

**CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE:**



107 East Second Street  
Greenville, North Carolina 27858  
p 252-752-4135  
f 252-752-3974

www.riversandassociates.com

Contact: James 'Dan' Withers, PE  
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**ARCHITECTURE:**

MHaworks, PA  
Greenville, NC

408 Evans Street  
Greenville, North Carolina 27858  
p 252-329-0119  
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**PME ENGINEERING:**

Dibble & Pledger, P.A.  
Washington, NC

222 West Main Street  
Washington, North Carolina 27889  
p 252-924-3320  
f 252-946-5160

Contact: Ron Pledger, PE  
rpledger@dibbleandpledger.com

**SITE DATA:**

TOTAL ACREAGE IN SITE:	37.378 ACRES
PROJECT LIMITS:	263,510 SF (6.05 ACRES)
CURRENT ZONING:	HC & RM
PARCEL NUMBER:	6-214-020
GROSS FLOOR AREA (PROPOSED):	1,294 SF
BUILDING LOT COVERAGE:	>0.1%
BUILDING HEIGHT (IN FEET AND STORIES):	>35 FT - 1 STORY
PROPOSED IMPERVIOUS PARKING AREA:	29,856 SF
PROPOSED IMPERVIOUS WALKS, PATIOS, ETC.:	8,117 SF
PROPOSED IMPERVIOUS BUILDING AREA:	1,294 SF
TOTAL PROPOSED IMPERVIOUS AREA:	39,267 SF (2.41%)
PROPOSED PARKING SPACES:	90

REVISIONS:

REV.	DATE	DESCRIPTION
9-22-17	JDW	APPD



# DESIGN DEVELOPMENT

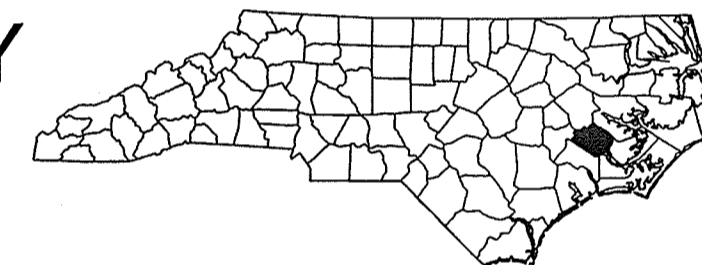
# Lewis Farm Park

## MASTER PLAN & PHASE 1

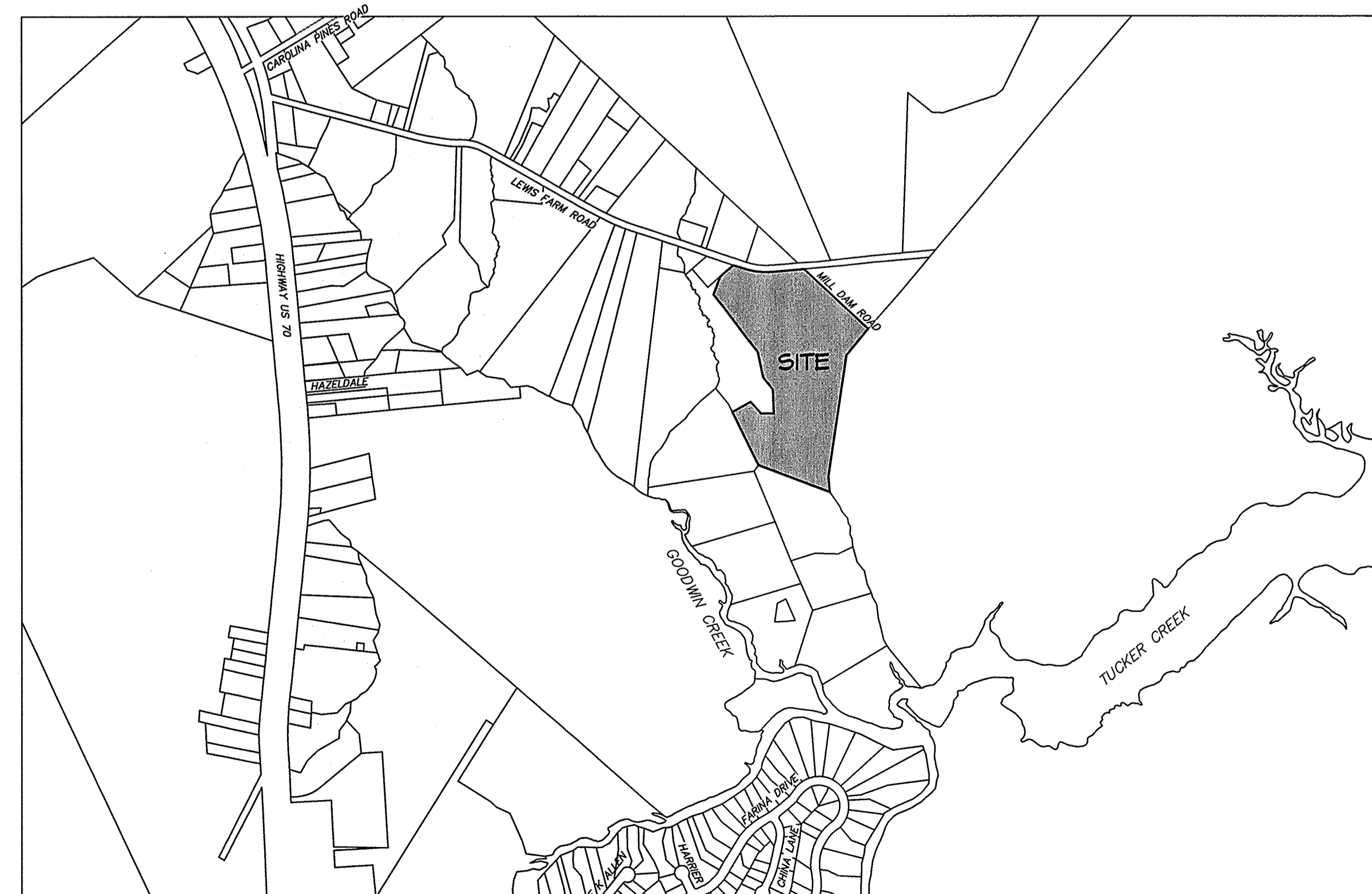
**GENERAL NOTES:**

- CONTACT NORTH CAROLINA ONE-CALL CENTER, INC. (NC-811) TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING.
- ELECTRIC AND TELEPHONE UTILITIES SHALL BE INSTALLED UNDERGROUND.
- ALL REQUIRED IMPROVEMENTS SHALL COMPLY WITH THE CITY OF HAVELOCK MANUAL OF STANDARD DESIGNS AND DETAILS AND THE MANUAL FOR THE DESIGN AND CONSTRUCTION OF WATER AND WASTEWATER SYSTEM EXTENSIONS FOR THE CITY OF HAVELOCK.
- CONSTRUCTION PLAN APPROVAL FROM THE CITY OF HAVELOCK SHALL BE OBTAINED PRIOR TO CONSTRUCTION OF ANY STREET, WATER, AND/OR SANITARY SEWER AND STORM DRAINAGE SYSTEMS.
- PROPERTY IS LOCATED WITHIN ZONE 'X' (AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN ON FLOOD INSURANCE RATE MAP 3720640400, EFFECTIVE JULY 2, 2004.
- SOIL EROSION AND SEDIMENTATION CONTROL PLAN APPROVAL BY THE CITY ENGINEER IS REQUIRED PRIOR TO THE INITIATION OF ANY LAND DISTURBING ACTIVITIES.
- THIS SITE DISTURBS GREATER THAN ONE-HALF ACRE. STORMWATER MANAGEMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE NCDENR NEUSE RIVER BASIN - NUTRIENT SENSITIVE WATER MANAGEMENT STRATEGY.
- BUILDINGS MUST MEET ALL APPLICABLE BUILDING CODES. SITE SHALL MEET ALL RELATIVE NORTH CAROLINA ACCESSIBILITY CODE REQUIREMENTS.
- ALL DIMENSIONS ARE TO EDGE OF GRAVEL UNLESS OTHERWISE NOTED.
- NCDOT AND CITY OF HAVELOCK DRIVEWAY PERMIT REQUIRED.
- ANY UNUSED DRIVEWAY SHALL BE CLOSED IN ACCORDANCE WITH CITY OF HAVELOCK'S DRIVEWAY ORDINANCE.
- REFUSE COLLECTION SHALL BE PROVIDED BY PRIVATE CONTRACTOR.
- APPROVAL OF SITE PLAN DOES NOT CONSTITUTE APPROVAL OF SIGNS. SEPARATE SIGN PERMITS ARE REQUIRED.
- CLEANOUTS LOCATED IN PAVED AREAS SHALL BE INSTALLED WITH A SEWER CLEANOUT BOX SET TO FINISHED GRADE AS SHOWN IN HAVELOCK'S STANDARD DETAIL DRAWINGS.
- CONTRACTOR SHALL NOTIFY PUBLIC WORKS STREET MAINTENANCE DIVISION 48 HOURS PRIOR TO MAKING CONNECTIONS TO EXISTING STORM DRAINS LOCATED WITHIN PUBLIC STORM DRAINAGE EASEMENTS OR R/W.
- ACCESS TO PUBLIC UTILITIES MUST BE MADE AVAILABLE AT ALL TIMES.
- FINAL OCCUPANCY SHALL NOT BE ISSUED UNTIL ALL FIRE HYDRANTS HAVE BEEN TESTED AND ACCEPTED BY THE CITY OF HAVELOCK.
- ELECTRIC EASEMENT IS 10' IN WIDTH AND CENTERED OVER ELECTRIC LINES AS INSTALLED.
- NO BUILDINGS, STRUCTURES OR OTHER IMPROVEMENTS, MATERIALS AND SURFACES, INCLUDING BUT NOT LIMITED TO PRINCIPAL AND ACCESSORY STRUCTURES AND ADDITIONS AND APPURTENANCES THERETO, SIGNAGE, FENCES, WALLS, MECHANICAL EQUIPMENT, CANOPIES, ANTENNAS, MASTS, DEBRIS, SOLID WASTE COLLECTION CONTAINERS, MAIL RECEPTACLES AND IMPERVIOUS SURFACES SHALL ENCRoACH WITHIN ANY DEDICATED EASEMENT WITHOUT PRIOR APPROVAL OF THE CITY OF HAVELOCK.
- THIS SITE IS WITHIN THE AIR INSTALLATION COMPATIBILITY USE ZONE (AICUZ) OF MARINE CORPS AIR STATION (MCAS) CHERRY POINT. (NOISE EXPOSURE LEVEL N2 (65 TO 74 LDN)
- PARKING LOT LIGHTS MUST SHINE DOWNWARD DUE TO PROXIMITY TO MCAS CHERRY POINT.

CRAVEN COUNTY



NORTH CAROLINA



VICINITY MAP

**SHEET LIST**

#	SHEET TITLE
T1	COVER
A 0-0	APPENDIX B CODE SUMMARY
A 1-0	ARCHITECTURAL NOTES AND SPECIFICATIONS
A 1-1	ARCHITECTURAL PLANS AND EXTERIOR ELEVATIONS
A 1-2	SECTIONS DETAILS & SCHEDULES
E-1	ELECTRICAL DETAILS & SCHEDULES
E-2	ELECTRICAL DETAILS & SCHEDULES
E-3	ELECTRICAL DETAILS & SCHEDULES
P1	PLUMBING FLOOR PLAN AND SCHEDULES
P2	PLUMBING RISERS AND DETAILS
V1	SURVEY
V2	SURVEY
C1.1	SITE & UTILITIES PLAN
C1.2	SITE & UTILITIES PLAN
C2.1	GRADING & EROSION CONTROL PLAN
C2.2	GRADING & EROSION CONTROL PLAN
C3	CIVIL DETAILS
C4	EROSION CONTROL DETAILS
C5	SITE DETAILS
C6	SEWER PLAN & DETAILS
L1	PLANTING PLAN
L2	PLANTING DETAILS
L3	IRRIGATION PLAN & DETAILS
L4	SITE FURNISHING DETAILS
L5	SIGN, FLAG POLE & FENCE DETAILS

**OWNER / DEVELOPER:**

CITY OF HAVELOCK  
PO BOX 368  
HAVELOCK, NC 28532  
ATTN: Mark Sayer - (252) 444-6400

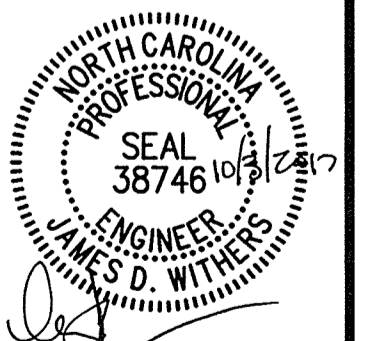
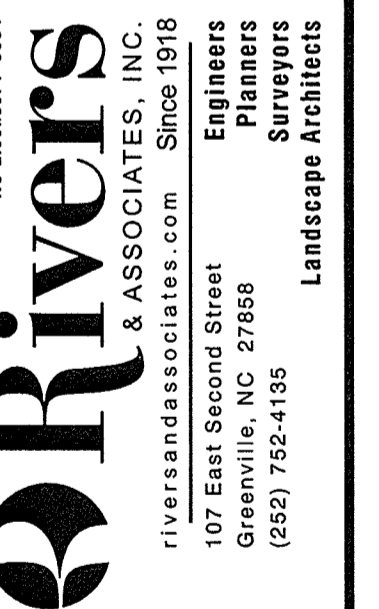
**OWNER'S CERTIFICATION**

I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I (WE) HEREBY APPROVE THIS SITE PLAN. I (WE) FURTHER CERTIFY THAT ALL EXTERIOR IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO PAVING AND LANDSCAPING, AS SHOWN ON THE SITE PLAN WILL BE MAINTAINED IN ACCORDANCE WITH THIS SITE PLAN AND THE CITY OF HAVELOCK CODE OF ORDINANCE.

OWNER'S SIGNATURE(S)

COVER

CITY OF HAVELOCK  
LEWIS FARM PARK  
NORTH CAROLINA  
CRAVEN COUNTY



August 25, 2017

SURVEY	- DRAFT	SKR
DESIGN	SKR	CHECK JDW
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 16	

**T1**

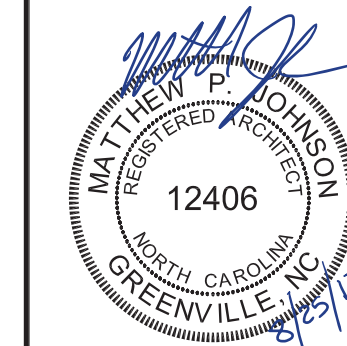
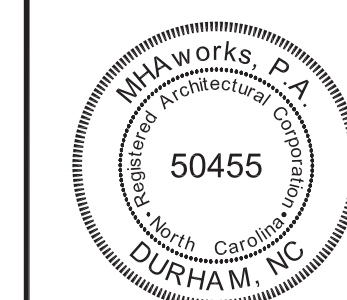


NO.	DATE	DESCRIPTION



NORTH CAROLINA

ARCHITECTURAL NOTES & SPECIFICATIONS



08.25.17

SURVEY	----	DRAFT	MPJ
DESIGN	MPJ	CHECK	MPJ
RIVERS PROJECT # 2014030			
MHAworks PROJECT # 15034			
SCALE: As Noted			
SHEET No.			

**A1-0**

## ARCHITECTURAL GENERAL NOTES & SPECIFICATIONS

### DIVISION 0 - GENERAL REQUIREMENTS

- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE 2012 NORTH CAROLINA BUILDING CODE AND CURRENT EDITION OF ANSI A117.1 ACCESSIBILITY REQUIREMENTS. THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING REGARDING ANY DISCREPANCIES ON THE PLANS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS ALONG WITH THE PAYMENT OF ANY APPLICABLE FEES.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY BRACING REQUIRED TO SECURE ALL CONSTRUCTION IN PLACE UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED.
- TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE PROJECT UNLESS SPECIFICALLY INDICATED OTHERWISE.
- FINAL CLEANING OF THE BUILDING SHALL BE BY THE GENERAL CONTRACTOR.
- ALL DIMENSIONS ARE FROM FACE OF CMU TO FACE OF FRAMING UNLESS OTHERWISE NOTED.
- REFER TO PLUMBING, MECHANICAL, AND ELECTRICAL PLANS FOR SPECIFIC INFORMATION ON THOSE SYSTEMS. ANY ITEMS SHOWN ON ARCHITECTURAL PLANS ARE DIAGRAMMATIC ONLY, AND FINAL COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- DO NOT SCALE DRAWINGS. USE DIMENSIONS PROVIDED ONLY. REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
- ALL DEBRIS AND WASTE SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN ENVIRONMENTALLY SAFE MANNER UNLESS OTHERWISE NOTED.

### DIVISION 2 - EXISTING CONDITIONS

- NOT APPLICABLE.

### DIVISION 3 - CONCRETE

- UNLESS OTHERWISE NOTED, ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE CODE (A.C.I. 318) AND ITS LATEST AMENDMENTS AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (A.C.I. 301).
- CONCRETE MIXTURE SHALL BE MINIMUM 3,000PSI, 28-DAY COMPRESSIVE STRENGTH WITH MAXIMUM WATER-CEMENT RATIO OF 0.50 MAXIMUM AND A SLUMP LIMIT OF 4-INCHES +/- 1-INCH.
- SLAB REINFORCING SHALL BE WELDED-WIRE FABRIC (WWF) COMPLIANT WITH ASTM A185. MESH SHALL BE 6X6 - W2.1 X W2.1 WELDED WIRE. REINFORCING SHALL BE PROPERLY SUPPORTED PRIOR TO PLACEMENT OF CONCRETE. HOOKING OF MESH IS NOT PERMITTED.
- DETAILING AND FABRICATION OF REINFORCING SHALL BE IN ACCORDANCE WITH THE A.C.I. DETAILING MANUAL.
- NO CONCRETE SHALL BE PLACED UNTIL ALL EMBEDDED WORK HAS BEEN INSTALLED, TESTED, AND INSPECTED.
- EXTERIOR CONCRETE SLABS SHALL HAVE NON-SLIP HEAVY BROOM FINISH. INTERIOR CONCRETE SLABS SHALL HAVE A NON-SLIP FINE-BROOM FINISH WITH CLEAR SEALANT.

### DIVISION 4 - MASONRY

- MASONRY CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF A.C.I. 530, BUILDING CODE REQUIREMENTS, AND SPECIFICATIONS FOR MASONRY STRUCTURES.
- CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90 STANDARDS. MASONRY MORTAR SHALL COMPLY WITH ASTM C270 TYPE 'S' MORTAR. CMU AND MORTAR SHALL INCORPORATE WATER REPELLANT ADMIXTURE. EXPOSED MASONRY UNITS SHALL HAVE A SMOOTH OR SPLIT-FACE SURFACE AS NOTED. COLOR FOR EXPOSED CMU AND MORTAR SHALL BE SELECTED FROM MANUFACTURER'S FULL RANGE.
- GROUT SHALL CONFORM TO ASTM C476. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000PSI AT 28-DAYS. MAXIMUM SLUMP FOR GROUT SHALL BE 8-INCH +/- 1-INCH.
- ALL REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60. BARS SHALL BE LAPPED 48 x BAR DIAMETER MINIMUM AT SPLICES.
- PLACE ALL VERTICAL REINFORCING IN THE CENTER OF CELLS UNLESS OTHERWISE NOTED. PROVIDE BAR POSITIONERS FOR VERTICAL REINFORCING AT A MAXIMUM SPACING OF 8- FEET ON CENTER.
- ALL CELLS BELOW GRADE SHALL BE GROUTED SOLID. CELLS WHERE REINFORCING IS LOCATED SHALL BE FULLY GROUTED. GROUT SHALL NOT BE PLACED IN LIFTS IN EXCESS OF 6'-0". GROUT SHALL BE STOPPED 1.5" FROM THE TOP OF A COURSE SO AS TO FORM A KEY AT THE POUR JOINT.
- ALL BOLTS, ANCHORS, ETC. PLACED IN THE WALL SHALL BE GROUTED SOLID INTO POSITION.

### DIVISION 5 - METALS

- PROVIDE METAL MATERIALS WITH SMOOTH, FLAT SURFACES WITHOUT BLEMISHES.
- STEEL PLATES, SHAPES, AND BARS SHALL CONFORM TO ASTM A36.
- ALL METAL CONNECTORS SHALL BE HOT-DIP GALVANIZED. INSTALL ALL CONNECTORS PER MANUFACTURERS RECOMMENDATIONS. CONNECTOR DESIGNATIONS INDICATED ON THE PLANS ARE FOR SIMPSON STRONG-TIE. EQUIVALENT ANCHOR MAY BE CONSIDERED PROVIDED THEY HAVE EQUIVALENT STRENGTH.

### DIVISION 6 - WOOD, PLASTICS, AND COMPOSITES

- ALL WOOD FRAMING MEMBERS SHALL BE NO.2 SOUTHERN YELLOW PINE, 19% MAXIMUM MOISTURE CONTENT UNLESS OTHERWISE NOTED.
- ALL WOOD DIRECTLY EXPOSED TO THE EXTERIOR, OR IN CONTACT WITH MASONRY, SOIL, OR CONCRETE SHALL BE PRESSURE TREATED.
- ALL NAILED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE 2012 NORTH CAROLINA BUILDING CODE TABLE 2304.9.1 - FASTENING SCHEDULE.
- FRAMING CONNECTIONS THAT ARE BOLTED OR SCREWED SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD.
- PROVIDE 5/8" THICK EXTERIOR GRADE PLYWOOD SHEATHING FOR WALLS AND ROOF PER DOC PS1 GRADING RULES, UNLESS NOTED OTHERWISE.
- PROVIDE FIBER CEMENT BOARDS AND TRIM AS INDICATED ON THE DRAWINGS. PREP SURFACES TO BE FIELD PAINTED. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

### DIVISION 7 - THERMAL AND MOISTURE PROTECTION

- PROVIDE AND INSTALL MINIMUM 6-MIL POLYETHYLENE SHEET MOISTURE BARRIER BELOW CONCRETE SLAB.
- BASE BID: PROVIDE AND INSTALL ASPHALT SHINGLES OVER TWO LAYER OF ICE & WATER BARRIER ON ROOF SHEATHING AS INDICATED ON THE DRAWINGS. PROVIDE ALL ACCESSORIES NECESSARY TO COMPLY WITH ROOFING MANUFACTURERS WRITTEN INSTRUCTIONS. ASPHALT SHINGLES SHALL BE COVERED BY MANUFACTURERS STANDARD 30-YEAR WARRANTY FOR LABOR AND MATERIALS FOR NO ADDITIONAL CHARGE. SHINGLE COLOR SHALL BE SELECTED BY OWNER FROM MANUFACTURERS FULL RANGE.
- ALTERNATE BID: PROVIDE AND INSTALL PRE-FINISHED METAL STANDING SEAM METAL ROOFING OVER ICE & WATER BARRIER. BASIS OF DESIGN FOR METAL ROOFING SHALL BE FIRESTONE UNA-CLAD UC-4 SYSTEM OR AN EQUIVALENT. COLOR FOR ROOFING SHALL BE SELECTED BY THE OWNER FROM THE MANUFACTURER'S FULL RANGE.
- CONTRACTOR SHALL PROVIDE PRE-FINISHED 0.040" ALUMINUM SHEET METAL FOR FABRICATION OF FLASHING, GUTTERS, AND DOWNSPOUTS. FABRICATION AND INSTALLATION OF ALL ITEMS SHALL COMPLY WITH SMACNA REQUIREMENTS.
- PROVIDE BACKER ROD AND SEALANT FOR ALL JOINTS AND AS REQUIRED BY EXTERIOR MATERIALS MANUFACTURERS REQUIREMENTS TO ENSURE WEATHER-TIGHT CONSTRUCTION. INSTALLED PRODUCT SHALL BE COVERED BY TWO-YEAR MATERIAL AND WORKMANSHIP WARRANTY.

### DIVISION 8 - OPENINGS

- PROVIDE DOORS AND WINDOWS AS INDICATED AND SCHEDULED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND FIELD VERIFYING ALL ROUGH OPENINGS PRIOR TO ORDERING AND FABRICATING OF ANY DOOR OR WINDOW ASSEMBLIES.
- HOLLOW METAL FRAMES FOR DOORS AND WINDOWS SHALL BE FULLY WELDED, AND SHALL BE MINIMUM 16-GAUGE FACTORY PRIMED STEEL. PROVIDE JAMB ANCHORS FOR WALL FRAMING AS REQUIRED. PREP FRAMES TO RECEIVE DOORS, HARDWARE, OR GLAZING AS INDICATED.
- METAL DOORS SHALL BE FACTORY PRIMED STEEL. DOORS SHALL BE PREP'D FOR HARDWARE AS INDICATED AND SCHEDULED.
- ALL HARDWARE PROVIDED SHALL BE STAINLESS STEEL MATERIAL WITH BRUSHED FINISH AND SHALL BE MINIMUM BHMA GRADE 2. ALL HARDWARE SHALL BE PROVIDED BY HAGER COMPANIES, OR AN APPROVED EQUAL.
- PROVIDE ALUMINUM ROLL-UP COUNTER DOORS AS INDICATED ON THE DRAWINGS. COUNTER DOORS SHALL BE FACTORY FINISHED WITH CLEAR ANODIZED FINISH.

### DIVISION 9 - FINISHES

- EXPOSED CMU WALLS WITHIN TOILET ROOMS SHALL BE FINISHED WITH BLOCK FILLER AND HAVE TWO COATS EPOXY PAINT. FINAL COLOR SHALL BE AS SELECTED BY THE OWNER.
- CEILING IN TOILET ROOMS SHALL BE 5/8" MOISTURE RESISTANT GYPSUM BOARD THAT SHALL BE FINISHED WITH TWO COATS EPOXY PAINT.
- EXTERIOR FIBER CEMENT TRIM SHALL BE PRIMED AND PAINTED WITH PAINT TYPE AS RECOMMENDED BY TRIM MANUFACTURER FOR APPLICATION INDICATED.
- EXTERIOR EXPOSED CMU SHALL BE FINISHED WITH A CLEAR ANTI-GRAFFITI COATING.

### DIVISION 10 - SPECIALTIES

- TOILET PARTITIONS SHALL BE HIGH DENSITY POLYETHYLENE THROUGH COLOR PARTITIONS WITH STAINLESS STEEL ACCESSORIES. PANELS SHALL BE 1-INCH THICK WITH EASED EDGES. PARTITIONS SHALL BE MANUFACTURER STANDARD FLOOR MOUNTED, OVERHEAD BRACED WITH CONTINUOUS WALL BRACKETS.
- PROVIDE AND INSTALL THE FOLLOWING TOILET ACCESSORIES:
  - STAINLESS STEEL GRAB BARS - LAYOUT AS INDICATED ON DRAWINGS.
  - ELECTRIC HAND DRYER
  - TOILET TISSUE DISPENSER - SINGLE JUMBO ROLL
  - SOAP DISPENSER
  - 24x36 STAINLESS STEEL FRAMED MIRROR UNIT.

### DIVISION 11 - EQUIPMENT

- NOT USED.

### DIVISION 12 - FURNISHINGS

- NOT USED.

### DIVISION 13 - SPECIAL CONSTRUCTION

- NOT USED.

### DIVISION 14 - CONVEYING EQUIPMENT

- NOT USED.

### DIVISION 21, 22, 23, & 26 - FIRE PROTECTION, PLUMBING, MECHANICAL, & ELECTRICAL

- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK WITH INFORMATION SHOWN ON DRAWINGS. NOTIFY ARCHITECT AND OWNER OF ANY DISCREPANCIES IMMEDIATELY.



# DOOR SCHEDULE

DOOR NUMBER	DOOR					FRAME					GLASS	HARDWARE TYPE	REMARKS	
	DOOR TYPE	SIZE (W X H)	THICKNESS	MATERIAL	FINISH	ELEV.	MATERIAL	FINISH	J	H				S
O1	D-1	3'-0" X 7'-0"	1.75"	H-M	PT	F-1	H-M	PT	7/AI-2	7/AI-2	7/AI-2	-	1	
O2	D-1	3'-0" X 7'-0"	1.75"	H-M	PT	F-1	H-M	PT	7/AI-2	7/AI-2	7/AI-2	-	2	
O3	D-1	3'-0" X 7'-0"	1.75"	H-M	PT	F-1	H-M	PT	7/AI-2	7/AI-2	7/AI-2	-	2	
O4	D-1	3'-0" X 7'-0"	1.75"	H-M	PT	F-1	H-M	PT	7/AI-2	7/AI-2	-	-	3	
O5	D-1	3'-0" X 7'-0"	1.75"	H-M	PT	F-1	H-M	PT	7/AI-2	7/AI-2	-	-	3	
O6	D-1	3'-4" X 4'-0"	-	ALUM.	ANOD.	F-2	ALUM.	ANOD.	8/AI-2	6/AI-2	6/AI-2	-	-	MANUAL OVER-HEAD COILING DOOR W/ SECURITY LOCK
O7	D-1	6'-0" X 4'-0"	-	ALUM.	ANOD.	F-2	ALUM.	ANOD.	8/AI-2	6/AI-2	6/AI-2	-	-	MANUAL OVER-HEAD COILING DOOR W/ SECURITY LOCK
O8	D-1	3'-4" X 4'-0"	-	ALUM.	ANOD.	F-2	ALUM.	ANOD.	8/AI-2	6/AI-2	6/AI-2	-	-	MANUAL OVER-HEAD COILING DOOR W/ SECURITY LOCK

# DOOR & HARDWARE NOTES

- FLOOR STOPS ARE TO BE INSTALLED AT ALL DOORS.
- EACH DOOR SHALL BE PROVIDED WITH 1.5 PAIR HEAVY DUTY HINGES.
- ALL DOORS SHALL BE PROVIDED WITH THRESHOLD AND WEATHERSTRIPPING.
- STAINLESS KICK PLATE PUSH SIDE OF ALL DOORS (8" TALL X DOOR WIDTH)
- LEVER HARDWARE ON ALL DOORS

## HARDWARE

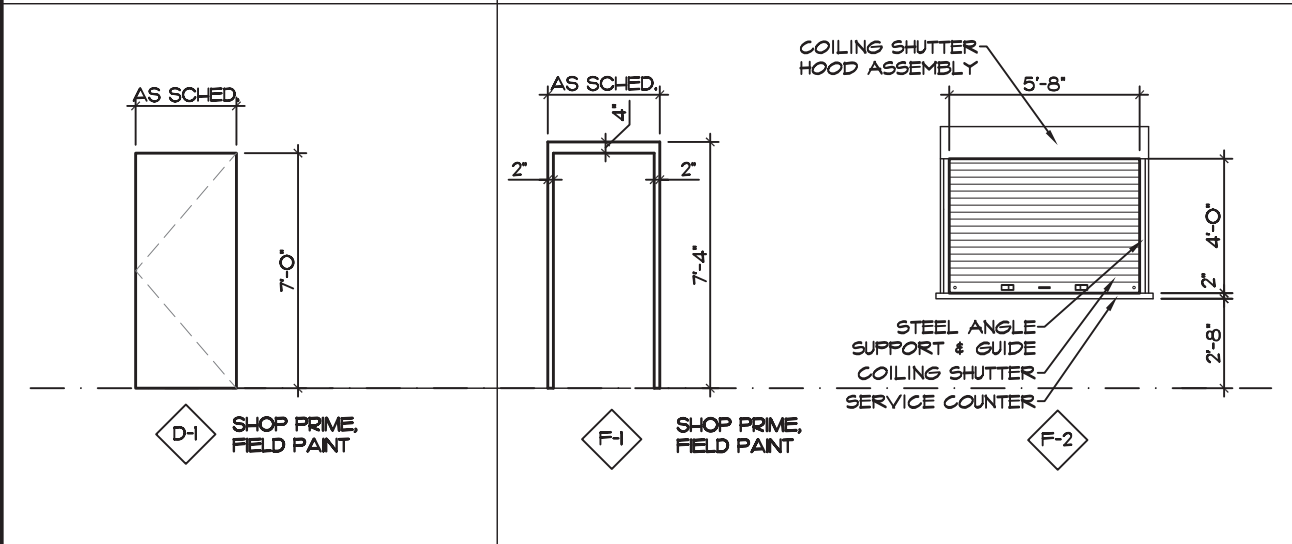
OWNER TO APPROVE ALL HARDWARE & KEYING

HARDWARE SET #1	
- ENTRANCE LOCKSET	- CLOSER

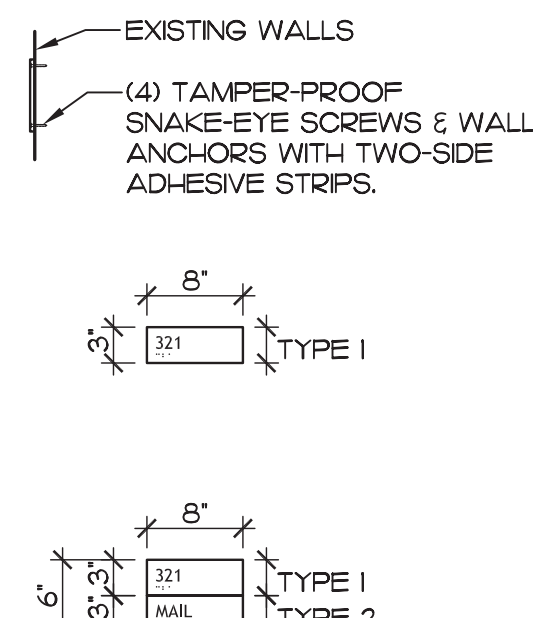
HARDWARE SET #2	
- TYPE: PUSH/PULL	- CLOSER
	- DEADBOLT (KEYED BOTH SIDES)

HARDWARE SET #3	
- STORAGE LOCKSET	- CLOSER

## DOOR TYPE

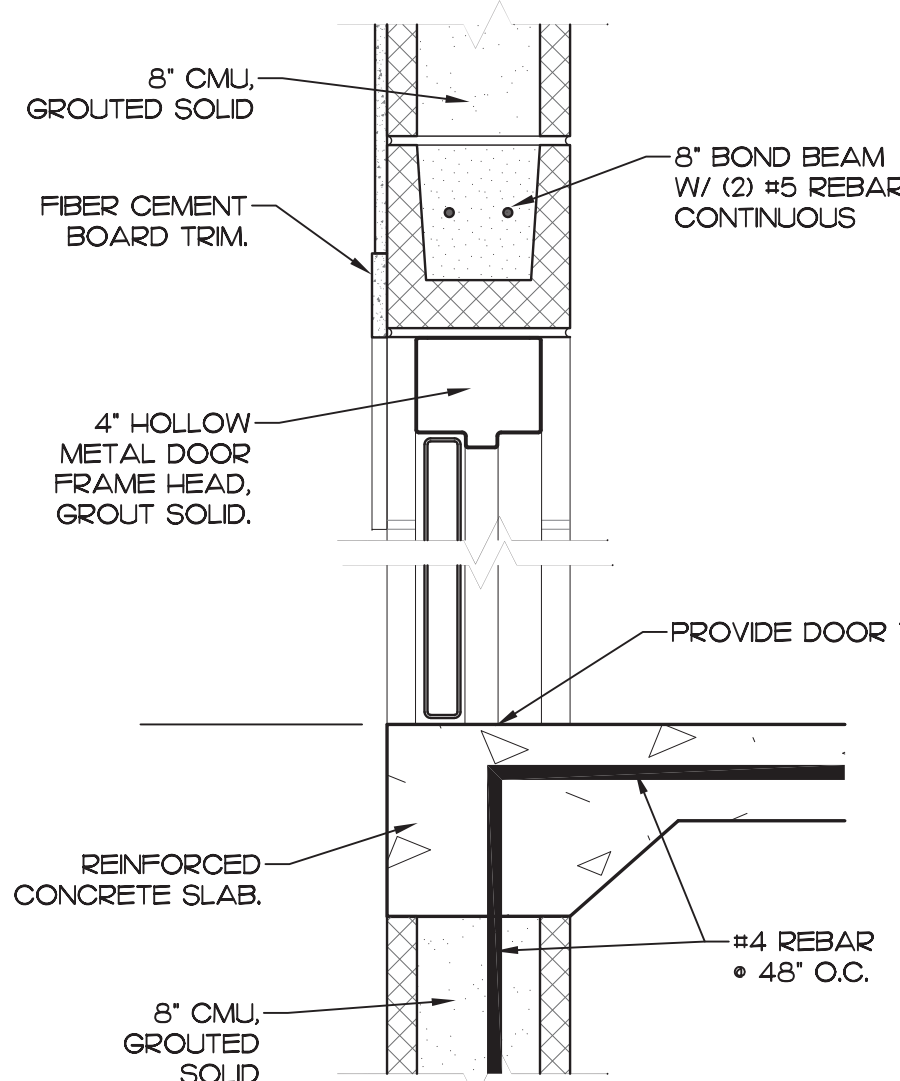


## FRAME TYPES

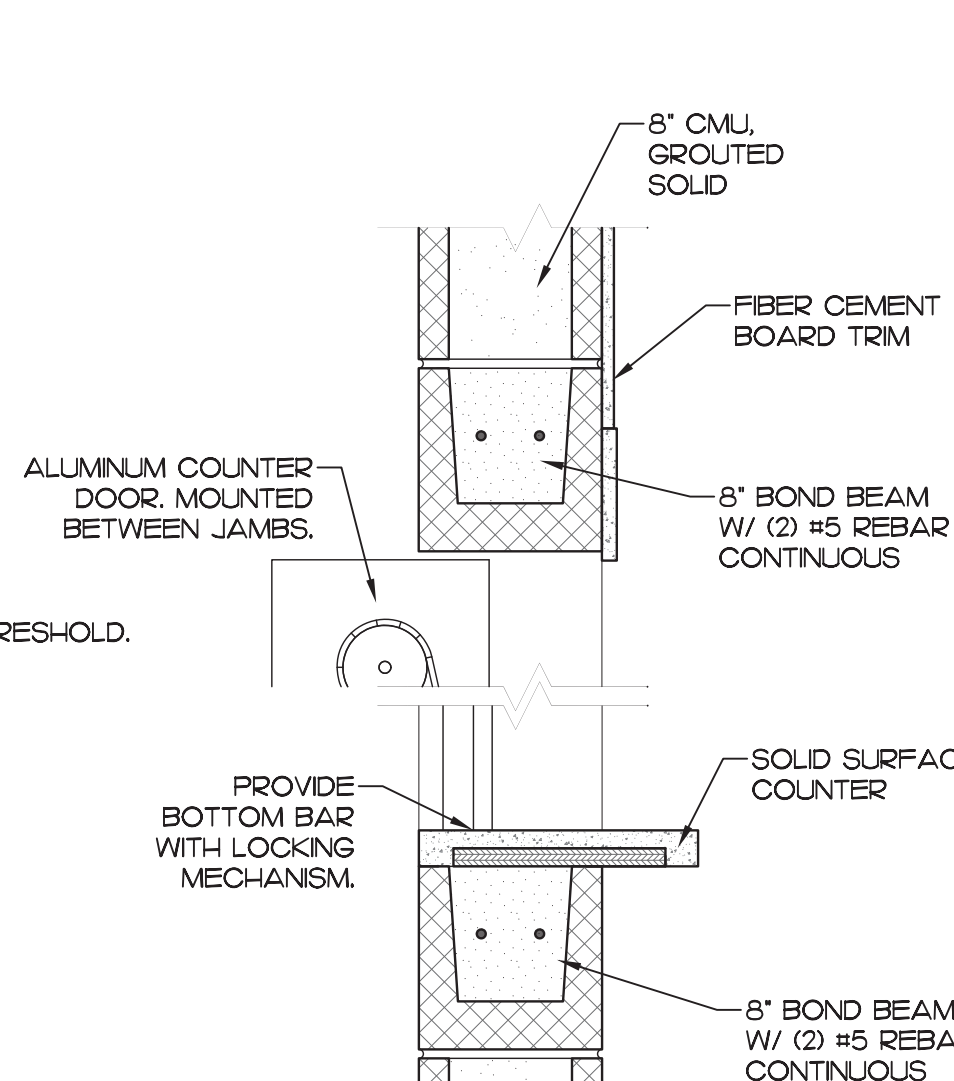


**Sign Types 11**  
1 1/2"=1'-0"

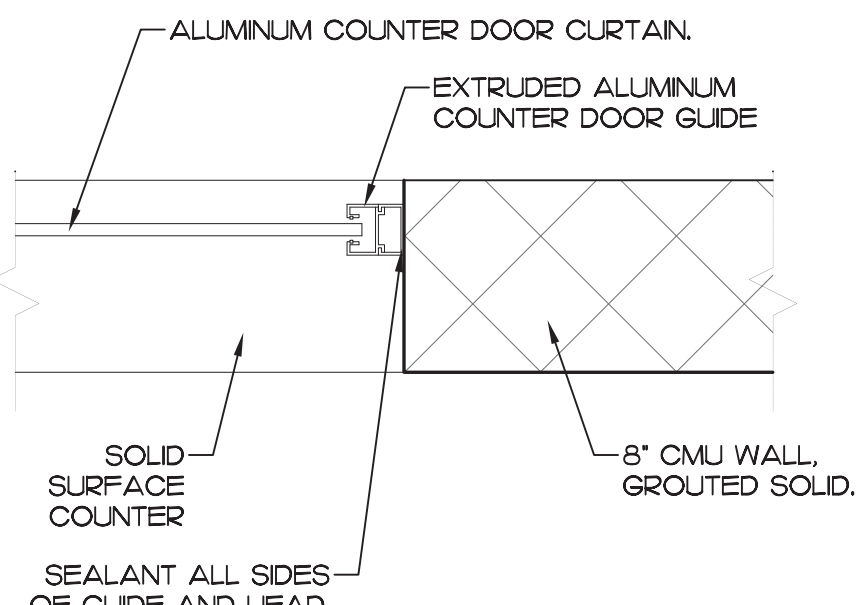
**Typ. Mounting Heights 10**  
1 1/2"=1'-0"



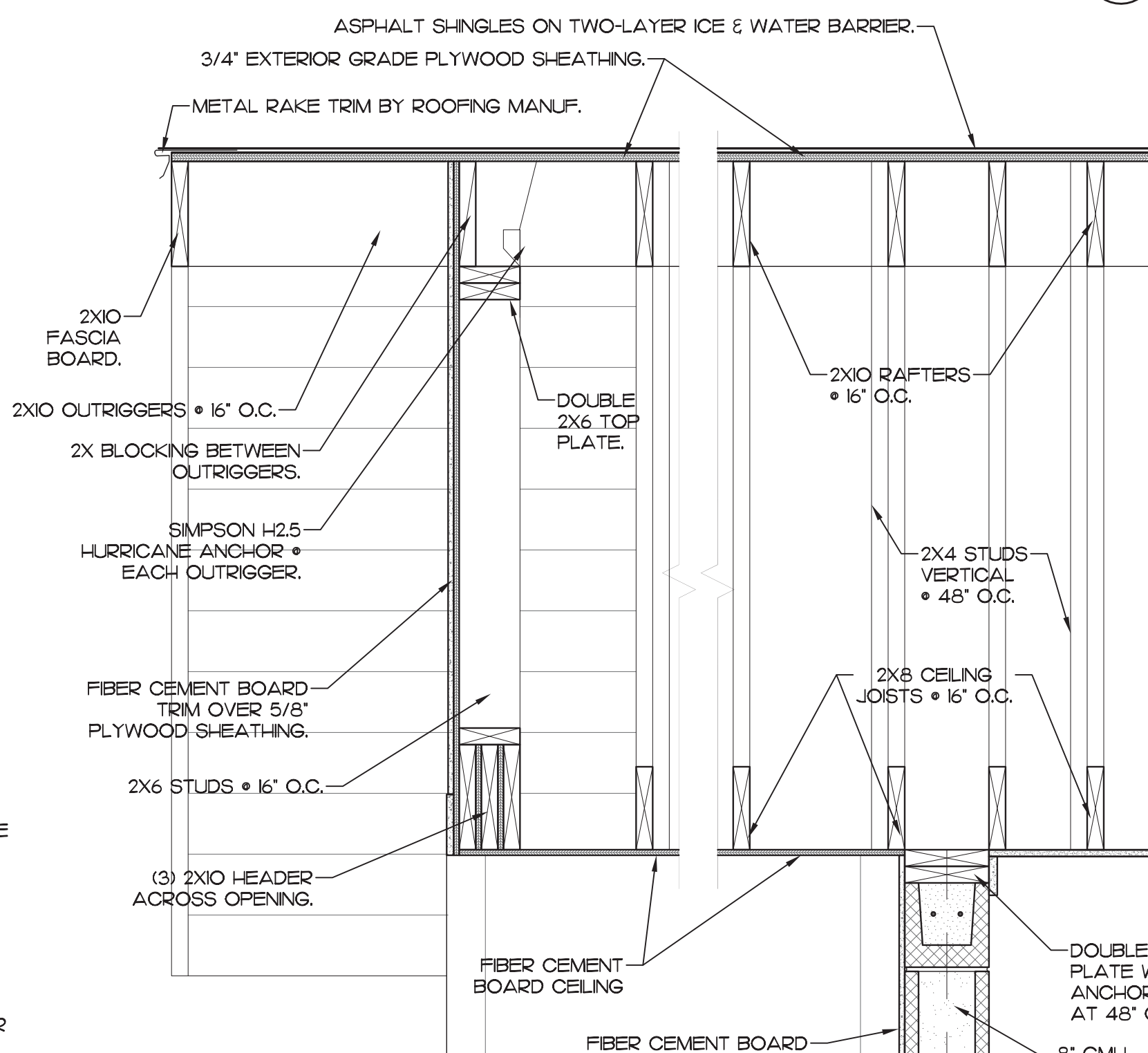
**Door Head/Sill Detail 7**  
1 1/2"=1'-0"



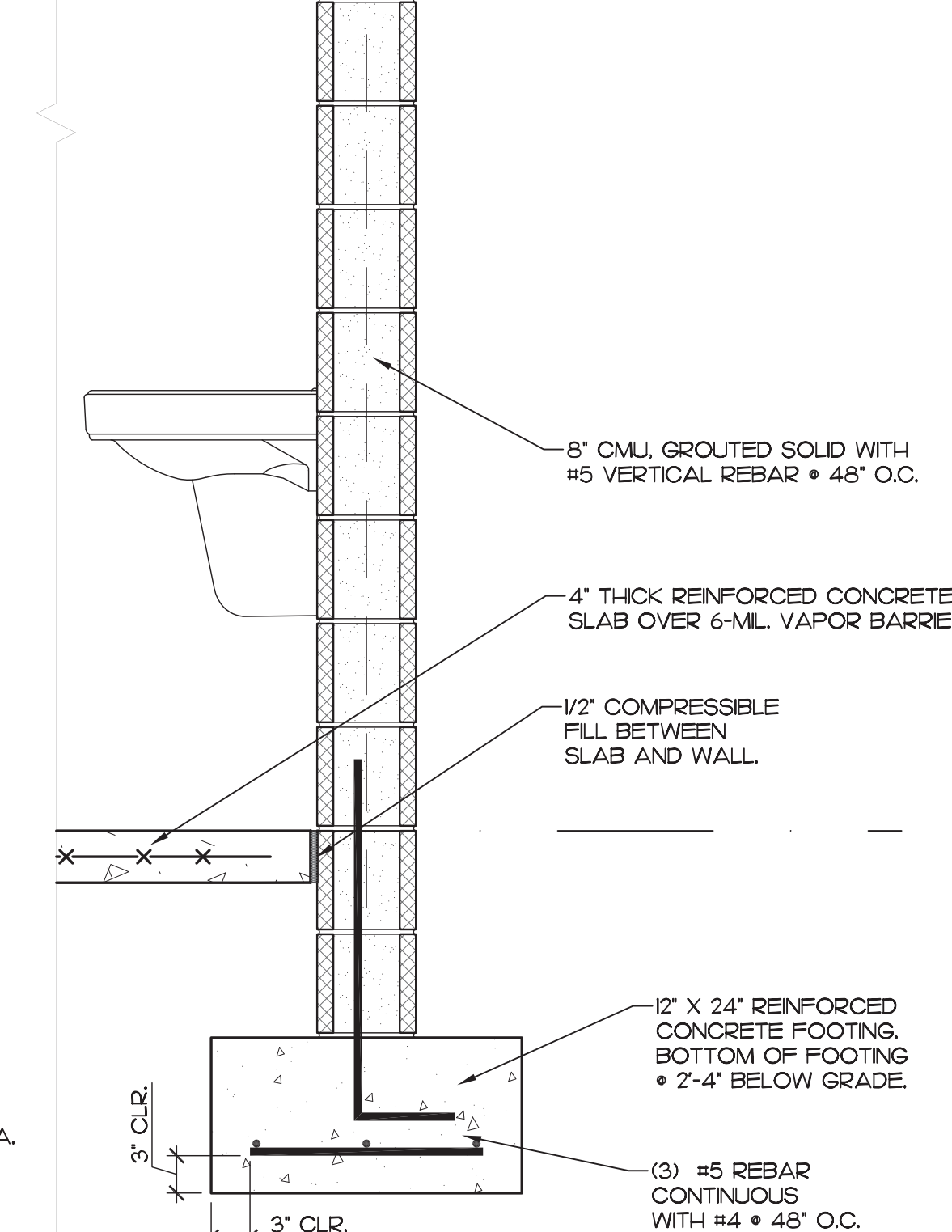
**Opening Head/Sill Detail 6**  
1 1/2"=1'-0"



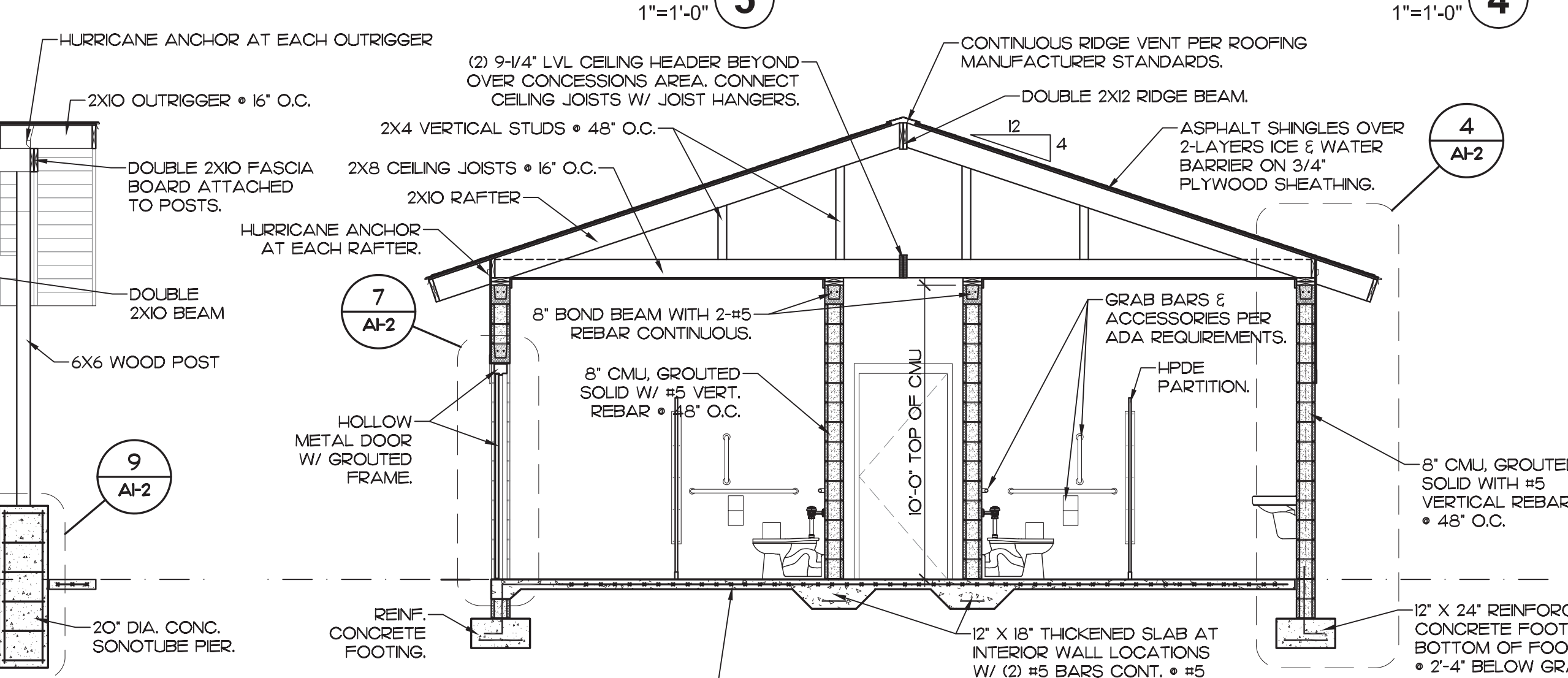
**Opening Jamb Detail 8**  
1 1/2"=1'-0"



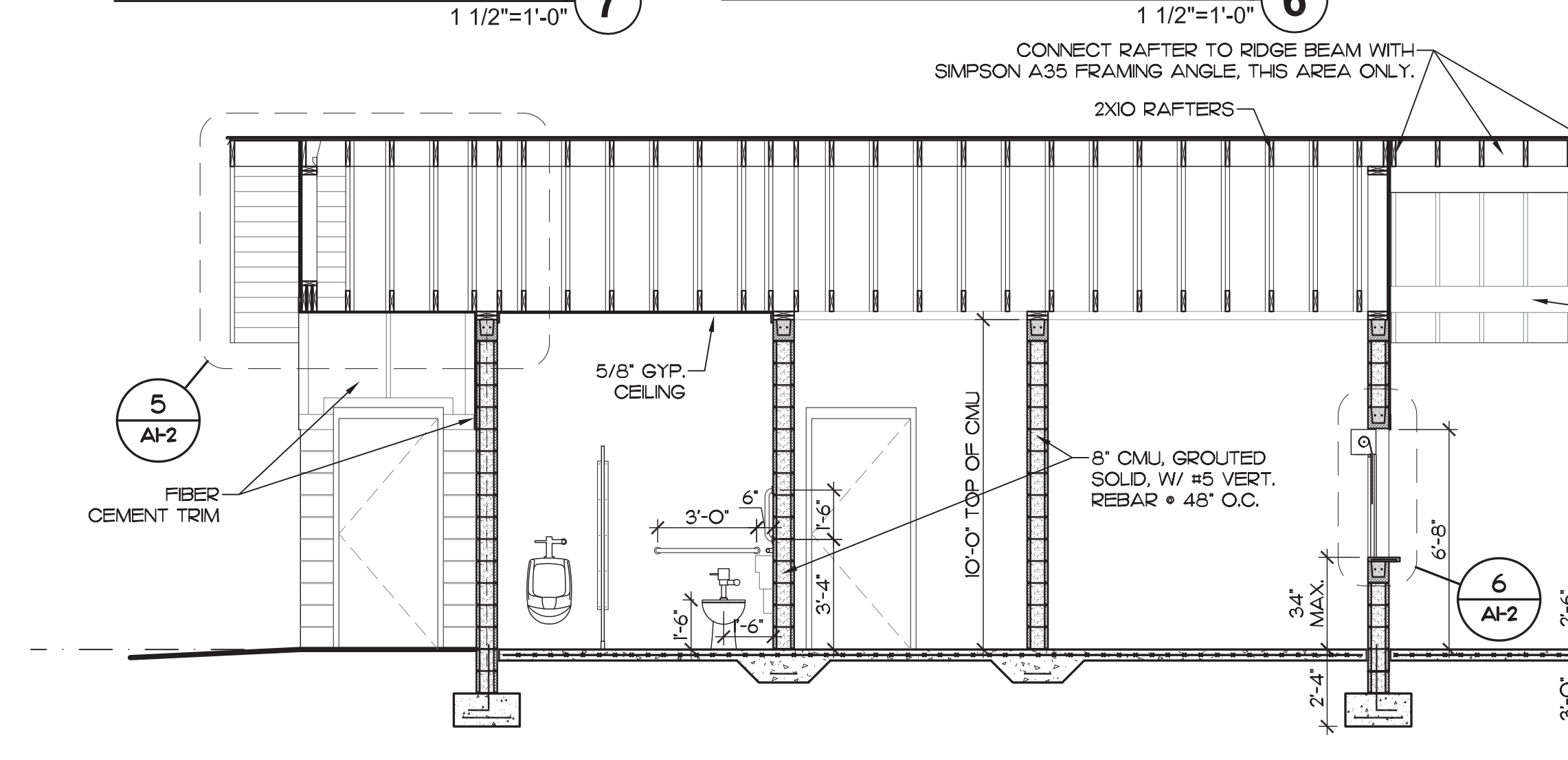
**Wall Section 5**  
1"=1'-0"



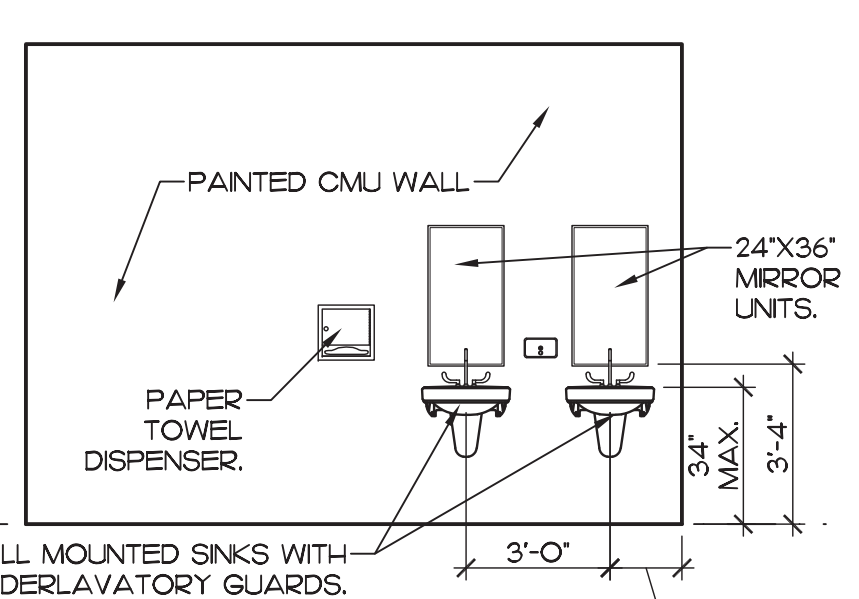
**Typical Wall Section 4**  
1"=1'-0"



**Building Section 1**  
1/4"=1'-0"



**Building Section 2**  
1/4"=1'-0"



**Interior Elevation 3**  
1/4"=1'-0"

REVISIONS:

NO.	DATE	DESCRIPTION

Sections, Details, & Schedules

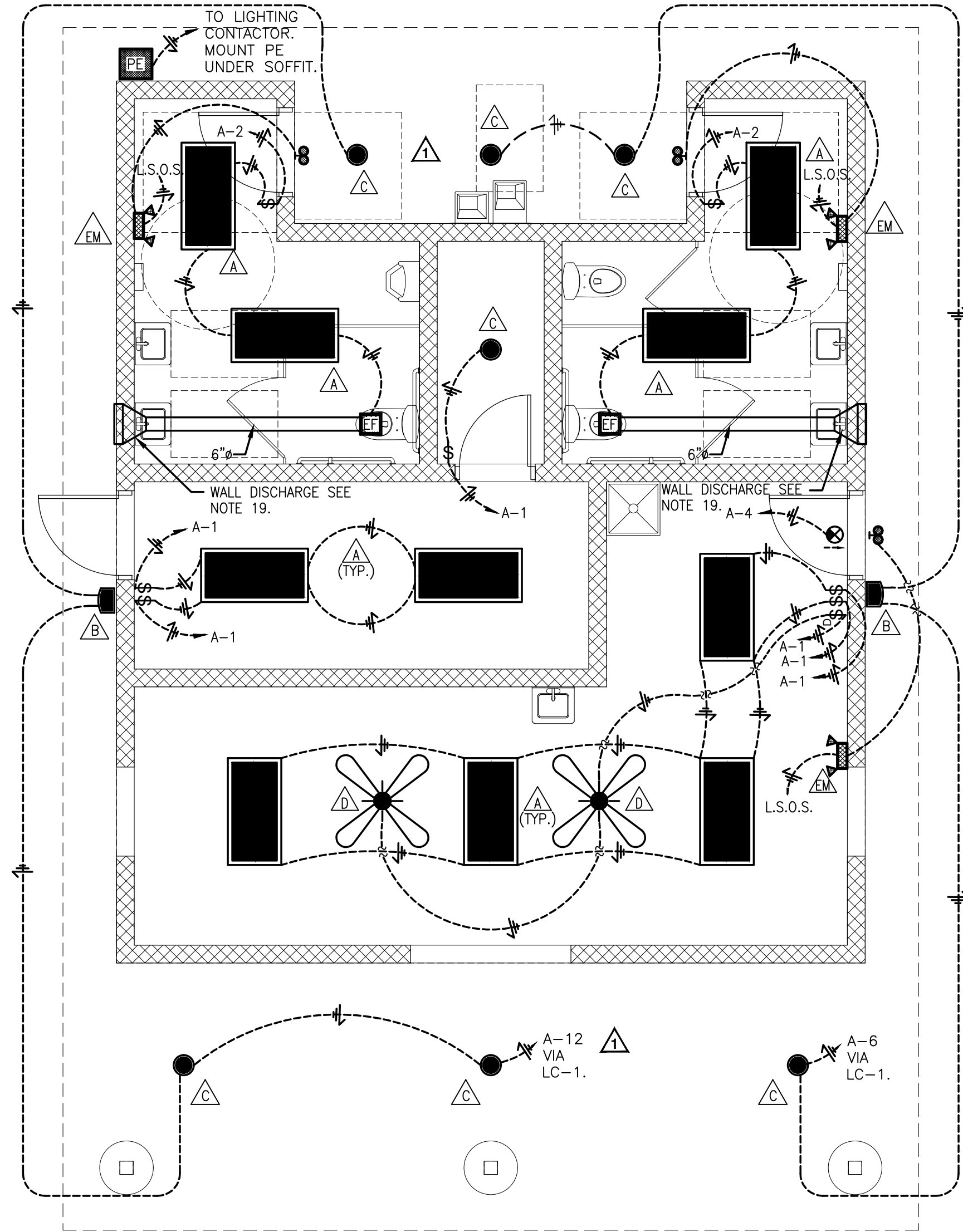
**Rivers**  
ARCHITECTURE & ASSOCIATES, INC.  
107 East Second Street  
Greenville, NC 27838  
(252) 782-1135

**MHAworks**  
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Greenville, North Carolina 27838  
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08.25.17  
SURVEY DRAFT MPJ  
DESIGN MPJ CHECK MPJ  
RIVERS PROJECT # 2014030  
MHAworks PROJECT # 15034  
SCALE: As Noted  
SHEET No. **A1-2**

NO.	DATE	DESCRIPTION
1	9-25-17	REP

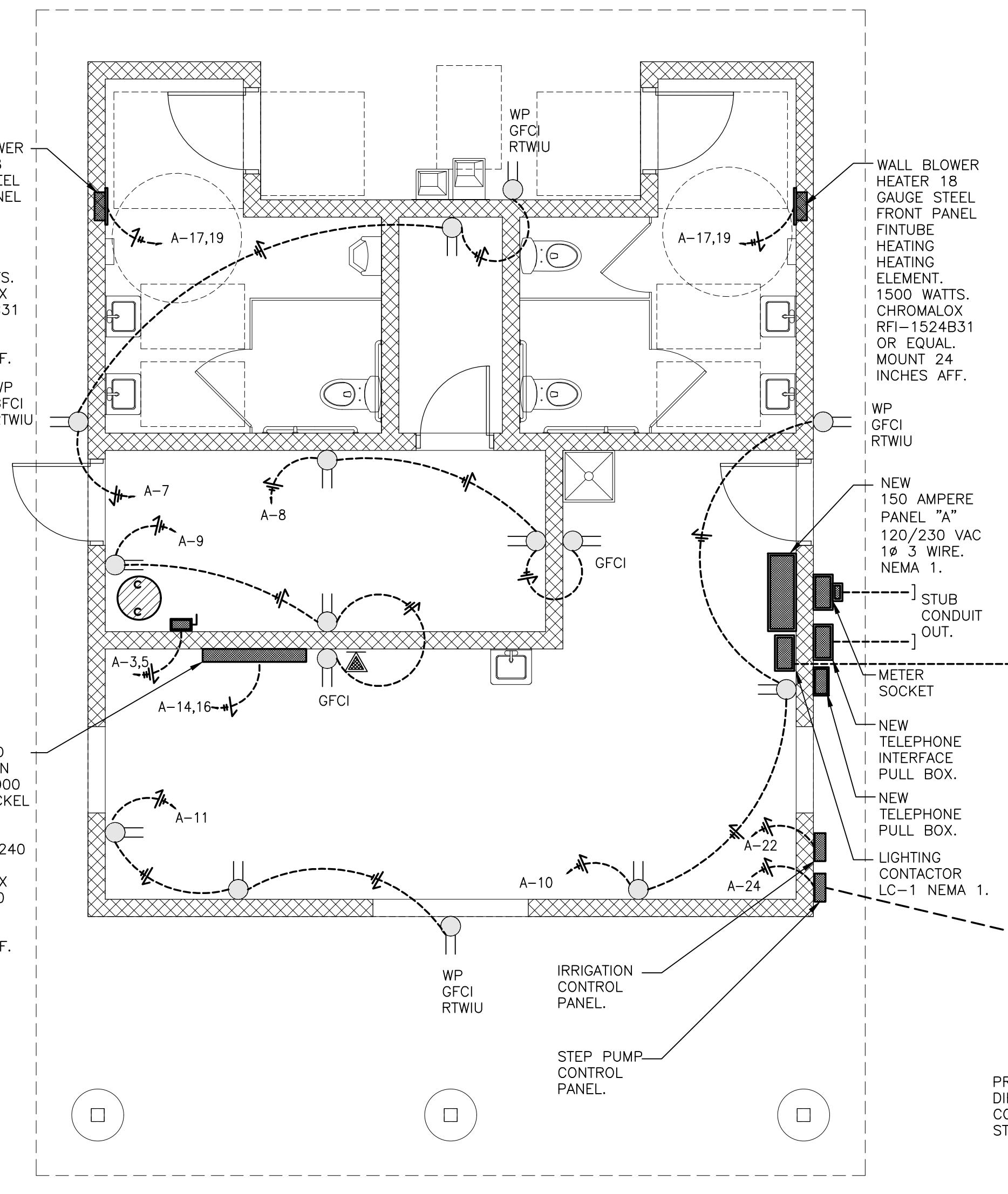
### ELECTRICAL LEGEND



**1**  
**E-1** LIGHTING INSTALLATION PLAN  
1/4"=1'-0"

**LIGHTING FIXTURE SCHEDULE**  
(ALL NEW FIXTURES SHALL BE UL LABELED)  
(ALL FIXTURES SHALL BE SUPPLIED WITH LAMPS)

- A** 4 FOOT ACRYLIC WRAPAROUND SURFACE MOUNTED FLUORESCENT LIGHTING FIXTURE. 4 LAMP AMERICAN LOUVER INJECTION MOLDED PRISMATIC PATTERN ACRYLIC LENS. 120 VAC, 32 WATT T8 LAMPS, WITH 2 LAMP ELECTRONIC BALLASTS. PROVIDE AS H.E. WILLIAMS ANW432-UNV-2/2 OR EQUAL BY COLUMBIA OR KICHLER.
- B** EXTERIOR MINI SCONCE - 70 WATT METAL HALIDE 120 VAC SINGLE PIECE TRAPEZOIDAL HOUSING OF DIECAST ALUMINUM. OPTICAL REFLECTOR TO BE SPECULAR ALZAK COMPONENTS FOR WT WIDE THROW OPTICS. PROVIDE UL LISTED FOR WET LOCATIONS. PROVIDE DARK BRONZE POLYESTER POWDER COAT FINISH. USE H.E. WILLIAMS WPTZ-PSMH-70-MED-120 OR EQUAL BY MCPHILBIN OR LITE ENERGY.
- C** COMPACT FLUORESCENT 6" OPEN REFLECTOR RECESSED DOWNLIGHT FIXTURE. PROVIDE WITH FULLY ENCLOSED REFLECTOR WITH ACRYLIC ENAMELED RUST PROOF ALUMINUM HOUSING. PROVIDE WITH ROTATABLE SOCKET ASSEMBLY FOR ALIGNMENT OF LAMPS TO REFLECTOR. PROVIDE WITH 1 1/2" 120 VAC TYPE 1 HFP SINGLE LAMP ELECTRONIC BALLAST. INCLUDE 42 WATT TRIPLE TUBE LAMP. AIR TIGHT TYPE IC RATED UL LISTED WET/DAMP LOCATION. USE KIRLIN FRR-06014-AT OR EQUAL BY PRESCOLITE OR CAPRI.
- D** CEILING FAN BRUSHED NICKEL FINISH, ROSEWOOD WALNUT BLADES. VARIABLE SPEED. PROVIDE AS VOLUME INTERNATIONAL CORP. BUILDERS DELUX V6192 OR EQUAL. PROVIDE VARIABLE SPEED FAN CONTROL FOR 2 CEILING FANS, 120 VAC 5 AMPERES RATED, ALUMINUM PLATE, REVERSING SWITCH FOR UPDRAFT & DOWNDRAFT. USE CAMARM CNFRMCS OR EQUAL.
- E** EXIT LIGHTING FIXTURE, 120 AC OPERATION, LONG LIFE LED LAMP, DIE CAST ALUMINUM BODY WITH BRUSHED ALUMINUM FACE AND RED STENCIL. PROVIDE FIXTURE WITH MULTIPLE BARS OF LED INDICATORS. INCLUDE 12 VOLT DC BATTERY BACKUP WITH SEALED MAINTENANCE FREE BATTERIES. PROVIDE WITH TRICKLE CHARGER, PILOT LIGHT, TEST SWITCH AND BROWNOUT PROTECTION. PROVIDE FOR UNIVERSAL MOUNTING - WALL OR CEILING. USE EMERGI-LITE "PRECEPTOR" SERIES AA-LEDPXNIR OR APPROVED EQUAL BY EXIDE LIGHTGUARD OR MCPHILBIN.
- EM** EMERGENCY LIGHTING FIXTURE SELF POWERED, WALL MOUNTED, 120 VAC INPUT OPERATION, LOW PROFILE CONSTRUCTION, SPRAYED EPOXY ENAMEL FINISH. PROVIDE (TWO) 9 WATT (HIT) LAMPS AND HEADS AS FRONT MOUNT. PROVIDE 3 YEAR FULL WARRANTY GUARANTEE. PROVIDE 36 WATTS TO 87-1/2% OF RATED BATTERY VOLTAGE IN 90 MINUTES. INCLUDE BATTERIES AS 12 VOLT LONG LIFE LEAD WITH SOLID STATE TRICKLE CHARGER. PROVIDE LED PILOT LIGHT AND INTEGRAL PUSH TO TEST SWITCH. PROVIDE BATTERY CAPACITY FOR (2) INTEGRAL HEADS & ONE REMOTE DOUBLE HEAD. PROVIDE 60 WATT BATTERY CAPACITY. PROVIDE REMOTE HEADS OVER EXTERIOR DOORWAYS. USE WHITE FINISH. PROVIDE REMOTE AS WALL MOUNT NEMA 3R LED 5 WATT 2 LAMPS. USE EMERGI-LITE 12JS-E-36-2L-IE-FM OR EQUAL BY EXIDE LIGHTGUARD OR CHLORIDE. PROVIDE REMOTE HEAD AS EMERGI-LITE LITERAY LITE-2-L-DZ.
- A** LED SHOEBOX SHARP CUTOFF LUMINAIRE. PROVIDE AS LED CL1 AREA LIGHTS 4" SQUARE STRAIGHT ARM TO ATTACH TO SLIPFITTER TENON TOP. TYPE IV WIDE LIGHT DISTRIBUTION. 60 HIGH BRIGHTNESS LED'S. 120 VAC 4000K DARK BRONZE FINISH. PROVIDE 30FT. ROUND TAPER BRONZE ALUMINUM POLE. USE SPAULDING CL1-A-60L-U-4K-4-DB OR EQUAL BY EMCO OR KIM.



**2**  
**E-1** POWER INSTALLATION PLAN  
1/4"=1'-0"

### GENERAL ELECTRIC NOTES:

1. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, OSHA, NATIONAL ELECTRIC SAFETY CODE, AND ALL APPLICABLE LOCAL & STATE CODES.
2. PROVIDE NEW ELECTRICAL SERVICE ENTRANCE WITH LOCAL UTILITY. CONTRACTOR WILL PAY ALL LOCAL UTILITY CHARGES AS REQUIRED.
3. UTILIZE EMT CONDUIT IN CONCEALED SPACES ABOVE GRADE AND ABOVE CEILINGS. CONDUIT LARGER THAN 2-1/2" SHALL BE RIGID GALVANIZED STEEL. CONDUIT 2-1/2" & BELOW MAY BE EMT. USE RIGID GALVANIZED CONDUIT EXTERIOR ABOVE GRADE. USE SCH 40 PVC CONDUIT BELOW GRADE. CONCEAL ALL CONDUIT WITHIN BUILDING STRUCTURE.
4. WIRING DEVICES SHALL BE MOUNTED AS FOLLOWS UNLESS SPECIFIED OTHERWISE:  
A. RECEPTACLES, OUTLETS, ETC. - 18" TO BOTTOM OF BOX UNLESS NOTED OTHERWISE.  
B. SWITCHES - 48" TO TOP OF BOX
5. ALL WIRING DEVICES SHALL BE IVORY WITH STAINLESS STEEL COVERS. ALL WIRING DEVICES SHALL BE 20 AMPERE RATED INDUSTRIAL SPECIFICATION GRADE.
6. PROVIDE PULL WIRE IN SPARE CONDUITS. USE COUPLING AND PLUG TO CAP UNDERGROUND STUB UPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
8. CIRCUIT BREAKER INTERRUPTING RATINGS SHALL BE AS FOLLOWS:  
230 VAC  
LESS THAN 200 AMPERES - 10,000 AIC
9. ALL WIRE TO BE COPPER. ALL INSULATION TO BE THHN/THWN.
10. VOLTAGE: SYSTEM VOLTAGE IS 120/230 VAC SINGLE PHASE 3 WIRE
11. MAINTAIN SEPARATION AND ISOLATE NEUTRAL AND EQUIPMENT GROUNDING BEYOND SERVICE ENTRANCE.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE LUG SIZES FOR PANELS AND SERVICE ENTRANCE EQUIPMENT TO MATCH WIRE SIZES SPECIFIED.
13. WHERE FIRE RATED FLOORS, WALLS, AND CEILINGS ARE PENETRATED WITH RACEWAYS, ALL PENETRATIONS SHALL BE SEALED WITH APPROVED FIRE RATED ASSEMBLIES. SEE DETAIL SHEET 3/E-6.
14. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT MECHANICAL EQUIPMENT LOCATIONS.
15. USE FLEXIBLE METALLIC CONDUIT OR MC CABLE FOR LIGHTING FIXTURE TERMINATIONS. DO NOT LAY FLEXIBLE METAL CONDUIT ON GRID. SECURE FLEX TO NEAREST POINT ON STRUCTURAL CEILING ABOVE DROP.
16. PROVIDE HANDLE LOCK ON DEVICE FOR ALL EXIT LIGHTING CIRCUIT BREAKERS IN THEIR ASSOCIATED PANELBOARDS.
17. MOUNT EXTERIOR FIXTURES ABOVE FINISHED GRADE AS DESIGNATED.
18. PANELBOARDS SHALL BE SQUARE D, CUTLER HAMMER, OR GENERAL ELECTRIC. LOADCENTERS ARE NOT ACCEPTABLE.
19. PROVIDE EXHAUST FANS AS DIRECT DRIVEN WITH GRAVITY BACKDRAFT DAMPER AND MOLDED WHITE PLASTIC GRILLE. 120 VAC. 227 CFM AT 0.25 STATIC PRESSURE 83 WATTS 1000 RPM. PROVIDE AS GREENHECK MODEL SP-A250 OR EQUAL. PROVIDE WITH WALL LOUVERED DISCHARGE GREENHECK MODEL WL 18X6 OR EQUAL. PROVIDE 6" GALVANIZED SHEET METAL DUCT FROM FAN TO WALL DISCHARGE.

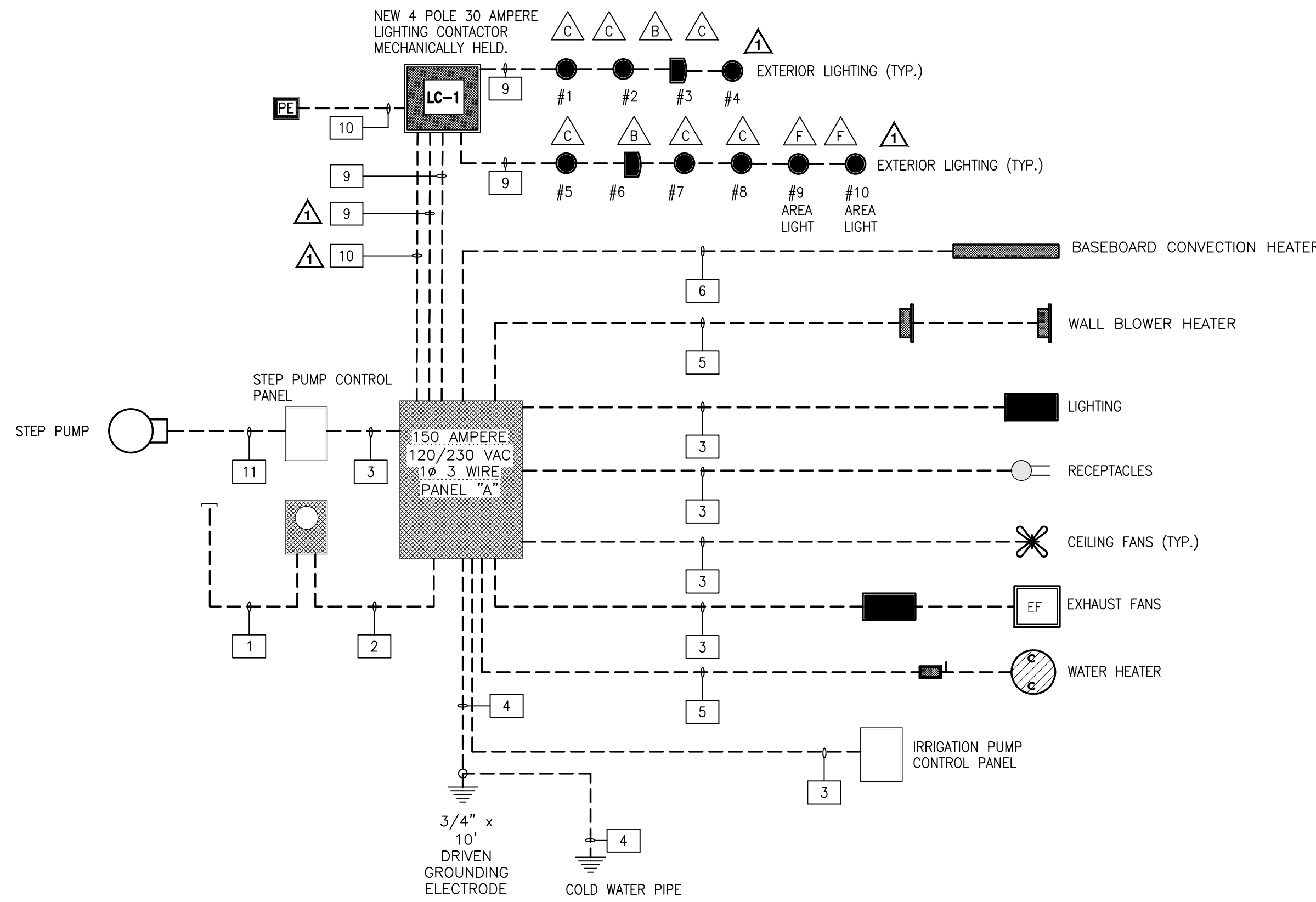
**ELECTRICAL DETAILS & SCHEDULES**  
**CITY OF HAVELOCK**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

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*Ronald E. Pledger*

08.25.17  
 SURVEY - DRAFT WAP  
 DESIGN - REP CHECK RAV  
 PROJECT No. **2014030**  
 DRAWING No. **W-3614**  
 SCALE: **AS NOTED**  
 #1308 LD6123  
 SHEET No. **E-1** OF **3**

REV	DATE	DESCRIPTION
1	9-25-17	REP



**1 ONE LINE DIAGRAM - ELECTRICAL**  
E-2 N.T.S.

**CONDUIT & CABLE SCHEDULE**

- 1 2-1/2" SPARE CONDUIT FOR ELECTRICAL UTILITY
- 2 2 - 1/0 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - 1/0 AWG CU THHN/THWN NEUTRAL CONDUCTOR  
2" CONDUIT
- 3 1 - #12 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - #12 AWG CU THHN/THWN NEUTRAL CONDUCTOR  
1 - #12 AWG CU THHN/THWN GROUNDING CONDUCTOR  
3/4" CONDUIT
- 4 1 - #6 AWG CU THHN/THWN GROUNDING ELECTRODE CONDUCTOR  
3/4" CONDUIT
- 5 2 - #10 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - #10 AWG CU THHN/THWN GROUNDING CONDUCTOR  
3/4" CONDUIT
- 6 2 - #12 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - #12 AWG CU THHN/THWN GROUNDING CONDUCTOR  
3/4" CONDUIT
- 7 CAT 6 CABLE  
3/4" CONDUIT
- 8 2" SPARE CONDUIT FOR TELEPHONE
- 9 1 - #10 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - #10 AWG CU THHN/THWN NEUTRAL CONDUCTOR  
1 - #10 AWG CU THHN/THWN GROUNDING CONDUCTOR  
3/4" CONDUIT
- 10 2 - #12 AWG CU THHN/THWN UNGROUNDING CONDUCTORS  
1 - #12 AWG CU THHN/THWN NEUTRAL CONDUCTOR  
1 - #12 AWG CU THHN/THWN GROUNDING CONDUCTOR  
3/4" CONDUIT
- 11 ROUTE MANUFACTURER'S POWER AND FLOAT CABLES INTO STEP PUMP  
1-1/2" CONDUIT

DESIGNATION TYPED ON DIRECTORY	COND (*)	GRND	WIRE SIZE	BRKR RAT'G	CKT NO.	S/N	CKT. NO.	BRKR RAT'G	WIRE SIZE	GRND	COND (*)	DESIGNATION TYPED ON DIRECTORY
LIGHTING	3/4"	#12	#12	20	1		2	20	#12	#12	3/4"	LIGHTING
WATER HEATER	3/4"	#10	#10	30	3		4	20	#12	#12	3/4"	EXIT LIGHTING *
					5		6	30	#10	#10	3/4"	EXTERIOR LIGHTING
RECEPTACLES	3/4"	#12	#12	20	7		8	20	#12	#12	3/4"	RECEPTACLES
RECEPTACLES	3/4"	#12	#12	20	9		10	20	#12	#12	3/4"	RECEPTACLES
RECEPTACLES	3/4"	#12	#12	20	11		12	30	#10	#10	3/4"	EXTERIOR LIGHTING
SPARE				20	13		14	20	#12	#12	3/4"	CONCESSION HEATER
LIGHTING CONTROL CIRCUIT	3/4"	#12	#12	20	15		16	20				SPARE
BATHROOM HEATERS	3/4"	#10	#10	30	17		18	20				SPARE
SPARE				20	19		20	20	#12	#12		STEP PUMP SYSTEM
SPARE				20	21		22	20	#12	#12		IRRIGATION CONTROL SYSTEM
SPARE				20	23		24	20	#12	#12		SPACE
SPARE				20	25		26					SPACE
SPARE				20	27		28					SPACE

150 AMPERE MAIN CIRCUIT BREAKER  
120/230 VAC 1 PHASE 3 WIRE 60HZ  
FACTORY ASSEMBLED, SERVICE ENTRANCE RATED,  
NEUTRAL & GROUNDING BUSES,  
SURFACE MOUNTED NEMA 1 ENCLOSURE

\* PROVIDE HANDLE LOCK-ON DEVICE.

**PANEL "A"**

**ELECTRICAL SYSTEM AND EQUIPMENT**

**METHOD OF COMPLIANCE:**

- ENERGY CODE:  PRESCRIPTIVE  PERFORMANCE
- ASHRAE 90.1:  PRESCRIPTIVE  PERFORMANCE

**LIGHTING SCHEDULE (EACH FIXTURE TYPE)**

	A	B	C	E	EM	F
LAMP TYPE REQUIRED IN FIXTURE	FL	MH	FL	FL	HIT	LED
NUMBER OF LAMPS IN FIXTURE	4	1	2	-	3	-
BALLAST TYPE USED IN FIXTURE	EL	EL	EL	-	EL	-
NUMBER OF BALLASTS IN FIXTURE	2	1	1	-	1	-
TOTAL WATTAGE PER FIXTURE	192	70	42	2	96	140
TOTAL FIXTURES	10	2	7	1	3	2
TOTAL WATTS	1,920	140	294	2	288	280

TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED (WHOLE BUILDING OR SPACE BY SPACE): 2,210 WATTS / NA  
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED: 714 WATTS / NA

**ADDITIONAL PRESCRIPTIVE COMPLIANCE**

- 506.2.1 MORE EFFICIENT MECHANICAL EQUIPMENT
- 506.2.2 REDUCED LIGHTING POWER DENSITY
- 506.2.3 ENERGY RECOVERY VENTILATION SYSTEMS
- 506.2.4 HIGHER EFFICIENCY SERVICE WATER HEATING
- 506.2.5 ON-SITE SUPPLY OF RENEWABLE ENERGY
- 506.2.6 AUTOMATIC DAYLIGHTING CONTROL SYSTEMS

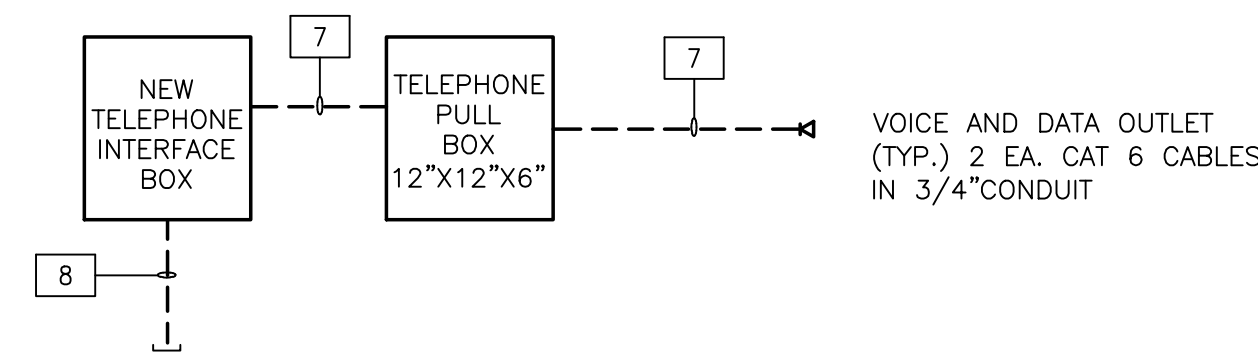
**DESIGNER STATEMENT:**

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

SIGNED: *Ronald E. Pledger*

NAME: RONALD E. PLEDGER

TITLE: ELECTRICAL ENGINEER



**2 TELECOMMUNICATIONS ONE LINE DIAGRAM**  
E-2 SEE CONDUIT AND CABLE SCHEDULE THIS SHEET NTS

ELECTRICAL DETAILS & SCHEDULES

CITY OF HAVELOCK

LEWIS FARM PARK

NORTH CAROLINA

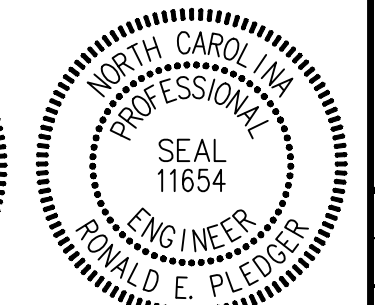
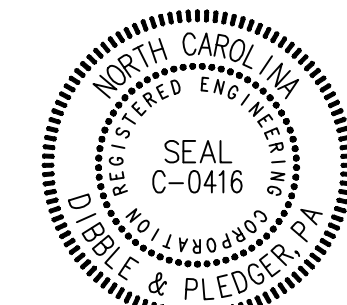
CRAVEN COUNTY

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*Ronald E. Pledger*



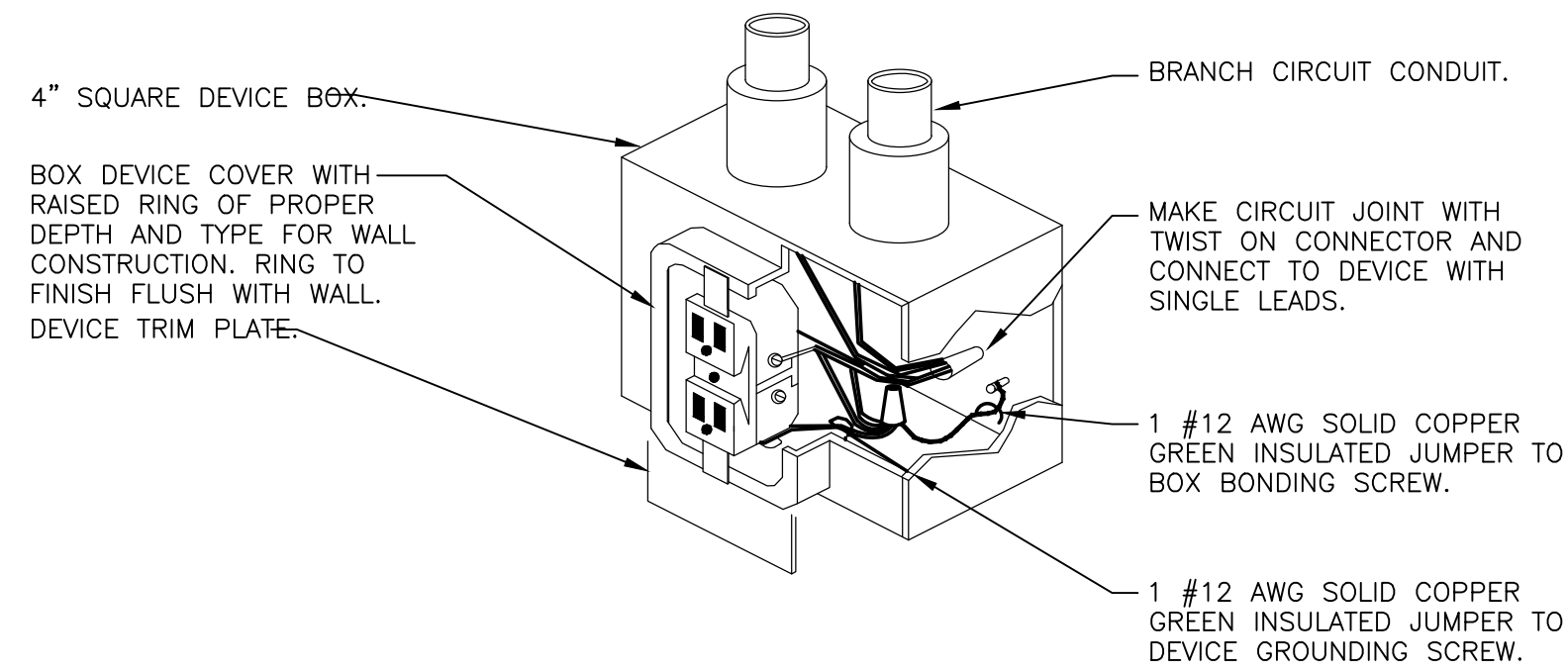
8/25/2017

08.25.17

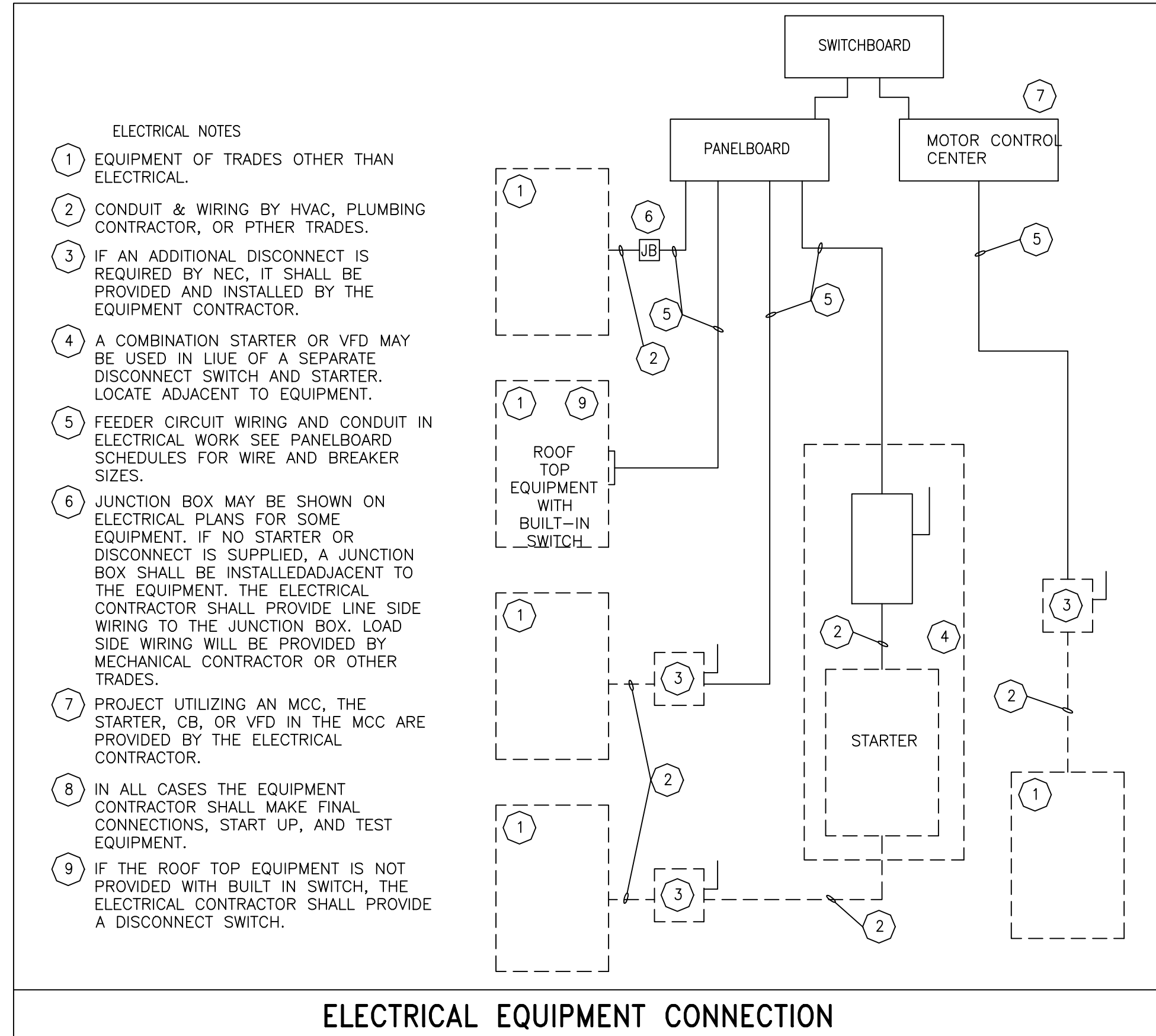
SURVEY	-	DRAFT	WAW
DESIGN	REP	CHECK	REP
PROJECT No.	2014030		
DRAWING No.	W-3614		
SCALE:	AS NOTED		
SHEET No.	#1308	LD6123	OF 3

ELECTRICAL DESIGN BY:  
**DIBBLE & PLEDGER, P.A.**  
222 WEST MAIN STREET, WASHINGTON, N.C. 27889  
PHONE: (252) 946-3320 FAX: (252) 946-5160  
E-MAIL: rpledger@dibbleandpledger.com

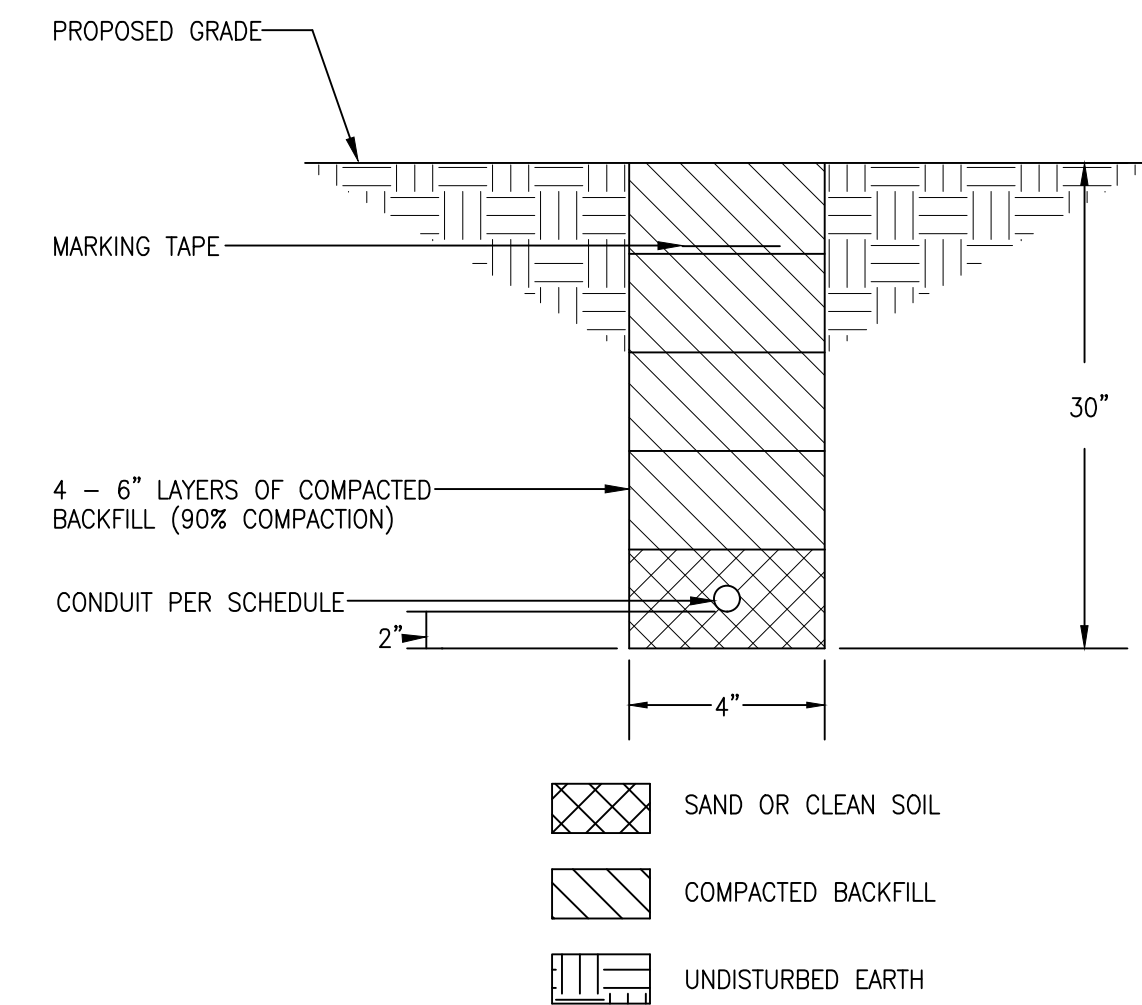
**E-2**



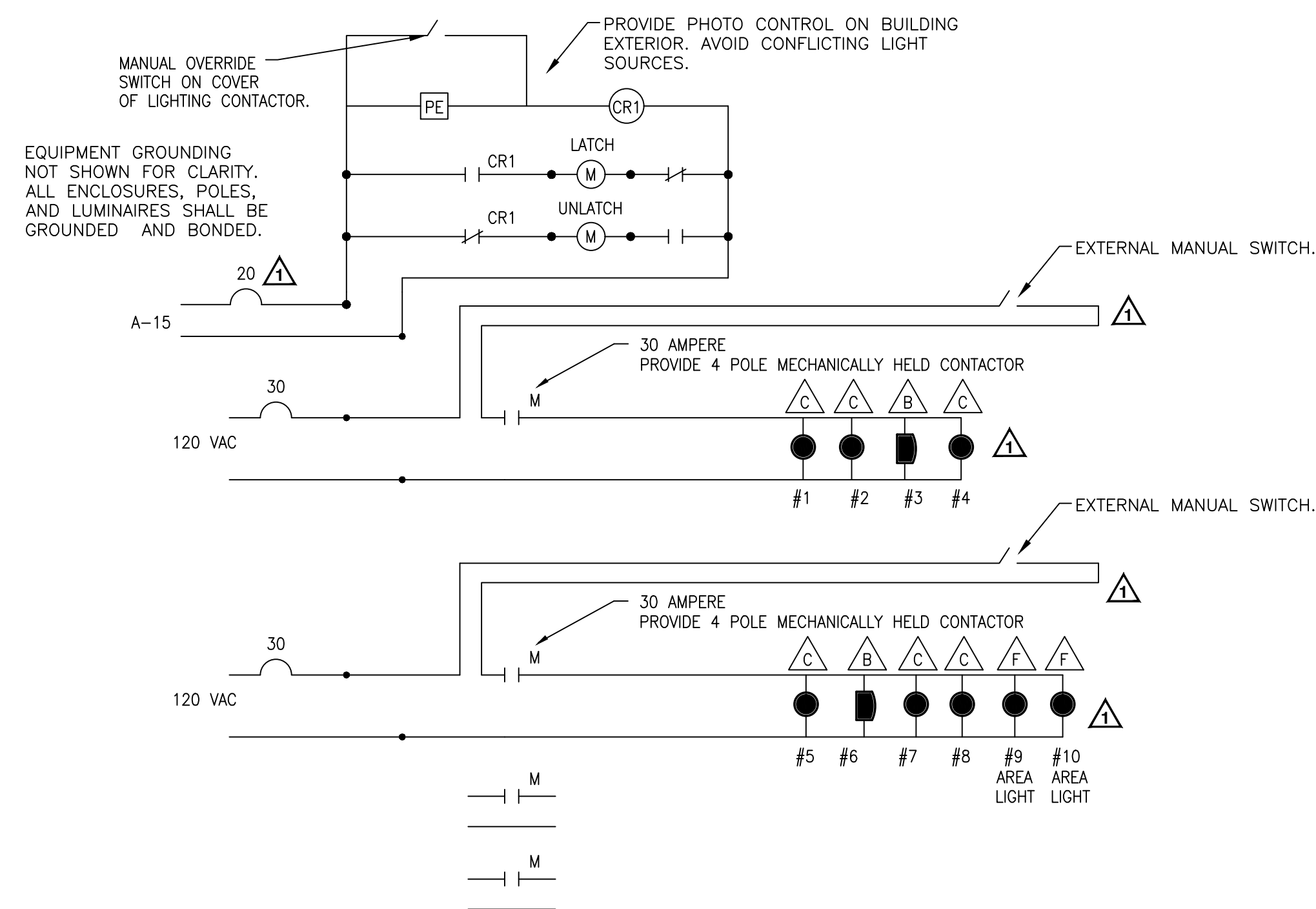
**1** RECEPTACLE GROUNDING DETAIL  
E-3 NTS



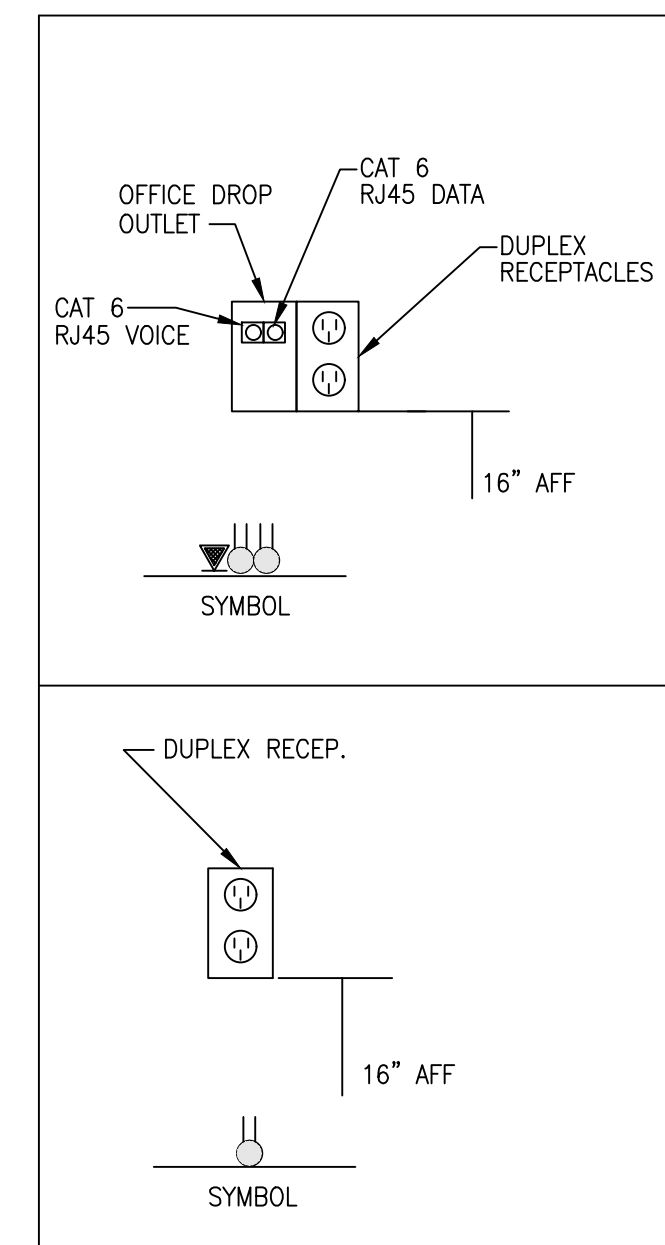
**2** ELECTRICAL EQUIPMENT CONNECTION  
E-3 NTS



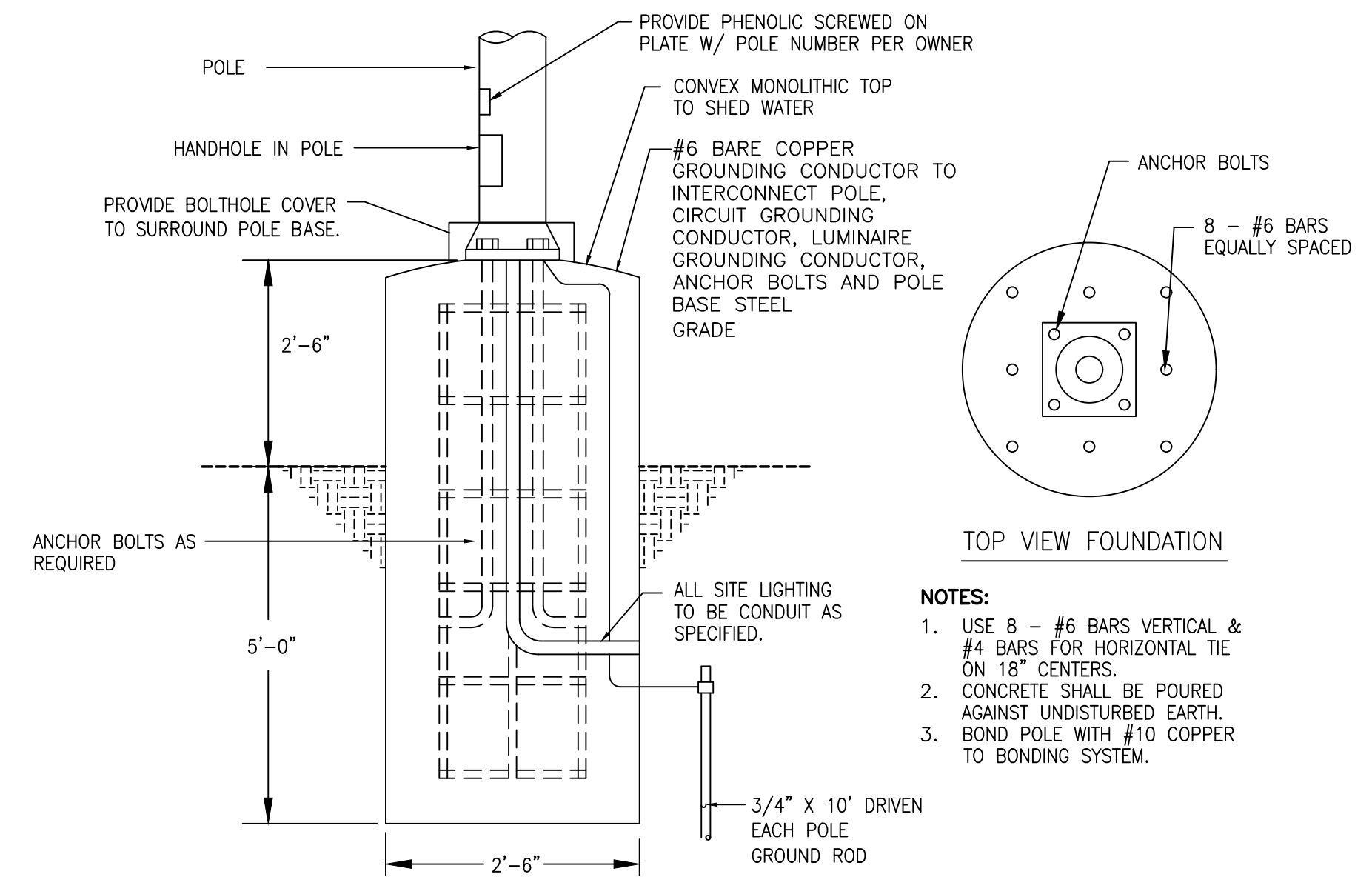
**3** TRENCH DETAIL  
E-3 NTS



**4** LIGHTING CONTACTOR LC-1 (TYP.)  
E-3 NTS



**5** TELECOMMUNICATIONS OUTLET DETAILS  
E-3 OUTLETS AS SPECIFIED VERIFY HEIGHTS & COORD. W/ WINDOW SILLS. SCALE: NTS



**6** AREA LIGHTING FIXTURE POLE ANCHOR DETAIL  
E-3 ABOVE TYPICAL FOR NEW POLE MOUNTED LUMINAIRES. NTS

REVISIONS:	
REV.	DESCRIPTION
1	OWNER COMMENTS
2	DATE
3	APPD

ELECTRICAL DETAILS & SCHEDULES  
 CITY OF HAVELOCK  
 LEWIS FARM PARK  
 NORTH CAROLINA  
 CRAVEN COUNTY

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*Ronald E. Pledger*  
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 SEAL C-0416  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 SEAL 11654  
 RONALD E. PLEDGER

8/25/2017

#1308 LD6123

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 E-MAIL: rpledger@dibbleandpledger.com

**08.25.17**  
 SURVEY - DRAFT WAW  
 DESIGN REP CHECK  
 PROJECT No. **2014030**  
 DRAWING No. **W-3614**  
 SCALE: **AS NOTED**  
 SHEET No. **E-3** OF **3**



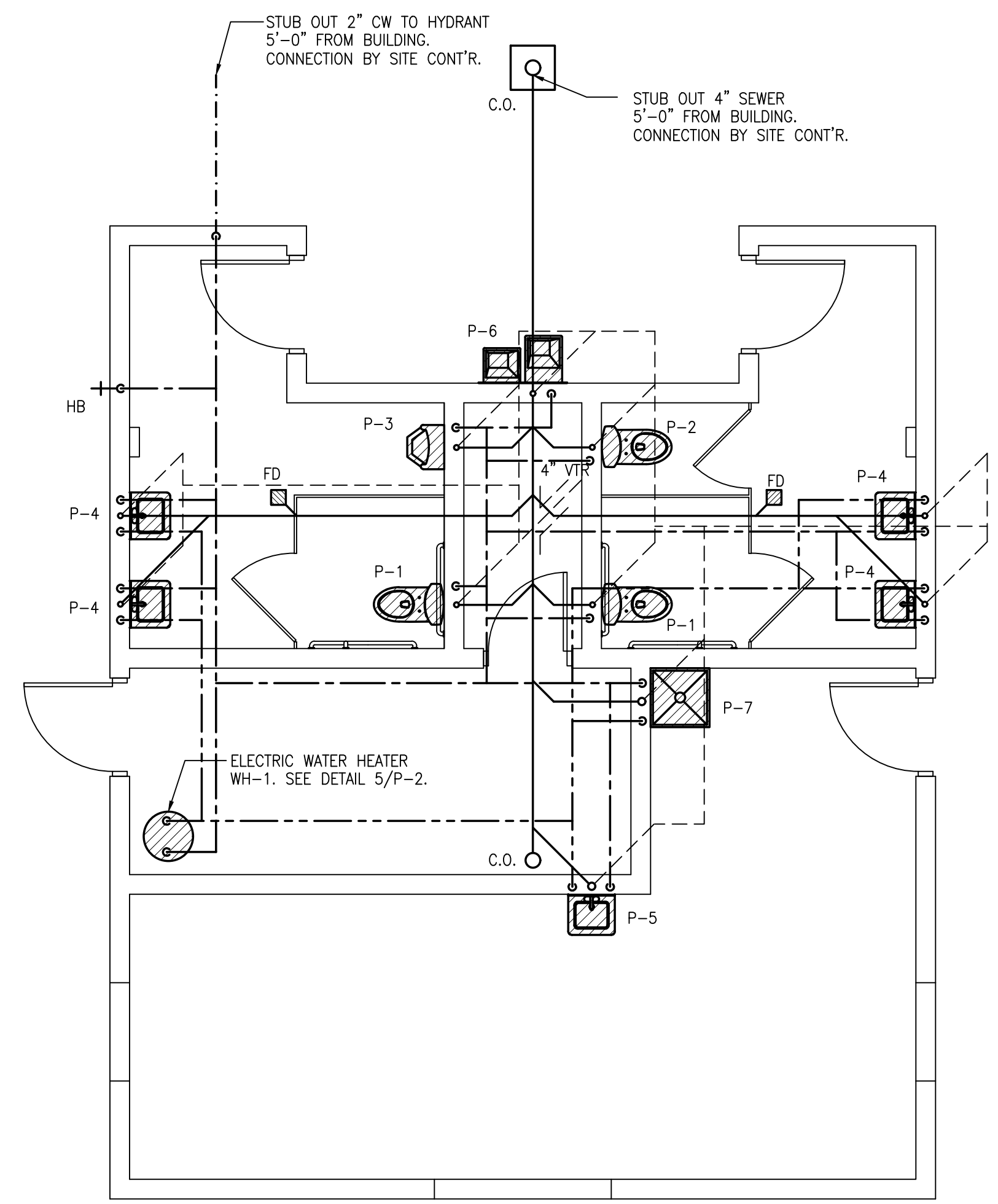
REV.	DATE	DESCRIPTION

**PLUMBING SYMBOL SCHEDULE**

	NEW FIXTURE
	NEW SANITARY SEWER
	NEW COLD WATER PIPING BELOW GRADE
	NEW COLD WATER PIPING ABOVE GRADE
	NEW HOT WATER PIPING
	NEW VENT PIPING
	GATE VALVE
	GLOBE VALVE
	BALL VALVE
	CLEANOUT
	WALL CLEANOUT
	NEW COMPRESSED AIR PIPING
P-1	PLUMBING FIXTURE IDENTIFICATION
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
HB	HOSE BIBB
WH	WATER HEATER
UDG	UNDER GROUND
AC	ABOVE CEILING
C.I.	CAST IRON PIPE
CU.	COPPER PIPE

**PLUMBING NOTES**

- INSULATE ALL WATER PIPING ABOVE GRADE. SEE SPECIFICATIONS.
- ROUTE ALL NEW WATER PIPING ABOVE CEILING AND CONCEALED WITHIN WALLS TO FIXTURES.
- ROUTE ALL SANITARY SEWER BELOW FLOOR AND CONCEALED WITHIN WALLS UNLESS OTHERWISE NOTED.
- WATER PIPING SHALL BE COPPER. SEE SPECIFICATIONS.
- SANITARY SEWER SHALL BE CAST IRON.
- VENT PIPING SHALL BE CAST IRON.
- PROVIDE PIPE SLEEVES AT ALL PIPE PENETRATIONS.
- PROVIDE ESCUTCHEONS AT ALL PIPE PENETRATIONS.
- PROVIDE FIRE RATED PATCHING SEALER AT ALL PIPING PENETRATIONS THRU FIRE RATED WALLS, FLOORS & CEILINGS. SEE DETAILS AND SPECIFICATIONS.
- ALL PIPE SIZES INDICATED ON RISER DIAGRAMS. SUPPORT PIPE FROM ROOF STRUCTURE. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.
- TEST WATER PIPING TO 100 PSI.
- TEST DRAIN PIPING TO 10 FT. HEAD.
- REFER TO ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN PLUMBING FIXTURES. COORDINATE ROUGH-IN LOCATIONS WITH G.C.
- COORDINATE LOCATION OF ALL EQUIPMENT, FIXTURES, AND PIPING WITH OTHER TRADES.
- COORDINATE ALL PIPING BELOW SLAB WITH FOUNDATION CONSTRUCTION.
- VENTS THRU ROOF SHALL HAVE MIN. 15'-0" CLEARANCE FROM ALL OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR.
- DRAWINGS AND RISER DIAGRAMS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO SHOW EVERY ELL, TEE, ETC. PROPER CONNECTION SHALL BE MADE AT ALL FIXTURES AND EQUIPMENT.
- PROVIDE TRAP GUARDS AT ALL FLOOR DRAINS.
- ALL WIRING, CONDUIT, AND SWITCHES FOR PLUMBING EQUIPMENT SHALL BE BY THE ELECTRICAL CONTRACTOR.
- SEE ARCHITECTURAL DRAWINGS FOR CRITICAL DIMENSIONS AND FINAL LOCATIONS.



**1 PLUMBING FLOOR PLAN**  
 P-1  
 1/4" = 1'-0"

**PLUMBING FIXTURE SCHEDULE**

MARK	DESCRIPTION	CONNECTION SIZES				REMARKS
		WASTE	VENT	CW	HW	
P-1	WATER CLOSET - HANDICAP	4"	2"	1"	-	SEE SPECIFICATIONS
P-2	WATER CLOSET	4"	2"	1"	-	SEE SPECIFICATIONS
P-3	URINAL - HANDICAP	2"	2"	3/4"	-	SEE SPECIFICATIONS
P-4	LAVATORY - HANDICAP WALL HUNG	2"	2"	1/2"	1/2"	SEE SPECIFICATIONS
P-5	SINK WALL HUNG	2"	2"	1/2"	1/2"	SEE SPECIFICATIONS
P-6	DRINKING FOUNTAIN WITH BOTTLE FILLER HI-LOW	2"	2"	1/2"	-	SEE SPECIFICATIONS
P-7	MOP SINK	2"	2"	1/2"	1/2"	SEE SPECIFICATIONS

**PLUMBING EQUIPMENT SCHEDULE**

MARK	DESCRIPTION	REMARKS
C.O.	CLEANOUT	ADJUSTABLE TAPER THREAD, POLISHED BRONZE TOP AT SERVICE LOCATIONS, PROVIDE CARPET MARKER OR TILE RECESS TOP AT APPLICABLE LOCATIONS.
FD	FLOOR DRAIN	ADJUSTABLE SQUARE 6" NICKEL BRONZE STRAINER, FLASHING COLLAR CAST IRON BODY, P-TRAP, DOUBLE DRAINAGE FLANGE.
HB	HOSE BIBB	BOX TYPE, FREEZE PROOF, NICKEL BRONZE FACE, VACUUM BREAKER, KEY HANDLE, VERIFY WALL THICKNESS.

**PLUMBING LOAD SUMMARY**

FIXTURE UNITS WASTE: = 31.5
FIXTURE UNITS WATER: = 51
ESTIMATED WATER DEMAND: = 54 GPM

**WATER HEATER SCHEDULE**

MARK	LOCATION	CAPACITY	RECOVERY	ELECTRICAL		REMARKS
				KW	VOLTAGE/PHASE	
WH-1	CLOSET	20 GALLON	21 GPH @ 90° RISE	4.5	230/1	GLASS LINED TANK, ASME APPROVED, AUTO CONTROLS AND SAFETY SHUTOFF, SELF CLEANING, SURFACE THERMOSTAT, 150 PSI RATED, EXTRUDED HIGH DENSITY ANODE, T & P RELIEF VALVE, FOAM INSULATION. RUUD MODEL PE2S-20-2 OR EQUAL.

- NOTES:  
 1. EQUALS BY A.O. SMITH, RHEEM, OR BRADFORD WHITE.  
 2. PROVIDE 10 GALLON CAPACITY THERMAL EXPANSION TANK WITH WH-1, RUUD MODEL RRT-25 OR EQUAL.

- NOTES:  
 1. ALL FIXTURES SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED.  
 2. PROVIDE HANDICAP PROTECTION UNDER LAVATORIES.

**PLUMBING FLOOR PLAN AND SCHEDULES**  
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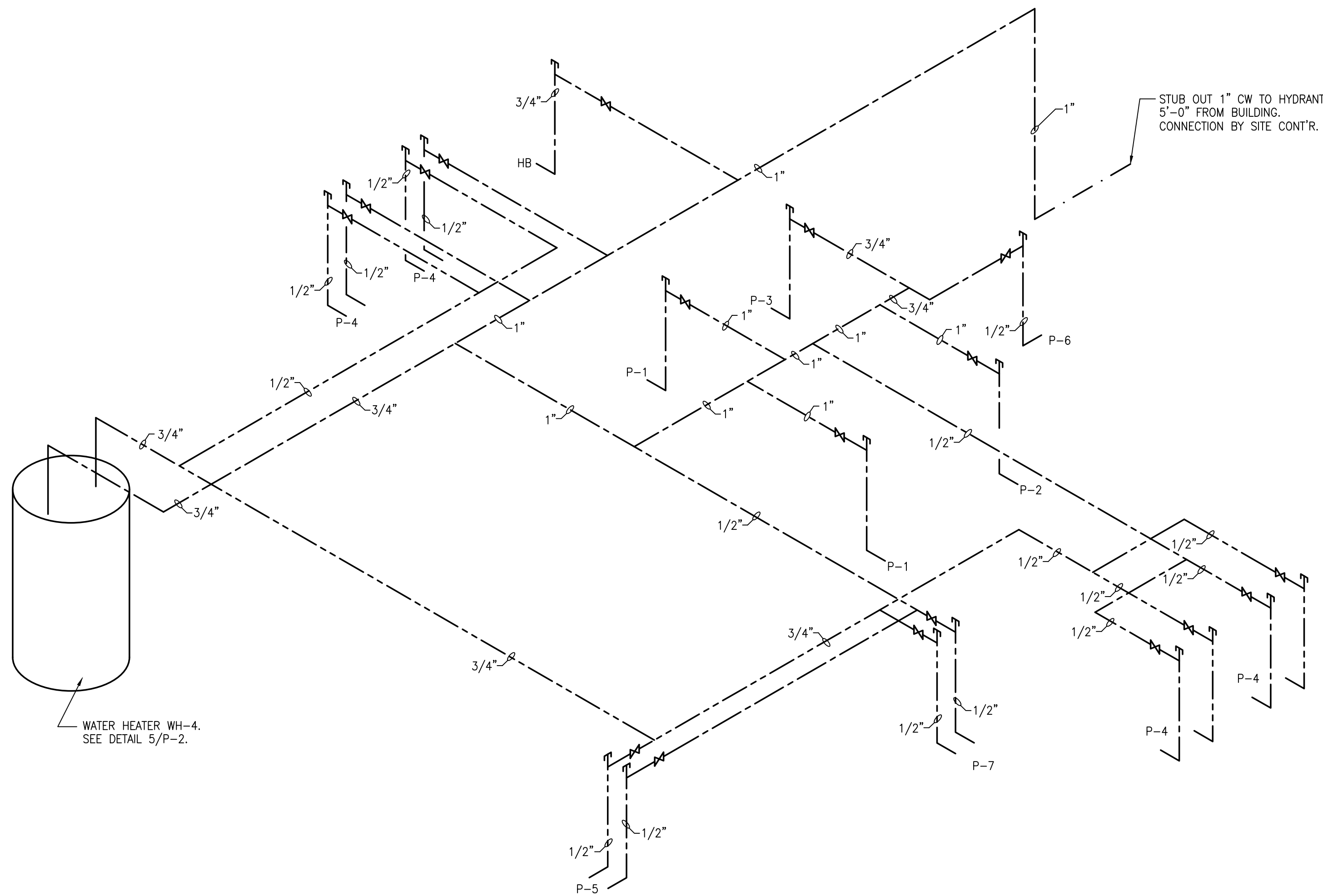
*Ronald E. Pledger*  
  
 8/25/2017

PLUMBING DESIGN BY:  
**DIBBLE & PLEDGER, P.A.**  
 222 WEST MAIN STREET, WASHINGTON N.C. 27889  
 PHONE: (252) 946-3320 FAX: (252) 946-5160  
 E-MAIL: [info@dibbleandplegger.com](mailto:info@dibbleandplegger.com)

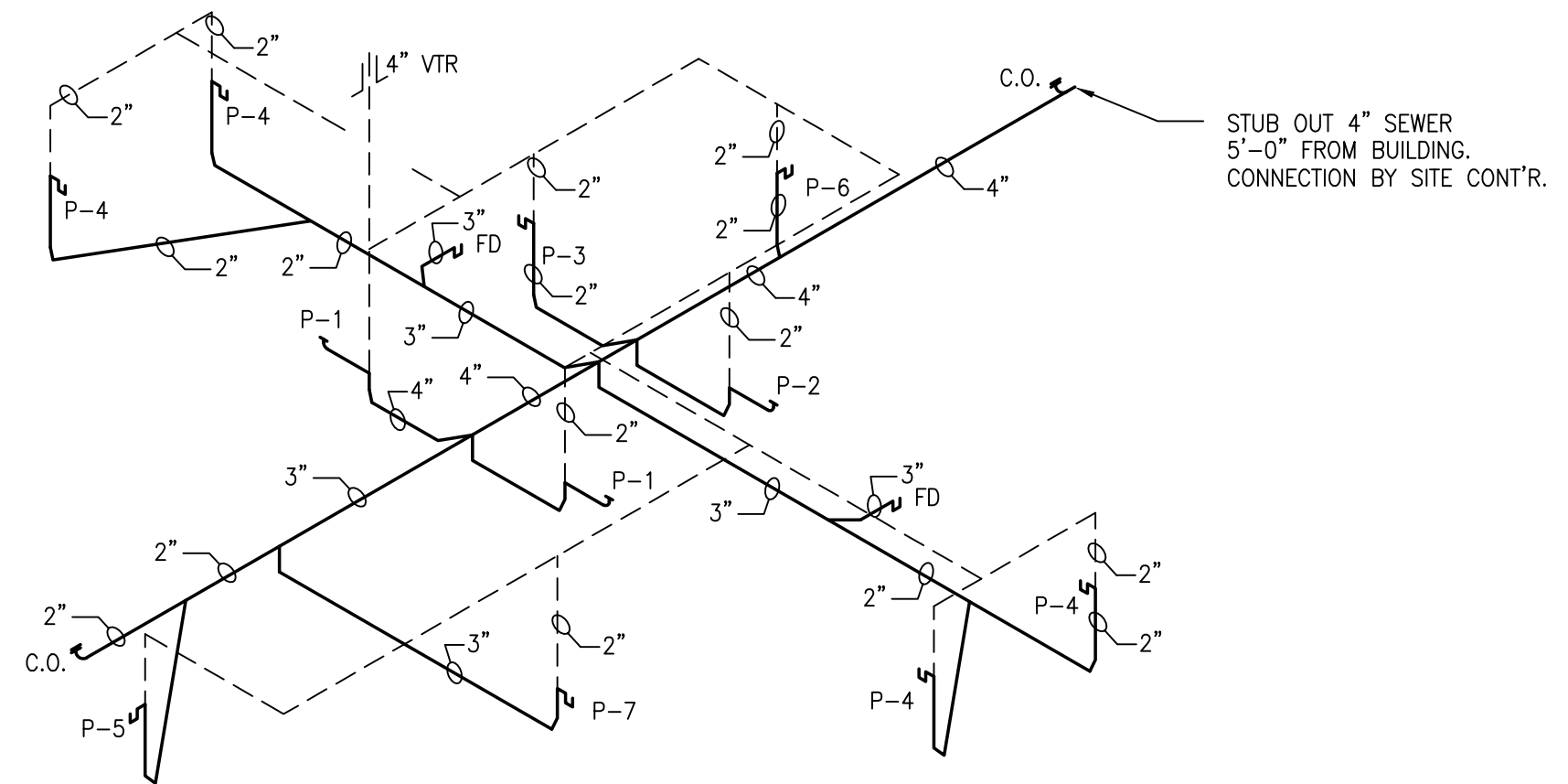
DATE	08.25.17
SURVEY	- DRAFT
DESIGN	REP CHECK
PROJECT No.	2014030
DRAWING No.	W-3614
SCALE:	AS NOTED
SHEET No.	OF 2

**P-1**

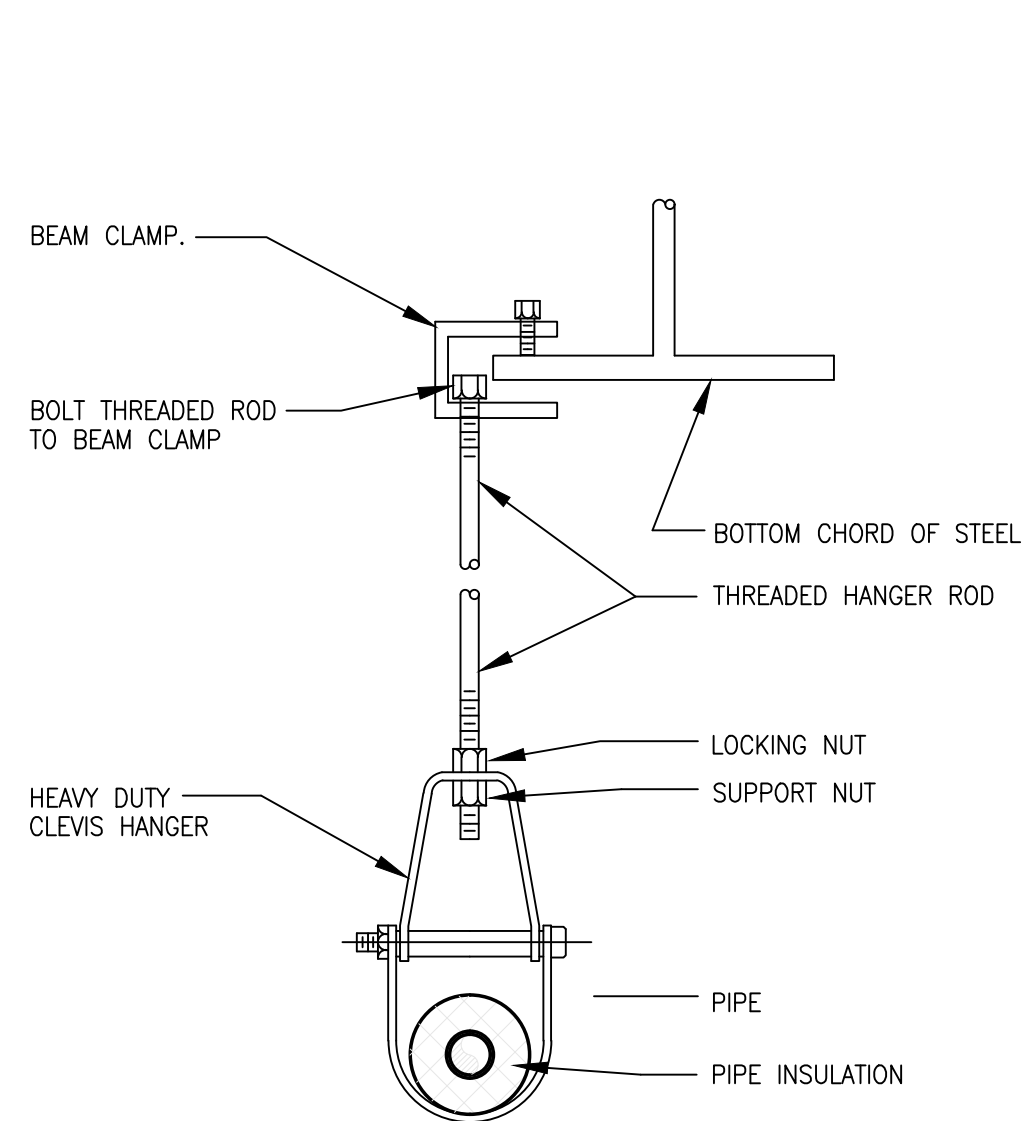
REV.	DESCRIPTION	DATE	APP'D.



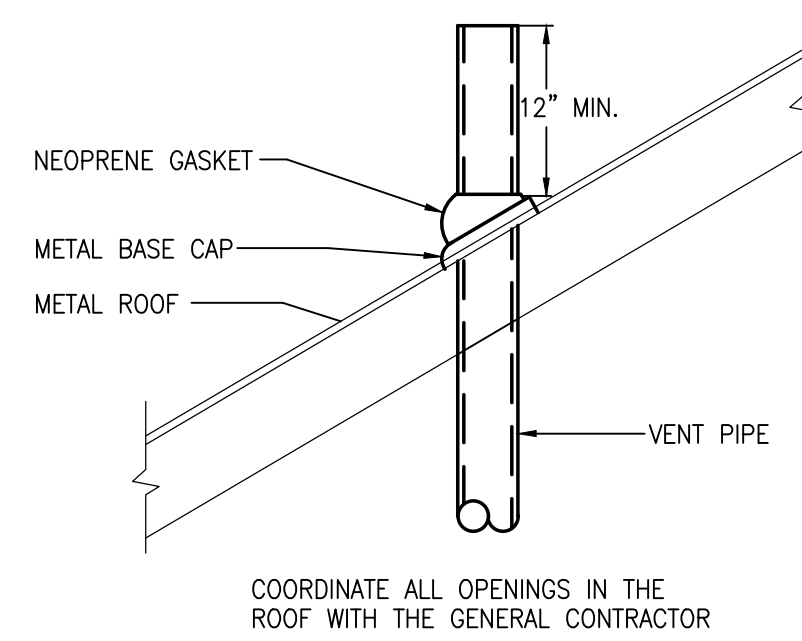
**1**  
DOMESTIC WATER RISER DIAGRAM  
P-2 NTS



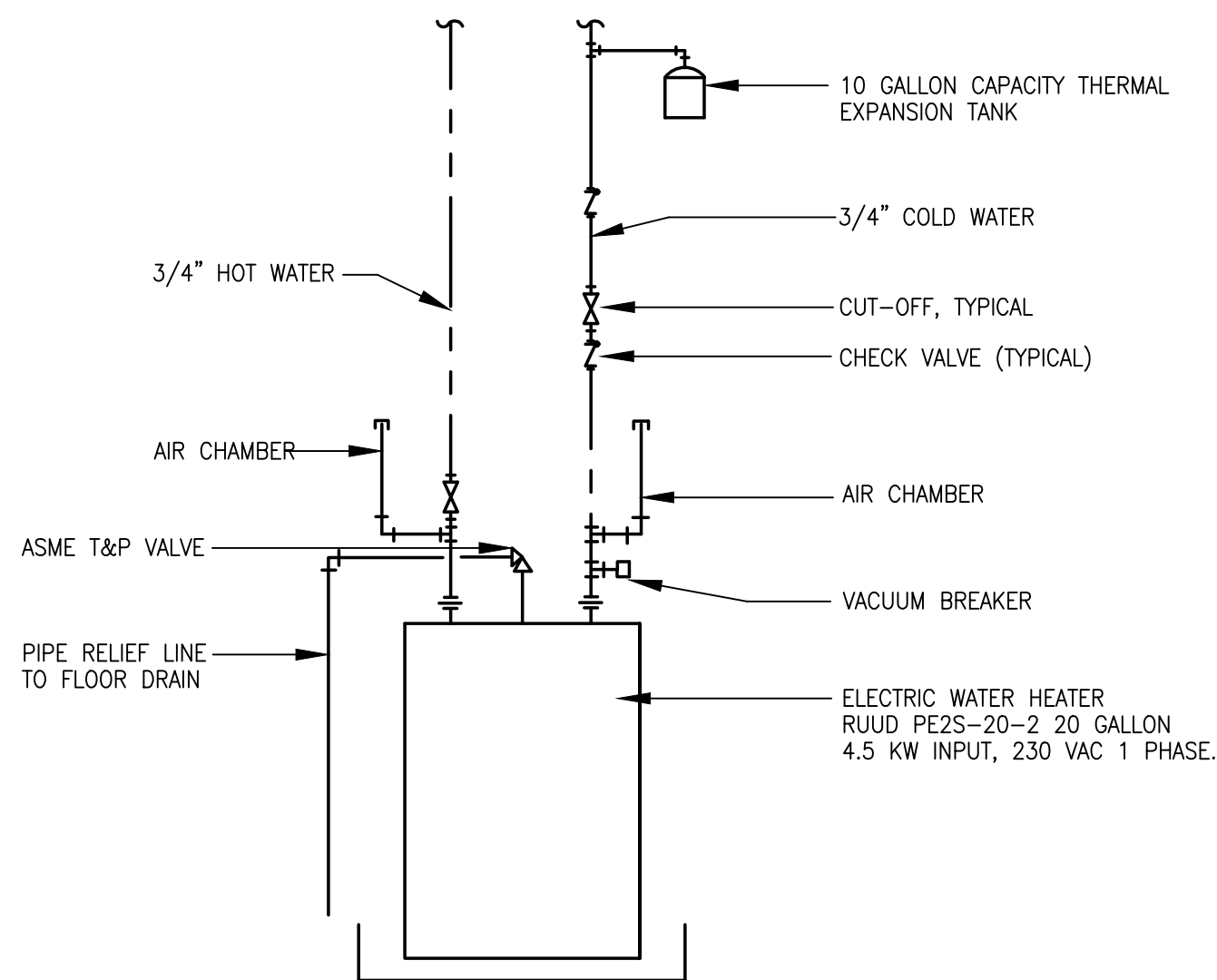
**2**  
SANITARY SEWER RISER DIAGRAM  
P-2 NTS



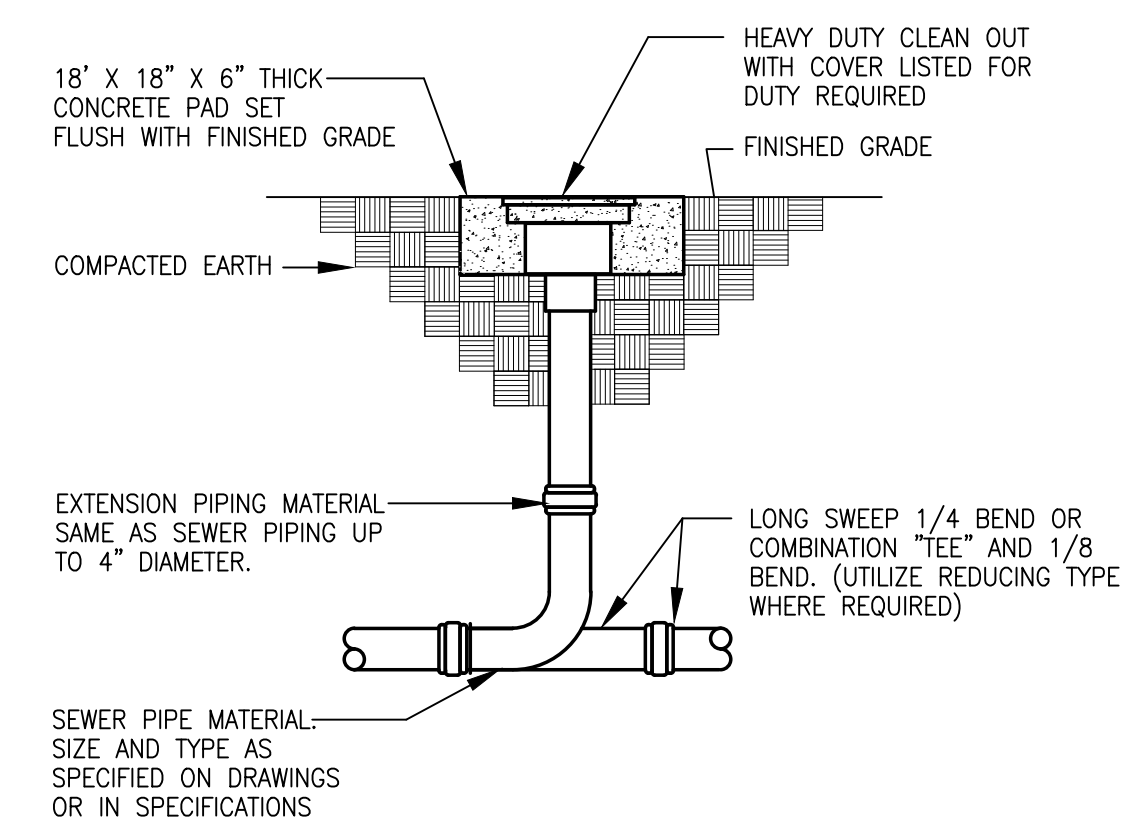
**3**  
PIPE HANGER DETAIL  
P-2 NTS



**4**  
VENT THRU ROOF  
P-2 NTS



**5**  
WATER HEATER WH-1 DETAIL  
P-2 NTS

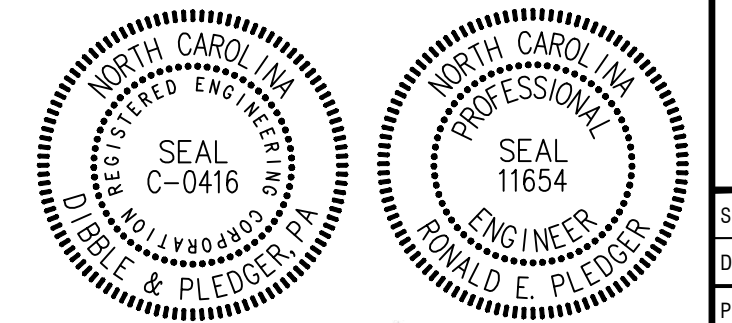


**6**  
EXTERIOR CLEANOUT DETAIL  
P-2 NTS

**PLUMBING RISERS AND DETAILS**  
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*Ronald E. Pledger*



8/25/2017

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 E-MAIL: rdibble@dibblepledger.com

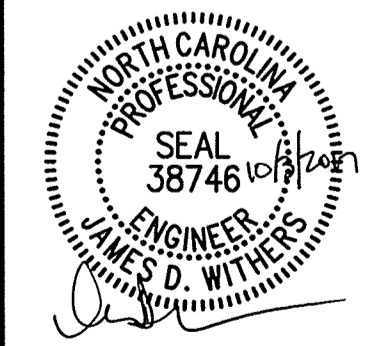
08.25.17		
SURVEY	- DRAFT	TG
DESIGN	REP CHECK	REP
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 2	

**P-2**



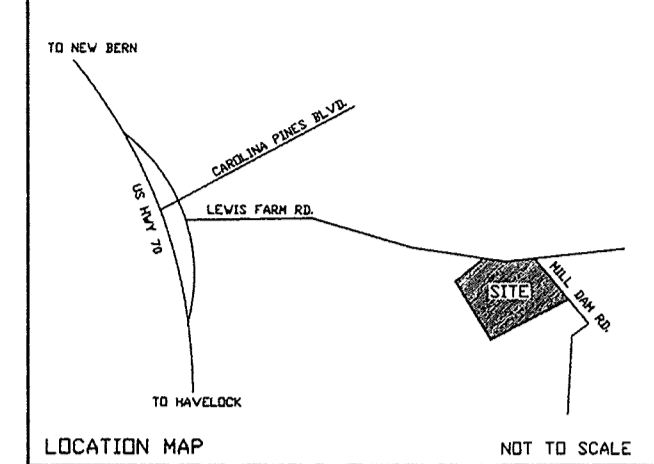
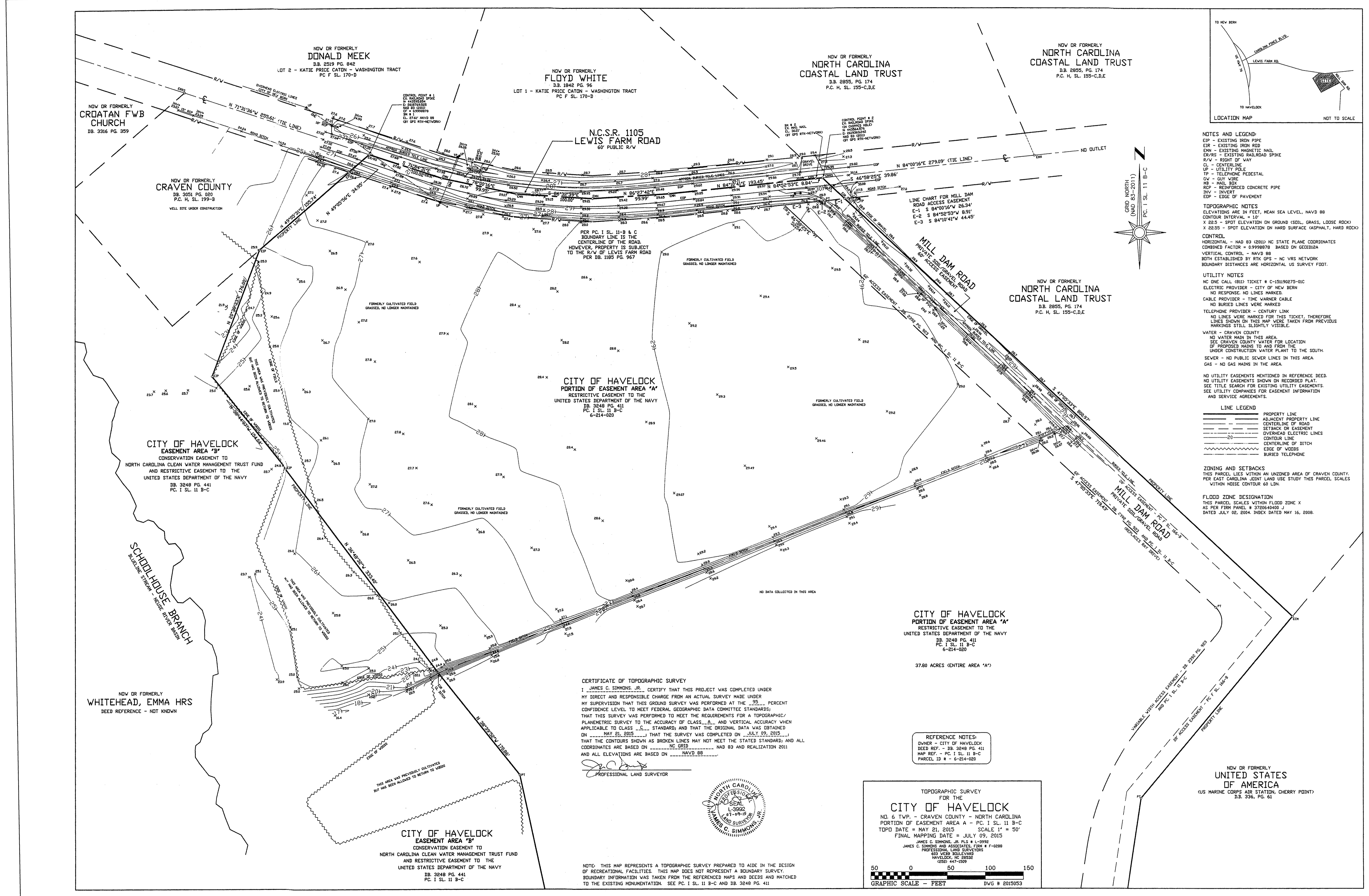
**SURVEY**  
**CITY OF HAVELOCK**  
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August 25, 2017  
SURVEY - DRAFT  
DESIGN - CHECK JDW  
PROJECT No. 2014030  
DRAWING No. W-3614  
SCALE: AS NOTED  
SHEET No. OF 16

**V1**



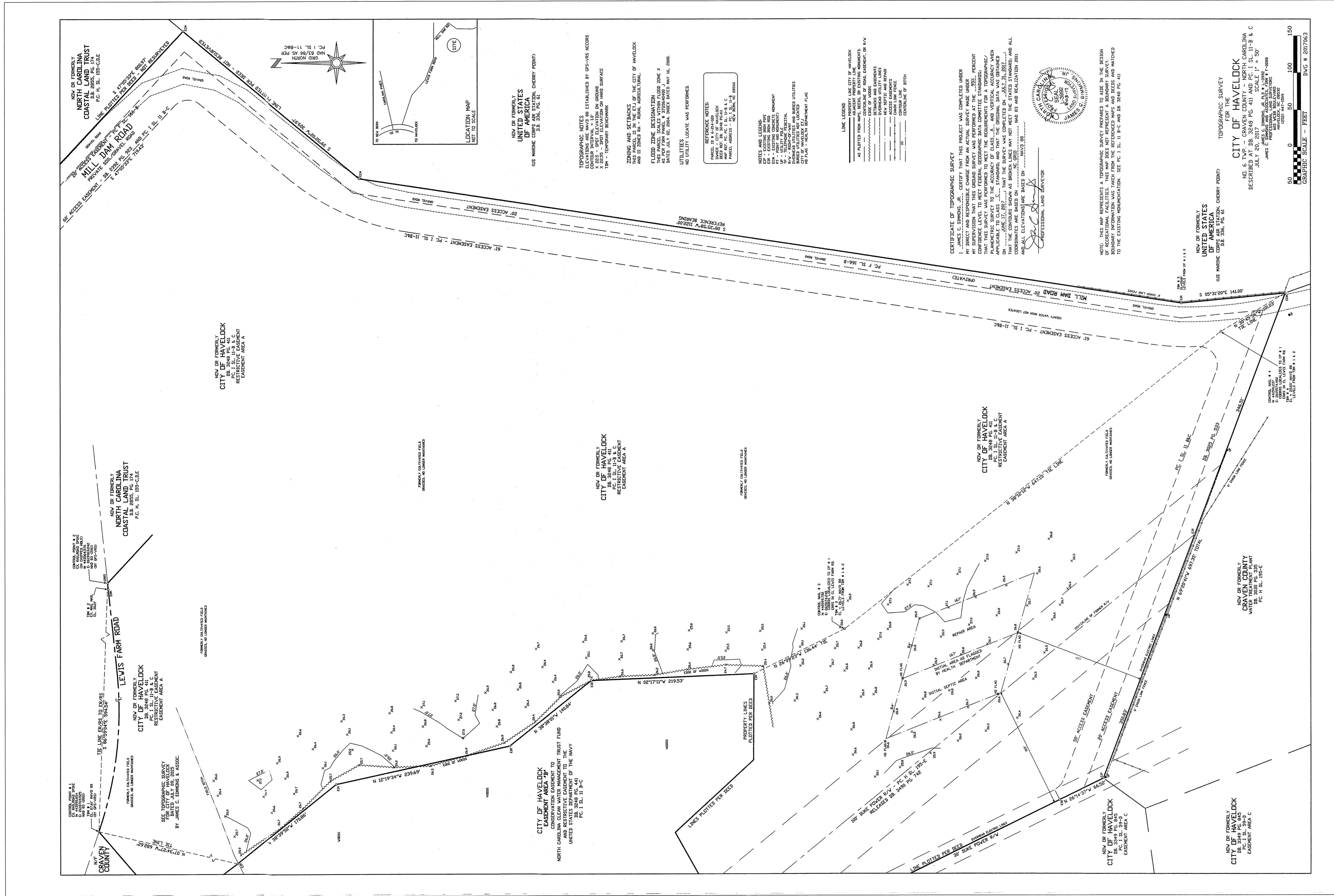
**NOTES AND LEGEND:**  
EIP - EXISTING IRON PIPE  
EIR - EXISTING IRON ROD  
EMW - EXISTING MAGNETIC WALL  
EWS - EXISTING GALVANIZED SPIKE  
R/W - RIGHT OF WAY  
CL - CENTERLINE  
UP - UTILITY POLE  
TP - TELEPHONE PEDESTAL  
OV - GUY WIRE  
MWS - MAIN BOX  
RCP - REINFORCED CONCRETE PIPE  
INV - INVERT  
EDP - EDGE OF PAVEMENT  
**TOPOGRAPHIC NOTES**  
ELEVATIONS ARE IN FEET, MEAN SEA LEVEL, NAVD 88  
CONTOUR INTERVAL = 1' 0"  
X 22.5 - SPOT ELEVATION ON GROUND (SDIL, GRASS, LOOSE ROCK)  
X 22.55 - SPOT ELEVATION ON HARD SURFACE (ASPHALT, HARD ROCK)  
**CONTROL**  
HORIZONTAL - NAD 83 (2011) NC STATE PLANE COORDINATES  
COMBINED FACTOR = 0.9999878 BASED ON GEOID  
VERTICAL CONTROL - NAVD 88  
BOTH ESTABLISHED BY RTK GPS - NC VRS NETWORK  
BOUNDARY DISTANCES ARE HORIZONTAL US SURVEY FOOT.  
**UTILITY NOTES**  
NO ONE CALL (811) TICKET # C-151100275-01C  
ELECTRIC PROVIDER - CITY OF NEW BERN  
NO RESPONSE NO LINES MARKED.  
CABLE PROVIDER - TIME WARNER CABLE  
NO BURIED LINES WERE MARKED  
TELEPHONE PROVIDER - CENTURY LINK  
NO LINES WERE MARKED FOR THIS TICKET, THEREFORE  
LINES SHOWN ON THIS MAP WERE TAKEN FROM PREVIOUS  
MARKINGS STILL SLIGHTLY VISIBLE.  
**WATER - CRAVEN COUNTY**  
NO WATER MAIN IN THIS AREA.  
SEE CRAVEN COUNTY WATER FOR LOCATION  
OF PROPOSED MAINS TO AND FROM THE  
UNDER CONSTRUCTION WATER PLANT TO THE SOUTH.  
SEWER - NO PUBLIC SEWER LINES IN THIS AREA.  
GAS - NO GAS MAINS IN THIS AREA.  
**NO UTILITY EASEMENTS MENTIONED IN REFERENCE DEED.  
NO UTILITY EASEMENTS SHOWN ON RECORDED PLAT.  
SEE TITLE SEARCH FOR EXISTING UTILITY EASEMENTS.  
SEE UTILITY COMPANIES FOR EASEMENT INFORMATION  
AND SERVICE AGREEMENTS.**  
**LINE LEGEND**  
PROPERTY LINE  
ADJACENT PROPERTY LINE  
CENTERLINE OF ROAD  
SETBACK OR EASEMENT  
OVERHEAD ELECTRIC LINES  
CONTOUR LINE  
CENTERLINE OF DITCH  
EDGE OF WOODS  
BURIED TELEPHONE  
**ZONING AND SETBACKS**  
THIS PARCEL LIES WITHIN AN UNZONED AREA OF CRAVEN COUNTY.  
PER EAST CAROLINA JOINT LAND USE STUDY THIS PARCEL SCALES  
WITHIN MOOSE CONTOUR 40 LIND.  
**FLOOD ZONE DESIGNATION**  
THIS PARCEL SCALES WITHIN FLOOD ZONE X  
AS PER FIRM PANEL # 37206-4040 J  
DATED JULY 02, 2004. INDEX DATED MAY 16, 2008.

**CERTIFICATE OF TOPOGRAPHIC SURVEY**  
I, JAMES C. SIMMONS, JR., CERTIFY THAT THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION THAT THIS GROUND SURVEY WAS PERFORMED AT THE .25 PERCENT CONFIDENCE LEVEL TO MEET FEDERAL GEOGRAPHIC DATA COMMITTEE STANDARDS THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS FOR A TOPOGRAPHIC/PLANIMETRIC SURVEY TO THE ACCURACY OF CLASS A, AND VERTICAL ACCURACY WHEN APPLICABLE TO CLASS A, STANDARDS, AND THAT THE ORIGINAL DATA WAS OBTAINED ON MAY 21, 2015 THAT THE SURVEY WAS COMPLETED ON JULY 09, 2015 THAT THE CONTOURS SHOWN AS BROKEN LINES MAY NOT MEET THE STATED STANDARD AND ALL COORDINATES ARE BASED ON NC GRID NAD 83 AND REALIZATION 2011 AND ALL ELEVATIONS ARE BASED ON NAVD 88  
James C. Simmons, Jr.  
PROFESSIONAL LAND SURVEYOR

**TOPOGRAPHIC SURVEY**  
FOR THE  
**CITY OF HAVELOCK**  
NO. 6 TWP. - CRAVEN COUNTY - NORTH CAROLINA  
PORTION OF EASEMENT AREA A - PC. I SL. 11 B-C  
TOPO DATE = MAY 21, 2015 SCALE 1" = 50'  
FINAL MAPPING DATE = JULY 09, 2015  
JAMES C. SIMMONS, JR. P.L.S. # L-9962  
JAMES C. SIMMONS AND ASSOCIATES, FIRM # F-4288  
PROFESSIONAL LAND SURVEYORS  
453 W. 3RD ST. S.W.  
HAVLOCK, NC 28542  
CSD# 447-1009

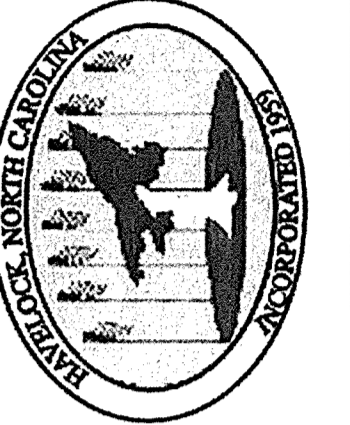
NOTE: THIS MAP REPRESENTS A TOPOGRAPHIC SURVEY PREPARED TO AID IN THE DESIGN OF RECREATIONAL FACILITIES. THIS MAP DOES NOT REPRESENT A BOUNDARY SURVEY. BOUNDARY INFORMATION WAS TAKEN FROM THE REFERENCED MAPS AND DEEDS AND MATCHED TO THE EXISTING MONUMENTATION. SEE PC. I SL. 11 B-C AND DB. 3248 PG. 411

**NOTE: SURVEY REDUCED FROM ORIGINAL SIZE.**  
**(APPROXIMATE SCALE 1" = 60')**



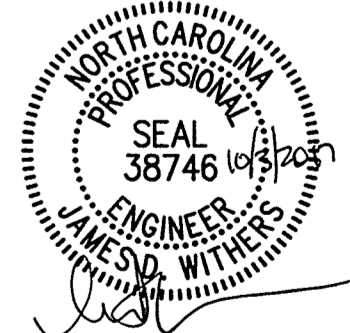
REVISIONS:

REV.	DESCRIPTION	DATE	BY



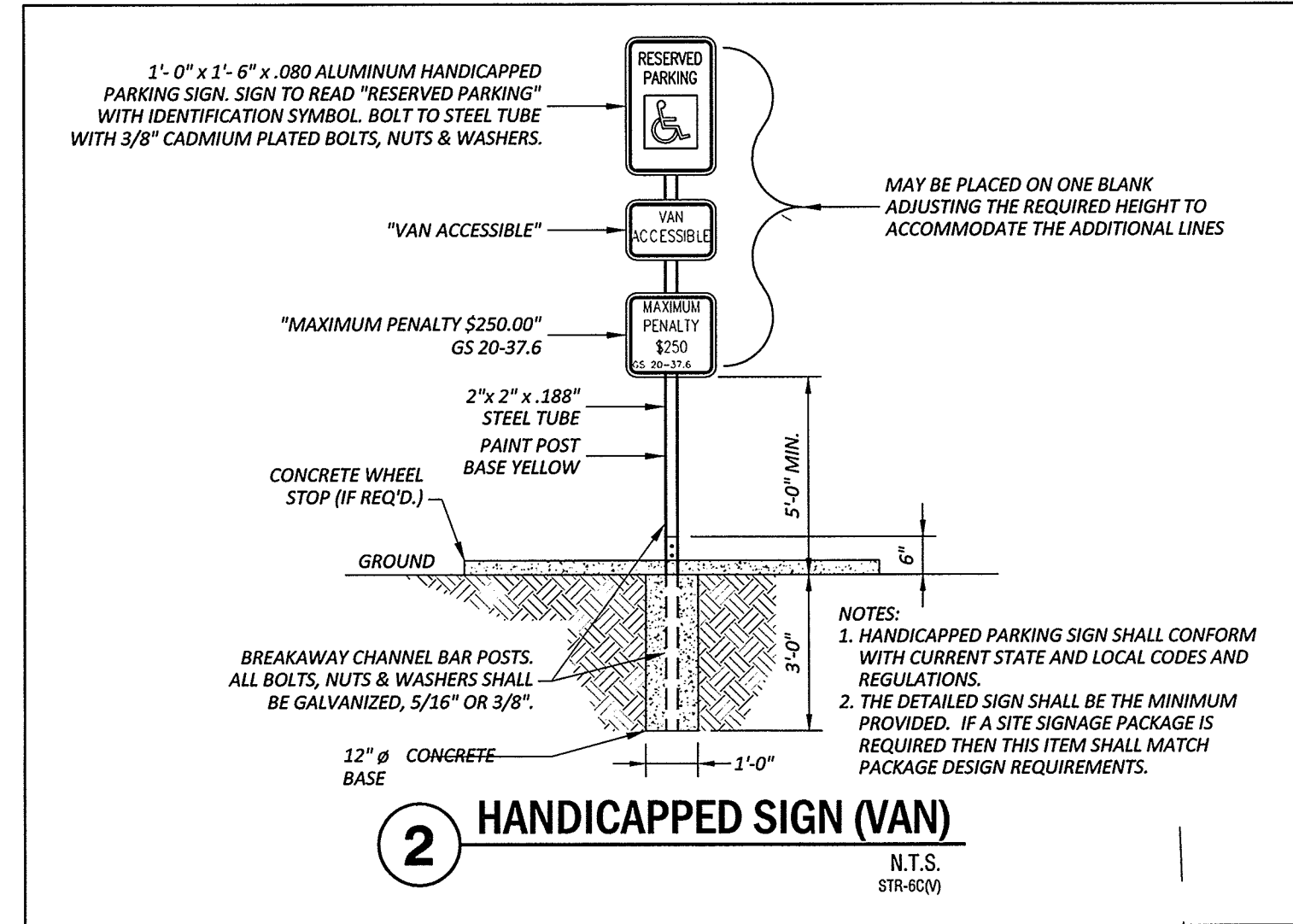
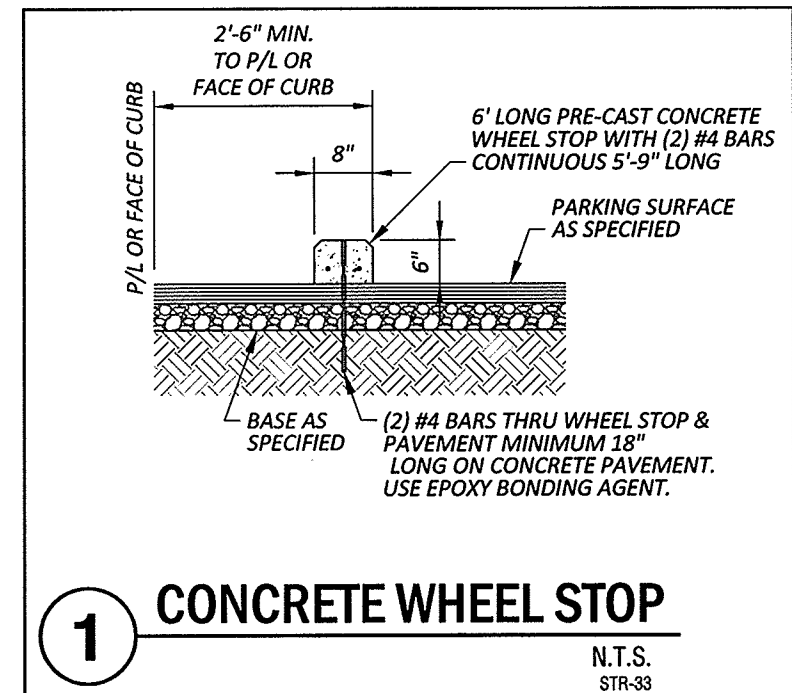
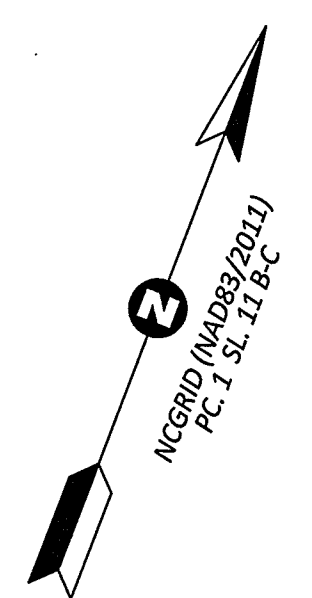
**SURVEY**  
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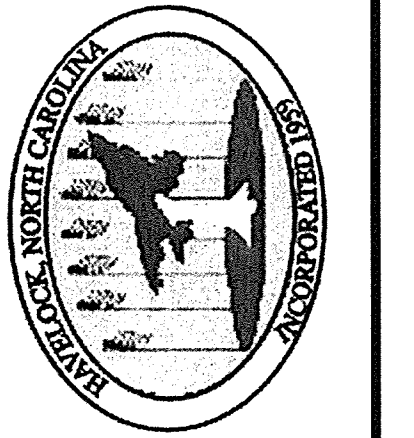
August 25, 2017  
 SURVEY - DRAFT SKR  
 DESIGN SKR CHECK JDW  
 PROJECT No. 2014030  
 DRAWING No. W-3614  
 SCALE: AS NOTED  
 SHEET No. OF 16

**V2**



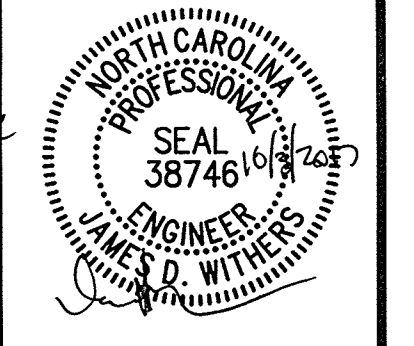
REVISIONS:

NO.	DATE	DESCRIPTION
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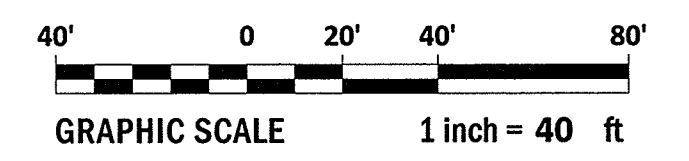
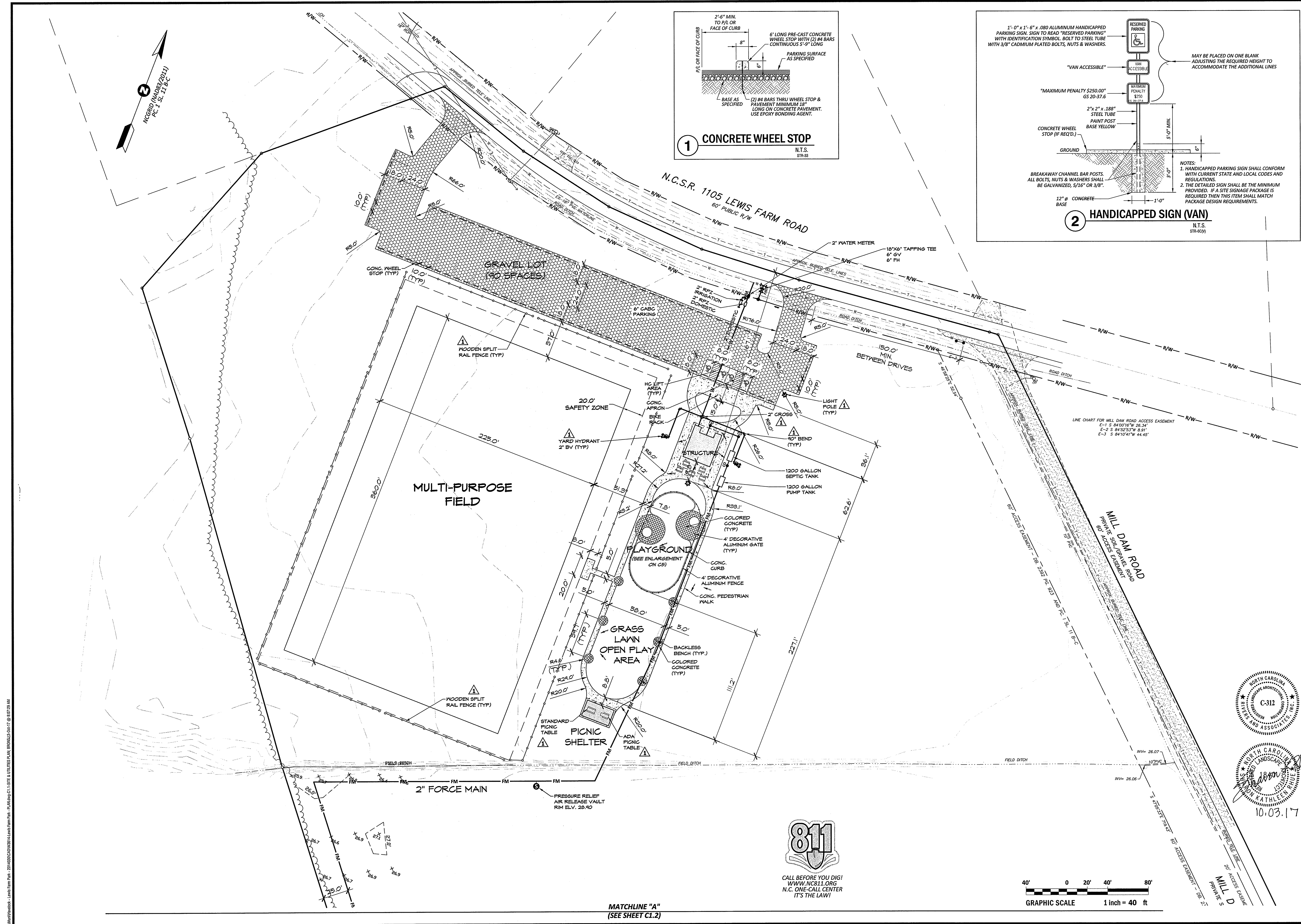


SITE & UTILITIES PLAN  
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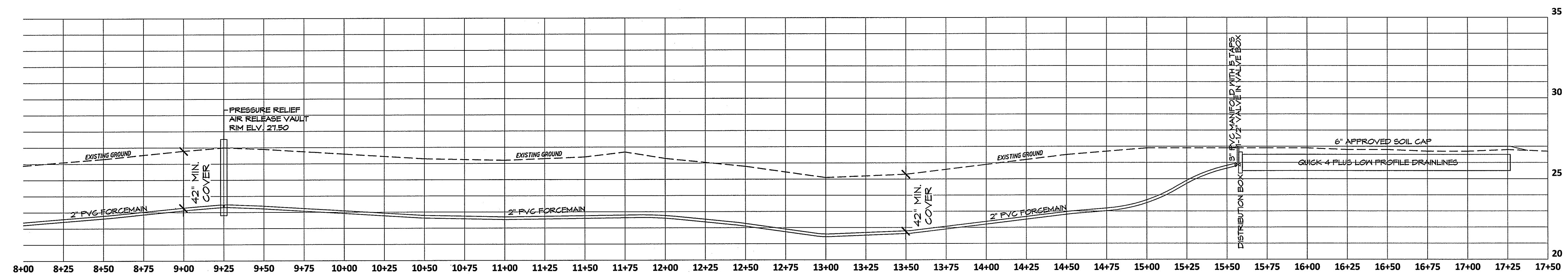
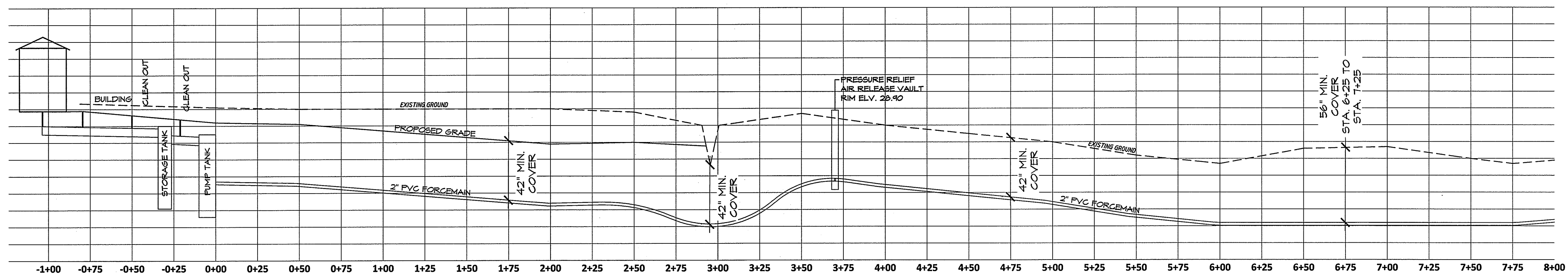
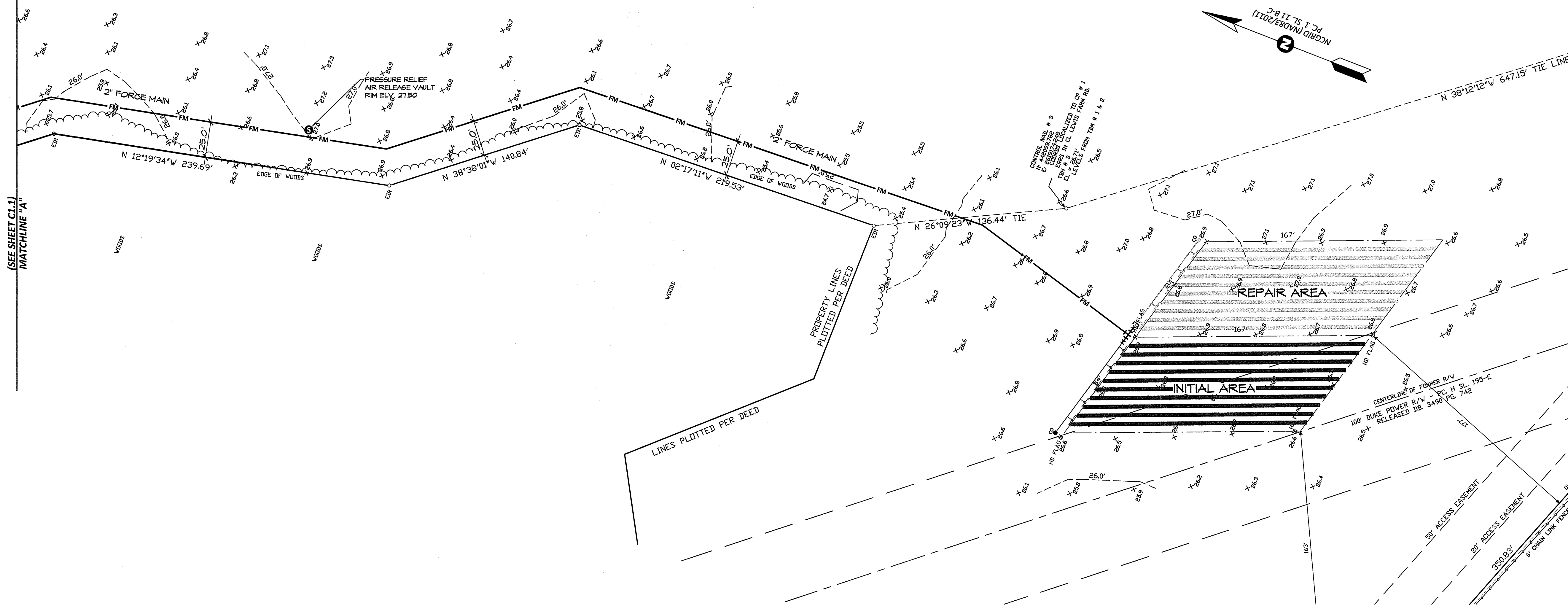


August 25, 2017  
 SURVEY - DRAFT SKR  
 DESIGN SKR CHECK JDW  
 PROJECT No. 2014030  
 DRAWING No. W-3614  
 SCALE: 1" = 40'  
 SHEET No. OF 16  
**C1.1**



MATCHLINE "A"  
(SEE SHEET C1.2)

P:\Projects\2014\2014030\2014030-14-Lewis Farm Park - P\Utilities\PLAN UTILITIES PLAN BRUNSON.dwg 17 8/22/2017 AM



**FORCEMAIN PROFILES**  
 SCALE: HORIZONTAL 1" = 40'  
 VERTICAL 1" = 4'



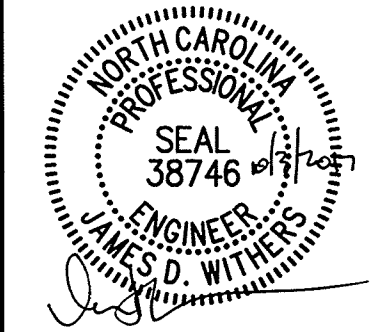
REVISIONS:

REV.	DESCRIPTION	DATE	APP'D.

**SITE & UTILITIES PLAN**  
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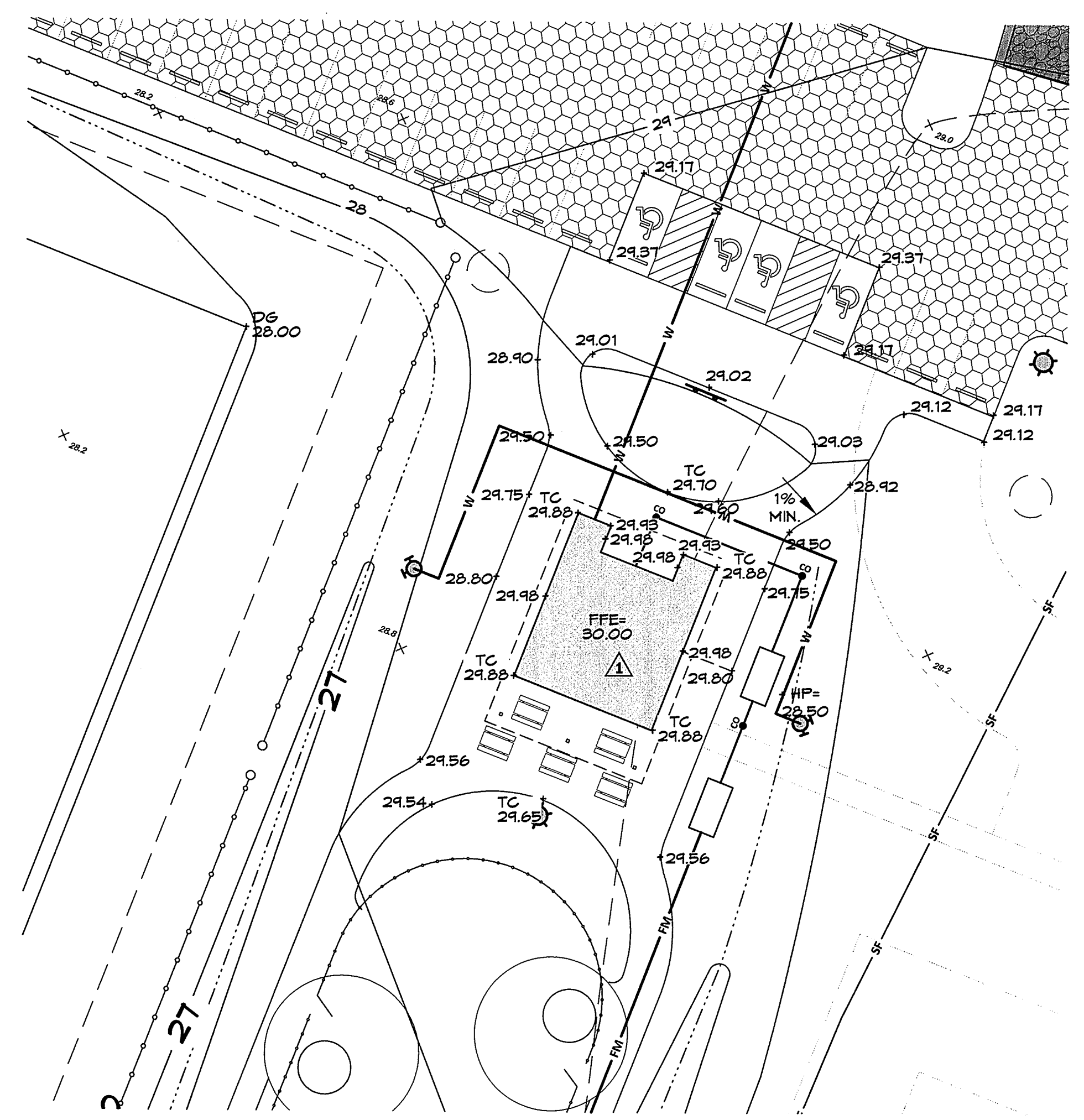
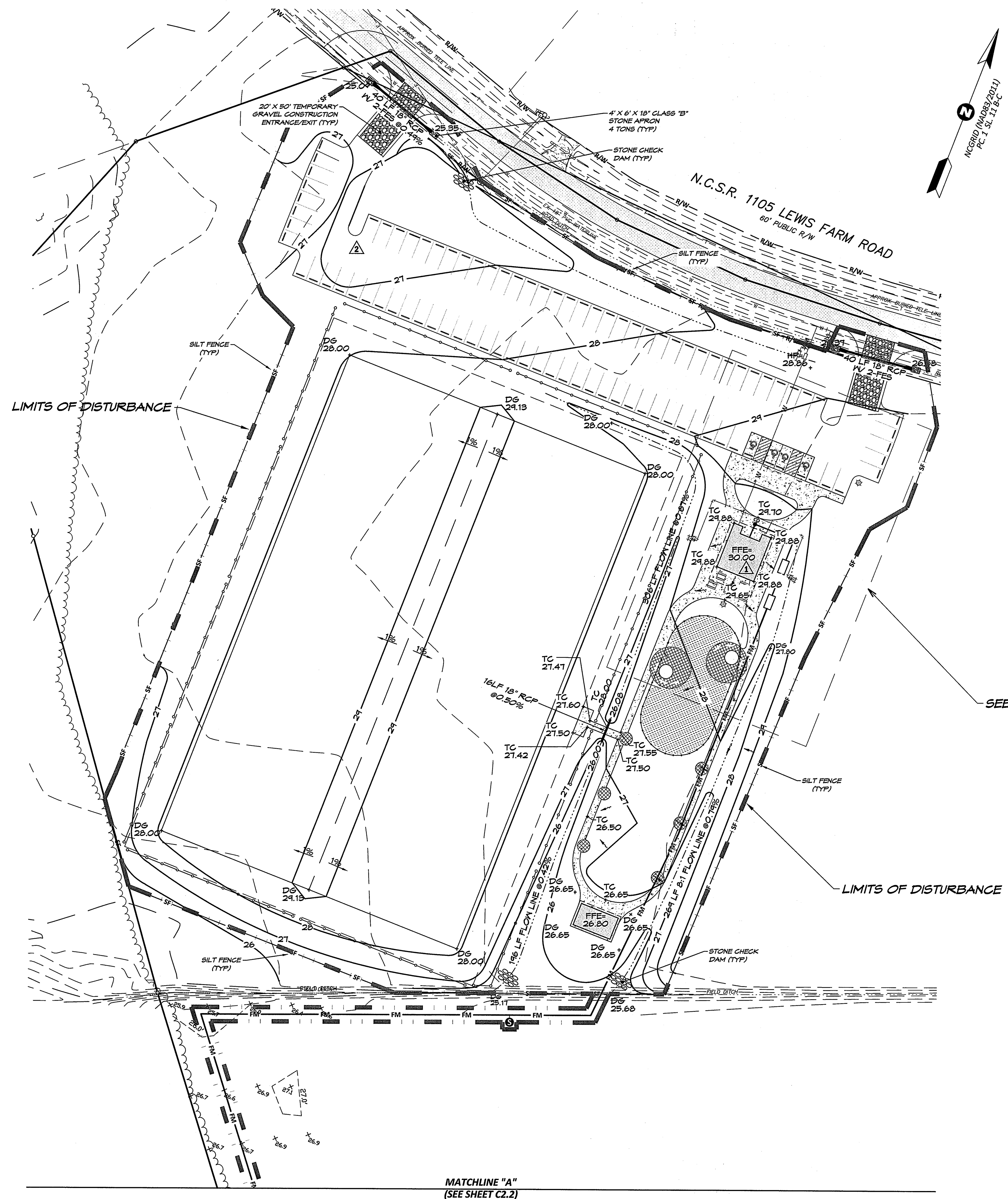
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SURVEY	- DRAFT	SKR
DESIGN	SKR	CHECK JDW
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 16	

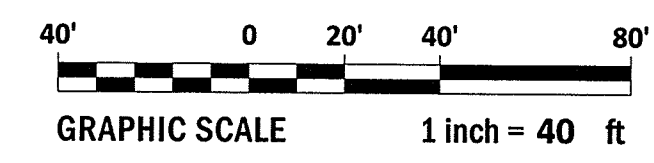
**C1.2**



ENLARGEMENT "A"  
SCALE: 1" = 20'

**LEGEND:**

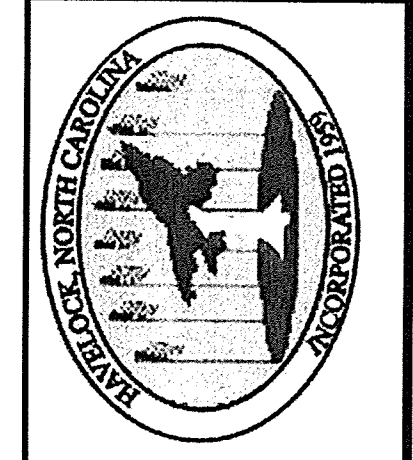
PROPOSED	EXISTING
	SPILL GUTTER
	CATCH BASIN (CB)
	DROP INLET (DI)
	YARD INLET (YI)
	STORM DRAIN PIPE
	RIP-RAP
	FLOW
	DITCH CENTER-LINE
	DESIGN GRADE
	TOP OF CONCRETE
	HIGH POINT OF SWALE



MATCHLINE "A"  
(SEE SHEET C2.2)

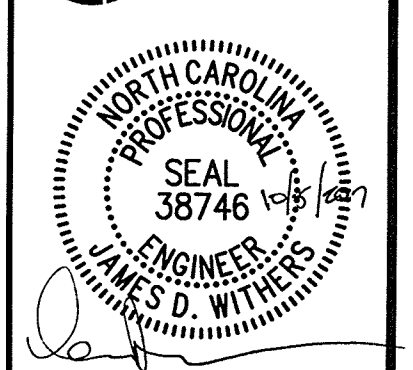
REVISIONS:

NO.	DATE	DESCRIPTION
1	10-5-17	REVIEW COMMENTS
2	9-25-17	OWNER COMMENTS
3		REV.



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August 25, 2017

SURVEY	-	DRAFT	SKR
DESIGN	SKR	CHECK	JDW
PROJECT No.	2014030		
DRAWING No.	W-3614		
SCALE:	1" = 40'		
SHEET No.	OF 16		

**C2.1**

P:\Projects\Lewis Farm Park - 2014030\DWG\2014 Lewis Farm Park - PLAN\ENG-C2.1-GRADING & ECP PLAN\_BROOKS.DWG - 08/25/17 08:33:28 AM

**CONSTRUCTION SEQUENCE:**

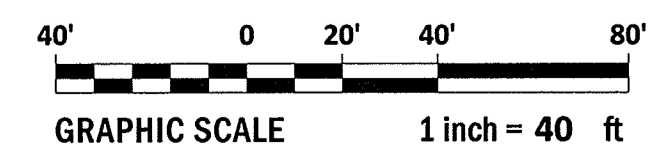
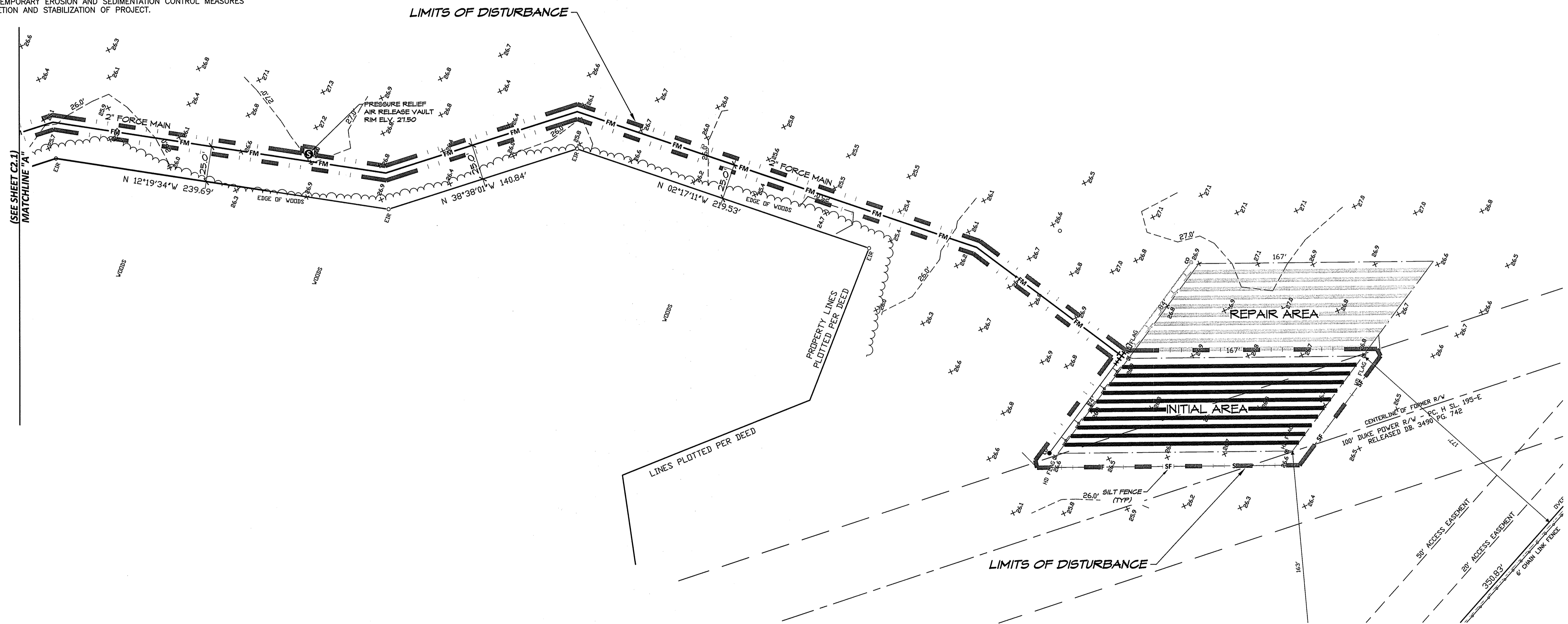
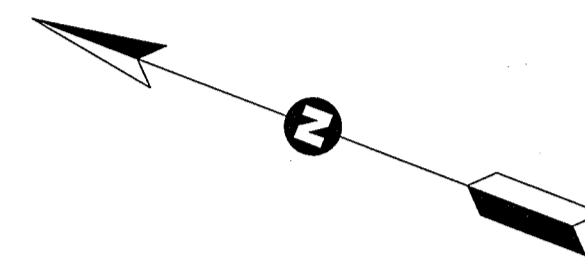
- OBTAIN PLAN APPROVALS AND ALL APPLICABLE PERMITS.
- FLAG LIMITS OF ROUGH GRADING FOR BUILDING SITE, PARKING LOTS AND ESTABLISH GRADE LIMITS AS NEEDED.
- HOLD PRECONSTRUCTION MEETING WITH GRADING CONTRACTOR, EROSION CONTROL ADMINISTRATOR, PROJECT ENGINEER AND OWNER.
- INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE AND USE AS ACCESS TO SITE.
- INSTALL THE PERIMETER SEDIMENT FENCES AS THE FIRST CONSTRUCTION ACTIVITY.
- BEGIN TO GRADE THE BUILDING PADS DISTRIBUTING EXCAVATED MATERIAL IN THE FILL SECTIONS.
- UPON THE COMPLETION OF BUILDING PADS INSTALL NEW PARKING AREAS AS INDICATED ON PLANS.
- BEGIN AND COMPLETE ROUGH GRADING OPERATIONS.
- BRING BUILDING AND PARKING AREA TO WITHIN 2" OF FINAL SUBGRADE, TEMPORARILY SEED THESE AREAS TO PREVENT EROSION UNTIL SUCH TIME OWNER IS READY TO PROCEED WITH FINAL CONSTRUCTION.
- TEMPORARILY SEED ALL DISTURBED AREAS WITH THE EXCEPTION OF AREAS WHICH CONSTRUCTION WILL CONTINUE.
- FINE GRADE AND STONE DRIVEWAY.
- PROVIDE A GROUND COVER (TEMPORARY OR PERMANENT) ON EXPOSED SLOPES 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING FOR SLOPES 3:1 OR FLATTER INCLUDING ALL OTHER SLOPES 4:1 OR FLATTER. PROVIDE A GROUND COVER (TEMPORARY OR PERMANENT) ON EXPOSED SLOPES WITHIN 7 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING FOR SLOPES 3:1 OR STEEPER.
- ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES MAY BE REQUIRED BY THE STATE OR OWNER IF DEEMED NECESSARY.
- MAINTAIN PERMANENT VEGETATION BY TOP DRESSING WITH 700 LBS PER ACRE OF FERTILIZER EVERY 6 MONTHS UNTIL THE COMPLETION OF THE PROJECT.
- WITHIN 6" OF FINAL GRADE, RE-DISTRIBUTE 6" OF TOP SOIL.
- FINE GRADE, PERMANENTLY SEED AND MULCH ALL LANDSCAPED AREAS.
- REMOVE ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES UPON COMPLETION AND STABILIZATION OF PROJECT.

**MAINTENANCE PLAN**

- ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUN-OFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 0.5 FEET DEEP.
- SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAP WHEN THE STORAGE HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED AND REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
- ALL SEEDING AREAS WILL BE FERTILIZED, RE-SEEDING AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

**NOTES:**

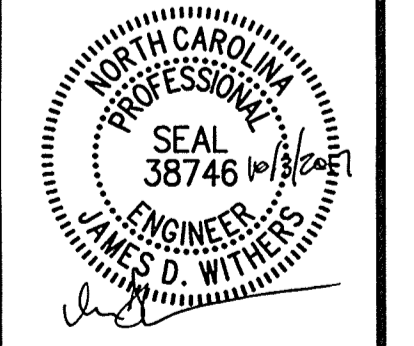
- ALL VEGETATION AND TOPSOIL SHALL BE STRIPPED FROM FILL AREAS PRIOR TO PLACING FILL. ANY QUESTIONABLE OR UNSUITABLE SOIL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- AFTER STRIPPING TOPSOIL AND PRIOR TO PLACING FILL, IT IS RECOMMENDED THAT ALL BUILDING, PARKING AND DRIVEWAY AREAS BE ROLLED WITH A VIBRATORY ROLLER TO CONSOLIDATE LOOSE SOILS IN THE UPPER SUBGRADE. COMPACTION TEST RESULTS OF AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY WILL BE REQUIRED PRIOR TO ENGINEER'S APPROVAL FOR FILL PLACEMENT.
- ALL FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698).
- GRADING CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS WITHIN 7 DAYS OF COMPLETION OF GRADING WORK. UPON COMPLETION OF THE PROJECT, THE GENERAL CONTRACTOR SHALL INSTALL PERMANENT SEEDING AS OUTLINED IN THE SPECIFICATIONS. ALL DRAINAGE PIPES SHALL BE CLEANED BY THE GENERAL CONTRACTOR TO REMOVE ANY SEDIMENTS THAT HAVE ACCUMULATED.
- ALL PLANTING AREAS SHALL BE BACKFILLED WITH TOPSOIL AND RAKED DOWN, REMOVING ALL CLODS AND ROOTS, AND LEFT READY FOR SEEDING AND PLANTING.
- PLANT & ESTABLISH VEGETATION PER SEEDING SCHEDULE.
- ALL SLOPES WITHIN THE LIMITS OF CONSTRUCTION ON THIS PROJECT SHALL BE STABILIZED WITHIN 14 DAYS WITH THE EXCEPTION OF ALL THE EXISTING DITCHES WHICH SHALL BE STABILIZED IN 7 DAYS. SEE SHEET 7 OF 7 FOR OUTLINE OF DWG CONSTRUCTION GENERAL PERMIT (NCG01)



REVISIONS:	DATE	DESCRIPTION

**GRADING & EROSION CONTROL PLAN**  
**CITY OF HAVELOCK**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

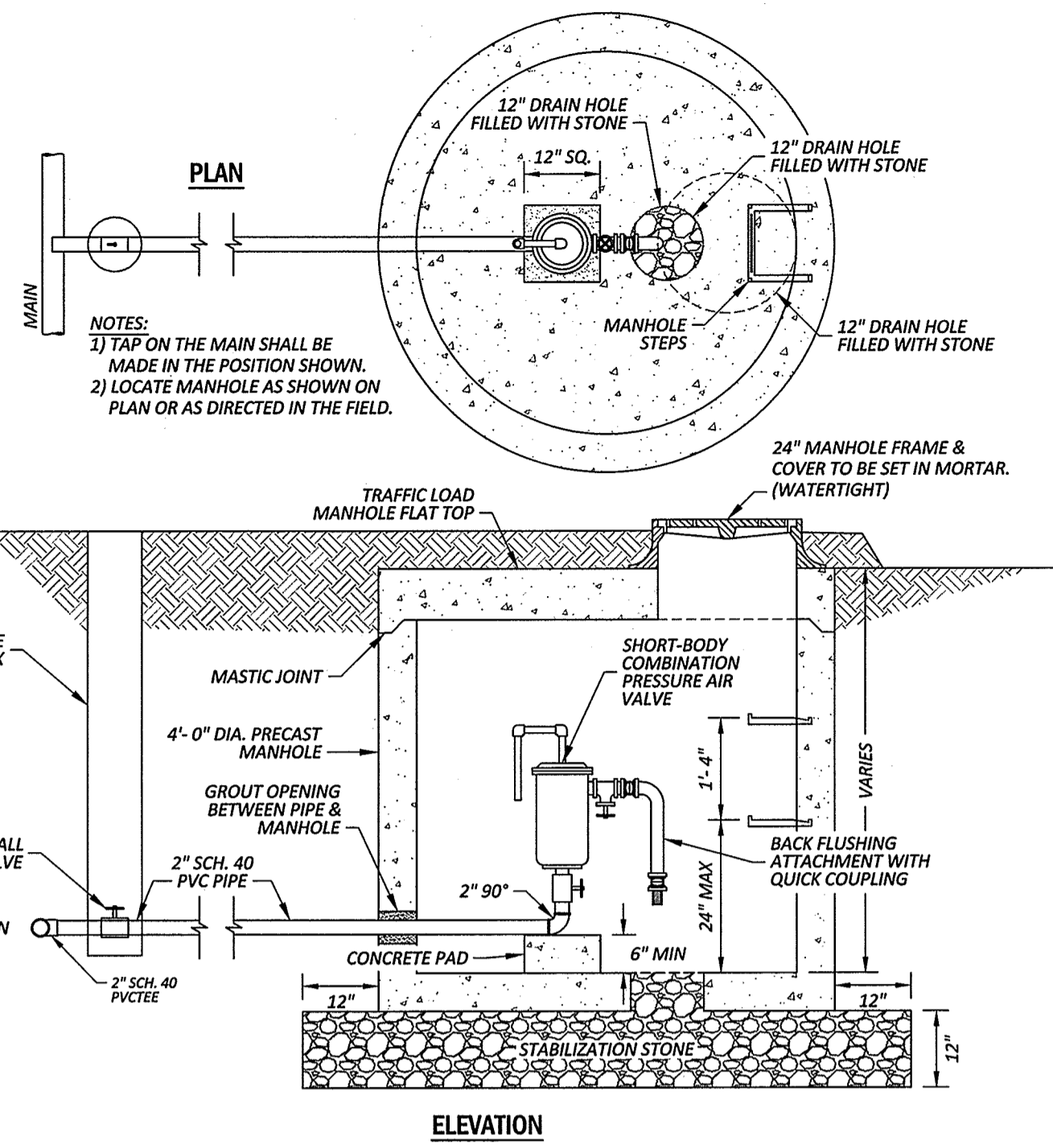
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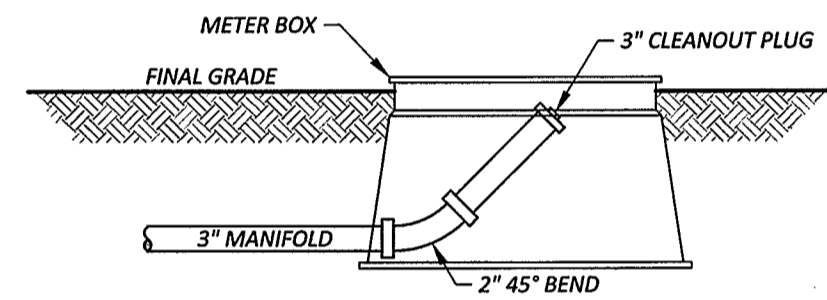
August 25, 2017  
 SURVEY - DRAFT SKR  
 DESIGN SKR CHECK JDW  
 PROJECT No. 2014030  
 DRAWING No. W-3614  
 SCALE: AS NOTED  
 SHEET No. OF 16  
**C2.2**

P:\M\14030\C2.2\DWG\C2.2-01.dwg - P:\M\14030\C2.2-01.dwg - P:\M\14030\C2.2-01.dwg - P:\M\14030\C2.2-01.dwg - P:\M\14030\C2.2-01.dwg

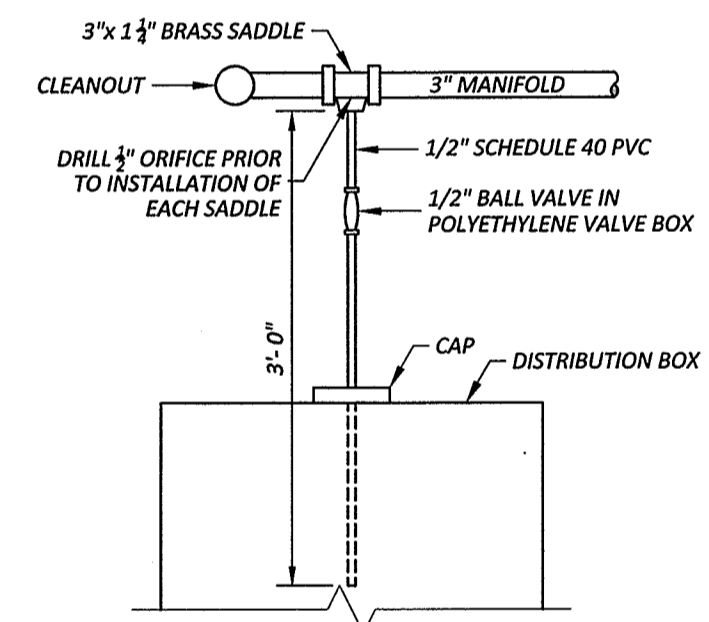




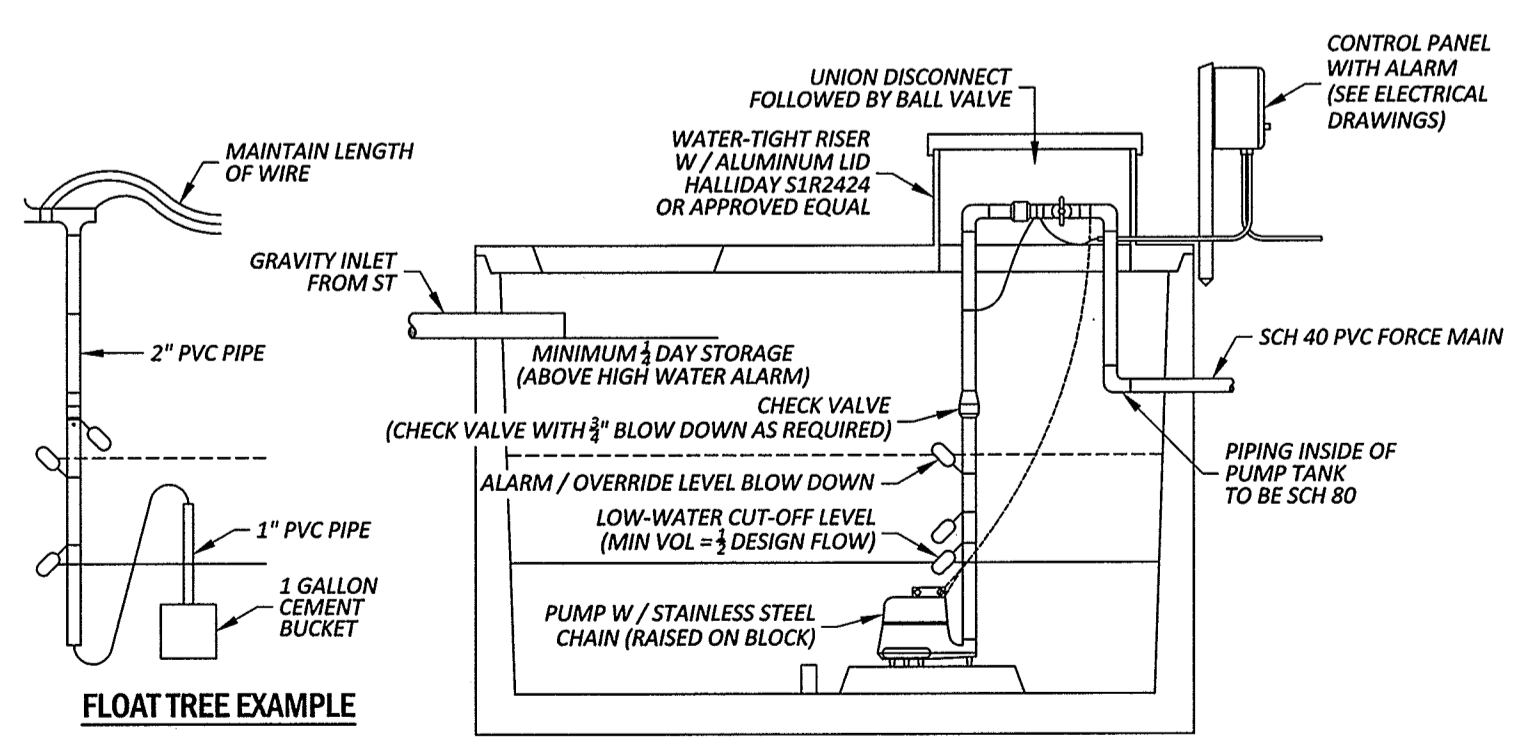
**1 COMBINATION AUTOMATIC AIR VACUUM / PRESSURE RELIEF AIR VALVE VAULT**  
N.T.S. W-17A(2)



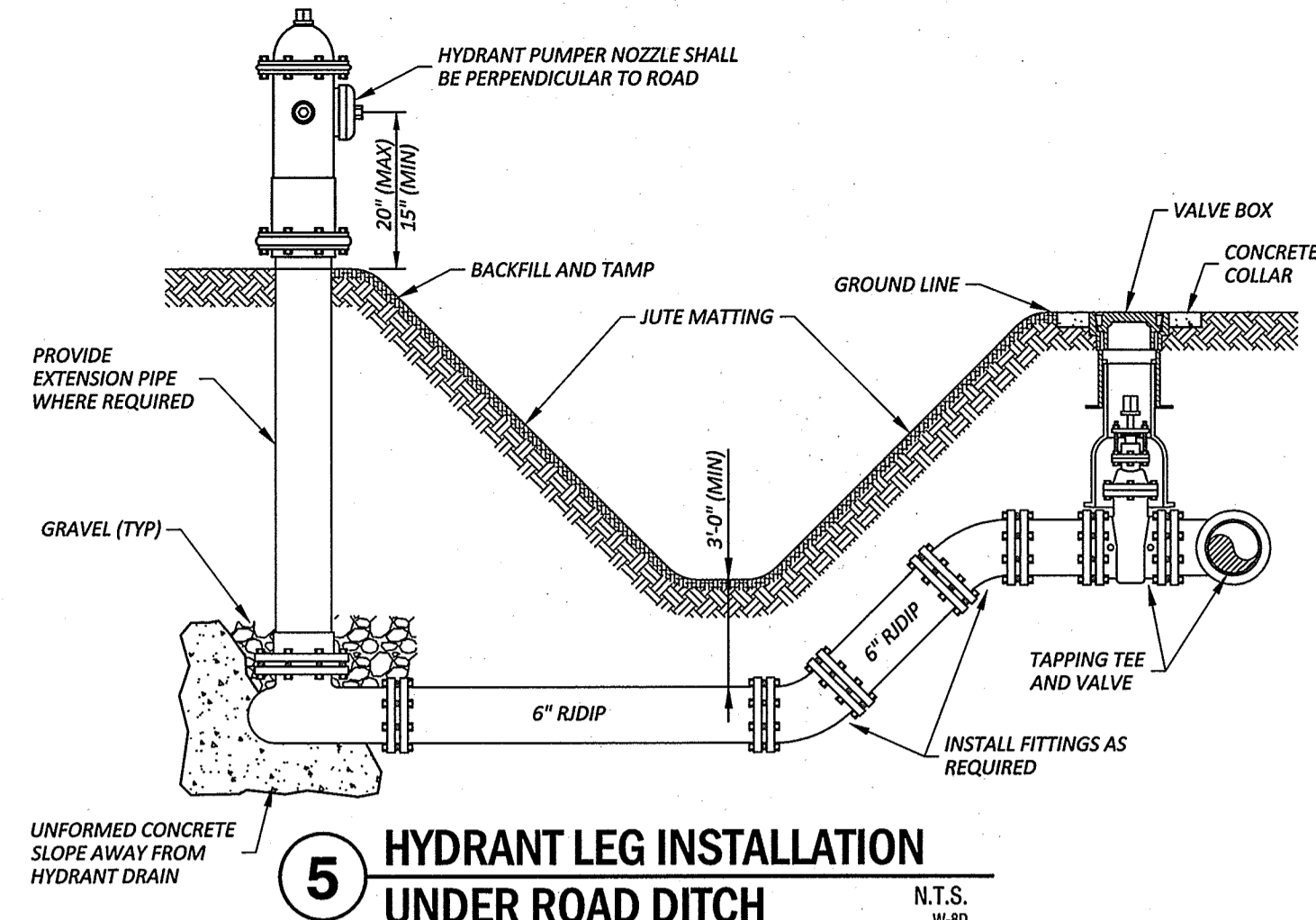
**2 TYPICAL MANIFOLD CLEANOUT**  
N.T.S. SS-21



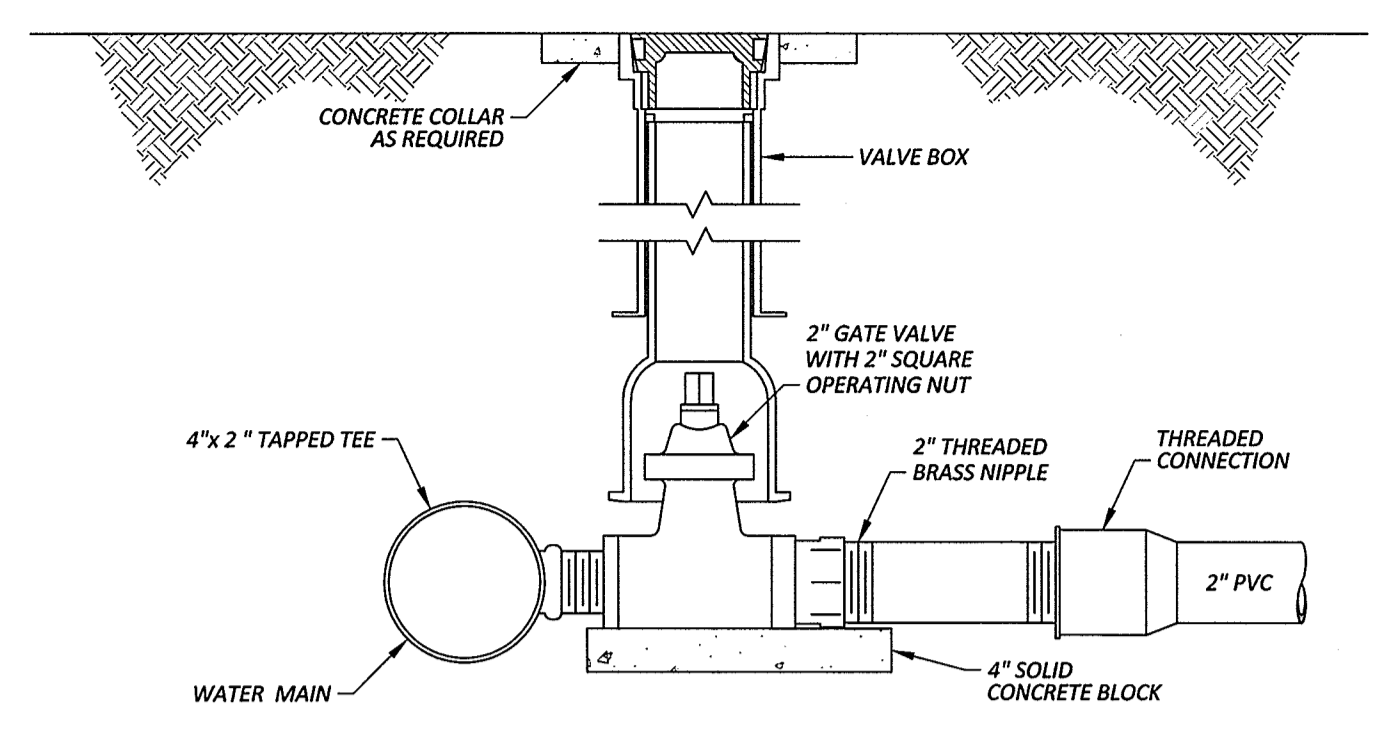
**3 MANIFOLD CLEANOUT**  
N.T.S. SS-22 (REV)



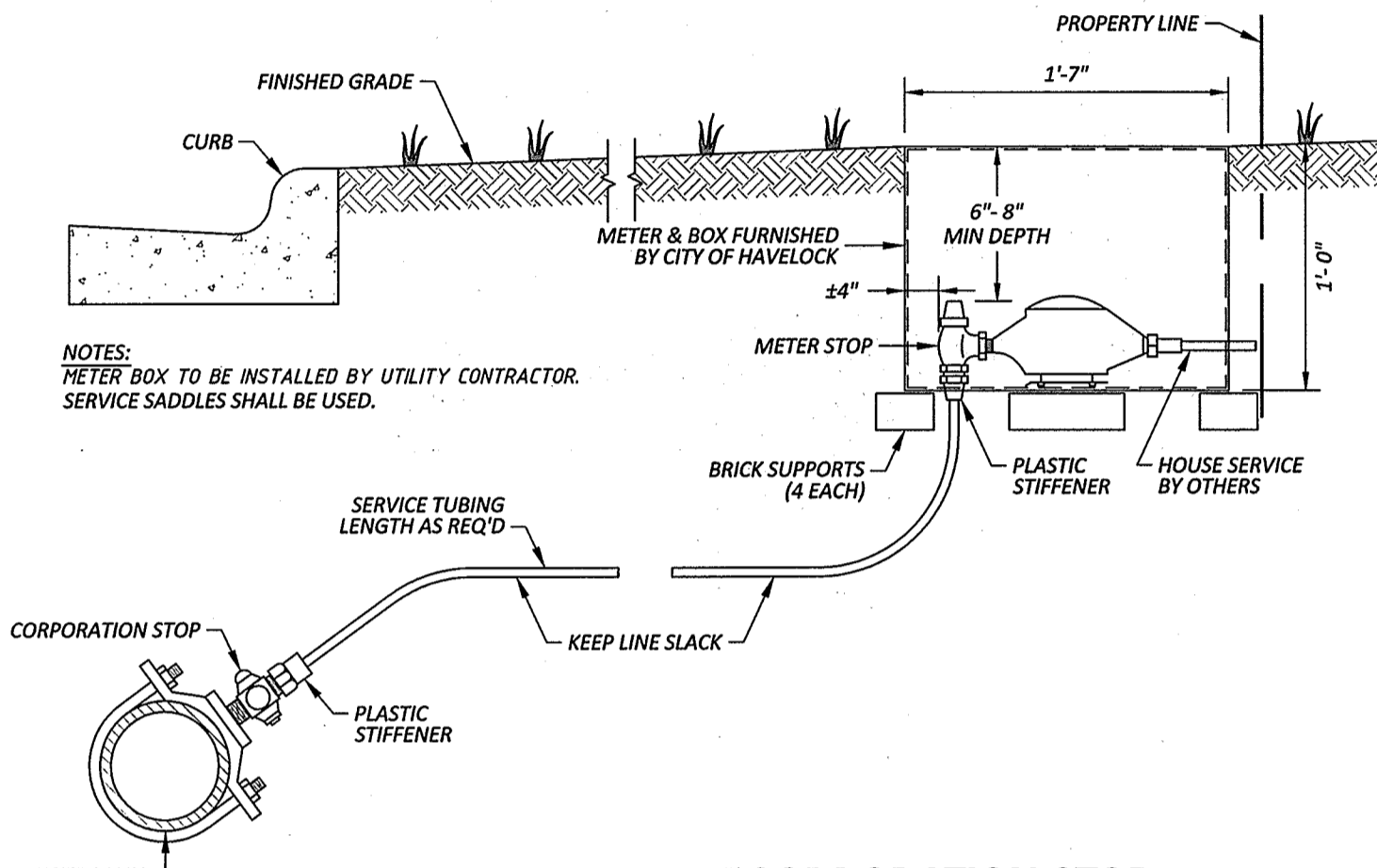
**4 TYPICAL PUMP TANK**  
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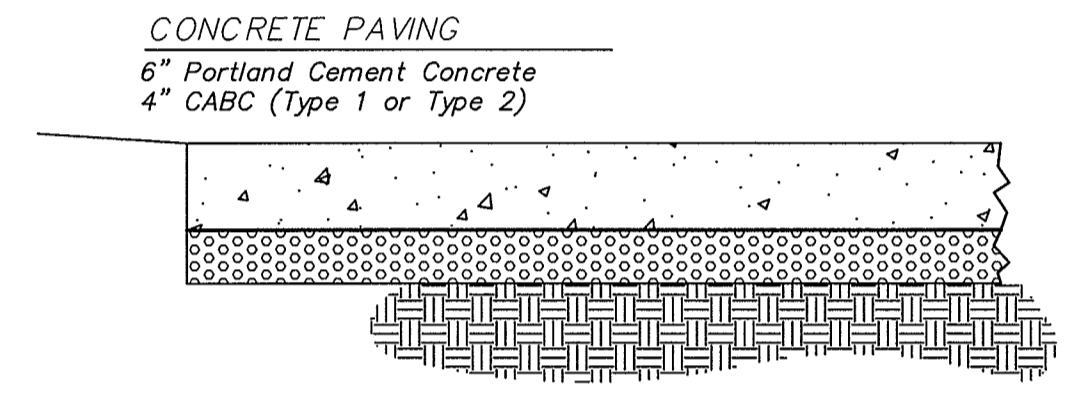
**5 HYDRANT LEG INSTALLATION UNDER ROAD DITCH**  
N.T.S. W-80



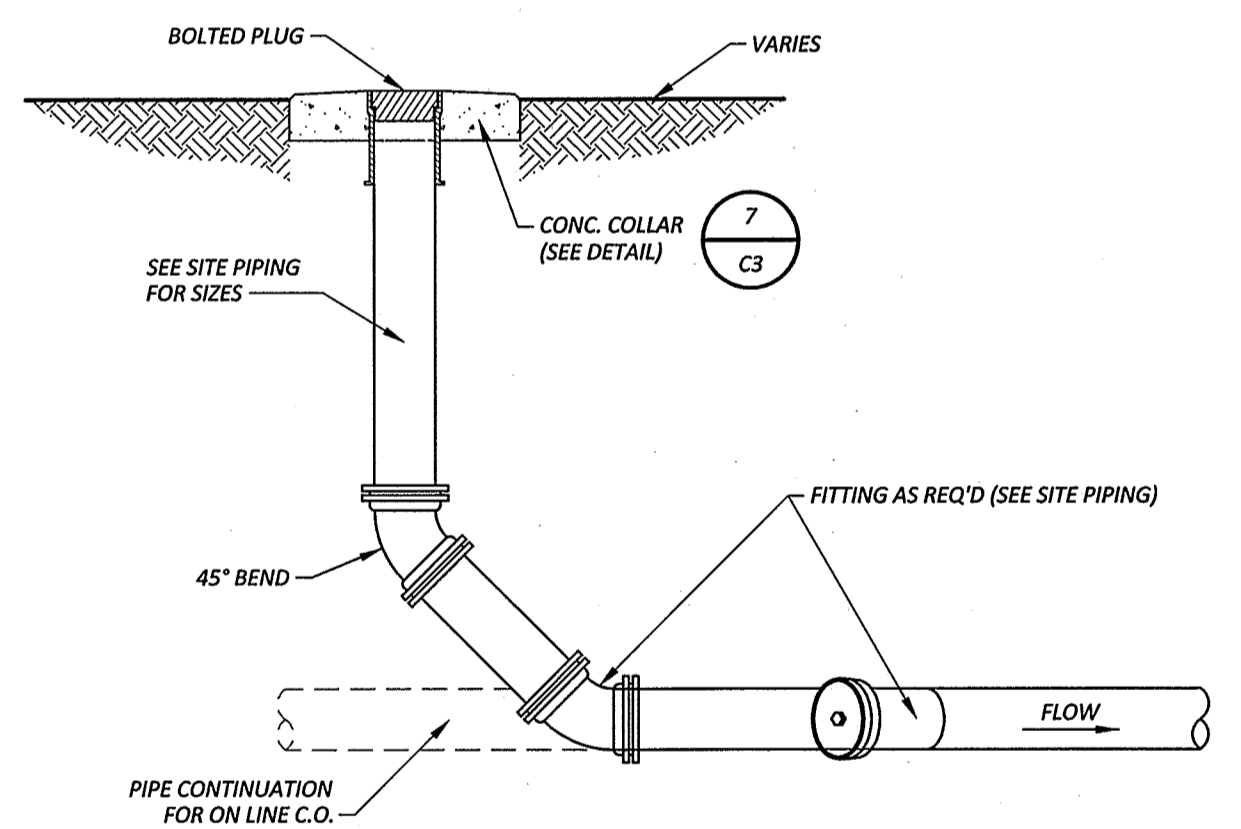
**9 2" WATER SERVICE CONNECTION**  
N.T.S. W-48(2)



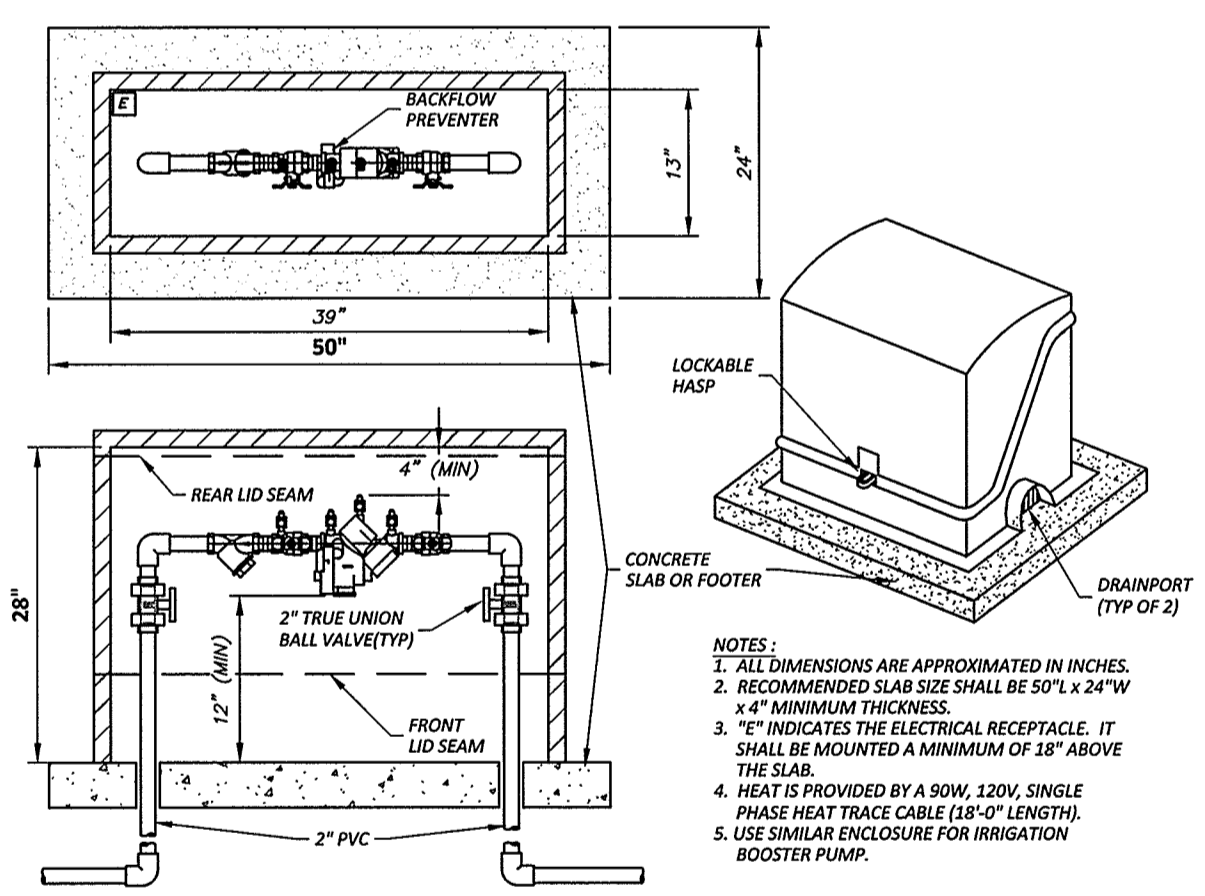
**6 WATER METER WITH CORPORATION STOP**  
N.T.S. W-1



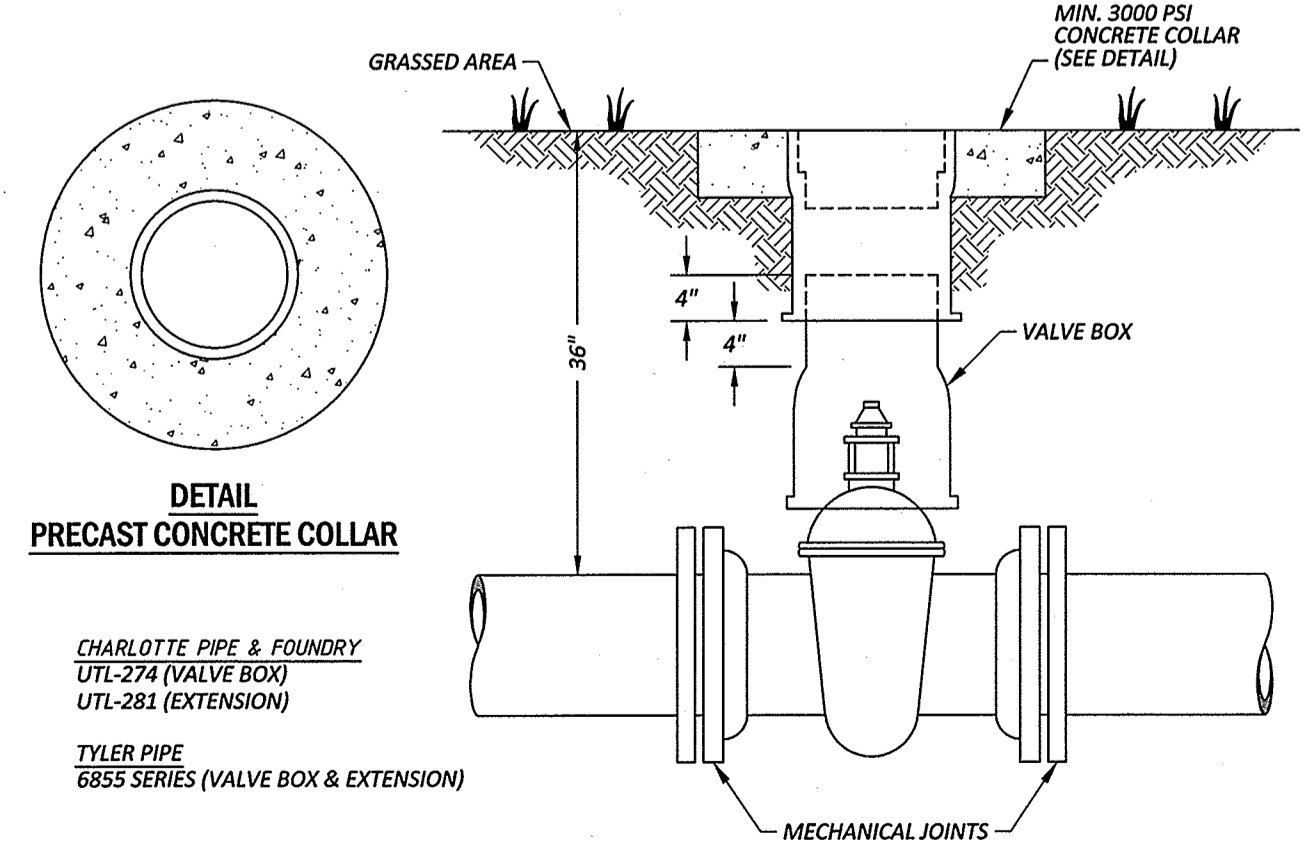
**10 CONCRETE PAVING SECTION**  
N.T.S. SS-20(2)



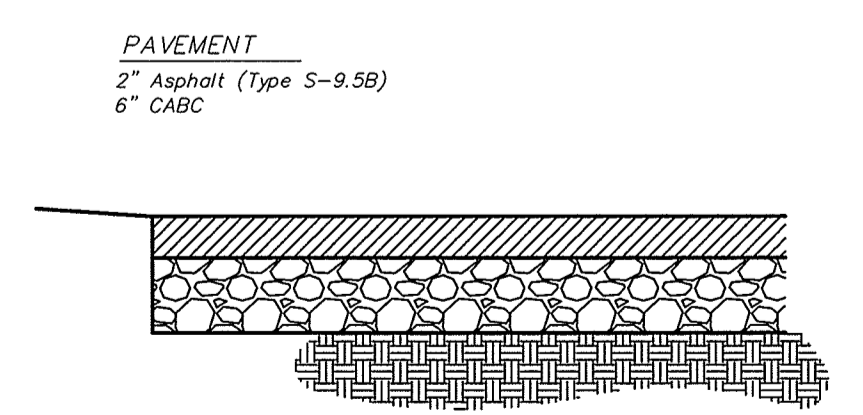
**7 CLEAN-OUT (EXTERIOR)**  
N.T.S. SS-28



**11 RPZ AND ENCLOSURE**  
W-48



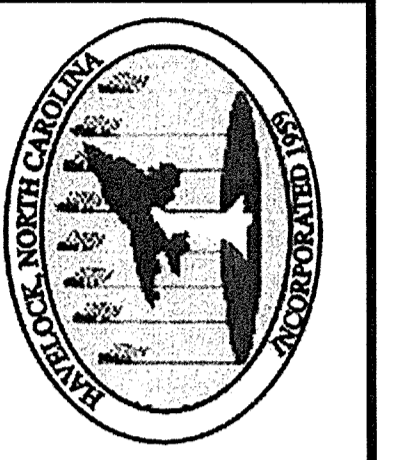
**8 GATE VALVE & BOX**  
N.T.S. W-5



**12 ASPHALT PAVING SECTION**  
N.T.S. DW-60

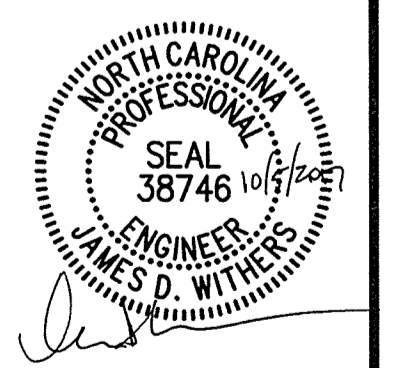
REVISIONS:

REV.	DESCRIPTION	DATE	APP.
1		10-5-17	LDW
2			APPL



CIVIL DETAILS  
**CITY OF HAVELOCK**  
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# EROSION & SEDIMENTATION CONTROL NOTES

- ALL WORK TO BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES. NO LAND DISTURBING ACTIVITY BEYOND THAT REQUIRED TO INSTALL THE APPROPRIATE EROSION CONTROL MEASURE MAY PROCEED UNTIL MEASURES ARE INSPECTED AND APPROVED.
- FOLLOWING STRIPPING OF SITE, ALL STORM DRAINAGE STRUCTURES SHALL BE INSTALLED. SILT FENCES SHALL BE PLACED ALONG PROPERTY LINES AS INDICATED ON PLANS TO PROTECT ADJACENT DEVELOPMENTS. ROCK INLET SEDIMENT TRAPS SHALL BE INSTALLED AROUND ALL DRAINAGE STRUCTURES TO COLLECT SURFACE RUNOFF AND CONTROL SILTATION AND RELEASE WATER AT A GRADUAL RATE. ALL DISTURBED AREAS WILL BE GRADED, SEEDED AND MULCHED.
- ALL SHOULDERS SHALL BE SEEDED TO STABILIZE THE SOIL. SEED BED PREPARATION SHALL BE CONDUCTED ACCORDING TO NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES (NCODT). THE GROUND SURFACE SHALL BE CLEARED OF STUMPS, STONES, ROOTS, CABLES, WIRE, GRADE STAKES, AND OTHER MATERIALS THAT MIGHT HINDER PROPER GRADING, TILLAGE, SEEDING OR SUBSEQUENT MAINTENANCE OPERATIONS. GRADES ON THE AREA TO BE SEEDED SHALL BE MAINTAINED IN A TRUE AND EVEN CONDITION. MAINTENANCE SHALL INCLUDE ANY NECESSARY REPAIRS TO PREVIOUSLY GRADED AREAS. ALL GRADED AREAS SHALL BE THOROUGHLY TILLED TO A DEPTH OF AT LEAST FOUR (4) INCHES BY PLOWING, DISKING, HARROWING, OR OTHER APPROVED METHODS UNTIL THE CONDITION OF THE SOIL IS ACCEPTABLE. ON SITES WHERE SOIL CONDITIONS ARE SUCH THAT HIGH CLAY CONTENT AND EXCESSIVE COMPACTION CAUSE DIFFICULTY IN GETTING CLODS AND LUMPS EFFECTIVELY PULVERIZED, THE CONTRACTOR SHALL USE THE ROTARY TILLAGE MACHINERY UNTIL THE MIXING OF THE SOIL IS ACCEPTABLE AND NO CLODS OR CLUMPS REMAIN LARGER THAN 1 1/2 INCHES IN DIAMETER. A FIRM AND COMPACT SEED BED IS REQUIRED AND AFTER BEING GRADED, THE SEED BED SHALL BE LIGHTLY COMPACTED WITH A LAND ROLLER, SUCH AS A CULTIPACKER, BEFORE AND AFTER SEEDING. LIMESTONE SHALL BE DOLOMITIC AGRICULTURE GROUND LIMESTONE CONTAINING NOT LESS THAN 10 PERCENT MAGNESIUM OXIDE. LIME SHALL BE UNIFORMLY APPLIED AT THE RATE OF 2 TONS PER ACRE AS STORED IN AG TOTES PER THE SPECIFICATIONS. IF REQUIRED PER SPECIFICATIONS, FERTILIZER SHALL BE INCORPORATED INTO THE UPPER THREE OR FOUR INCHES OF PREPARED SEED BED JUST PRIOR TO THE LAST TILLAGE OPERATION, BUT IN NO CASE SHALL IT BE APPLIED MORE THAN THREE DAYS PRIOR TO SEEDING. FERTILIZER SHALL BE USED IMMEDIATELY AFTER DELIVERY OR STORING IN A MANNER THAT WILL NOT PERMIT IT TO HARDEN OR DESTROY ITS EFFECTIVENESS.

## PERMANENT SEEDING

APPLY DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE. IF HYDRATED LIME IS USED, FOLLOW RECOMMENDATION FROM SOIL TEST. COST OF THE TEST SHALL BE BORNE BY THE CONTRACTOR.

APPLY 10-10-10 FERTILIZER OUTSIDE OF NCODT RIGHT-OF-WAY AT A RATE OF 1,000 POUNDS PER ACRE.

APPLY 10-20-20 FERTILIZER WITHIN NCODT RIGHT-OF-WAY AT A RATE OF 500 POUNDS PER ACRE

PROVIDE PERMANENT SEEDING IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

OUTSIDE OF NCODT R/W	
(JANUARY 1 – MARCH 31)	
COMMON BERMUDA GRASS (UNHULLED)	- 20 POUNDS PER ACRE
(APRIL 1 – JULY 31)	
COMMON BERMUDA GRASS (HULLED)	- 15 POUNDS PER ACRE
CENTPEDE	- 8 POUNDS PER ACRE
(AUGUST 1 – DECEMBER 31)	
COMMON BERMUDA GRASS (UNHULLED)	- 15 POUNDS PER ACRE
TALL FESCUE	- 120 POUNDS PER ACRE
CENTPEDE	- 8 POUNDS PER ACRE

WITHIN NCODT R/W	
(JANUARY 1 – DECEMBER 31)	
FESCUE	- 50 POUNDS PER ACRE
PENSACOLA BAHAGRASS	- 25 POUNDS PER ACRE
CENTPEDE	- 5 POUNDS PER ACRE

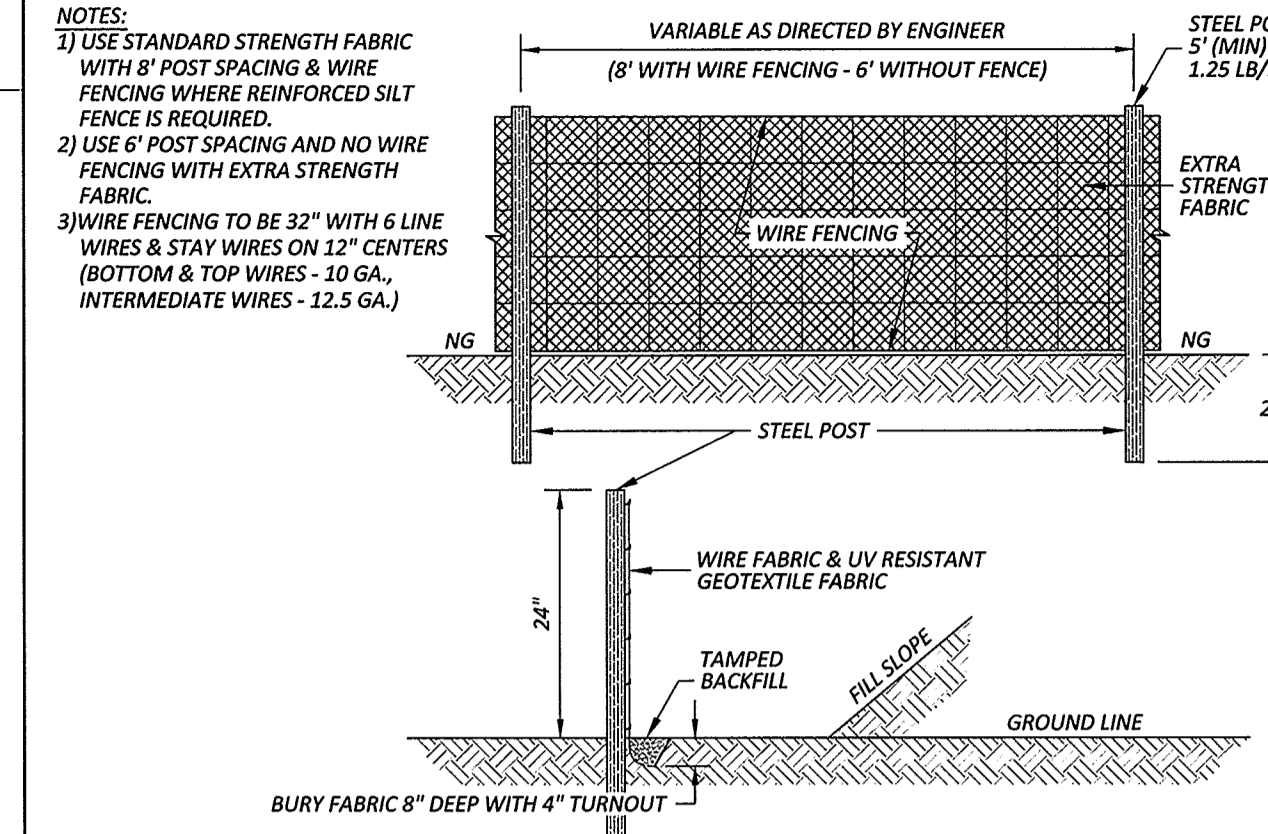
- GROUND STABILIZATION (PER NCG010000)
  - SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:
    - ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN A HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
    - ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
  - CONDITIONS - IN MEETING THE STABILIZATION REQUIREMENTS ABOVE, THE FOLLOWING CONDITIONS OR EXEMPTIONS SHALL APPLY:
    - EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE.
    - ALL SLOPES 50' IN LENGTH OR GREATER SHALL APPLY THE GROUND COVER WITHIN 7 DAYS EXCEPT WHEN THE SLOPE IS FLATTER THAN 4:1. SLOPES LESS THAN 50' SHALL APPLY GROUND COVER WITHIN 14 DAYS EXCEPT WHEN SLOPES ARE STEEPER THAN 3:1, THE 7-DAY REQUIREMENT APPLIES.
    - ANY SLOPED AREA FLATTER THAN 4:1 SHALL BE EXEMPT FROM THE 7-DAY GROUND COVER REQUIREMENT.
    - SLOPES 10' OR LESS IN LENGTH SHALL BE EXEMPT FROM THE 7-DAY GROUND COVER REQUIREMENT EXCEPT WHEN THE SLOPE IS STEEPER THAN 2:1.
    - ALTHOUGH STABILIZATION IS USUALLY SPECIFIED AS GROUND COVER, OTHER METHODS, SUCH AS CHEMICAL STABILIZATION, MAY BE ALLOWED ON A CASE-BY-CASE BASIS.
    - FOR PORTIONS OF PROJECTS WITHIN ONE MILE AND DRAINING TO TROUT WATERS AND HIGH QUALITY WATERS AS CLASSIFIED BY THE ENVIRONMENTAL MANAGEMENT COMMISSION, STABILIZATION WITH GROUND COVER SHALL BE ACHIEVED AS SOON AS PRACTICABLE BUT IN ANY EVENT ON ALL AREAS OF THE SITE WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACT.
    - FOR PORTIONS OF PROJECTS LOCATED IN OUTSTANDING RESOURCE WATERS WATERSHEDS AS CLASSIFIED BY THE ENVIRONMENTAL MANAGEMENT COMMISSION, STABILIZATION WITH GROUND COVER SHALL BE ACHIEVED AS SOON AS PRACTICABLE BUT IN ANY EVENT ON ALL AREAS OF THE SITE WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACT.
    - PORTIONS OF A SITE THAT ARE LOWER IN ELEVATION THAN ADJACENT DISCHARGE LOCATIONS AND ARE NOT EXPECTED TO DISCHARGE DURING CONSTRUCTION MAY BE EXEMPT FROM THE TEMPORARY GROUND COVER REQUIREMENTS IF IDENTIFIED ON THE APPROVED E&S PLAN OR ADDED BY THE PERMITTING AUTHORITY.

- SELF INSPECTION AND REPORTING REQUIREMENTS (PER NCG010000)
 

MINIMUM SELF INSPECTION AND REPORTING REQUIREMENTS ARE AS FOLLOWS UNLESS OTHERWISE APPROVED IN WRITING BY THE DIVISION OF WATER QUALITY.

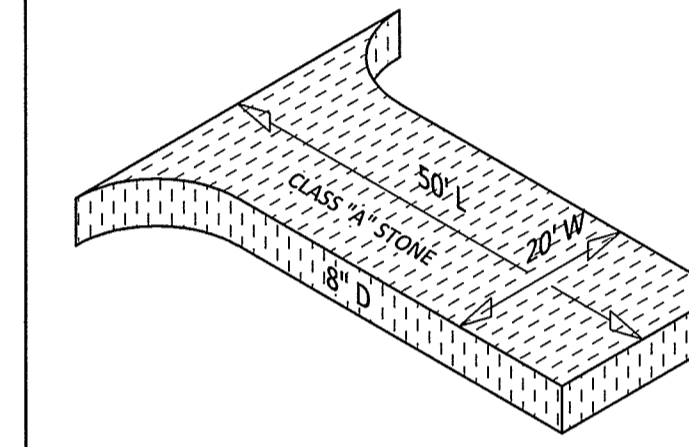
  - A RAIN GAUGE SHALL BE MAINTAINED IN GOOD WORKING ORDER ON THE SITE UNLESS ANOTHER RAIN MONITORING DEVICE HAS BEEN APPROVED BY THE PERMITTING AUTHORITY.
  - A WRITTEN RECORD OF THE DAILY RAINFALL AMOUNTS SHALL BE RETAINED AND ALL RECORDS SHALL BE MADE AVAILABLE TO DWQ OR AUTHORIZED AGENT UPON REQUEST (NOTE: IF NO RAINFALL OCCURRED, THE PERMITTEE MUST RECORD "ZERO").
  - EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. INSPECTION RECORDS MUST BE MAINTAINED FOR EACH INSPECTION EVENT AND FOR EACH MEASURE. AT A MINIMUM, INSPECTION OF MEASURES MUST OCCUR AT THE FREQUENCY INDICATED BELOW:
    - ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE INSPECTED BY OR UNDER THE DIRECTION OF THE PERMITTEE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS, AND ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE INSPECTED BY OR UNDER THE DIRECTION OF THE PERMITTEE WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.50 INCHES OF RAIN PER 24 HOUR PERIOD.
    - TIMES WHEN A DETERMINATION THAT ADVERSE WEATHER CONDITIONS PREVENTED INSPECTIONS SHOULD BE DOCUMENTED ON THE INSPECTION RECORD.
  - ONCE LAND DISTURBANCE HAS BEGUN ON THE SITE, STORMWATER RUNOFF DISCHARGE OUTFALLS SHALL BE INSPECTED BY OBSERVATION FOR EROSION, SEDIMENTATION AND OTHER STORMWATER DISCHARGE CHARACTERISTICS SUCH AS CLARITY, FLOATING SOLIDS, AND OIL SHEENS. INSPECTIONS OF THE OUTFALLS SHALL BE MADE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.50 INCHES OF RAIN PER 24 HOUR PERIOD.
  - INSPECTIONS ARE ONLY REQUIRED TO BE MADE DURING NORMAL BUSINESS HOURS. WHEN ADVERSE WEATHER CONDITIONS WOULD CAUSE THE SAFETY OF THE INSPECTION PERSONNEL TO BE IN JEOPARDY, THE INSPECTION CAN BE DELAYED UNTIL IT IS DEEMED SAFE TO PERFORM THESE DUTIES. IF THE INSPECTION CANNOT BE DONE ON THAT DAY, IT MUST BE COMPLETED ON THE FOLLOWING BUSINESS DAY.
  - TWENTY-FOUR HOUR REPORTING FOR VISIBLE SEDIMENT DEPOSITION
    - THE PERMITTEE SHALL REPORT TO THE DIVISION OF WATER QUALITY CENTRAL OFFICE OR THE APPROPRIATE REGIONAL OFFICE ANY VISIBLE SEDIMENT BEING DEPOSITED IN ANY STREAM OR RIVER OR ANY NONCOMPLIANCE WHICH MAY ENDANGER HEALTH OR THE ENVIRONMENT. (SEE SECTION IX OF THIS PERMIT FOR CONTACT INFORMATION.) ANY INFORMATION SHALL BE PROVIDED ORALLY OR ELECTRONICALLY WITHIN 24 HOURS FROM THE TIME THE PERMITTEE BECAME AWARE OF THE CIRCUMSTANCES. VISIBLE DISCOLORATION OR SUSPENDED SOLIDS IN THE EFFLUENT SHOULD BE RECORDED ON THE INSPECTION RECORD AS PROVIDED BELOW.
    - A WRITTEN SUBMISSION SHALL BE PROVIDED TO THE APPROPRIATE REGIONAL OFFICE OF THE DWQ WITHIN 5 DAYS OF THE TIME THE PERMITTEE BECAME AWARE OF THE CIRCUMSTANCES. THE WRITTEN SUBMISSION SHALL CONTAIN A DESCRIPTION OF THE SEDIMENT DEPOSITION AND ACTIONS TAKEN TO ADDRESS THE CAUSE OF THE DEPOSITION. THE DIVISION OF WATER QUALITY STAFF MAY WAIVE THE REQUIREMENT FOR A WRITTEN REPORT ON A CASE-BY-CASE BASIS.
  - RECORDS OF INSPECTIONS MADE DURING THE PREVIOUS 30 DAYS SHALL REMAIN ON THE SITE AND AVAILABLE FOR AGENCY INSPECTORS AT ALL TIMES DURING NORMAL WORKING HOURS, UNLESS THE PERMITTING AUTHORITY PROVIDES A SITE-SPECIFIC EXEMPTION BASED ON UNIQUE SITE CONDITIONS THAT MAKE THIS REQUIREMENT NOT PRACTICAL. OLDER RECORDS MUST BE MAINTAINED FOR A PERIOD OF ONE YEAR AFTER PROJECT COMPLETION AND MADE AVAILABLE UPON REQUEST. THE RECORDS MUST PROVIDE THE DETAILS OF EACH INSPECTION INCLUDING OBSERVATIONS, AND ACTIONS TAKEN IN ACCORDANCE WITH THIS PERMIT. THE PERMITTEE SHALL RECORD THE REQUIRED RAINFALL AND MONITORING OBSERVATIONS ON THE "INSPECTION RECORD FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000" FORM PROVIDED BY THE DIVISION OR A SIMILAR INSPECTION FORM THAT IS INCLUSIVE OF ALL OF THE ELEMENTS CONTAINED IN THE DIVISION'S FORM. ELECTRONIC STORAGE OF RECORDS WILL BE ALLOWED IF APPROVED BY THE PERMITTING AUTHORITY.
  - INSPECTION RECORDS MUST INCLUDE, AT A MINIMUM, THE FOLLOWING:
    - CONTROL MEASURE INSPECTIONS: INSPECTION RECORDS MUST INCLUDE AT A MINIMUM:
      - IDENTIFICATION OF THE MEASURES INSPECTED,
      - DATE AND TIME OF THE INSPECTION,
      - NAME OF THE PERSON PERFORMING THE INSPECTION,
      - INDICATION OF WHETHER THE MEASURES WERE OPERATING PROPERLY,
      - DESCRIPTION OF MAINTENANCE NEEDS FOR THE MEASURE,
      - CORRECTIVE ACTIONS TAKEN AND
      - DATE OF ACTIONS TAKEN.
    - STORMWATER DISCHARGE INSPECTIONS: INSPECTION RECORDS MUST INCLUDE AT A MINIMUM:
      - IDENTIFICATION OF THE DISCHARGE OUTFALL INSPECTED,
      - DATE AND TIME OF THE INSPECTION,
      - NAME OF THE PERSON PERFORMING THE INSPECTION,
      - EVIDENCE OF INDICATORS OF STORMWATER POLLUTION SUCH AS OIL SHEEN, FLOATING OR SUSPENDED SOLIDS OR DISCOLORATION,
      - INDICATION OF VISIBLE SEDIMENT LEAVING THE SITE,
      - ACTIONS TAKEN TO CORRECT/PREVENT SEDIMENTATION AND
      - DATE OF ACTIONS TAKEN.
    - VISIBLE SEDIMENTATION FOUND OUTSIDE THE SITE LIMITS: INSPECTION RECORDS MUST INCLUDE:
      - AN EXPLANATION AS TO THE ACTIONS TAKEN TO CONTROL FUTURE RELEASES,
      - ACTIONS TAKEN TO CLEAN UP OR STABILIZE THE SEDIMENT THAT HAS LEFT THE SITE LIMITS AND
      - THE DATE OF ACTIONS TAKEN.
    - VISIBLE SEDIMENTATION FOUND IN STREAMS OR WETLANDS: ALL INSPECTIONS SHOULD INCLUDE EVALUATION OF STREAMS OR WETLANDS ONSITE OR OFFSITE (WHERE ACCESSIBLE) TO DETERMINE IF VISIBLE SEDIMENTATION HAS OCCURRED.
  - VISIBLE STREAM TURBIDITY - IF THE DISCHARGE FROM A SITE RESULTS IN VISIBLE STREAM TURBIDITY, INSPECTION RECORDS MUST RECORD THAT EVIDENCE AND ACTIONS TAKEN TO REDUCE SEDIMENT CONTRIBUTIONS. SITES DISCHARGING TO STREAMS NAMED ON THE STATE'S 303(D) LIST AS IMPAIRED FOR SEDIMENT-RELATED CAUSES MAY BE REQUIRED TO PERFORM ADDITIONAL MONITORING, INSPECTIONS OR APPLICATION OF MORE-STRINGENT MANAGEMENT PRACTICES IF IT IS DETERMINED THAT THE ADDITIONAL REQUIREMENTS ARE NEEDED TO ASSURE COMPLIANCE WITH THE FEDERAL OR STATE IMPAIRED-WATERS CONDITIONS. IF A DISCHARGE COVERED BY THIS PERMIT ENTERS A STREAM SEGMENT THAT IS LISTED ON THE IMPAIRED STREAMS LIST FOR SEDIMENT-RELATED CAUSES, AND A TOTAL MAXIMUM DAILY LOAD (TMDL) HAS BEEN PREPARED FOR THOSE POLLUTANTS, THE PERMITTEE MUST IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE SITE IS CONSISTENT WITH THE ASSUMPTIONS AND MEETS THE REQUIREMENTS OF THE APPROVED TMDL. THE DWQ 303(D) LIST CAN BE FOUND AT: [HTTP://H2O.ENR.STATE.NC.US/TMDL/GENERAL\\_303D.HTM](http://h2o.enr.state.nc.us/tmdl/general_303d.htm)
  - IN THE EVENT OF A CONFLICT BETWEEN THE REQUIREMENTS OF THE SEDIMENTATION POLLUTION CONTROL ACT, THE SUBMITTED PLAN AND/OR THE CONTRACT SPECIFICATIONS, THE MORE RESTRICTIVE REQUIREMENT SHALL PREVAIL. THE LAND-DISTURBING ACTIVITY SHALL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
  - THE LATEST APPROVED EROSION AND SEDIMENTATION CONTROL PLAN WILL BE USED DURING PERIODIC UNANNOUNCED INSPECTIONS TO DETERMINE COMPLIANCE AND A COPY OF THE PLAN MUST BE ON FILE AT THE JOB SITE. IF IT IS DETERMINED THAT THE IMPLEMENTED PLAN IS INADEQUATE, THIS OFFICE MAY REQUIRE THE INSTALLATION OF ADDITIONAL MEASURES AND/OR THAT THE PLAN BE REVISED TO COMPLY WITH STATE LAW.
  - THE CERTIFICATE OF PLAN APPROVAL MUST BE POSTED AT THE PRIMARY ENTRANCE TO THE JOB SITE AND REMAIN UNTIL THE SITE IS PERMANENTLY STABILIZED.

- A BUFFER ZONE, SUFFICIENT TO RESTRAIN VISIBLE SEDIMENTATION WITHIN THE FIRST 25% OF THE WIDTH CLOSEST TO THE LAND DISTURBANCE, MUST BE PROVIDED AND MAINTAINED BETWEEN THE LAND-DISTURBING ACTIVITY AND ANY ADJACENT PROPERTY OR WATERCOURSE.
- IN ORDER TO COMPLY WITH THE INTENT OF THE ACT, THE SCHEDULING OF THE LAND-DISTURBING ACTIVITIES IS TO BE SUCH THAT BOTH THE AREA OF EXPOSURE AND THE TIME BETWEEN LAND DISTURBANCE AND PROVIDING GROUND COVER IS MINIMIZED.
- UNLESS A TEMPORARY, MANUFACTURED, LINING MATERIAL HAS BEEN SPECIFIED, A CLEAN STRAW MULCH MUST BE APPLIED, AT A MINIMUM RATE OF 2 TONS/ACRE, TO ALL SEEDED AREAS. THE MULCH MUST COVER AT LEAST 75% OF THE SEEDED AREA AFTER IT IS EITHER TACKED WITH AN ACCEPTABLE TACKING MATERIAL, OR CRIMPED IN PLACE.
- ADEQUATE AND APPROPRIATE MEASURES MUST BE PROPERLY INSTALLED DOWNSTREAM, WITHIN THE LIMITS OF DISTURBANCE, OF ANY LAND-DISTURBING ACTIVITY TO PREVENT SEDIMENT FROM LEAVING THE LIMITS OF DISTURBANCE, ENTERING EXISTING DRAINAGE SYSTEMS, IMPACTING AN ON-SITE NATURAL WATERCOURSE OR ADJOINING PROPERTY.
- SILT FENCES, INCLUDING OUTLET SECTIONS, ARE NOT APPROPRIATE FOR AREAS OF CONCENTRATED FLOW SUCH AS SWALES OR DITCHES. PROVIDE ADEQUATE AND APPROPRIATE MEASURES FOR ALL CONSTRUCTION WITHIN AREAS OF CONCENTRATED FLOW.
- ALL SLOPES AFFECTED DURING THE INSTALLATION/CLEANUP PROCESS MUST BE PROVIDED ON A GRADE THAT CAN BE RETAINED BY VEGETATIVE OR OTHER APPROPRIATE COVER.
- AT ANY GIVEN TIME WITHIN THE PROJECT AREA, THE MAXIMUM AFFECTED, EXPOSED AND "UNRESTORED" AREA IS LIMITED TO THE LESSER OF 2 (TWO) ACRES OR THE EFFECTIVE LENGTH ALONG ANY GIVEN ROAD SECTION LIMITED TO THE LESSER OF 2 (TWO) ACRES OR THE EFFECTIVE LENGTH ALONG ANY GIVEN ROAD SECTION (APPROXIMATELY 2 MILES). A ROAD SECTION BEING DEFINED AS A CONTINUOUS SECTION OF ROAD HAVING THE SAME SR NUMBER OR ROAD NAME.
- INSTALL SILT FENCE OVER AND AROUND THE TOP OF EXISTING PIPES AND INLETS AT DISTURBED AREAS.
- ALL DISTURBED AREAS SHALL BE GRADED TO MINIMIZE RUNOFF.
- INSTALL SILT FENCE AROUND SPOIL PILES AND ALONG TRENCHES TO MINIMIZE SEDIMENT FROM ENTERING ROADSIDE DITCHES AND EXISTING DRAINAGE OUTLETS.
- PROVIDE EROSION CONTROL MEASURES AROUND STOCK/WASTE PILES AND STAGING AREAS AS NEEDED OR AS DIRECTED BY ENGINEER.
- PROTECT STORM PIPE INLETS FROM SEDIMENT RUNOFF FROM LAND DISTURBING ACTIVITIES WITH SILT FENCE, STONE CHECK DAM, OR ABC FILTER AS APPROPRIATE FOR SITE CONDITIONS.
- REPLACE DISTURBED STORM PIPE OUTLET PROTECTION WITH EQUAL OR GREATER AMOUNT OF RIP-RAP WITHIN 15 DAYS OF DISTURBANCE - OR AS REQUIRED BY NCDEM-DWQ.
- WHERE THE AREA AROUND AN OUTLET IS DISTURBED AND NO OUTLET PROTECTION EXISTS, CLASS "B" RIP-RAP SHALL BE PLACED AROUND PIPE OUTLET AS DIRECTED BY THE ENGINEER.
- PROVIDE EROSION CONTROL MATTING WHERE INDICATED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- PROVIDE PERMANENT SEEDING IN ACCORDANCE WITH THE SEEDING SCHEDULE.
- REPORT EROSION CONTROL DEFICIENCIES TO THE ENGINEER IMMEDIATELY.
- ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL ALL SEEDING IS ESTABLISHED AND CONSTRUCTION AREAS HAVE BEEN STABILIZED.
- CONTRACTOR SHALL INSPECT AND MAINTAIN AS NEEDED ALL EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH MAJOR STORM EVENT. WHEN INSPECTION REVEALS THE TRAP TO BE REDUCED TO 50% OF DESIGN CAPACITY OR THE DEVICE TO BE DEFICIENT IN ITS INTENDED PURPOSE SUCH AS FABRIC DETERIORATION FOR SILT FENCES THE CONTRACTOR SHALL RESTORE THE DEVICE TO ITS ORIGINAL CONDITION. FAILURE TO KEEP ALL EROSION CONTROL DEVICES IN PROPER WORKING ORDER MAY RESULT IN A STOP WORK ORDER OR CIVIL PENALTIES UP TO \$5,000.00 PER DAY OF VIOLATION.



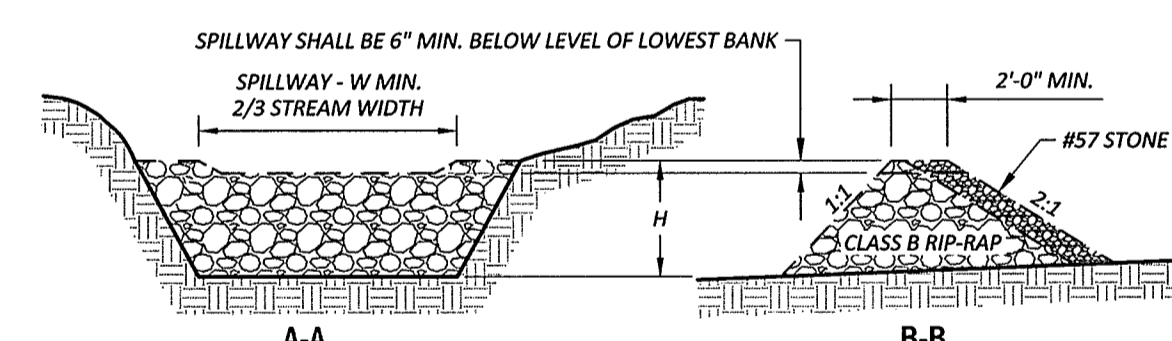
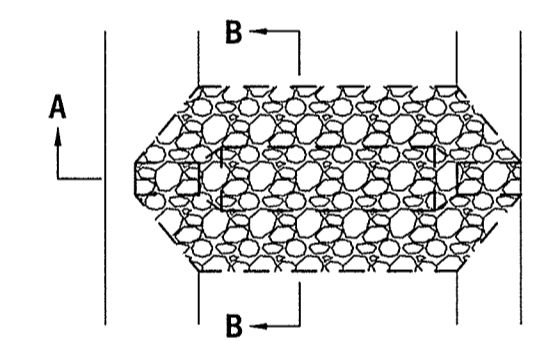
## 2 TEMPORARY SILT FENCE

N.T.S.  
EG-1



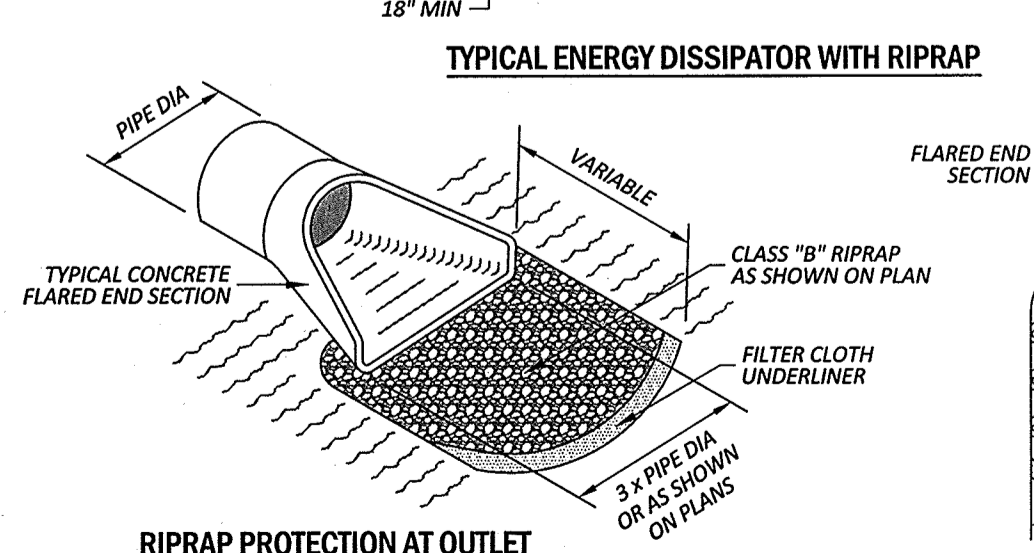
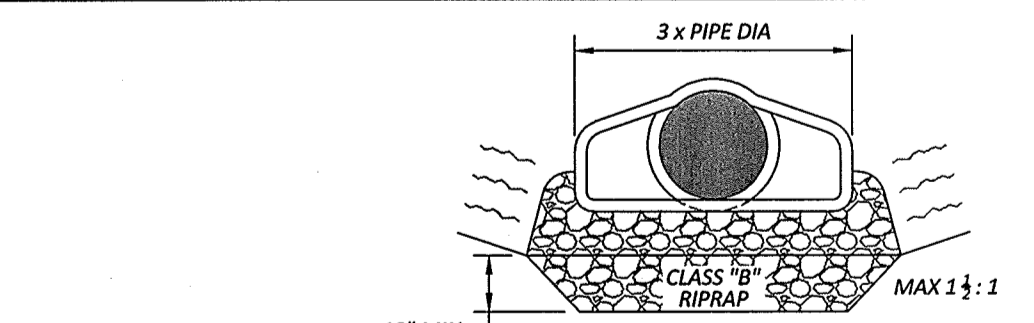
## 3 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

N.T.S.  
EG-3B



## 4 TEMPORARY ROCK SILT CHECK DAM

N.T.S.  
EG-3



## 1 TYPICAL ENERGY DISSIPATORS

N.T.S.  
EG-1B

## New Stabilization Timeframes

Site Area Description	Stabilization	Timeframe Exceptions
Perimeter dikes, swales, ditches, 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 perimeter and HQW Zones

## REVISIONS:

NO.	DESCRIPTION	DATE	APP'D



EROSION CONTROL DETAILS  
 CITY OF HAVELOCK  
 LEWIS FARM PARK  
 CRAVEN COUNTY  
 NORTH CAROLINA

**Rivers**  
 NC License: F0334  
 CIVIL & ASSOCIATES, INC. 10/6  
 riversandassociates.com - Since 1976  
 107 East Second Street  
 Greenville, NC 27659  
 (252) 752-4195  
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 Surveyors  
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August 25, 2017  
 SURVEY - DRAFT SKR  
 DESIGN SKR CHECK JDW  
 PROJECT No. 2014030  
 DRAWING No. W-3614  
 SCALE: AS NOTED  
 SHEET No. OF 16  
**C4**

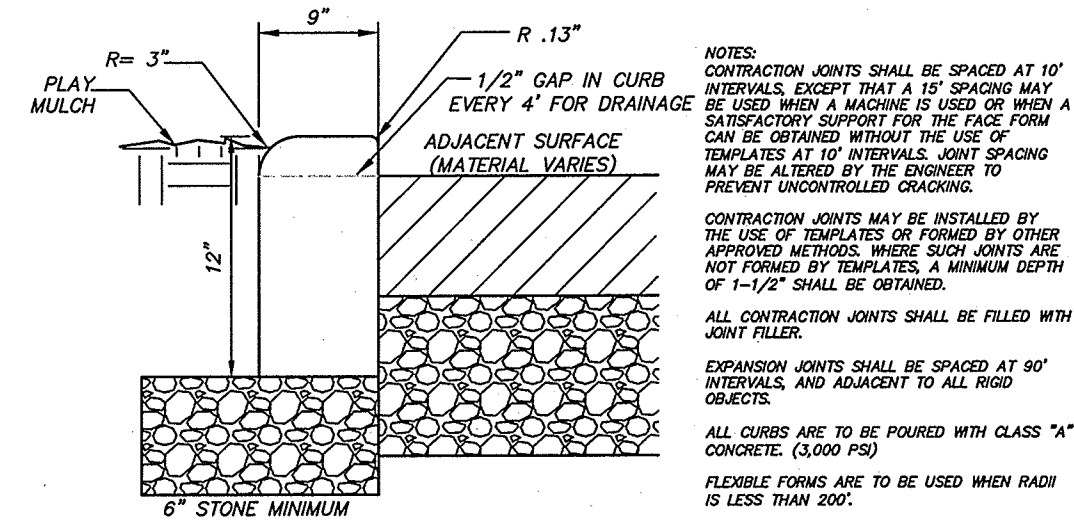
**SEEDING SCHEDULE**

**PERMANENT SEEDING:**

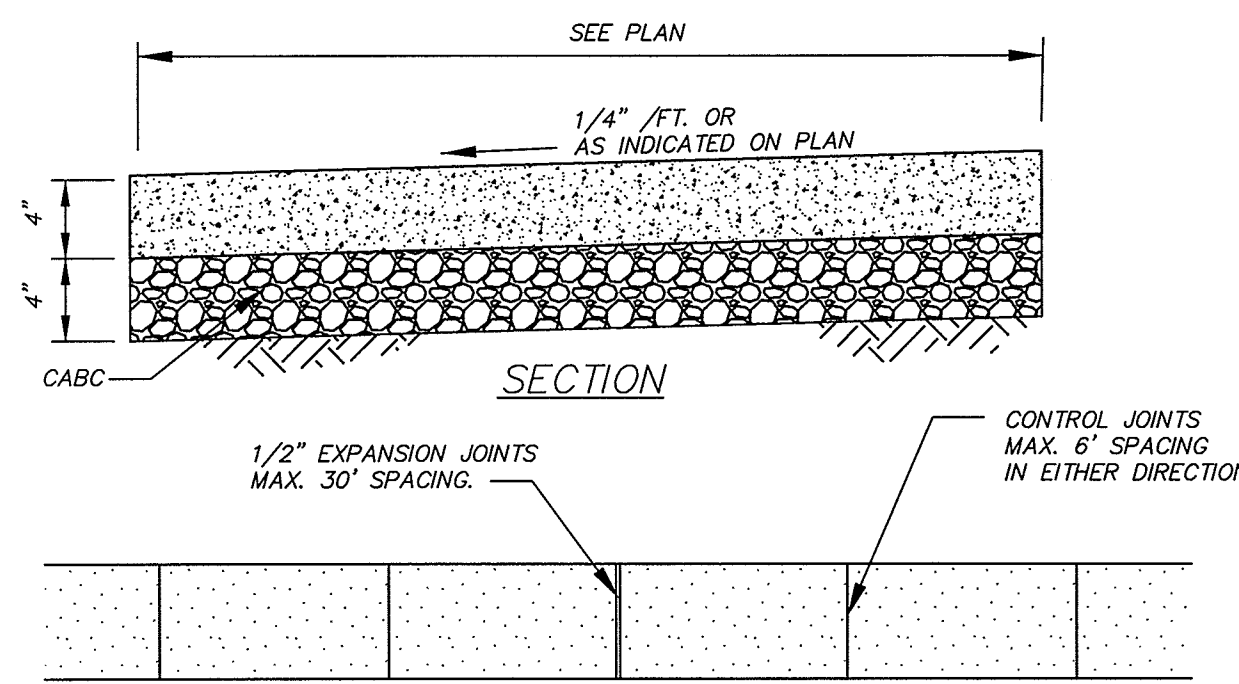
DATE:			
JAN 1 - MAR 31	COMMON BERMUDA GRASS (UNHULLED)	20 LBS/ACRE	
APR 1 - JUL 31	COMMON BERMUDA GRASS (UNHULLED)	15 LBS/ACRE	
AUG 1 - DEC 31	TALL FESCUE COMMON BERMUDA GRASS (UNHULLED)	60 LBS/ACRE 20 LBS/ACRE	
YEAR ROUND	AGRICULTURAL LIMESTONE	2 TONS/ACRE	
YEAR ROUND	FERTILIZER 10-10-10 ANAYLIS	1000 LBS/ACRE	
YEAR ROUND	MULCH	2 TONS/ACRE (APPRX. 80 BALES)	
YEAR ROUND	ANCHOR	TACK WITH LIQUID ASPHALT @ 400 GAL/ACRE OR EMULSIFIED ASPHALT @ 400 GAL/ACRE	

**TEMPORARY SEEDING:**

DATE:			
APR 15 - AUG 14	GERMAN MILLET	50 LBS/ACRE	
AUG 15 - APR 14	RYE (GRAIN)	50 LBS/ACRE	
YEAR ROUND	FERTILIZER 10-10-10 ANAYLIS	400 LBS/ACRE	



**1 ROLLED-EDGE CONCRETE CURB**  
N.T.S.  
DWG26



**2 SIDEWALK DETAIL**  
N.T.S.  
SW-7

**Major Elements of DWQ Construction General Permit**

This document contains the major elements of the recently-revised North Carolina Division of Water Quality (DWQ) Construction General Permit (NCG01) with emphasis placed on those elements that differ from the previous permit (expiration on August 2, 2011). Since the summary list below cannot contain details of every change, the complete Permit should be used to assure full implementation. See: <http://portal.ncdenr.org/web/wq/ws/su/construction>

Site Area Description	Stabilization Time Frame	Stabilization Time Frame 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 feet in length
All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and HQW Zones)

\* Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable." (Section II.B(2)(b))

The major change in the Permit from the previous one is the shorter times to apply ground stabilization such as mulch, wheat straw, or grasses. The NC laws and rules relating to the Sediment Act require, in most places, ground stabilization within 21 days. Based on the new EPA requirements and 9-months' work with a permit advisory group, CTAG, the Division and EPA-developed permit, now contains requirements for ground cover within 14, and in some places, 7 days.

- 2) Building Wastes Handling**
- No paint or liquid wastes in stream or storm drains
  - Dedicated areas for demolition, construction and other wastes must be located 50' from storm drains and streams unless no reasonable alternatives available.
  - Earthen-material stockpiles must be located 50' from storm drains and streams unless no reasonable alternatives available.
  - Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.
- 3) Discharges to Federally-listed Waters**
- Requirements are the same as in previous permit.
  - The permit allows reduction from the 20 acre minimum if the Director of DWQ determines that other BMPs provide equivalent protection.

**Major Elements of DWQ Construction General Permit- Continued**

**4) Inspections**

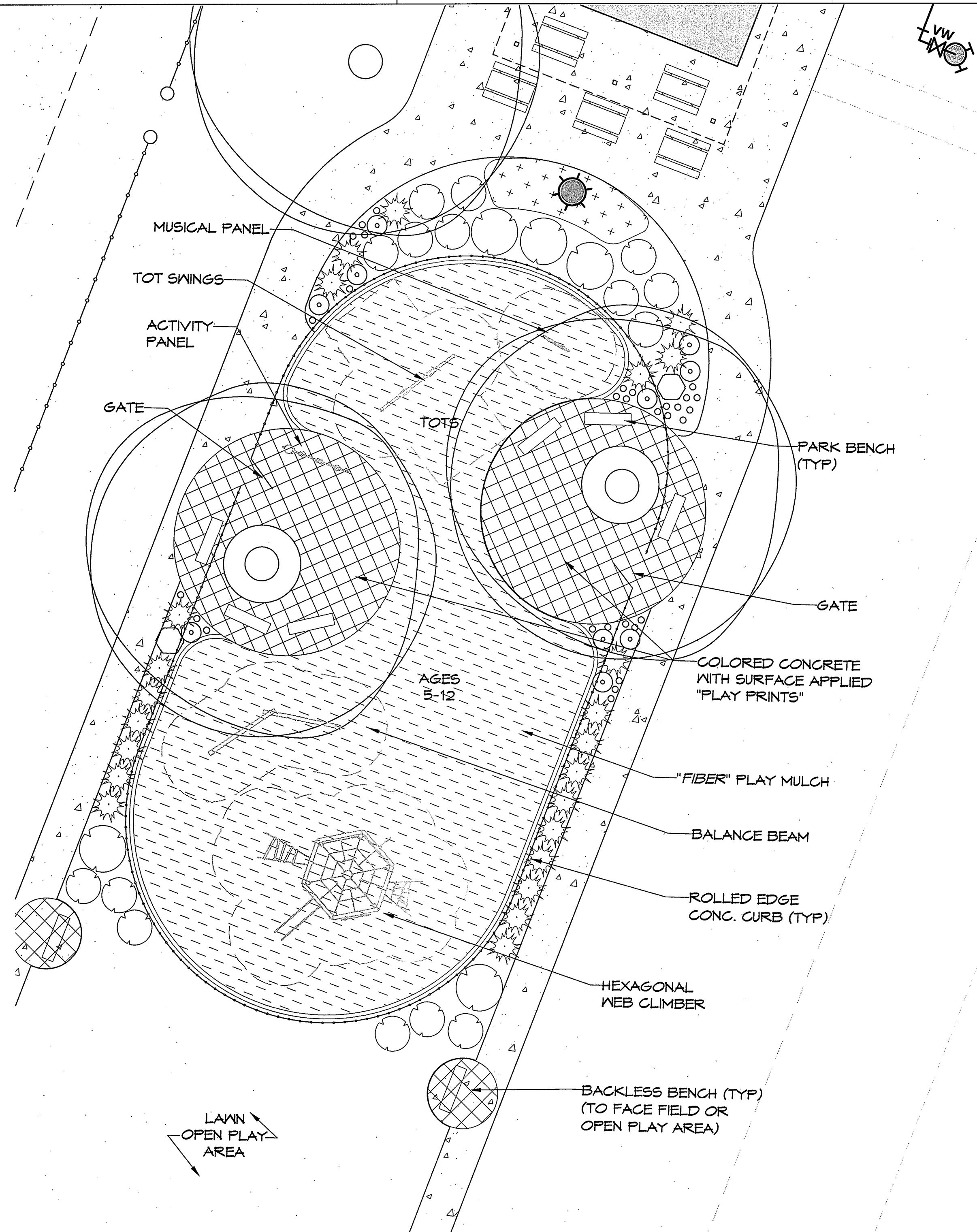
- Same weekly inspection requirements
- Same rain gauge & inspections after 0.5" rain event
- Inspections are only required during "normal business hours"
- Inspection reports must be available on-site during business hours unless a site-specific exemption is approved.
- Records must be kept for 3 years and available upon request.
- Electronically-available records may be substituted under certain conditions.

**5) Implementation of New Permit Conditions**

- Projects permitted under the previous permit can continue to follow the previously-permitted conditions.
- Complete applications received prior to August 3, 2011 can follow conditions of approved application.
- Applications received after August 2, 2011 must comply with new permit conditions.

- 6) Conditions in Erosion & Sedimentation Control Plans\***
- Designation on the plans where the 7 and 14-day ground stabilization requirements of the NPDES permit apply
  - Designation on the plans where basins that comply with the surface-withdrawal requirements of the NPDES permit are located.
- 7) Building Wastes Handling**
- No paint or liquid wastes in stream or storm drains
  - Dedicated areas for demolition, construction and other wastes located 50' from storm drains and streams unless no reasonable alternatives are available
  - Earthen-material stockpiles located 50' from storm drains unless no reasonable alternatives available.
  - Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.
- 8) Sediment Basins**
- Outlet structures must withdraw from basin surface unless drainage area is less than 1 acre.
  - Use only DWQ-approved flocculants.

\* In order for the E&S Plan to satisfy the conditions of the Construction General permit, it must identify areas where the ground stabilization requirements apply and the location of the basins where the surface-withdrawal requirements apply.



REVISIONS:

REV.	DATE	DESCRIPTION

**SITE DETAILS**

**CITY OF HAVELOCK**

**LEWIS FARM PARK**

GRAVEN COUNTY NORTH CAROLINA

**Rivers**  
riversandassociates.com  
107 East Second Street  
Greenville, NC 27659  
(252) 782-4135

NC License: F-0334

10.03.17  
August 25, 2017

SURVEY	-	DRAFT	SKR
DESIGN	SKR	CHECK	JDW
PROJECT No.	2014030		
DRAWING No.	W-3614		
SCALE:	1" = 40'		
SHEET No.			OF 16

**C5**

P:\Projects\2014\2014030301- Lewis Farm Park - Final\DWG-C5-SITE DETAILS- BROWN.dwg 17/08/2017 09:18:32 AM

**REQUIRED FEATURES OF A PUMP TANK**

**CONSTRUCTION:**

1. BAFFLE WALL MODIFIED (IF PRESENT)
2. ACCESS OPENING (MINIMUM 24 INCHES) WITH ALUMINUM LID.
3. ACCESS RISER SHALL BE A MINIMUM 6 INCHES ABOVE GRADE, SEALED TO TANK WITH A MIN. ONE INCH DIAMETER MASTIC, BUTYL RUBBER OR OTHER Pliable SEALANT AND THEN PLASTERED ALONG JOINT, INSIDE AND OUT, WITH HYDRAULIC CEMENT OR CEMENT MORTAR.
4. WATER TIGHT PUMP TANK. A ONE PIECE PUMP TANK, OR A TWO PIECE PUMP TANK SEALED AT JOINT WITH A MINIMUM ONE INCH DIAMETER MASTIC, BUTYL RUBBER OR OTHER APPROVED Pliable SEALANT AND PLASTERED ALONG JOINT, INSIDE AND OUT, WITH HYDRAULIC CEMENT OR CEMENT MORTAR. TWO-PIECE TANK WILL REQUIRE 24 HOUR LEAK TEST IF SOIL WETNESS IS PRESENT WITHIN 5 FEET OF TOP OF TANK.

**PUMP:**

5. SUBMERSIBLE EFFLUENT PUMP (U.L. LISTED OR EQUIVALENT) CAPABLE OF HANDLING AT LEAST THREE-QUARTER INCH SOLIDS. PUMP SHALL BE SIZED TO HANDLE THE DESIGN TDH AND GPM. MANUFACTURERS PUMP CURVE SPECS SHALL BE REQUIRED.

**FITTINGS:**

6. GATE VALVE-1/2 INCH AND ONE-HALF - SCHEDULE 80
7. PVC TRUE UNION BALL CHECK VALVE - SCHEDULE 80
8. UNION OR DISCONNECT - SCHEDULE 80

**LEVEL CONTROL FLOATS AND FLOAT TREE (SEALED MERCURY TYPE OR EQUIVALENT):**

9. CONTROL FLOATS SHALL BE SECURELY TIED OR ANCHORED TO A FLOAT TREE. SEE DIAGRAM FOR EXAMPLE.
10. ONE GALLON CONCRETE BUCKET.
11. PUMP-OFF LEVEL SHALL BE SET TO KEEP PUMP SUBMERGED AT ALL TIMES OR IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. MINIMUM 20 INCHES ABOVE TANK BOTTOM.
12. PUMP-ON LEVEL 9" ABOVE PUMP OFF FLOAT.
13. HIGH WATER FLOAT SET FOR A MAXIMUM 6" ABOVE PUMP-ON FLOAT UNLESS OTHERWISE SPECIFIED.
14. EXTRA WIRE SECURED INSIDE RISER TO ALLOW FOR REMOVAL OF FLOAT TREE. NO SPLICES INSIDE OF TANK.

**CONTROL PANEL:**

15. NEMA 4X CONTROL PANEL WITH MANUAL CIRCUIT DISCONNECT BREAKERS, HOA SWITCH, AUDIBLE AND VISUAL ALARM. SYSTEMS SHALL HAVE A COUNTER AND ELAPSED TIME METER FOR EACH PUMP. SEPARATE CIRCUITS ARE REQUIRED FOR ALARM AND LEVEL FLOATS.
16. ALL WIRE BETWEEN PUMP TANK AND CONTROL PANEL SHALL BE IN ELECTRICAL CONDUIT.
17. DUCT SEAL, WIRE GRIPS OR OTHER SUITABLE MATERIAL SHALL BE USED TO SEAL AROUND WIRE AND WIRE CONDUIT OPENING INSIDE PUMP TANKS AND CONTROL PANEL.
18. PANEL SHALL BE INSTALLED ON A FOUR X FOUR TREATED POST, A MIN. 12" ABOVE FINISHED GRADE OR ABOVE THE 100-YEAR FLOOD ELEVATION, WHICHEVER IS HIGHER. PANEL SHALL BE PLACED ADJACENT TO THE PUMP TANK OF WITHIN 12 FEET AND VISIBLE FROM THE TANK.

**OTHER:**

19. THREE QUARTER INCH STAINLESS STEEL CHAIN.
20. DUMP VALVE (TYPICALLY A 2 INCH X 3/4 INCH TEE WITH BRASS GATE VALVE AND A 90 DEGREE BEND). LOCATE BETWEEN THE PUMP AND CHECK VALVE. SPRAY FROM HOLE OR VALVE SHALL BE DIRECTED AWAY FROM THE RISER OPENING AND FROM FLOATS.
21. ALL FITTINGS SHALL BE ACCESSIBLE WITHIN 12 INCHES OF THE RISER OPENING.
22. DISCHARGE PIPE AND FITTINGS SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE SPECIFIED.
23. ALL CONNECTIONS SHALL BE WATERTIGHT.
24. PLACE PUMP ON TOP OF CINDER BLOCK OR TANK LID THAT IS 4" THICK.

**PUMP AND SUPPLY LINE**

FRICITION HEAD: 1.7 FEET  $C_f = 130$   
 MINOR LOSS PIPE LENGTH EQUIVALENT: 1 FOOT  
 ELEVATION HEAD: 26.0 - 25.0 = 1.0 FOOT  
 OPERATING PRESSURE HEAD: 3.7 FEET  
 SUPPLY LINE 2" SCH 40  
 SUPPLY LINE LENGTH = 1,555 FEET  
 TOTAL DYNAMIC HEAD: 3.7 FEET

PUMP TO DELIVER 7 GPM @ 4 FEET OF HEAD\*  
 SELECT ZOELLER 137 SERIES PUMP 0.5 HP

DOSING VOLUME: 375 GALLONS  
 TOTAL FIELD SHOULD BE DOSED WITH 375 GALLONS 4 TIMES IN A 24 HOUR PERIOD TO EQUAL A TOTAL OF 1,500 GALLONS PER DAY.

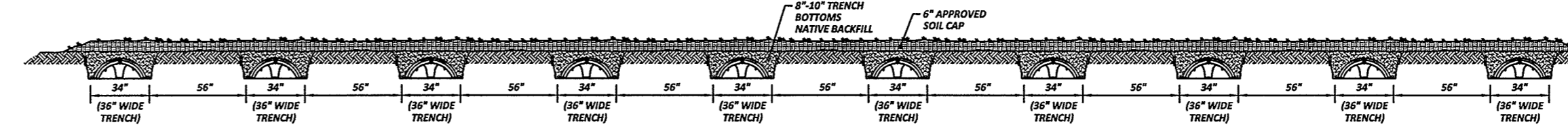
PUMP RUN TIME: 375 GALLONS PER DOSE / 7 GPM = 53.6 MINUTES

PUMP DRAW DOWN ASSUMES A 2250 GALLON TANK @ 41 GALLONS PER INCH FOR A TOTAL OF 55 INCHES  
 PUMP DRAWDOWN: 9.15 INCHES

\*CONTRACTOR TO CONFIRM ELEVATION HEAD PRIOR TO INSTALLATION.

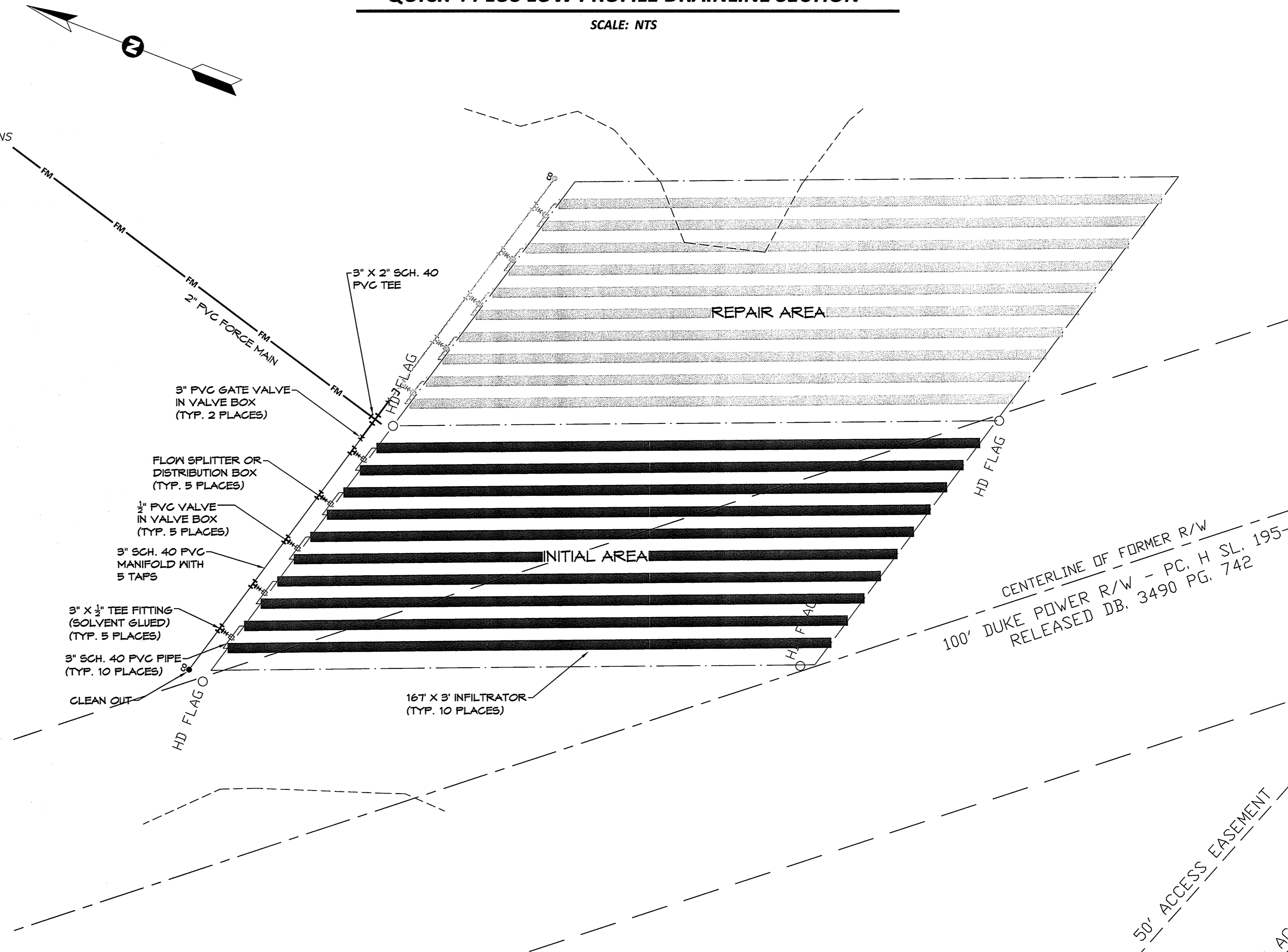
**MANIFOLD DESIGN**

TOTAL TAPS: 10  
 TAP SIZE: 0.5" SCH 40  
 PRESSURE HEAD = 4 FEET  
 MANIFOLD SIZE 3" SCH 40  
 DISCHARGE PER ORIFICE = 0.65 GPM  
 TOTAL GPM = 6.5 GPM



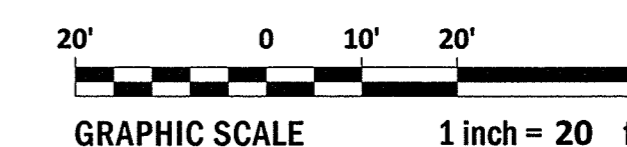
**QUICK 4 PLUS LOW PROFILE DRAINLINE SECTION**

SCALE: NTS



**DRAINFIELD DETAIL**

SCALE: 1" = 20'



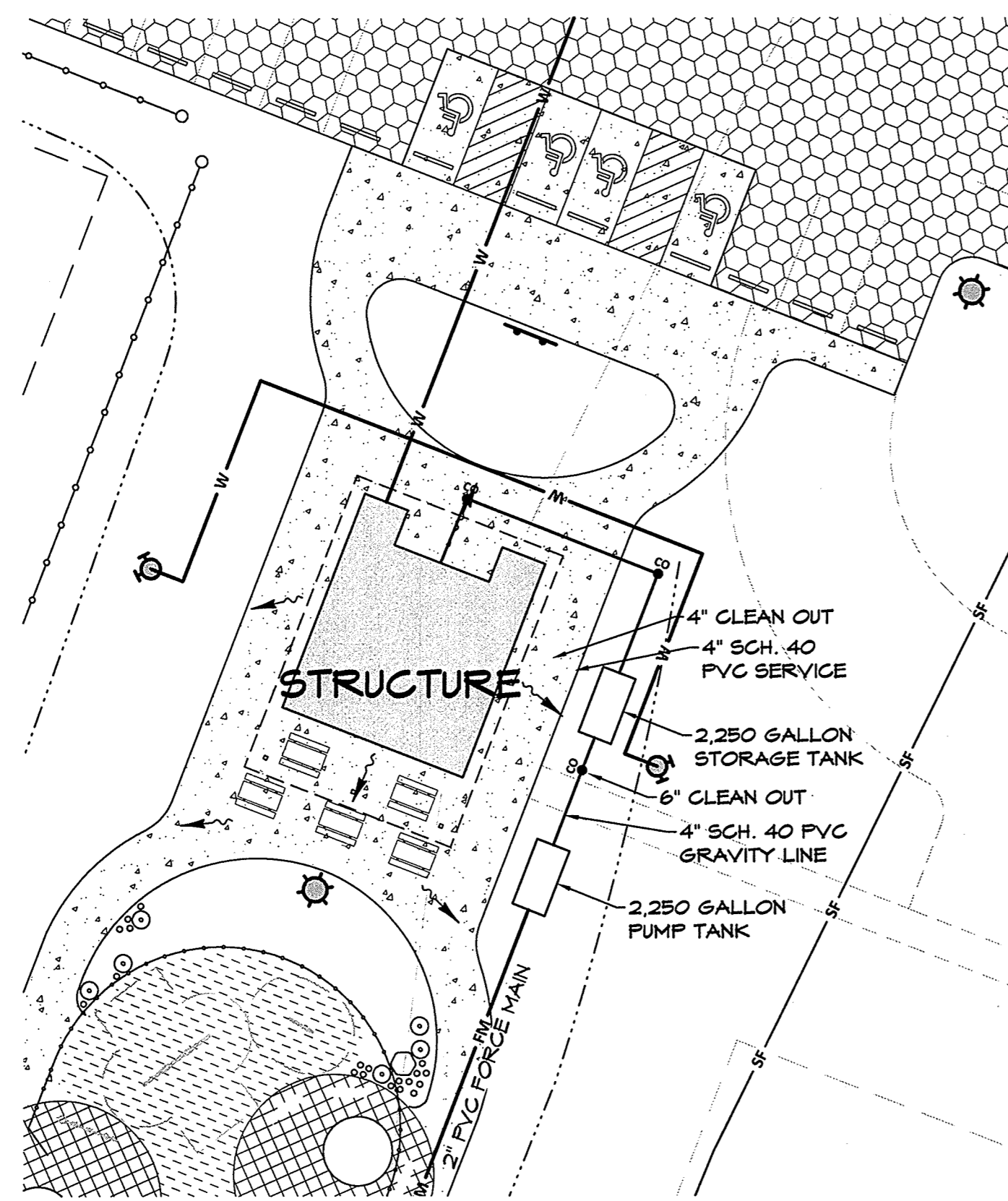
**NITRIFICATION DESIGN NOTES :**

**DESIGN CRITERIA**

DESIGN FLOW PER PARKING SPACE 10 GPD  
 NO. OF PARKING SPACES 150  
 TOTAL FLOW = 1,500 GPD

TOTAL DESIGN FLOW FOR SYSTEM = 1,500 GPD  
 SEPTIC TANK SIZE = 0.75 VOLUME + 1,125 = 2,250 GALLONS

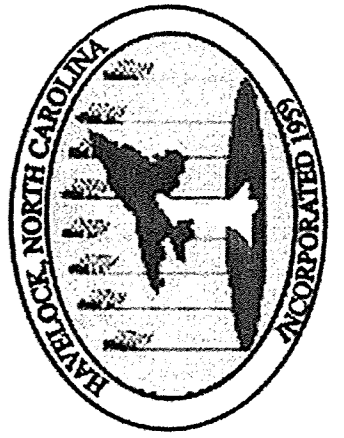
PUMP TANK SIZE = 2/3 SEPTIC TANK = 0.67 X 2,250 = 1,500 GALLONS  
 USE 2,250 GALLONS



**STORAGE & PUMP TANK LAYOUT**

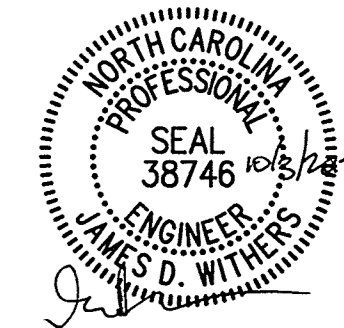
SCALE: 1" = 20'

REVISIONS:



SEWER PLAN & DETAILS  
**CITY OF HAVELOCK**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

**Rivers**  
 & ASSOCIATES, INC.  
 Since 1916  
 Engineers  
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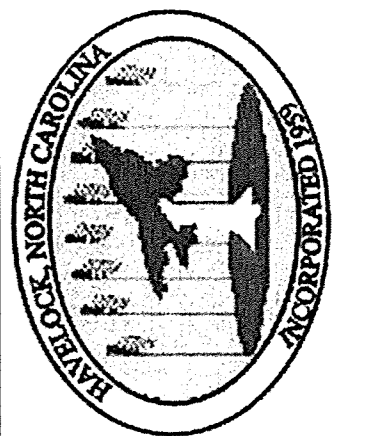


August 25, 2017

SURVEY	- DRAFT	SKR
DESIGN	SKR	CHECK JDW
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 16	

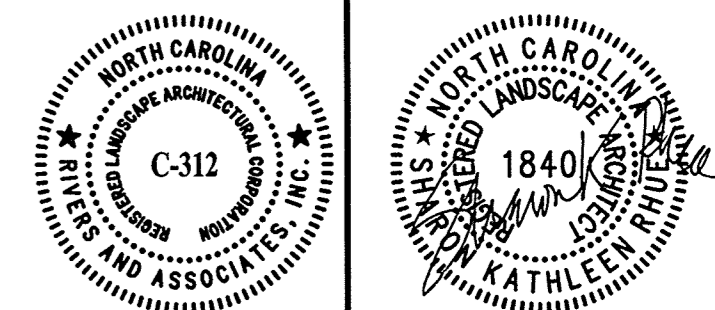
**C6**

REV.	DATE	DESCRIPTION
1	9-22-17	J/DW



**PLANTING PLAN**  
**CITY OF HAVELOCK**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

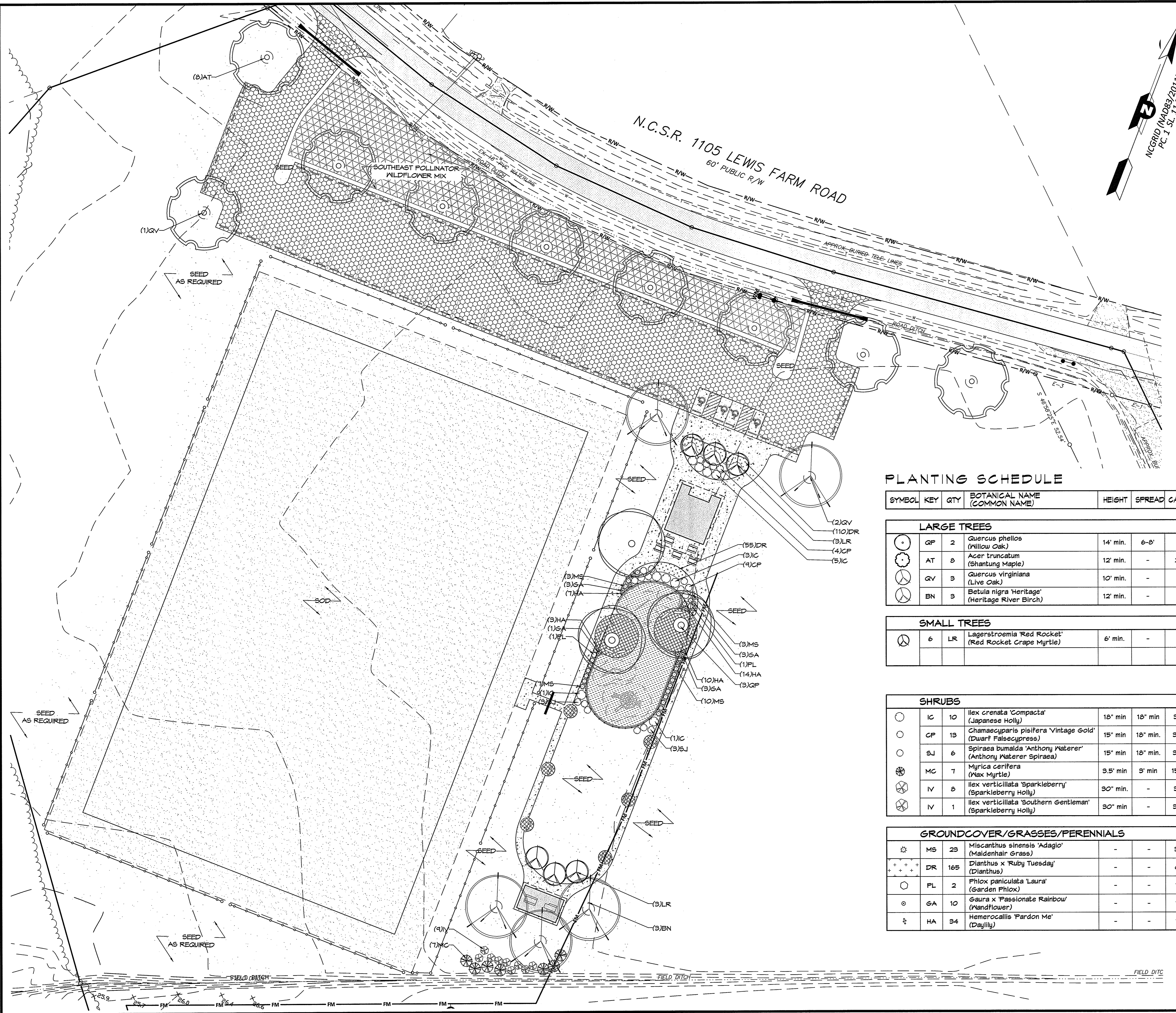
**Rivers & Associates, Inc.**  
 107 East Second Street  
 Greenville, NC 27836  
 (852) 752-4135  
 Engineers  
 Planners  
 Surveyors  
 Landscape Architects



10.03.17  
**August 25, 2017**

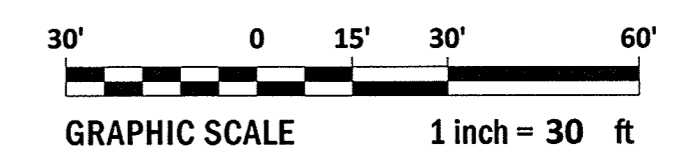
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DESIGN	SKR	CHECK	SKR
PROJECT No.	2014030		
DRAWING No.	W-3614		
SCALE:	1" = 30'		
SHEET No.	OF 16		

**L1**



**PLANTING SCHEDULE**

SYMBOL	KEY	QTY	BOTANICAL NAME (COMMON NAME)	HEIGHT	SPREAD	CALIPER	CONT.	REMARKS
<b>LARGE TREES</b>								
○	QP	2	Quercus phellos (Willow Oak)	14' min.	6-8'	3"	-	Single, straight central leader, symmetrical
○	AT	8	Acer truncatum (Shantung Maple)	12' min.	-	2.5"	-	Single, straight central leader, symmetrical
○	QV	3	Quercus virginiana (Live Oak)	10' min.	-	2"	-	single, straight central leader, symmetrical
○	BN	3	Betula nigra 'Heritage' (Heritage River Birch)	12' min.	-	-	25 gal.	multi-stemmed (2 to 3 canes)
<b>SMALL TREES</b>								
⊗	LR	6	Lagerstroemia 'Red Rocket' (Red Rocket Crape Myrtle)	6' min.	-	-	25 gal.	multi-stemmed, full, symmetrical
<b>SHRUBS</b>								
○	IC	10	Ilex crenata 'Compacta' (Japanese Holly)	18" min	18" min	3 gal	-	Full; symmetrical; Plant @ 5' oc
○	CP	13	Chamaecyparis pisifera 'Vintage Gold' (Dwarf Falsecypress)	15" min	18" min.	3 gal.	-	Full, symmetrical; Plant @ 5' oc
○	SJ	6	Spiraea bumalda 'Anthony Waterer' (Anthony Waterer Spiraea)	15" min	18" min.	3 gal.	-	Full; symmetrical; Plant @ 5' oc
⊗	MC	7	Myrica cerifera (Max Myrtle)	3.5' min	3' min	15 gal.	-	Plant as shown
⊗	IV	8	Ilex verticillata 'Sparkleberry' (Sparkleberry Holly)	30" min.	-	3 gal.	-	Plant as shown
⊗	IV	1	Ilex verticillata 'Southern Gentleman' (Sparkleberry Holly)	30" min	-	3 gal.	-	pollinator for 'Sparkleberry' plant within that grouping.
<b>GROUND COVER/GRASSES/PERENNIALS</b>								
☆	MS	23	Miscanthus sinensis 'Adagio' (Maidenhair Grass)	-	-	3 gal	-	Full; Plant @ 3.5' oc
+++	DR	165	Dianthus x 'Ruby Tuesday' (Dianthus)	-	-	cont	-	Plant @ 18" oc
○	PL	2	Phlox paniculata 'Laura' (Garden Phlox)	-	-	1 gal	-	Plant as shown
○	GA	10	Gaura x 'Passionate Rainbow' (Wandflower)	-	-	1 gal	-	Plant as shown
⊗	HA	34	Hemerocallis 'Pardon Me' (Daylily)	-	-	1 gal	-	Plant @ 1' oc



P:\Projects\2017\20170814-Lewis Farm Park - PLANTING PLAN\WORKS.DWG:17 @ 8/24/17 AM  
 P:\Projects\2017\20170814-Lewis Farm Park - PLANTING PLAN\WORKS.DWG:17 @ 8/24/17 AM

**PLANTING NOTES**

The Contractor shall furnish plant material shown on the drawings, as specified and as indicated on the plant list. The Owner or his authorized representative shall be notified prior to the beginning of planting operations.

**STANDARDS:** All plants shall be in accordance with the American Standard For Nursery Stock, latest edition, published by the American Association of Nurserymen, Inc. with regard to sizing and description.

**QUALITY:** All plants shall be nursery grown and hardy under climatic conditions similar to those in the locality of the project. All plants shall be typical of their species or variety and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They should be free of disease and insect pests, eggs or larvae. They shall have healthy, well-developed root system.

**SUBSTITUTIONS:** When plants of a specified kind or size are not available within a reasonable distance, the contractor may make substitutions upon request, if approved by the Project Consultant. Proposal for substitution of plant material shall be submitted at least 10 days prior to the final bid date for consideration.

**SIZE:** All plants shall conform to the measurements specified on the plant list unless otherwise authorized in writing by the Project Consultant.

**PRUNING:** Each tree and shrub shall be pruned in accordance with American Association of Nurserymen, Inc. standards to preserve the natural character of the plant. All dead wood or suckers and all broken or badly bruised branches shall be removed.

**ROOT SYSTEMS:** Balled & burlapped plants shall be dug with firm natural balls of earth of diameter and depth to include most of the fibrous roots. Container grown stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together firm and whole. No plants shall be loose in container or ball.

**PROTECTION:** Root balls trunks, branches and foliage of plants shall be adequately protected at all times from sun and drying wind or frost. Plants with broken root balls or excessive damage to the crown shall be replaced, in kind, prior to installation.

**MULCH:** Immediately following plant installations all tree and shrub planting pits shall be covered with three inch (3") layer of triple shredded hardwood mulch (non-dyed). The limits of this mulch for deciduous trees and single evergreen trees shall be the area of the pit; for evergreen tree clusters or shrub masses; a mulched bed shall be created.

**ANTI-DESICCANT SPRAY:** Trees and when planted in leaf shall be treated with anti-desiccant such as "Wilt-Proof".

**PLANTING MIX:** Before backfilling, the topsoil back fill mixture shall be prepared and mixed to the following proportions: Deciduous plants - two parts by volume of topsoil, one part organic compost and five pounds bone meal per cubic yard. Evergreen Plants - three parts by volume of topsoil and one part organic compost.

Fertilizer - to the above mixtures, add three pounds of specified commercial fertilizer for trees up to three (3") inches in caliper and one pound per inch of caliper for larger trees. Shrubs shall be fertilized with six (6) ounces of fertilizer for shrubs four (4'-0") feet and over.

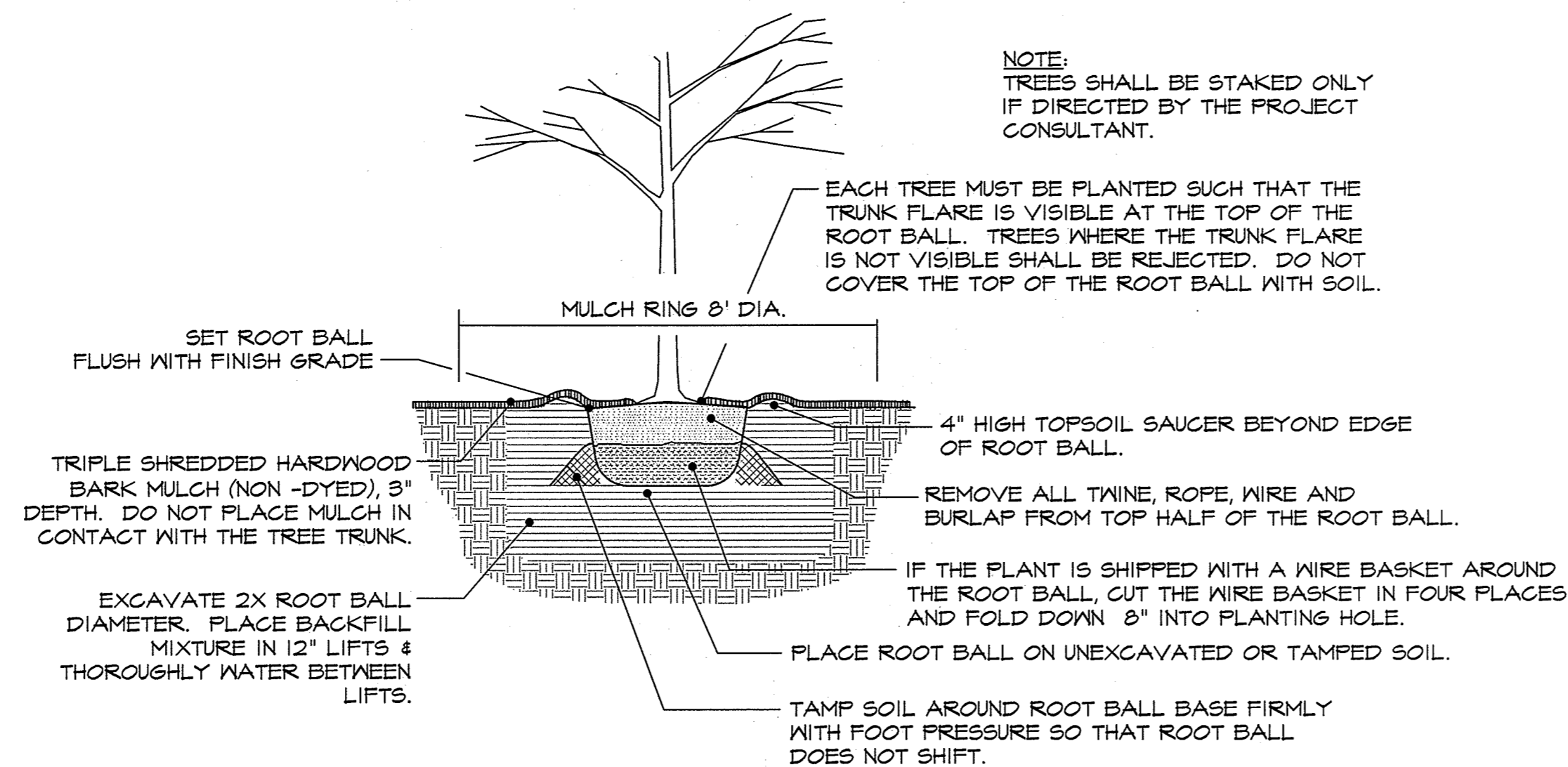
**STAKING & GUYING:** Trees shall be staked and guyed as is detailed on the drawings and according to accepted industry practice.

**LAYOUT:** The contractor shall layout with identifiable stakes, the location of all plants and the arrangement and outlines of planting beds as indicated on the drawings. Prior to any excavation of plant pits or preparation of plant beds, the Project Consultant shall approve the layout of planting. All planting shall be at the locations indicated on the drawings. The Contractor shall be responsible for planting at the correct grades, alignment and layout of planting beds. Minor adjustments to tree locations may be necessary due to field conditions and final grading. The Contractor shall notify the Project Consultant if major adjustments are anticipated.

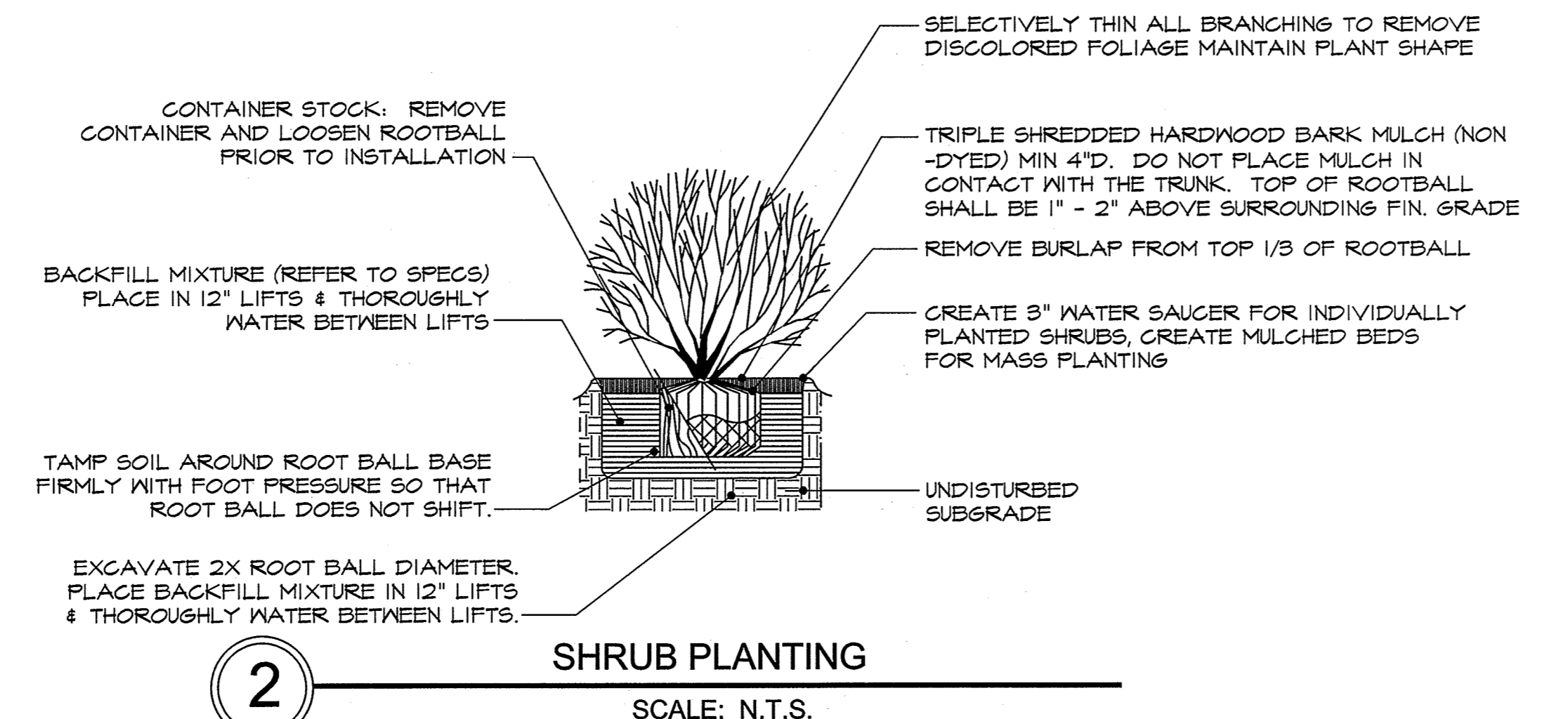
**ADVERSE CONDITIONS:** The contractor shall notify the Project Consultant in writing of any soil or drainage conditions which the Contractor considers detrimental to plant growth. The documented conditions shall include a proposal for correcting the situation, including any change in cost, for review and acceptance by the Project Consultant.

**QUANTITY:** The quantity of plants in the Plant Schedule is for general reference only. The Contractor shall obtain quantities for pricing by compiling numbers from the plants illustrated on the drawings. Should there be a discrepancy between the drawings and the plant schedule, the quantities illustrated on the drawings shall take precedence.

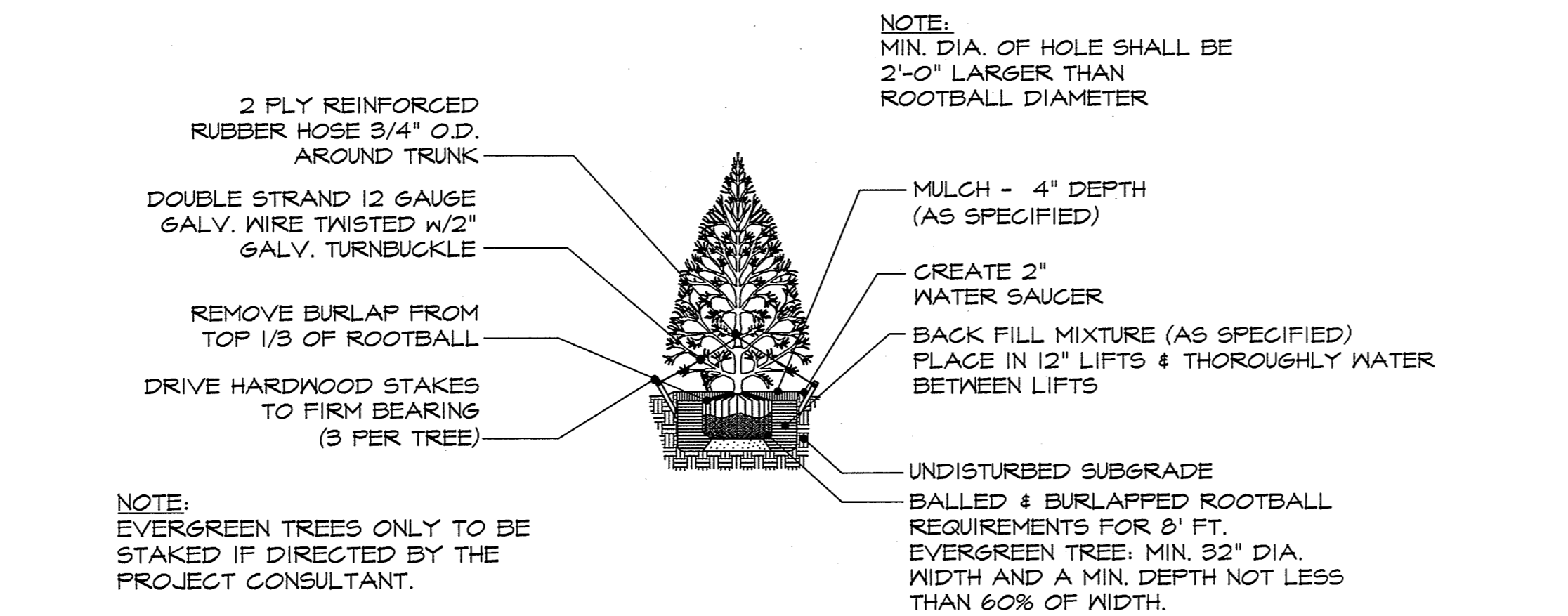
**GUARANTEE:** The Contractor shall guarantee all plant material for a full year from the date of initial acceptance. The Owner shall be responsible for maintenance unless otherwise agreed. It is the Contractor's responsibility to monitor the project during the guarantee period and notify the Owner in writing if problems are occurring or situations developed that appear detrimental to the plant material. Any plant material that is 25% dead or more shall be considered dead and must be replaced at no charge to the Owner. A tree is considered dead when the main leader has died back or there is 25% of the crown dead.



**1 TREE PLANTING**  
SCALE: N.T.S.



**2 SHRUB PLANTING**  
SCALE: N.T.S.

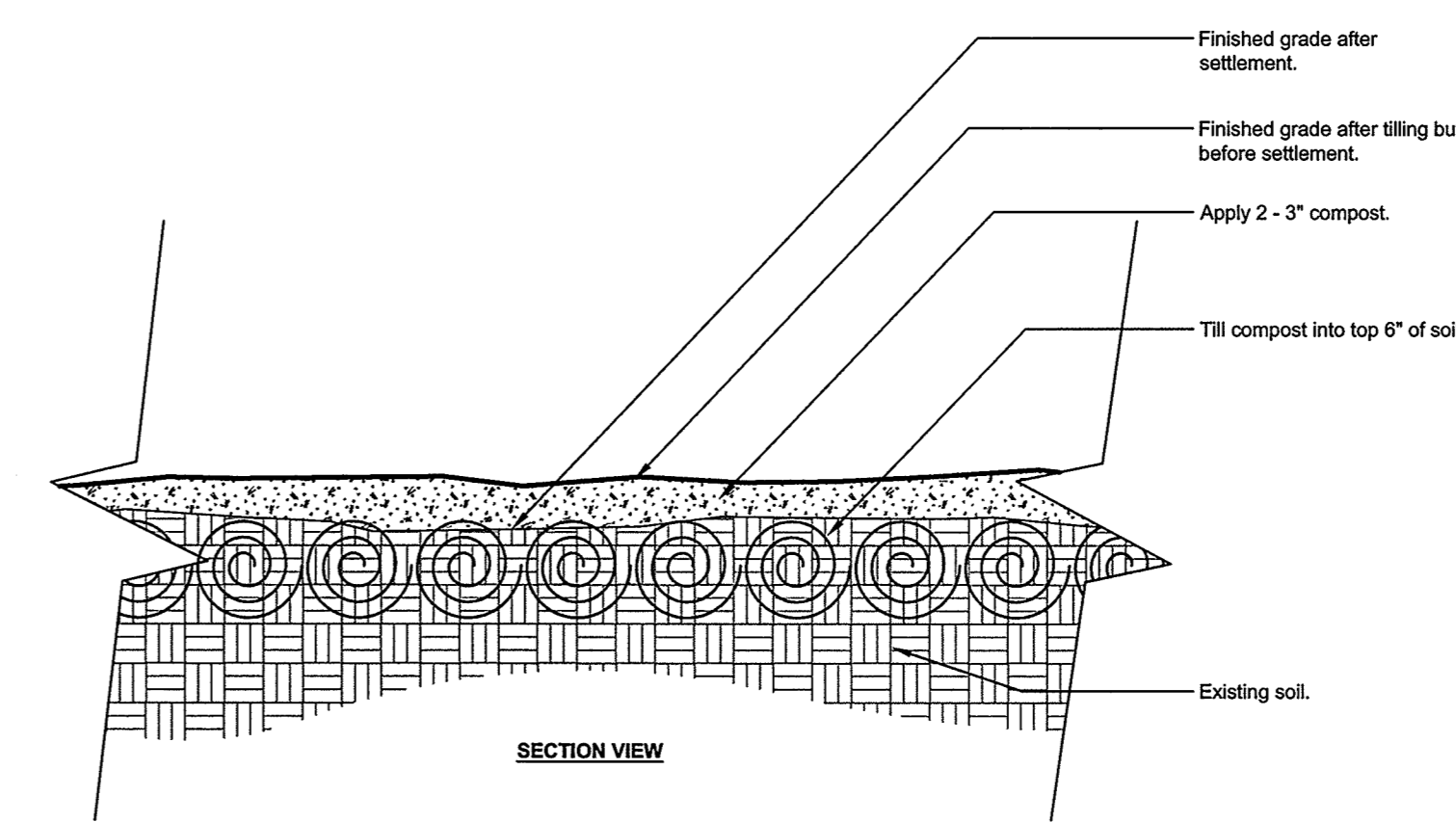


**3 CONIFEROUS EVERGREEN PLANTING**  
SCALE: N.T.S.

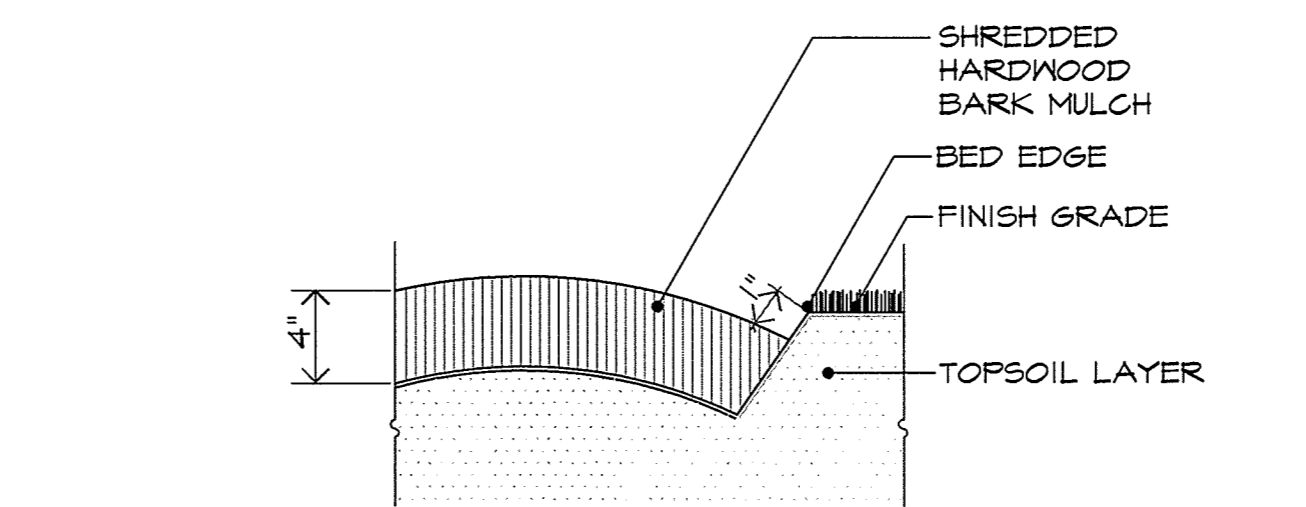
**WILDFLOWER PLANTING INSTRUCTIONS AND MAINTENANCE**

American Meadows Southeast Pollinator Wildflower Seed Mix (or landscape architect approved equivalent), applied at rate of 35 lbs per acre.

- Soil Preparation.** Proper soil preparation is one of the most important factors to ensure success in planting wildflowers. Prepare site by removing all existing vegetation. Compost shall be applied to comprise 1/4 soil volume to provide slow-release nutrients and to aid the soil's water holding capacity. Till the site to minimum 8" depth to loosen the soil and create a smooth seedbed. Soil testing is required to determine soil conditions (a pH of 6.0 to 6.5 is optimal). Dolomitic limestone should be added if test results indicate very acidic soil. If the results indicate a lack of nutrients, fertilizer should be added during bed preparation.
- Apply Pre-emergent Herbicides** per package instructions.
- Planting Times and Techniques.** Best results are obtained when seeds are sown in the fall between mid-September and early November. The wildflower planting schedule follows historic small grain installation schedules. In addition, certain wildflowers can be sown in the spring between mid-March and mid-April. Examples include: Ely, Black-eyed Susan, Purple Coneflower, Gloriosa Daisy, NarrowLeaved Sunflower and most aster species. Hydroseeders may be used for large area seed application. Wildflower seed should be evenly distributed over the prepared soil and firmed to ensure good seed-soil contact.
- Mulch Cover.** Seeded wildflower beds should receive a light covering of coastal bermuda hay to prevent erosion and conserve moisture to aid germination. A standard mulch blower can be utilized to apply one ton of coastal hay to each acre of wildflower beds. Avoid leaving clumps of hay on the beds as they will impede wildflower seed germination.
- Maintenance.** Once the wildflower beds are sown, little maintenance is required. In mid-January, watch for annual ryegrass seed germination. Use a selective herbicide to remove grasses that compete with wildflowers for nutrients and detract from the bed's aesthetics. After the plants have flowered, do not mow until they have produced seed. In North Carolina, most wildflower beds are mowed in late November. Include @Green ManureA crops to avoid depleting the soil from years of tillage and organic matter loss.



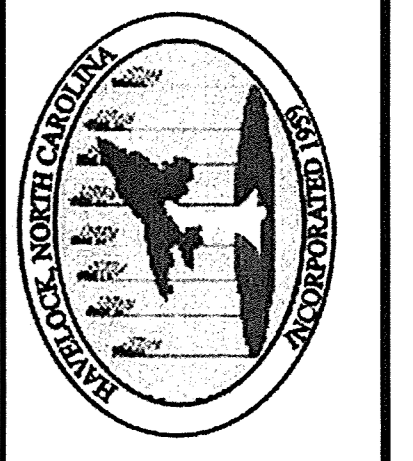
**5 MODIFIED EXISTING SOIL COMPACTED SURFACE SOIL**  
SCALE: N.T.S.



**4 PLANTING BED EDGE**  
SCALE: N.T.S.

REVISIONS:

REV.	DATE	APP.	DESCRIPTION



**PLANTING DETAILS**  
**CITY OF HAVELock**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

**Rivers & Associates, Inc.**  
 NC License: F-0334  
 107 East Second Street  
 Greenville, NC 27658  
 (252) 782-4155  
 Landscape Architects



10.03.17  
 August 25, 2017

SURVEY	- DRAFT	SKR
DESIGN	SKR	SKR
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 16	

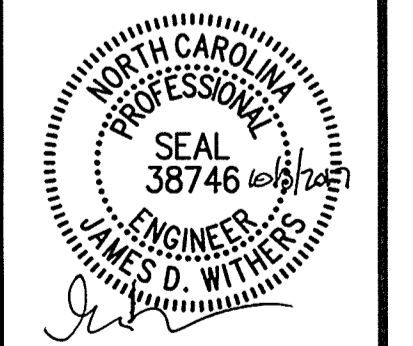
**L2**

P:\MWH\Havlock - Lewis Farm Park - 2014030\DWG\03-Planting Details - 10.03.17.dwg  
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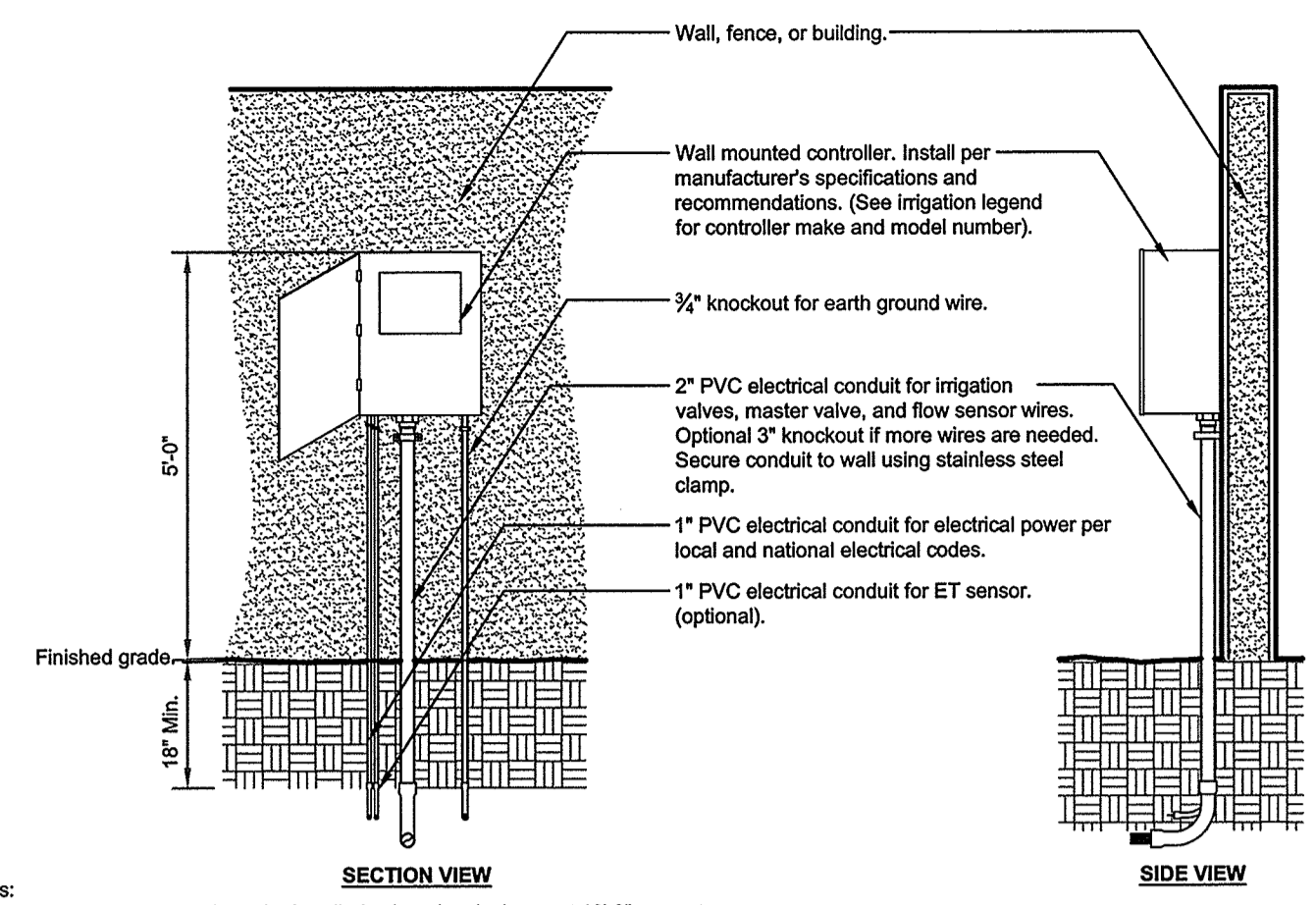
IRRIGATION PLAN & DETAILS  
 CITY OF HAVELOCK  
**LEWIS FARM PARK**  
 CRAVEN COUNTY  
 NORTH CAROLINA

**Rivers**  
 RIVERS AND ASSOCIATES, INC.  
 Since 1978  
 107 East Second Street  
 Greenville, NC 27838  
 (252) 782-4195  
 Landscape Architects  
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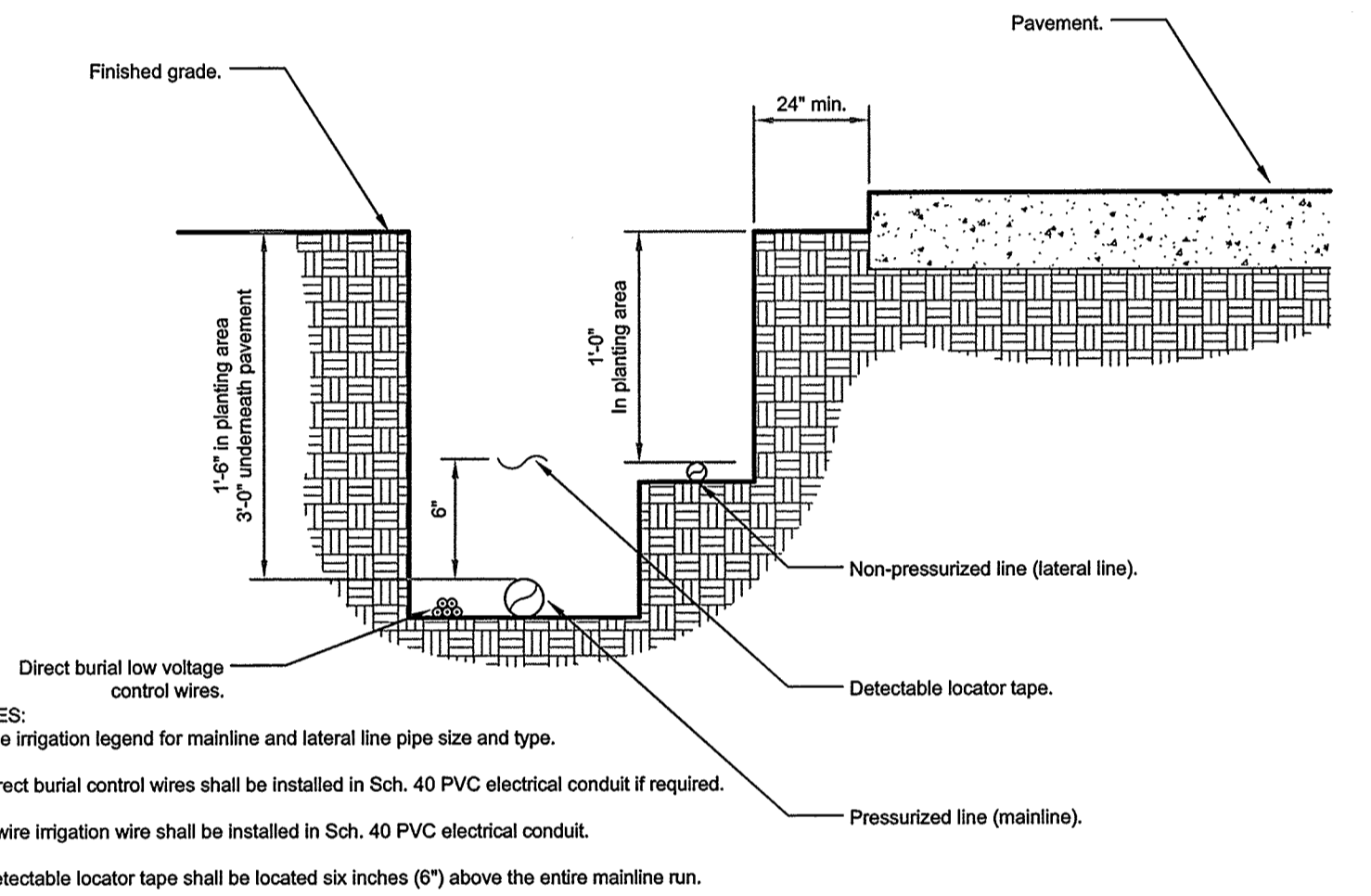
August 25, 2017  
 SURVEY - DRAFT SKR  
 DESIGN SKR CHECK SKR  
 PROJECT No. 2014030  
 DRAWING No. W-3614  
 SCALE: AS NOTED  
 SHEET No. OF 16

**L3**



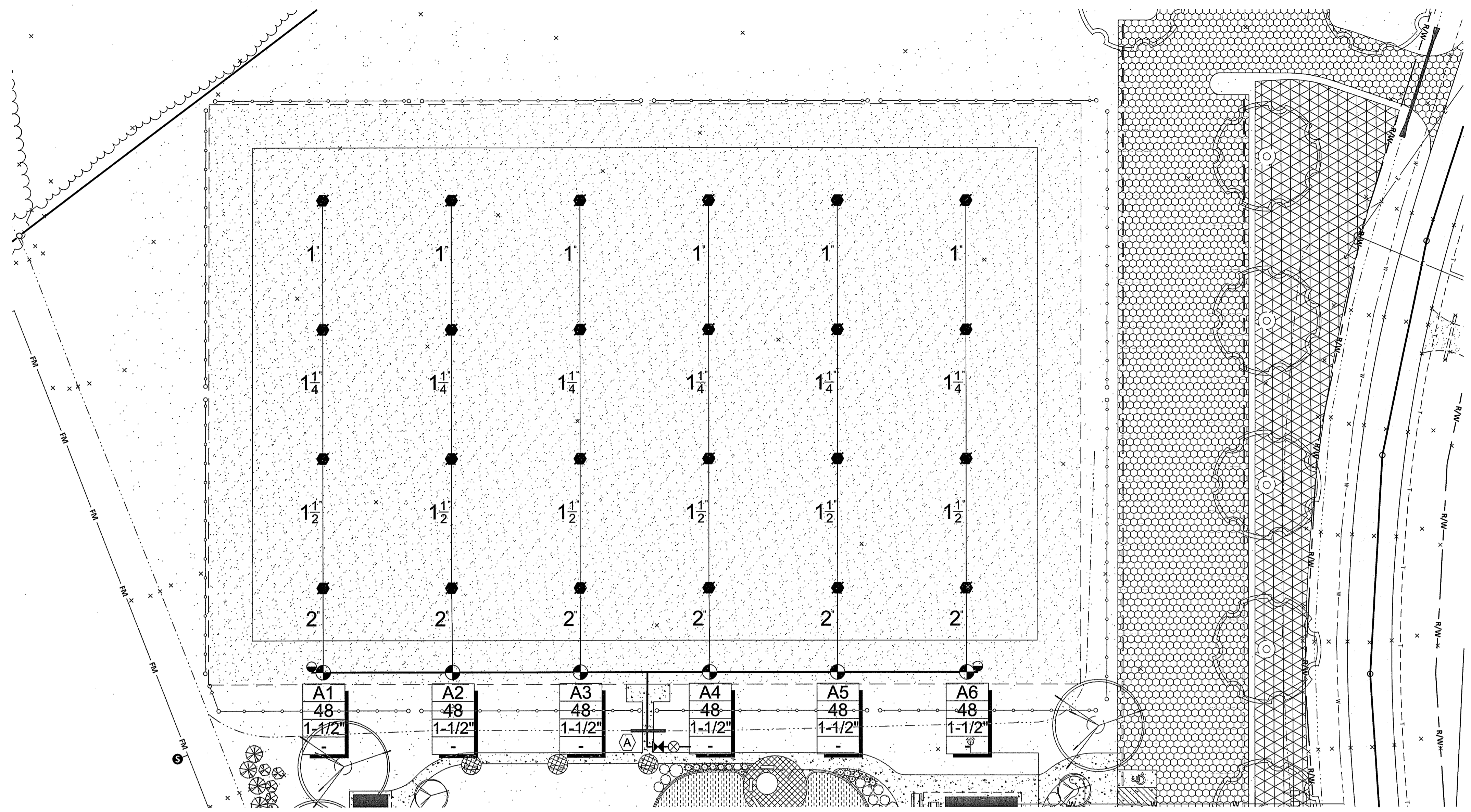
**1 WALL MOUNTED CONTROLLER**  
 N.T.S.  
 LS-20

Notes:  
 1- Common and controller wire to be bundled using electrical tape at 10'-0" on center.  
 2- Grounding rods shall be located between 6"-0" to 12'-0" away from the controller. Grounding rods shall be 3/4" in diameter x 8' in length. Connect the grounding rod to the controller using 6 gauge bare copper wire or per the manufacturer's specifications. See grounding rod detail.  
 3- ET Station shall be installed no further than 90' away from the controller and a minimum of 15' off of the ground, out from under any overhead obstructions such as, but not limited to, building overhangs, trees, or utilities.



**2 IRRIGATION TRENCHING**  
 N.T.S.  
 LS-34

NOTES:  
 1- See irrigation legend for mainline and lateral line pipe size and type.  
 2- Direct burial control wires shall be installed in Sch. 40 PVC electrical conduit if required.  
 3- 2-wire irrigation wire shall be installed in Sch. 40 PVC electrical conduit.  
 4- Detectable locator tape shall be located six inches (6") above the entire mainline run.



**IRRIGATION NOTES**

1. THE IRRIGATION CONTROLLER SHALL BE INSTALLED ON THE EXTERIOR BUILDING WALL WHERE SHOWN ON THE DRAWING. THE ELECTRICAL SERVICE TO THE CONTROLLER SHALL BE PROVIDED BY THE SITE ELECTRICAL CONTRACTOR. CONTROLLER TO BE HARD WIRED TO POWER SOURCE. PIG TAILS WILL NOT BE ACCEPTED. INSTALL RAIN SENSOR ON AN ELEVATED SURFACE (WALL OR LIGHT POLE) A MINIMUM OF 10 FEET ABOVE FINISHED GRADE. RAIN SENSOR SHALL BE IN CONTACT WITH THE WEATHER AND OUT OF CONTACT FROM THE IRRIGATION SPRAY AND SHALL NOT BE OBSTRUCTED BY OVERHEAD STRUCTURES OR TREES.
2. SPRAY AND 3/4 INCH INLET ROTARY SPRINKLERS SHALL BE INSTALLED ON FLEXIBLE SWING TUBING ASSEMBLIES WITH A MAXIMUM LENGTH OF 18-INCHES. SPRINKLERS FOR TURF AREAS SHALL HAVE A MINIMUM 6-INCH POP-UP HEIGHT.
3. QUICK COUPLING VALVES SHALL BE INSTALLED ON UNUNITED, THREE ELBOW PVC SWING JOINTS WITH BRASS INSERT AND STABILIZER SYSTEM.
4. WIRE SHALL BE SINGLE STRAND, DIRECT BURIAL AND RATED FOR 600 VOLTS. TURF ZONE CONTROL WIRE SHALL BE 14 AWG, RED IN COLOR. PLANTING BED ZONE CONTROL WIRE SHALL BE 14 AWG, BLUE IN COLOR. COMMON WIRE SHALL BE 12 AWG, WHITE IN SPARE WIRE SHALL BE 14 AWG, GRAY IN COLOR.
5. REVIEW PIPE ROUTING IN REFERENCE TO DISTURBANCE TO EXISTING TREE ROOTS. NOTIFY THE OWNER'S REPRESENTATIVE OF CONFLICTS PRIOR TO BEGINNING WORK.
6. IRRIGATION PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EQUIPMENT AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.
7. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES TO PREVENT CONFLICTS DURING CONSTRUCTION.
8. CONTRACTOR TO SUBMIT PRODUCT CUT SHEETS FOR APPROVAL PRIOR TO STARTING CONSTRUCTION. SUBMITTALS SHALL BE AS REQUIRED IN THE PROJECT CONTRACT DOCUMENTS.
9. FLUSH LATERAL PIPING PRIOR TO INSTALLING SPRINKLERS AND DRIP TUBING.
10. LATERAL PIPE SHALL HAVE A MINIMUM OF 18-INCHES OF COVER AND MAINLINE PIPE SHALL HAVE A MINIMUM OF 24-INCHES OF COVER. EXCAVATE TO PIPE INVERT TO ENSURE PROPER COVERAGE.
11. LOCATE ALL EXISTING AND FUTURE UTILITIES AND COORDINATE THEIR LOCATION WITH THE IRRIGATION WORK. NOTIFY APPROPRIATE UTILITY COMPANIES PRIOR TO THE START OF WORK.
12. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION REQUIRED TO COMPLETE THE IRRIGATION SYSTEM INSTALLATION.

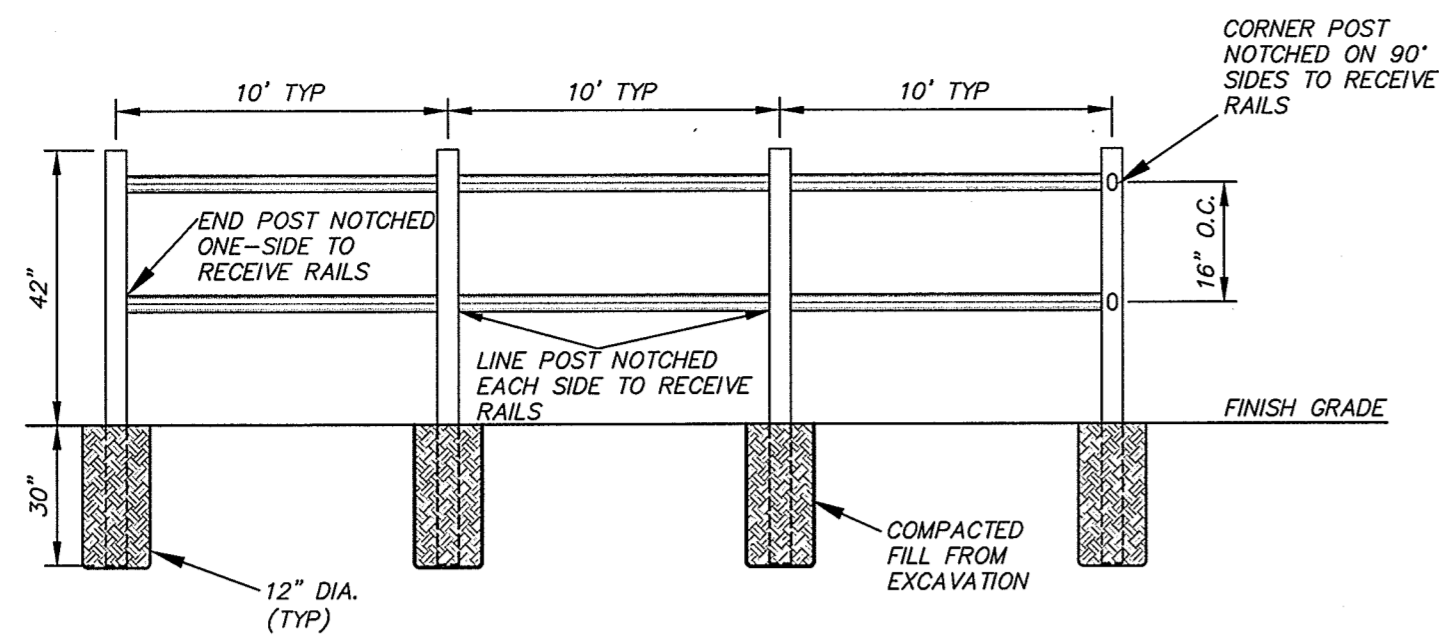
**LEGEND**

SYMBOL	DESCRIPTION	QUANTITY
▶	BACKFLOW PREVENTION DEVICE	1
⊗	MAIN SHUT-OFF VALVE	1
⊕	RAIN BIRD PGA OR PEB REMOTE CONTROL VALVE (SIZED AS SHOWN)	6
●	RAIN BIRD 5LRC QUICK COUPLING VALVE	2
●	RAIN BIRD 8005 W/1/2 NOZZLE PRESSURE = 60 PSI RADIUS = 59 FEET FLOW = 12 GPM	24
⊕	RAIN BIRD ESP-LX MODULAR OR ESP-MC IRRIGATION CONTROLLER W/9 STATIONS	1
—	MAINLINE PIPE: CLASS 200 PVC (2-INCH SIZE)	
—	LATERAL PIPE: CLASS 200 PVC (SIZED AS SHOWN)	
A1	INDICATES CONTROLLER AND CONTROLLER STATION NUMBER	
48	INDICATES LATERAL DISCHARGE IN GPM	
1-1/2"	INDICATES REMOTE CONTROL VALVE SIZE	

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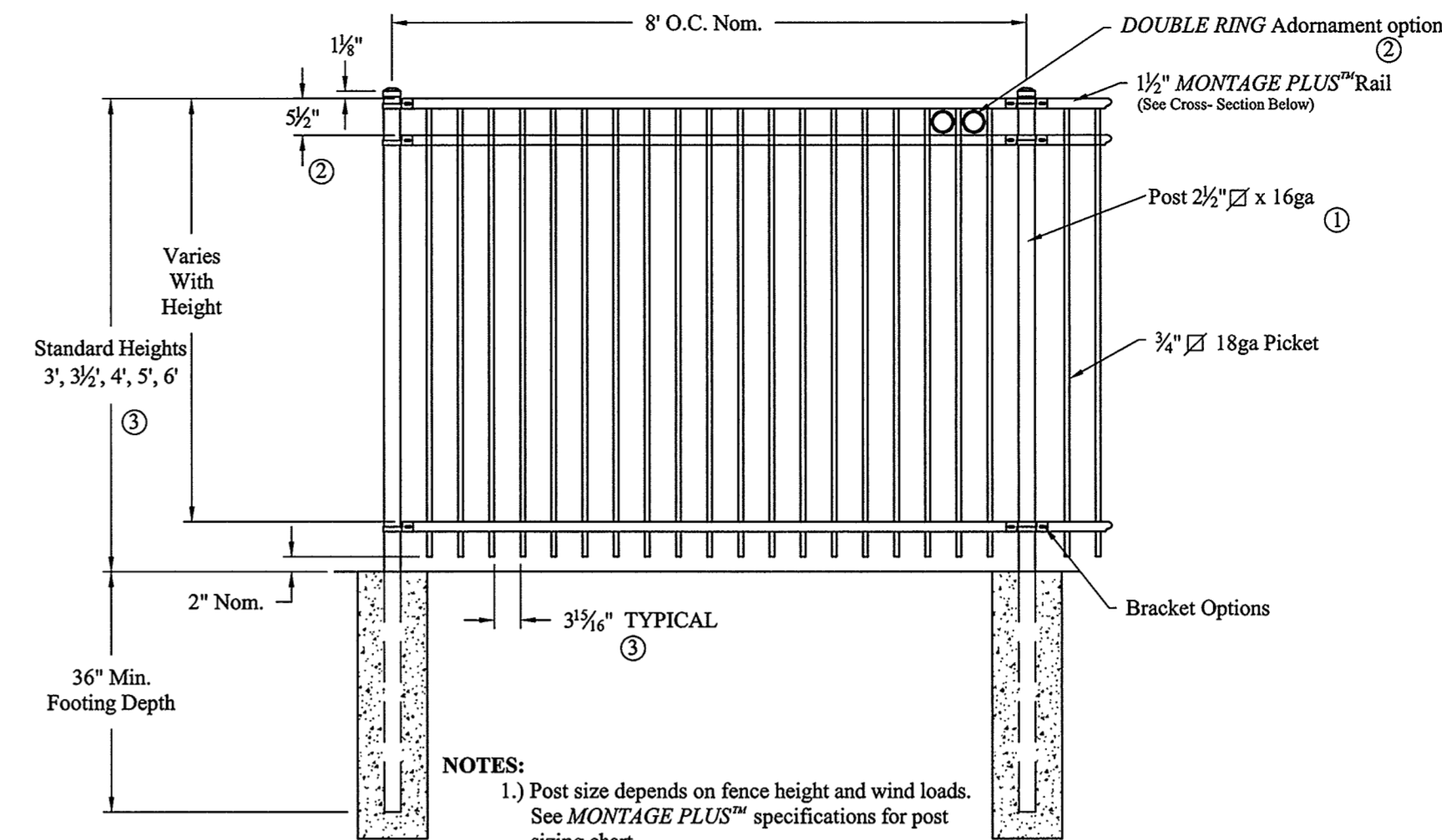






NOTE: ALL POST AND RAILS TO BE SPLIT PRESSURE TREATED LUMBER

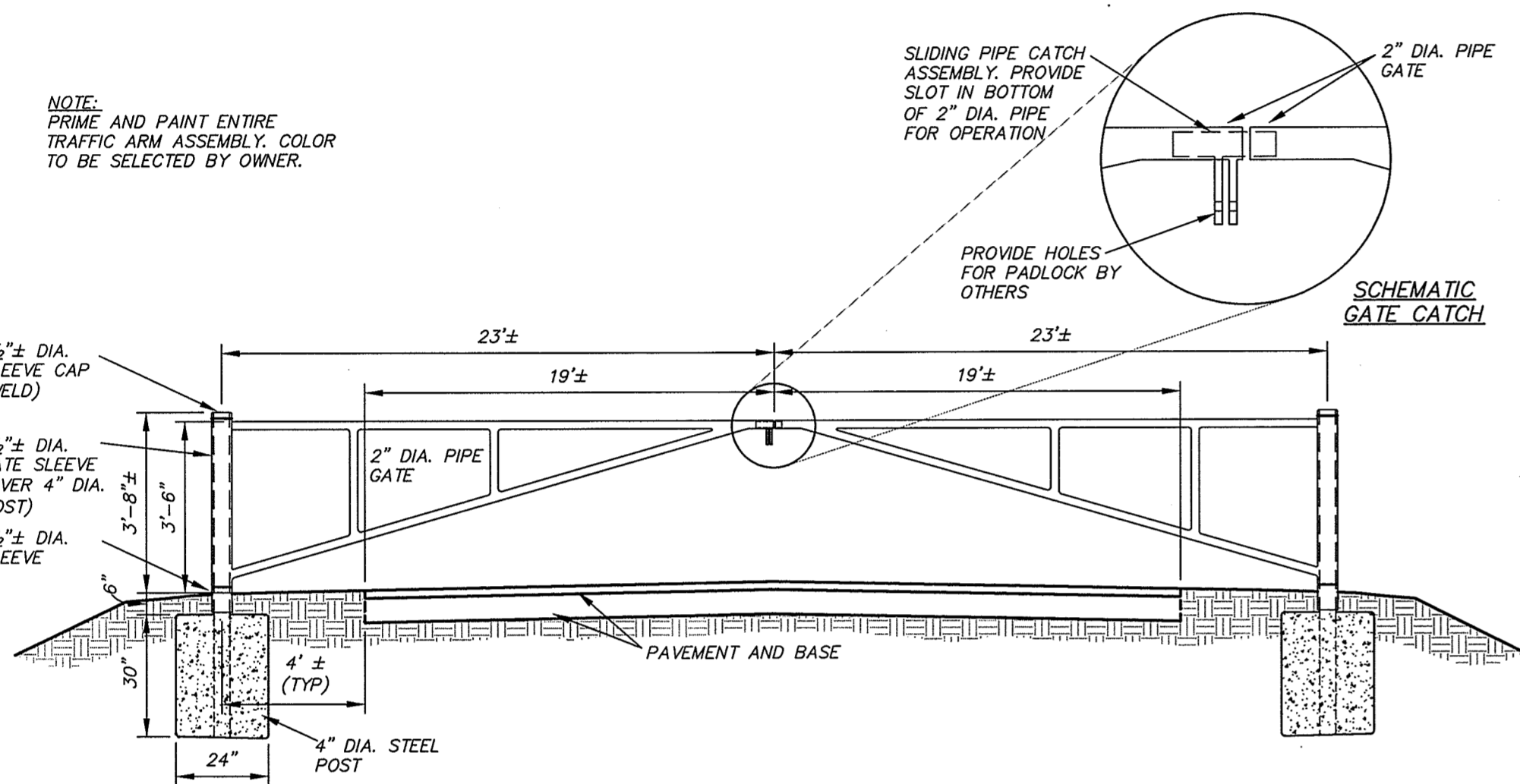
**3** **SPLIT RAIL FENCE**  
NOT TO SCALE



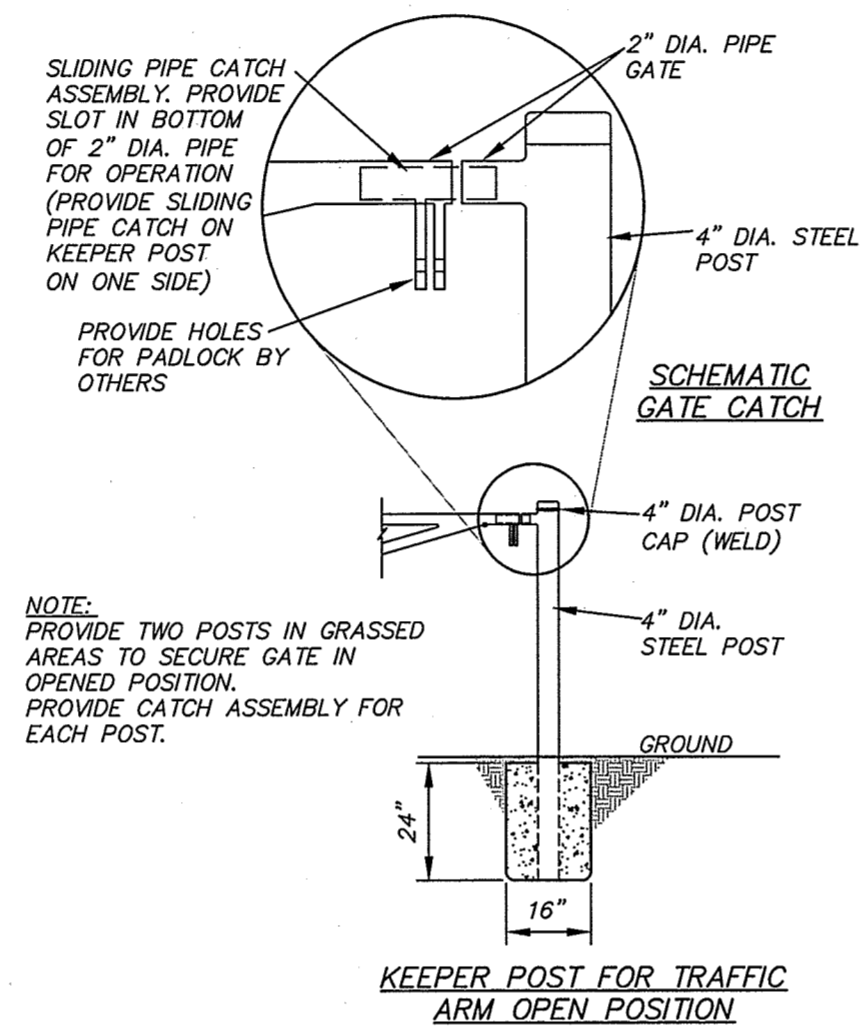
NOTES:  
1.) Post size depends on fence height and wind loads. See MONTAGE PLUS™ specifications for post sizing chart.  
2.) Third rail required for Double Rings.  
3.) Available in 3" air space and/or Flush Bottom on most heights.

**1** **DECORATIVE ALUMINUM FENCE**  
SCALE: 1/2"=1'-0"

NOTE: PRIME AND PAINT ENTIRE TRAFFIC ARM ASSEMBLY. COLOR TO BE SELECTED BY OWNER.

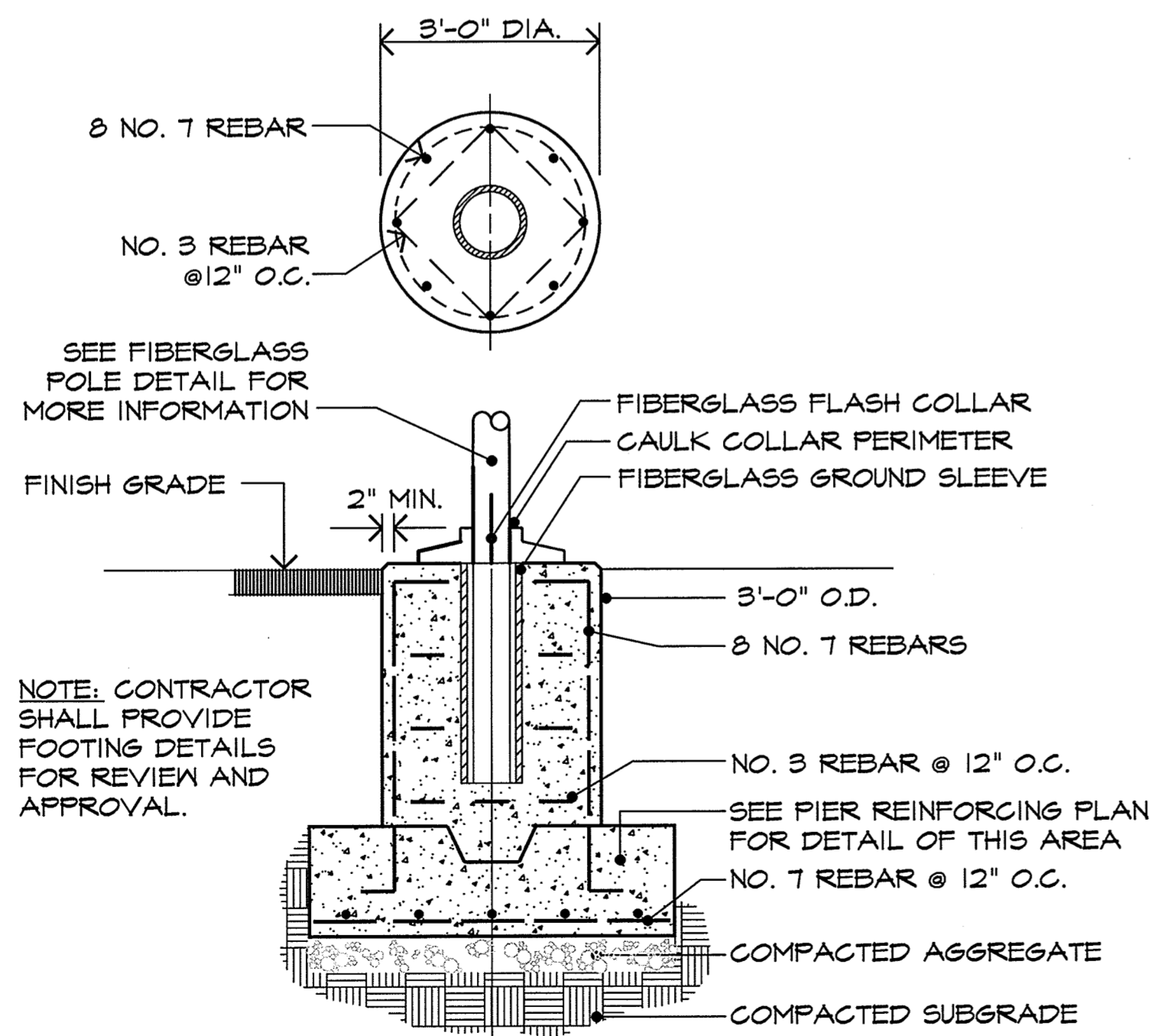


**4** **SWING GATE DETAIL**  
NOT TO SCALE



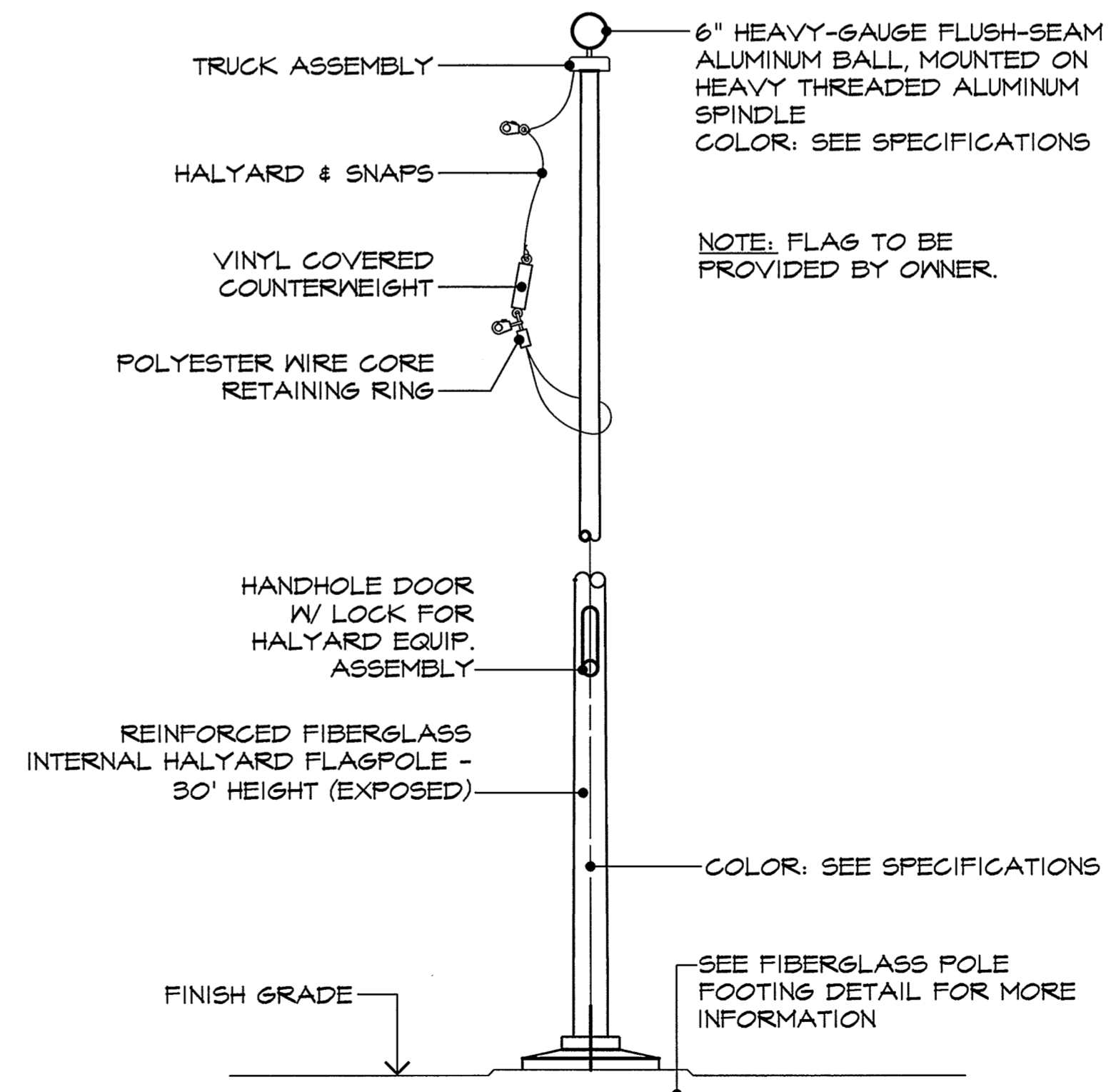
NOTE: PROVIDE TWO POSTS IN GRASSED AREAS TO SECURE GATE IN OPENED POSITION. PROVIDE CATCH ASSEMBLY FOR EACH POST.

KEEPER POST FOR TRAFFIC ARM OPEN POSITION



NOTE: CONTRACTOR SHALL PROVIDE FOOTING DETAILS FOR REVIEW AND APPROVAL.

**5** **FLAGPOLE FOOTING**  
SCALE: 1/2"=1'-0"



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

REVISIONS:

REV.	DATE	DESCRIPTION
1	9-22-17	LDV
2		OWNER COMMENTS
3		REV.



**SIGN, FLAG POLE & FENCE DETAILS**  
**CITY OF HAVELOCK**  
**LEWIS FARM PARK**  
 NORTH CAROLINA  
 CRAVEN COUNTY

**Rivers & Associates, Inc.**  
 NC License: F-8334  
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 107 East Second Street  
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 Landscape Architects



AUG 25 2017  
 10.03.17  
 August 25, 2017

SURVEY	- DRAFT	SKR
DESIGN	SKR	CHECK SKR
PROJECT No.	2014030	
DRAWING No.	W-3614	
SCALE:	AS NOTED	
SHEET No.	OF 16	

**L5**

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