

LOCATION MAP

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE: PRESCRIPTIVE PERFORMANCE
 ASHRAE 90.1: PRESCRIPTIVE PERFORMANCE

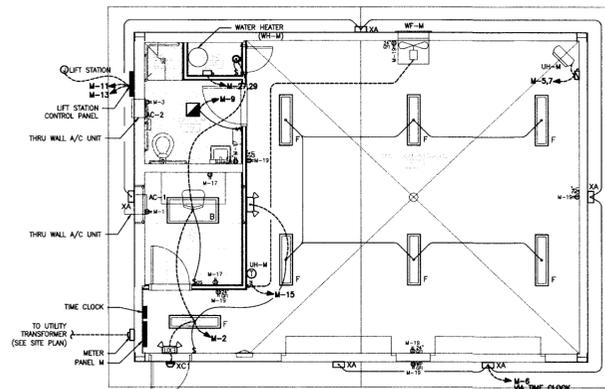
LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FUTURE	SEE LIGHTING SCHEDULE ON PLANS
NUMBER OF LAMPS IN FUTURE	SEE LIGHTING SCHEDULE ON PLANS
BALLAST TYPE USED IN THE FUTURE	SEE LIGHTING SCHEDULE ON PLANS
NUMBER OF BALLASTS IN THE FUTURE	SEE LIGHTING SCHEDULE ON PLANS
TOTAL WATTAGE PER FIXTURE	SEE LIGHTING SCHEDULE ON PLANS
TOTAL INTERIOR WATTAGE SPEC. VS. ALLOWED	972 WATTAGE SPEC. VS. 802 WATTAGE ALLOWED
TOTAL EXTERIOR WATTAGE SPEC. VS. ALLOWED	235 WATTAGE SPEC. VS. 1024 WATTAGE ALLOWED

SE ICE LOAD SUMMARY - MAINTENANCE BUILDING

OCCUPANCY TYPE - OFFICE/STORAGE BUILDING AREA - 938

CONTINUOUS LOAD DESCRIPTION	LOAD (KVA)	NEC REFERENCE	DEMAND FACTOR	NEC REFERENCE	LOAD (KVA)
INDOOR LIGHTING (2W/SF)	1.9	TABLE 220.12	100%	TABLE 220.42	1.9
OUTDOOR LIGHTING	0.3	---	100%	---	0.3
THRU WALL HVAC	1.9	ARTICLE 440	100%	---	1.9
BATH HEATER	1.5	ARTICLE 440	100%	---	1.5
ELECTRIC UNIT HEATER	10.0	422.13	100%	---	10.0
WATER HEATERS	4.5	422.13	100%	---	4.5
SUBTOTAL CONTINUOUS LOADS					20.1
					230.42 A 1
					CONT. LOAD TOTAL
					25.1
NON CONTINUOUS LOAD DESCRIPTION					
RECEPTACLES UP TO 10 KVA	1.6	220.14 1	100% OF 1st 10 KVA		1.6
RECEPTACLES OVER 10 KVA		220.14 1	50% ABOVE 10 KVA		
SUBTOTAL NON-CONTINUOUS LOADS					1.6
TOTAL CONTINUOUS AND NON CONTINUOUS LOADS					26.7
FAULT CURRENT			SERVICE LOAD		
2,277 AMPS			27 KVA		
			0.240		
			= 112 AMPS		

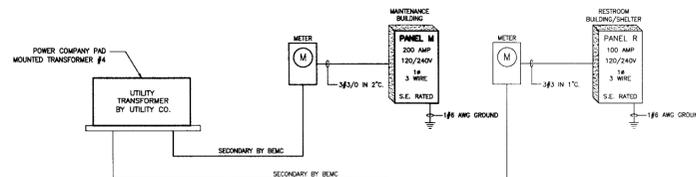


1 ELECTRICAL PANEL AND LIGHTING PLANS - MAINTENANCE BLDG. SCALE 1/4" = 1'-0"

PANEL SCHEDULE - MAINTENANCE BUILDING

PANEL M	SURFACE MOUNTED	SERVICE ENTRANCE RATED		200 AMP (FEEDER SIZE)		14, 3 WIRE	
		10K AC		120/208 VOLT		BOLT ON BREAKER	
MAIN BREAKER		COPPER BUS		225 AMP (BUS RATING)			
LOAD SERVED	WIRE SIZE	CONDUCTOR	TERMINALS	CONDUCTOR	TERMINALS	WIRE SIZE	LOAD SERVED
AC-1	2#12 & 1#20	3/4"	11	20	20	2#12 & 1#12G	LIGHTS
AC-2	2#12 & 1#20	3/4"	5	20	20	---	SPARE
UH-1	3#8 & 1#10G	3/4"	41	20	20	2#12 & 1#12G	EXTERIOR LIGHTS
FAN/LI/HEATER	2#12 & 1#12G	3/4"	12	20	20	---	SPARE
LIFT STATION CNTRL	2#12 & 1#12G	3/4"	10	20	20	---	SPARE
WALL FAN	2#12 & 1#12G	3/4"	6	20	20	---	SPARE
RECEPTACLES	2#12 & 1#12G	3/4"	5	20	20	---	SPARE
RECEPTACLES	2#12 & 1#12G	3/4"	8	20	20	---	SPARE
SPARE	---	---	21	20	20	---	SPARE
SPARE	---	---	23	20	20	---	SPARE
SPARE	---	---	25	20	20	---	SPARE
WATER HEATER (WH-M)	2#12 & 1#12G	3/4"	19	27	30	---	SPARE
			19	29	30	---	SPARE

COORDINATE HVAC BREAKERS AND WIRE SIZES WITH HVAC SUBMITTALS
 COORDINATE BREAKERS AND WIRE SIZES FOR OTHER FURNISHED EQUIPMENT WITH SUBMITTALS
 PROVIDE SEPARATE NOTINGS FOR ALL CIRCUITS
 * WIRE THRU TIMECLOCK



2 ELECTRICAL SERVICE - MAINTENANCE BUILDING SCALE 1/4" = 1'-0"



Entech
ENGINEERING
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INC. OF FLORIDA
10000 W. BOYD AVE., SUITE 2100
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PROJECT NO. 210006 PROJECT MGR. E. BROWN



Waccamaw District Park
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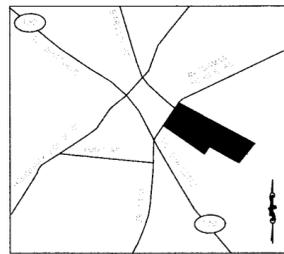
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Electrical Plans

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PLUMBING LEGEND		
SYMBOL	ABBR	DESCRIPTION
---	CW	COLD WATER LINE
---	HW	HOT WATER LINE
---	W	SOIL OR WASTE LINE
---	VT	VENT LINE
---	TP	TRAP PRIMER CONNECTION (1/2" TYPE K Cu)
+	AAV	AIR ADMITTANCE VALVE
+	VTR	VENT THRU ROOF
+	WCO	WALL CLEANOUT
+	FCO	FLOOR CLEANOUT
+	COG	CLEANOUT ON GRADE
+	FD	ROUND FLOOR DRAIN
+	FS	SQUARE FLOOR DRAIN
+	FS	FLOOR SINK
+	HB	HOSE BIBB/HYDRANT
+	FHB	FROSTPROOF HOSE BIBB/HYDRANT
+	WHA	WATER HAMMER ARRESTOR (POI SIZE "A")
+	-	SHUTOFF VALVE
+	BFP	BACKFLOW PREVENTER
+	-	UNION
+	-	THERMOMETER
+	-	CONCENTRIC REDUCER
+	-	FLOW DIRECTION ARROW
+	-	FIXTURE MARK (SEE SCHEDULE)
+	I.E.	INVERT ELEVATION FROM FINISHED FLOOR
+	G.C.	GENERAL CONTRACTOR
+	P.C.	PLUMBING CONTRACTOR
+	M.C.	MECHANICAL CONTRACTOR
+	E.C.	ELECTRICAL CONTRACTOR
+	AFG	ABOVE FINISHED FLOOR
+	AFG	ABOVE FINISHED GRADE
+	BFG	BELOW FINISHED GRADE

PLUMBING NOTES:

- PLUMBING PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE PLUMBING SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF PLUMBING INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- COORDINATE CONNECTION OF PLUMBING SYSTEMS WITH SITE UTILITIES AND SERVICES. P.C. SHALL EXTEND WATER SUPPLY LINE 5-FEET OUTSIDE OF BUILDING AND EXTEND BUILDING DRAIN 10-FEET OUTSIDE OF BUILDING & PROVIDE 2-WAY CLEANOUT.
- COORDINATE VENT THRU ROOF (VTR) LOCATIONS WITH OUTSIDE AIR INTAKES OF HVAC UNITS TO MAINTAIN A MINIMUM CLEARANCE OF 20 FEET.
- CONTRACTOR SHALL COORDINATE LOCATION & TYPE OF VTR BOOTS WITH G.C. CONTRACTOR SHALL FURNISH & INSTALL THE REQUIRED BOOTS. G.C. SHALL ENGAGE ROOFING CONTRACTOR TO ASSURE WEATHER-TIGHTNESS OF INSTALLATION. ANY EXPOSED PVC PIPING SHALL BE PAINTED WITH 2-COATS OF ENAMEL PAINT - COLOR SELECTED BY ARCHITECT.
- COORDINATE INSTALLATION OF PLUMBING LINES WITH BLOCK WALLS SO THAT ALL LINES ARE PLACED WITHIN WALLS DURING WALL CONSTRUCTION. CUTTING AND PATCHING OF WALLS IN PLACE IS NOT PERMITTED.
- ALL WORK SHALL COMPLY WITH LOCAL, STATE & ADA CODES. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
- DRAIN, WASTE & VENT (DWV) PIPING SHALL BE ASTM D 2665, SOLID-WALL, SCHEDULE 40 PVC WITH SOLVENT-WELDED SOCKET TYPE FITTINGS (FOAM CORE PIPING IS NOT ACCEPTABLE).
- ABOVE GRADE/SLAB WATER PIPING SHALL BE CROSSLINKED POLYETHYLENE (PEX-A) TUBING AND PROPEX FITTINGS AS MANUFACTURED BY UPONOR, INC. BRANCH LINES SHALL BE COLOR CODED FOR HOT & COLD WATER APPLICATIONS. PROVIDE HANGER TYPE & SPACING CRITERIA AS RECOMMENDED BY PRODUCT MANUFACTURERS.
- BELOW GRADE/SLAB WATER PIPING SHALL BE CROSSLINKED POLYETHYLENE (PEX-A) TUBING WITH NOT FITTINGS BELOW SLAB.
- DOMESTIC WATER SERVICE PIPING; (SEE SITE PLANS).
- INDIVIDUAL SUPPLY AND DRAIN CONNECTIONS SIZES ARE NOT INDICATED ON PLANS FOR CLARITY. SIZE EACH TO SUIT RESPECTIVE FIXTURE.
- WATER PIPING ON OUTSIDE WALLS AND IN CEILING SHALL BE LOCATED BETWEEN BUILDING INSULATION AND CONDITIONED SPACE.
- PROVIDE SHUTOFF VALVES AT EACH MAIN BRANCH LINE. VALVES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION. PROVIDE CEILING ACCESS DOORS WHERE REQUIRED TO ACCESS SERVICEABLE VALVES LOCATED ABOVE GYPSBOARD CEILINGS.
- UNLESS NOTED OTHERWISE ALL UNIONS SHALL BE FULL PORT BRONZE OR BRASS BALL VALVES.
- PROTECT COPPER PIPING FROM DIRECT CONTACT WITH MASONRY OR DISSIMILAR METAL.
- HANGERS, SUPPORTS, ANCHORS AND CLIPS SHALL BE COPPER PLATED OR PROVIDED WITH ELECTROLYTIC ISOLATION MATERIAL ON COPPER PIPING. ALL OTHER HANGERS AND SUPPORTS SHALL BE PAINTED OR GALVANIZED.
- PIPING PASSING THROUGH CONCRETE/MASONRY WALLS OR FLOORS SHALL BE PROTECTED AGAINST EXTERNAL CORROSION BY PROTECTIVE SHEATHING OR WRAPPING.
- INSTALL SCHEDULE 40 GALVANIZED PIPE OR DUCTILE IRON PIPE SLEEVE TWO SIZES LARGER AT PENETRATIONS THROUGH FOUNDATION WALLS. SEAL SLEEVE TIGHT TO FOUNDATION WALL.
- PROVIDE MECHANICAL WATER HAMMER ARRESTORS AS SHOWN ON PLANS OR WATER RISER.
- PROVIDE INSULATION EQUAL TO MCGUIRE PROWRAP ON P-TRAP ASSEMBLIES AND HOT & COLD WATER PIPING FOR LAVATORIES WITH EXPOSED PIPING.
- VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
- INSTALL PLUMBING FIXTURES AND EQUIPMENT LEVEL & PLUMB. ROUTE PIPING PARALLEL & PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS.
- INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE & REPAIR IN ACCORDANCE WITH MFG'S WRITTEN INSTALLATION INSTRUCTIONS AS WELL AS SPECIFIC INSTRUCTIONS ON PLANS.
- ALL FIXTURES & EXPOSED SURFACES SHALL BE WASHED & CLEANED AND PAINTED SURFACES SHALL BE TOUCHED UP TO MATCH FACTORY APPLIED FINISHES.
- DWV AND WATER DISTRIBUTION PIPING SHALL BE TESTED IN ACCORDANCE WITH NC PLUMBING CODE SECTION 312.
- POTABLE WATER PIPING SHALL BE PURGED AND DISINFECTED. FLUSH SYSTEM WITH CLEAN, POTABLE WATER. ISOLATE AND FILL SYSTEM WITH WATER/CHLORINE SOLUTION WITH AT LEAST 200 PPM OF CHLORINE. ALLOW TO STAND FOR THREE HOURS. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL CHLORINE SOLUTION IS REMOVED. SUBMIT WATER SAMPLE REPORT TO AUTHORITY HAVING JURISDICTION.
- GUARANTEE ALL EQUIPMENT, MATERIALS AND INSTALLATION FREE OF DEFECTS FOR A PERIOD OF 1-YEAR AFTER RECEIVING CERTIFICATE OF OCCUPANCY.
- COORDINATE LOCATIONS AND CONNECTION SIZES OF WASTE AND WATER LINES WITH KITCHEN EQUIPMENT SUPPLIER. P.C. SHALL MAKE ALL FINAL CONNECTIONS.

PLUMBING FIXTURE SCHEDULE						
FIX. NO.	DESCRIPTION	CW	HW	DRAIN	FAUCETS, VALVES & ACCESSORIES	NOTES
WC-1	WATER CLOSET FLUSH VALVE TYPE, WALL MOUNTED, ELONGATED LOW-CONSUMPTION (1.6 GPF) FULLY GLAZED 2" MIN. BALL PASS TRAPWAY MEETS ASME A112.19.2M & 19.6M NON-ADA (+/-14" RIM HEIGHT)		1"	3"	FIXTURE BY: AMERICAN STANDARD, CRANE OR KOHLER MANUAL FLUSH VALVE: EQUAL TO SLOAN REGAL 111 CLOSET SUPPORTS: EQUAL TO JR SMITH FIGURE 200-Y SERIES SEAT: EQUAL TO CHURCH 9500C (OPEN FRONT LESS COVER) MATERIAL: VITREOUS CHINA COLOR: WHITE	
WC-1A	WATER CLOSET FLUSH VALVE TYPE, WALL MOUNTED, ELONGATED LOW-CONSUMPTION (1.6 GPF) FULLY GLAZED 2" MIN. BALL PASS TRAPWAY MEETS ASME A112.19.2M & 19.6M ADA (+/-17" RIM HEIGHT)		1"	3"	FIXTURE BY: AMERICAN STANDARD, CRANE OR KOHLER MANUAL FLUSH VALVE: EQUAL TO SLOAN REGAL 111 CLOSET SUPPORTS: EQUAL TO JR SMITH FIGURE 200-Y SERIES SEAT: EQUAL TO CHURCH 9500C (OPEN FRONT LESS COVER) MATERIAL: VITREOUS CHINA COLOR: WHITE	FLUSH HANDLE SHALL BE ON RIGHT HAND OR LEFT HAND AS REQUIRED TO MEET ADA (SEE DETAIL)
WC-2A	WATER CLOSET TANK TYPE, FLOOR MOUNTED, ELONGATED LOW-CONSUMPTION (1.6 GPF) FULLY GLAZED 2" MIN. BALL PASS TRAPWAY MEETS ASME A112.19.2M & 19.6M ADA (+/-17" RIM HEIGHT)		1/2"	3"	FIXTURE BY: AMERICAN STANDARD, CRANE OR KOHLER SEAT: EQUAL TO CHURCH 9500C (OPEN FRONT LESS COVER) MATERIAL: VITREOUS CHINA COLOR: WHITE	TANK SHALL HAVE RIGHT HAND OR LEFT HAND TRIP LEVER AS REQUIRED TO MEET ADA (SEE DETAIL)
UR-1A	URINAL FLUSH VALVE TYPE, WALL MOUNTED, WASHOUT ULTRA LOW-CONSUMPTION (0.5 GPF) MEETS ASME A112.19.2M & 19.6M ADA & NON-ADA APPLICATIONS		3/4"	1 1/2"	EQUAL TO KOHLER BARDON SUPERIOR K-4960-ET MANUAL FLUSH VALVE: EQUAL TO SLOAN REGAL 186-0.5 MATERIAL: VITREOUS CHINA COLOR: WHITE	REFER TO ARCHITECTURAL DWGS FOR SPECIFIC MOUNTING HEIGHTS
DF-1A	ELECTRIC WATER COOLER BARRIER-FREE BI-LEVEL MODULAR FROST-RESISTANT RECESSED STAINLESS STEEL CABINET ADA COMPLIANT		3/8"	1 1/2"	EQUAL TO OASIS MV110FZ & MV140FZ REMOTE CHILLER: OASIS R8 WITH SHELF SUPPORT PROVIDE WITH FLEX BUBBLER, WATER FILTER & VANDAL RESISTANT SCREWS	R134A REFRIGERANT
LA-1A	INTEGRAL COUNTER/LAVATORY FURNISHED BY G.C. CHROME METERING FAUCET (0.5 GPM AERATOR) WITH DUAL TIP ACTION LEVER HANDLES ADA & NON-ADA APPLICATIONS		3/8"	3/8" 1 1/4"	FAUCET: EQUAL TO DELTA 86T153 STRAINER: MCGUIRE 155A	REFER TO ARCHITECTURAL DWGS FOR SPECIFIC MOUNTING HEIGHTS
LA-2A	WALL HUNG LAVATORY 20"x18" WITH BACK & SIDE SPLASH SHIELDS CHROME SINGLE LEVER FAUCET (0.5 GPM AERATOR) MEETS ASME A112.19.2M ADA APPLICATIONS		3/8"	3/8" 1 1/4"	FIXTURE BY: AMERICAN STANDARD, CRANE OR KOHLER FAUCET: EQUAL TO DELTA 22C101 (4" CENTERSET) STRAINER: MCGUIRE 155A MATERIAL: VITREOUS CHINA COLOR: WHITE	REFER TO ARCHITECTURAL DWGS FOR SPECIFIC MOUNTING HEIGHTS
SK-1	WALL HUNG HAND SINK 20"x18" WITH BACK & SIDE SPLASH SHIELDS CHROME SINGLE LEVER FAUCET (0.5 GPM AERATOR) MEETS ASME A112.19.2M ADA APPLICATIONS		3/8"	3/8" 1 1/4"	FIXTURE BY: AMERICAN STANDARD, CRANE OR KOHLER FAUCET: EQUAL TO DELTA 22C101 (4" CENTERSET) STRAINER: MCGUIRE 155A MATERIAL: VITREOUS CHINA COLOR: WHITE	REFER TO ARCHITECTURAL DWGS FOR SPECIFIC MOUNTING HEIGHTS
SK-2	3-COMPARTMENT SINK (3) 15"x14"x11"D BOWLS, (2) 12"W DRAINBOARDS OVERALL LENGTH: 69.5" 18 GAUGE TYPE, 304 STAINLESS STEEL 8" BACK MOUNT MIXING FAUCET WITH LEVER HANDLES & 12" SWING SPOUT		1/2"	1/2" 1 1/2"	EQUAL TO SERV-WARE CS30WP1614212 FAUCET: EQUAL TO 1&S B-0231 STRAINER: (3) SS BASKET TYPE GALVANIZED LEGS NSF CERTIFIED	
MS-1	MOP SINK SERVICE BASIN (24"x24"x10"D) WHITE MOLDED-STONE		1/2"	3"	EQUAL TO FIAT MSB-2424 FAUCET: 830-AA PROVIDE WITH STAINLESS STEEL BUMPER GUARDS, MOP BRACKET, HOSE & HOSE BRACKET AND STAINLESS STEEL WALL GUARDS	
SH-1A	SHOWER FIBERGLASS (EXT. DIM. 38"x38" 1/4"x77" 1/8") HAND-HELD SHOWER WITH ADJUSTABLE SLIDE BAR (2.5 GPM) ADA - TRANSFER TYPE		1/2"	1/2" 2"	EQUAL TO LASCO 1363-BFS VALVE & TRIM: EQUAL TO DELTA 113H153R-10000-UNWS) PROVIDE WITH BRASS DRAIN, VERTICAL & HORIZONTAL GRAB BARS, FOLD-UP SEAT, SOAP DISH AND CURTAIN ROD & CURTAIN AND FLEX DAM	SEE PLANS TO DETERMINE RH OR LH CONFIGURATION COORDINATE RECESSED FLOOR REQUIREMENTS WITH G.C.

PLUMBING SPECIALTIES SCHEDULE				
MARK	DESCRIPTION	MANF.	REFERENCE MODEL NO.	NOTES
FCD	ADJUSTABLE FLOOR CLEANOUT WITH BRONZE PLUG	MIFAB	C1220-1-348-P	SEE PLANS FOR SIZES
COG	CLEANOUT ON GRADE WITH BRONZE PLUG	MIFAB	C1220-1-348-P	SEE PLANS FOR SIZES
TP-1	TRAP PRIMER	PPP	P1-500	SEE PLANS FOR DISTRIBUTION UNITS
WHA	WATER HAMMER ARRESTOR	PPP	SWA (POI SIZE)	
FD-1	AREA FLOOR DRAIN	MIFAB	F1100-C-1-E-P-3" (ROUND STRAINER)	
FD-2	AREA FLOOR DRAIN WITH TRAP PRIMER	MIFAB	F1100-C-1-E-P-3" (ROUND STRAINER)	
FD-3	AREA FLOOR DRAIN	MIFAB	F1100-C-36-1-P-3" (SQUARE STRAINER)	
FD-4	MECHANICAL ROOM FLOOR DRAIN W/SEDIMENT BUCKET	MIFAB	F1480-4-S-P-4"	PROVIDE WITH REMOVABLE GRATE
FS-1	FLOOR SINK WITH BUCKET	MIFAB	F51740-5-80-175-P-4"	
MV-1	THERMOSTATIC MIXING VALVE (SETPPOINT: 110°F)	LEONARD	170-LF	3.0 GPM @ 20 PSI PRESSURE DROP
EXP	WATER HEATER EXPANSION TANK	A.O. SMITH	FWC-2 (2 GALLON)	
BFP-W	BACKFLOW PREVENTER (RPZ) - DOMESTIC WATER	WATTS	50901-S-1	
BFP-R	BACKFLOW PREVENTER (RPZ) - DOMESTIC WATER	WATTS	509M10T-S-1 1/2"	
BFP-C	BACKFLOW PREVENTER (RPZ) - DOMESTIC WATER	WATTS	509M10T-S-2"	
FB-1	FREZLESS WALL FAUCET WITH BACKFLOW PROTECTION	WOODFORD	0	PROVIDE WITH METAL HANDLE
HB-1	WALL FAUCET WITH ANTI-SIPHON PROTECTION	WOODFORD	24 (CHROME)	PROVIDE WITH THE KEY
HB-2	WALL FAUCET WITH BACKFLOW PROTECTION	WOODFORD	26-BR (TROUGH BRASS)	PROVIDE WITH METAL HANDLE OPTION

ELECTRIC WATER HEATER SCHEDULE												
MARK	SIZE	GPH	TEMP. RISE	KW	VOLT/PH	FLA	CW CONN./HW CONN.	MANF.	REF. MODEL	WEIGHT	TEMP. SETPOINT	
WH-G10	10 GAL	8.0	80°F	1.5	120V/1Ø	13.0	3/4" 3/4"	A.O. SMITH	DEL-10	140 LBS	18"x18"x9"	110°F
WH-G20	20 GAL	31.0	80°F	6.0	240V/1Ø	25.0	3/4" 3/4"	A.O. SMITH	DEL-20	550 LBS	55"x21"x9"	125°F
WH-G10	10 GAL	8.0	80°F	1.5	120V/1Ø	13.0	3/4" 3/4"	A.O. SMITH	DEL-10	140 LBS	18"x18"x9"	110°F
WH-G20	20 GAL	23.0	80°F	4.5	240V/1Ø	19.0	3/4" 3/4"	A.O. SMITH	DEL-20	350 LBS	31"x22"x9"	110°F

- NOTES:**
- PROVIDE 120V WATER HEATERS WITH CORD & PLUG SET.
 - PROVIDE WITH 3-YEAR TANK WARRANTY AND 1-YEAR PARTS WARRANTY.



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Telephone: (704) 521-8888
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Waccamaw
District Park
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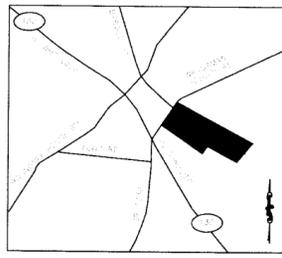
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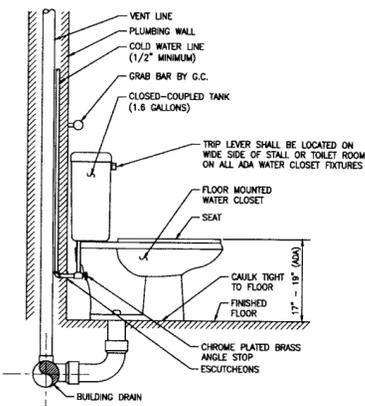
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Plumbing
Notes, Legend
& Schedules

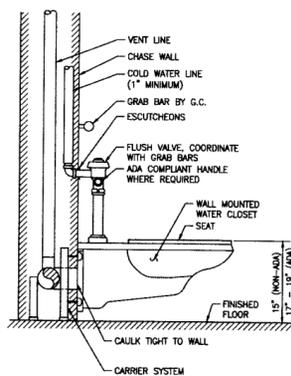
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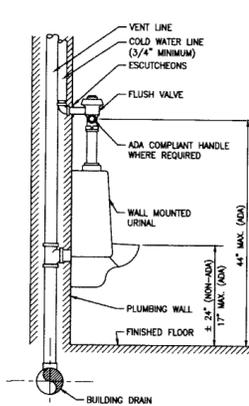
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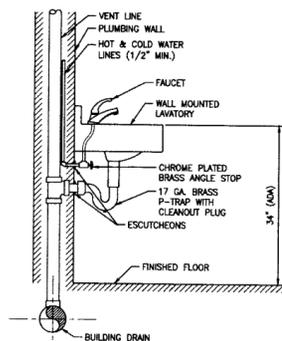
1 LOO MOUNTED ATE CLOSET WITH FLUSH TANK DETAIL
SCALE N.T.S.



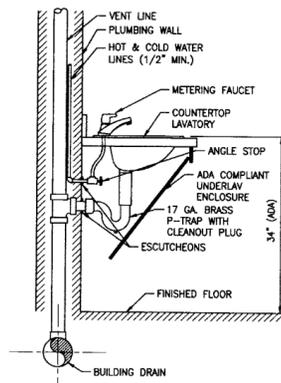
2 ALL MOUNTED ATE CLOSET WITH FLUSH VALVE DETAIL
SCALE N.T.S.



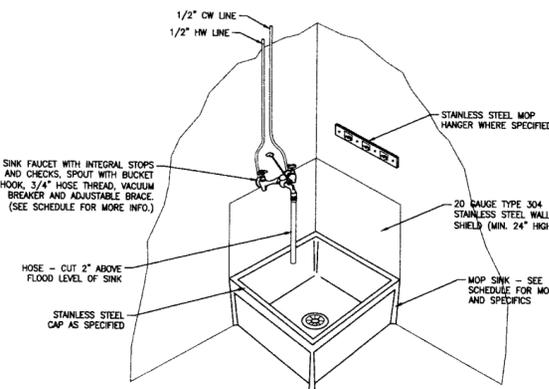
3 ALL MOUNTED URINAL DETAIL
SCALE N.T.S.



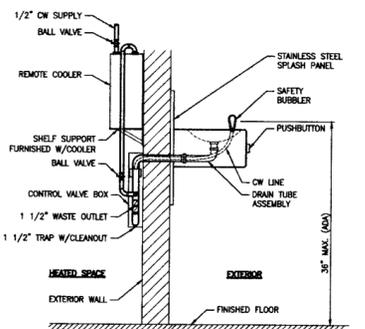
4 ALL MOUNTED LAVATORY DETAIL
SCALE N.T.S.



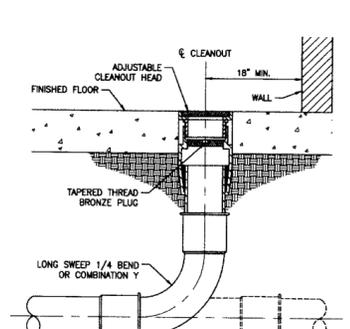
5 COUNTERTOP MOUNTED LAVATORY DETAIL
SCALE N.T.S.



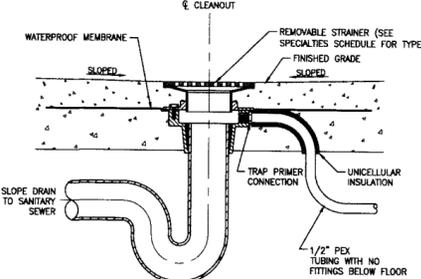
6 LOO MOUNTED MOP SINK DETAIL
SCALE N.T.S.



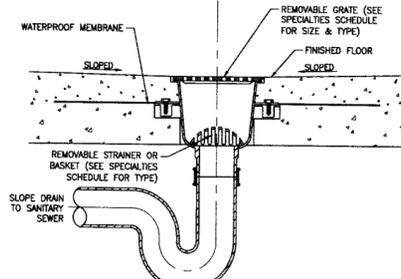
7 DISTANT ELECTRIC COOLER DETAIL
SCALE N.T.S.



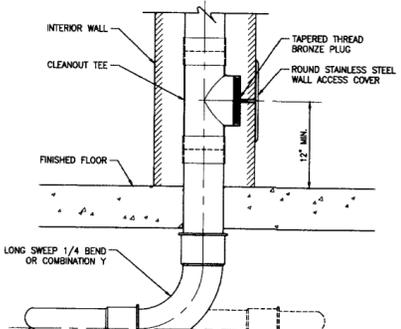
8 LOO CLEANOUT WITH SLOPE ENDO COMINATION DETAIL
SCALE N.T.S.



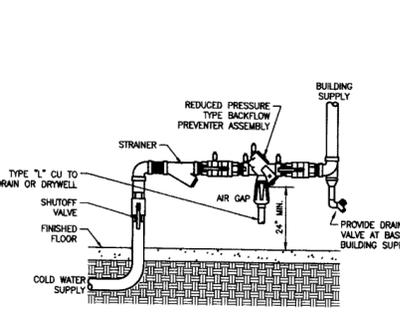
9 LOO DRAIN WITH APP PIME DETAIL
SCALE N.T.S.



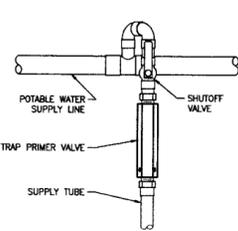
10 LOO SINK WITH APP PIME DETAIL
SCALE N.T.S.



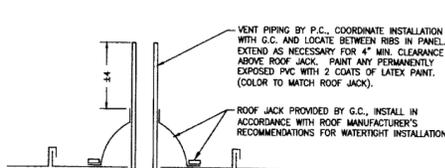
11 ALL CLEANOUT WITH SLOPE ENDO COMINATION DETAIL
SCALE N.T.S.



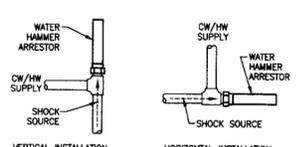
12 BACKFLOW PREVENTER DETAIL
SCALE N.T.S.



13 TRAP PRIMER VALVE DETAIL
SCALE N.T.S.

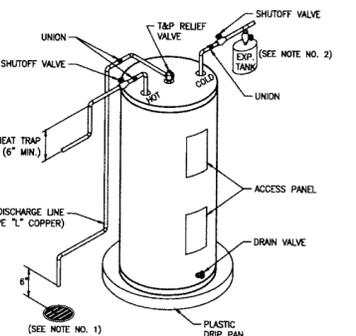


14 METAL STANDING SEAM DETAIL
SCALE N.T.S.

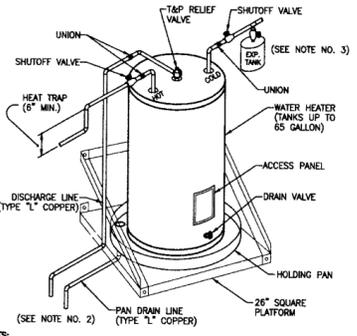


SIZE	FIXTURE UNITS	PCU UNITS
1/2"	1-1	A
3/4"	12-32	B
1"	33-50	C
1 1/4"	61-113	D
1 1/2"	114-184	E
2"	185-300	F

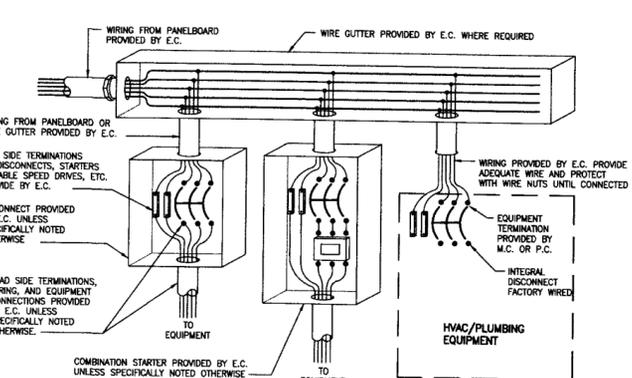
15 WATER HAMMER ARRESTOR DETAIL
SCALE N.T.S.



16 LOO MOUNTED ELECTRIC HEATER DETAIL
SCALE N.T.S.



17 SHELF MOUNTED ELECTRIC HEATER DETAIL
SCALE N.T.S.



18 ELECTRICAL CONNECTION COORDINATION
SCALE N.T.S.



SITE SOLUTIONS

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S r c NC
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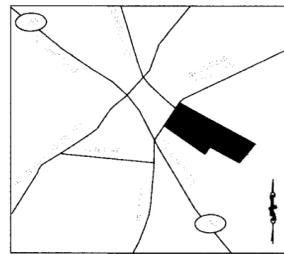
Waccamaw District Park

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ICINIT MAP
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S r C r NC
28208
L d A r r
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C E r

Telephone: (704) 521-8888
Facsimile: (704) 521-8956



Waccamaw
District Park
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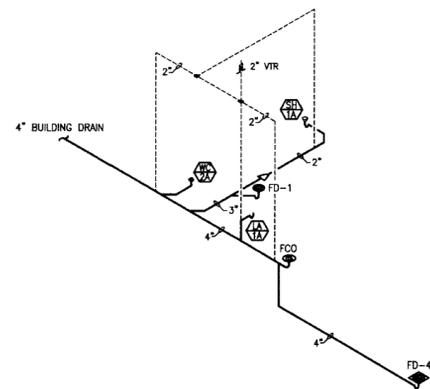
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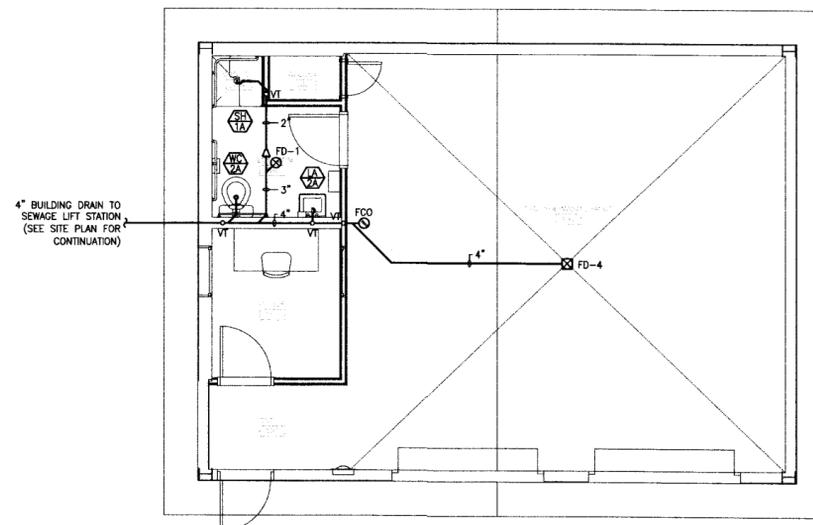
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Plumbing
Plans

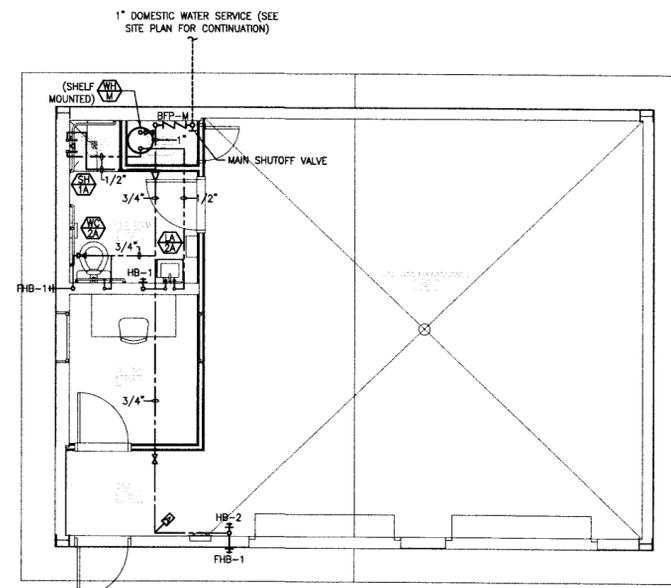
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3P-101



3 PLUMBING PIPING ISE
SCALE 1/4" = 1' 0"

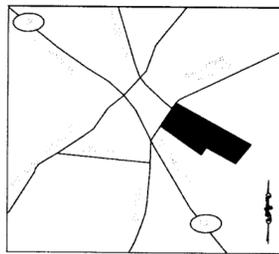


1 PLUMBING PIPING PLAN MAINTENANCE LDG
SCALE 1/4" = 1' 0"



2 PLUMBING PIPING PLAN MAINTENANCE LDG
SCALE 1/4" = 1' 0"

LOAD/DEMAND TABLE								
FIXTURE TYPE	QTY.	DRAIN FIXTURE UNITS			WATER SUPPLY FIXTURE UNITS			
		DRAIN	TOTAL	COLD	HOT	CW & HW	HOT TOTAL	SUPPLY TOTAL
WATER CLOSET (TANK)	1	4.0	4.0	5.0		5.0		5.0
LAVATORY (SMALL P.O.)	1	1.0	1.0	1.5	1.5	2.0	1.50	2.0
SHOWER	1	2.0	2.0	1.5	1.5	2.0	1.50	2.0
TOTAL LOAD (FIXTURE UNITS)			7.00					9.0
				TOTAL LOAD (FIXTURE UNITS)				3.0
				TOTAL DEMAND (GPM)				6.5"
				MINIMUM LINE SIZE				3/4"
				APPLIED LINE SIZE				3/4"
				MINIMUM LINE SIZE				1"
				APPLIED LINE SIZE				1"



VICINITY MAP

GENERAL NOTES:

- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF THE NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.
- DESIGN CRITERIA:**
 - CLASSIFICATION OF BUILDING CATEGORY:** II
 - LIVE LOADS:**
 - SLAB ON GRADE 100 PSF
 - ROOF 20 PSF
 - SNOW LOADS:**
 - GROUND SNOW LOAD 10 PSF
 - FLAT-ROOF LOAD 7 PSF
 - IMPORTANCE FACTOR (Is) 1.0
 - THERMAL FACTOR (Ct) 1.0
 - EXPOSURE FACTOR (Ce) 1.0
 - WIND LOADS:**
 - BASIC SPEED 130 MPH
 - EXPOSURE CATEGORY C
 - IMPORTANCE FACTOR (Iw) 1.0
 - INTERNAL PRESSURE COEFFICIENT ±0.18
 - COMPONENT AND CLADDING PRESSURES:
 - WALLS, ZONE 5 (10 SF) 50 PSF
 - ROOF, ZONE 3 (10 SF) 58 PSF
 - SEISMIC LOADS:**
 - SEISMIC DESIGN CATEGORY C (IN ACCORDANCE WITH THE ALTERNATIVE SEISMIC DESIGN CATEGORY DETERMINATION PER NCBC 1613.5.6.1)
 - IMPORTANCE FACTOR (I_s) 1.0
 - SPECTRAL RESPONSE ACCELERATIONS:
 - S_S 41.4%g S₁ 12.5%g
 - S_{M3} 60.8%g S_{M1} 28.8%g
 - S_{D5} 40.5%g S_{D1} 19.2%g
 - SITE CLASSIFICATION D (PRESUMED)

FOUNDATION NOTES:

- FOUNDATIONS HAVE BEEN DESIGNED FOR A PRESUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY THE OWNER'S TESTING AGENCY TO EXPLORE THE EXTENT OF LOOSE, SOFT, EXPANSIVE, OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY DESIGN BEARING PRESSURE. DIRECTION FOR CORRECTIVE ACTION WILL BE PROVIDED WHERE REQUIRED.
- NO UNBALANCED BACKFILLING SHALL BE DONE AGAINST MASONRY WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY CONSTRUCTION BRACING OR BY PERMANENT CONSTRUCTION.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTROL OF GROUNDWATER AND SURFACE RUNOFF THROUGHOUT THE CONSTRUCTION PROCESS. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES WHICH RESULT IN DETERIORATION OF BEARING SHALL BE PREVENTED.

CAST-IN-PLACE CONCRETE NOTES:

- CONCRETE SHALL BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301 AND 318.
- CONCRETE SHALL BE NORMAL WEIGHT AND SHALL OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
 - A. SLAB-ON-GRADE 3,500 PSI
 - B. CONCRETE NOT OTHERWISE NOTED 3,000 PSI
- REINFORCING MATERIALS SHALL BE AS FOLLOWS:
 - A. REINFORCING BARS - ASTM A 615, GRADE 60, DEFORMED.
 - B. WELDED WIRE REINFORCEMENT - ASTM A 185, WELDED STEEL WIRE REINFORCEMENT. PROVIDE SHEET TYPE, ROLL TYPE IS NOT ACCEPTABLE.
- ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR RODS AND WELD PLATES SHALL BE ACCURATELY PLACED AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- CONCRETE COVER TO REINFORCING STEEL SHALL CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318. UNLESS THE DRAWINGS SHOW GREATER COVER REQUIREMENTS.
- LAP CONTINUOUS REINFORCING STEEL 57 x BAR DIAMETER, TYPICAL UNLESS OTHERWISE NOTED.

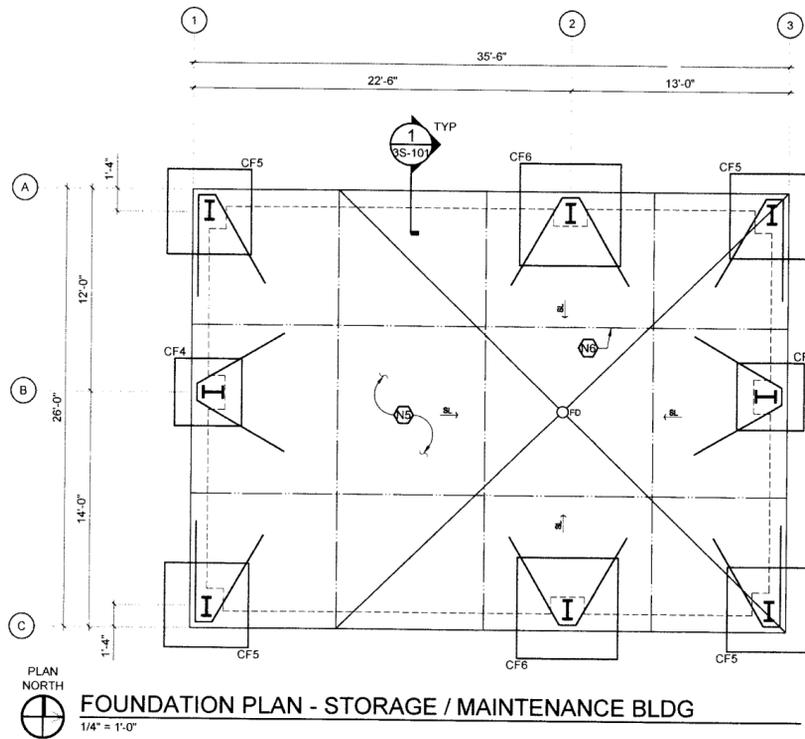
METAL BUILDING SYSTEM NOTES:

- METAL BUILDING SYSTEM SHALL BE IN ACCORDANCE WITH THE METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) "DESIGN PRACTICES MANUAL."
- SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A NORTH CAROLINA LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF METAL BUILDING SYSTEMS. SHOP DRAWINGS SHALL INCLUDE DESIGN LOADINGS AND REACTIONS APPLIED TO THE SUPPORTING STRUCTURE. INCLUDE A SUMMARY OF CONTROLLING LOAD CASE FOR EACH LOCATION.
- METAL BUILDING SYSTEMS SHALL BE DESIGNED FOR THE LOAD INDICATED IN THE GENERAL NOTES AND AS FOLLOWS:
 - A. DEAD LOADS WEIGHT OF ALL SUPPORTED EQUIPMENT, PLUS WEIGHT OF THE BUILDING.
 - B. COLLATERAL LOADS 5 PSF
- THE MAXIMUM DESIGN REACTIONS FOR FOOTINGS SHOWN ARE:

GRID	Pmax	Umax	Vmax
A-2, C-2	72k	9.4k	12k
A-1, C-1, A-3, C-3	50k	6.5k	12k
B-1, B-3	32k	4.4k	12k

ALL LOADS ARE SERVICE LOADS

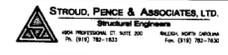
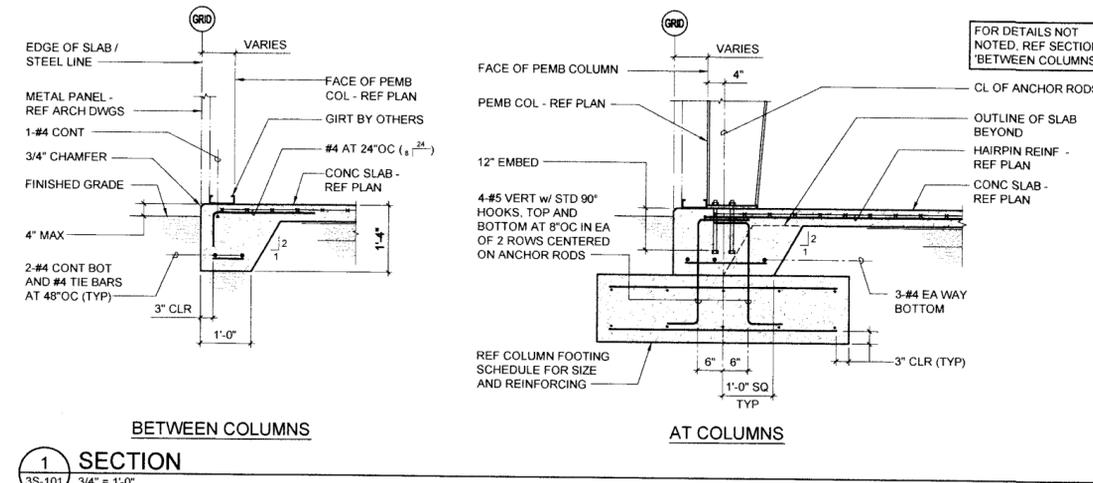
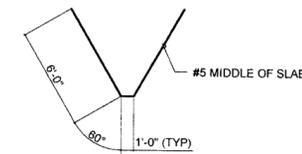
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND COSTS ASSOCIATED WITH A CONTRACTOR INITIATED CHANGE IN BUILDING MODEL OR MANUFACTURER, INCLUDING CONSTRUCTION COSTS AND RE-ENGINEERING COSTS.



FOUNDATION PLAN NOTES:

- REFER TO SHEET S1-501 FOR TYPICAL FOUNDATION DETAILS.
- REFER TO CIVIL DRAWINGS FOR EXTERIOR CONCRETE SLABS AND PAVING.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NONBEARING MASONRY WALLS, WALL CONTROL JOINTS AND DIMENSIONS OF MASONRY OPENINGS.
- REFERENCED FINISHED FLOOR ELEVATION = 0'-0". REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR MATERIALS.
- 4" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6x6 W2 9xW2 9 WELDED WIRE REINFORCING OVER VAPOR RETARDER (VAPOR RETARDER NOT REQUIRED AT OPEN BAYS) AND 4" DEPTH OF POROUS FILL. WELDED WIRE REINFORCING SHALL BE 2" BELOW TOP SURFACE OF CONCRETE SLAB.
- ALL SLAB ON GRADE JOINTS SHOWN THUS (---) ON PLAN SHALL BE A SAWS JOINT. UNLESS SPECIFICALLY DENOTED ON PLAN TO BE KEYS CONSTRUCTION JOINTS (K.C.). THE CONTRACTOR SHALL COORDINATE ALL SLAB JOINTS WITH JOINTS IN BONDED FLOOR FINISHES. REFER TO ARCHITECTURAL PLANS FOR FLOOR FINISH JOINT LOCATIONS.

MARK	SIZE			REINFORCING
	LENGTH	WIDTH	DEPTH	TOP AND BOTTOM
CF4	4'-0"	4'-0"	1'-6"	4-#5 EW
CF5	5'-0"	5'-0"	1'-6"	5-#5 EW
CF6	6'-0"	6'-0"	1'-6"	6-#5 EW



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Seals:
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Professional Engineer Seal for [Signature] License No. 97/29/14.

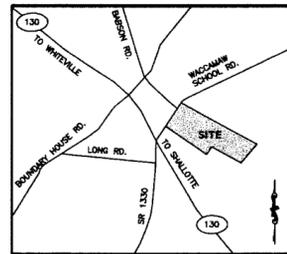
Waccamaw District Park
Waccamaw School Road
Brunswick County, NC

Project No.:
Drawing No.:
Designed By:
Checked By:
Original Date:

Revisions:
1. 10-27-14 [Signature] [Initials]
2. [Signature] [Initials]
3. [Signature] [Initials]
4. [Signature] [Initials]
5. [Signature] [Initials]

FOUNDATION PLAN AND DETAILS

Sheet No.: **3S-101**

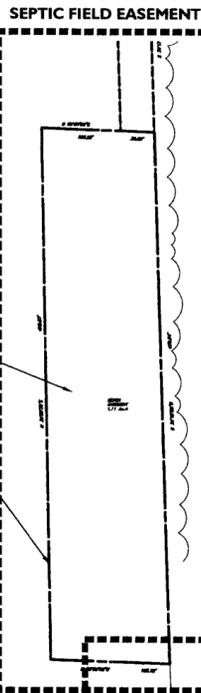


VICINITY MAP
M/S

SEE CIVIL DRAWINGS FOR SEPTIC FIELD CONTINUATION.

WACCAMAW SCHOOL ROAD

PROJECT LIMITS (TYP.)

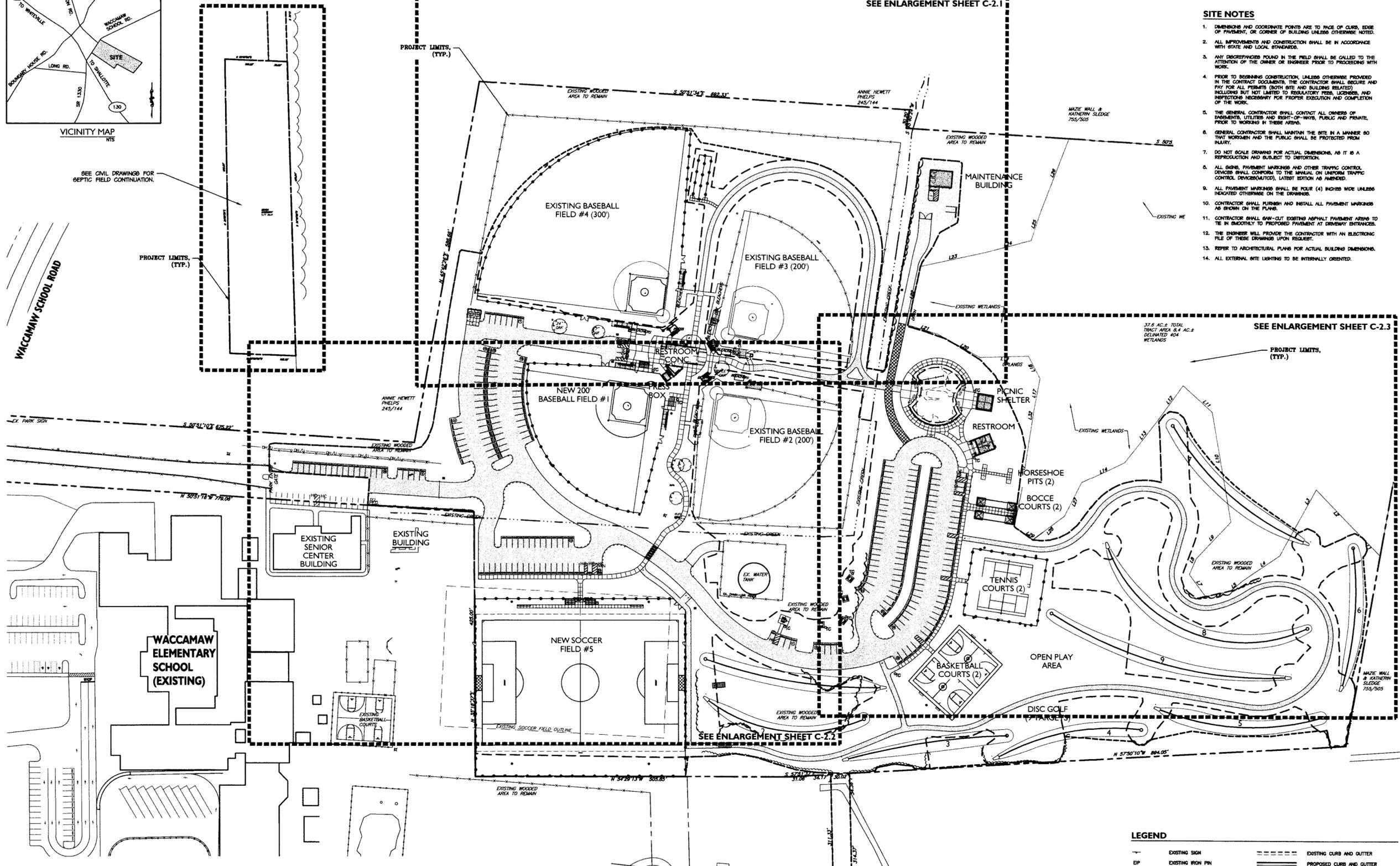


SEE ENLARGEMENT SHEET C-2.1

SITE NOTES

1. DIMENSIONS AND COORDINATE POINTS ARE TO FACE OF CURBS, EDGE OF PAVEMENT, OR CORNER OF BUILDING UNLESS OTHERWISE NOTED.
2. ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.
3. ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO PROCEEDING WITH WORK.
4. PRIOR TO BEGINNING CONSTRUCTION, UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS (BOTH SITE AND BUILDING RELATED) INCLUDING BUT NOT LIMITED TO REGULATORY PERMITS, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK.
5. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAYS, PUBLIC AND PRIVATE, PRIOR TO WORKING IN THESE AREAS.
6. GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND THE PUBLIC SHALL BE PROTECTED FROM INJURY.
7. DO NOT SCALE DRAWINGS FOR ACTUAL DIMENSIONS, AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
8. ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AS AMENDED.
9. ALL PAVEMENT MARKINGS SHALL BE FOUR (4) INCHES WIDE UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
10. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.
11. CONTRACTOR SHALL GRIND-OUT EXISTING ASPHALT PAVEMENT AREAS TO THE SMOOTHLY TO PROPOSED PAVEMENT AT DRIVEWAY ENTRANCES.
12. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC FILE OF THESE DRAWINGS UPON REQUEST.
13. REFER TO ARCHITECTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS.
14. ALL EXTERNAL SITE LIGHTING TO BE INTERNALLY ORIENTED.

SEE ENLARGEMENT SHEET C-2.3



WACCAMAW ELEMENTARY SCHOOL (EXISTING)

EXISTING SENIOR CENTER BUILDING

NEW SOCCER FIELD #5

SEE ENLARGEMENT SHEET C-2.2

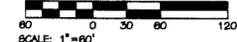
NOTE: FIELD NUMBERS SHOWN ON PLANS ARE FOR COORDINATION PURPOSES ONLY AND DIFFER FROM ACTUAL NUMBERS IN FIELD.

SITE DATA	
PROJECT NAME	WACCAMAW DISTRICT PARK
OWNER	BRUNSWICK COUNTY
OWNER PHONE #	910-253-2671
ZONING	CO-CP
TAX PARCEL	13200045, 132000801, 13200008, 132000401
PARCEL AREA	37.62 AC. (38.95 AC. with easement parcel)
WATERSHED DISTRICT	LUMBER RIVER BASIN
JURISDICTION	BRUNSWICK COUNTY, ASH, NC
PARCEL USE	PARK
SETBACKS	FRONT-50', REAR-50', LEFT-100', RIGHT-100'
MIN. LOT SIZE	5 ACRES
NEIGHBOR ZONING	CO-RR

SEPTIC FIELD EASEMENT
SEE CONTINUATION THIS SHEET

LEGEND

- | | | | |
|-----|-------------------------|-----|--------------------------------|
| — | EXISTING SIGN | --- | EXISTING CURB AND GUTTER |
| IP | EXISTING IRON PIN | --- | PROPOSED CURB AND GUTTER |
| ○ | EXISTING LIGHT POLE | --- | PROPERTY LINE |
| ○ | EXISTING UTILITY POLE | --- | EXISTING FENCE |
| R/W | RIGHT-OF-WAY | --- | PROPOSED FENCE |
| HC | ACCESSIBLE SPACE | --- | EXISTING OVERHEAD UTILITY LINE |
| ○ | EXISTING TREE TO REMAIN | --- | EXISTING ASPHALT PAVING |
| HC | EXISTING FIRE HYDRANT | --- | PROPOSED GRAVEL PAVING |
| | | --- | PROPOSED ASPHALT PAVING |



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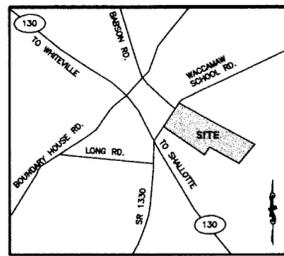
Waccamaw District Park
Waccamaw School Road
Brunswick County, NC

Project No: 3407
Drawn By: A. Porter
Designed By: J. Abbaugh
Checked By: J. Abbaugh
Original Issue Date: 06.02.14

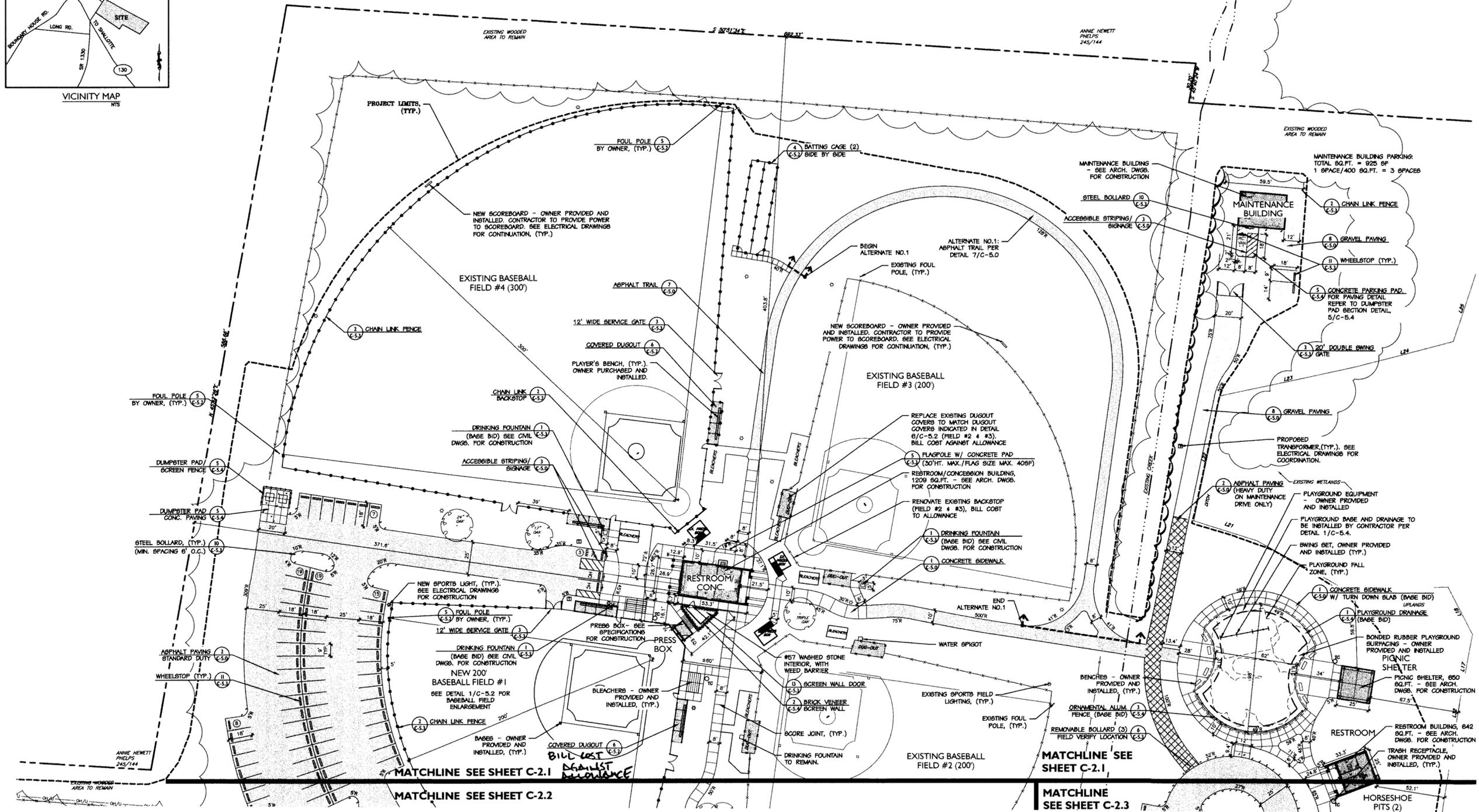
Revisions:

Sheet Title:
Overall Site Plan

Sheet No:
C-2.0



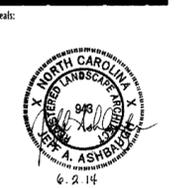
VICINITY MAP
R/S



NOTE: FIELD NUMBERS SHOWN ON PLANS ARE FOR COORDINATION PURPOSES ONLY AND DIFFER FROM ACTUAL NUMBERS IN FIELD.

SITE DATA	
PROJECT NAME	WACCAMAW DISTRICT PARK
OWNER	BRUNSWICK COUNTY
OWNER PHONE #	910-253-2671
ZONING	CO-CP
TAX PARCEL	13200045, 132000801, 13200008, 132000400
PARCEL AREA	37.62 AC. (38.95 AC. with easement parcel)
WATERSHED DISTRICT	LUMBER RIVER BASIN
JURISDICTION	BRUNSWICK COUNTY, ASH, NC
PARCEL USE	PARK
SETBACKS	FRONT-50', REAR-50', LEFT-100', RIGHT-100'
MIN. LOT SIZE	5 ACRES
NEIGHBOR ZONING	CO-RR

LEGEND			
—	EXISTING SIGN	— — — —	EXISTING CURB AND GUTTER
BP	EXISTING IRON PIN	— — — —	PROPOSED CURB AND GUTTER
○	EXISTING LIGHT POLE	— — — —	PROPERTY LINE
○	EXISTING UTILITY POLE	— — — —	EXISTING FENCE
R/W	RIGHT-OF-WAY	— — — —	PROPOSED FENCE
HC	ACCESSIBLE SPACE	— — — —	EXISTING OVERHEAD UTILITY LINE
○	EXISTING TREE TO REMAIN	— — — —	EXISTING ASPHALT PAVING
⊕	EXISTING FIRE HYDRANT	— — — —	PROPOSED GRAVEL PAVING
⊕	# OF PARKING SPACES	— — — —	PROPOSED ASPHALT PAVING
⊕	CENTERLINE	— — — —	PROPOSED HEAVY-DUTY ASPHALT PAVING



Corp. NC License: C-1398

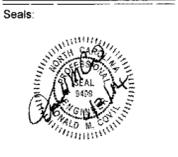
Waccamaw District Park
Waccamaw School Road
Brunswick County, NC

Project No: 1407
Drawn By: A. Porter
Designed By: J. Ashbaugh
Checked By: J. Ashbaugh
Original Issue Date: 06.02.14

Revisions:

Sheet Title:
**Site Plan
Enlargement**

Sheet No:
C-2.1



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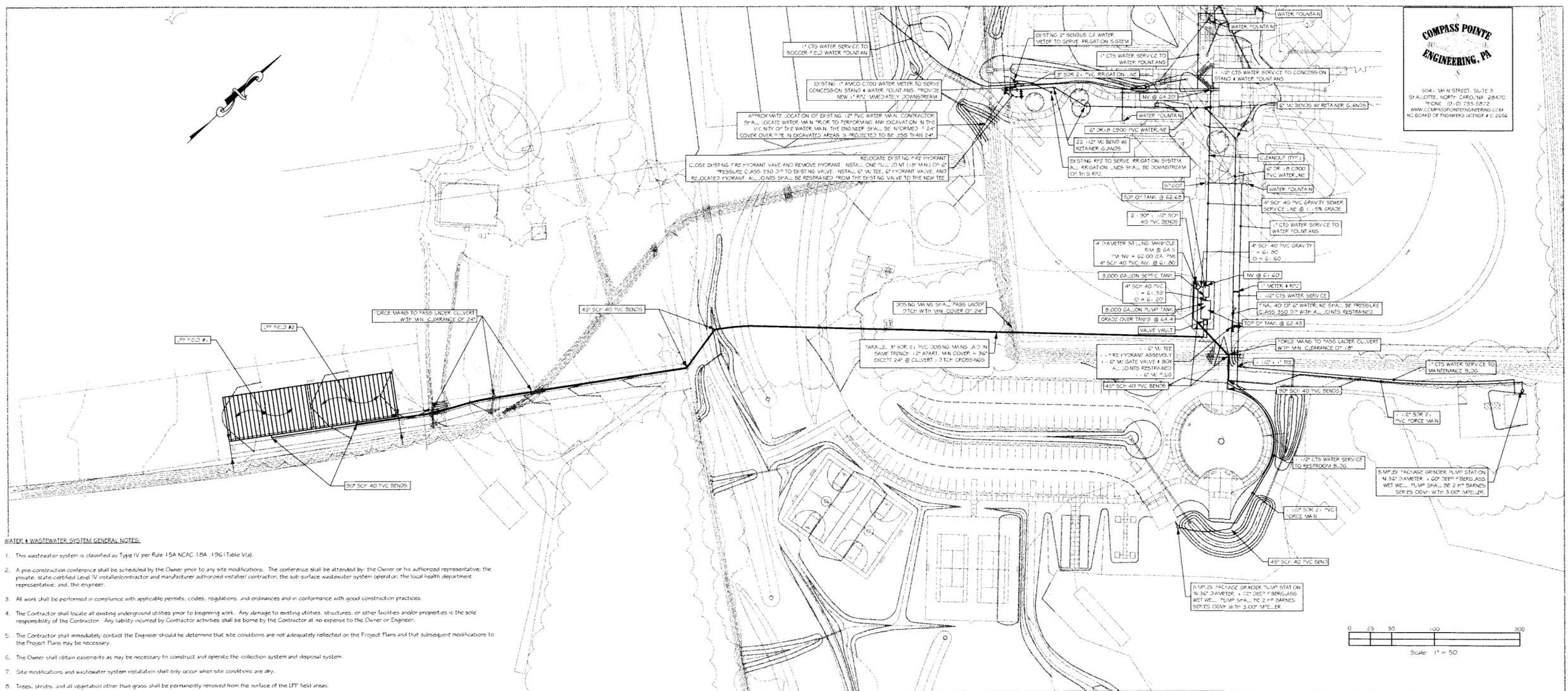
Waccamaw District Park
 Waccamaw School Road
 Brunswick County, NC

Project No: 3407
 Drawn By: TMM
 Designed By: DMC
 Checked By: DMC
 Original Issue Date: 04.28.14

Revisions:
 06.02.14 ISSUE FOR BID

Sheet Title:
 UTILITY PLAN

Sheet No:
U-1

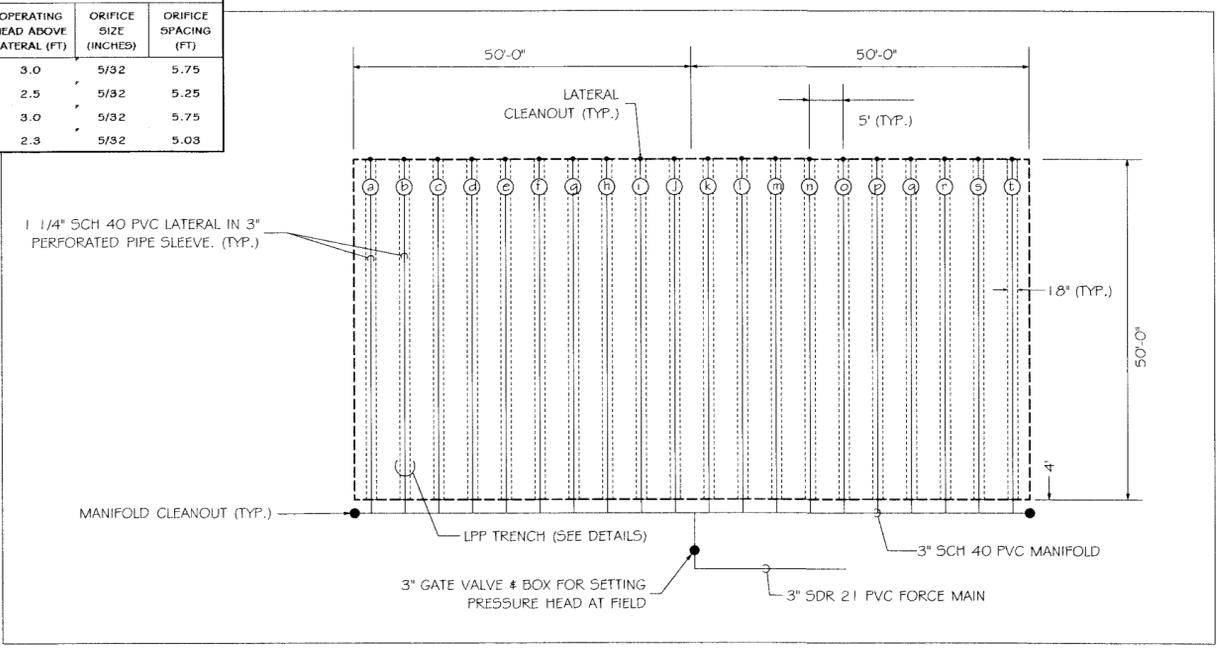


- WATER & WASTEWATER SYSTEM GENERAL NOTES:**
- This wastewater system is classified as Type IV per Rule 15A NCAC 10A .1961 Table VIa.
 - A pre-construction conference shall be scheduled by the Owner prior to any site modifications. The conference shall be attended by: the Owner or his authorized representative; the private, state-certified Level IV installation contractor and manufacturer authorized installer contractor; the sub-surface wastewater system operator; the local health department representative; and, the engineer.
 - All work shall be performed in compliance with applicable permits, codes, regulations, and ordinances and in conformance with good construction practices.
 - The Contractor shall locate all existing underground utilities prior to beginning work. Any damage to existing utilities, structures, or other facilities and/or properties is the sole responsibility of the Contractor. Any liability incurred by Contractor activities shall be borne by the Contractor at no expense to the Owner or Engineer.
 - The Contractor shall immediately contact the Engineer should he determine that site conditions are not adequately reflected on the Project Plans and that subsequent modifications to the Project Plans may be necessary.
 - The Owner shall obtain easements as may be necessary to construct and operate the collection system and disposal system.
 - Site modifications and wastewater system installation shall only occur when site conditions are dry.
 - Trees, shrubs, and all vegetation other than grass shall be permanently removed from the surface of the LPP field areas.
 - The Contractor shall minimize site disturbance in the areas of the infiltration fields and repair areas during construction. Vehicular traffic shall not be allowed on the LPP field areas or the repair areas.
 - Spill material from construction activities shall not be placed on the infiltration fields or the repair areas.
 - All wells (on-site and/or off-site) within 50' of the LPP field shall be properly abandoned by a certified well driller. The well driller shall prepare and submit abandonment logs to the BODM for each abandoned well.
 - Pipe shall be laid in accordance with manufacturer's recommendations, the project drawings and technical specifications. Should a discrepancy exist between the manufacturer recommendations and the project drawings and technical specifications, the more stringent requirement shall control.
 - Trench shall be dug when laying pipe and ends plugged when laying is discontinued. Any water from the excavation shall be disposed of in such a manner that the natural drainage of the area shall not be disturbed.
 - Trench backfill to be free of stones and any foreign material, and shall be placed in six (6) inch layers compacted in accordance with the technical specifications.
 - The minimum depth of bury shall be three (3) feet from the top of pipe unless otherwise noted on the plans.
 - All fittings including reducers shall be blocked as specified and as shown on the details and within the project technical specifications.
 - Three inch wide detachable terra tape D is to be installed approximately one (1) foot below finished grade and directly over all pipe. The tape shall be adequately marked to indicate whether pipe is potable water, sanitary sewer, or other as applicable. Tape over waterline shall be blue in color. In addition, 12-gauge stranded copper wire shall be placed over all PVC and PE waterline as set forth in paragraph 10m of specification section J.
 - Concrete thrust blocking shall not obstruct sleep holes on any fire hydrant assembly, steel casing pipe, or bolts on any fittings.
 - Absolutely no work shall be performed on private property beyond any area where easements are to be provided by the owner and dedicated to the governing authority.
 - The waterline shall be pressure tested and disinfected as set out in the specifications.
 - The contractor shall keep the engineer informed relative to the progress of the construction. The engineer shall observe construction activities as required by North Carolina general statutes. Failure of the contractor to keep the engineer informed may require uncovering of work to verify compliance with plans and specifications. Any cost associated with uncovering work and / or verifying compliance shall be borne by the contractor.
 - Within one week after the completion of construction the contractor shall provide the engineer with a set of construction drawings that have been marked to indicate as-built locations for all project components including, but not necessarily limited to, waterline alignments, gravity sewer alignments, sewer force main alignments, blowoffs, catch basins, and storm drainage pipes.
 - The work shall be arranged in a manner that will cause a minimum of disturbance to vehicular and pedestrian traffic. Adequate ingress and egress to both private and public property shall be provided by the contractor during all stages of construction. Without written approval from the county or utility company, existing services shall not be interrupted by the construction work. Any paved areas utilizing open-cut and patch shall be repaired the same day as construction occurs. Absolutely no open trenches shall be left overnight.
 - Traffic control shall be in accordance with section 150 of the NCDOT Standard Specifications for Roads and Structures.
 - The dosing mains shall be pressure tested as follows:
 - Flush line to remove all debris and air.
 - Pressurize line with water to a value between 100 and 110 psig.
 - Wait a minimum of two consecutive hours and repressurize the line to the value at the start of the test.
 - Measure the volume of water required to bring the line to the starting pressure.
 - Compare the value from "b" to a value calculated by the formula below:
$$L = \frac{50 \cdot (7.0 \cdot Q)}{133 \cdot (300 - S)}$$

Where: L = Allowable leakage in gallons per hour
 Q = Length of pipe tested in feet
 D = Nominal diameter of pipe in inches
 P = Avg test pressure during test in psi

If the value from "b" is less than L, then the test is passed; otherwise, the test is failed. The Contractor shall find the source of the leak, make repairs, and perform the test again until the test is passed.
 - Each gravity sewer line shall be tested by plugging the line at the septic tank, filling the line to capacity, and capping or plugging the line at the place of filling. After 24-hours the line shall be refilled to capacity and the amount of water required to refill the line shall be recorded. Should the amount of water exceed the allowable volume of infiltration and exfiltration as set out in this specification, then the line shall be deemed to have failed. The source of the leak shall be located and the line repaired. The line shall then be retested. No line shall be accepted until it passes the infiltration and exfiltration test.

FIELD #	LATERAL LIDS	LATERAL BOTTOM ELEV. (FT)	OPERATING HEAD ABOVE LATERAL (FT)	ORIFICE SIZE (INCHES)	ORIFICE SPACING (FT)
1	a thru j	55.6	3.0	5/32	5.75
1	k thru t	56.1	2.5	5/32	5.25
2	a thru j	56.6	3.0	5/32	5.75
2	k thru t	57.3	2.3	5/32	5.03



LPP FIELD PLAN
 SCALE: 1" = 10'
 (TYPICAL FOR FIELDS 11' x 21')

EQUIPMENT LIST

- 2" Class 125 bronze gate valve 4. b/w.
- 2" Sch 80 PVC pipe union (See Pump Tank Plan View).
- 2" Sch 80 PVC elbow.
- 2" Class 125 bronze check valve.
- Regulator, 330 psi, diaphragm efficient, discharging pumps with 2" NPT discharge with a minimum 1/2 horsepower. Each pump shall be capable of pumping 85 gpm @ 38' TDH. Pumps shall be Zoexer E168 or approved equal.
- Mercury float switch with lead cable weight for Pump OFF circuit. Water Guard # 10 Q225 or approved equal.
- Mercury float switch with lead cable weight for "Timer-Enabling" circuit. Water Guard # 10 Q225 or approved equal.
- Mercury float switch with lead cable weight for "High Level Alarm and Emergency Timer Cycle Activation" circuit. Water Guard # 10 Q225 or approved equal.
- Non-corrosive lift cable or chain.
- Stainless steel mounting bracket securing discharge pipe to wall with stainless steel fasteners.

FLOW EQUALIZATION CONTROL SYSTEM NOTES

The control system shall be of duplex operation, selected from the list of systems approved by the On Site Wastewater Section, NCDENR. The control system shall be SVE, Rombos, IFS3 HW, 4H8AC10E18A18A or approved equal. The system shall include at a minimum, the following features:

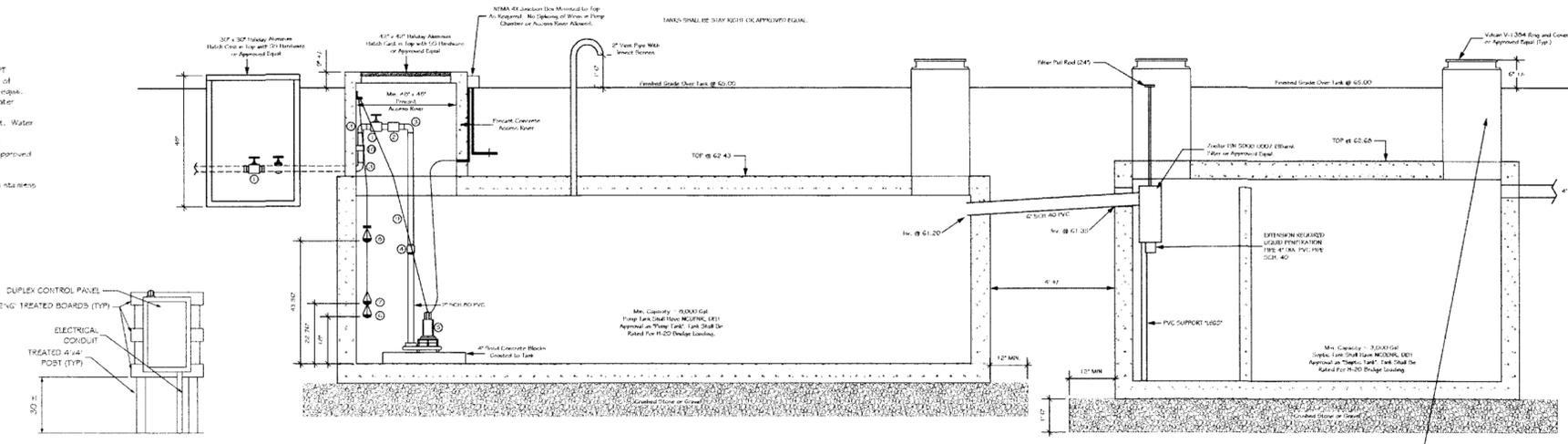
- NEMA 4X enclosure with 2 lockable doors.
- NEMA 4X alarm siren location.
- NEMA 4X alarm horn (83 decibels @ 3' minimum) with auto reset.
- NEMA 4X exterior horn test/normal/reset switch.
- Programmable timer for each pump with variable controls for setting the on and off times from 0:05 seconds to 30 minutes.
- Short circuit protection for each pump and control system.
- Pump off (low level) float switch that will cover all operation through timers.
- Timer matching float switch preventing pump operation through timers until a minimum draining volume is achieved, and will reset double pump operation once timers are completed.
- High level float switch that will activate audible and visual alarm after the flow equalization volume is exceeded and will call for the timer for the next pump in sequence to activate the operation of said pump within the programmed time.
- Alarm horn to insure alternate operation of pumps.
- Circuit breaker for each pump.
- Circuit breaker for the alarm/control circuit.
- Main station alarm reset switch.
- Timer override switch.
- Pump event counter for each pump.
- Elapsed time meter for each pump.
- Pump run lights for each pump.
- POA marker for each pump.
- Magnetic motor contactors.
- POA switch for each pump.
- Control circuit fuse.
- Alarm circuit fuse.
- Float switch terminal block.
- Grounding.

Alarm circuit shall be supplied ahead of any pump overload or short circuit protection devices.

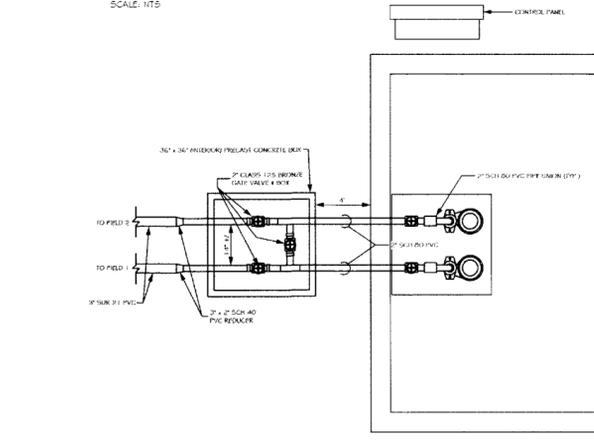
The control panel shall be sheltered from intense solar heating.

LPP DESIGN DATA SUMMARY		
Facilities Served with Daily Flow (GALLONS):		
	Maximum	Average
Concession Stand	1,500	874
Shelter Restrooms	600	350
Maintenance Shop Restroom	100	50
TOTAL	2,200	1,274
Long Term Application Rate (GPD/SF)	0.225	
Number of LPP Fields	2	
Area of Each LPP Field (SF)	5,000	
Total Area of All Fields (SF)	10,000	
Total Length of Laterals in Each Field (FT)	500	
Total Number of Laterals in Each Field	20	
Length of Each Lateral (FT)	25	
Nominal Lateral Diameter (INCHES)	1 1/4	
Lateral Material	Sch 40 PVC	
Orifice Diameter (INCHES)	5/32	
Orifice Spacing (FT)	VARIES (See "LPP Lateral Data Table")	
Nominal Manifold Size (INCHES)	3	
Manifold Material	Sch 40 PVC	
Nominal Diameter of Josing Mains (INCHES)	3	
Josing Main Material	SOR 2" PVC	
Design Operating Head Above Laterals Elevation (FT)	VARIES (See "LPP Lateral Data Table")	
Number of Pumps	2	
Design Flowrate for Each Pump (GPM)	85	
Design Head for Each Pump (FT TDH)	39	
Pump Make and Model	Zoexer E168 or Approved Equal	

- LPP FIELD NOTES**
- All work shall be performed in compliance with applicable permits, codes, regulations, and ordinances and in accordance with good construction practices.
 - The contractor shall contact the Owner, Mr. Danny Thornton of the Brunswick County Department of Environmental Health (BCCDH), and the Engineer to schedule a preconstruction conference at least 40 hours prior to beginning work.
 - The Contractor shall obtain approval from Mr. Danny Thornton for fill material source and method of placement on the LPP field site.
 - The Contractor shall contact the Owner, Director of the BCCDH, and the Engineer to schedule inspections during project construction. As a minimum the inspections shall be scheduled as directed by Mr. Thornton and as follows:
 - after placement of gravel and LPP laterals and before covering of laterals;
 - after placement of lift fabric over the laterals and before covering of the lift fabric;
 - after placement of fill material over the LPP field and installation of the tank and pump system with full electrical service for testing.
 - The Contractor shall immediately contact the Engineer should he determine that site conditions are not adequately reflected on the LPP Plan and that subsequent modifications to the LPP Plan may be necessary.

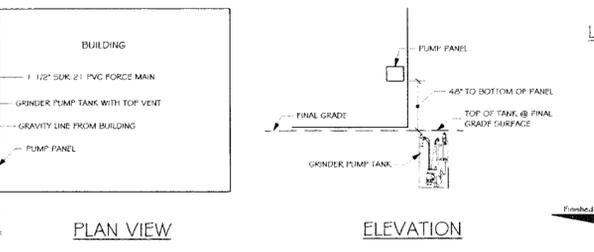
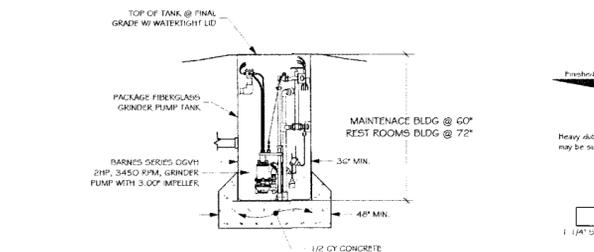


CONTROL PANEL ELEVATION
SCALE: NTS

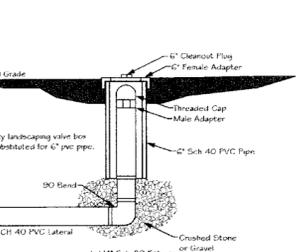


SEPTIC TANK AND PUMP TANK SECTION
SCALE: NTS

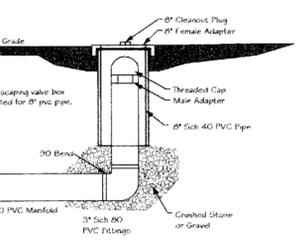
SEPTIC TANK AND PUMP TANK PLAN VIEW
SCALE: NTS



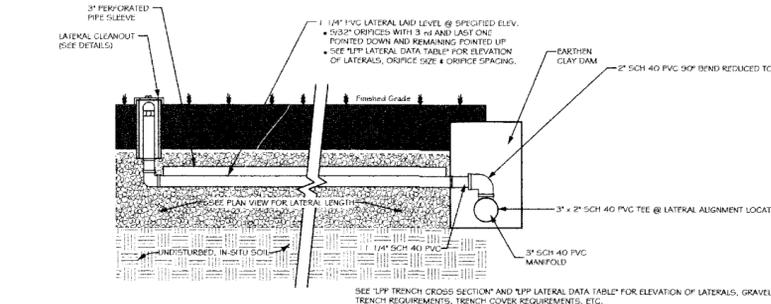
PLAN VIEW and **ELEVATION**
SCALE: NTS



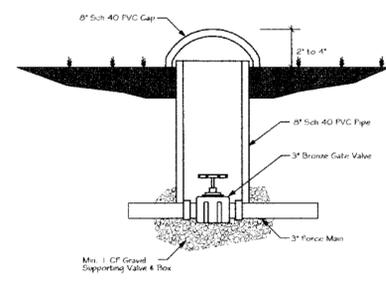
LATERAL CLEANOUT DETAIL
SCALE: NTS



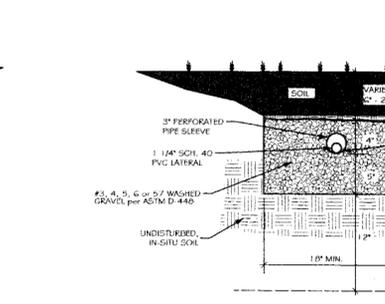
MANIFOLD CLEANOUT DETAIL
SCALE: NTS



LPP TRENCH LONGITUDINAL SECTION
SCALE: NTS



GATE VALVE & BOX DETAIL
SCALE: NTS



LPP TRENCH CROSS SECTION
SCALE: NTS

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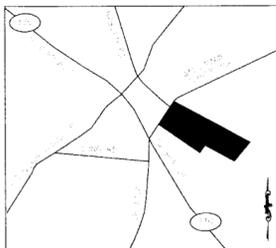
Waccamaw District Park
Waccamaw School Road
Brunswick County, NC

Project No: 3407
Drawn By: TMM
Designed By: DMC
Checked By: DMC
Original Issue Date: 04.28.14

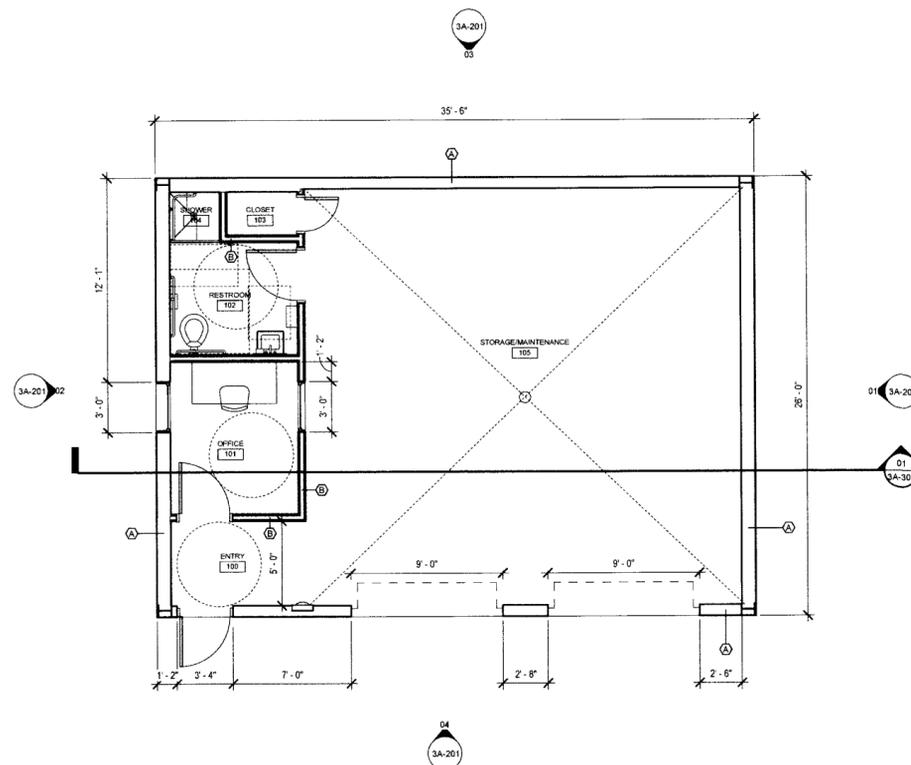
Revisions:
06.02.14 ISSUE FOR BID

Sheet Title:
UTILITY DETAILS

Sheet No:
U-2



VICINITY MAP



NOTE: DRAWINGS FOR REFERENCE ONLY. FINAL DRAWINGS FOR CONSTRUCTION TO BE PROVIDED BY METAL BUILDING MANUFACTURER.

FLOOR PLAN
1/4" = 1'-0"

INTERIOR FINISH SCHEDULE					
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
100	ENTRY	SEALED CONCRETE	RUBBER @ GWB WALLS	PAINTED	OPEN
101	OFFICE	SEALED CONCRETE	RUBBER	PAINT	ACT
102	RESTROOM	SEALED CONCRETE	RUBBER	PAINT	DRYWALL
103	CLOSET	SEALED CONCRETE	RUBBER @ GWB WALLS	PAINT	DRYWALL
104	SHOWER	INSERT	NA	INSERT	MOLD RESISTANT DRYWALL
105	STORAGE/MAINTENANCE	SEALED CONCRETE	RUBBER @ GWB WALLS	NA	OPEN

FLOOR PLAN GENERAL NOTES

- SEE SHEET 3G-002 FOR INTERIOR PARTITION LEGEND
- SEE SITE CIVIL AND LANDSCAPE PLANS FOR CONTINUATION OF WORK OUTSIDE OF BUILDING
- ALL PARTITIONS TO BE TYPE 'B' U.N.O. ON PLAN OR ENLARGED PLAN.
- ALL DIMENSIONS ARE TO FACE OF STUD OR FACE OF CMU, TYP. U.N.O.
- ALL DOOR HINGE SIDE JAMBS TO BE 4" FROM FACE OF THE PERPENDICULAR WALL TO THE INSIDE FACE OF THE METAL JAMB, TYP., UNLESS DIMENSIONED OTHERWISE.
- COORDINATE ACTUAL SLAB ELEVATION WITH CIVIL DRAWINGS. CONTRACTOR TO VERIFY ALL EXISTING TOP OF FLOOR ELEVATIONS. REFERENCED FINISHED FLOOR SLAB = 0' - 0"
- SEE ENLARGED FLOOR PLAN FOR EQUIPMENT LAYOUT AND FFE SCHEDULE
- SLOPE SLAB TO FLOOR DRAIN. COORDINATE WITH STRUCTURAL AND PLUMBING DRAWINGS

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Civil Engineering
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Facsimile: (704) 621-8985

Seals:

FINAL DRAWINGS FOR PERMIT TO BE SIGNED AND SEALED BY CONTRACTOR'S DELEGATED DESIGN MANUFACTURER

HH ARCHITECTURE

Waccamaw District Park
Waccamaw School Road
Brunswick County, NC

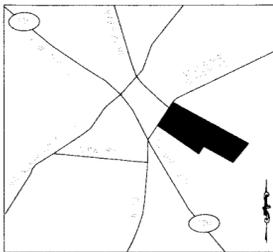
ISSUE FOR PRICING

Project No: 3047
Drawn By: KAA
Designed By: KAA
Checked By: KMH
Original Issue Date: 06/02/2014

Revisions:

Sheet Title:
FLOOR PLAN / FINISH SCHEDULE

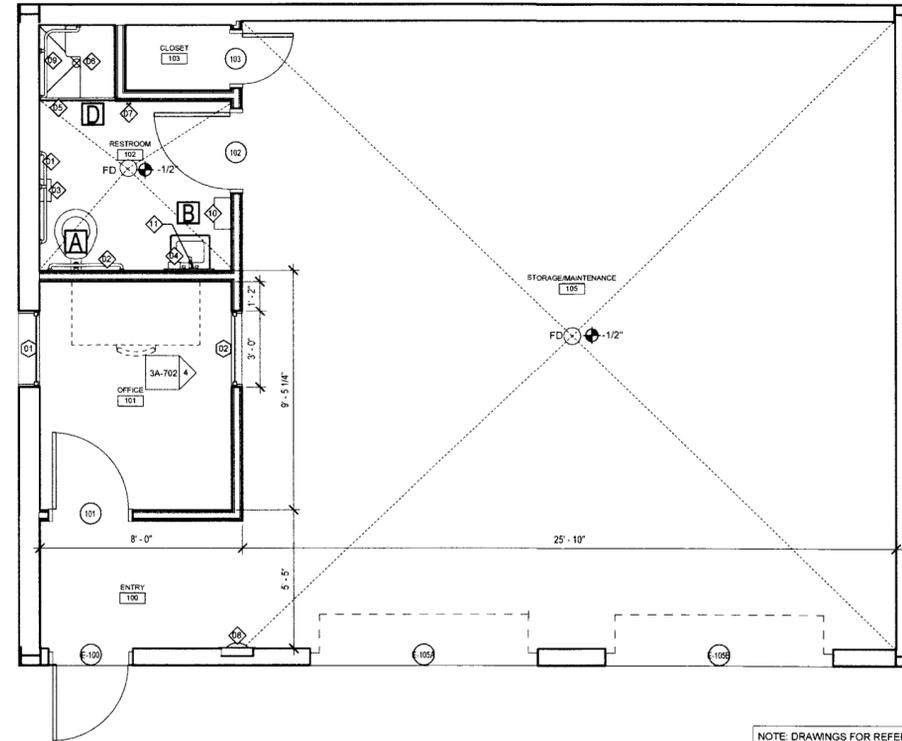
Sheet No:
3A-101



VICINITY MAP

FF&E SCHEDULE		
Type Mark	Type Comments	Comments
01	GRAB BAR, 42" x 18" VERTICAL	
02	GRAB BAR, 36"	
03	SIDE BY SIDE TOILET PAPER DISPENSER	
04	SOAP DISPENSER	
05	SHOWER ROD AND CURTAIN	SEE SPECIFICATIONS
06	SHOWER BENCH	
07	TOWEL HOOK	
08	FIRE EXTINGUISHER CABINET	
09	SHOWER GRAB BAR, 36" x 18"	
10	SURFACE MOUNTED HAND DRYER	SEE ELECTRICAL
11	VANITY MIRROR, 24"X36"	MOUNT 40" A.F.F.

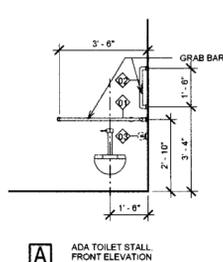
NOTE: SEE PME DRAWINGS FOR FIXTURE AND EQUIPMENT NOT INDICATED ON THIS PLAN. GC TO FULLY COORDINATE PRIOR TO PURCHASE AND INSTALLATION



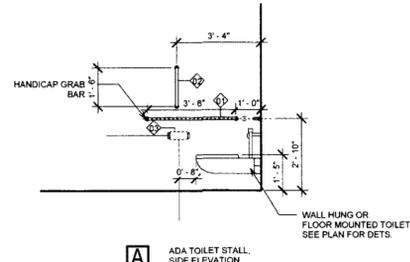
NOTE: DRAWINGS FOR REFERENCE ONLY. FINAL DRAWINGS FOR CONSTRUCTION TO BE PROVIDED BY METAL BUILDING MANUFACTURER.

11 FFE SCHEDULE AND GENERAL NOTES
3/8" = 1'-0"

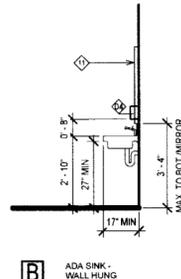
12 ENLARGED FLOOR PLAN
3/8" = 1'-0"



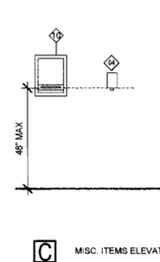
A ADA TOILET STALL FRONT ELEVATION



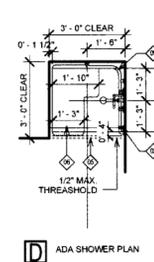
A ADA TOILET STALL SIDE ELEVATION



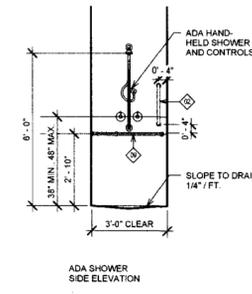
B ADA SINK - WALL HUNG LAVATORY



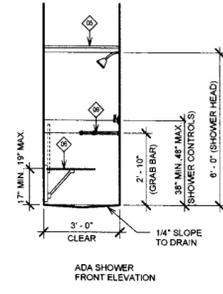
C MISC. ITEMS ELEVATION



D ADA SHOWER PLAN



ADA SHOWER SIDE ELEVATION



ADA SHOWER FRONT ELEVATION

13 TYPICAL MOUNTING HEIGHTS
3/8" = 1'-0"

Seals:

FINAL DRAWINGS FOR PERMIT TO BE SIGNED AND SEALED BY CONTRACTOR'S DELEGATED DESIGN MANUFACTURER

HH ARCHITECTURE

Waccamaw District Park
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Brunswick County, NC

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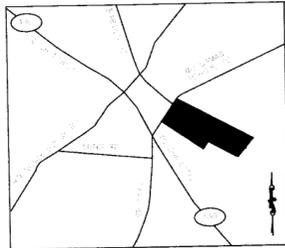
Project No: 3047
Drawn By: KAA
Designed By: KAA
Checked By: KMH
Original Issue Date: 06/02/2014

Revisions:

Sheet Title:

ENLARGED PLANS / FFE

Sheet No:
3A-401



ICINIT MAP
NTS



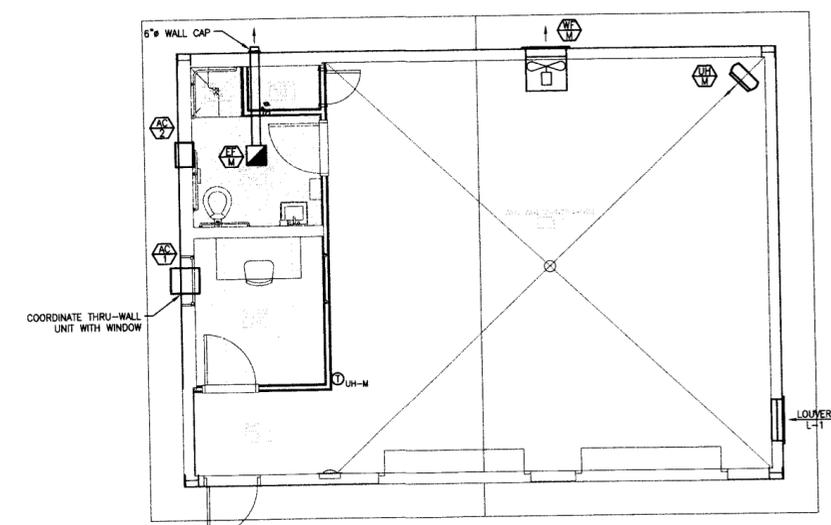
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Waccamaw
District Park
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d NC



1 MECHANICAL EQUIPMENT PIPING PLAN MAINTENANCE LDG
SCALE 1/4" = 1'-0"

MECHANICAL SYSTEM
SELECTIONS AND EQUIPMENT

METHOD OF COMPLIANCE:
 PRESCRIPTIVE ENERGY COST BUDGET

THERMAL ZONE: 3A

EXTERIOR DESIGN CONDITIONS
 WINTER DRY BULB 23°F
 SUMMER DRY BULB 93°F

INTERIOR DESIGN CONDITIONS
 WINTER DRY BULB 70°F
 SUMMER DRY BULB 75°F
 RELATIVE HUMIDITY 60%

BUILDING HEATING LOAD 22 MBH
 BUILDING COOLING LOAD 0.8 TONS

MECHANICAL CONDITIONING SYSTEM
 UNITARY
 DESCRIPTION OF UNIT THRU WALL HEAT PUMPS / UNIT HEATERS
 HEATING EFFICIENCY 3.0 COP
 COOLING EFFICIENCY 13 SEER
 HEAT OUTPUT OF UNIT 15 MBH / 34 MBH UNIT HEATER
 COOLING OUTPUT OF UNIT 1.0 TONS

BOILER
 TOTAL BOILER OUTPUT, IF OVERSIZED STATE REASON N/A

CHILLER
 TOTAL CHILLER OUTPUT, IF OVERSIZED STATE REASON N/A

LIST EQUIPMENT EFFICIENCIES SEE MECHANICAL SCHEDULES

CDS ONE PE MITTING
Pr N 3407
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06 02 14 ISSUE 0 ID

S T
Mechanical
Plan

S N
3M-101