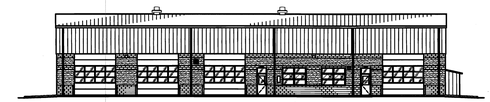
LINCOLNTON EQUIPMENT SHOP

NC DEPARTMENT OF TRANSPORTATION
LINCOLN COUNTY, NC

SCO ID.# 09-07920-01A



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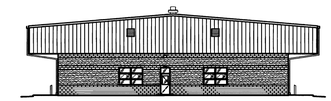
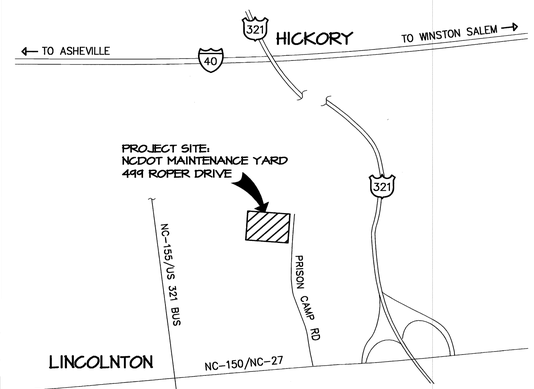


LEFT SIDE

ARCHITECT / ENGINEER:

FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601



VICINITY MAP
NOT TO SCALE

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ABBREVIATIONS AND SYMBOLS

L	ANGLE, LONG/LENGTH
AL	ALUMINUM
AB	ANCHOR BOLT
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
APRX	APPROXIMATE
ARCH	ARCHITECTURAL
AVG	AVERAGE
BB	BACK TO BACK
BFF	BELOW FINISH FLOOR
BSMT	BASEMENT
BRG	BEARING
BM	BENCHMARK, BEAM
BLKG	BLOCKING
BD	BOARD
BLDG	BUILDING
CAB	CABINET
CANTL	CANTILEVER
CB	CATCH BASIN
C&G	CURB AND GUTTER
CIP	CAST IRON PIPE
CJ	CONTROL JT, CEILING JST
℄	CENTERLINE
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CRS	COURSES
D	DEEP, DEPTH
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DWL	DRYWALL

EA	EACH
EW	EACH WAY
ELEC	ELECTRICAL
EL	ELEVATION
ELEV	ELEVATOR
EXIST	EXISTING
EJ	EXPANSION JOINT
EXT	EXTERIOR
EWC	ELECTRIC WATER COOLER
FE	FIRE EXTINGUISHER ON BRACKET
FEC	FIRE EXTINGUISHER IN RECESSED CABINET
FD	FLOOR DRAIN
FFE	FINISH FLOOR ELEVATION
FIN FL	FINISH FLOOR
FTG	FOOTING
FV	FIELD VERIFY
GALV	GALVANIZED
GA	GAUGE
GL	GLASS, GLAZING
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
H	HIGH, HEIGHT
HB	HOSE BIB
HR	HOUR
HM	HOLLOW METAL
HORIZ	HORIZONTAL
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JC	JANITOR'S CLOSET
JST	JOIST
KS	KNEE SPACE
LAV	LAVATORY
LB, #	POUND
MFR	MANUFACTURER
MH	MANHOLE

MO	MASONRY OPENING
MATL	MATERIAL
MAX	MAXIMUM
MIN	MINIMUM
MTD	MOUNTED
MLD	MOULDING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO.	NUMBER
OC	ON CENTER
OPNG	OPENING
OSB	ORIENTED STRAND BOARD
PNL	PANEL
PL LAM	PLASTIC LAMINATE
PL	PLATE
PLMB	PLUMBING
PLWD	PLYWOOD
PREFAB	PREFABRICATED
PSI	POUNDS PER SQ INCH
R	RISER, ROD
RD	ROOF DRAIN
REF	REFRIGERATOR
REQD	REQUIRED
REV	REVERSED, REVISION
SAC	SUSPENDED ACOUSTICAL TILE
SAN	SANITARY
SECT	SECTION
SFGL	SAFETY GLASS
SH	SHELF, SHELVES
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SPEC	SPECIFICATIONS, SPECIFIED
SQ	SQUARE
SS	STAINLESS STEEL, SANITARY SEWER
STD	STANDARD
STL	STEEL
STO	STORAGE

T	TREAD
THRU	THROUGH
T&G	TONGUE AND GROOVE
TLT	TOILET
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRTD	TREATED
TRWD	TREATED WOOD
TYP	TYPICAL
UNFIN	UNFINISHED
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VTR	VENT THROUGH ROOF
W	WIDE, WIDTH
W/	WITH
WWF	WOVEN WIRE FABRIC
WD	WOOD

D6 / A1	DIRECTION OF VIEW
D6 / A1	DETAIL NUMBER / SHEET NUMBER
NAME-D6A1	DETAIL NO. SHEET NO.
2 3	KEYNOTES - SEE LEGEND
203	ROOM NUMBER
3	DOOR NUMBER
B	WINDOW TYPE

	CENTER LINE
	HIDDEN LINE
	BREAK LINE
	PROPERTY LINE
269	EXISTING CONTOUR
269	NEW CONTOUR
—X—X—	FENCE
	SILT FENCE
	LEVEL LINE OR SPOT ELEVATION MARK
BI	SOIL BORING NO. 1
	CONCRETE
	ROUGH CARPENTRY
	FINISH CARPENTRY
	PLYWOOD
	CMU
	BATT INSULATION
	RIGID INSULATION
	COMPACTED EARTH
	UNDISTURBED SOIL

2009 APPENDIX B
BUILDING CODE SUMMARY

Name of Project: LINCOLNTON EQUIPMENT SHOP
Address: LINCOLN COUNTY, NORTH CAROLINA
Proposed Use: EQUIPMENT & VEHICLE REPAIR AND MAINTENANCE (STORAGE)
Owner or Authorized Agent: GENERAL SERVICES, NCDOT Phone # 919-715-0400
Owned By: STATE OF NORTH CAROLINA ☐ City/County ☐ Private ☒ State
Code Enforcement Jurisdiction: ☐ City ☐ County

LEAD DESIGN PROFESSIONAL: VICTOR M. BUZARD Jr., R.A.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	FACILITIES DESIGN, NCDOT	VICTOR M. BUZARD	4241	(919) 715-9339	vbuzard@ncdot.gov
SITE "Civil"	WEST CONSULTANTS, INC.	TODD POTEET	P-0210	(828) 433-5661	tpoteet@west-consultants.com
Electrical	BRITTAIN ENGINEERING	DONALD R. BRITTAIN	7883	(828) 328-1813	dbrittain@brittainengineering.com
Fire Alarm					
Plumbing	BRITTAIN ENGINEERING	DONALD R. BRITTAIN	7883	(828) 328-1813	dbrittain@brittainengineering.com
Mechanical	BRITTAIN ENGINEERING	DONALD R. BRITTAIN	7883	(828) 328-1813	dbrittain@brittainengineering.com
Sprinkler-Standpipe					
Structural	NCDOT	MIKE MOUNTCASTLE	17326	(919) 707-4547	mdmountcastle@ncdot.gov
Retaining Walls >5' High	WEST CONSULT.	TODD POTEET	P-0210	(828) 433-5661	tpoteet@west-consultants.com
Other					

2009 EDITION OF NC CODE FOR: ☒ New Construction ☐ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair
CONSTRUCTED _____ ORIGINAL USE _____ RENOVATED _____ CURRENT USE _____

BUILDING DATA

Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
☐ I-B ☒ II-B ☐ III-B ☐ V-B
Mixed construction: ☒ No ☐ Yes Types_____
Sprinklers: ☒ No ☐ Partial ☐ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes
Building Height: Feet 24'-10" Number of Stories 1
Mezzanine: ☐ No ☒ Yes
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
Mezzanine		2,171	2,171
1st Floor		9,495	9,494
TOTAL		11,666	11,666

ALLOWABLE AREA

Primary Occupancy: ☐ Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ Business ☐ Educational Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Mercantile ☐ Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☒ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Utility and Miscellaneous ☐ Parking Garage ☐ Open ☐ Enclosed ☒ Repair Garage
Secondary Occupancy: N/A
Mixed Occupancy: ☒ No ☐ Yes Separation: _____ Hr. Exception: _____

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA*
Mezzanine	Storage(S-1)	2,171	N/A	NOT USED	NOT USED	1/3 RM=2,481	2,481
1	Storage(S-1)	9,495	17,500	NOT USED	NOT USED	17,500	17,500

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type III-B		Type III-B	503
Building height in feet	Feet 55'	Feet=H+20'= N/A	Feet 24'-10"	503
Building Height in Stories	Stories 3	Stories+1= N/A	Stories 1	503

FIRE PROTECTION REQUIREMENTS

Life Safety Plan Sheet #, if Provided: N/A

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses	–	0	0	–	–	–	–
Bearing walls							
Exterior							
North	30	0	0	–	–	–	–
East	30	0	0	–	–	–	–
West	30	0	0	–	–	–	–
South	30	0	0	–	–	–	–
Interior	–	0	0	–	–	–	–
Nonbearing Walls and Partitions Exterior Walls							
North	30	0	0	–	–	–	–
East	30	0	0	–	–	–	–
West	30	0	0	–	–	–	–
South	30	0	0	–	–	–	–
Interior Walls and partitions	–	0	0	–	–	–	–
Floor construction Including supporting beams and joist	–	0	0	–	–	–	–
Roof construction Including supporting beams and joist	–	0	0	–	–	–	–
Shaft Enclosures-Exit	–	N/A	–	–	–	–	–
Shaft Enclosures-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	–	–	–	–	–
Incidental Use Separation	–	N/A	–	–	–	–	–
Fire Barrier	–	N/A	–	–	–	–	–

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☒ No ☐ Yes
Smoke Detection Systems: ☒ No ☐ Yes
Panic Hardware: ☒ No ☐ Yes

EXIT REQUIREMENTS
NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS[1,3] (SECTION 1015.2)	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
Ground Floor: S-1	2	5	200'	93'-6"	N/A	–
Mezzanine: S-1	1	1	200'*	135'-4"*	N/A	–

1 Corridor dead ends (Section 1016.3)
2 Single exits (Table 1018.2)
3 Common Path of Travel (Section 1013.3)

* 100' Allowed to bottom of stair / 79' Actual distance.

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1) STAIR	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1) LEVEL	EXIT WIDTH (in)[2,3,4,5,6] REQUIRED WIDTH (SECTION 1005.1) (a÷b)xc STAIR	REQUIRED WIDTH LEVEL	ACTUAL WIDTH SHOWN ON PLANS STAIR	ACTUAL WIDTH SHOWN ON PLANS LEVEL
Storage/Mezz	11,346	300	38	N/A	.2	N/A	7.6"	N/A	180"
Office	320	100	3	N/A	.2	N/A	.7"	N/A	72"

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_w) 1.0
Snow (I_s) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine 125 psf
Floor 20 kip axle load

Snow Load: 15 psf

Wind Load: Basic Wind Speed 90 mph (ASCE-7-05)
Exposure Category B
Wind Base Shears (for MWFRS) Vx = 30,500# Vy = 49,000#

SEISMIC DESIGN CATEGORY: B
Compliance with Section 1616.4 only? ☐ YES ☒ NO
SEISMIC DESIGN CATEGORY ☐ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category II
Spectral Response Acceleration S_S 0.396 %g S_1 0.144 %g
Site Classification D ☒ Field Test ☐ Presumptive
Basic structural system (check one)
_____ Bearing Wall _____ Dual w/Special Moment Frame
_____ Building Frame _____ Dual w/Intermediate R/C or Special Steel
X Moment Frame _____ Inverted Pendulum
Seismic base shear Vx= 21,000# Vy= 26,300#
Analysis Procedure X Simplified _____ Equivalent Lateral Force _____ Modal
Architectural, Mechanical, Components anchored? YES
LATERAL DESIGN CONTROL: Earthquake _____ Wind X
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 3,000 psf

STORAGE OCCUPANCY: (11,346/300) 38 + (320/100) 3 = 41 OCCUPANTS (6 TOTAL EMPLOYEES: ALL MALE)
FEMALE: 20 MALE: 21

PLUMBING FIXTURE REQUIREMENTS

USE	WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
EXISTING	–	–	–	–	–	–	–	–
NEW	1	1*	1	1	1*	1*	1	1
REQUIRED	1	1	0	1	1	0	–	–

*UNISEX SHOWER W/ 1-WC & 1-LAV

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	ACCESSIBLE PROVIDED TOTAL #
CARS	N/A	4	0	1	1
(REPAIR VEHICLES)	N/A	18			
TOTAL	N/A	22	0	1	1

SPECIAL APPROVALS: N/A

ENERGY SUMMARY

THERMAL ENVELOPE
Project Type: New Construction
Building Location: Lincolnton, North Carolina
Climate Zone: 4a
Building Type for Envelope Requirements: Non-Residential
Vertical Glazing / Wall Area Pct.: 4%
Building Type: Storage Group S-1 (Motor vehicle repair garage) Floor Area: 9,495 SF

COMPONENT NAME / DESCRIPTION	GROSS AREA	CAVITY R-VALUE	CONT. R-VALUE	PROPOSED U-FACTOR	BUDGET U-FACTOR
Roof 1: Metal Building, Standing Seam	12,408	0.0	35.0	0.028	0.065
Exterior Wall 1: Concrete Block: 8", Partially Grouted, Cells Empty, Light Density, Furring: Metal	644	0.0	8.3	0.087	0.104
Exterior Wall 2: Concrete Block: 8", Partially Grouted, Cells Empty, Light Density, Furring: None	5,124	0.0	3.0	0.191	0.104
Exterior Wall 3: Metal Building Wall	3,848	0.0	11.0	0.084	0.113
Window 1: Metal Frame with Thermal Break, Double Pane with Low-E Clear, SHGC 1.00, PF 0.25	419	---	---	0.540	0.550
Door 1: Insulated Hollow Metal, Swinging	125	---	---	0.540	0.700
Door 2: Uninsulated Single-Layer Metal, Non-Swinging (OH)	1372	---	---	1.400	1.500
Floor 1: Slab-On-Grade, Unheated, 24" Horizontal without vertical 2 ft.	46	---	8.3	---	---
Floor 2: Slab-On-Grade, Unheated	366	---	---	---	---
ENVELOPE PASSES: DESIGN 8% BETTER THAN CODE					

ELECTRICAL SUMMARY: **SEE ELECTRICAL**

MECHANICAL SUMMARY: **SEE MECHANICAL**

SEAL:
VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 7-30-12 NORTH CAROLINA RALEIGH, N.C.

FACILITIES DESIGN
ARCHITECTS & ENGINEERS
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET 27601
RALEIGH, NORTH CAROLINA
919/715-0400 919/715-0399 FAX

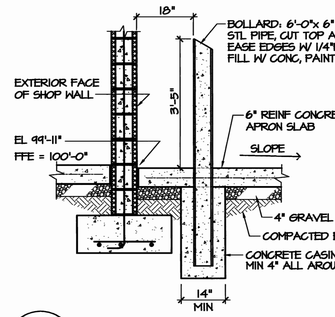
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
ASSET NUMBER
COUNTY - SITE - BUILDING
55 - 01 - XX

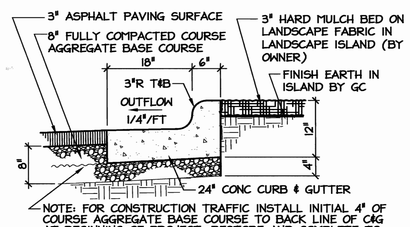
REVISIONS NO.	DATE

DATE ISSUED: 12/07/11
DRAWN BY: DWS
CHECKED BY: VMB
SHEET NO.
T1
OF 1



D6 / A1 PIPE BOLLARD

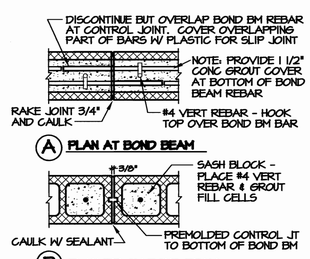
SCALE: 1/2" = 1'-0"



NOTE: FOR CONSTRUCTION TRAFFIC INSTALL INITIAL 4" OF COURSE AGGREGATE BASE COURSE TO BACK LINE OF C&G AT BEGINNING OF PROJECT. RESTORE AND COMPLETE TO A FULL 8" OF COMPACED CABC PRIOR TO PAVING.

C6 / A1 OUTFLOW CURB & GUTTER

SCALE: 3/4" = 1'-0" (AT BUILDING ONLY)



B6 / A1 CMU CONTROL JOINT

SCALE: 1" = 1'-0"

GENERAL NOTES

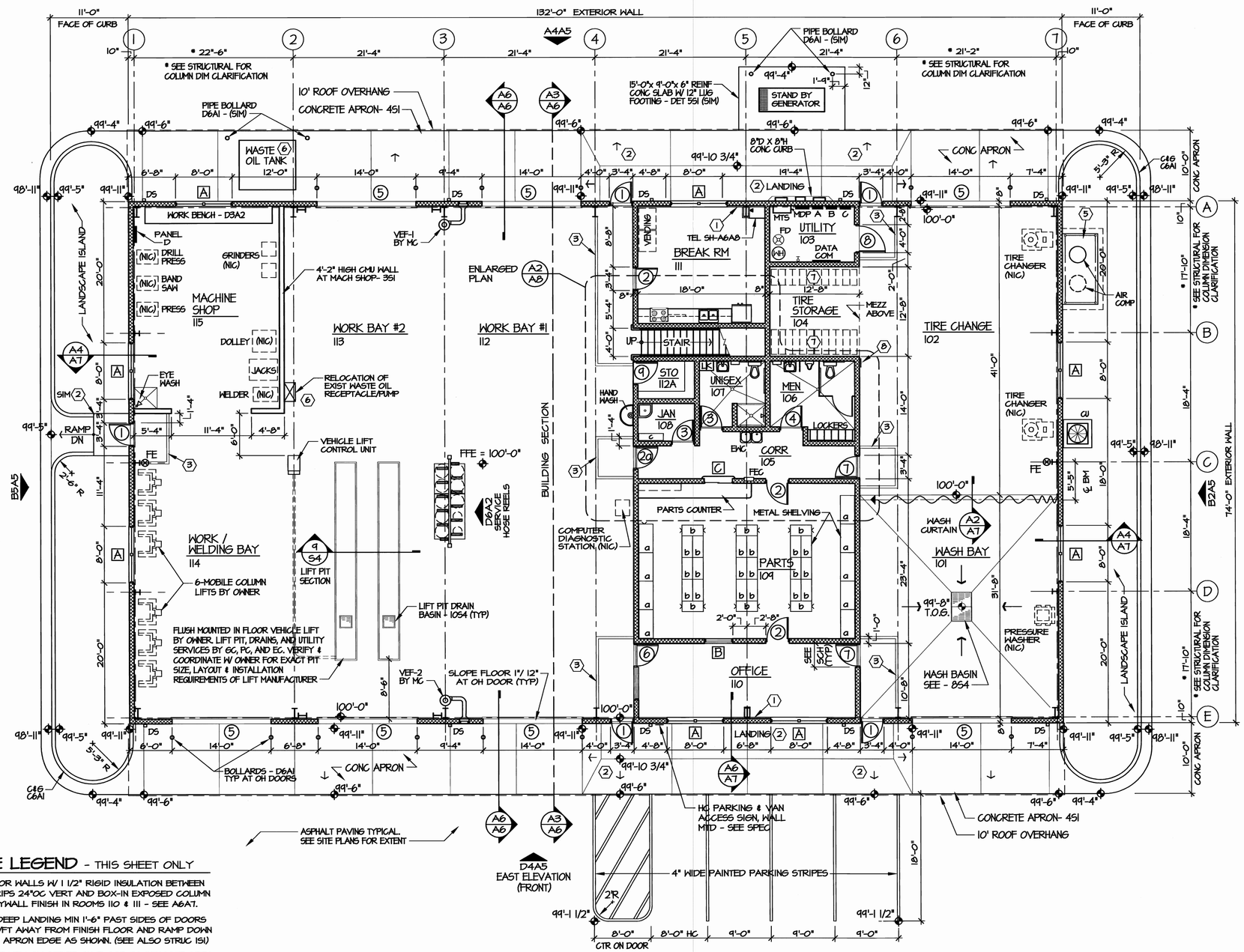
1. BUILDING DRAWING REFERENCE FINISH FLOOR EL = 100'-0" FOR ACTUAL FIN FL EL ABOVE SEA LEVEL SEE SITE PLAN.
4. PROVIDE BULLNOSE CMU AT ALL INTERIOR CMU PARTITION OUTSIDE CORNERS, DOOR JAMBS AND WINDOW SILLS. GRIND BULLNOSE ON CAP BLOCK CORNERS. SEE A6AB, A5AB & 3S1.
2. TOP OF NON-LOAD BEARING INTERIOR CMU WALLS IN OFFICE CORE AREA SHALL BE 8'-8" AFF WITH CONT BOND BEAM TOP. INTERRIOR CMU WALLS AROUND TOILET AND MECHANICAL ROOMS SHALL BE EXTENDED TIGHT TO DECK ABOVE WITH 5/8" DWL ON 3 5/8" MET STUDS 24"OC WITH 3" SOUND BATT INSUL.
3. EQUIPMENT SHOWN DASHED IN ROOMS 101, 102, & 117 IS PROVIDED BY OWNER. GC IS TO COORDINATE POWER SUPPLY LOCATION AND TYPE WITH ELECTRICAL. (SEE ELEC PLANS)

KEYNOTE LEGEND - THIS SHEET ONLY

1. FURR EXTERIOR WALLS W/ 1 1/2" RIGID INSULATION BETWEEN METAL Z-STRIPS 24"OC VERT AND BOX-IN EXPOSED COLUMN FOR 5/8" DRYWALL FINISH IN ROOMS 110 & 111 - SEE A6A1.
2. PROVIDE 5' DEEP LANDING MIN 1'-6" PAST SIDES OF DOORS SLOPING 1/4"/FT AWAY FROM FINISH FLOOR AND RAMP DOWN MAX 1"/FT TO APRON EDGE AS SHOWN. (SEE ALSO STRUC 1S1)
3. PAINT 4" WIDE YELLOW STRIPE ON FLOOR TO INDICATE AREA TO BE KEPT CLEAR FOR ACCESSIBILITY AT ALL TIMES.
4. OIL/WATER SEPARATORS FURNISHED AND INSTALLED BY PC.
5. AT AIR COMPRESSORS PROVIDE 5' x 10'-0"x 4" WWF REINF CONCRETE PAD AND 2 1/2" SQ WELDED STEEL TUBE BOX FRAME WITH METAL SHED ROOF PANELS OVERHANGING COMPESSORS MIN 2' ON THE THREE OPEN SIDES. SEE SHT A4
6. EXISTING ON SITE WASTE OIL TANK, AND RECEPTACLE/PUMP TO BE RELOCATED TO NEW SHOP AND RE-INSTALLED BY PC.
7. TIRE STORAGE RACKS BY OWNER (MAX 8'-0" HIGH).
8. PROVIDE SIGN: COPY — TIRE STORAGE 700 CU. FT. MAX. LIMIT

METAL SHELVING SCHEDULE

MARK	SIZE	REMARKS: ">" DENOTES CLOSED END
a	48"W x 24"D x 84"H	6 SHELF CLIPPER UNIT
b	36"W x 18"D x 84"H	7 SHELF CLIPPER UNIT
c	42"W x 12"D x 84"H	7 SHELF CLIPPER UNIT



A2 / A1 FLOOR PLAN

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

CALLED NORTH

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 7-30-12 NORTH CAROLINA RALEIGH, N.C.

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STATE OF NORTH CAROLINA — NOTIVE TRANSPORTATION — DEPARTMENT OF TRANSPORTATION

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER
COUNTY - SITE - BUILDING
55 - 01 - XX

REVISIONS

NO.	DATE

DATE ISSUED: 12/07/11

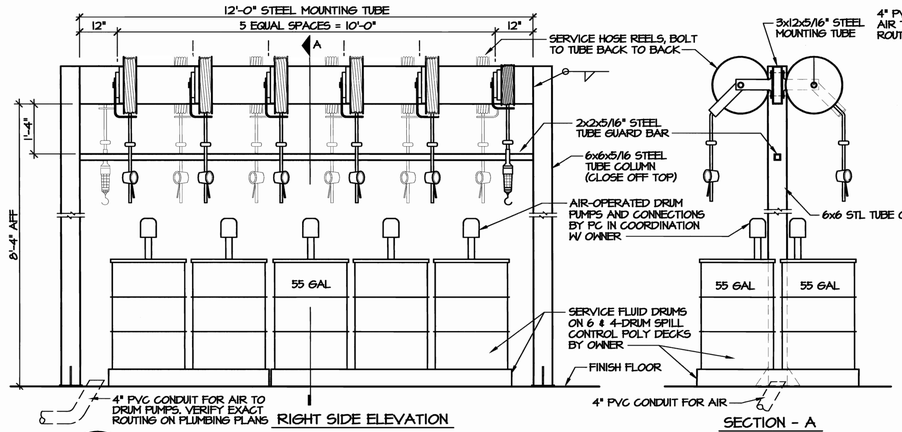
DRAWN BY: DWS

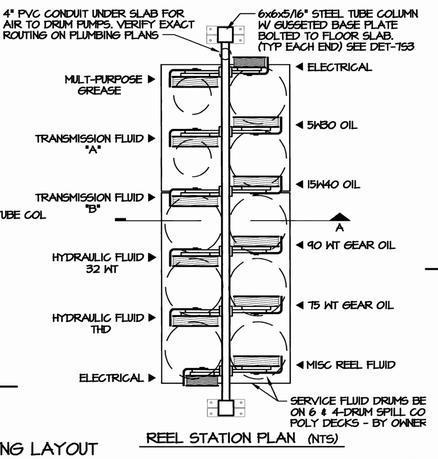
CHECKED BY: VMB

SHEET NO.

A1

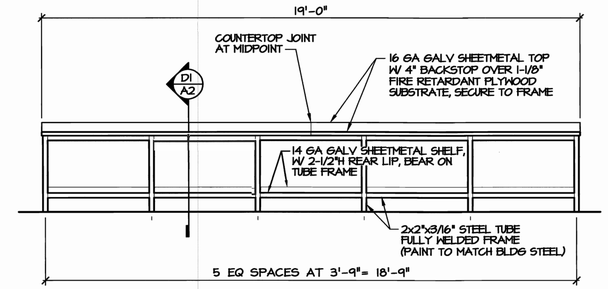
OF 9





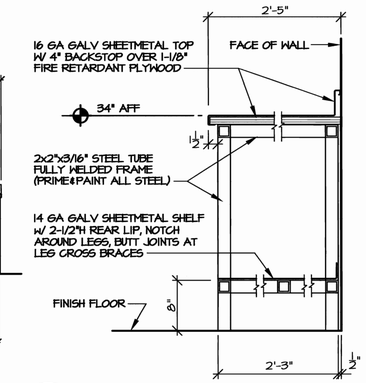
D6/A2 SERVICE HOSE REELS - TYPICAL REEL STATION FRAME AND REEL MOUNTING LAYOUT

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



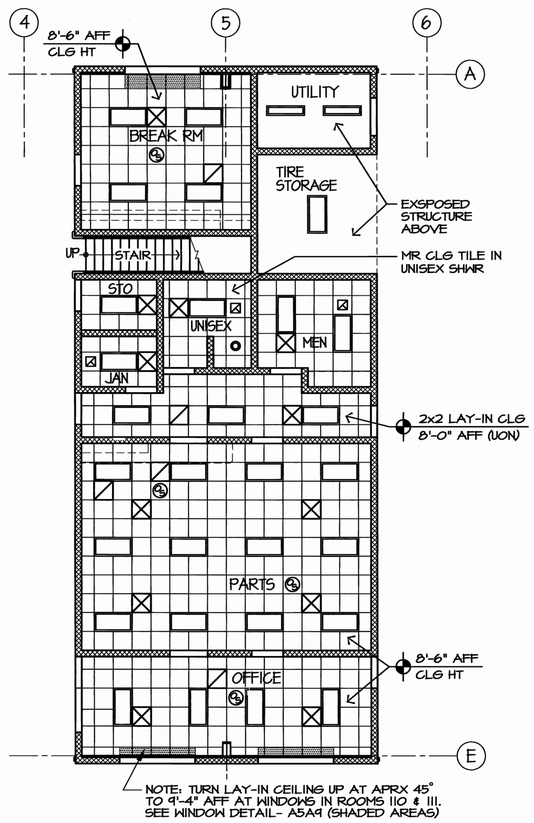
D3/A2 WORK BENCH ELEVATION

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



D1/A2 WORK BENCH SECTION

SCALE: 1" = 1'-0"

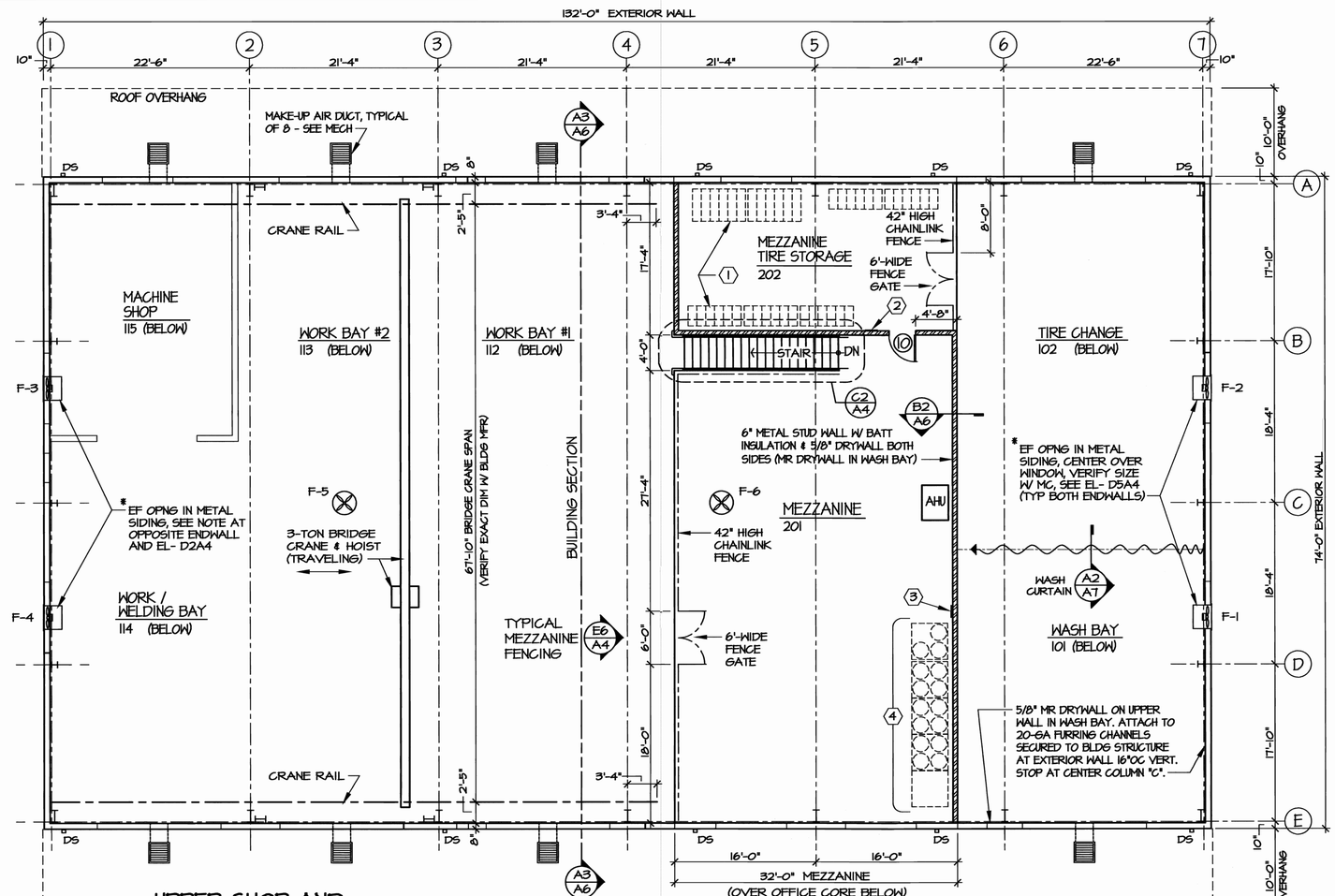


A6/A2 REFLECTED CEILING PLAN - OFFICE CORE

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

KEYNOTE LEGEND - MEZZANINE PLAN

1. TIRE STORAGE RACKS BY OWNER (MAX 8'-0" HIGH).
2. PROVIDE SIGN: COPY — TIRE STORAGE 1,000 CU. FT. MAX. LIMIT
3. PROVIDE SIGN: COPY — OIL STORAGE 1,540 GAL. MAX. LIMIT
4. DRUMS W/ OIL & HYDRAULIC FLUIDS, FOR SERVICE REELS, ON APPROVED SPILL CONTROL PALLETS BY OWNER.



A4/A2 UPPER SHOP AND MEZZANINE PLAN

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

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION NOTHING ROUNDS

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

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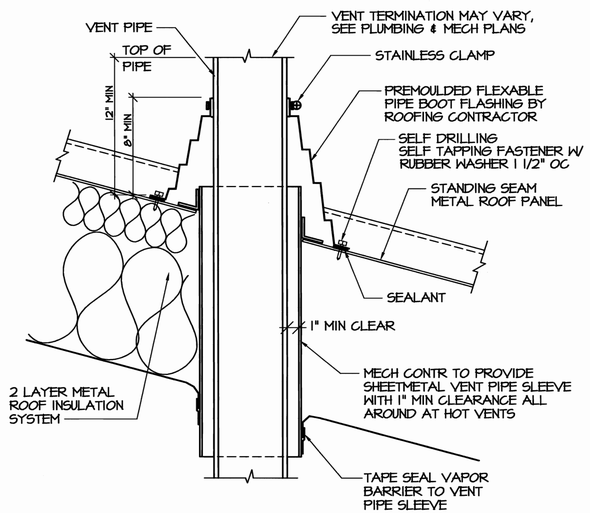
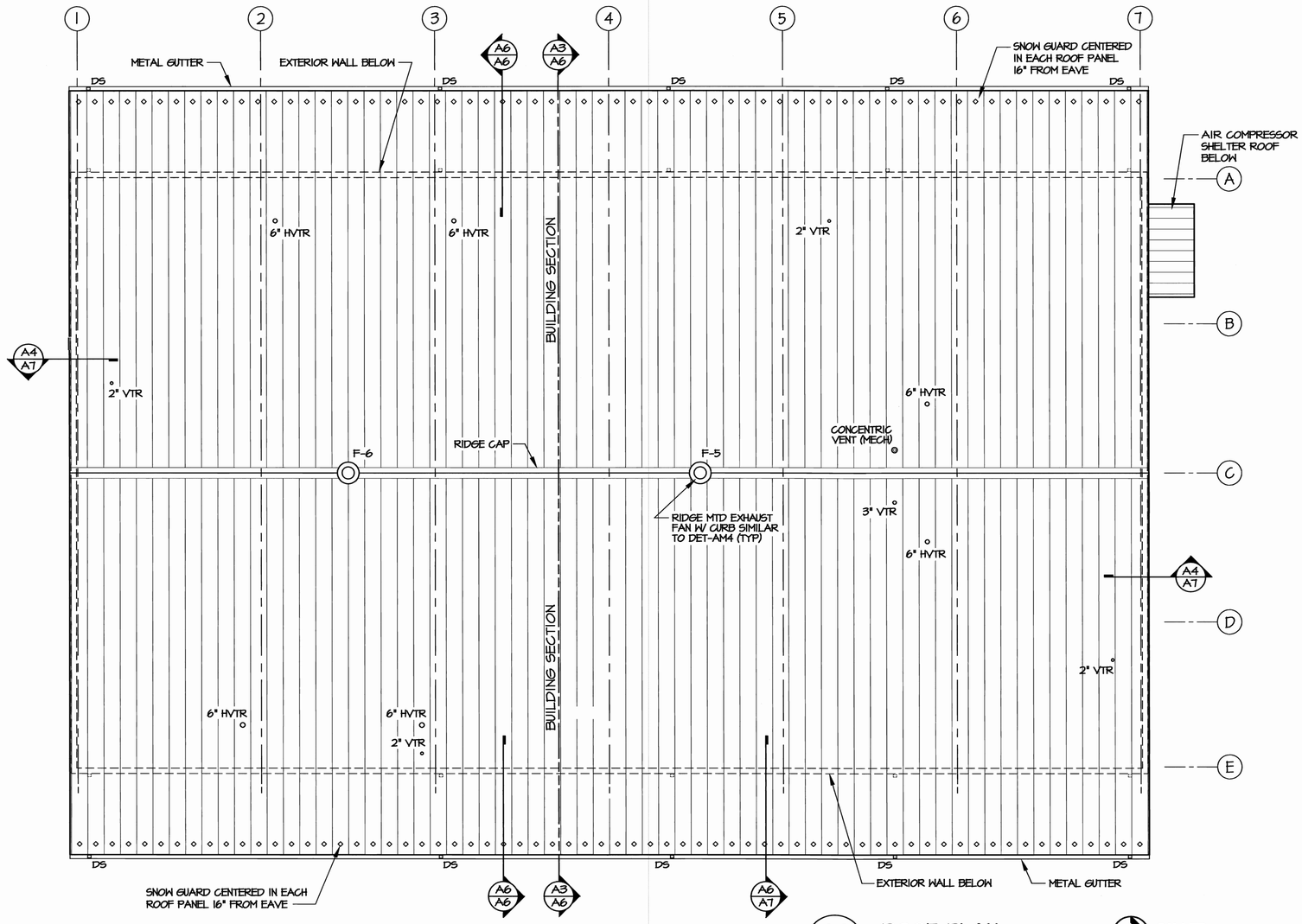


B6 / A3 STANDARD ROOF VENT DETAIL

NOT TO SCALE



A2 / A3 ROOF PLAN

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

CALLED NORTH

GENERAL NOTES

1. ROOFING DETAILS AS SHOWN ON DRAWINGS ARE GENERIC AND PROVIDED AS A REFERENCE TO CLARIFY BUILDING CONSTRUCTION CONDITIONS FOR ESTIMATING PURPOSES ONLY. EXACT ROOFING MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CHOSEN MANUFACTURER'S SPECIFICATIONS, APPROVED INSTALLATION INSTRUCTIONS AND STANDARD DETAILS.
2. THE CONTRACTOR SHALL PERFORM ALL WORK AS REQUIRED TO OBTAIN AND PROVIDE THE ROOFING MANUFACTURER'S LABOR AND MATERIAL WARRANTY AS SPECIFIED.

SEAL:
VICTOR M. BUZARD, JR.
REGISTERED ARCHITECT
4249
7-12-12
NORTH CAROLINA
RALEIGH, N.C.

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STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
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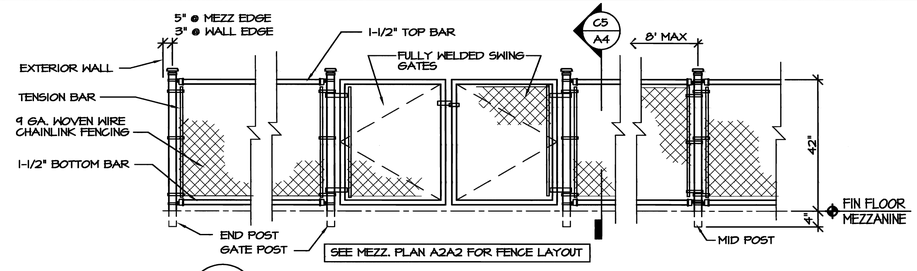
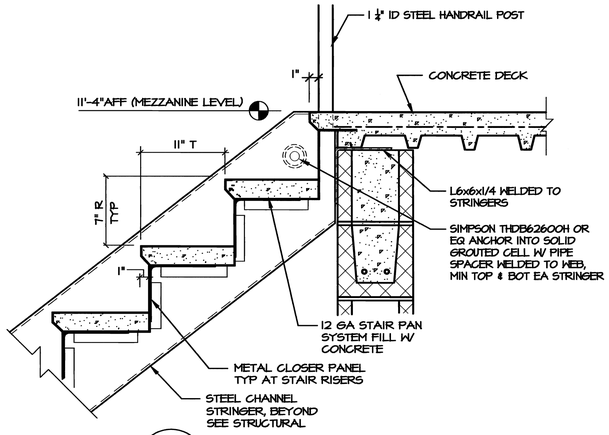
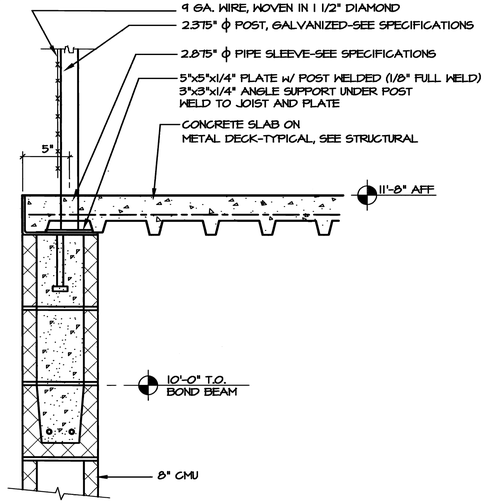


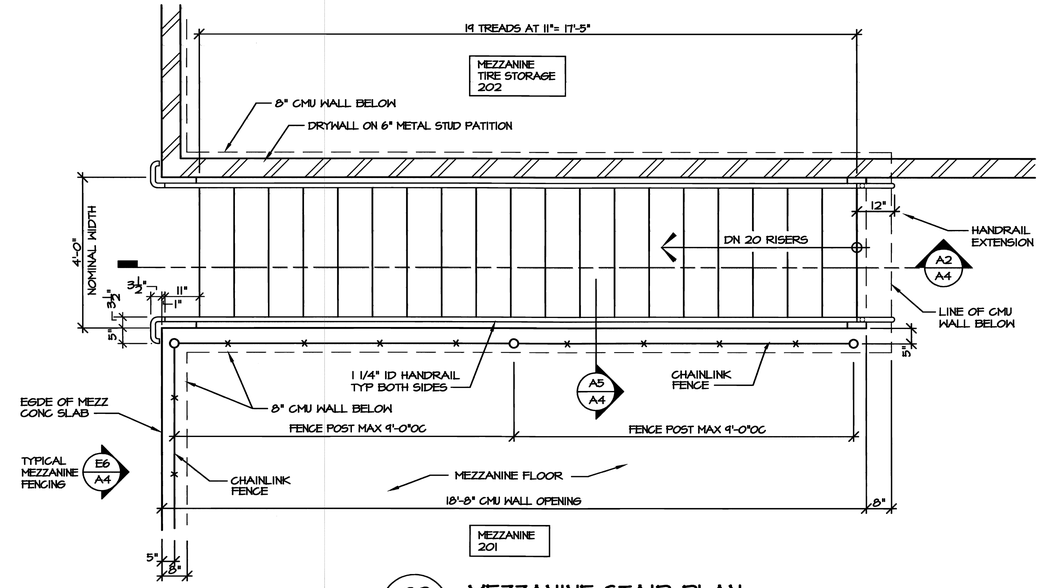
E6 / A4 TYPICAL MEZZANINE FENCING
SCALE: 1/2" = 1'-0"



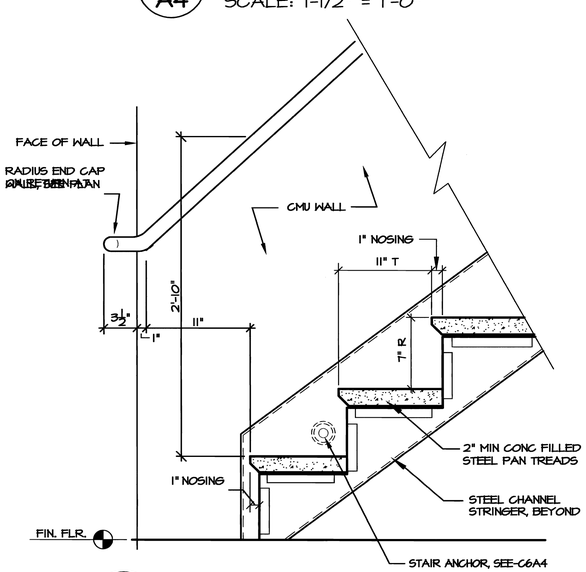
C6 / A4 STAIR SECTION
SCALE: 1-1/2" = 1'-0"



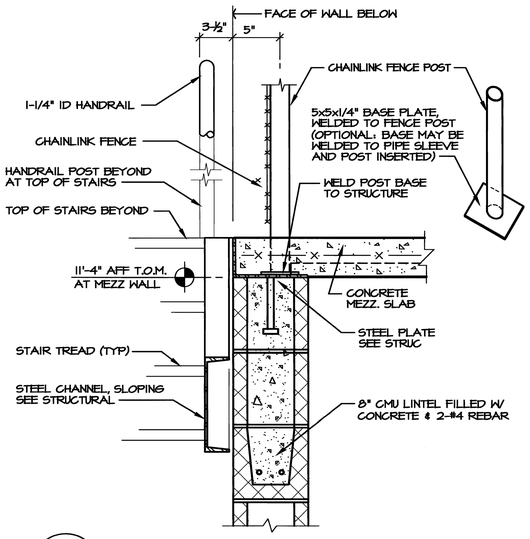
C5 / A4 FENCE SECTION
SCALE: 1-1/2" = 1'-0"



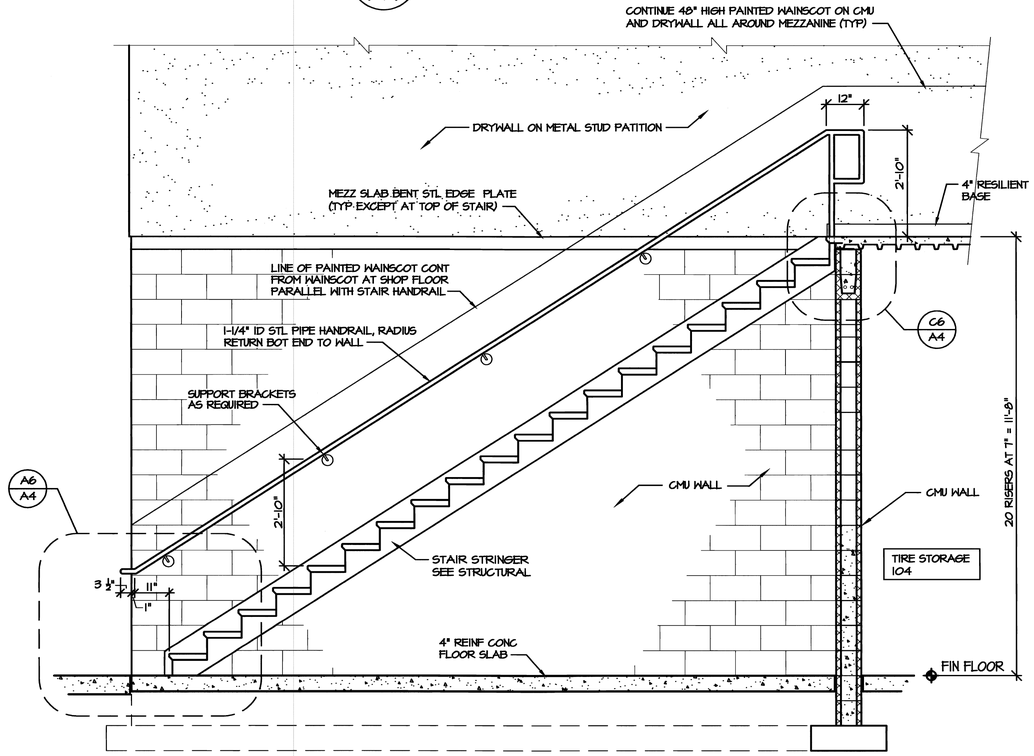
C2 / A4 MEZZANINE STAIR PLAN
SCALE: 1/2" = 1'-0"



A6 / A4 STAIR SECTION
SCALE: 1-1/2" = 1'-0"



A5 / A4 STAIR SECTION
SCALE: 1-1/2" = 1'-0"



A2 / A4 MEZZANINE STAIR SECTION
SCALE: 1/2" = 1'-0"

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PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

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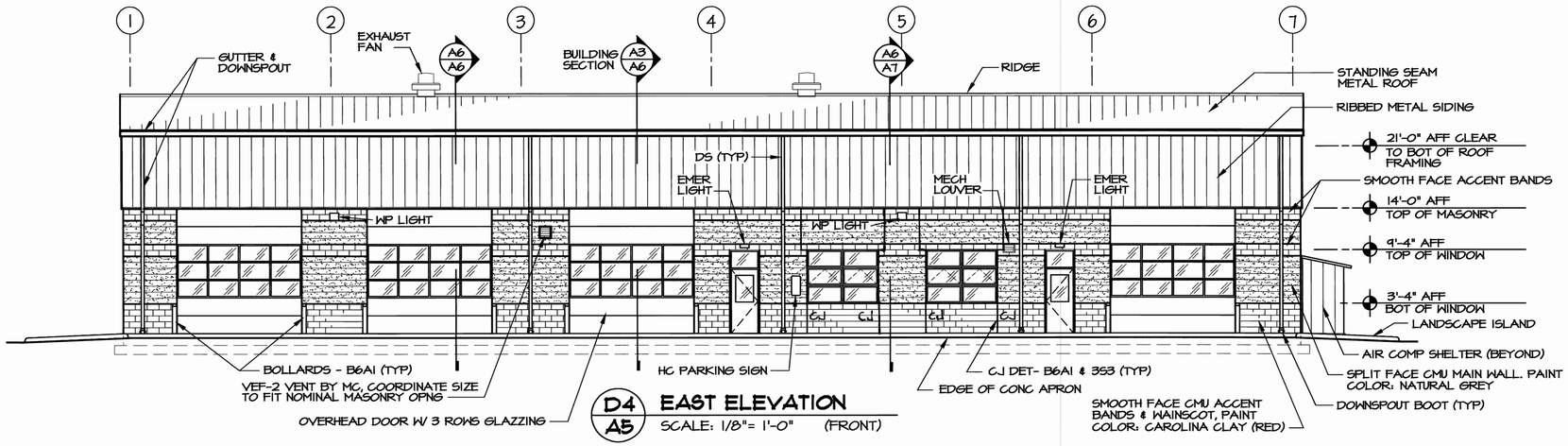
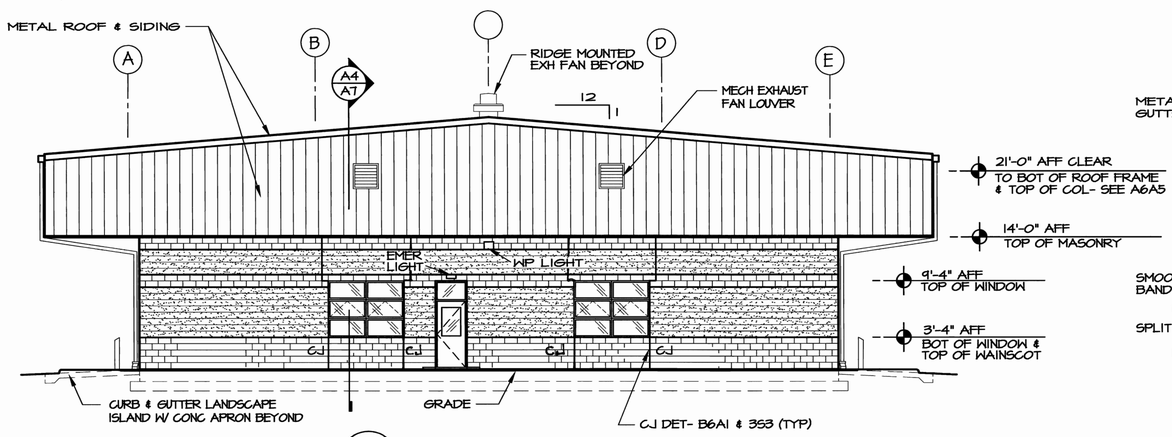
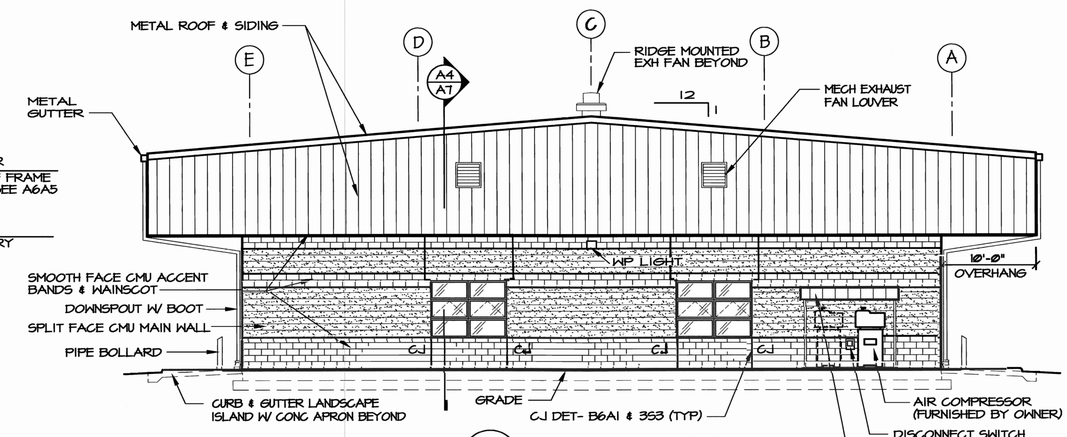


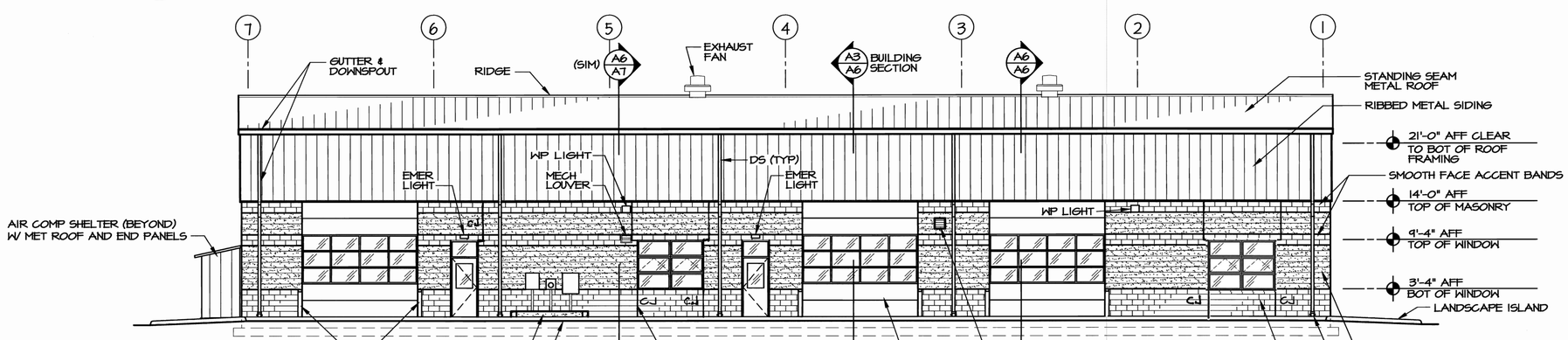
D4 / A5 EAST ELEVATION
SCALE: 1/8"= 1'-0" (FRONT)



B5 / A5 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



B2 / A5 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



A4 / A5 WEST ELEVATION
SCALE: 1/8"= 1'-0"

SEAL:
JULIUS M. BUZARD, JR. REGISTERED ARCHITECT 4243 7-12-12 NORTH CAROLINA RALEIGH, N.C.

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PROJECT:
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LINCOLN COUNTY, NORTH CAROLINA

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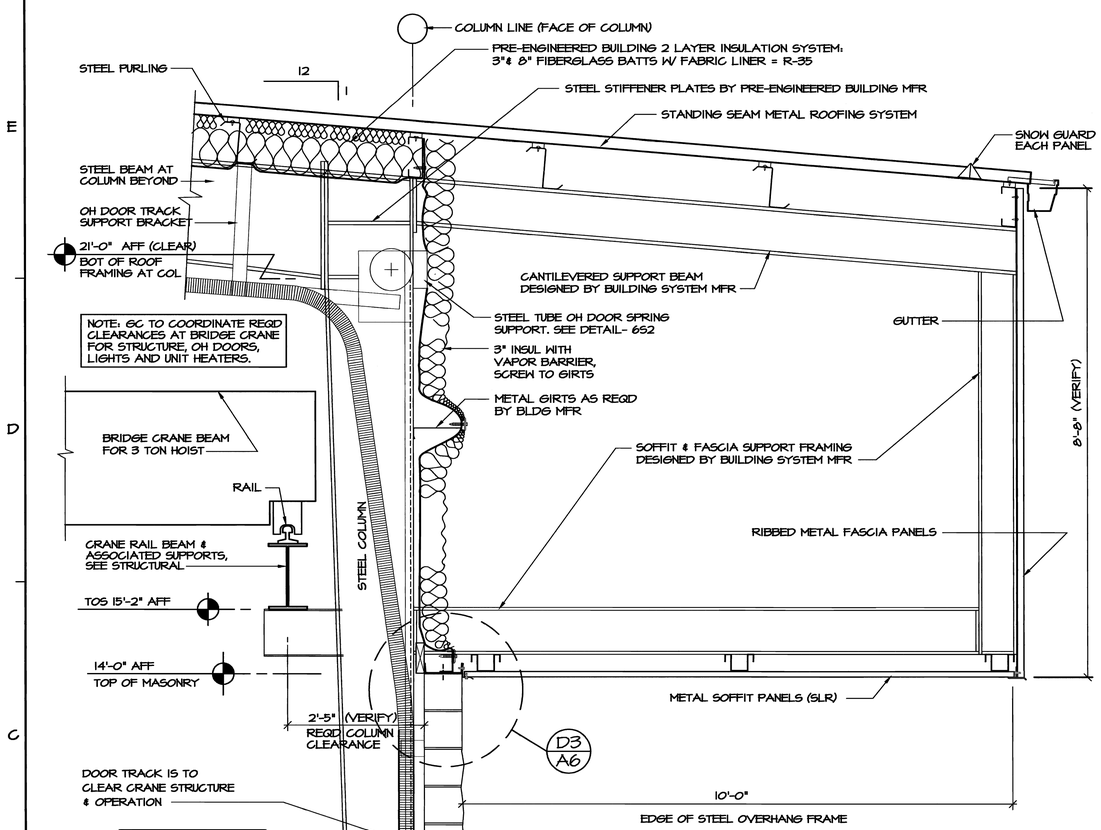
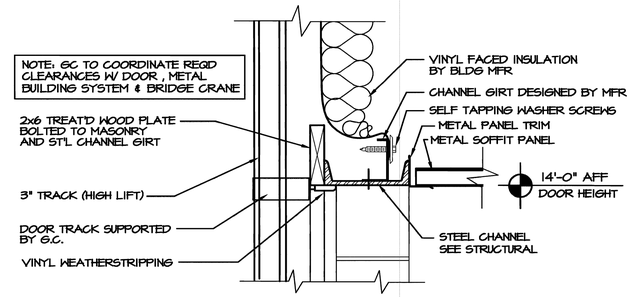
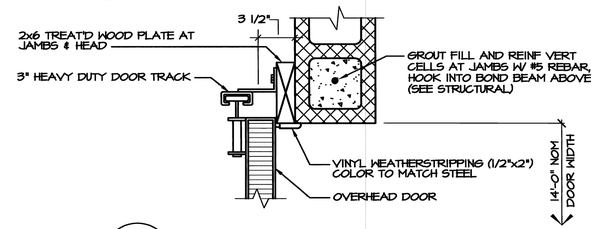




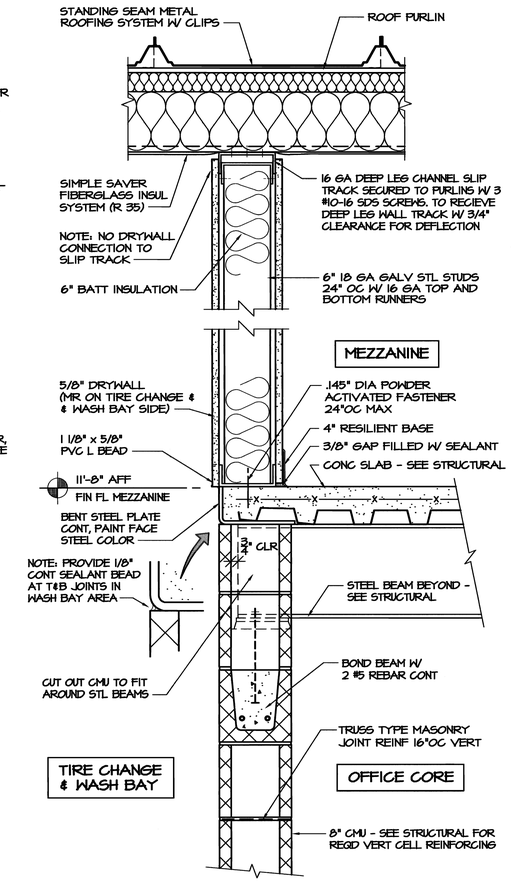
D3 / A6 HEAD DETAIL AT OH DOOR

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



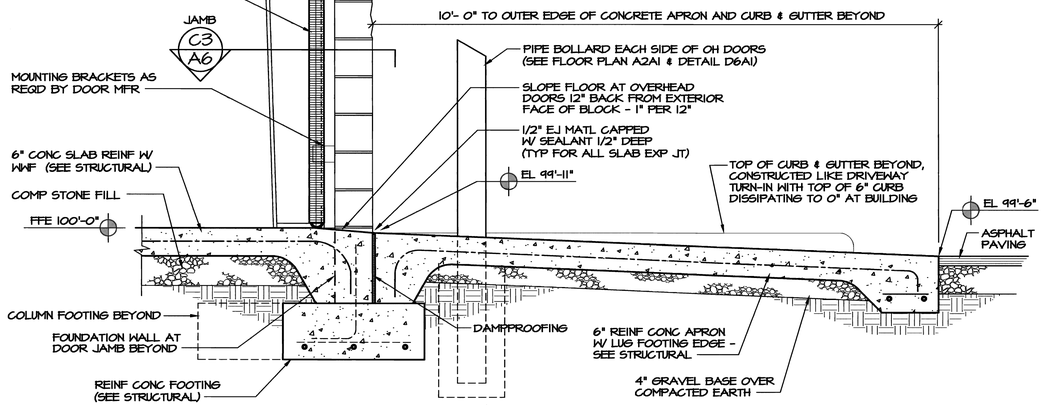
C3 / A6 JAMB AT OH DOOR

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



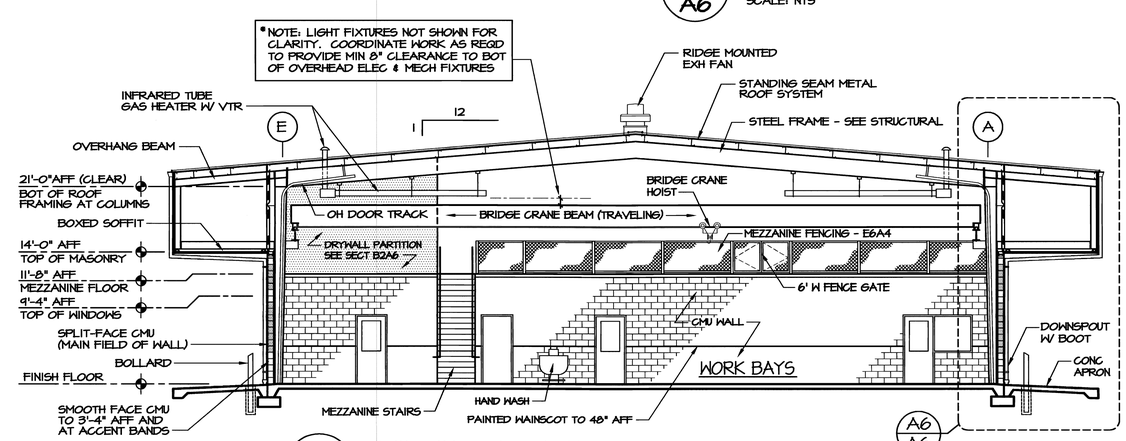
B2 / A6 WALL SECTION AT MEZZANINE DRYWALL PARTITION

SCALE: NTS



A6 / A6 WALL SECTION AT OVERHEAD DOOR

SCALE: 3/4" = 1'-0"



A3 / A6 BUILDING SECTION

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

SEAL:

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PROJECT:

LINCOLNTON EQUIPMENT SHOP

HIGHWAY DIVISION 12, NCDOT
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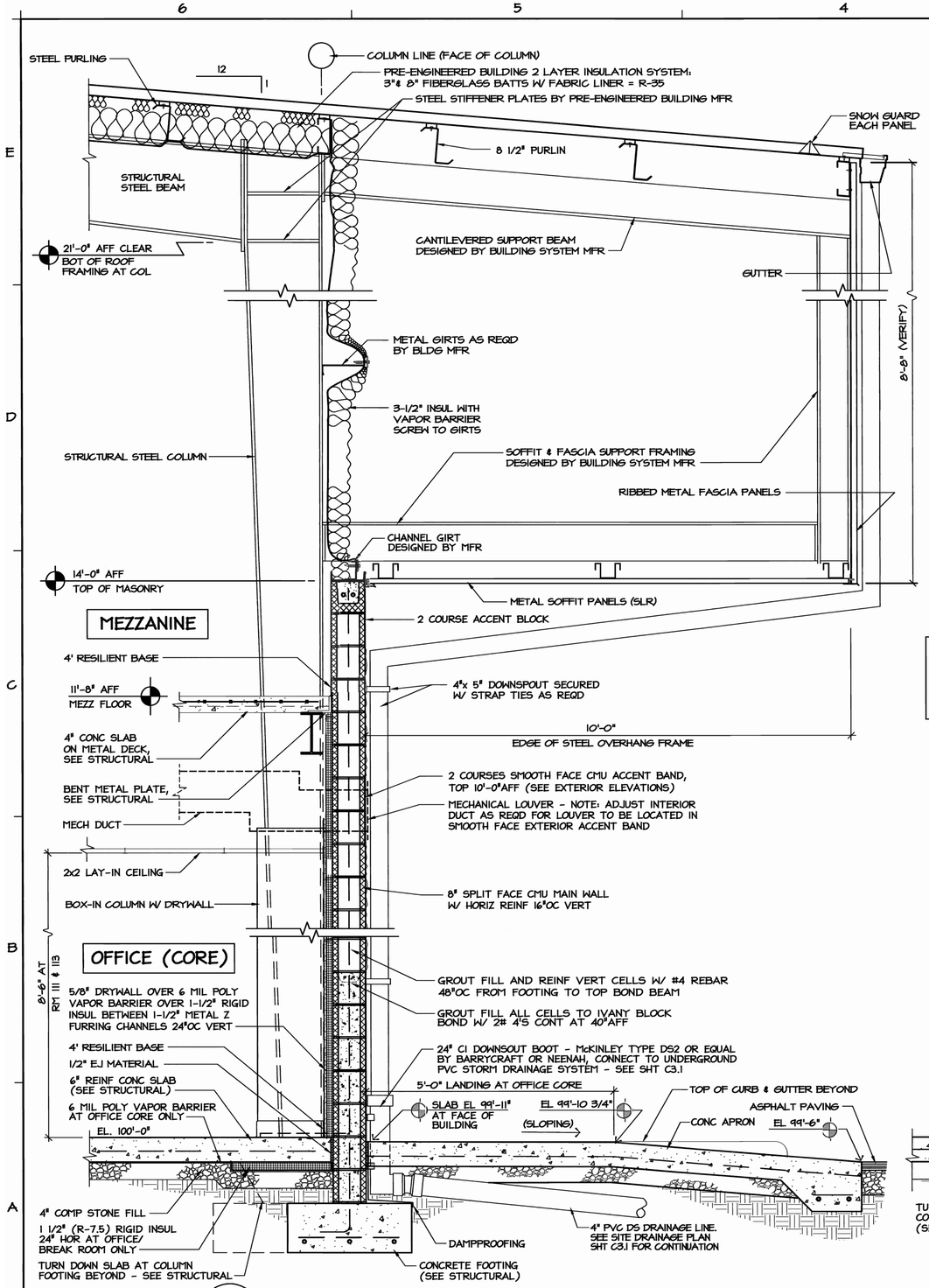
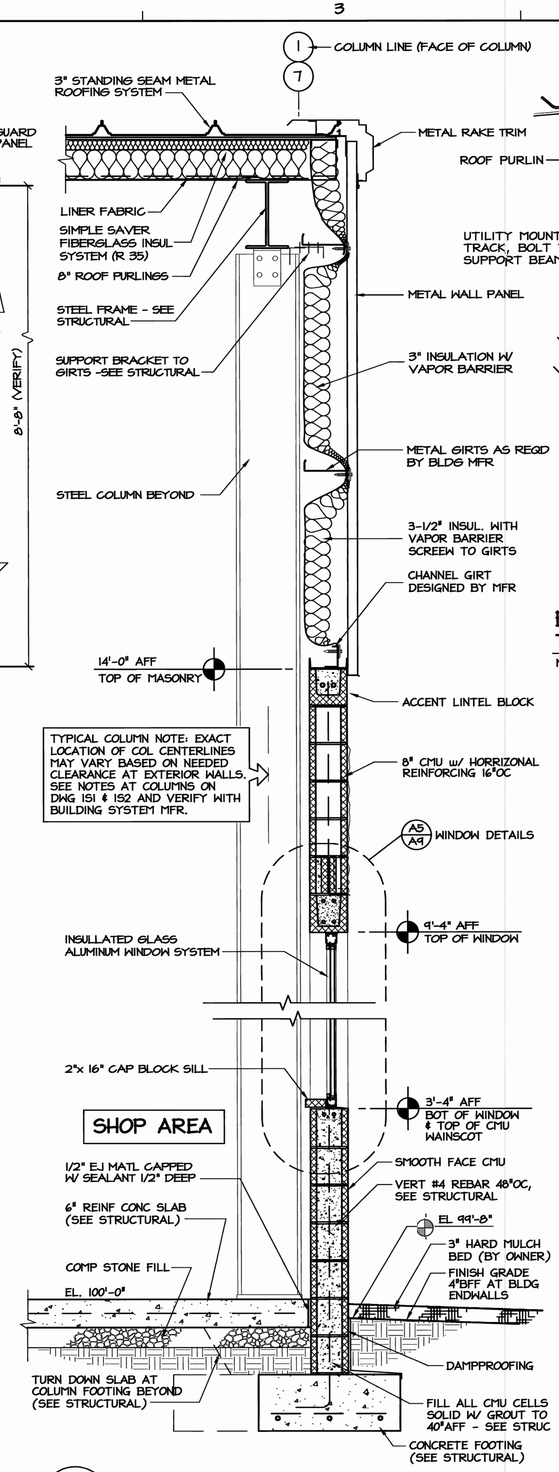


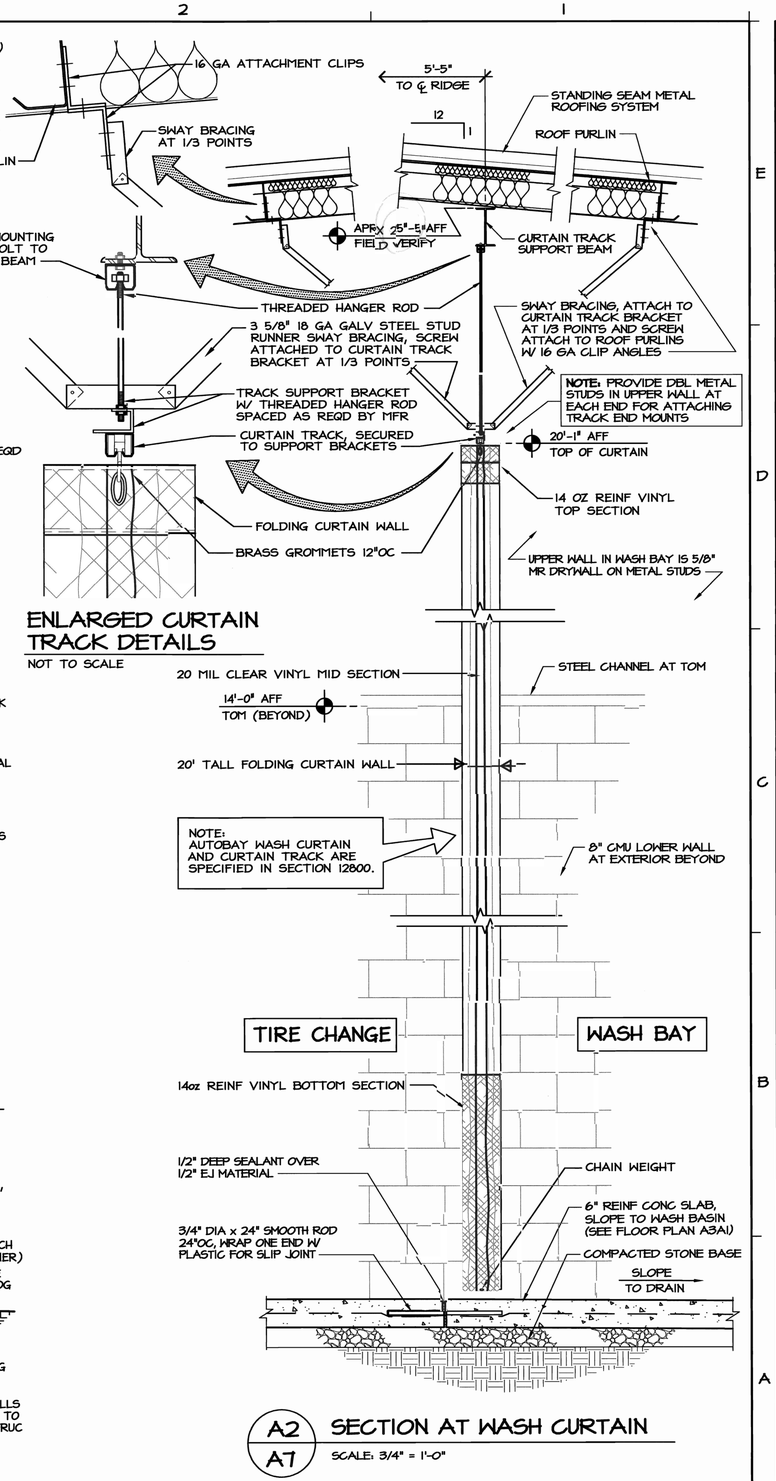
A6 / A7 WALL SECTION AT OFFICE CORE

SCALE: 3/4" = 1'-0"



A4 / A7 WALL SECTION AT END WALL

SCALE: 3/4" = 1'-0"



ENLARGED CURTAIN TRACK DETAILS

NOT TO SCALE

A2 / A7 SECTION AT WASH CURTAIN

SCALE: 3/4" = 1'-0"

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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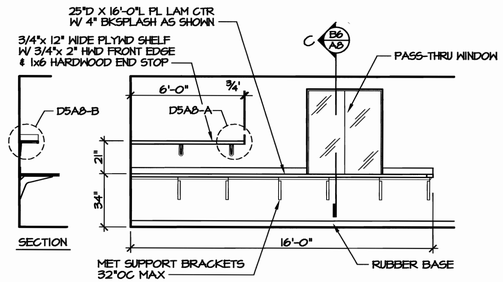
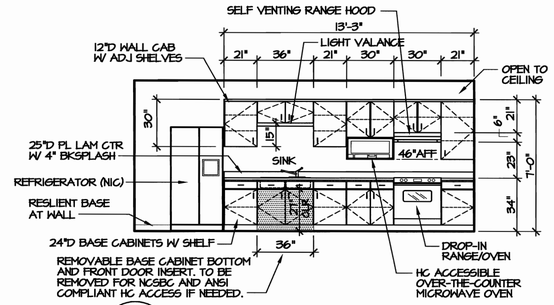
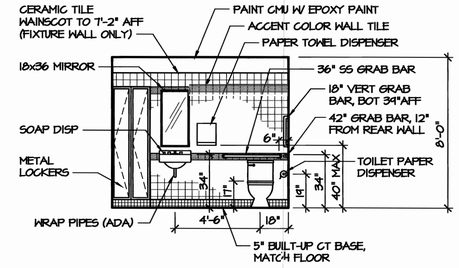


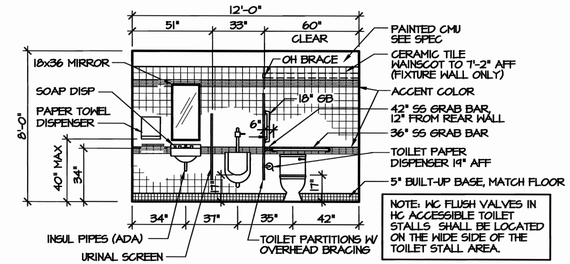
D6 / A8 PARTS COUNTER ELEVATION
SCALE: 1/4" = 1'-0" (PARTS ROOM 109)



D4 / A8 CABINET WALL ELEVATION
SCALE: 1/4" = 1'-0" (BREAK ROOM 111)

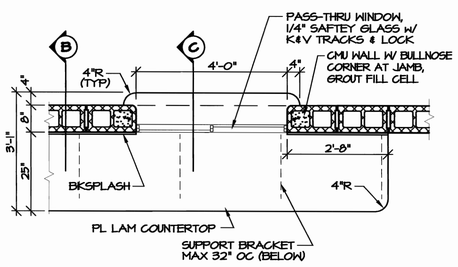


D3 / A8 RESTROOM ELEVATION
SCALE: 1/4" = 1'-0" (UNISEX 108)

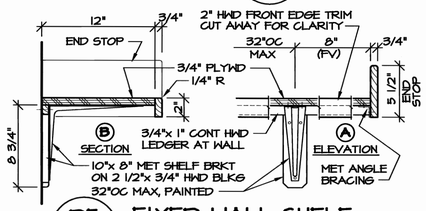


NOTE: WC FLUSH VALVES IN HC ACCESSIBLE TOILET STALLS SHALL BE LOCATED ON THE WIDE SIDE OF THE TOILET STALL AREA.

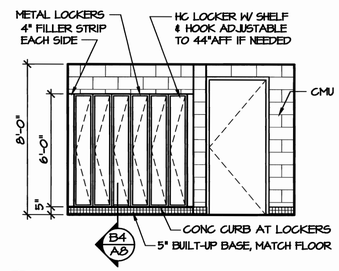
D2 / A8 RESTROOM ELEVATION
SCALE: 1/4" = 1'-0" (MEN 106)



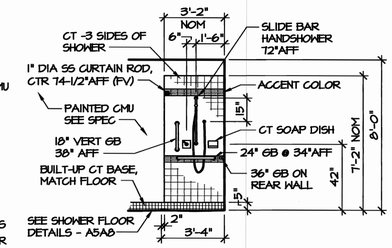
A PLAN AT PASS-THRU WINDOW
SCALE: 1/2"= 1'-0"



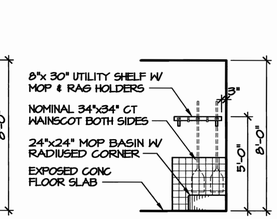
D5 / A8 FIXED WALL SHELF
SCALE: 1-1/2" = 1'-0"
(PAINTED- SEE FINISH NOTE AT C1A7)



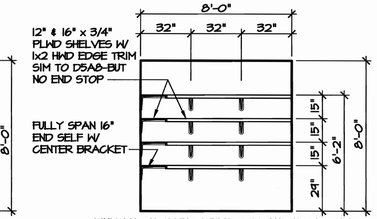
C4 / A8 LOCKERS ELEVATION
SCALE: 1/4" = 1'-0" (MEN 106)



C3 / A8 SHOWER ELEVATION
SCALE: 1/4" = 1'-0" (UNISEX 107)

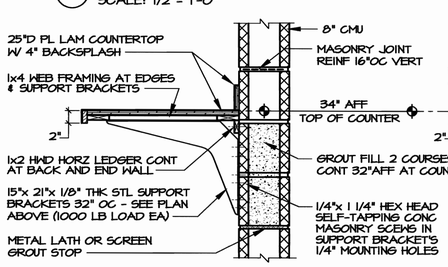


C2 / A8 MOP BASIN (JAN 108)
SCALE: 1/4" = 1'-0"

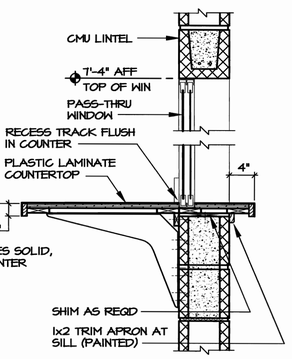


FINISH NOTE: PAINT SHELF TOPS AND EDGE TRIM TO MATCH HM DOOR COLOR. PAINT UNDERSIDE AND WALL BRACKETS TO MATCH WALL COLOR. (TYP)

C1 / A8 WOOD SHELVING (STO 112A)
SCALE: 1/4" = 1'-0"

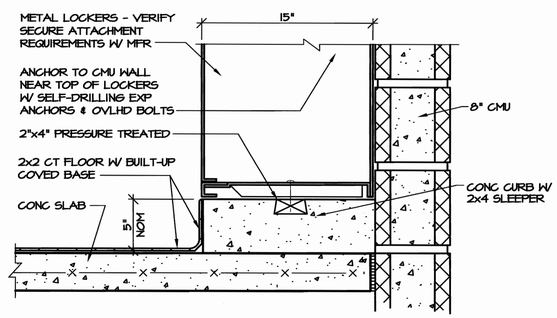


B SECTION AT WALL
SCALE: 1" = 1'-0"

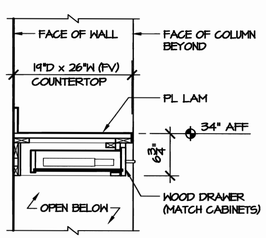


C SECTION AT WINDOW
SCALE: 1" = 1'-0"

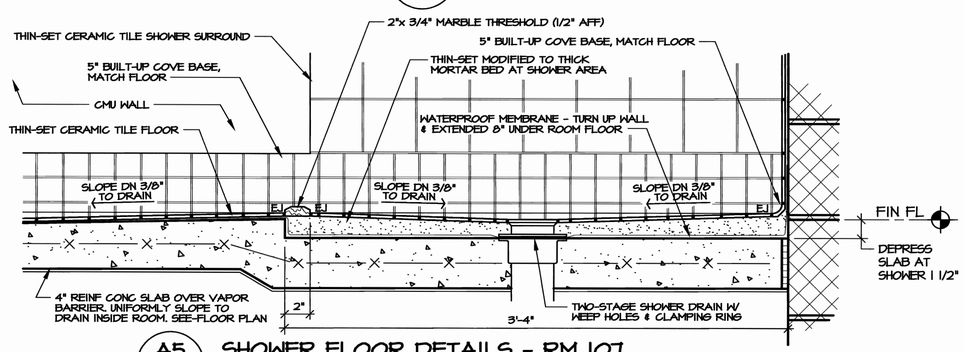
B6 / A8 PARTS COUNTER & PASS-THRU WINDOW DETAILS
SCALE: AS NOTED (PARTS ROOM 110)



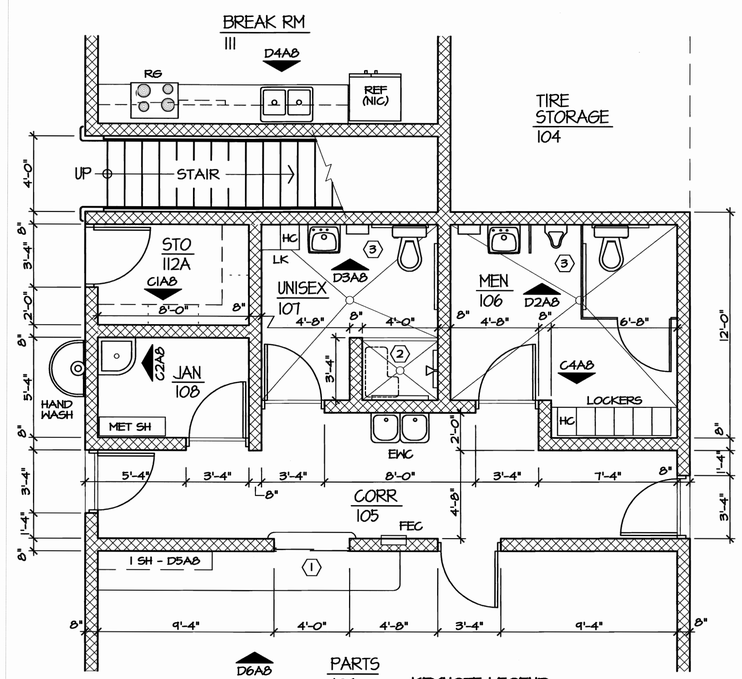
B4 / A8 BASE DETAIL AT LOCKERS
SCALE: 1-1/2" = 1'-0"



A6 / A8 TELEPHONE SHELF
SCALE: 1" = 1'-0" (BREAK ROOM 111)



A5 / A8 SHOWER FLOOR DETAILS - RM 107
NOT TO SCALE



A2 / A8 ENLARGED PLAN
SCALE: 1/4" = 1'-0"

KEYNOTE LEGEND

1. PARTS COUNTER & PASS-THRU WINDOW SEE-B6A8
2. SHOWER - SEE C3A8. FOLDING SEAT FOR HC ACCESSIBILITY FURNISHED BY GC, INSTALLED BY OWNER.
3. SEE RESTROOM ELEVATIONS FOR PLUMBING FIXTURE AND TOILET PARTITION LOCATION DIMENSIONS.

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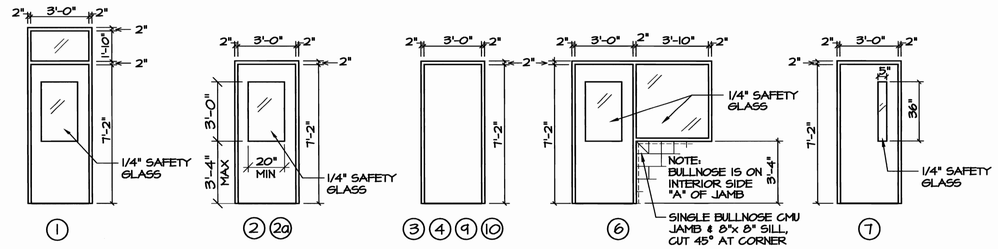
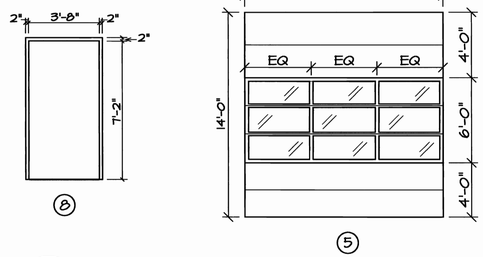
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

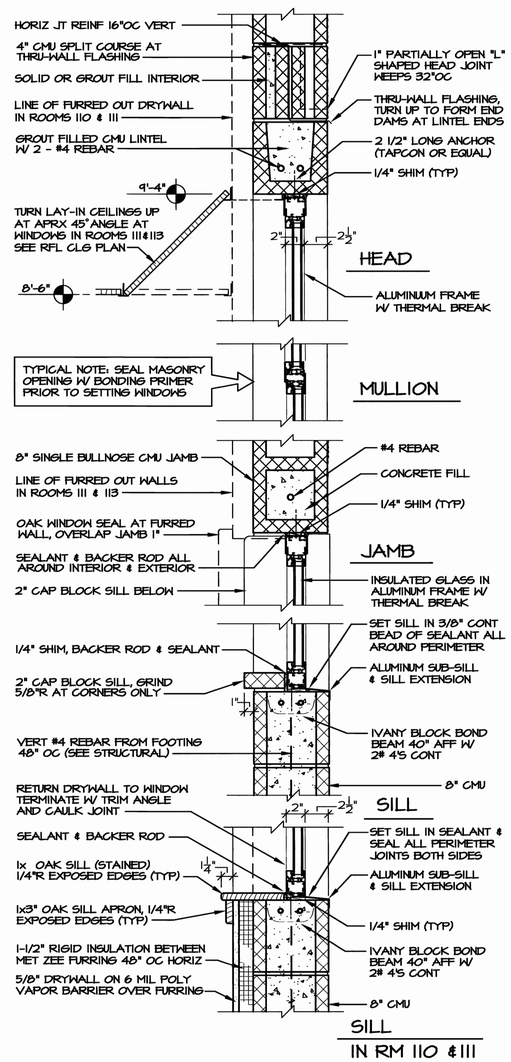
STATE CONSTRUCTION ID.#	09-07920-01A
ASSET NUMBER	
COUNTY - SITE - BUILDING	55 - 01 - XX
REVISIONS NO.	DATE
DATE ISSUED:	12/07/11
DRAWN BY:	DWS
CHECKED BY:	VMB
SHEET NO.	A8 OF 9

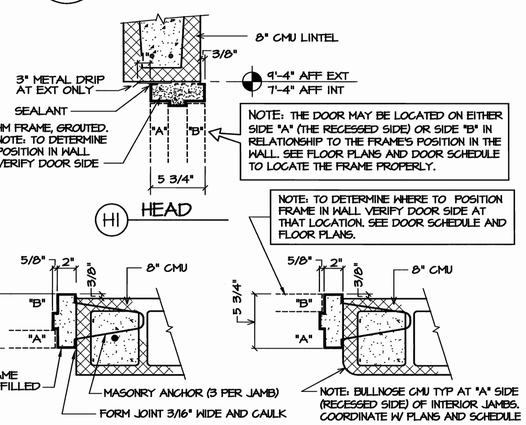




D6/A9 DOOR AND FRAME ELEVATIONS

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





H1 HEAD

J1 EXTERIOR JAMB

J2 INTERIOR JAMB

J3 INTERIOR JAMB AT DRYWALL

S1 SILL AT CERAMIC TILE
3"=1'-0"

A6/A9 DOOR FRAME DETAILS

SCALE: 1 1/2"= 1'-0" (UON)

A5/A9 WINDOW DETAILS - EXTERIOR

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

ROOM FINISH - COLOR SCHEDULE (COLOR NUMBERS ARE PER THE MANUFACTURE LISTED - SEE SPECS)

ROOM	NO.	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING			REMARKS
		MATL	COLOR	MATL	COLOR	MATL	COLOR	MATL	COLOR	MATL	COLOR	MATL	COLOR	MATL	COLOR	HIGHT	
WASH BAY	101	CONC	-	-	-	CMU, MR DWL	#3069 16/0171	CMU, MR DWL	#3069 16/0171	WASH CURTAIN	-	CMU, MR DWL	#3069 16/0171	-		-	PAINTED WAINSCOT TO 48"AFF: #3066 22/0174
TIRE CHANGE	102	CONC	-	-	-	WASH CURTAIN	#3069 16/0171	CMU	#3069 16/0171	CMU	-	CMU, DWL	#3069 16/0171	-		-	PAINTED WAINSCOT TO 48"AFF: #3066 22/0174
UTILITY	103	CONC	-	-	-	CMU	#3069 16/0171	CMU/DW	#3069 16/0171	CMU/DW	#3069 16/0171	CMU	#3069 16/0171	-		11'-0"	EXPOSED STRUC CLG
TIRE STORAGE	104	CONC	-	-	-	CMU	#3069 16/0171	-		CMU	-	CMU	#3069 16/0171	-		11'-0"	PAINTED WAINSCOT TO 48"AFF: #3066 22/0174
CORRIDOR	105	RT	51905	R	P-168	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	SAC		8'-0"	
MEN	106	CT	DK-147	CT	DK-147	CMU	#3069	*CT/CMU	CT X125 D-192	CMU	#3069	CMU	#3069 16/0171	SAC		8'-0"	*CT WAINSCOT TO 7'-2" NOM, AND ON SHOWER WALLS. PAINT CMU ABOVE
UNISEX / SHOWER	107	CT	DK-147	CT	DK-147	CMU	#3069 16/0171	CMU	#3069 16/0171	*CT/CMU	CT X125 D-192	CMU	#3069 16/0171	SAC		8'-0"	
STORAGE / JANITOR	108	CT	DK-147	CT	DK-147	CMU	#3069 16/0171	*CT/CMU	#3069 16/0171	*CT/CMU	#3069 16/0171	CMU	#3069 16/0171	-		8'-0"	*34"x34" CT WAINSCOT AT MOP SINK CORNER
PARTS ROOM	109	RT	51905	R	P-168	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	SAC		8'-6"	
OFFICE	110	RT	51905	R	P-168	DWL	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	SAC		8'-6"	
BREAK ROOM	111	RT	51905	R	P-168	CMU	#3069 16/0171	CMU	#3069 16/0171	DWL	#3069 16/0171	CMU	#3069 16/0171	SAC		8-6"	
WORK BAYS	112, 113	CONC	-	-	-	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	-		-	NOTE 1
WORK/WELDING	114	CONC	-	-	-	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	-		-	NOTE 1
MACHINE SHOP	115	CONC	-	-	-	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	CMU	#3069 16/0171	-		-	NOTE 1
MEZZANINE	201	CONC	-	*R	-	CMU 32"H	#3069 16/0171	CHAIN LINK	-	CMU 32"H	#3069 16/0171	DW	#3069 16/0171	-		-	SEE WALL SECTIONS B2A6 & A6A7, *NOTE 1
MEZZANINE TIRE STORAGE	202	CONC	-	*R	-	CMU 32"H	#3069 16/0171	CHAIN LINK	-	CMU 32"H	#3069 16/0171	DW	#3069 16/0171	-		-	SEE WALL SECTIONS B2A6 & A6A7, *NOTE 1

* DENOTES ONLY ON THREE WALLS

NOTE: HIGH PERFORMANCE PAINT IS SPECIFIED FOR THE RESTROOMS, THE SHOWER, THE JANITOR, AND THE WASH BAY/TIRE CHANGE ROOMS.

NOTE 1: PAINTED WAINSCOT TO 48"AFF: #3066 22/0174

DOOR - HARDWARE SCHEDULE (HARDWARE DESIGNATIONS ARE ANSI/BHMA HARDWARE FUNCTION NUMBERS)

DOOR				FRAME			HARDWARE								REMARKS
MARK	SIZE	MATL	COLOR	FRAME SIDE	MATL	COLOR	LOCKSET	HINGES	CLOSER	STOP	KICH PLATE	WEATHS'P/ THRESHOLD	PUSH/PULL		
1	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	A	HM	30YY 56/1060	F04	A5112	C03021	-	-	316AS/114A/664	-		
2	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	B	HM	3066 22/0174	F05	A5112	C03021	L01342	-	-	-		
2a	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	A	HM	3066 22/0174	F05	A5112	C03021	L01342	-	-	-		
3	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	B	HM	3066 22/0174	F19	A5112	C03021	L01342	J02	-	-		
4	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	B	HM	3066 22/0174	-	A5112	C03021	-	J02	-	YES		
5	14'-0"x14'-0" (OH)	STL	3066 22/0174	-	TRMD	#3069 16/0171	-	-	-	-	-	-	-		ELEC OPERATED OVERHEAD DOOR W/ MANUAL OVERRIDE. PAINT EXTERIOR TO MATCH MET SIDING
6	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	A	HM	3066 22/0174	F01	A5112	C03021	L01342	-	316AS/114A/664	-		W/ HOLD OPEN
7	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	A	HM	3066 22/0174	F01	A5112	C03021	L01342	-	316AS/114A/664	-		ADD HOLD OPEN AT OFFICE 111
8	3'-8"x7'-2"x1 3/4"	HM	3066 22/0174	B	HM	3066 22/0174	F05	A5112	C03021	L01342	-	-	-		W/ HOLD OPEN
9	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	A	HM	3066 22/0174	F05	A5112							
10	3'-0"x7'-2"x1 3/4"	HM	3066 22/0174	-	HM	3066 22/0174	F05	A5112							DRYWALL FRAME - SEE J3 AT A6A9

WINDOW SCHEDULE

WINDOW		FRAME		REMARKS
TYPE	SIZE	MATL	COLOR	
A	8'-0" x 6'-0"	AL	NATURAL ANODIZED	3/4" LOW-E INSUL GLASS, AWNING & FIXED
B	3'-4" x 4'-0"	HM	NATURAL ANODIZED	1/4" SAFETY GLASS
C	4'-0"x 4'-6" PLUS RECESS	AL	NATURAL ANODIZED	1/4" CLEAR SLIDING GLASS, W/ ALUMINUM TRACKS

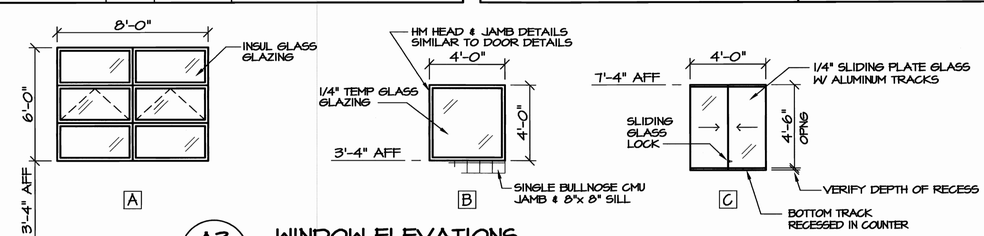
FINISH ABBREVIATIONS

SEE SPEC FOR ALTERNATE OR EQUAL MFR

RT	RESILIENT TILE (ARMSTRONG)
CT	CERAMIC TILE, GLAZED (DAL-TILE)
CONC	CONCRETE
R	RESILIENT BASE (ROPPE)
CMU	CONCRETE MASONRY UNIT
SAC	SUSPENDED ACOUSTICAL CEILING
MR DWL	MOISTURE RESISTANT DRYWALL PAINTED (ICI-GLIDDEN)

COLOR LEGEND

#3069 16/0171	CMU & DW	ICI - WHITE
X-114	WALL TILE	DESERT GRAY
D-192	CT ACCENTS	AEGEAN
# 45	GROUT	ALMOND LIGHT
DK-147	FLOOR TILE	BUFFSTONE RANGE
3066 22/0174	DOORS	BICENTENNIAL
30YY 56/1060	FRAMES	INT: BICENTENNIAL EXT: FOSSIL GREY



A3/A9 WINDOW ELEVATIONS

1/4" = 1'-0"

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PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER

COUNTY - SITE - BUILDING
55 - 01 - XX

REVISIONS NO.	DATE

DATE ISSUED: 12/07/11

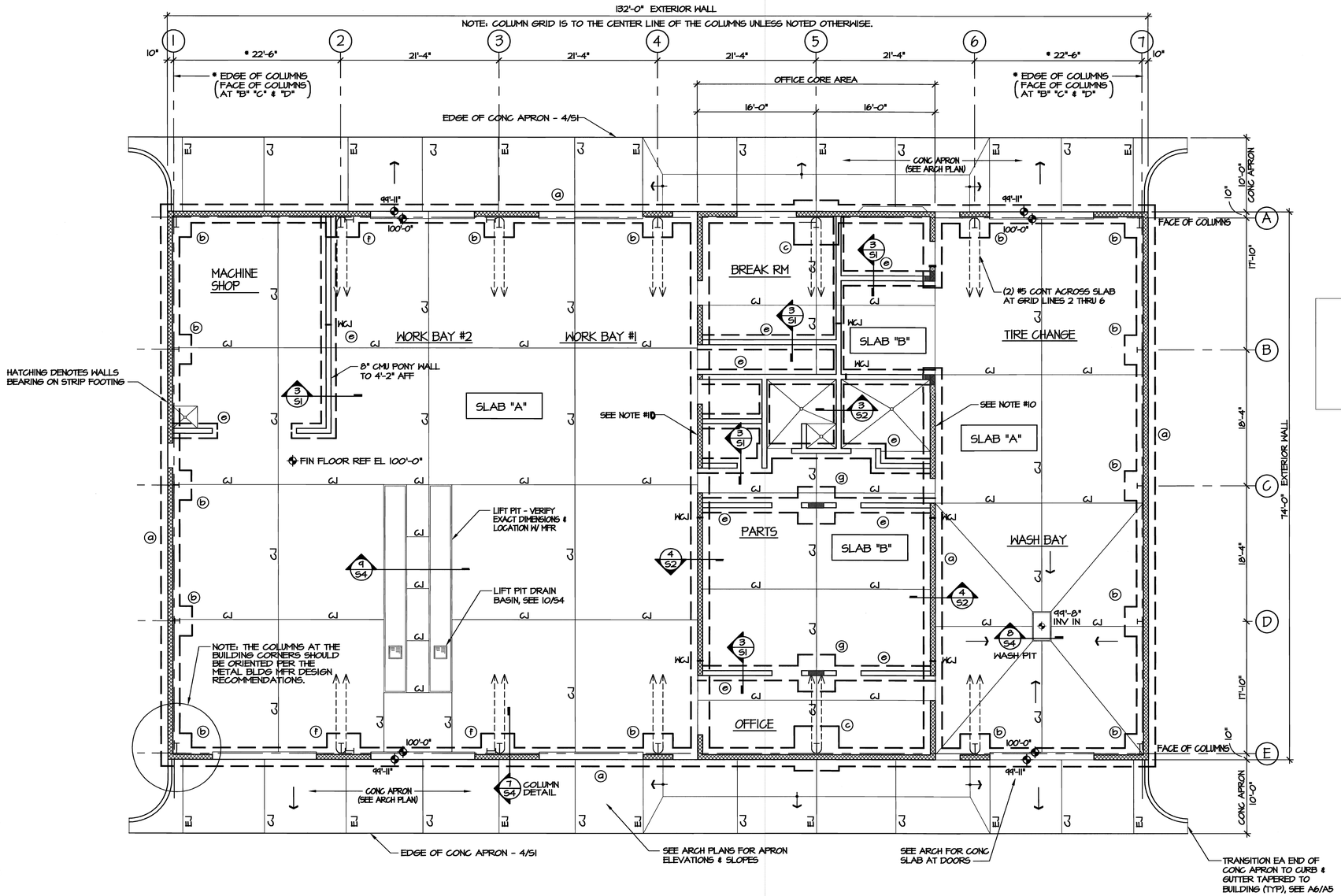
DRAWN BY: DWS

CHECKED BY: VMB

SHEET NO.
A9
OF 9

NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE FOR FOOTINGS SHALL BE 3000 PSI. CONCRETE FOR FLOOR SLABS SHALL BE 4000 PSI.
2. GRANULAR BASE FOR SLABS SHALL HAVE 1-1/2" MAX AGGREGATE SIZE & LESS THAN 2 PERCENT FINES.
3. SHOP FOOTING SIZES SHOWN ARE BASED ON ESTIMATED COLUMN REACTIONS, & ARE TO BE VERIFIED BY ENGINEER AFTER RECEIPT OF REACTION REPORT BY BLDG MFR.
4. WCJ DENOTES WALL CONTROL JOINTS IN MASONRY WALLS. SEE PLANS & ARCHITECTURAL ELEVATIONS FOR LOCATIONS. MASONRY CONTROL JOINTS SHALL HAVE CONT PREFORMED MASONRY CONTROL JOINT GASKET.
5. VERIFY LIFT PIT LOCATIONS & DIMENSIONS W/ ARCHITECTURAL PLANS & APPROVED EQUIPMENT SHOP DRAWINGS.
6. COORDINATE FLOOR SLOPES & DEPRESSIONS W/ ARCHITECTURAL & PLUMBING PLANS.
7. REINFORCING STEEL SHALL MEET ASTM A 615, GRADE 60.
8. ELEVATIONS SHOWN ON STRUCTURAL PLANS ARE RELATIVE TO THE FIN FLOOR ELEVATION = +100'-0".
9. CJ DENOTES SLAB CONTROL JOINT, SEE DETAIL 2/S1.
10. GROUT CMU SOLID UP TO 3'-4" AFF IN WALLS ADJACENT TO VEHICULAR TRAFFIC. PROVIDE #4 VERT REINF 24"OC, PROVIDE BOND BEAM W/(2) #4'S CONT AT 3'-4" AFF.
11. SHOP DOOR & WINDOW FRAMING BY BLDG MFR. COORD REQ'D JAMBS AT OVERHEAD DOORS W/ OVERHEAD DOOR MFR.
12. PROVIDE 3" COVER FOR REINF IN FOOTINGS CAST AGAINST SOIL.



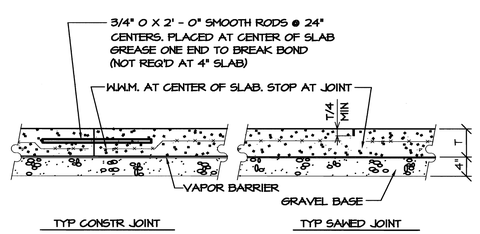
SLAB "A" 6" CONC SLAB REINF W/ 6X6 - W2.9XW2.9 WWR ON 6 MIL VAPOR BARRIER ON 4" GRANULAR BASE

SLAB "B" 4" CONC SLAB REINF W/ 6X6 - W2.9XW2.9 WWR ON 6 MIL VAPOR BARRIER ON 4" GRANULAR BASE

1/S1 FOUNDATION PLAN

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

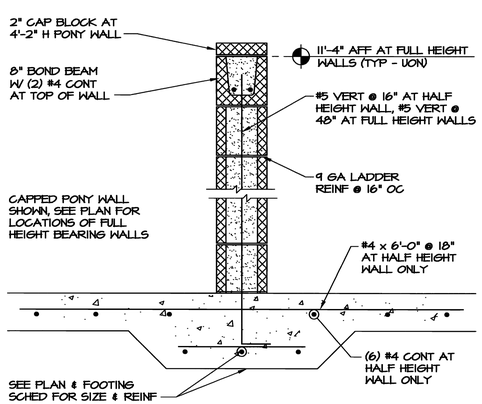
CALLED NORTH



TYPE OF JOINT IS OPTIONAL WITH CONTRACTOR.
"T" INDICATES THICKNESS OF SLAB.

2/S1 SLAB JOINT DETAILS

SCALE: 3/4" = 1'-0"



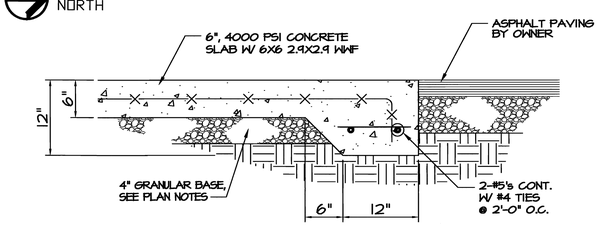
3/S1 TYPICAL THICKENED SLAB

SCALE: 1" = 1'-0" (AT INTERIOR WALLS)

FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT
a	2'-6" X 1'-0 CONTINUOUS	(3) #5 CONT. W/ #4 TIES @ 18"
b	4'-0" x 4'-0" x 1'-0"	(4) #5 E.W. TOP & BOTTOM
c	6'-0" x 6'-0" x 1'-0"	(6) #5 E.W.
d	3'-0" x 3'-0" x 1'-0"	(3) #5 E.W. TOP & BOTTOM
e	2-0" x 1'-0" LUG FTG	(3)-#5 CONT. W/ #4 TIES @ 18"
f	4'-6" x 4'-0" x 1'-0"	(4) #5 E.W. TOP & BOTTOM
g	5'-0" x 5'-0" x 1'-0" LUG FTG	(4) #5 E.W. TOP & BOTTOM

NOTE: ALL STRIP FOOTINGS ARE TYPE "a" UON



4/S1 CONC APRON LUG FOOTING

SCALE: 1" = 1'-0"

SEAL:
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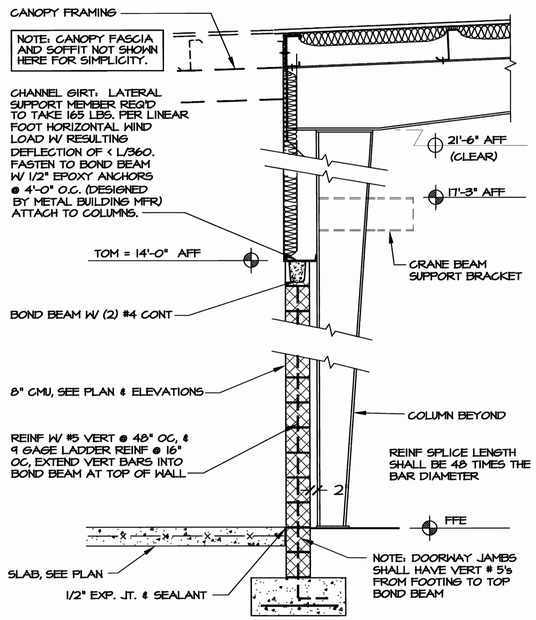
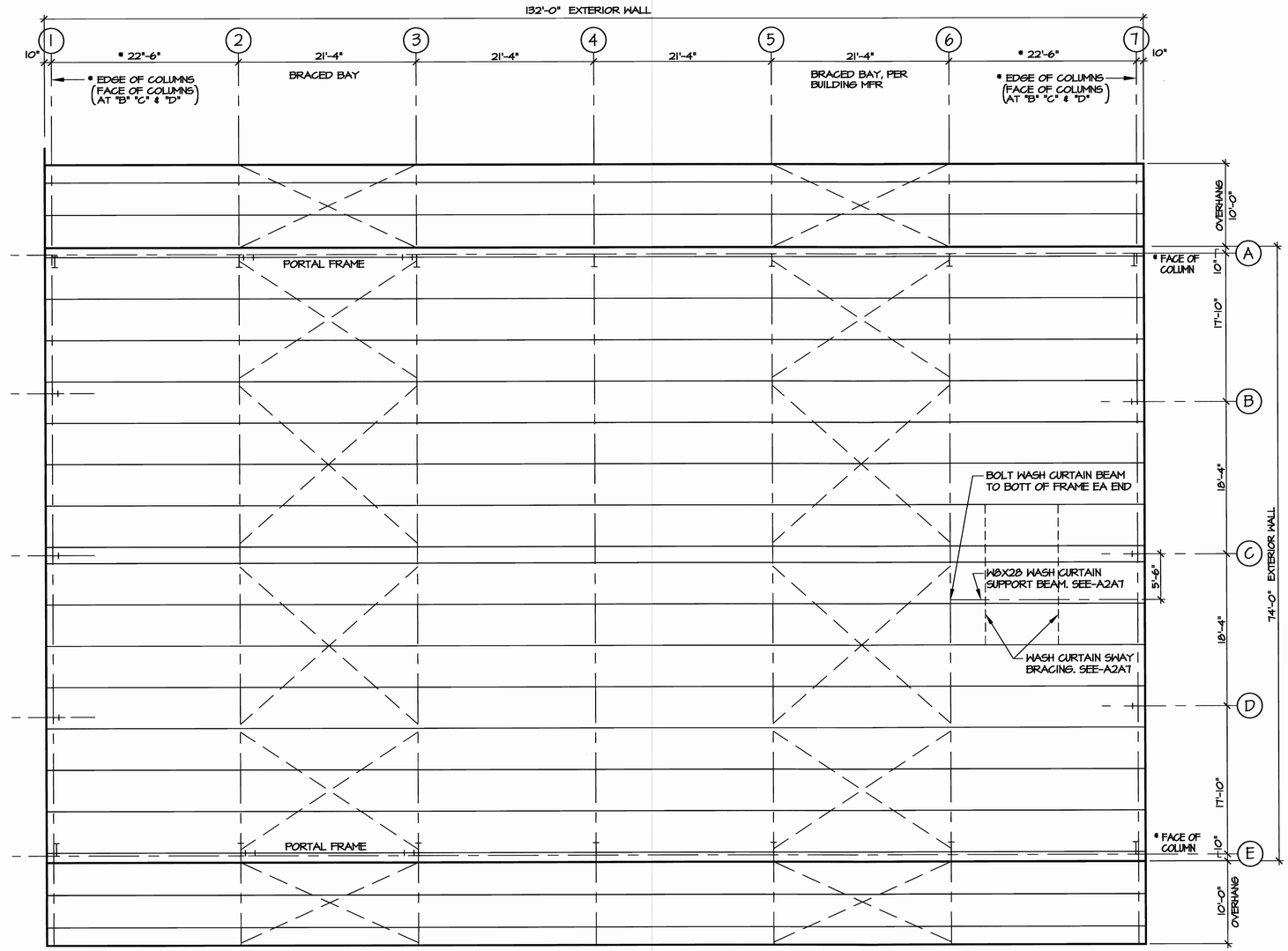
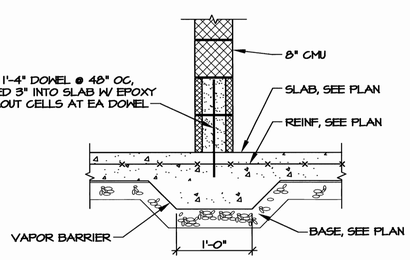
S1
1 OF 4



2 / S2 TYP EXTERIOR WALL SECTION

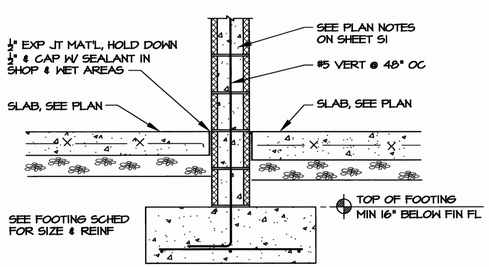
SCALE: 1/2" = 1'-0"





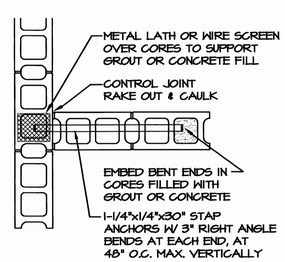
3 / S2 INTERIOR NON-BEARING WALL

SCALE: 3/4" = 1'-0"



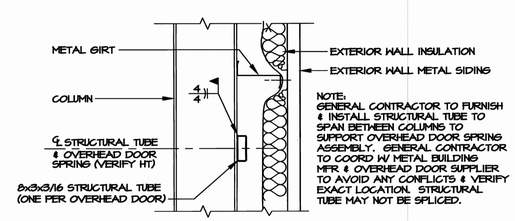
4 / S2 INTERIOR LOAD BEARING WALL

SCALE: 3/4" = 1'-0"



5 / S2 CMU WALL INTERSECTION

SCALE: 3/4" = 1'-0"



6 / S2 OH DOOR SPRING SUPPORT

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

1 / S2 ROOF FRAMING PLAN

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

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NOTES:

1. BUILDING END WALLS ARE NOT EXPANDABLE.
2. DESIGN BUILDING FOR 5 PSF COLLATERAL LOAD IN ADDITION TO SPECIFIED LOADS. COORDINATE W/ MECH FOR SUPPORTED EQUIPMENT.
3. DESIGN FRAMING TO COMPLY W/ AISC DESIGN GUIDE 3, "SERVICEABILITY DESIGN CONSIDERATIONS FOR LOW-RISE BUILDINGS," UNLESS OTHERWISE NOTED. LIMIT BUILDING DRIFT TO H/200.

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16326 MICHAEL D. MOUNTCASTLE

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STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER
COUNTY - SITE - BUILDING
55 - 01 -

REVISIONS

NO.	DATE

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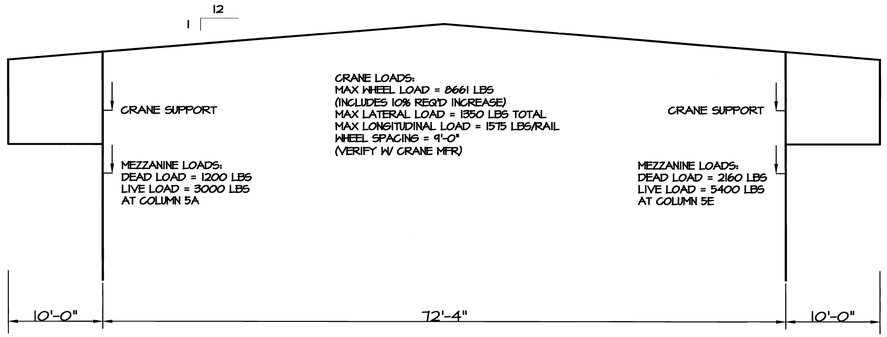


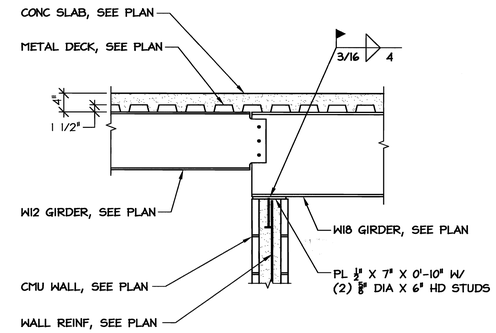
1/S3 BUILDING FRAME
SCALE: 1/8" = 1'-0"

NOTE: METAL BUILDING MFR IS RESPONSIBLE FOR ALL STEEL BUILDING FRAMING, INCLUDING FRAMING SYSTEM FOR SOFFIT & FASCIA TO CONFORM W/ SHAPE SHOWN ON ARCHITECTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING W/ ALL TRADES TO ASSURE PROPER CLEARANCES & FIT-UP OF BUILDING PARTS & SYSTEMS.

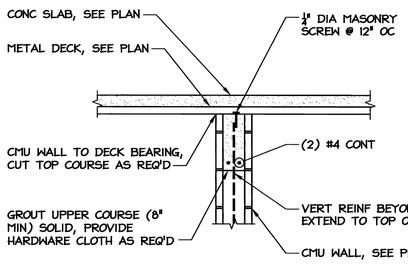
MASONRY WALL LINTEL SCHEDULE

NOTES:
1. ALL UNSCHEDULED OPENINGS INCLUDING OPENINGS FOR MECHANICAL WORK SHALL BE PROVIDED WITH LINTELS IN ACCORDANCE WITH THIS SCHEDULE. USE THE FOLLOWING N.C. CONCRETE MASONRY ASSOCIATION STYLES OF LINTEL BLOCK: NCCMA-#6816-55, #12816-59
2. REINF. IN CMU LINTELS TO HAVE 1 1/2" TOP & BOTTOM COVER U.O.N.
3. PROVIDE PROPER SUPPORT OF CMU LINTEL DURING CONSTRUCTION. DO NOT REMOVE SUPPORT UNTIL LINTEL HAS ATTAINED ADEQUATE STRENGTH TO SUPPORT LOAD ABOVE OPENING.

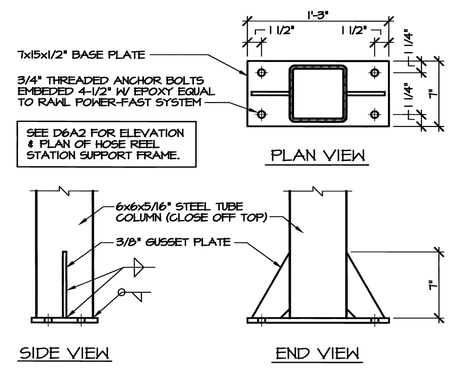
TYPE	OPENINGS	6" OR 8" WALL	10" OR 12" WALL	BEARING
L-1	2'-0" TO 5'-4"	8" — 2-#4	8" — 2-#4	8"
L-2	5'-4" TO 8'-0"	16" — 2-#5 / 2-#5	16" — 2-#5 / 2-#5	8"
L-3	3'-4" UNDER STAIR	VARIES — STAIR STRINGER SLOPING; DOUBLE L3 1/2x3x1/4"; CUT CMU TO MATCH STRINGER SLOPE		4" & 8"



7/S3 MEZZ BEAM BEARING
SCALE: 3/4" = 1'-0"

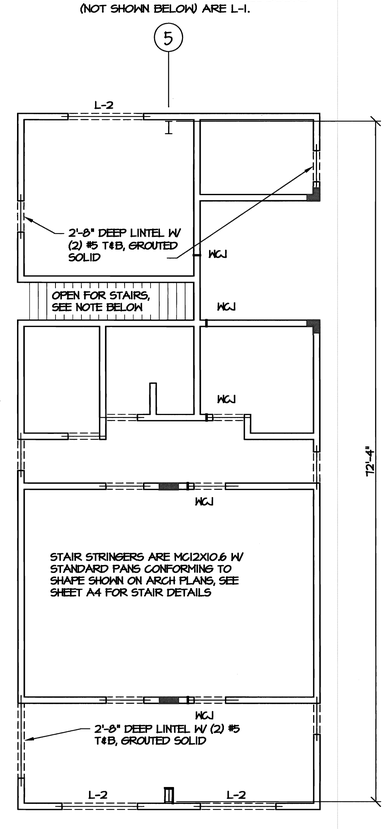


2/S3 DECK BEARING ON CMU
SCALE: 3/4" = 1'-0"

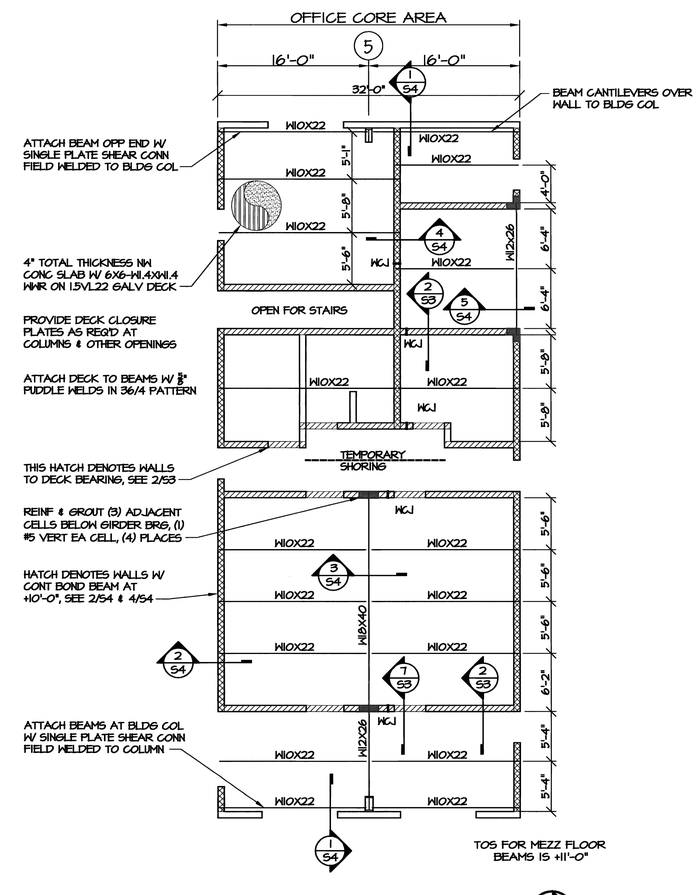


8/S3 HOSE REEL STATION COLUMN BASE DETAIL
SCALE: 3/4" = 1'-0"

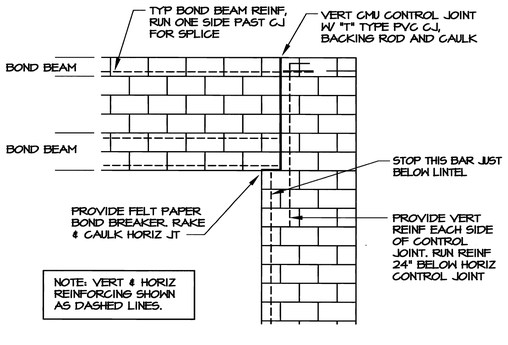
NOTE: ALL LINTELS ARE L-1 (UON).
LINTELS OVER ALL PERSONNEL DOORS
(NOT SHOWN BELOW) ARE L-1.



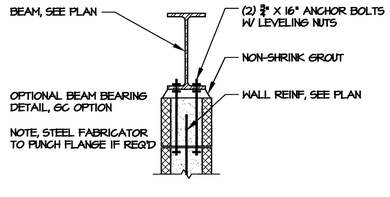
5/S3 LINTEL LOCATIONS
SCALE: 1/8" = 1'-0"



6/S3 MEZZANINE FRAMING
SCALE: 1/8" = 1'-0"



3/S3 TYP CMU CONTROL JOINT
SCALE: 3/8" = 1'-0"



4/S3 ALT BEAM BRG ON CMU
SCALE: 1/4" = 1'-0"

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SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7326 ENGINEER MICHAEL D. MOUNTSTEPHEN

7-6-12

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PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
ASSET NUMBER
COUNTY - SITE - BUILDING 55 - 01 -

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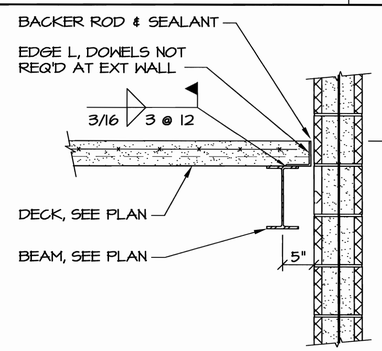
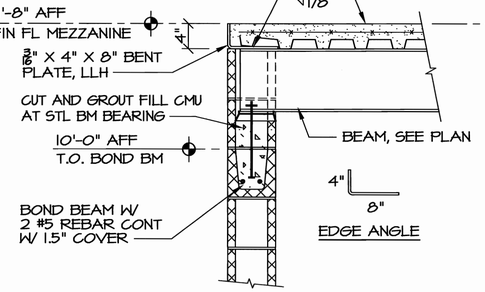
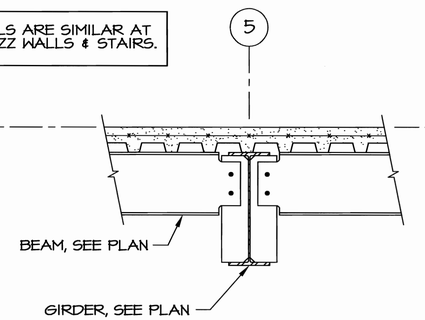


1/S4 MEZZ AT EXT WALL
SCALE: 1" = 1'-0"

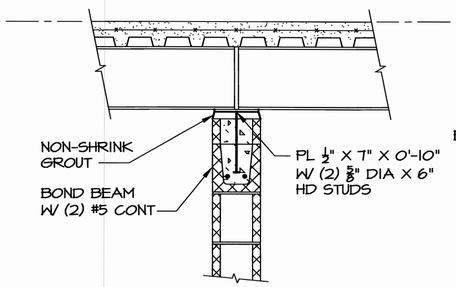
NOTE: DETAILS ARE SIMILAR AT ALL MEZZ WALLS & STAIRS.



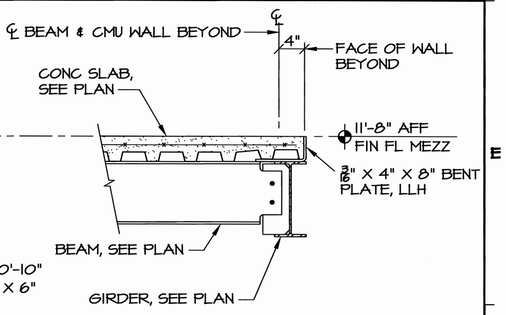
2/S4 MEZZ AT EDGE WALL
SCALE: 1" = 1'-0"



3/S4 MEZZ AT INT BEAM
SCALE: 1" = 1'-0"

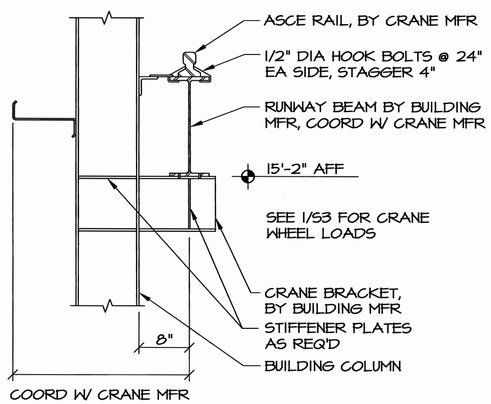


4/S4 MEZZ AT INT WALL
SCALE: 1" = 1'-0"

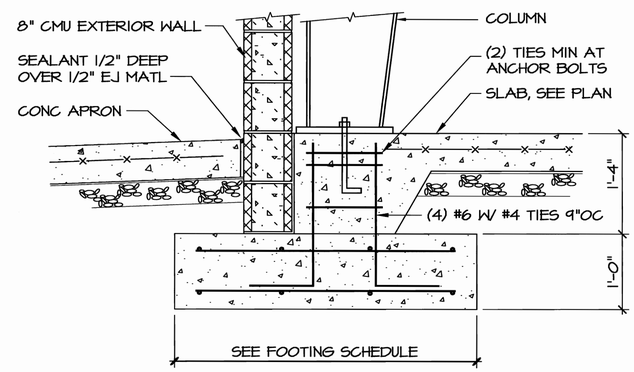


5/S4 MEZZ AT EDGE BEAM
SCALE: 1" = 1'-0"

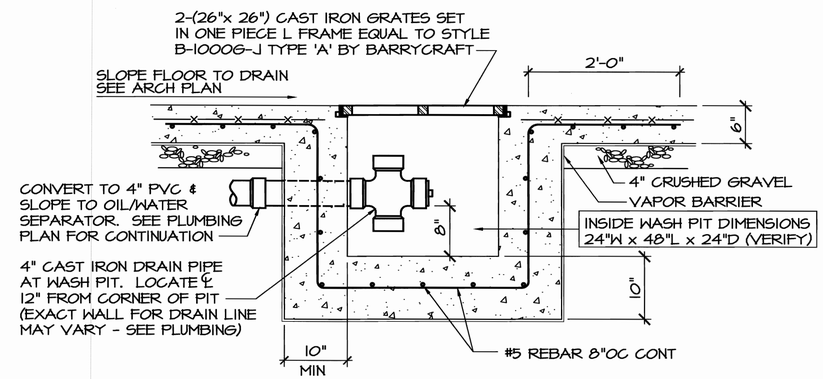
SEE ARCH FOR EAVE & FRAME HEIGHTS, VERIFY ADEQUATE CLEARANCE ABOVE RAIL FOR CRANE W/ CRANE MFR, COORD W/ OVERHEAD DOOR TRACK



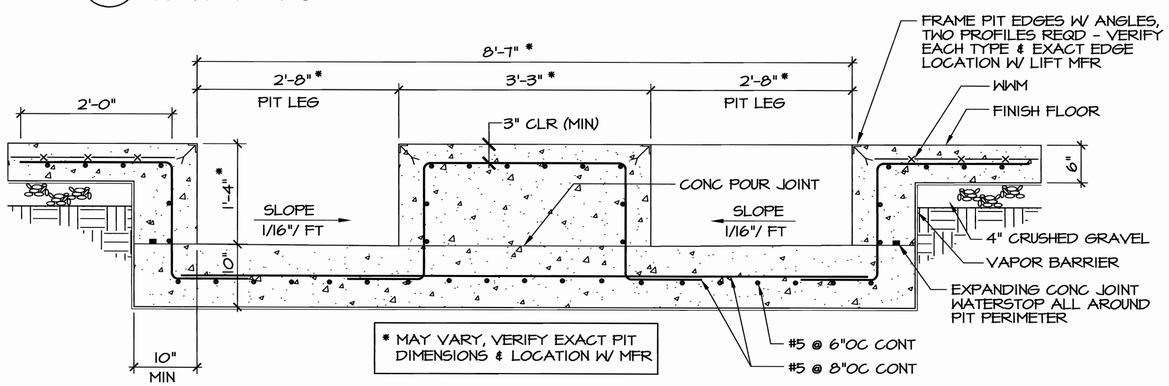
6/S4 CRANE RAIL DETAILS
SCALE: 1" = 1'-0"



7/S4 TYPICAL FOOTING AT COLUMN
SCALE: 1" = 1'-0"

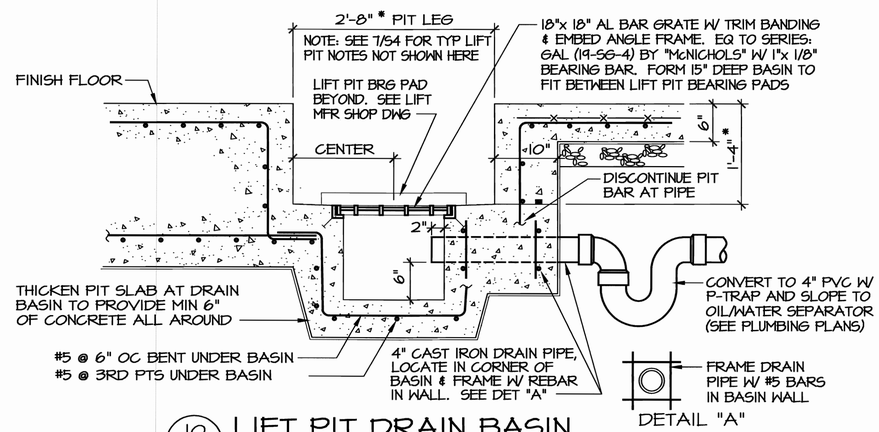


8/S4 WASH PIT SECTION
SCALE: 1" = 1'-0"



* MAY VARY, VERIFY EXACT PIT DIMENSIONS & LOCATION W/ MFR

9/S4 LIFT PIT SECTION
SCALE: 1" = 1'-0"



10/S4 LIFT PIT DRAIN BASIN
SCALE: 1" = 1'-0"

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 17326 ENGINEER MICHAEL D. MOUNTCASTLE 6-12

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PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
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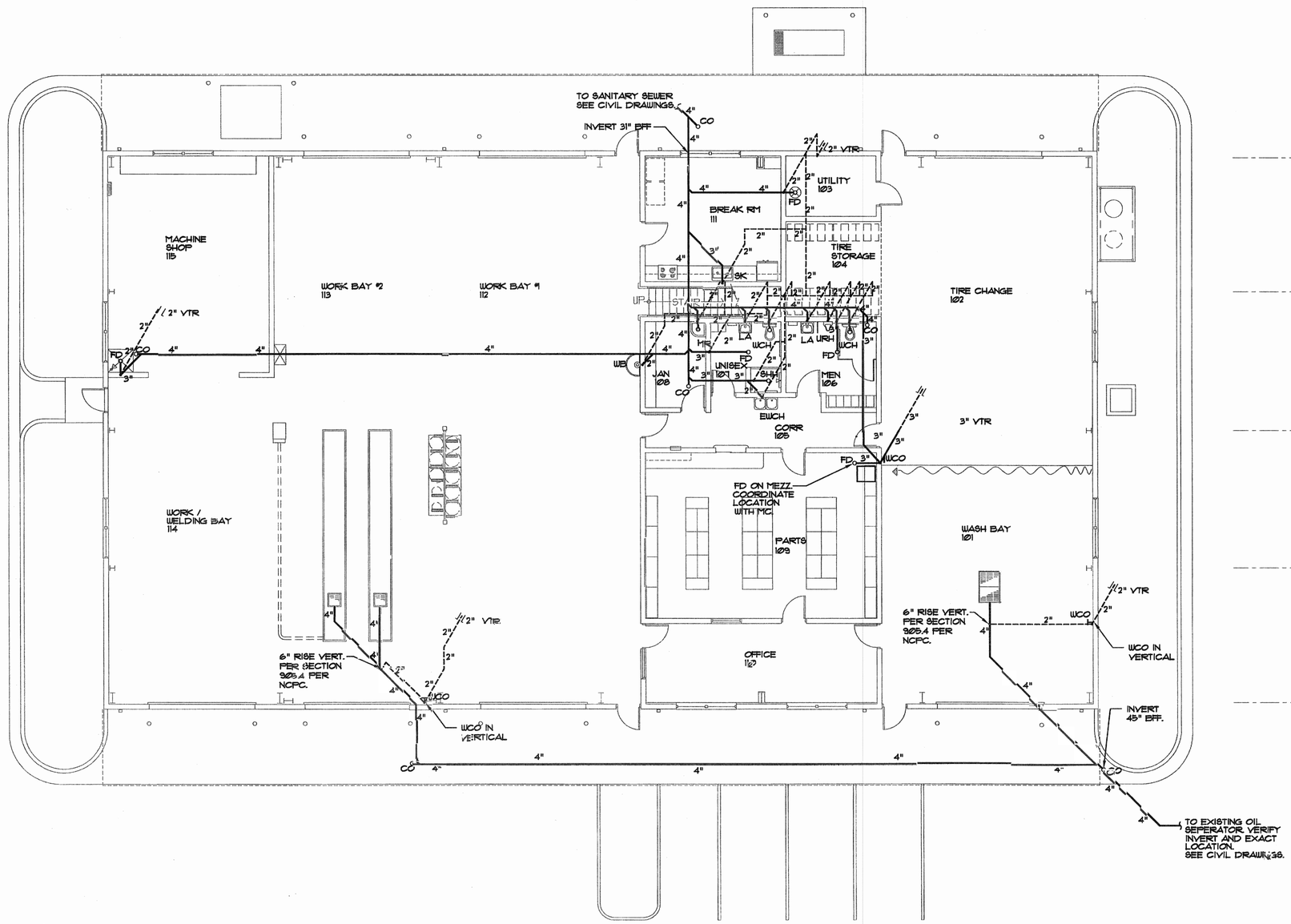

FLOOR PLAN - WASTE

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

CALLED NORTH

GRAPHIC SCALE

0 5 10 15 20 25 30

102111DRB128450

BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
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TEL (828) 328-1813 FAX (828) 328-1814

SEAL 7883 ENGINEER NORTH CAROLINA

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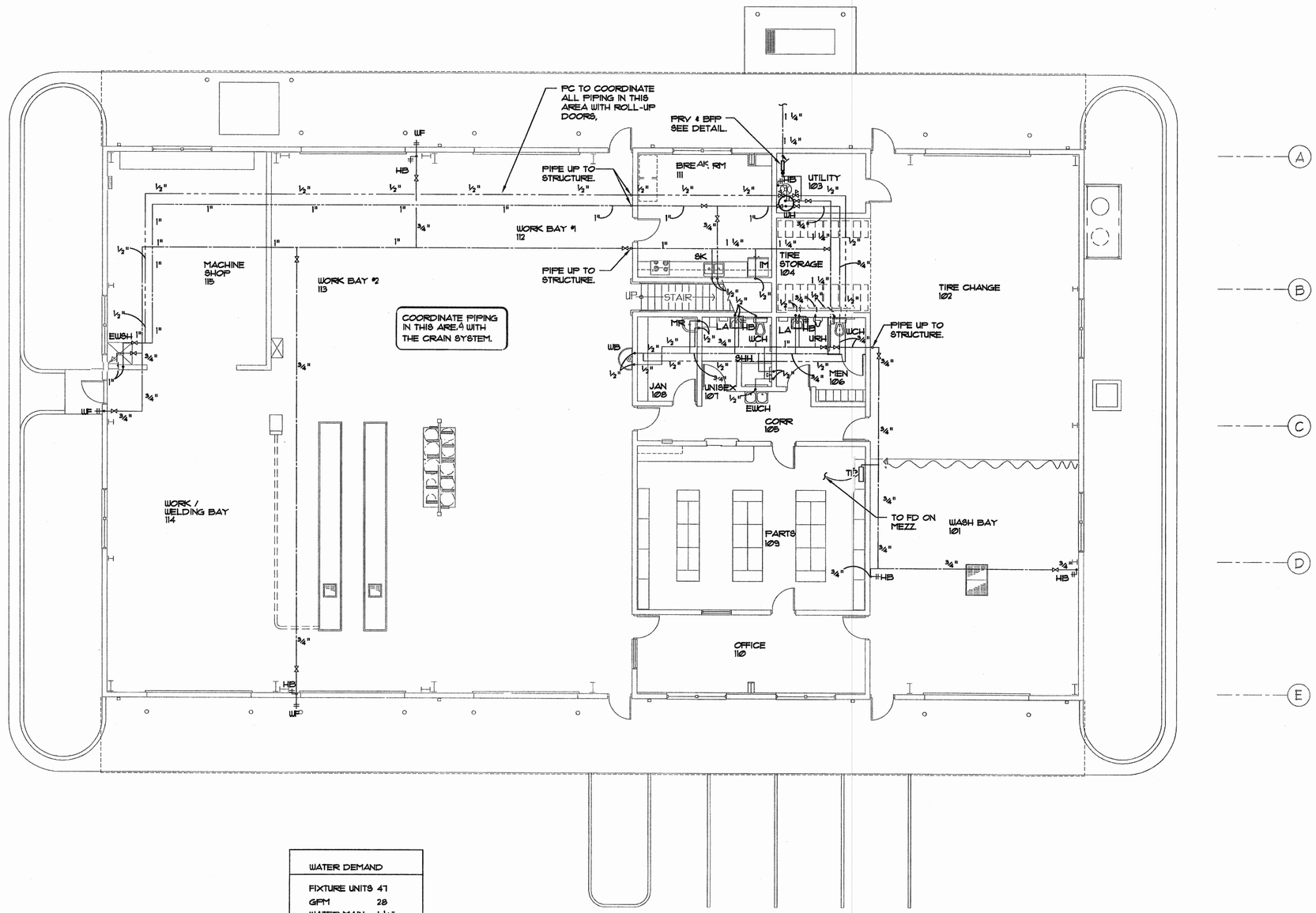

WATER DEMAND	
FIXTURE UNITS	47
GPM	28
WATER MAIN	1 ¼"

FLOOR PLAN - WATER

SCALE: ⅛" = 1'-0"

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GRAPHIC SCALE 0 5 10 15 20 25 30

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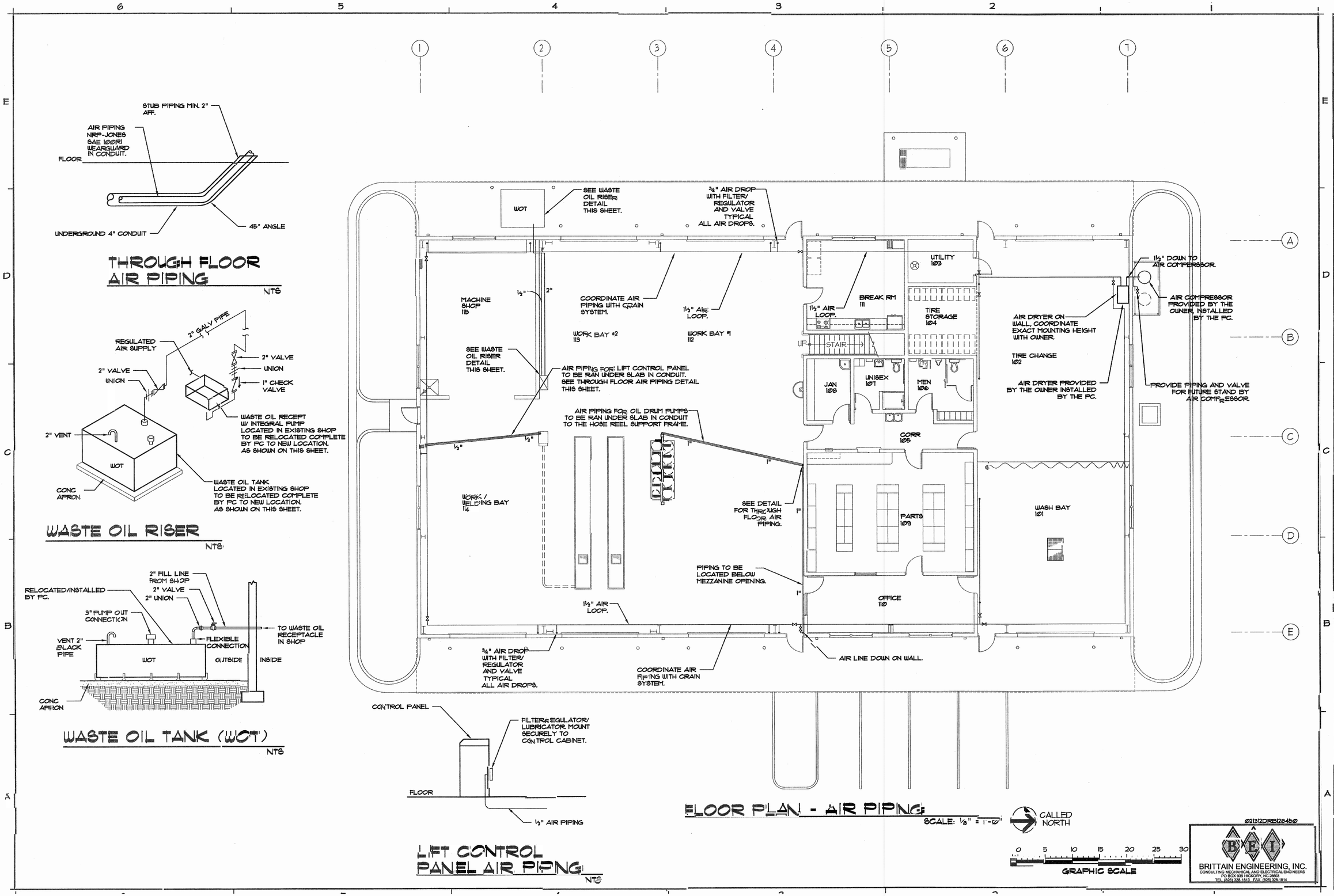

021312DRB128450

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PLUMBING FIXTURE SCHEDULE

NOTE: ALL FIXTURE APPURTENANCES SHALL BE SUPPLIED BY FIXTURE MANUFACTURER.

FIXTURE SYMBOL	FIXTURE TYPE	FIXTURE DESCRIPTION	CONNECTION SIZES W	V	CW	HW
WCH	WATER CLOSET (HANDICAPPED)	KOHLER #K-3611 "HIGHLINE"/BENEKE #523-SS EXTRA HEAVY DUTY SOLID PLASTIC ELONGATED OPEN FRONTSEAT/ KOHLER #K-1606 SUPPLY WITH WHEEL HANDLE STOP.	4"	2"	1/2"	
LA	WALL MOUNTED LAVATORY	KOHLER #K-2849/DELTA B23-LF HGMHDF FAUCET AND PERFORATED DRAIN KOHLER #K-1601, 3/8" WITH WHEEL OPERATED VALVE/MCGUIRE #8872-C-F, "P" TRAP MATCHING ZURN CONCEALED FLOOR MOUNTED CARRIER TRUEBRO WASTE AND WATER GUARD #102, MOUNT RIM 34" A.F.F.	2"	1 1/2"	1/2"	1/2"
URH	URINAL HANDICAP	KOHLER #K-4960-ET "BARDON" WITH 3/4" TOP SPUD/SLOAN REGAL 186-.125-XL-YK FLUSH VALVE/SCREWDRIVER OPERATED ANGLE STOP/ VACUUM BREAKER AND CAST BRASS WALL ESCUTCHEON WITH SET SCREW/ZURN MATCHING CONCEALED FLOOR-MOUNTED CARRIER, MOUNT RIM 17" A.F.F. MAX	2"	1 1/2"	3/4"	
SK	2- COMP. SINK HANDI-CAPPED	JUST LTC-ADA-2133-AGR-3-R-MOD, 21" X 33" LEDGE TYPE, 18 GAUGE 304 STAINLESS STEEL SINK WITH LEFT BOWL 4 1/2" DEEP AND RIGHT BOWL 7 1/2" DEEP. DELTA 26C3124 FAUCET WITH WRIST BLADES AND AERATOR. JUST #135 STAINLESS CRUMB STRAINER WITH REMOVEABLE BASKET WITH RUBBER SEAT STOPPER AND 1 1/2" STAINLESS TAILPIECE WITH CENTER REAR WASTE OUTLET. KOHLER #1607 3/8" FLEXIBLE LAVATORY SUPPLY UNIT WITH WHEEL OPERATED ANGLE VALVE AND CAST BRASS WALL ESCUTCHEON AND SET SCREW. MCGUIRE #13C21GFT 1-1/2" CENTER OUTLET 21" CENTERS 17 G.A. CONTINUOUS WASTE CAST BRASS. MCGUIRE #3912C-F, 1 1/2" ADJUSTABLE SEMI-CAST BRASS "P" TRAP WITH INTEGRAL THREAD CLEANOUT PLUG, OUTLET TO WALL AND CAST BRASS ESCUTCHEON. DISPOSER IN-SINK-ERATOR MODEL 333/SS, 1/2 HP SPLIT PHASE MOTOR IN RIGHT BOWL.	2"	1 1/2"	1/2"	1/2"
SHH	SHOWER HANDICAP	THE SHOWER SHALL BE TILED WITH A JOSAM #30000-6A-92 SERIES CAST IRON FLOOR DRAIN WITH GALVANIZED INTERIOR AND TYPE "B" 6" STRAINER. SYMMONS-9025-FSB "HYDAPIPE" SHOWER VALVE.	2"	2"	1/2"	1/2"
MR	MOP RECEPTOR	FIAT #TSCB-1610 "TERRAZZO" 24" X 24" X 12" MOP SERVICE SINK WITH INTEGRAL CAST BRASS DRAIN/ #830-AA FITTING/BUCKET HOOK 3/4" HOSE THREAD END/VACUUM BREAKER AND ADJUSTABLE TOP BRACE/#989- CC MOP HANGER AND #832-AA HOSE AND WALL HOOK AND MODEL E-88-AA BUMPERGUARD.	3"	2"	1/2"	1/2"
IM	ICEMAKER VALVE BOX	FURNISH AND INSTALL 4" TO 6" SQUARE PVC VALVE BOX WITH CHROME PLATED BRASS STOP VALVE IN WALL FOR ICEMAKER IN REFRIGERATOR.			1/2"	
WF	WALL FAUCET	WOODFORD MODEL 65 FREEZELESS WALL HYDRANT/VACUUM BREAKER BACKFLOW PREVENTER, MOUNT 24" AF. GRADE			3/4"	
HB	HOSE BIBB	WOODFORD MODEL 24P-1/2 WALL FAUCET WITH WHEEL HANDLE AND VACUUM BREAKER BACKFLOW PREVENTER, MOUNT 18" A.F.F.			1/2"	
WH	WATER HEATER	LOCHINVAR MODEL #LTJ080KK, 80 GALLON ELECTRIC WATER HEATER WITH TWO (2) 4500 WATT ELEMENTS, 208 VOLT, SINGLE PHASE, NON-SIMULTANEOUS WIRING WITH 3 YEAR WARRANTY. FURNISH WITH A.S.M.E. APPROVED RELIEF VALVE & PROPER SIZED EXPANSION TANK.			3/4"	3/4"
RCP	RECIRCULATION PUMP	BELL & GOSSETT MODEL PL-30 ALL BRONZE PUMP, 1/12 HP, 115, 115V, 10 GPM @ 10' HD. 3/4" FLANGED CONNECTIONS.				1/2"
EWCH	ELECTRIC WATER COOLER HANDICAP	OASIS PBACSL WALL HUNG BI-LEVEL ELECTRIC WATER COOLER, 8.0 GPH, 1/4 HP., 115V., 460W., ROUGH STOP SUPPLY, STAINLESS STEEL FINISH & CABINET, C.P.B. "P" TRAP, MOUNT RIM 40" A.F.F.	2"	1 1/2"	1/2"	
FD	FLOOR DRAIN	JOSAM #30000-6A-92 SERIES CAST IRON FLOOR DRAIN WITH GALVANIZED INTERIOR AND TYPE "B" 6" STRAINER.	4"	2"		
WB	WASH BASIN	WILL-BURT INDUSTRIES MODEL WAF-3603-ELI-SSI WITH SYMMONS 5-120CK MIXING VALVE.	2"	2"	1/2"	1/2"
EEWS	EMERGENCY EYE WASH SHOWER	GUARDIAN G1951CP-TMV EMERGENCY EYE WASH SHOWER WITH GUARDIAN 3800 THERMOSTATIC MIXING VALVE.	3"	2"	1/2"	1/2"

ACCEPTABLE MANUFACTURERS:

WATER CLOSETS, URINALS, LAVATORIES: KOHLER, AMERICAN STANDARD, ELJER, CRANE, TOTO, ZURN ONE.

CARRIERS - WADE, SMITH, ZURN, MIFAB.

SINKS - KOHLER, AMERICAN STANDARD, JUST, ELKAY, AMERICAN STANDARD, ZURN, CECO.

SHOWER VALVE ASSEMBLIES - SYMMONS, T&S, LEONARD, POWERS, AMERICAN STANDARD.

WATER HEATERS - STATE, BOCK, LOCHINVAR, BRADFORD WHITE, A.O. SMITH, RHEEM.

HOSE BIBBS - ZURN, WOODFORD, NIBCO.

WALL FAUCETS - WOODFORD, ZURN, WADE, SMITH, MIFAB.

FLOOR DRAINS, ROOF DRAINS, FLOOR SINKS - WADE, SMITH, ZURN, JOSAM, SIOUX CHIEF.

MOP RECEPTOR - FIAT, FLORSTONE, WILLIAMS, AMERICAN STANDARD.

RECIRCULATION PUMP - BELL & GOSSETT, TACO, GRUNDFOS

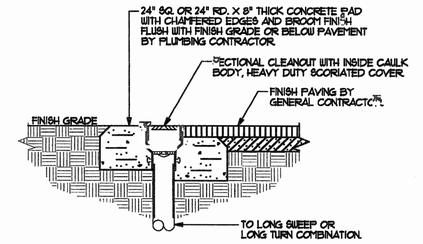
FAUCETS - DELTA, SYMMONS, T&S, AMERICAN STANDARD, MOEN.

WATER COOLERS - ELKAY, OASIS, HALSEY TAYLOR, ACORN AQUA.

FLUSH VALVES - DELANY, SLOAN, ZURN, HYDROTEK.

PLUMBING LEGEND

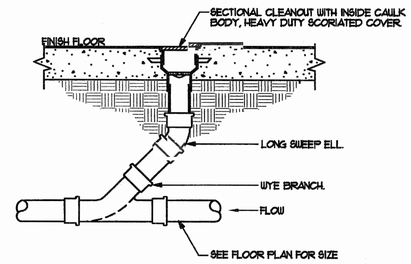
SYMBOL	DESCRIPTION
	SANITARY WASTE
	SANITARY VENT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRC.
	SHUT-OFF VALVE
	COMBINATION FLOW CONTROL/ BALL VALVE
	CUT-OFF VALVE IN RISER
	RISER UP AND RISER DOWN
	CLEANOUT (CO)
	HOSE BIBB (HB) OR WALL HYDRANT (WF)
VT.R	VENT THRU ROOF
SA	SHOCK ABSORBER "WATER HAMMER"
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR



NOTE:
OMIT CONCRETE PAD IF C.O. IS SET IN CONC. SURFACE PROVIDED BY GENERAL CONTRACTOR.

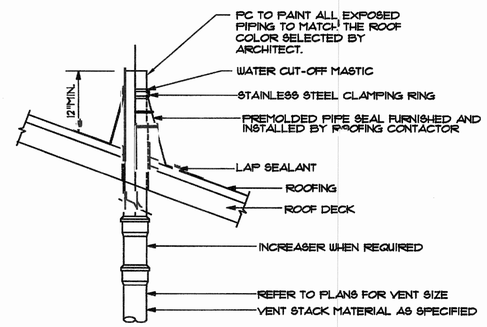
A CLEANOUT AT FINISH GRADE

SCALE: NONE



B CLEANOUT AT FINISH FLOOR

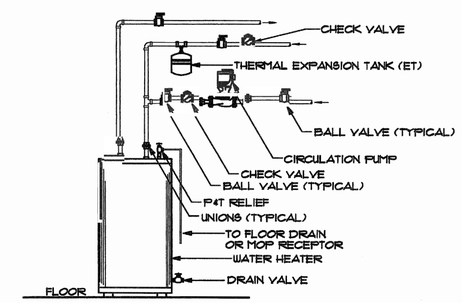
SCALE: NONE



PLUMBING VENT PENETRATION SHALL COMPLY WITH SECTION 3041 OF THE NCPC. PROVIDE SUPPORTS PER NCPC.

C VENT THRU THE ROOF

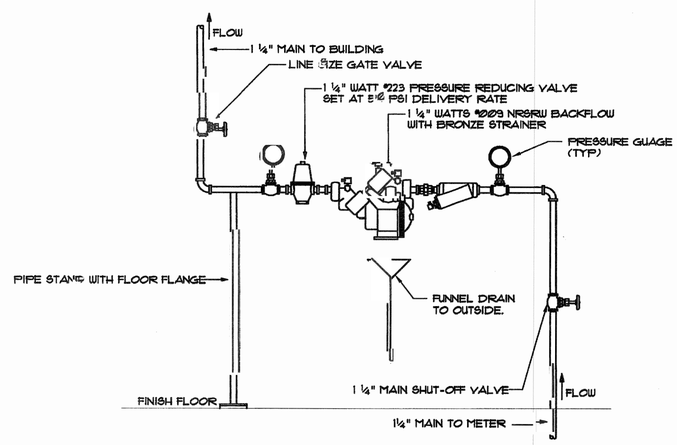
SCALE: NONE



NOTE: PROVIDE TIME SWITCH FOR RECIRCULATING PUMP PER SECTION 504.6 OF NC ENERGY CONSERVATION CODE.

D ELECTRIC WATER HEATER

SCALE: NONE



E WATER PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER STATION

SCALE: NONE

BRITTAIN ENGINEERING, INC.
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NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DONALD R. BRITTAIN 12/12

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ARCHITECTS & ENGINEERS
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RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER
COUNTY – SITE – BUILDING
55 - 01 - XX

REVISIONS

NO.	DATE

DATE ISSUED: 12-07-11
DRAWN BY: DRB
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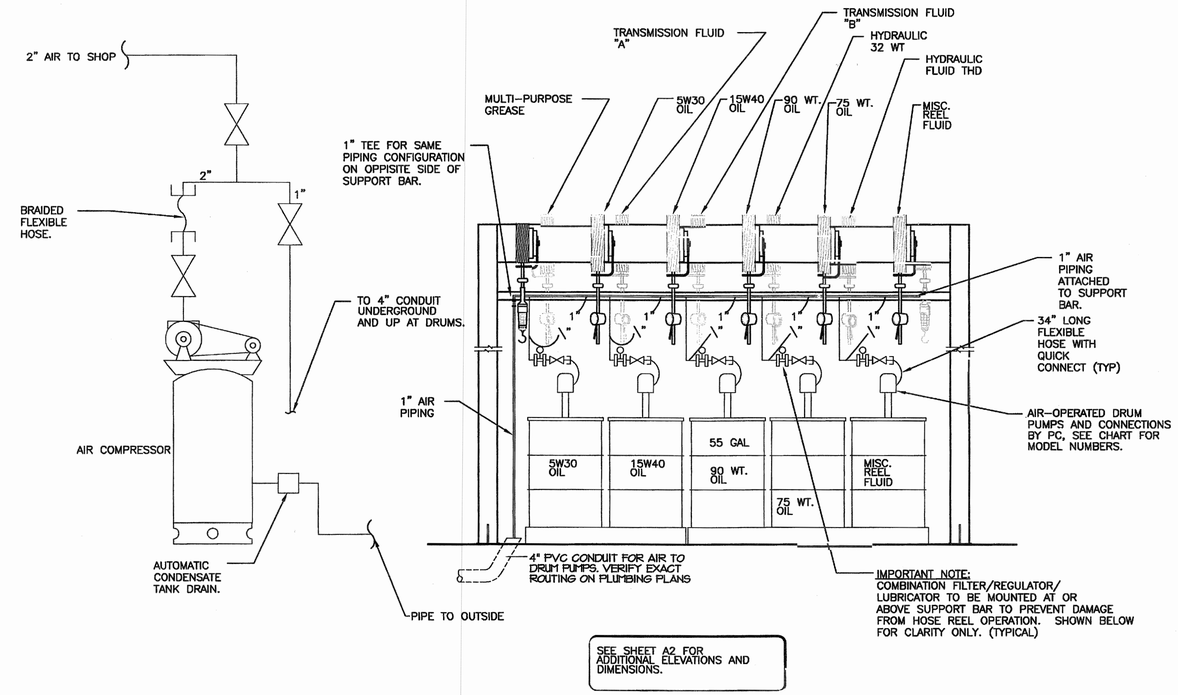

SEE SHEET A2 FOR ADDITIONAL ELEVATIONS AND DIMENSIONS.

COMPRESSED AIR SCHEMATIC

NTS

FLUID	PUMP MODEL	REEL MODEL	DISPENSER MODEL
5W30	GRACO PACKAGE MODEL 225640	GRACO MODEL HSM65B	GRACO MODEL 256556
15W40	GRACO PACKAGE MODEL 225640	GRACO MODEL HSM65B	GRACO MODEL 256556
75 WT.	GRACO PACKAGE MODEL 225094	GRACO MODEL HSM65B	GRACO MODEL 256787
90 WT	GRACO PACKAGE MODEL 225094	GRACO MODEL HSM65B	GRACO MODEL 256787
HYDRAULIC FLUID	GRACO PACKAGE MODEL 225094	GRACO MODEL HSM65B	GRACO MODEL 256786
TRANSMISSION FLUID	GRACO PACKAGE MODEL 225094	GRACO MODEL HSM65B	GRACO MODEL 256786
MULTI PURPOSE GREASE	GRACO PACKAGE MODEL 223108	GRACO MODEL HSH55B	GRACO MODEL 242058

NOTE: ALL PUMP PACKAGES REQUIRE \" IN AIR REGULATOR/GAUGE MODES 244844

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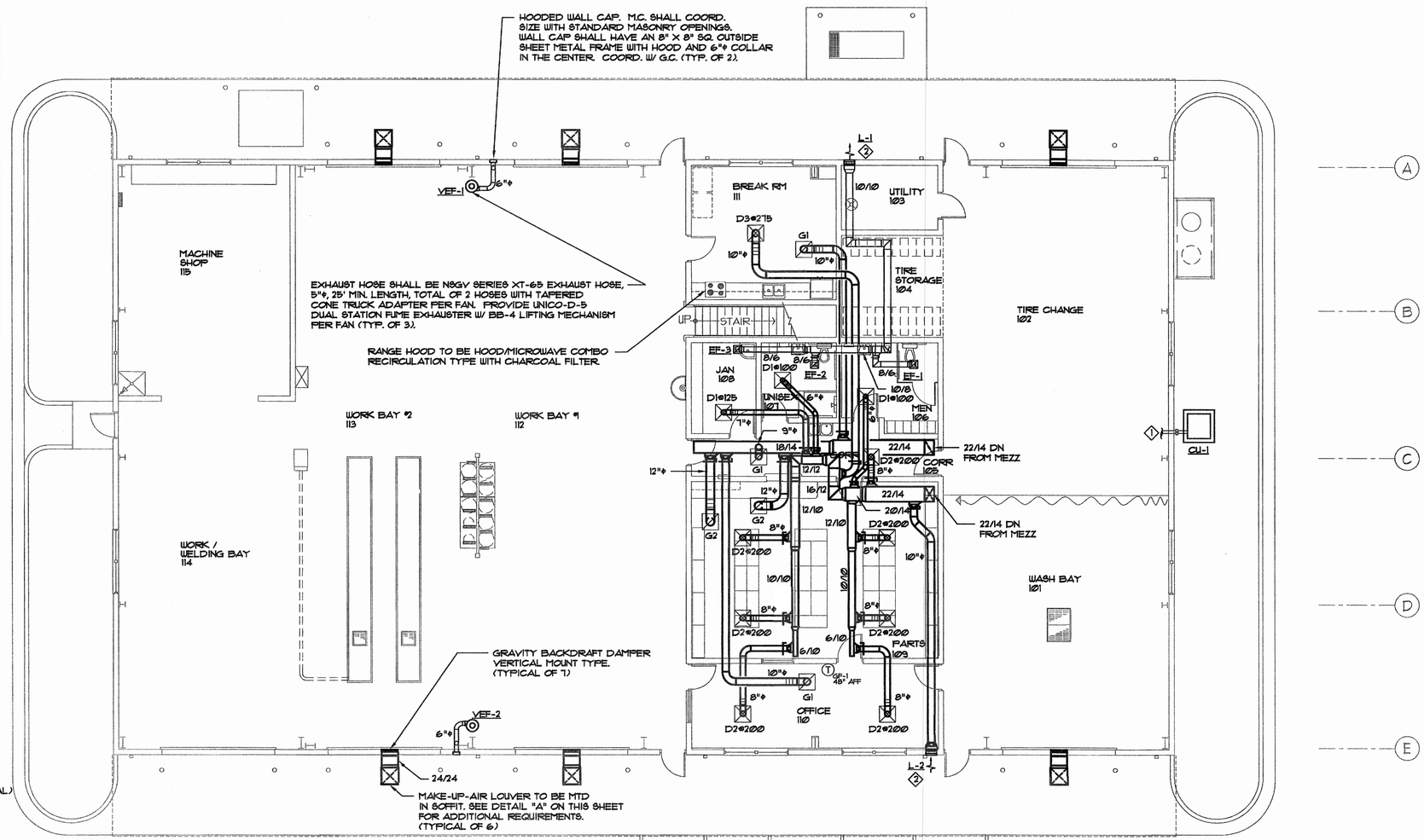
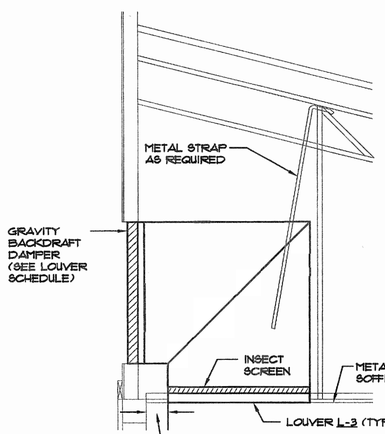
MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER
	RETURN AIR GRILLE OR REGISTER
	EXHAUST AIR GRILLE OR REGISTER
	DUCTWORK
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	TRANSITION RECTANGULAR TO RECTANGULAR
	TRANSITION RECTANGULAR TO ROUND
	ELBOW W/SINGLE THICKNESS VANES
	ADJUSTABLE SPLITTER TEE WITH TURNING VANES (SUPPLY AIR ONLY)
T	THERMOSTAT
FD	FIRE DAMPER - VERTICAL
FD	FIRE DAMPER - HORIZONTAL
G	GAS PIPING
	GATE VALVE
O	PIPE RISER
C	PIPE DROP
E	CAP ON END OF MAIN OR PLUGGED TEE
AHU	AIR HANDLING UNIT
AFF	ABOVE FINISHED FLOOR
CU	CONDENSING UNIT
DN	DOWN
E.A. ± E/A	EXHAUST AIR
O.A. ± O/A	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
RG	RETURN GRILLE
R.A. ± R/A	RETURN AIR
S.A. ± S/A	SUPPLY AIR
SF	SUPPLY FAN
TYP	TYPICAL
S	MANUAL MOTOR RATED TOGGLE SWITCH





MAKE-UP-AIR DUCT DETAIL-SOFFIT MTD

A — NTS

OUTSIDE AIR CALCULATIONS: WORK BAY
REPAIR GARAGE = 1.5 CFM/S.F.
5400 S.F. X 1.5 CFM/S.F. = 8,100 CFM

8,100 CFM O.A. REQUIRED.
8,400 CFM PROVIDED VIA F-3, 4, & 6.

OUTSIDE AIR CALCULATIONS: TIRE/WASH BAY
REPAIR GARAGE = 1.5 CFM/S.F.
2125 S.F. X 1.5 CFM/S.F. = 3,188 CFM

3,188 CFM O.A. REQUIRED.
7,300 CFM PROVIDED VIA F-1 & 2.

KEYNOTE LEGEND: (THIS SHEET ONLY)

1. EXTEND THE REFRIGERANT PIPING FROM THE EVAPORATOR COIL TO THE CONDENSER. THE PIPING AND TRAPS SHALL BE SIZED AND INSTALLED PER THE HVAC EQUIPMENT MFR'S RECOMMENDED INSTALLATION INSTRUCTIONS.
2. COORDINATE EXACT LOCATIONS OF VENTS AND LOUVERS WITH ARCHITECTURAL ELEVATIONS SHEET A4.

OUTSIDE AIR CALCULATIONS: GF-1
BUSINESS OCCUPANCY = 1 PEOPLE/1000 S.F.
510 S.F. X 1 PEOPLE/1000 S.F. = 6 PEOPLE
6 PEOPLE X 20 CFM/PERSON = 120 CFM O.A.

STORAGE = 0.15 CFM/S.F.
724 S.F. X 0.15 CFM/S.F. = 109 CFM

CORRIDOR = 0.05 CFM/S.F.
156 S.F. X 0.15 CFM/S.F. = 8 CFM

237 CFM O.A. REQUIRED.
250 CFM SUPPLIED.

FLOOR PLAN - HVAC

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

CALLED NORTH

0 5 10 15 20 25 30
GRAPHIC SCALE

06141219128450

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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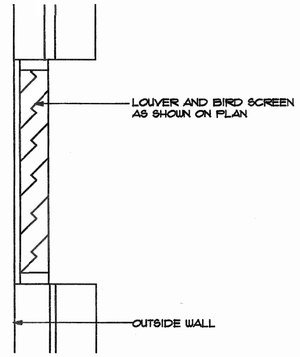
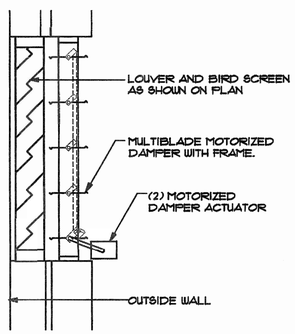


NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR EXACT WALL TYPES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS

A LOUVER DETAIL

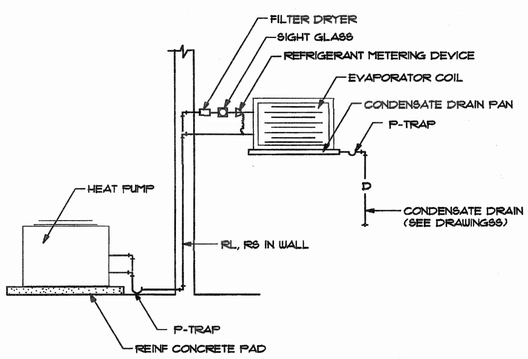
SCALE: NTS



NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR EXACT WALL TYPES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS

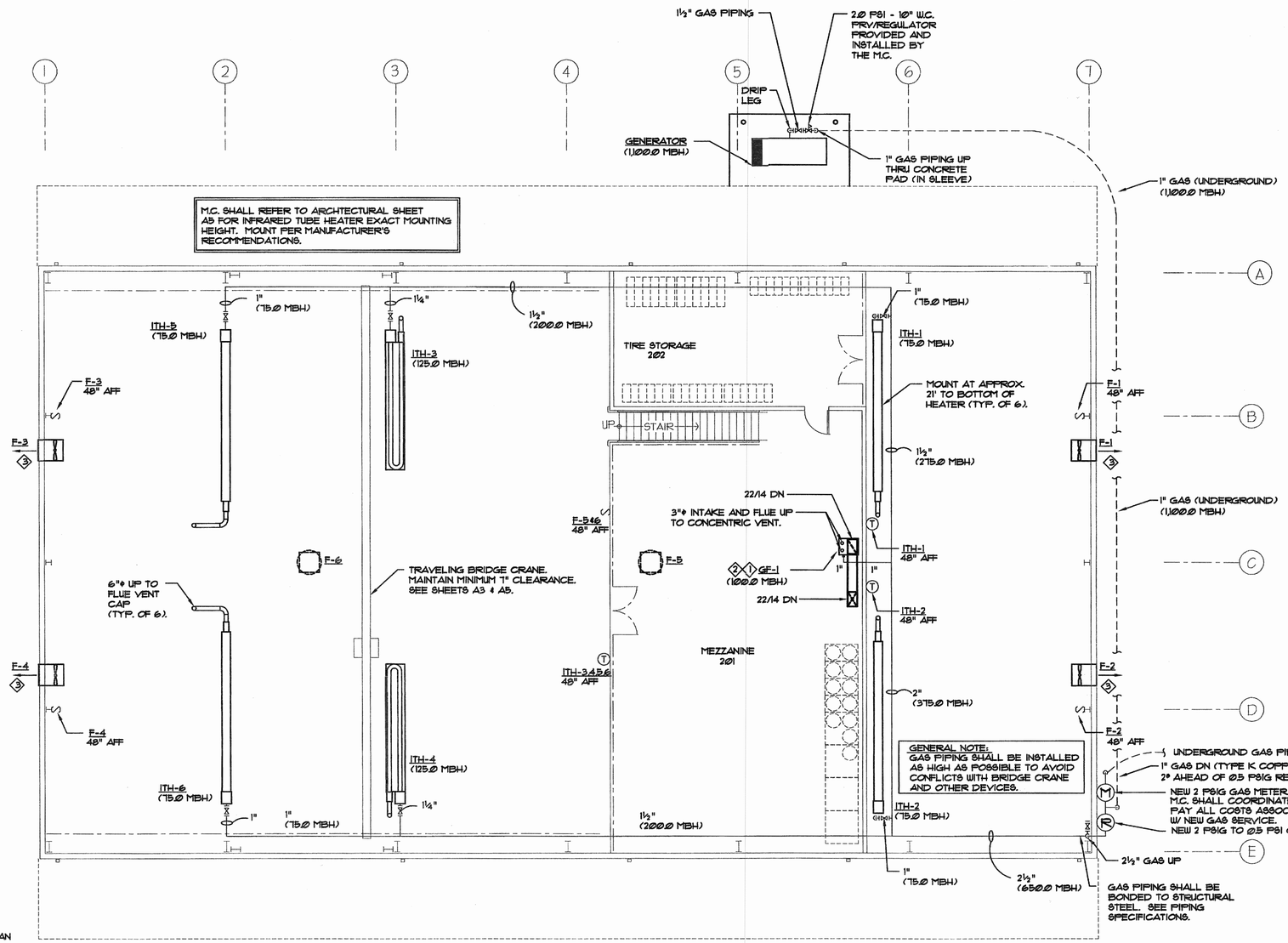
B LOUVER WITH DAMPER DETAIL

SCALE: NTS



C CONDENSING UNIT ON GROUND PIPING DIAGRAM

SCALE: NTS



GENERAL NOTE:
GAS PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE TO AVOID CONFLICTS WITH BRIDGE CRANE AND OTHER DEVICES.

UNDERGROUND GAS PIPING FROM UTILITY
1" GAS DN (TYPE K COPPER TUBING) 2' AHEAD OF Ø.5 PSIG REG., (1,000.0 MBH)
NEW 2 PSIG GAS METER. M.C. SHALL COORDINATE & PAY ALL COSTS ASSOCIATED W/ NEW GAS SERVICE.
NEW 2 PSIG TO Ø.5 PSI GAS REGULATOR

GAS PIPING SHALL BE BONDED TO STRUCTURAL STEEL. SEE PIPING SPECIFICATIONS.

MEZZANINE FLOOR PLAN - HVAC

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

CALLED NORTH

GAS LOAD SUMMARY: (UNDERGROUND)

GENERATOR	1,000.0 MBH
TOTAL	1,000.0 MBH

TOTAL EQUIVALENT LENGTH OF GAS PIPING IS 150 LF. 1" SEMIRIGID COPPER TUBING WILL CARRY 1260.0 MBH OF 2.0 PSI GAS @ 150 LF PER TABLE 402.4(10) OF THE 2009 NORTH CAROLINA FUEL GAS CODE.

M.C. SHALL PROVIDE & INSTALL THE 2.0 PSI - 10.0" W.C. PRV/REGULATOR AS REQUIRED FOR THE GENERATOR.

GAS LOAD SUMMARY:

GF-1	100.0 MBH
ITH-1	75.0 MBH
ITH-2	75.0 MBH
ITH-3	125.0 MBH
ITH-4	125.0 MBH
ITH-5	75.0 MBH
ITH-6	75.0 MBH
TOTAL	650.0 MBH

TOTAL EQUIVALENT LENGTH OF GAS PIPING IS 250.0 LF. 2½" WILL CARRY 1020.0 MBH OF 7" WC GAS @ 250.0 LF PER TABLE 402.4(2) OF 2009 NORTH CAROLINA FUEL GAS CODE.

KEYNOTE LEGEND: (THIS SHEET ONLY)

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2. EXTEND THE CONDENSATE DRAIN FROM THE EVAPORATOR COIL TO THE HUB DRAIN. THE DRAIN AND TRAP SHALL BE SIZED AND INSTALLED PER THE HVAC EQUIPMENT MFR'S RECOMMENDED INSTALLATION INSTRUCTIONS.
3. COORDINATE EXACT LOCATIONS OF EXHAUST FANS WITH ARCHITECTURAL ELEVATIONS SHEET A4.

0 5 10 15 20 25 30
GRAPHIC SCALE

061412RB1284B0

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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M2
2 OF 4

INFRA-RED TUBE HEATER SCHEDULE

TAG	MFR	MODEL	NATURAL GAS INPUT MBH	RADIANT SURFACE SQ. FT.	SIZE (IN.) L	W	H	ELECTRICAL START AMPS	RUN AMPS	VOLTS	PH	REMARKS
ITH-1	SPACE-RAY	LTS-75-20	75.0	---	273	13	6	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH, MOUNT ON 45°
ITH-2	SPACE-RAY	LTS-75-20	75.0	---	273	13	6	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH, MOUNT ON 45°
ITH-3	SPACE-RAY	LTU-125-30	125.0	---	2105	28	7	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH,
ITH-4	SPACE-RAY	LTU-125-30	125.0	---	2105	28	7	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH,
ITH-5	SPACE-RAY	LTS-75-20	75.0	---	273	13	6	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH, MOUNT ON 45°
ITH-6	SPACE-RAY	LTS-75-20	75.0	---	273	13	6	---	2.6	120V	1φ	ISOLATION BRACKETS, WALL MOUNTED T'STAT, DISCONNECT SWITCH, MOUNT ON 45°

ACCEPTABLE MANUFACTURERS: SPACE-RAY, ROBERTS GORDON, SUPERIOR RADIANT, SWANK.

OFFICE AREA ONLY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
METHOD OF COMPLIANCE

Prescriptive ● Energy Cost Budget ____

Thermal Zone 4
Exterior design conditions
- winter dry bulb 18° F
- summer dry bulb 93° F DB/74° F WB

Interior design conditions
- winter dry bulb 75° F
- summer dry bulb 78° F
- relative humidity 50%

Building heating load 406 MBH
Building cooling load 55.1 MBH
Mechanical Spacing Conditioning System
- Unitary
  - description of unit: GAS FIRED FURNACE
  - heating efficiency: SEE SCHEDULES
  - cooling efficiency: SEE SCHEDULES
  - heat output of unit: SEE SCHEDULES
  - cooling output of unit: SEE SCHEDULES
- boiler: total boiler output. If oversized, state reason. N/A
- chiller: total chiller capacity. If oversized, state reason. N/A

List equipment efficiencies N/A

Equipment schedules with motors (mechanical systems)
- motor horsepower: SEE SCHEDULES
- number of phases: SEE SCHEDULES
- minimum efficiency: PER NEMA STD MG 1-2003, TABLES 12-10 & 11
- motor type: ODP
- # of poles: 4

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipments of the North Carolina State Building Code, Energy Conservation Code, 2009 ed.

SIGNED: [signature]
NAME: DONALD R BRITTAIN
TITLE: PROFESSIONAL ENGINEER

GAS FIRED FURNACE SCHEDULE

DESIGNATION	GF-1	
MANUFACT.	TRANE	
MODEL NO.	TDHID110A9601A	
CFM	2000	
O.A. CFM	250	
ESP (IN WC.)	0.55"	
INPUT (MBH)	110.0	
OUTPUT (MBH)	104.5	
EFFICIENCY	95%	
TEMP. RISE (°F)	48.0	
FAN HP	3/4	
FILTERS	(1) 24 X 25 X 1	
POWER SUPPLY	120V/1φ/60	
MCA	12.9	
MOP	20.0	
WEIGHT (LBS)	193	
ACCESSORIES:	7-DAY PROG. T'STAT, MATCHING COOLING COIL, DISCONNECT SWITCH, TWO SPARE FILTERS, CONDENSATE NEUTRALIZATION KIT	

ACCEPTABLE MANUFACTURERS: TRANE, RHEEM, LENNOX.

CONDENSER UNIT COOLING ONLY SCHEDULE

UNIT NO.	COOLING CAP. (BTUH) AT A.R.I. STD CONDITIONS	ELECTRICAL POWER VOLTS	PHASE	MCA AMPS	MOP AMPS	OPERATING WEIGHT (LBS)	MANUFACTURER & MODEL NUMBER OR APPROVED EQUAL	SEER
CU-1	58,500	208	3	24.0	40.0	259	TRANE 4TTA3060A3000A	13.0

(1) REFERIGERANT PIPING SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURE'S RECOMMENDATIONS, LOW AMBIANT COOLING, COIL GUARDS, 250V/60/3/3R DISCONNECT, FUSE FOR UNIT.
ACCEPTABLE MANUFACTURERS: TRANE, RHEEM, LENNOX.

AIR DISTRIBUTION DEVICE SCHEDULE

TYPE	DESCRIPTION NECK SIZE	MOUNTING	MANUFACTURER CATALOG NO. PRICE	MATERIAL	FINISH	ACCESSORIES/ REMARKS
D1	SUPPLY DIFFUSER 8" X 8"	CEILING SURFACE	520D	STEEL	WHITE	VCS3 OBD, BORDER TYPE F, SR3 ADAPTER
D2	SUPPLY DIFFUSER 9" X 9"	CEILING LAY-IN	SMD	STEEL	WHITE	VCS3 OBD, BORDER TYPE 3P, SR3 ADAPTER
D3	SUPPLY DIFFUSER 12" X 12"	CEILING LAY-IN	SMD	STEEL	WHITE	VCS3 OBD, BORDER TYPE 3P, SR3 ADAPTER
G1	RETURN GRILLE 14" X 14"	CEILING LAY-IN	535	STEEL	WHITE	BORDER TYPE TB
G2	RETURN GRILLE 16" X 16"	CEILING LAY-IN	535	STEEL	WHITE	BORDER TYPE TB

ACCEPTABLE MANUFACTURERS: PRICE, TITUS, METALAIRE, KRUEGER.

FAN SCHEDULE

DESIG.	SERVES	CFM	EXT. S.P.	RPM	WATTS H.P.	VOLTS PHASE	MFG./PART NO. GREENHECK	SONES	DRIVE	REMARKS
EF-1	MEN	150	.025	1325	113 W	120V/1φ	SP-A190	2.0	DIRECT	BACKDRAFT DAMPER, DISCONNECT SWITCH, FACTORY MTD. SPEED CONTROLLER, MOTION SENSOR IN GRILLE
EF-2	UNISEX	150	.025	1325	113 W	120V/1φ	SP-A190	2.0	DIRECT	BACKDRAFT DAMPER, DISCONNECT SWITCH, FACTORY MTD. SPEED CONTROLLER, MOTION SENSOR IN GRILLE
EF-3	JAN.	150	.025	1325	113 W	120V/1φ	SP-A190	2.0	DIRECT	BACKDRAFT DAMPER, DISCONNECT SWITCH, FACTORY MTD. SPEED CONTROLLER, MOTION SENSOR IN GRILLE
VEF-1	VEHICLE EXHAUST	1200	3"	3450	3 HP	208V/3φ	NSGV AF-12-3	--	DIRECT	WALL MOUNT BRACKET, ON/OFF SWITCH, CERUS BASI-18J-G10-22 STARTER DISCONNECT, INLET Y FITTING, TAPERED CONE ADAPTER, VIB. ISOLATORS
VEF-2	VEHICLE EXHAUST	1200	3"	3450	3 HP	208V/3φ	NSGV AF-12-3	--	DIRECT	WALL MOUNT BRACKET, ON/OFF SWITCH, CERUS BASI-18J-G10-22 STARTER DISCONNECT, INLET Y FITTING, TAPERED CONE ADAPTER, VIB. ISOLATORS
F-1	BAY EXHAUST	3650	.125	544	1/4 HP	120V/1φ	SBE-1L24-4	10.0	BELT	GRAVITY DISCHARGE DAMPER, DISCONNECT SWITCH, SHORT WALL HOUSING, EXTENDED LUBE LINES, CLOSURE ANGLES
F-2	BAY EXHAUST	3650	.125	544	1/4 HP	120V/1φ	SBE-1L24-4	10.0	BELT	GRAVITY DISCHARGE DAMPER, DISCONNECT SWITCH, SHORT WALL HOUSING, EXTENDED LUBE LINES, CLOSURE ANGLES
F-3	BAY EXHAUST	2800	.125	745	1/4 HP	120V/1φ	SBE-1L20-4	11.7	BELT	GRAVITY DISCHARGE DAMPER, DISCONNECT SWITCH, SHORT WALL HOUSING, EXTENDED LUBE LINES, CLOSURE ANGLES
F-4	BAY EXHAUST	2800	.125	745	1/4 HP	120V/1φ	SBE-1L20-4	11.7	BELT	GRAVITY DISCHARGE DAMPER, DISCONNECT SWITCH, SHORT WALL HOUSING, EXTENDED LUBE LINES, CLOSURE ANGLES
F-5	MEZZ. EXHAUST	2800	.125	763	1/3 HP	120V/1φ	GB-180-3	9.2	BELT	GRAVITY DISCHARGE DAMPER, NEMA 3R DISC. SWITCH, 12" ROOF CURB, HINGED BASE, EXTENDED LUBE LINES, AUTO BELT TENSION
F-6	MEZZ. EXHAUST	2800	.125	763	1/3 HP	120V/1φ	GB-180-3	9.2	BELT	GRAVITY DISCHARGE DAMPER, NEMA 3R DISC. SWITCH, 12" ROOF CURB, HINGED BASE, EXTENDED LUBE LINES, AUTO BELT TENSION

ACCEPTABLE MANUFACTURERS: GREENHECK, LOREN COOK, PENN BERRY

LOUVER SCHEDULE

DESIG.	SIZE W X H	CFM	MANUFACTURER AND MODEL NO.	MATERIAL	FINISH	ACCESSORIES/ REMARKS
L-1	16" X 12"	500	GREENHECK EDD-601	ALUMINUM	KYNAR, COLOR BY ARCHITECT	(1)
L-2	16" X 12"	500	GREENHECK EDD-601	ALUMINUM	KYNAR, COLOR BY ARCHITECT	(1), (2)
L-3	24" X 24"	2500	GREENHECK ESJ-202	ALUMINUM	KYNAR, COLOR BY ARCHITECT	(3) (4)

(1) LOUVERS SHALL BE SUPPLIED BY M.C. M.C. SHALL COORDINATE THE OPENING SIZE W/ THE G.C. G.C. SHALL INSTALL THE LOUVERS COMPLETE.
(2) 24V MOTORIZED DAMPER AT LOUVER TO BE INTERLOCKED WITH GF-1 FAN TO OPEN WHEN FAN IS ENERGIZED.
(3) LOUVER TO BE SUPPLIED COMPLETE WITH FLANGE FRAME, INSECT SCREEN AND SHALL INCLUDE A MODEL WD-430 VERTICAL MOUNT GRAVITY INTAKE DAMPER WITH FLANGE FRAME. (TYPICAL OF 8)
(4) LOUVERS SHALL BE SUPPLIED BY M.C. M.C. SHALL COORDINATE THE OPENING SIZE W/ THE G.C. M.C. SHALL INSTALL THE LOUVERS COMPLETE.

ACCEPTABLE MANUFACTURERS: POTTORFF, RUSKIN, GREENHECK, UNITED INTERTECH.

122118R12845Ø

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919/715-0400 FAX 919/715-0399

PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
ASSET NUMBER
COUNTY-SITE-BUILDING
55 - 01 - XX

REVISIONS

NO.	DATE

DATE ISSUED: 12-07-11
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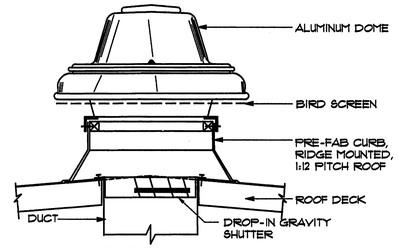
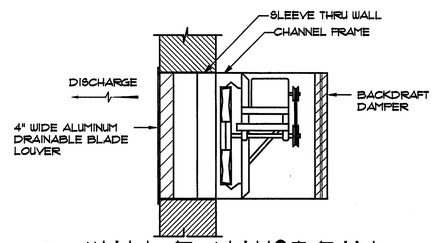
M3
3 OF 4



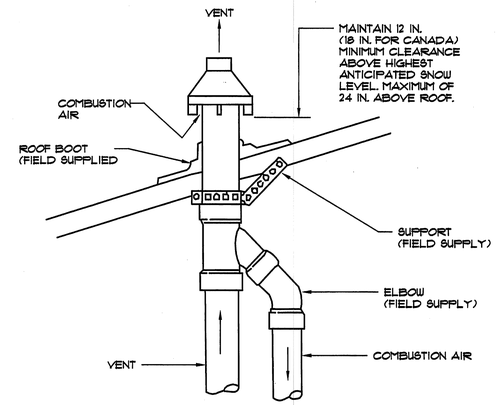
A ROOF EXHAUST FAN

SCALE: NTS



B WALL EXHAUST FAN

SCALE: NTS

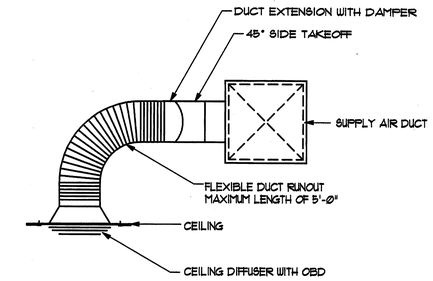


ALL FLASHING AND WEATHERPROOFING SHALL BE SUPPLIED AND INSTALLED BY THE ROOFING CONTRACTOR TO INSURE ROOF CONTINUITY AND WARRANTY.

E CONCENTRIC VENT ROOF INSTALLATION

GAS FURNACE

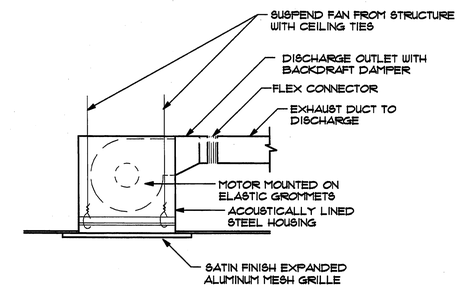
NTS



NOTE:
ALL FLEXIBLE DUCT CONNECTIONS SHALL BE IN ACCORDANCE WITH UL 181 AND SMACNA INSTALLATION GUIDELINES.

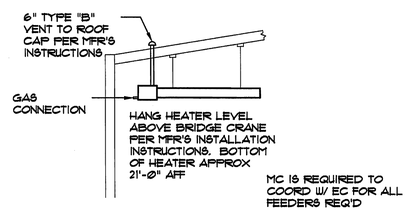
G DIFFUSER CONNECTIONS

SCALE: NTS



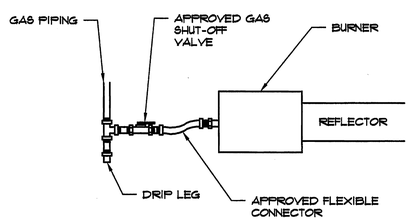
H CEILING MOUNTED EXHAUST FAN

SCALE: NTS



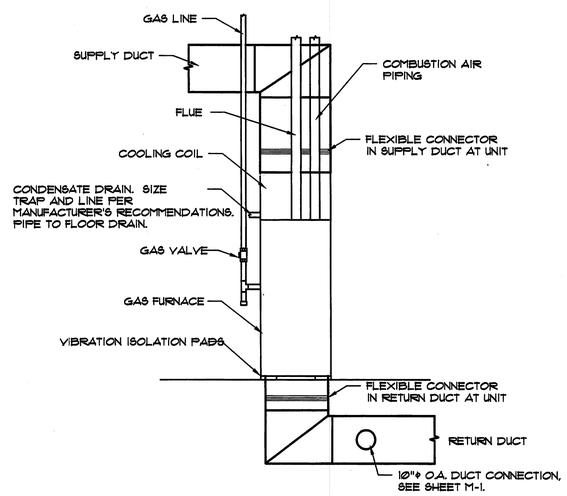
C INFRARED GAS HEATER

SCALE: NTS



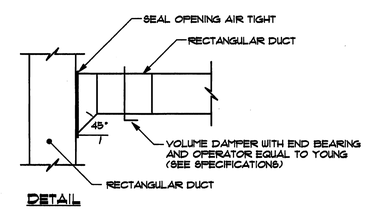
D INFRARED GAS HEATER PIPING

SCALE: NTS

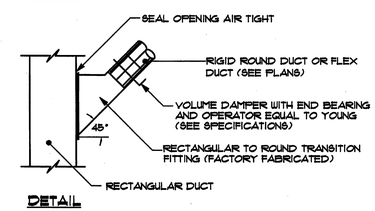


F TYPICAL GAS FURNACE DETAIL

SCALE: NTS



DETAIL



DETAIL

J DUCT TAKE-OFFS

SCALE: NTS

122116RI128450

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NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DONALD R. BRITTAIN

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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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HIGHWAY DIVISION 12, NCDOT
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SHEET NO.	M4

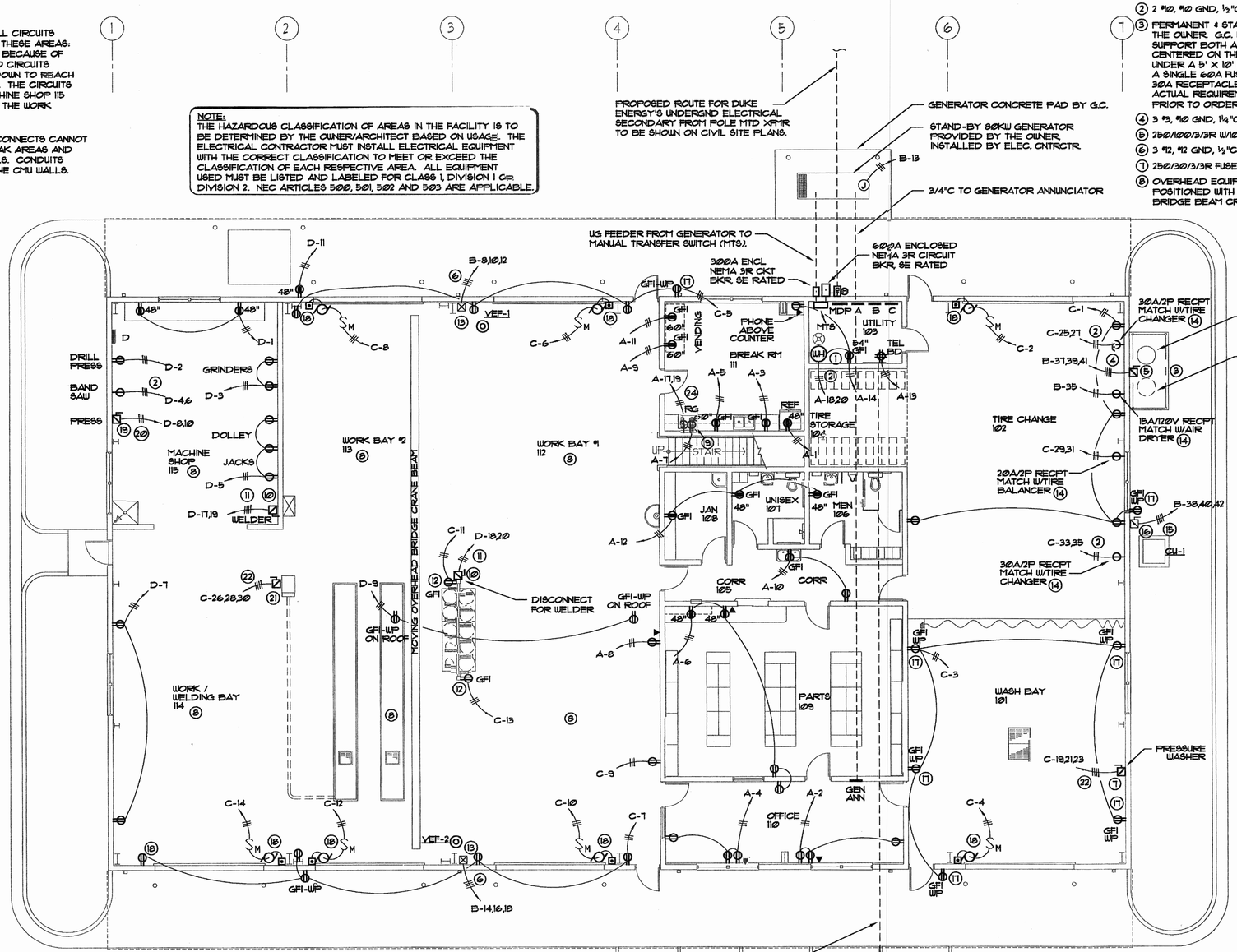
4 OF 4

NOTES:
DUE TO THE OVERHEAD MOVABLE CRANE, ALL CIRCUITS MUST BE ROUTED UNDER CONCRETE SLAB IN THESE AREAS: WORK BAY 112, 113, 114 AND MACHINE SHOP 115. BECAUSE OF CONFLICT WITH THE CRANE, THERE CAN BE NO CIRCUITS REOUTED OVERHEAD AND THEN DROPPED DOWN TO REACH THEIR INTENDED EQUIPMENT IN THESE AREAS. THE CIRCUITS OBVIOUSLY AFFECTED AE THOSE IN THE MACHINE SHOP 115 TO PANEL "D" AND THOSE IN THE MIDDLE OF THE WORK BAYS 112 AND 113 TO PANELS "C" AND "D".

CONDUITS TO SWITCHES, THERMOSTATS & DISCONNECTS CANNOT BE EXPOSED IN THE OFFICE /PARTS/RR/BREAK AREAS AND MUST BE INSTALLED INSIDE OF THE CMU WALLS. CONDUITS IN THE SHOP AREAS CAN BE EXPOSED ON THE CMU WALLS.

NOTE:
THE HAZARDOUS CLASSIFICATION OF AREAS IN THE FACILITY IS TO BE DETERMINED BY THE OWNER/ARCHITECT BASED ON USAGE. THE ELECTRICAL CONTRACTOR MUST INSTALL ELECTRICAL EQUIPMENT WITH THE CORRECT CLASSIFICATION TO MEET OR EXCEED THE CLASSIFICATION OF EACH RESPECTIVE AREA. ALL EQUIPMENT USED MUST BE LISTED AND LABELED FOR CLASS 1, DIVISION 1 OR DIVISION 2. NEC ARTICLES 500, 501, 502 AND 503 ARE APPLICABLE.

1. CONNECT TO RECIRCULATION PUMP
2. 2 #10, #10 GND, ½"C
3. PERMANENT & STAND-BY AIR COMPRESSORS WILL BE PROVIDED BY THE OWNER. G.C. IS TO BUILD A REINFORCED CONCRETE PAD TO SUPPORT BOTH AIR COMPRESSORS. POWER CONNECTIONS WILL BE CENTERED ON THE WALL BETWEEN THE (2) COMPRESSORS LOCATED UNDER A 8' X 10' METAL SHED/SHELTER AS SHOWN ON DTL D5, SHT A4. A SINGLE 60A FUSED DISCONNECT WILL SUPPLY POWER FOR THE TWO 30A RECEPTACLES, ONE FOR EACH COMPRESSOR (3HP/7.5 HP OR LESS). ACTUAL REQUIREMENTS FOR EACH COMPRESSOR MUST BE VERIFIED PRIOR TO ORDERING ELECTRICAL GEAR AND ADJUSTED AS NEEDED.
4. 3 #3, #10 GND, 1¼"C
5. 250/100/3/3R W/100A TD FUSES & DUAL LUGS ON LOAD SIDE FOR #8 AWG.
6. 3 #12, #12 GND, ½"C
7. 250/30/3/3R FUSE FOR UNIT
8. OVERHEAD EQUIPMENT IN WORKBAYS 112, 113, 114 AND 115 MUST BE POSITIONED WITH AT LEAST 7' CLEARANCE ABOVE TRAVELING BRIDGE BEAM CRANE. SEE ARCHITECTURAL DETAIL.



ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	CONDUIT
	CONDUIT UNDERFFLOOR OR UNDERGROUND
	ARROW INDICATES HOMERUN, TICKMARKS: NEUTRAL,PHASE,GND.
	POWER PANEL
	EXISTING PANEL
T	TELEPHONE BOARD
—T—	TELEPHONE CONDUIT
	TELEPHONE OUTLET
J	JUNCTION BOX
	DISCONNECT SWITCH; FUSED; NONFUSED
FPN	FUSE PER NAMEPLATE
S_m	MOTOR TOGGLE SWITCH
	MOTOR
	EXISTING OR BY OTHERS
	LIGHT FIXTURE
S, S_3, S_4	SINGLE POLE SWITCH , 3 WAY, 4 WAY
S_P , S_D	PILOT LIGHT , DIMMER
AFF	ABOVE FINISHED FLOOR
	DUPLEX RECEPT , ABOVE COUNTER
WP , GFI	WEATHERPROOF , GROUND FAULT
	QUAD-PLEX RECEPTACLE
	TELEPHONE/COMPUTER COMBINATION OUTLET
	T.V. OUTLET

9. RECEPTACLE AT 60" AFF FOR COMBINATION HOOD & MICROWAVE.
10. 250/60/2 FUSE FOR UNIT
11. 2 #6, #10 GND, ¾"C
12. 120V/20A GFI RECEPT MTD TOP OF RACK. ROUTE ¾"C UNDER CONCRETE SLAB & UP TO RECEPTACLE FOR PLUG-IN CONNECTION OF HEAVY DUTY LIGHT & POWER REEL. SEE DETAIL D4, SHT A2. E.C. TO PROVIDE & INSTALL A 50' REELCRAFT # L 4035 A 163 5 REEL OR EQUAL BY ARO PRODUCTS, GROVER OR LINCOLN.
13. THE COMBINATION MOTOR STARTER AND DISCONNECT FOR VEHICLE EXHAUST FANS (VEF) ARE TO BE PROVIDED BY AND INSTALLED BY MECH. CNTRCTR. ELEC. CNTRCTR TO CONNECT 208V/15A/3ϕ CIRCUIT TO THE MOTOR STARTER. CONNECTION FROM STARTER TO VEF IS M.C. RESPONSIBILITY.

ENCASE THE ENTIRE UG LENGTH OF (2) 3" CONDUITS FROM THE TEL UTILITY TIE-IN TO THE BUILDING SLAB IN 3" OF CONCRETE. PROVIDE MAGNETIC TRACER RIBBON 1'-0" BELOW GRADE. INSTALL CONDUITS FOR TELEPHONE CABLES TO THIS NEW BLDG. AS SHOWN ON CIVIL ENGINEERING SITE PLANS. ESTIMATED TOTAL DISTANCE IS 325'. TELEPHONE CABLES TO BE INSTALLED BY OWNER. DUCT BANK DETAIL APPLIES WHERE CONDUITS ARE NOT UNDER BLDG SLAB.

14. 220V GFI RECEPTACLE AT 48" AFF
15. 3 #8, #10 GND, ¾"C
16. FUSED DISCONNECT PROVIDED & INSTALLED BY M.C.
17. OUTDOOR RECEPTACLES, WASHBAY DOOR CONTROLS AND WASHBAY RECEPTACLES MUST USE THE IN-USE TYPE WEATHERPROOF (WP) COVERS.
18. PUSHBUTTON BESIDE DOOR FOR UP/DN OPERATION OF OVERHEAD DOOR. ELEC. CNTRCTR TO PROVIDE AND INSTALL PUSHBUTTONS WITH CONDUITS FOR CONTROL WIRING TO ALL (7) OVERHEAD ROLL-UP DOORS. LV CONTROL WIRING BY ROLL-UP DOOR PROVIDER.
19. 250/60/2 FUSE FOR UNIT
20. 2 #6, #10 GND, ¾"C
21. 250/30/3 FUSE FOR UNIT
22. 3 #10, #10 GND, ½"C
23. DOMESTIC HOT WATER BOX: IS LOCATED APPROX 50' FROM NEAREST CORNER OF BLDG. SEE SITE PLAN.
24. 2 #8, #10 GND, ¾"C

NOTES:
ALL 120V ELECTRICAL OUTLETS IN GARAGE AREAS SHALL BE GFCI PROTECTED TYPE.
ALL ELECTRICAL OUTLETS IN GARAGE AREAS SHALL BE A MINIMUM OF 48" AFF ON CENTER UNLESS DESIGNATED OTHERWISE. NO OUTLET SHALL BE LESS THAN 18" AFF TO THE BOTTOM OF THE OUTLET ANYWHERE IN GARAGE AREAS REGARDLESS OF DESIGNATION, NEC 511.3(C)(1)(b).

ALL EXPOSED CONDUITS IN GARAGE AREAS SHALL BE RIGID STEEL UP TO 12' AFF.

GARAGE AREAS INCLUDE THE TIRE CHANGE, TIRE STORAGE, WASHBAY, WORKBAYS, WELDING BAY AND MACHINE SHOP. COORDINATE ALL WIRE & OVERCURRENT PROTECTION SIZES WITH OWNER'S EQUIPMENT BEFORE ANY ELECTRICAL INSTALLATION.

ALL WIRING IN GARAGE AREAS SHALL COMPLY WITH NEC ARTICLE 511 AND SHALL MEET THE REQUIREMENTS FOR CLASS 1, DIVISION 2 HAZARDOUS LOCATION PER NEC ARTICLE 500.

NOTE:
AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED FOR ALL POWER BRANCH CIRCUITS (INCLUDING THOSE IN METALLIC RACEWAYS) AND SIZED IN ACCORDANCE WITH NEC TABLE 250-122.

NOTE:
ALL MULTI CIRCUIT CONDUIT RUNS SHALL HAVE INDIVIDUAL DEDICATED NEUTRALS FOR EACH CIRCUIT PER 210.4(B) OF THE 2008 NEC. NO 3-POLE BKRS ALLOWED.

FLOOR PLAN - POWER

SCALE: ⅛" = 1'-0"

CALLED NORTH

0 5 10 15 20 25 30
GRAPHIC SCALE

111109JMSG128450

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NC DOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
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OCCUPANCY SENSOR LEGEND

SYMBOL	DESCRIPTION
(US)	CEILING OCCUPANCY SENSOR - THE BASIS OF DESIGN IS THE HUBBELL #OMNIDT2000.
PP	UNIVERSAL VOLTAGE POWER PACK - THE BASIS OF DESIGN IS THE HUBBELL #UVPP.
(US)	WALL MTD @ CLG OCCUPANCY SENSOR - THE BASIS OF DESIGN IS THE HUBBELL #LODIA.
S_1	WALL SWITCH OCCUPANCY SENSOR - THE BASIS OF DESIGN IS THE HUBBELL #LHMTDI.

GENERAL NOTES:

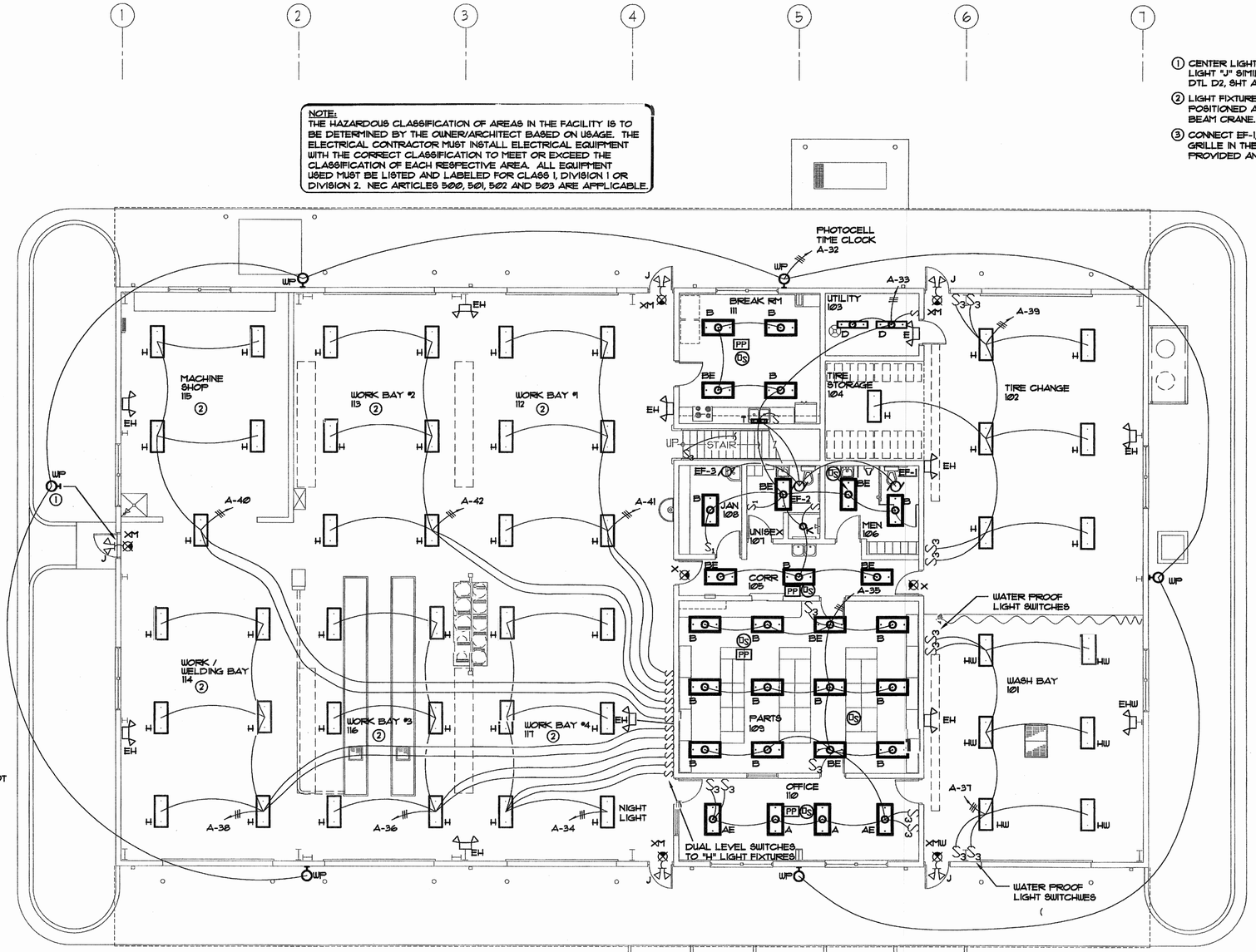
- CEILING MOUNTED SENSORS SHALL BE MOUNTED A MINIMUM OF 4'-0" FROM ALL HVAC SUPPLY AND RETURN GRILLES.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS. REFER TO MANUFACTURER'S INSTRUCTIONS.
- SENSORS MOUNTED OVER DOORS SHALL BE PLACED A MINIMUM OF 12" INSIDE OF THRESHOLD.
- CONTRACTOR SHALL INSTALL ALL DEVICES AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- "H" & "HW" HAVE INTEGRAL OCCUPANCY SENSORS.

NOTE:
THE HAZARDOUS CLASSIFICATION OF AREAS IN THE FACILITY IS TO BE DETERMINED BY THE OWNER/ARCHITECT BASED ON USAGE. THE ELECTRICAL CONTRACTOR MUST INSTALL ELECTRICAL EQUIPMENT WITH THE CORRECT CLASSIFICATION TO MEET OR EXCEED THE CLASSIFICATION OF EACH RESPECTIVE AREA. ALL EQUIPMENT USED MUST BE LISTED AND LABELED FOR CLASS I, DIVISION I OR DIVISION 2. NEC ARTICLES 500, 501, 502 AND 503 ARE APPLICABLE.

① CENTER LIGHT FIXTURE "WP" OVER THE EXIT DOOR AND EMERGENCY LIGHT "J" SIMILAR TO THAT SHOWN ON ARCHITECTURAL ELEVATION DTL D2, SHT A5.

② LIGHT FIXTURES IN WORKBAYS 114, 115, 116, 117 & 118 MUST BE POSITIONED AT LEAST 7' CLEARANCE ABOVE TRAVELING BRIDGE BEAM CRANE. SEE DTL A3, SHT A6.

③ CONNECT EF-1, EF-2 AND EF-3 TO THE MOTION SENSOR IN THE HVAC GRILLE IN THEIR RESPECTIVE ROOMS. MOTION SENSOR & GRILLE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.



NOTES:
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CONDUITS TO SWITCHES, THERMOSTATS & DISCONNECTS CANNOT BE EXPOSED IN THE OFFICE /PARTS/RR/BREAK AREAS AND MUST BE INSTALLED INSIDE OF THE CMU WALLS. CONDUITS IN THE SHOP AREAS CAN BE EXPOSED ON THE CMU WALLS.

NOTE:
AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED FOR ALL POWER BRANCH CIRCUITS (INCLUDING THOSE IN METALLIC RACEWAYS) AND SIZED IN ACCORDANCE WITH NEC TABLE 250-122.

(A)

NOTE:
ALL MULTI CIRCUIT CONDUIT RUNS SHALL HAVE INDIVIDUAL DEDICATED NEUTRALS FOR EACH CIRCUIT PER 210.4(B) OF THE 2008 NEC.

(B)

NOTE:
PLACE PHOTOCELL ON NORTH SIDE OF BUILDING FOR OPTIMUM OPERATION.

(C)

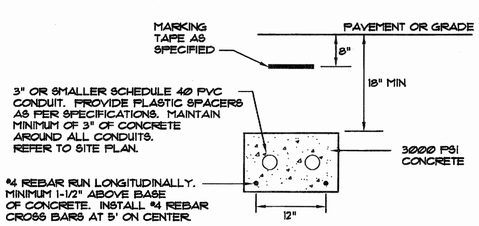
NOTE:
TIME CLOCK MUST BE ELECTRONICALLY PROGRAMMABLE ABLE TO SCHEDULE MULTIPLE EVENTS EACH DAY AND OPERATE 24/7/365.

(D)

NOTE:
CONNECT ALL EMERGENCY AND EXIT FIXTURES TO THE NEAREST LIGHTING CIRCUIT IN THE AREA IN WHICH IT SERVES.

(E)

NOTE:
ALL CONDUCTORS INCLUDING LOW VOLTAGE CONDUCTORS SHALL BE IN RACEWAY.



DUCT BANK DETAIL

POWER, TELEPHONE & DATA/COMMUNICATIONS WHERE APLLICABLE OR DRAWINGS INDICATE

NTS

NOTE:
THE INTENT OF THE OWNER IS THAT THE OCCUPANCY SENSORS SHALL TURN THE LIGHTS ON & OFF. HOWEVER, THE SWITCHES SHOWN ARE TO ALLOW THE OCCUPANT A MEANS OF OVERRIDING THE OCCUPANCY SENSORS & TURNING THE LIGHTS "OFF" WHEN REQUIRED.

NOTES:
COORDINATE EXACT LOCATIONS AND HEIGHTS OF THE EXTERIOR LIGHT FIXTURES WITH THOSE SHOWN ON THE ARCHITECTURAL ELEVATIONS ON SHEET A4.

FLOOR PLAN - LIGHTING

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

CALLED NORTH

0 5 10 15 20 25 30

GRAPHIC SCALE

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NOTE:
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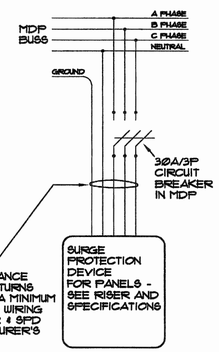
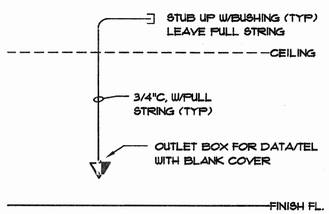
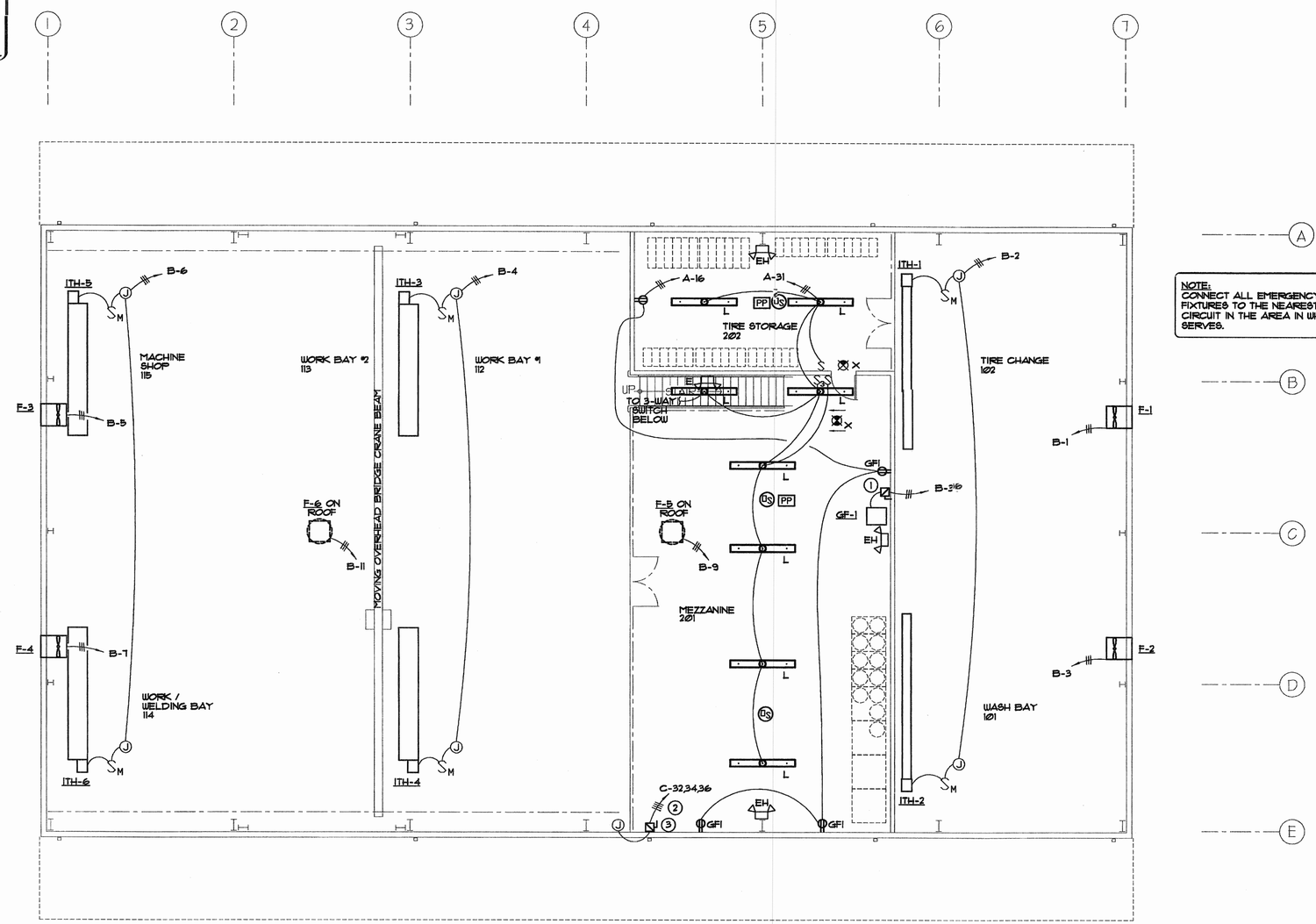


SPD CONNECTION
NTS



TELEPHONE & COMPUTER COMBINATION OUTLET DETAIL
NTS

NOTE:
THIS DETAIL ALSO APPLIES WHEN ONLY THE TELEPHONE OUTLET WITHOUT THE COMPUTER CONNECTION IS REQUIRED.



NOTE:
CONNECT ALL EMERGENCY AND EXIT FIXTURES TO THE NEAREST LIGHTING CIRCUIT IN THE AREA IN WHICH IT SERVES.

MEZZANINE FLOOR PLAN - POWER & LIGHTING
SCALE: 1/8" = 1'-0"

CALLED NORTH

1. 250/300/1/8N FUSE FOR UNIT
2. 3 #10, #10 GND, 1/2"C
3. 250/300/3 FUSE FOR UNIT. LOCATE THE FUSED DISCONNECT ON THE WALL AT NORMAL STANDING HEIGHT ON MEZZANINE FLOOR LEVEL AND USE RIGID CONDUIT FOR CONNECTION TO ELECTRIC CRANE RAIL OR JUNCTION BOX. THIS FD MUST BE CAPABLE OF BEING LOCKED IN THE "ON" POSITION.

0 5 10 15 20 25 30
GRAPHIC SCALE

111109JMSG128450

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TEL. (828) 328-1813 FAX (828) 328-1814

FACILITIES DESIGN
ARCHITECTS & ENGINEERS
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

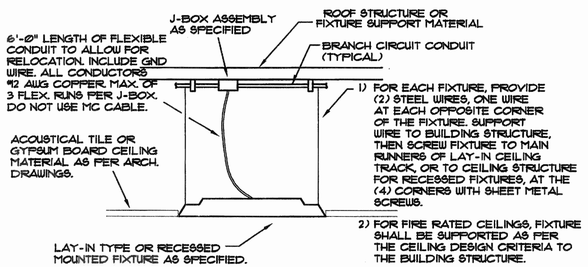
PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER
COUNTY – SITE – BUILDING
55 - 01 - XX

REVISIONS
NO. | DATE

DATE ISSUED: 12-07-11
DRAWN BY: JMSG
CHECKED BY: JFH
SHEET NO.
E3
3 OF 6



TYPICAL RECESSED LIGHT FIXTURE MOUNTING DETAIL

SCALE: NONE

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

Prescriptive ___ Performance ● Energy Cost Budget ___

Provide a standard riser diagram which indicates designated points for check metering. Provide a standard panel schedule description which identifies different enclose loads.

Lighting schedule

lamp type required in fixture	See Fixture Schedule
number of lamps in fixture	See Fixture Schedule
ballast type used in the fixture	See Fixture Schedule
number of ballasts in fixture	See Fixture Schedule
total wattage per fixture	See Fixture Schedule
total interior wattage specified vs allowed	10,750/11,280
total exterior wattage specified vs allowed	1,650/1,650

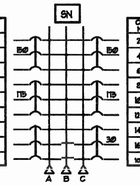
Equipment schedules with motors (not used for mechanical systems)

motor horsepower	N/A
number of phases	N/A
minimum efficiency	N/A
motor type	N/A
#of poles	N/A

DESIGNER STATEMENT:
To the best of my knowledge and belief, the design of this building complies with the electrical system and equipment requirements of the North Carolina State 2003 Energy Conservation Code.

SIGNED: [signature]
NAME: Donald R. Brittain
TITLE: North Carolina Professional Engineer #1883

LOAD KVA OR KW A	B	C	DESIGNATION TYPED ON DIRECTORY	COND (*)	GND	WIRE SIZE	BRKR RATG.	CKT NO.
11.1			PANEL "A"	2"	6	1/0	150	1
			↓	↓	↓	↓	↓	3
	11.1							5
		11.1						7
18.3			PANEL "C"			2/0	175	9
	18.3		↓	↓	↓	↓	↓	11
		18.3						13
			SPACE PROVISION FOR 225/3					15
			↓					17



CKT NO.	BRKR RATG.	WIRE SIZE	GND	COND (*)	DESIGNATION TYPED ON DIRECTORY	LOAD KVA OR KW A	B	C
2	150	1/0	6	2"	PANEL "D"	11.3		
4					↓		11.3	
6								11.1
8	175	2/0			PANEL "B"	18.8		
10					↓		18.8	
12								18.8
14					SURGE PROTECTION DEVICE			
16					↓			
18								

TYPE NEHB, MOUNTED SURFACE
SUPPLY: 120/208 VOLT, 3-PHASE, 4 WIRE
BUSSES / NEUTRAL: 600A/600A
MAINS: MAIN BREAKER
FEEDER: SEE POWER RISER DIAGRAM
PROVIDE COPPER GROUND BUS
DOOR IN DOOR PANEL FRONT
MIN AIC RATING: 35,000 A

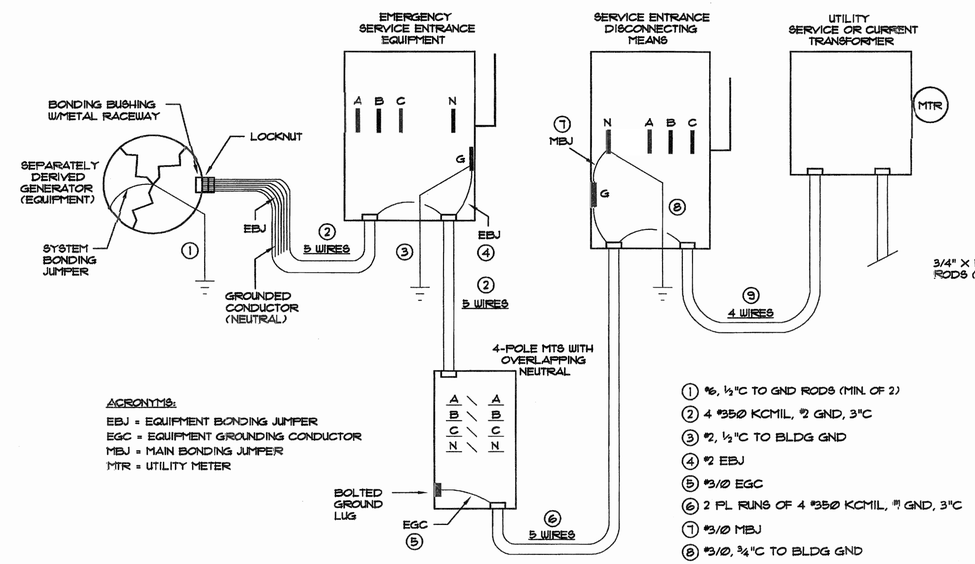
• CATALOG NUMBERS ARE SHOWN FOR REFERENCE & USED AS A BASIS OF DESIGN ONLY. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND GE.

PANEL MDP

CONNECTED LOAD (KVA)	GROSS	USE	NET
LIGHTING	12.5	90%	11.3
RECEPTACLES	11.0	70%	7.7
HVAC	22.8	75%	16.9
WATER HEATER	4.5	50%	2.3
KITCHEN	12.5	25%	3.1
DOOR OPENERS	8.4	25%	2.1
SHOP EQUIPMENT	63.7	40%	25.5
AIR COMPRESSORS	21.0	65%	13.7
TOTAL	155.9	53%	82.6
GROSS PHASE TOTALS (KVA)	A = 52.0	B = 52.0	C = 52.0

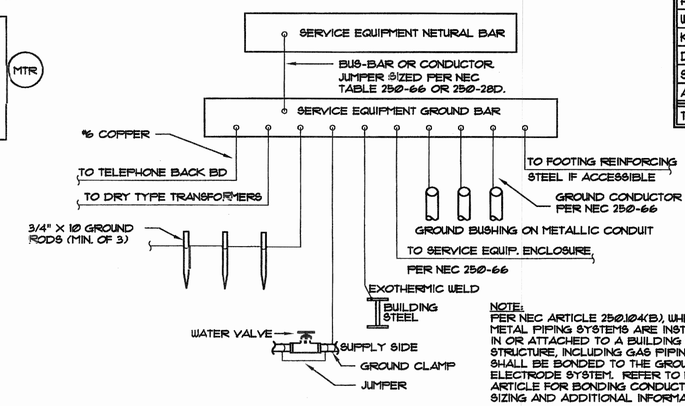
ESTIMATED LOAD TABULATION FOR POWER CO.

LOADS IN KVA	EXISTING DEMAND SINGLE PHASE	EXISTING DEMAND THREE PHASE	NEW CONNECTED SINGLE PHASE	NEW CONNECTED THREE PHASE	DIVERSITY FACTOR	NEW DEMAND SINGLE PHASE	NEW DEMAND THREE PHASE	TOTAL KVA EXISTING & NEW DEMAND
LIGHTING			12.5		90%	11.3		11.3
RECEPTACLES			11.0		70%	7.7		7.7
HVAC			7.8	15.0	75%	5.6	11.3	16.9
WATER HEATER			4.5		50%	2.3		2.3
KITCHEN			12.5		25%	3.1		3.1
DOOR OPENERS			8.4		25%	2.1		2.1
SHOP EQUIPMENT			41.8	21.9	40%	16.7	8.8	25.5
AIR COMPRESSOR				21.0	65%		13.7	13.7
TOTAL			98.0	57.9		48.8	33.8	82.6



ACRONYMS:
EBJ = EQUIPMENT BONDING JUMPER
EGC = EQUIPMENT GROUNDING CONDUCTOR
MBJ = MAIN BONDING JUMPER
MTR = UTILITY METER

1. #6, 1/2"C TO GND RODS (MIN. OF 2)
2. 4 #350 KCMIL, #2 GND, 3"C
3. #2, 1/2"C TO BLDG GND
4. #2 EBJ
5. #3/0 EGC
6. 2 PL RUNS OF 4 #350 KCMIL, #1 GND, 3"C
7. #3/0 MBJ
8. #3/0, 3/4"C TO BLDG GND
9. 2 PL RUNS OF 4 #350 KCMIL, 3"C



NOTE:
PER NEC ARTICLE 250.104(B), WHERE METAL PIPING SYSTEMS ARE INSTALLED IN OR ATTACHED TO A BUILDING OR STRUCTURE, INCLUDING GAS PIPING, THEY SHALL BE BONDED TO THE GROUNDING ELECTRODE SYSTEM. REFER TO NEC ARTICLE FOR BONDING CONDUCTOR SIZING AND ADDITIONAL INFORMATION.

SERVICE EQUIPMENT GROUNDING DETAIL

NTS

POWER RISER NOTES

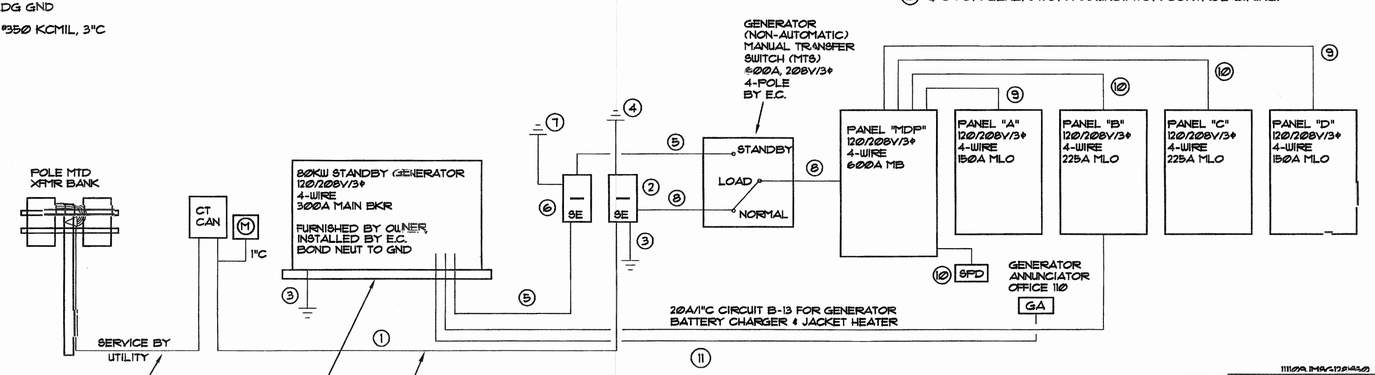
1. 2 PL RUNS OF 4 #350 KCMIL, 3"C
2. 240/600/3/3R ENCLOSED CIRCUIT BREAKER, SE LABEL IT MUST BE THIRD PART LISTED AS SUITABLE FOR SE.
3. #5, 1/2"C TO GND RODS (MIN. OF 2)
4. #3/0, 3/4"C PER NEC 250 TO BLDG GND
5. 4 #350 KCMIL, #2 GND, 3"C
6. 240/300/3/3R ENCLOSED CIRCUIT BREAKER, SE LABEL IT MUST BE THIRD PART LISTED AS SUITABLE FOR SE.
7. #2, 1/2"C TO BLDG GND
8. 2 PL RUNS OF 4 #350 KCMIL, #1 GND, 3"C
9. 4 #1/0, #6 GND, 2"C
10. 4 #2/0, #6 GND, 2"C
11. 160KA SURGE SUPPRESSION DEVICE. DESIGN BASED ON INNOVATIVE TECHNOLOGY PTX160-3Y101 WITH A MINIMUM OF DISTANCE AND BENDS. INDUCE A MINIMUM OF 3 TWISTS IN WIRING.
12. 3/4"C FOR GENERATOR ANNUNCIATOR CONTROL WIRING.

NOTES:

1. GENERATOR NEUTRAL MUST BE BONDED & GROUNDED.
2. GENERATOR SHALL BE PROVIDED WITH CIRCUIT BREAKERS.
3. EQUIPMENT BONDING JUMPER (EBJ) PER NEC ARTICLE 250.102C FOR GREATER THAN 1100 KCMIL TOTAL CONDUCTOR AREA OR TABLE 250.66 FOR LESS THAN 1100 KCMIL.
4. ⏚ SYMBOL DENOTES GROUNDING ELECTRODE TO THE BUILDING STEEL WHERE PROVEN TO BE SUITABLY GROUNDED, THE METALLIC WATER MAIN & THE GROUND ROD(S).
5. BATTERY CHARGER & BLOCK HEATER SHALL BE FED FROM THE EMERGENCY PANEL.
6. EQUIPMENT SHALL BE GROUNDED PER NEC ARTICLE 250.32(B) AND TABLE 250.122.

GENERATOR GROUNDING DETAIL

208/120V/3 PH NTS



POWER RISER

NTS

BRITTAIN ENGINEERING, INC.
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NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DONALD R. BRITTAIN

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PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
ASSET NUMBER
COUNTY – SITE – BUILDING 55 - 01 - XX

REVISIONS NO.	DATE

DATE ISSUED: 12-07-11
DRAWN BY: JMSG
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SHEET NO. E4
4 OF 6

LIGHTING FIXTURE SCHEDULE

MARK	TYPE	MOUNTING	DESCRIPTION	MANUFACTURER CATALOG NO. 1	MANUFACTURER CATALOG NO. 2	MANUFACTURER CATALOG NO. 3	*BALLAST QTY/TYPE	LAMPS QTY/TYPE	TOTAL WATTS	VOLTAGE	REMARKS
A	2' x 4' TROFFER	LAY-IN	SPECIFICATION GRADE, FLUSH STEEL WHITE DOOR, CEILING GRID MTD, 1/8"THICK PRISMATIC LENS, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA ST824-332G-FSA12125-EU	LITHONIA LIGHTING 2SP8 G 332 A12125 GEB10IS	DAY BRITE 2SPWG332-F612-UNV-1/21-EB	2) ELECTRONIC	3) F28T8/41	85W	120V	DUAL LEVEL SWITCHING
AE	2' x 4' EMERGENCY TROFFER	LAY-IN	SPECIFICATION GRADE, FLUSH STEEL WHITE DOOR, CEILING GRID MTD, 1/8"THICK PRISMATIC LENS, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA ST824-332G-FSA12125-EU-EL-120V	LITHONIA LIGHTING 2SP8 G 332 A12125 GEB10IS EL	DAY BRITE 2SPWG332-F612-UNV-1/21-EB-EI	2) ELECTRONIC	3) F28T8/41	85W	120V	90 MIN BATTERY
B	2' x 4' TROFFER	LAY-IN	SPECIFICATION GRADE, FLUSH STEEL WHITE DOOR, CEILING GRID MTD, 1/8"THICK PRISMATIC LENS, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA ST824-232G-FSA12125-EU	LITHONIA LIGHTING 2SP8 G 232 A12125 GEB10IS	DAY BRITE 2SPWG232-F612-UNV-1/2-EB	1) ELECTRONIC	2) F28T8/41	56W	120V	
BE	2' x 4' EMERGENCY TROFFER	LAY-IN	SPECIFICATION GRADE, FLUSH STEEL WHITE DOOR, CEILING GRID MTD, 1/8"THICK PRISMATIC LENS, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA ST824-232G-FSA12125-EU-EL-120V	LITHONIA LIGHTING 2SP8 G 232 A12125 GEB10IS EL	DAY BRITE 2SPWG232-F612-UNV-1/2-EB-EI	1) ELECTRONIC	2) F28T8/41	56W	120V	90 MIN BATTERY
D	4' INDUSTRIAL FLUORESCENT	STRUCTURE	BAKED WHITE ENAMEL DIE FORMED EMBOSSED SOLID STEEL REFLECTOR, DAMP LOCATION, UL 1598, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA CSR-232-ST-EU	LITHONIA LIGHTING TL232 MV	DAY BRITE 1A232-UNV-1/2-EB	1) ELECTRONIC	2) F28T8/41	56W	120V	
E	DECORATIVE EMERGENCY	WALL	DESIGNER DECORATIVE FIXTURE WITH (2) 5W MR-16 NON "BUG-EYE" LAMPS, WHITE FINISH, MAINTENANCE FREE LEAD CAL BATT, UV STABLE THERMOPLASTIC	DUAL LITE LZ2	LITHONIA ELM 6-12	McPHILBEN CAX6	-	2) 5W HAL	5W	120V	90 MIN BATTERY
EH	HI CAPACITY EMERGENCY	WALL	LIGHT INDUSTRIAL, HI CAPACITY MAINT FREE BATT, WIRE GUARD, CORROSION RESISTANT HEAVY GAUGE STEEL, WHITE FINISH, DAMP LOCATION, UL 924 LISTED	DUAL LITE LM56D-SRHSW0612-40G	LITHONIA ELT24 W H1206 WG2	EMERGI-LITE 12HZ-M-56-2-UE-HI-WG3-E	-	2) 12W HAL	5W	120V	24W, 90 MIN BATTERY
EHW	HI CAPACITY WET LOCATION EMERGENCY	WALL	WET LOCATION, HIGH CAPACITY MAINT FREE BATT, GASKETED, CORROSION RESISTANT HEAVY GAUGE STL, BLACK FINISH, NEMA 3R, UL 924 & 844 LISTED	DUAL LITE CID2-12V36-12W	LITHONIA LHZ624 S 1 R 120/277 RO EL N	EMERGI-LITE 12HZ-M-56-2-UE-HI-WG3-E WET LOCATION	-	2) 12W HAL	5W	120V	24W, 90 MIN BATTERY
F	LOW PROFILE WRAPAROUND	SURFACE	HINGED DOOR W/CLEAR PRISMATIC DIFFUSER, HEAVY GA WHITE STEEL, DAMP LOCATION, UL 1598, INSTANT START ELECTRONIC BALLAST FOR T8	COLUMBIA AWN4-232-EU	LITHONIA LIGHTING 2SP8 G 232 A12125 GEB10IS	DAY BRITE SWN232A-UNV-1/2-EB	1) ELECTRONIC	2) F28T8/41	56W	120V	
H	HIGH BAY FLUORESCENT W/OCC SENSOR	STRUCTURE AIRCRAFT CBL TONG HANGAR	2" LOW PROFILE, WIDE BEAM DIST, AIRCRAFT CABLE MTG, PLUG & PLAY OCCUPANCY SENSOR, DAMP LOCATION WIRE GD, PROGRAM START BALLAST	COLUMBIA LHV4-632-GWST-3EPHLU-WG-OS2-LHVTH-LHVQM10	LITHONIA FGB24 632 NID20 MVOLT 2/3 GEB10IS WG W/OCCUP SENSOR	DAY BRITE FBF632-UNV-2/3-EBH-WGFBF6-MD360	2) ELECTRONIC	6) F28T8/41	170W	120V	
HW	HIGH BAY FLUORESCENT W/OCC SENSOR DAMP LOCATION	STRUCTURE AIRCRAFT CBL TONG HANGAR	PLYCARB LENS, WIDE BEAM DIST, AIRCRAFT CABLE MTG, PLUG & PLAY OCCUPANCY SENSOR, DAMP LOCATION WIRE GD, PROGRAM START BALLAST	COLUMBIA LHV4-632-GWST-3EPHLU-CPWG-OS2-LHVTH-LHVQM10	LITHONIA FWB24 632 NID20 PCL125 MVOLT 2/3 GEB10IS W/OCC SEN	DAY BRITE FBF632-UNV-2/3-EBH-WGFBF6-MD360-FBF-6E-2W	2) ELECTRONIC	6) F28T8/41	170W	120V	
J	REMOTE EMERG EGRESS INCANDESCENT	EXT WALL	WET LOCATION, TWO REMOTE HEADS, OUTDOOR ALUMINUM W/SEALED LAMPS, GASKETED ALUMINUM MTG PLATE	DUAL LITE SRHDW0605	LITHONIA ELA	McPHILBEN CCHR2W5	-	2) 5W HAL	-	120V	
K	6" ROUND HORIZ FLUORESCENT DOWNLIGHT	RECESSED	WET LOCATION, ELECTRONIC BALLAST, INSULATION CONTACT, OPAL GLASS LENS, FLUORESCENT RECESSED DNLGT	PRESCOLITE CFR626EB-ST372A-CL-TRG	LITHONIA L16-6LF3-AT	CAPRI CFRRIC6V26UNB-SHR6IC	1) ELECTRONIC	1) 26W TT	30W	120V	
L	8' STRIP HVY DUTY FLUORESCENT	STRUCTURE	BAKED WHITE ENAMEL STEEL HOUSING LONGITUDINAL RIBS, DAMP LOCATION, UL LISTED 1598, HEAVY DUTY CHANNEL	COLUMBIA K8-232-EU-CSWG4	LITHONIA 2UN 232 MVOLT 1/4 GEB10IS	DAY-BRITE SWN232-UNV-1/2-EB	1) ELECTRONIC	2) F28T8/41	56W	120V	
T	TASK LIGHT	OVER SINK UNDR CABINET	SPECIFICATION GRADE, HEAVY GA STEEL, WHITE FINISH, SOLID FRONT, CLEAR LINEAR PRISMATIC DIFFUSER, EASY ACCESS, ELEC BALLAST FOR T8	LEGION 319-117-ACP-EBO	LITHONIA 2UC 17 MVOLT GEB10IS	DAY BRITE 8UC132-W-UNV-EB101	1) ELECTRONIC	1) F17T8/41	19W	120V	
X	THERMOPLASTIC EXIT SIGN	UNIVERSAL	UV STABLE THERMOPLASTIC HOUSING, WHITE FINISH, UNIVERSAL FACES & ARROWS, UNIVERSAL MTG, OVERSIZED 90 MIN BATT, UL 924, LOW PROFILE	DUAL-LITE LXURWE	LITHONIA LQM S W 3 R 120/277	McPHILBEN LPX70RWH	-	LED	5W	120V	90 MIN BATTERY FACES & ARROWS SHOWN
XM	THERMOPLASTIC HI CAP EXIT SIGN	UNIVERSAL	UV STABLE THERMOPLASTIC HOUSING, WHITE FINISH, UNIVERSAL FACES & ARROWS, UNIVERSAL MTG, 12W MIN REMOTE, 90 MIN BATT, UL 924 LISTED	DUAL-LITE HCXURW-RC12 WITH DOUBLE OCRDW0605 REMOTE HEADS	LITHONIA LHQM S W R HO RO	McPHILBEN CCHX251RWVCRW-WG5	-	LED & 2) 5W PLUS 2) 5W REMOTE EGRESS HEADS	5W	120V	90 MIN BATTERY, TWO REMOTE EGRESS HEADS FACES & ARROWS SHOWN
XMW	THERMOPLASTIC HI CAP EXIT SIGN WET LOCATION	UNIVERSAL	UV STABLE THERMOPLASTIC HOUSING, WHITE FINISH, UNIVERSAL FACES & ARROWS, UNIVERSAL MTG, WET, 12W MIN REMOTE, 90 MIN BATT, UL 924 LISTED	DUAL-LITE LN4XRWE-RC12 W/HIGH CAPACITY BATTERY	LITHONIA LV S W 1 R 120/277 UM 4X W/HIGH CAPACITY BATTERY	McPHILBEN VNLCL-R-PG5 W/HIGH CAPACITY BATTERY	-	LED & 2) 5W PLUS 2) 5W REMOTE EGRESS HEADS	5W	120V	90 MIN BATTERY, TWO REMOTE EGRESS HEADS WET LOCATION
WP	WALL PACK	EXT WALL	FULL CUT-OFF, IDA COMPLIANT, BRONZE FINISH, FLAT TEMPERED GLASS LENS, DIE CAST ALUMINUM, WET LOCATN, 120V FUSING, UL 1598 COMPLIANT, DARK SKY	HUBBELL LLC-250PS-1-LP64-FI	LITHONIA ASW2 250M SR3 120 SCWA WITH LAMP	NITE BRITES WCL 250M MT WITH LAMP	1) HPF	1) 250W METAL HALIDE	275W	120V	FULL CUTOFF

PANEL B

A	B	C	DESIGNATION TYPED ON DIRECTORY	COND (")	GND	WIRE SIZE	BRKR RAT'G	CKT NO.	CKT NO.	BRKR RAT'G	WIRE SIZE	GND	COND (")	DESIGNATION TYPED ON DIRECTORY	A	B	C
0.10			F-1	1/2"	12	12	15	1	2	20	12	12	1/2"	RECEPTACLES	0.15		
	0.10		F-2					3	4							0.15	
		0.10	F-3					5	6								0.15
0.10			F-4					7	8					VEH-1	1.30		
	0.90		F-5					9	10							1.30	
		0.90	F-6					11	12								1.30
0.80			GENERATOR BATTERY CHRGR & JKT HTR	1"	12	12	20	13	14					VEH-2	1.30		
			SPARE					15	16							1.30	
								17	18								1.30
								19	20					SPARE			
								21	22								
								23	24								
								25	26								
								27	28								
								29	30					SPACE			
								31	32								
								33	34								
		0.80	AIR DRYER	1/2"	12	12	15	35	36	20	12	12	1/2"	GF-1			1.30
7.00			AIR COMPRESSORS	1 1/4"	8	3	100	37	38	40	8	10	3/4"	CU-1	2.40		
	7.00							39	40							2.40	
		7.00						41	42								2.40

TYPE HCN*, MOUNTED SURFACE
SUPPLY: 120/208 VOLT, 3-PHASE, 4 WIRE
BUSSES / NEUTRAL: 225A/225A
MAINS: 225A MAIN LUGS ONLY
FEEDER: SEE POWER RISER DIAGRAM
PROVIDE COPPER GROUND BUS
DOOR IN DOOR PANEL FRONT
MIN AIC RATING: 22,000 A

* CATALOG NUMBERS ARE SHOWN FOR REFERENCE & USED AS A BASIS OF DESIGN ONLY. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND GE.

CONNECTED LOAD (KVA)	GROSS	USE	NET
LIGHTING	0.4	90%	0.4
RECEPTACLES	0.6	70%	4.2
HVAC	24.7	75%	18.5
SHOP EQUIPMENT	21.8	40%	8.7
TOTAL	56.5		31.8
GROSS PHASE TOTALS (KVA)	A = 18.8	B = 18.8	C = 18.8

PANEL C

A	B	C	DESIGNATION TYPED ON DIRECTORY	COND (")	GND	WIRE SIZE	BRKR RAT'G	CKT NO.	CKT NO.	BRKR RAT'G	WIRE SIZE	GND	COND (")	DESIGNATION TYPED ON DIRECTORY	A	B	C
0.90			RECEPTACLES	1/2"	12	12	20	1	2	20	12	12	1/2"	DOOR OPENERS	1.20		
	0.90							3	4							1.20	
		0.90						5	6								1.20
0.90								7	8						1.20		
	0.18							9	10							1.20	
		0.18	OVERHEAD REELS					11	12								1.20
0.18								13	14						1.20		
	0.18							15	16					SPARE		1.20	
		0.18						17	18								1.20
2.50			PRESSURE WASHER	3/4"	10	8	50	19	20						2.40		
	2.50							21	22							2.40	
		2.50						23	24								2.40
2.00			TIRE CHANGER	1/2"	10	10	30	25	26	30	10	10		MOBILE LIFT	2.40		
	2.00							27	28							2.40	
		1.25	TIRE BALANCER		12	12	20	29	30								2.40
1.25								31	32					BRIDGE CRANE	2.40		
	2.00		TIRE CHANGER		10	10	30	33	34							2.40	
		2.00						35	36								2.40
			SPARE				20	37	38	20				SPARE			
								39	40								
								41	42								

TYPE HCN*, MOUNTED SURFACE
SUPPLY: 120/208 VOLT, 3-PHASE, 4 WIRE
BUSSES / NEUTRAL: 225A/225A
MAINS: 225A MAIN LUGS ONLY
FEEDER: SEE POWER RISER DIAGRAM
PROVIDE COPPER GROUND BUS
DOOR IN DOOR PANEL FRONT
MIN AIC RATING: 22,000 A

* CATALOG NUMBERS ARE SHOWN FOR REFERENCE & USED AS A BASIS OF DESIGN ONLY. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND GE.

CONNECTED LOAD (KVA)	GROSS	USE	NET
RECEPTACLES	4.5	70%	3.2
DOOR OPENERS	10.8	25%	2.7
SHOP EQUIPMENT	39.6	40%	15.9
TOTAL	54.9		21.8
GROSS PHASE TOTALS (KVA)	A = 18.3	B = 18.3	C = 18.3

PANEL D

A	B	C	DESIGNATION TYPED ON DIRECTORY	COND (")	GND	WIRE SIZE	BRKR RAT'G	CKT NO.	CKT NO.	BRKR RAT'G	WIRE SIZE	GND	COND (")	DESIGNATION TYPED ON DIRECTORY	A	B	C
0.36			RECEPTACLES	1/2"	12	12	20	1	2	20	12	12	1/2"	DRILL PRESS	1.50		
	1.00							3	4	30	10	10		BAND SAW		2.00	
		0.54						5	6								2.00
0.36								7	8	60	6	10	3/4"	HYDRALIC PRESS	4.50		
	0.36							9	10							4.50	
		0.18	OIL COLLECTION TANK HI LEVEL ALARM					11	12	20				SPARE			
			SPARE					13	14								
								15	16								
		4.20	WELDER	3/4"	10	6	60	17	18	60	6	10	3/4"	WELDER			4.20
4.20								19	20						4.20		
			SPARE				20	21	22	20				SPARE			
								23	24								
								25	26								
								27	28								
								29	30								
								31	32								
								33	34								
								35	36								
								37	38								
								39	40								
								41	42								

TYPE HCN*, MOUNTED SURFACE
SUPPLY: 120/208 VOLT, 3-PHASE, 4 WIRE
BUSSES / NEUTRAL: 225A/225A
MAINS: 225A MAIN BREAKER, SE LABEL
FEEDER: SEE POWER RISER DIAGRAM
PROVIDE COPPER GROUND BUS
DOOR IN DOOR PANEL FRONT
MIN AIC RATING: 22,000 A

* CATALOG NUMBERS ARE SHOWN FOR REFERENCE & USED AS A BASIS OF DESIGN ONLY. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND GE.

CONNECTED LOAD (KVA)	GROSS	USE	NET
RECEPTACLES	2.6	70%	1.8
SHOP EQUIPMENT	31.3	40%	12.5
TOTAL	33.9		14.3
GROSS PHASE TOTALS (KVA)	A = 11.3	B = 11.3	C = 11.3

PANEL A

A	B	C	DESIGNATION TYPED ON DIRECTORY	COND (")	GND	WIRE SIZE	BRKR RAT'G	CKT NO.	CKT NO.	BRKR RAT'G	WIRE SIZE	GND	COND (")	DESIGNATION TYPED ON DIRECTORY	A	B	C
0.15			REFRIGERATOR	1/2"	12	12	20	1	2	20	12	12	1/2"	RECEPTACLES	0.54		
	0.18		COUNTERTOP RECEPTACLE					3	4							0.54	
		0.18	COUNTERTOP RECEPTACLE					5	6								0.50
1.30			MICROWAVE & RANGE HOOD					7	8						0.72		
	1.00		VENDING MACHINE					9	10							0.64	
		1.00	VENDING MACHINE					11	12								0.54
0.50			TELEPHONE BOARD					13	14						0.72		
			SPARE					15	16							0.90	
		4.20	RANGE	3/4"	10	8	50	17	18	30	12	12		WATER HEATER			2.25
4.20								19	20						2.25		
			SPARE				20	21	22	20				SPARE			
								23	24								
								25	26								
								27	28								
								29	30								
0.70			LIGHTING MEZZANINE	1/2"	12	12		31	32		12	12	1/2"	LIGHTING OUTDOOR FLOODS	1.65		
	0.75		BREAKROOM/RESTROOMS					33	34					WORK BAY #4, NO. 117		1.00	
		1.10	PARTS/OFFICE					35	36					WORK BAY #3, NO. 117			1.00
1.00			WASH BAY 101					37	38					WORK/WELDING BAY, NO. 114	1.00		
	1.20		TIRE CHANGE 102					39	40					MACHINE SHOP, NO. 115		1.00	
		1.00	WORK BAY #1 NO 112					41	42					WORK BAY #2, NO. 113			1.00

TYPE HCN*, MOUNTED SURFACE
SUPPLY: 120/208 VOLT, 3-PHASE, 4 WIRE
BUSSES / NEUTRAL: 225A/225A
MAINS: 225A MAIN BREAKER, SE LABEL
FEEDER: SEE POWER RISER DIAGRAM
PROVIDE COPPER GROUND BUS
DOOR IN DOOR PANEL FRONT
MIN AIC RATING: 22,000 A

* CATALOG NUMBERS ARE SHOWN FOR REFERENCE & USED AS A BASIS OF DESIGN ONLY. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND GE.

CONNECTED LOAD (KVA)	GROSS	USE	NET
LIGHTING	12.5	90%	11.3
RECEPTACLES	18.2	70%	12.8
WATER HEATER	4.5	50%	2.3
TOTAL	35.2		26.4
GROSS PHASE TOTALS (KVA)	A = 11.7	B = 11.7	C = 11.7

111109JMSG128450

BRITTAIN ENGINEERING, INC.
CONSULTING MECHANICAL AND ELECTRICAL ENGINEERS
PO BOX 939 HICKORY, NC 28603
TEL. (828) 328-1813 FAX. (828) 328-1814

NORTH CAROLINA PROFESSIONAL SEAL 7883 ENGINEER DONALD R. BRITTAIN

FACILITIES DESIGN
ARCHITECTS & ENGINEERS
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

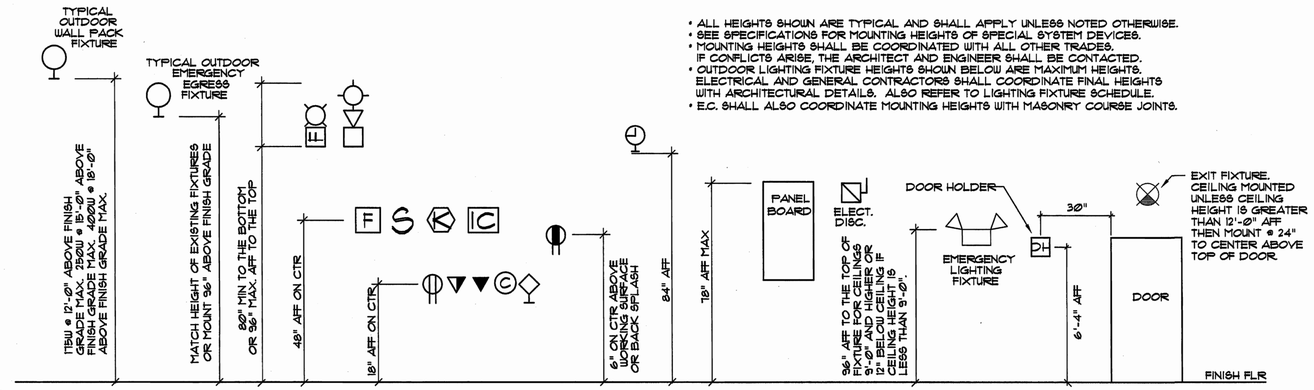
STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
ASSET NUMBER
COUNTY- SITE -BUILDING
55 - 01 - XX
REVISIONS
NO. | DATE

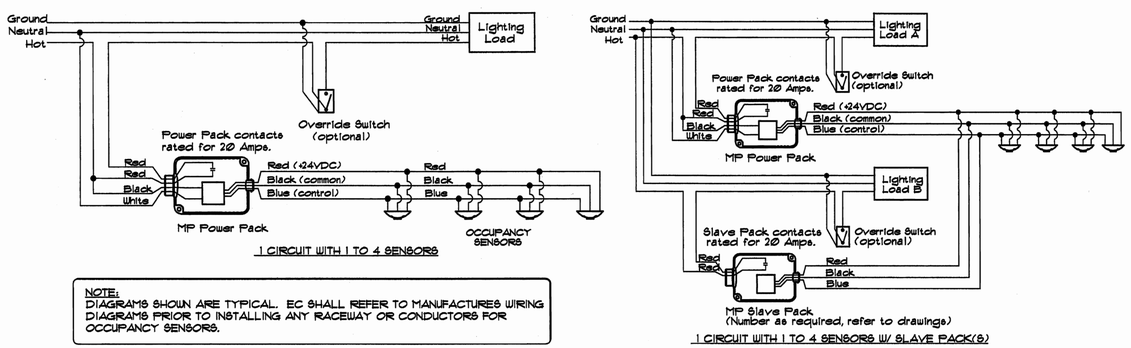
DATE ISSUED: 12-07-11
DRAWN BY: JMSG
CHECKED BY: JFH
SHEET NO.
E5

- ALL HEIGHTS SHOWN ARE TYPICAL AND SHALL APPLY UNLESS NOTED OTHERWISE.
- SEE SPECIFICATIONS FOR MOUNTING HEIGHTS OF SPECIAL SYSTEM DEVICES.
- MOUNTING HEIGHTS SHALL BE COORDINATED WITH ALL OTHER TRADES. IF CONFLICTS ARISE, THE ARCHITECT AND ENGINEER SHALL BE CONTACTED.
- OUTDOOR LIGHTING FIXTURE HEIGHTS SHOWN BELOW ARE MAXIMUM HEIGHTS. ELECTRICAL AND GENERAL CONTRACTORS SHALL COORDINATE FINAL HEIGHTS WITH ARCHITECTURAL DETAILS. ALSO REFER TO LIGHTING FIXTURE SCHEDULE.
- E.C. SHALL ALSO COORDINATE MOUNTING HEIGHTS WITH MASONRY COURSE JOINTS.



TYPICAL MOUNTING HEIGHT DETAILS

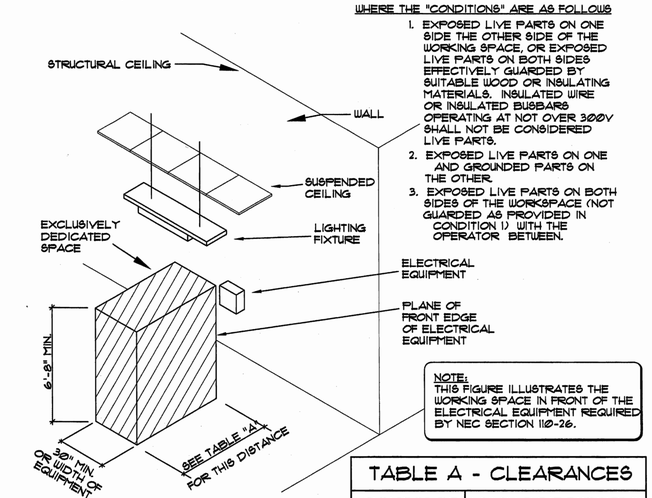
NTS



NOTE:
DIAGRAMS SHOWN ARE TYPICAL. EC SHALL REFER TO MANUFACTURES WIRING DIAGRAMS PRIOR TO INSTALLING ANY RACEWAY OR CONDUCTORS FOR OCCUPANCY SENSORS.

TYPICAL OCCUPANCY SENSOR WIRING DIAGRAMS

NTS



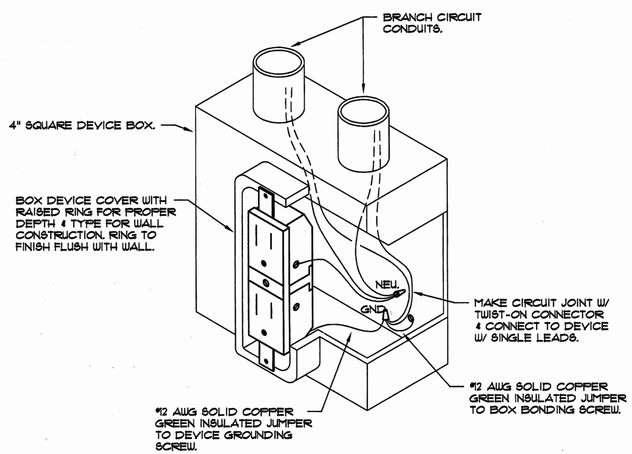
NOTE:
THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY NEC SECTION 110-26.

TABLE A - CLEARANCES

VOLTAGE TO GND NOMINAL	MINIMUM CLEAR DISTANCE (1) CONDITION: 1	2	3
0 - 150	3	3	3
151 - 600	3	3.5	4

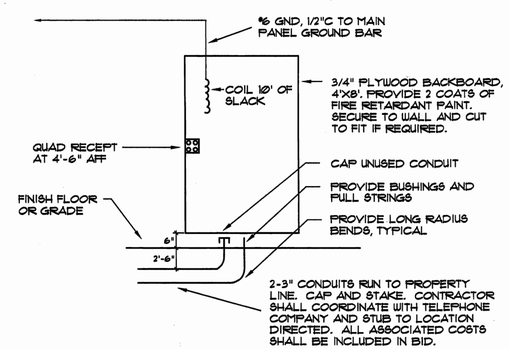
CLEARANCES FOR ELECTRICAL EQUIPMENT

NTS



RECEPTACLE GROUNDING DETAIL

NTS

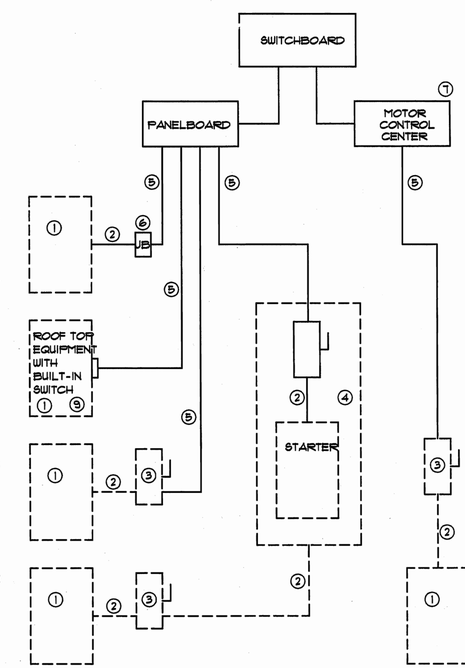


TELEPHONE SERVICE DETAIL

NTS

ELECTRICAL NOTES

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SHCEDULES FOR WIRE AND BREAKER SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY THE MECHANICAL CONTRACTOR OR OTHER TRADES.
7. PROJECTS UTILIZING AN MCC, THE STARTER, CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. IN ALL CASES, THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH A BUILT-IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
10. WHERE ELECTRICAL WIRING IS REQUIRED BY TRADES OTHER THAN COVERED BY DIVISION 16, THE INSTALLER SHALL REFER TO THE WIRING MATERIALS AND METHODS AS SPECIFIED UNDER DIVISION 16, NO EXCEPTIONS.



TYPICAL EQUIPMENT CONNECTION

NTS

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RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

PROJECT:
LINCOLNTON SHOP
EQUIPMENT S
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

ASSET NUMBER
COUNTY - SITE - BUILDING
55 - 01 - XX

REVISIONS

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DRAWN BY: JMSG
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E6
6 OF 6

SITE MAP
NO SCALE

EXISTING CONDITION NOTES:

1. OWNER OF RECORD:
   NC DEPT OF TRANSPORTATION
   499 ROPER ROAD
   LINCOLNTON, NC 28092
2. PROPERTY IS LOCATED WITHIN THE ETJ OF THE CITY OF LINCOLNTON.
3. TOTAL ACREAGE IN TRACT = 9.43 ACRES.
4. SURVEY INFORMATION FROM WEST CONSULTANTS, PLLC.
5. DEED REFERENCE IS DB 201 PG 613.
6. ALL CLEARING DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND LOCAL ORDINANCES.
7. PROPERTY IS ZONED AS GENERAL MANUFACTURING & COMMERCE CITY GMC.
8. NO WATERCOURSE OR 100 YEAR FLOODPLAIN AS MAPPED BY FEMA OR AS DEFINED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY IS LOCATED ON THIS PROPERTY.
9. THE UNDOCUMENTED FILL AT THE SOUTHEAST CORNER OF THE PROPOSED BUILDING AND AT THE EAST END OF THE PROPOSED RETAINING WALL SHALL BE REMOVED DOWN TO VIRGIN GROUND OR ROCK (APPROXIMATELY 3 TO 8 FEET).
10. THE SOIL INFORMATION AND TESTING HAS BEEN PROVIDED BY ECS CAROLINAS, LLP.

30 0 30 60
GRAPHIC SCALE – FEET
1"=30'

EXISTING SITE PLAN & CONDITIONS

WEST CONSULTANTS PLLC
405 South Sterling Street
Morganton, NC 28655
(828) 433-5661
Fax (828) 433-5662
NC License No. P-0210

SEAL:

FACILITIES DESIGN
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DRAWN BY: DWS
CHECKED BY: VMB
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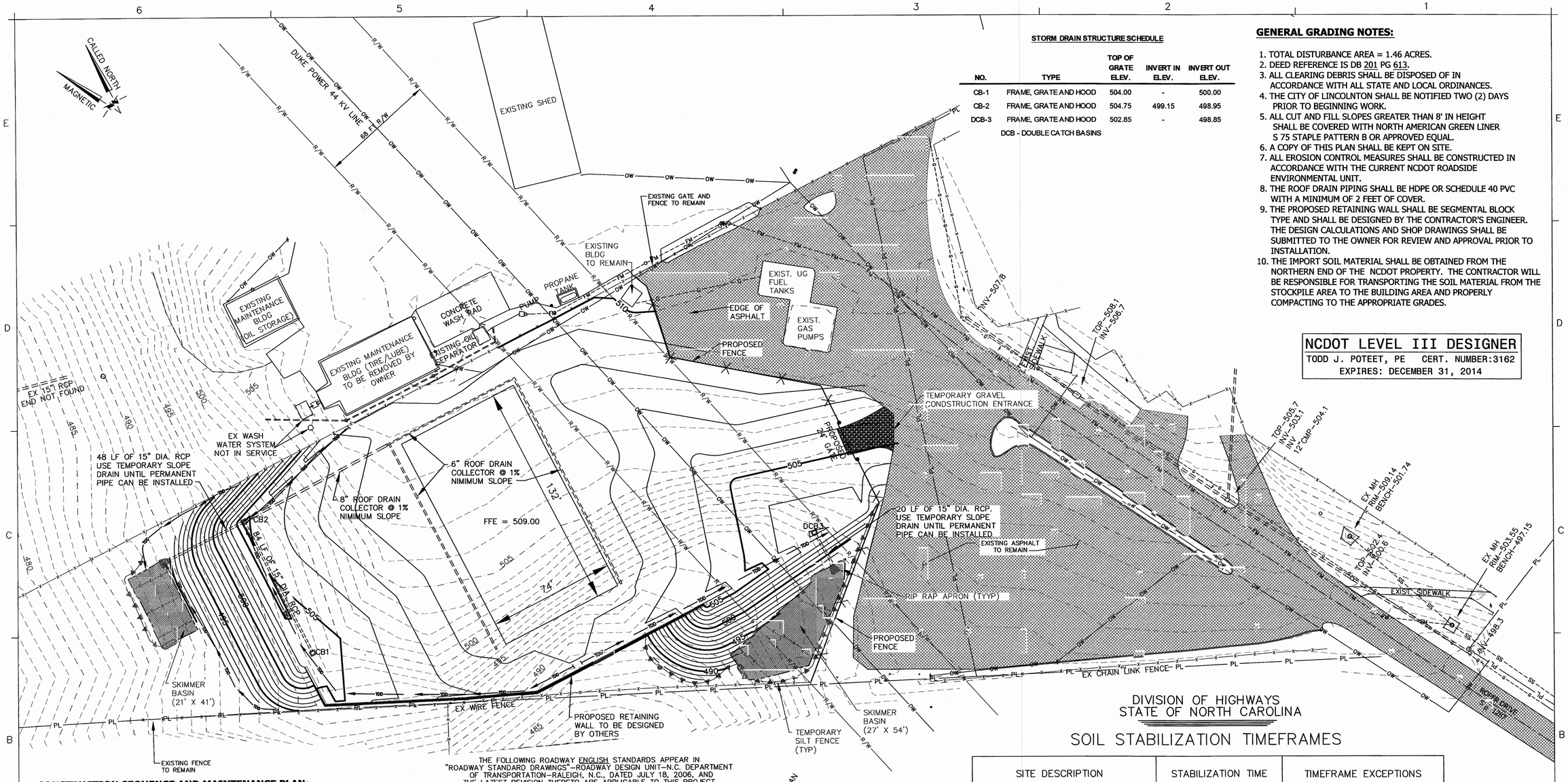
C1 OF 9



STORM DRAIN STRUCTURE SCHEDULE

NO.	TYPE	TOP OF GRATE ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.
CB-1	FRAME, GRATE AND HOOD	504.00	-	500.00
CB-2	FRAME, GRATE AND HOOD	504.75	499.15	498.95
DCB-3	FRAME, GRATE AND HOOD	502.85	-	498.85

DCB - DOUBLE CATCH BASINS

GENERAL GRADING NOTES:

1. TOTAL DISTURBANCE AREA = 1.46 ACRES.
2. DEED REFERENCE IS DB 201 PG 613.
3. ALL CLEARING DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND LOCAL ORDINANCES.
4. THE CITY OF LINCOLNTON SHALL BE NOTIFIED TWO (2) DAYS PRIOR TO BEGINNING WORK.
5. ALL CUT AND FILL SLOPES GREATER THAN 8' IN HEIGHT SHALL BE COVERED WITH NORTH AMERICAN GREEN LINER S 75 STAPLE PATTERN B OR APPROVED EQUAL.
6. A COPY OF THIS PLAN SHALL BE KEPT ON SITE.
7. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT NCDOT ROADSIDE ENVIRONMENTAL UNIT.
8. THE ROOF DRAIN PIPING SHALL BE HDPE OR SCHEDULE 40 PVC WITH A MINIMUM OF 2 FEET OF COVER.
9. THE PROPOSED RETAINING WALL SHALL BE SEGMENTAL BLOCK TYPE AND SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER. THE DESIGN CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
10. THE IMPORT SOIL MATERIAL SHALL BE OBTAINED FROM THE NORTHERN END OF THE NCDOT PROPERTY. THE CONTRACTOR WILL BE RESPONSIBLE FOR TRANSPORTING THE SOIL MATERIAL FROM THE STOCKPILE AREA TO THE BUILDING AREA AND PROPERLY COMPACTING TO THE APPROPRIATE GRADES.

NCDOT LEVEL III DESIGNER
TODD J. POTEET, PE CERT. NUMBER:3162
EXPIRES: DECEMBER 31, 2014

CONSTRUCTION SEQUENCE AND MAINTENANCE PLAN:

A. CONSTRUCTION SEQUENCE:

1. PLACE GRAVEL CONSTRUCTION ENTRANCE.
2. CONSTRUCT SKIMMER BASINS AND INSTALL SILT FENCE.
3. GRADE PARKING AREA AND BUILDING SITE CONSTRUCTING DIVERSIONS DITCHES AND INSTALLING STORM DRAIN PIPES SIMULTANEOUSLY.
4. FERTILIZE, SEED, AND MULCH ALL DISTURBED AREAS WITHIN THE SOIL STABILIZATION TIME FRAME.

B. MAINTENANCE PLAN:

1. INSPECT ALL EROSION CONTROL DEVICES WEEKLY AND AFTER EACH RUN-OFF PRODUCING RAINFALL EVENT.
2. REMOVE ACCUMULATED SEDIMENT FROM BASINS WHEN HALF FULL AND REPAIR OR REPLACE STONE THAT HAS BEEN DISPLACED OR CONTAMINATED.
3. AFTER VEGETATION HAS BEEN ESTABLISHED, CHECK FOR ANY BARE SPOTS AND RE-SEED.
4. WHEN VEGETATION IS WELL ESTABLISHED AND APPROVED BY THE NCDOT, REMOVE ALL SILT FENCE AND SKIMMER BASINS, AND GRADE THOSE AREAS SMOOTH AND RE-SEED. (SKIMMERS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.)

THE FOLLOWING ROADWAY ENGLISH STANDARDS 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 ARE HEREBY CONSIDERED PART OF THE PLANS THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG–010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY

WILLIAM CHAPMAN
DB 510 PG 928
ZONED GMC

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.05	Temporary Diversion	
1631.01	Matting Installation	
1640.01	Coir Fiber Baffle	
1605.01	Temporary Silt Fence	
1622.01	Temporary Slope Drain	
1607.01	Gravel Construction Entrance	
	Skimmer Basin	
	Rip Rap Apron	

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

30 0 30 60
GRAPHIC SCALE – FEET
1"=30'

EROSION CONTROL & GRADING PLAN

WEST CONSULTANTS PLLC
405 South Sterling Street
Morganton, NC 28655
(828) 433-5661
Fax (828) 433-5662
NC License No. P-0210

SEAL:
NORTH CAROLINA PROFESSIONAL SEAL 25806 ENGINEER TODD J. POTEET

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ARCHITECTS & ENGINEERS
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH STREET
RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A
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COUNTY – SITE – BUILDING
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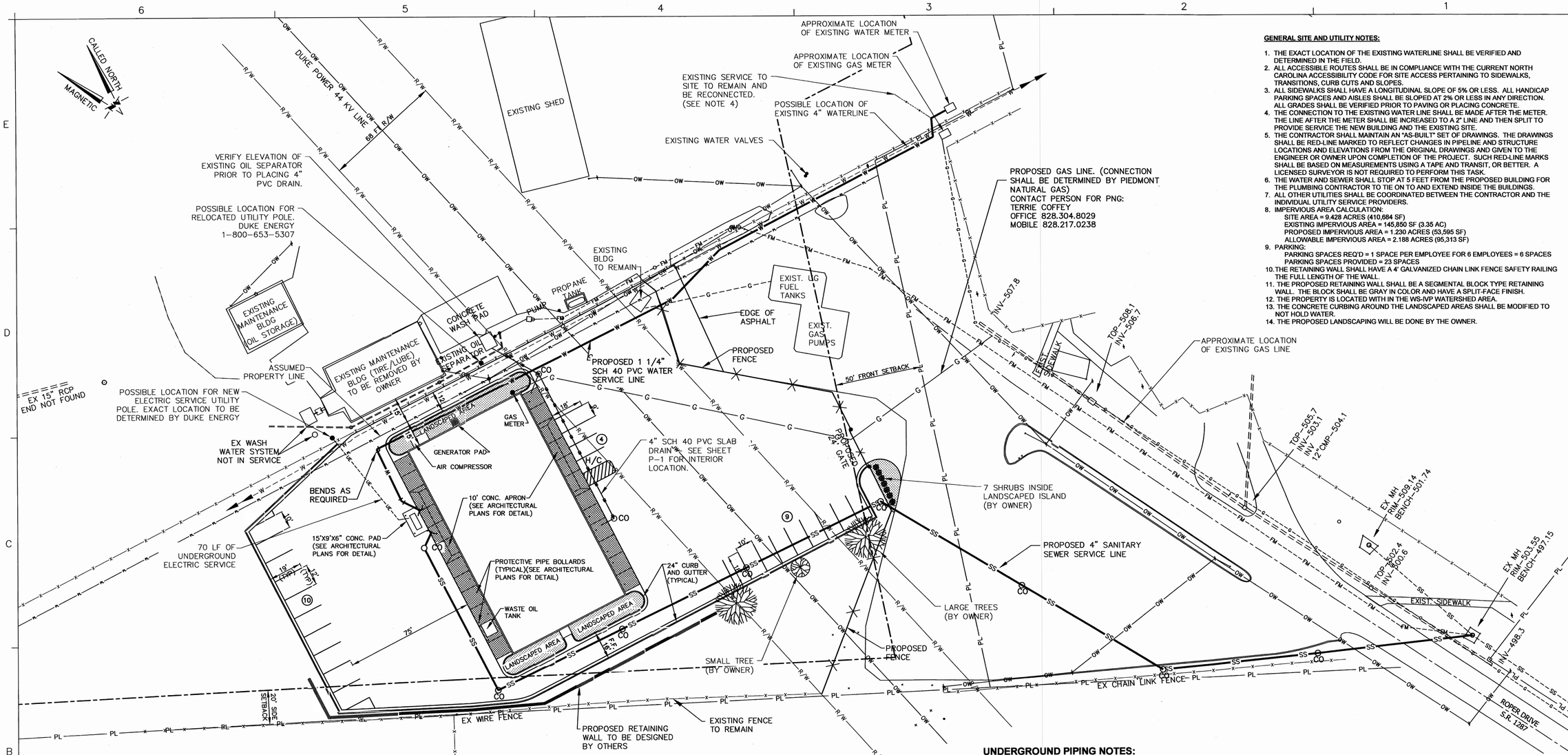
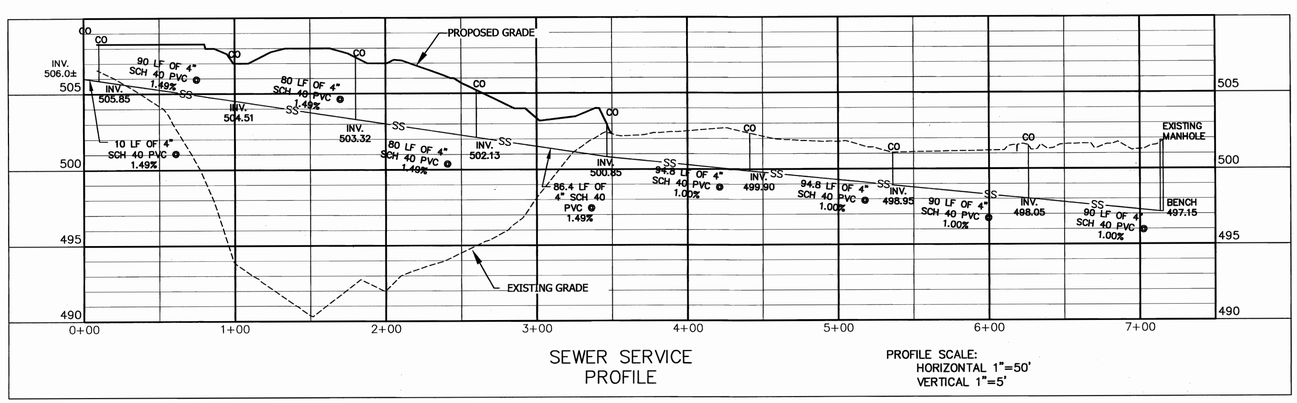
C2 OF 9



GENERAL SITE AND UTILITY NOTES:

1. THE EXACT LOCATION OF THE EXISTING WATERLINE SHALL BE VERIFIED AND DETERMINED IN THE FIELD.
2. ALL ACCESSIBLE ROUTES SHALL BE IN COMPLIANCE WITH THE CURRENT NORTH CAROLINA ACCESSIBILITY CODE FOR SITE ACCESS PERTAINING TO SIDEWALKS, TRANSITIONS, CURB CUTS AND SLOPES.
3. ALL SIDEWALKS SHALL HAVE A LONGITUDINAL SLOPE OF 5% OR LESS. ALL HANDICAP PARKING SPACES AND AISLES SHALL BE SLOPED AT 2% OR LESS IN ANY DIRECTION. ALL GRADES SHALL BE VERIFIED PRIOR TO PAVING OR PLACING CONCRETE.
4. THE CONNECTION TO THE EXISTING WATER LINE SHALL BE MADE AFTER THE METER. THE LINE AFTER THE METER SHALL BE INCREASED TO A 2" LINE AND THEN SPLIT TO PROVIDE SERVICE THE NEW BUILDING AND THE EXISTING SITE.
5. THE CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS. THE DRAWINGS SHALL BE RED-LINE MARKED TO REFLECT CHANGES IN PIPELINE AND STRUCTURE LOCATIONS AND ELEVATIONS FROM THE ORIGINAL DRAWINGS AND GIVEN TO THE ENGINEER OR OWNER UPON COMPLETION OF THE PROJECT. SUCH RED-LINE MARKS SHALL BE BASED ON MEASUREMENTS USING A TAPE AND TRANSIT, OR BETTER. A LICENSED SURVEYOR IS NOT REQUIRED TO PERFORM THIS TASK.
6. THE WATER AND SEWER SHALL STOP AT 5 FEET FROM THE PROPOSED BUILDING FOR THE PLUMBING CONTRACTOR TO TIE ON TO AND EXTEND INSIDE THE BUILDINGS.
7. ALL OTHER UTILITIES SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND THE INDIVIDUAL UTILITY SERVICE PROVIDERS.
8. IMPERVIOUS AREA CALCULATION:
   SITE AREA = 9.428 ACRES (410,684 SF)
   EXISTING IMPERVIOUS AREA = 145,850 SF (3.35 AC)
   PROPOSED IMPERVIOUS AREA = 1.230 ACRES (53,595 SF)
   ALLOWABLE IMPERVIOUS AREA = 2.188 ACRES (95,313 SF)
9. PARKING:
   PARKING SPACES REQ'D = 1 SPACE PER EMPLOYEE FOR 6 EMPLOYEES = 6 SPACES
   PARKING SPACES PROVIDED = 23 SPACES
10. THE RETAINING WALL SHALL HAVE A 4' GALVANIZED CHAIN LINK FENCE SAFETY RAILING THE FULL LENGTH OF THE WALL.
11. THE PROPOSED RETAINING WALL SHALL BE A SEGMENTAL BLOCK TYPE RETAINING WALL. THE BLOCK SHALL BE GRAY IN COLOR AND HAVE A SPLIT-FACE FINISH.
12. THE PROPERTY IS LOCATED WITH IN THE WS-IVP WATERSHED AREA.
13. THE CONCRETE CURBING AROUND THE LANDSCAPED AREAS SHALL BE MODIFIED TO NOT HOLD WATER.
14. THE PROPOSED LANDSCAPING WILL BE DONE BY THE OWNER.



SEWER SERVICE PROFILE

PROFILE SCALE:
HORIZONTAL 1"=50'
VERTICAL 1"=5'

UNDERGROUND PIPING NOTES:

ALL UNDERGROUND LINES OUTSIDE BUILDING FOOTPRINT, EXCEPT LAWN IRRIGATION LINES, SHALL BE REQUIRED TO HAVE A WARNING TAPE INSTALLED IN THE BACKFILL BETWEEN 6 INCHES TO 24 INCHES BELOW FINISHED GRADE, DIRECTLY OVER PIPING.

1. METALLIC LINES SHALL BE IDENTIFIED WITH PRINTED DURABLE PLASTIC WARNING TAPES, MINIMUM 3" WIDE, WITH LETTERING TO IDENTIFY BURIED LINE BELOW.
2. NON-METALLIC PIPES, OTHER THAN GAS LINES, SHALL BE IDENTIFIED BY DETECTABLE WARNING TAPES, MINIMUM 2" WIDE, WITH LETTERING TO IDENTIFY BURIED LINES BELOW.
3. NON-METALLIC GAS LINES. 2009 NC GAS CODE, 404.14.3 TRACER. AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO UNDERGROUND NONMETALLIC PIPING. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE ABOVEGROUND AT THE END OF THE NONMETALLIC PIPING. THE TRACER WIRE SIZE SHALL NOT BE LESS THAN 18 AWG AND THE INSULATION TYPE SHALL BE SUITABLE FOR DIRECT BURIAL.

30 0 30 60
GRAPHIC SCALE – FEET
1"=30'

SITE UTILITY PLAN

WEST CONSULTANTS PLLC
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Fax (828) 433-5662
NC License No. P-0210

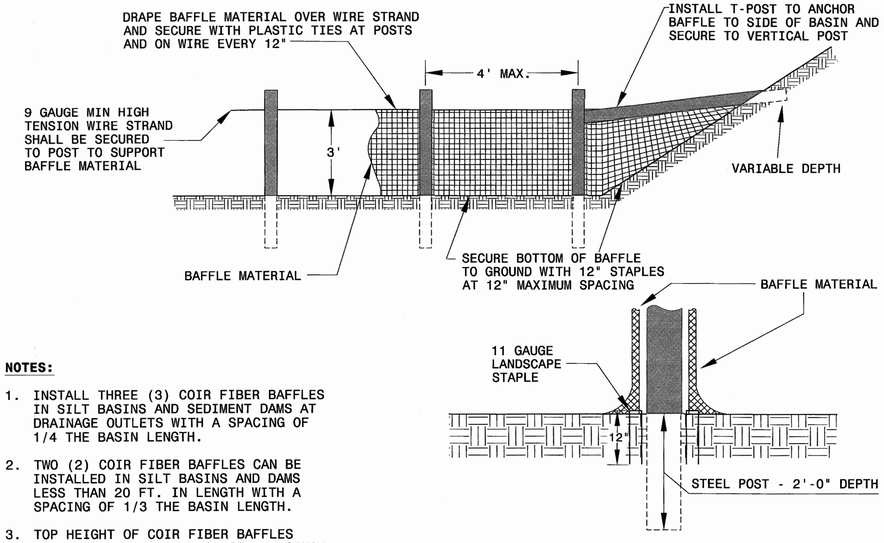
SEAL: NORTH CAROLINA PROFESSIONAL SEAL 20906 ENGINEER TODD J. POTHEL 7/30/12

FACILITIES DESIGN
ARCHITECTS & ENGINEERS
GENERAL SERVICES DIVISION, NCDOT
RALEIGH-WILMINGTON STREET
NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT:
LINCOLNTON SHOP
EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

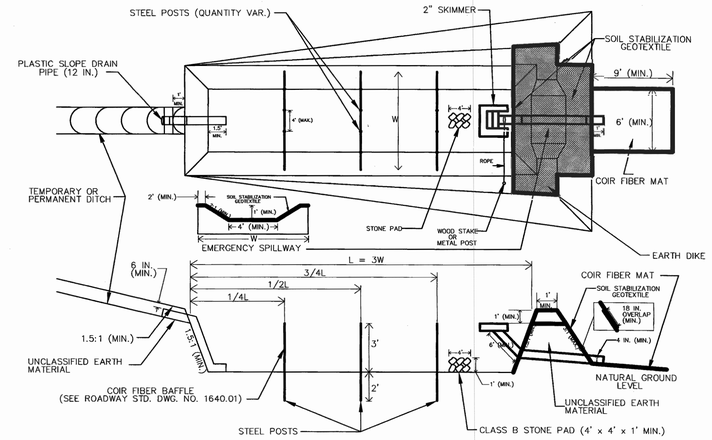
STATE CONSTRUCTION ID.# 09-07920-01A	
ASSET NUMBER	
COUNTY – SITE – BUILDING XX - XX - XX	
REVISIONS NO.	DATE
DATE ISSUED: 6-8-12	
DRAWN BY: DWS	
CHECKED BY: VMB	
SHEET NO.	
C3 OF 9	



NOTES:

1. INSTALL THREE (3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF 1/4 THE BASIN LENGTH.
2. TWO (2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

COIR FIBER BAFFLE DETAIL

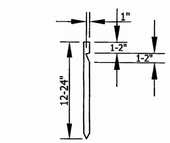


NOTES

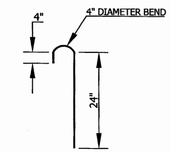
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).
7. BOTH SKIMMER BASINS SHALL HAVE A 2" SKIMMER WITH A 1.25" ORIFICE PLATE.

SKIMMER BASIN WITH BAFFLES DETAIL

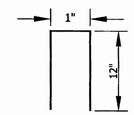
NOT TO SCALE



2"x2" (NOMINAL) WOODEN STAKE

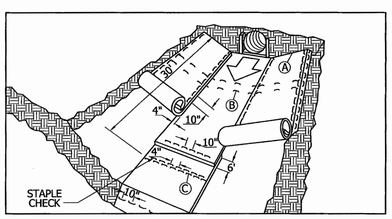


#10 STEEL REINFORCMENT BAR

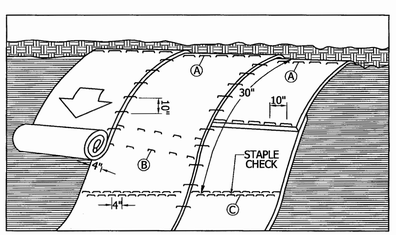


1" (NOMINAL) STAPLE

COIR FILTER MAT ANCHOR OPTIONS



MATTING IN DITCHES



MATTING ON SLOPES

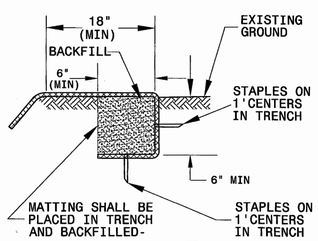


DIAGRAM (A)

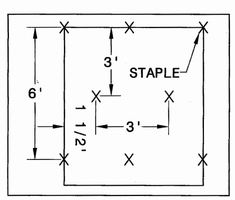


DIAGRAM (B)

STAPLE CHECK PATTERN

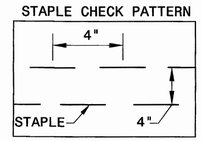
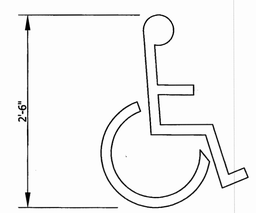


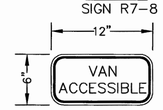
DIAGRAM (C)

MATTING INSTALLATION DETAIL

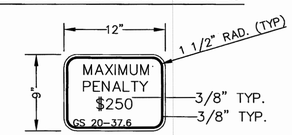


TYPICAL ACCESSIBILITY SYMBOL ON PARKING SPACES

SIGN "A"
SIGN R7-8



SIGN "C"
VAN ACCESSIBLE SIGN



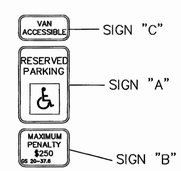
SIGN "B"
SIGN R7-8D

SIGN "A"
1. LEGEND & BORDER – GREEN
2. WHITE SYMBOL ON BLUE BACKGROUND
3. BACKGROUND – WHITE

SIGN "B"
1. LEGEND & BORDER – GREEN
2. BACKGROUND – WHITE

SIGN "C" (FOR SPACES SO DESIGNATED)
1. LEGEND & BORDER – GREEN
2. BACKGROUND – WHITE

HANDICAP SIGNS DETAIL



HANDICAP SIGN DETAIL
NTS

NOTE: SIGNS SHALL BE MOUNTED ON THE EXTERIOR WALL OF THE BUILDING. SIGNS SHALL BE COMBINED TO ONLY USE ONE OR TWO SIGNS AND BE IN COMPLIANCE WITH STATE CODE.

EROSION CONTROL & HC SIGNAGE DETAILS

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STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

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HIGHWAY DIVISION 12, NCDOT
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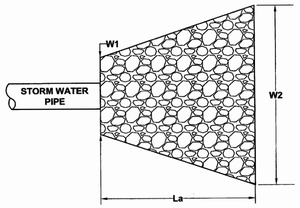
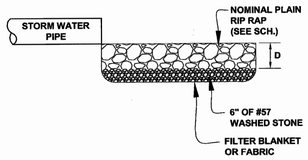


NOTES

1. REFERENCE FIG. 8.06a OF THE DESIGN MANUAL.
2. IN A WELL-DEFINED CHANNEL EXTEND THE APRON TO THE TOP OF THE CHANNEL BANKS.
3. THE TOP OF THE RIP RAP AT THE DOWNSTREAM END SHALL BE LEVEL WITH THE RECIEVING AREA OR SLIGHTLY LOWER.

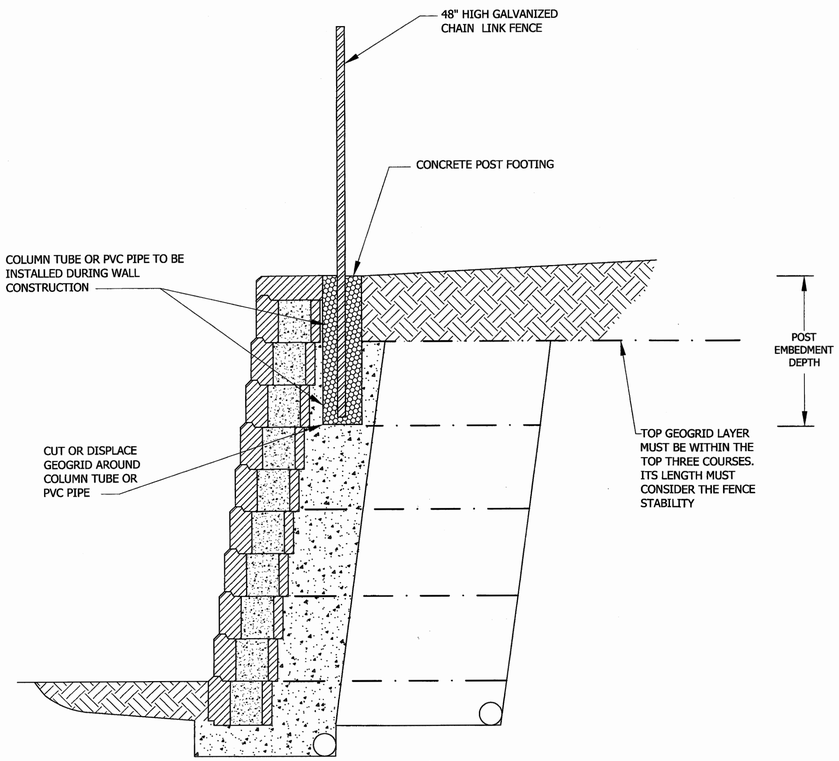
RIP-RAP APRON

Do	La	W1	W2	D	STONE D50 SIZE
12"	6'	3'	7'	1'	6"
15"	8'	4'	10'	1'	6"
18"	9'	5'	11'	1'	6"
24"	13'	6'	15'	1.5'	6"
36"	16'	8'	18'	2'	12"
42"	20'	9'	23'	2.5'	12"
48"	22'	11'	26'	3'	12"



RIP-RAP APRON DETAIL

NOT TO SCALE



RETAINING WALL FENCE DETAIL

NTS

PERMANENT AND TEMPORARY SEEDING SCHEDULE

GRADED AREAS:

1. APPLY GROUND AGRICULTURAL LIMESTONE AND FERTILIZER IN ACCORDANCE WITH SOIL TEST RECOMMENDATIONS.
2. IF SOIL TESTS RESULTS ARE NOT AVAILABLE, APPLY LIMESTONE AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE AND 10-10-10 GRADE FERTILIZER AT A RATE OF 800-900 LB/ACRE.
3. INCORPORATE BOTH FERTILIZER AND LIME INTO THE TOP 4-6 INCHES OF SOIL.
4. TEMPORARY SEEDING SCHEDULE:

REGION	DATES	SEEDING MIXTURE	RATE
MOUNTAINS	FEB. 1 - MAY 15	RYE GRAIN	120 LB/AC.
		KOREAN LESPEDEZA	50 LB/AC.
	MAY 16 - AUG. 15	GERMAN MILLET	40 LB/AC.
	AUG. 16 - DEC. 15	RYE GRAIN	120 LB/AC.
PIEDMONT	JAN. 1 - MAY 1	RYE GRAIN	120 LB/AC.
		KOBE LESPEDEZA	50 LB/AC.
	MAY 2 - AUG. 15	GERMAN MILLET	40 LB/AC.
	AUG. 16 - DEC. 30	RYE GRAIN	120 LB/AC.

5. PERMANENT SEEDING SCHEDULE:

REGION	DATES	SEEDING MIXTURE	RATE
MOUNTAINS	AUG. 15 - MAY 1	KY 31 TALL FESCUE	100 LB/AC.
	AUG. 20 - APRIL 15	RYE GRAIN	40 LB/AC.
	AUG. 1 - JUNE 1	SERICEA LESPEDEZA	15 LB/AC.
PIEDMONT	SEPT. 1 - APRIL 15	KY 31 TALL FESCUE	100 LB/AC.
		CENTIPEDE GRASS	10 LB/AC.
	APRIL 16 - JUNE 30	BERMUDA GRASS	25 LB/AC.

6. APPLY STRAW MULCH AT THE RATE OF 4,000 LB/AC. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. IF USING ASPHALT TACK, APPLY AT THE RATE OF 0.1 GAL/SY (11 GAL/SF). DO NOT APPLY ASPHALT TACK IN CLOSE PROXIMITY TO LIVE WATER.

SEEDBED PREPARATION:

1. INSTALL SURFACE WATER CONTROLS IN ACCORDANCE WITH THE APPROVED PLAN.
2. REMOVE ROCKS, ROOTS, AND DEBRIS THAT COULD INTERFERE WITH SEEDBED PREPARATION.
3. AREA TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF 4-6 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.
4. SURFACE FOR FINAL SEEDBED SHALL BE TO GRADE, SMOOTH, AND UNIFORM. SLOPES SHALL BE GROOVED OF FURROWED ALONG THE CONTOUR.
5. APPLY LIME AND FERTILIZER IN ACCORDANCE WITH THESE SEEDING SPECIFICATIONS.
6. APPLY SEED AND MULCH IN ACCORDANCE WITH THESE SEEDING SPECIFICATIONS.
7. RESEED AND MULCH AREAS WHERE COVER IS SPARSE OR WHERE EROSION HAS OCCURRED.

NOTES:

1. MAXIMUM SLOPE ANGLES SHALL BE NO GREATER THAN THE ANGLE WHICH CAN BE ADEQUATELY RETAINED BY VEGETATIVE COVER OR EROSION CONTROL STRUCTURES.
2. ALL AREAS SHALL HAVE GROUNDCOVER PROVIDED WITHIN 15 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
3. PERMANENT GROUNDCOVER SHALL BE ESTABLISHED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS, WHICHEVER PERIOD IS SHORTER, FOLLOWING COMPLETION OF GRADING.
4. ON EXISTING LAWNS, ONLY REBEL FESCUE SHALL BE APPLIED, AND ASPHALT TACK SHALL NOT BE USED
5. STABILIZATION FOR THIS PROJECT SHALL COMPLY WITH THE TIME FRAME GUIDELINES AS SPECIFIED BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY. TEMPORARY OR PERMANENT GROUND COVER STABILIZATION SHALL OCCUR WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY, WITH THE FOLLOWING EXCEPTIONS IN WHICH TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED IN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY:

- SLOPES BETWEEN 2:1 AND 3:1, WITH A SLOPE LENGTH OF 10 FT. OR LESS
- SLOPES 3:1 OR FLATTER, WITH A SLOPE OF LENGTH OF 50 FT. OR LESS
- SLOPES 4:1 OR FLATTER

THE STABILIZATION TIMEFRAME FOR HIGH QUALITY WATER (HQW) ZONES SHALL BE 7 CALENDAR DAYS WITH NO EXCEPTIONS FOR SLOPE GRADES OR LENGTHS. HIGH QUALITY WATER ZONES (HQW) ZONES ARE DEFINED BY NORTH CAROLINA ADMINISTRATIVE CODE 15A NCAC 04A.0105 (25). TEMPORARY AND PERMANENT GROUND COVER STABILIZATION SHALL BE ACHIEVED IN ACCORDANCE WITH THE PROVISIONS IN THIS CONTRACT AND AS DIRECTED.

RETAINING WALL & MISC. SITE DETAILS

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NC License No. P-0210

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 22906 ENGINEER TODD J. PETTEE

FACILITIES DESIGN
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RALEIGH, NORTH CAROLINA 27601
919/715-0400 FAX 919/715-0399

STATE OF NORTH CAROLINA ★ NOLLY BOSTIC ★ DEPARTMENT OF TRANSPORTATION

PROJECT: LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A

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COUNTY - SITE - BUILDING
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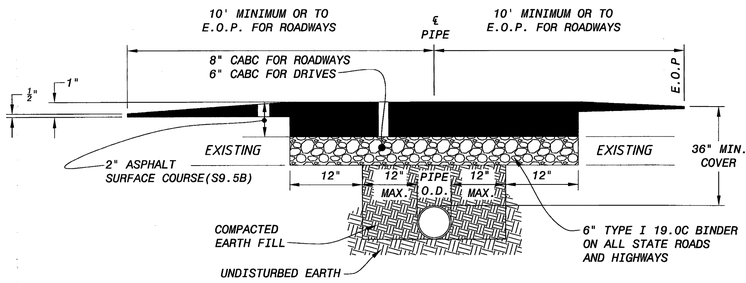
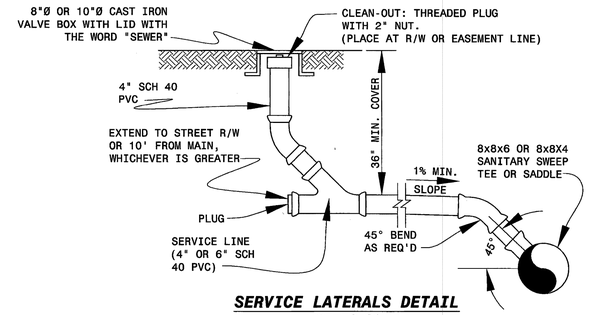
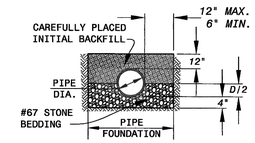
C5 OF 9



TYPICAL PAVEMENT REPAIR

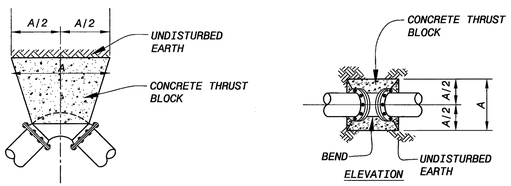


SERVICE LATERALS DETAIL
NOT TO SCALE



BEDDING REQUIRED FOR:

1. EXTRA STRENGTH VITRIFIED CLAY PIPE. (14'-18' DEPTH)
2. SDR 35 PVC PIPE (ALL DEPTHS)
3. PVC CORRUGATED SEWER PIPE WITH SMOOTH INTERIOR (ALL DEPTHS)



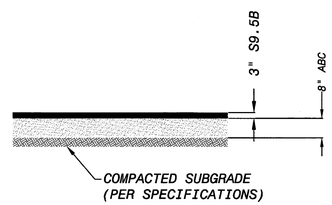
TYPICAL THRUST BLOCK FOR BENDS

SIZE	$11\frac{1}{4}°$ BEND	$22\frac{1}{2}°$ BEND	45° BEND	90° BEND	TEE	PLUG
2-6	12	12	12	16	16	14

NOTE: CARE SHALL BE TAKEN WHEN PLACING THRUST BLOCKS TO KEEP THE FITTING BOLTS FREE OF CONCRETE.

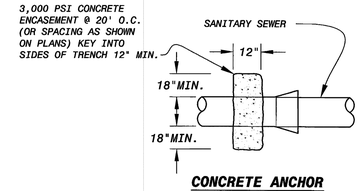
THRUST BLOCKS DIMENSION "A"

(DIMENSION "A" IN INCHES)

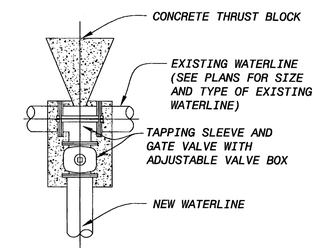


STANDARD ASHPHALT PAVING
NTS

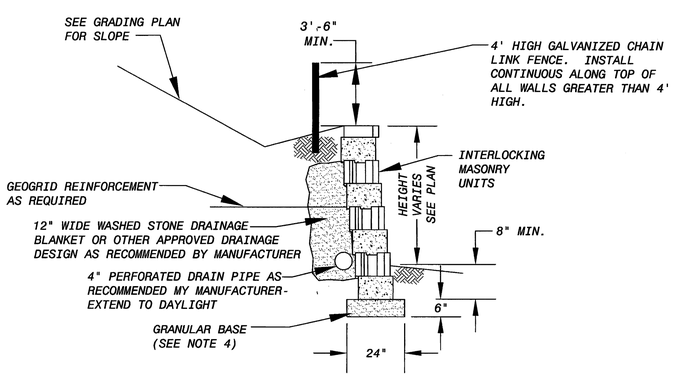
*NOTE: FINAL 1.5" TO BE PLACED AFTER ALL OTHER CONSTRUCTION IS COMPLETE.



CONCRETE ANCHOR DETAIL



TYPICAL TAPPING SLEEVE
AND
VALVE CONNECTION DETAIL



TYPICAL RETAINING WALL
CROSS-SECTION (DESIGN BY OTHERS)
NTS

RETAINING WALL NOTES:

1. ALL RETAINING WALLS SHALL BE SEGMENTAL INTERLOCKING MASONRY TYPE. FOLLOW ALL RECOMMENDATIONS FOR INSTALLATIONS GIVEN BY PRODUCT SUPPLIER. THE CONTRACTOR OR HIS SUPPLIER SHALL PROVIDE DESIGN BY NC PROFESSIONAL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY OWNER AND BY BUILDING OFFICIAL. CONTRACTOR SHALL OBTAIN ADDITIONAL SOIL TESTING AS MAY BE REQUIRED FOR DESIGN PURPOSES. WALLS SHALL BE DESIGNED IN ACCORDANCE WITH ALL APPLICABLE CODES, INCLUDING NC BUILDING CODE SECTIONS 1610 AND 1704. CONTRACTOR SHALL ALSO PROVIDE SERVICES OF A NC REGISTERED PROFESSIONAL ENGINEER TO OBSERVE WALL CONSTRUCTION AND CERTIFY TO THE OWNER THAT THE WALL WAS CONSTRUCTED ACCORDING TO THE APPROVED DRAWINGS. THIS DETAIL ONLY SHOWS MINIMUM REQUIREMENTS.
2. WATER SHALL NEVER BE ALLOWED TO SPILL OVER FACE OF WALLS. IF MASONRY IS STAINED BY SOIL, CONTRACTOR SHALL PRESSURE WASH AND BLEACH STAINED BLOCKS.
3. THE STYLE AND COLOR OF THE MASONRY SHALL BE SELECTED BY THE OWNER.
4. GRANULAR BASE MATERIAL SHALL HAVE THE FOLLOWING SIEVE ANALYSIS:

SIEVE SIZE	PERCENT PASSING
1"	100
NO. 4	35-80
NO. 11	20-65
NO. 40	10-35
NO. 200	0-10

BASE MATERIAL SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.

MISC SITE DETAILS

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SEAL:
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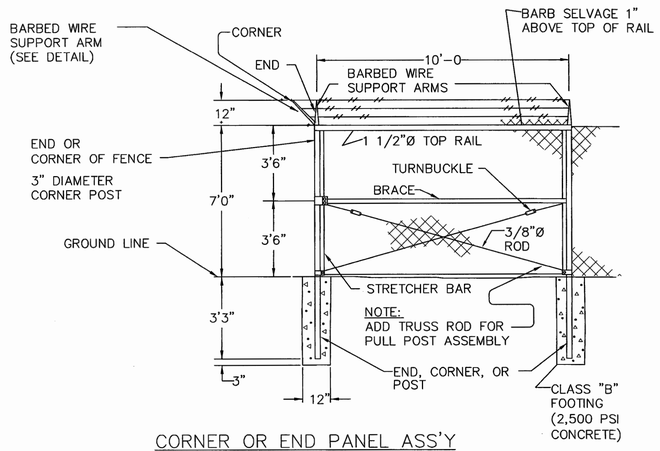
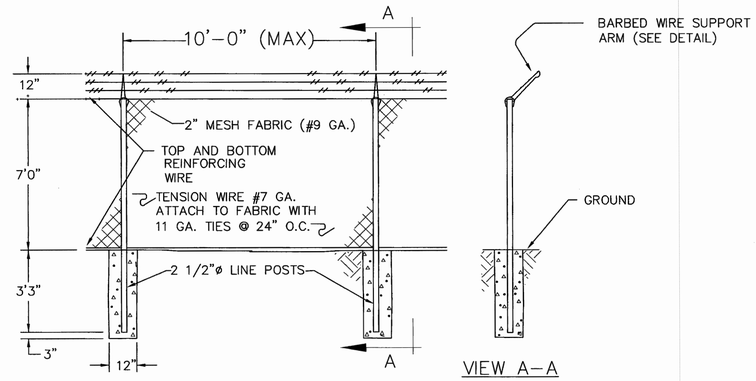


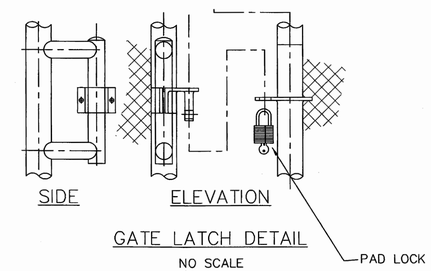
CORNER OR END PANEL ASS'Y
PULL POST ASS'Y SIMILAR (EXCEPT AS INDICATED)

SCALE: NTS



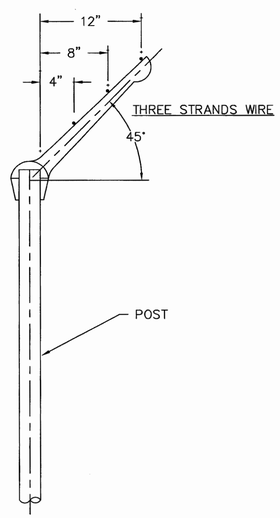
TYPICAL LINE FENCE DETAIL

SCALE: NTS



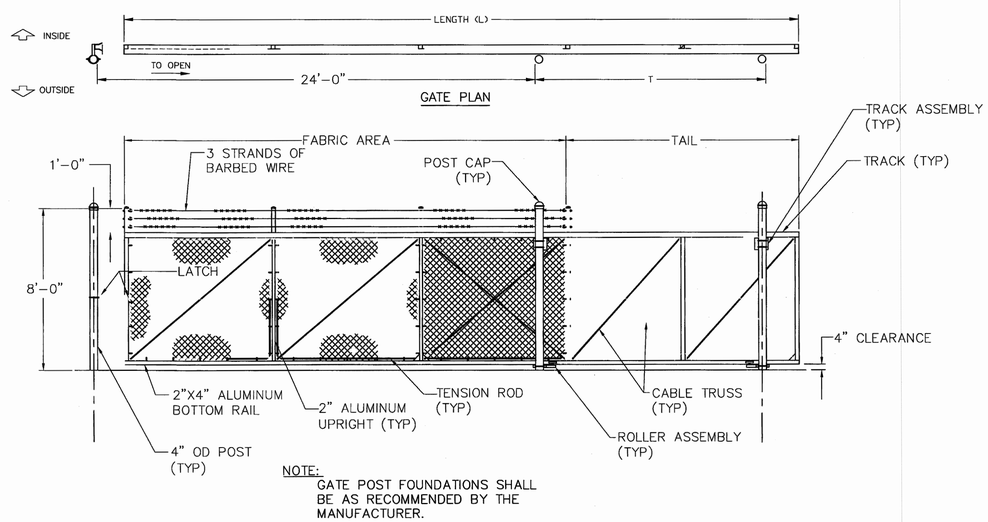
GATE LATCH DETAIL

NO SCALE



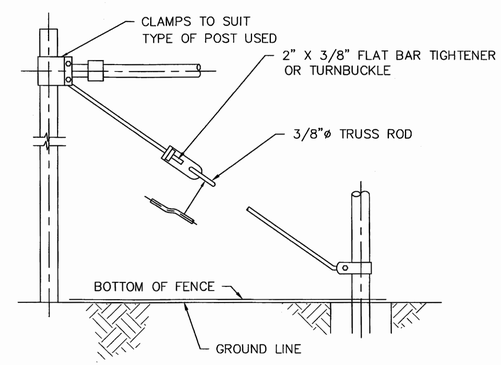
DETAIL BARBED WIRE
SUPPORT ARM AND POST CAP

SCALE: NTS



NOTE:
GATE POST FOUNDATIONS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

CATILEVERED GATE DETAIL



TYPICAL DETAIL
TRUSS ROD TIES

NO SCALE

SITE FENCING DETAILS

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PROJECT:
LINCOLNTON EQUIPMENT SHOP
HIGHWAY DIVISION 12, NCDOT
LINCOLN COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID.# 09-07920-01A	
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CHECKED BY: VMB	
SHEET NO.	
C7 OF 9	

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
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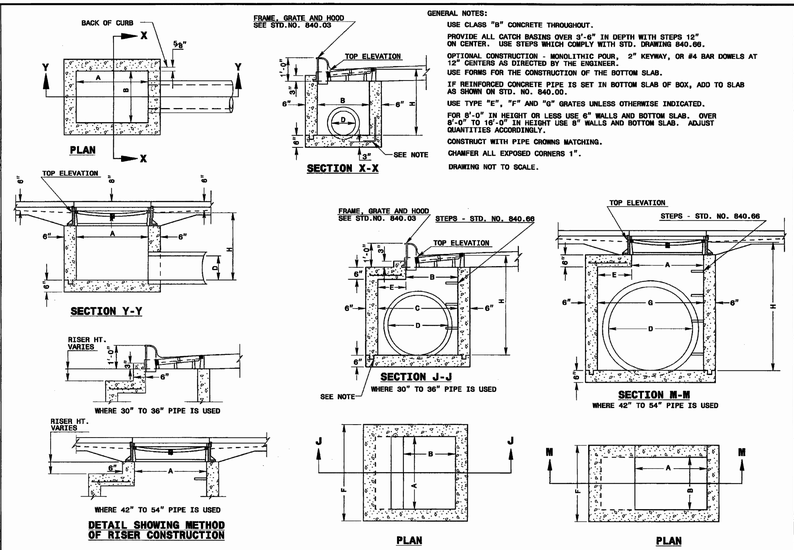
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 5'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

SHEET 1 OF 2
840.02

STATE OF NORTH CAROLINA
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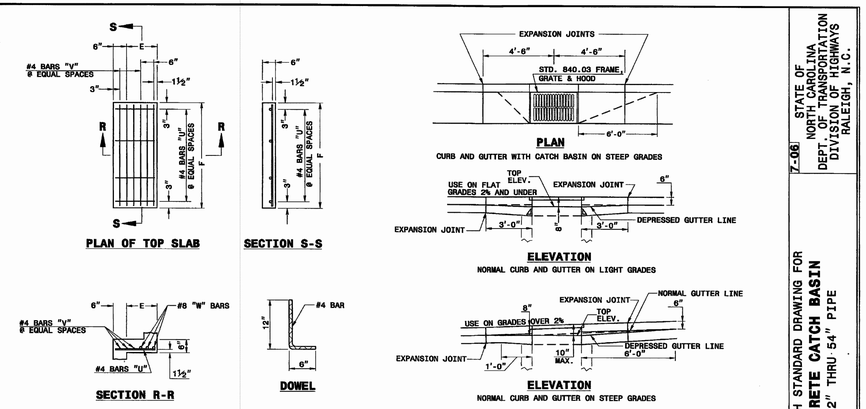
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *																			
DIMENSIONS OF BOX AND PIPE							COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL LBS.	CU.YDS. CONC. IN BOX		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT											TOP SLAB	BOTTOM SLAB	C.M.	R.C.
D	A	B	C	G	H		E	F	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH			(INC. CONC. FOR MITERED RISERS) *		
12"	3'-0"	2'-2"	--	--	2'-9"		--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			3'-0"												0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"												0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"												0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"		4'-3"		1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.137
36"	3'-0"	2'-2"	3'-10"		4'-9"		1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.176
42"	3'-0"	2'-2"		4'-5"	5'-3"		1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"		2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.092	0.236	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"		2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

SHEET 2 OF 2
840.02

STATE OF NORTH CAROLINA
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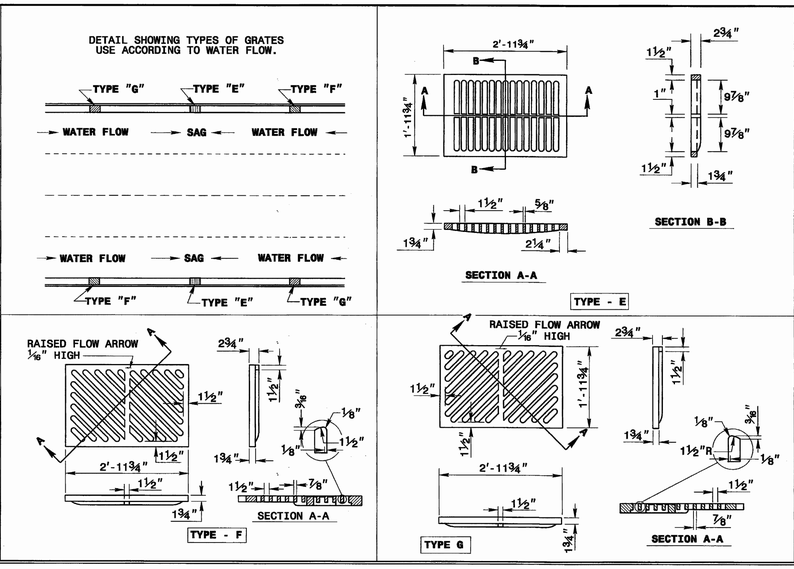
7-06

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN



SHEET 2 OF 2
840.03

STATE OF NORTH CAROLINA
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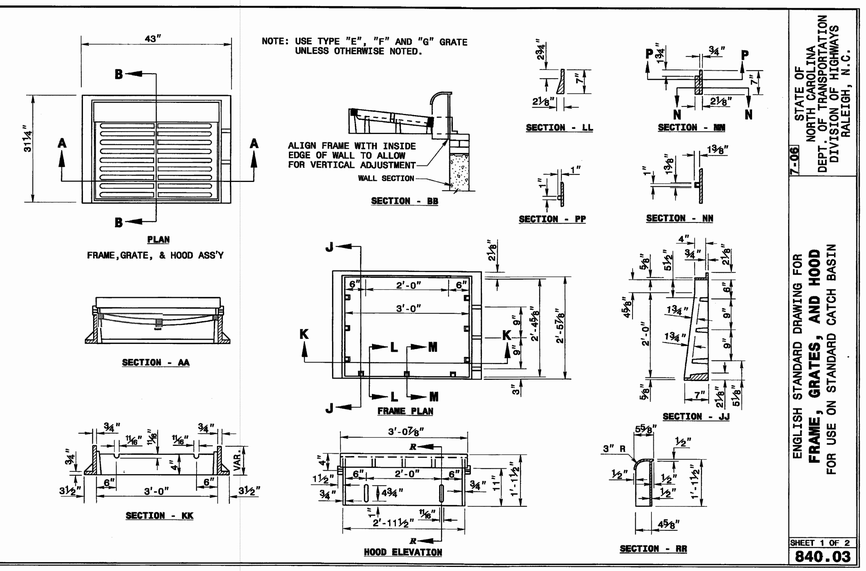
DIVISION OF HIGHWAYS
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN



SHEET 1 OF 2
840.03

STORM WATER DRAINAGE FIXTURE DETAILS

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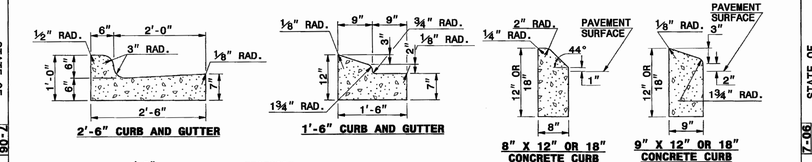
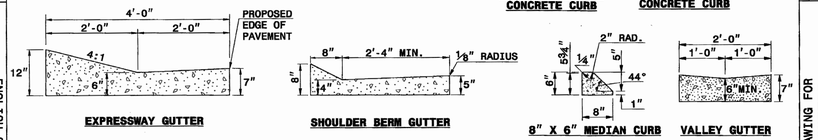
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

7-06

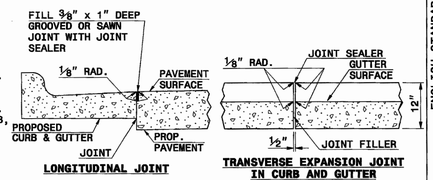
ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER





SECTION VIEW OF CURBS OR CURBS AND GUTTERS

GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
- FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8"x6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
- SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.



SECTION VIEW OF JOINTS

SHEET 1 OF 3
846.01

STATE OF NORTH CAROLINA
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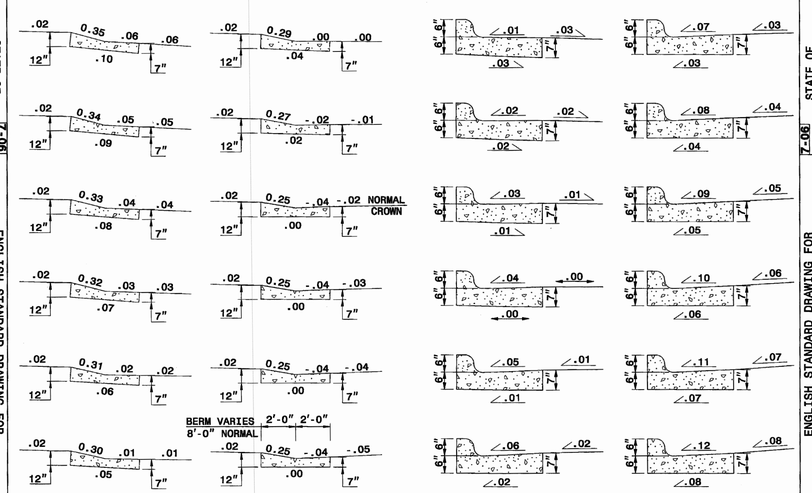
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER



SECTION VIEWS OF EXPRESSWAY GUTTER IN SUPER ELEVATION

SECTION VIEWS OF 2'-6" CURB AND GUTTER SUPERELEVATION RATES

SHEET 2 OF 3
846.01

STATE OF NORTH CAROLINA
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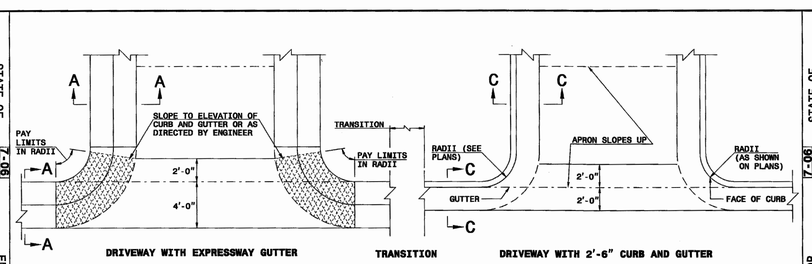
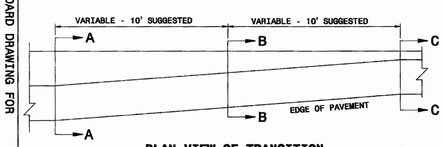
RALEIGH, N.C.

7-06

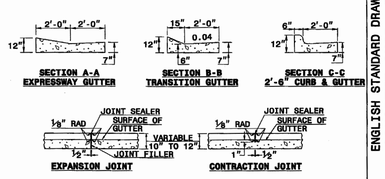
ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER



PLAN VIEW OF TYPICAL CURB AND GUTTER OCCURENCES



PLAN VIEW OF TRANSITION
EXPRESSWAY GUTTER TO 2'-6" CURB AND GUTTER



NOTES:
- IN THE TRANSITION FROM 4'-0" CONCRETE EXPRESSWAY GUTTER TO 2'-6" CONCRETE CURB AND GUTTER, PLACE ½" EXPANSION JOINTS AT 25' INTERVALS.
- PLACE GROOVE JOINTS 1" DEEP AT 12'-6" INTERVALS BETWEEN EXPANSION JOINTS.
- FILL AND SEAL THE TOP ½" OF THE EXPANSION JOINTS AND 1" OF CONTRACTION JOINTS WITH APPROVED JOINT SEALING COMPOUND.

SHEET 3 OF 3
846.01

STATE OF NORTH CAROLINA
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1-98

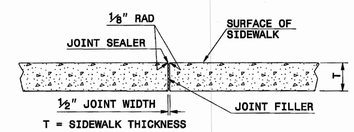
ENGLISH STANDARD DRAWING FOR
CONCRETE SIDEWALK

NOTES:

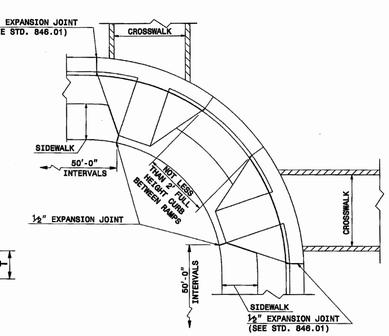
STANDARD SIDEWALK WIDTH SHALL BE 5' AND THICKNESS (T) SHALL BE 4" UNLESS OTHERWISE DENOTED ON PLANS.

A GROOVE JOINT 1" DEEP WITH ⅛" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE ½" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A ½" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

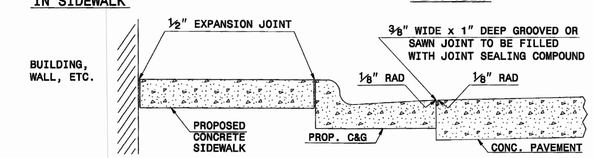
SEE STD. DWG. 848.05 FOR WHEELCHAIR RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT IN SIDEWALK



PLAN VIEW



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

SHEET 1 OF 1
848.01

CURB & GUTTER DETAILS

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