

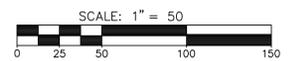
- PCU STANDARD NOTES:**
1. A PRECONSTRUCTION MEETING IS REQUIRED BEFORE BEGINNING WORK. THE MEETING MUST BE SCHEDULED WITH PENDER COUNTY UTILITIES (PCU) AT LEAST ONE WEEK IN ADVANCE. ATTENDEES MUST INCLUDE PCU, THE SELECTED CONTRACTOR'S SUPERINTENDENT, THE SUPPLIER, AND THE CONSULTING ENGINEER.
 2. ALL MATERIALS USED SHALL CONFORM TO PENDER COUNTY UTILITIES REQUIREMENTS. NON-CONFORMING MATERIAL WILL NOT BE ACCEPTED FOR FINAL CERTIFICATION.
 3. ALL PIPE SHALL BE PVC. PVC PIPE WITHIN A CASING TO BE C900 DR 18 (SEE PCU STANDARD DETAIL). ALL OTHER PVC PIPE TO BE SDR 21. THE USE OF DIP PIPE IS NOT ALLOWED. PCU MUST APPROVE THE USE OF DIP IN THE FIELD BEFORE INSTALLATION AND ONLY WHEN THERE ARE NO OTHER OPTIONS.
 4. PCU STANDARD WATERLINE PIPE RESTRAINING METHOD IS MJ GRIP RINGS. AT A MINIMUM ALL FITTINGS, VALVES, ETC. MUST BE RESTRAINED. (SEE PCU STANDARD DETAIL).
 5. PCU MUST INSPECT CASING INSTALLATIONS PRIOR TO BACK-FILL. PCU MUST WITNESS PRESSURE TESTS, AND WITHDRAWAL OF BACTERIOLOGICAL SAMPLES. CONTACT BOB FORAND TO SCHEDULE 910-259-0212.
 6. CLOSE-OUT DOCUMENTS WHICH MUST BE RECEIVED PRIOR TO PCU SIGNING THE NC PWSS APPLICANT CERTIFICATION INCLUDE: BACTERIOLOGICAL TESTS, PRESSURE TESTS, DEED OF DEDICATION, AFFIDAVIT/RELEASE OF LIENS, WARRANTY, AND RECORD DRAWINGS (PDF & CAD).
 7. AN 18 MONTH WARRANTY PERIOD APPLIES TO ALL WATERLINE CONSTRUCTION. THIS WARRANTY PERIOD DOES NOT BEGIN UNTIL FINAL APPROVAL OF THE SYSTEM HAS BEEN RECEIVED FROM NC PWSS.

- NOTES:**
1. CONTRACTOR TO VERIFY SIZE, DEPTH, MATERIAL AND LOCATION FOR ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
 2. THE UNDERGROUND UTILITIES INDICATED ON THE PLANS HAVE BEEN TAKEN FROM INFORMATION MADE AVAILABLE FROM THE VARIOUS UTILITY OWNERS. THIS INFORMATION IS NOT INCLUSIVE OF ALL EXISTING UNDERGROUND UTILITIES AND CABLES. THE CONTRACTOR IS ADVISED THAT ADDITIONAL UNDERGROUND UTILITIES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. PLEASE BE ADVISED THAT THE UNDERGROUND UTILITIES AND CABLES COULD CONFLICT WITH THE WATER AND FORCEMAIN CONSTRUCTION AS SHOWN.
 3. CLEARING LIMITS HAVE NOT BEEN SHOWN ON THE PLANS.
 4. CONTRACTOR SHALL BRACE / SUPPORT ALL POWER POLES AS REQUIRED FOR CONSTRUCTION.
 5. PRECAST CONCRETE MANHOLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C 478. ALL SURFACES SHALL BE SMOOTH AND EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FIN, AND OTHER IMPERFECTIONS.
 6. JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WATERTIGHT USING EITHER O-RING GASKETS CONFORMING WITH ASTM C 443 OR BUTYL RESIN CONFORMING WITH AASHTO M-198.
 7. EXTERIOR JOINTS SHALL BE SEALED WITH A 4" WIDE BUTYL RUBBER WRAP.
 8. HOLES FOR CONNECTION OF PIPE TO MANHOLE SHALL BE PRECAST OR CORED. DIAMETER OF HOLE SHALL NOT EXCEED OUTSIDE DIAMETER OR PIPE BY MORE THAN 3 INCHES.
 9. CONNECTIONS OF PIPE TO MANHOLE SHALL BE MADE WATERTIGHT USING RESILIENT CONNECTORS CONFORMING TO ASTM C 923 OR NEOPRENE BOOTS EMBEDDED IN PRECAST BASE WITH STAINLESS STEEL COMPRESSION BANDS.
 10. MANHOLE INVERTS SHALL BE INSTALLED USING BRICK AND MORTAR, OR MANHOLES MAY BE PRECAST, MONOLITHIC SECTIONS WITH FORMED INVERTS.
 11. LIFT HOLES SHALL BE PLUGGED AND FILLED FLUSH WITH MORTAR.
 12. ALL BRICK AND MORTAR SHALL RECEIVE A 1/2" MORTAR PARGE COAT ON INSIDE AND OUTSIDE.
 13. ALL SPACE BETWEEN PIPE AND OPENING INSIDE OF MANHOLE TO BE GROUTED WITH TYPE S MORTAR.
 14. SEWER MAIN PENETRATIONS AND/OR SERVICE LATERAL PENETRATIONS ENTERING AT 24" OR LESS ABOVE THE MANHOLE BENCH SHALL HAVE A SLIDE CONSTRUCTED OF BRICK AND MORTAR (SEE DETAIL).
 15. ALL PENETRATIONS ENTERING MANHOLE AT GREATER THAN 24" SHALL BE AN OUTSIDE DROP MANHOLE (SEE DETAIL).
 16. OUTSIDE DROP MANHOLES, AND PUMP STATION RECEIVING MANHOLES SHALL BE MINIMUM 5' DIAMETER MANHOLES.
 17. SANITARY SEWER MANHOLES SHALL BE COATED WITH COAL TAR EPOXY 20 MILS THROUGHOUT THE INSIDE OF THE MANHOLE.
 18. ADD INTERIOR HIGH SOLIDS EPOXY PROTECTION COATING FOR ALL MANHOLES RECEIVING DISCHARGE FROM FORCE MAINS (MIN. 20 MILS).
 19. ALL MANHOLES SHALL HAVE A SEWER GUARD INSERT INSTALLED - PLASTIC IS ALLOWED IN NON-TRAFFIC AREAS - STAINLESS STEEL INSERT PANS ARE REQUIRED IN TRAFFIC AREAS.
 20. MANHOLES SHALL BE TRAFFIC BEARING WITH A MINIMUM HS-20 LOAD ALLOWANCE.
 21. MANHOLES MORE THAN 15 FEET DEEP SHALL USE A 5' DIAMETER MANHOLE.
 22. PUBLIC SANITARY SEWER PIPING SHALL BE C-900 PVC UNLESS OTHERWISE NOTED.
 23. PUBLIC WATER MAINS SHALL BE SDR-21 PVC UNLESS OTHERWISE NOTED.
 24. ALL FITTINGS, VALVES, AND OTHER APPURTENANCES SHALL HAVE RESTRAINED JOINT FITTINGS AND THRUST BLOCKING AS APPLICABLE. RESTRAINED JOINT FITTINGS SHALL USE MECHANICAL JOINT GRIP RING KITS.

Sanitary Sewer Pipe Data Table							Sheet CU103
FROM	TO	Length	Size	PIPE TYPE	Slope	UPSTREAM INVERT	DOWNSTREAM INVERT
SSMH-33	SSMH-32	142.18'	8"	C-900 PVC	0.40%	30.68'	31.25'
SSMH-32	SSMH-31	399.39'	8"	C-900 PVC	0.40%	29.08'	30.68'
SSMH-31	SSMH-29	403.58'	8"	C-900 PVC	0.40%	27.47'	29.08'
SSMH-20	SSMH-19	238.59'	8"	C-900 PVC	0.40%	32.04'	33.00'
SSMH-19	SSMH-17	188.18'	8"	C-900 PVC	0.40%	31.29'	32.04'
SSMH-18	SSMH-17	106.88'	8"	C-900 PVC	0.40%	33.07'	33.50'
SSMH-17	SSMH-16	155.57'	8"	C-900 PVC	0.40%	30.69'	31.31'
SSMH-16	SSMH-15	91.58'	8"	C-900 PVC	0.40%	30.32'	30.69'
SSMH-15	SSMH-58	94.37'	8"	C-900 PVC	0.40%	29.94'	30.32'

MATCHLINE - SEE SHEET CU104

SEE SHEET CU102A FOR PHASE 1B



REV. NO.	DESCRIPTIONS	DATE
1	BLAKE FARM SF-1 PHASE 1B, 2, and 3 LOTS (9.55) SUBMITTAL TO PENDER TRIC AND PERMITTING AGENCIES	05/13/2016

FINAL PLANS
DO NOT USE FOR
CONSTRUCTION



MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
 NC LIC. No. F-1222
 www.mckimcreed.com

Trask Land
 CO INC
 1202 Eastwood Road
 Wilmington, NC 28403
 (910) 799-8755



BLAKE FARM SF-1 SUBDIVISION
 TOPSAIL TOWNSHIP
 PENDER COUNTY NORTH CAROLINA
PHASE 2 ENLARGED UTILITY PLAN

DATE: 13 MAY 2016	SCALE: 1"=50'
MCE PROJ. #: 06525-0004	HORIZONTAL: 1"=50'
DRAWN: RMC, MAB, CDN	VERTICAL: N/A
DESIGNED: RMC, MAB, CDN	
CHECKED: RMC, RAM, NJL	
PROJ. MGR: RMC	

MAC FILE NUMBER: CU103	REVISION: A
DRAWING NUMBER: 30	
STATUS: FINAL PLANS NOT FOR CONSTRUCTION	

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