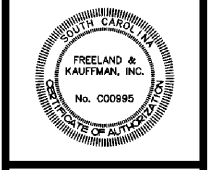


| REVISIONS | BY |
|-----------|----|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

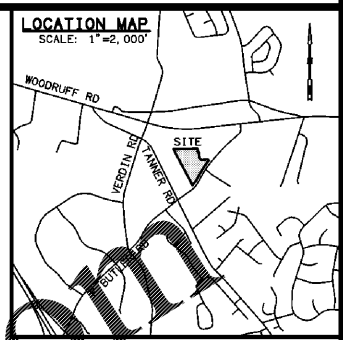
FREELAND and KAUFFMAN, INC.
 Engineers & Landscape Architects
 209 West Stone Avenue
 Greenville, South Carolina 29609
 864-233-5497

NO BID SET FOR CONSTRUCTION



CALIBER COLLISION
 1233 E. BUTLER ROAD
 GREENVILLE, SC 29607
 CROSS DEVELOPMENT CC FIVE FORKS, LLC.
 4836 MARSH RIDGE
 CARROLLTON, TX 75010
 TEL. (214) 614-8252

| | |
|---------|------------|
| DRAWN | EAC |
| CHECKED | TMB |
| DATE | 01/04/2021 |
| SCALE | |
| DRAWING | |
| | 15 |



STORM DRAIN STRUCTURE TABLE

| STR. # | TYPE | RM/THICK | INV. IN | INV. OUT |
|--------|-------------------|----------|-------------|----------|
| 1 | HEADWALL | 956.09 | 956.00 | 954.20 |
| 2 | MANHOLE | 964.50 | 954.30 (2) | 954.20 |
| 2A | COMBINATION INLET | 964.30 | | 957.20 |
| 3 | MANHOLE | 965.40 | 956.00 (4) | 954.90 |
| 4 | GRATE INLET | 963.00 | 957.30 (4A) | 956.50 |
| 4A | COMBINATION INLET | 964.70 | | 960.00 |
| 5 | MANHOLE | 962.90 | 958.70 (5) | 958.60 |
| 6 | MANHOLE | 964.50 | 959.30 (7) | 959.20 |
| 6A | COMBINATION INLET | 963.70 | | 960.00 |
| 7 | MANHOLE | 962.90 | 959.20 (8) | 959.80 |
| 7A | EXISTING PIPE | 965.4 | | 963.20 |
| 8 | AREA INLET | 964.00 | 960.80 (8A) | 960.80 |
| 8A | MANHOLE | 965.00 | | 960.00 |
| 9 | HEADWALL | 959.3 | 957.00 (9A) | |
| 9A | COMBINATION INLET | 960.00 | | 957.20 |

RAINFALL DISTRIBUTION FOR GREENVILLE, SOUTH CAROLINA

| STORM EVENT | 2-YR | 10-YR | 25-YR | 100-YR |
|----------------------|------|-------|-------|--------|
| RAINFALL (INCHES/HR) | 5.68 | 7.45 | 8.42 | 9.90 |

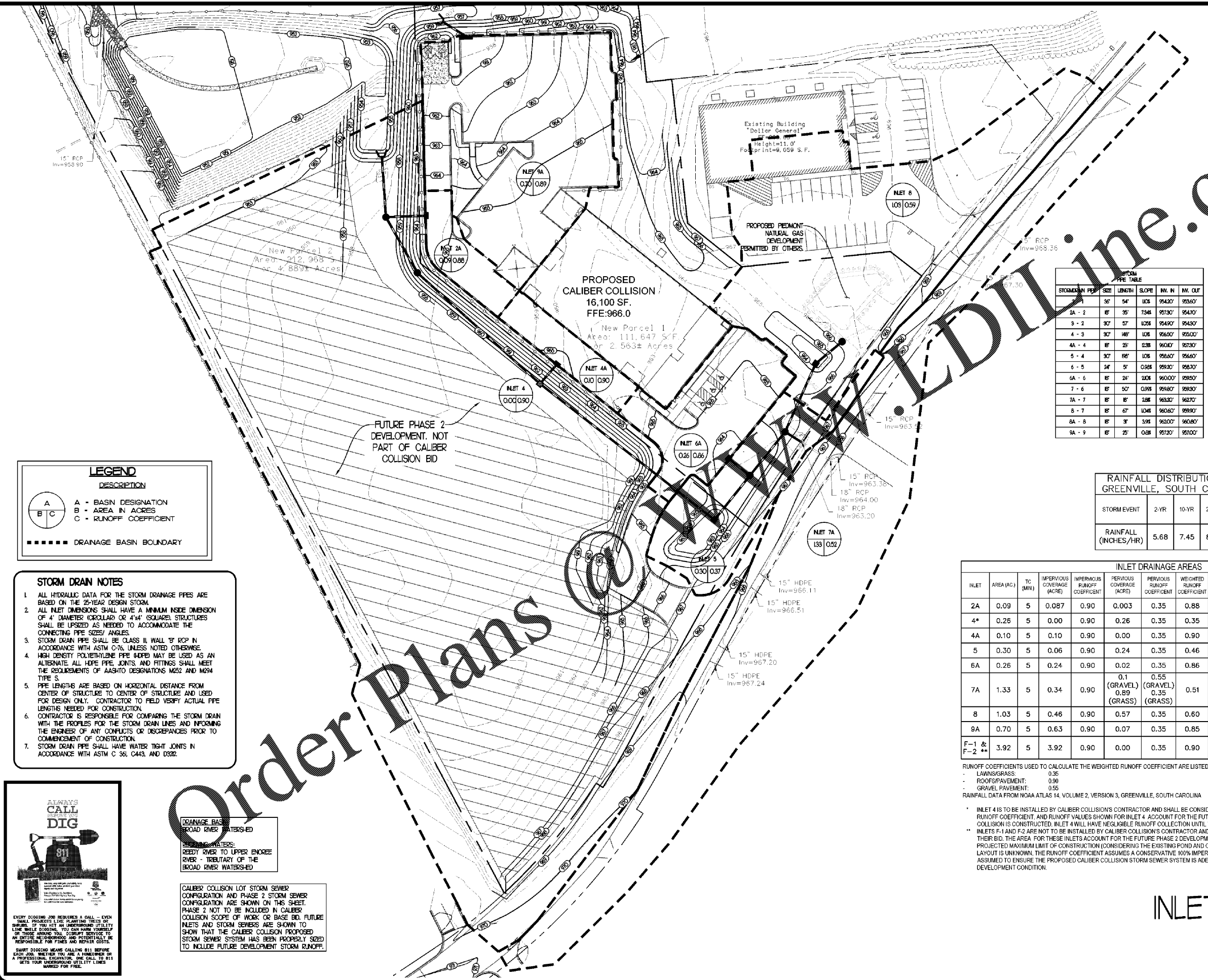
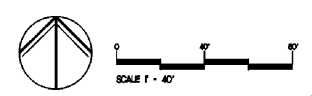
INLET DRAINAGE AREAS

| INLET | AREA (AC) | TC (MIN) | IMPERVIOUS COVERAGE (ACRE) | IMPERVIOUS RUNOFF COEFFICIENT | PERVIOUS COVERAGE (ACRE) | PERVIOUS RUNOFF COEFFICIENT | WEIGHTED RUNOFF COEFFICIENT | 1"25 | 1"100 | Q25 (CFS) | Q100 (CFS) | PONDING DEPTH @ INLET PER 25-YR STORM (FT) |
|--------------|-----------|----------|----------------------------|-------------------------------|------------------------------|-------------------------------|-----------------------------|------|-------|-----------|------------|--|
| 2A | 0.09 | 5 | 0.087 | 0.90 | 0.003 | 0.35 | 0.88 | 8.42 | 9.90 | 0.67 | 0.79 | 0.13 |
| 4* | 0.26 | 5 | 0.00 | 0.90 | 0.26 | 0.35 | 0.35 | 8.42 | 9.90 | 0.77 | 0.90 | 0.17 |
| 4A | 0.10 | 5 | 0.10 | 0.90 | 0.00 | 0.35 | 0.90 | 8.42 | 9.90 | 0.76 | 0.89 | 0.14 |
| 5 | 0.30 | 5 | 0.06 | 0.90 | 0.24 | 0.35 | 0.46 | 8.42 | 9.90 | 1.16 | 1.37 | 0.30 |
| 6A | 0.26 | 5 | 0.24 | 0.90 | 0.02 | 0.35 | 0.86 | 8.42 | 9.90 | 1.88 | 2.21 | 0.21 |
| 7A | 1.33 | 5 | 0.34 | 0.90 | 0.1 (GRAVEL) 0.89 (GRASS) | 0.55 (GRAVEL) 0.35 (GRASS) | 0.51 | 8.42 | 9.90 | 5.71 | 6.72 | 0.00 |
| 8 | 1.03 | 5 | 0.46 | 0.90 | 0.57 | 0.35 | 0.60 | 8.42 | 9.90 | 5.17 | 6.07 | 0.30 |
| 9A | 0.70 | 5 | 0.63 | 0.90 | 0.07 | 0.35 | 0.85 | 8.42 | 9.90 | 4.98 | 5.86 | 0.30 |
| F-1 & F-2 ** | 3.92 | 5 | 3.92 | 0.90 | 0.00 | 0.35 | 0.90 | 8.42 | 9.90 | 29.71 | 34.93 | N/A |

RUNOFF COEFFICIENTS USED TO CALCULATE THE WEIGHTED RUNOFF COEFFICIENT ARE LISTED BELOW:
 - LAWNS/GRASS: 0.35
 - ROOFPAVEMENT: 0.90
 - GRAVEL PAVEMENT: 0.55
 RAINFALL DATA FROM NOAA ATLAS 14, VOLUME 2, VERSION 3, GREENVILLE, SOUTH CAROLINA

* INLET 4 IS TO BE INSTALLED BY CALIBER COLLISION'S CONTRACTOR AND SHALL BE CONSIDERED WHEN FORMULATING THEIR BID. THE AREA, RUNOFF COEFFICIENT, AND RUNOFF VALUES SHOWN FOR INLET 4 ACCOUNT FOR THE FUTURE PHASE 2 DEVELOPMENT. ONCE THE CALIBER COLLISION IS CONSTRUCTED, INLET 4 WILL HAVE NEGLIGIBLE RUNOFF COLLECTION UNTIL THE PHASE 2 DEVELOPMENT IS COMPLETED.
 ** INLETS F-1 AND F-2 ARE NOT TO BE INSTALLED BY CALIBER COLLISION'S CONTRACTOR AND SHALL NOT BE CONSIDERED WHEN FORMULATING THEIR BID. THE AREA FOR THESE INLETS ACCOUNT FOR THE FUTURE PHASE 2 DEVELOPMENT AND CONSIDER DRAINAGE FROM OFFSITE, AND A PROJECTED MAXIMUM LIMIT OF CONSTRUCTION CONSIDERING THE EXISTING POND AND CALIBER COLLISION DEVELOPMENT. BECAUSE THE FINAL LAYOUT IS UNKNOWN, THE RUNOFF COEFFICIENT ASSUMES A CONSERVATIVE 100% IMPERVIOUS AREA FOR THIS DRAINAGE AREA. THIS WAS ASSUMED TO ENSURE THE PROPOSED CALIBER COLLISION STORM SEWER SYSTEM IS ADEQUATELY SIZED FOR ANY FUTURE PHASE 2 DEVELOPMENT CONDITION.

INLET AREA MAP



LEGEND

| DESCRIPTION | DESCRIPTION |
|-------------|-------------------------------|
| A | A - BASIN DESIGNATION |
| B | B - AREA IN ACRES |
| C | C - RUNOFF COEFFICIENT |
| ----- | ----- DRAINAGE BASIN BOUNDARY |

- STORM DRAIN NOTES**
- ALL HYDRAULIC DATA FOR THE STORM DRAIN PIPES ARE BASED ON THE 25-YEAR DESIGN STORM.
 - ALL INLET DIMENSIONS SHALL HAVE A MINIMUM INSIDE DIMENSION OF 4" DIAMETER (CIRCULAR) OR 4"x4" (SQUARE). STRUCTURES SHALL BE SIZED AS NEEDED TO ACCOMMODATE THE CONNECTING PIPE SIZES AND ANGLES.
 - STORM DRAIN PIPE SHALL BE CLASS II WALL 18" RCP IN ACCORDANCE WITH ASTM C-76, UNLESS NOTED OTHERWISE.
 - 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.
 - 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.
 - 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.
 - STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443, AND D322.

ALWAYS CALL 811 BEFORE YOU DIG

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. DIGSAFE 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 EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

DRAINAGE BASIN
 BROAD RIVER WATERSHED

REGULATING AGENCIES:
 READY RIVER TO UPPER ENDORE RIVER - TRIBUTARY OF THE BROAD RIVER WATERSHED

CALIBER COLLISION LOT STORM SEWER CONFIGURATION AND PHASE 2 STORM SEWER CONFIGURATION ARE SHOWN ON THIS SHEET. PHASE 2 NOT TO BE INCLUDED IN CALIBER COLLISION SCOPE OF WORK OR BASE BID. FUTURE INLETS AND STORM SEWERS ARE SHOWN TO SHOW THAT THE CALIBER COLLISION PROPOSED STORM SEWER SYSTEM HAS BEEN PROPERLY SIZED TO INCLUDE FUTURE DEVELOPMENT STORM RUNOFF.

Order Plans