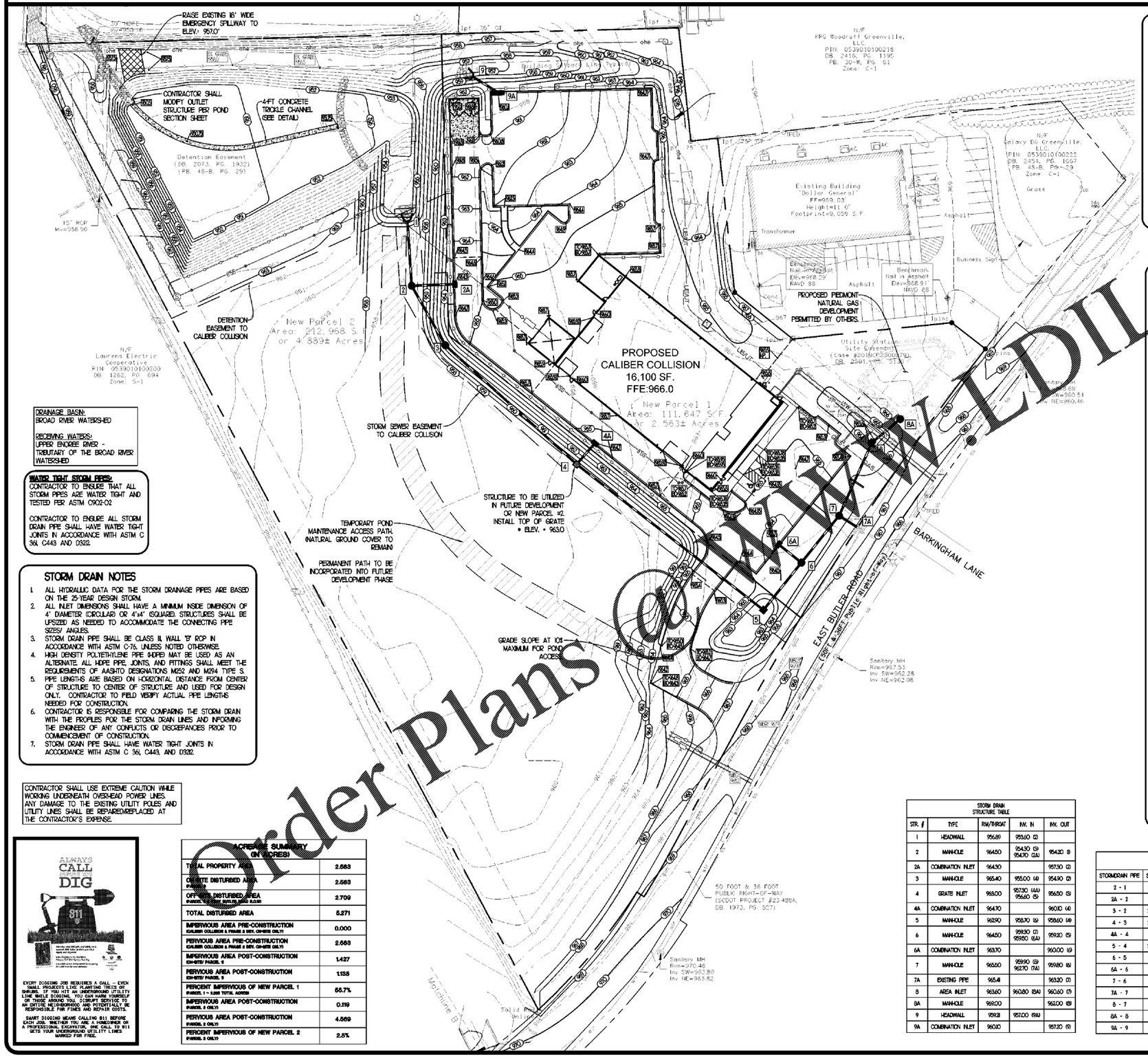
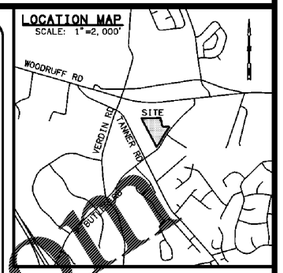


LEGEND

- PROPOSED CONTOURS
- EXISTING CONTOURS
- PHASE 2 CONTOURS (NOT PART OF CALIBER BID)
- SPOT ELEVATION
- MATCH EXISTING GRADE
- PROPOSED STORM DRAIN
- PROPOSED STORM CATCH BASIN
- PROPOSED HEADWALL
- DRAINAGE FLOW ARROW
- EROSION CONTROL BLANKET

LOCATION MAP

SCALE: 1"=2,000'



DRAINAGE BASIN:
BROAD RIVER WATERSHED

RECEIVING WATERS:
UPPER ENOREE RIVER - TRIBUTARY OF THE BROAD RIVER WATERSHED

WATER TIGHT STORM PIPES:
CONTRACTOR TO ENSURE THAT ALL STORM PIPES ARE WATER TIGHT AND TESTED PER ASTM C902-02

CONTRACTOR TO ENSURE ALL STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443 AND D3212.

STORM DRAIN NOTES

1. ALL HYDRAULIC DATA FOR THE STORM DRAINAGE PIPES ARE BASED ON THE 25-YEAR DESIGN STORM.
2. ALL INLET DIMENSIONS SHALL HAVE A MINIMUM INSIDE DIMENSION OF 4' DIAMETER (CIRCULAR) OR 4'x4' (SQUARE). STRUCTURES SHALL BE UPSIZED AS NEEDED TO ACCOMMODATE THE CONNECTING PIPE SIZES/ ANGLES.
3. STORM DRAIN PIPE SHALL BE CLASS III WALL 'B' RCP IN ACCORDANCE WITH ASTM C-76, UNLESS NOTED OTHERWISE.
4. HIGH DENSITY POLYETHYLENE PIPE (HDPE) MAY BE USED AS AN ALTERNATE. ALL HDPE PIPE, JOINTS, AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATIONS M252 AND M294 TYPE S.
5. PIPE LENGTHS ARE BASED ON HORIZONTAL DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND USED FOR DESIGN ONLY. CONTRACTOR TO FIELD VERIFY ACTUAL PIPE LENGTHS NEEDED FOR CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR COMPARING THE STORM DRAIN WITH THE PROFILES FOR THE STORM DRAIN LINES AND INFORMING THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443, AND D3212.

CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING UNDERNEATH OVERHEAD POWER LINES. ANY DAMAGE TO THE EXISTING UTILITY POLES AND UTILITY LINES SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE.

EVERY DIGGING JOB REQUIRES A CALL – EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHRUBS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD, AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB, WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL CONTRACTOR. THE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

ACREAGE SUMMARY (IN ACRES)	
TOTAL PROPERTY AREA	2.563
ON-SITE DISTURBED AREA (PARCEL 2 ONLY)	2.563
OFF-SITE DISTURBED AREA (PARCEL 1 - 2.563 TOTAL ACRES)	2.709
TOTAL DISTURBED AREA	5.271
IMPERVIOUS AREA PRE-CONSTRUCTION (CALIBER COLLISION & PHASE 2 DEV. ON-SITE ONLY)	0.000
PERVIOUS AREA PRE-CONSTRUCTION (CALIBER COLLISION & PHASE 2 DEV. ON-SITE ONLY)	2.563
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE/ PARCEL 1)	1.427
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE/ PARCEL 1)	1.135
PERCENT IMPERVIOUS OF NEW PARCEL 1 (PARCEL 1 = 2.563 TOTAL ACRES)	55.7%
IMPERVIOUS AREA POST-CONSTRUCTION (PARCEL 2 ONLY)	0.119
PERVIOUS AREA POST-CONSTRUCTION (PARCEL 2 ONLY)	4.569
PERCENT IMPERVIOUS OF NEW PARCEL 2 (PARCEL 2 ONLY)	2.5%

GRADING & DRAINAGE NOTES

1. ALL SITE WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PLANS PREPARED BY FREELAND & KAUFFMAN, INC. THE CURRENT REQUIREMENTS OF GREENVILLE COUNTY, APPLICABLE SECTIONS OF THE SCDOT STANDARD SPECIFICATIONS, AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
2. ALL EXISTING STRUCTURES, FENCING, TREES, ETC., WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE, UNLESS OTHERWISE NOTED TO REMAIN. BURNING ON-SITE SHALL NOT BE ALLOWED.
3. ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST AND SHALL MEET SCDOT MINIMUM REQUIREMENTS.
4. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
5. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT 811. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
6. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
7. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
9. ALL SLOPES SHALL BE 3:1 (HORIZONTAL-VERTICAL) UNLESS NOTED OTHERWISE. NO SLOPES SHALL EXCEED 2:1 IN ANY CASE.
10. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES AND STORM DRAIN LINES MUST BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
11. ALL DISTURBED AREAS WHICH ARE NOT PAVED SHALL BE TOPSOILED, SEEDED AND MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS, OR INSTRUCTED BY THE OWNER.
12. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT, PREPARED BY OTHERS, PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.
13. IF ANY EXISTING STRUCTURES OR SITE FEATURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
14. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT. STORM PIPE MATERIALS SHALL MEET GREENVILLE COUNTY STANDARDS AND REQUIREMENTS.
15. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE NPDES, GENERAL PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
16. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
17. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
18. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY SURVEY MATTERS, LLC. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
19. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
20. EXISTING STORM DRAIN PIPES IMMEDIATELY ADJACENT TO THE SITE SHALL BE INSPECTED AND CLEANED TO REMOVE ALL SILT AND DEBRIS.
21. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER INLETS AND MANHOLES FOR REVIEW PRIOR TO ORDERING.
22. ROOF LEADERS SHALL DISCHARGE TO SPLASH BLOCKS UNLESS SPECIFICALLY NOTED OTHERWISE. RE: ARCH FOR EXACT NUMBER AND LOCATION.
23. ALL SIDEWALKS TO HAVE 2.00% MAXIMUM CROSS SLOPE AND 5.00% MAX LONGITUDINAL SLOPE.
24. SLOPES 3:1 AND STEEPER SHALL BE INSTALLED WITH AN EROSION CONTROL BLANKET ("COIRLEX" OR APPROVED EQUAL)
25. INSURE THAT ALL SIDEWALK CURBS LESS THAN 6' HEIGHT OR LESS ARE PAINTED YELLOW
26. PRIOR TO CERTIFICATE OF OCCUPANCY, SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
27. CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR HAS THE OPTION TO UTILIZE SOD IN LIEU OF AN EROSION CONTROL BLANKET (TYPICAL).

STORM DRAIN STRUCTURE TABLE				
STR. #	TYPE	RIM/THROAT	INV. IN	INV. OUT
1	HEADWALL	956.89	953.50 (2)	
2	MAN-HOLE	964.50	954.30 (5) 954.70 (2A)	954.20 (3)
2A	COMBINATION INLET	964.30		957.30 (2)
3	MAN-HOLE	965.40	955.00 (4)	954.90 (2)
4	GRATE INLET	969.00	957.30 (4A) 956.60 (5)	956.50 (3)
4A	COMBINATION INLET	964.70		960.10 (4)
5	MAN-HOLE	962.90	958.70 (5)	958.60 (6)
6	MAN-HOLE	964.50	959.30 (7) 959.80 (6A)	959.20 (5)
6A	COMBINATION INLET	963.70		960.00 (6)
7	MAN-HOLE	965.50	959.90 (8) 962.70 (7A)	959.80 (6)
7A	EXISTING PIPE	965.41		963.20 (7)
8	AREA INLET	963.60	960.80 (8A)	960.60 (7)
8A	MAN-HOLE	969.00		962.00 (8)
9	HEADWALL	959.21	957.00 (9A)	
9A	COMBINATION INLET	960.10		957.20 (9)

STORM PIPE TABLE					
STORMDRAIN PIPE	SIZE	LENGTH	SLOPE	INV. IN	INV. OUT
2 - 1	36"	54'	1.00%	954.30'	953.60'
2A - 2	18"	35'	7.34%	957.30'	954.70'
3 - 2	30"	57'	1.05%	954.90'	954.30'
4 - 3	30"	148'	1.01%	955.50'	955.00'
4A - 4	18"	23'	0.39%	960.10'	957.30'
5 - 4	30"	195'	1.01%	958.60'	956.60'
6 - 5	24"	51'	0.98%	959.20'	958.70'
6A - 6	18"	24'	2.10%	960.00'	959.50'
7 - 6	18"	50'	0.99%	959.80'	959.30'
7A - 7	18"	18'	2.81%	963.20'	962.70'
8 - 7	18"	67'	1.04%	960.60'	959.90'
8A - 8	18"	31'	3.91%	962.00'	960.80'
9A - 9	18"	25'	0.81%	957.20'	957.00'

GRADING PLAN

0 40' 80'
SCALE 1" = 40'

Order Plans at LDline.com

REVISIONS	BY

FREELAND and KAUFFMAN, INC.
Engineers * Landscape Architects
209 West Stone Avenue
Greenville, South Carolina 29609
864-233-5497

BID SET NOT FOR CONSTRUCTION

SOUTH CAROLINA FREELAND & KAUFFMAN, INC. No. C00995 CERTIFICATE OF AUTHORIZATION

CALIBER COLLISION
1233 E. BUTLER ROAD
GREENVILLE, SC 29607

CROSS DEVELOPMENT CC FIVE FORKS, LLC.
4336 MARSH RIDGE
CARROLLTON, TX 75010
TEL: (214) 614-8262

DRAWN BAC
CHECKED TMB
DATE 01/04/2021
SCALE

DRAWING 14