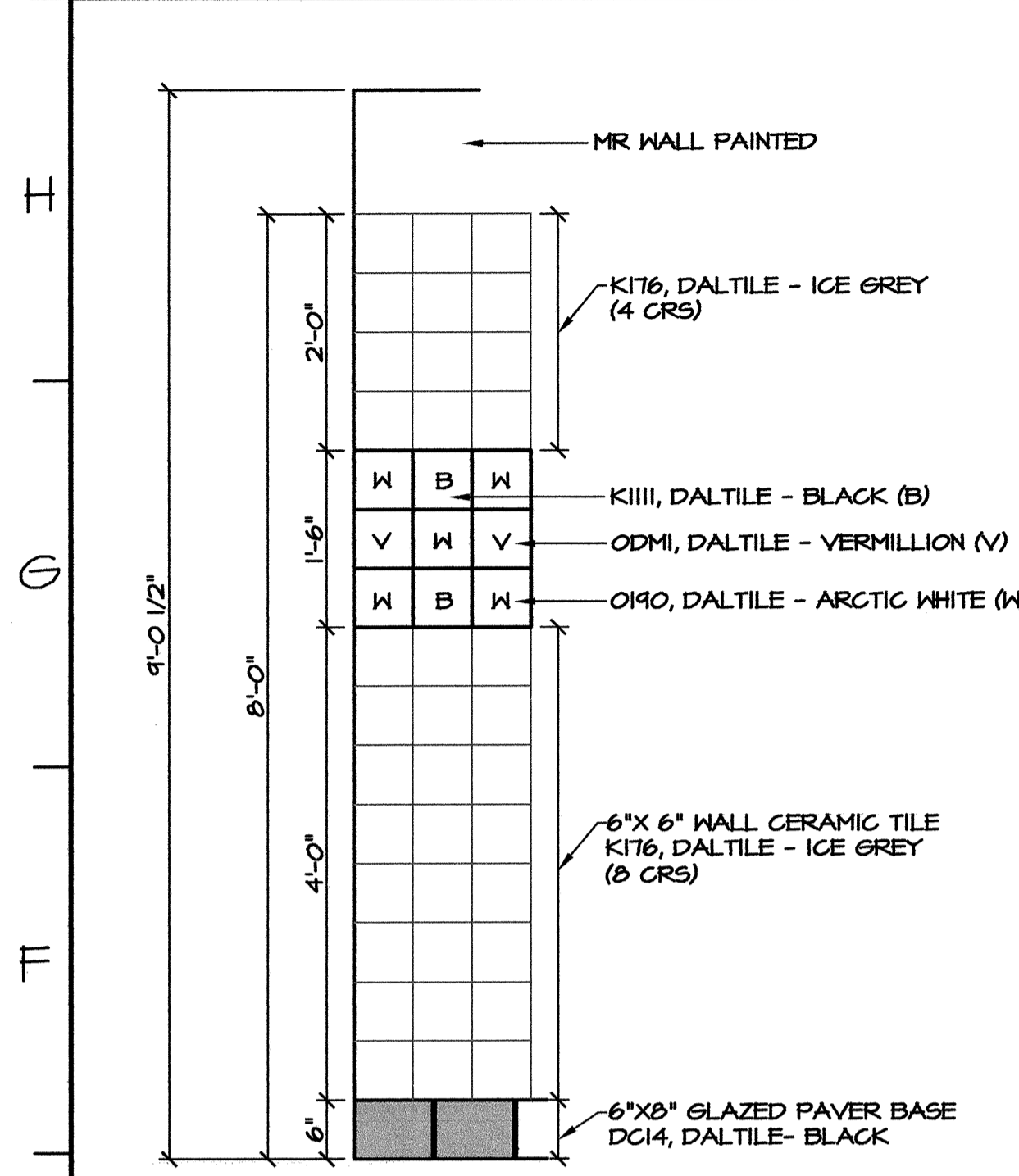
DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

NO.	REVISIONS/SUBMISSIONS	DATE

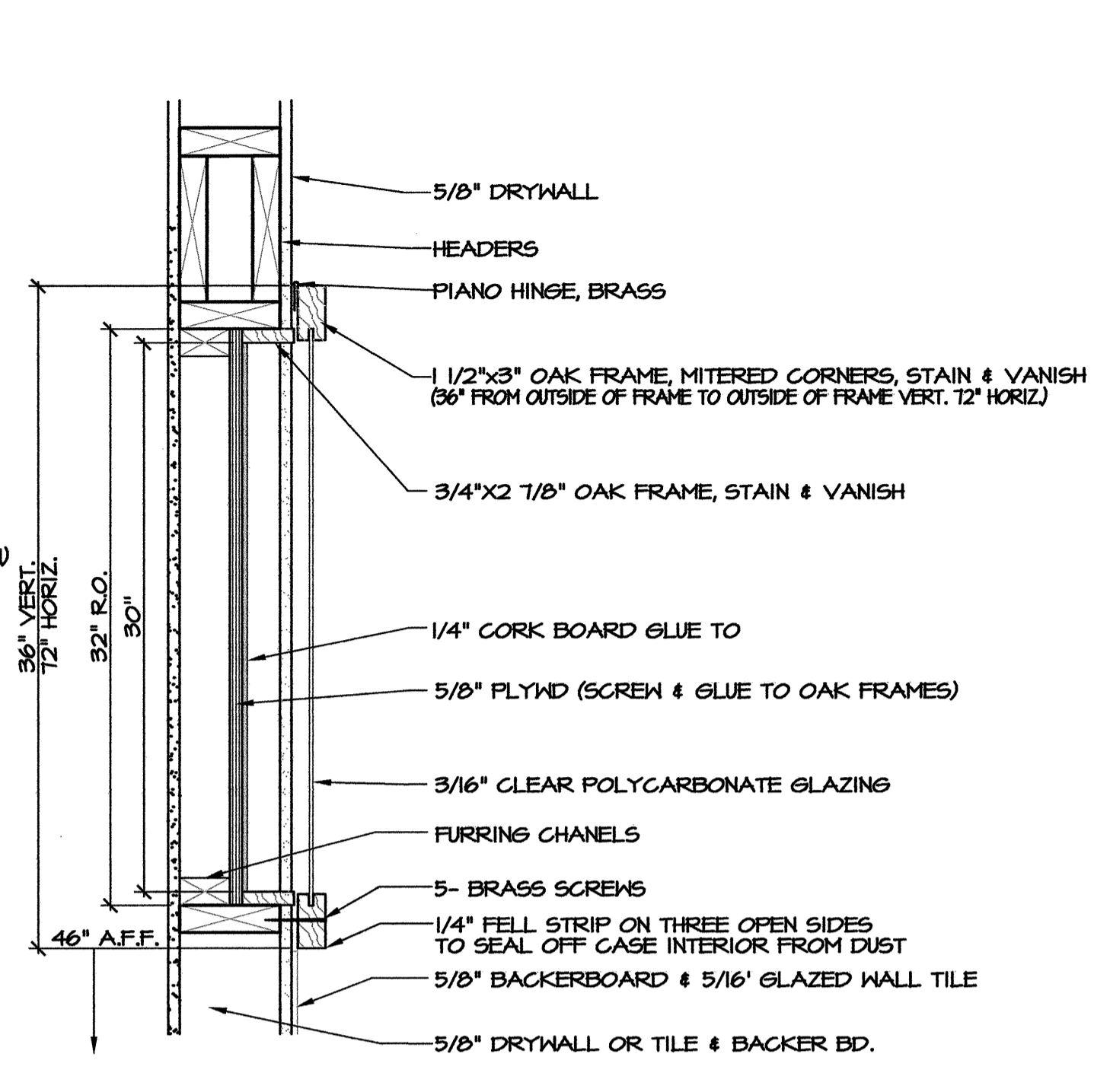
SHEET NO. **A2** OF 6

S:\PDR\REST AREA, WELCOME CENTERS\95 Cumberland Co\Cumberland Co\I-95 Rest Area\Arch\A2\updated.dwg, 1/16/2008 11:37:05 AM, CLS





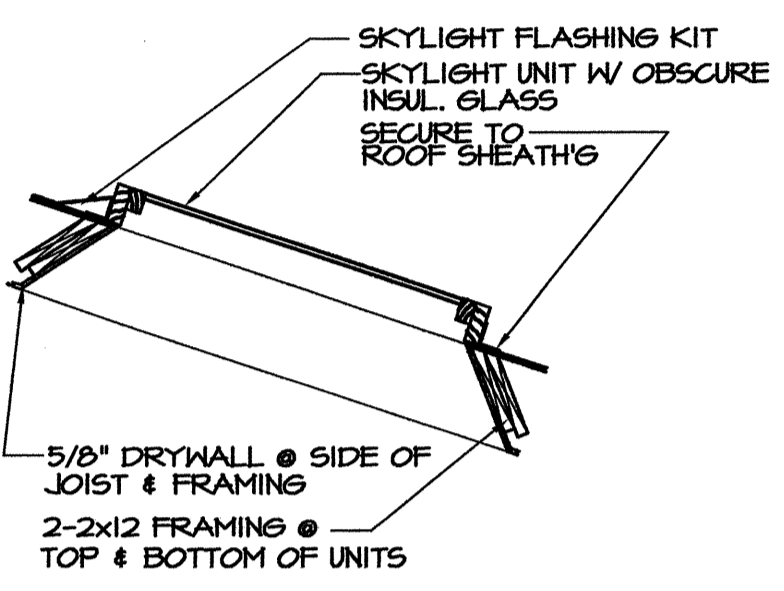
**E12**  
**A3** **DETAIL- TILE PATTERN**  
SCALE 3/4" = 1'-0"



**E1**  
**A3** **DETAIL- DISPLAY CASE**  
SCALE 1-1/2" = 1'-0"

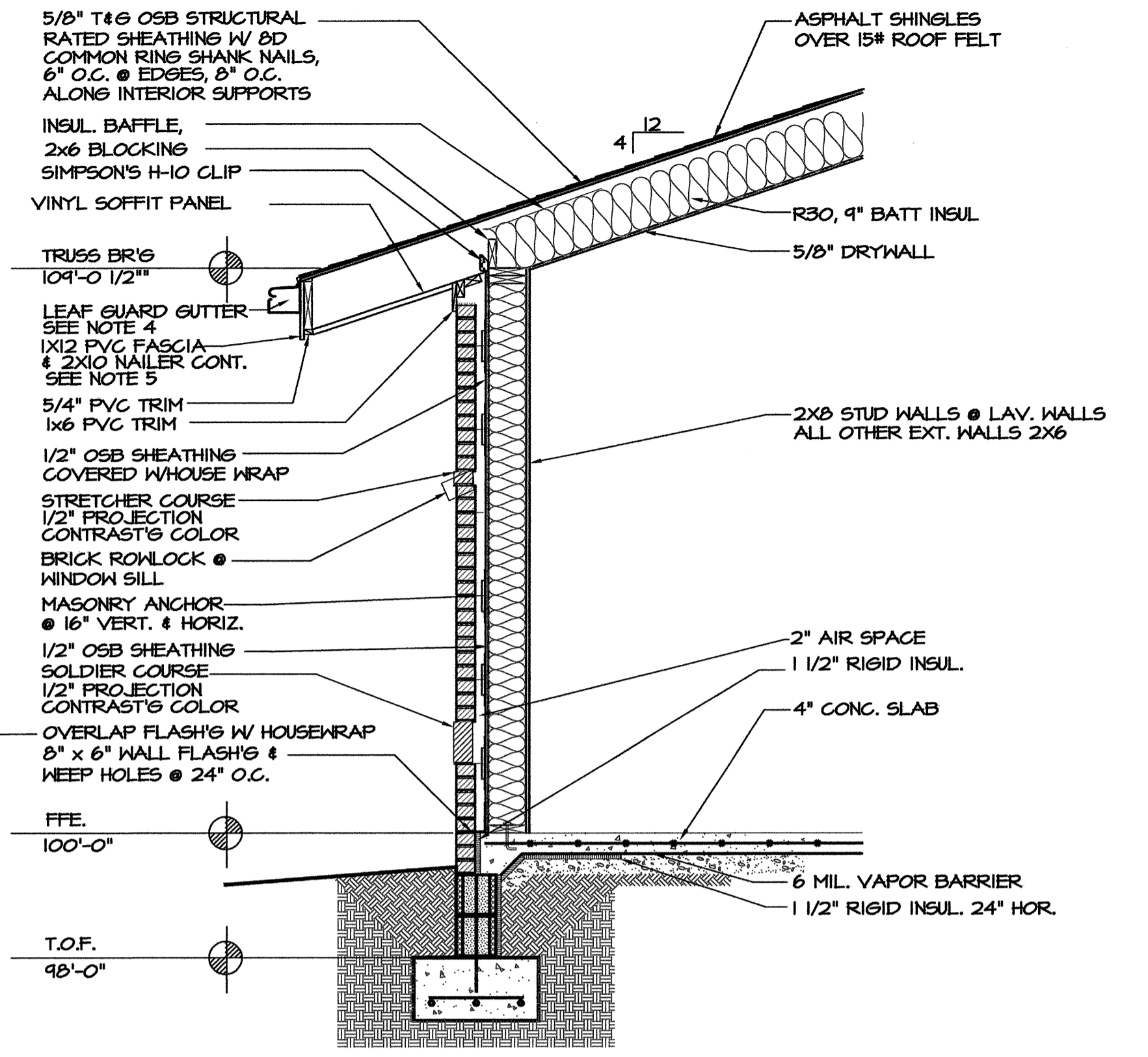
**GENERAL NOTES:**

1. PROVIDE 5/8" DRYWALL @ ALL CEILING/ROOF JOIST.
2. ALL EXTERIOR WOOD STUDS SHALL BE 2x6's @ 16" O.C. EXCEPT @ LAVATORIES SHALL BE 2x8's.
3. SECURE 3 x 3 x 1/4" PERIMETER FRAME (FOR CHANGING TABLE), WELD MITERED CORNERS; ANCHOR TO WALLS & SOLID PLASTIC COUNTER & TOILET PARTITION W/ S.S. SCREWS AND BOLTS.
4. ALUMINUM "LEAFGUARD" GUTTER, W/ ANCHOR AT 24" O.C.
5. PVC TRIM & FASCIA BOARDS.
6. DO NOT OVERLAP FIXTURE ELECTRONIC CONTROLS WITH GRAB BARS.
7. CAULK ALL INSIDE CORNERS AT TILE.

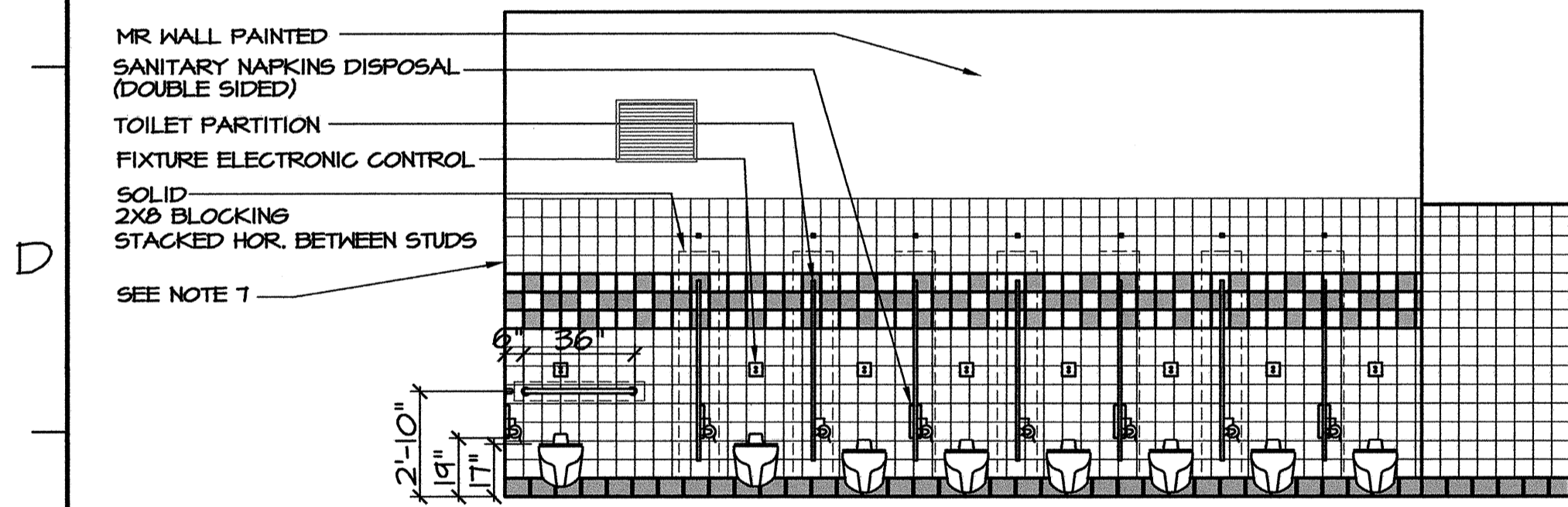


**NOTE:**  
LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN

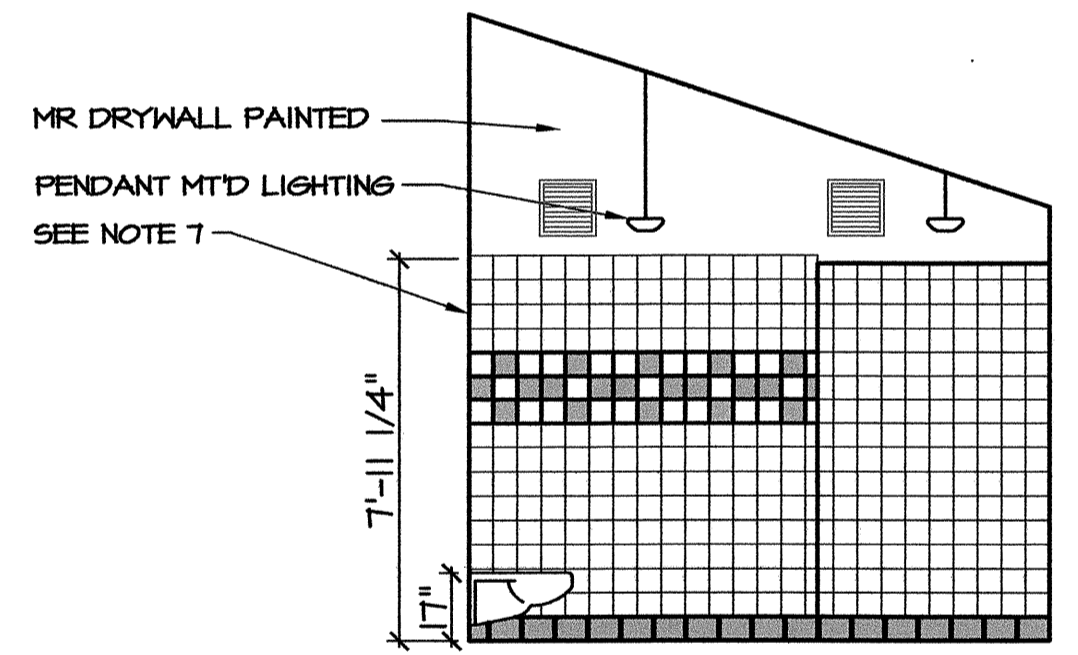
**E1**  
**A3** **DETAIL- SKYLIGHT**  
SCALE 1/2" = 1'-0"



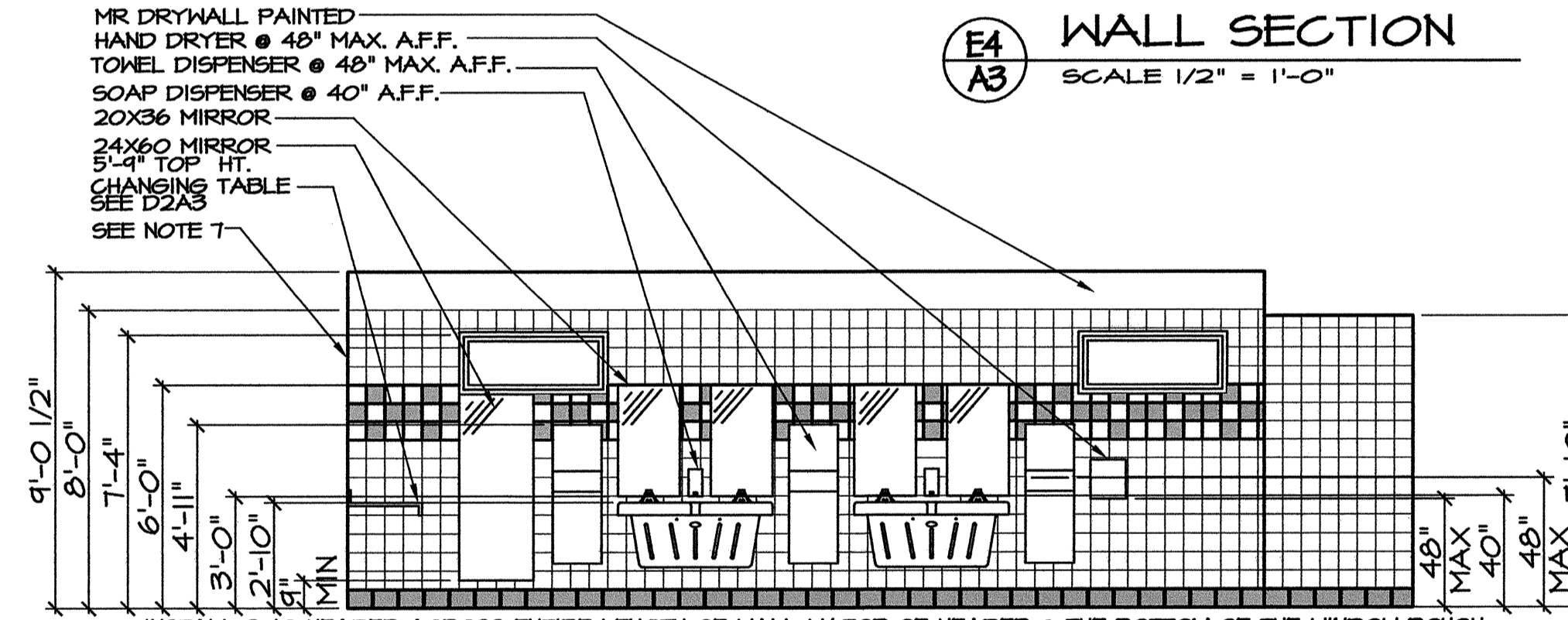
**E4**  
**A3** **WALL SECTION**  
SCALE 1/2" = 1'-0"



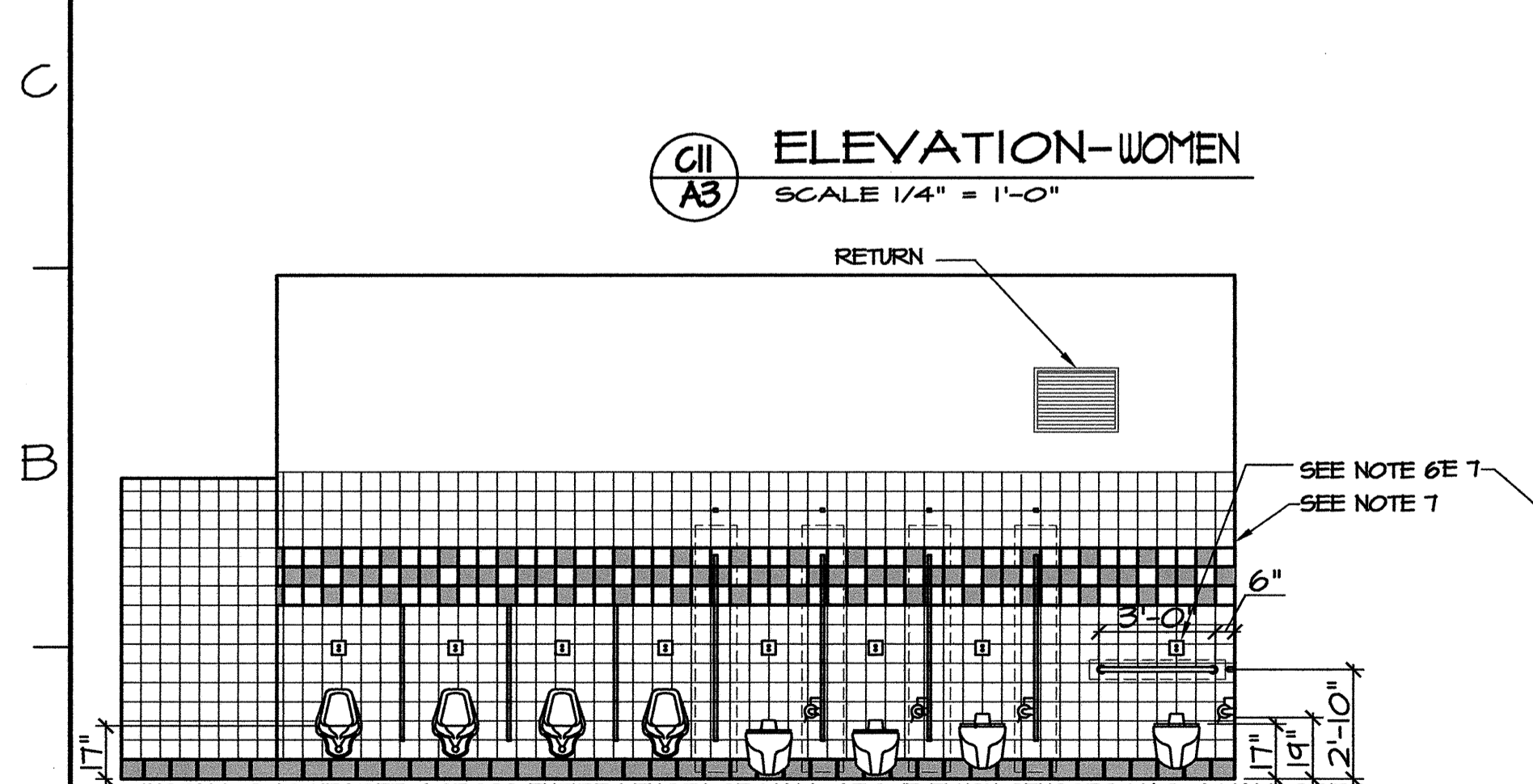
**G11**  
**A3** **ELEVATION-WOMEN**  
SCALE 1/4" = 1'-0"



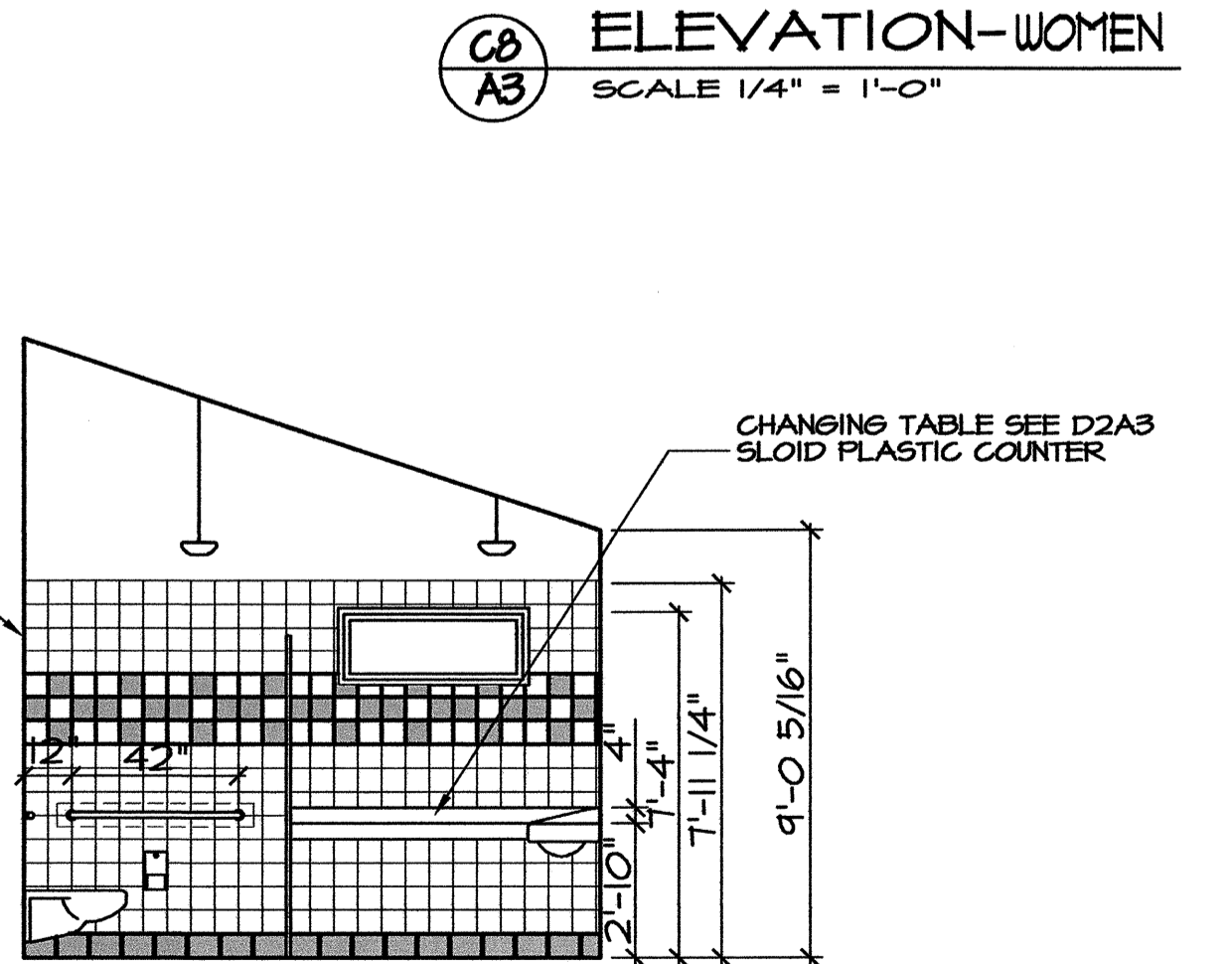
**G8**  
**A3** **ELEVATION-WOMEN**  
SCALE 1/4" = 1'-0"



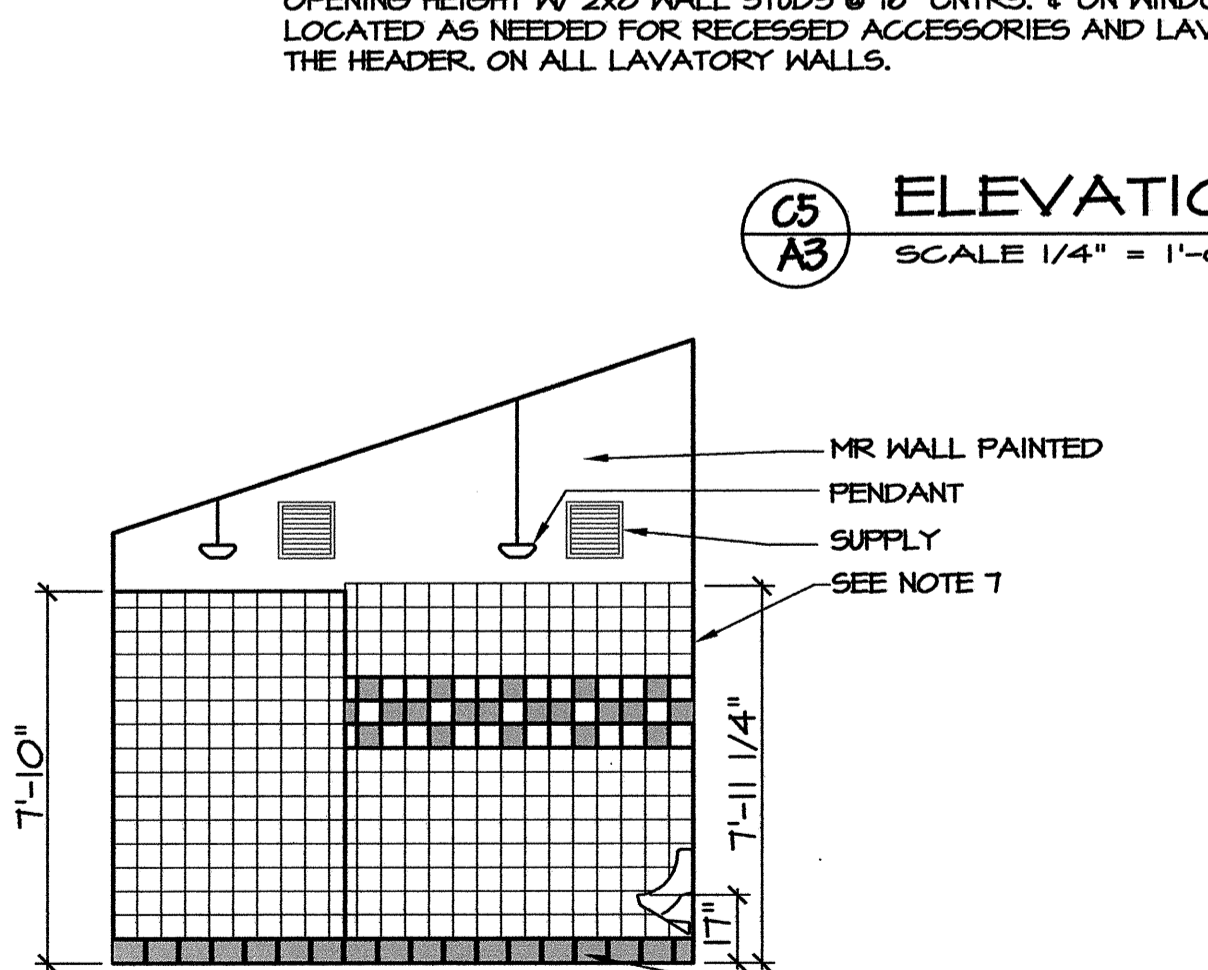
**G5**  
**A3** **ELEVATION-WOMEN**  
SCALE 1/4" = 1'-0"



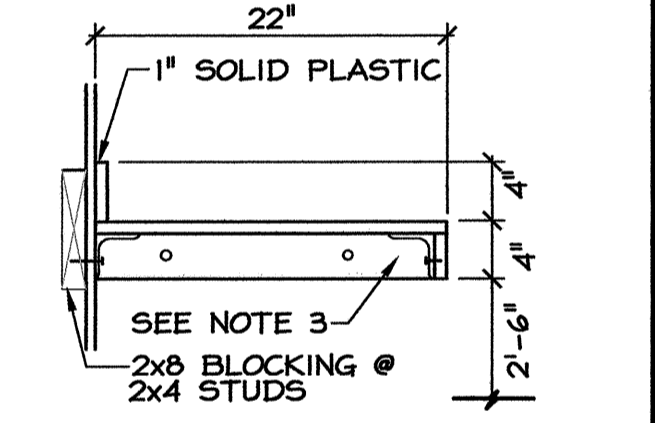
**A12**  
**A3** **ELEVATION-WOMEN**  
SCALE 1/4" = 1'-0"



**A9**  
**A3** **ELEVATION-MEN**  
SCALE 1/4" = 1'-0"



**A6**  
**A3** **ELEVATION-MEN**  
SCALE 1/4" = 1'-0"



**D2**  
**A3** **DETAIL- COUNTER**  
SCALE 1" = 1'-0"

PROJECT:  
**I-95 REST AREA**  
CUMBERLAND COUNTY NORTH CAROLINA

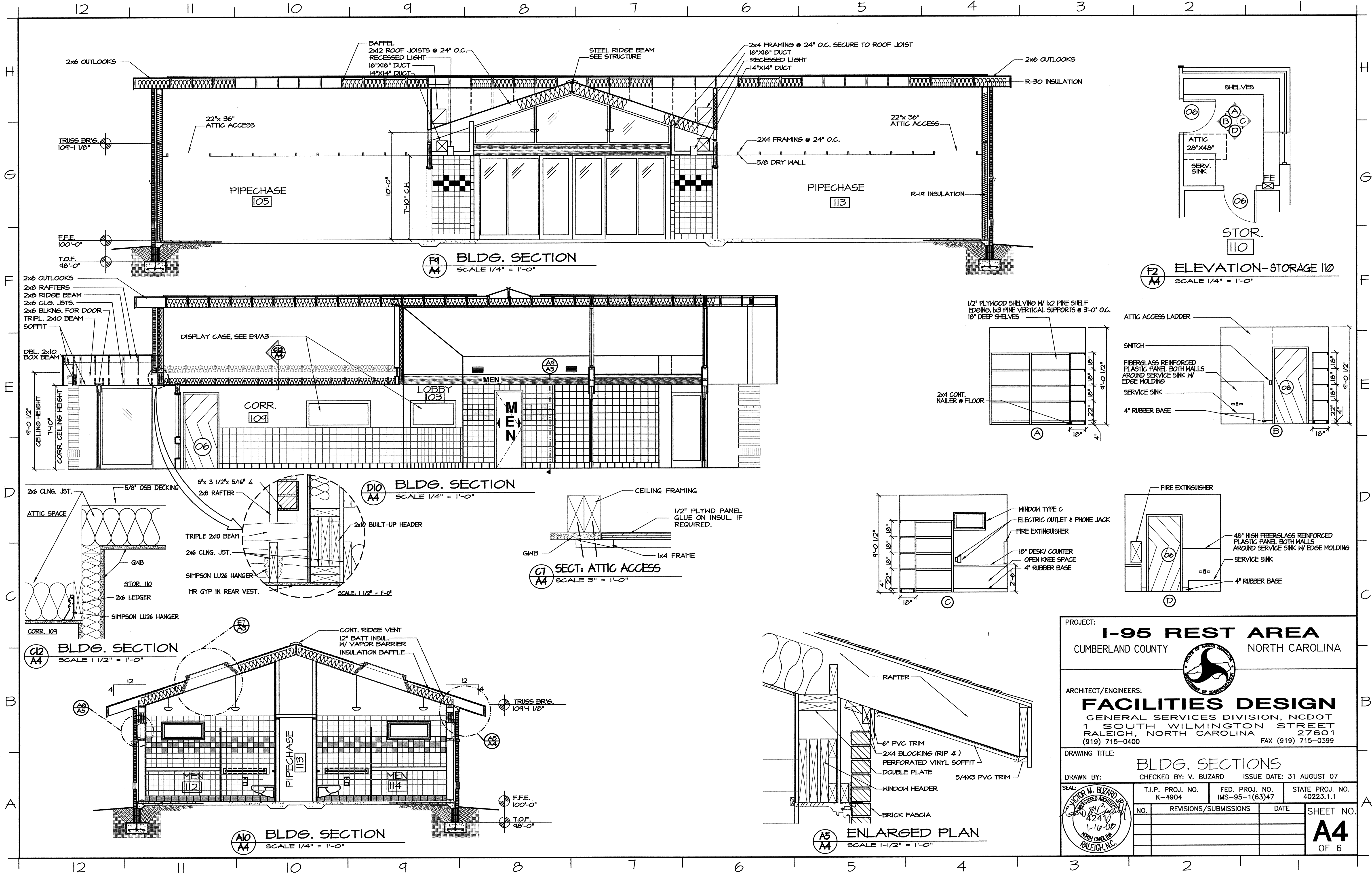
ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
**ELEVATIONS/ WALL SECTION**

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, NORTH CAROLINA, RALEIGH, N.C.	T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO. <b>A3</b> OF 6





PROJECT:  
**I-95 REST AREA**  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET  
RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

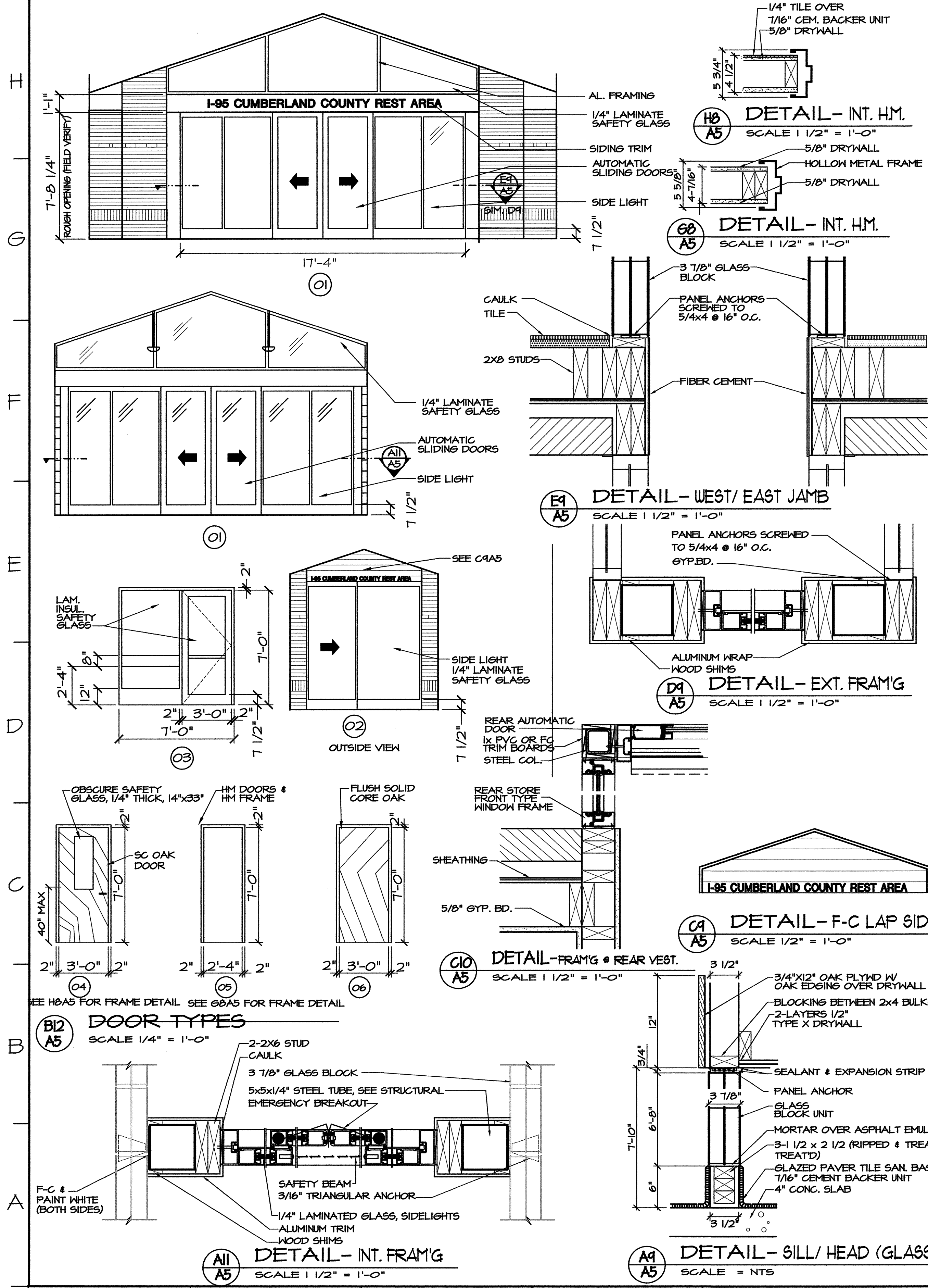
DRAWING TITLE:  
**BLDG. SECTIONS**

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: VICTOR M. BUZARD REGISTERED ARCHITECT 4247 1-10-06 NORTH CAROLINA RALEIGH, N.C.	T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO.
			<b>A4</b> OF 6

I-95 REST AREA, WELCOME CENTERS/95 Cumberland Co., I-95 Rest Area ARCH/Updated.dwg, 1/16/2008 10:13:38 AM, C.L.S.





### FINISH - COLOR SCHEDULE

ROOM	NO.	FLOOR	BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		REMARKS		
			MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR		HEIGHT	
VESTIBULE	101	G.P.	V502	G.P.	DC14	-	-	GLZ GB DW	30GY BB/014	-	-	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	
VESTIBULE	102	G.P.	V502	G.P.	DC14	-	-	GLZ DW	30GY BB/014	-	-	GLZ DW	30GY BB/014	DW	30GY BB/014	VARIABLES	
LOBBY	103	G.P.	V502	G.P.	DC14	-	-	GLZ GB DW	30GY BB/014	-	-	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	
WOMEN'S RESTRM	104	G.P.	V502	G.P.	DC14	GT/DW	GT/DW	GLZ GB DW	30GY BB/014	GT/DW	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	WALL TILE W/ ACCENT BAND, SEE E12A3	
PIPECHASE	105	CONC.	-	-	-	OSB	30GY BB/014	OSB	30GY BB/014	OSB	30GY BB/014	OSB	30GY BB/014	DW	30GY BB/014	7'-10"	
WOMEN'S RESTRM	106	G.P.	V502	G.P.	DC14	GT/DW	GT/DW	GLZ GB DW	30GY BB/014	GT/DW	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	WALL TILE W/ ACCENT BAND, SEE E12A3	
RESTROOM	107	G.P.	V502	G.P.	DC14	GT/DW	GT/DW	GLZ GB DW	30GY BB/014	GT/DW	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	WALL TILE W/ ACCENT BAND, SEE E12A3	
MECHANICAL	108	CONC.	-	RUBBER	PIOO	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	9'-0 1/2"	
CORRIDOR	109	G.P.	V502	G.P.	DC14	-	-	GT/DW	DC05 30GY BB/014	-	-	GT/DW	DC05 30GY BB/014	DW	30GY BB/014	7'-10"	
STORAGE	110	VCT	52513	RUBBER	PIOO	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	9'-0 1/2"	PAINT WOOD SHELVING
MECHANICAL	111	VCT	52513	RUBBER	PIOO	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	DW	30GY BB/014	9'-0 1/2"	
MEN'S RESTRM	112	G.P.	V502	G.P.	DC14	GT/DW	GT/DW	GLZ GB DW	30GY BB/014	GT/DW	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	WALL TILE W/ ACCENT BAND, SEE E12A3	
PIPECHASE	113	CONC.	-	-	-	OSB	30GY BB/014	OSB	30GY BB/014	OSB	30GY BB/014	OSB	30GY BB/014	DW	30GY BB/014	7'-10"	PAINT WALLS
MEN'S RESTRM	114	G.P.	V502	G.P.	DC14	GT/DW	GT/DW	GLZ GB DW	30GY BB/014	GT/DW	GLZ GB DW	30GY BB/014	DW	30GY BB/014	VARIABLES	WALL TILE W/ ACCENT BAND, SEE E12A3	

### DOOR - HARDWARE SCHEDULE

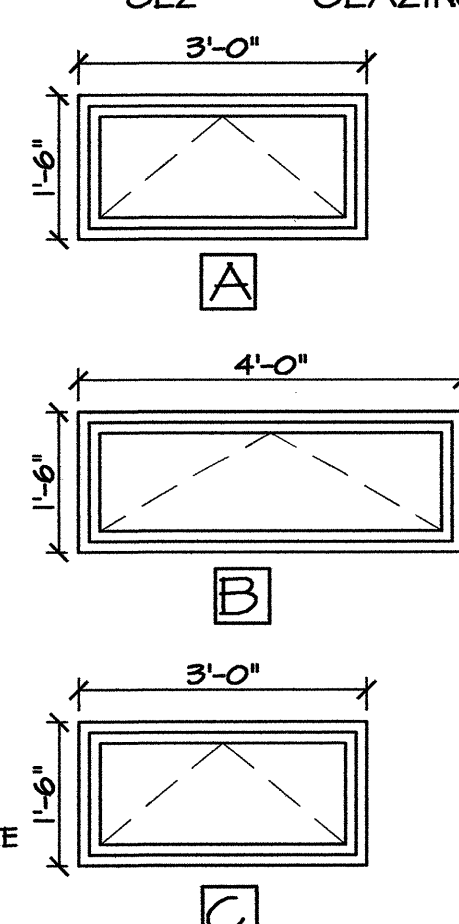
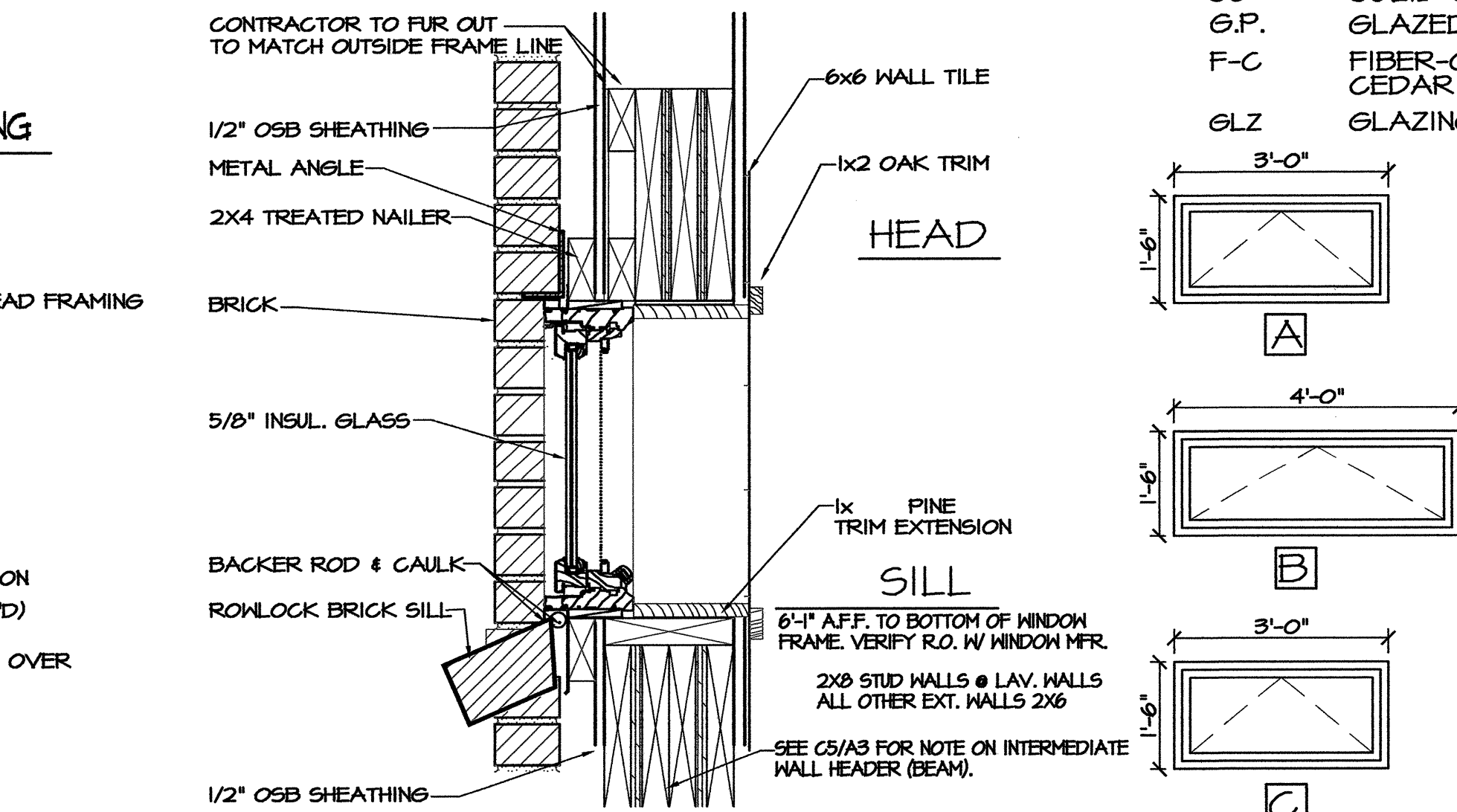
DOOR		FRAME		HARDWARE							REMARKS		
MARK	SIZE	MAT.	COLOR	MAT.	COLOR	LOCKSET	HINGES	CLOSER	STOP	PLATE KICK		WEATHS'P/ THRESHOLD	PUSH/ FULL
1	6'-0"x7'-0"	AL	BRONZE	AL	BRONZE	KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS W/EMERGENCY EGRESS FUNCTION
2	3'-0"x7'-0"	AL	BRONZE	AL	BRONZE	KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS
3	3'-0"x7'-0"	AL	BRONZE	AL	BRONZE		A5112	G02022	L02162		316A5/114/664		INSULATED DOOR, 1/4" LAM. GLASS
4	3'-0"x7'-0"x1 3/4"	SC	STAIN	H.M.	90RB 08/113	FO4	A5112	G02022	L02162		3/8" MARBLE		OBSCURE SAFETY GLASS, 1/4" THICK, 14"x33"
5	2'-4"x7'-0"x1 3/4"	H.M.	90RR 11/257	H.M.	90RB 08/113	FI7	A5112	G02511			3/8" MARBLE		DEAD BOLT LOCKSET
6	3'-0"x7'-0"x1 3/4"	SC	STAIN	H.M.	90RB 08/113	FO1	A5112	G02022	L02162		3/8" MARBLE		

### WINDOW SCHEDULE:

MARK:	OPENING SIZE:	FRAME:		REMARKS:
		MAT.	COLOR	
A	3'-0"x1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. OBSCURE
B	4'-0"x1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. OBSCURE
C	3'-0"x1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. CLEAR

### ABBREVIATIONS:

- AL. ALUMINUM
- CONC. CONCRETE, EXPOSED SLAB
- DW DRYWALL PAINTED (GLIDDEN, OR EQUAL TO DEVOS, MOORE, P&L, OR SW, SEE SPEC)
- GT GLAZED TILE / WALL (DAL TILE OR EQUAL TO AMER. OLEAN OR FLORIDA TILE, SEE SPEC.)
- H.M. HOLLOW METAL DOORS & FRAMES
- SC SOLID CORE WOOD, OAK (101 GLIDDEN "CHERRY" OR EQUAL, P&L OR SW)
- G.P. GLAZED PAVERS / FLOOR & BASE (DAL-TILE OR EQUAL, SEE SPEC.)
- F-C FIBER-CEMENT / SIDING PANELS & TRIM
- GLZ CEDAR MILL EXTERIOR SIDING & TRIM
- GLZ GLAZING



PROJECT:  
**I-95 REST AREA**  
 CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
 GENERAL SERVICES DIVISION, NCDOT  
 1 SOUTH WILMINGTON STREET  
 RALEIGH, NORTH CAROLINA 27601  
 (919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
**SCHEDULES/ DETAILS**

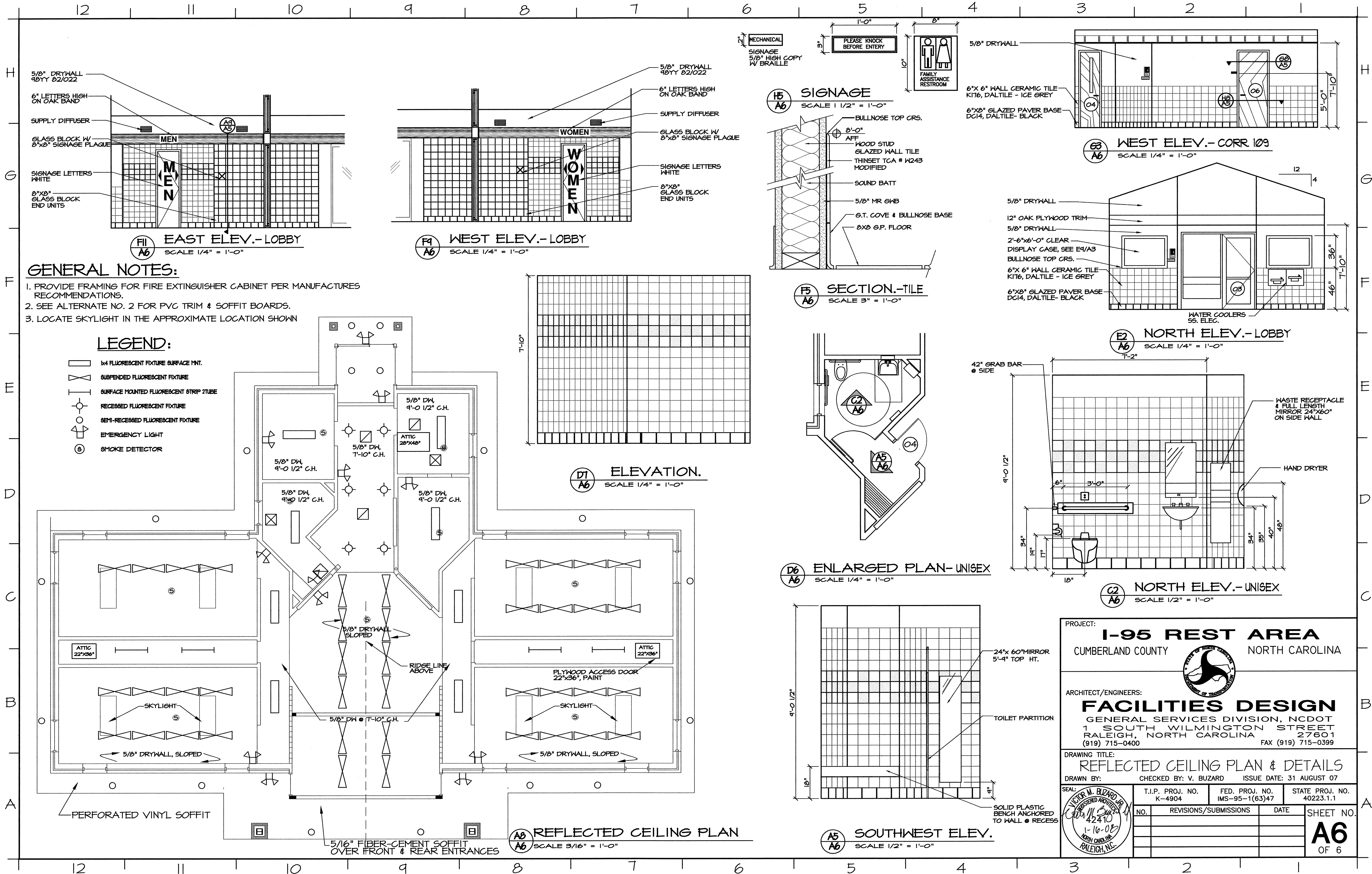
DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: **VICTOR M. BUZARD** REGISTERED ARCHITECT NO. 42470-1-10-08 NORTH CAROLINA RALEIGH, N.C.

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

**A5**  
OF 6



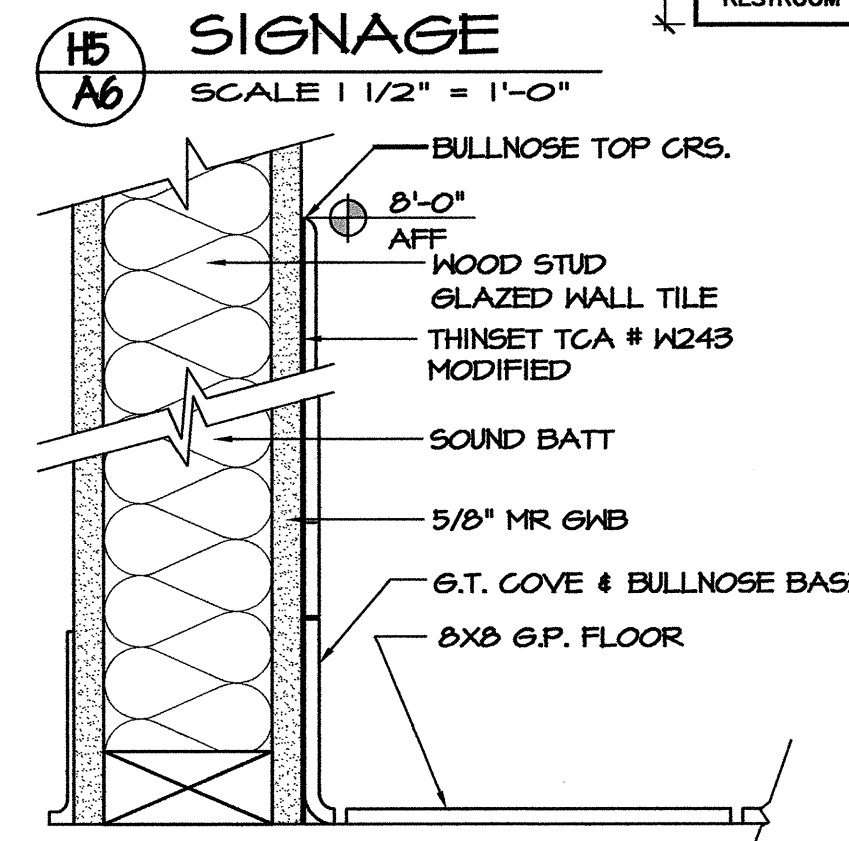
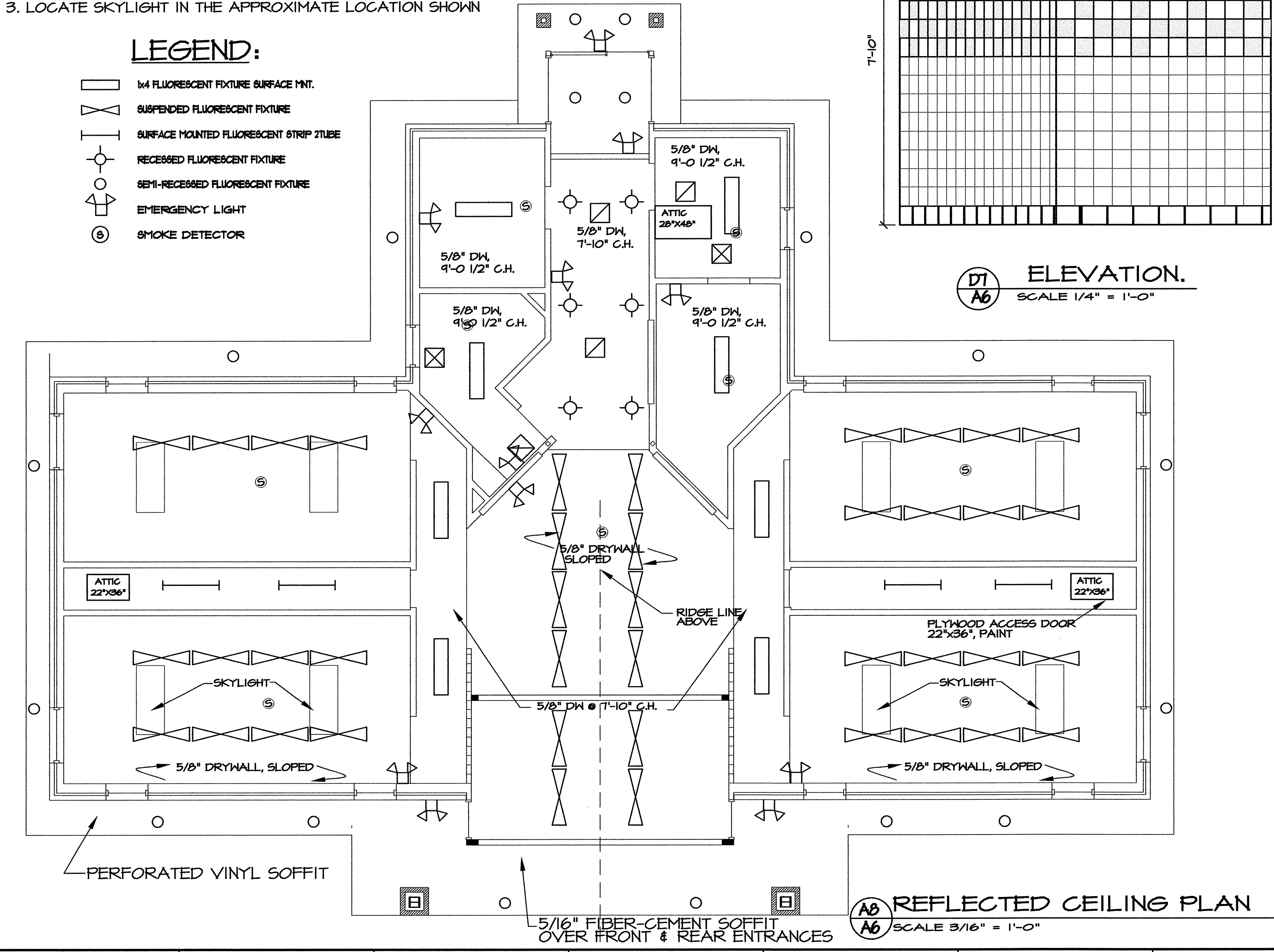


**GENERAL NOTES:**

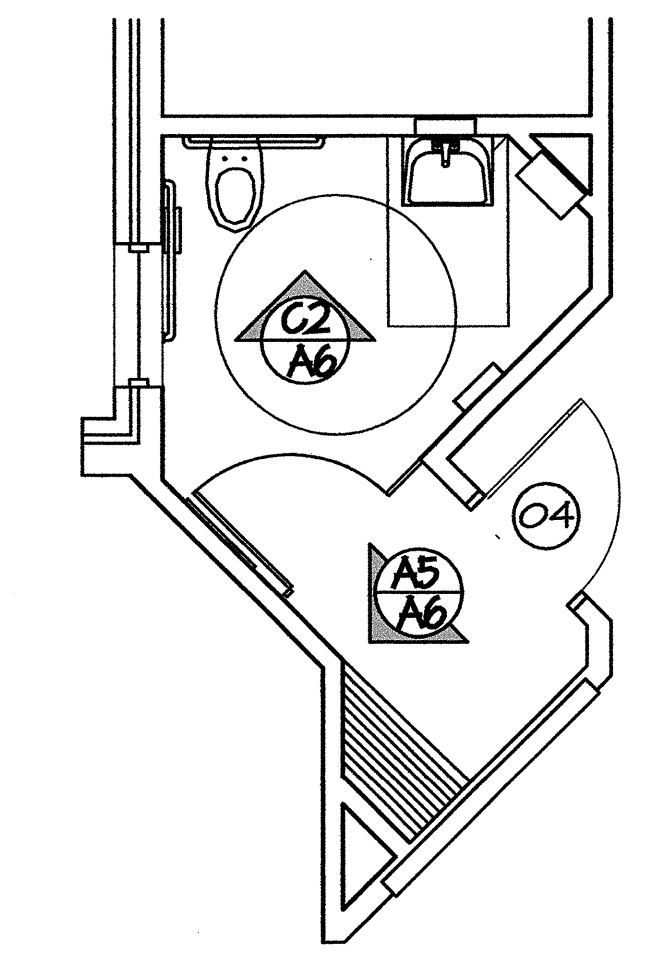
1. PROVIDE FRAMING FOR FIRE EXTINGUISHER CABINET PER MANUFACTURERS RECOMMENDATIONS.
2. SEE ALTERNATE NO. 2 FOR PVC TRIM & SOFFIT BOARDS.
3. LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN

**LEGEND:**

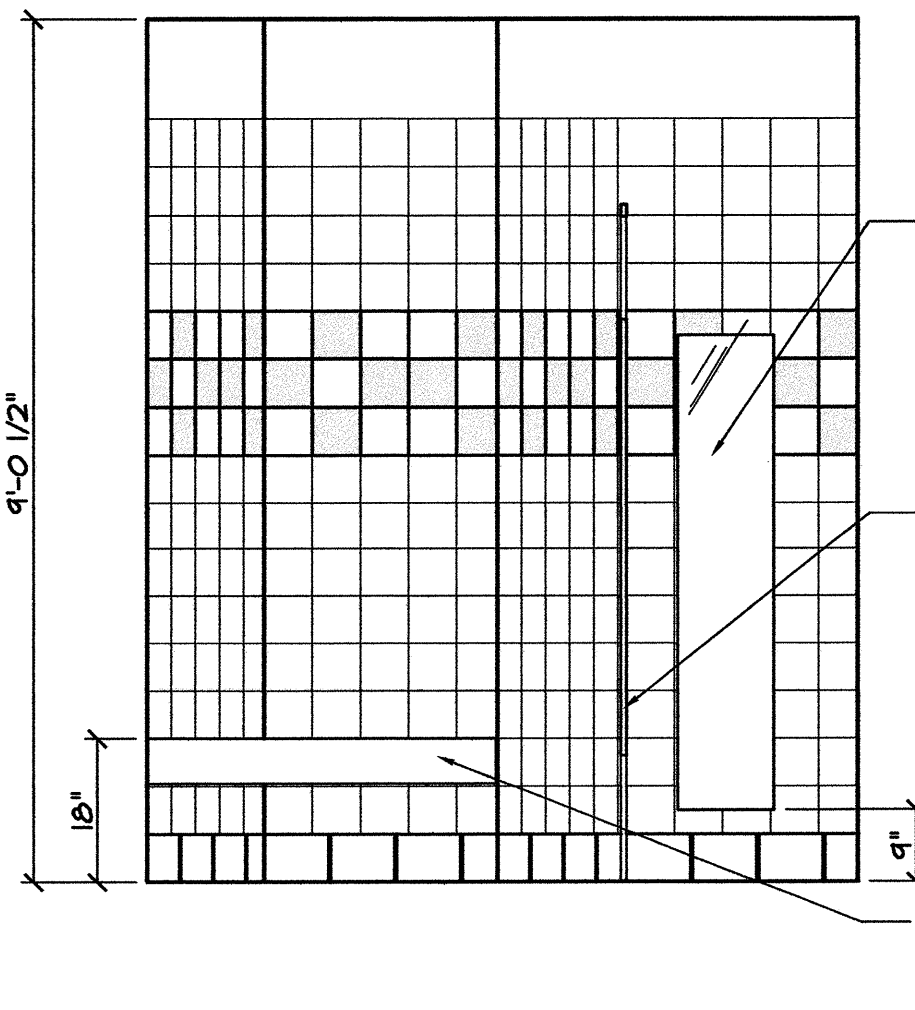
- 1/4 FLUORESCENT FIXTURE SURFACE MNT.
- SUSPENDED FLUORESCENT FIXTURE
- SURFACE MOUNTED FLUORESCENT STRIP TUBE
- RECESSED FLUORESCENT FIXTURE
- SEMI-RECESSED FLUORESCENT FIXTURE
- EMERGENCY LIGHT
- SMOKE DETECTOR



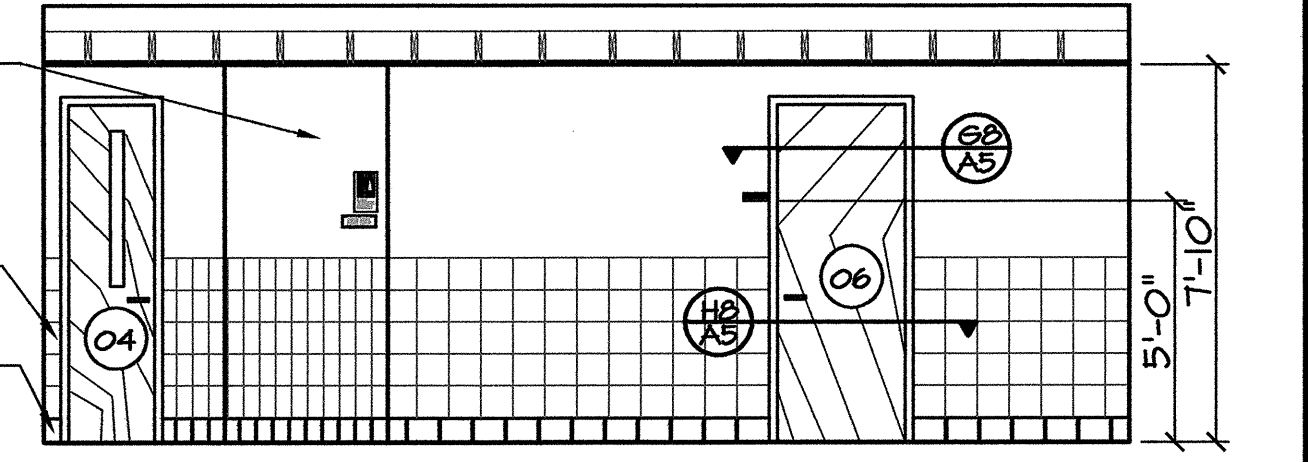
**F5 SECTION.-TILE**  
SCALE 3" = 1'-0"



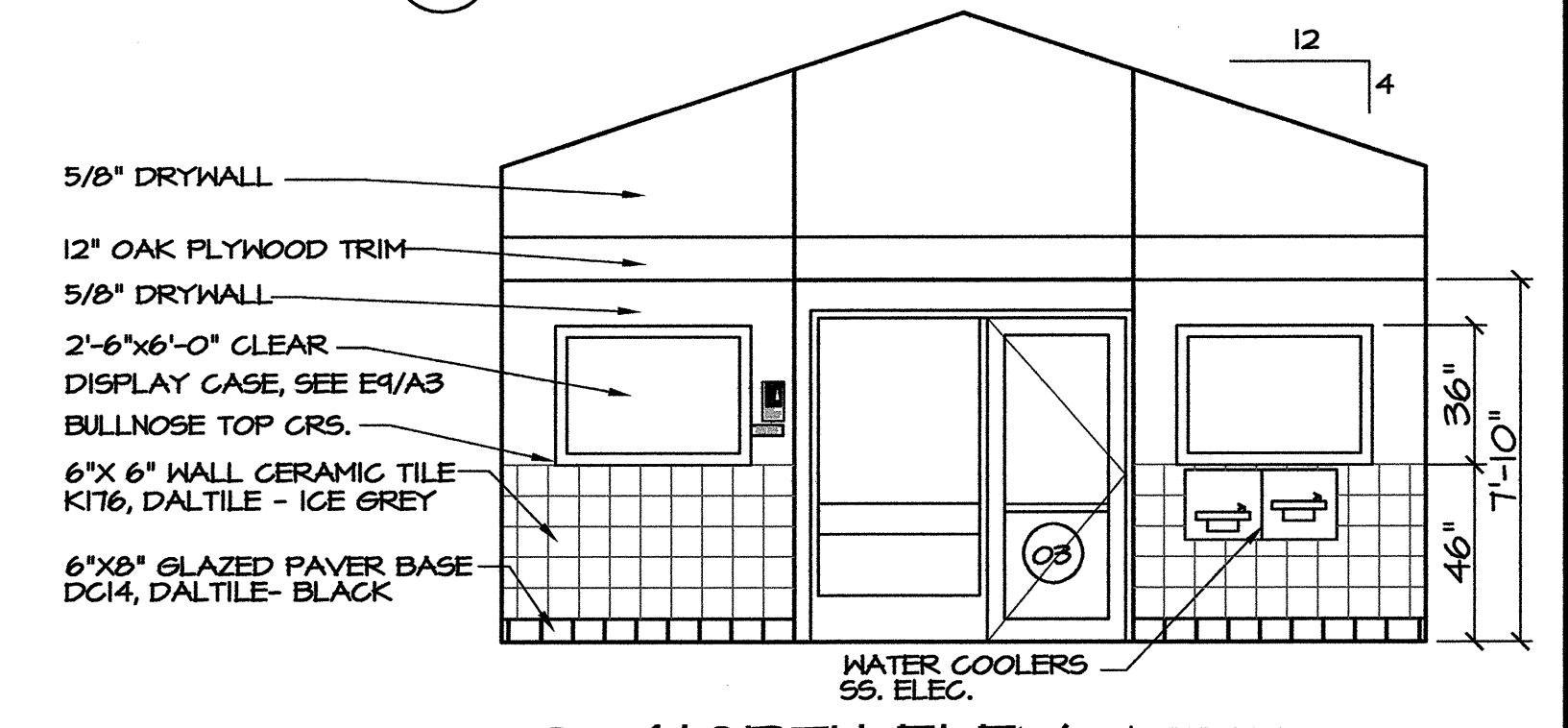
**D6 ENLARGED PLAN-UNISEX**  
SCALE 1/4" = 1'-0"



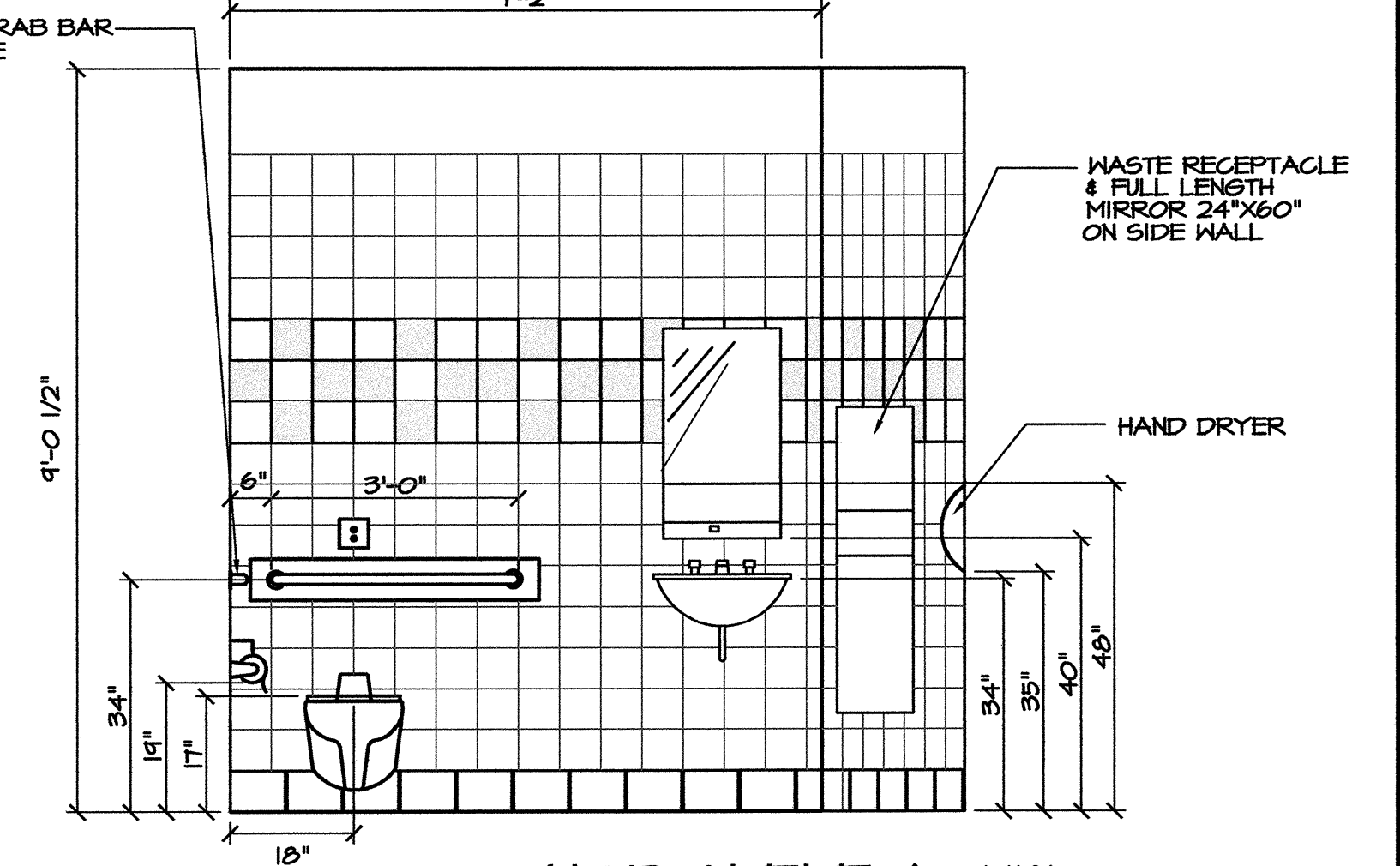
**A5 SOUTHWEST ELEV.**  
SCALE 1/2" = 1'-0"



**F4 WEST ELEV.- LOBBY**  
SCALE 1/4" = 1'-0"



**E2 NORTH ELEV.- LOBBY**  
SCALE 1/4" = 1'-0"



**C2 NORTH ELEV.- UNISEX**  
SCALE 1/2" = 1'-0"

PROJECT:  
**I-95 REST AREA**  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

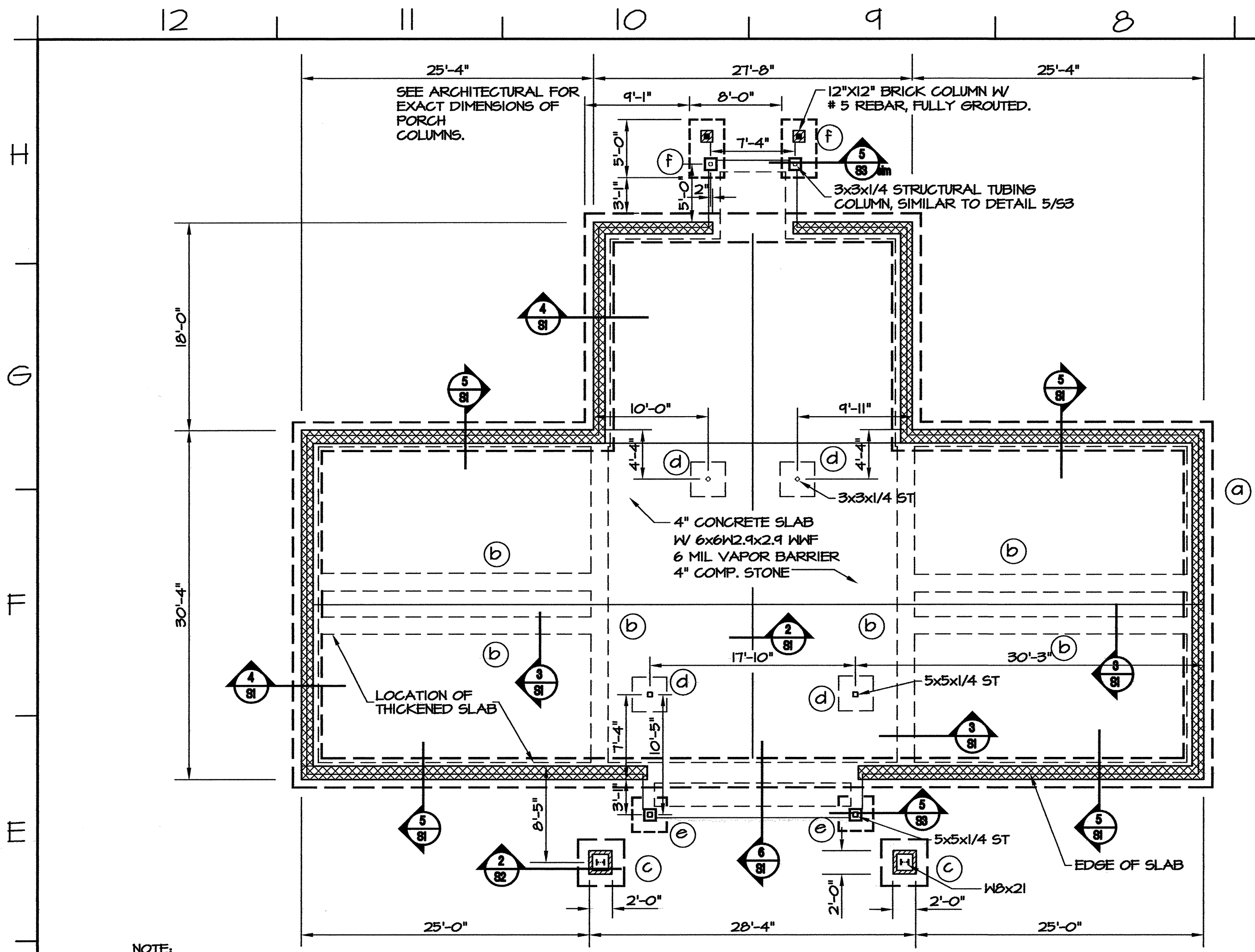
DRAWING TITLE:  
**REFLECTED CEILING PLAN & DETAILS**

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: VICTOR M. BUZARD REGISTERED ARCHITECT 42410 1-16-08 NORTH CAROLINA RALEIGH, N.C.	T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO.
			<b>A6</b> OF 6

S:\VEDREST AREA, WELCOME CENTERS\I95 Cumberland Co\I95 Rest Area\ARCH\I95Rest.dwg, 1/16/2008 11:35:43 AM, CLS





NOTE: ANY STEPPED FOOTINGS SHALL MAINTAIN TOP OF FOOTING @ 2' BELOW GRADE. REINFORCING SHALL BE INCREASED IN THIS AREA PER 4/S1 AND 5/S1.

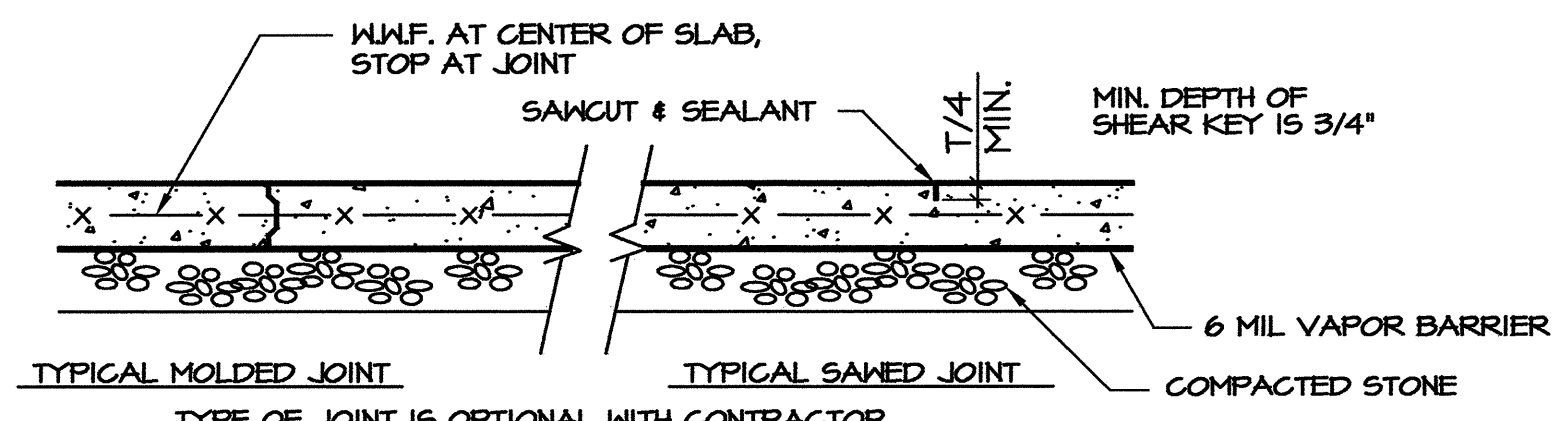
NOTE: SEE ARCHITECTURAL FOR FLOOR DRAIN LOCATIONS AND SLOPE OF RESTROOM FLOORS.

**1 FOUNDATION PLAN**  
S1 SCALE: 1/8" = 1'-0"

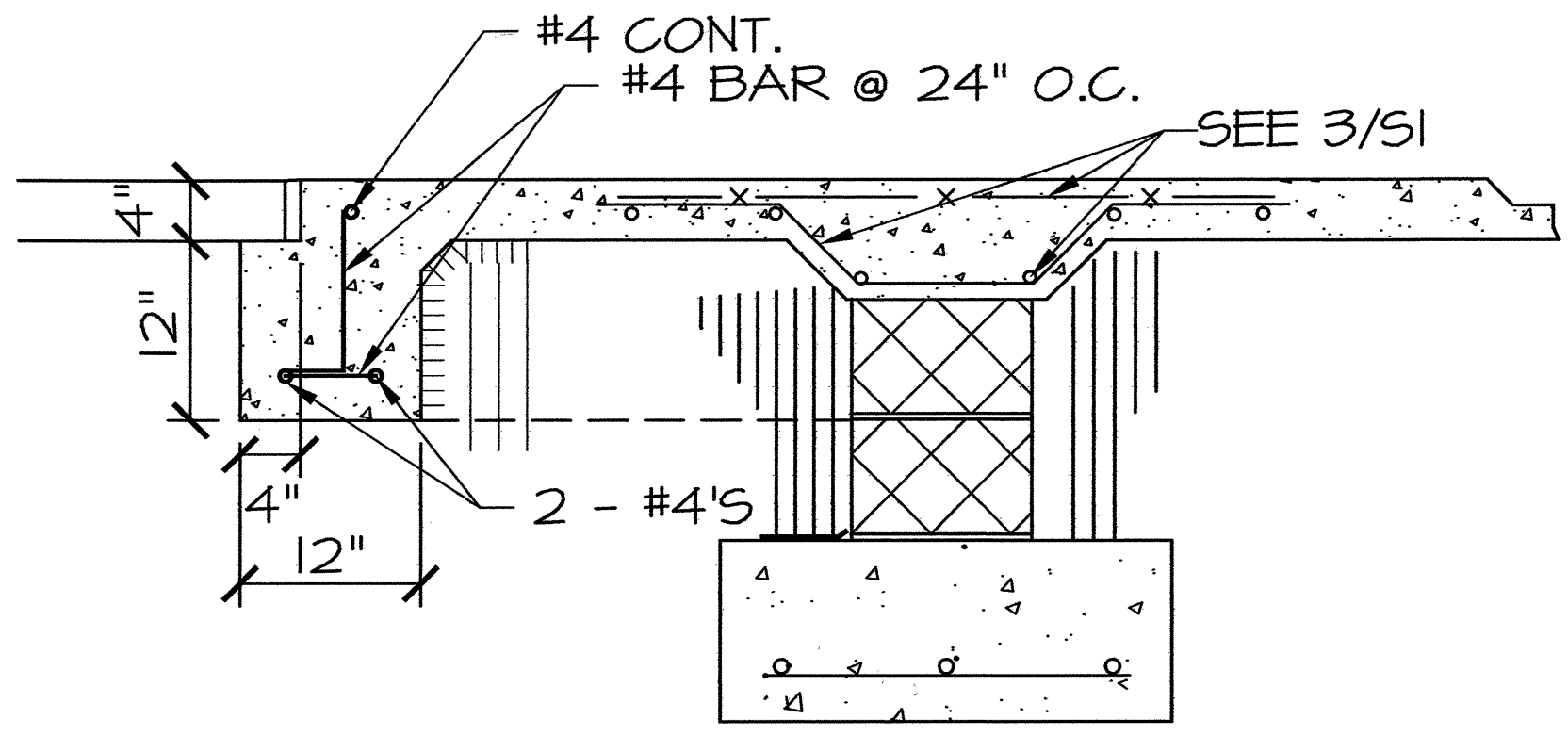
### FOOTING SCHEDULE

MARK	SIZE	REINFORCING
(a)	2'-6" x 12" CONT'	3 - #5'S CONT. W/ #4 TIES 24" O.C.
(b)	18" x 12" CONT' LUG FOOTING	6 - #4'S CONT. W/ #4 TIES 12" O.C.
(c)	4'-0" x 4'-0" x 1'-0"	4 - #5'S EACH WAY
(d)	3'-0" x 3'-0" x 1'-0" LUG FOOTING	3 - #4'S EACH WAY
(e)	3'-0" x 3'-0" x 1'-0" FOOTING	3 - #4'S EACH WAY
(f)	3'-0" x 5'-0" x 1'-0" FOOTING	6 - #4'S SHORT WAY 3 - #4'S LONG WAY

NOTE: ALL FOOTINGS ARE (a) U.O.N.

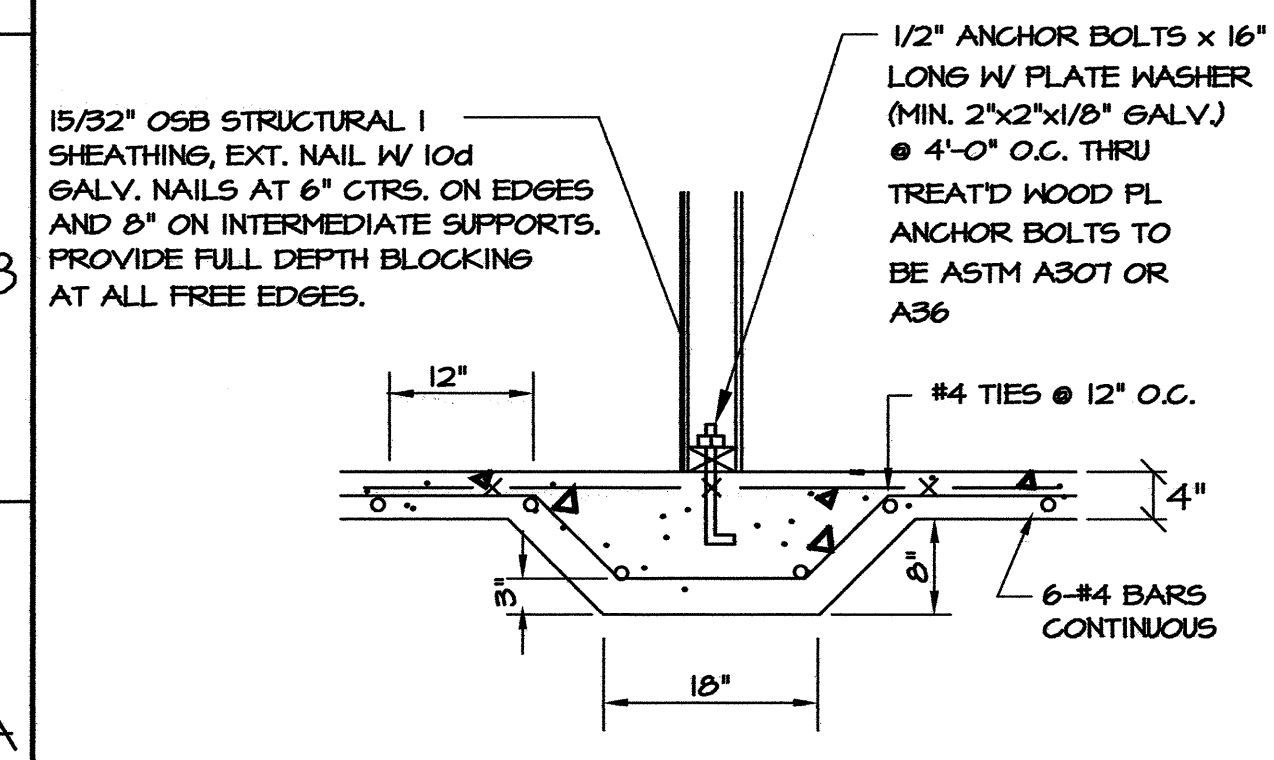


**2 TYP. CONTROL JOINT**  
S1 SCALE: 3/4" = 1'-0"

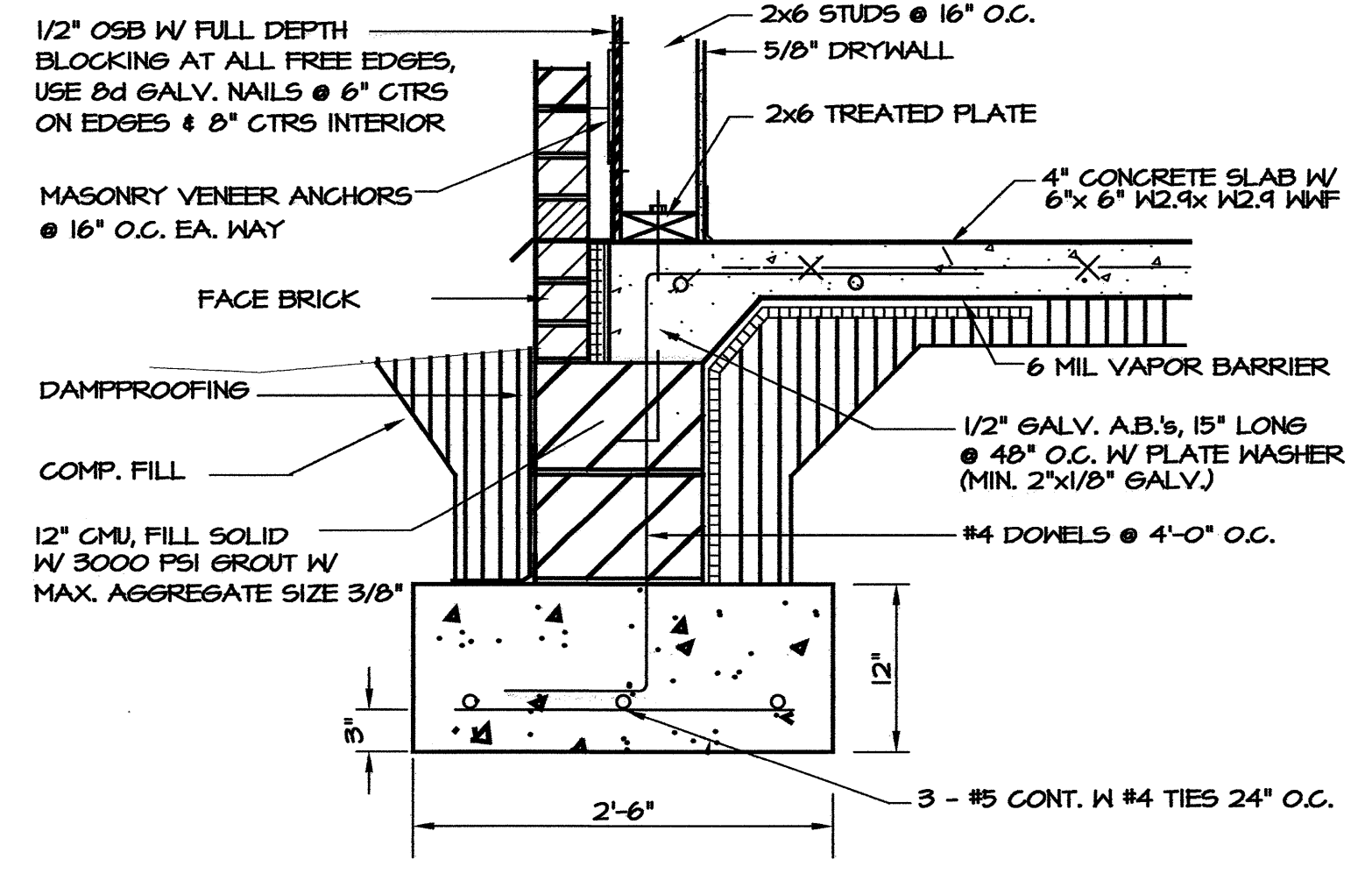


**6 THICKENED SLAB @ ENTRY**  
S1 SCALE: 1" = 1'-0"

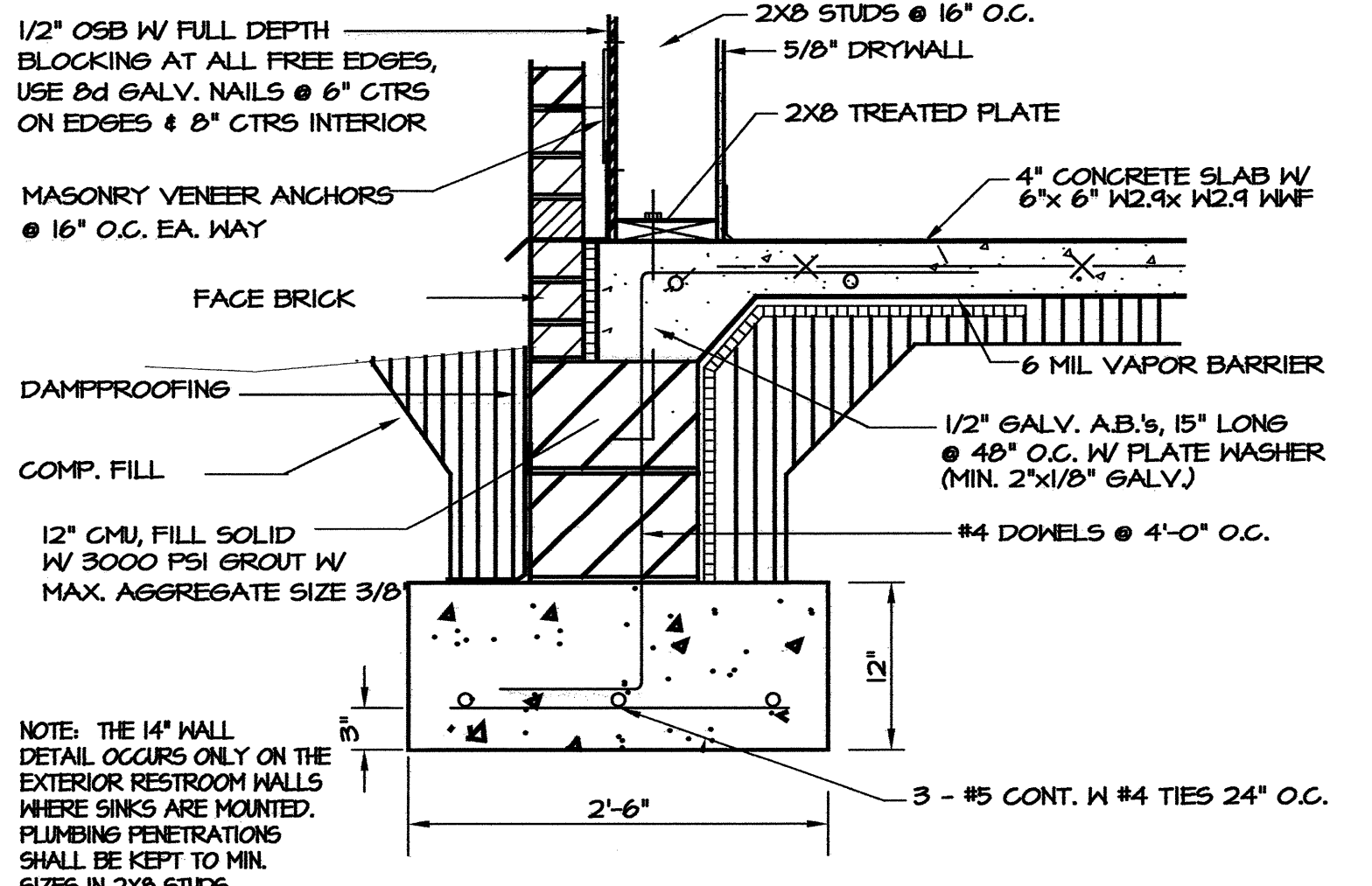
NOTE: ALL HARDWARE AND/OR FASTENERS THAT COME IN CONTACT WITH ANY TREATED LUMBER WILL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.



**3 DETAIL- INTERIOR FOOTING**  
S1 SCALE: 3/4" = 1'-0"



**4 TYP. WALL DETAIL**  
S1 SCALE: 1" = 1'-0"



**5 14" WALL DETAIL**  
S1 SCALE: 1" = 1'-0"

PROJECT: **I-95 REST AREA**  
CUMBERLAND COUNTY NORTH CAROLINA

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RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: **FOUNDATION PLAN & SECTIONS**

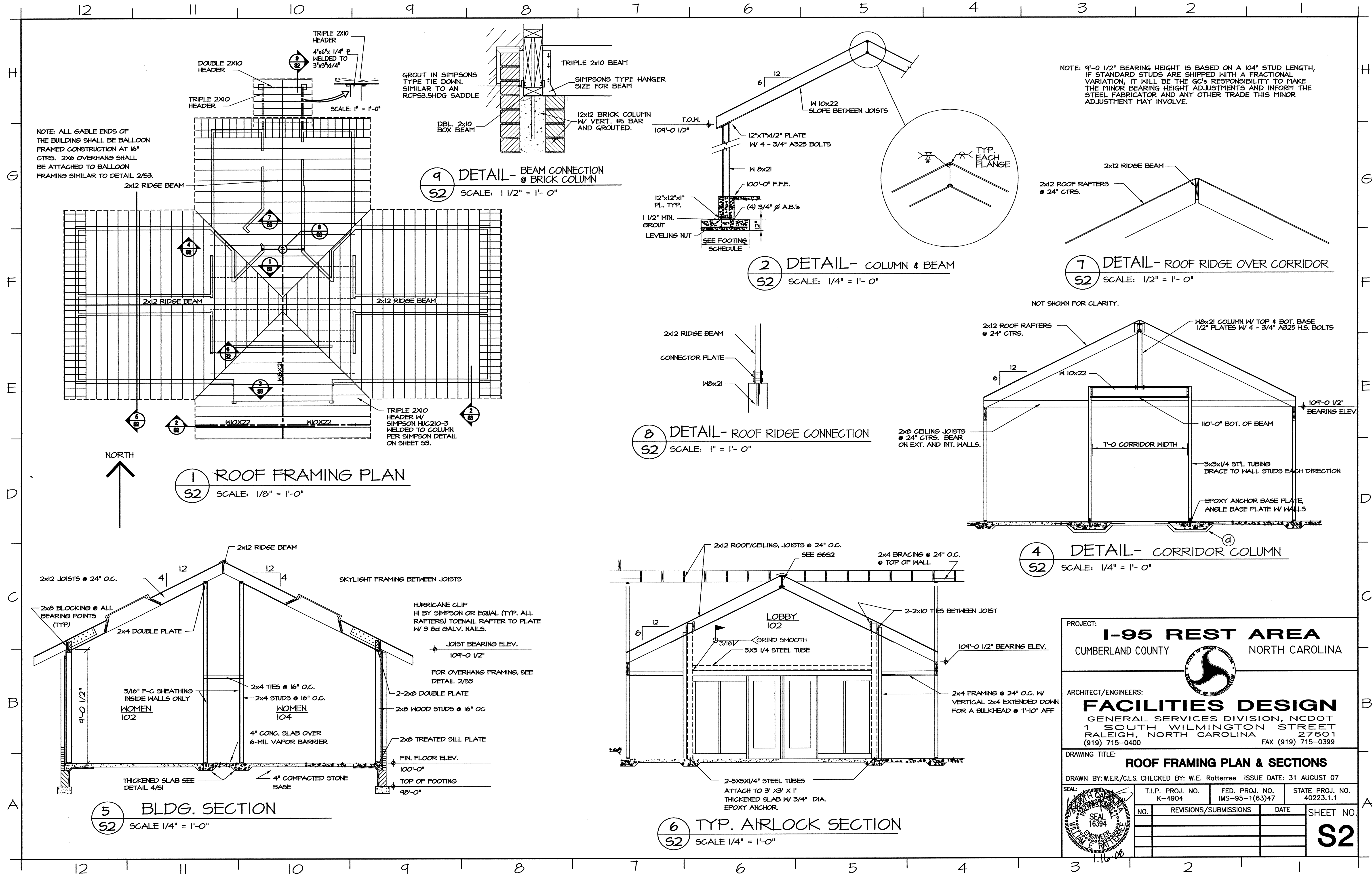
DRAWN BY: W.E.R./C.L.S. CHECKED BY: W.E. Rotterree ISSUE DATE: 31 AUGUST 07

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **S1**

S1 REST AREA, WELCOME CENTERS I-95 Cumberland Co. 195 Rest Area Structural S1.dwg, 19/2008 10:54:45 AM, C.L.S.





NOTE: 9'-0 1/2" BEARING HEIGHT IS BASED ON A 104" STUD LENGTH, IF STANDARD STUDS ARE SHIPPED WITH A FRACTIONAL VARIATION, IT WILL BE THE GC'S RESPONSIBILITY TO MAKE THE MINOR BEARING HEIGHT ADJUSTMENTS AND INFORM THE STEEL FABRICATOR AND ANY OTHER TRADE THIS MINOR ADJUSTMENT MAY INVOLVE.

PROJECT:  
**I-95 REST AREA**  
 CUMBERLAND COUNTY NORTH CAROLINA

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 1 SOUTH WILMINGTON STREET  
 RALEIGH, NORTH CAROLINA 27601  
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DRAWING TITLE:  
**ROOF FRAMING PLAN & SECTIONS**

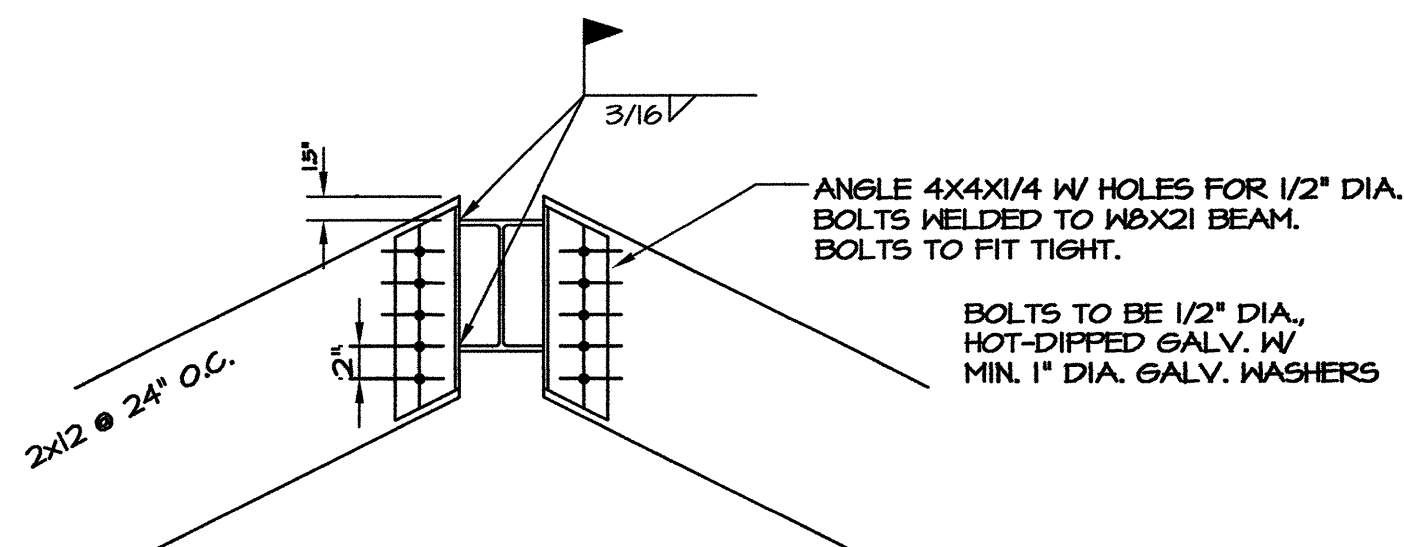
DRAWN BY: W.E.R./C.L.S. CHECKED BY: W.E. Ratterree ISSUE DATE: 31 AUGUST 07

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

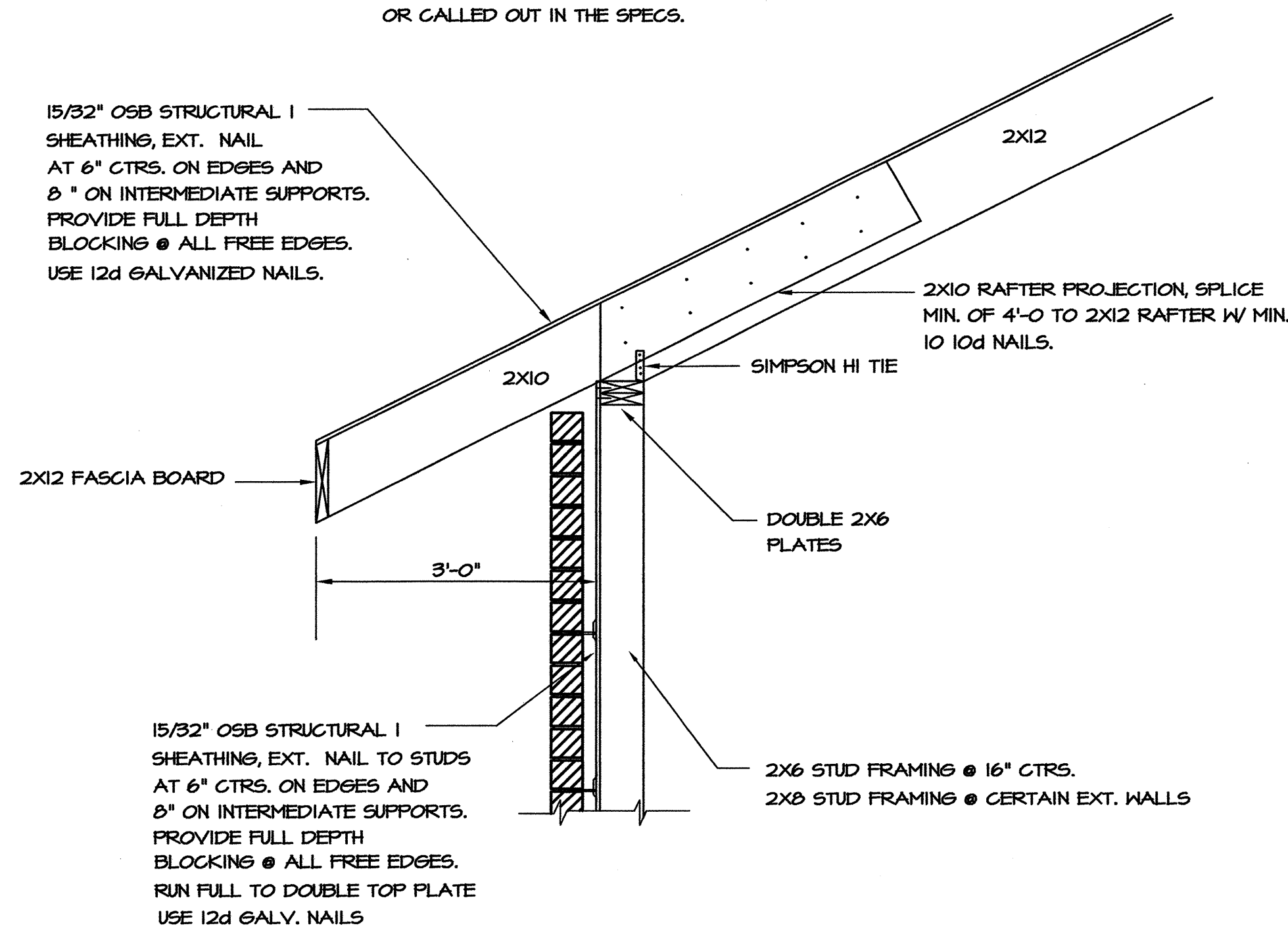
SHEET NO.  
**S2**

I-95 REST AREA, WELCOME CENTERS I-95 Cumberland Co, NC  
 S:\PDR\EST AREA, WELCOME CENTERS I-95 Cumberland Co\Cumberland S2.dwg, 11/02/2008 1:09:56 PM, C.L.S.

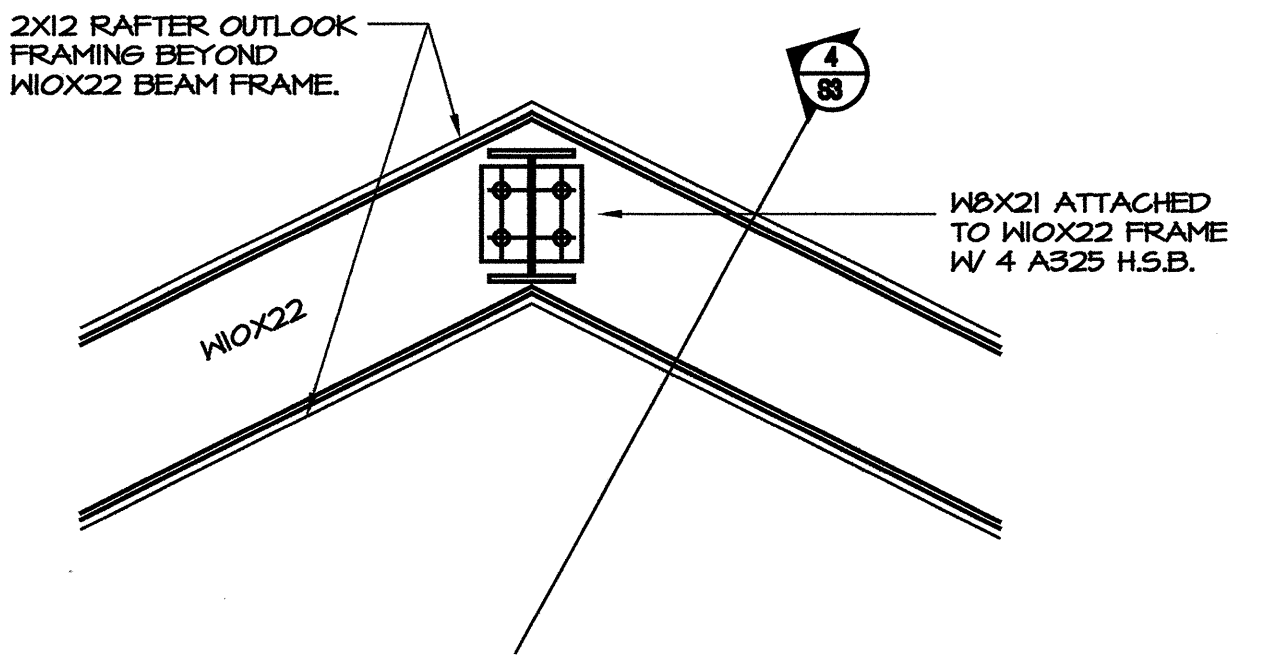




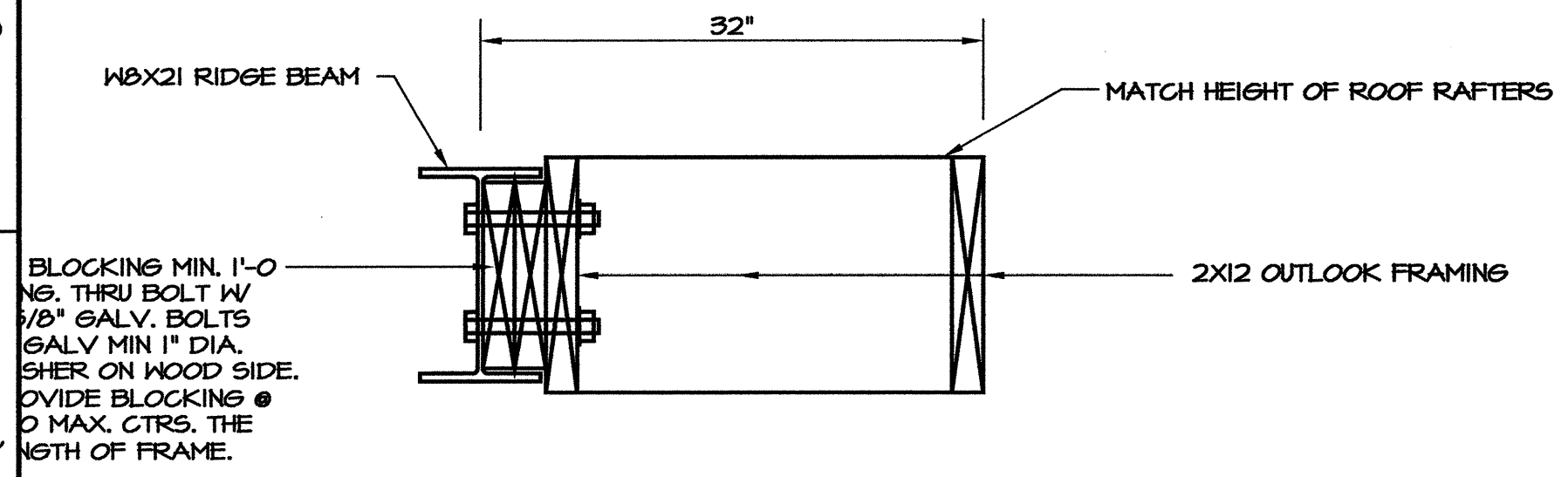
**1** WELDED RIDGE CONN.  
S3 SCALE: 1" = 1'-0"



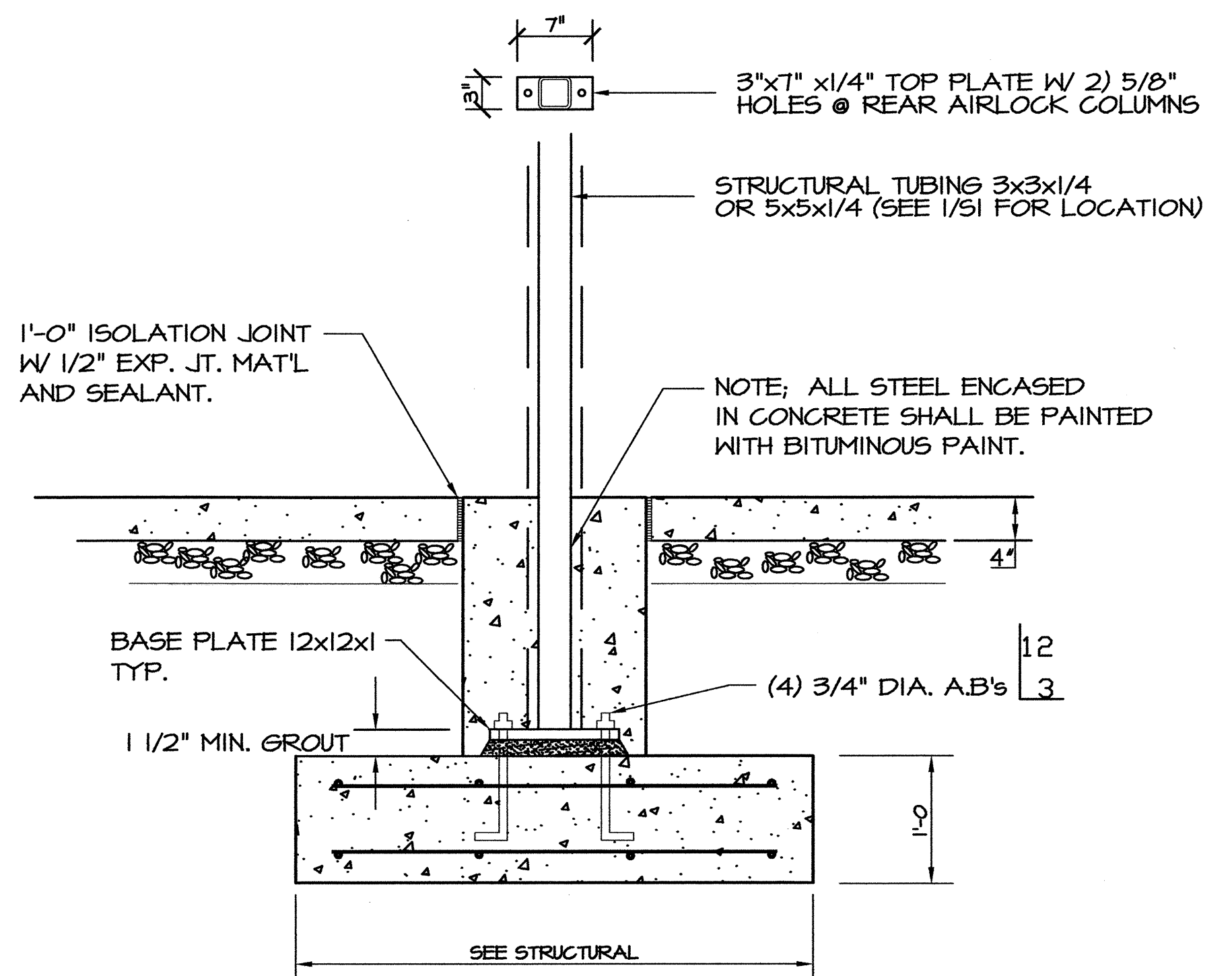
**2** DETAIL: TYP. EAVE SECT.  
S3 SCALE 3/4" = 1'-0"



**3** DETAIL: TYP. EAVE SECT.  
S3 SCALE 1" = 1'-0"



**4** DETAIL: TYP. EAVE SECT.  
S3 SCALE 3/4" = 1'-0"



**5** DETAIL: EXT. AIRLOCK COLUMN  
S3 SCALE 1" = 1'-0"

NOTE: ALL HARDWARE AND/OR FASTENERS THAT COME IN CONTACT WITH ANY TREATED LUMBER WILL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

**HEADER SCHEDULE  
WOOD FRAMING**

FRAMING	OPENING SIZE	HEADER SIZE
2x4	TO 10'-0"	2 2x12's W/ 1 1/2" PLYWD P's
2x6	TO 10'-0"	3 2x12's W/ 2 1/2" PLYWD P's
2x8	TO 10'-0"	4 2x10's W/ 2 5/8" PLYWD P's

**MASONRY WALL LINTEL SCHEDULE**

OPENINGS	LINTEL	BEARING
0'-0" TO 1'-4"	1 P-3/8 x 3 1/2 (GALV'D) *	REAPING 8"
1'-4" TO 4'-0"	1 L-3 1/2 x 3 1/2 x 5/16 (GALV'D) *	8"
4'-0" TO 6'-8"	1 L-4 x 3 1/2 x 5/16 (GALV'D) *	8"
6'-8" TO 8'-0"	1 L-5 x 3 1/2 x 5/16 (GALV'D) *	8"

PROJECT: **I-95 REST AREA**  
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RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: **DETAILS & SECTIONS**

DRAWN BY: W.E.R./C.L.S. CHECKED BY: W.E. Rotterree ISSUE DATE: 31 AUGUST 07

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

SEAL: **W. E. ROTTERREE**  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF NORTH CAROLINA  
NO. 16394

SHEET NO. **S3**

S:\FEDREST AREA, WELLCOME CENTERS\I-95 Cumberland Co\I-95 Rest Area\Structural\S3.dwg, 11/19/2008 11:20:39 AM, C.L.S.

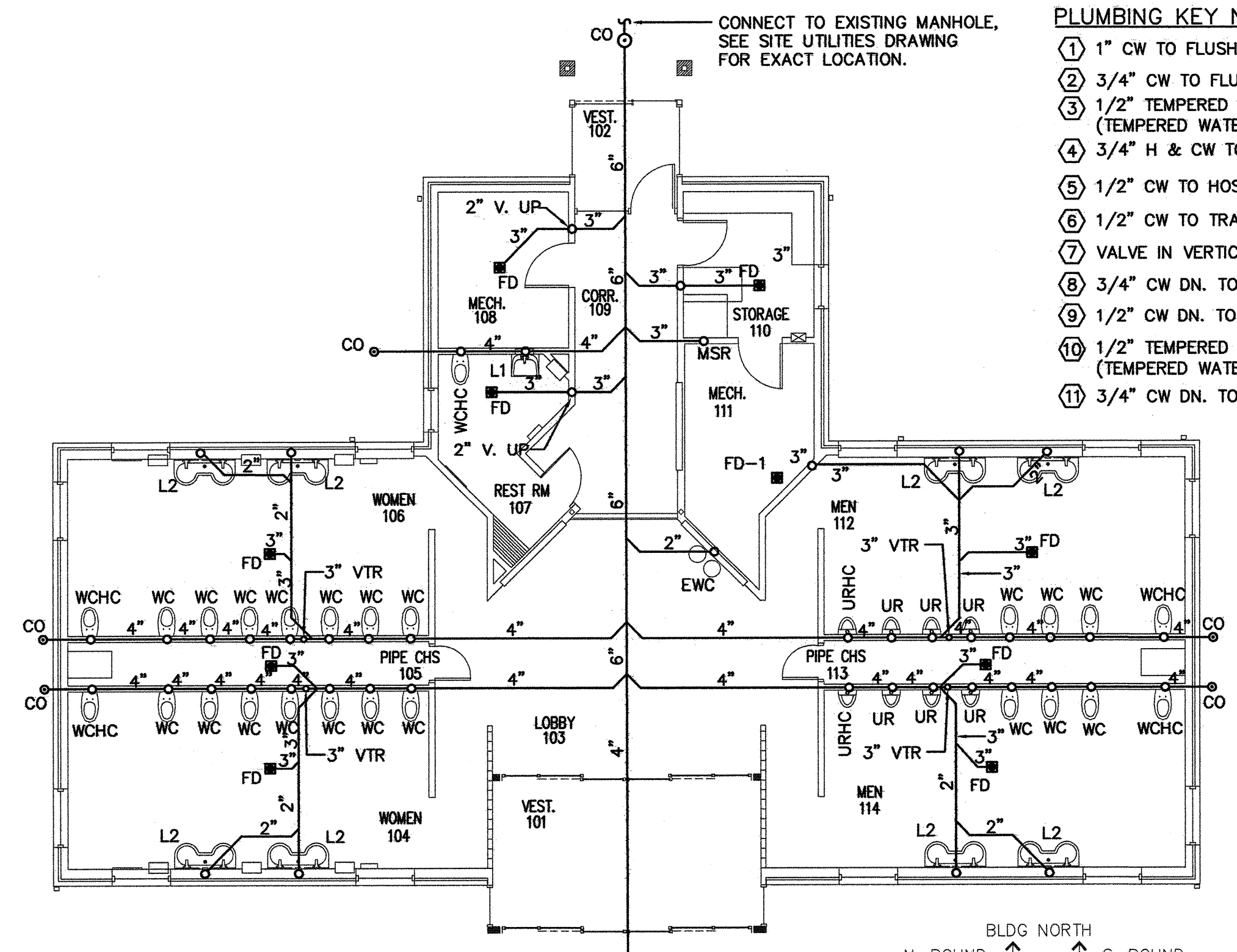


**PLUMBING KEY NOTES - WATER**

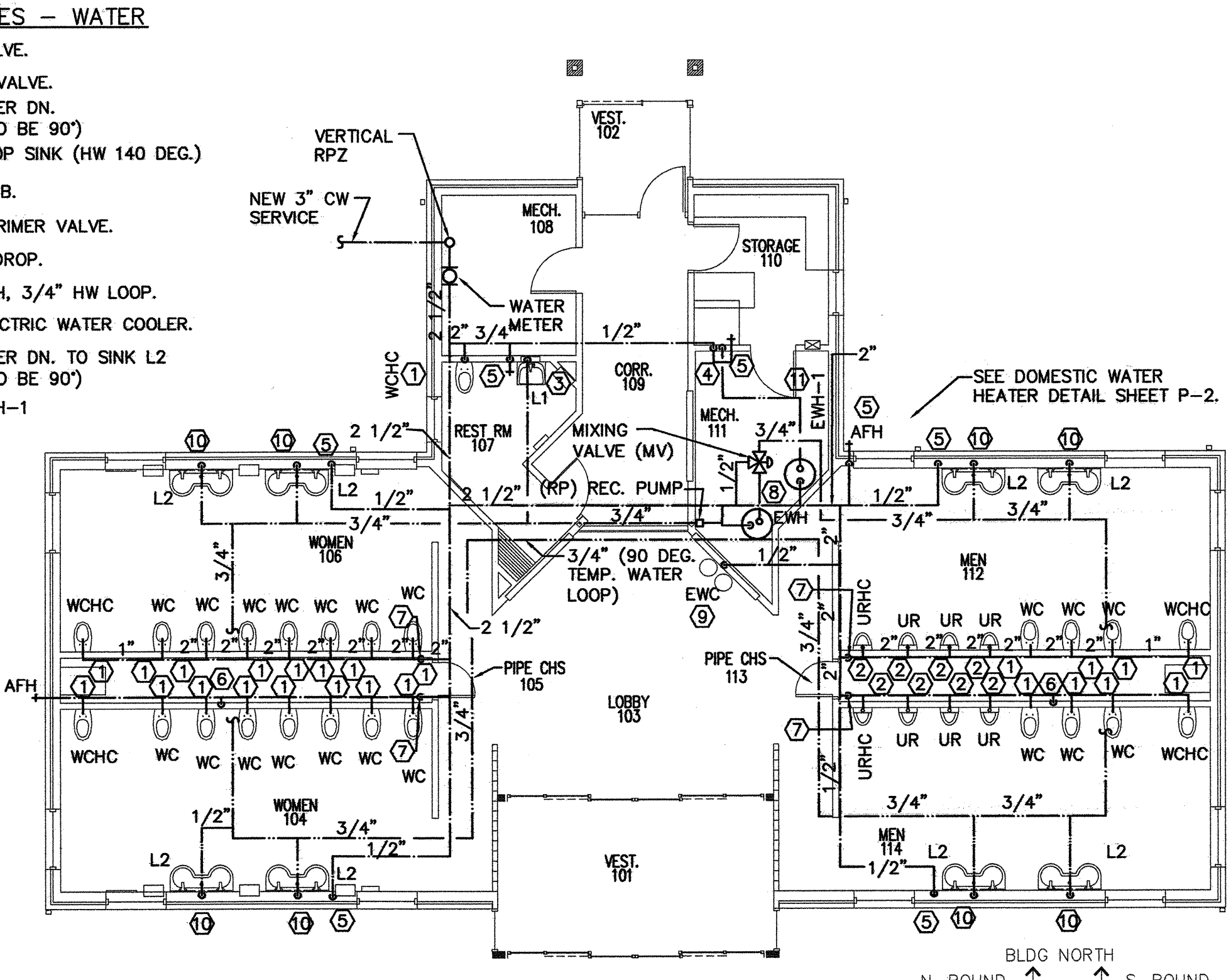
- ① 1" CW TO FLUSH VALVE.
- ② 3/4" CW TO FLUSH VALVE.
- ③ 1/2" TEMPERED WATER DN. (TEMPERED WATER TO BE 90°)
- ④ 3/4" H & CW TO MOP SINK (HW 140 DEG.)
- ⑤ 1/2" CW TO HOSE BIB.
- ⑥ 1/2" CW TO TRAP PRIMER VALVE.
- ⑦ VALVE IN VERTICAL DROP.
- ⑧ 3/4" CW DN. TO EWH, 3/4" HW LOOP.
- ⑨ 1/2" CW DN. TO ELECTRIC WATER COOLER.
- ⑩ 1/2" TEMPERED WATER DN. TO SINK L2 (TEMPERED WATER TO BE 90°)
- ⑪ 3/4" CW DN. TO EWH-1

**GENERAL NOTES - PLUMBING**

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
5. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER-REQUESTED SERVICE CLEARANCES.
6. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
7. ALL HANDICAP FIXTURES AND INSTALLATION OF HANDICAP FIXTURES SHALL CONFORM TO ADA REQUIREMENTS.
8. AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.
9. PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.
10. PROVIDE CONCRETE RING FOR ALL EXTERIOR CLEAN-OUTS.



**1 WASTE PLAN**  
SCALE: 1/8"=1'-0"



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

PLUMBING LOAD SUMMARY	
WASTE FIXTURE UNITS =	206
WATER FIXTURE UNITS =	348
TOTAL DEMAND G.P.M. =	117

**WASTE AND VENT LEGEND:**

- COLD WATER PIPE
- HOT WATER PIPE
- NEW HOT RETURN
- ⊕ BALL VALVE
- + HOSE BIBB
- WATER HYDRANT
- - - NEW VENT
- - - NEW WASTE
- C.O. CLEAN OUT-PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS
- W.C.O. WALL CLEAN OUT
- ⊕ FLOOR DRAIN
- ⊕ VTR VENT THROUGH ROOF
- ⊕ TPC TRAP PRIMER CONNECTION
- ⊕ CONNECT TO EXISTING
- ① KEY NOTE NUMBER

**FIXTURE SCHEDULE - PLUMBING**

SYMBOL	DESCRIPTION
WC	WATER CLOSET (See note 1 below) AMERICAN STANDARD "AFWALL EL 1.6" # 2258.125, SIPHON JET, ELONGATED BOWL, VITREOUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE. USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).
WCHC	WATER CLOSET (HANDICAPPED) (See note 1 below) AMERICAN STANDARD "AFWALL EL 1.6" # 2258.125, SIPHON JET, ELONGATED BOWL, VITREOUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE. USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).
UR	URINAL (See note 1 below) AMERICAN STANDARD "ALLBROOK 1.0" # 6541.132 SIPHON JET, VITREOUS CHINA, 3/4" TOP SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE. HYDROTECH H-8000C-D FLUSH VALVE AND TRANSFORMER(S).
URHC	URINAL (HANDICAPPED) (See note 1 below) AMERICAN STANDARD "ALLBROOK 1.0" # 6541.132 SIPHON JET, VITREOUS CHINA, 3/4" TOP SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE. HYDROTECH H-8000C-D FLUSH VALVE AND TRANSFORMER(S).
L1	LAVATORY (HANDICAPPED WALL HUNG) (See note 1 below) AMERICAN STANDARD "LUCERNE" # 0355.012 WHITE WITH CONCEALED ARM CARRIER. FURNISH WITH AUTOMATIC SENSOR FAUCET (HYDROTECH H-2603C & TRANSFORMER(S)), TEMPERED VALVE FOR 90° AND DRAIN ASSEMBLY (7723.018). WALL OR CHASE LAVATORIES IN ALL BATHROOMS SHALL BE EQUIPPED W/WIRING ENCASED IN METAL FLEX CONDUIT TO AVOID VANDALISM.
L2	2- STATION LAVATORY (HANDICAPPED) (See note 1 below) BRADLEY MODEL #EXD-2N, TERREON ACRYLIC MODIFIED POLYESTER RESIN DOUBLE MODULE SINK SYSTEM (CHARCOAL GRAY), 50" x 21" WALL HUNG LAVATORY WITH INFRARED FAUCET CONTROLS. ADA COMPLIANT WITH WALL HANGER SUPPORT FRAME. FURNISH WITH HYDROTECH H-2603C (& TRANSFORMER(S)) AUTOMATIC FAUCET ASSEMBLY FOR 90° TEMPERED WATER. NO SOAP DISPENSER IS REQUIRED.
MSR	MOP SINK (See note 1 below) ACORN NO. TDF36-SSC, 36"x36"x12" TERRAZZO SERVICE BASIN WITH 6" DROP FRONT AND STAINLESS STEEL CAPS ON CURBS. FAUCET: ACORN MODEL KFC CHROME PLATED SERVICE FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUL HOSE & HOSE BRACKET. ACORN MODEL KH36 LONG FLEXIBLE 5/8" RUBBER HOSE, CLOTH REINFORCED.
EWC	ELECTRIC WATER COOLER (See note 5 below) HAWS # H1011.8, DUAL SST DRINKING FOUNTAIN W/ #4 FINISH, WALL HUNG, WITH REMOTE CHILLER, 120V/1PH/60HZ, 564W, FLA=4.7, USE HAWS HCR8 CHILLER.
RP	CIRCULATING PUMP (See note 7 below) BELL & GOSSET, SERIES 100 IN-LINE HOT WATER PUMP, 1/12 HP, 115 VAC, FLA=1.75 1 Ph., 3/4" CONN., WITH A MINIMUM OF 13 GPM AND 8' TDH. PUMP TO BE ALL BRONZE CONSTRUCTION, COORDINATE WITH ELEC. CONTRACTOR FOR POWER FEED. PROVIDE DISCONNECT SWITCH.
MTR	WATER METER (OR EQUAL) NEPTUNE, 3", MODEL T-10 (OR EQUAL). METER INDICATION SHALL BE WITH BOTTOM OF GAUGE TOWARD FLOOR.
TPV	TRAP PRIMER VALVE (See note 6 below) PPP INC. MODEL# PR-500, 1/2" INLET, 1/2" OUTLET
WS	WATER CLOSET SUPPORTS (See note 8 below) SMITH MODEL# 0209Y, HORIZONTAL NO HUB.
US	URINAL SUPPORTS (See note 8 below) SMITH MODEL# 0637
BFP	BACK FLOW PREVENTER (See note 10 below) WATTS SERIES 909 TYPE. PIPE DRAIN TO FLOOR DRAIN.
HB	HOSE BIBB (See note 4 below) NIBCO, 3/4" STANDARD BRONZE HOSE BIBB W/ VACUUM BREAKER. INCLUDE KEYED OPERATION.
EWH	ELECTRIC WATER HEATER (See note 2 below) STATE WATER # P6-52-20RT-2, 50 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.
EWH-1	ELECTRIC WATER HEATER (See note 2 below) STATE WATER # P6-30-20RT-2, 30 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.
FD	FLOOR DRAIN (See note 3 below) ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER. WITH TRAP PRIMER CONNECTION
FD-1	FLOOR DRAIN (See note 3 below) ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER. WITH TRAP PRIMER CONNECTION
AFH	ANTI-FREEZE HOSEBIBB ZURN Z-1315-5, 3/4" NON FREEZE WALL HYDRANT WITH VACUUM BREAKER. INCLUDE KEYED OPERATION.
MV	MIXING VALVE (See note 9 below) LEONARD THERMOSTATIC MIXING VALVE

- NOTES:**
1. Or equal by Kohler, Eljer  
Flush Valve: Zurn or Sloan.  
Mop Sink: Zurn, Flat, Stern Williams or Speakman  
Mop Sink Faucet: Chicago, Symmons or Delta
  2. Or equal by A.O.Smith, Rheem, Lochinvar or Bradford White.
  3. Or equal by Josam, Wade or J.R. Smith
  4. Or equal by Wade, Woodford or J.R. Smith
  5. Or equal by Oasis, Sunroc, or Halsey Taylor
  6. Or equal by Sioux Chief, J.R. Smith or Zurn.
  7. Or equal by Ingersoll Rand or Weinman.
  8. Or equal by Zurn, J.R. Smith or American Standard.
  9. Or equal by Spirax, Lawler, Bradley or Holby.
  10. Or equal by Conbraco, Wilkins, Febco or Ames.

PROJECT: 1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET  
RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: **PLUMBING PLAN**

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 12/12/07

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **P1**  
OF 4

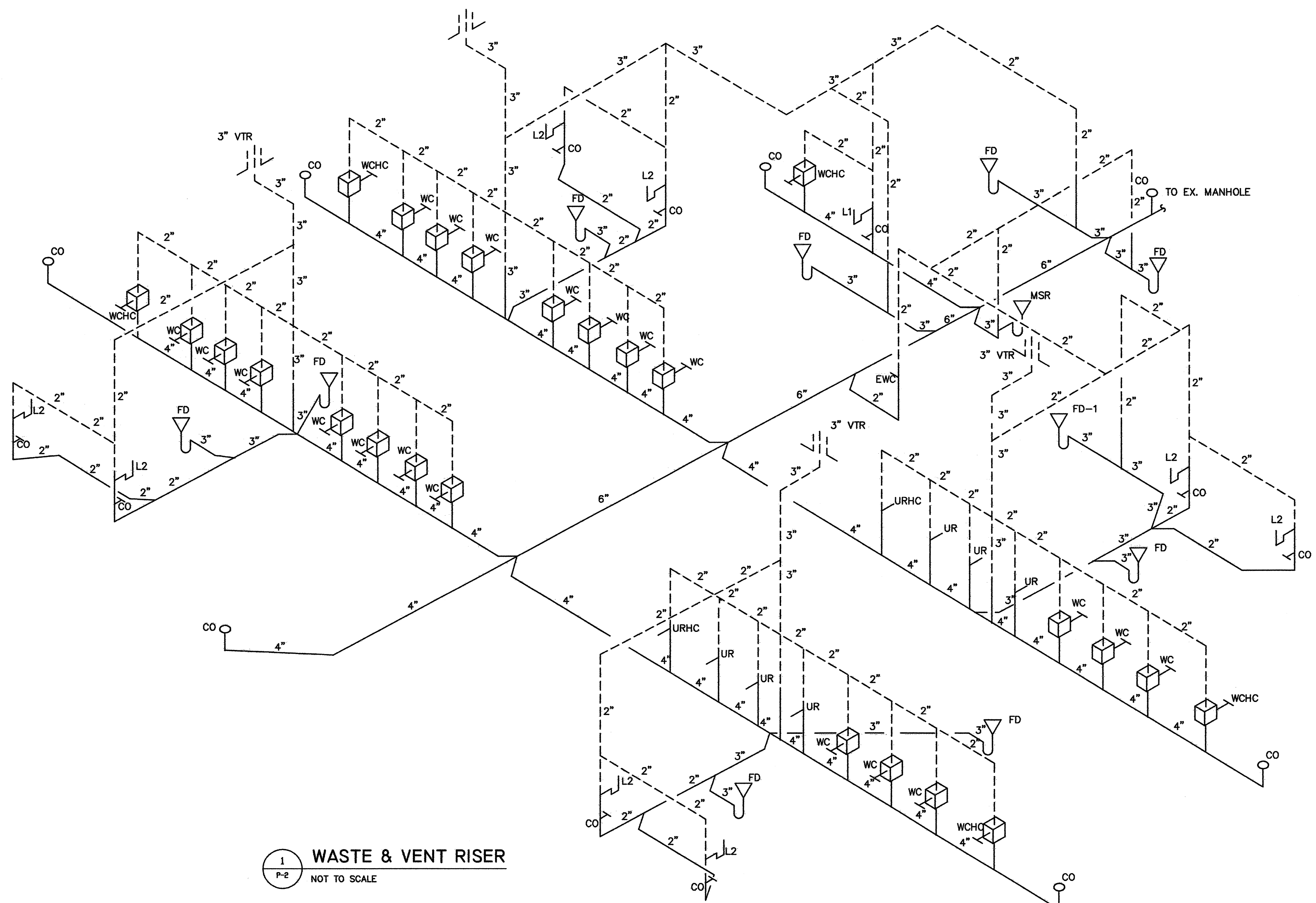
**TRIANGLE ENGINEERING ASSOCIATES**  
MECHANICAL, ELECTRICAL, PLUMBING CONSULTING ENGINEERS  
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SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER  
7911  
VOEL M. HOBY

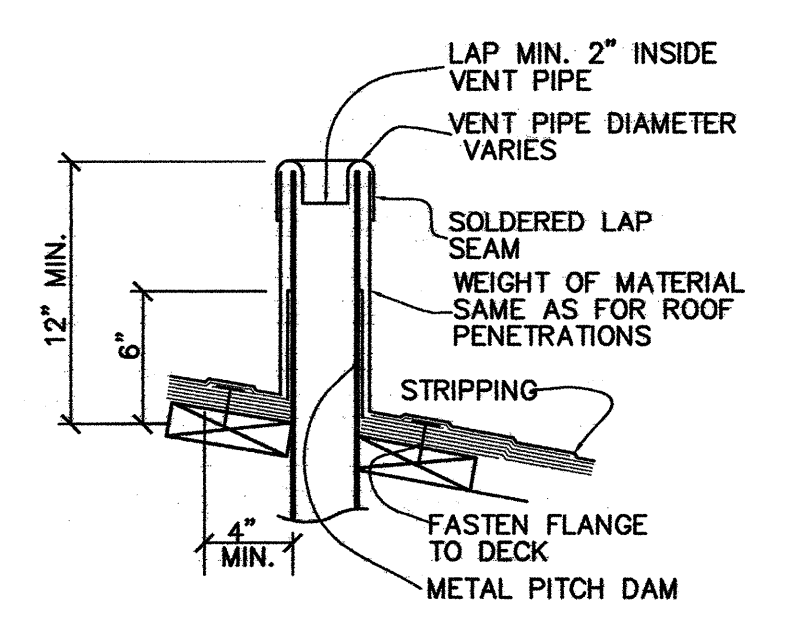


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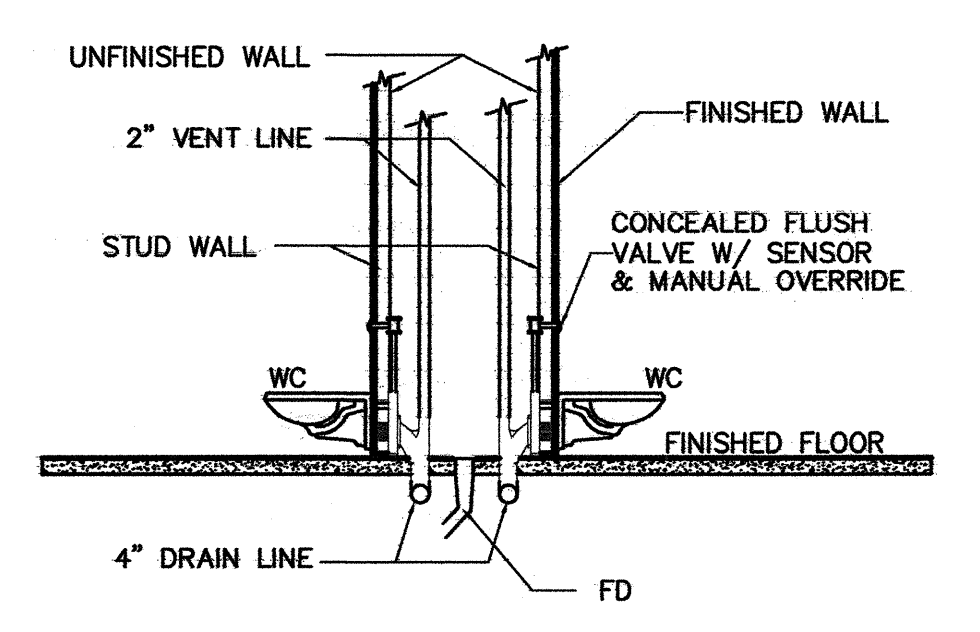
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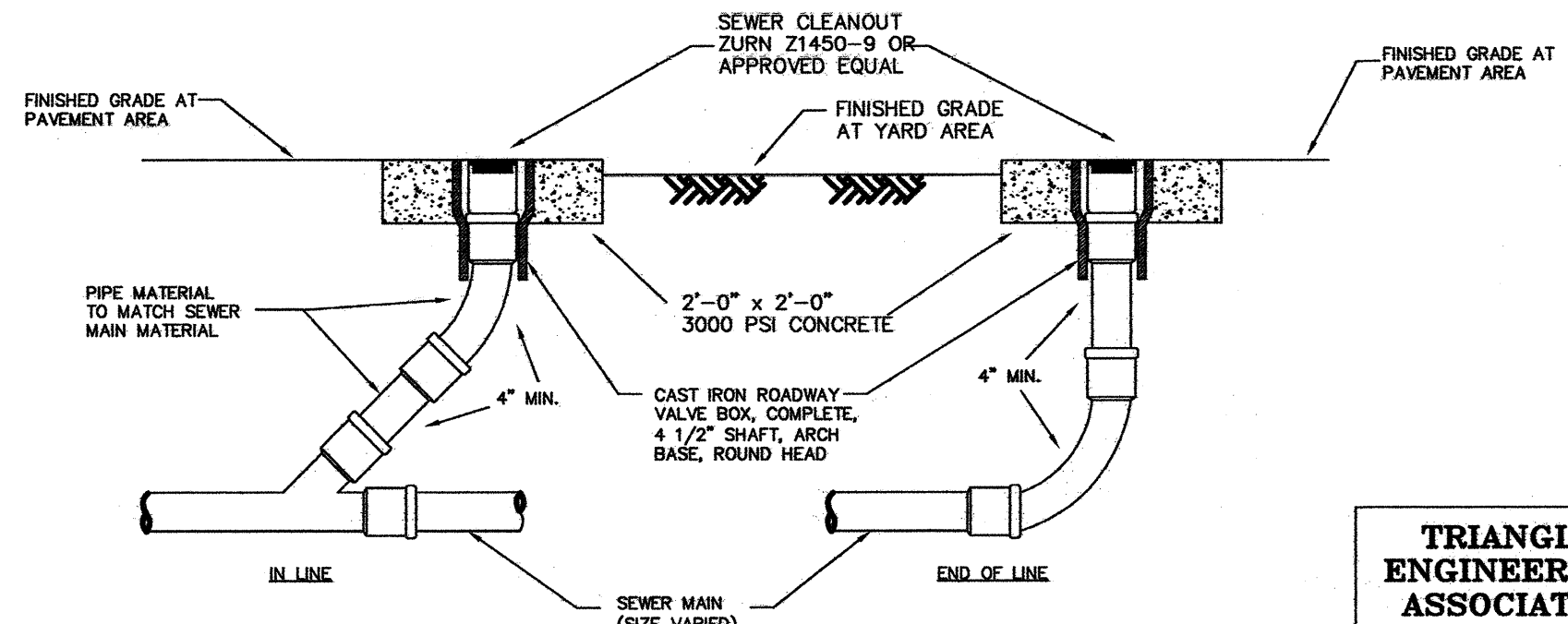
1 WASTE & VENT RISER  
P-2 NOT TO SCALE



2 VTR DETAIL  
P-2 SCALE: NTS

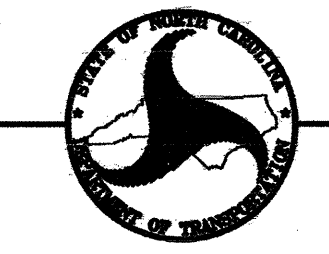


3 WATER CLOSET DETAIL  
P-2 SCALE: NTS



4 GRAVITY SEWER CLEANOUT  
P-2 NOT TO SCALE

PROJECT: 1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

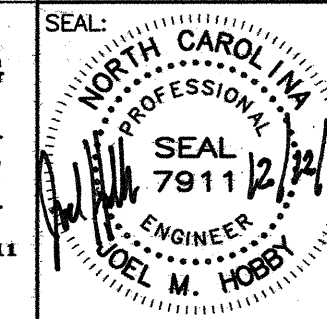


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DRAWING TITLE:  
**PLUMBING WASTE RISER DIAGRAM & DETAILS**

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 12/12/07

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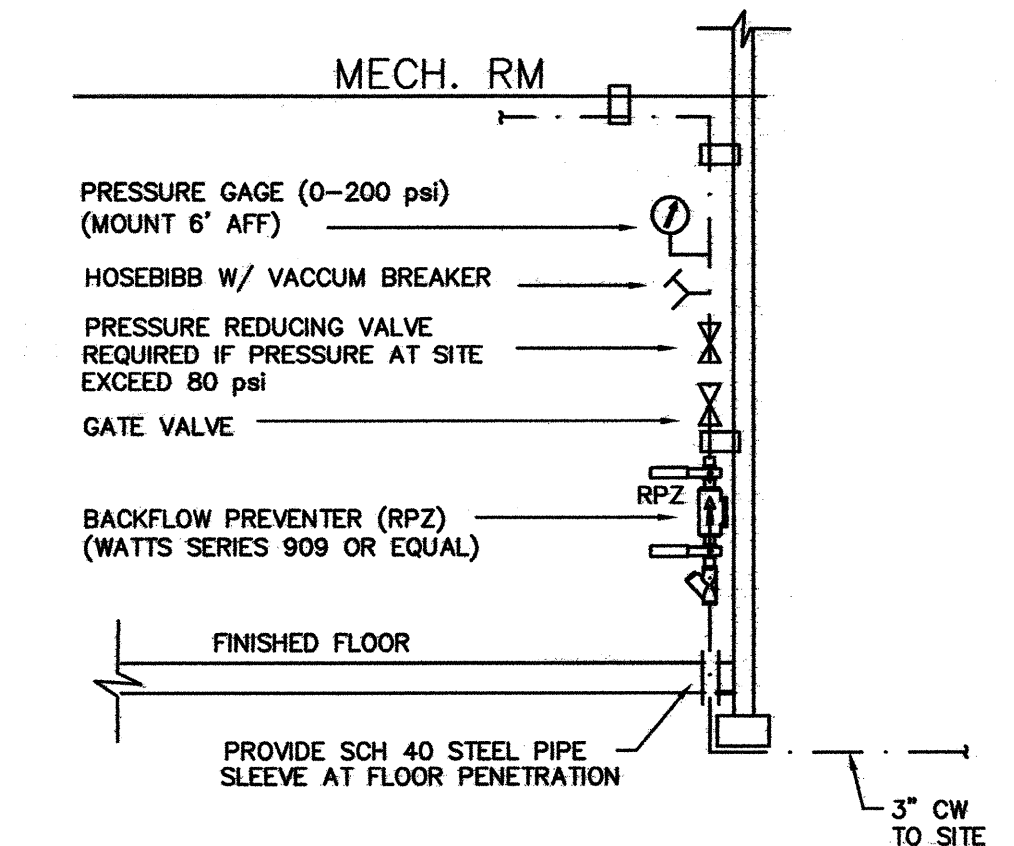
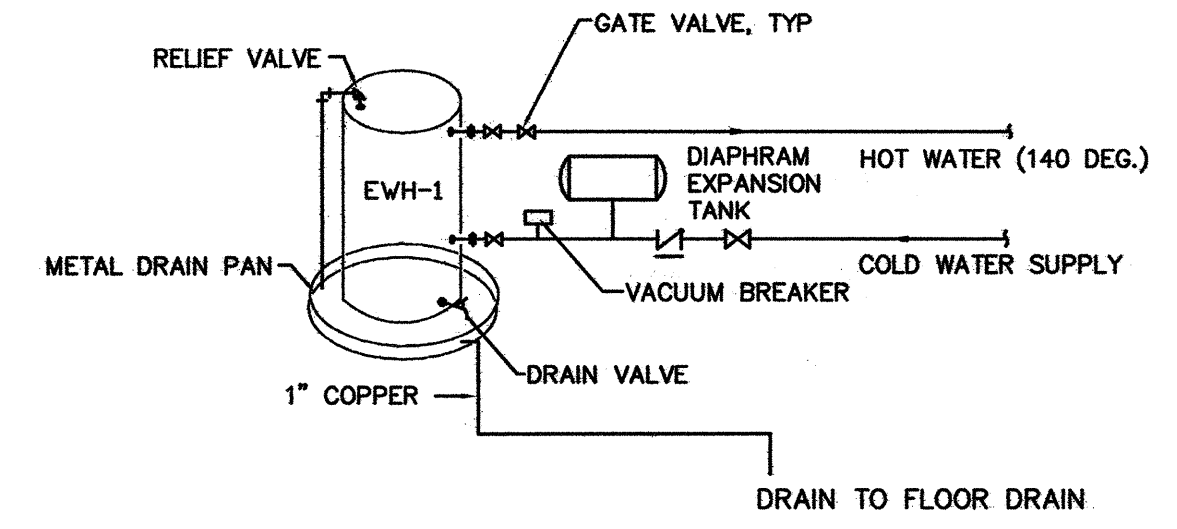
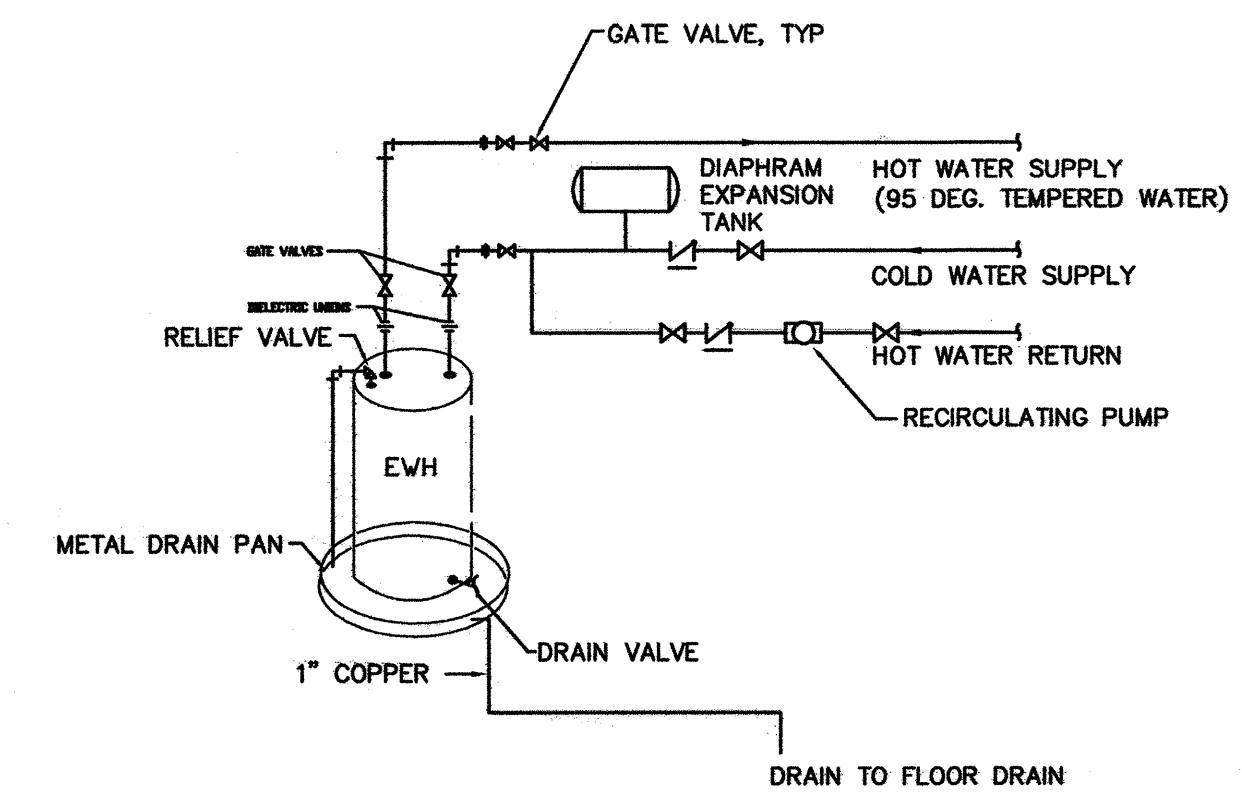
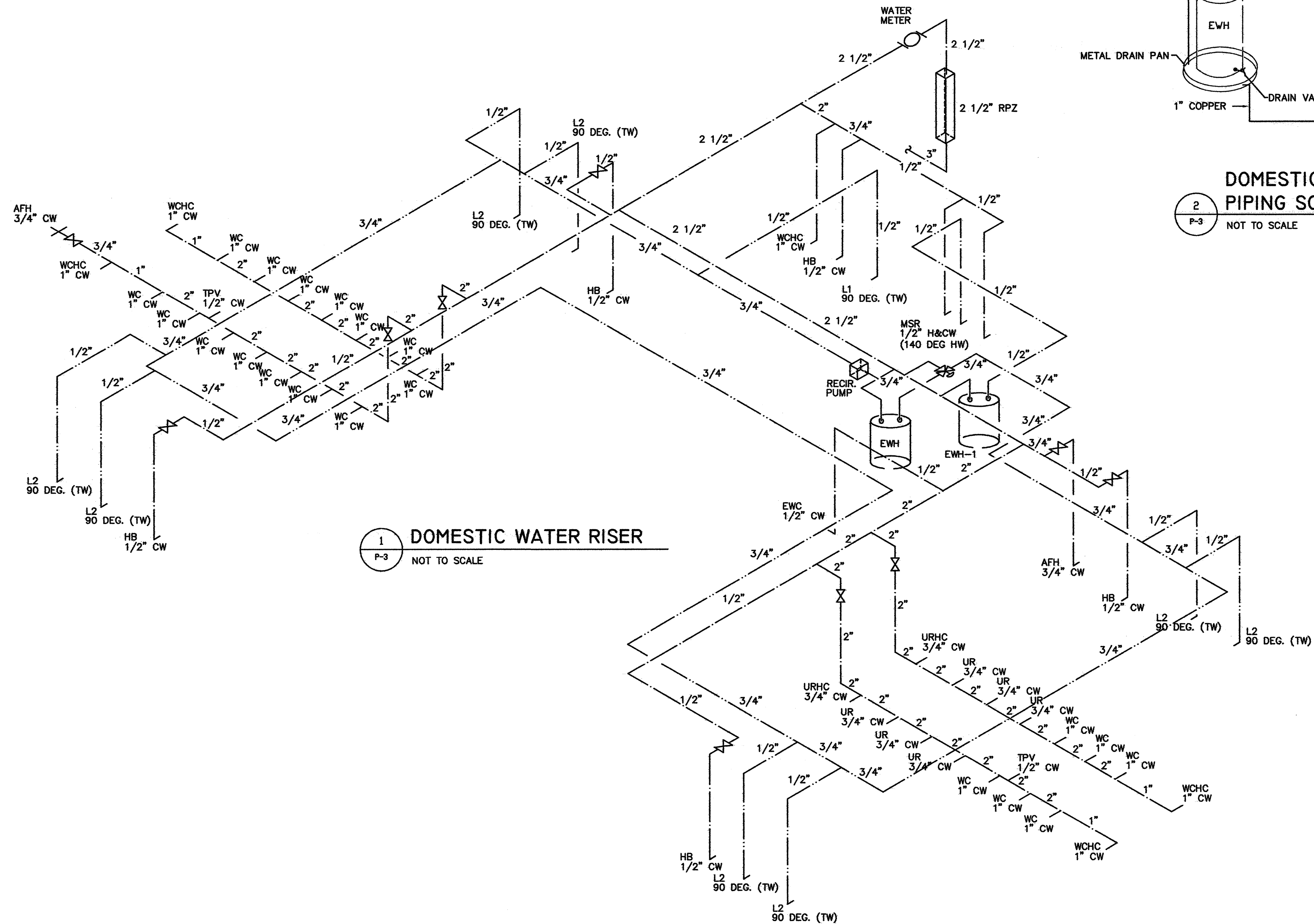


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SHEET NO.  
**P2**  
OF 4

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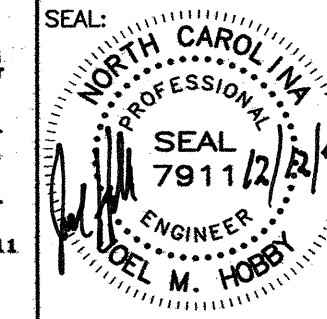
PROJECT:  
1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
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DRAWING TITLE:  
**PLUMBING WATER RISER DIAGRAM & DETAILS**

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 12/12/07

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SHEET NO. **P3** OF 4



# HVAC SCHEDULE

EQUIP. NUMBER	INDOOR UNIT										OUTDOOR UNIT				NOTES			
	MODEL NO.	FAN			COOLING CAPACITY		COIL HEATING CAPACITY	ELECTRICAL HEATING			MCA	FUSE/CB MAX	MODEL NO.	POWER		MCA	FUSE/CB MAX	
		CFM	HP	POWER	MIN TOTAL	MIN SENS.		MODEL #	CAPACITY	VOLTAGE								
AHU-1/CU-1	CARRIER FC4DNF048010	16000	1/2 WC	3/4	208/230-1	46.5 MBH	35.09 MBH	30/48 MBH @ 17/47F	KFCEH0901N10	34 MBH (10 KW)	208/230-1	58.5	60 (TD)	CARRIER 25HBR348A003	208/230-1	27.6	40 A (TD)	1,2,3,4,5,6
AHU-2/CU-2	CARRIER FC4DNF048010	16000	1/2 WC	3/4	208/230-1	46.5 MBH	35.09 MBH	30/48 MBH @ 17/47F	KFCEH0901N10	34 MBH (10 KW)	208/230-1	58.5	60 (TD)	CARRIER 25HBR348A003	208/230-1	27.6	40 A (TD)	1,2,3,4,5,6

- NOTES:**
- PROVIDE WITH DISCONNECT SWITCH, ELECTRONIC PROGRAMMABLE THERMOSTAT WITH LOCKING COVER, TIME DELAY RELAY, FILTER RACK WITH FILTERS, AND HEAD PRESSURE CONTROLLER AND SINGLE POINT POWER CONNECTIONS.
  - PROVIDE MINIMUM OUTDOOR AIR FLOW SETTINGS AS PER PLAN.
  - AHU's ARE BASED ON 1/2" EXT. WATER COLUMN STATIC.
  - OR EQUAL BY TRANE OR YORK
  - PROVIDE SHUTDOWN RELAY SWITCH WITH A MAXIMUM OF 60 SECOND DELAY ON HEATING CYCLE, TO BE WIRED TO THE DUCT SMOKE DETECTORS AS PROVIDED BY THE ELECTRICAL CONTRACTOR.
  - SPECIFIED COOLING CAPACITIES ARE BASED ON STANDARD CONDITIONS: EAT= 08/MB = 80/67 F; AMBIENT = 95 F. COIL HEATING CAPACITIES ARE BASED ON 65 F EDB. ELECTRIC HEATER RATINGS ARE AT 240V.
  - PROVIDE NON-PROGRAMMABLE, AUTOMATIC CHANGEOVER, DIGITAL THERMOSTATS FOR AHU-1/2. FAN SHALL BE SET IN "ON" POSITION.

## SYMBOL LEGEND - MECHANICAL

SYMBOL	DESCRIPTION
~	SPIN-IN FITTING
VD	VOLUME CONTROL DAMPER
⊗	CEILING SUPPLY
⊘	CEILING RETURN
⊙	REGISTER DESIGNATION AND AIR FLOW RATE
T	THERMOSTAT LOCATION
SD	DUCT MOUNTED SMOKE DETECTOR
AHU	AIR HANDLING UNIT
CU	CONDENSING UNIT
TYP.	TYPICAL
A.F.F.	ABOVE FINISHED FLOOR
UON	UNLESS OTHERWISE NOTED
TE	REMOTE TEMPERATURE SENSOR
⊠	DUCT SMOKE DETECTOR ALARM (AUDIBLE/ VISIBLE)

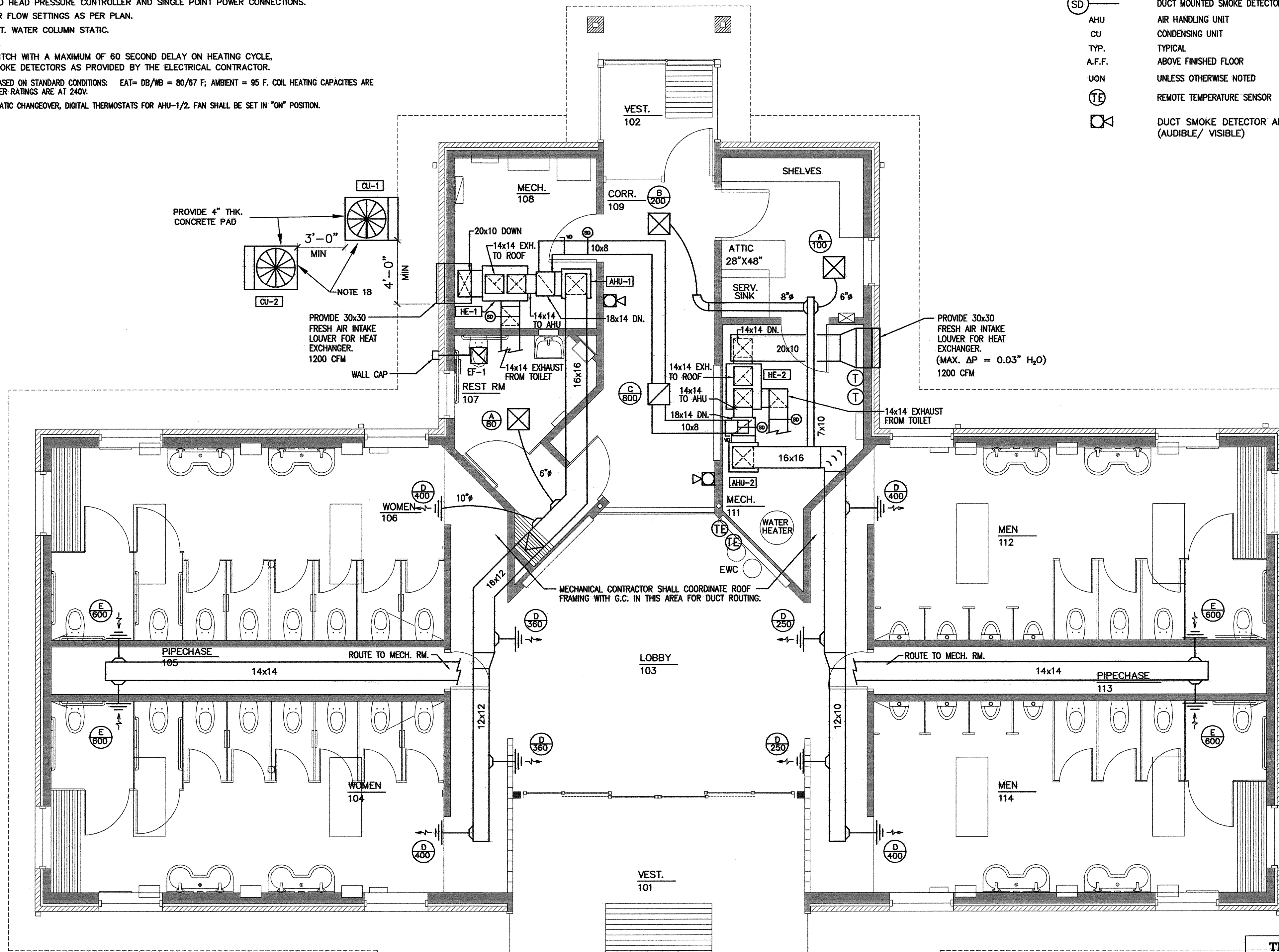
## REGISTER SCHEDULE

MARK	MANUFACTURER MODEL NO.	FACE SIZE	NECK SIZE	MATERIAL	SERVICE	NOTES
A	PRICE - ASCD	12x12	6"	ALUM	SUPPLY	1,2
B	PRICE - ASCD	12x12	8"	ALUM	SUPPLY	1,2
C	PRICE - 630	18x18	-	ALUM	RETURN	1
D	PRICE - 610 DAL	12x8	-	ALUM	SUPPLY	1,2
E	PRICE - 630 DAL	16x12	-	ALUM	EXHAUST	1,2
G	LOREN COOK CO. "GR"	24x28	12 X 12	ALUM	EXHAUST CAP	3

- COLOR TO BE OFF-WHITE; PROVIDE BORDER FOR GYP. CEILING.
- PROVIDE VOLUME DAMPER ACCESSIBLE FROM DIFFUSER FACE.
- PROVIDE WITH BIRD SCREEN. MATCH COLOR TO TRIM (SEE ARCHITECTURAL).

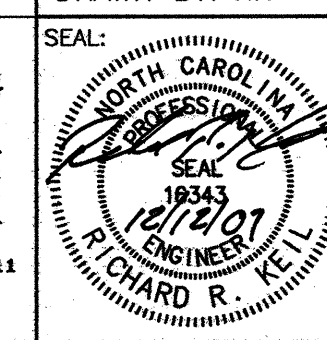
## GENERAL NOTES - MECHANICAL

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
- ANY INSPECTION SHALL BE COORDINATED WITH THE DESIGNER BY THE MECHANICAL CONTRACTOR (MC) WITH A 48 HRS NOTICED.
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
- THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES. EQUIPMENT SHALL BE INSTALLED IN THE GENERAL LOCATION SHOWN IN ROOMS AND ALONG DESIGNATED WALLS.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
- THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN
- THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND CEILING OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND CEILING LOCATIONS.
- INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AT ALL UNITS. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
- INSTALL TURNING VANES IN SUPPLY, RETURN, AND EXHAUST DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN DUCTS AS SHOWN OR REQ'D FOR SYSTEM BALANCING.
- DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
- ALL THERMOSTATS, WIRING AND CONDUIT ARE TO BE FURNISHED BY THE MC. MOUNT ALL THERMOSTATS 48" ABOVE THE FINISHED FLOOR.
- THE MC 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.
- COORDINATE DIFFUSER AND CEILING EXHAUST GRILLE LOCATIONS WITH LIGHTS AND GRID. COORDINATE MOUNTING FRAME WITH CEILING TYPE.
- THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR APPROVAL PRIOR TO CONSTRUCTION.
- THE M.C. IS RESPONSIBLE FOR PATCHING, SEALING, SLEEVING AND FIRE CAULKING ALL PENETRATIONS WHERE HIS EQUIPMENT IS INSTALLED TO MEET CODE. SEAL REQUIRED PENETRATIONS WITH 3M FIRE/SMOKE STOP MATERIAL OR EQUAL PRODUCT. SEE ARCH. PLANS FOR WALL/CEILING RATINGS.
- MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 8'-0". PROVIDE SHEET METAL ELBOWS AT ALL 90 DEGREE BENDS.
- MECHANICAL CONTRACTOR SHALL DRILL ALL OPENINGS REQUIRED FOR DUCT/PIPING. COORDINATE ALL LOCATIONS WITH GENERAL CONTRACTOR. MECHANICAL CONTRACTOR TO PROVIDE DIMENSIONAL LAYOUT WITHIN SEVEN DAYS OF START OF PROJECT. PROVIDE DUCT COLLARS AT ALL PENETRATIONS.
- HVAC EQUIPMENT IS NOT TO SCALE (NTS). HE-1/2 AND AHU-1/2 ARE SHOWN LARGER THAN ACTUAL LOCATION AND GENERAL ARRANGEMENT OF CONDENSORS SHALL BE AS SHOWN.



**MECHANICAL PLAN**  
 SCALE: 1/4" = 1'-0"  
 N. BOUND S. BOUND

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PROJECT:  
**1-95 REST AREA**  
 CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
 GENERAL SERVICES DIVISION, NCDOT  
 1 SOUTH WILMINGTON STREET  
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DRAWING TITLE:  
**MECHANICAL PLAN & NOTES**

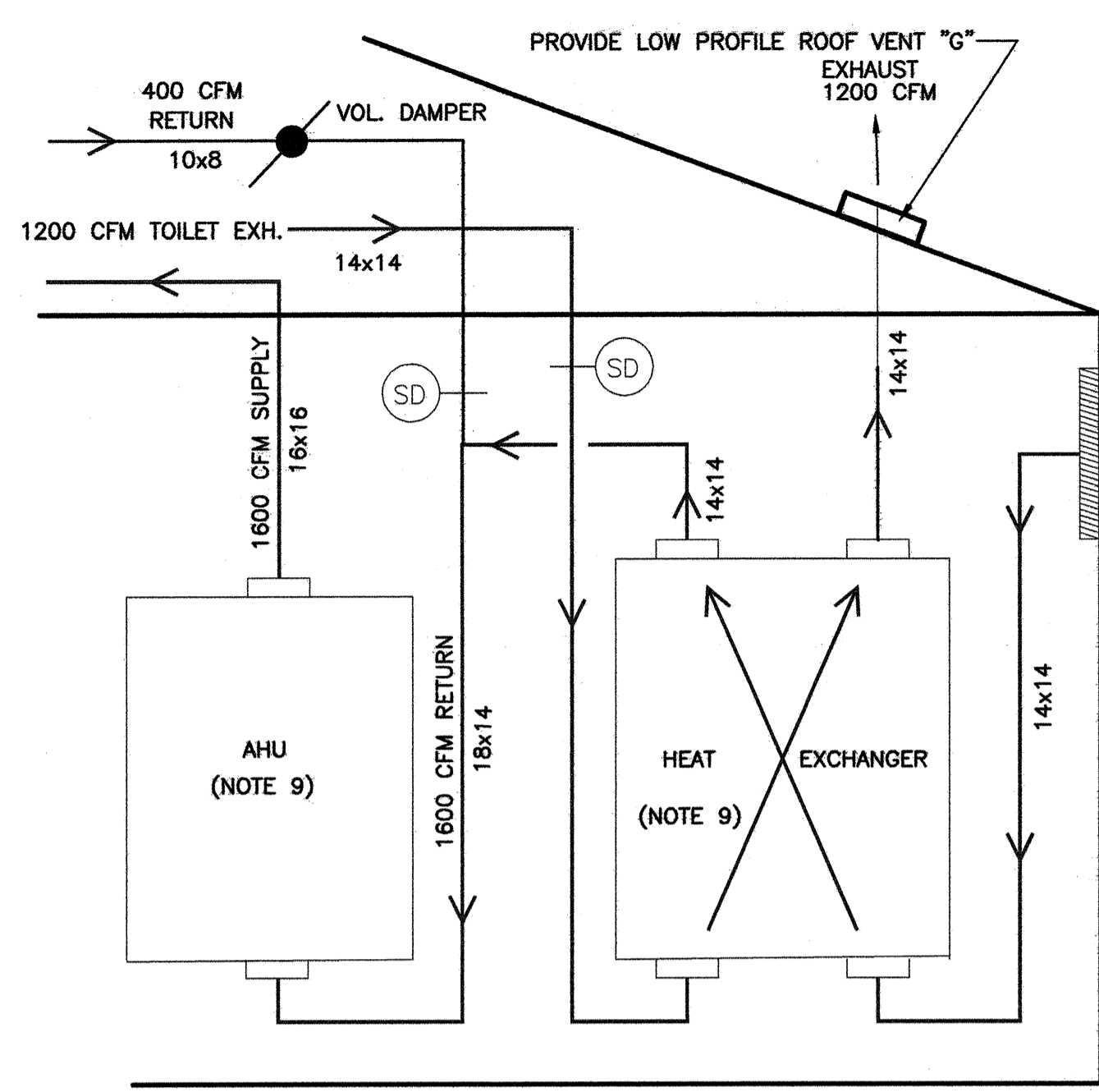
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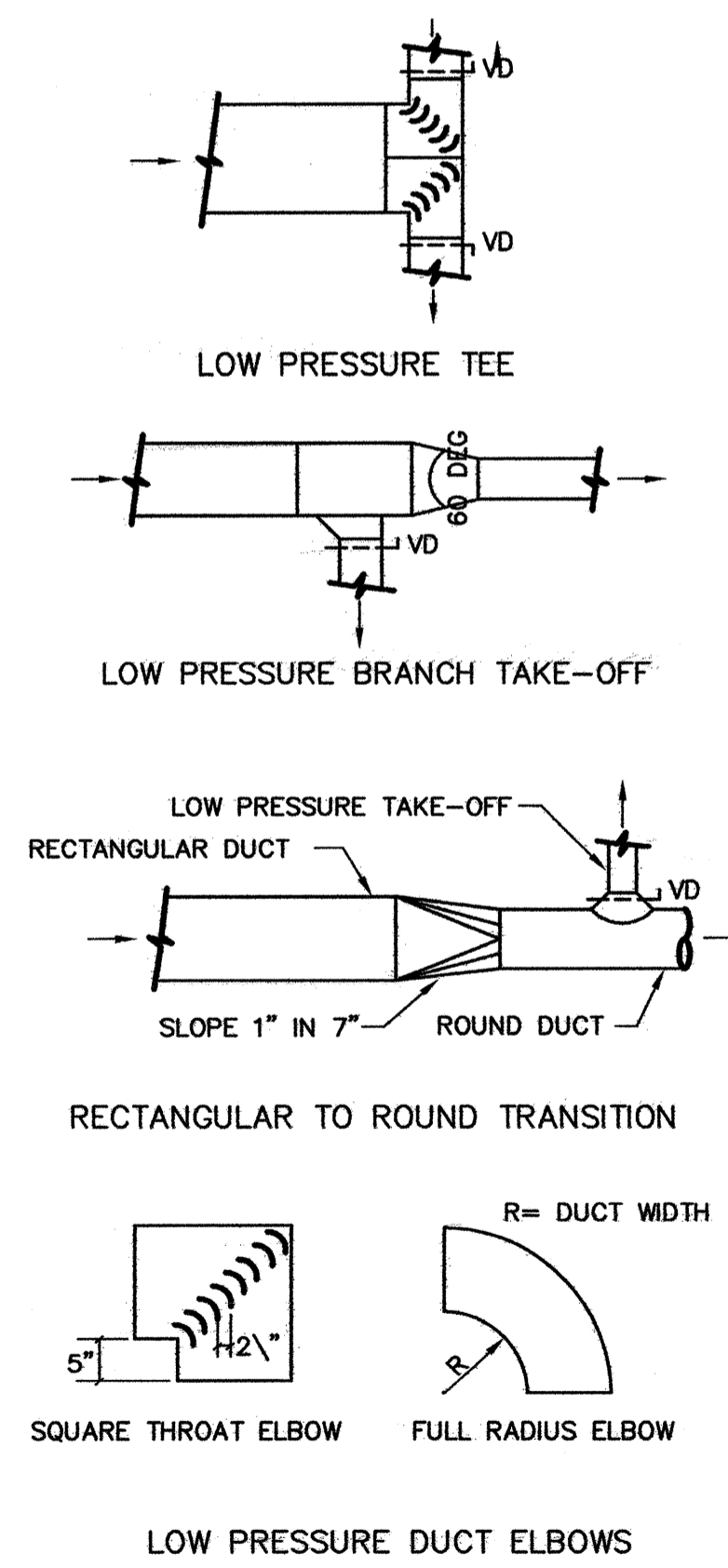
T.I.P. PROJ. NO. K-4904  
 FED. PROJ. NO. IMS-95-1(63)47  
 STATE PROJ. NO. 40223.1.1

SHEET NO. **M1** OF 3





2 HVAC DIAGRAM  
M2 SCALE: NTS



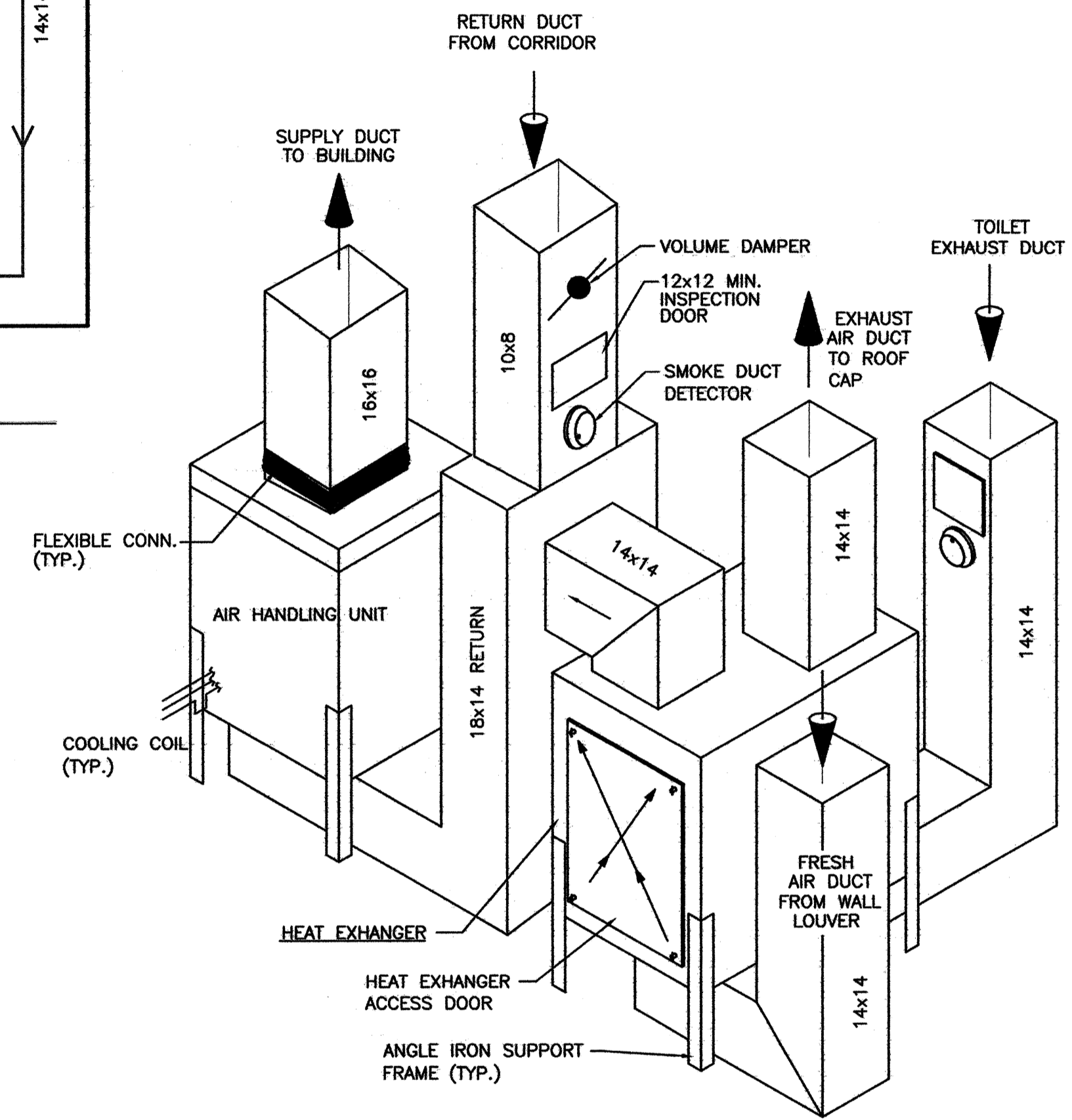
1 DUCT CONSTRUCTION DETAILS  
M2 SCALE: NTS

EXHAUST FAN SCHEDULE												
DESIG.	MANUFACTURER	MODEL NO.	TYPE	CFM	TSP IN H <sub>2</sub> O	SONES	RPM	HP	VOLTAGE	SERVICES	CONTROL	REMARKS
EF 1	GREENHECK	SP-880-QD	CEILING MOUNTED	80	0.125	1.9	900	54 WATTS	120/1	UNISEX BATHROOM	1A	3,4,5

REMARKS:  
1. CONTROLS SHALL BE AS FOLLOWS:  
A. FAN TO BE CONTROLLED BY WALL MOUNTED SWITCH.  
2. PROVIDE N.E.C. RATED U.L. APPROVED STARTER/DISCONNECT.  
3. PROVIDE WITH BIRD SCREEN (1/4" MIN. MESH) AND GRAVITY BACKDRAFT DAMPER.  
4. OR EQUAL BY POWERLINE OR CARNES FANS.

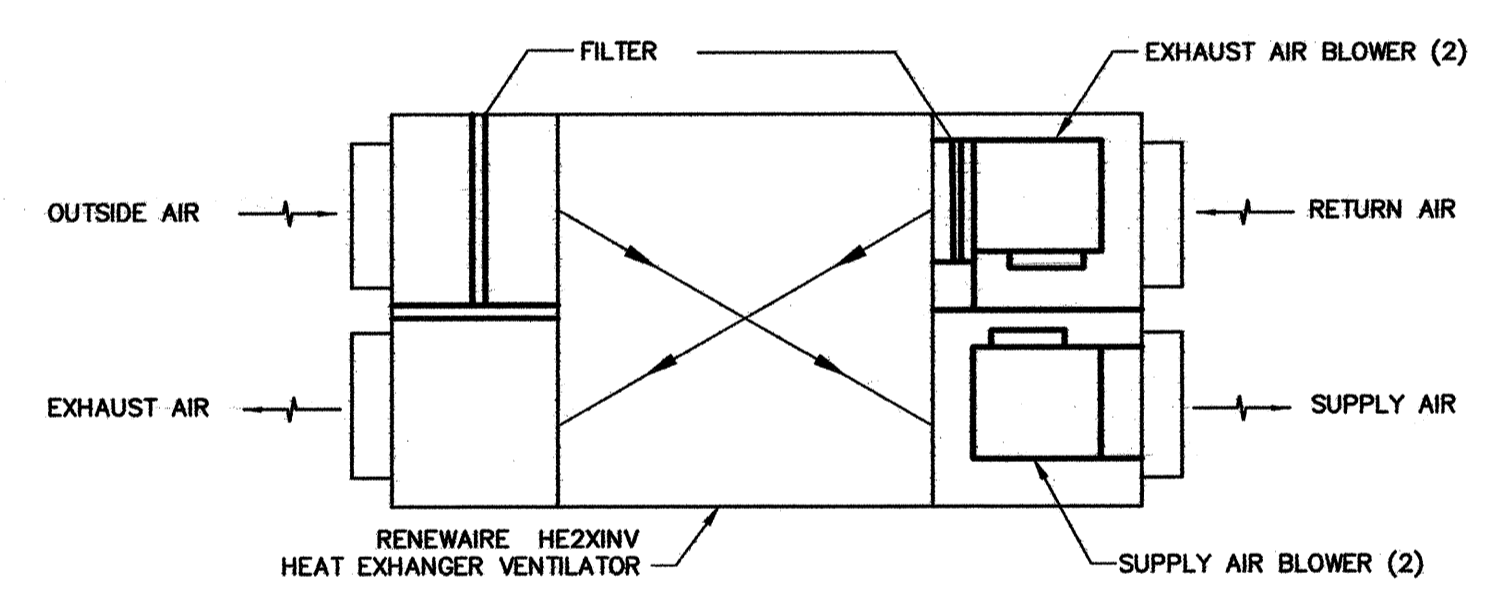
ENERGY RECOVERY UNIT SCHEDULE																			
		THERMAL PERFORMANCE																	
		FANS / MOTORS					ENERGY RECOVERY (THERMAL) CAPACITY					INLET / OUTLET CONDITIONS							
EQUIP. NUMBER	MODEL NO.	FLOW	STATIC PRESSURE (EXTERNAL)	FAN MOTOR (QTY-HP)	FLA (PER MOTOR)	VOLTS/PHASE/HZ	MCA	FUSE/CB MAX	COOLING CAPACITY (MBH / TON)	HEATING CAPACITY (MBH)	OUTSIDE AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH)		ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH)		NOTES:				
									SENSIBLE	LATENT	TOTAL	SENSIBLE	LATENT	TOTAL	SUMMER	WINTER	SUMMER	WINTER	
HE-1/2	RENEWAIRE HE2XINV DIRECT DRIVE MOTOR 64 CORE	1200 CFM	0.75 in H <sub>2</sub> O	4-3/4 HP	4.3 A	208-230V 1 PH 60 HZ	18.3 A	20 A	15.9	9.9	25.8	50.9	18.4	69.4	92F / 75F	14F / 50%	75F / 50%	68F / 50%	ALL

NOTES:  
1. FLOW & LOADS BASED ON ARI-1060 PERFORMANCE & CERTIFIED CORE.  
2. SHUT DOWN ALL FANS ON DUCT SMOKE DETECTOR ALARM CONDITION.  
3. VENTILATION TYPE: FIXED STATIC PLATE, HEAT & HUMIDITY TRANSFER.  
4. RENEWAIRE CONTACT: DAVE BALDUS 800-627-4499  
5. INCLUDE INTEGRAL DISPOSABLE FILTERS (OUTSIDE AND ROOM AIR) WITH MERV8 OR BETTER RATING.  
6. INCLUDE SINGLE POINT ELECTRICAL POWER CONNECTION.  
7. HOUSING SHALL BE GALVANIZED, 20 GAUGE (OR THICKER) STEEL WITH LAPPED CORNERS.  
8. OR EQUAL BY LOSSNAY (MITSUBISHI) OR ECO AIR.  
9. SERVICE ACCESS DOORS SHALL BE GASKETED & PROVIDE ACCESS FOR MAINTENANCE OF ALL COMPONENTS.  
10. INCLUDE INSULATION ON ALL CASE WALLS & DOORS.  
11. INCLUDE THERMALLY PROTECTED MOTORS WITH STARTERS.  
12. UL LISTED (INCLUDING 1812 & 723)  
13. PROVIDE WITH FUSED DISCONNECT SWITCH.

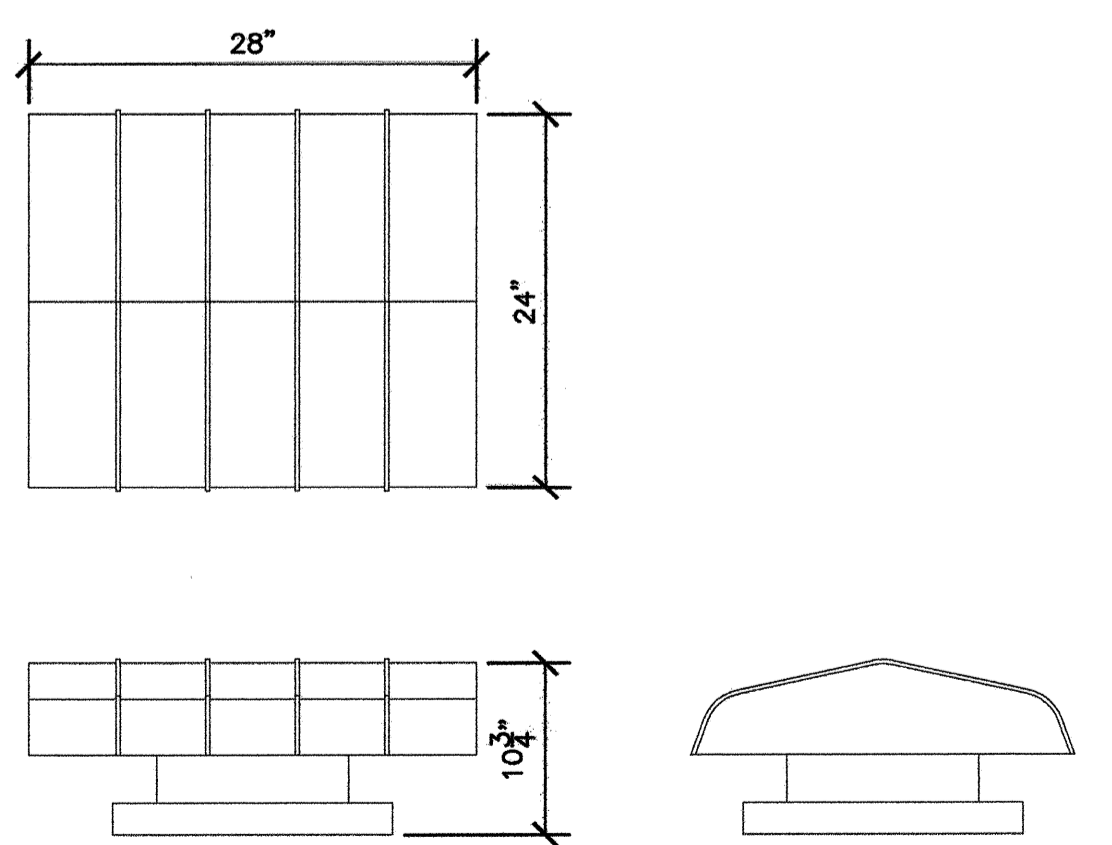


GENERAL NOTES:  
1. PROVIDE 3/4" CONDENSATE P-TRAP ON CONDENSATE DRAIN LINE AND PIPE TO FLOOR DRAIN. USE COPPER PIPING AT FLOOR LEVEL.  
2. PROVIDE EMERGENCY SHUT-OFF KEY SWITCH PER ADA & MOUNT 48" AFF.  
3. ROUTE REFRIGERANT LINES TO CONDENSER ABOVE CEILING AND TURN DOWN IN EXTERIOR WALL.  
4. PROVIDE SERVICE CLEARANCES AROUND UNIT AS PER MANUFACTURERS RECOMMENDATIONS.  
5. SUPPORT AIR HANDLING UNITS ON 3x3x1/4" ANGLE IRON FRAME. PRIME AND PAINT BLACK ALL CARBON STEEL TO PREVENT RUSTING. SUPPORTING AHU OR HEAT RECOVERY UNIT WITH DUCT IS UNACCEPTABLE. NO UL LABELS MAY BE OBTAINED BY OR COVERED WITH SUPPORT FRAME.  
6. PROVIDE PARTICULATE FILTER WITH CHANGEOUT ACCESS IN THE RETURN PLENUM JUST PRIOR ENTERING EACH AHU.  
7. MC TO PROVIDE SMOKE DUCT DETECTORS LOCATED ON EXHAUST AND RETURN DUCTS. EACH AIR HANDLER AND ENERGY RECOVERY UNIT SHALL SHUT DOWN UPON SMOKE DETECTION. PROVIDE A MIN 12x12 ACCESS OPENING EASILY ACCESSIBLE FOR INSPECTION. VISIBLE/AUDIBLE ALARM SHALL ACTIVATE IN LOBBY AREA ON ALARM.  
8. THIS DETAIL IS SCHEMATIC AND ACTUAL CONFIGURATION SHALL VARY IN FIELD AS NECESSARY TO INSTALL EQUIPMENT AND DUCT.  
9. SEE VENDOR INFORMATION FOR ACTUAL SIZE & LOCATION OF CONNECTIONS AND THE ACTUAL SIZE OF ALL EQUIPMENT.

3 HVAC EQUIP. DETAIL  
M2 SCALE: NTS



4 HEAT EXCHANGER DIAGRAM  
M2 SCALE: NTS



5 ROOF TOP VENT CAP "G"  
M2 SCALE: 1" = 1'-0"

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT  
METHOD OF COMPLIANCE:

PRESCRIPTIVE  ENERGY COST BUDGET

THERMAL ZONE 7A

EXTERIOR DESIGN CONDITIONS  
WINTER DRY BULB 16° F  
SUMMER DRY BULB 92° F (75° F WB)

INTERIOR DESIGN CONDITIONS  
WINTER DRY BULB 68° F  
SUMMER DRY BULB 75° F  
RELATIVE HUMIDITY 50%

BUILDING HEATING LOAD (50%) 80 MBH  
BUILDING COOLING LOAD (50%) 6 TONS

MECHANICAL SPACE CONDITIONING SYSTEM  
SPLIT SYSTEM

AHU-1/CU-1 AND AHU-2/CU-2 (2 COMPLETE SYSTEMS)

DESCRIPTION OF UNIT SPLIT HEAT PUMP W/ ENERGY RECOVERY  
HEATING EFFICIENCY COP = 3.4@47F, 8.4 HSPF (6.8 CODE MIN.)  
COOLING EFFICIENCY SEER = 13.0 (10.0 CODE MIN.)  
HEAT OUTPUT OF EACH AHU/CU 47 MBH + 10 KW ELEC  
COOLING OUTPUT OF EACH AHU/CU 4 TON

LIST EQUIPMENT EFFICIENCIES  
COP AND SEER ARE LISTED ABOVE

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)  
MOTORS USED IN THIS PROJECT ARE INCLUDED IN THE EFFICIENCY RATING OF THE UNITS  
MOTOR HORSEPOWERS ARE ON EQUIPMENT SCHEDULE

PROJECT:  
1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
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DRAWING TITLE:  
MECHANICAL DETAILS & NOTES

DRAWN BY: RK CHECKED BY: RK ISSUE DATE: 12/12/07

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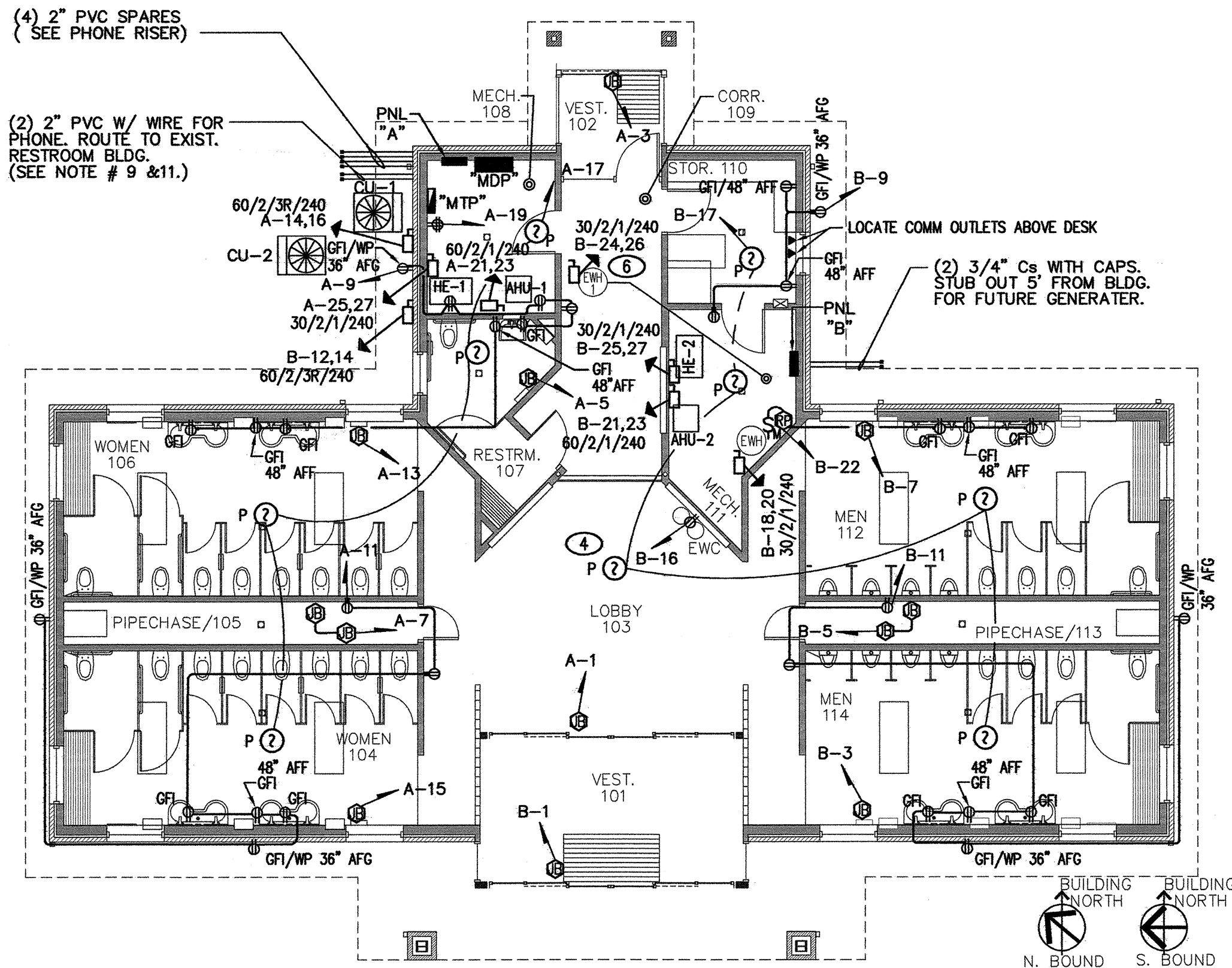
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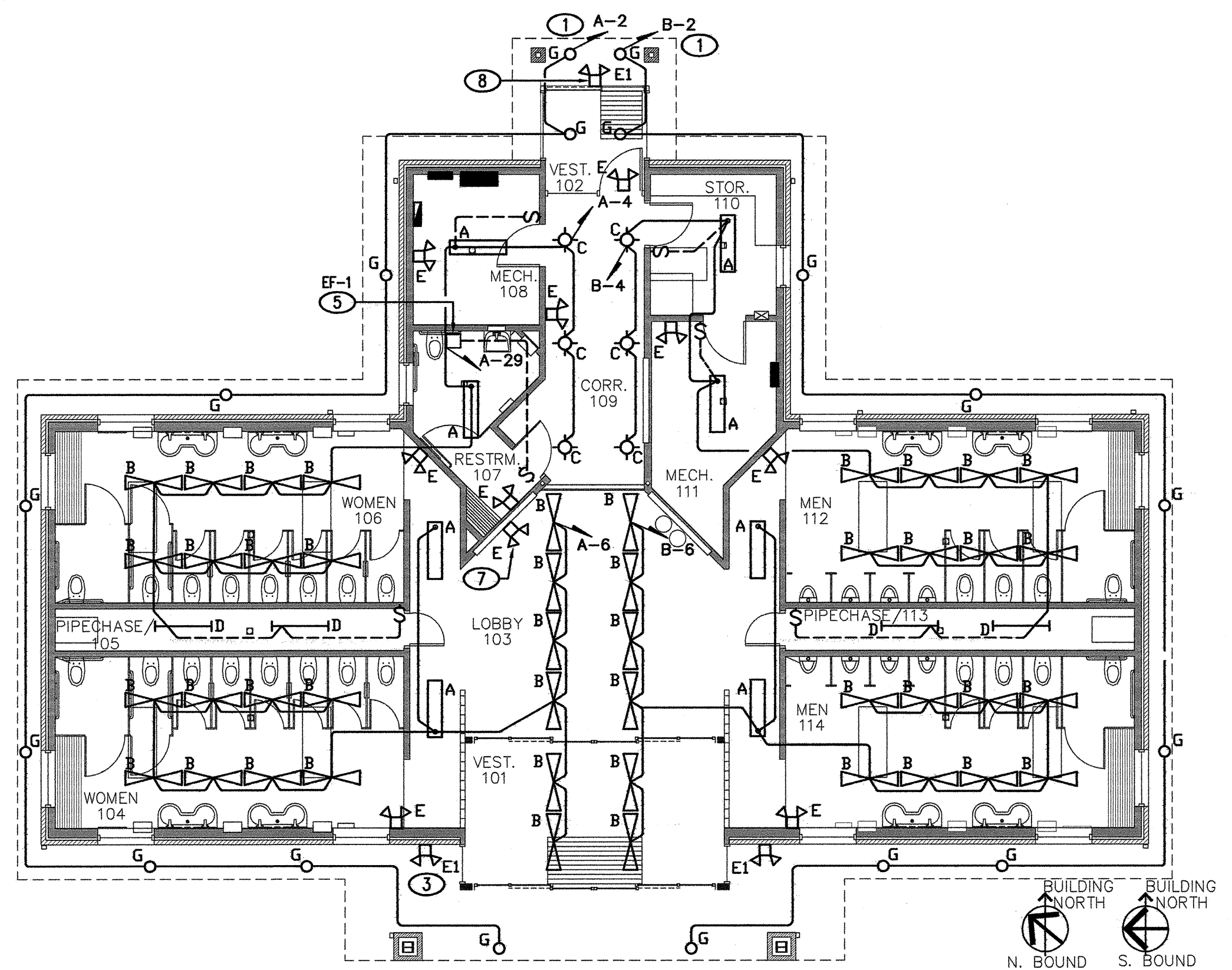


**ELECTRICAL GENERAL NOTES**

1. WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
2. MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY A TESTING AGENCY APPROVED BY THE AUTHORITY HAVING JURISDICTION, WHERE SUCH LISTING EXISTS.
3. 20 AMP, 120 VOLT CIRCUITS LONGER THAN 100 FEET IN TOTAL CONDUIT LENGTH SHALL BE #10 AWG MINIMUM.
4. CONDUCTORS ARE SIZED PER THE COPPER, 75° CELSIUS TABLES IN THE NEC.
5. CONDUITS ARE SIZED PER THE THIN/THIN INSULATION TABLES IN THE NEC.
6. INSTALL CIRCUIT BREAKERS AND FUSES ON ALL EQUIPMENT BASED ON THE ACTUAL NAMEPLATE DATA ON THE EQUIPMENT OR ON THE NEC REQUIREMENTS IF THERE IS NO NAMEPLATE DATA. FUSES SHALL BE TIME-DELAY, DUAL-ELEMENT TYPE, CLASS RK-5, UON.
7. INSTALL A NEC SIZED GROUND WIRE IN ALL RACEWAYS, UNLESS OTHERWISE NOTED. GROUNDING CONDUCTORS ARE NOT REQUIRED IN TELEDATA CONDUITS.
8. INDICATE CIRCUITS IN PANELS, SERVING EMERGENCY AND EXIT LIGHTS.
9. REVIEW ARCHITECTURAL DRAWINGS AND ELEVATIONS TO LOCATE RECEPTACLES, SWITCHES, & FIRE ALARM DEVICES, MUST COMPLY WITH NEC & NFPA.
10. ITEMS USED AS SERVICE ENTRANCE EQUIPMENT SHALL BE LISTED AND LABELED FOR THAT PURPOSE.
11. BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 0.90.
12. MINIMUM WIRE SIZE SHALL BE #12 AWG, UON.
13. EC SHALL REVIEW THE ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT PROVIDED BY OTHERS WITH RESPECT TO MINIMUM CIRCUIT AMPACITY, MAXIMUM OVERCURRENT PROTECTION, VOLTAGE, & PHASE PRIOR TO INSTALLING HIS WORK. ANY DISCREPANCIES WITH THE ELECTRICAL DESIGN SHALL BE COORDINATED WITH THE ELECTRICAL ENGINEER.
14. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE. PROVIDE NEMA 3R WHERE LOCATED OUTSIDE & WHERE OTHERWISE NOTED.
15. PROVIDE A MINIMUM OF 10% EXTRA FUSES FOR EACH SIZE & CLASS, WITH A MINIMUM OF AT LEAST ONE SET OF EACH.
16. PROVIDE HAND-OFF-AUTO SWITCHES FOR ALL LIGHTING CONTACTORS.
17. PROVIDE MAGNETIC TRACER RIBBON FOR ALL UNDER GROUND UTILITIES BURIED 12" BELOW FINISH GRADE.
18. RUN #6 CU GROUND TO PHONE/DATA FROM BUILDING SERVICE GROUNDING POINT. PROVIDE 8' OF CONDUCTOR AT TELEPHONE BOARD.
19. COORDINATE LOCATION OF SMOKE DETECTORS WITH THE MECHANICAL CONTRACTOR. POSITION ALL SMOKE DETECTORS MIN. 3 FT. FROM SUPPLY DIFFUSERS & RETURN GRILLES.
20. AIC RATINGS SHOWN ON THE PANEL SCHEDULES ARE BASED ON FULLY RATED PANELS & CIRCUIT BREAKERS.
21. WHERE PHOTOCELLS ARE SHOWN ON THE DRAWING, THE EC SHALL PROVIDE RELAYS AND/OR LIGHTING CONTACTORS AS REQUIRED. THE MAXIMUM WATTS SWITCHED DIRECTLY THROUGH A PHOTOCELL SHALL BE 2000 FOR INCANDESCENT FIXTURES AND 1000 FOR HID AND FLUORESCENT FIXTURES.



**2 POWER PLAN-NEW BUILDING**  
SCALE: 1/8"=1'-0" EQUIPMENT IS NOT TO SCALE



**1 LIGHTING PLAN-NEW BUILDING**  
SCALE: 1/8"=1'-0" EQUIPMENT IS NOT TO SCALE

**ELECTRICAL SYMBOL LEGEND**

- |   |   |   |   |
|---|---|---|---|
| EMERGENCY LIGHTING, WALL MTD. - BATTERY POWERED, UON. CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING. | DUPLEX RECEPTACLE, NEMA 5-20R. 16" AFF TO BOTTOM, UON.  | RECESSED FLUORESCENT FIXTURE (TYPE C)   | UNSWITCHED CIRCUIT  |
| COMMUNICATIONS OUTLET. 16" AFF TO BOTTOM, UON (RJ45)  | QUAD (DOUBLE DUPLEX) RECEPTACLE, NEMA 5-20R. 16" TO BOTTOM, UON.  | SEMI-RECESSED FLUORESCENT FIXTURE (TYPE G)  | SMOKE DETECTOR (120V)   |
| DISCONNECT SWITCH - HEAVY DUTY, FUSIBLE (INCLUDE FUSES), UON. CURRENT RATING/POLES/NEMA RATING/VOLTAGE      | DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER.  | SEMI-RECESSED FLUORESCENT EXTERIOR FIXTURE (TYPE GE)                                    | MAIN TELEPHONE PANEL  |
| MAIN DISTRIBUTION PANEL   | DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER (GFCI) WITH WEATHERPROOF COVER  | SINGLE-POLE WALL SWITCH. 48" TO TOP, UON.   | ABOVE FINISHED FLOOR  |
| MAIN TELEPHONE PANEL  | DUPLEX RECEPTACLE, NEMA 5-20R, FOR ELECTRIC WATER COOLER. COORDINATE RECEPTACLE LOCATION WITH EWC SO THAT RECEPTACLE IS MOUNTED INSIDE EWC IF CORD AND PLUG PERMIT. | THREE WAY WALL SWITCH. 48" TO TOP, UON.   | ABOVE FINISHED GRADE  |
| PANEL BOARD (PANEL)   | FLUORESCENT FIXTURE (TYPE A)  | SINGLE-POLE MOTOR RATED SWITCH. A "2" SUBSCRIPT INDICATES A 2-POLE SWITCH.              | ELECT. HAND DRYER (BY GC, POWER BY EC) UNLESS OTHERWISE NOTED |
| JUNCTION BOX SIZE PER NEC   | SUSPENDED FLUORESCENT FIXTURE (TYPE B)  | HOMERUN - 120V, 1-POLE, 2-#12, 1-#12G, 1/2"C, UON (MINIMUM REQUIREMENTS MUST MEET NEC.) | UNDERGROUND   |
|   | SURFACE MOUNTED FLUORESCENT FIXTURE (TYPE D)  | HOMERUN - 240V, CIRCUIT WIRES AS INDICATED (MINIMUM REQUIREMENTS MUST MEET NEC.)        | EXISTING  |
|   |   | SWITCHED CIRCUIT  | HAND-OFF-AUTOMATIC SWITCH                                     |

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	1X4 FLUORESCENT	LITHONIA AW232AR120	METALUX DAYBRITE	120 V	(2) 32W/8	SURFACE MOUNT, WRAPAROUND, EB	62
B	8"x3" FLUORESCENT	PEERLESS 4ENM4 332 120 LP841 (ENVISION)	LITHONIA COLUMBIA		(3) 32W/8	INDIRECT WHITE GLOSS AL. SUSPENDED FIXTURE	95
C	RECESSED FLUORESCENT	LITHONIA LGF 226 DTT	LITHONIA COLUMBIA		(2) 26W DTT	7"APERTURE, SPECULAR CLEAR REFLECTOR	54
D	4' FLUOR. STRIP 2 TUBS	METALUX SS-232	LITHONIA COLUMBIA		2F-32T8	WITH WIRE GUARD	62
F	OPEN CYLINDER WALL MTD FLUORESCENT	LITHONIA CF102/26DTT6ARLS 120GEB10WM	LUMARK GE		226WDTT	MOUNT TO HORIZONTAL BAND ABOVE DISPLAY	54
G	SEMI-RECESSED ROUND, FLUORESCENT	LUMINAIRE ARV13HD	LITHONIA KENALL		2-PLC26	2 LAMPS/MT LOCATION OPAL LENS/GRAY VANDAL RESISTANT	52

NOTES:  
1. FIXTURES & BALLAST MUST BE REMOVABLE FROM INACCESSIBLE CEILING.

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	REMARKS
E	EMERGENCY LIGHT INTERIOR	ASTRALITE DCA-100	LITHONIA LIGHT ALARMS	120 V	90 MINUTE BACK-UP
E1	EMERGENCY LIGHT EXTERIOR	ASTRALITE EU-MR-3R	LITHONIA LIGHT ALARMS		90 MINUTE BACK-UP
E1	EXIT SIGN	SURELITE LPX	LITHONIA LIGHT ALARMS		90 MINUTE BACK-UP
P (2)	SMOKE DETECTOR	KIDDE MODEL 1235E	EST ADEM CO		CEILING MNT, NFPA 72 IONIZATION TYPE, LOCAL ALARMS, FLR

**ELECTRICAL NOTES**

- 1 SWITCH WITH PHOTO CELL.
- 2 NOTE NOT USED.
- 3 WIRE EXTERIOR EMERGENCY FIXTURE TO EXTERIOR LIGHTING CIRCUIT, TYP.
- 4 COORDINATE LOCATION OF SMOKE DETECTORS WITH MECHANICAL PLANS SO POSITION IS 3' FROM SUPPLY DIFFUSERS AND GRILLES.
- 5 LOCATE DISCONNECT SWITCH AT FAN FOR SERVICE. SEE MECHANICAL PLANS FOR STOP/START SWITCH AT FLOOR LEVEL.
- 6 EQUIPMENT SHOWN OUT OF POSITION FOR PLAN CLARITY.
- 7 CENTER FIXTURE ON OAK BOARD BAND.
- 8 MOUNT FIXTURE FLAT ON SOFFIT, SEE ARCHITECTURAL ELEVATIONS.

PROJECT: 1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
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DRAWING TITLE: **ELECTRICAL PLANS & DETAILS**

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 12/12/07

**TRIANGLE ENGINEERING ASSOCIATES**  
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SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 79111

T.I.P. PROJ. NO.	FED. PROJ. NO.	STATE PROJ. NO.
K-4904	IMS-95-1(63)47	40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **E1**  
OF 3







# FINISH - COLOR SCHEDULE

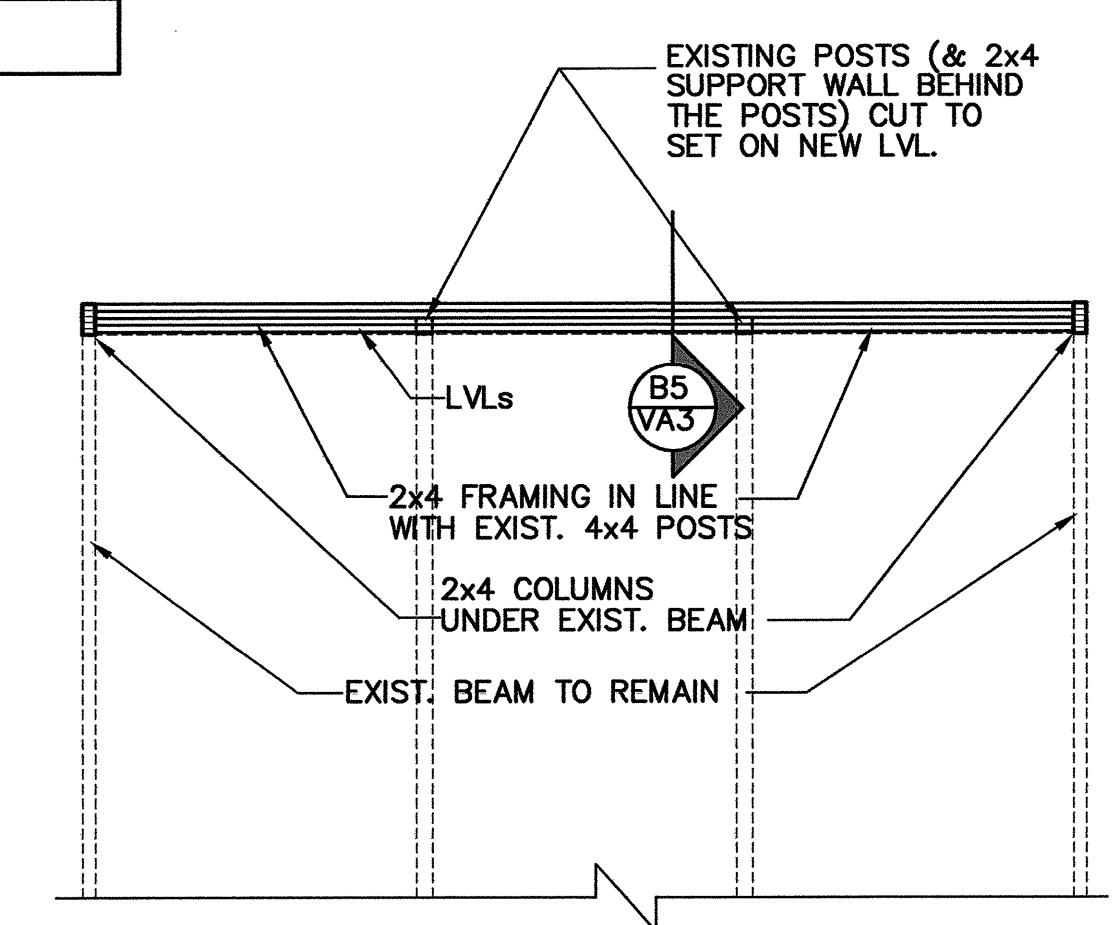
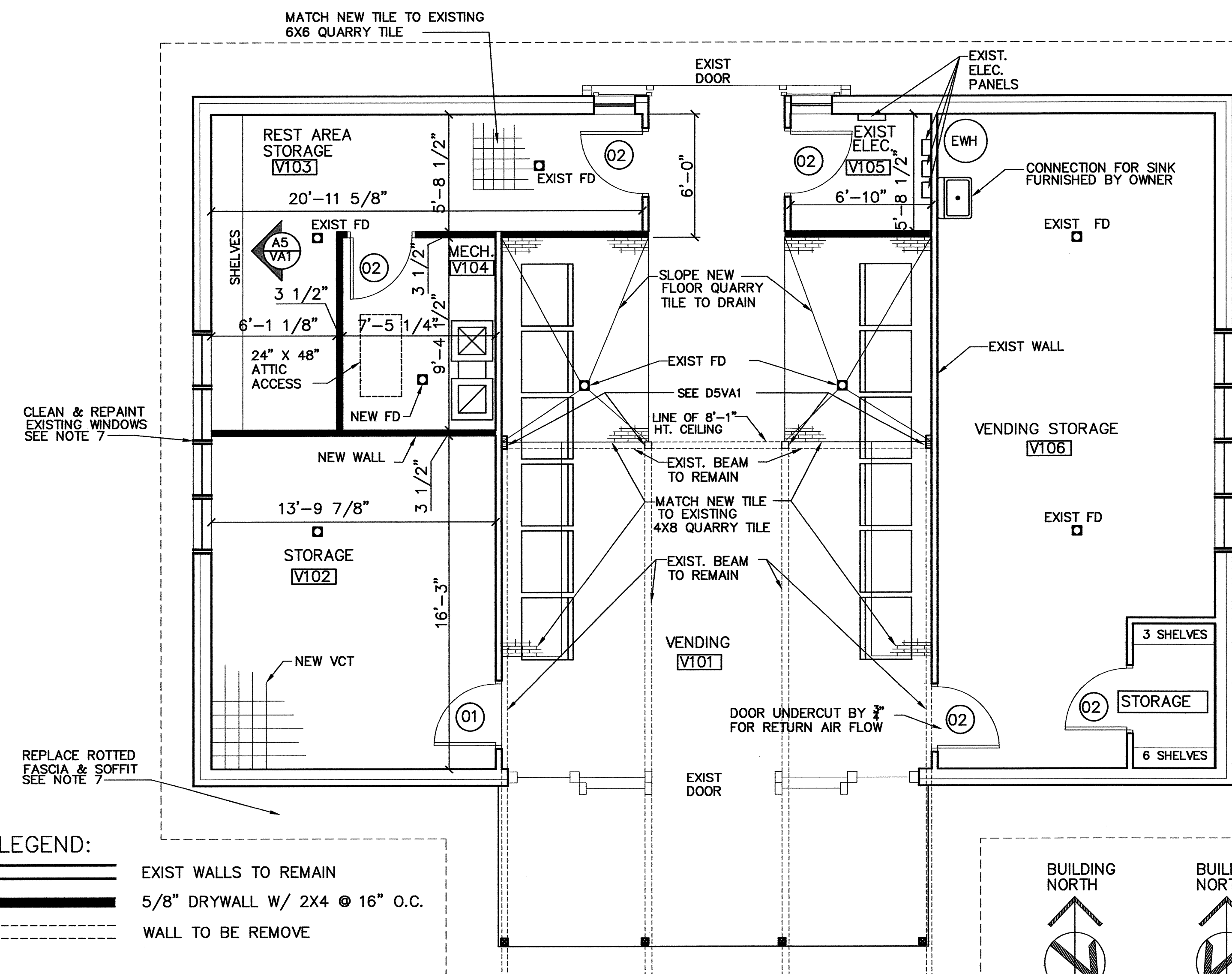
ROOM	NO.	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		REMARKS	
		MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR		HEIGHT
VENDING	V101	EXIST QT		1X3 TRIM		FC	30GY 88/014	F-C	30GY 88/014	FC	30GY 88/014	FC	30GY 88/014	PLY	-	VARIES	MATCH EXIST PLYWOOD CLG'S SEE NOTE 8
STORAGE	V102	VCT	52518	RUB.	84	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW*	30GY 88/014	9'-4"	SEE NOTE 2/ * SEE NOTE 5
RESTROOM STOR.	V103	EXIST 6X6 TILE	52518	RUB.	84	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW*	30GY 88/014	9'-4"	" " " "
MECH.	V104	NEW CONC.	-	RUB.	-	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW*	30GY 88/014	9'-4"	" " " "
ELEC.	V105	EXIST CONC.	-	RUB.	-	-	-	-	-	DW	30GY 88/014	-	-	-	-	9'-4"	PAINT ALL EXIST DRYWALLS
VENDING STORAGE	V106	EXIST 6X6 TILE	52518	RUB.	84	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW	30GY 88/014	DW*	30GY 88/014	9'-4"	SEE NOTE 2/ * SEE NOTE 5

# DOOR - HARDWARE SCHEDULE

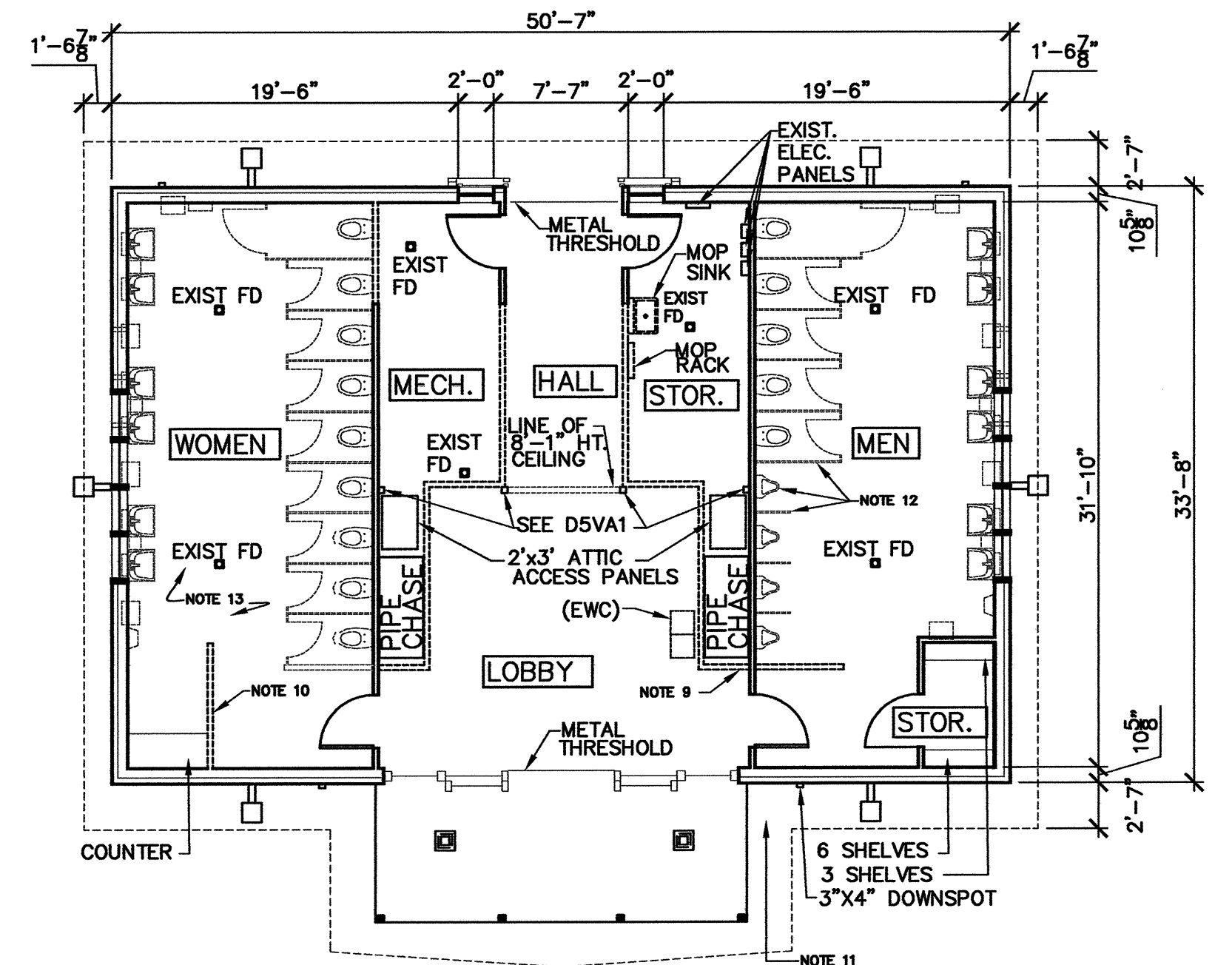
DOOR		FRAME		HARDWARE							REMARKS	
MARK	SIZE	MAT.	COLOR	MAT.	COLOR	LOCKSET	HINGES	CLOSER	STOP	PLATE KICK		WEATHSP/ THRESHOLD
1	3'-0"x7'-0"x1 3/4"	H.M.	10BB 13/250	H.M.	10BB 13/250	F04	A5112	CO2511	LO2162	-	-	ONE WAY REFLECTIVE GLASS
2	3'-0"x7'-0"x1 3/4"	H.M.	10BB 13/250	H.M.	10BB 13/250	F04	A5112	CO2511	LO2162	-	-	

# GENERAL NOTES:

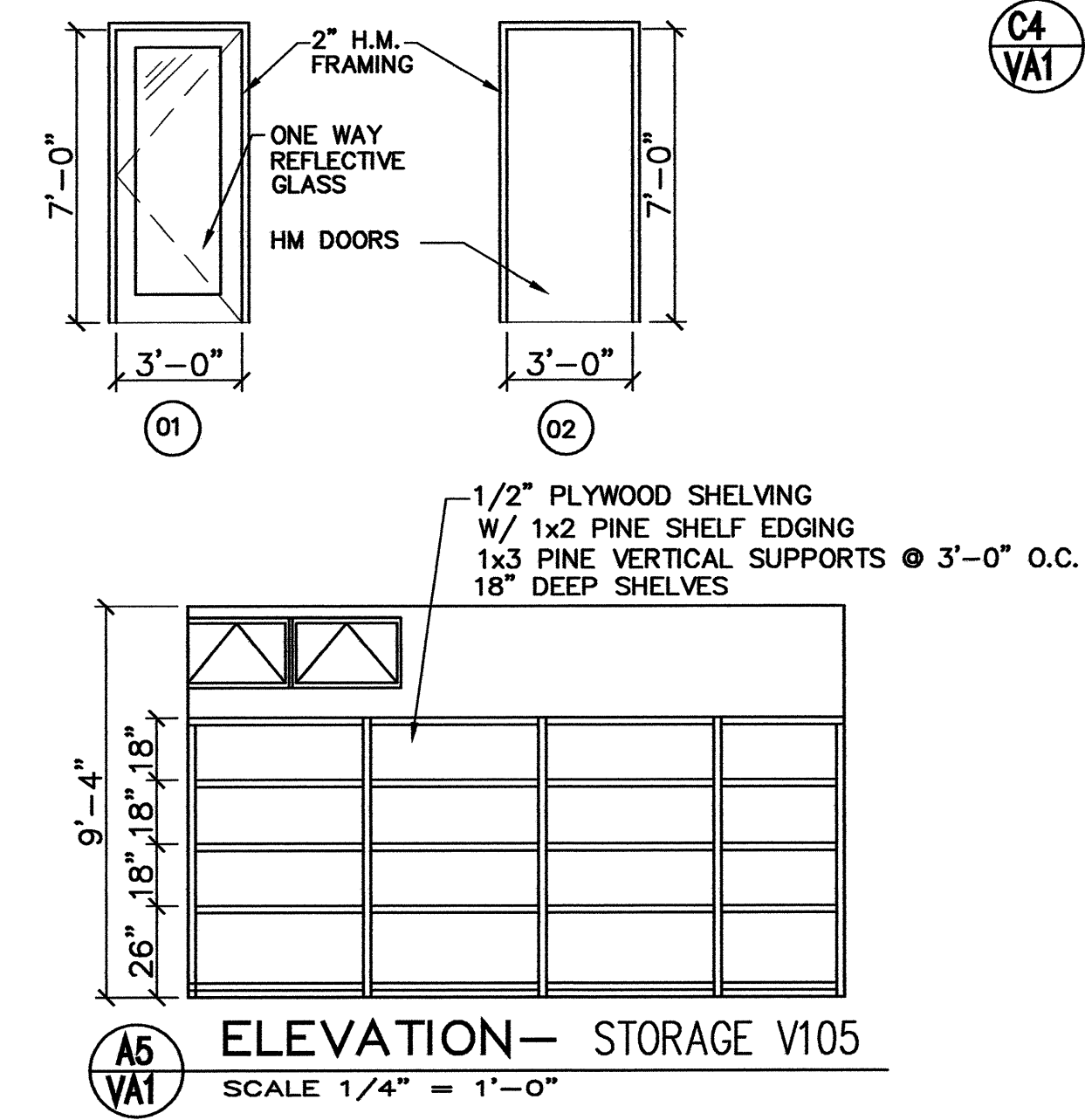
- " NOTE NOT USED"
- FUR-OUT EXISTING STUD/ TILE WALLS W/ 1X3 FURRING STRIPS @ 16" O.C. INSTALL NEW 5/8" DW, PAINT. PROVIDE RUBBER BASE IN ALL ROOMS BUT V101 .
- NEW STUD WALL W/ F-C PANELING ON THE VENDING ROOM SIDES W/ INSUL., PAINT. (SEE NOTE 8 FOR FINISHING).
- NEW WOOD SHELVING SEE VA1.
- ALL CEILINGS SHALL BE OVERLAID W/ 1-LAYER OF 5/8" DRYWALL EXCEPT ROOM V101.
- FLOOR AT RM. V102 - REMOVE TILE, POUR CONC. TOPPING FLUSH W/ OLD CERAMIC TILE. PROVIDE NEW VCT. NEW & E;
- REPAIR ALL EXISTING FASCIA, SOFFIT & REPAINT WINDOWS (MATCH WESTERN RED CEDAR MATERIALS, REPAINT ALL TRII
- FUR-OUT EXISTING STUD/ TILE WALLS W/ 1X3 FURRING STRIPS @ 16" O.C. INSTALL NEW F-C PANELING SIERRA-8, PAINT. PROVIDE 1X3 BASE & 1X3 CEILING TRIM @ ROOM V101. CEILING SHALL BE REPLACED W/ 1- LAYER OF 1/2" PLYWOOD.
- REMOVE EXISTING STUD WALLS.
- REMOVE EXISTING MASONRY & TILE WALLS.
- REMOVE EXISTING ROTTED SOFFIT & REPAIR.
- REMOVE ALL TOILET PARTITIONS, ALL FIXTURES & CAPS.
- REMOVE TILE & CONC. SLAB AT OLD WOMEN'S RESTROOM.
- EXISTING FLOOR DRAIN TO REMAIN AS NOTED.



**D5 STRUCTURAL PLAN**  
SCALE 1/4" = 1'-0"

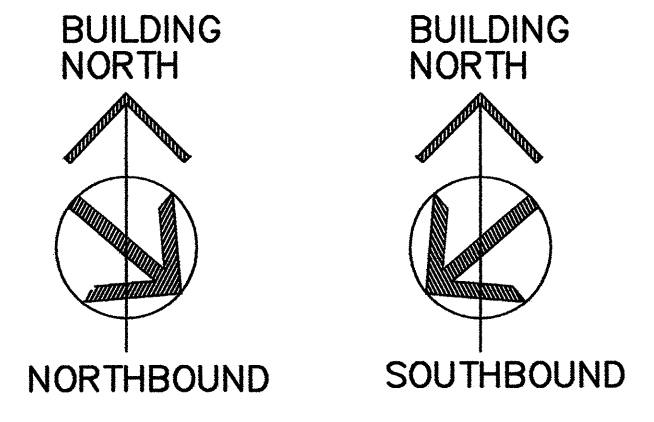


**C4 DEMO PLAN**  
SCALE 1/8" = 1'-0"



**A5 ELEVATION - STORAGE V105**  
SCALE 1/4" = 1'-0"

- ALL LEGEND:**
- EXIST WALLS TO REMAIN
  - 5/8" DRYWALL W/ 2X4 @ 16" O.C.
  - WALL TO BE REMOVE



PROJECT: 1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
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(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
**FLOOR PLAN/ SCHEDULES**

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

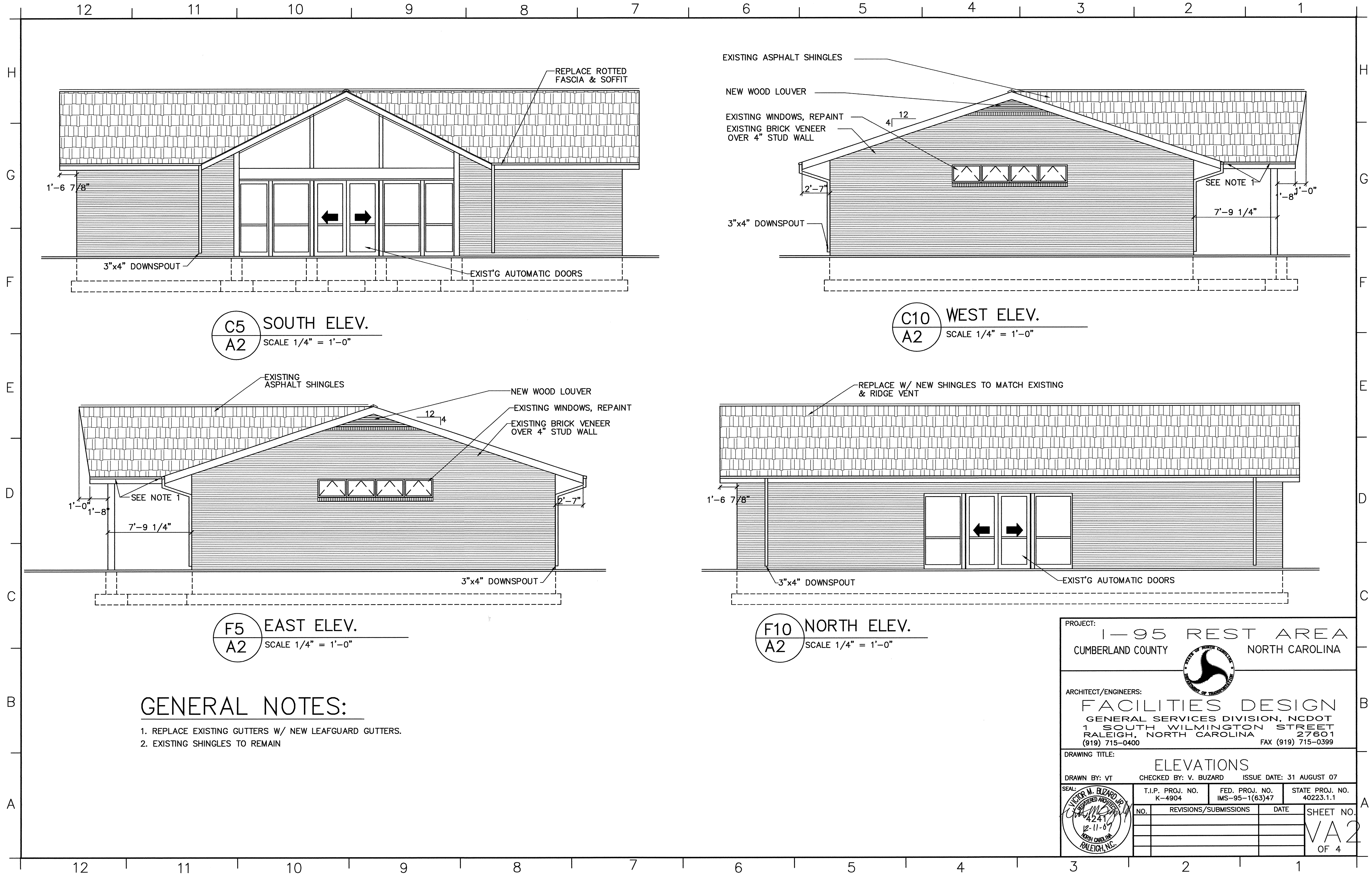
SEAL: VICTOR M. BUZARD  
REGISTERED ARCHITECT  
4247  
12-11-07  
NORTH CAROLINA  
RALEIGH, N.C.

T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **VA1**  
OF 4

**A12 FLOOR PLAN**  
SCALE 1/4" = 1'-0"





**C5 SOUTH ELEV.**  
A2 SCALE 1/4" = 1'-0"

**C10 WEST ELEV.**  
A2 SCALE 1/4" = 1'-0"

**F5 EAST ELEV.**  
A2 SCALE 1/4" = 1'-0"

**F10 NORTH ELEV.**  
A2 SCALE 1/4" = 1'-0"

**GENERAL NOTES:**

1. REPLACE EXISTING GUTTERS W/ NEW LEAFGUARD GUTTERS.
2. EXISTING SHINGLES TO REMAIN

PROJECT: 1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

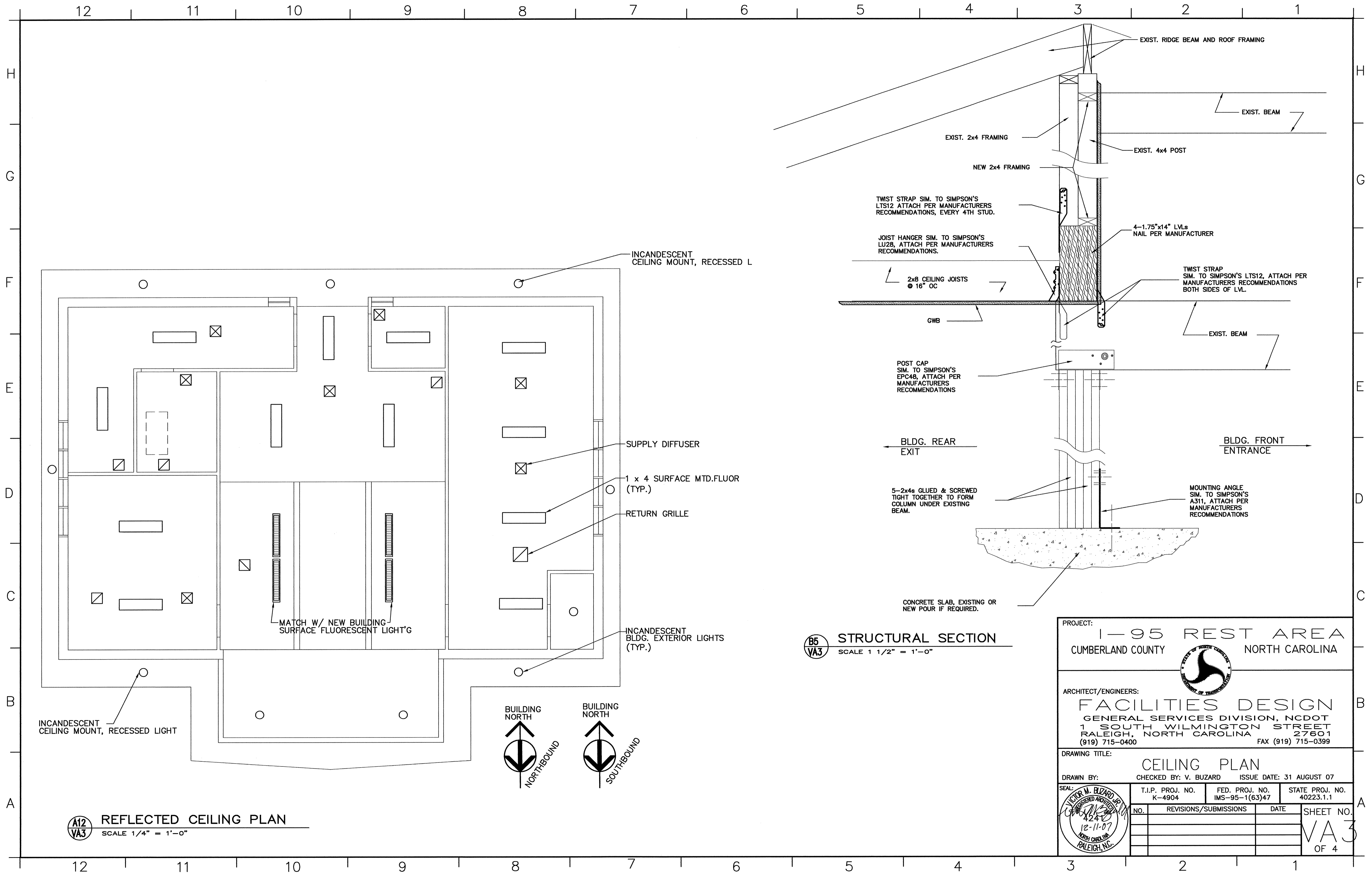
ARCHITECT/ENGINEERS:  
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DRAWING TITLE: **ELEVATIONS**

DRAWN BY: VT CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, 4241, 12-11-07, NORTH CAROLINA, RALEIGH, N.C.	T.I.P. PROJ. NO. K-4904	FED. PROJ. NO. IMS-95-1(63)47	STATE PROJ. NO. 40223.1.1
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO. VA2 OF 4





INCANDESCENT CEILING MOUNT, RECESSED L

INCANDESCENT CEILING MOUNT, RECESSED LIGHT

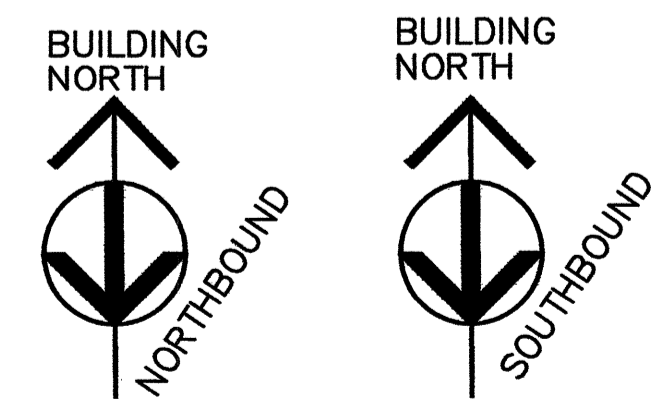
MATCH W/ NEW BUILDING SURFACE FLUORESCENT LIGHT'S

INCANDESCENT BLDG. EXTERIOR LIGHTS (TYP.)

RETURN GRILLE

1 x 4 SURFACE MTD.FLUOR (TYP.)

SUPPLY DIFFUSER



**STRUCTURAL SECTION**  
 SCALE 1 1/2" = 1'-0"

EXIST. RIDGE BEAM AND ROOF FRAMING

EXIST. BEAM

EXIST. 2x4 FRAMING

NEW 2x4 FRAMING

EXIST. 4x4 POST

4-1.75"x14" LVLs NAIL PER MANUFACTURER

TWIST STRAP SIM. TO SIMPSON'S LTS12 ATTACH PER MANUFACTURERS RECOMMENDATIONS, EVERY 4TH STUD.

JOIST HANGER SIM. TO SIMPSON'S LU28, ATTACH PER MANUFACTURERS RECOMMENDATIONS.

2x8 CEILING JOISTS @ 16" OC

GWB

TWIST STRAP SIM. TO SIMPSON'S LTS12, ATTACH PER MANUFACTURERS RECOMMENDATIONS BOTH SIDES OF LVL.

EXIST. BEAM

POST CAP SIM. TO SIMPSON'S EPC48, ATTACH PER MANUFACTURERS RECOMMENDATIONS

BLDG. REAR EXIT

BLDG. FRONT ENTRANCE

5-2x4s GLUED & SCREWED TIGHT TOGETHER TO FORM COLUMN UNDER EXISTING BEAM.

MOUNTING ANGLE SIM. TO SIMPSON'S A311, ATTACH PER MANUFACTURERS RECOMMENDATIONS

CONCRETE SLAB, EXISTING OR NEW POUR IF REQUIRED.

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DRAWING TITLE: CEILING PLAN

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 31 AUGUST 07

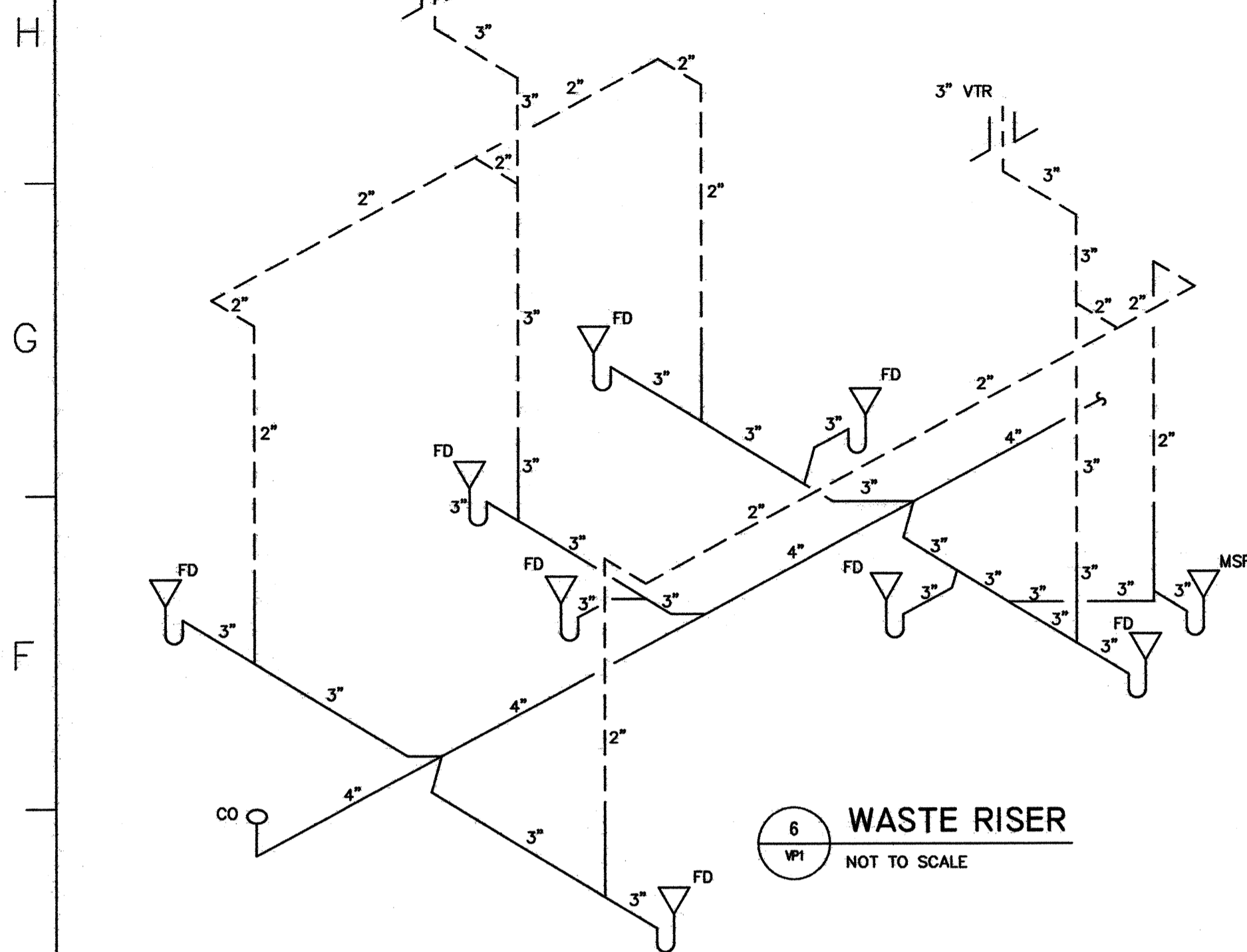
NO.	REVISIONS/SUBMISSIONS	DATE	SHEET NO.
			VA3
			OF 4

SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, NORTH CAROLINA, RALEIGH, N.C.

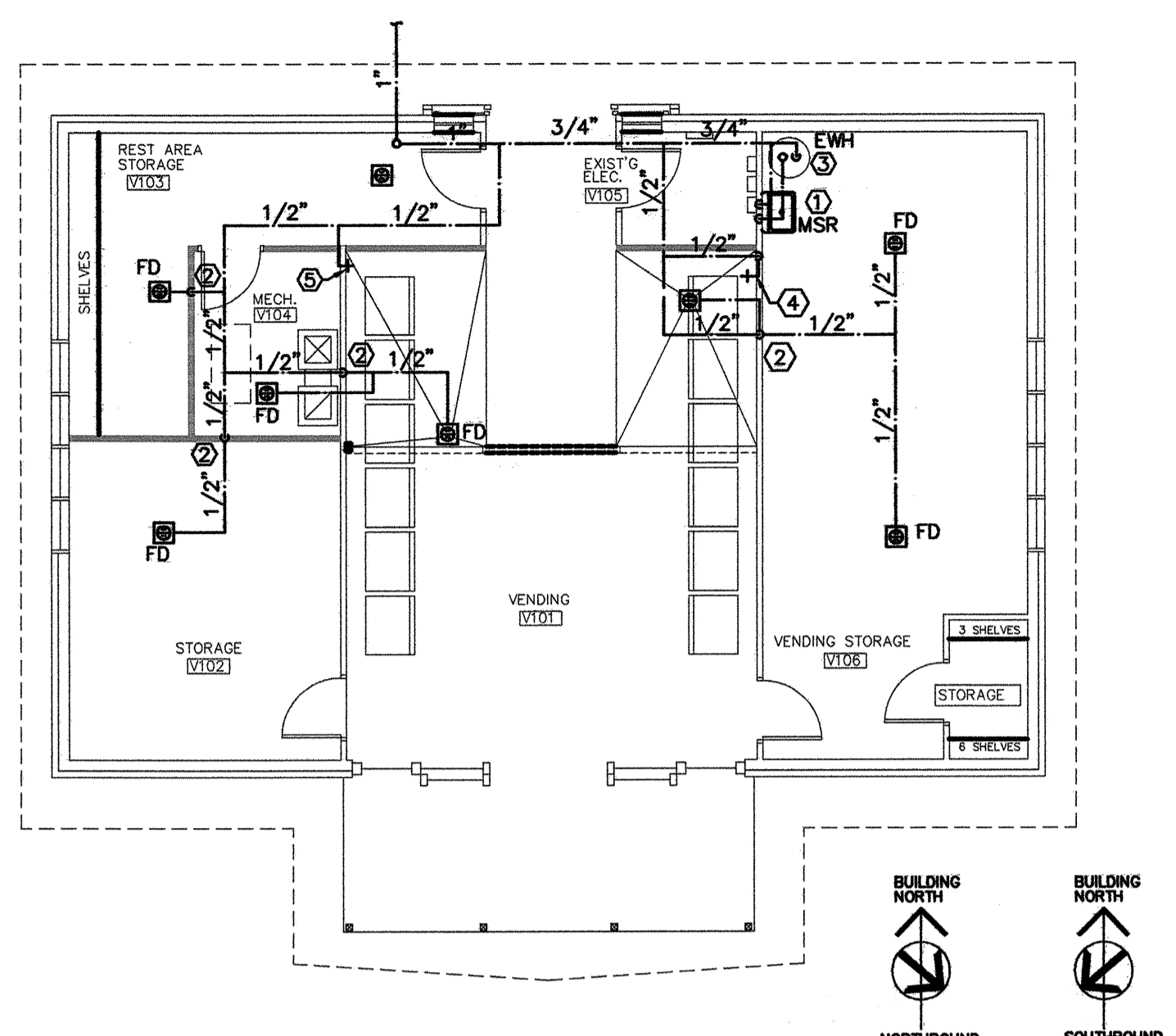
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 FED. PROJ. NO. IMS-95-1(63)47  
 STATE PROJ. NO. 40223.1.1

**REFLECTED CEILING PLAN**  
 SCALE 1/4" = 1'-0"

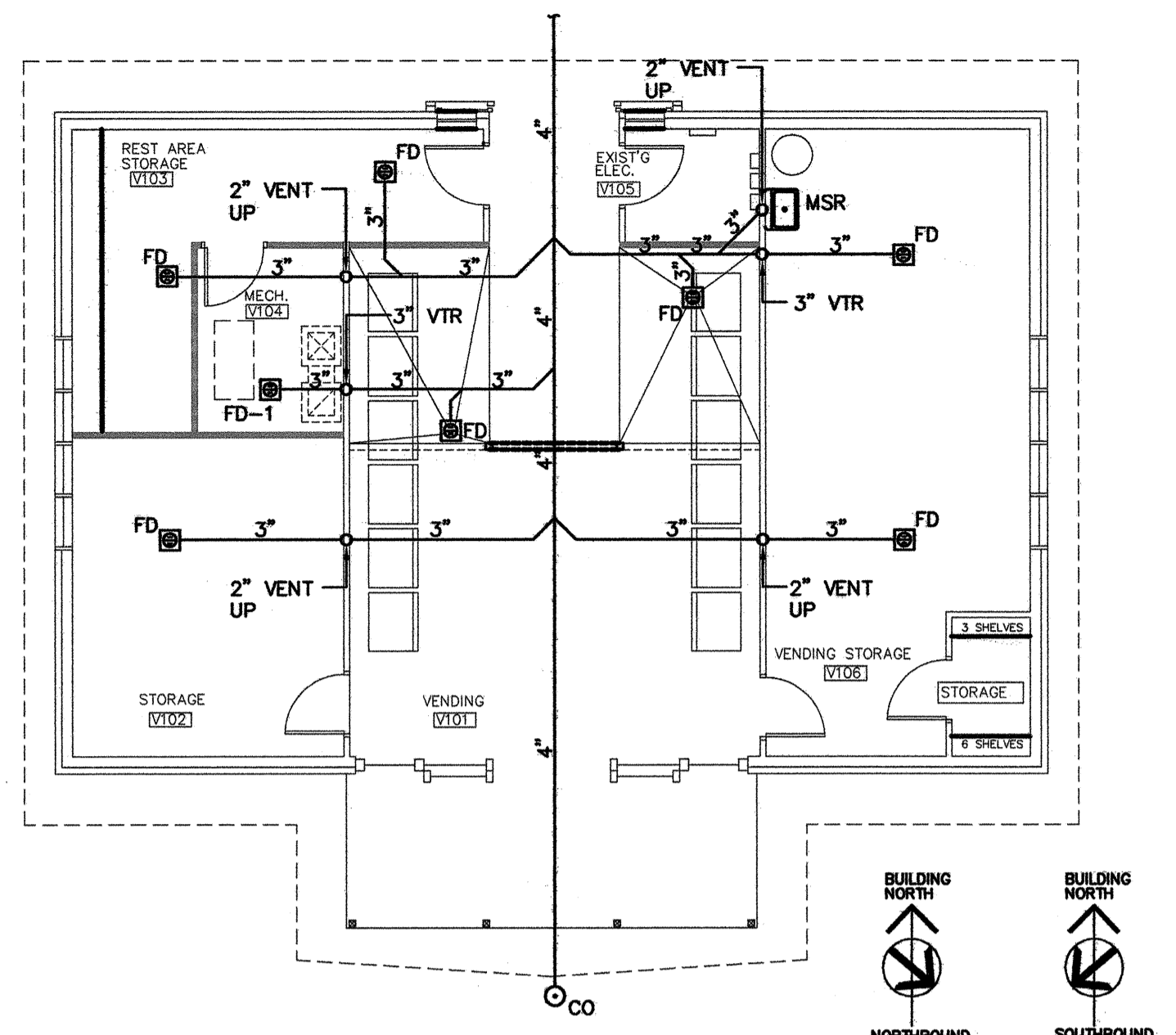




6 WASTE RISER  
NOT TO SCALE



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



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

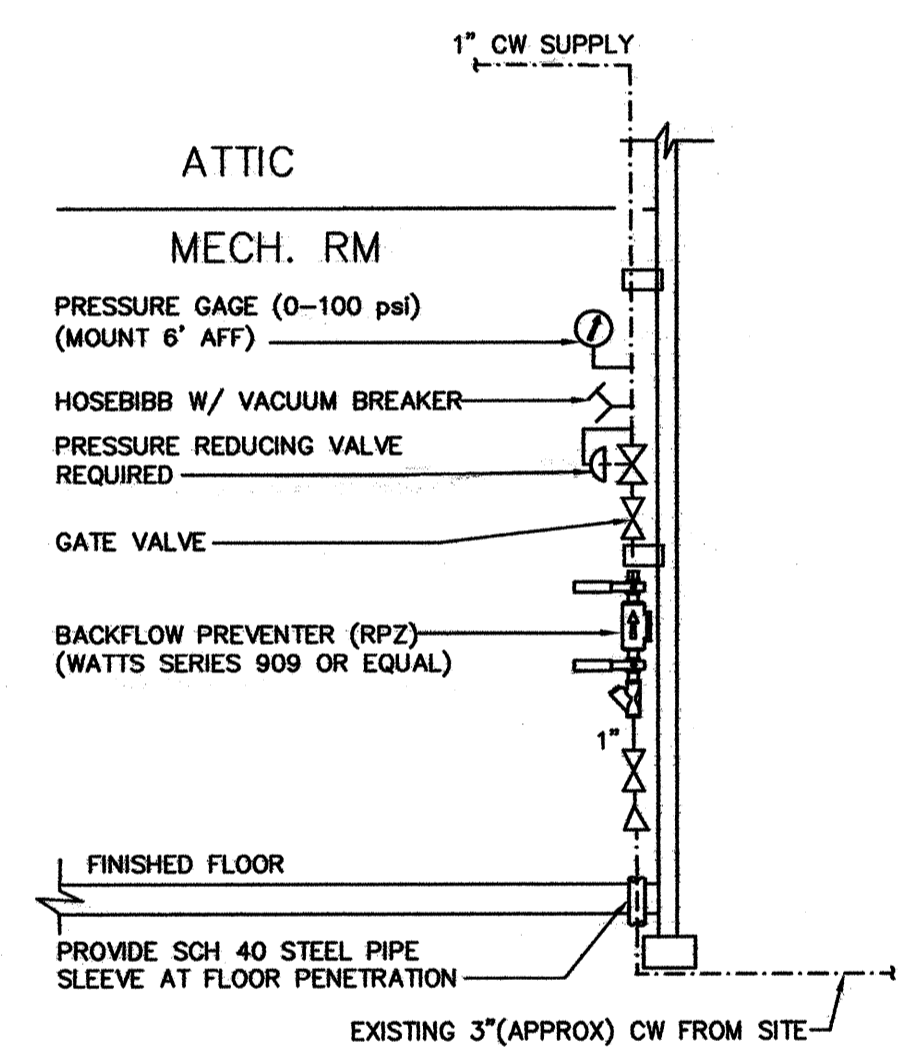
**GENERAL NOTES - PLUMBING**

- PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
- IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
- RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
- COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
- LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER - REQUESTED SERVICE CLEARANCES.
- COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
- AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.
- PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.
- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT INSTALLED AS PART OF HIS CONTRACT. UNLESS OTHERWISE NOTED, THIS CONTRACTOR SHALL WIRE FROM HIS EQUIPMENT TO DISCONNECT SWITCHES, JUNCTION BOXES, OR PANELBOARD CIRCUIT BREAKERS AS PROVIDED BY THE ELECTRICAL CONTRACTOR.
- DO NOT INSTALL ANY WATER PIPING IN THE MECHANICAL ROOM ABOVE ELECTRICAL PANELS, DISCONNECTS, OR MDPE.
- LOCATION OF EXISTING PLUMBING IS APPROXIMATE.

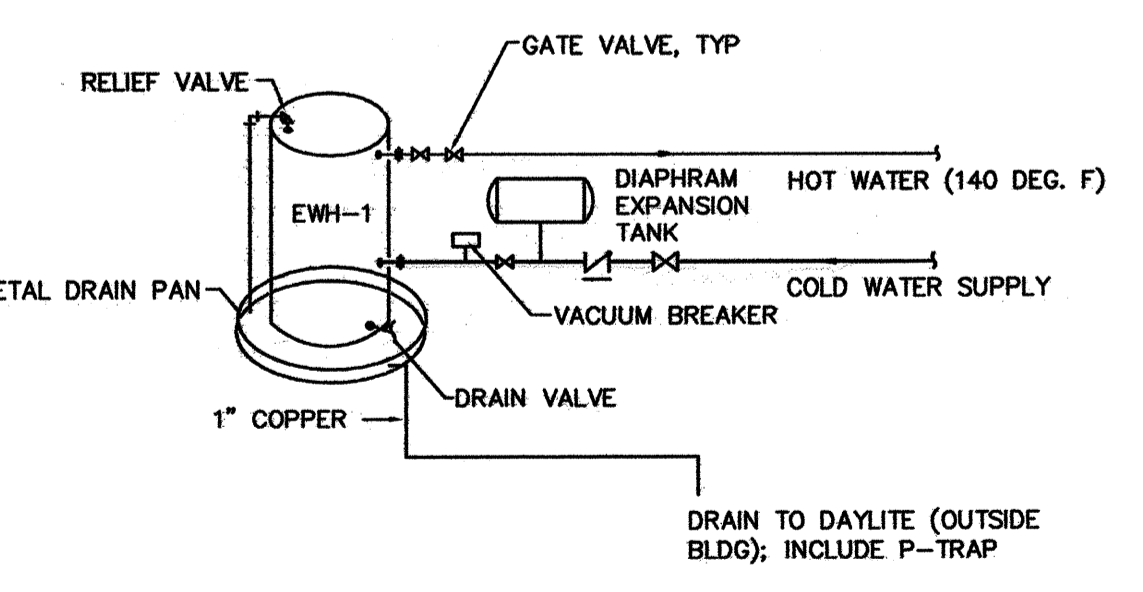
**FIXTURE SCHEDULE - PLUMBING**

- BFP BACK FLOW PREVENTER (SEE NOTE 10 BELOW)  
WATTS SERIES 909 TYPE. PIPE DRAIN TO FLOOR DRAIN.
- HB HOSE BIBB (SEE NOTE 4 BELOW)  
NIBCO, 3/4" STANDARD BRONZE HOSE BIBB W/ VACUUM BREAKER.
- EWH ELECTRIC WATER HEATER (SEE NOTE 2 BELOW)  
STATE WATER # P6-20-10MS-E, 4500W, 20 GALLONS, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.
- MSR MOP SINK (SEE NOTE 1 BELOW)  
CRANE PLUMBING #MSB-2424, 24"x24"x10" FLOOR TYPE WITH #830-AA FAUCET/VACUUM BREAKER, #832-AA HOSE AND HOSE BRACKET, #1453-BB STRAINER, #889-CC MOP HANGER, # E-77-AA BUMPER GUARD, AND STAINLESS STEEL WALL SPLASH GUARD.
- FD FLOOR DRAIN (SEE NOTE 3 BELOW)  
ZURN ZN-415 PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER.
- FD-1 FLOOR DRAIN (See note 3 below)  
ZURN ZN-415 PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER. WITH TRAP PRIMER CONNECTION

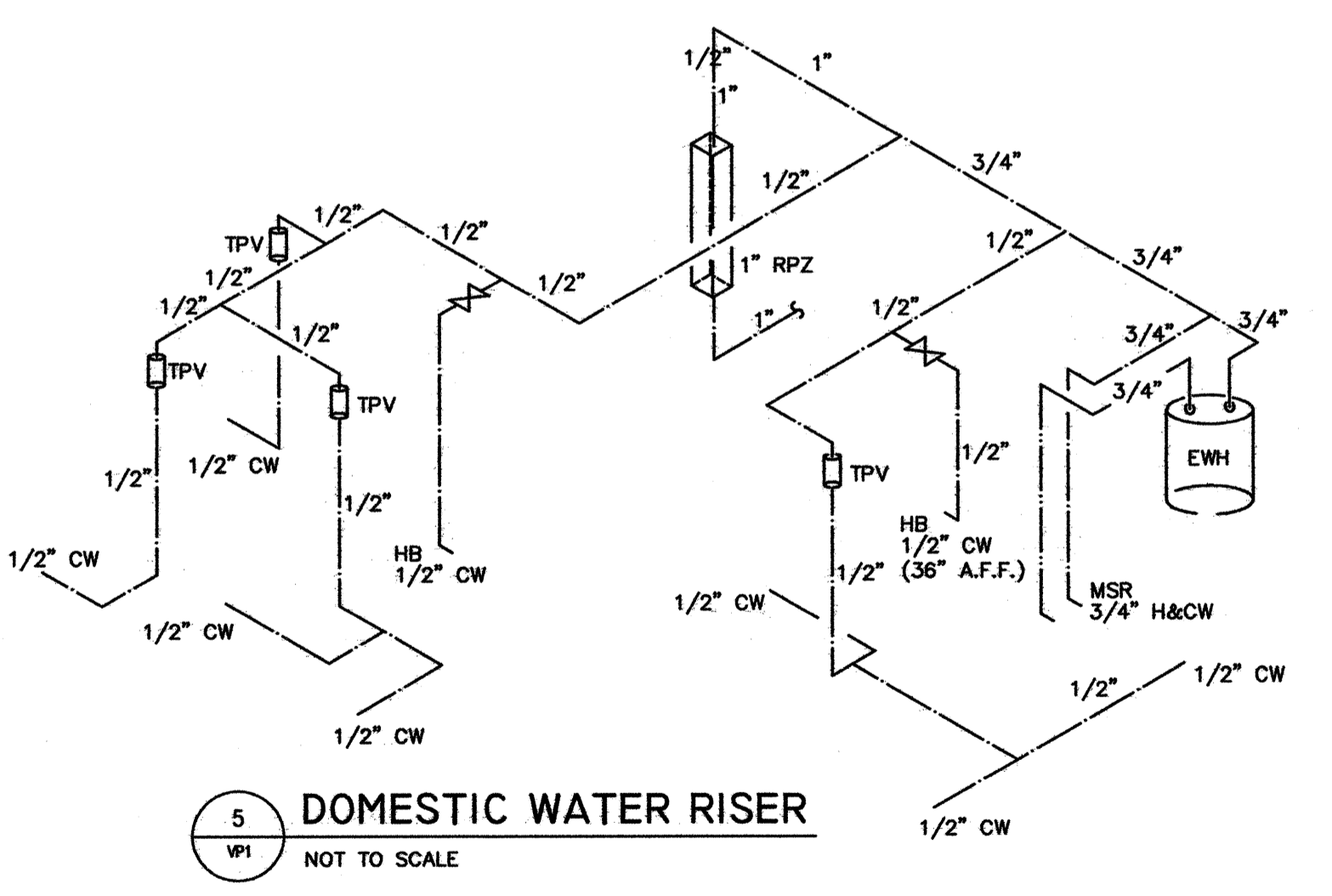
- NOTES:
- Or equal by Kohler, Eljer  
Flush Valves: Hydrotech, Zurn or Sloan.  
Mop Sink: Zurn, Flat, Stern Williams or Speakman  
Mop Sink Faucet: Chicago, Symmons or Delta
  - Or equal by A.O.Smith, Rheem, Lochinvar or Bradford White.
  - Or equal by Josam, Wade or JR Smith
  - Or equal by Wade, Woodford or J.R. Smith
  - Or equal by Oasis, Sunroc, or Halsey Taylor
  - Or equal by Sioux Chief, J.R. Smith or Zurn.
  - Or equal by Ingersoll Rand or Weinman.
  - Or equal by Zurn, J.R. Smith or American Standard.
  - Or equal by Spirax, Lawler, Bradley or Holby.
  - Or equal by Conbraco, Wilkins, Febco or Arnes.



4 BACKFLOW PREVENTER DETAIL  
NOT TO SCALE



3 DOMESTIC WATER HEATER PIPING SCHEMATIC  
NOT TO SCALE



5 DOMESTIC WATER RISER  
NOT TO SCALE

**WASTE AND VENT LEGEND:**

- COLD WATER PIPE
- HOT WATER PIPE
- ⊘ BALL VALVE
- HOSE BIBB
- WATER HYDRANT
- - - NEW VENT
- C.O. CLEAN OUT-PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS
- W.C.O. WALL CLEAN OUT
- ⊘ FLOOR DRAIN
- VTR VENT THROUGH ROOF
- TPC TRAP PRIMER CONNECTION (TIE POINT)
- ⊘ CONNECT TO EXISTING
- ① KEY NOTE NUMBER
- ⊘ PRESSURE REDUCING VALVE
- ⊘ GATE VALVE

**PLUMBING KEY NOTES - WATER**

- 3/4" H&CW DN. TO MSR (HW 140 DEG. F)
- 1/2" CW DN. TO TRAP PRIMER VALVE
- 3/4" CW DN TO EWH
- 1/2" CW DN TO COFFEE MAKER BOX. MOUNT 36" A.F.F.
- 1/2" CW DOWN TO HB

PLUMBING LOAD SUMMARY	
WASTE FIXTURE UNITS =	10
WATER FIXTURE UNITS =	10
TOTAL DEMAND G.P.M. =	15

PROJECT:  
1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
**FACILITIES DESIGN**  
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DRAWING TITLE: **PLUMBING PLAN**

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 12/12/07

**TRIANGLE ENGINEERING ASSOCIATES**  
MECHANICAL ELECTRICAL CONSULTING ENGINEERS  
1820 SE Maynard Rd.  
Suite 201, Cary, NC 27511  
919-678-8107  
Fax 919-878-8100

SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
7911  
JOEL M. HOBBS

T.I.P. PROJ. NO.	FED. PROJ. NO.	STATE PROJ. NO.	SHEET NO.
K-4904	IMS-95-1(63)47	40223.1.1	
REVISIONS/SUBMISSIONS			DATE
NO.			



SPLIT SYSTEM HEAT PUMP SCHEDULE																				
DESIGNATION	MANUFACTURER	INDOOR UNIT	OUTDOOR UNIT	FAN DATA			COOLING CAPACITY				HEATING CAPACITY		AUX. ELECTRICAL HEAT CAPACITY		ELECTRICAL DATA					
				CFM	ESP.	HP	TOTAL MBH	SENS. MBH	EAT (°F) DB/WB	AMBIENT (°F)	SEER	MBH	COP	TOTAL KW	NO. OF STAGES	MCA	MOCP	VOLTAGE		
AHU-1/CU-1	TRANE	2TEC3F48	2TWB3048	1600	0.3	1/2	45.5	32.8	80/67	95	13	43.5	3.5	9.6	1	53	25	60	40	240/1#

**REMARKS:**  
 1. PROVIDE PROGRAMMABLE THERMOSTAT.  
 2. PROVIDE SINGLE POINT ELECTRICAL CONNECTION.  
 3. PROVIDE SIDE RETURN UNIT STAND FOR BOTTOM RETURN. (SUPPORTING AIR HANDLING UNIT WITH DUCT IS NOT ACCEPTABLE.)  
 4. PROVIDE VERTICAL AIR HANDLER UNIT WITH BOTTOM RETURN AND FILTER RACK.  
 5. PROVIDE CONCRETE EQUIPMENT PAD FOR OUTSIDE CONDENSING UNIT (SIZE PER EQUIPMENT MANUF. RECOMMENDATIONS).

**OUTSIDE AIR CALCULATION**  
 DUCTED OUTSIDE AIR NOT REQUIRED.  
 BUILDING MEETS REQUIREMENT FOR NATURAL VENTILATION.

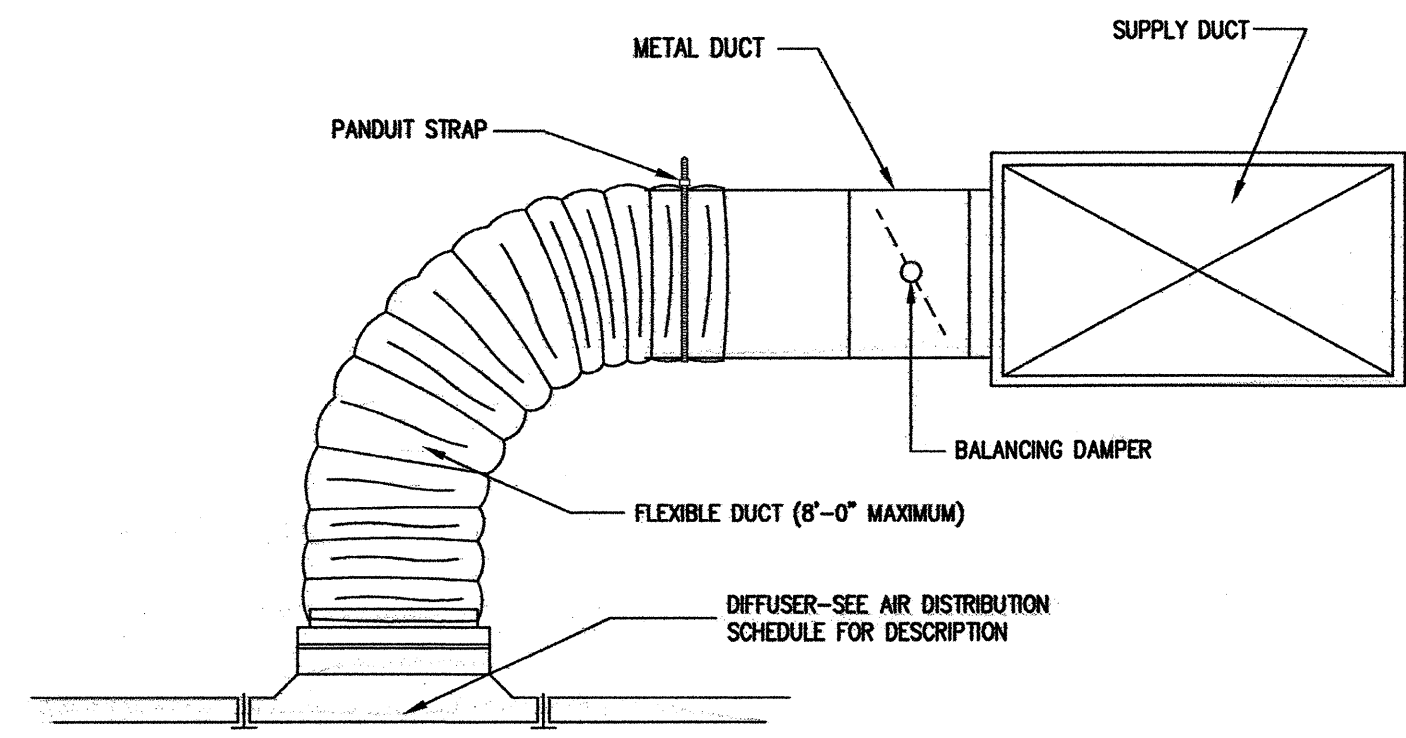
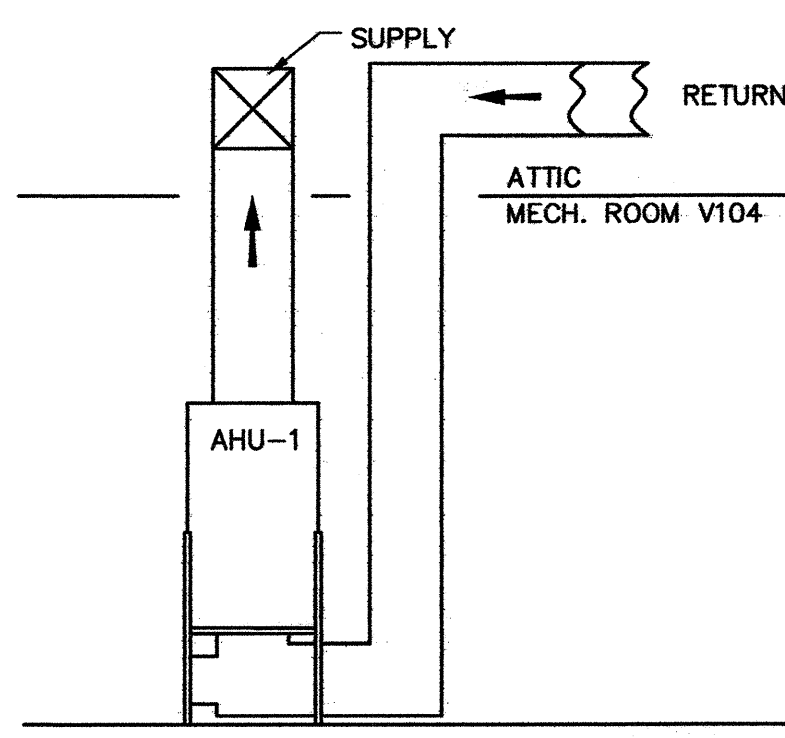
AIR DISTRIBUTION SCHEDULE								
DESIGNATION	MANUFACTURER	MODEL NO.	TYPE	PANEL SIZE	NECK SIZE	MAX CFM	MAX NC	REMARKS
A	PRICE	SCD	CEILING SUPPLY	12 x 12	8"	200	30	GYP. CEILING
B	PRICE	SCD	CEILING SUPPLY	24 x 24	10"	400	30	GYP. CEILING
C	PRICE	PDDR	RETURN GRILLE	16 x 16	8"	200	30	GYP. CEILING
D	PRICE	520-D	SUPPLY REGISTER	14 x 10	-	350	30	SIDEWALL
E	PRICE	530	RETURN GRILLE	26 x 18	-	1450	30	SIDEWALL

PROVIDE ALL SUPPLY DIFFUSERS WITH VOLUME DAMPER ACCESSIBLE FROM DIFFUSER FACE.

THROUGH THE WALL HEAT PUMP SCHEDULE															
DESIGNATION	MANUF.	MODEL NO.	CFM	COOLING CAPACITY				HEATING CAPACITY		AUXILIARY ELEC. HEAT CAPACITY		ELECTRICAL DATA			
				MIN. TOTAL BTUH	MIN. SENS. BTUH	EAT (°F) DB/WB	AMBIENT (°F)	SEER	MIN. BTUH	COP	TOTAL KW	NO. OF STAGES	VOLTAGE	AMPS	MOCP
HP-1	TRANE	PTH070	280	7000	5250	80/67	95	11.5	6200	3.3	2.0	1	208/1#	10.2	15

**REMARKS:**  
 1. PROVIDE WALL SLEEVE AND STANDARD OUTDOOR GRILLE.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE												
DESIGNATION	MANUF.	MODEL NO.	CFM	COOLING CAPACITY		HEATING CAPACITY		ELECTRICAL DATA				
				TOTAL BTUH	SEER	TOTAL BTUH	AHU	CU	MCA	MOCP	VOLTAGE	
AHU/CU	DAIKIN	MSZ09UN	297	8800	12	12300	MCA	MOCP	VOLTAGE	MCA	MOCP	VOLTAGE
							0.5	15	120/1	14	15	208/1



**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE:**

PRESCRIPTIVE  ENERGY COST BUDGET

THERMAL ZONE 7A

**EXTERIOR DESIGN CONDITIONS**  
 WINTER DRY BULB 16° F  
 SUMMER DRY BULB 92° F (75 F WB)

**INTERIOR DESIGN CONDITIONS**  
 WINTER DRY BULB 68 F  
 SUMMER DRY BULB 75F  
 RELATIVE HUMIDITY 50%

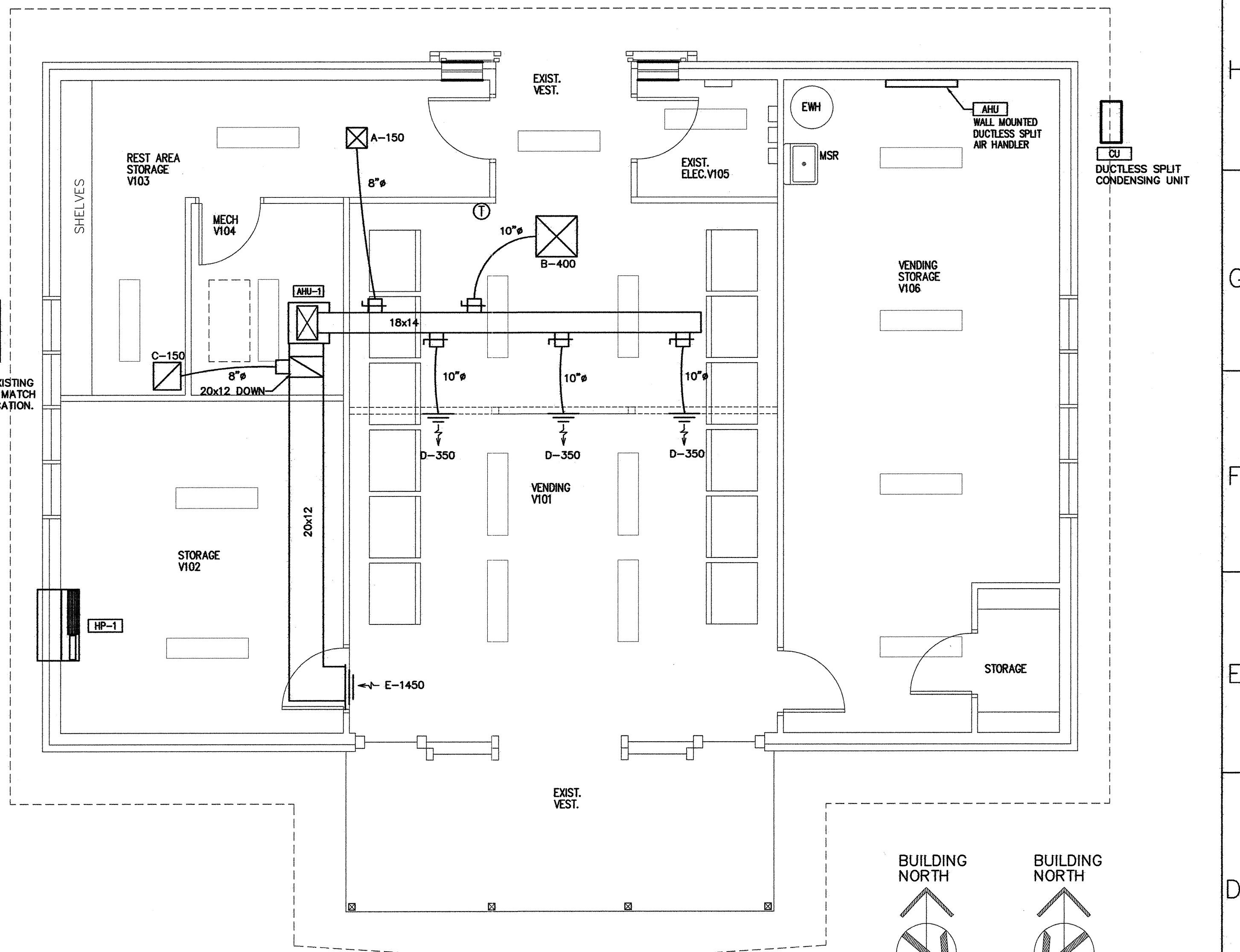
BUILDING HEATING LOAD 27 MBH  
 BUILDING COOLING LOAD 5.8 TONS

MECHANICAL SPACE CONDITIONING SYSTEM SPLIT SYSTEM

**AHU-1/CU-1**  
 DESCRIPTION OF UNIT SPLIT SYSTEM HEAT PUMP  
 HEATING EFFICIENCY COP = 3.5  
 COOLING EFFICIENCY SEER = 13.0  
 HEAT OUTPUT OF UNIT 43.5 MBH  
 COOLING OUTPUT OF UNIT 45.5 MBH

LIST EQUIPMENT EFFICIENCIES EFFICIENCIES ARE LISTED ON EQUIPMENT SCHEDULES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS) MOTORS USED IN THIS PROJECT ARE INCLUDED IN THE EFFICIENCY RATING OF THE UNITS



- GENERAL NOTES**
- PROVIDE LOCKING COVER FOR THERMOSTAT.
  - GENERAL NOTES AND DUCT CONSTRUCTION DETAILS ON DRAWINGS M1 AND M2 APPLY TO THIS DRAWING ALSO.
  - ROUTE SUPPLY, EXHAUST, AND RETURN DUCTS IN ATTIC.
  - ROUTE CONDENSATE TO FLOOR DRAIN IN MECH. RM. USE COPPER PIPE (1" MIN.)

LEGEND - DUCTWORK/ACCESSORIES	
⊠	SUPPLY DIFFUSER
⊞	RETURN GRILLE
⊞	LOCKING MANUAL BALANCING DAMPER
⊞	THERMOSTAT
⊞	VOLUME DAMPER (SPIN IN) (LOCKING)
⊞	VOLUME DAMPER (LOCKING)

PROJECT: 1-95 REST AREA CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS: FACILITIES DESIGN GENERAL SERVICES DIVISION, NCDOT 1 SOUTH WILMINGTON STREET RALEIGH, NORTH CAROLINA 27601 (919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: MECHANICAL PLAN

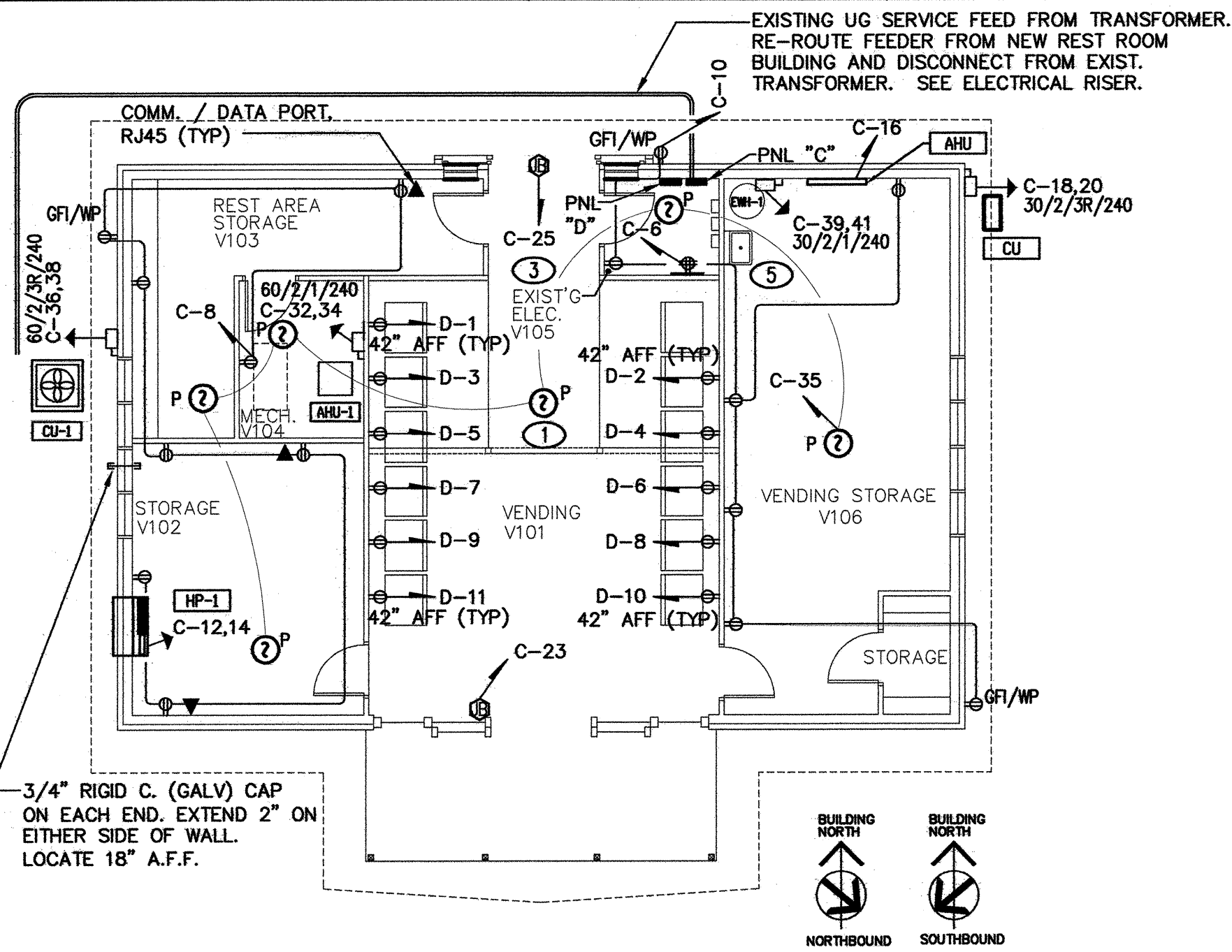
DRAWN BY: RK CHECKED BY: RK ISSUE DATE: 12/12/07

SEAL: TRIANGLE ENGINEERING ASSOCIATES MECHANICAL ELECTRICAL CONSULTING ENGINEERS 1320 SE Maynard Rd. Suite 201, Cary, NC 27511 919-878-8107 Fax 919-878-8109

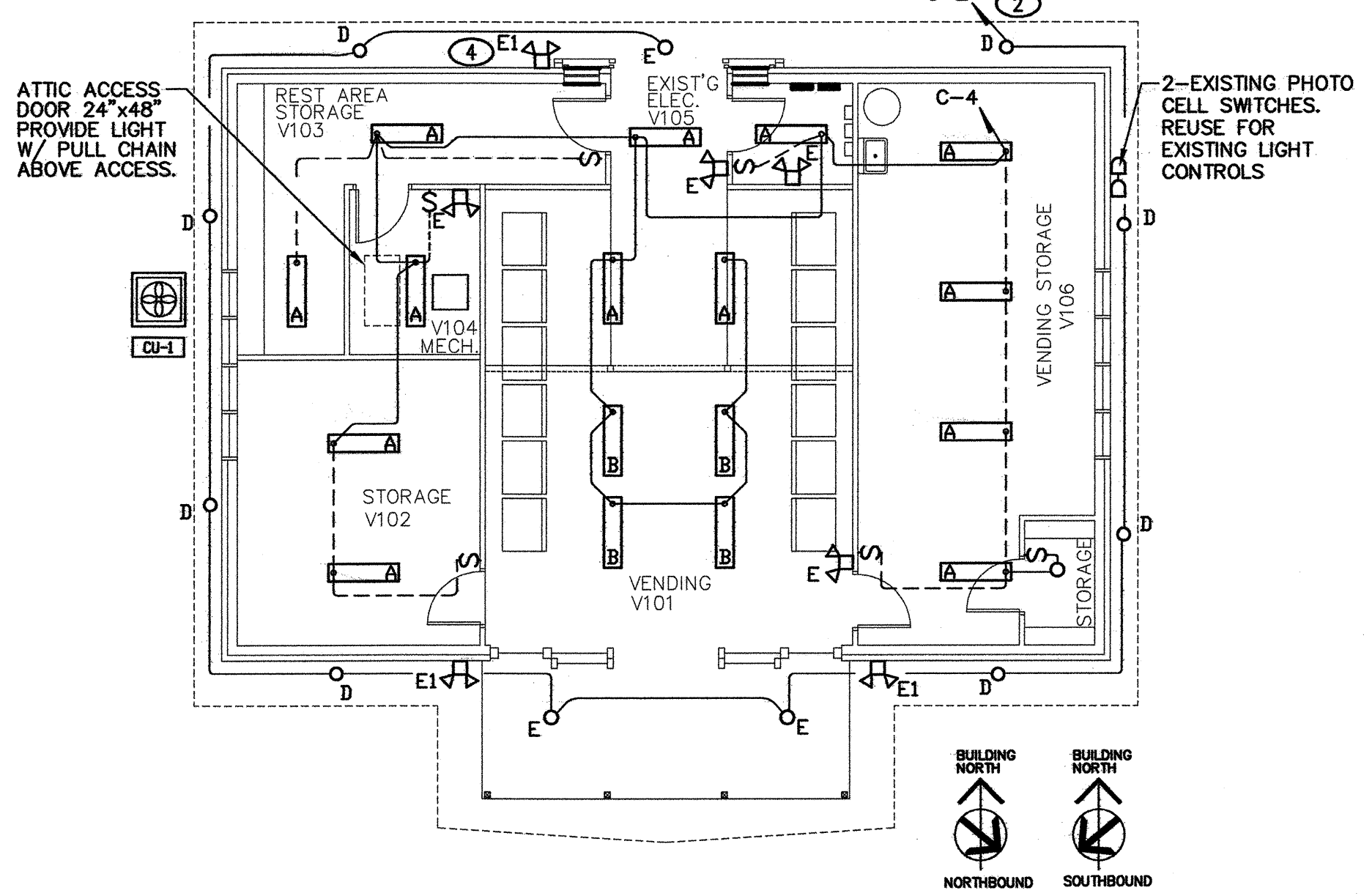
T.I.P. PROJ. NO. K-4904 FED. PROJ. NO. IMS-95-1(63)47 STATE PROJ. NO. 40223.1.1

NO. REVISIONS/SUBMISSIONS DATE SHEET NO. VM1 OF 3





2 POWER PLAN- RENOVATION TO EXIST. BLDG.  
VE-1 SCALE: 1/8" = 1'-0"



1 LIGHTING PLAN- RENOVATION TO EXIST. BLDG.  
VE-1 SCALE: 1/8" = 1'-0"

ELECTRICAL NOTES

- 1 COORDINATE LOCATION OF SMOKE DETECTORS WITH MECHANICAL PLANS SO POSITION IS 3' FROM SUPPLY DIFFUSERS AND GRILLES.
- 2 SWITCH WITH PHOTO CELL.
- 3 SEE RISER, SHEET E-2, FOR DETAILS ON REMOVAL OF EXISTING ELECTRICAL DEVICES AND ADDITION OF NEW GUTTER TO SERVE EXISTING BRANCH CIRCUITS. EXISTING GUTTER, CONDUITS & CONTROLS FOR LIGHTS TO REMAIN.
- 4 WIRE EXTERIOR EMERGENCY FIXTURE TO EXTERIOR LIGHTING CIRCUIT, TYP.

FIXTURE SCHEDULE							
MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	1X4 FLUORESCENT	LITHONIA AVE32AR120	METALUX DAYBRITE	120 V	(2) 32W T8	SURFACE MOUNT, WRAPAROUND, EP	62
B	8"x3" FLUORESCENT	PEERLESS 4ENM4 332 120 LP841 (ENVISION)	LITHONIA COLUMBIA		(3) 32W T8	INDIRECT WHITE GLASS AL. SUSPENDED FIXTURE	95
C	RECESSED FLUORESCENT	LITHONIA LGF 226 DTT 7RW 173	LITHONIA COLUMBIA		(2) 26W DTT	7" APERTURE, SPECULAR CLEAR REFLECTOR	54
D	BLDG. EXTERIOR LIGHTS FLUORESCENT SOFFIT	KENALL, MILLENIUM MR13FD-PP-DB-26Q-2-120	COLUMBIA LITHONIA		(2) 26W DTT	2 LAMPS, DARK BRONZE, ELEC BALLAST, 13" ROUND PEARLESCENT LENS	52
E	CEILING MOUNT, RECESSED LIGHT INCANDESCENT	PROGRESS # P-6696-29	N/A EXISTING		(1) 100W	FOR REFERENCE ONLY EXISTING-REUSE, INCANDESCENT	100

NOTES:  
1. FIXTURES & BALLAST MUST BE REMOVABLE FROM INACCESSIBLE CEILING.

EI	EMERGENCY LIGHT INTERIOR	ASTRALITE DCA-100	LITHONIA LIGHT ALARMS	120 V		90 MINUTE BACK-UP	
EI	EMERGENCY LIGHT EXTERIOR	ASTRALITE EU-MR-3R	LITHONIA LIGHT ALARMS			90 MINUTE BACK-UP	
P	SMOKE DETECTOR	KIDDE MODEL 1235E	EST ADEM CO			CEILING MNT, NEPA 72 IONIZATION TYPE, LOCAL ALARMS, FUR	<5

LOAD SERVED	VA PER PHASE		CKT. BRKR.	CKT. NO.	NEUTRAL		CKT. NO.	CKT. BRKR.	VA PER PHASE		LOAD SERVED
	A	B			A	B			A	B	
EXISTING EXTERIOR LIGHTS		1100	30	3			2	20	1660		EXIST. LIGHTS SOFFIT, EXTR. WALL, FRONT VEST.
2P, YARD (NOTE 1)	1100		30	5			4	20	500	1158	NEW LIGHTS & EXTG STG RM LIGHT
EXISTING EXTERIOR LIGHTS	1100		30	7			6	20			NEW TELEPHONE EQUIPMENT
2P, YARD (NOTE 1)	1100		30	9			8	20	1260	1440	NEW RECEPT
EXISTING EXTERIOR LIGHTS	1100		30	11			10	20		1061	HP-1
2P, YARD (NOTE 1)	1100		30	13			12	20	1061		2#10, #12 G, 1/2" C.
EXISTING EXTERIOR LIGHTS	1100		20	15			14	20		60	AHU
2P, YARD (NOTE 1)	1100		20	17			16	20	1456		CU
EXIST. EXTR. LIG. CONTROLS (PHOTO CELL)		100	20	19			18	20		1456	2#12, #12 G, 1/2" C.
EXISTING TELEPHONE BOOTH (3)	2000		20	21			20	20			
EXIST. AUTO. DOOR, GF, FRONT	322		20	23			22				
EXIST. AUTO. DOOR, GF, REAR	322		20	25			24				
				27			26				
				29			28				
EXIST. UTILITY BLDG.	4800		50	31			30			6360	NEW AHU-1
2P	4800		50	33			32	60	6360		2#6, #10 G, 3/4" C.
NEW SMOKE DETECTORS (BREAKER LOCK)	100		20	35			34	40	3000	NEW CU-1	
BLANK	0			37			36	40	3000		2#10, #10 G, 1/2" C.
NEW EWH-1	2250		30	39			38	40	2500	2500	NEW PANEL D
2#10, #10 G, 1/2" C.	2250		30	41			40	100	3000		SEE RISER FOR WIRE SIZE
	13772	11972					42	100	3000		
									18297	17035	

C/B TEMP. 75° C. RATING 120/240V 1 PH 3 V

MOUNTING SURFACE	GROUND BUS	YES	NO	RATING	GENERAL LIGHTING @	EXIST.	NEW	TOTAL	NEC DEM. FACTOR @	KVA DEMAND	
GENERAL LIGHTING @		<input checked="" type="checkbox"/>	<input type="checkbox"/>	125%	0.7	2.6	3.3	125%		4.1	
MAIN CIRCUIT BREAKER		<input checked="" type="checkbox"/>	<input type="checkbox"/>	400	GENERAL USE RECEPTACLES	0.2	4.0	4.2	100%	4.2	
SERVICE ENTR. RATED		<input checked="" type="checkbox"/>	<input type="checkbox"/>	400	MOTORS AND EQUIPMENT				100%	0	
MINIMUM AIC (K AMPS)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	400	MOTORS AND EQUIPMENT ALL OTHERS		6.0	6.0	125%	7.5	
				400	WATER HEATERS		12.2	6.4	18.6	100%	18.6
				400	KITCHEN EQUIPMENT @				100%	5.6	
				400	FIX. ELEC. SPACE HEAT. @		11.6	11.6	100%	11.6	
				400	SHOW WINDOW LIGHTS @				125%		
				400	SIGN				125%		
				400	EXISTING EXTERIOR LIGHTS		9.8	9.8	125%	12.3	
				400	PANEL/FEEDER (TOTAL KVA)					67.8	
				400	(TOTAL KVA) X 1000 = TOTAL AMPS VOLTS					283	

NEW PANEL "C"

NOTES: (1) PHOTO-CELL CONTROLLED LIGHTS (PHOTO-CELL CONTROLS ARE EXISTING.)

LOAD SERVED	VA PER PHASE		CKT. BRKR.	CKT. NO.	NEUTRAL		CKT. NO.	CKT. BRKR.	VA PER PHASE		LOAD SERVED
	A	B			A	B			A	B	
VENDING	500		*20"	1			2	*20"	500		VENDING
VENDING	500		*20"	3			4	*20"	500		VENDING
VENDING	500		*20"	5			6	*20"	500		VENDING
VENDING	500		*20"	7			8	*20"	500		VENDING
VENDING	500		*20"	9			10	*20"	500		VENDING
VENDING	500		*20"	11			12				
				13			14				
				15			16				
				17			18				
				19			20				
				21			22				
				23			24				
				25			26				
				27			28				
				29			30				
	1500	1500							1500	1000	

C/B TEMP. 75° C. RATING 120/240V 1 PH 3 V

MOUNTING SURFACE	GROUND BUS	YES	NO	RATING	GENERAL LIGHTING @	EXIST.	NEW	TOTAL	NEC DEM. FACTOR @	KVA DEMAND
GENERAL LIGHTING @		<input checked="" type="checkbox"/>	<input type="checkbox"/>	125%					125%	
MAIN CIRCUIT BREAKER		<input checked="" type="checkbox"/>	<input type="checkbox"/>	100	GENERAL USE RECEPTACLES				100%	
SERVICE ENTR. RATED		<input checked="" type="checkbox"/>	<input type="checkbox"/>	100	MOTORS AND EQUIPMENT		0.5	0.5	125%	0.6
MINIMUM AIC (K AMPS)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	100	MOTORS AND EQUIPMENT ALL OTHERS		4.5	4.5	100%	4.5
				100	WATER HEATERS				100%	
				100	KITCHEN EQUIPMENT @				100%	
				100	FIX. ELEC. SPACE HEAT. @				100%	
				100	SHOW WINDOW LIGHTS @				125%	
				100	SIGN				125%	
				100	EXISTING EXTERIOR LIGHTS				125%	
				100	PANEL/FEEDER (TOTAL KVA)					5.1
				100	(TOTAL KVA) X 1000 = TOTAL AMPS VOLTS					21

NEW PANEL "D"

\* \* VENDING ON GFI BREAKER

PROJECT:  
1-95 REST AREA  
CUMBERLAND COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:  
FACILITIES DESIGN  
GENERAL SERVICES DIVISION, NCDOT  
1 SOUTH WILMINGTON STREET  
RALEIGH, NORTH CAROLINA 27601  
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:  
ELECTRICAL PLAN

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 12/12/07

SEAL: TRIANGLE ENGINEERING ASSOCIATES  
MECHANICAL ELECTRICAL CONSULTING ENGINEERS  
1380 SE Maynard Rd.  
Suite 201, Cary, NC 27511  
919-878-8107 Fax 919-878-8109

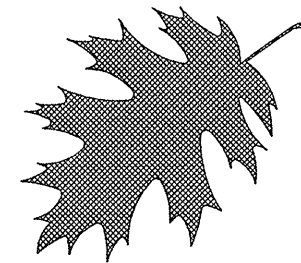
SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 7911  
J. M. HOBBS

T.I.P. PROJ. NO.	FED. PROJ. NO.	STATE PROJ. NO.
K-4904	IMS-95-1(63)47	40223.1.1

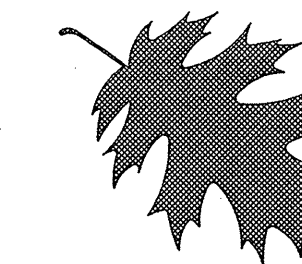
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VE1 OF 3

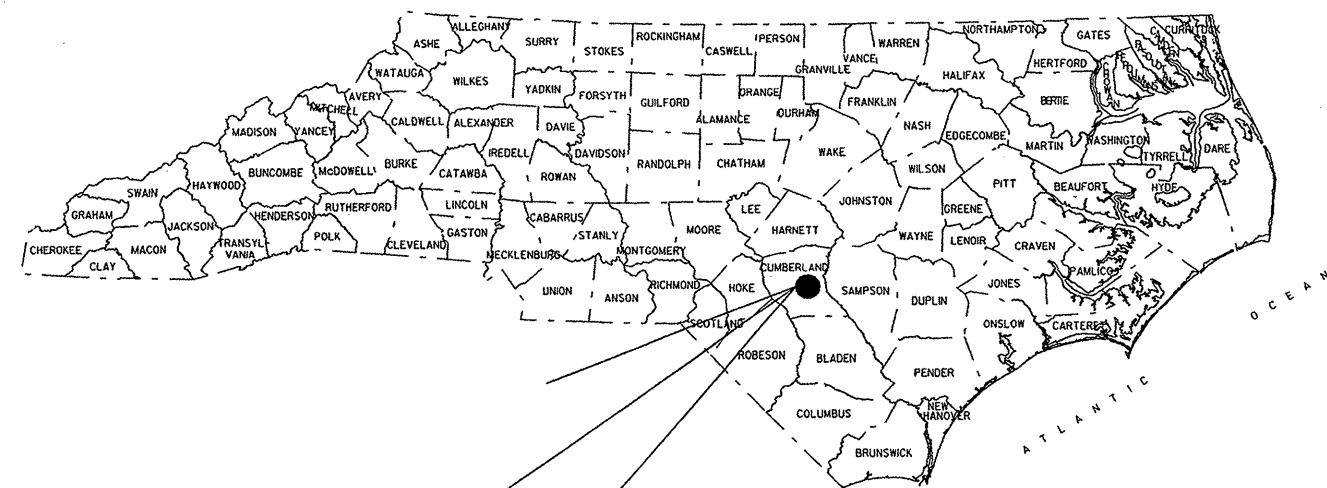




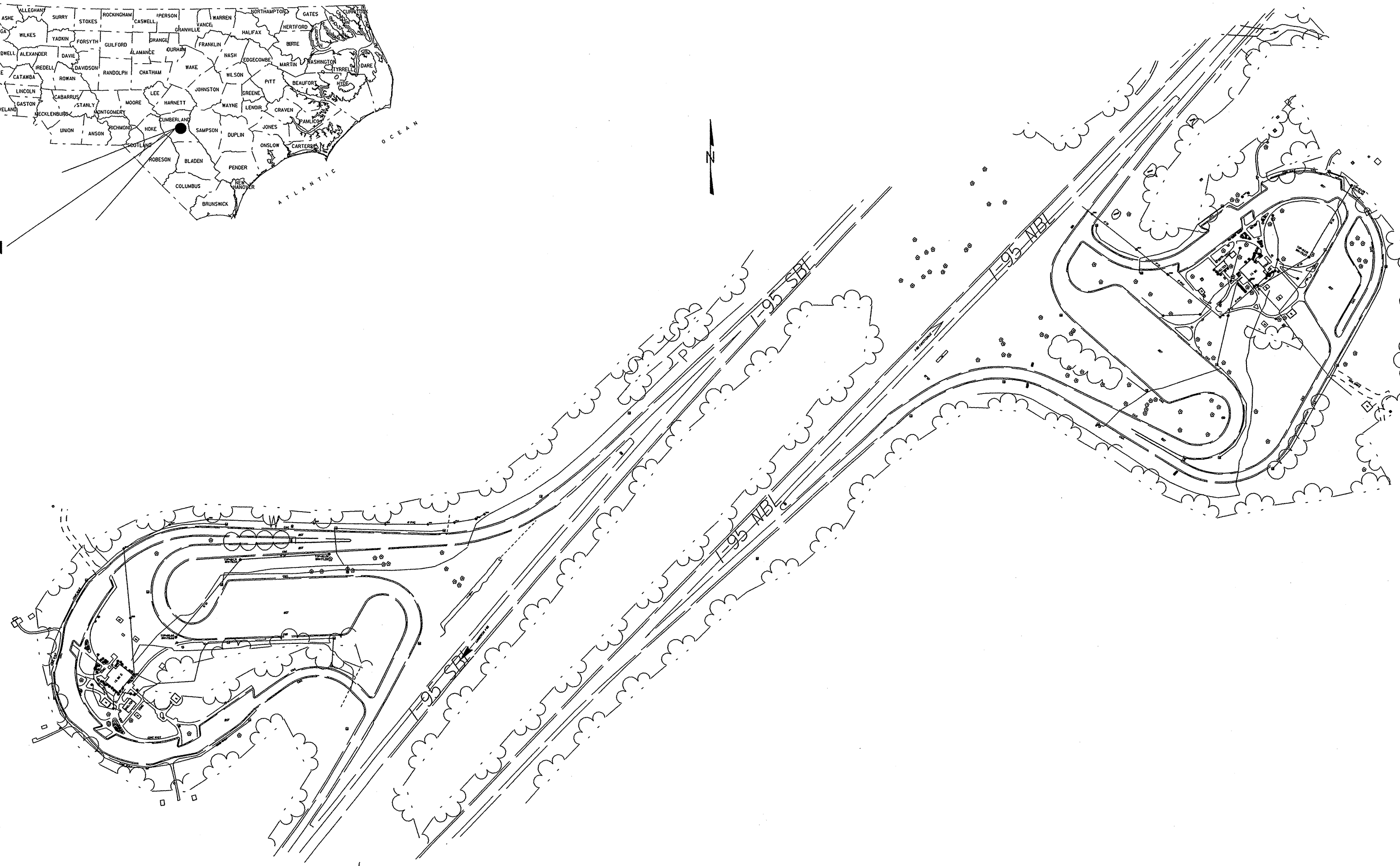
# PROPOSED HIGHWAY LANDSCAPE DEVELOPMENT PROJECT



T.I.P. #	STATE PROJECT W.B.S. #	SHEET #	SHEET # TOTAL
	40223.1.1	L1.0	15
FED. PROJ. #	DESCRIPTION		DIVISION
	Rest Area		6



PROJECT LOCATION



### CONVENTIONAL SYMBOLS

County Line	-----
City or Town Line	-----
Exist. Right of Way Line Marker	-----▲-----
Prop. Right of Way Line Marker (By Others)	-----▲-----
Prop Right of Way Line Marker (By Contract)	-----▲-----
Exist. Control of Access Line	-----○-----
Prop. Control of Access Line	-----○-----
Property Line	-----
Easement Line	-----
Slope Stake Line	-----
Exist. Fence	-----+-----
Prop. Woven Wire Fence	-----○-----
Prop. Chain Link Fence	-----□-----
Exist. Road	=====
Prop. Road	=====
Guardrail	----- -----
Survey Line	-----
Denotes Line Equality	-----○-----
Bridge	=====
Culvert	=====
Railroad	----- -----
Woods	-----*-----
Exist. Telephone Pole	-----●-----
Prop. Telephone Pole	-----○-----
Tower Pole and Line	-----■-----
Exist. Power Pole	-----●-----
Prop. Power Pole	-----○-----
Sanitary Sewer Line	-----SS-----
Water Line	-----W-----
Gas Line	-----GAS-----
Picnic Shelter	□

### INDEX OF L SHEETS:

- L 1 - TITLE, DESCRIPTION, LOCATION
- L 2 - EXISTING SITE PLAN SBL
- L 3 - EXISTING SITE PLAN NBL
- L 4 - PROPOSED SITE PLAN SBL
- L 5 - PROPOSED SITE PLAN NBL
- L 6 - CONSTRUCTION STAGING PLAN SBL
- L 7 - CONSTRUCTION STAGING PLAN NBL
- L 8 - LAYOUT AND DIMENSION SBL
- L 9 - LAYOUT AND DIMENSION NBL
- L 10 - GRADING PLAN SBL
- L 11 - GRADING PLAN NBL
- L 12 - SITE UTILITY PLAN SBL
- L 13 - SITE UTILITY PLAN NBL
- L 14 - EROSION CONTROL PLAN SBL
- L 15 - EROSION CONTROL PLAN NBL

PREPARED BY: **BRM** DATE: **11/07**

### REVISIONS

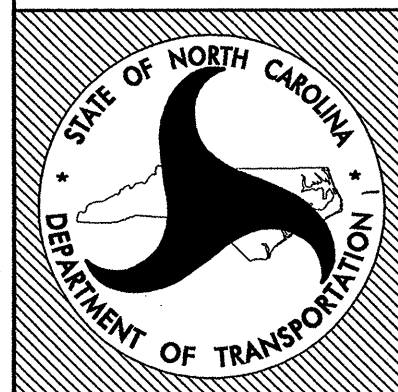
DATE	DESCRIPTION

2004 American Standard for Nursery Stock

2006 NCDOT STANDARD SPECIFICATIONS

PREPARED IN THE OFFICE OF:  
 NCDOT- ROADSIDE ENVIRONMENTAL UNIT  
 LANDSCAPE DESIGN & DEVELOPMENT SECTION  
 1557 MAIL SERVICE CENTER  
 RALEIGH NC 27699 919-733-2920

**PROJECT: 40223.1.1**



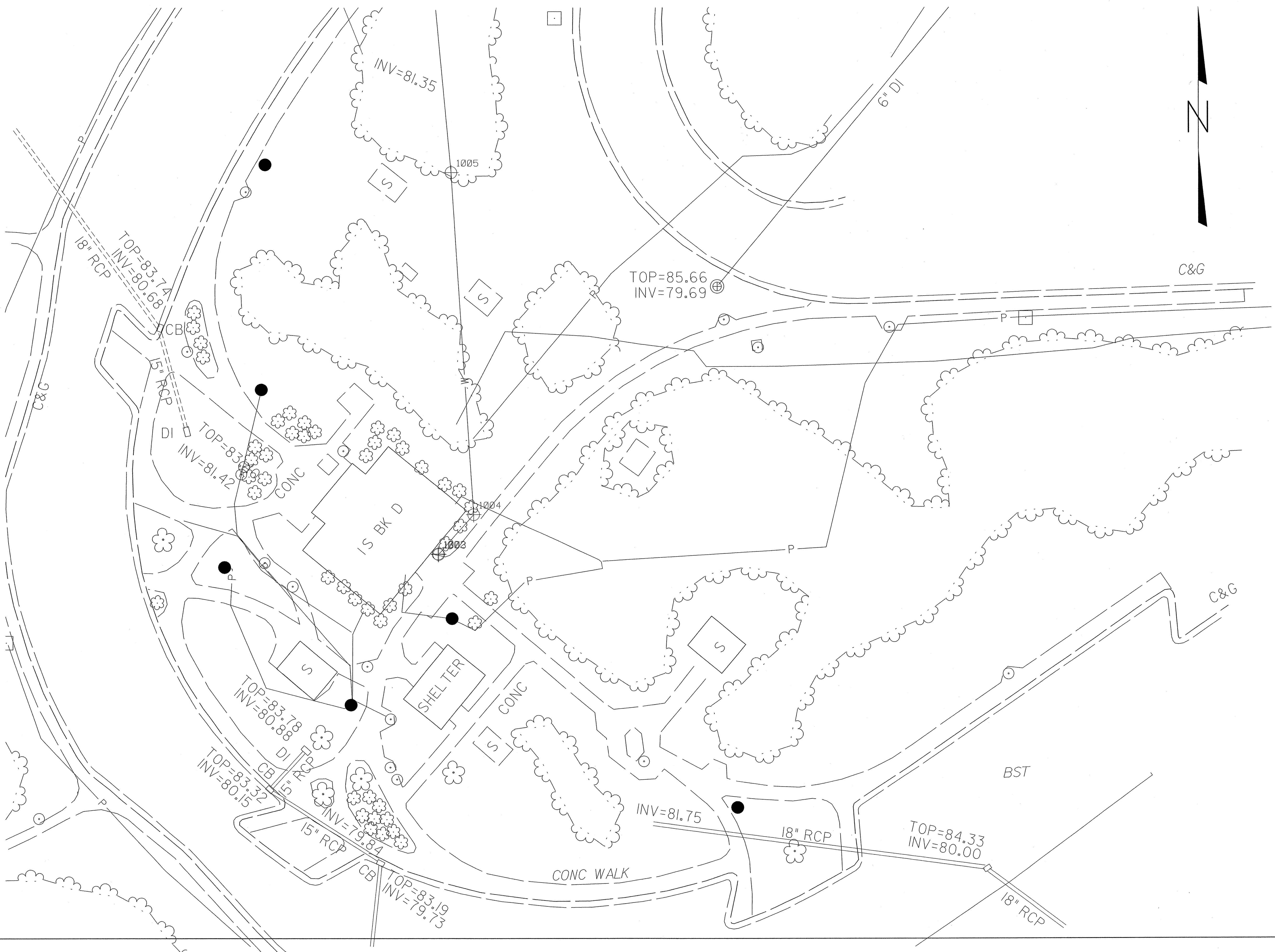
STATE OF  
**NORTH CAROLINA**  
 DEPARTMENT OF TRANSPORTATION

LOCATION: **Cumberland County Rest Areas I-95 North and South Lanes**

TYPE of WORK: **New Building and Renovation**

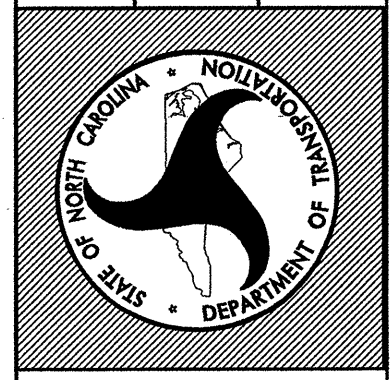
COUNTY: **Cumberland County**





SHEET # L - 2 of 15  
 STATE PROJ. # 40223.11  
 FED. PROJ. # IMS-95-163147  
 T.I.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 SBL  
 UNIT/ BRANCH: Roadside Environmental Unit

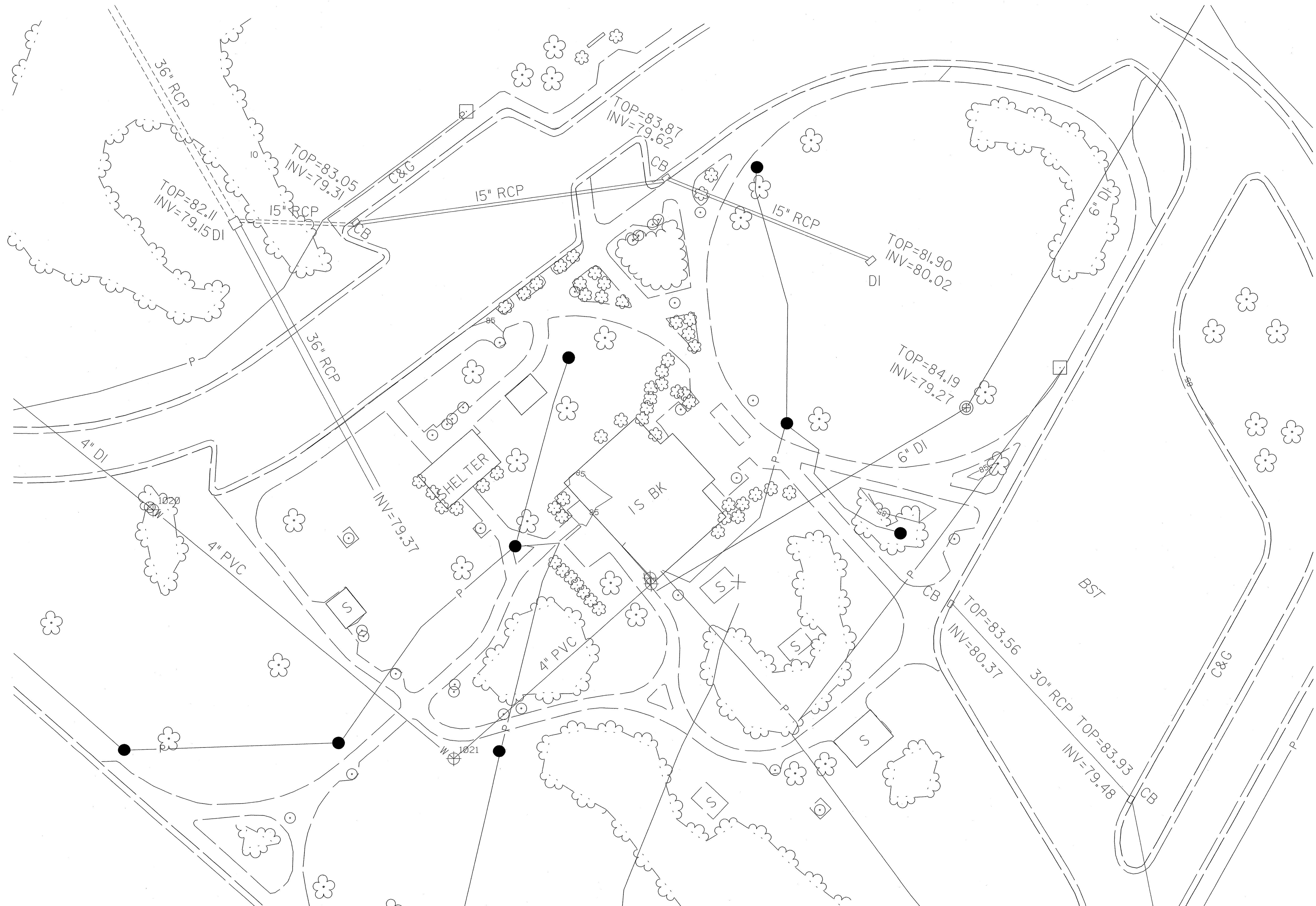


PLAN: Existing Site  
 Plan

PLANS DRAWN BY:	BRM
PLANS CHECKED BY:	TD
DATE	11 / 30 / 07
SCALE	1" = 20'
SHEET #	L - 2

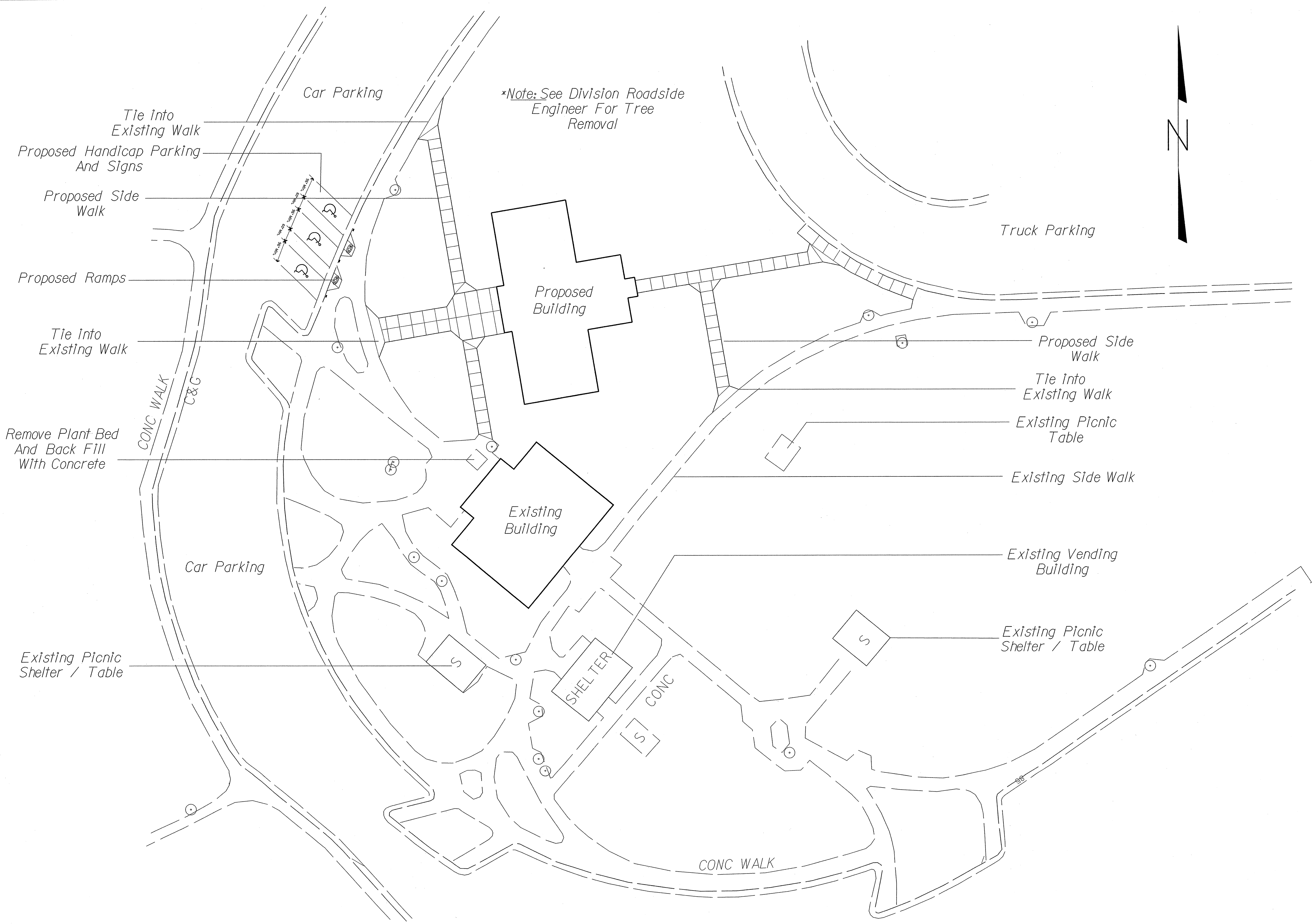
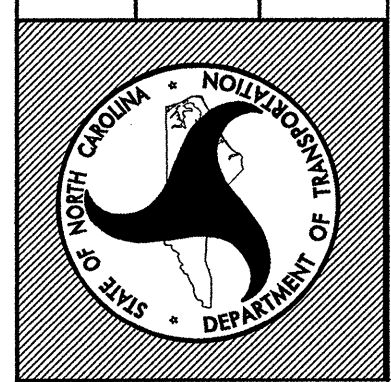
\*\*\*\*\*SYSTEM TIME\*\*\*\*\*  
 \*\*\*\*\*DGN\*\*\*\*\*  
 \*\*\*\*\*USERNAME\*\*\*\*\*



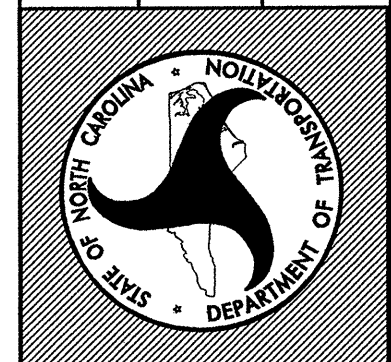


SHEET #	L - 3 of 15
STATE PROJ. #	40223.L1
FED. PROJ. #	IMS-95-163147
T.I.P. #	K-4904
PROJECT TITLE	North Carolina Department of Transportation Cumberland County Rest Area I-95 NBL
UNIT BRANCH	Roadside Environmental Unit
PLAN:	Existing Site Plan
PLANS DRAWN BY:	BM
PLANS CHECKED BY:	TD
DATE	11 / 30 / 07
SCALE	1" = 20'
SHEET #	L - 3

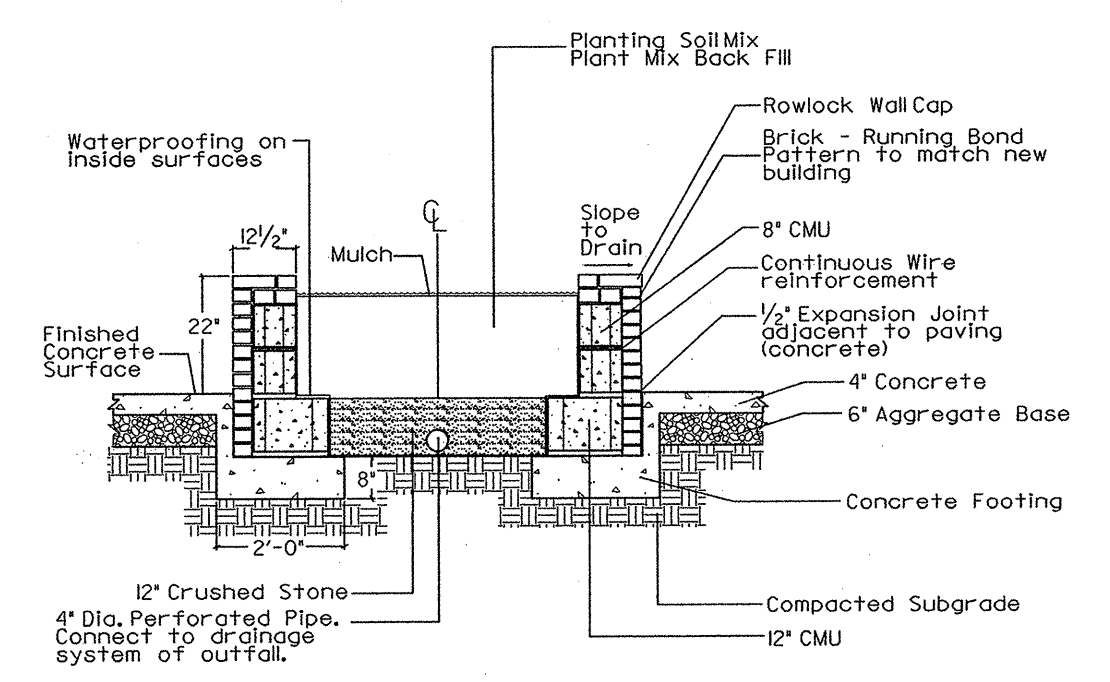
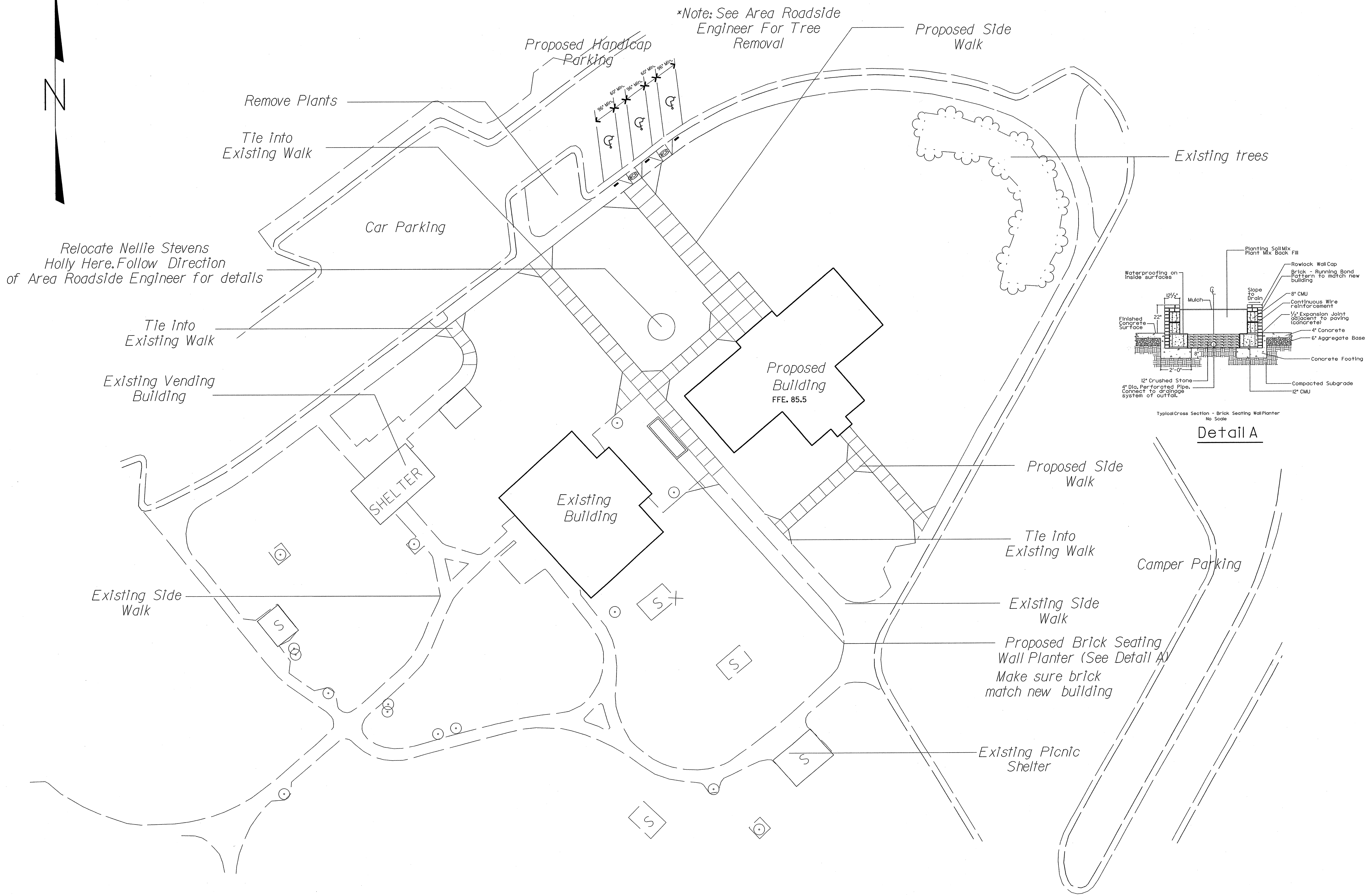






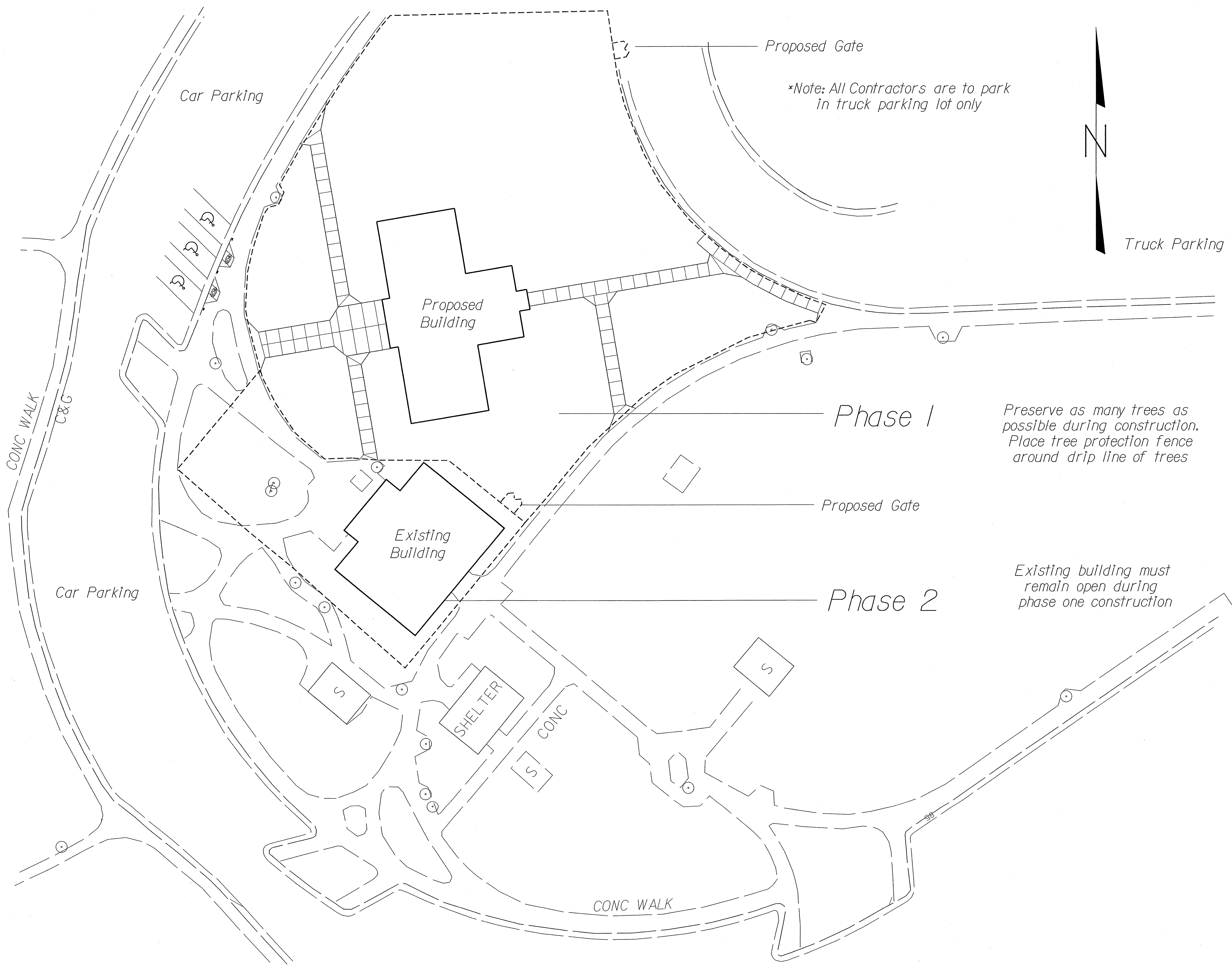


\*Note: See Area Roadside Engineer For Tree Removal



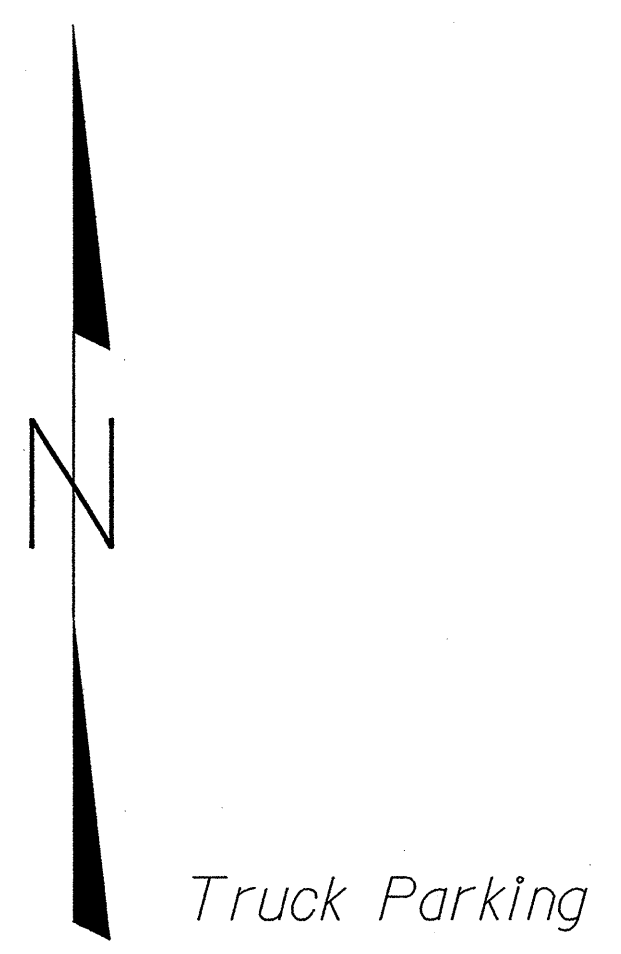
Typical Cross Section - Brick Seating Wall Planter  
 No Scale  
**Detail A**





Proposed Gate

\*Note: All Contractors are to park in truck parking lot only



Phase 1

Preserve as many trees as possible during construction. Place tree protection fence around drip line of trees

Proposed Gate

Phase 2

Existing building must remain open during phase one construction

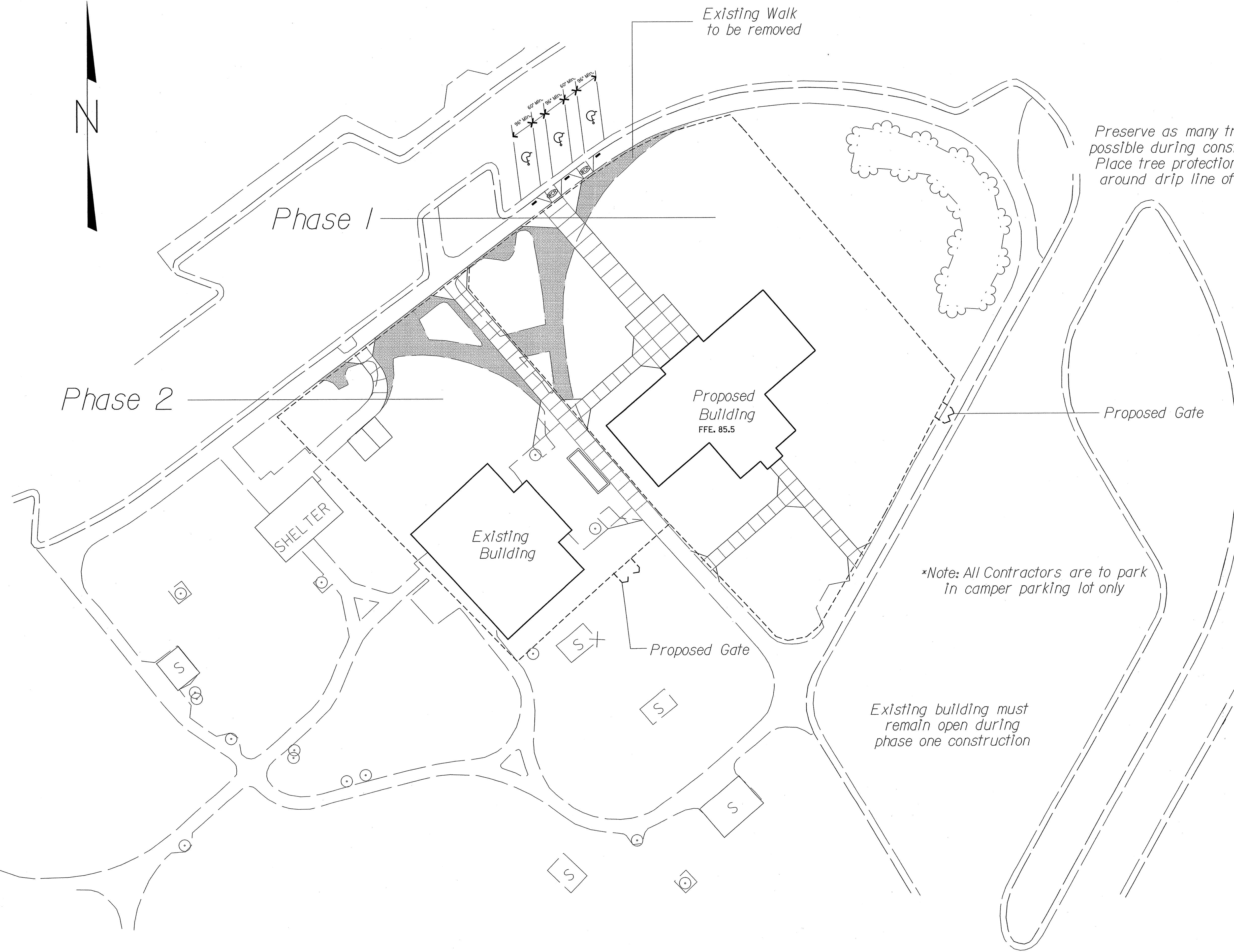
SHEET # L - 6 of 15  
 STATE PROJ. # 40223.1.1  
 FED. PROJ. # IMS-95-(K63)47  
 T.I.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 SBL  
 UNIT BRANCH: Roadside Environmental Unit



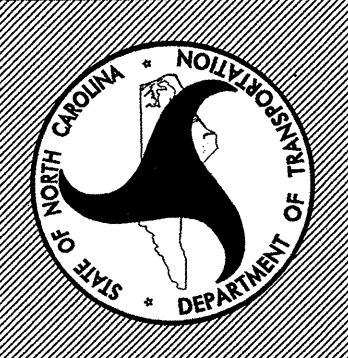
PLAN: **Construction Staging Plan**

PLANS DRAWN BY: BRM  
 PLANS CHECKED BY: TD  
 DATE: 11 / 30 / 07  
 SCALE: 1" = 20'  
 SHEET #: L - 6



SHEET # - 7 of 15  
 STATE PROJ. # 40223.L1  
 FED. PROJ. # IMS-95-1(63)47  
 T.I.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 NBL  
 UNIT/ BRANCH: Roadside Environmental Unit



PLAN:  
**Construction Staging Plan**

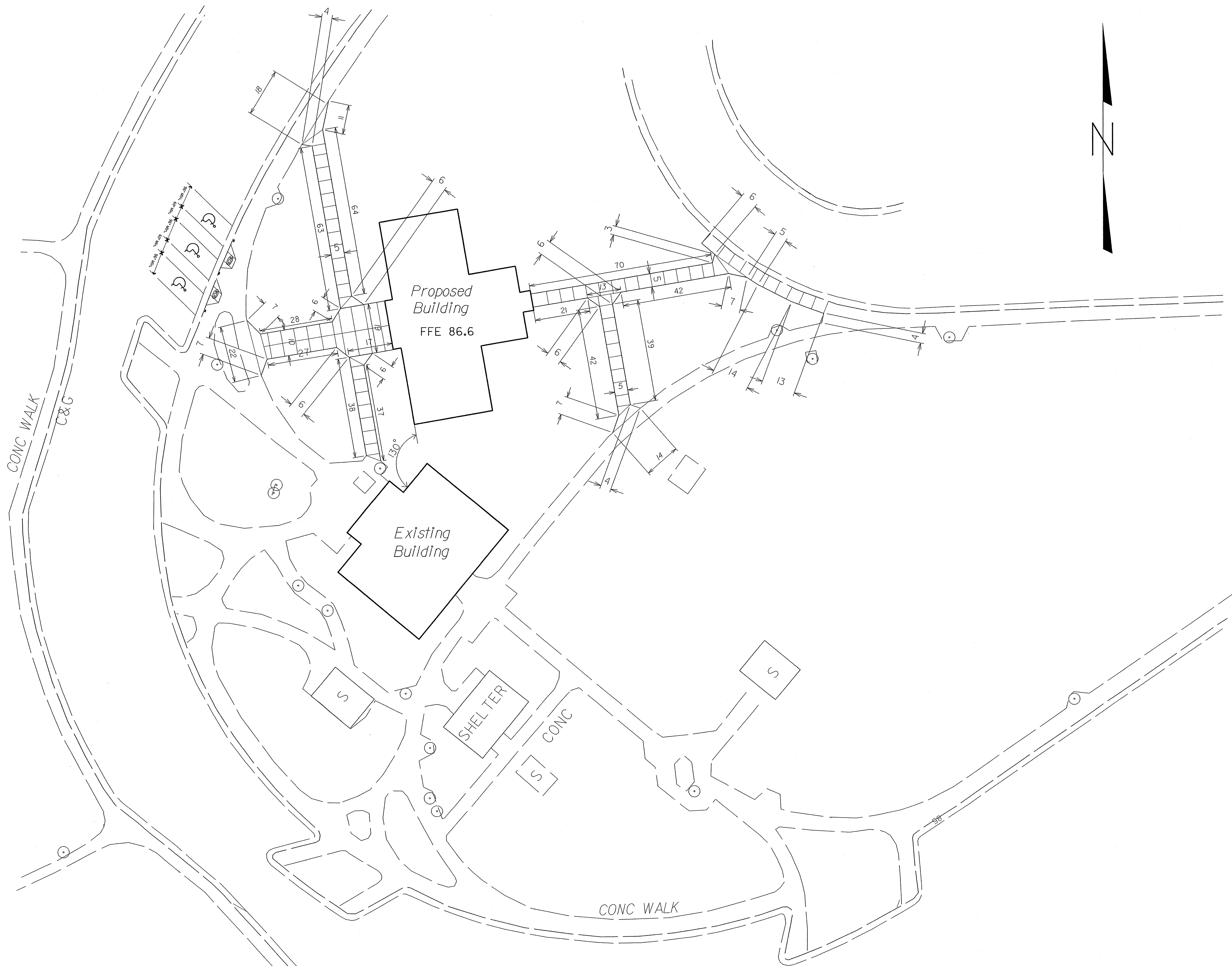
PLANS DRAWN BY: BRM  
 PLANS CHECKED BY: TD  
 DATE: 11 / 30 / 07  
 SCALE: 1" = 20'  
 SHEET #: L-7

\*Note: All Contractors are to park in camper parking lot only

Existing building must remain open during phase one construction

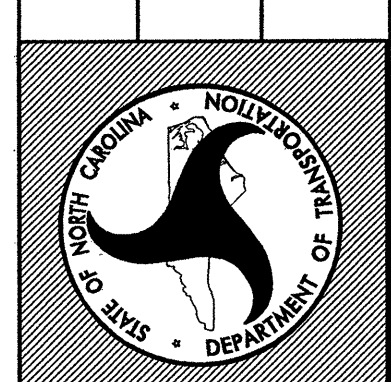
Preserve as many trees as possible during construction. Place tree protection fence around drip line of trees





SHEET # L - 8 of 15  
 STATE PROJ. # 40223.1.1  
 FED. PROJ. # IMS-95-(K63)47  
 T.I.P. # K-4904

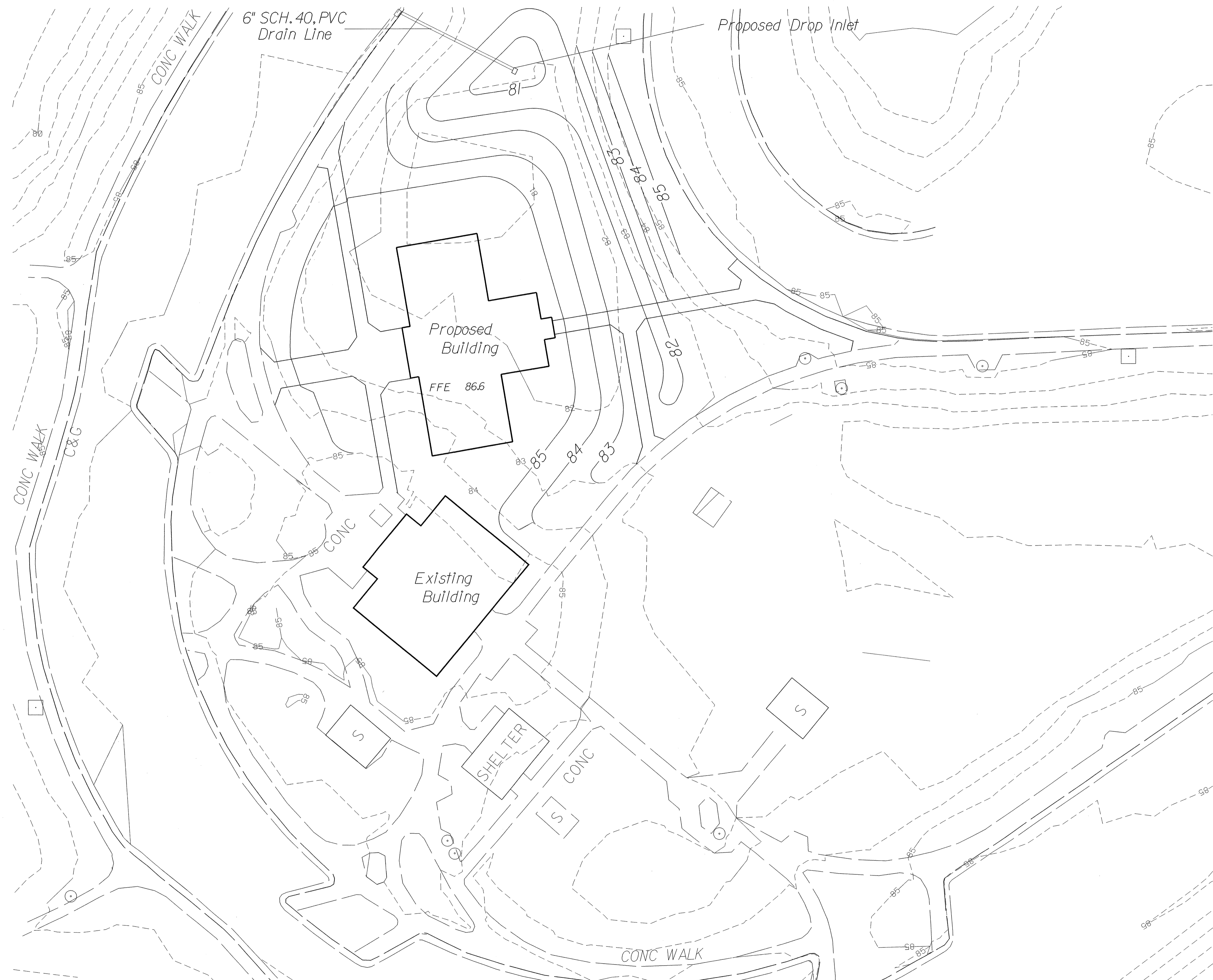
**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 SBL  
 UNIT/BRANCH: Roadside Environmental Unit



PLAN: **Layout & Dimension**  
 PLANS DRAWN BY: BRM  
 PLANS CHECKED BY: TD  
 DATE: 11 / 30 / 07  
 SCALE: 1" = 20'  
 SHEET #: L - 8







SHEET # L - 10 of 15  
 STATE PROJ. # 40223.LI  
 FED. PROJ. # IMS-95-1(63)47  
 T.I.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 SBL  
 UNIT/BRANCH: Roadside Environmental Unit

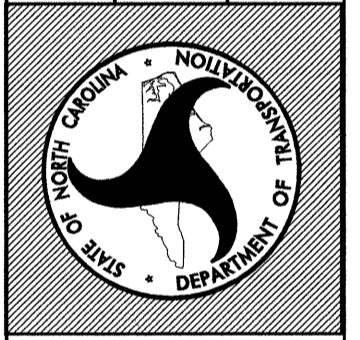


PLAN: Grading Plan  
 PLANS DRAWN BY: BRM  
 PLANS CHECKED BY: TD  
 DATE: 11 / 30 / 07  
 SCALE: 1" = 20'  
 SHEET # L - 10

\*\*\*\*\*SYSTEM\*\*\*\*\*  
 \*\*\*\*\*DCGN\*\*\*\*\*  
 \*\*\*\*\*USERNAME\*\*\*\*\*

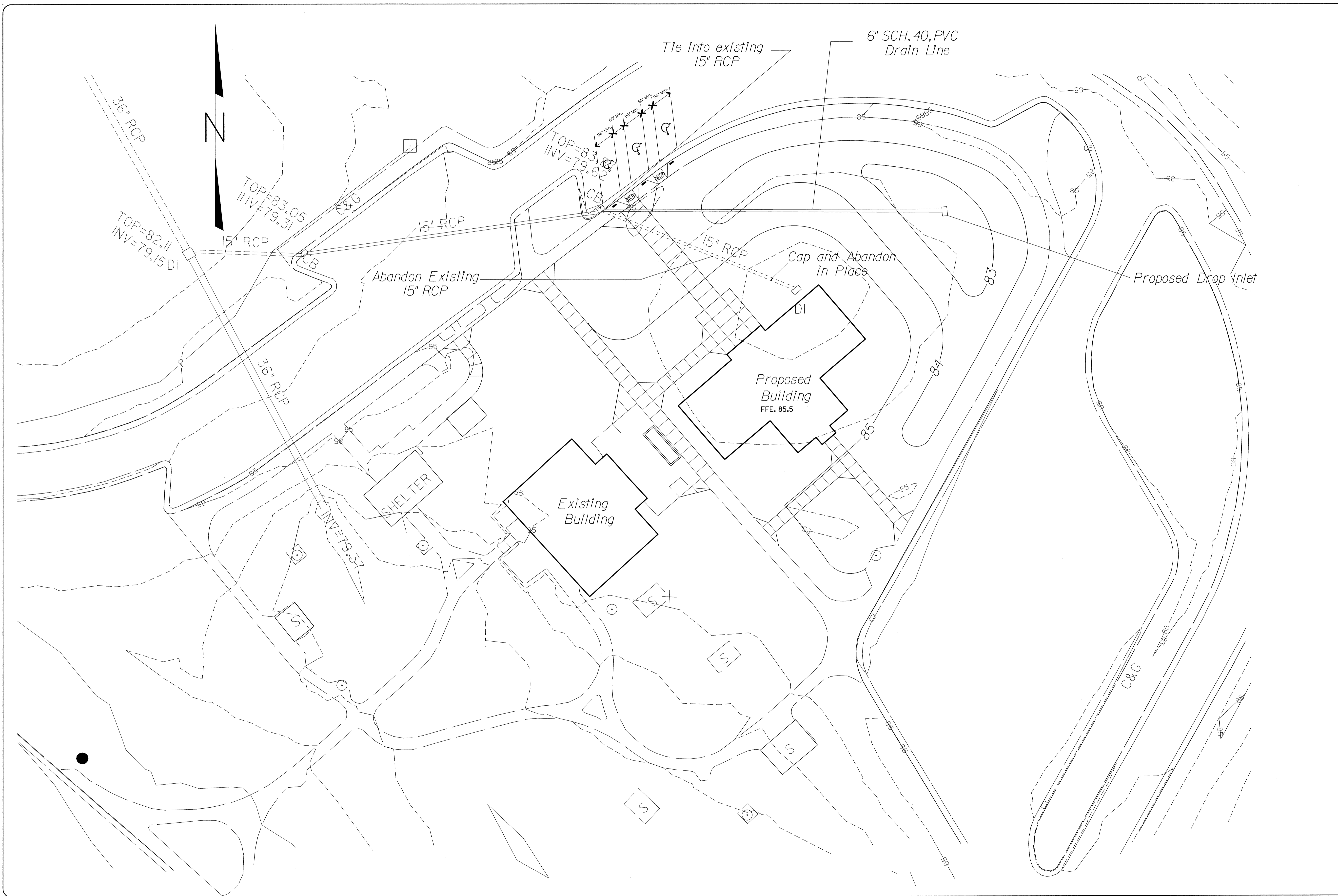
SHEET # L - II 15  
 STATE PROJ. # 40223.L.I  
 FED. PROJ. # MS-95-1(63)47  
 T.I.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 NBL  
 UNIT/BRANCH: Roadside Environmental Unit

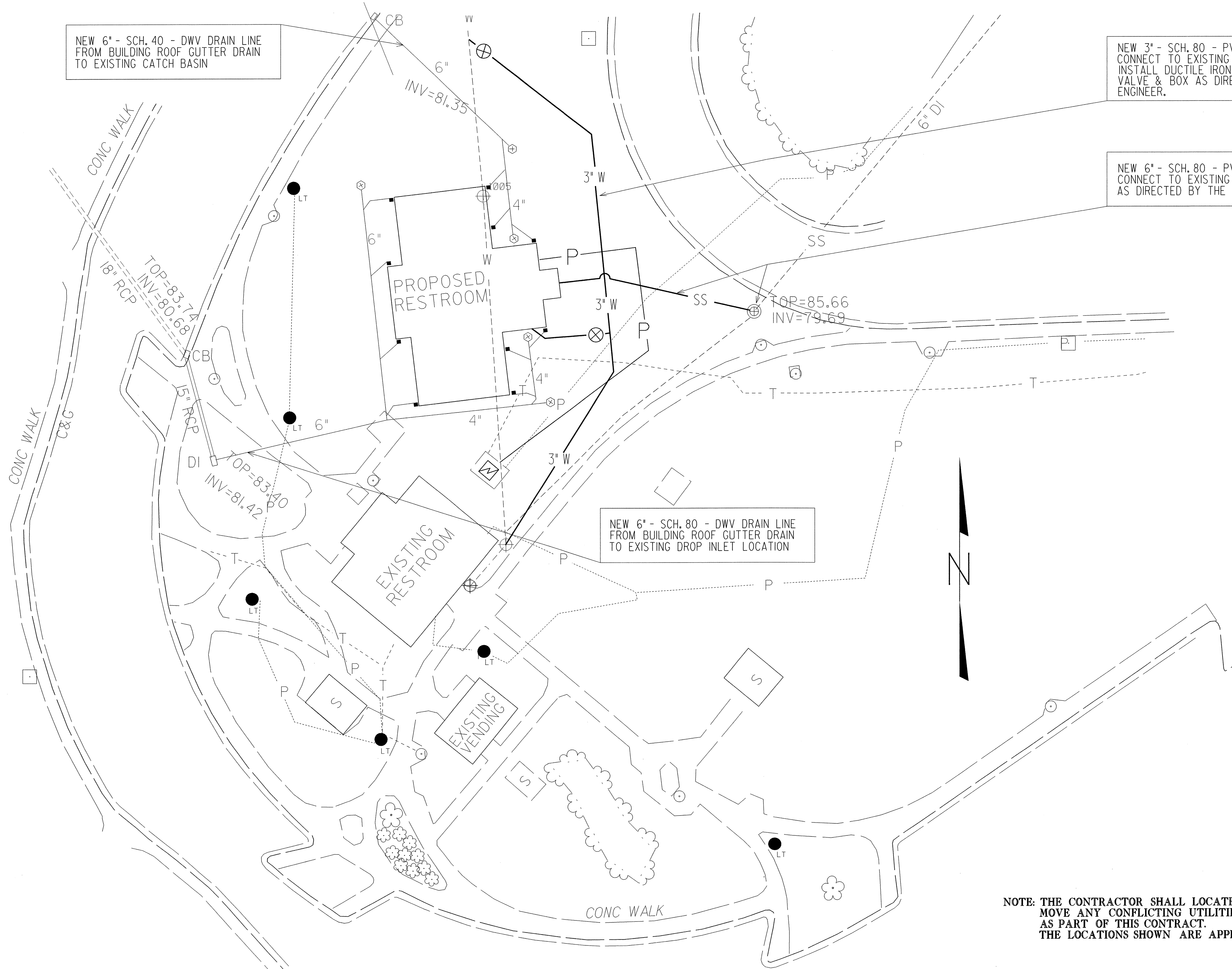
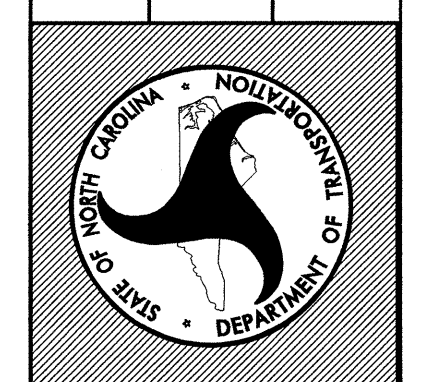


PLAN: Grading Plan  
 PLANS DRAWN BY: BRM  
 PLANS CHECKED BY:  
 DATE: 11 / 30 / 07  
 SCALE: 1" = 20'  
 SHEET #: L - II

\*\*\*\*\*SYSTEMS\*\*\*\*\*  
 \*\*\*\*\*CUSTOMER\*\*\*\*\*  
 \*\*\*\*\*DATE\*\*\*\*\*  
 \*\*\*\*\*DRAWN\*\*\*\*\*  
 \*\*\*\*\*CHECKED\*\*\*\*\*  
 \*\*\*\*\*SCALE\*\*\*\*\*  
 \*\*\*\*\*SHEET\*\*\*\*\*







NEW 6" - SCH. 40 - DWV DRAIN LINE FROM BUILDING ROOF GUTTER DRAIN TO EXISTING CATCH BASIN

NEW 3" - SCH. 80 - PVC WATER LINE CONNECT TO EXISTING WATER LINE. INSTALL DUCTILE IRON TEE AND GATE VALVE & BOX AS DIRECTED BY THE ENGINEER.

NEW 6" - SCH. 80 - PVC SEWER LINE CONNECT TO EXISTING MAN-HOLE AS DIRECTED BY THE ENGINEER.

NEW 6" - SCH. 80 - DWV DRAIN LINE FROM BUILDING ROOF GUTTER DRAIN TO EXISTING DROP INLET LOCATION

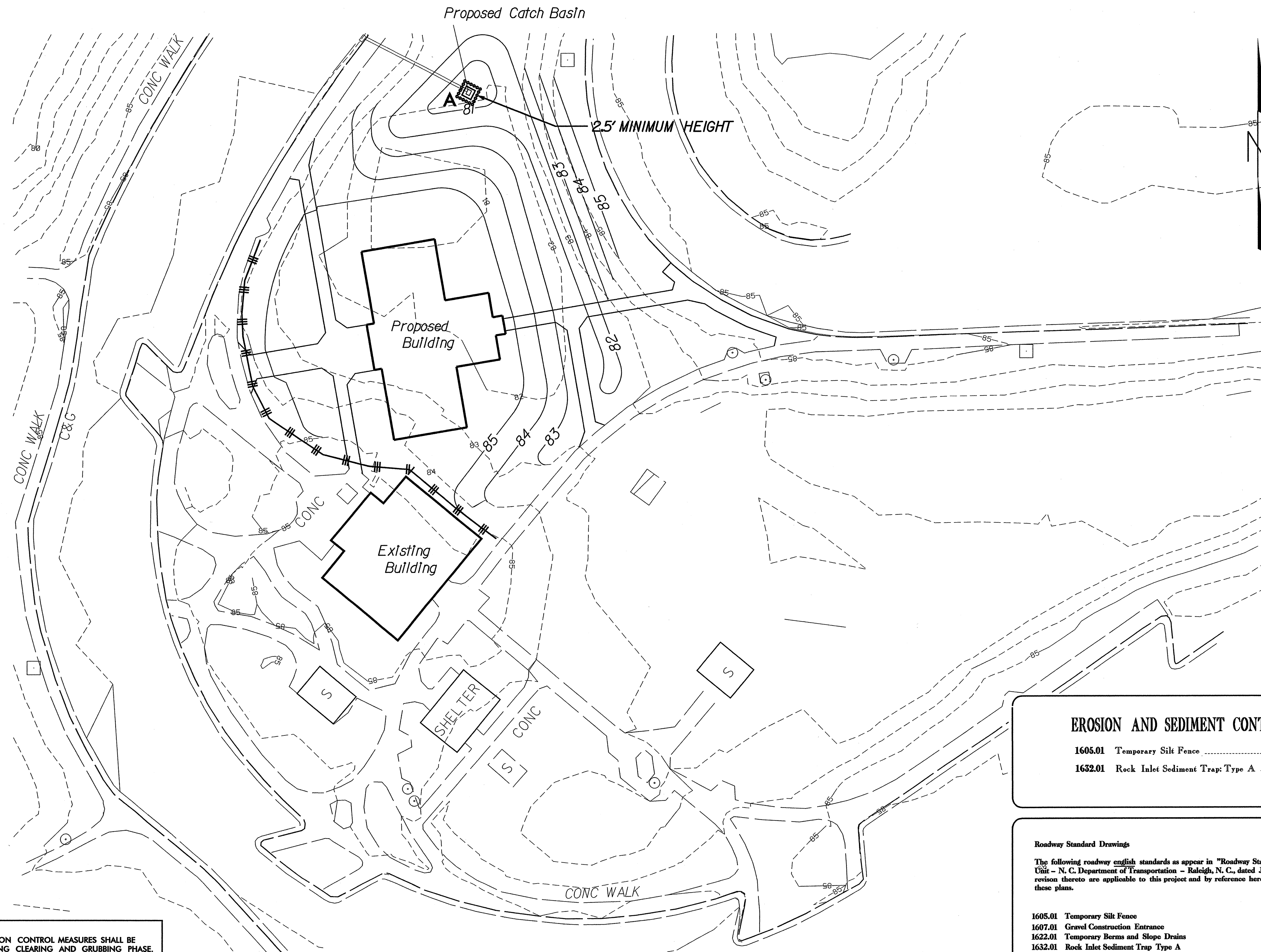


**NOTE: THE CONTRACTOR SHALL LOCATE AND MOVE ANY CONFLICTING UTILITIES AS PART OF THIS CONTRACT. THE LOCATIONS SHOWN ARE APPROXIMATE.**

KEY	
----- W -----	EXISTING WATER LINE
----- SS -----	EXISTING SEWER LINE
----- W -----	PROPOSED WATER LINE
----- SS -----	PROPOSED SEWER LINE
..... P .....	EXISTING POWER LINE
----- P -----	PROPOSED POWER LINE
⊗	EXISTING TRANSFORMER
⊗	GATE VALVE
⊕	CLEANOUT
..... T .....	EXISTING TELEPHONE
----- SD -----	PROPOSED STORM DRAIN
● LT	POST TOP LIGHT







NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

# EROSION CONTROL PLAN

**EROSION AND SEDIMENT CONTROL MEASURES**

1605.01 Temporary Silt Fence ..... |||||

1632.01 Rock Inlet Sediment Trap Type A ..... A

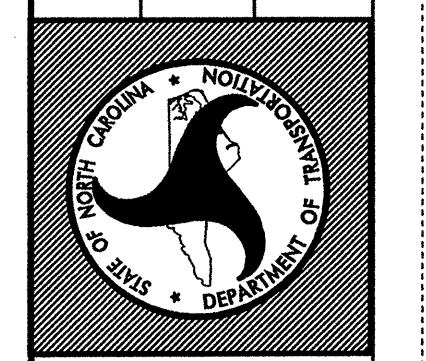
**Roadway Standard Drawings**

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence  
 1607.01 Gravel Construction Entrance  
 1622.01 Temporary Berms and Slope Drains  
 1632.01 Rock Inlet Sediment Trap Type A

SHEET # L-14  
 STATE PROJ. # 40223.1.1  
 FED. PROJ. # MS-95-1(63)47  
 T.L.P. # K-4904

**North Carolina Department of Transportation**  
 PROJECT TITLE: Cumberland County Rest Area I-95 SBL  
 UNIT BRANCH: Roadside Environmental Unit



PLAN: **EROSION CONTROL PLAN**

PLANS DRAWN BY:  
 PLANS CHECKED BY:

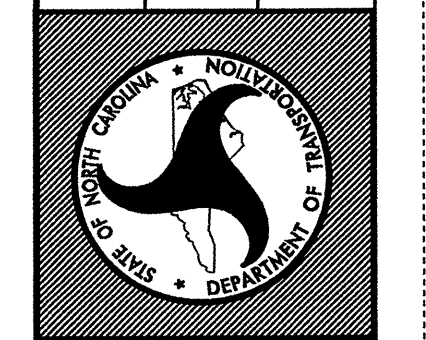
DATE: 12/01/07  
 SCALE:

SHEET # L-14

# EROSION CONTROL PLAN

SHEET # 1  
 STATE PROJ. # 40223.11  
 FED. PROJ. # MS-95-1(63)47  
 T.I.P. # K-4904

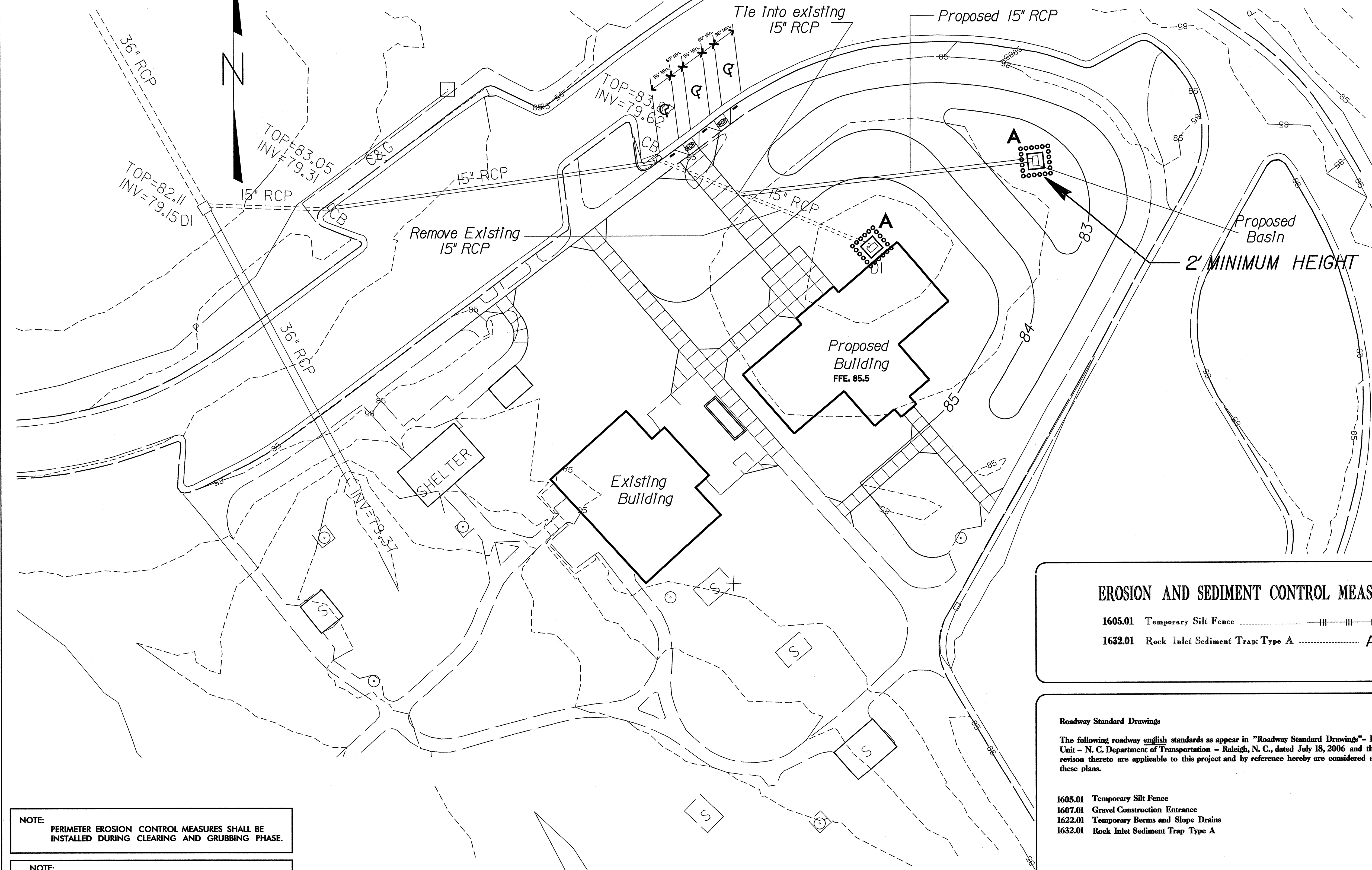
North Carolina Department of Transportation  
 PROJECT TITLE: Cumberland County Rest Area I-95 NBL  
 UNIT BRANCH: Roadside Environmental Unit



PLAN: EROSION CONTROL PLAN

PLANS DRAWN BY:  
 PLANS CHECKED BY:  
 DATE: 12/01/07  
 SCALE:

SHEET # L-15



NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

**EROSION AND SEDIMENT CONTROL MEASURES**

1605.01 Temporary Silt Fence ..... ||| ||| |||

1632.01 Rock Inlet Sediment Trap Type A ..... A

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