# CONSTRUCTION DOCUMENTS FOR

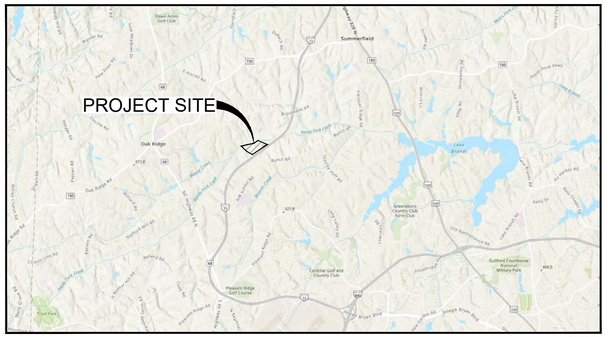
# BANDERA FARMS PARK

## 5448 BUNCH ROAD,
## TOWN OF SUMMERFIELD, NC 27358

### PIN: 149515, 149332

### GUILFORD COUNTY, NC

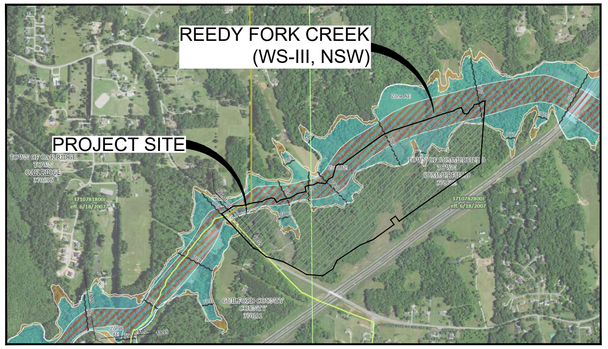
### OCTOBER 9, 2025




PLAN NORTH

VICINITY MAP

SCALE: NTS




PLAN NORTH

FEMA FLOOD MAP - 3710781800J AND 3710782800J
EFFECTIVE DATE 06/18/2007

SCALE: NTS

## PROJECT DESCRIPTION:

THE PURPOSE OF THIS PROJECT IS THE CONSTRUCTION OF A GREENWAY TRAIL, PARKING LOT, AND ASSOCIATED INFRASTRUCTURE.

## PROJECT INFORMATION:

PROJECT ADDRESS:
5448 BUNCH ROAD, 5366 BUNCH ROAD
SUMMERFIELD, NC 27358

PROJECT COORDINATES:
36.172418, -79.951678

PARCEL ID
149515, 149332

SITE AREA:

PIN 149332
TOTAL AREA: 115.89 ACRES

PIN 149515
TOTAL AREA: 4.77 ACRES
AREA IN R/W: 0.51 ACRES
NET AREA: 4.26 ACRES

TOTAL AREA (COMBINED): 120.66 ACRES

DISTURBED AREA:
10.55 ACRES

ZONING CLASSIFICATION:
AG (AGRICULTURAL)
A PORTION OF THIS SITE LIES WITHIN THE 1-73 SCENIC CORRIDOR OVERLAY
BUILDING SETBACKS:
FRONT YARD: 50 FT.
SIDE YARD: 15 FT.
REAR YARD: 30 FT.

NOTE:
NO APPARENT OR OBSERVABLE GRAVESITE / HISTORICAL AREAS ON SITE.

## IMPERVIOUS INFORMATION:

EXISTING IMPERVIOUS SURFACE AREA:
0.26 ACRES

EXISTING IMPERVIOUS TO BE REMOVED AREA:
0.23 ACRES

EXISTING IMPERVIOUS TO REMAIN AREA:
0.03 ACRES

PROPOSED IMPERVIOUS AREA:
2.47 ACRES

TOTAL IMPERVIOUS AREA:
2.50 ACRES

RIVER BASIN
CAPE FEAR
SITE IS WITHIN THE JORDAN LAKE BUFFER AREA

RECEIVING WATER COURSE
REEDY FORK CREEK (GREENSBORO WS-III, NSW)

PARKING SPACE SUMMARY
NO PARKING REQUIREMENTS PER UDO; PARKING SPACES AS DIRECTED BY THE PLANNING DIRECTOR.
PROPOSED:
REGULAR PARKING SPACES = 33
ADA H/C SPACES = 4
EQUESTRIAN SPACES = 8
OVERFLOW = 40

### OWNER/DEVELOPER

OWNER CONTACT (24-HR):
CHARLES ROLLINS
PHONE (336) 643-8655
Townmgr@summerfieldnc.gov

DEVELOPER:
TOWN OF SUMMERFIELD
4117 OAK RIDGE ROAD
SUMMERFIELD, NC 27358

### DESIGN TEAM

PROJECT MANAGER:
LAUREN PATTERSON
PLA, ASLA
lauren.patterson@pondco.com
CIVIL ENGINEER:
JUAN MORALES, PE
juan.morales@pondco.com

POND AND COMPANY
4100 RALEIGH STREET, SUITE 114
CHARLOTTE, NC 28213
PHONE (678) 336-7740
WEB: www.pondco.com

IT IS THE OWNER'S/DEVELOPER'S RESPONSIBILITY TO BE IN COMPLIANCE WITH APPLICABLE NATIONAL POLLUTION DISCHARGE ELIMINATION BANDERA FARMS PARK (NPDES) PERMIT AND CLEAN WATER ACT REQUIREMENTS.

FIRE DISTRICT:
OAK RIDGE FIRE

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| CT-607 | CROSS SECTIONS |
| CT-608 | CROSS SECTIONS |
| CT-609 | CROSS SECTIONS |
| CT-610 | CROSS SECTIONS |
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24-HOUR EROSION AND SEDIMENTATION CONTROL CONTACT:
CHARLES ROLLINS
PHONE (336) 643-8655

Know what's below. Call before you dig. Dial 811 Or Call 800-632-4949

BID SET - NOT FOR CONSTRUCTION


POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213



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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049371 JUAN M. MORALES
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

COVER SHEET

SHEET NUMBER

G-001

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07 CAD-BIM\07.02 CAD\CIVIL\G-001 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

## CIVIL GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL COUNTY AND STATE OF NORTH CAROLINA GUIDELINES AND REGULATIONS APPLICABLE TO CONSTRUCTION OF THIS SITE, INCLUDING THE JAUNARY 2024 NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES.
2. ALL DIMENSIONS ARE TAKEN FROM/TO FENCELINES, PROPERTY LINES, EDGE OF PAVEMENT, CENTERLINE OF UTILITY, CENTERLINE OF MANHOLE OR CATCH BASIN, CENTERLINE OF ROAD, FACE OF CURB, CENTER OF PAINT STRIPE, AND FACE OF WALL OR BUILDING UNLESS OTHERWISE NOTED.
3. CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROL MEASURES DAILY AND DURING PROLONGED PERIODS OF CONTINUOUS RAINFALL EVENTS TO ENSURE THAT ALL CONTROLS ARE FUNCTIONING PROPERLY. DAMAGED CONTROLS SHALL BE REPLACED BY THE END OF THE WORKDAY.
4. CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN ON THE DRAWINGS, DURING ALL PHASES OF CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SET OF DESIGN DRAWINGS SHOWING "AS-BUILT" CONDITIONS. THESE "RECORD DRAWINGS" SHALL BE MADE AVAILABLE TO THE OWNER UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS.
6. ALL INITIAL EROSION AND SEDIMENTATION CONTROL MEASURES AND DEVICES MUST BE IN PLACE PRIOR TO ANY LAND DISTURBANCE.
7. SOURCE OF SURVEY IS FROM A BOUNDARY & EXISTING CONDITIONS SURVEY FOR POND & COMPANY PREPARED BY: FEI CONSULTING, DATED: MARCH 15, 2024.
8. THERE ARE NO KNOWN EXISTING LANDFILLS OR PROPOSED ON-SITE BURY PITS.
9. THIS PROPERTY IS LOCATED IN A SPECIAL FLOOD HAZARD AREA, FEMA MAP NO. 3710781800J, 3710782800J DATED: JUNE 18, 2007.
10. THE FINAL CONNECTION OF THE BUILDING UTILITIES TO THE SITE UTILITIES SHALL BE THE RESPONSIBILITY OF THE BUILDING CONTRACTOR.
11. THE PROVIDED SURVEY SHOULD MEET ALL REQUIREMENTS OF THE STATE, AND SHOULD BE FULLY ADEQUATE FOR MODELING. IF ISSUES ARE DISCOVERED DURING MODELING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING UPDATED SURVEY THAT MEETS THE REQUIREMENTS ABOVE, AND FOR THE ADDITIONAL MODELING COSTS BY THE ENGINEER. THIS SHALL APPLY TO EACH ITERATION OF MODIFICATIONS REQUIRED.
12. CONTRACTOR TO ENSURE ALL EXISTING TOPS OF MANHOLES AND VALVE BOXES ARE RAISED OR LOWERED TO BE FLUSH WITH FINISHED GRADES, UNLESS NOTED OTHERWISE.
13. ALL NEW PAVEMENT AND SIDEWALKS SHALL BE CONSTRUCTED FLUSH WITH EXISTING, WITH NO PONDING OF STORMWATER, UNLESS NOTED OTHERWISE.
14. CONTRACTOR SHALL GRADE ALL DISTURBED AREAS TO ENSURE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND TO DRAINAGE STRUCTURES OR DITCHES. NATURAL FLOW OF SURROUNDING WATERS SHALL NOT BE DISTURBED DURING CONSTRUCTION, UNLESS SHOWN OTHERWISE.
15. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, COORDINATES, AND DIMENSIONAL INFORMATION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BRING ALL DISCREPANCIES TO THE ATTENTION OF THE DESIGNER PRIOR TO STARTING CONSTRUCTION.
16. THE LOCATION OF ALL EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING UNDERGROUND UTILITIES, WHETHER SHOWN ON THE PLAN OR LOCATED BY THE UTILITY COMPANY.
17. ALL UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER IMMEDIATELY.
18. ANY FEES ASSOCIATED WITH UTILITY RELOCATIONS SHALL BE BORNE BY THE CONTRACTOR IN ACCORDANCE WITH RESPECTIVE UTILITY COMPANY STANDARDS.
19. THE CONTRACTOR SHALL COORDINATE DISCONNECTION OF EXISTING UTILITIES WITH THE APPROPRIATE UTILITY PROVIDER.
20. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED PERMITS AND/OR EASEMENTS ARE OBTAINED AND IN HAND BEFORE BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE, SHALL BE FULLY BORNE BY THE CONTRACTOR.
21. CONTRACTOR SHALL FURNISH AND MAINTAIN ANY AND ALL NECESSARY BARRICADES AROUND THE WORK AND PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION. IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
22. CONTRACTOR TO MOVE ALL CONSTRUCTION DEBRIS OFF THE PROPERTY AND DISPOSE DEBRIS AT A LEGAL, PERMITTED LANDFILL CONSISTENT WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
23. WHERE ASPHALT SECTION S REMOVED, CONTRACTOR SHALL USE A SAW CUT AT THE LIMIT OF DEMOLITION TO OBTAIN A CLEAN EDGE
24. NO GRADING IS TO OCCUR IN THE TREE PROTECTION AREAS OR TREE CRITICAL TOOT ZONE. A FIELD WALK IS TO BE SCHEDULED WITH OWNER'S REPRESENTATIVE TO MARK TREES TO BE REMOVED PRIOR TO CONSTRUCTION.
25. CONTRACTOR SHALL STAKE CENTERLINE OF ACCESS DRIVE AND GREENWAY TRAIL WITH STATIONING ACCORDING TO PLANS AND OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE RESOLVED PRIOR TO CONSTRUCTIONS.
26. CONTRACTOR SHALL REVIEW TREE REMOVAL WITH OWNER'S REPRESENTATIVE AND OBTAIN APPROVAL PRIOR TO TREE REMOVAL. CONTRACTOR SHALL REMOVE ALL VEGETATION TO A MINIMUM OF 3' BEYOND ASPHALT EDGE OF TRAIL AND BOARDWALK OR WITHIN REQUIRED DRAINAGE DITCH. TRIM UP BRANCHES OF TREES TO PROVIDE 10' VERTICAL CLEARANCE ABOVE PAVEMENT SURFACE.
27. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH PROJECT AS SET FORTH IN THESE PLANS. IF DEPARTURES FROM THE SPECIFICATION OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASON THEREOF SHALL BE SUBMITTED TO THE OWNER IN WRITING FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

## SURVEY REFERENCE NOTES:

1. SEE THE INCLUDED SURVEY (SHEETS V-001 THROUGH V-003) FOR APPLICABLE SURVEY NOTES.

## GENERAL SITE DEMOLITION NOTES:

1. "DEMOLISH" SHALL MEAN TO REMOVE AN OBJECT IN ITS ENTIRETY. RESTORE GRADES AND SURFACE IMPROVEMENTS TO MATCH EXISTING CONDITIONS OR PER REQUIREMENTS OF NEW WORK, WHICHEVER IS APPLICABLE.
2. EROSION AND SEDIMENTATION CONTROL MEASURES AND TEMPORARY CONSTRUCTION FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OR CONCURRENT WITH DEMOLITION.
3. CONTRACTOR SHALL ESTABLISH SURVEY CONTROL NETWORK OUTSIDE LIMITS OF DEMOLITION PRIOR TO COMMENCEMENT OF WORK. THIS WORK MUST BE PERFORMED BY A NORTH CAROLINA LICENSED LAND SURVEYOR.
4. ALL DEMOLITION WORK SHALL BE COORDINATED WITH CONTRACTOR'S SCHEDULE, LOGISTICS PLAN (APPROVED BY OWNER), EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PRIOR TO WORK.
5. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.

## GRADING AND EARTHWORK NOTES:

1. POSITIVE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES TO PREVENT SATURATION OF EXPOSED SOILS IN CASE OF SUDDEN RAINS. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
2. CONTRACTOR SHALL INSTALL ALL PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO ANY SITE CLEARING OR EXCAVATION.
3. ALL BACKFILL AND FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER AND WASTE.
4. ELEVATIONS SHOWN ARE BASED ON NAD83 (2011)/EPOCH (2010). (SEE SURVEY). THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING AND MAINTAINING A BENCHMARK FOR THE PROJECT, AND FOR ANY REQUIRED ELEVATION TRANSLATION.

## 2024 NCDOT ROADWAY ENGLISH STD. DRAWINGS:

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024, ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED PART OF THESE PLANS:

DIVISION 2 - EARTH WORK
200.02 METHOD OF CLEARING

DIVISION 3 - PIPE CULVERTS
300.01 METHOD OF PIPE INSTALLATION

DIVISION 8 - INCIDENTALS
838.01 CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE 90° SKEW
838.80 PRECAST CONCRETE ENDWALL
840.00 CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.14 CONCRETE DROP INLET
840.16 DROP INLET FRAME AND GRATES
840.31 CONCRETE JUNCTION BOX
840.34 TRAFFIC BEARING JUNCTION BOX
840.35 TRAFFIC BEARING GRATED DROP INLET
840.54 MANHOLE FRAME AND COVER
846.01 CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01 CONCRETE SIDEWALK
848.02 DRIVEWAY TURNOUT - RADIUS TYPE
848.06 CURB RAMP
848.07 CONCRETE SIDEPATH / SHARED USE PATH / GREENWAY CONSTRUCTION
867.01 STEEL PIPE GATE
867.02 STEEL BOLLARDS
876.02 GUIDE FOR RIP RAP AT PIPE OUTLETS

DIVISION 12 - PAVEMENT MARKINGS, MARKERS & DELINEATION
1205.01 PAVEMENT MARKINGS
1205.08 PAVEMENT MARKINGS

DIVISION 15 - UTILITY CONSTRUCTION
1520.01 SEWER CLEAN OUT

## ABBREVIATIONS

| | |
|---|---|
| @ | AT |
| & | AND |
| Ø | DIAMETER |
| AC | ACRES |
| AG | ABOVE GROUND |
| A.K.A. | ALSO KNOWN AS |
| APPROX. | APPROXIMATE |
| ASTM | AMERICAN SOCIETY FOR TESTING OF MATERIALS |
| AWWA | AMERICAN WATER WORKSASSOCITION |
| BLDG. | BUILDING |
| BC | BACK OF CURB |
| BFP | BACKFLOW PREVENTER |
| BMP | BEST MANAGEMENT PRACTICE |
| B.O. | BLOW OFF VALVE |
| BOW | BOTTOM OF WALL AT FINISH GRADE |
| B.S. | BOTTOM OF STAIR (LAST TREAD) |
| BSTP | TELEPHONE PEDESTAL |
| BVCE | BEGINNING VERTICAL CURVES ELEVATION |
| BVCS | BEGINNING VERTICAL CURVE STATION |
| CL | CENTERLINE |
| CB | CATCH BASIN |
| C&G | CURB AND GUTTER |
| C.O. | CLEAN OUT |
| CF | CUBIC FEET |
| CFS | CUBIC FEET PER SECOND |
| C.I. | CAST IRON |
| CJ | CONTRACTION JOINT |
| CONC. | CONCRETE |
| CMP | CORRUGATED METAL PIPE |
| CPP | CORRUGATED PLASTIC PIPE |
| CY | CUBIC YARD |
| DD | DRAINAGE DITCH |
| DI | DROP INLET |
| DIA. | DIAMETER |
| D.B. | DEED BOOK |
| D.I. | DROP INLET |
| DIP | DUCTILE IRON PIPE |
| DOT | DEPARTMENT OF TRANSPORTATION |
| DWG | DRAWING |
| E | EASTING |
| EISA | ENERGY INDEPENDENCE SECURITY ACT |
| EJ | EXPANSION JOINT |
| ELEV. | ELEVATION |
| EOI | END OF INFORMATION |
| EP | EDGE OF PAVEMENT |
| EQUIP | EQUIPMENT |
| ESMT | EASEMENT |
| EVCE | ENDING VERTICAL CURVE ELEVATION |
| EVCS | ENDING VERTICAL CURVE STATION |
| EW | EACH WAY |
| EX | EXISTING |
| FDC | FIRE DEPARTMENT CONNECTION |
| FEMA | FEDERAL EMERGENCY MANAGEMENT AGENCY |
| FES | FLARED END SECTION |
| FFE | FINISHED FLOOR ELEVATION |
| FH | FIRE HYDRANT |
| FKA | FORMERLY AS KNOWN AS |
| FOM | FIBER OPTICS MARKER |
| FT. | FEET |
| G | GAS |
| G.A.B. | GRADED AGGREGATE BASE |
| GAL | GALLON |
| GP | GUARD POST |
| GV | GATE VALVE |
| HDPE | HIGH-DENSITY POLYETHYLENE |
| HP | HIGH POINT/DRAINAGE DIVIDE |
| HW | HEADWALL |
| HYD | HYDRANT |
| I.E. | INVERT ELEVATION |
| IPF | IRON PIN FOUND |
| INV. | INVERT |
| IPS | IRON PIPE SET |
| IN. | INCH |
| JB | JUNCTION BOX |
| L | LENGTH |
| LF | LINEAR FEET |
| LP | LOW POINT |
| LVC | LENGTH OF VERTICAL CURVE |
| MAX. | MAXIMUM |
| M.E. | MATCH ELEVATION |
| MECH | MECHANICAL |
| MH | MANHOLE |
| MIN. | MINIMUM |
| MNS | MAGNETIC NAIL SET |
| MON | MONUMENT |
| MUTCD | MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES |
| NCBC | NORTH CAROLINA BUILDING CODE |
| N | NORTHING |
| N/A | NOT APPLICABLE |
| N/F | NOW OR FORMERLY |
| NC | NORTH CAROLINA |
| NIC | NOT IN CONTRACT |
| O.C. | ON CENTER |
| P.B. | PLAT BOOK |
| PG | PAGE |
| PCC | PORTLAND CEMENT CONCRETE |
| PIV | POST INDICATOR VALVE |
| POB | POINT OF BEGINNING |
| PP | POWER POLE |
| PRVT | PRIVATE |
| PROP | PROPOSED |
| PSI | POUND PER SQUARE INCH |
| PVC | POLYVINYL CHLORIDE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVMT | PAVEMENT |
| R | RADIUS |
| RCP | REINFORCED CONCRETE PIPE |
| RD | UNDERGROUND ROOF DRAIN |
| RECP | ROLLED EROSION CONTROL PRODUCT |
| R/W | RIGHT-OF-WAY |
| S | SOUTH |
| SD | STORM DRAIN |
| SW | SIDEWALK |
| SF | SQUARE FEET |
| S.R. | STATE ROUTE |
| SS | SANITARY SEWER |
| SSMH | SANITARY SEWER MANHOLE |
| STA. | STATION |
| STD | STANDARD |
| STRUC. | STRUCTURE |
| TRAP. | TRAPEZOIDAL |
| TBM | TOPOGRAPHY BENCH MARK |
| TEMP. | TEMPORARY |
| TOS | TOP OF SLAB |
| T.A. | TOP OF STAIR (LAST TREAD) |
| TYP | TYPICAL |
| TOW | TOP OF WALL |
| UDP | UNIFIED DEVELOPMENT PLAN |
| VCP | VITRIFIED CLAY PIPE |
| W/ | WITH |
| WM | WATER METER |
| WOS | WATER OF THE STATE |
| WV | WATER VALVE |
| B&B | BALLED AND BURLAPPED |
| CAL | CALIPER |

## SYMBOLS LEGEND

| EXISTING | NEW | DESCRIPTION |
|---|---|---|
| N/A | | DEMOLISH AND REMOVE EXISTING ASPHALT AND CONCRETE PAVEMENT |
| N/A | | DEMOLISH SITE UTILITY |
| N/A | X | DEMOLISH SITE FEATURE |
| N/A | LOD | LIMITS OF DISTURBANCE |
| N/A | | LIMITS OF GRADING |
| 100 | 100 | MINOR CONTOUR LINE |
| 100 | 100 | MAJOR CONTOUR LINE |
| N/A | | CONCRETE ENDWALL (NCDOT 838.01) |
| | GI | GRATE INLET |
| N/A | JB | JUNCTION BOX |
| N/A | | CONCRETE ENDWALL (NCDOT 838.80) |
| | | STORM DRAIN PIPE |
| N/A | PDE | PERMANENT STORM EASEMENT |
| N/A | | SURFACE FLOW DIRECTION |
| × ELEV | ✦ ELEV | SPOT ELEVATION |
| N/A | SS | SANITARY SEWER LINE - GRAVITY |
| N/A | S | SANITARY SEWER MANHOLE |
| N/A | C | SANITARY SEWER CLEANOUT |
| N/A | W | WATER MAIN - DOMESTIC |
| N/A | | WATER VALVE |
| N/A | | SUBDRAIN LINE |
| UC | N/A | UNDERGROUND COMMUNICATION |
| N/A | # | NUMBER OF PARKING SPACES |
| | X X | CHAINLINK FENCE |
| | | TREE* |
| N/A | SF | SILT FENCE |
| N/A | TPF | TREE PROTECTION FENCE |
| N/A | STPF | SILT/TREE PROTECTION FENCE |
| | | SIGN |
| | N/A | UTILITY POLE |
| // | N/A | OVERHEAD UTILITY LINE |
| PL | N/A | PROPERTY LINE |
| | N/A | RIGHT OF WAY |
| | N/A | GUARDRAIL |
| | | TREE LINE |
| FW | N/A | FLOODWAY |
| 100Y | N/A | 100-YEAR FLOOD PLAIN |
| | N/A | TOP CREEK BANK |
| | N/A | WETLAND |
| N/A | | SAWCUT |
| BZ1 | N/A | BUFFER ZONE 1 |
| BZ2 | N/A | BUFFER ZONE 2 |
| N/A | | CENTERLINE OF DITCH |
| JS | N/A | JURISDICTIONAL STREAM |

*SEE LANDSCAPING SHEETS FOR FULL LIST OF TREES AND THEIR CORRESPONDING SYMBOLS

811 Know what's below. Call before you dig. Dial 811 Or Call 800-632-4949

BID SET - NOT FOR CONSTRUCTION

POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

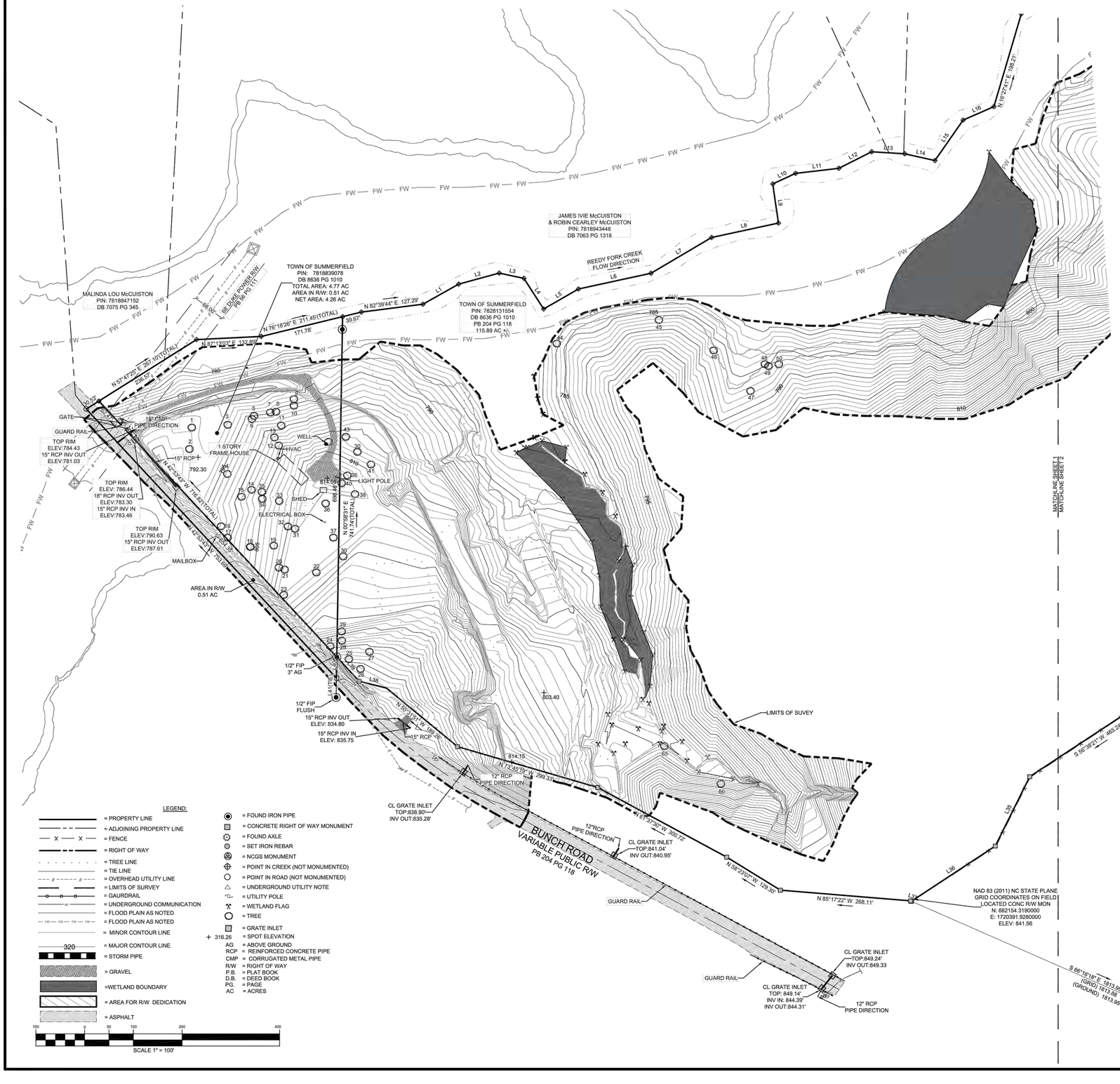
GENERAL NOTES, LEGEND, AND ABBREVIATIONS

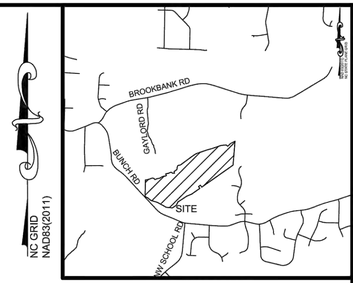
SHEET NUMBER

C-001

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07 CAD-BIM\07.02 CAD\CIVIL\C-001 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




VICINITY MAP
1" = 3000'

SITE DATA:

TOWN OF SUMMERFIELD
PIN: 7828131554
PARCEL #: 149332
DB 8636 PG 1010
PB 204 PG 118
115.89 AC +/-

TOWN OF SUMMERFIELD
PIN: 7818839078
PARCEL #: 149515
DB 8636 PG 1010
TOTAL AREA: 4.77 AC
AREA IN R/W: 0.51 AC
NET AREA: 4.26 AC

TOTAL AREA: 120.28 ACRES

ZONING:
EXISTING ZONING: AG

GENERAL NOTES:

1. AREA DETERMINED BY COORDINATE COMPUTATIONS.
2. GRID TIE INFORMATION BASED ON MONUMENTATION AND DATUM AS SHOWN, ALL DISTANCES ARE GROUND DISTANCES (US FEET) UNLESS OTHERWISE SHOWN.
3. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, AGREEMENTS OR RIGHTS OF WAY RECORDED PRIOR TO THE DATE OF THIS MAP WHICH WERE NOT VISIBLE AT THE TIME OF INSPECTION.
4. THIS MAP DOES NOT MEET O.S. 47-30 AND IS NOT FOR RECORDING OR CONVEYANCE.
5. THE CLASSIFICATION OF THIS SURVEY IS NORTH CAROLINA CLASS A.
6. A PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE AE (ZONE AE HAS BEEN DETERMINED TO HAVE A 1% ANNUAL CHANCE OF FLOODING), AND A PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE X (ZONE X AREA ARE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AREA AS INDICATED ON THE FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 3710781800J, 3710782800J EFFECTIVE DATE JUNE 18TH, 2007.

TREE DATA TABLE

| NUMBER | SIZE | SPECIES | NUMBER | SIZE | SPECIES |
|---|---|---|---|---|---|
| 1 | 28" | PINE | 34 | 26" | PINE |
| 2 | 28" | PINE | 35 | 25" | PINE |
| 3 | 34" | PINE | 36 | 37" | SWEET GUM |
| 4 | 51" | SWEET GUM | 37 | 28" | SWEET GUM |
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| 14 | 32" | PINE | 47 | 42" | WHITE OAK |
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| 16 | 36" | SWEET GUM | 49 | 30" | OAK |
| 17 | 28" | PINE | 50 | 24" | OAK |
| 18 | 28" | PINE | 51 | 34" | BEECH |
| 19 | 24" | PINE | 52 | 25" | WHITE OAK |
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| 30 | 36" | WHITE OAK | 63 | 42" | TREE |
| 31 | 27" | PINE | 64 | 24" | TREE |
| 32 | 32" | PINE | 65 | 26" | SWEET GUM |
| 33 | 25" | SWEET GUM | 66 | 26" | WHITE OAK |

LINE DATA TABLE

| LINE | BEARING | DISTANCE |
|---|---|---|
| L1 | N 60°46'07" E | 84.02' |
| L2 | N 74°43'26" E | 86.30' |
| L3 | S 77°57'44" E | 51.81' |
| L4 | S 32°43'55" E | 74.69' |
| L5 | N 60°10'48" E | 82.27' |
| L6 | N 77°44'41" E | 152.24' |
| L7 | N 59°28'11" E | 144.44' |
| L8 | N 77°44'23" E | 140.26' |
| L9 | N 08°08'21" W | 81.02' |
| L10 | N 65°05'33" E | 51.70' |
| L11 | N 83°19'55" E | 89.20' |
| L12 | N 63°17'40" E | 75.48' |
| L13 | S 86°32'38" E | 67.92' |
| L14 | S 77°20'10" E | 63.42' |
| L15 | N 34°53'29" E | 101.25' |
| L16 | N 66°21'00" E | 68.88' |
| L17 | N 57°26'30" E | 45.14' |
| L18 | S 88°51'10" E | 66.90' |
| L19 | N 62°04'14" E | 99.16' |
| L20 | N 77°42'44" E | 54.06' |
| L21 | S 30°47'10" E | 51.84' |
| L22 | S 15°47'27" W | 19.91' |
| L23 | S 41°02'57" E | 45.24' |
| L24 | S 80°44'00" E | 41.11' |
| L25 | N 57°39'52" E | 26.73' |
| L26 | N 31°09'16" E | 97.70' |
| L27 | N 46°35'20" E | 72.38' |
| L28 | N 22°09'49" E | 47.82' |
| L29 | N 82°02'27" E | 68.57' |
| L30 | N 58°44'22" E | 85.20' |
| L31 | N 86°07'01" E | 39.22' |
| L32 | N 35°09'37" W | 100.00' |
| L33 | S 54°33'39" W | 100.03' |
| L34 | S 35°14'08" E | 99.81' |
| L35 | S 26°23'19" W | 158.90' |
| L36 | S 56°37'10" W | 205.80' |
| L37 | N 69°14'15" W | 1.88' |
| L38 | N 76°02'44" W | 57.75' |
| L39 | N 42°36'51" W | 67.67' |
| L40 | S 00°58'31" W | 43.29' |
| L41 | S 00°54'00" W | 39.68' |

I, JEFFREY D. BUCHOLTZ, CERTIFY THAT THE CONTROL FOR THIS SURVEY IS FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY

1. CLASS OF SURVEY: CLASS A
2. POSITIONAL ACCURACY: 0.05'
3. TYPE OF GPS (OR GNSS) FIELD PROCEDURE: VRS (SOKKIA MODEL GCX-3 NETWORK ROVER)
4. DATE(S) OF SURVEY: 01-30-2024
5. DATUM/EPOCH: NAD83 (2011) / EPOCH (2010)
6. PUBLISHED/FIXED-CONTROL USE: CORS NETWORK
7. GEOID MODEL: 18
8. COMBINED GRID FACTOR: 0.999960615 (GROUND TO GRID)
9. UNITS: U.S. SURVEY FOOT

HORIZONTAL POSITIONS ARE REFERENCED TO NAD83/NSRS (2011)
VERTICAL POSITIONS ARE REFERENCED TO NAVD 88 (GEOID 18)

SURVEYORS CERTIFICATION:

I JEFFREY D. BUCHOLTZ, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 8636 , PAGE 1010 AND; THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION IN BOOK, PAGE AS SHOWN; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:21,074 (CLASS A), AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600.)

THIS 2ND DAY OF OCTOBER , 2025 .

PROFESSIONAL LAND SURVEYOR

L-5589
LICENSE NUMBER

Civil Engineers and Land Surveyors
8518 Triad Drive, Colfax, NC 27235
www.feiconsulting.com
(336) 852-3797
License No. C-0950

# BANDERA FARMS PARK

## BOUNDARY & EXISTING CONDITIONS SURVEY

PROJECT LOCATION:
CITY: SUMMERFIELD
TOWNSHIP: PLEASANT GROVE
COUNTY: GUILFORD
STATE: NORTH CAROLINA

CLIENT INFORMATION:
POND & COMPANY
3501 PARKWAY LANE, SUITE 500
PEACHTREE, GA 30092

PROPERTY ADDRESS:
5448 BUNCH RD
SUMMERFIELD, NC 27358

| NO | DATE | REVISION NOTE |
|---|---|---|
| A | | |
| A | | |
| A | | |
| A | | |
| A | | |
| A | | |
| A | | |

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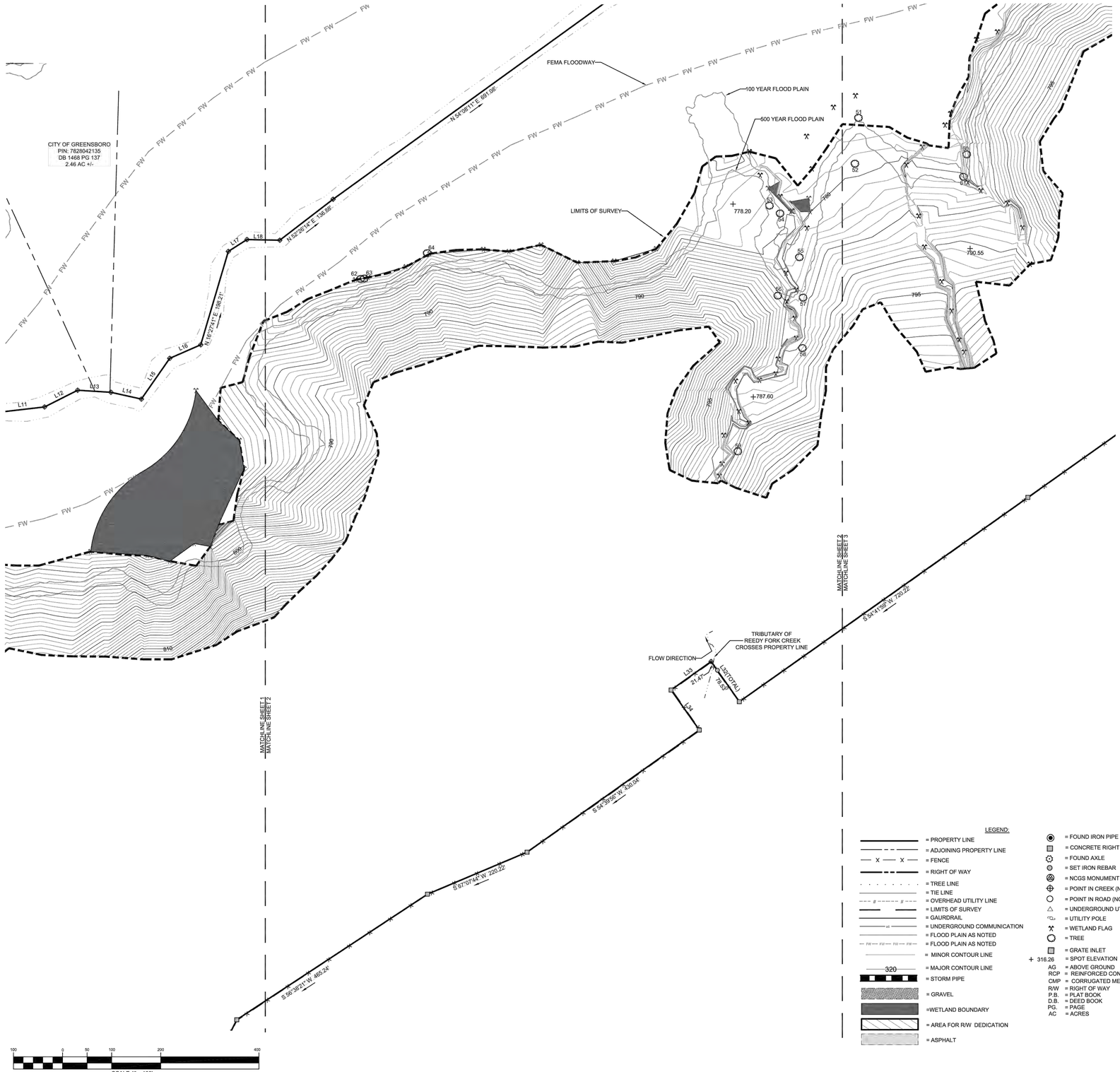
DRAWN BY: TLM
CHECKED BY: JDB
DATE: 10/02/2025
PROJECT NO.: 16059.001
REF. NO.: -
SCALE: 1" = 100'

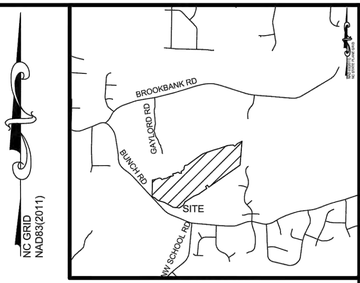
NORTH CAROLINA PROFESSIONAL SEAL L-5589 LAND SURVEYOR JEFFREY D. BUCHOLTZ

SHEET
1 OF 3

BID SET - NOT FOR CONSTRUCTION

V-001




VICINITY MAP
1" = 3000'

SITE DATA:

TOWN OF SUMMERFIELD
PIN: 7828131554
DB 8636 PG 1010
PB 204 PG 118
115.89 AC +/-

TOWN OF SUMMERFIELD
PIN: 7818839079
DB 8636 PG 1010
TOTAL AREA: 4.77 AC
AREA IN R/W: 0.51 AC
NET AREA: 4.26 AC

TOTAL AREA: 120.28 ACRES

ZONING:
EXISTING ZONING: AG

GENERAL NOTES:

1. AREA DETERMINED BY COORDINATE COMPUTATIONS.
2. GRID TIE INFORMATION BASED ON MONUMENTATION AND DATUM AS SHOWN, ALL DISTANCES ARE GROUND DISTANCES (US FEET) UNLESS OTHERWISE SHOWN.
3. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, AGREEMENTS OR RIGHTS OF WAY RECORDED PRIOR TO THE DATE OF THIS MAP WHICH WERE NOT VISIBLE AT THE TIME OF INSPECTION.
4. THIS MAP DOES NOT MEET G.S. 47-30 AND IS NOT FOR RECORDING OR CONVEYANCE.
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TREE DATA TABLE

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| L39 | N 42°36'51" W | 67.67' |
| L40 | S 00°58'31" W | 43.29' |
| L41 | S 00°54'00" W | 39.68' |

LEGEND:

= PROPERTY LINE
= ADJOINING PROPERTY LINE
= FENCE
= RIGHT OF WAY
= TREE LINE
= TIE LINE
= OVERHEAD UTILITY LINE
= LIMITS OF SURVEY
= GAURDRAIL
= UNDERGROUND COMMUNICATION
= FLOOD PLAIN AS NOTED
= FLOOD PLAIN AS NOTED
= MINOR CONTOUR LINE
= MAJOR CONTOUR LINE
= STORM PIPE
= GRAVEL
=WETLAND BOUNDARY
= AREA FOR R/W DEDICATION
= ASPHALT

= FOUND IRON PIPE
= CONCRETE RIGHT OF WAY MONUMENT
= FOUND AXLE
= SET IRON REBAR
= NCGS MONUMENT
= POINT IN CREEK (NOT MONUMENTED)
= POINT IN ROAD (NOT MONUMENTED)
= UNDERGROUND UTILITY NOTE
= UTILITY POLE
= WETLAND FLAG
= TREE
= GRATE INLET
+ 316.26 = SPOT ELEVATION
AG = ABOVE GROUND
RCP = REINFORCED CONCRETE PIPE
CMP = CORRUGATED METAL PIPE
R/W = RIGHT OF WAY
P.B. = PLAT BOOK
D.B. = DEED BOOK
PG. = PAGE
AC = ACRES

I, JEFFREY D. BUCHOLTZ, CERTIFY THAT THE CONTROL FOR THIS SURVEY IS FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY

1. CLASS OF SURVEY: CLASS A
2. POSITIONAL ACCURACY: 0.05'
3. TYPE OF GPS (OR GNSS) FIELD PROCEDURE: VRS (SOKKIA MODEL GCX-3 NETWORK ROVER)
4. DATE(S) OF SURVEY: 01-30-2024
5. DATUM/EPOCH: NAD83 (2011) / EPOCH (2010)
6. PUBLISHED/FIXED-CONTROL USE: CORS NETWORK
7. GEOID MODEL: 18
8. COMBINED GRID FACTOR: 0.999960615 (GROUND TO GRID)
9. UNITS: U.S. SURVEY FOOT

HORIZONTAL POSITIONS ARE REFERENCED TO NAD83/NSRS (2011)
VERTICAL POSITIONS ARE REFERENCED TO NAVD 88 (GEOID 18)

SURVEYORS CERTIFICATION:

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THIS 2ND DAY OF OCTOBER , 2025 .

PROFESSIONAL LAND SURVEYOR — L-5589 LICENSE NUMBER

Civil Engineers and Land Surveyors
8518 Triad Drive, Colfax, NC 27235
www.feiconsulting.com
(336) 852-3797
License No. C-0950

# BANDERA FARMS PARK

## BOUNDARY & EXISTING CONDITIONS SURVEY

PROJECT LOCATION:
CITY: SUMMERFIELD
TOWNSHIP: MONROE
COUNTY: GUILFORD
STATE: NORTH CAROLINA

PROPERTY ADDRESS:
5446 BUNCH RD
SUMMERFIELD, NC 27358

CLIENT INFORMATION:
EMILY HSIAO
3500 PARKWAY LANE, SUITE 500
PEACHTREE, GA 30092

| NO | DATE | REVISION NOTE |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

R:\Projects\PROJ-16059.001 Bandera Farms Park Medley & Portal Topographic Survey\Plotting

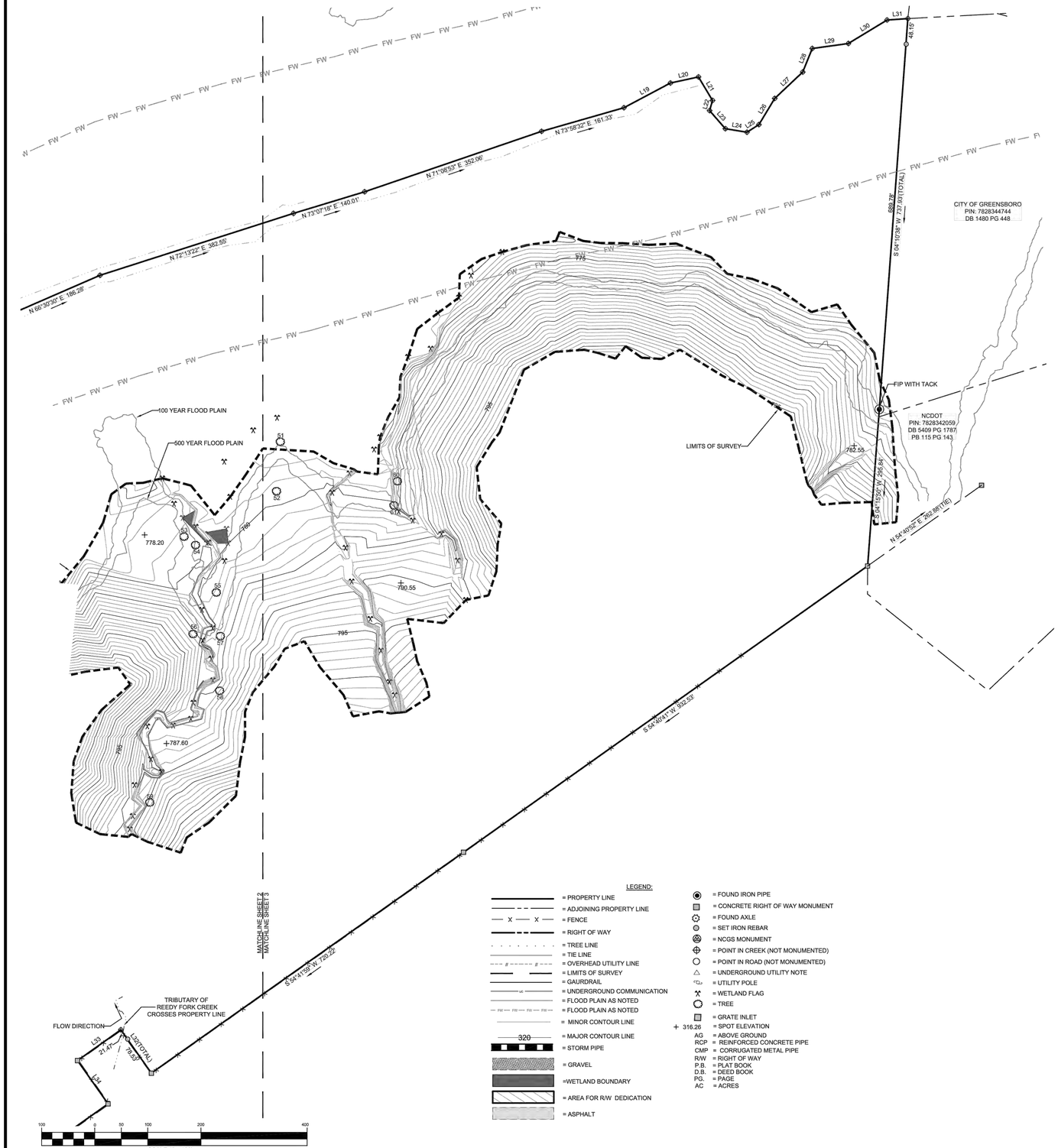
DRAWN BY: TLM
CHECKED BY: JDB
DATE: 10/02/2025
PROJECT NO.: 16059.001
REF. NO.: -
SCALE: 1" = 100'

NORTH CAROLINA PROFESSIONAL SEAL L-5589 LAND SURVEYOR JEFFREY D. BUCHOLTZ

SHEET
2 OF 3

BID SET - NOT FOR CONSTRUCTION

V-002



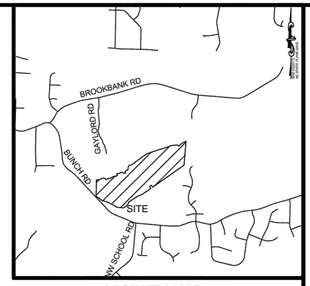

LEGEND:

- = PROPERTY LINE
- = ADJOINING PROPERTY LINE
- = FENCE
- = RIGHT OF WAY
- = TREE LINE
- = TIE LINE
- = OVERHEAD UTILITY LINE
- = LIMITS OF SURVEY
- = GAURDRAIL
- = UNDERGROUND COMMUNICATION
- = FLOOD PLAIN AS NOTED
- = FLOOD PLAIN AS NOTED
- = MINOR CONTOUR LINE
- = MAJOR CONTOUR LINE
- = STORM PIPE
- = GRAVEL
- =WETLAND BOUNDARY
- = AREA FOR R/W DEDICATION
- = ASPHALT

- = FOUND IRON PIPE
- = CONCRETE RIGHT OF WAY MONUMENT
- = FOUND AXLE
- = SET IRON REBAR
- = NCGS MONUMENT
- = POINT IN CREEK (NOT MONUMENTED)
- = POINT IN ROAD (NOT MONUMENTED)
- = UNDERGROUND UTILITY NOTE
- = UTILITY POLE
- = WETLAND FLAG
- = TREE
- = GRATE INLET
- 316.26 = SPOT ELEVATION

AG = ABOVE GROUND
RCP = REINFORCED CONCRETE PIPE
CMP = CORRUGATED METAL PIPE
R/W = RIGHT OF WAY
P.B. = PLAT BOOK
D.B. = DEED BOOK
PG. = PAGE
AC = ACRES

NC GRID
NAD83(2011)




VICINITY MAP
1" = 3000'

SITE DATA:

TOWN OF SUMMERFIELD
PIN: 7828131554
DB 8636 PG 1010
PB 204 PG 118
115.89 AC +/-

TOWN OF SUMMERFIELD
PIN: 7818839078
DB 8636 PG 1010
TOTAL AREA: 4.77 AC
AREA IN R/W: 0.51 AC
NET AREA: 4.26 AC

TOTAL AREA: 120.28 ACRES

ZONING:
EXISTING ZONING: AG

GENERAL NOTES:

1. AREA DETERMINED BY COORDINATE COMPUTATIONS.
2. GRID TIE INFORMATION BASED ON MONUMENTATION AND DATUM AS SHOWN, ALL DISTANCES ARE GROUND DISTANCES (US FEET) UNLESS OTHERWISE SHOWN.
3. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, AGREEMENTS OR RIGHTS OF WAY RECORDED PRIOR TO THE DATE OF THIS MAP WHICH WERE NOT VISIBLE AT THE TIME OF INSPECTION.
4. THIS MAP DOES NOT MEET G.S. 47-30 AND IS NOT FOR RECORDING OR CONVEYANCE.
5. THE CLASSIFICATION OF THIS SURVEY IS NORTH CAROLINA CLASS A.
6. A PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE AE (ZONE AE HAS BEEN DETERMINED TO HAVE A 1% ANNUAL CHANCE OF FLOODING), AND A PORTION OF THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE X (ZONE X AREA ARE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AREA AS INDICATED ON THE FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 3710781800J, 3710782800J EFFECTIVE DATE JUNE 18TH, 2007.

TREE DATA TABLE

| NUMBER | SIZE | SPECIES | NUMBER | SIZE | SPECIES |
|---|---|---|---|---|---|
| 1 | 28" | PINE | 34 | 26" | PINE |
| 2 | 28" | PINE | 35 | 25" | PINE |
| 3 | 34" | PINE | 36 | 37" | SWEET GUM |
| 4 | 51" | SWEET GUM | 37 | 28" | SWEET GUM |
| 5 | 37" | WHITE OAK | 38 | 37" | WHITE OAK |
| 6 | 26" | WHITE OAK | 39 | 36" | WHITE OAK |
| 7 | 34" | WHITE OAK | 40 | 36" | WHITE OAK |
| 8 | 26" | WHITE OAK | 41 | 29" | WHITE OAK |
| 9 | 25" | WHITE OAK | 42 | 30" | WHITE OAK |
| 10 | 29" | WHITE OAK | 43 | 32" | WHITE OAK |
| 11 | 32" | WHITE OAK | 44 | 30" | BEECH |
| 12 | 39" | WHITE OAK | 45 | 42" | BEECH |
| 13 | 32" | WHITE OAK | 46 | 24" | BEECH |
| 14 | 32" | PINE | 47 | 42" | WHITE OAK |
| 15 | 24" | SWEET GUM | 48 | 30" | OAK |
| 16 | 36" | SWEET GUM | 49 | 30" | OAK |
| 17 | 26" | PINE | 50 | 24" | OAK |
| 18 | 26" | PINE | 51 | 34" | BEECH |
| 19 | 24" | PINE | 52 | 26" | WHITE OAK |
| 20 | 27" | SWEET GUM | 53 | 31" | WHITE OAK |
| 21 | 26" | SWEET GUM | 54 | 29" | WHITE OAK |
| 22 | 28" | SWEET GUM | 55 | 26" | SWEET GUM |
| 23 | 40" | PINE | 56 | 31" | BEECH |
| 24 | 30" | SWEET GUM | 57 | 28" | WHITE OAK |
| 25 | 28" | PINE | 58 | 32" | WHITE OAK |
| 26 | 24" | PINE | 59 | 32" | BEECH |
| 27 | 26" | WHITE OAK | 60 | 27" | SWEET GUM |
| 28 | 26" | WHITE OAK | 61 | 42" | BEECH |
| 29 | 26" | SWEET GUM | 62 | 24" | TREE |
| 30 | 36" | WHITE OAK | 63 | 42" | TREE |
| 31 | 27" | PINE | 64 | 24" | TREE |
| 32 | 32" | PINE | 65 | 26" | SWEET GUM |
| 33 | 25" | SWEET GUM | 66 | 26" | WHITE OAK |

LINE DATA TABLE

| LINE | BEARING | DISTANCE |
|---|---|---|
| L1 | N 60°46'07" E | 84.02' |
| L2 | N 74°43'26" E | 86.30' |
| L3 | S 77°57'44" E | 51.81' |
| L4 | S 32°43'55" E | 74.69' |
| L5 | N 60°10'48" E | 82.27' |
| L6 | N 77°44'41" E | 152.24' |
| L7 | N 59°28'11" E | 144.44' |
| L8 | N 77°44'23" E | 140.26' |
| L9 | N 08°08'21" W | 81.02' |
| L10 | N 65°05'33" E | 51.70' |
| L11 | N 83°19'55" E | 89.20' |
| L12 | N 63°17'40" E | 75.48' |
| L13 | S 86°32'38" E | 67.92' |
| L14 | S 77°20'10" E | 63.42' |
| L15 | N 34°53'29" E | 101.25' |
| L16 | N 66°21'09" E | 68.88' |
| L17 | N 57°26'30" E | 45.14' |
| L18 | S 88°51'10" E | 66.90' |
| L19 | N 62°04'14" E | 99.16' |
| L20 | N 77°42'44" E | 54.06' |
| L21 | S 30°47'10" E | 51.54' |
| L22 | S 15°47'27" W | 19.91' |
| L23 | S 41°02'57" E | 45.24' |
| L24 | S 80°44'00" E | 41.11' |
| L25 | N 57°39'52" E | 26.73' |
| L26 | N 31°09'16" E | 57.70' |
| L27 | N 48°58'29" E | 72.38' |
| L28 | N 22°09'49" E | 47.82' |
| L29 | N 82°02'27" E | 68.57' |
| L30 | N 58°44'23" E | 85.20' |
| L31 | N 86°07'01" E | 39.22' |
| L32 | N 35°09'37" W | 100.00' |
| L33 | S 54°33'39" W | 100.03' |
| L34 | S 35°14'08" E | 99.81' |
| L35 | S 26°23'19" W | 158.90' |
| L36 | S 56°37'10" W | 205.80' |
| L37 | N 69°14'15" W | 11.88' |
| L38 | N 76°02'44" W | 57.75' |
| L39 | N 42°36'51" W | 67.67' |
| L40 | S 00°58'31" W | 43.29' |
| L41 | S 00°54'00" W | 39.68' |

I, JEFFREY D. BUCHOLTZ, CERTIFY THAT THE CONTROL FOR THIS SURVEY IS FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY

1. CLASS OF SURVEY: CLASS A
2. POSITIONAL ACCURACY: 0.05'
3. TYPE OF GPS (OR GNSS) FIELD PROCEDURE: VRS (SOKKIA MODEL GCX-3 NETWORK ROVER)
4. DATE(S) OF SURVEY: 01-30-2024
5. DATUM/EPOCH: NAD83 (2011) / EPOCH (2010)
6. PUBLISHED/FIXED-CONTROL USE: CORS NETWORK
7. GEOID MODEL: 18
8. COMBINED GRID FACTOR: 0.999960615 (GROUND TO GRID)
9. UNITS: U.S. SURVEY FOOT

HORIZONTAL POSITIONS ARE REFERENCED TO NAD83\NSRS (2011)
VERTICAL POSITIONS ARE REFERENCED TO NAVD 88 (GEOID 18)

SURVEYORS CERTIFICATION:

I JEFFREY D. BUCHOLTZ, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 8636 , PAGE 1010 AND; THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION IN BOOK, PAGE AS SHOWN; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1:21,074 (CLASS A), AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600.)

THIS 2ND DAY OF OCTOBER , 2025 .

PROFESSIONAL LAND SURVEYOR

L-5589
LICENSE NUMBER

Civil Engineers and Land Surveyors
8518 Triad Drive, Colfax, NC 27235
www.feiconsulting.com
(336) 852-3797
License No. C-0950

# BANDERA FARMS PARK

## BOUNDARY & EXISTING CONDITIONS SURVEY

PROJECT LOCATION:
CITY: SUMMERFIELD
STREET: BUNCH ROAD
COUNTY: GUILFORD
STATE: NORTH CAROLINA

PROPERTY ADDRESS:
5448 BUNCH RD
SUMMERFIELD, NC 27358

CLIENT INFORMATION:
EMILY HSIAO
3501 PARKWAY LANE, SUITE 500
PEACHTREE, GA 30092

REVISION NOTE

| NO. | DATE |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |

K:\Projects\PROJ-19000-201 Bandera Farms Park Boundary & Partial Topographic Survey\Survey

DRAWN BY: TLM
CHECKED BY: JDB
DATE: 10/02/2025
PROJECT NO.: 16059.001
REF. NO.: -
SCALE: 1" = 100'

NORTH CAROLINA PROFESSIONAL SEAL L-5589 LAND SURVEYOR JEFFREY D. BUCHOLTZ

SHEET
3 OF 3

BID SET - NOT FOR CONSTRUCTION

V-003

# GENERAL SHEET NOTES:

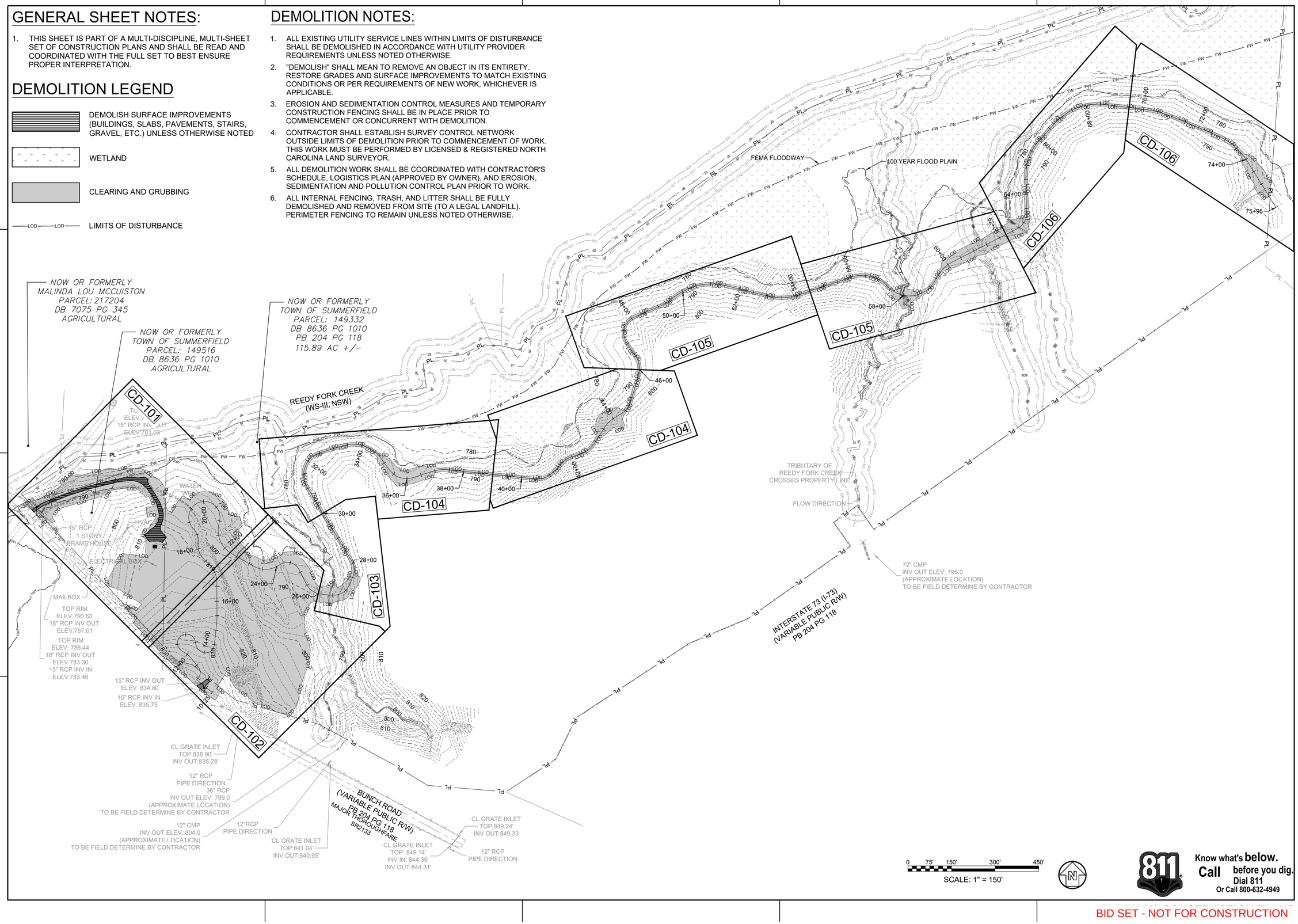
1. THIS SHEET IS PART OF A MULTI-DISCIPLINE, MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ AND COORDINATED WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.

# DEMOLITION LEGEND

- DEMOLISH SURFACE IMPROVEMENTS (BUILDINGS, SLABS, PAVEMENTS, STAIRS, GRAVEL, ETC.) UNLESS OTHERWISE NOTED
- WETLAND
- CLEARING AND GRUBBING
- LOD——LOD—— LIMITS OF DISTURBANCE

# DEMOLITION NOTES:

1. ALL EXISTING UTILITY SERVICE LINES WITHIN LIMITS OF DISTURBANCE SHALL BE DEMOLISHED IN ACCORDANCE WITH UTILITY PROVIDER REQUIREMENTS UNLESS NOTED OTHERWISE.
2. "DEMOLISH" SHALL MEAN TO REMOVE AN OBJECT IN ITS ENTIRETY. RESTORE GRADES AND SURFACE IMPROVEMENTS TO MATCH EXISTING CONDITIONS OR PER REQUIREMENTS OF NEW WORK, WHICHEVER IS APPLICABLE.
3. EROSION AND SEDIMENTATION CONTROL MEASURES AND TEMPORARY CONSTRUCTION FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OR CONCURRENT WITH DEMOLITION.
4. CONTRACTOR SHALL ESTABLISH SURVEY CONTROL NETWORK OUTSIDE LIMITS OF DEMOLITION PRIOR TO COMMENCEMENT OF WORK. THIS WORK MUST BE PERFORMED BY LICENSED & REGISTERED NORTH CAROLINA LAND SURVEYOR.
5. ALL DEMOLITION WORK SHALL BE COORDINATED WITH CONTRACTOR'S SCHEDULE, LOGISTICS PLAN (APPROVED BY OWNER), AND EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PRIOR TO WORK.
6. ALL INTERNAL FENCING, TRASH, AND LITTER SHALL BE FULLY DEMOLISHED AND REMOVED FROM SITE (TO A LEGAL LANDFILL). PERIMETER FENCING TO REMAIN UNLESS NOTED OTHERWISE.




SCALE: 1" = 150'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053847 JOSEPH T. MCCARTHY 10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

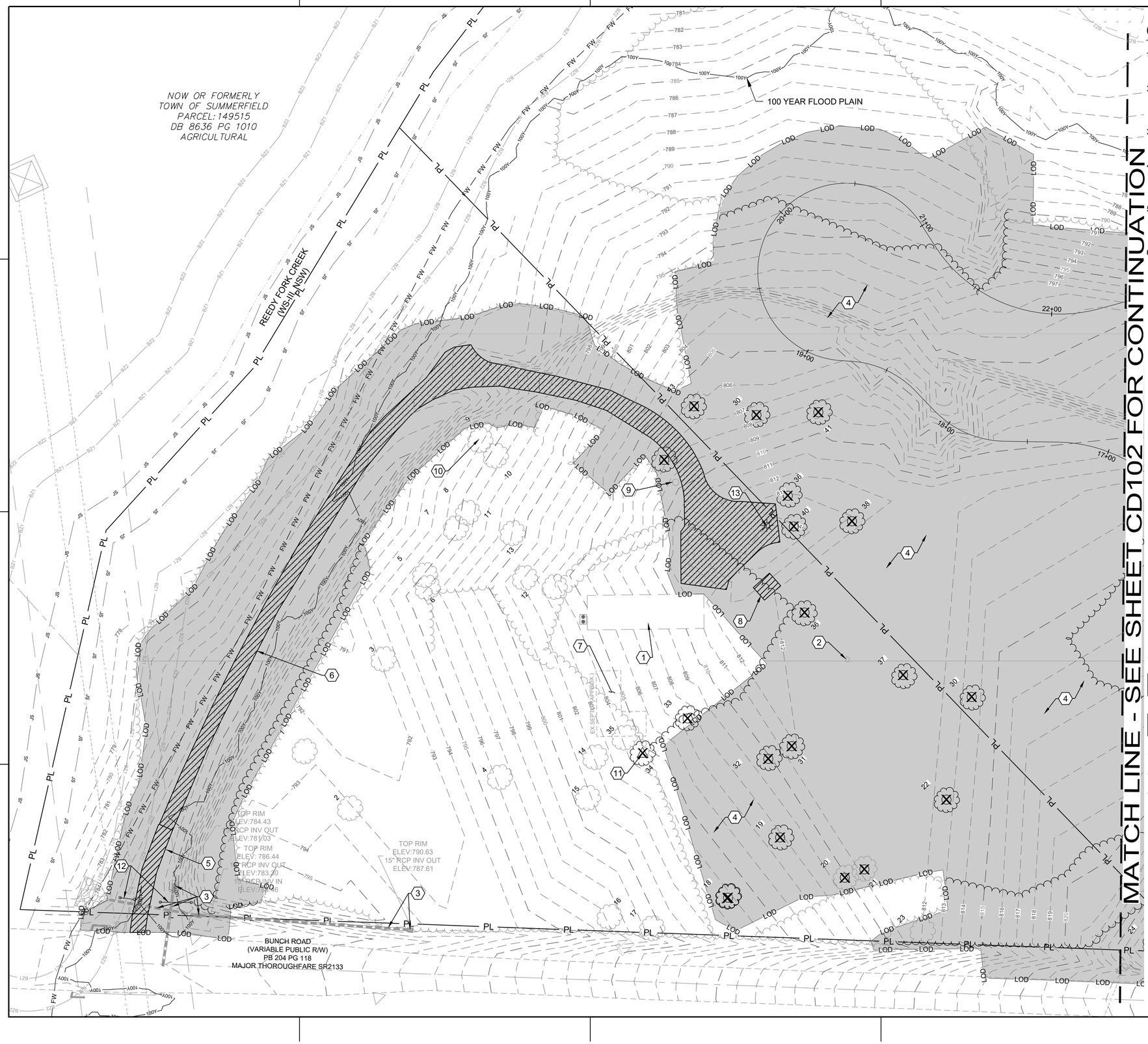
DEMOLITION PLAN - OVERALL

SHEET NUMBER

CD-100

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CD100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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5. ALL DEMOLITION WORK SHALL BE COORDINATED WITH CONTRACTOR'S SCHEDULE, LOGISTICS PLAN (APPROVED BY OWNER), EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PRIOR TO WORK.
6. ALL INTERNAL FENCING, TRASH, AND LITTER TO BE FULLY DEMOLISHED AND REMOVED FROM SITE (TO A LEGAL LANDFILL). PERIMETER FENCING TO REMAIN UNLESS NOTED OTHERWISE.

# SHEET KEYNOTES

1. PROTECT AND PRESERVE EXISTING ONE-STORY FRAME HOUSE THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION.
3. PROTECT AND PRESERVE EXISTING STORM STRUCTURES AND PIPES THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. CLEAR AND GRUB ALL AREAS WITHIN LIMITS OF DISTURBANCE, TYPICAL. INSTALL INITIAL EROSION CONTROL PRACTICES PRIOR TO MASS CLEARING.
5. EXISTING ASPHALT PAVEMENT TO BE DEMOLISHED.
6. EXISTING GRAVEL PAVEMENT TO BE DEMOLISHED.
7. APPROXIMATE LAYOUT OF EXISTING SEPTIC SYSTEM TO BE FIELD VERIFIED BY CONTRACTOR AND PROTECTED THROUGHOUT CONSTRUCTION.
8. EXISTING SHED TO BE DEMOLISHED.
9. ABANDON WELL FOLLOWING IN ACCORDANCE WITH 15A NCAC 02C.0100. SUBMIT RECORD FROM GW-30 TO GUILFORD COUNTY DWQ WITHIN 30 DAYS OF ABANDONMENT. EXISTING DOMESTIC LINE TO BE FIELD LOCATED AND REROUTED TO PROPOSED WELL. SERVICE TO BE COORDINATED WITH OWNER
10. TREE TO BE PROTECTED WITH GRAVEL BLANKET. SEE DETAIL C1/CE506 AND SHEET CE-101.
11. TREE TO BE CUT TO STUMP.
12. REMOVE EXISTING GATE.
13. CONTRACTOR TO COORDINATE REMOVAL OF THE UTILITY POLE WITH UTILITY PROVIDER.

# DEMOLITION LEGEND

- DEMOLISH SURFACE IMPROVEMENTS (BUILDINGS, SLABS, PAVEMENTS, STAIRS, GRAVEL, ETC.) UNLESS OTHERWISE NOTED
- CLEARING AND GRUBBING
- DEMOLISH STORM AND UTILITY
- DEMOLISH TREE LINE
- LOD — LIMITS OF DISTURBANCE
- DEMOLISH VEGETATION WITH ROOT SYSTEM
- TREE TO BE CUT TO STUMP

0 15' 30' 60' 90'

SCALE: 1" = 30'

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049171 JOSHUA M. MORALES

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

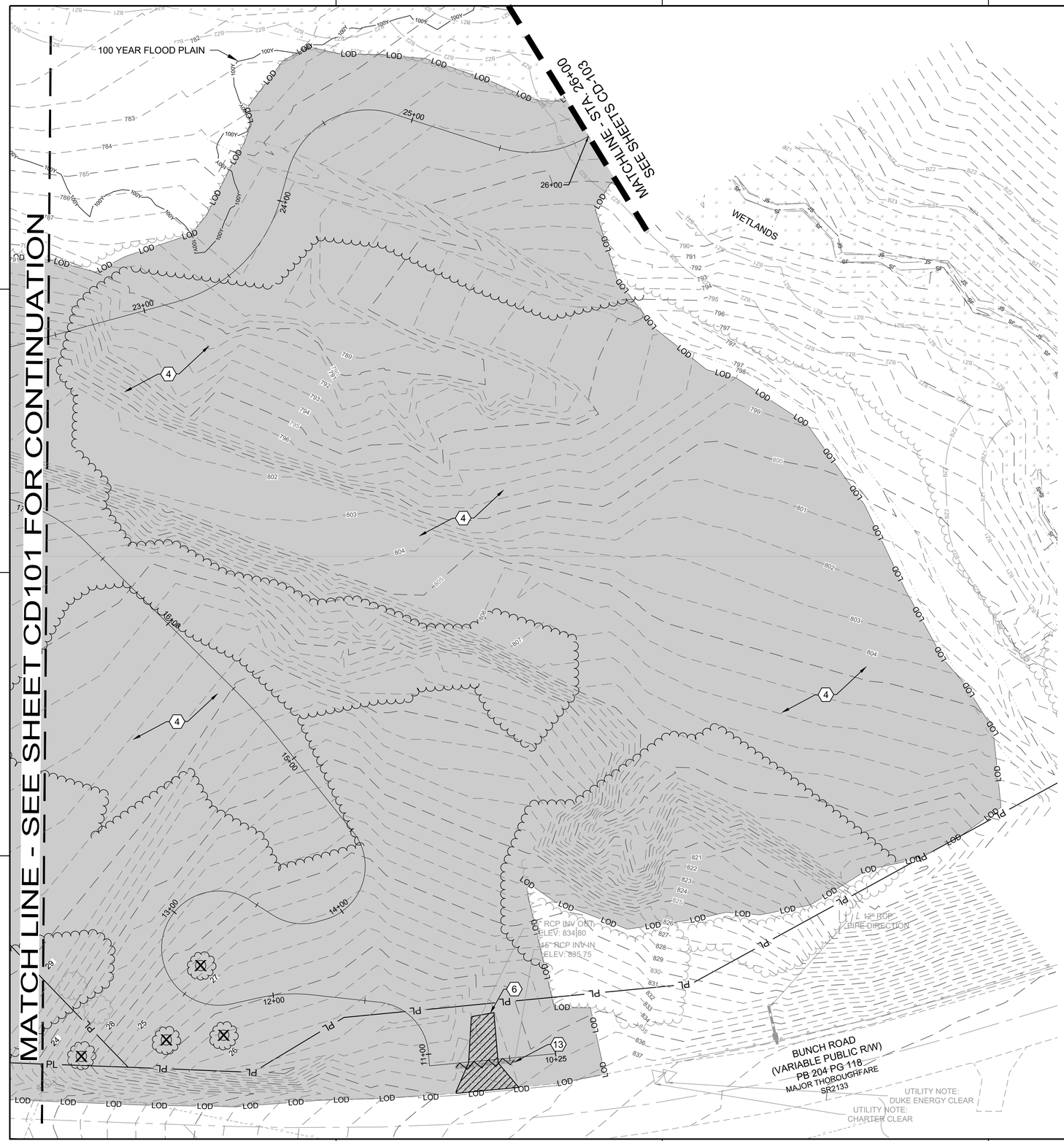
DEMOLITION PLAN

SHEET NUMBER

CD-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CADD\CIVIL\CD101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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# SHEET KEYNOTES

4. CLEAR AND GRUB ALL AREAS WITHIN LIMITS OF DISTURBANCE, TYPICAL. INSTALL INITIAL EROSION CONTROL PRACTICES PRIOR TO MASS CLEARING.
6. EXISTING GRAVEL PAVEMENT TO BE DEMOLISHED.
13. EXISTING STORM PIPE TO BE DEMOLISHED.

# DEMOLITION LEGEND

- DEMOLISH SURFACE IMPROVEMENTS (BUILDINGS, SLABS, PAVEMENTS, STAIRS, GRAVEL, ETC.) UNLESS OTHERWISE NOTED
- WETLAND
- CLEARING AND GRUBBING
- DEMOLISH STORM AND UTILITY
- DEMOLISH TREE LINE
- LIMITS OF DISTURBANCE
- DEMOLISH VEGETATION WITH ROOT SYSTEM

SCALE: 1" = 30'

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

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SUMMERFIELD, NC 27358

PROJECT NAME

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DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

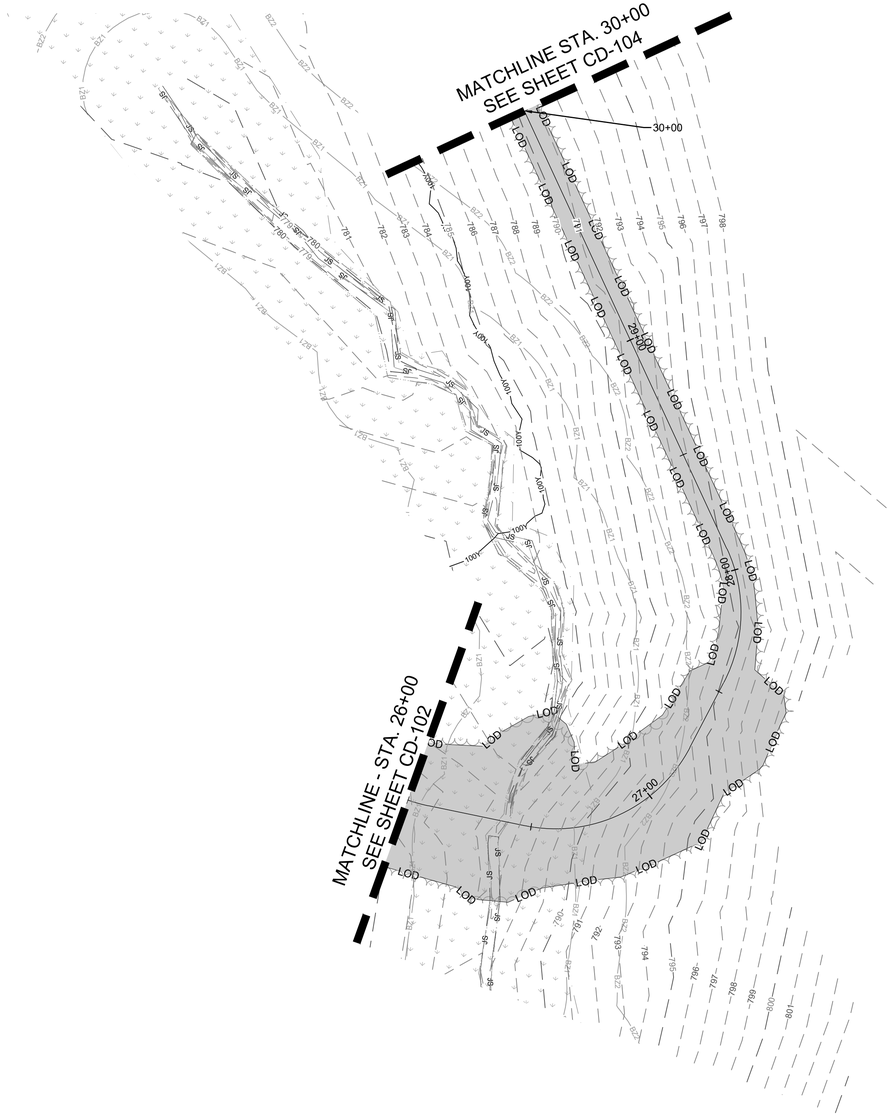
DEMOLITION PLAN

SHEET NUMBER

CD-102

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CD101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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8. EXISTING STORM PIPE TO BE DEMOLISHED.

# DEMOLITION LEGEND

- DEMOLISH SURFACE IMPROVEMENTS (BUILDINGS, SLABS, PAVEMENTS, STAIRS, GRAVEL, ETC.) UNLESS OTHERWISE NOTED
- WETLAND
- CLEARING AND GRUBBING
- DEMOLISH STORM AND UTILITY
- DEMOLISH TREE LINE
- LIMITS OF DISTURBANCE
- DEMOLISH VEGETATION WITH ROOT SYSTEM

0 15' 30' 60' 90'

SCALE: 1" = 30'

BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 053871 JOSEPH T. MCGRATH 10/9/2025

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

DEMOLITION PLAN

SHEET NUMBER

CD-103

ORIGINAL SHEET SIZE:
22" X 34"

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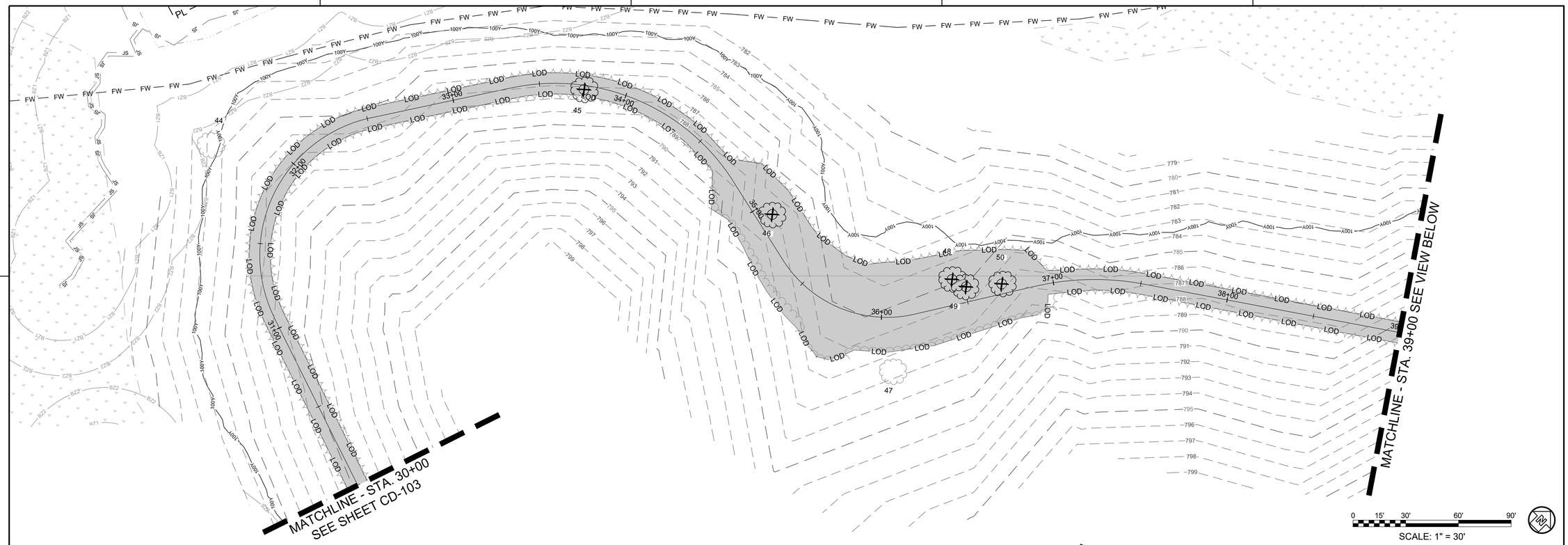


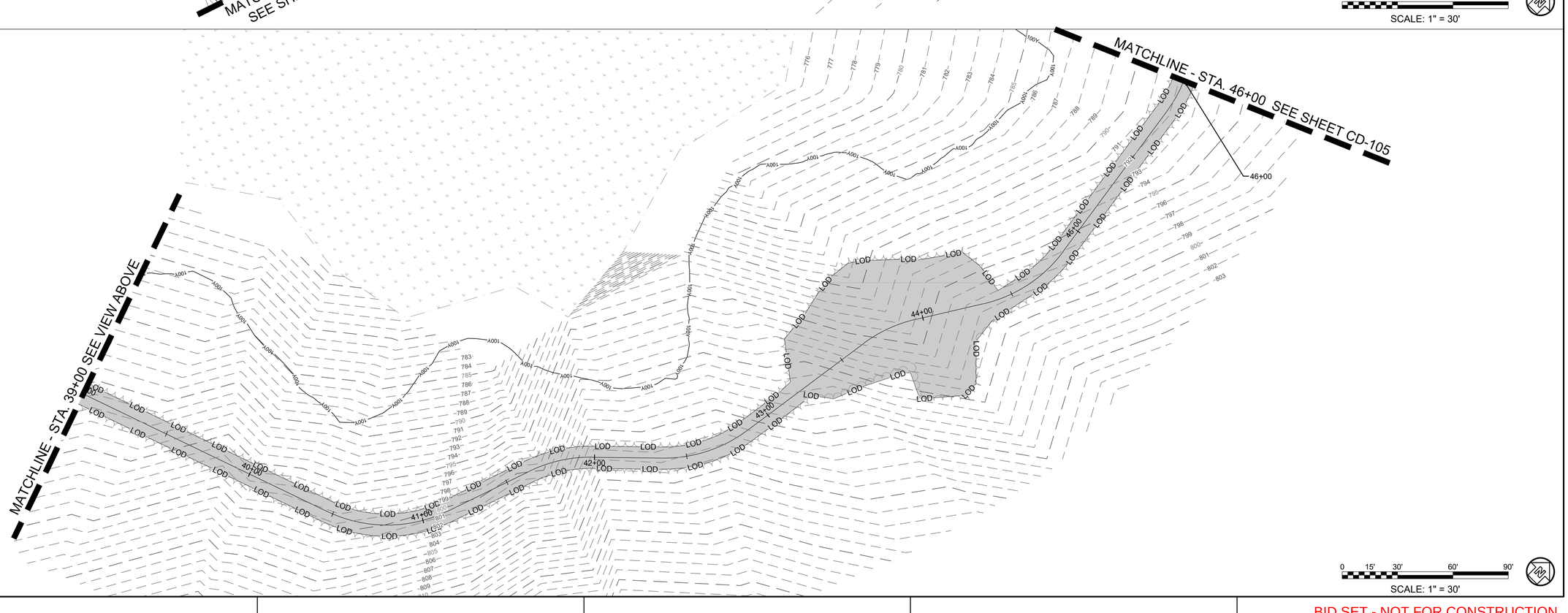


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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 JAMES M. MOLK REGISTERED

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

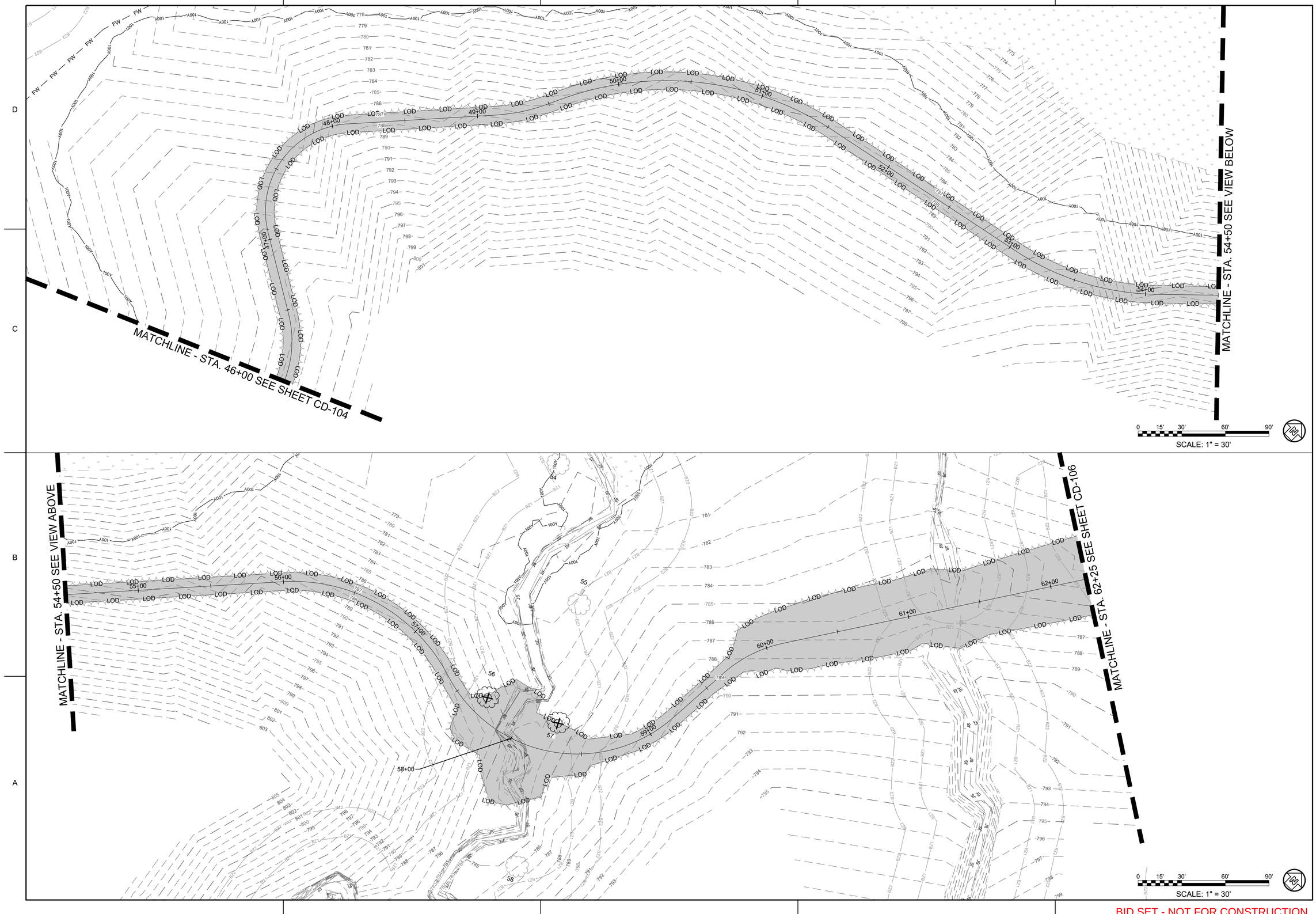
## DEMOLITION PLAN

SHEET NUMBER

# CD-104

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CD 101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047071 MICHAEL W. LIGHT

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## DEMOLITION PLAN

SHEET NUMBER

# CD-105

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

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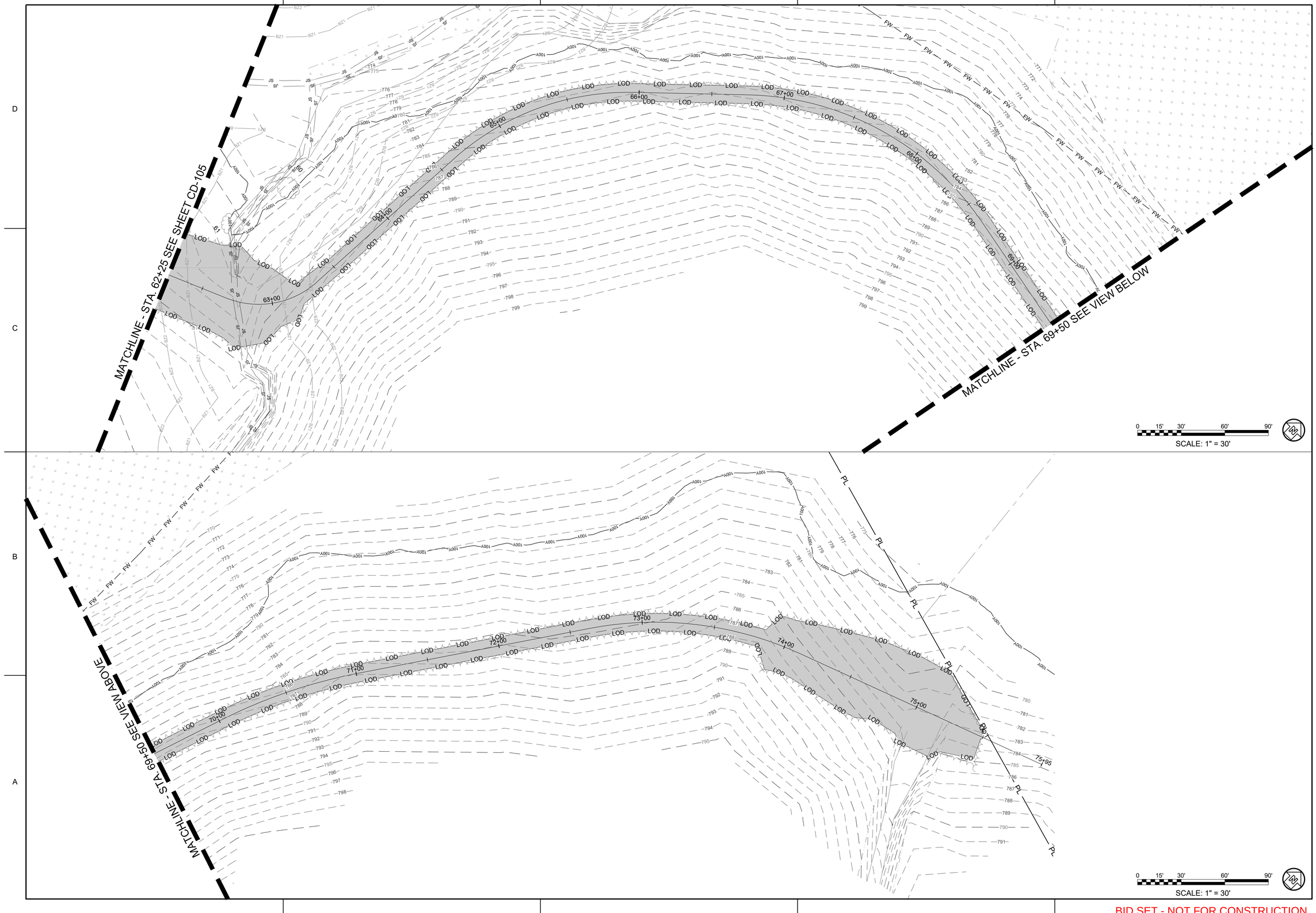


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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047571 JOSEPH MCKEE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## DEMOLITION PLAN

SHEET NUMBER

# CD-106

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07-CAD-BIM\07.02 CAD\CIVIL\CD101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. EACH BUILDING AND ITS RELATIVE LOCATION TO PROPERTY LINES AND OTHER STRUCTURES SHALL COMPLY WITH THE 2018 NORTH CAROLINA BUILDING CODE (IBC 2015 WITH NORTH CAROLINA STATE AMENDMENTS). THIS IS THE RESPONSIBILITY OF THE BATHROOM DESIGNER.
4. NO OVERHEAD DOORS ARE PROPOSED.
5. ALL SITE ACCESSIBILITY INCLUDING ACCESSIBLE APPLICABLE ROUTES, ACCESSIBLE PARKING AND SIGNAGE, ACCESS AISLES, WALKS, RAMPS AND CURB RAMPS ARE TO MEET ALL NORTH CAROLINA ACCESSIBILITY CODES INCLUDING NC BUILDING CODES, ICC A117.1-2017, NCGS 20-37.6 AND NCDOT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

# SITE AREA:

TOTAL AREA (COMBINED): 120.66 ACRES

# ZONING CLASSIFICATION:

AG (AGRICULTURAL):

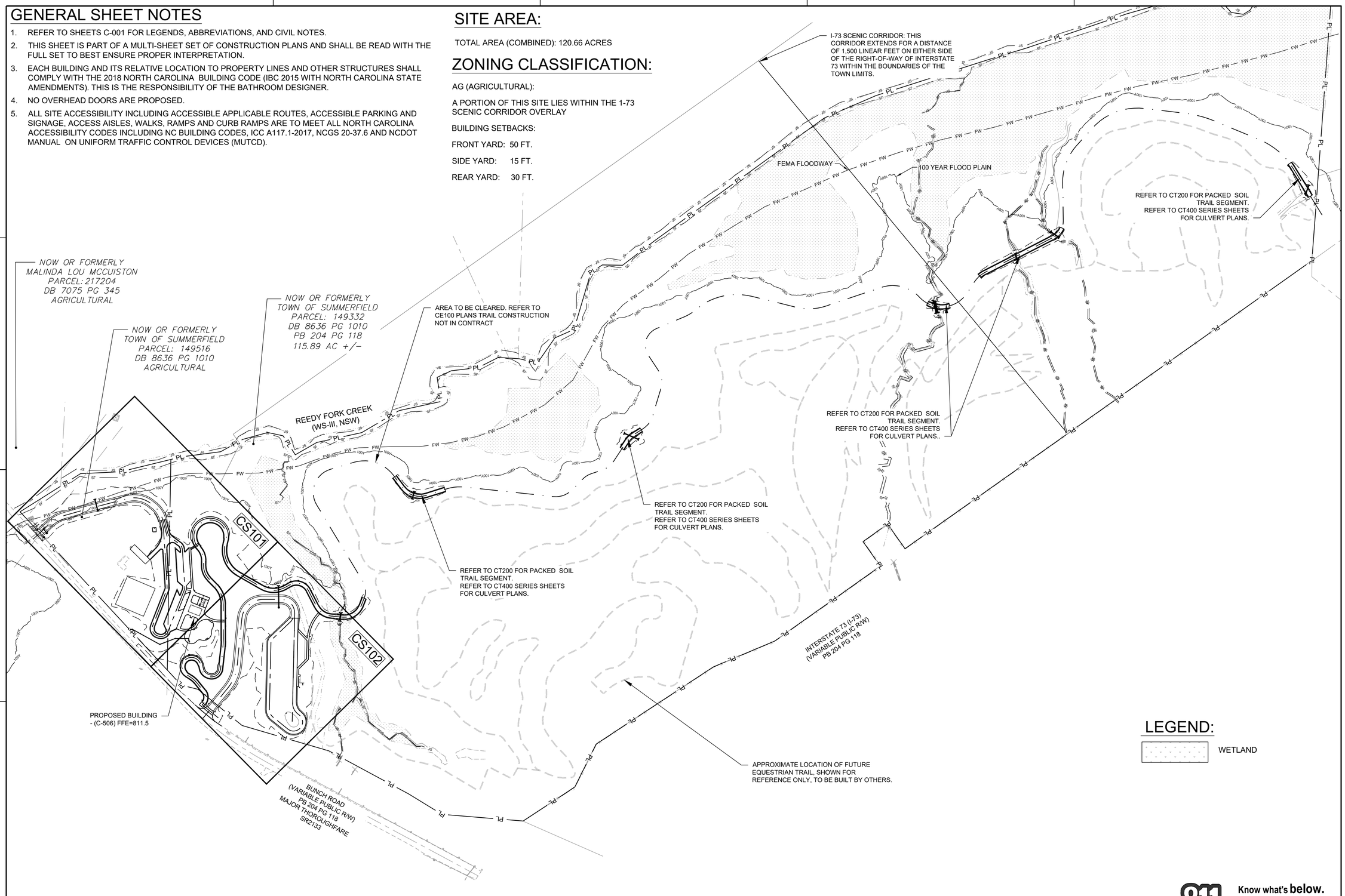
A PORTION OF THIS SITE LIES WITHIN THE 1-73 SCENIC CORRIDOR OVERLAY

BUILDING SETBACKS:

FRONT YARD: 50 FT.

SIDE YARD: 15 FT.

REAR YARD: 30 FT.




## LEGEND:

WETLAND

A1 SITE PLAN - OVERALL
SCALE: 1" = 150'

0 75' 150' 300' 450' N

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EH |
| CHECKED BY: | JM |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

SITE PLAN - OVERALL

SHEET NUMBER

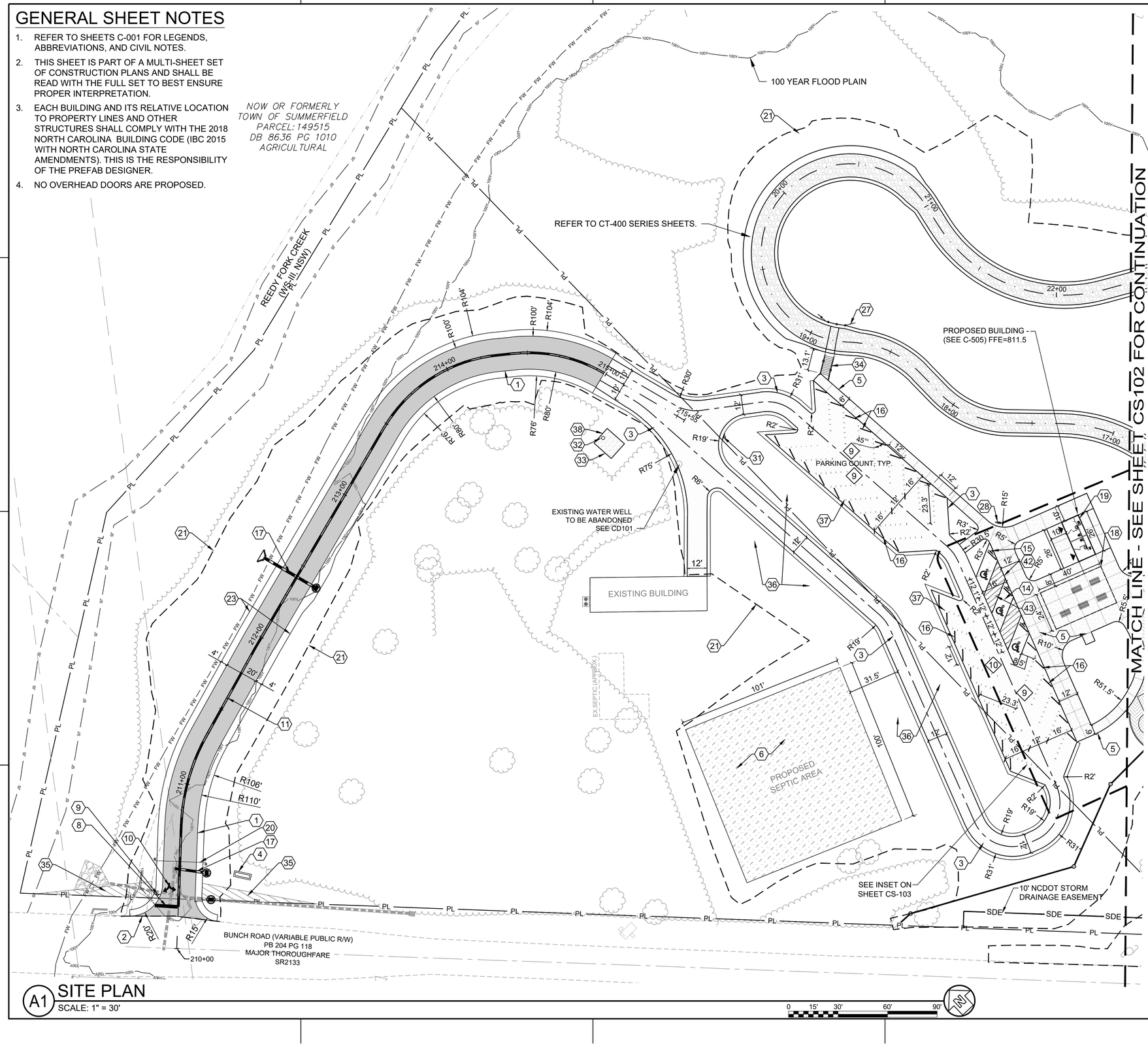
CS-100

ORIGINAL SHEET SIZE: 22" X 34"


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CS100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. EACH BUILDING AND ITS RELATIVE LOCATION TO PROPERTY LINES AND OTHER STRUCTURES SHALL COMPLY WITH THE 2018 NORTH CAROLINA BUILDING CODE (IBC 2015 WITH NORTH CAROLINA STATE AMENDMENTS). THIS IS THE RESPONSIBILITY OF THE PREFAB DESIGNER.
4. NO OVERHEAD DOORS ARE PROPOSED.




A1 SITE PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

# SHEET KEYNOTES

1. 20' WIDE WITH 4' SHOULDERS PRIVATE DRIVEWAY- TYPICAL SECTION B1/CT200.
2. 1' WIDE ASPHALT PATCHING - DETAIL B1/C-501
3. GRAVEL DRIVEWAY - DETAIL C1/C-501
4. MONUMENT ENTRY SIGN TO BE PROVIDED AND INSTALLED BY OWNER.
5. CONCRETE SIDEWALK - NCDOT STD 848.01.
6. SEPTIC FIELD - SEE SHEET CU-101
7. PROP. 18"x18" STOP SIGN (R1-1) - DETAIL C2/C-501
8. WHITE STOP BAR(24", 90 MIL - T61). NCDOT STD 1205.01
9. PROP. 30"x30" STOP SIGN (R1-1) - DETAIL D2/C-501
10. COMBINATION LEFT/RIGHT TURN ARROW (90 MIL - T75) THERMOPLASTIC. NCDOT STD 1205.08
11. YELLOW DOUBLE CENTER (4", 90 MIL - T13) THERMOPLASTIC NCDOT STD 1205.01
12. WHITE SOLID LANE LINE (4", 90 MIL - T2). NCDOT STD 1205.01.
13. PROP. 36"X12" ONE WAY SIGN (R6-1) - DETAIL B1/C-501
14. ADA HANDICAP PARKING SPACES - DETAIL B4/C-501
15. ADA AERIAL HANDICAP PARKING SIGN - DETAIL B4/C-501
16. WHEEL STOP - TO BE SUPPLIED AND INSTALLED BY OWNER. TYPICAL.
17. STORM DRAINAGE SYSTEM. SEE SHEETS CG-100 THRU CG-106.
18. PREFAB SHELTER - DETAIL A3/C-505
19. PREFAB BUILDING - DETAIL A1/C-505
20. BARRIER ARM GATE. NCDOT STD 867.01
21. GRADING LIMITS.
22. ADA HANDICAP EQUESTRIAN PARKING. - DETAIL B4/C-501
23. 3' SHOULDER - SEE SHEET CT-200.
24. PROP. 24"x24" NO MOTOR VEHICLES SIGN (R5-3) - DETAIL A1/C-501
25. ACCESSIBLE MOUNTING BLOCK - DETAIL C3/C-503
26. HITCHING POST - DETAIL C2/C-505
27. BICYCLE/PEDESTRIAN SAFETY RAIL - DETAIL B4/C-502
28. WAYFINDING SIGN TO BE PROVIDED AND INSTALLED BY OWNER.
29. COLLAPSIBLE BOLLARD - DETAIL A1/C-502
30. PLAYGROUND. DETAIL C2/C-502
31. PROP. 36"x36" DO NOT ENTER SIGN (R5-1) - DETAIL B2/C-501
32. WATER SUPPLY WELL
33. 14'x12' CONCRETE PAD - DETAIL A4/C-502
34. CONCRETE STAIRS - DETAIL A1/C-503
35. 10'x70' SIGHT TRIANGLE.
36. OVERFLOW PARKING
37. PAVER MARKING SYSTEM - DETAIL A2/C-502
38. INSULATED ENCLOSURE FOR PIPING AND COMPONENTS TO BE PROVIDED AND INSTALLED BY OWNER
39. PROP. 18"X18" NO EQUESTRIAN (R9-14) -DETAIL B2/C-502
40. PROP. 36"X36" STEEP GRADE SIGN (W7-1) - DETAIL A2/C-501
41. PROP. PERMANENT STEEL BOLLARD - 6' SEPARATION. NCDOT STD 867.02
42. EXPANSION JOINT BETWEEN 6" CONCRETE PAVEMENT AND WALKWAY - DETAIL D4/ C506
43. CONTRACTION JOINT - DETAIL D1/C506

# LEGEND:

- STANDARD DUTY ASPHALT (SEE SHEET CT-200)
- CRUSHED STONE GREENWAY (SEE A1/CT-200)
- GRAVEL DRIVEWAY (DETAIL C1/C-501)
- CONCRETE SIDEWALK (NCDOT STD 848.01)
- CONCRETE PAVING (DETAIL D1/C-501)
- SEPTIC FIELD
- XX NUMBER OF PARKING SPACES

811 Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER No. 241...

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EH |
| CHECKED BY: | JM |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

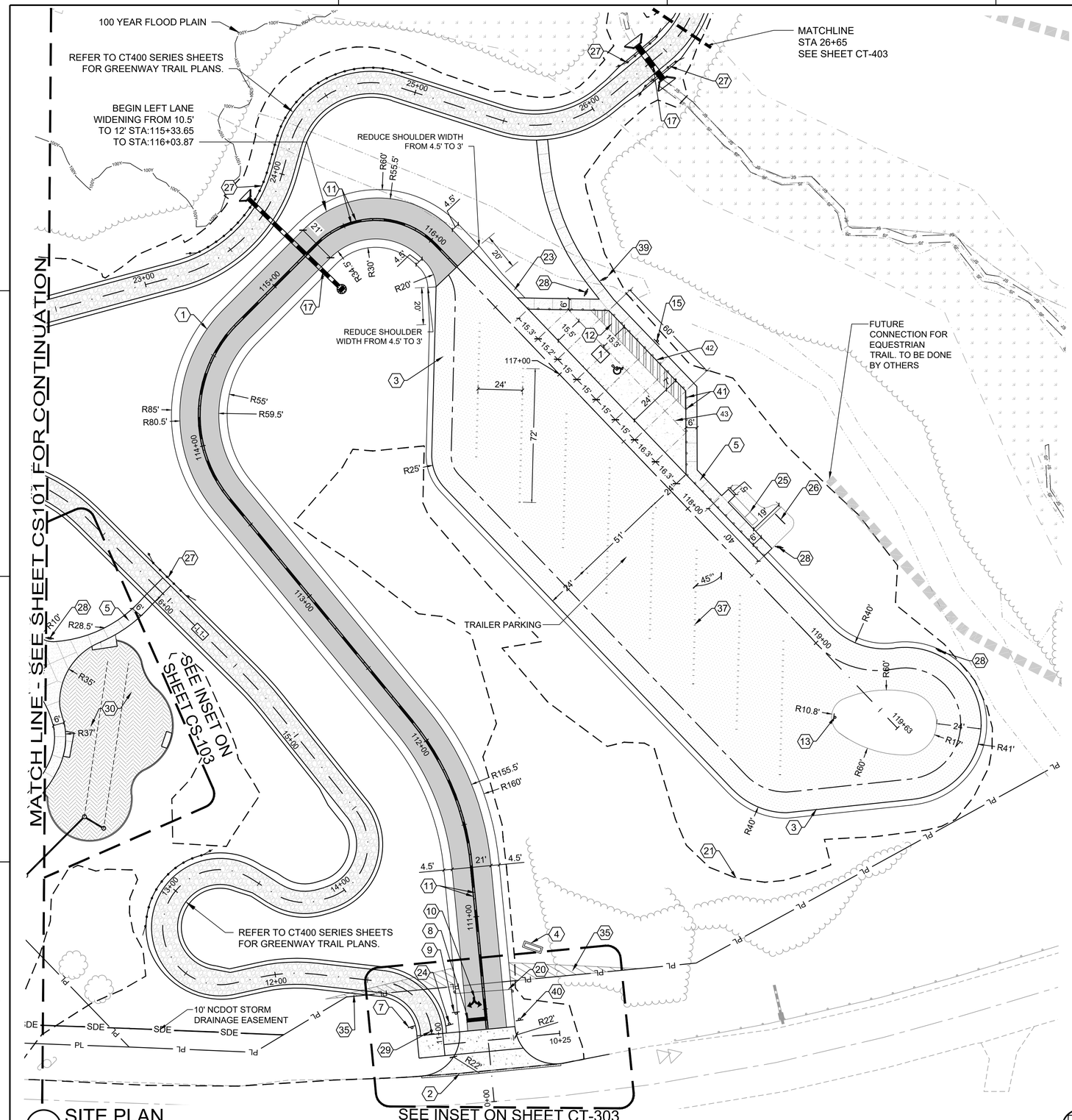
SITE PLAN

SHEET NUMBER

CS-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CS100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




A1 SITE PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

## GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. EACH BUILDING AND ITS RELATIVE LOCATION TO PROPERTY LINES AND OTHER STRUCTURES SHALL COMPLY WITH THE 2018 NORTH CAROLINA BUILDING CODE (IBC 2015 WITH NORTH CAROLINA STATE AMENDMENTS). THIS IS THE RESPONSIBILITY OF THE PREFAB DESIGNER.
4. NO OVERHEAD DOORS ARE PROPOSED.

## (#) SHEET KEYNOTES

1. 20' WIDE WITH 4' SHOULDERS PRIVATE DRIVEWAY- TYPICAL SECTION B1/CT200.
2. 1' WIDE ASPHALT PATCHING - DETAIL B1/C-501
3. GRAVEL DRIVEWAY - DETAIL C1/C-501
4. MONUMENT ENTRY SIGN TO BE PROVIDED AND INSTALLED BY OWNER.
5. CONCRETE SIDEWALK - NCDOT STD 848.01.
6. SEPTIC FIELD - SEE SHEET CU-101
7. PROP. 18"x18" STOP SIGN (R1-1) - DETAIL C2/C-501
8. WHITE STOP BAR(24", 90 MIL - T61). NCDOT STD 1205.01
9. PROP. 30"x30" STOP SIGN (R1-1) - DETAIL D2/C-501
10. COMBINATION LEFT/RIGHT TURN ARROW (90 MIL - T75) THERMOPLASTIC. NCDOT STD 1205.08
11. YELLOW DOUBLE CENTER (4", 90 MIL - T13) THERMOPLASTIC NCDOT STD 1205.01
12. WHITE SOLID LANE LINE (4", 90 MIL - T2). NCDOT STD 1205.01.
13. PROP. 36"X12" ONE WAY SIGN (R6-1) - DETAIL B1/C-501
14. ADA HANDICAP PARKING SPACES - DETAIL B4/C-501
15. ADA AERIAL HANDICAP PARKING SIGN - DETAIL B4/C-501
16. WHEEL STOP - TO BE SUPPLIED AND INSTALLED BY OWNER. TYPICAL.
17. STORM DRAINAGE SYSTEM. SEE SHEETS CG-100 THRU CG-106.
18. PREFAB SHELTER - DETAIL A3/C-505
19. PREFAB BUILDING - DETAIL A1/C-505
20. BARRIER ARM GATE. NCDOT STD 867.01
21. GRADING LIMITS.
22. ADA HANDICAP EQUESTRIAN PARKING. - DETAIL B4/C-501
23. 3' SHOULDER - SEE SHEET CT-200.
24. PROP. 24"x24" NO MOTOR VEHICLES SIGN (R5-3) - DETAIL A1/C-501
25. ACCESSIBLE MOUNTING BLOCK - DETAIL C3/C-503
26. HITCHING POST - DETAIL C2/C-505
27. BICYCLE/PEDESTRIAN SAFETY RAIL - DETAIL B4/C-502
28. WAYFINDING SIGN TO BE PROVIDED AND INSTALLED BY OWNER.
29. COLLAPSIBLE BOLLARD - DETAIL A1/C-502
30. PLAYGROUND. DETAIL C2/C-502
31. PROP. 36"x36" DO NOT ENTER SIGN (R5-1) - DETAIL B2/C-501
32. WATER SUPPLY WELL
33. 14'x12' CONCRETE PAD - DETAIL A4/C-502
34. CONCRETE STAIRS - DETAIL A1/C-503
35. 10'x70' SIGHT TRIANGLE.
36. OVERFLOW PARKING
37. PAVER MARKING SYSTEM - DETAIL A2/C-502
38. INSULATED ENCLOSURE FOR PIPING AND COMPONENTS TO BE PROVIDED AND INSTALLED BY OWNER
39. PROP. 18"X18" NO EQUESTRIAN (R9-14) -DETAIL B2/C-502
40. PROP. 36"X36" STEEP GRADE SIGN (W7-1) - DETAIL A2/C-501
41. PROP. PERMANENT STEEL BOLLARD - 6' SEPARATION. NCDOT STD 867.02
42. EXPANSION JOINT BETWEEN 6" CONCRETE PAVEMENT AND WALKWAY - DETAIL D4/ C506
43. CONTRACTION JOINT - DETAIL D1/C506

## LEGEND:

- STANDARD DUTY ASPHALT (SEE SHEET CT-200)
- CRUSHED STONE GREENWAY (SEE A1/CT-200)
- GRAVEL DRIVEWAY (DETAIL C1/C-501)
- CONCRETE SIDEWALK (NCDOT STD 848.01)
- CONCRETE PAVING (DETAIL D1/C-501)
- ENGINEERED WOOD FIBER MULCH (DETAIL C2/C-502)
- NUMBER OF PARKING SPACES
- CONTROL JOINT

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EH |
| CHECKED BY: | JM |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

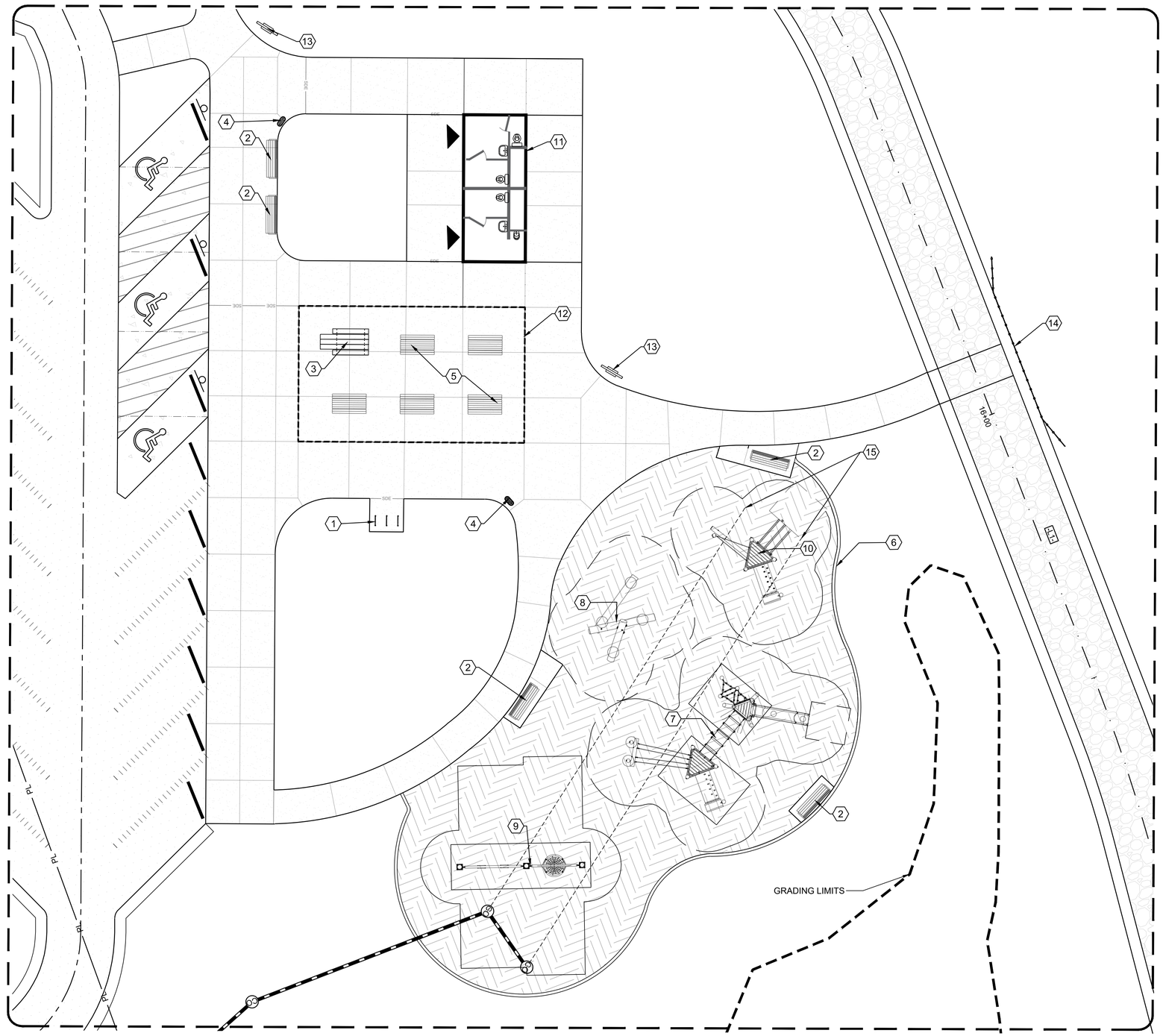
SITE PLAN

SHEET NUMBER

CS-102

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07. CAD-BIM\07. 02 CAD\CIVIL\CS100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




A1 BUILDING AND PLAYGROUND INSET

SCALE: 1" = 10'

0 5' 10' 20' 30'

## GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.

## PRE -FABRICATED BUILDING NOTES

1. EACH BUILDING AND ITS RELATIVE LOCATION TO PROPERTY LINES AND OTHER STRUCTURES SHALL COMPLY WITH THE 2018 NORTH CAROLINA BUILDING CODE (IBC 2015 WITH NORTH CAROLINA STATE AMENDMENTS). THIS IS THE RESPONSIBILITY OF THE PREFAB DESIGNER.
2. NO OVERHEAD DOORS ARE PROPOSED.

## SHEET KEYNOTES

1. HAUSER HALO BICYCLE RACK OR APPROVED EQUAL- TO BE SUPPLIED AND INSTALLED BY OTHERS.
2. ANOVA AIR STIC 6' CONTOUR BENCH OR APPROVED EQUAL- TO BE SUPPLIED AND INSTALLED BY OTHERS.
3. HAUSER APEX PICNIC TABLE ADA OR APPROVED EQUAL- TO BE SUPPLIED AND INSTALLED BY OTHERS.
4. AIRI STIX 45 GALLON TRASH RECEPTACLE OR APPROVED EQUAL- TO BE SUPPLIED AND INSTALLED BY OTHERS.
5. HAUSSER APEX PICNIC TABLE OR APPROVED EQUAL- TO BE SUPPLIED AND INSTALLED BY OTHERS.
6. CONCRETE HEADER CURB - DETAIL C1/C-502.
7. EARTHSCAPE LOG TANGLE 2.4 - DETAIL C1/C-505.
8. EARTHSCAPE LOG PILE 3.1 - DETAIL C3/C-505.
9. EARTHSCAPE DOUBLE BAY SWING - BELT + BASKET - DETAIL A1/C-506.
10. EARTHSCAPE SLIDE PLATFORM 900 - DETAIL A3/C-505.
11. CXT 'DAKOTA' BATHROOM BUILDING - DETAIL A1/C-506.
12. STRUCTUREWORKS PREFAB PICNIC SHELTER - DETAIL A3/C-506.
13. WAYFINDING SIGN TO BE PROVIDED AND INSTALLED BY OWNER.
14. SAFETY RAIL - DETAIL B4/C-502.
15. PLAYGROUND SUBDRAINAGE - DETAIL C2/C-502 - CONTRACTOR TO COORDINATE LOCATION OF PIPE WITH PLAY EQUIPMENT INSTALLER TO AVOID CONFLICTS WITH FOOTINGS.

## LEGEND:

- CRUSHED STONE GREENWAY (SEE A1/CT-200)
- CONCRETE SIDEWALK (NCDOT STD 848.01)
- ENGINEERED WOOD FIBER MULCH (DETAIL C2/C-502)

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER No. 24127

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EH |
| CHECKED BY: | JM |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

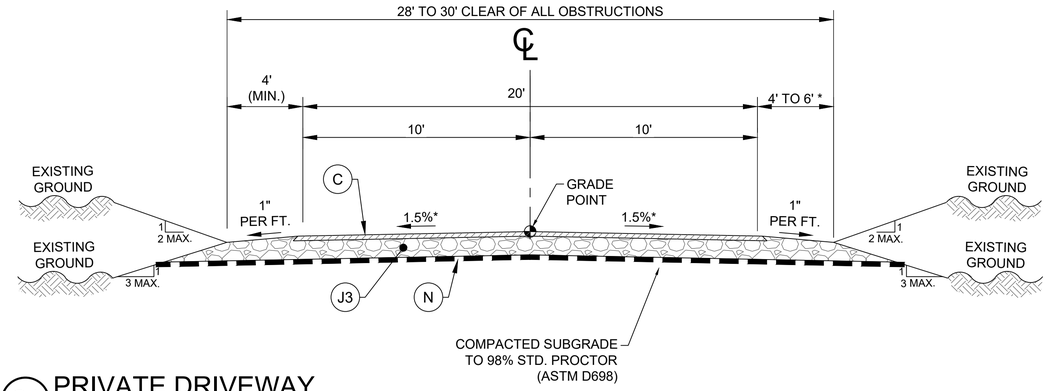
SITE PLAN ENLARGEMENTS

SHEET NUMBER

CS-103

ORIGINAL SHEET SIZE: 22" X 34"

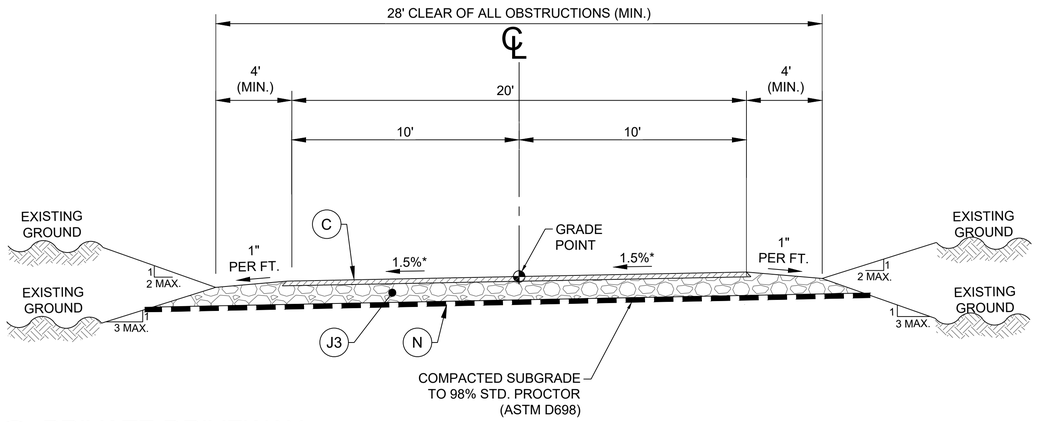
FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CS100 PLOTTED BY: GONZALEZ,ES DATE: 6/30/25




## C1 PRIVATE DRIVEWAY

*SEE PLANS FOR CROSS SLOPES AND SHOULDER WIDTHS

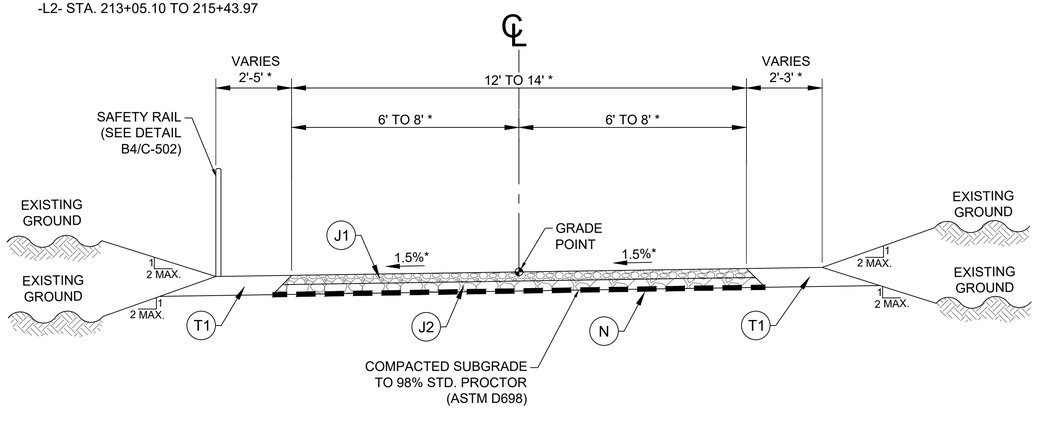
-L2- STA. 210+46.62 TO 213+05.10




## B1 PRIVATE DRIVEWAY

*SEE PLANS FOR CROSS SLOPES

-L2- STA. 210+19.43 TO 210+46.62
-L2- STA. 213+05.10 TO 215+43.97



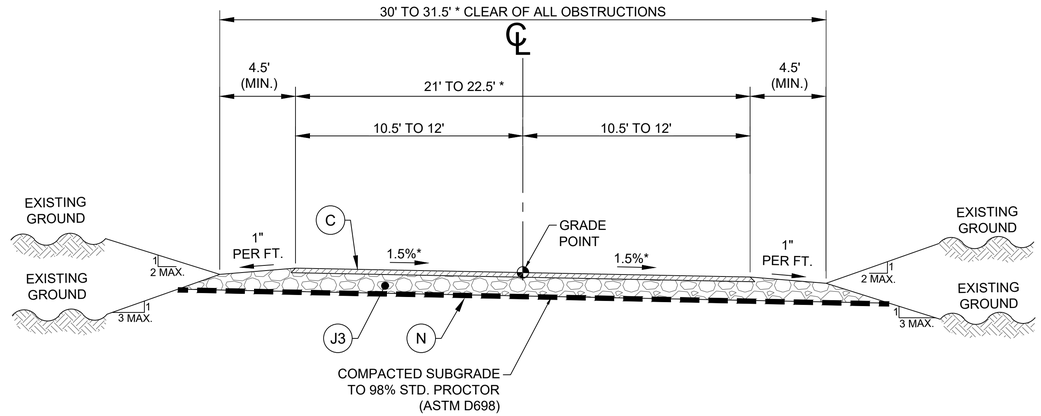

## A1 CRUSHED STONE GREENWAY

*SEE PLANS FOR CROSS SLOPES, SHOULDER WIDTHS, AND LANE WIDTHS

-L1- STA. 10+99.67 TO 27+50.00

| CROSS SLOPE TABLE | | | | | |
|---|---|---|---|---|---|
| ALIGNMENT | SIDE | BEGINNING STA | ENDING STA | LENGTH | DESCRIPTION |
| -L1- | -- | 10+99.67 | 11+09.67 | 10.00 | TRANSITION (LEFT 0.5% TO RIGHT 1.5%) |
| -L1- | -- | 11+09.67 | 12+55.20 | 145.35 | RIGHT 1.5% |
| -L1- | -- | 12+55.02 | 12+70.02 | 15.00 | TRANSITION |
| -L1- | -- | 12+70.02 | 13+88.44 | 118.42 | LEFT 1.5% |
| -L1- | -- | 13+88.44 | 14+03.44 | 15.00 | TRANSITION |
| -L1- | -- | 14+03.44 | 19+31.33 | 527.89 | RIGHT 1.5% |
| -L1- | -- | 19+31.33 | 19+46.33 | 15.00 | TRANSITION |
| -L1- | -- | 19+46.33 | 27+51.85 | 805.52 | LEFT 1.5% |
| -L2- | -- | 210+19.43 | 210+46.62 | 27.19 | TRANSITION |
| -L2- | -- | 210+46.62 | 212+90.10 | 243.48 | CROWN 1.5% |
| -L2- | -- | 212+90.10 | 213+05.10 | 15.00 | TRANSITION |
| -L2- | -- | 213+05.10 | 215+43.97 | 238.87 | LEFT 1.5% |
| -L3- | -- | 110+16.86 | 110+39.15 | 22.29 | LEFT 2% |
| -L3- | -- | 110+39.15 | 110+56.65 | 17.50 | TRANSITION |
| -L3- | -- | 110+56.65 | 115+90.00 | 533.35 | RIGHT 1.5% |
| -L3- | -- | 115+90.00 | 115+95.00 | 5.00 | TRANSITION |
| -L3- | -- | 115+95.00 | 116+19.96 | 24.96 | RIGHT 0.5% |

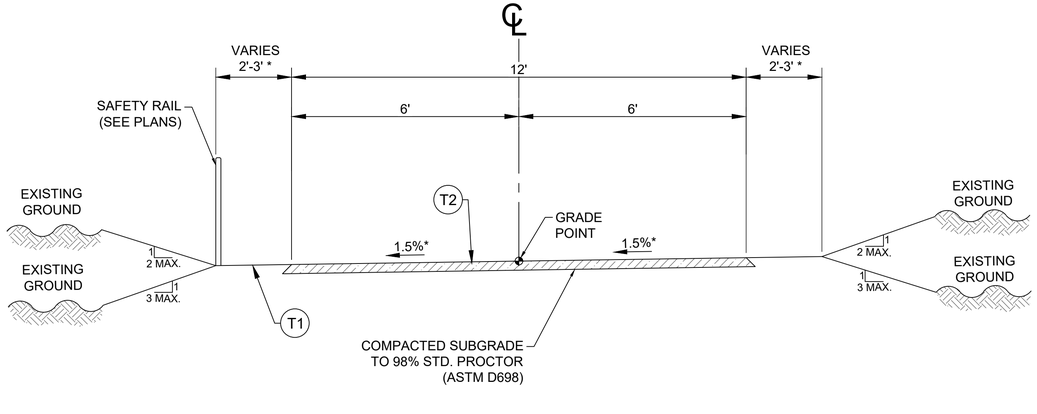
| PAVEMENT SCHEDULE | |
|---|---|
| CODE | DESCRIPTION |
| C | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS, PER SQ, YD, IN EACH OF TWO LAYERS |
| J1 | PROP. 3" CRUSHED STONE (NCDOT #89 STONE) |
| J2 | PROP. 5" AGGREGATE BASE COURSE |
| J3 | PROP. 8" COMPACTED AGGREGATE BASE COURSE |
| T1 | EARTH MATERIAL |
| T2 | 3" PACKED SOIL |
| N | GEOTEXTILE FOR PAVEMENT STABILIZATION |




## B3 PRIVATE DRIVEWAY

*SEE PLANS FOR CROSS SLOPES, AND LANE WIDTHS

-L3- STA. 110+27.15 TO 116+19.96




## A3 PACKED SOIL TRAIL

SEE PLANS FOR CROSS SLOPES AND SHOULDER WIDTHS

-L1- STA. 34+86.86 TO 36+84.39
-L1- STA. 43+35.69 TO 44+26.15
-L1- STA. 57+71.79 TO 58+47.34
-L1- STA. 59+91.29 TO 63+10.14
-L1- STA. 73+92.97 TO 75+21.34

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| DATE | DESCRIPTION | MARK |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

TYPICAL SECTIONS

SHEET NUMBER

CT-200

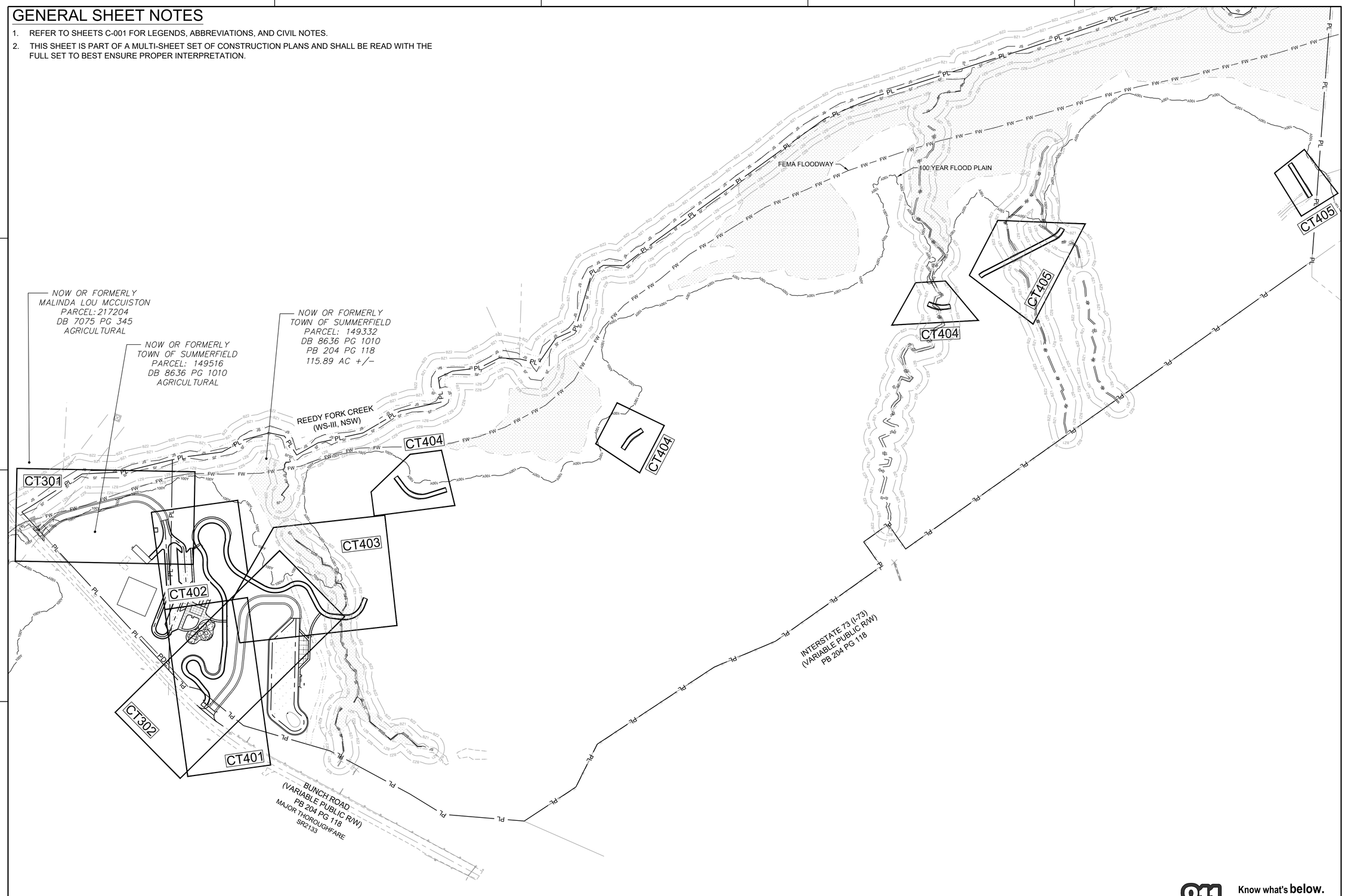
ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CT200 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.




A1 OVERALL - PLAN AND PROFILES
SCALE: 1" = 150'

0 75' 150' 300' 450'

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT300 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047171 JAMES M. LEWIS
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

OVERALL - PLAN AND PROFILES

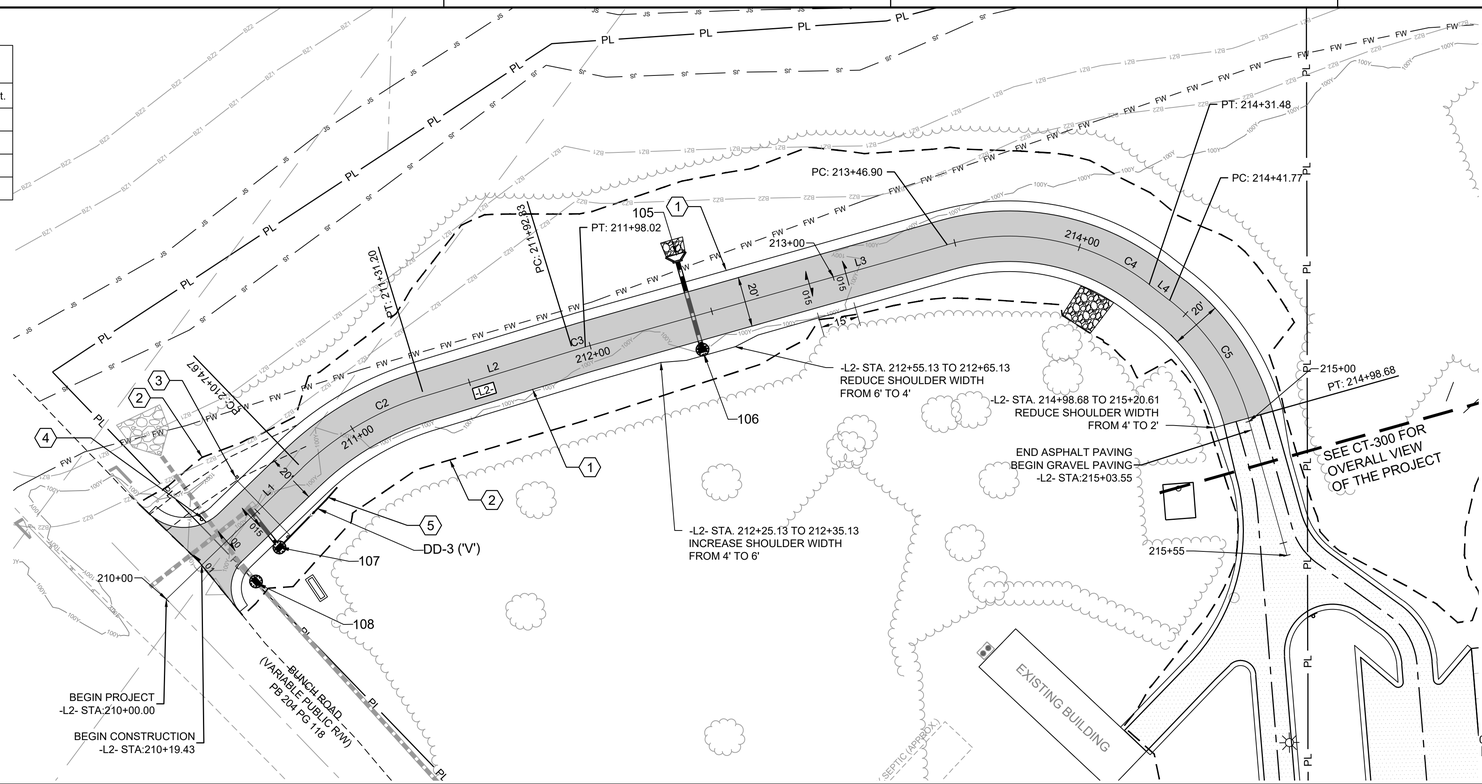
SHEET NUMBER

CT-300

ORIGINAL SHEET SIZE: 22" X 34"

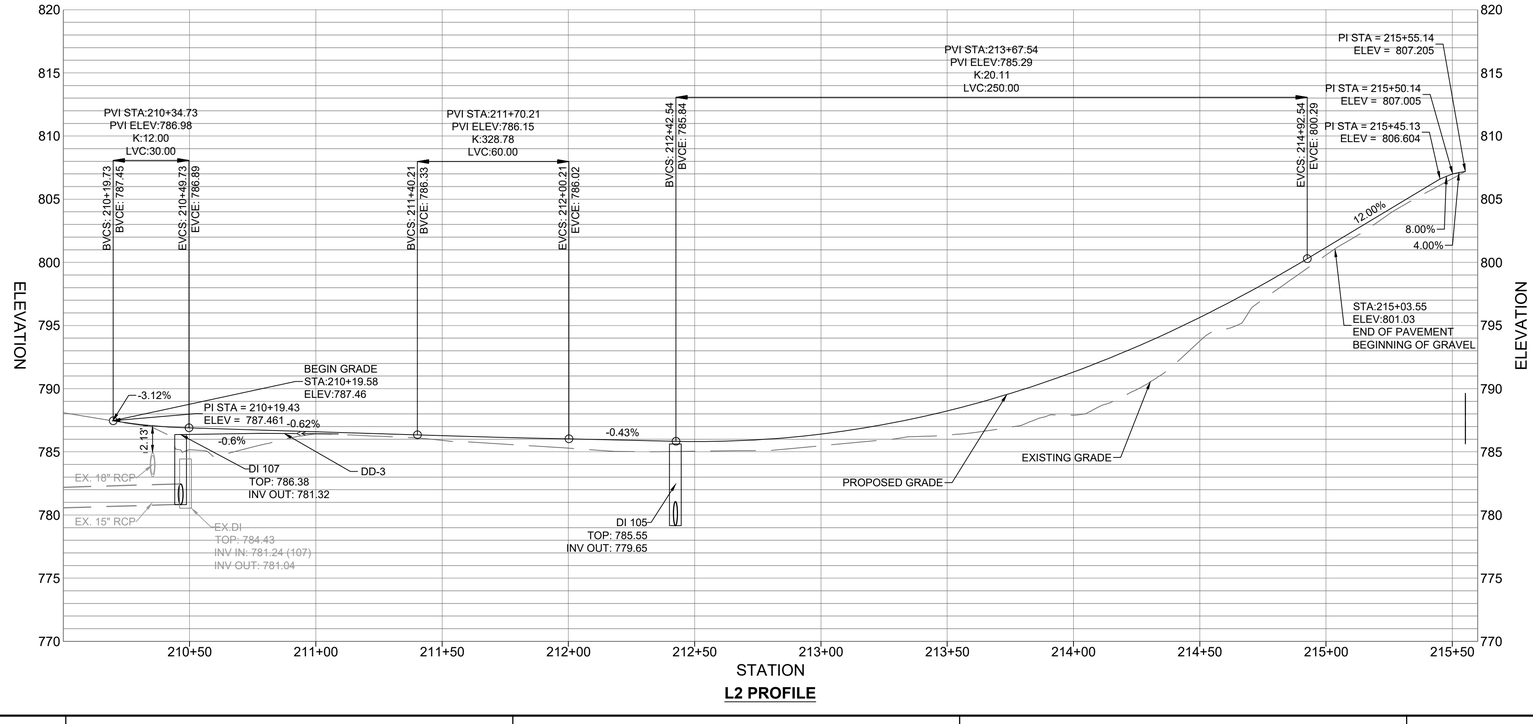
| Curve Table: Alignments | | | | | | | |
|---|---|---|---|---|---|---|---|
| Curve # | Alignment | Delta | Length | Radius | Tangent | Chord Bear. | Chord Dist. |
| C2 | -L2- | 26°59'33" | 56.53 | 120.00 | 28.80 | N60°35'32"E | 56.01 |
| C3 | -L2- | 1°14'16" | 5.19 | 240.00 | 2.59 | N74°42'27"E | 5.19 |
| C4 | -L2- | 53°50'42" | 84.58 | 90.00 | 45.70 | S77°45'04"E | 81.50 |
| C5 | -L2- | 36°13'32" | 56.90 | 90.00 | 29.44 | S32°42'57"E | 55.96 |

| Line Table | | | |
|---|---|---|---|
| Line Tag | Alignment | Distance | Bearing |
| L1 | -L2- | 74.67 | N47°05'46"E |
| L2 | -L2- | 61.63 | N74°05'19"E |
| L3 | -L2- | 148.88 | N75°19'35"E |
| L4 | -L2- | 10.29 | S50°49'43"E |




## SHEET KEYNOTES

1. PROPOSED 20' WIDE PRIVATE DRIVEWAY WITH 4' SHOULDERS, TYP. SECTION B1/CT-200
2. GRADING LIMITS
3. BARRIER ARM GATE. NCDOT STD 867.01
4. PROP. 30"X30" STOP SIGN (R1-1) - DETAIL D2/C-501.
5. PROPOSED DITCH CENTERLINE




**L2 PROFILE**

VERT. SCALE:
1" = 5'
0
2.5'
5'

HORIZ. SCALE: 1" = 30'
0 15' 30'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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

-L2- DRIVEWAY PLAN AND PROFILE

SHEET NUMBER

CT-301

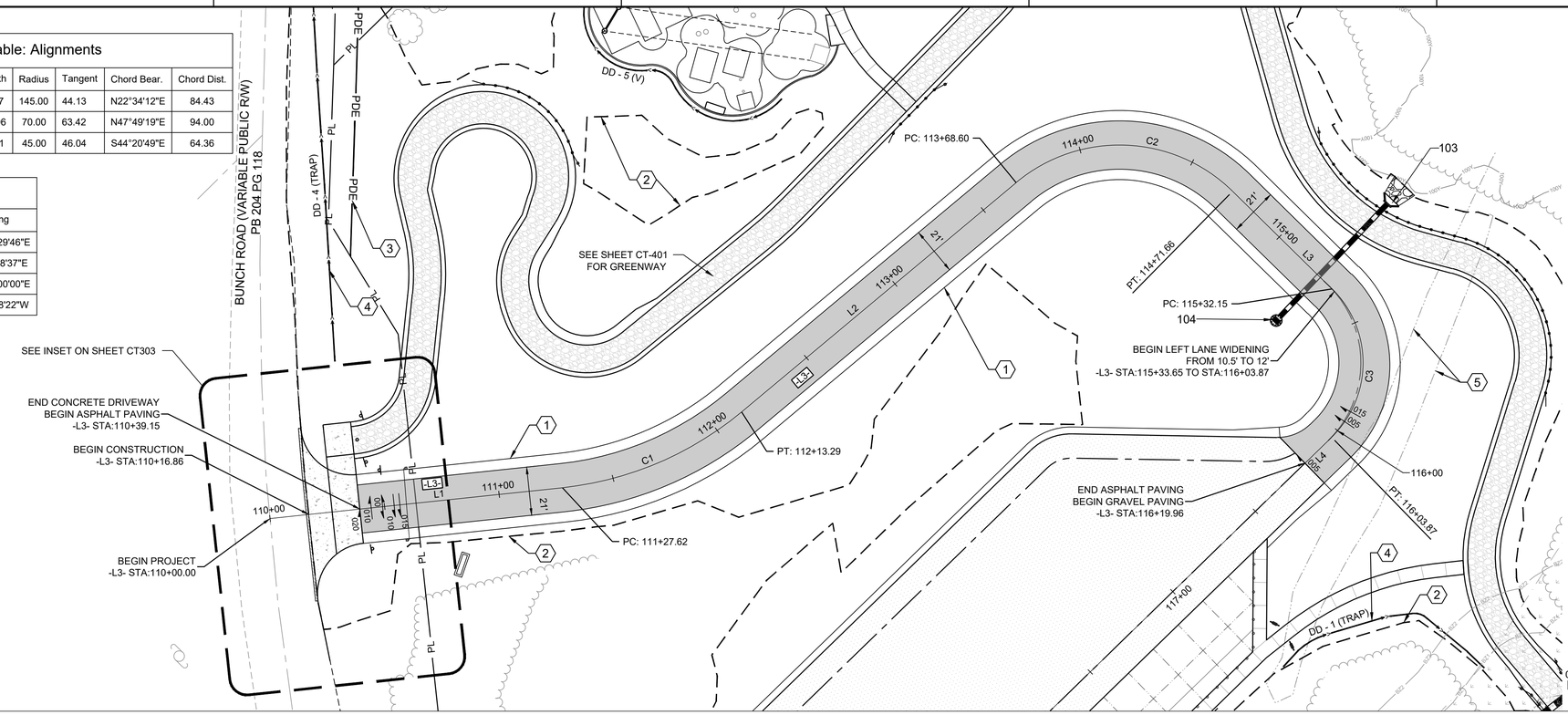
ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT301 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

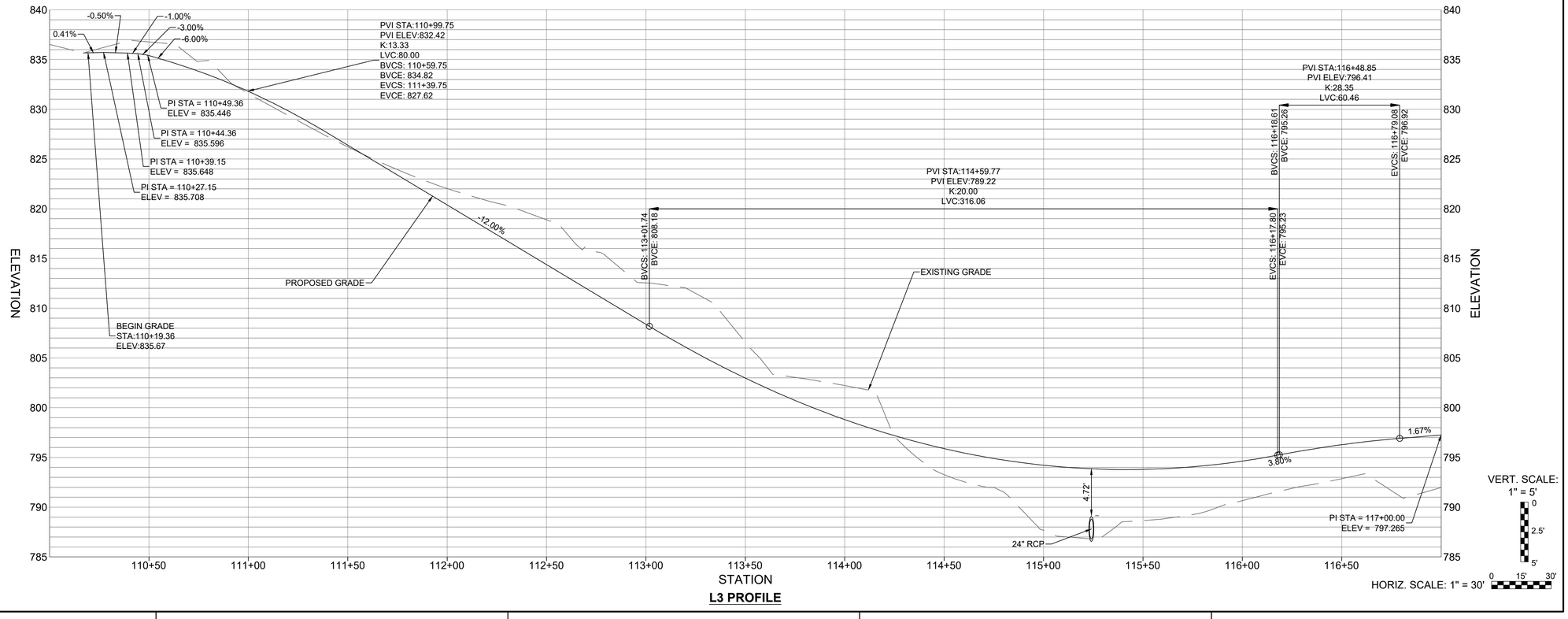
| Curve Table: Alignments | | | | | | | |
|---|---|---|---|---|---|---|---|
| Curve # | Alignment | Delta | Length | Radius | Tangent | Chord Bear. | Chord Dist. |
| C1 | -L3- | 33°51'09" | 85.67 | 145.00 | 44.13 | N22°34'12"E | 84.43 |
| C2 | -L3- | 84°21'23" | 103.06 | 70.00 | 63.42 | N47°49'19"E | 94.00 |
| C3 | -L3- | 91°18'22" | 71.71 | 45.00 | 46.04 | S44°20'49"E | 64.36 |

| Line Table | | | |
|---|---|---|---|
| Line Tag | Alignment | Distance | Bearing |
| L1 | -L3- | 127.62 | N39°29'46"E |
| L2 | -L3- | 155.31 | N5°38'37"E |
| L3 | -L3- | 60.49 | N90°00'00"E |
| L4 | -L3- | 359.56 | S1°18'22"W |




## SHEET KEYNOTES

1. PROPOSED 21' WIDE PRIVATE DRIVEWAY WITH 4.5' SHOULDERS. TYP. SECTION B3/CT-200
2. GRADING LIMITS
3. 10' NCDOT PERMANENT DRAINAGE EASEMENT
4. PROPOSED DITCH CENTERLINE
5. TOP OF EXISTING STREAM BANK




**L3 PROFILE**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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047771 MICHAEL LEE
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## -L3- DRIVEWAY PLAN AND PROFILE

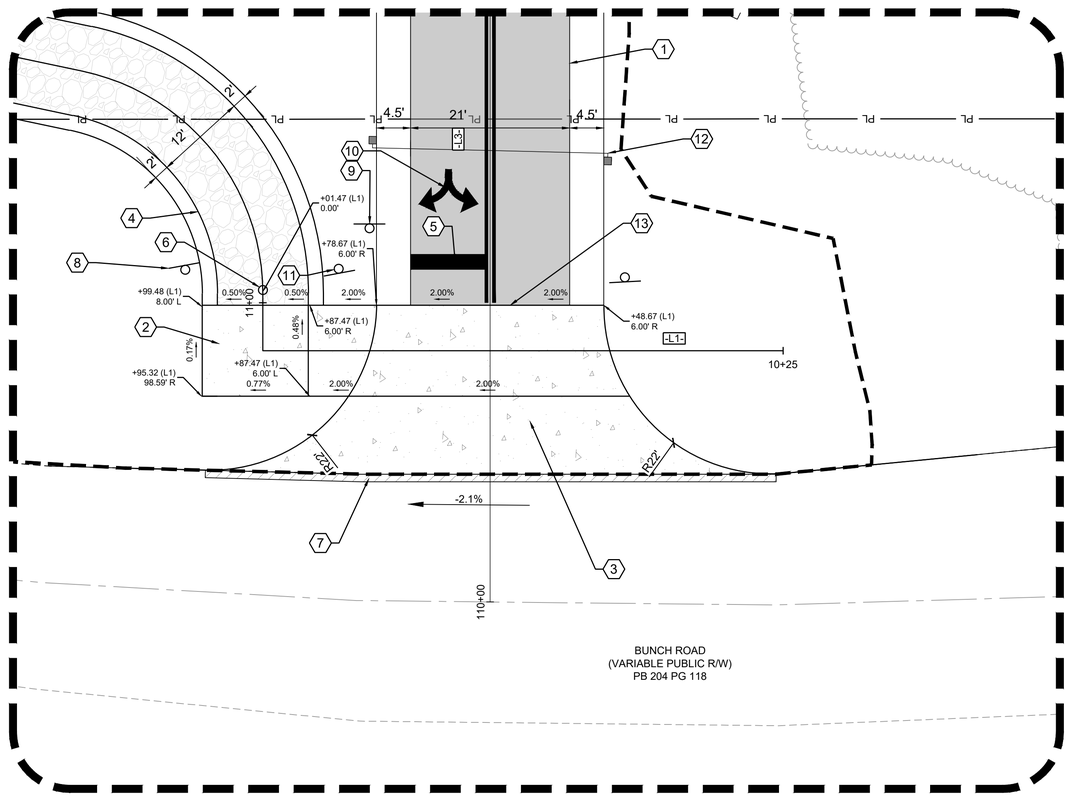
SHEET NUMBER

# CT-302

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT301 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION




## A1 DRIVEWAY ENTRANCE INSET

SCALE: 1" = 10'

0 5' 10' 20' 30'

## SHEET KEYNOTES

1. PROP. 21' WIDE PRIVATE DRIVEWAY WITH 4.5' SHOULDERS. TYP. SECTION B3/CT-200
2. PROP. CONCRETE PAVING - DETAIL D1/C-501. JOINTS PER NCDOT STD 848.01 CONCRETE SIDEWALK.
3. PROP. DRIVEWAY TURNOUT. NCDOT 848.02
4. PROP. 12' WIDE CRUSHED STONE GREENWAY WITH 2' TO 3' SHOULDERS. TYP. SECTION A1/CT-200
5. PROP. WHITE STOP BAR(24", 90 MIL - T61). NCDOT STD 1205.01
6. PROP. COLLAPSIBLE BOLLARD. DETAIL A1/C-502
7. 1' WIDE ASPHALT PATCHING - DETAIL B1/C-501.
8. PROP. 18"x18" STOP SIGN (R1-1) - DETAIL C2/C-501
9. PROP. 30"x30" STOP SIGN (R1-1) - DETAIL D2/C-501
10. PROP. COMBINATION LEFT/RIGHT TURN ARROW (90 MIL - T75) THERMOPLASTIC. NCDOT STD 1205.08
11. PROP. 24"x24" NO MOTOR VEHICLES SIGN (R5-3) - DETAIL A1/C-501
12. BARRIER ARM GATE. NCDOT STD 867.01
13. BITUMINUS/PCC PAVEMENT JOINT- SEE DETAIL B1/C506

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049771 JOSEPH MCKNIGHT 10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

DRIVEWAY ENLARGEMENT

SHEET NUMBER

CT-303

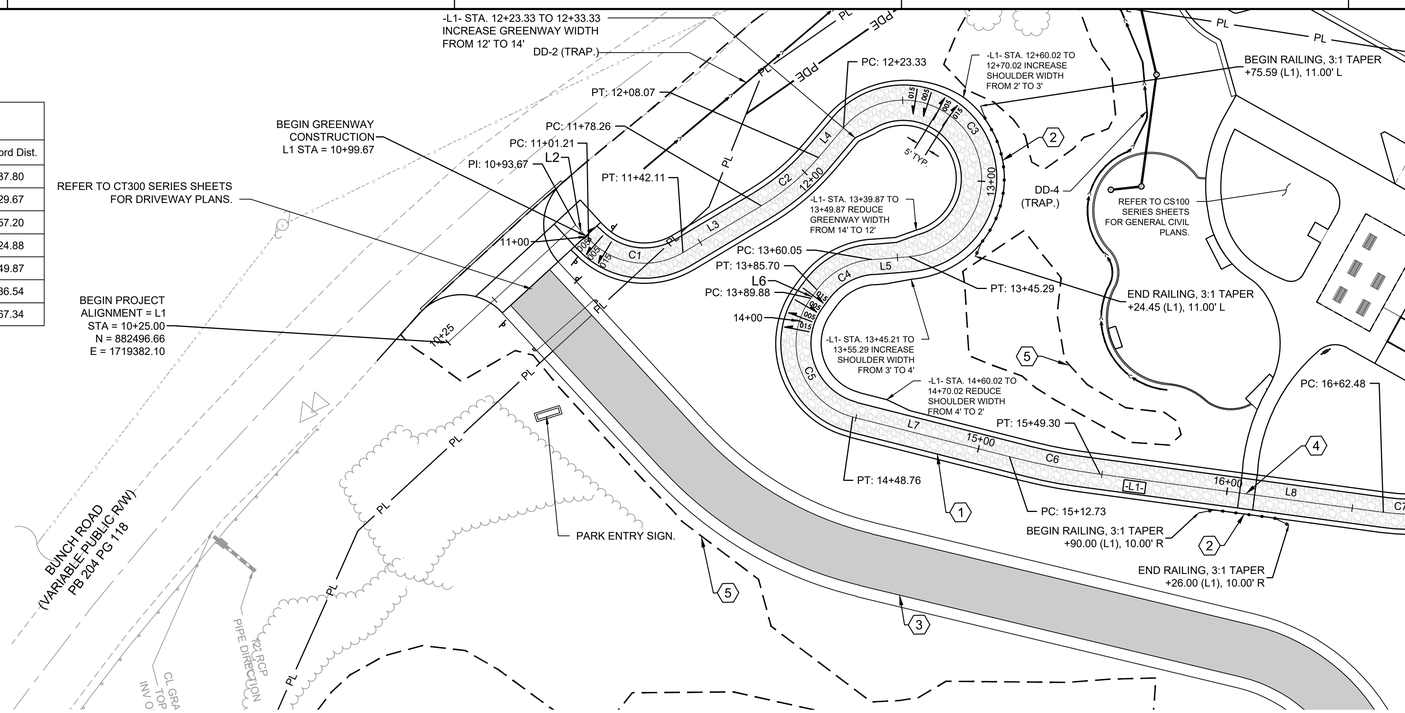
ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT301 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

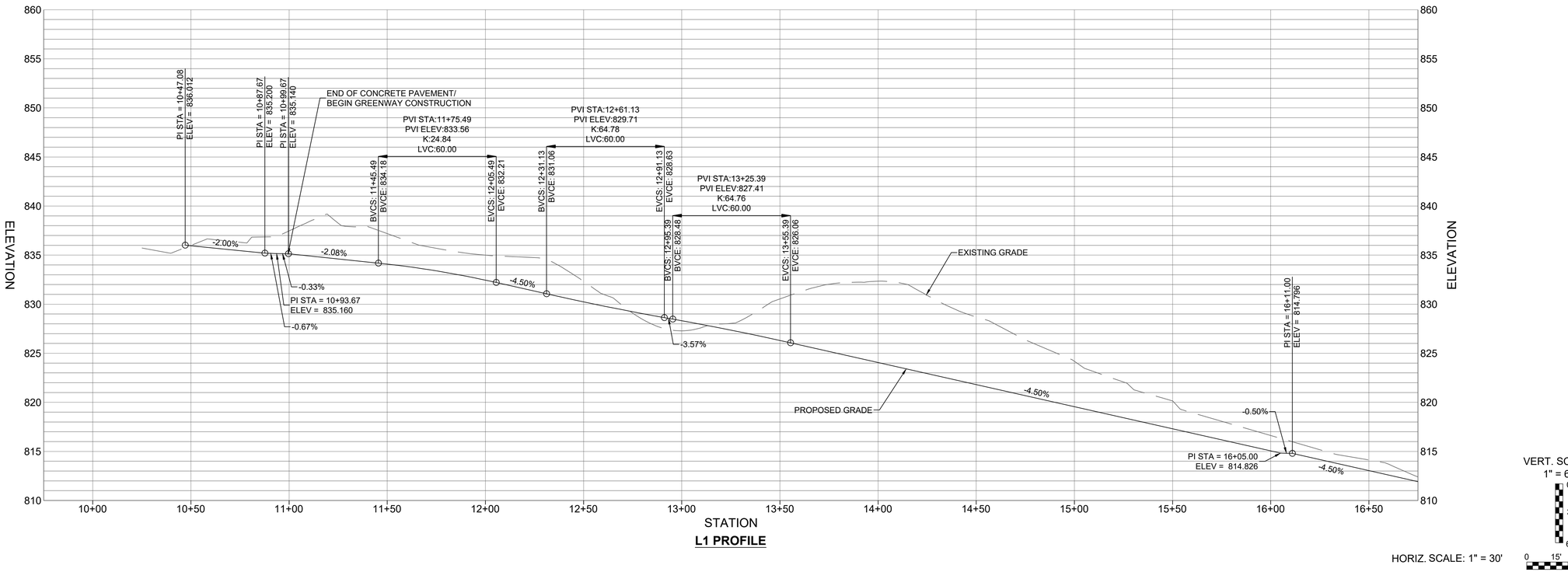
| Curve Table: Alignments | | | | | | | |
|---|---|---|---|---|---|---|---|
| Curve # | Alignment | Delta | Length | Radius | Tangent | Chord Bear. | Chord Dist. |
| C1 | -L1- | 78°06'29" | 40.90 | 30.00 | 24.34 | N0°26'32"E | 37.80 |
| C2 | -L1- | 18°58'40" | 29.81 | 90.00 | 15.04 | N48°06'03"W | 29.67 |
| C3 | -L1- | 225°23'48" | 121.95 | 31.00 | 74.11 | N55°06'31"E | 57.20 |
| C4 | -L1- | 48°59'30" | 25.65 | 30.00 | 13.67 | S36°41'20"E | 24.88 |
| C5 | -L1- | 112°26'33" | 58.87 | 30.00 | 44.85 | N62°35'39"E | 49.87 |
| C6 | -L1- | 6°32'47" | 36.56 | 320.00 | 18.30 | N3°05'59"E | 36.54 |
| C7 | -L1- | 43°56'32" | 69.02 | 90.00 | 36.31 | N22°08'40"W | 67.34 |

| Line Table | | | |
|---|---|---|---|
| Line Tag | Alignment | Distance | Bearing |
| L2 | -L1- | 7.54 | N39°29'46"E |
| L3 | -L1- | 36.14 | N38°36'43"W |
| L4 | -L1- | 15.27 | N57°35'23"W |
| L5 | -L1- | 14.76 | S12°11'35"E |
| L6 | -L1- | 4.18 | S61°11'05"E |
| L7 | -L1- | 63.98 | N6°22'22"E |
| L8 | -L1- | 113.18 | N0°10'25"W |




## SHEET KEYNOTES

1. PROPOSED 12' WIDE CRUSHED STONE GREENWAY WITH 2' TO 3' SHOULDERS. TYP. SECTION A1/CT-200
2. PROPOSED SAFETY RAIL. DETAIL B4/C-502
3. PROPOSED PRIVATE DRIVEWAY. DETAIL C2/CT-200
4. LEVEL LANDING
5. GRADING LIMITS




**L1 PROFILE**

VERT. SCALE: 1" = 6'

0 3' 6'

HORIZ. SCALE: 1" = 30'

0 15' 30'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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

GREENWAY TRAIL PLAN AND PROFILE

SHEET NUMBER

CT-401

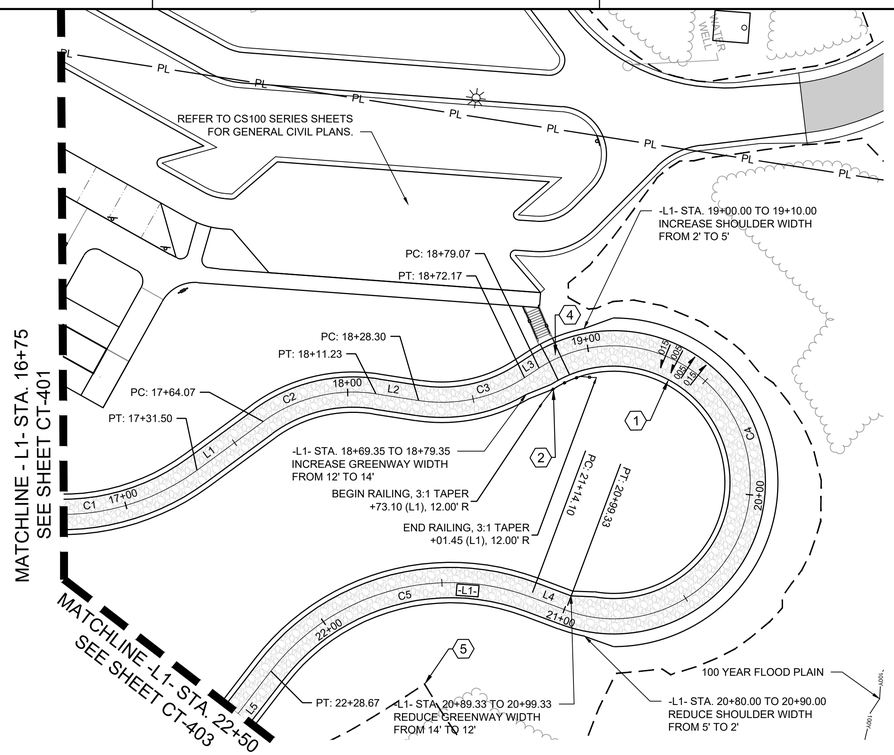
ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT400 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

| Curve Table: Alignments | | | | | | | |
|---|---|---|---|---|---|---|---|
| Curve # | Alignment | Delta | Length | Radius | Tangent | Chord Bear. | Chord Dist. |
| C1 | -L1- | 43°56'32" | 69.02 | 90.00 | 36.31 | N22°08'40"W | 67.34 |
| C2 | -L1- | 45°01'56" | 47.16 | 60.00 | 24.87 | N21°35'58"W | 45.95 |
| C3 | -L1- | 41°53'23" | 43.87 | 60.00 | 22.97 | N20°01'42"W | 42.90 |
| C4 | -L1- | 233°42'24" | 220.26 | 54.00 | 106.66 | N75°52'48"E | 96.35 |
| C5 | -L1- | 72°56'01" | 114.56 | 90.00 | 66.52 | S23°44'01"E | 106.98 |

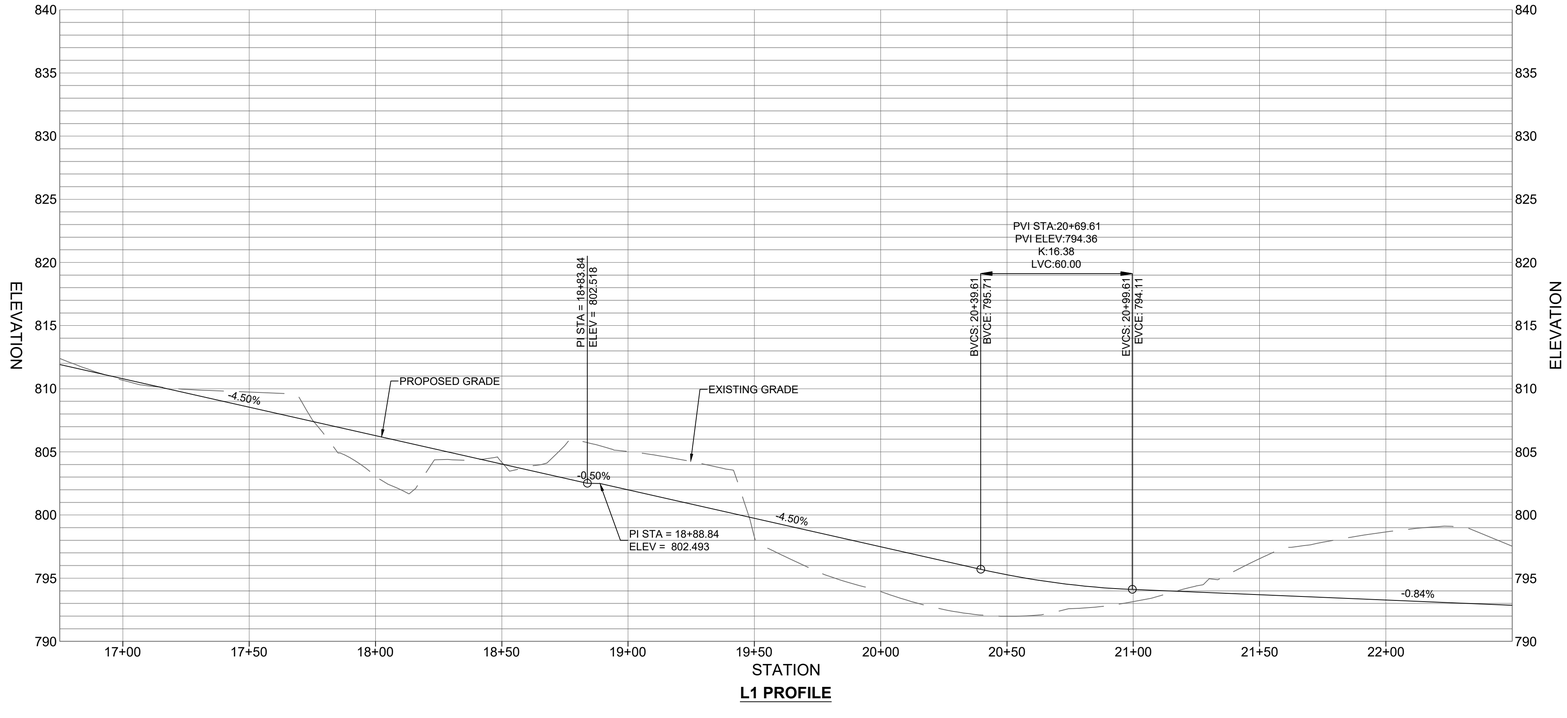
| Line Table | | | |
|---|---|---|---|
| Line Tag | Alignment | Distance | Bearing |
| L1 | -L1- | 32.57 | N44°06'56"W |
| L2 | -L1- | 17.07 | N0°55'00"E |
| L3 | -L1- | 6.90 | N40°58'23"W |
| L4 | -L1- | 14.77 | S12°44'00"W |
| L5 | -L1- | 89.72 | S60°12'01"E |




## SHEET KEYNOTES

1. PROPOSED 12' WIDE CRUSHED STONE GREENWAY WITH 2' SHOULDERS. TYP. SECTION A1/CT-200
2. PROPOSED SAFETY RAILY. DETAIL B4/C-502
4. LEVEL LANDING
5. GRADING LIMITS

SCALE: 1" = 30'




**L1 PROFILE**

VERT. SCALE: 1" = 6'

HORIZ. SCALE: 1" = 30'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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052771 JAMES M. MORALES

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## GREENWAY TRAIL PLAN AND PROFILE

SHEET NUMBER

# CT-402

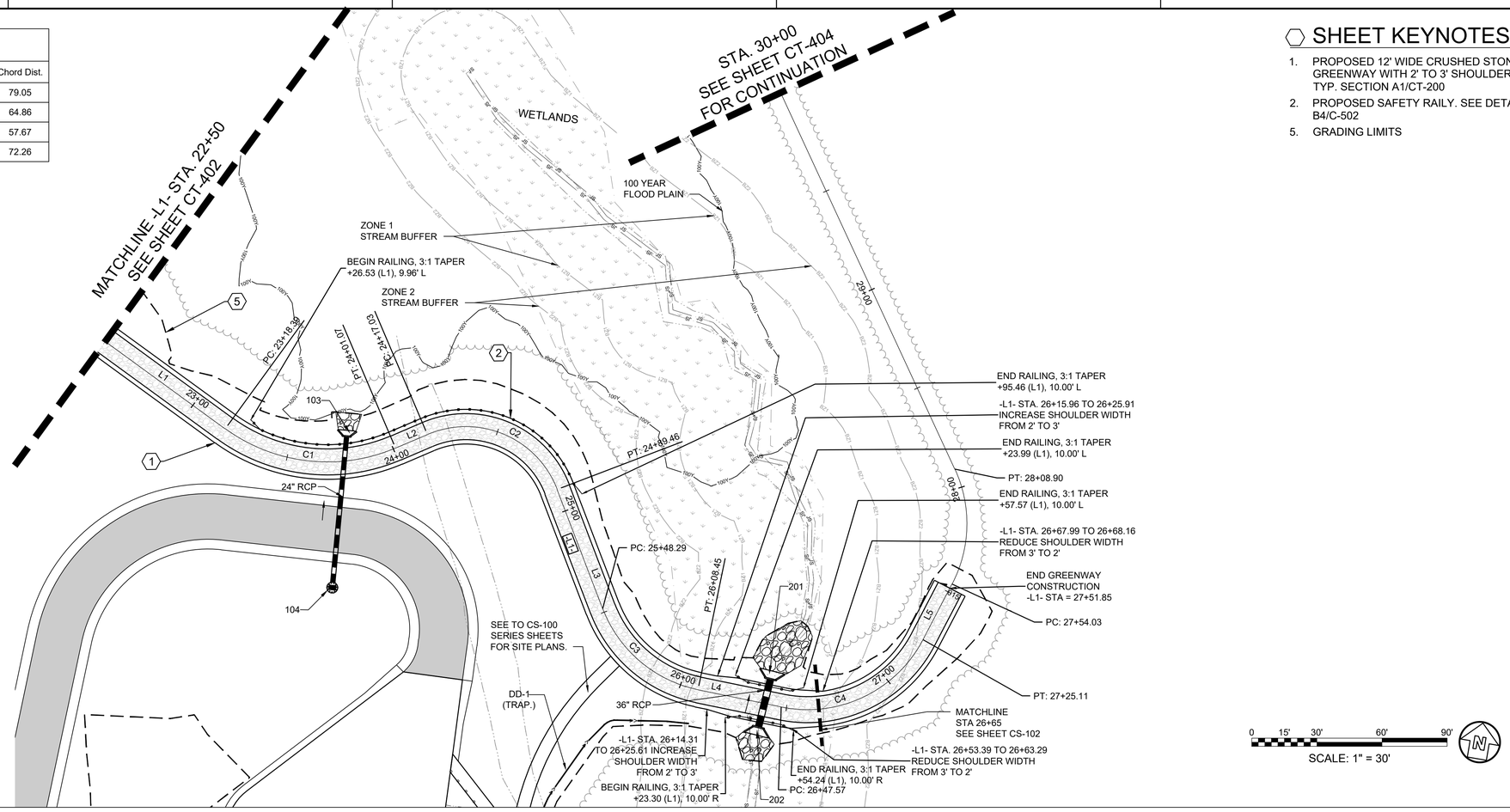
ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT400 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

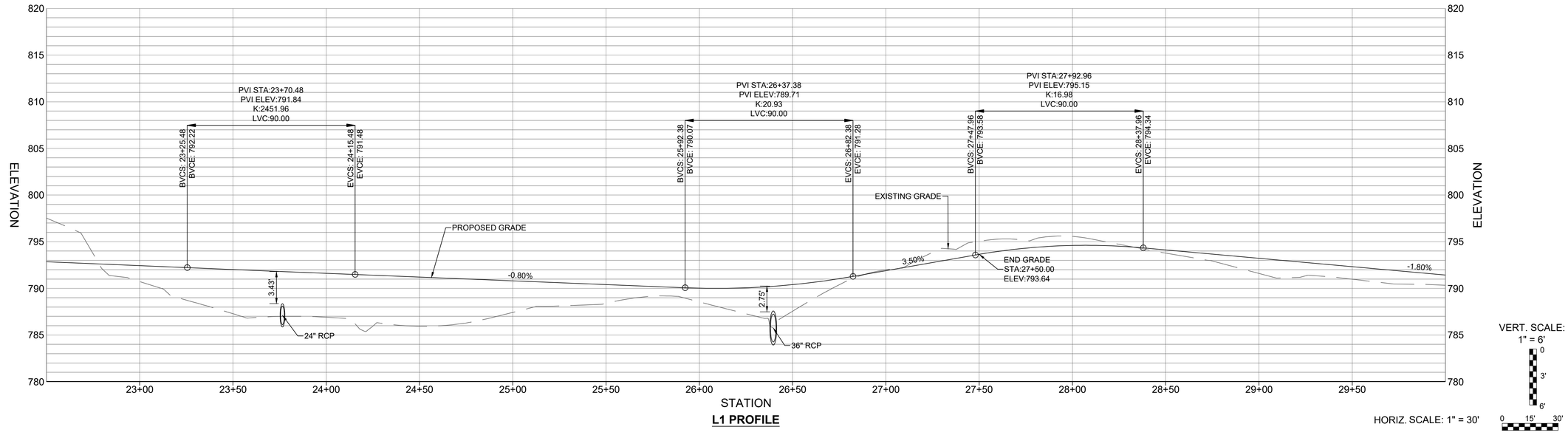
| Curve Table: Alignments | | | | | | | |
|---|---|---|---|---|---|---|---|
| Curve # | Alignment | Delta | Length | Radius | Tangent | Chord Bear. | Chord Dist. |
| C1 | -L1- | 59°13'08" | 82.69 | 80.00 | 45.46 | S89°48'35"E | 79.05 |
| C2 | -L1- | 92°13'16" | 72.43 | 45.00 | 46.78 | S73°18'31"E | 64.86 |
| C3 | -L1- | 57°27'07" | 60.16 | 60.00 | 32.88 | S55°55'27"E | 57.67 |
| C4 | -L1- | 74°03'03" | 77.55 | 60.00 | 45.26 | N58°19'28"E | 72.26 |

| Line Table | | | |
|---|---|---|---|
| Line Tag | Alignment | Distance | Bearing |
| L1 | -L1- | 89.72 | S60°12'01"E |
| L2 | -L1- | 15.96 | N60°34'51"E |
| L3 | -L1- | 58.83 | S27°11'53"E |
| L4 | -L1- | 39.12 | S84°39'00"E |
| L5 | -L1- | 28.92 | N21°17'56"E |




## SHEET KEYNOTES

1. PROPOSED 12' WIDE CRUSHED STONE GREENWAY WITH 2' TO 3' SHOULDERS. TYP. SECTION A1/CT-200
2. PROPOSED SAFETY RAILY. SEE DETAIL B4/C-502
5. GRADING LIMITS




**L1 PROFILE**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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049171 JAMES M. MICHAELS
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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| MARK | DESCRIPTION | DATE |
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|---|---|
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| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

GREENWAY TRAIL PLAN AND PROFILE

SHEET NUMBER

CT-403

ORIGINAL SHEET SIZE:
22" X 34"

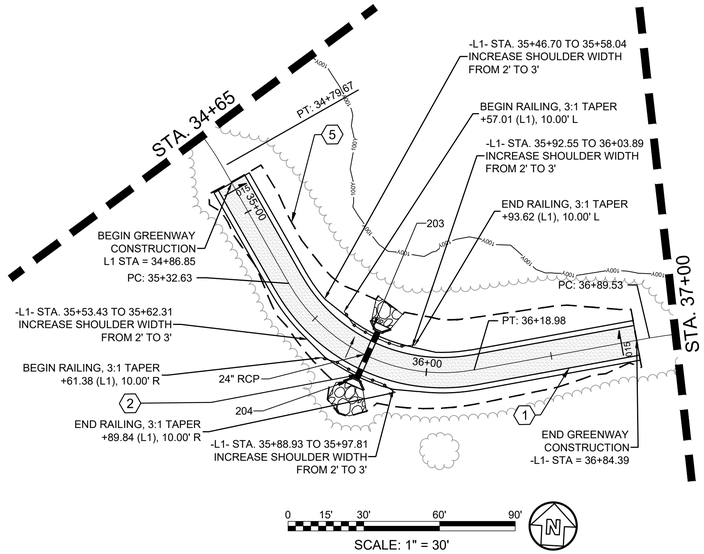

BID SET - NOT FOR CONSTRUCTION

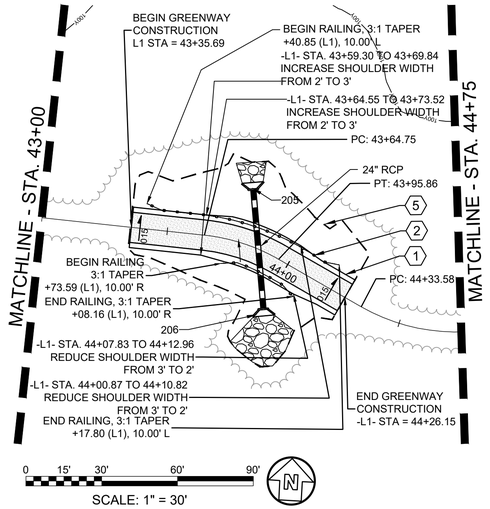


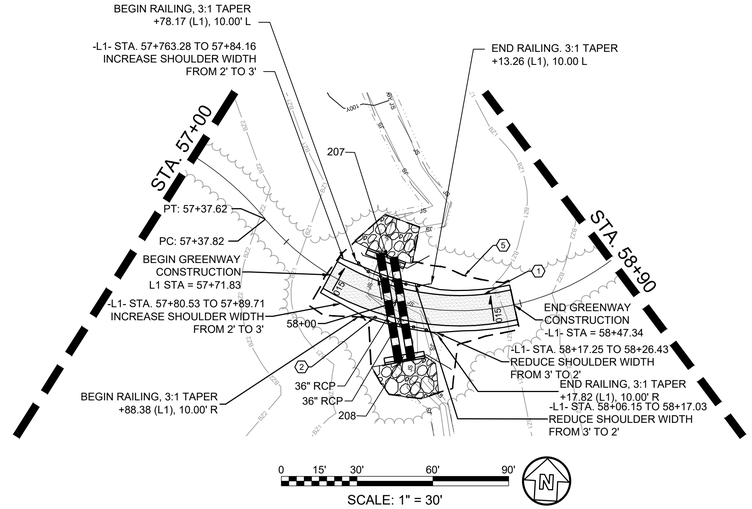
FILE PATH: X:\FY23\1230863\07.CAD\CIVIL\CT400 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

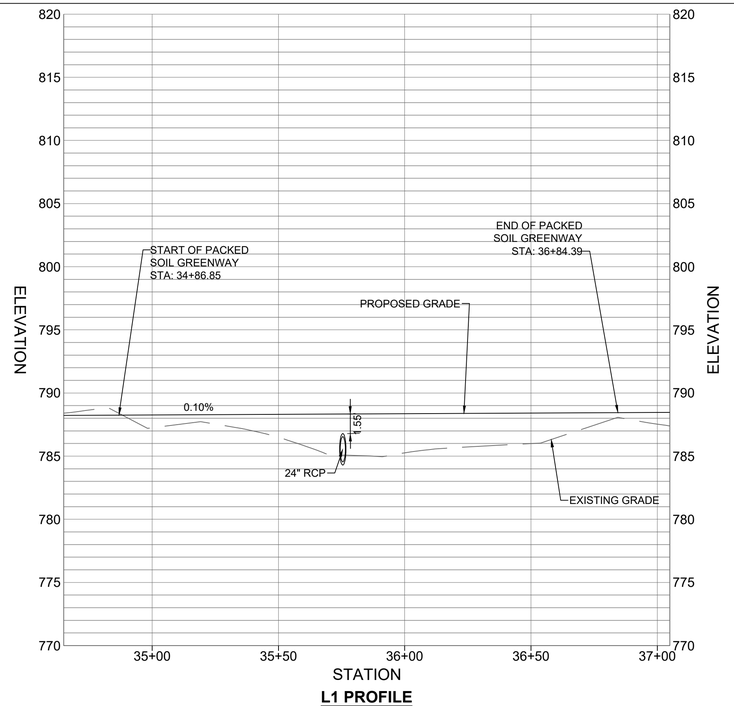
## SHEET KEYNOTES

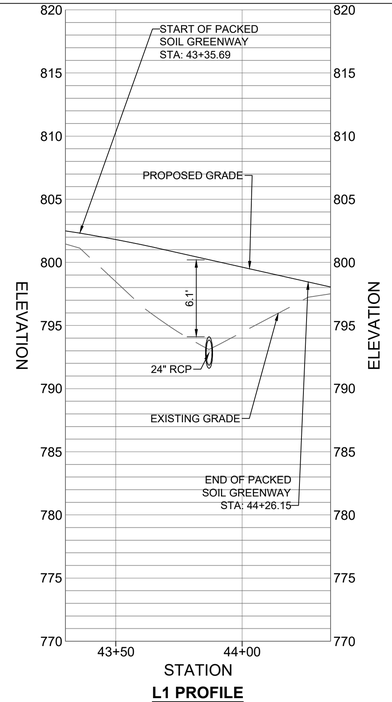
1. PROPOSED 12' WIDE PACKED SOIL GREENWAY SEGMENT WITH 2' SHOULDERS. TYP. SECTION A3/CT200
2. PROPOSED SAFETY RAILY. DETAIL B4/C-502
5. GRADING LIMITS

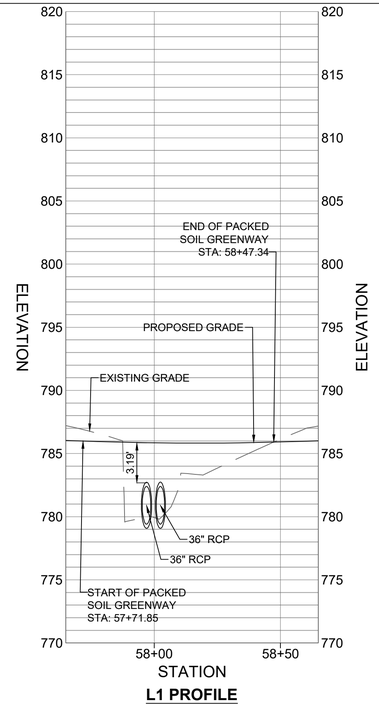



VERT. SCALE:
1" = 6'
0
3'
6'

HORIZ. SCALE: 1" = 30'

0 15' 30'

BID SET - NOT FOR CONSTRUCTION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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 050177 JOSEPH M. MARKLEY
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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| DESIGNED BY: | RB |
| DRAWN BY: | PC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

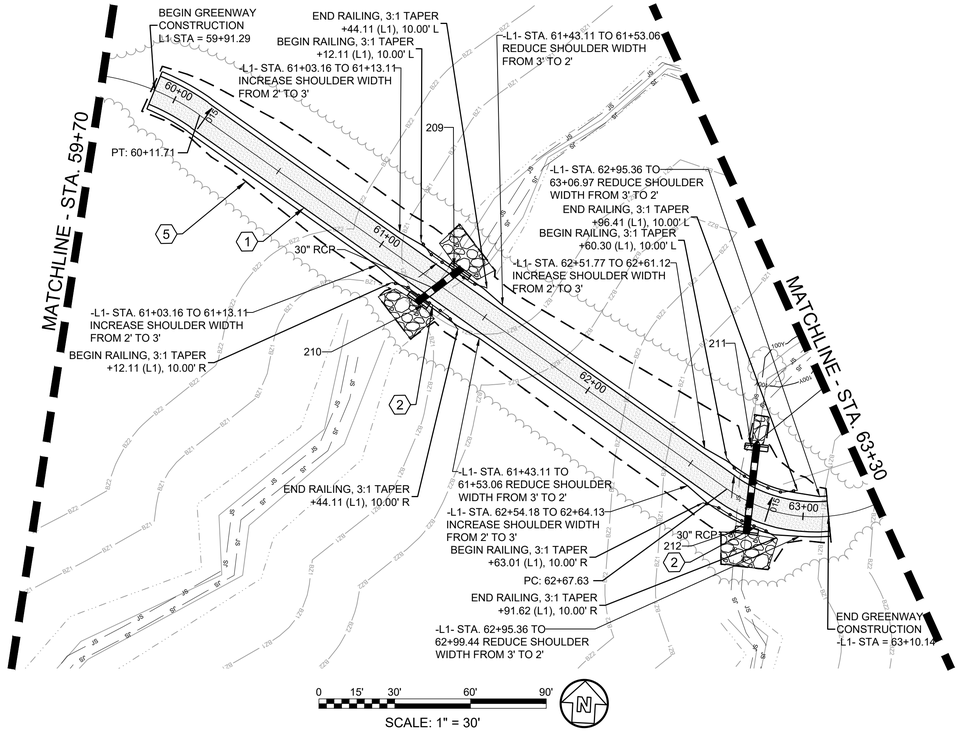
GREENWAY TRAIL PLAN AND PROFILE

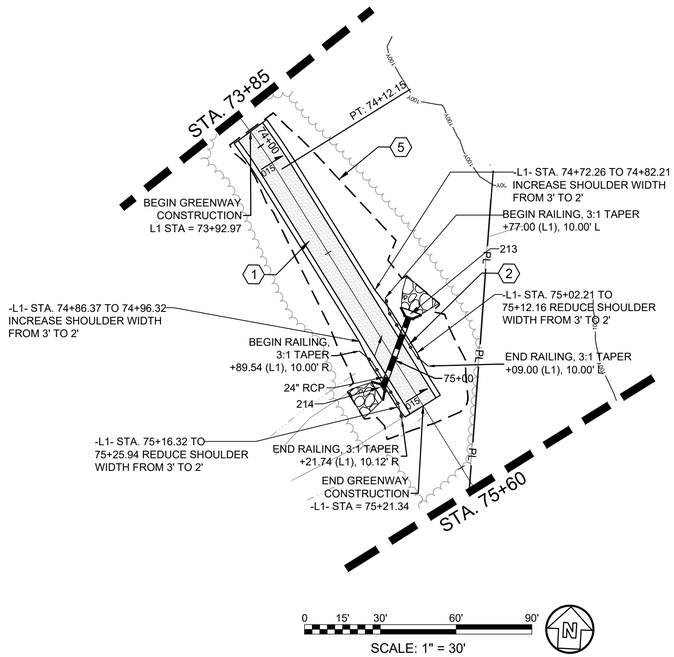
SHEET NUMBER

CT-404

ORIGINAL SHEET SIZE:
22" X 34"

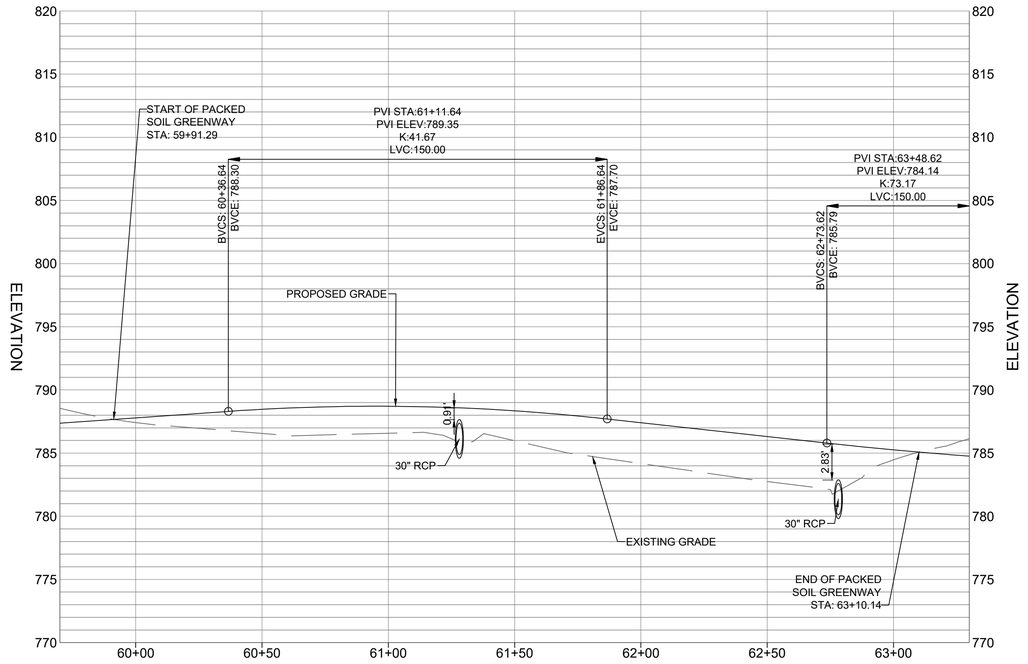

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT400 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25



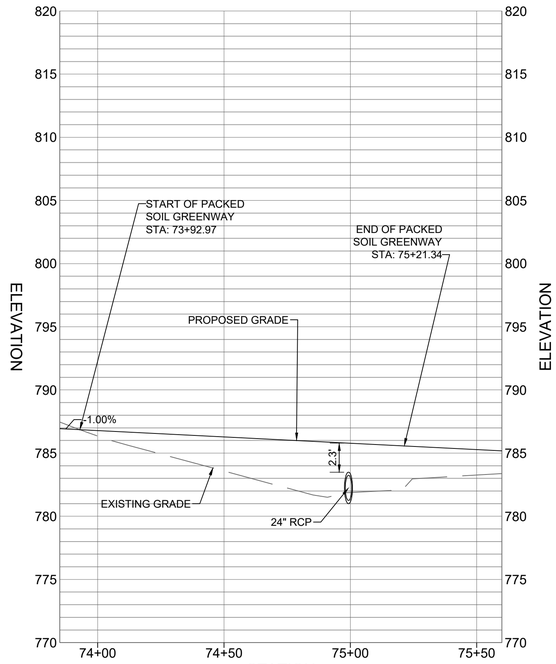




## SHEET KEYNOTES

1. PROPOSED 14' WIDE PACKED SOIL GREENWAY SEGMENT. TYP. SECTION A3/CT200
2. PROPOSED SAFETY RAILYY DETAIL B4/C-502
5. GRADING LIMITS




**L1 PROFILE**




**L1 PROFILE**

VERT. SCALE: 1" = 6'
0 3' 6'

HORIZ. SCALE: 1" = 30'
0 15' 30'

BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

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| DRAWN BY: | PC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

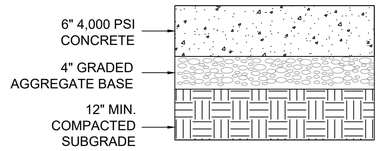
GREENWAY TRAIL PLAN AND PROFILE

SHEET NUMBER

CT-405

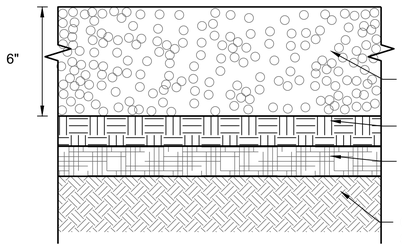
ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT400 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25



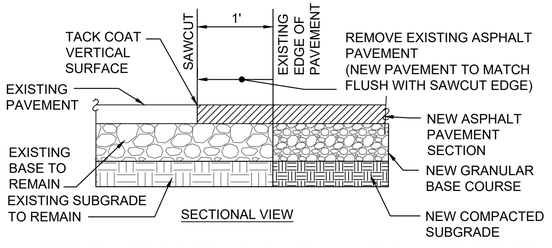

NOTE:
SEE DETAIL A3 ON THIS SHEET, FOR TRANSITION FROM GRAVEL TO CONCRETE PAVEMENT.

## D1 CONCRETE PAVING FOR ADA PARKING
NO SCALE




NOTE:
SEE DETAIL A3 ON THIS SHEET, FOR TRANSITION FROM GRAVEL TO CONCRETE PAVEMENT.

## C1 GRAVEL PAVING
NO SCALE



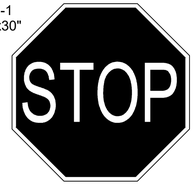

## B1 TIE TO EXISTING ASPHALT PAVEMENT
NO SCALE

R5-3
24"x24"

ONE "U" POST PER SIGN

## A1 MUTCD "NO MOTOR VEHICLES" SIGN DETAIL
NO SCALE

R1-1
30"x30"




NOTES:
1. BOTTOM EDGE OF SIGN SHALL BE 7'-0" ABOVE GRADE.
2. INSTALL ACCORDING TO NCDOT 904.50

MOUNT ON UTILIY POLE IN 1 INSTALLATION
ONE "U" POST PER SIGN

## D2 MUTCD "STOP" SIGN DETAIL
NO SCALE

R1-1
18"x18"

NOTES:
1. BOTTOM EDGE OF SIGN SHALL BE 7'-0" ABOVE GRADE.
2. INSTALL ACCORDING TO NCDOT 904.50

ONE "U" POST PER SIGN

## C2 MUTCD "STOP" SIGN DETAIL FOR GREENWAY
NO SCALE

NOTES:
1. BOTTOM EDGE OF SIGN SHALL BE 7'-0" ABOVE GRADE.
2. INSTALL ACCORDING TO NCDOT 904.50

R5-1
36" X 36"

ONE "U" CHANNEL SUPPORT PER SIGN

## B2 MUTCD "DO NOT ENTER" SIGN DETAIL
NO SCALE

W7-1
36"x36"

ONE "U" POST PER SIGN

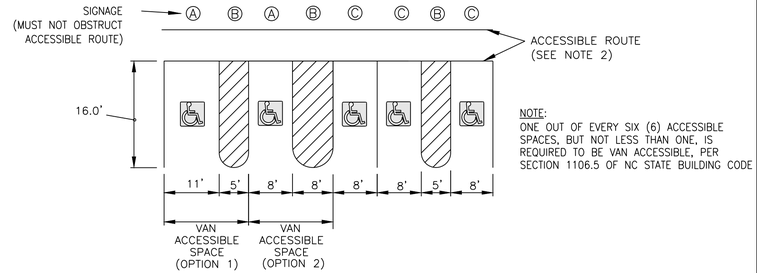
## A2 MUTCD "STEEP GRADE" SIGN DETAIL
NO SCALE

ACCESSIBLE PARKING REQUIREMENTS

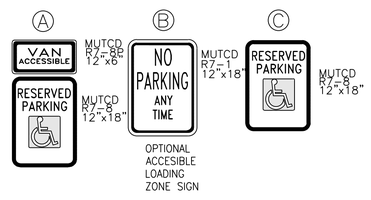
| TOTAL PARKING SPACES PROVIDED | MINIMUM NUMBER OF ACCESSIBLE SPACES SPACES REQUIRED | MINIMUM NUMBER OF ACCESSIBLE SPACES REQUIRED TO BE VAN ACCESSIBLE |
|---|---|---|
| 1 TO 25 | 1 | 1 |
| 26 TO 50 | 2 | 1 |
| 51 TO 75 | 3 | 1 |
| 76 TO 100 | 4 | 1 |
| 101 TO 150 | 5 | 1 |
| 151 TO 200 | 6 | 1 |
| 201 TO 300 | 7 | 2 |
| 301 TO 400 | 8 | 2 |
| 401 TO 500 | 9 | 2 |
| 501 TO 1000 | 2% OF TOTAL | 1 IN EVERY 6 ACCESSIBLE SPACES |
| 1001 AND OVER | 20 PLUS 1 FOR EACH 100 OVER 1000 | 1 IN EVERY 6 ACCESSIBLE SPACES |

NOTES:
1. ALL ACCESSIBLE SIGNS (R7-8P, R7-8, R7-1, AND 50.10C) SHALL BE MOUNTED AT 7 FEET FROM GRADE TO BOTTOM EDGE OF SIGN FACE (PER MUTCD). MOUNTING HEIGHT CAN BE REDUCED TO 5 FEET IF PLACED IN AN AREA BETWEEN SIDEWALK AND BUILDING FACE IN WHICH PEDESTRIANS ARE NOT EXPECTED TO USE.
2. IF ACCESSIBLE ROUTE IS A RAISED SIDEWALK AREA, THEN RAMPS ARE REQUIRED AT LOADING ZONE AREA. MAINTAIN MIN. 4' WIDE CONTINUOUS PASSAGE.
3. VERTICAL CLEARANCE FOR VANS MUST BE GREATER THAN 98-INCHES.
4. THIS DETAIL IS TO PROVIDE GENERAL GUIDANCE FOR PARKING LAYOUT AND DESIGN; REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION AND NORTH CAROLINA DEPARTMENT OF TRANSPORTATION SUPPLEMENT AND NC BUILDING CODE FOR ADDITIONAL INFORMATION.

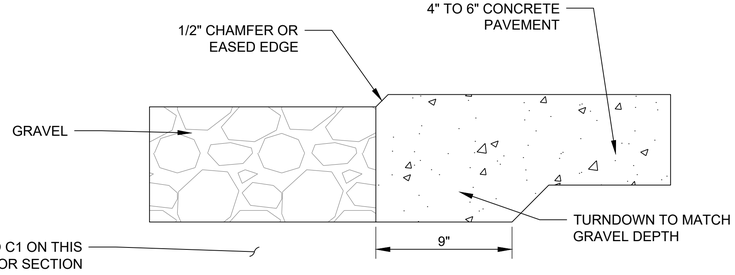
PARKING SPACE PAVEMENT MARKINGS




NOTE:
ONE OUT OF EVERY SIX (6) ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, IS REQUIRED TO BE VAN ACCESSIBLE, PER SECTION 1106.5 OF NC STATE BUILDING CODE




## B4 HANDICAP PARKING
NO SCALE




## A3 PAVING TRANSITION DETAIL
NO SCALE

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EOR/AOR SEAL

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5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

DATE

DESCRIPTION

MARK

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

SITE DETAILS

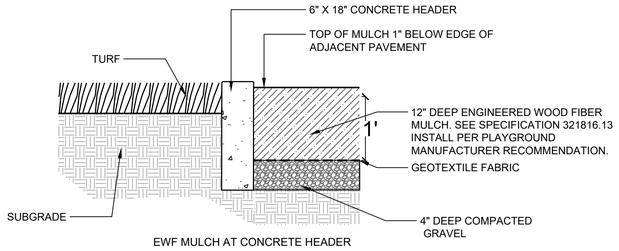
SHEET NUMBER

C-501

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

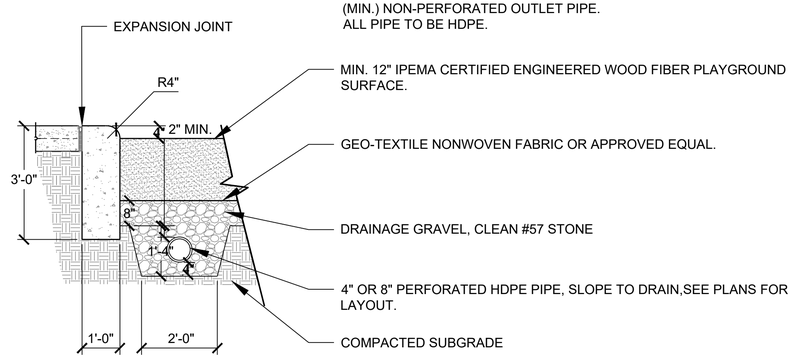



EWF MULCH AT CONCRETE HEADER

## C1 EWF MULCH AT CONCRETE HEADER

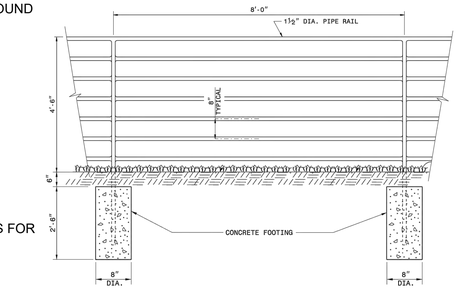
N.T.S.

NOTES:
1. CURB TO BE IN 10 FEET LENGTH.
2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED BETWEEN CURB SEGMENTS AT THE ENDS AND MID-POINT OF RETURNS AND AT ANY POINT WHERE THE NEW CURB ABUTS OTHER CONCRETE STRUCTURES.
3. CONCRETE SHALL BE 3000 PSI @28 DAYS.
4. PERFORATED PIPE TO CONNECT TO MIN. 6" (MIN.) NON-PERFORATED OUTLET PIPE. ALL PIPE TO BE HDPE.

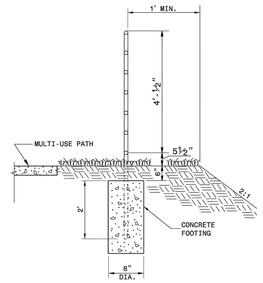



## C2 PLAYGROUND CONCRETE CURB

1/2" = 1'-0"




ELEVATION




SECTION VIEW

R6-1
36"x12"

ONE "U" POST PER SIGN

## B1 MUTCD "ONE WAY" SIGN DETAIL

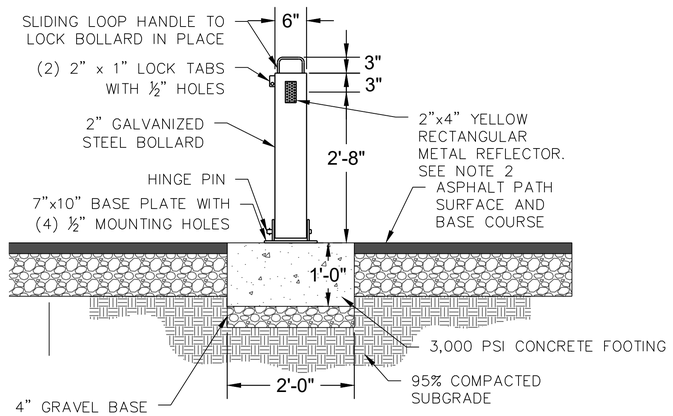
NO SCALE

R9-14
18"x18"

ONE "U" POST PER SIGN

## B2 MUTCD "NO EQUESTRAINS" SIGN DETAIL

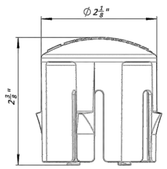
NO SCALE

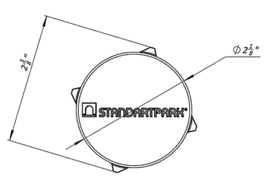



NOTES:
1. INSTALL 2 RECTANGULAR REFLECTORS PER BOLLARD, 1 ON EACH SIDE FACING TRAFFIC
2. SEE PLANS FOR TRAIL MATERIAL. ON ASPHALT SURFACE, INSTALL FOOTING PER DETAIL. ON CONCRETE SURFACE, INSTALL DIRECTLY ON THE CONCRETE TRAIL SURFACE.
3. SEE PLANS FOR BOLLARD PLACEMENT.

## A1 COLLAPSIBLE BOLLARD

NO SCALE




| | |
|---|---|
| MANUFACTURER: | VODALAND |
| PRODUCT: | EASYSPOTS -PAVER MARKING SYSTEM |
| DIMENSIONS: | 2 1/8" X 2 3/8" |
| FINISH/COLOR: | YELLOW |
| WEBSITE: | https://vodaland-usa.com/products/easyspots-25-pack |

## A2 EASYSPOTS -PAVER MARKING SYSTEM

NO SCALE

NOTES:

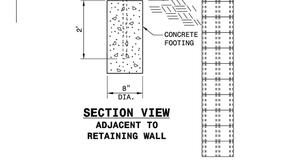
CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1 ¼" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

REPAIR GALVANIZING IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1076.

PAIN, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH THE STANADARD SPECIFICATIONS SECTION 1080/

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.
USE CLASS 'B' CONCRETE FOR HANDRAIL FOOTINGS.

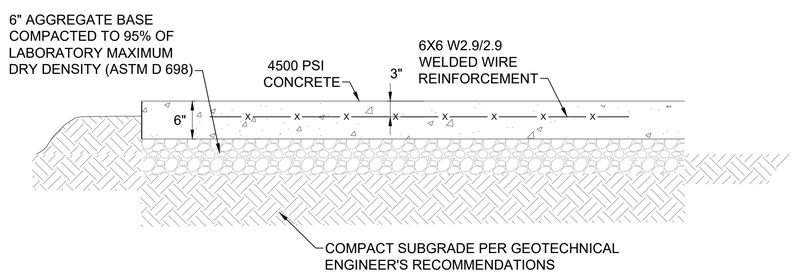
PLACEMENT OF HANDRAIL IN RELATION TO SHOULDER BREAK POINT AND PATH MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.




SECTION VIEW
ADJACENT TO RETAINING WALL

## B4 BICYCLE/PEDESTRIAN SAFETY RAIL - NCDOT CONTRACT STANDARDS AND DEVELOPMENT UNIT

NO SCALE




## A4 EQUIPMENT PAD

NO SCALE

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

SITE DETAILS

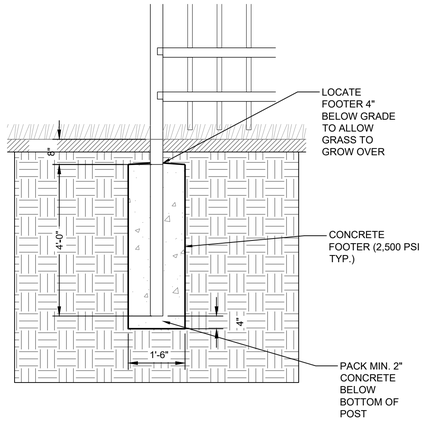
SHEET NUMBER

C-502

ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## C1 ALUM. FENCE FOOTING DETAIL (TYP.)

MANUFACTURER: RARIN' TO GO
PRODUCT: 8' HD HITCHING POST
DIMENSIONS: 7'W
FINISH/COLOR: GALVANIZED STEEL PIPE
WEBSITE:
https://rarintogocorrals.com/products/8-hd-hitching-post

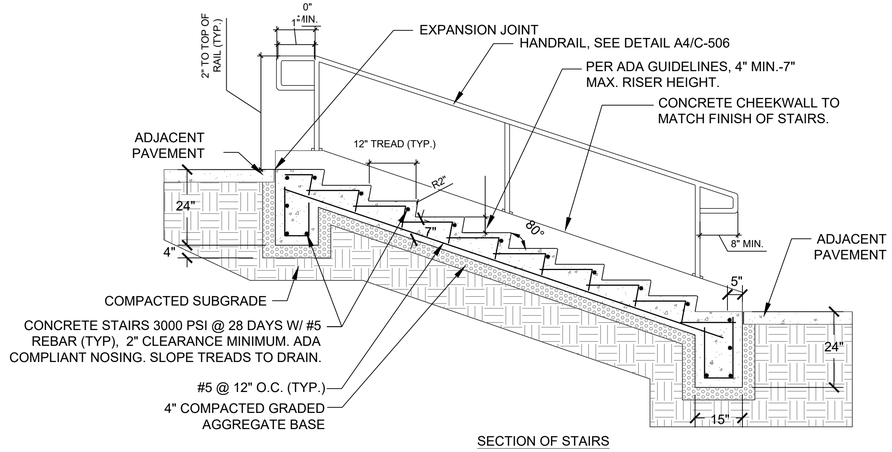
## C2 HITCHING RAIL

MANUFACTURER: HANDI-RAMP
PRODUCT: HORSE MOUNTING RAMP
DIMENSIONS: PLATFORM: 4'W x 6'L X 30"H;
RAMP 12' long
(EACH SECTION IS 6' LONG. PLATFORM, CAN BE ADJUSTED TO 32" IN HEIGHT.)
WEBSITE: https://handiramp.com/product/handi-ramp-portable-horse-mounting-ramp/

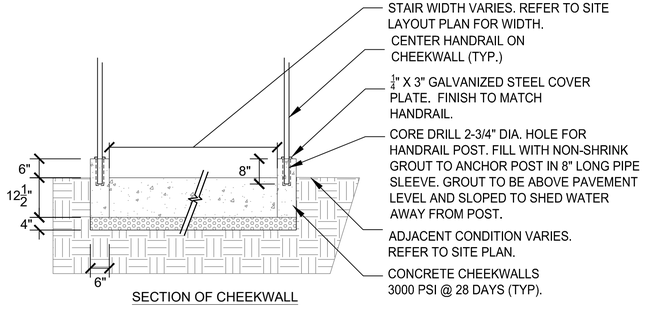
## C3 ACCESSIBLE MOUNTING BLOCK

CONCRETE STAIR NOTES:
1. TREAD LENGTH AND RISER HEIGHT CAN BE FIELD ADJUSTED WITH APPROVAL FROM THE ENGINEER, AND/OR OWNER SO LONG AS THEY ARE CONSISTENT.
2. REFER TO SITE LAYOUT PLAN FOR TOTAL NUMBER OF TREADS AND RISERS.
3. COMPACTION AND SUBBASE DEPTH TO BE VERIFIED AND APPROVED BY GEOTECHNICAL CONSULTANT, OWNER'S REPRESENTATIVE, AND DESIGN PROFESSIONAL PRIOR TO PLACEMENT.
4. FOR BID PURPOSES ASSUME INSTALLATION OF SUBBASE INDICATED ON DRAWINGS. ANY ADDITIONAL WORK AS A RESULT OF RECOMMENDATIONS MADE BY GEOTECHNICAL CONSULTANT SHALL BE PAID/DELETED BY UNIT PRICE.

HANDRAIL NOTES:
1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR COMPLETE HANDRAIL CONSTRUCTION AND INSTALLATION.
2. ALL HANDRAILS ARE 36" TYP. HEIGHT (34" MIN./38" MAX.) TO TOP OF RAIL. HANDRAIL TO BE 1.5" DIAMETER STD SCHEDULE 40 STEEL TUBE. PAINT COLOR TO BE APPROVED BY OWNER.
3. ALL RAILS TO COMPLY WITH CURRENT ADA REQUIREMENTS.
4. INSTALL HANDRAILS ON BOTH SIDES OF STAIRS.
5. GRIND ALL WELDS SMOOTH WITH NO BARBS.
6. PROVIDE INTERMEDIATE POSTS SPACED 4' O.C. MAX. SPACE FOR UNIFORM APPEARANCE. POST SHALL BE MOUNTED TO RAIL WITH BRACKET TO MAINTAIN GRASPABILTY OF HANDRAIL PER I.B.C. SECTION 1012.4
7. TOP OF GROUT FOR POSTS TO BE ABOVE PAVEMENT LEVEL AND SLOPED TO SHED WATER AWAY FROM POST.




SECTION OF STAIRS




SECTION OF CHEEKWALL

## A1 CONCRETE STAIRS

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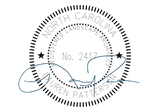



CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | LS |
| DRAWN BY: | EH |
| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

SITE FURNISHINGS

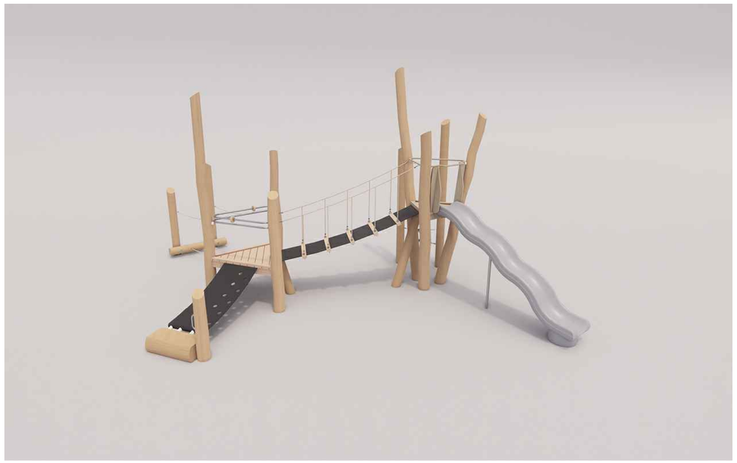
SHEET NUMBER

C-503

ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25



| | |
|---|---|
| MANUFACTURER: | EARTHSCAPE COLLECTIONS |
| PRODUCT: | LOG TANGLE 2.4 |
| AREA REQUIRED: | 44'9" X 38'2" |
| AGE RANGE: | 5-12 YR |
| FALL HEIGHT: | 6' |
| WEBSITE: | https://collections.earthscapeplay.com/junior |

C1 EARTHSCAPE LOG TANGLE 2.4

1" = 1" P-BA2-74

| | |
|---|---|
| MANUFACTURER: | EARTHSCAPE COLLECTIONS |
| PRODUCT: | LOG PILE 3.1 |
| AREA REQUIRED: | 28'11" X 22'10" |
| AGE RANGE: | 2-5 YR |
| FALL HEIGHT: | 3'10" |
| WEBSITE: | https://collections.earthscapeplay.com/junior |

C3 EARTHSCAPE LOG PILE 3.1

1" = 1" P-BA2-75

| | |
|---|---|
| MANUFACTURER: | EARTHSCAPE COLLECTIONS |
| PRODUCT: | DOUBLE BAY SWING - BELT + BASKET |
| AREA REQUIRED: | 35'6" X 38'8" |
| AGE RANGE: | 2-12 YR |
| FALL HEIGHT: | 9'5" |
| WEBSITE: | https://collections.earthscapeplay.com/junior |

A1 EARTHSCAPE DOUBLE BAY SWING - BELT+BASKET

1" = 1" P-BA2-76

| | |
|---|---|
| MANUFACTURER: | EARTHSCAPE COLLECTIONS |
| PRODUCT: | SLIDE PLATFORM 900 |
| AREA REQUIRED: | 31'8" X 28'2" |
| AGE RANGE: | 2-5 YR |
| FALL HEIGHT: | 6' |
| WEBSITE: | https://collections.earthscapeplay.com/junior |

A3 EARTHSCAPE SLIDE PLATFORM 900

SCALE: N.T.S. P-BA2-77

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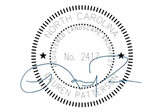


CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
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| DRAWN BY: | EH |
| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

PLAYGROUND

SHEET NUMBER

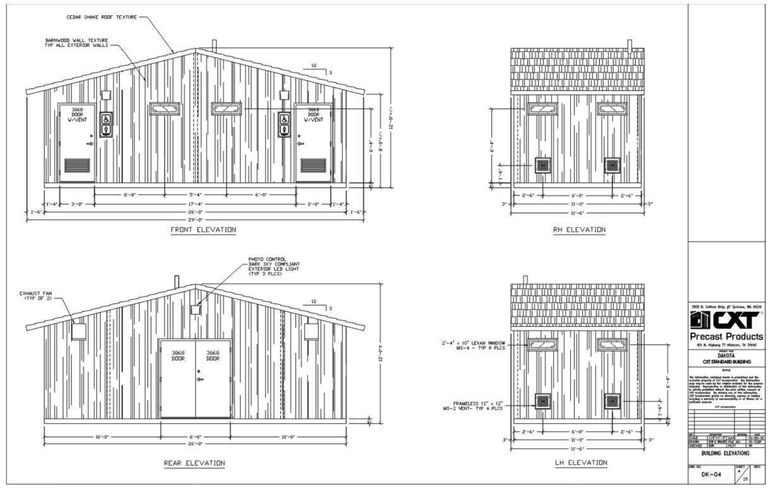
C-504

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

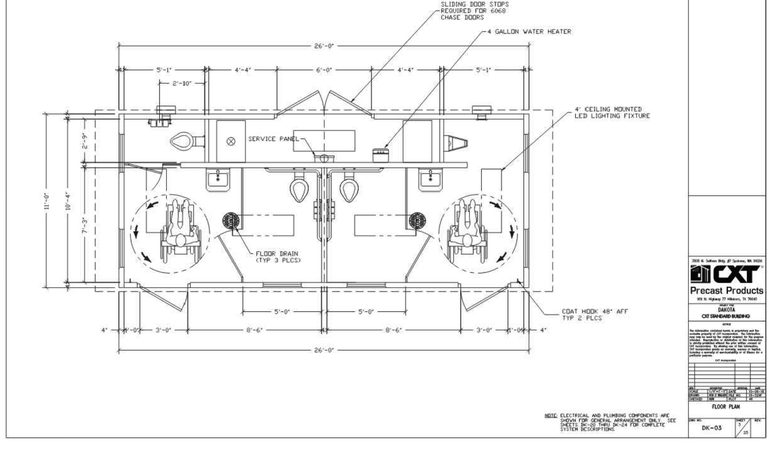
FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

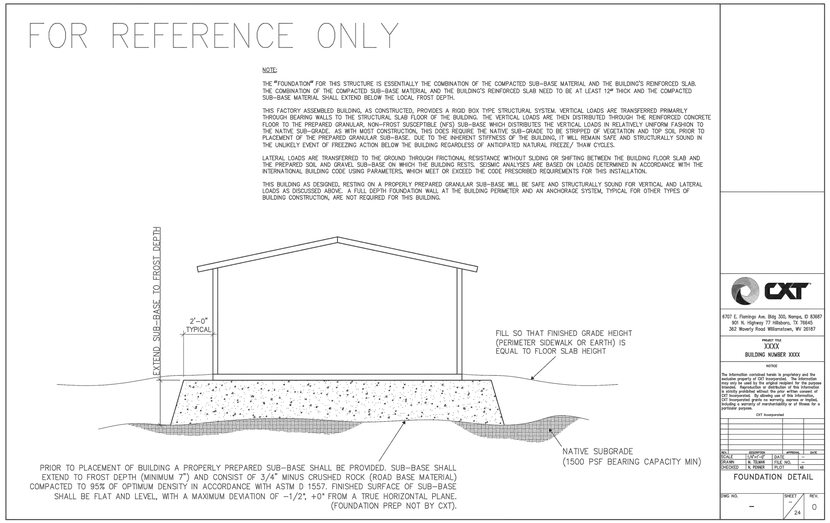
DRAWING FOR REFERENCE ONLY, CXT DAKOTA FACILITY TO BE COORDINATED WITH MANUFACTURER. FACILITY DETAILS PROVIDED IN NOTES BELOW.



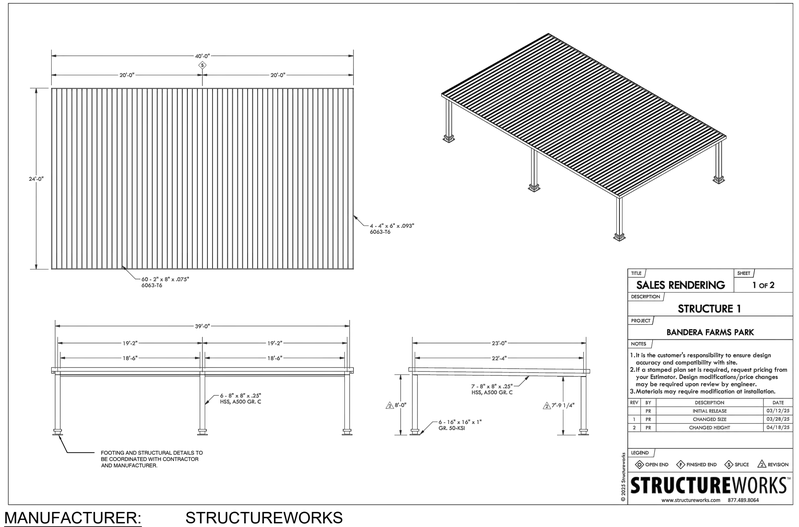

| | |
|---|---|
| MANUFACTURER: | CXT |
| PRODUCT: | DAKOTA |
| DIMENSIONS: | 11' X 26' |
| FINISH/COLOR: | CEDAR SHAKE ROOF TEXTURE; SAGE GREEN EXTERIOR; BARNWOOD WALL TEXTURE |
| | DAKOTA STANDARD FLOOR PLAN, 2 DOOR, WITH SHED ROOF |
| DETAILS: | ELECTRIC HAND DRYER, BABY CHANGING TABLE, EXTERIOR MOUNTED ADA FOUNTAIN, EXTERIOR FROSTPROOF HOSE BIB |
| CONTACT: | JCHAMBERS@LBFOSTER.COM |

## A1 PREFAB BATHROOM BUILDING
NO SCALE




## C3 CXT FOUNDATION DETAIL
NO SCALE




| | |
|---|---|
| MANUFACTURER: | STRUCTUREWORKS |
| PRODUCT: | CUSTOM |
| DIMENSIONS: | 24' X 40' |
| FINISH/COLOR: | SAGE GREEN |
| CONTACT: | HENRY BARNES |
| | STRUCTUREWORKS@STRUCTUREWORKS.COM |

## A3 PREFAB PICNIC SHELTER
NO SCALE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CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | LS |
| DRAWN BY: | EH |
| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

BUILDINGS

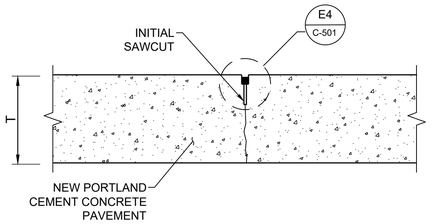
SHEET NUMBER

C-505

ORIGINAL SHEET SIZE:
22" X 34"

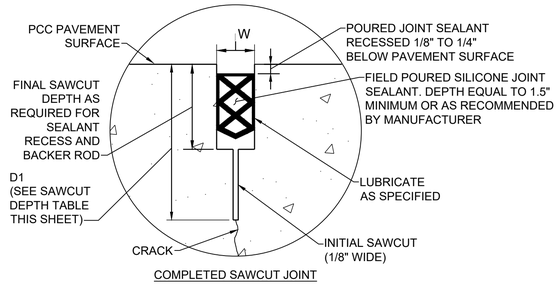
BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25



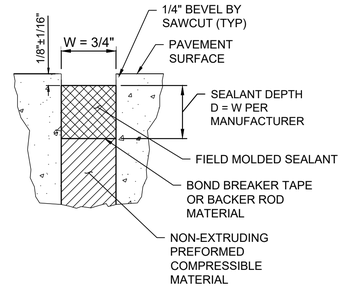

## SAWED CONTRACTION JOINT

D1 NO SCALE



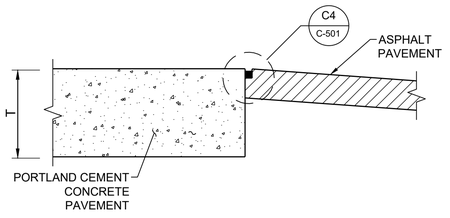

## SAWED CONTRACTION JOINT SEALANT DETAIL

D2 NO SCALE



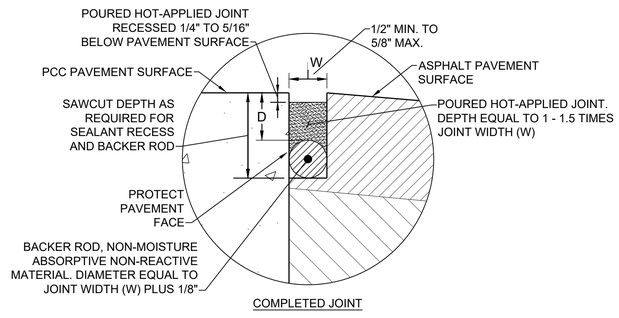

## EXPANSION JOINT SEALANT DETAIL

D4 NO SCALE



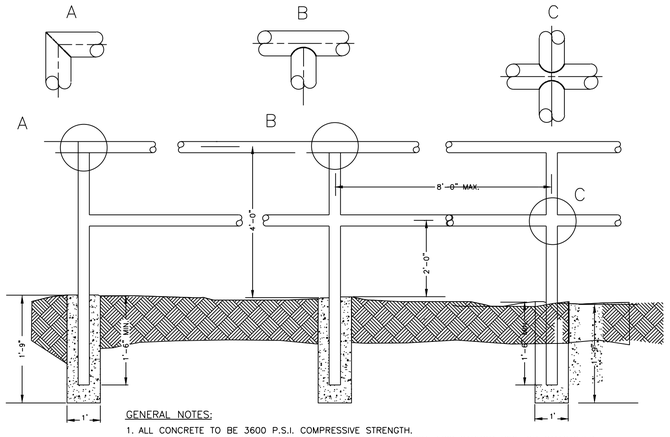

## BITUMINOUS/ PCC PAVEMENT JOINT

B1 NO SCALE




## BITUMINOUS/PCC PAVEMENT JOINT POURED HOT-APPLIED SEALANT DETAIL

B2 NO SCALE




## WARRANTS

HANDRAIL SHALL BE INSTALLED UNDER ANY OF THE FOLLOWING CIRCUMSTANCES IN BOTH NEW CONSTRUCTION AND IN RETROFITTING OR RECONSTRUCTION OF EXISTING ROADWAYS OR SITES:

1. IF THERE IS A 2:1 OR STEEPER FILL SLOPE THAT IS 10 FEET OR TALLER THAT BEGINS WITHIN 5 FEET OF A SIDEWALK.

2. IN ANY OF THE FOLLOWING COMBINATIONS OF DROPOFF AND OFFSET FROM SIDEWALK:
   a. 18" OR LARGER DROPOFF WITHIN 2 FEET OF THE EDGE OF THE SIDEWALK
   b. 36" OR LARGER DROPOFF WITHIN 4 FEET OF THE EDGE OF THE SIDEWALK
   c. 60" OR LARGER DROPOFF WITHIN 6 FEET OF THE EDGE OF THE SIDEWALK

   THESE CLEARANCES ASSUME THAT THE CROSS-SLOPE OF THE BERM BETWEEN THE SIDEWALK AND THE DROPOFF (PEDESTRIAN CLEAR ZONE) IS 6:1 OR FLATTER.

3. AT THE TOP OF ANY DROPOFF WHERE PEDESTRIANS CAN REASONABLY BE EXPECTED IN THE VICINITY.

4. AT THE DIRECTION OF CITY OR COUNTY STAFF BASED ON FIELD CONDITIONS.

FOR PURPOSES OF THIS STANDARD, THE TERM "SIDEWALK" IS USED GENERICALLY AND SHALL MEAN ANY PATH OR SURFACE TO BE USED FOR BICYCLE AND/OR PEDESTRIAN TRANSPORTATION. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SIDEWALKS, BIKE PATHS, SHARED-USE PATHS, PEDESTRIAN PATHS, AND GREENWAYS.

## DEFINITIONS

* DROPOFF -- A SLOPE OF 2:1 OR STEEPER. EXAMPLES INCLUDE HEADWALLS, RETAINING WALLS, AND CULVERTS.
* PEDESTRIAN CLEAR ZONE -- 10 FEET OF ANY COMBINATION OF SIDEWALK, SLOPE, AND SHOULDER SLOPED AT 6:1 OR FLATTER. SIDEWALK DOES NOT NEED TO BE PRESENT.

## HANDRAIL DETAIL

A4 NO SCALE

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | LS |
| DRAWN BY: | RB |
| CHECKED BY: | RB |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

SITE DETAILS

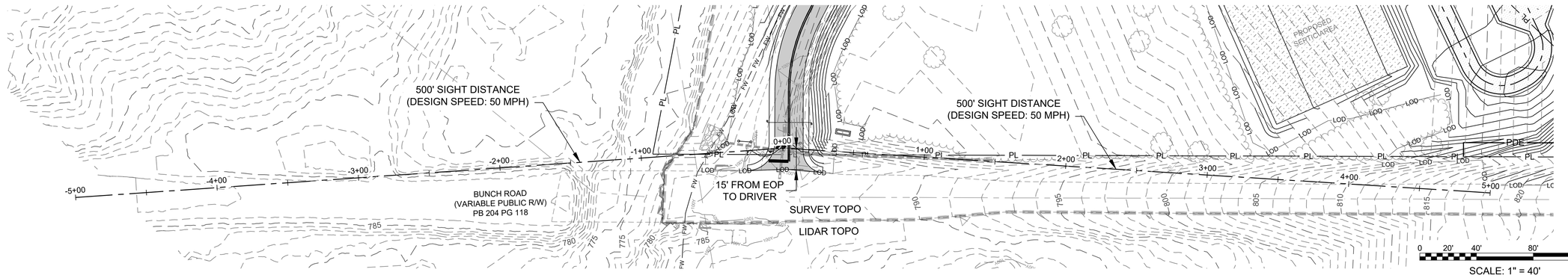
SHEET NUMBER

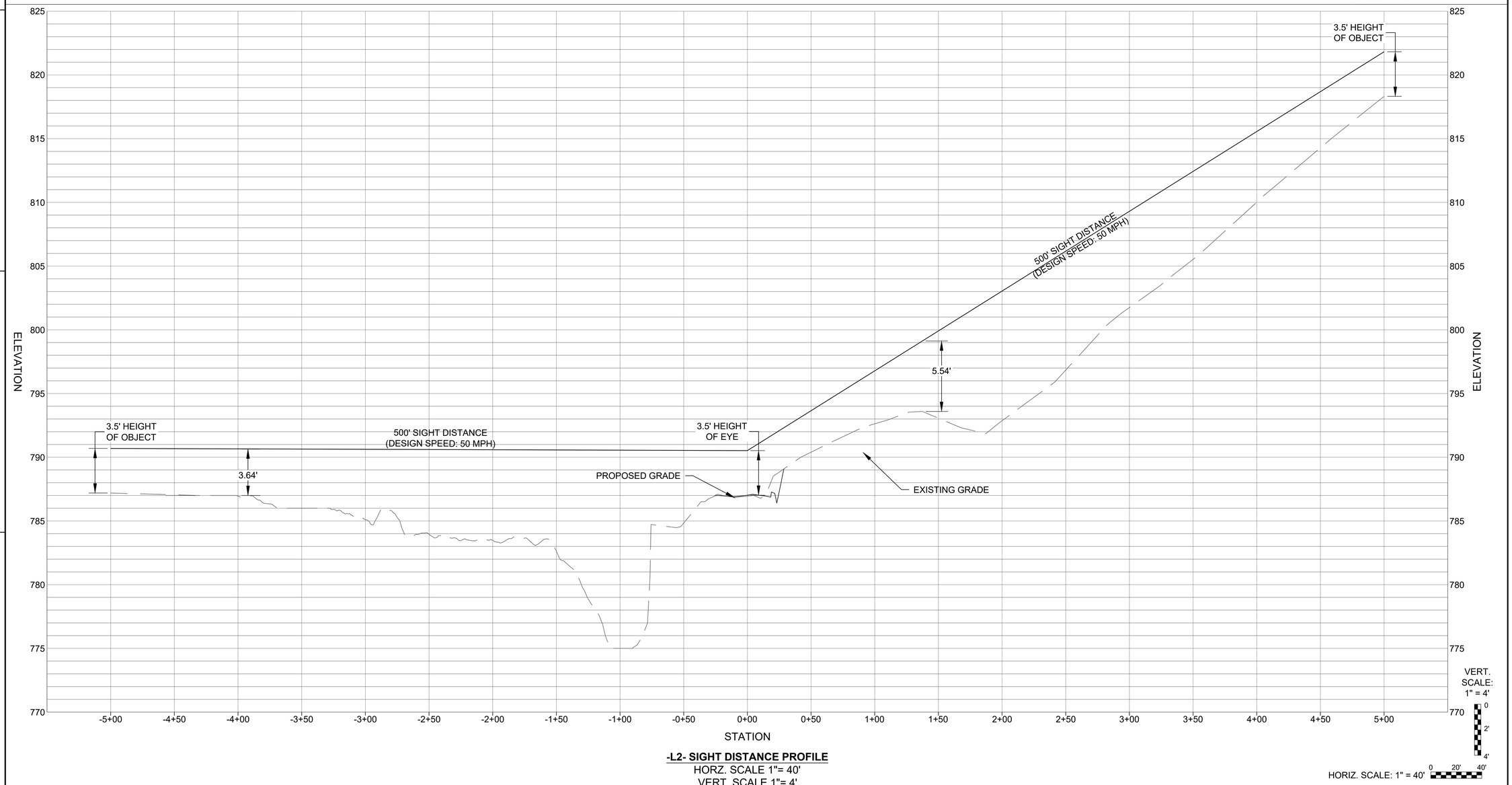
C-506

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION




**-L2- SIGHT DISTANCE PROFILE**
HORZ. SCALE 1"= 40'
VERT. SCALE 1"= 4'

BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL
10/9/2025

CLIENT INFORMATION
4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME
BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

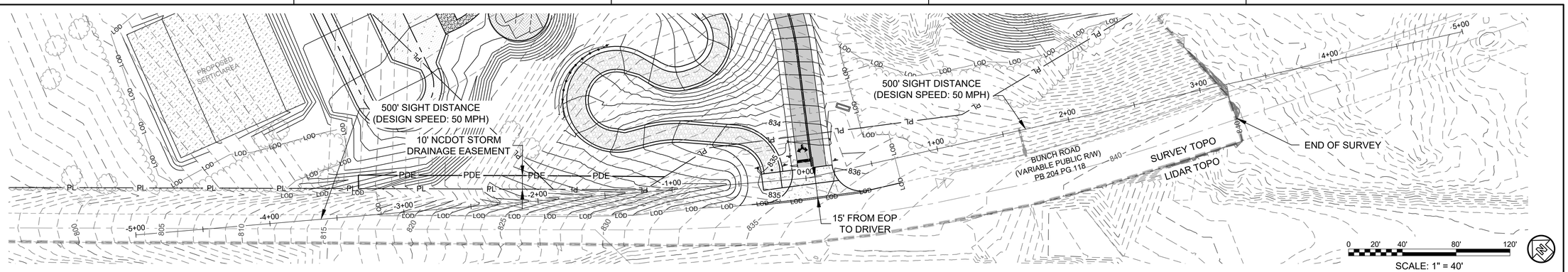
| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

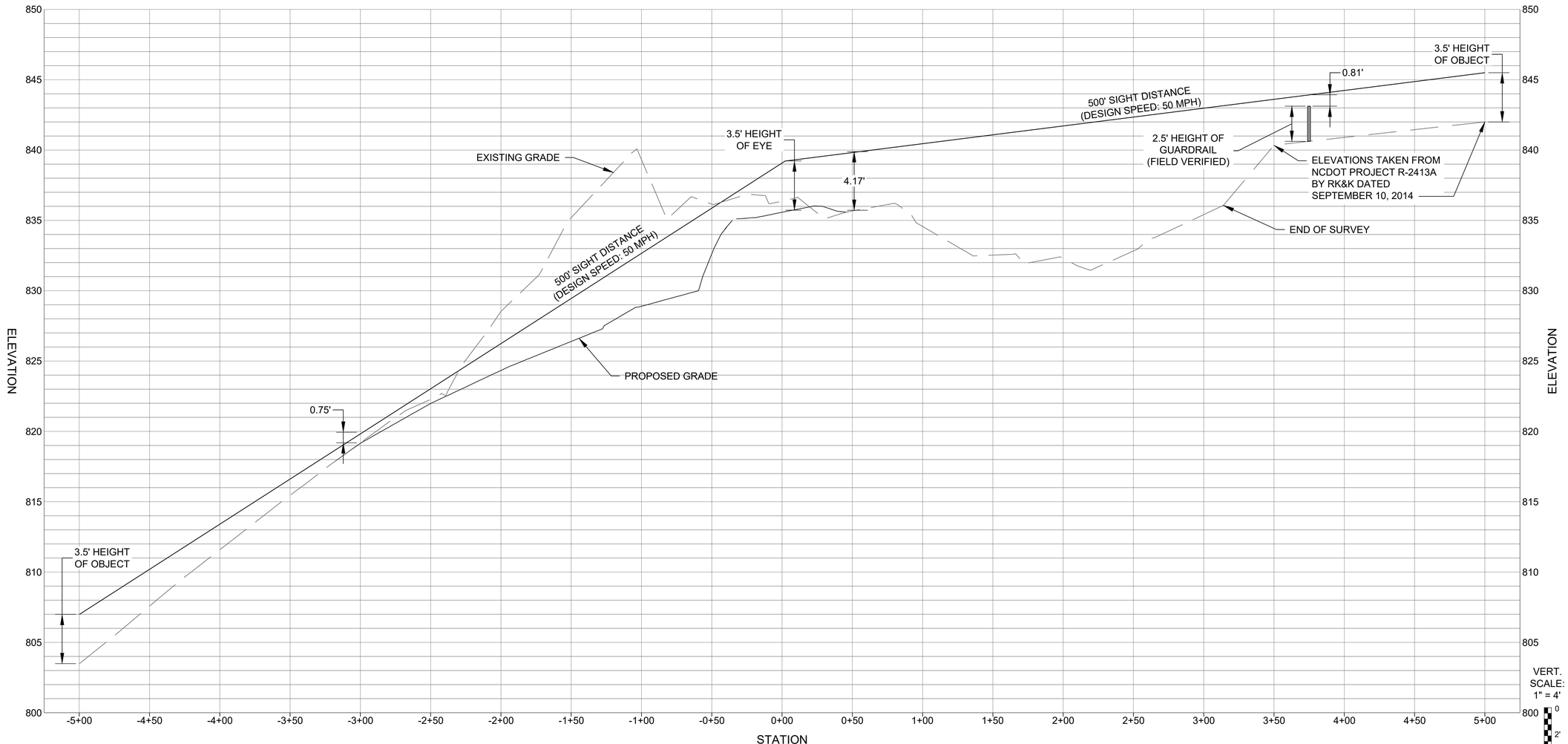
SHEET TITLE
-L2- DRIVEWAY SIGHT DISTANCE PLAN AND PROFILE

SHEET NUMBER
C-800

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\C-800.PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




**-L3- SIGHT DISTANCE PROFILE**
HORZ. SCALE 1"= 40'
VERT. SCALE 1"= 4'

BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

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5448 BUNCH RD
SUMMERFIELD, NC 27358

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| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

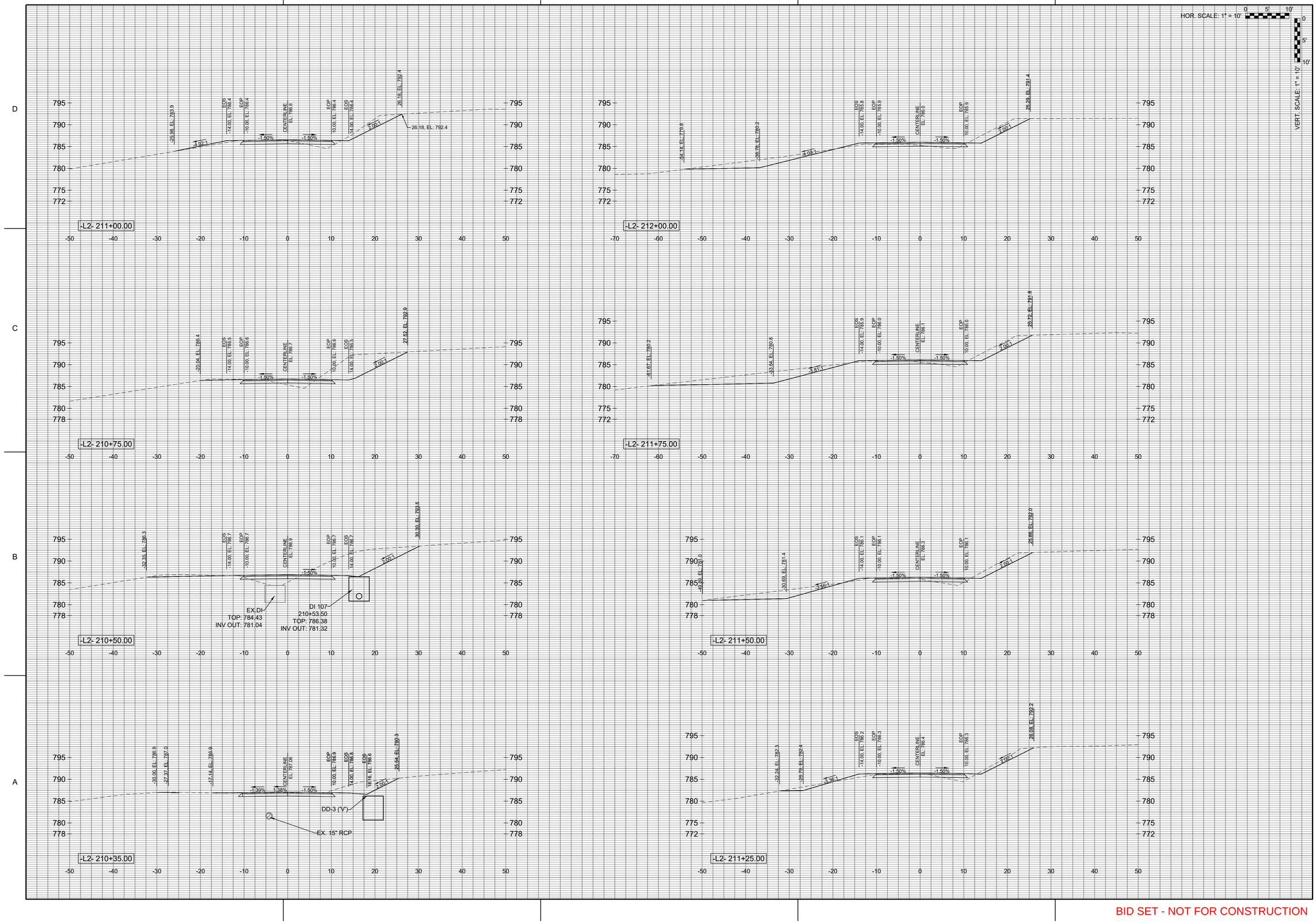
-L3- DRIVEWAY SIGHT DISTANCE PLAN AND PROFILE

SHEET NUMBER

C-801

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\C-800 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

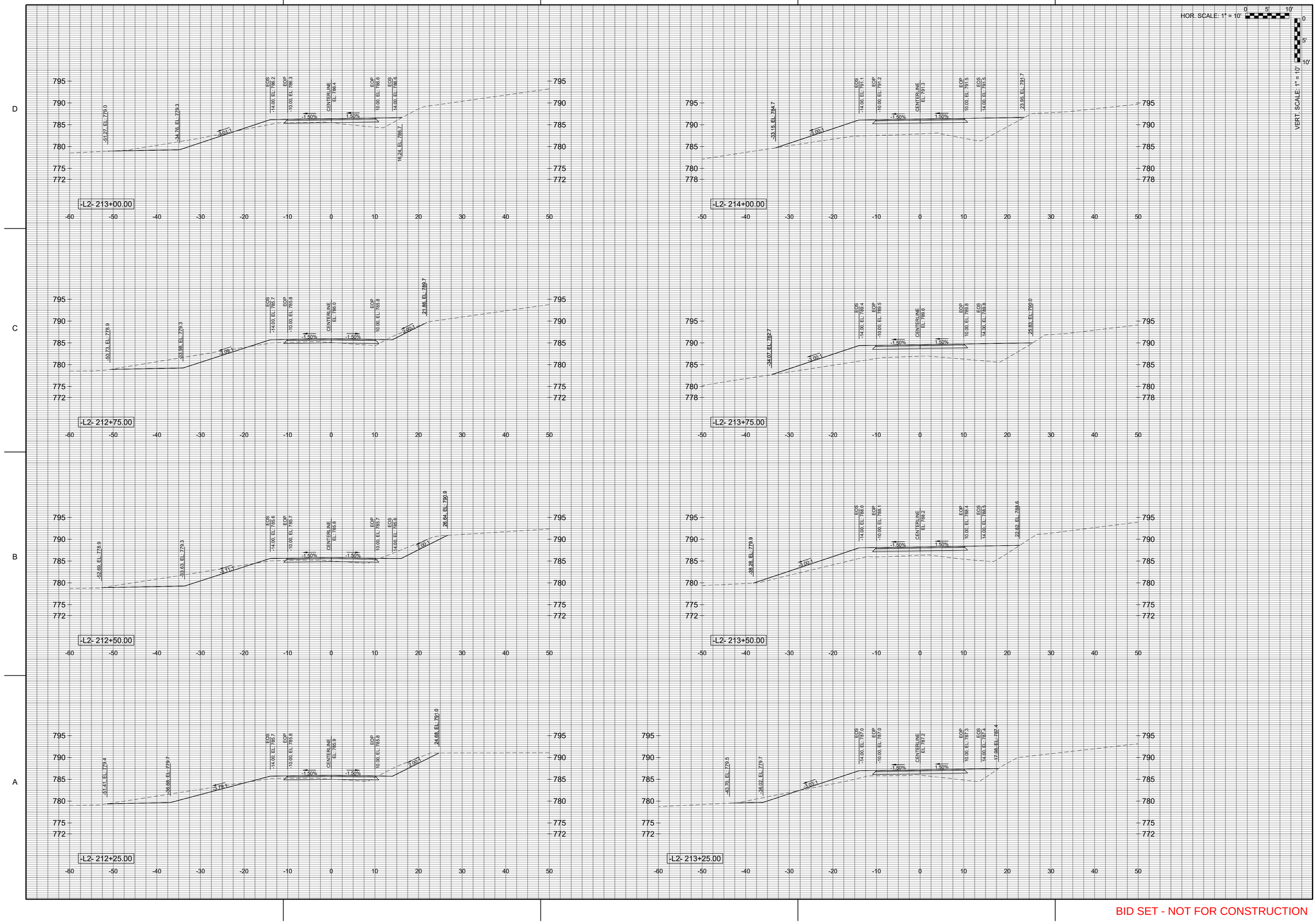
SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-601

ORIGINAL SHEET SIZE:
22" X 34"




FILE PATH: X:\FY23\1230863\07.CAD\CIVIL\CT600 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 JOSEPH M. MCKAY

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

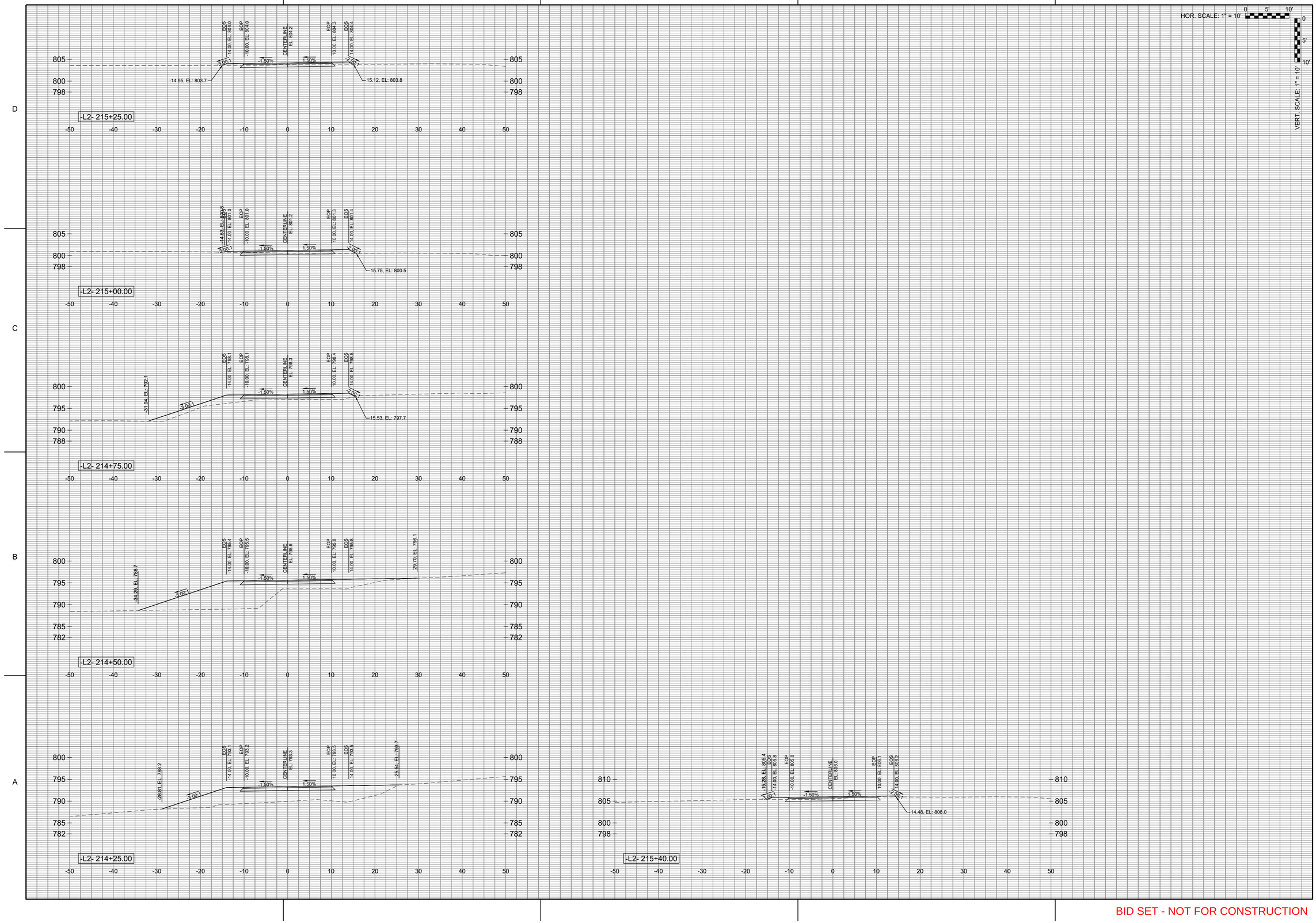
SHEET TITLE

CROSS SECTIONS

SHEET NUMBER

CT-602

ORIGINAL SHEET SIZE:
22" X 34"





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CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-603

ORIGINAL SHEET SIZE:
22" X 34"

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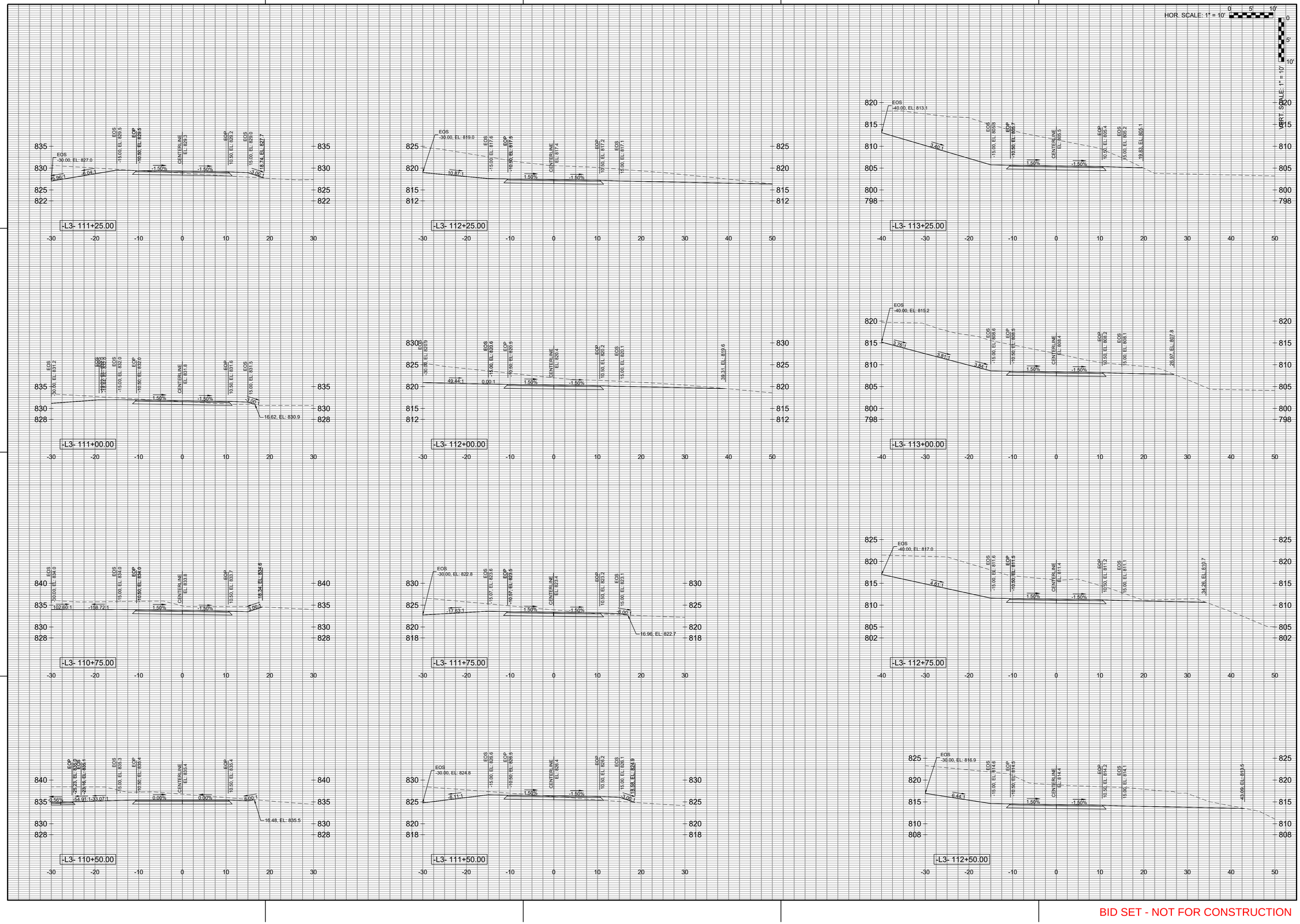


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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

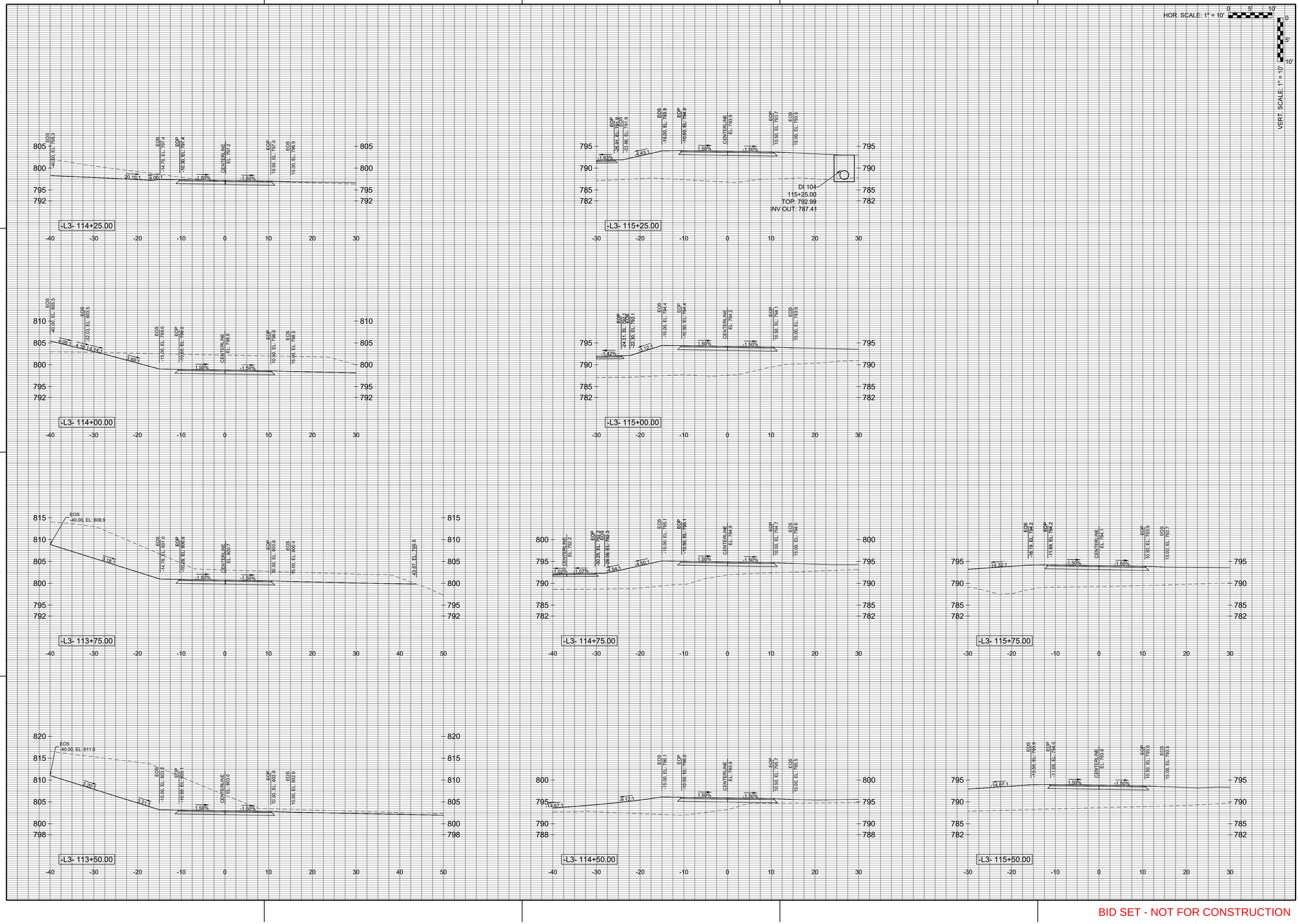
CROSS SECTIONS

SHEET NUMBER

CT-604

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT600 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 JOSEPH M. MCKEE
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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|---|---|---|

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| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

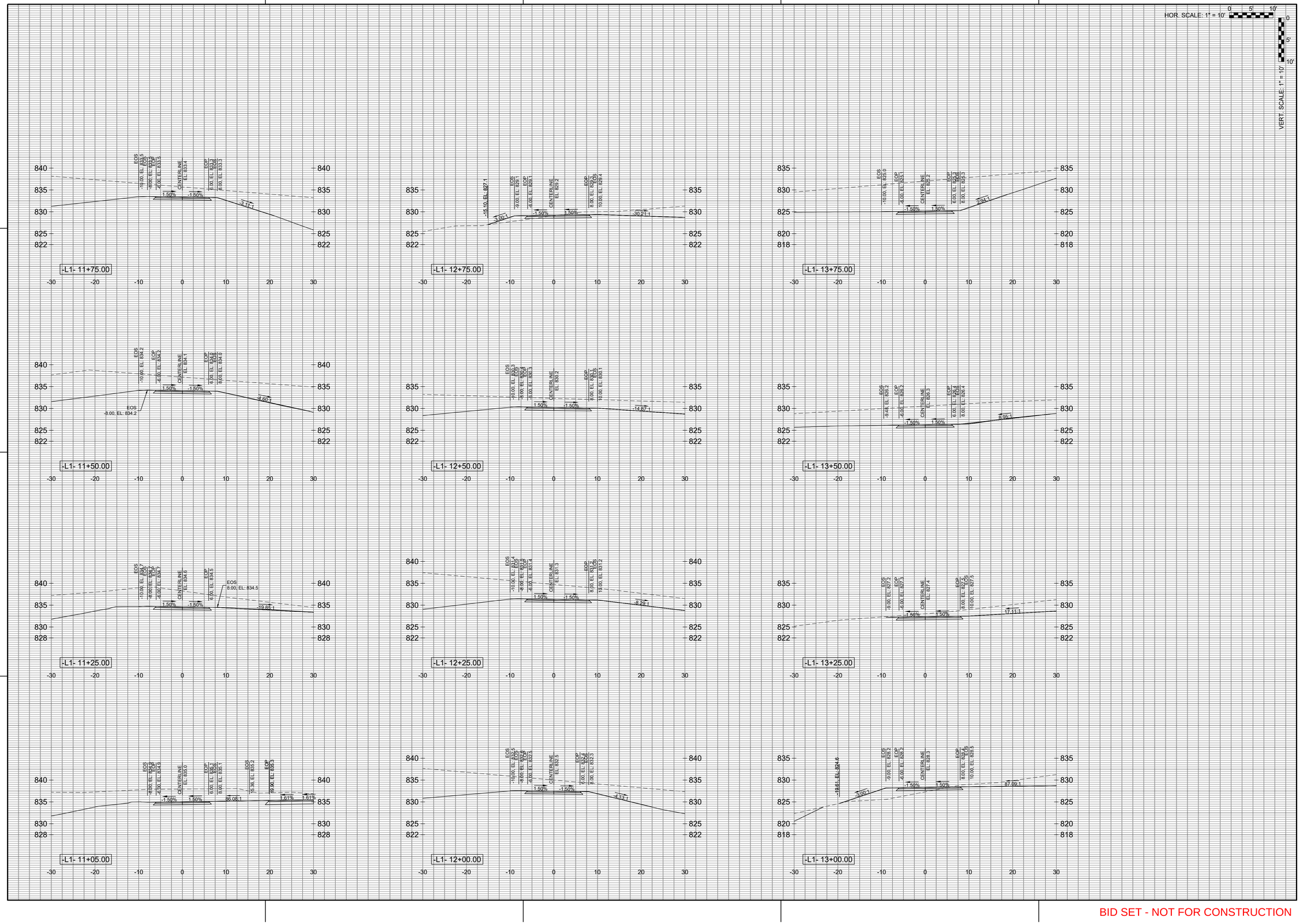
SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-605

ORIGINAL SHEET SIZE:
22" X 34"

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CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

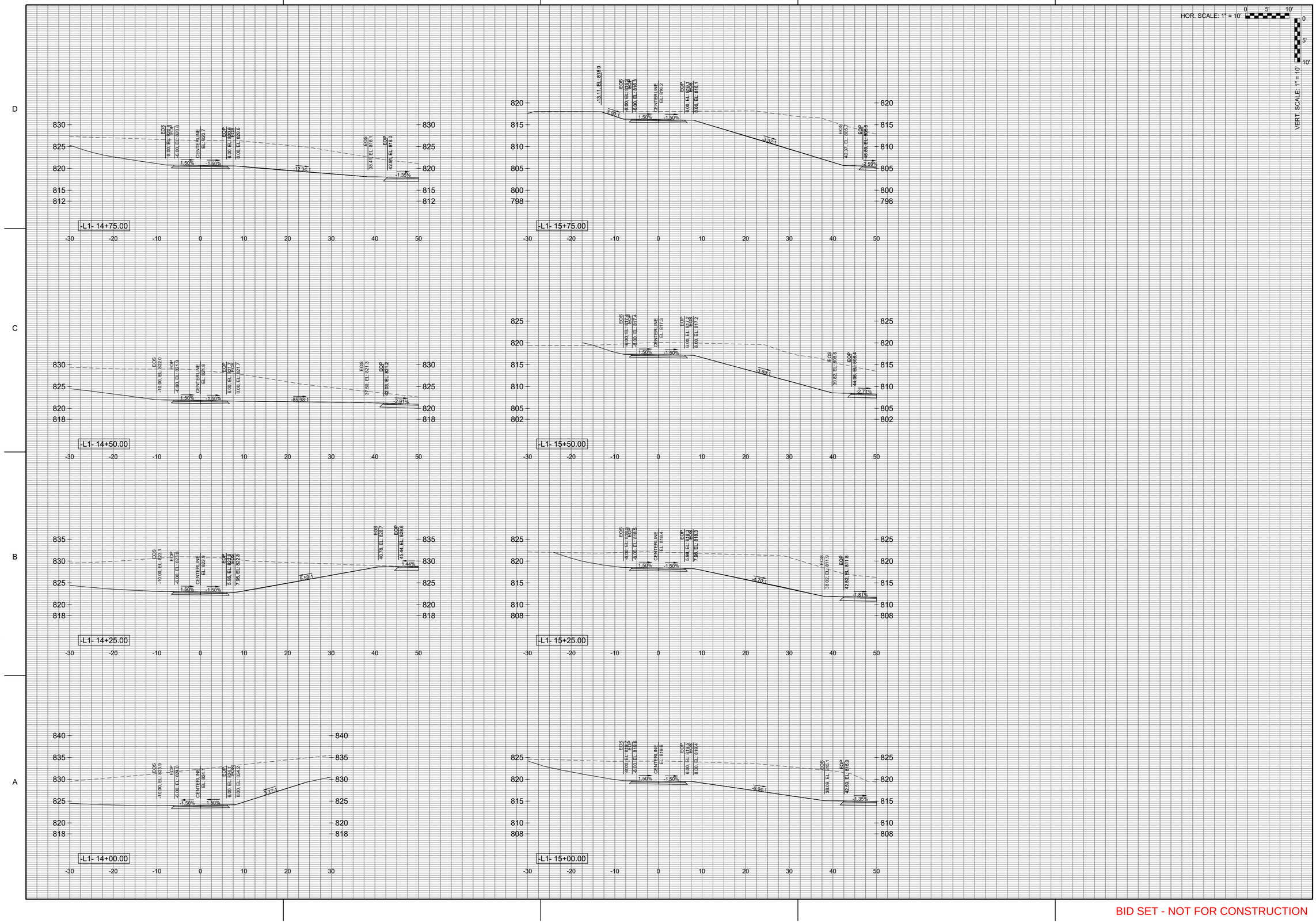
SHEET TITLE

CROSS SECTIONS

SHEET NUMBER

CT-606

ORIGINAL SHEET SIZE:
22" X 34"

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PROJECT NAME

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5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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|---|---|---|

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

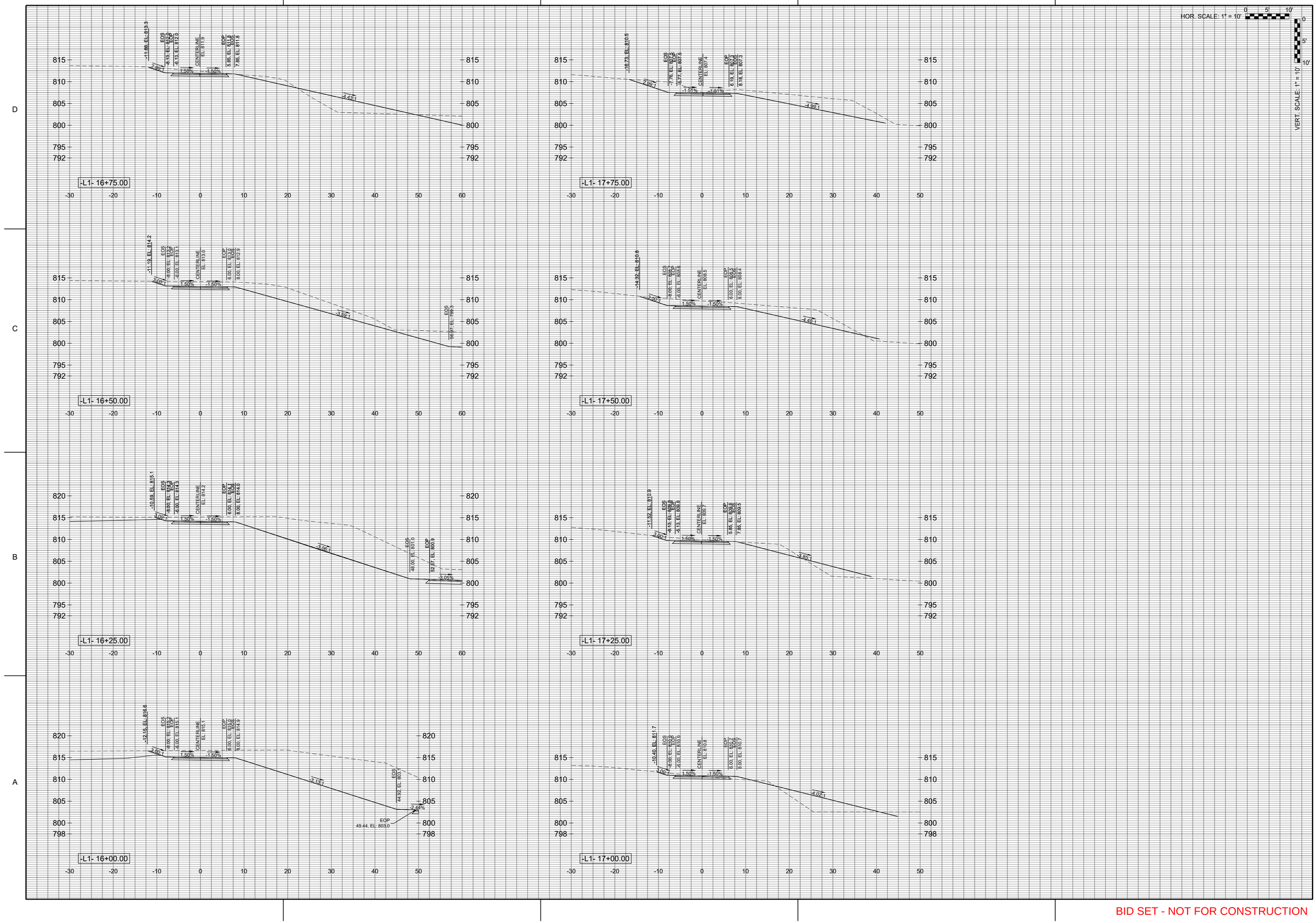
SHEET TITLE

CROSS SECTIONS

SHEET NUMBER

CT-607

ORIGINAL SHEET SIZE:
22" X 34"

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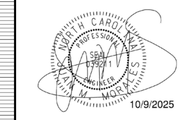


CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

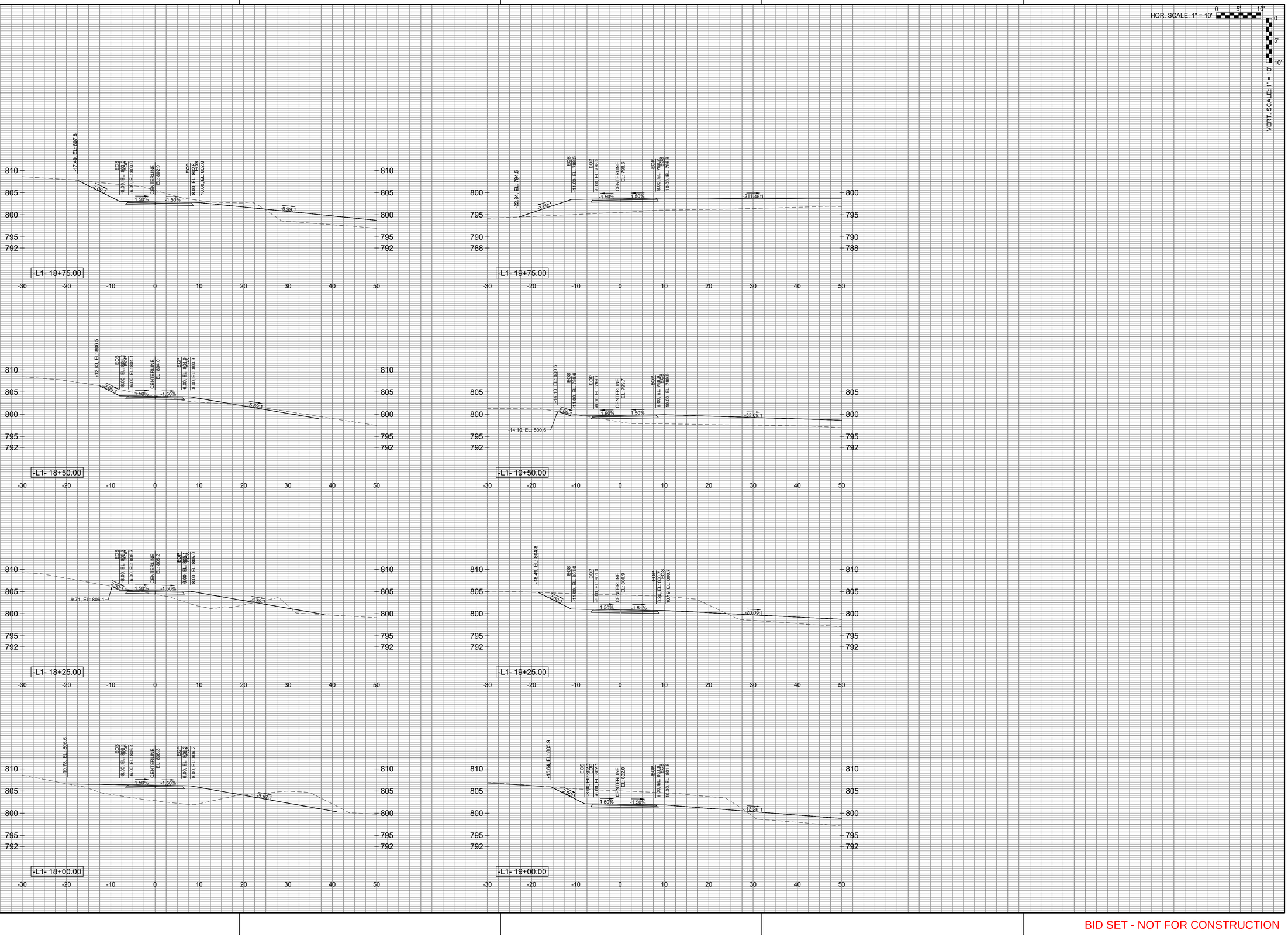
SHEET TITLE

CROSS SECTIONS

SHEET NUMBER

CT-608

ORIGINAL SHEET SIZE:
22" X 34"




FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT600 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047971 JAMES M. MCKAY

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

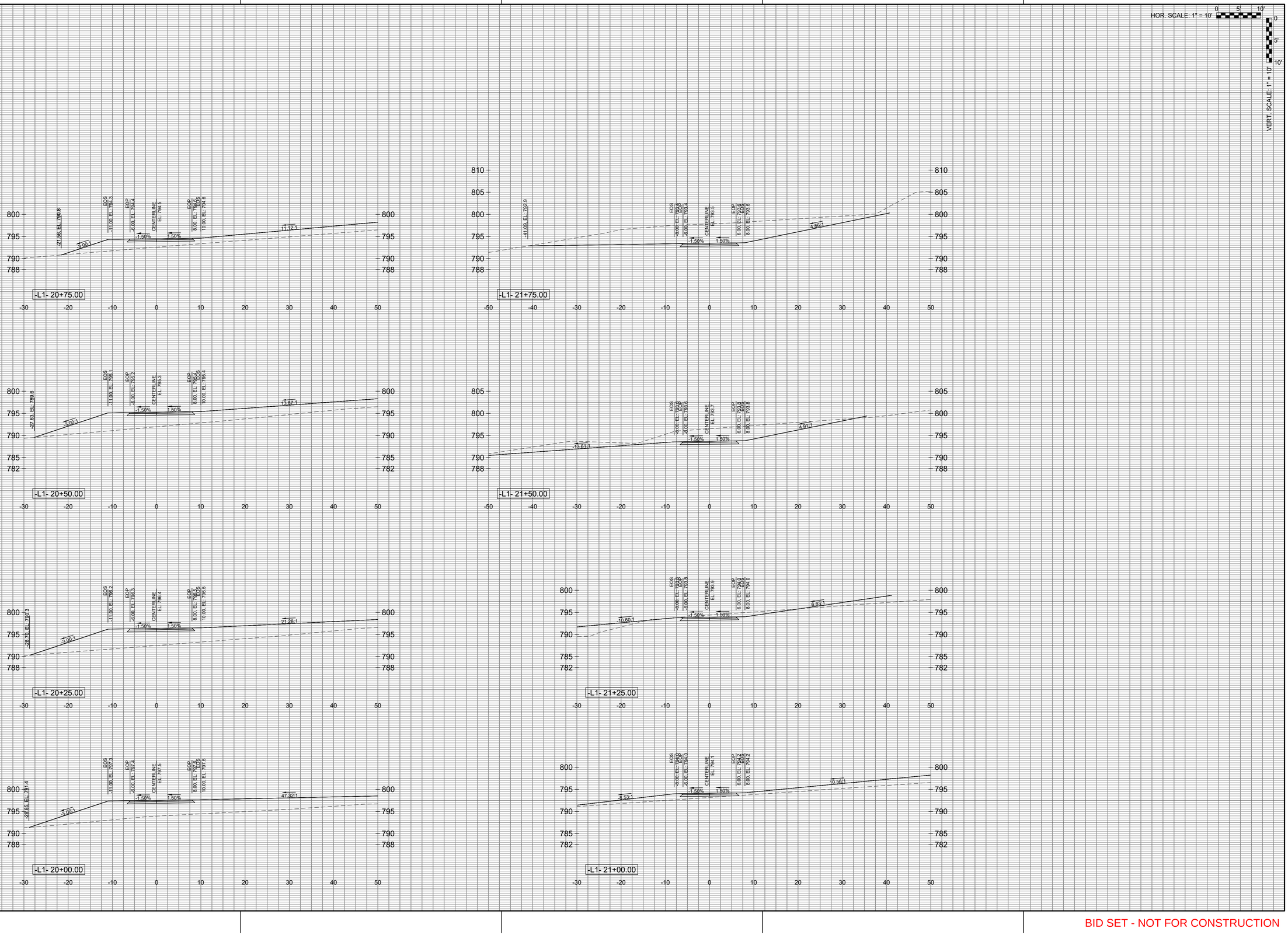
## CROSS SECTIONS

SHEET NUMBER

# CT-609

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

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10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-610

ORIGINAL SHEET SIZE:
22" X 34"

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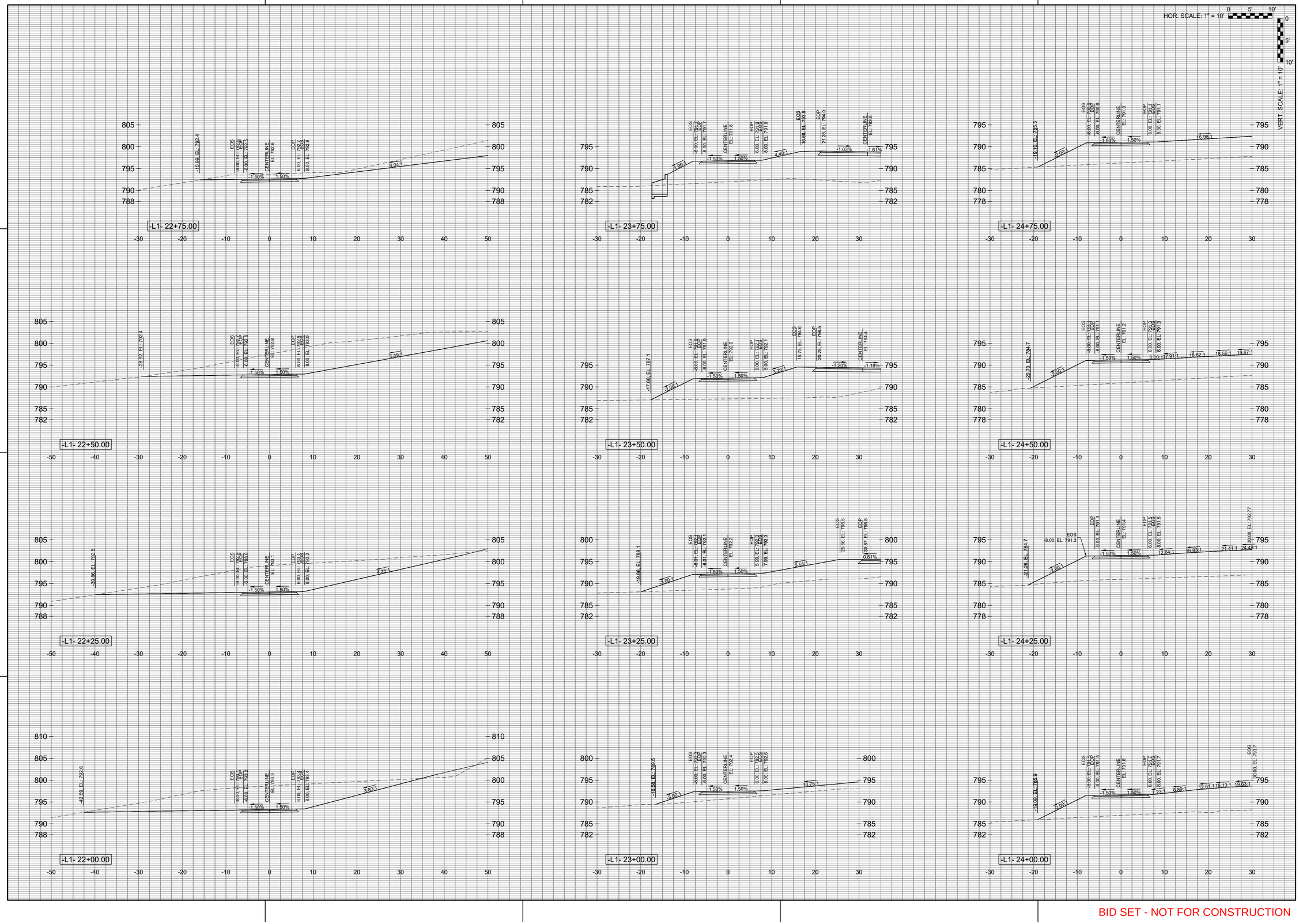
BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-611

ORIGINAL SHEET SIZE:
22" X 34"

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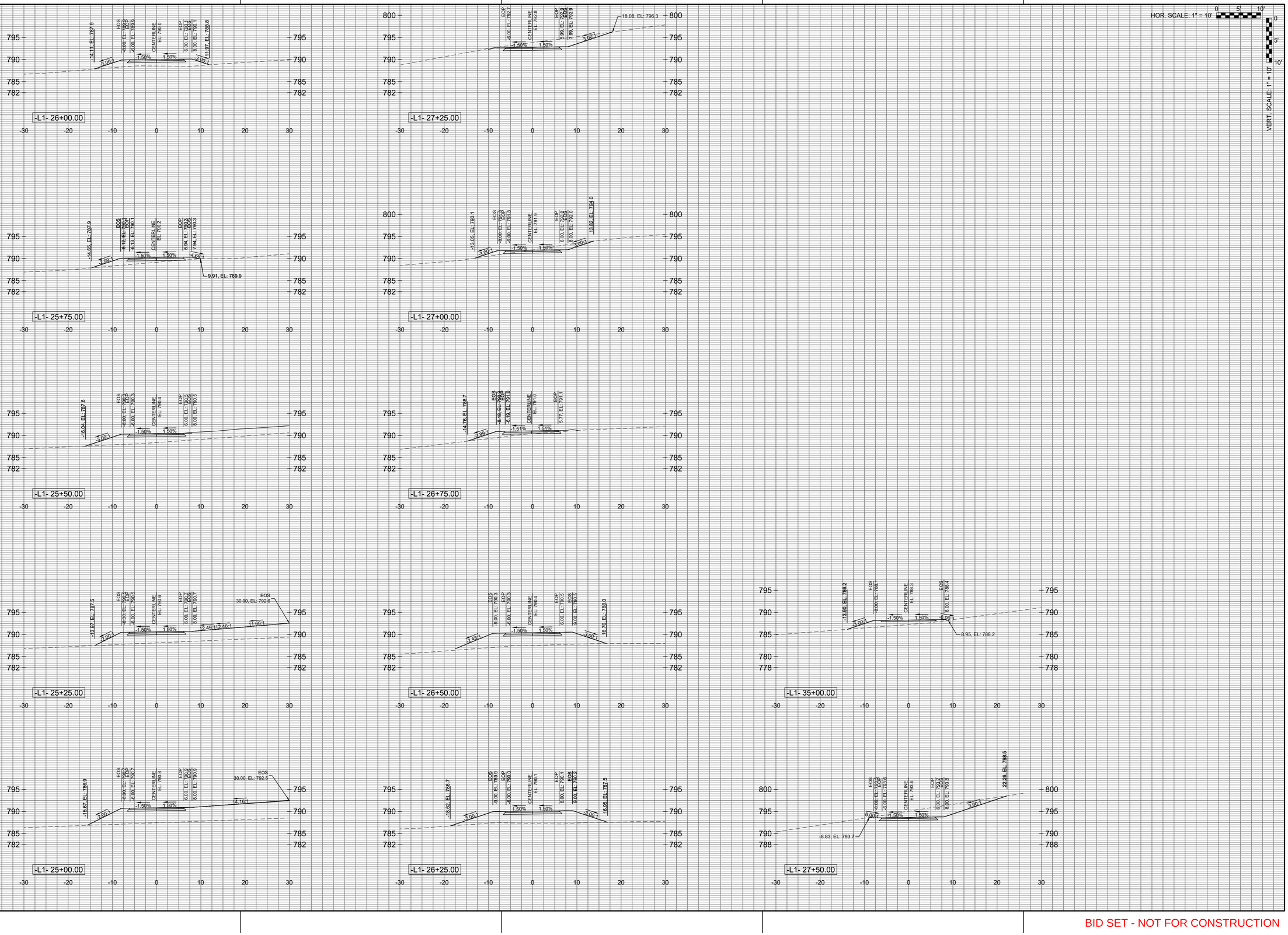


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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 MICHAEL LEE MOORE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-612

ORIGINAL SHEET SIZE:
22" X 34"

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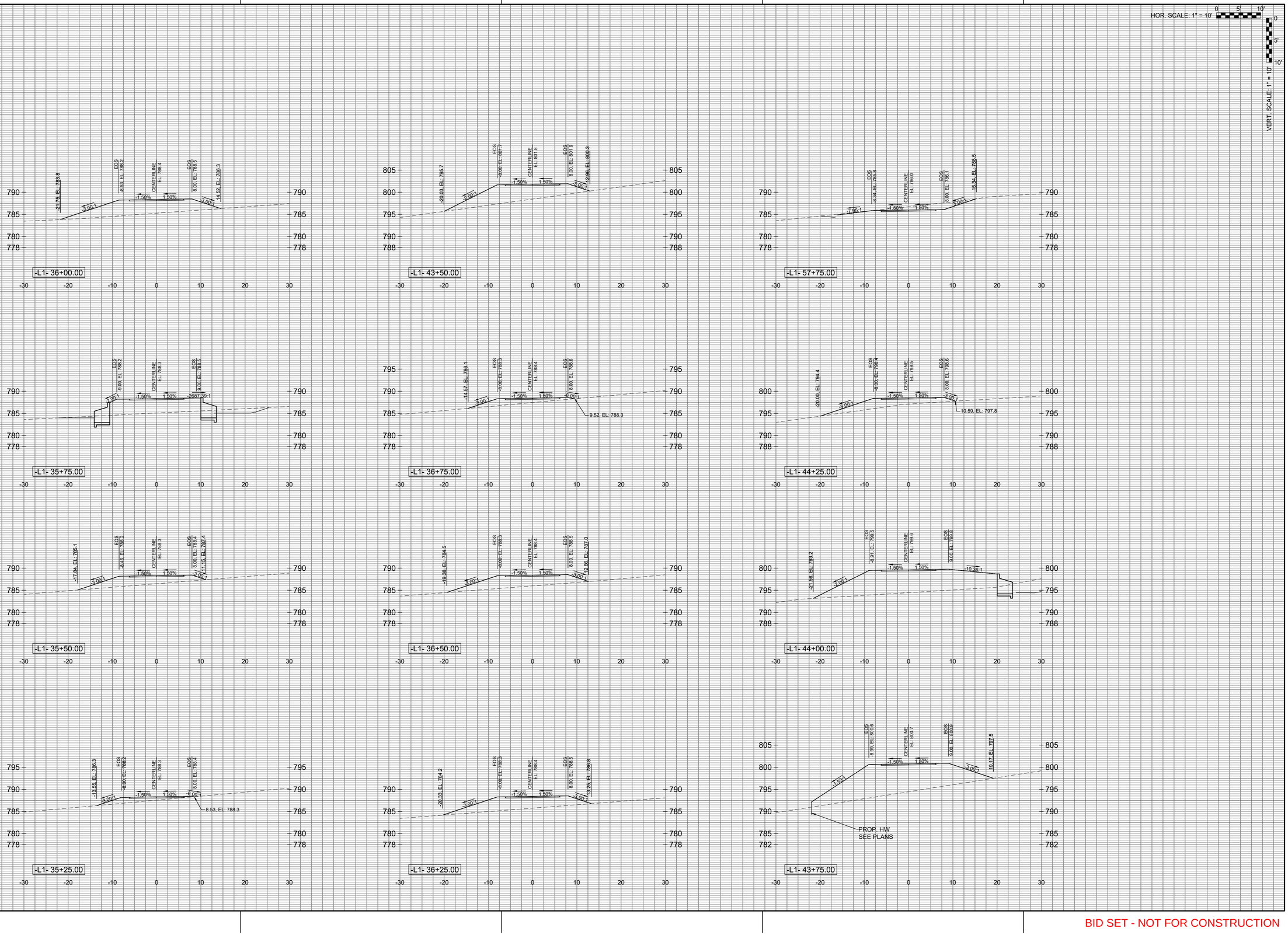
BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047771 JOSEPH M. MCKAY
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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|---|---|---|

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

CROSS SECTIONS

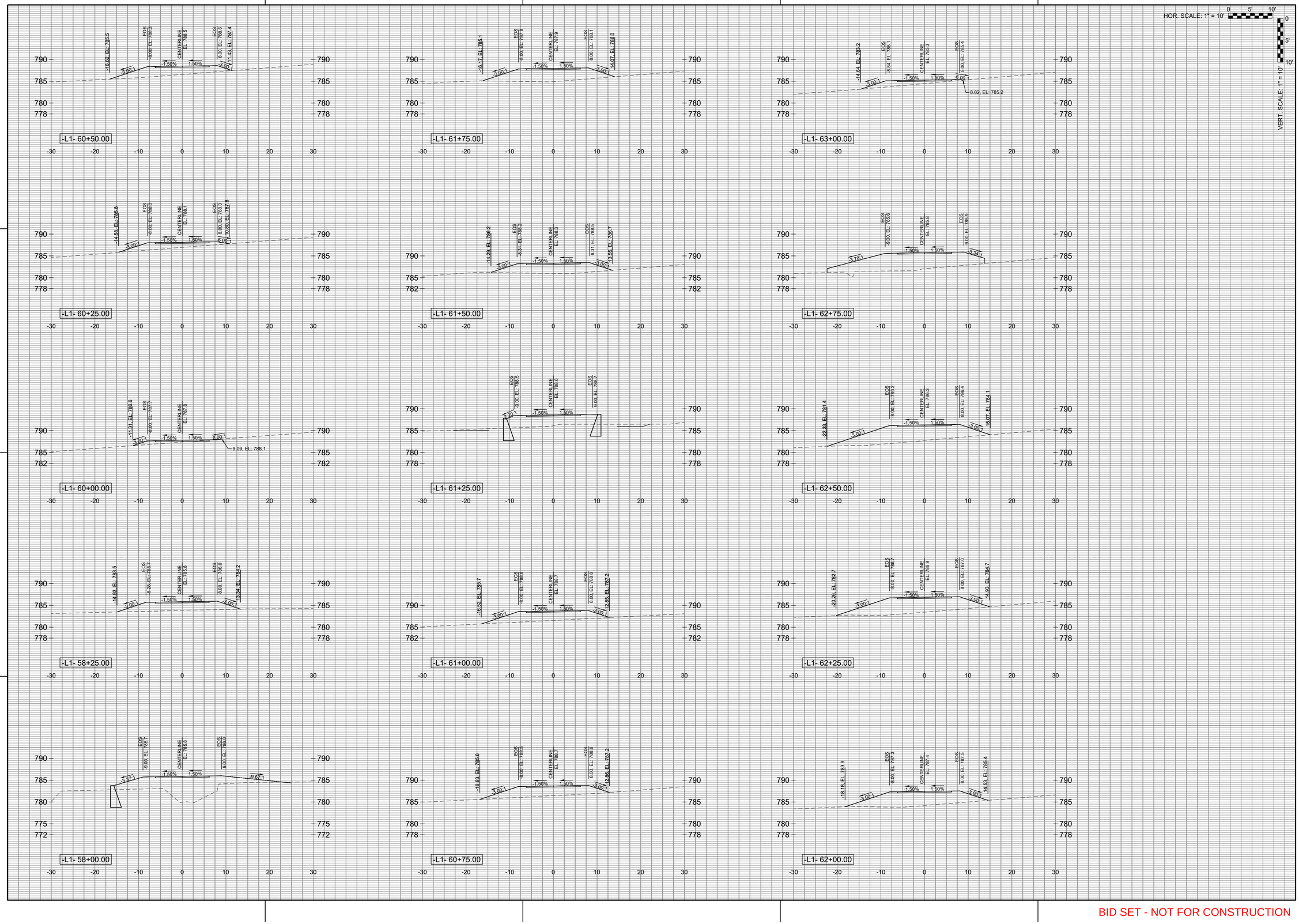
SHEET NUMBER

CT-613

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CT600 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 JOSEPH M. MCKEE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

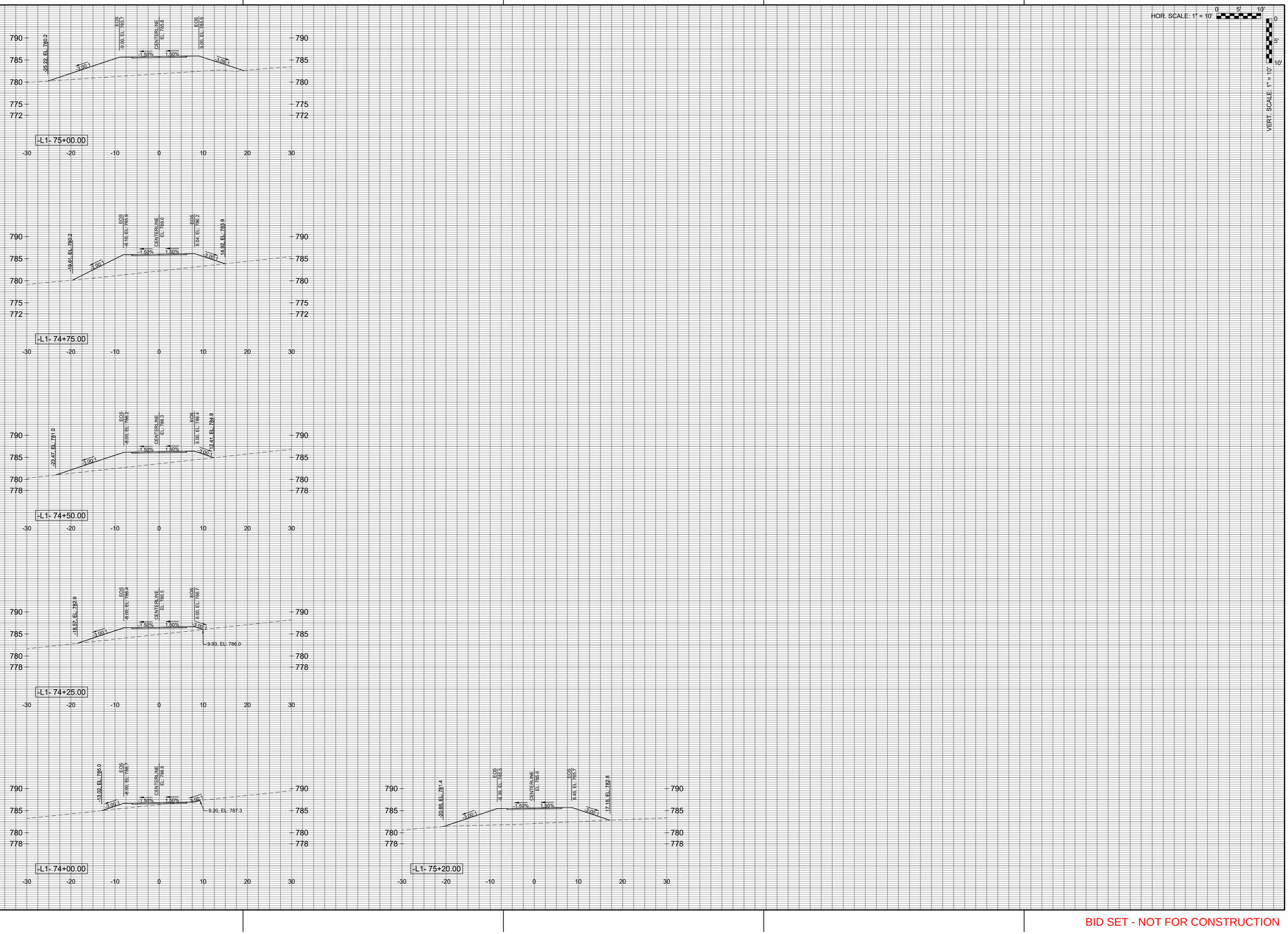
SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-614

ORIGINAL SHEET SIZE:
22" X 34"

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049771 JOSEPH M. MCKAY

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

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|---|---|
| DESIGNED BY: | JM |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## CROSS SECTIONS

SHEET NUMBER

# CT-615

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

# GENERAL SHEET NOTES

1. REFER TO SHEET C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. NO GRADED SLOPE SHALL EXCEED 2H:1V.

# LEGEND

- PROP. STORM PIPE RCP UNLESS OTHERWISE NOTED.
- PROP. CONCRETE ENDWALL
- PROP. CONCRETE DROP INLET
- PROP. CONCRETE ENDWALL
- PROP. RIP RAP APRON
- 000 — EXISTING CONTOUR
- 000 — FINAL CONTOUR
- LOD — LIMITS OF DISTURBANCE

NOW OR FORMERLY
MALINDA LOU MCCUISTON
PARCEL: 217204
DB 7075 PG 345

NOW OR FORMERLY
TOWN OF SUMMERFIELD
PARCEL: 149515
DB 8636 PG 1010

NOW OR FORMERLY
TOWN OF SUMMERFIELD
PARCEL: 149332
DB 8636 PG 1010
PB 204 PG 118
115.89 AC +/-

REEDY FORK CREEK
(WS-III, NSW)

FEMA FLOODWAY

100 YEAR FLOOD PLAIN

CG-101 CG-102 CG-103 CG-104 CG-105 CG-106

INTERSTATE 73 (I-73)
(VARIABLE PUBLIC R/W)
PB 204 PG 118

BUNCH ROAD
(VARIABLE PUBLIC R/W)
PB 204 PG 118

0 50' 100' 200' 300'
SCALE: 1" = 100'

Know what's below. Call before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053271 JAMES M. MORRIS
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

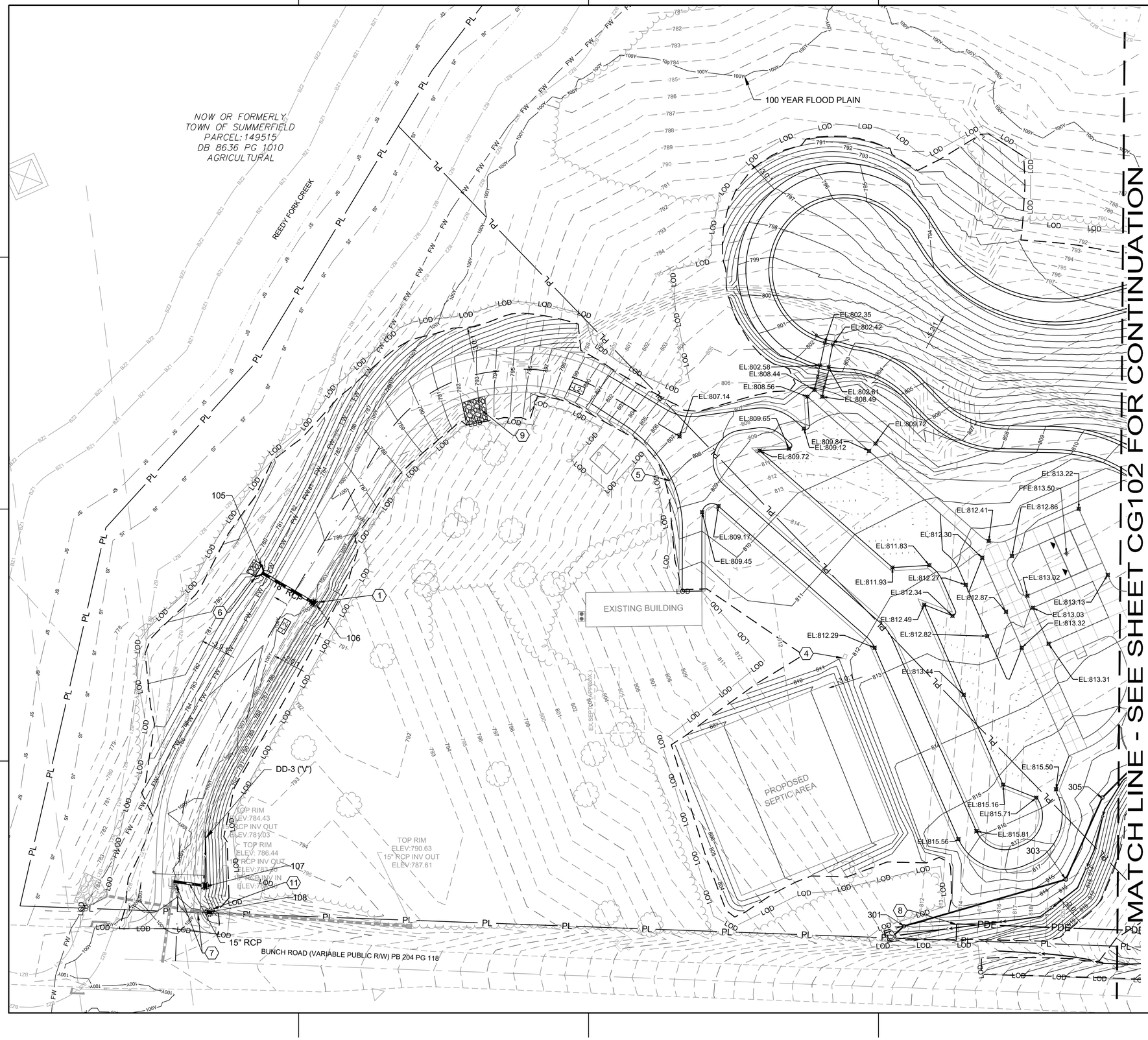
SHEET TITLE

GRADING AND DRAINAGE PLAN - OVERALL

SHEET NUMBER

CG-100

ORIGINAL SHEET SIZE:
22" X 34"




# GENERAL SHEET NOTES

1. REFER TO SHEET C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. NO GRADED SLOPE SHALL EXCEED 2H:1V.

# SHEET KEYNOTES

1. PROP. CONCRETE DROP INLET - NCDOT STD 840.35.
2. PROP. CONCRETE ENDWALL - NCDOT STD 838.01.
3. PROP. STORMWATER REINFORCE CONCRETE PIPE.
4. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
5. PROP. WATER WELL.
6. PROP. CONCRETE ENDWALL - NCDOT STD 838.80
7. REPLACE EXISTING STORM STRUCTURE WITH TRAFFIC BEARING JUNCTION BOX - NCDOT STD 840.34 AND BRING TO FINISHED GRADE.
8. 10' NCDOT STORM DRAINAGE EASEMENT
9. GRAVEL BLANKET TREE PROTECTION. SEE DETAIL C1/CE506.
10. REPLACE EXISTING STORM STRUCTURE AND FRAME WITH TRAFFIC BEARING DROP INLET - NCDOT STD 840.35 AND BRING TO FINISHED GRADE.
11. PROP. CONCRETE DROP INLET - NCDOT STD 840.14

# LEGEND

- PROP. STORM PIPE RCP UNLESS OTHERWISE NOTED.
- PROP. CONCRETE ENDWALL
- PROP. CONCRETE DROP INLET
- PROP. CONCRETE ENDWALL
- PROP. RIP RAP APRON
- 000 — EXISTING CONTOUR
- 000 — FINAL CONTOUR
- LOD — LIMITS OF DISTURBANCE

SCALE: 1" = 30'

Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049711 JOSHUA M. MARKLE
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

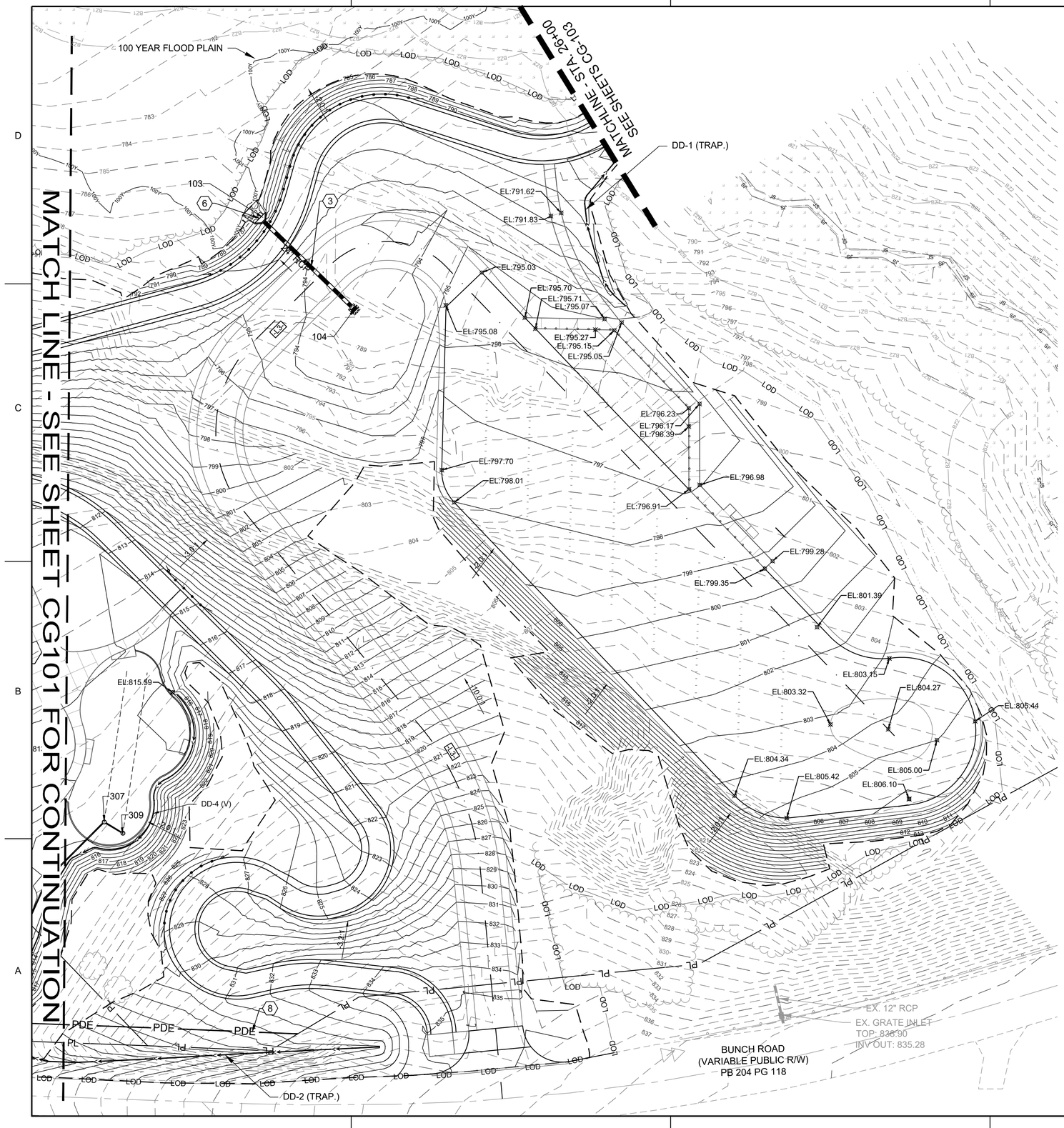
GRADING AND DRAINAGE PLAN

SHEET NUMBER

CG-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CG101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




# GENERAL SHEET NOTES

1. REFER TO SHEET C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. NO GRADED SLOPE SHALL EXCEED 2H:1V.

# SHEET KEYNOTES

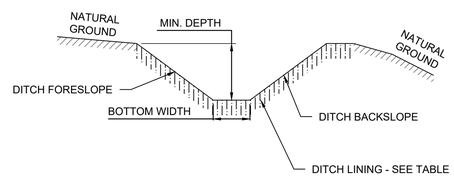
1. PROP. CONCRETE DROP INLET - REFER TO NCDOT STD 840.14.
2. PROP. CONCRETE ENDWALL - REFER TO NCDOT STD 838.01.
3. PROP. STORMWATER REINFORCE CONCRETE PIPE.
6. PROP. CONCRETE ENDWALL - REFER TO NCDOT STD 838.80
8. 10' NCDOT STORM DRAINAGE EASEMENT

# LEGEND

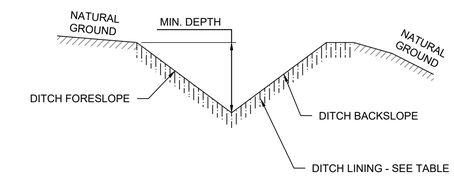
- PROP. STORM PIPE RCP UNLESS OTHERWISE NOTED.
- PROP. CONCRETE ENDWALL
- PROP. CONCRETE DROP INLET
- PROP. CONCRETE ENDWALL
- PROP. RIP RAP APRON
- 000 — EXISTING CONTOUR
- 000 — FINAL CONTOUR
- LOD — LIMITS OF DISTURBANCE

**PERMANENT DITCH TYPICAL SECTIONS**

| DITCH # | TYPE | FORESLOPE | BACKSLOPE | MIN. DEPTH (FT) | BOTTOM WIDTH (FT) | TYPE OF PERMANENT LINING | TYPE OF EROSION CONTROL LINING | MATTING FOR EROSION CONTROL (SY) |
|---|---|---|---|---|---|---|---|---|
| 1 | TRAPEZOIDAL | 3:1 | 2:1 | 1.25 | 2.00 | GRASS | BLANKET - DOUBLENET | 190 |
| 2 | TRAPEZOIDAL | 4:1 | 3:1 | 1.50 | 2.00 | GRASS | BLANKET - DOUBLENET | 748 |
| 3 | 'V' | 3:1 | 2:1 | 0.75 | - | GRASS | BLANKET - DOUBLENET | 45 |
| 4 | 'V' | 3:1 | 2:1 | 0.50 | - | GRASS | BLANKET - DOUBLENET | 596 |




**TRAPEZOIDAL DITCH DETAIL**




**'V' DITCH DETAIL**

SCALE: 1" = 30'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049071 JOSEPH M. MCKNIGHT
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

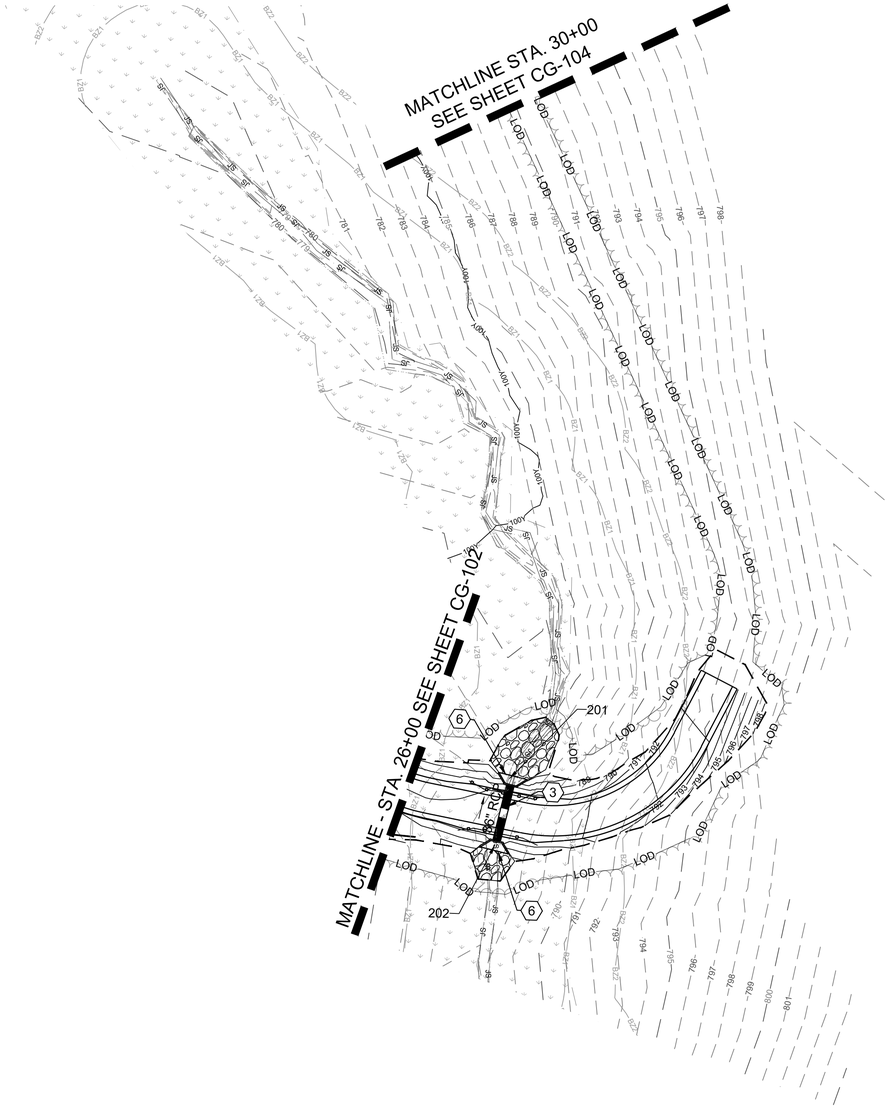
GRADING AND DRAINAGE PLAN

SHEET NUMBER

CG-102

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CG101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## SHEET KEYNOTES

3. PROP. STORMWATER REINFORCE CONCRETE PIPE.
6. PROP. CONCRETE ENDWALL - NCDOT STD 838.80

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049477 JOSEPH T. MORALES
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

CG-103

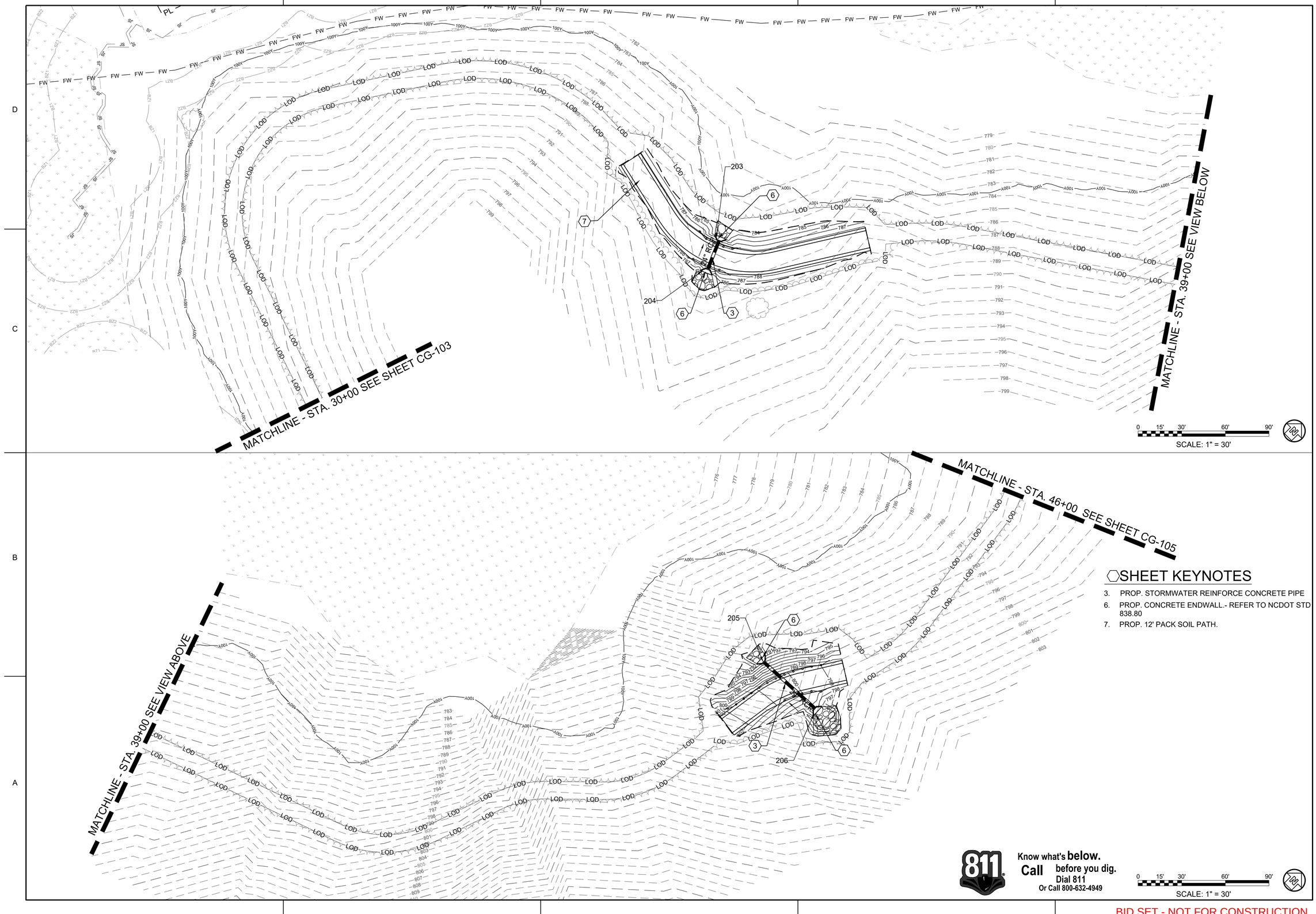
ORIGINAL SHEET SIZE: 22" X 34"

811 Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

0 15' 30' 60' 90'
SCALE: 1" = 30'

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CADD\CIVIL\CG101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## SHEET KEYNOTES

3. PROP. STORMWATER REINFORCE CONCRETE PIPE
6. PROP. CONCRETE ENDWALL.- REFER TO NCDOT STD 838.80
7. PROP. 12' PACK SOIL PATH.

Know what's **below.**
**Call** before you dig.
Dial 811
Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049471 MICHAEL LEE WOLK REGISTERED

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## GRADING AND DRAINAGE PLAN

SHEET NUMBER

# CG-104

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CG101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

MATCHLINE - STA. 46+00 SEE SHEET CG-104

MATCHLINE - STA. 54+50 SEE VIEW BELOW

MATCHLINE - STA. 54+50 SEE VIEW ABOVE

MATCHLINE - STA. 62+25 SEE SHEET CG-106

0 15' 30' 60' 90'

SCALE: 1" = 30'

## SHEET KEYNOTES

2. PROP. CONCRETE ENDWALL - REFER TO NCDOT STD 838.01.
3. PROP. STORMWATER REINFORCE CONCRETE PIPE
7. PROP. 12' PACK SOIL PATH.

Know what's **below.**
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Or Call 800-632-4949

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047671 MICHAEL W. LIMING

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

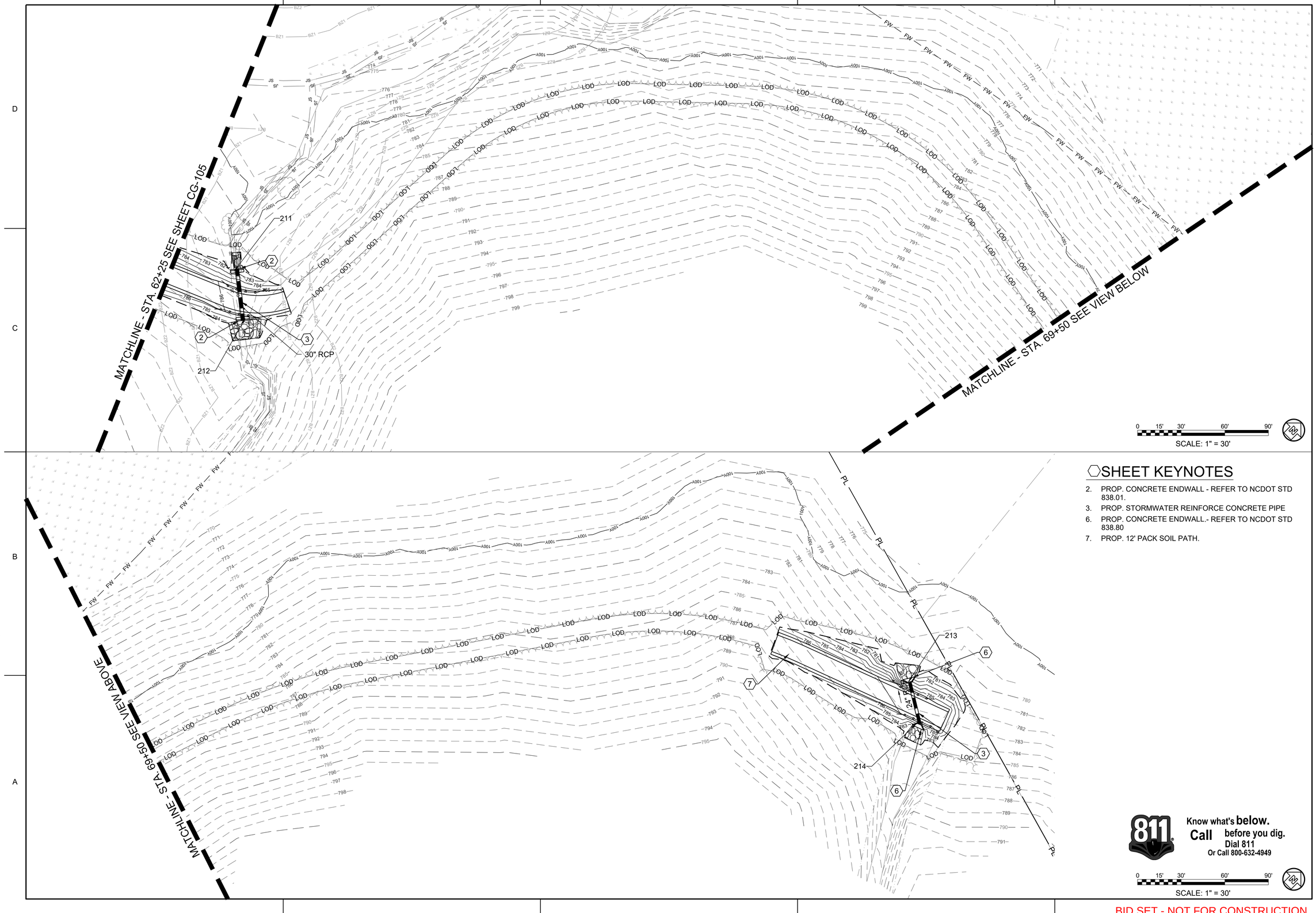
SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

CG-105

ORIGINAL SHEET SIZE:
22" X 34"




## SHEET KEYNOTES

2. PROP. CONCRETE ENDWALL - REFER TO NCDOT STD 838.01.
3. PROP. STORMWATER REINFORCE CONCRETE PIPE
6. PROP. CONCRETE ENDWALL.- REFER TO NCDOT STD 838.80
7. PROP. 12' PACK SOIL PATH.

Know what's **below.**
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Or Call 800-632-4949

SCALE: 1" = 30'

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049641 JOSEPH M. MCKEE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

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|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

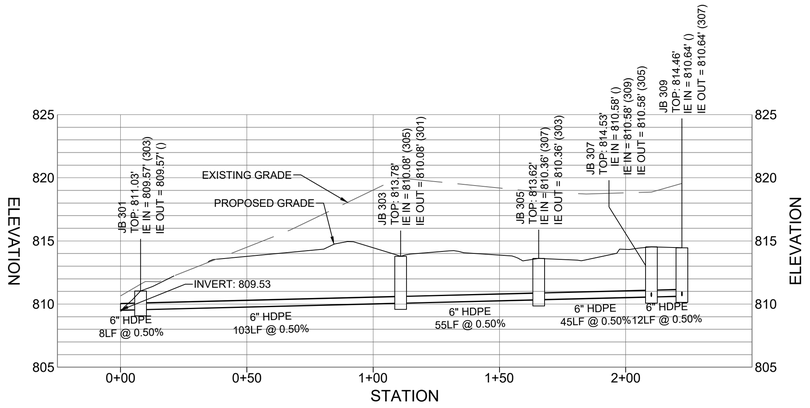
GRADING AND DRAINAGE PLAN

SHEET NUMBER

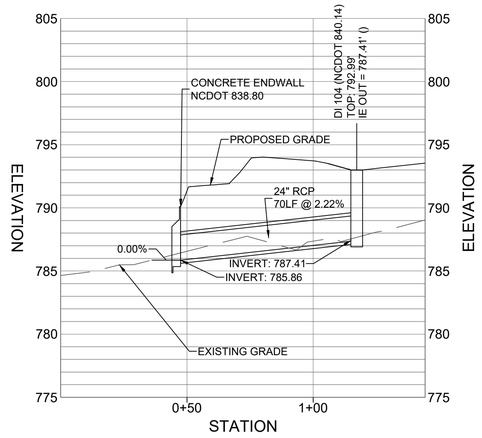
CG-106

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CG101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




**DRN 301 - 309 PROFILE**

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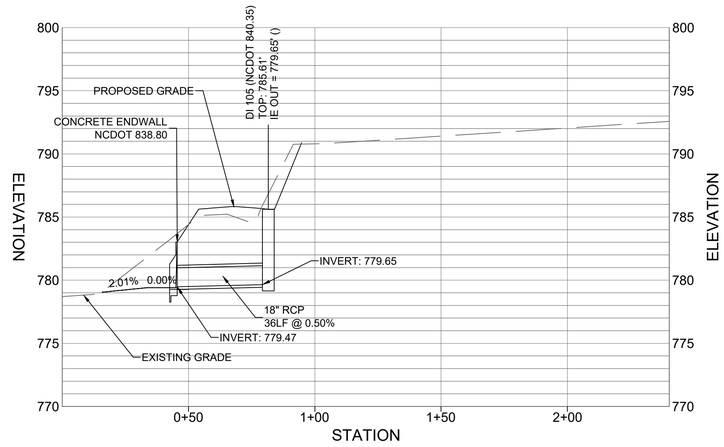


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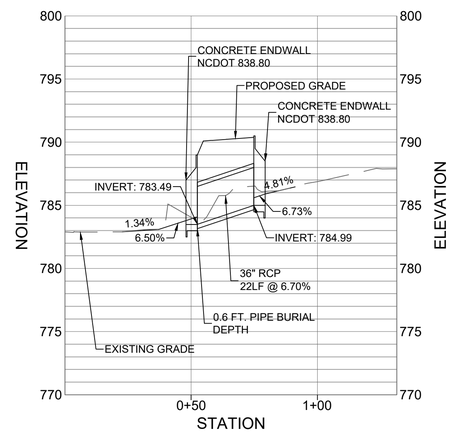
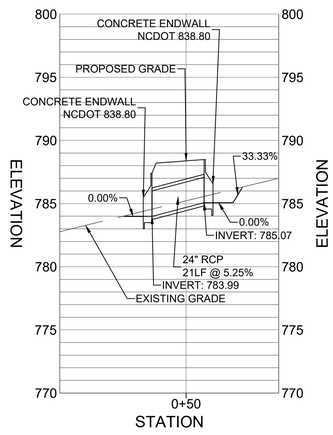
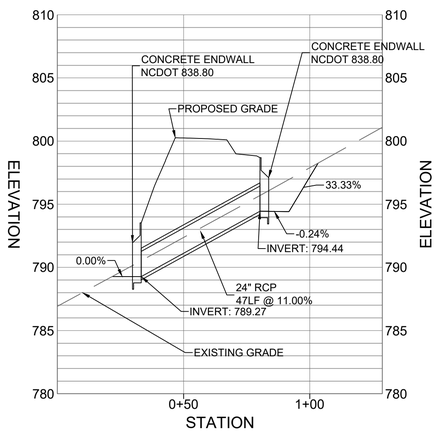


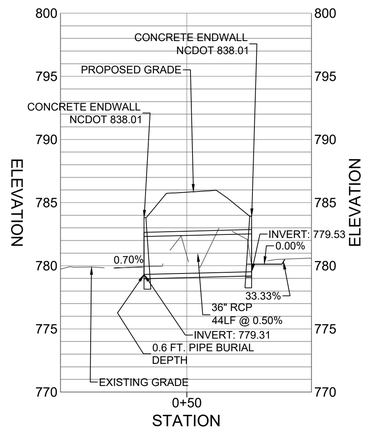

**DRN 201 to 202 PROFILE**



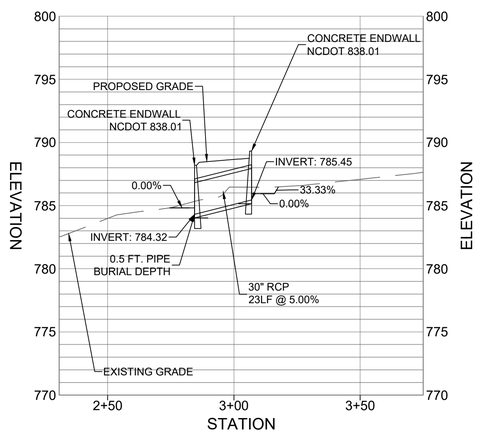

**DRN 203 to 204 PROFILE**



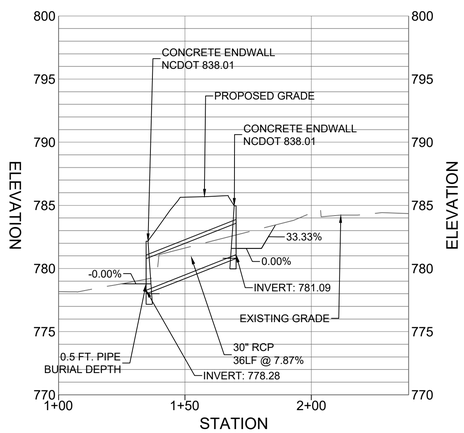

**DRN 205 to 206 PROFILE**



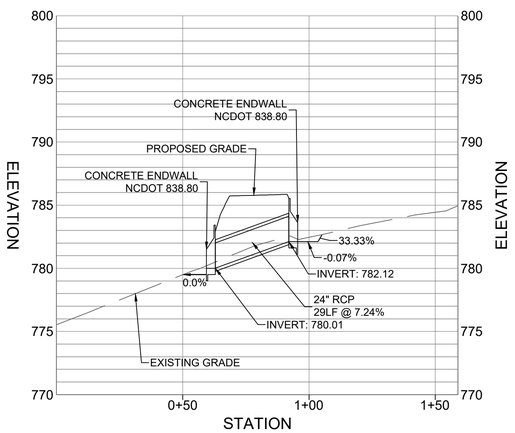

**DRN 207 to 208 PROFILE**



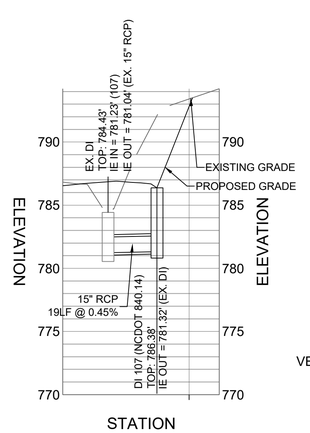

**DRN 209 to 210 PROFILE**




**DRN 211 to 212 PROFILE**




**DRN 213 to 214 PROFILE**




**DRN EX DI - 107 PROFILE**

VERT. SCALE: 1" = 6'

HORIZ. SCALE: 1" = 30'

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

DATE

DESCRIPTION

MARK

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

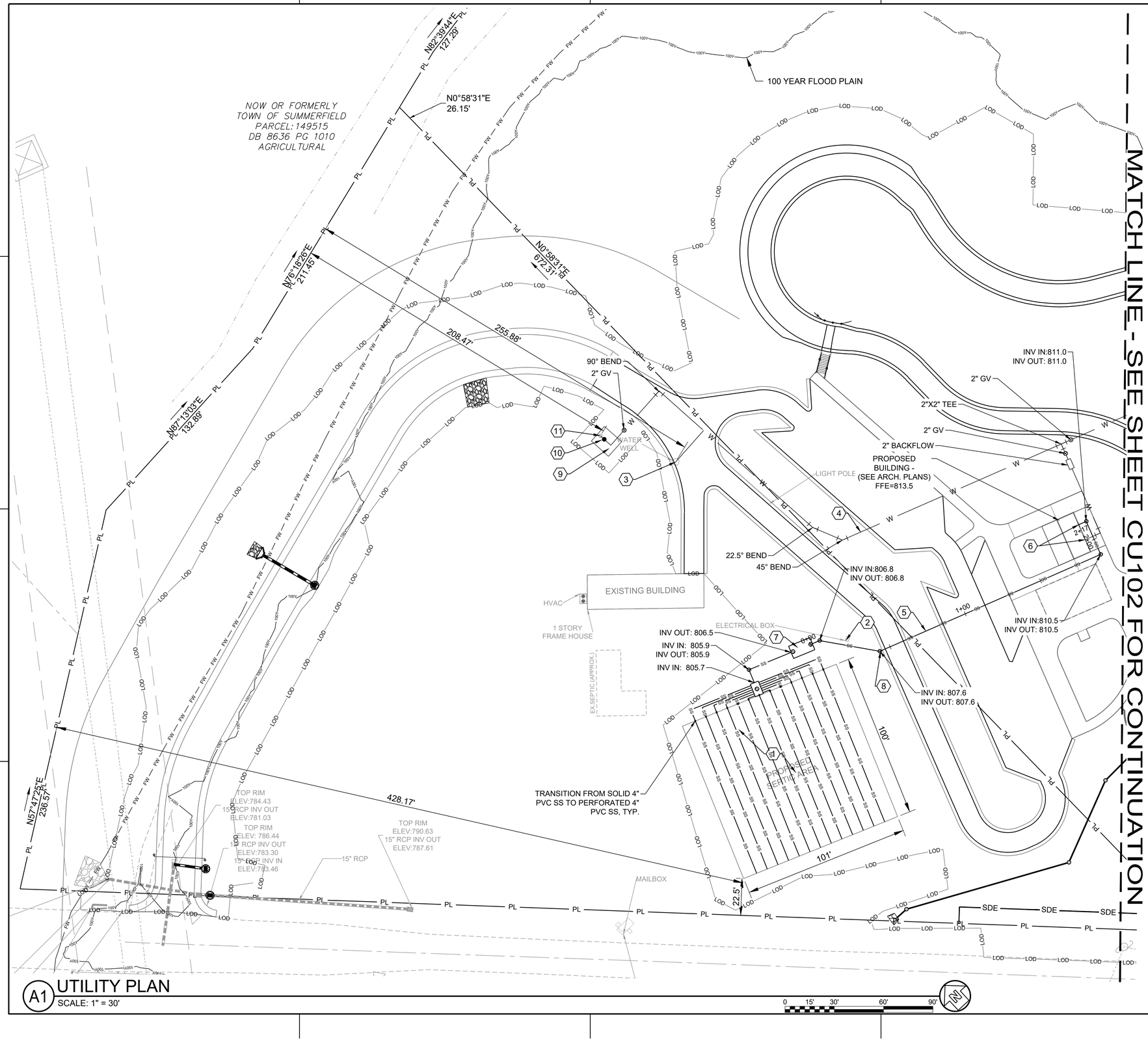
STORM DRAINAGE PROFILES

SHEET NUMBER

CG-201

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\123086307.CAD-BIM\07.02 CAD\CIVIL\CG200 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




# A1 UTILITY PLAN

SCALE: 1" = 30'

## GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.

## SHEET KEYNOTES

1. PROPOSED SEPTIC FIELD. (DETAIL A3/CU-501)
2. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
3. EX. WATER WELL TO BE ABANDONED. LOCATE AND RECONNECT EXISTING SERVICE WATER LINES TO NEW WELL. SEE SHEET CD-101. SUBMIT WELL ABANDOMENT RECORD TO GUILFORD COUNTY ENVIRONMENTAL HEALTH WITHIN 15 DAYS AFTER COMPLETING THE ABANDONMENT.
4. 2" PVC DOMESTIC WATER LINE.
5. 4" PVC SANITARY SEWER LINE. SEE DETAIL C4/CU-103 FOR PROFILE
6. REFER TO PLUMBING PLANS FOR BUILDING CONNECTION.
7. 3,000 GAL SEPTIC TANK.
8. 4" SEWER CLEANOUT, TYP. (DETAIL D3/CU-501)
9. CONCRETE PAD FOR WELL PUMP.
10. 2" GATE VALVE WITH QUICK COUPLING VALVE ASSEMBLY.
11. PROPOSED WET WELL WATER SYSTEM WITH 4" SUBMERSIBLE PUMP (17 GPM PUMP RATE MIN) AND PRESSURE TANK. MODEL AND SYSTEM TO BE PROVIDED BY CONTRACTOR AND APPROVED BY OWNER.

## LEGEND

- LOD — LOD — LIMITS OF DISTURBANCE
- W — PROP. 2" PVC WATERLINE
- SS — SS — PROP. 4" PVC SEWER LINE
- SEPTIC FIELD (DETAIL A1/CU-501)

MATCH LINE - SEE SHEET CU102 FOR CONTINUATION

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053471 JAMES M. MORALES
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

UTILITY PLAN

SHEET NUMBER

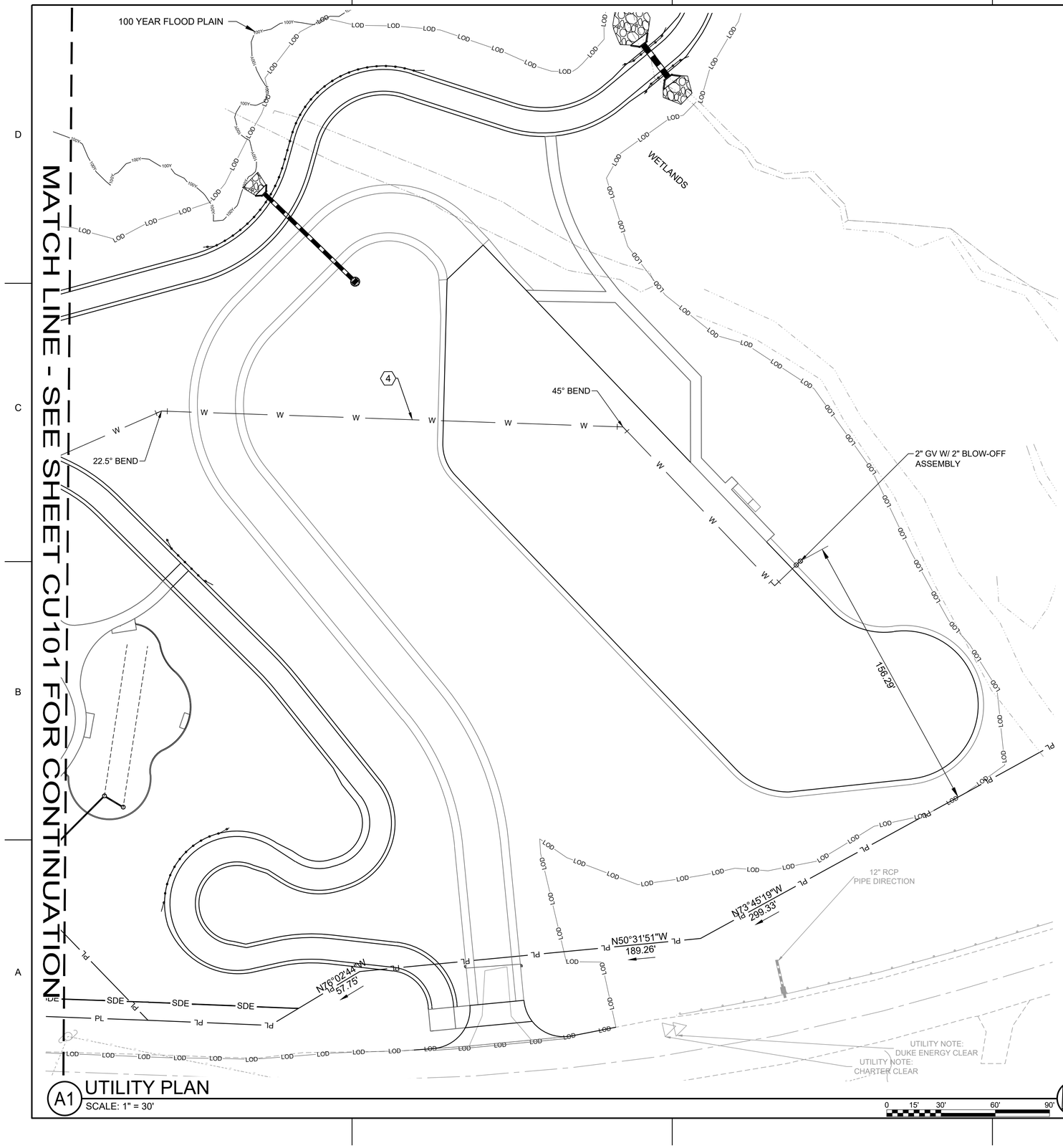
CU-101

ORIGINAL SHEET SIZE: 22" X 34"

811 Know what's below. Call before you dig. Dial 811 Or Call 800-632-4949

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD\BIM\07.02 CAD\CIVIL\CU100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




A1 UTILITY PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.

# ⬡SHEET KEYNOTES

1. PROPOSED SEPTIC FIELD.
2. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
3. PROTECT AND PRESERVE EXISTING WATER WELL THROUGHOUT ALL PHASES OF CONSTRUCTION. APPROXIMATE LOCATION OF WATER WELL IS SHOWN, CONTRACTOR TO FIELD VERIFY. CONTRACTOR TO ADJUST TOP TO FINISHED GRADE. WATER WELL TOP TO BE TRAFFIC RATED.
4. 2" PVC DOMESTIC WATER LINE.
5. 4" PVC SANITARY SEWER LINE.
6. REFER TO PLUMBING PLANS FOR BUILDING CONNECTION.
7. 3,000 GAL SEPTIC TANK.
8. 4" CLEANOUT, TYP.

# LEGEND

LOD LOD — LIMITS OF DISTURBANCE
W — PROP. 2" PVC WATERLINE

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EOR/AOR SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053871 JOHN M. MARKLEY
10/9/2025

CLIENT INFORMATION
4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME
BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE
UTILITY PLAN

SHEET NUMBER
CU-102

ORIGINAL SHEET SIZE:
22" X 34"

811 Know what's **below.** **Call** before you dig. Dial 811 Or Call 800-632-4949

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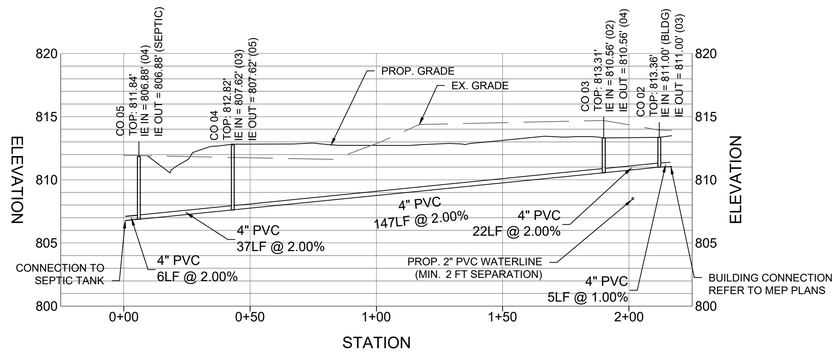
FILE PATH: X:\PY23\123086307.CAD-BIM\07.02 CAD\CIVIL\CU100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




**SEPTIC LINE PROFILE**
HORZ. SCALE 1"= 30'
VERT. SCALE 1"= 6'

# C4 SEPTIC LINE PROFILE

VERT. SCALE:
1" = 6'
0
3'
6'

HORIZ. SCALE: 1" = 30'
0 15' 30'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049977 JOSEPH T. MARTIN
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

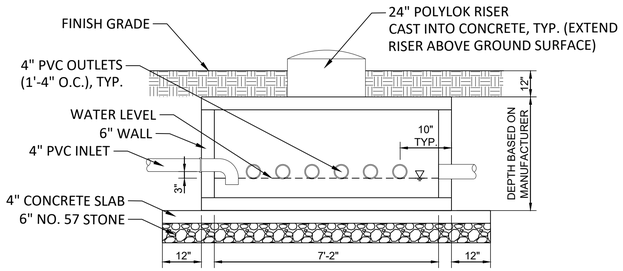
UTILITY PROFILE

SHEET NUMBER

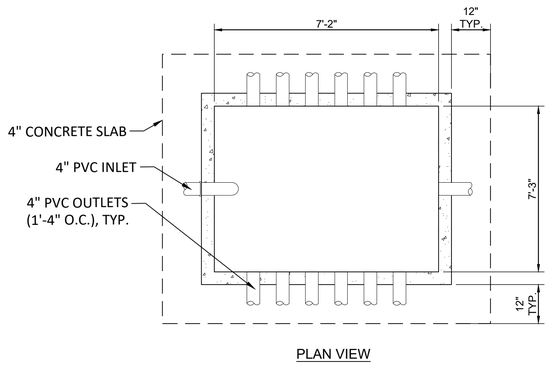
CU-103

ORIGINAL SHEET SIZE:
22" X 34"


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CU100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




CROSS SECTION

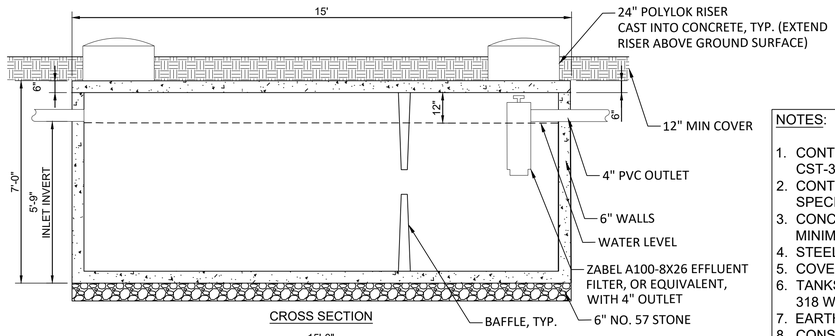



PLAN VIEW

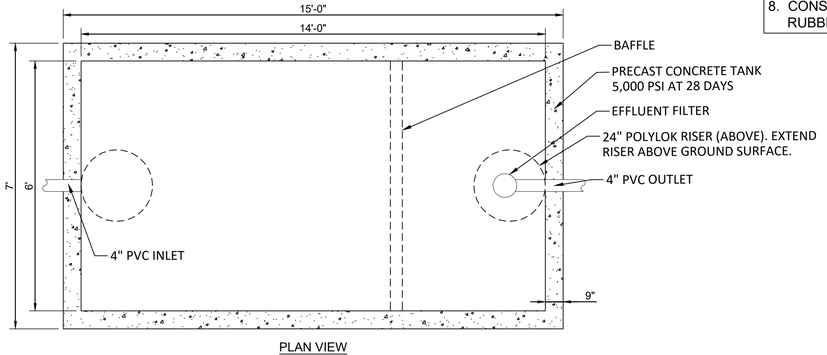
NOTES:

1. CONTRACTOR TO USE AMERICAN CONCRETE INDUSTRIES 13 OUTLET DISTRIBUTION BOX (D-BOX) OR EQUIVALENT.
2. CONTRACTOR TO FOLLOW MANUFACTURER SPECIFICATIONS FOR INSTALLATION.
3. CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI @ 28 DAYS STRUCTURE TO BE DESIGNED FOR H-10 LOAD RATING.
4. DESIGN TO CONFORM TO ASTM C913

## C1 DISTRIBUTION BOX
NO SCALE




CROSS SECTION

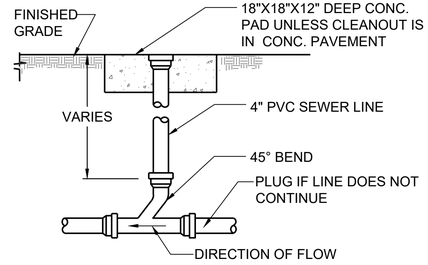



PLAN VIEW

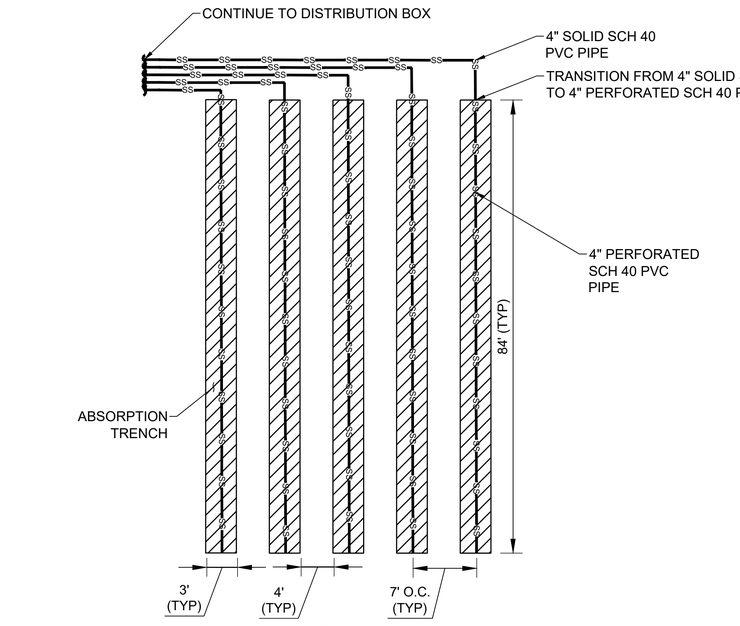
NOTES:

1. CONTRACTOR TO USE OLDCASTLE PRECAST CST-3000 SEPTIC TANK OR EQUIVALENT.
2. CONTRACTOR TO FOLLOW MANUFACTURER SPECIFICATIONS FOR INSTALLATION.
3. CONCRETE: 5,000 P.S.I MINIMUM STRENGTH @ 28 DAYS
4. STEEL REINFORCING- ASTM A-615, GRADE 60.
5. COVER TO STEEL-1" MINIMUM
6. TANKS ARE DESIGNED TO MEET ASTM C858 AND ACI 318 WITH AASHTO HS-20 LOADING.
7. EARTH COVER- 0 TO 5 FEET MAX.
8. CONSTRUCTION JOINT-SEALED WITH 1" DIA BUTYL RUBBER OR EQUIVALENT.

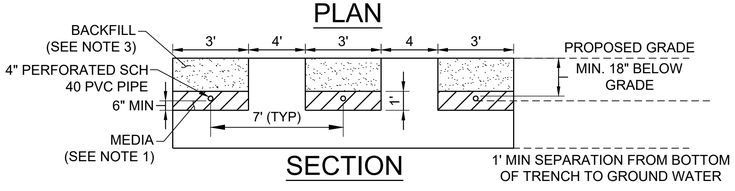
## A1 3,000 GALLON SEPTIC TANK
NO SCALE




## D3 CLEANOUT
NO SCALE




PLAN




SECTION

NOTES:

1. MEDIA - THE MEDIA SHALL CONSIST OF WASHED GRAVEL OR EQUIVALENT. MEDIA SIZE SHALL BE ONE HALF INCH (½") TO TWO INCHES (2") IN DIAMETER AND WELL GRADED.
2. DRAINLINE INSTALLATION REQUIREMENTS - THE DRAINLINE SHALL BE PLACED IN THE MEDIA WITH AT LEAST SIX INCHES OF MEDIA BETWEEN THE BOTTOM OF THE EXCAVATION AND THE BOTTOM OF THE DRAINLINE. THE DRAINLINE SHALL BE COMPLETELY COVERED BY THE MEDIA AND THE DRAINLINE PERFORATIONS SHALL BE BELOW THE HORIZONTAL CENTER LINE OF THE PIPE. MULTIPLE DRAINLINES SHALL BE MANIFOLDED TOGETHER WITH A SOLID PIPE.
3. BACKFILLING - CLASS III SOILS (NCDOT SECTION 1016 SELECT MATERIALS) SHALL BE USED FOR BACKFILL. THE BACKFILL MATERIAL SHALL BE MOUNDED OVER THE EXCAVATED AREA SO THAT THE CENTER OF THE BACKFILLED AREA SLOPES DOWN TO THE OUTER PERIMETER OF THE EXCAVATED AREA TO ALLOW FOR SETTLING. SURFACE RUNOFF IMPACTING THE DISPOSAL AREA IS NOT PERMITTED.
4. MUST ADHERE TO ASTM C913

## A3 SEPTIC FIELD
NO SCALE

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | RB |
| DRAWN BY: | EG |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

UTILITY DETAILS

SHEET NUMBER

CU-501

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ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CU500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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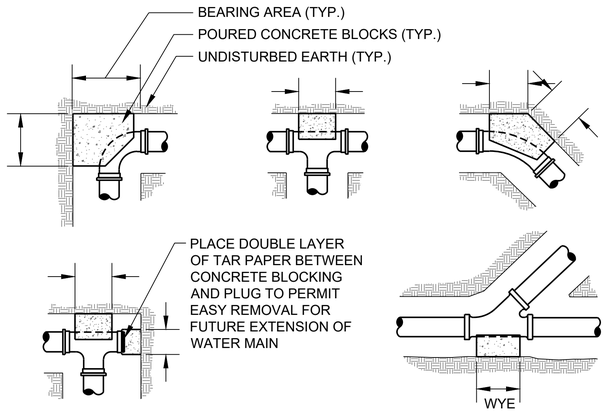


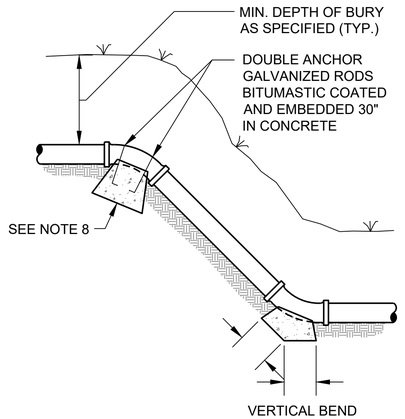


THRUST BLOCK NOTES:

1. KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES.
2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUSTS SHALL BE THE SAME AS FOR HORIZONTAL BENDS.
4. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD.
5. TAPPING VALVES SHALL HAVE THRUST BLOCKING AS SPECIFIED FOR TEES.
6. CONTRACTOR SHALL PROVIDE RESTRAINT AT ALL PRESSURE LINE FITTINGS USING EITHER CONCRETE BLOCKING OR TIE ROD ASSEMBLIES.
7. CONCRETE FOR THRUST BLOCKS SHALL BE 3000 PSI MINIMUM STRENGTH.
8. ANCHOR BLOCKS FOR VERTICAL BENDS SHALL BE SIZED AS 90° BENDS REGARDLESS OF ANGLE.

| PIPE FITTING SIZES | BEARING AREA OF BLOCK IN SQ.FT. | | | | |
|---|---|---|---|---|---|
| | TEE & END | 90° BEND | 45° BENDS & WYES | 22 1/2° BEND | 11 1/4° BEND |
| 6" | 1.9 | 2.6 | 1.4 | 0.7 | 0.4 |
| 8" | 3.3 | 4.6 | 2.5 | 1.3 | 0.7 |

| ANCHOR ROD SIZE | |
|---|---|
| PIPE SIZE | ROD SIZE |
| 4" THRU 6" | #4 |
| 8" THRU 10" | #6 |

## CONCRETE THRUST BLOCKING

A4 NO SCALE

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL SEAL 047171 ENGINEER MICHAEL LEE WORLEY

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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| CHECKED BY: | ML |
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| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

UTILITY DETAILS

SHEET NUMBER

CU-502

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ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\C\VIL\CU500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

## PROJECT DESCRIPTION:

THE PROJECT IS LOCATED IN THE TOWN OF SUMMERFIELD, NC, AND IS WITHIN THE CAPE FEAR RIVER BASIN. THE PROJECT IS CONSIDERED A COMMERCIAL DEVELOPMENT AND INCLUDES THE CLEARING OF EXISTING VEGETATION, CONSTRUCTION OF A GREENWAY TRAIL, A SHELTER WITH A PLAYGROUND AREA, A RESTROOM BUILDING, PARKING SPACES, UTILITIES, AND OTHER SITE IMPROVEMENTS ASSOCIATED WITH THE DEVELOPMENT. THE DEVELOPMENT WILL ALSO INCLUDE AN IMPROVED AND NEW DRIVEWAY CONNECTION OFF BUNCH ROAD.

THE LIMITS OF DISTURBANCE WERE CALCULATED BASED ON CLEARING METHOD II AT APPROXIMATELY 10.55 ACRES FOR THIS SITE. ALL DISTURBED AREAS WILL BE STABILIZED WITH VEGETATION BY SEEDING AND MULCHING.

THE PROJECT DESIGN SHALL COMPLY WITH NORTH CAROLINA LAND QUALITY GUIDELINES AND PROCEDURES AND ALL APPLICABLE FEDERAL, STATE, AND CITY REQUIREMENTS AND STANDARDS.

## GUILFORD COUNTY GENERAL NOTES:

1. DURING DEVELOPMENT OF THE SITE, THE PERSON FINANCIALLY RESPONSIBLE FOR THE LAND-DISTURBING SHALL INSTALL AND MAINTAIN ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED BY THE APPROVED PLAN OR BY ANY PROVISION OF THE GUILFORD COUNTY DEVELOPMENT ORDINANCE AND APPLICABLE TOWN ORDINANCES. ADDITIONAL DEVICES MAY BE REQUIRED BY THE EROSION CONTROL INSPECTOR IF NECESSARY.
2. UNDER THE GUILFORD COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE (AND APPLICABLE TOWN ORDINANCES); AGENTS, OFFICIALS, OR OTHER QUALIFIED PERSONS ARE AUTHORIZED TO PERIODICALLY INSPECT THE SITES OF LAND-DISTURBING ACTIVITIES. OBSTRUCTING, HAMPERING, OR INTERFERING WITH SUCH INSPECTIONS CARRIES UP TO A $5,000 PER DAY CIVIL PENALTY. THE INSTIGATION OF THIS CIVIL PENALTY REQUIRES NO PRIOR NOTICE.
3. IN AN EFFORT TO MINIMIZE EROSION AND EXPOSURE TIME, EASEMENT AREAS SHALL NOT BE GRUBBED OR GRADED UNTIL UTILITIES ARE READY TO BE INSTALLED. ALSO, THE IMMEDIATE SEEDING OF THE DISTURBED OF THE DISTURBED EASEMENT AREAS AFTER UTILITIES ARE INSTALLED WILL ELIMINATE MANY PROBLEMS. EASEMENT AREAS WHICH CROSS OR ARE ADJACENT TO WATERCOURSES SHOULD RECEIVE SPECIAL CONSIDERATION.
4. NO LAND-DISTURBING ACTIVITY SHALL BE PERMITTED IN PROXIMITY TO A LAKE OR NATURAL WATERCOURSE UNLESS A BUFFER ZONE IS PROVIDED ALONG THE MARGIN OF THE WATER BODY OF SUFFICIENT WIDTH TO CONFINE VISIBLE SILTATION WITHIN THE FIRST 25% OF THE BUFFER NEAREST THE LAND-DISTURBING ACTIVITY.
5. SIDE DITCHES 2% OR STEEPER SHALL BE RIP-RAPPED; OR SEEDED AND STABILIZED WITH EXCELSIOR MATTING (OR OTHER APPROVED MATERIAL); OR STABILIZED BY ANY OTHER METHOD APPROVED BY THE COUNTY SOIL EROSION CONTROL INSPECTOR.
6. CONSTRUCTION ACTIVITIES DISTURBING 1 OR MORE ACRES WILL NEED TO COMPLETE AN E-NOI TO OBTAIN COVERAGE UNDER THE NCGO1 (AVAILABLE AT DEQ.NC.GOV/NCGO1) UPON COUNTY'S APPROVAL OF EROSION CONTROL PLAN AS REQUIRED BY THE FEDERAL CLEAN WATER ACT. WITHIN 24 TO 48 BUSINESS HOURS OF DEMLER RECEIVING PAYMENT WITH E-NOI FORM, THE APPLICANT WILL RECEIVE AN EMAIL WITH THE CERTIFICATE OF COVERAGE (COC) ATTACHED. SECTION B OF THIS PERMIT REQUIRES THE FINANCIALLY RESPONSIBLE OWNER(S) TO PERIODICALLY INSPECT ALL SEDIMENT AND EROSION CONTROL DEVICES AND TO KEEP A RECORD OF THESE INSPECTIONS. FURTHERMORE, THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES REQUIRES THE FINANCIALLY RESPONSIBLE OWNER(S) TO SELF-INSPECT THE SITE AT VARIOUS PHASES OF DEVELOPMENT. THESE PHASES ARE OUTLINED ON THE COMBINED SELF-MONITORING, AND INSPECTION FORM
7. THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN RETAIN VEGETATION COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. THE NPDES PERMIT REQUIRES THAT PERIMETER SLOPES, BERMS, SWALES, DITCHES, SLOPES STEEPER THAN 3:1, AND AREAS WITHIN HIGH WATER QUALITY (HQW) ZONES TO BE SEEDED WITHIN 7 DAYS. SLOPES LESS THAN 10 FEET IN LENGTH AND ALL OTHER AREAS MUST BE SEEDED WITHIN 14 DAYS AFTER FINAL GRADE IS ESTABLISHED.
8. THE OWNER(S) IS RESPONSIBLE FOR THE LONG-TERM MAINTENANCE OF THE GROUND COVER ON THE PROPERTY. GROUND COVER MUST BE MAINTAINED TO A DEGREE THAT PREVENTS SOIL EROSION AND SEDIMENTATION AT ALL TIMES.
9. ACCEPTANCE AND APPROVAL OF THIS PLAN IS CONDITIONED UPON THE PROPERTY OWNER(S) COMPLIANCE WITH FEDERAL AND STATE WATER QUALITY LAWS, REGULATIONS, AND RULES. IN ADDITION, LOCAL TOWN OR COUNTY ORDINANCES OR RULES MAY ALSO APPLY TO THIS LAND-DISTURBING ACTIVITY. THIS APPROVAL DOES NOT SUPERSEDE ANY OTHER PERMIT OR APPROVAL.
10. NO TEMPORARY EROSION CONTROL MEASURE(S) MAY BE REMOVED WITHOUT APPROVAL FROM THE SITE EROSION CONTROL INSPECTOR. DEVICES REMOVED WITHOUT APPROVAL OF THE INSPECTOR MAY RESULT IN ENFORCEMENT ACTIONS INCLUDING DEVICES BEING REPLACED TO APPROVED PLAN SPECIFICATIONS.

## GENERAL NOTES:

1. INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES LAND QUALITY SECTION EROSION AND SEDIMENT CONTROL PLANNING LAND DESIGN MANUAL.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
3. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO AND CONCURRENT WITH ALL CLEARING AND GRADING TO ENSURE THAT THE TRANSPORT OF SEDIMENT BEYOND THE SITE IS MINIMIZED.
4. THE CONTRACTOR ID REQUIRED TO PREVENT EROSION AND SEDIMENT FROM DEPOSITION ON LOCAL ROADS BY INSTALLING CONSTRUCTION ENTRANCES AT BEGINNING OF CONSTRUCTION AND MAINTAINED THEM DURING THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE NEEDED, TO ENSURE THAT ALL PAVED AREAS I THE VICINITY OF THE PROJECT ARE CLEAN.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION. THE OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL PERMANENT EROSION CONTROL METHODS AFTER CONSTRUCTION IS COMPLETE, IF ANY PERMANENT METHODS ARE REQUIRED.
6. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL DISTURBANCE WITHIN THE LIMITS OF DISTURBANCE (LOD) SHOWN IN THE PLANS.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES TO ENSURE CONTINUED PROPER FUNCTIONING. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED AS NEEDED FOR UNEXPECTED STORM EVENTS OR ADJUST TO ACCOUNT FOR SITE CHANGING CONDITIONS.
8. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WILL BE STABILIZED WITH THE APPROPRIATE PERMANENT VEGETATIVE EROSION CONTROL MEASURE(S) WITHIN THE REQUIRED TIME FRAME SHOWN IN THE NCG01 GROUND STABILIZATION AND MATERIALS HANDLING DETAIL SHOWN ON SHEET CE-501.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS IN ACCORDANCE WITH THE NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING DETAIL SHOWN ON SHEET CE-502. NEEDED REPAIRS MUST BE MADE IMMEDIATELY. CONTRACTOR IS REQUIRED TO INSPECT THE PROJECT AFTER EACH PHASE OF THE PROJECT AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
10. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
11. PROVIDE DUST CONTROL MEASURES IN ACCORDANCE WITH THE NC E&SC PLANNING AND DESIGN MANUAL, SECTION 6.84, DUST CONTROL.
12. SEDIMENTS RUNOFF FROM EXCAVATIONS SHALL BE TREATED AND IN NO CASE PUMPED DIRECTLY TO STORM DRAINAGE FACILITIES.
13. FIELD INSPECTOR MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.
14. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
15. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE HIGH HAZARD TEMPORARY SILT FENCE DETAIL.
16. ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED, MULCHED AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.
17. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.
18. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION AND REMOVED ONLY WHEN AREAS HAVE STABILIZED.
19. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
20. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
21. THE PRIMARY PERMITTEE(S), SHALL AMEND THE EROSION CONTROL PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION , OR MAINTENANCE WHICH HAS A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS AMENDMENTS TO THE PLAN MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AS PROVIDED IN THIS PERMIT.
22. ANY STAGING, MATERIAL LAY DOWN, DIRT, OR WASTE PILES WILL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE. IF ANY ADDITIONAL STAGING AREAS ARE REQUIRED BY THE CONTRACTOR, ANY ADDITIONAL EASEMENTS, AND REGULATORY PERMITS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
23. ALL MATERIALS WILL BE CONTAINED WITHIN LIMITS OF DISTURBANCE AND WILL BE LOCATED A MINIMUM OF 50' FROM ANY WATERCOURSE OR DRAINAGE STRUCTURES.
24. ALL LAND DISTURBING ACTIVITIES ARE TO BE WITHIN THE INDICATED LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE EVEN IF EASEMENT AREAS ARE SHOWN OUTSIDE OF THE LIMITS OF DISTURBANCE ON THE PLANS.
25. ALL SLOPES 3:1 OR STEEPER AND HIGHER THAN 5 FEET SHALL RECEIVE SURFACE ROUGHENING, AND SLOPE STABILIZATION. SILT FENCING AND THE CONSTRUCTION ENTRANCE SHALL BE USED TO PREVENT SEDIMENT FROM LEAVING THE DISTURBED AREA. ALL ROLLED EROSION CONTROL PRODUCTS TO BE INSTALLED IN ACCORDANCE WITH SECTION 6.17 OF THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL

## SEDIMENT BASIN DECOMMISSIONING NOTES

1. CALL FOR AN ON-SITE DETERMINATION/MEETING WHEN REQUESTING TO DECOMMISSION/PHASE OUT A TEMPORARY SEDIMENT BASIN/TRAP.
2. DETERMINATION CAN ONLY BE MADE BY THE INSPECTOR OR HIS/HER DESIGNEE.
3. ONCE IT HAS BEEN AGREED THAT THE TEMPORARY SEDIMENT BASIN/TRAP CAN COME OUT, IT MUST BE MARKED AND INITIALED BY THE INSPECTOR ON THE APPROVED SET OF EROSION CONTROL PLANS.
4. IF SEDIMENT BASIN HAS WATER IN IT, THE WATER MUST BE PUMPED OUT FROM THE SURFACE INO A FILTER BAG ON A LEVEL AREA FREE OF DEBRIS OR ANOTHER APPROVED METHOD AT NON-EROSIVE PROPERTIES.
5. REMOVE SKIMMER AND PLUG ANY HOLES IN THE RISER. REMOVE ALL BAFFLE MATERIALS.
6. IF THERE IS A LOT OF SEDIMENT/SILT IN BOTTOM OF THE BASIN AND MUST BE HAULED OFF, MIX WITH DRY MATERIAL OR SET ASIDE TO DRY THEN HAUL OFF.
7. FILL OR CONVERT BASIN TO THE APPROVED ELEVATION OR PRODUCT ON THE APPROVED PLANS.
8. AFTER FINAL GRADING HAS BEEN COMPLETED THE AREA MUST BE STABILIZED WITH LIME, SEED, FERTILIZER, STRAW AND TACK ACCORDING TO THE SEEDING SCHEDULE SHOWN ON THE APPROVED PLANS. SEEDING MUST BE COMPLETED WITHIN 7 DAYS OF GRADING ON SLOPES STEEPER THAN 3:1 AND 14 DAYS FOR ALL OTHERS.

## EROSION AND SEDIMENT CONTROL PLAN SEQUENCE OF CONSTRUCTION ACTIVITIES

1. OBTAIN 401 & 404 PERMITS. OBTAIN EROSION CONTROL PLAN APPROVAL FROM NCDEQ. EROSION AND SEDIMENTATION CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COMPLIANCE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD AT LEAST ONE WEEK PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE PRESENT TO SATISFY REQUIREMENTS.
3. FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING EACH PHASE.
4. MODIFICATIONS TO THE APPROVED AND PERMITTED PLANS SHALL BE APPROVED BY THE INSPECTOR PRIOR TO REMOVAL OR INSTALLATION.
5. STORMWATER PERMIT INSPECTION REPORTS SHALL BE PERFORMED BY THE CONTRACTOR UNLESS NOTIFIED OTHERWISE BY THE EROSION CONTROL INSPECTOR.
6. SUBMIT DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY (NCG010000) TO STORMWATER INSPECTIONS THROUGHOUT THE PROJECT.
7. PER NPDES REQUIREMENTS, A RAIN GAUGE, SELF-INSPECTIONS RECORDS, PERMIT, CERTIFICATE OF COVERAGE, AND E&SC PLAN ARE REQUIRED TO BE MAINTAINED ON SITE AND ACCESSIBLE DURING INSPECTION. IT IS RECOMMENDED THAT THESE ITEMS BE PLACED IN A PERMITS BOX AT THE BEGINNING OR ENTRANCE OF PROJECT.

## CONSTRUCTION SEQUENCE (INITIAL PHASE)

8. DETERMINE AND MARK LIMITS OF DISTURBANCE.
9. INSTALL ALL PHASE 1 EROSION CONTROL MEASURES INCLUDING CONSTRUCTION ENTRANCE, SILT FENCE, PERIMETER EROSION CONTROL DEVICES AND ALL REQUIRED BASINS AND TRAPS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES.
10. CONTRACTOR IS RESPONSIBLE FOR INSTALLING SILT FENCE OUTLETS WHERE SHOWN ON APPROVED PLANS AND WHERE LOW POINTS MAY EXIST IN THE FIELD.
11. PROVIDE TEMPORARY GROUNDCOVER IN THE DIVERSION DITCHES, AND SEDIMENT TRAPS/BASINS WITHIN 3 DAYS OF COMPLETING EXCAVATION.
12. SCHEDULE SITE INSPECTION.
13. UPON APPROVAL TO PROCEED BY THE EROSION CONTROL INSPECTOR, GRADING PERMIT IS ISSUED AND CLEARING AND GRUBBING MAY BEGIN.
14. STRIP AND STOCKPILE TOPSOIL.
15. BEGIN GRADING OPERATIONS.
16. CONTRACTOR SHALL TAKE CARE TO PREVENT INTERMIXING OF TOPSOIL, SUITABLE SOIL, AND UNSUITABLE SOIL MATERIALS.

## CONSTRUCTION SEQUENCE (INTERMEDIATE PHASE)

17. PRIOR TO COMPLETING GRADING ACTIVITIES, BEGIN STORM DRAINAGE SYSTEM INSTALLATION. INSTALL INLET PROTECTION AROUND EACH DRAINAGE STRUCTURE IMMEDIATELY AFTER STRUCTURE INSTALLATION.
18. GRADE PERMANENT DITCHES AND STABILIZE WITH SEEDING AND VELOCITY DISSIPATERS.
19. PREVENT SEDIMENT FROM ENTERING STORM PIPES DURING INSTALLATION.
20. ENSURE ALL STORMWATER PIPING VELOCITY DISSIPATER PADS ARE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF A DISCHARGING SECTION OF PIPE.
21. ONCE STORM DRAIN INSTALLATION IS COMPLETE AND SITE IS AT FINISHED GRADE AND STABILIZED ADEQUATELY, REMOVE SKIMMER SEDIMENT BASIN AND SMOOTH AREAS. SEDIMENT BASINS AND TRAPS SHALL NOT BE REMOVED UNTIL ALL UPGRADIENT AREAS ARE PERMANENTLY STABILIZED. REFER TO SEDIMENT BASIN DECOMMISSIONING NOTES ON THIS SHEET.

## CONSTRUCTION SEQUENCE (FINAL PHASE)

22. UPON COMPLETION OF SITE CONSTRUCTION. REFER TO SHEET CE-501 NCG01 GROUND STABILIZATION AND MATERIALS HANDLING.
23. MAINTAIN DIVERSIONS TO SEDIMENT BASINS UNTIL STORM DRAIN INSTALLATION AND PERMANENT DITCHES ARE GRADED AND SITE IS FULLY STABILIZED.
24. RUNOFF SHOULD NOT BE ALLOWED TO FLOW OVER FILL SLOPES. MAINTAIN DIVERSION DITCHES ALONG THE TOP OF FILL SLOPES UNTIL THE SLOPES HAVE BEEN ADEQUATELY STABILIZED WITH ESTABLISHED VEGETATION. CONCENTRATED FLOW SHOULD NOT BE DIRECTED OVER TOP OF SLOPES.
25. STABILIZE SITE AS AREAS ARE BROUGHT TO FINISHED GRADE.
26. ONCE GRADING IS COMPLETE AND SITE IS STABILIZED, REQUEST AN INSPECTION AND OBTAIN APPROVAL TO REMOVE TEMPORARY MEASURES. DO NOT REMOVE TEMPORARY MEASURES WITHOUT PRIOR APPROVAL FROM THE INSPECTOR.

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EOR/AOR SEAL

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION & SEDIMENTATION CONTROL NOTES AND SEQUENCE

SHEET NUMBER

CE-001

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\CE001 PLOTTED BY: GONZALEZ, ES DATE: 6/30/2023

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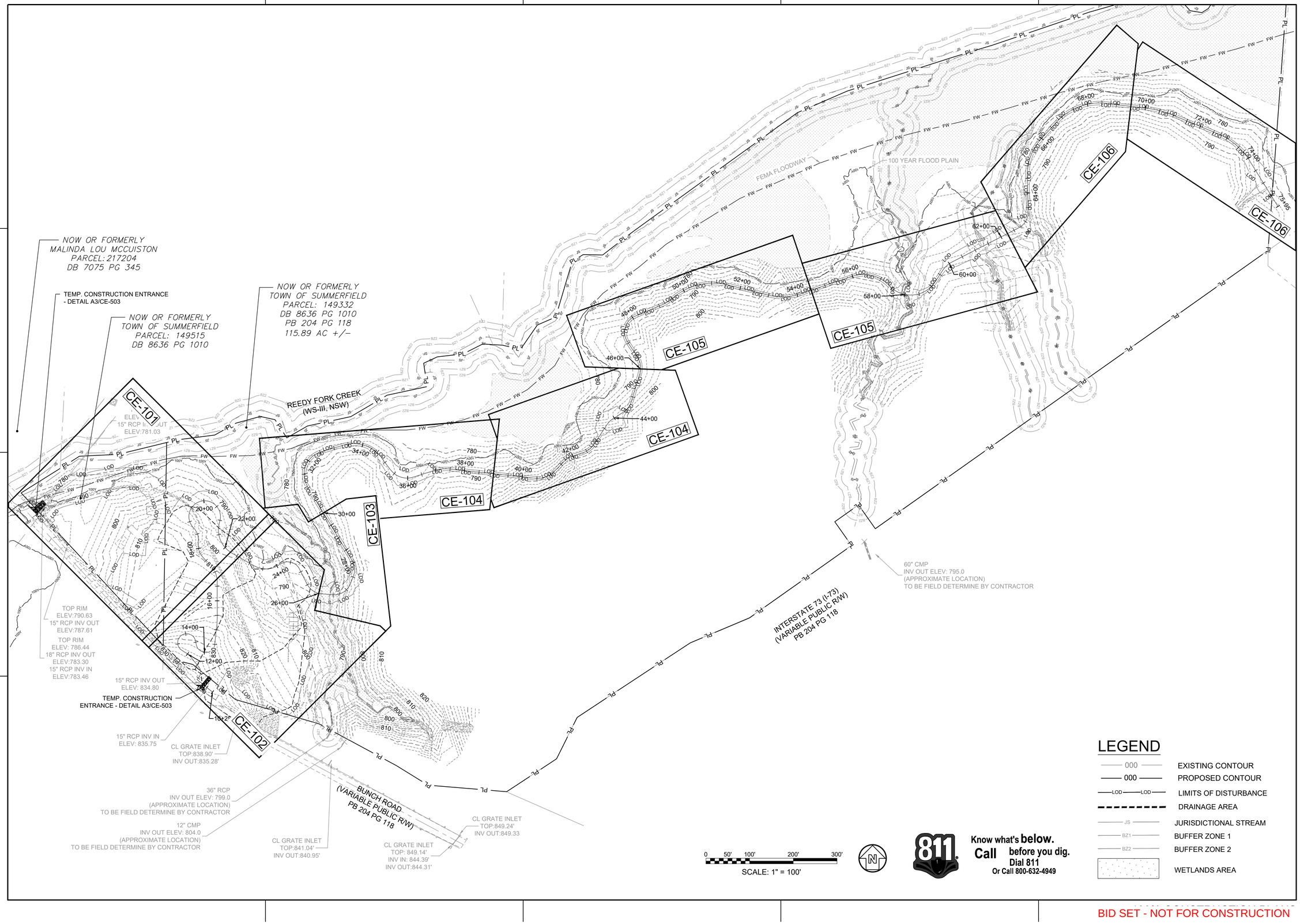


## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- WETLANDS AREA

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053871 JOHN M. MORRIS
10/9/2025

CLIENT INFORMATION
4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME
BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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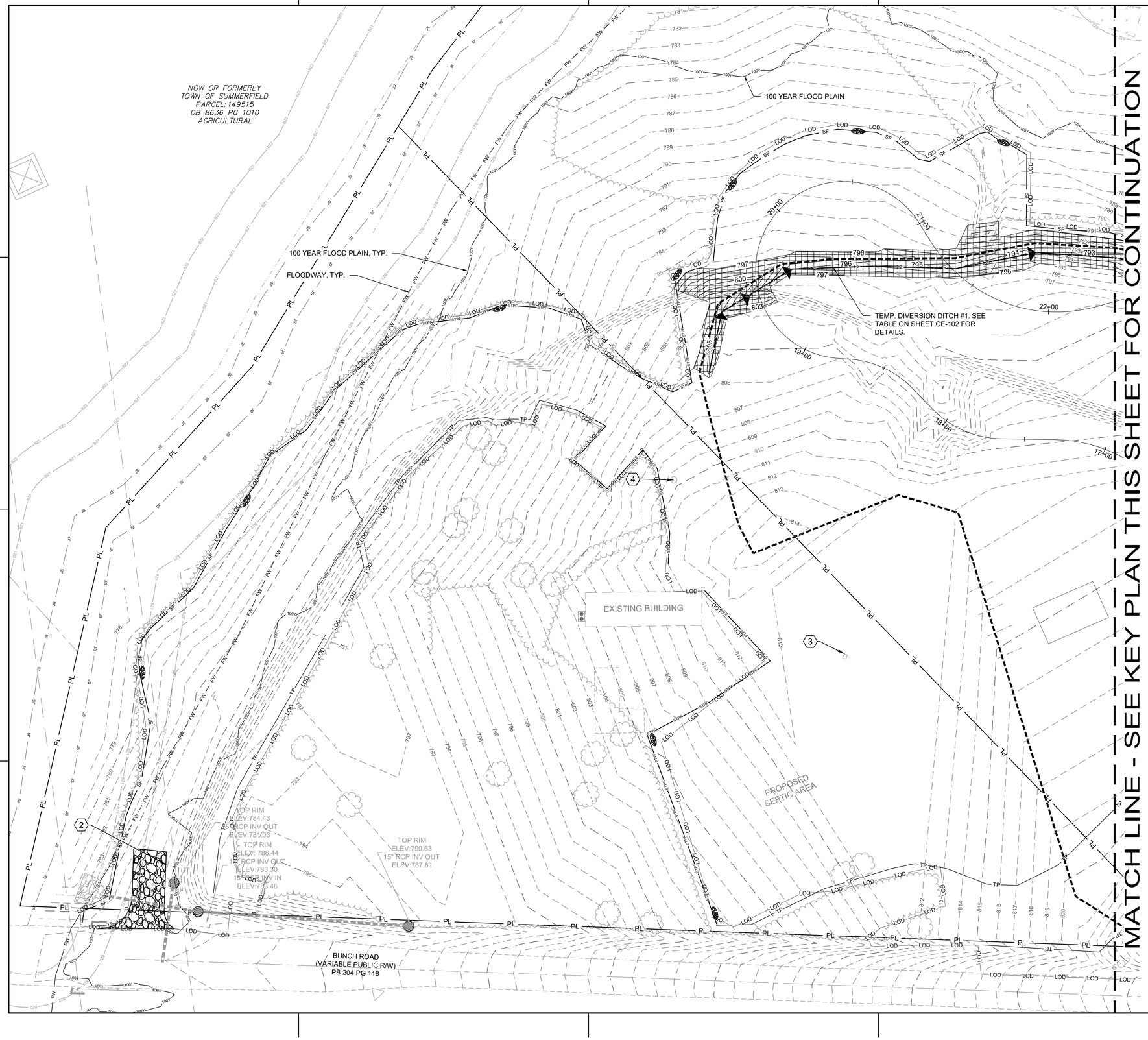
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE
OVERALL EROSION CONTROL PLAN PHASE 1

SHEET NUMBER
CE-100

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\123086307.CAD-BIM\07.02 CAD\CIVIL\CE100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## SHEET KEYNOTES

1. PROP. SKIMMER SEDIMENT BASIN. DETAIL C1/CE-507
2. PROP. CONSTRUCTION ENTRANCE. DETAIL A3/CE-503
3. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
4. EXISTING WATER WELL TO BE ABANDONED. SEE SHEET CD-101.
5. SKIMMER DEWATERING DEVICE. DETAIL C1/CE-507.
6. PROP. 10' WIDE SPILLWAY (1.5' DEPTH). DETAIL C1/CE-507.
7. POROUS BAFFLES. DETAIL C3/CE-507

## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- SEDIMENT FENCE - DETAIL A3/CE-506
- TREE PROTECTION FENCE - DETAIL C1/CE-509
- SEDIMENT/TREE PROTECTION FENCE - DETAIL A1/CE-509
- CHECK DAM - DETAIL A3/CE-507
- SILT FENCE OUTLET - DETAIL A3/CE-509
- ROCK DOUGHNUT INLET PROTECTION - DETAIL A1/CE-506
- RIP RAP AT PIPE OUTLET DETAIL C3/CE-506
- EROSION CONTROL BLANKET -DOUBLE NET
- EROSION CONTROL BLANKET -SINGLE NET
- WETLANDS AREA

0 15' 30' 60' 90'
SCALE: 1" = 30'

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10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

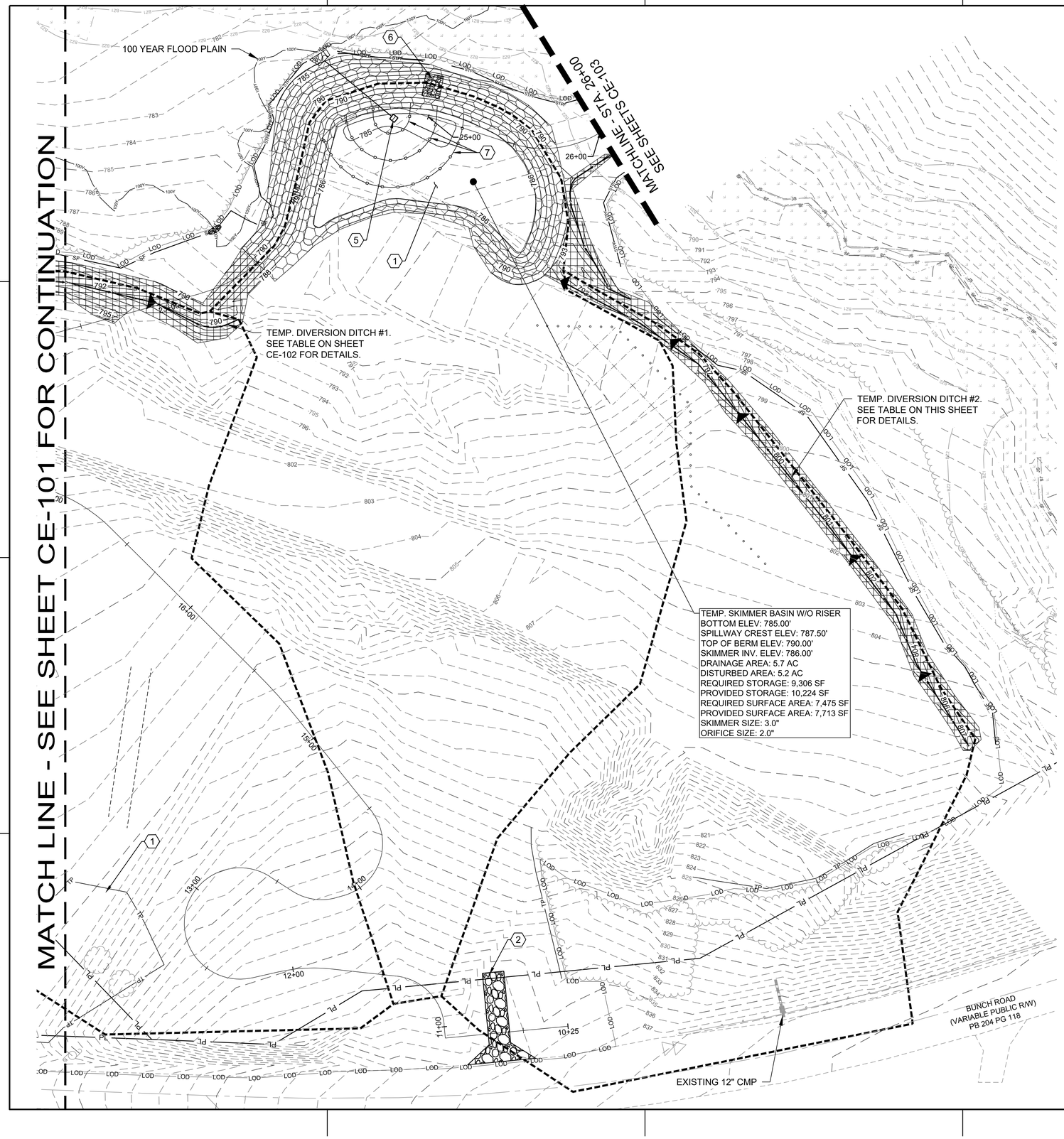
EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

CE-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE101 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## SHEET KEYNOTES

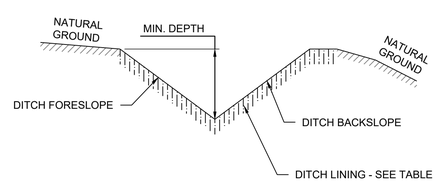
1. PROP. SKIMMER SEDIMENT BASIN. DETAIL C1/CE-507
2. PROP. CONSTRUCTION ENTRANCE. DETAIL A3/CE-503
3. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
4. EXISTING WATER WELL TO BE ABANDONED. SEE SHEET CD-101.
5. SKIMMER DEWATERING DEVICE. DETAIL C1/CE-507.
6. PROP. 10' WIDE SPILLWAY (1.5' DEPTH). DETAIL C1/CE-507.
7. POROUS BAFFLES. DETAIL C3/CE-507

## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- SEDIMENT FENCE - DETAIL A3/CE-506
- TREE PROTECTION FENCE - DETAIL C1/CE-509
- SEDIMENT/TREE PROTECTION FENCE - DETAIL A1/CE-509
- CHECK DAM - DETAIL A3/CE-507
- SILT FENCE OUTLET - DETAIL A3/CE-509
- ROCK DOUGHNUT INLET PROTECTION - DETAIL A1/CE-506
- RIP RAP AT PIPE OUTLET DETAIL C3/CE-506
- EROSION CONTROL BLANKET -DOUBLE NET
- EROSION CONTROL BLANKET -SINGLE NET
- WETLANDS AREA

**TEMP. DIVERSION DITCH TYPICAL SECTIONS**

| DITCH # | FORESLOPE | BACKSLOPE | MIN. DEPTH (FT) | BERM WIDTH (FT) | TYPE OF EROSION CONTROL LINING | MATTING FOR EROSION CONTROL (SY) |
|---|---|---|---|---|---|---|
| 1 | 3:1 | 3:1 | 1.50 | 2.00 | BLANKET- DOUBLENET | 952 |
| 2 | 3:1 | 3:1 | 1.25 | 2.00 | BLANKET- DOUBLENET | 564 |




**TEMP. DIVERSION DITCH DETAIL**

SCALE: 1" = 30'

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10/9/2025

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PROJECT NAME

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| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

CE-102

ORIGINAL SHEET SIZE: 22" X 34"

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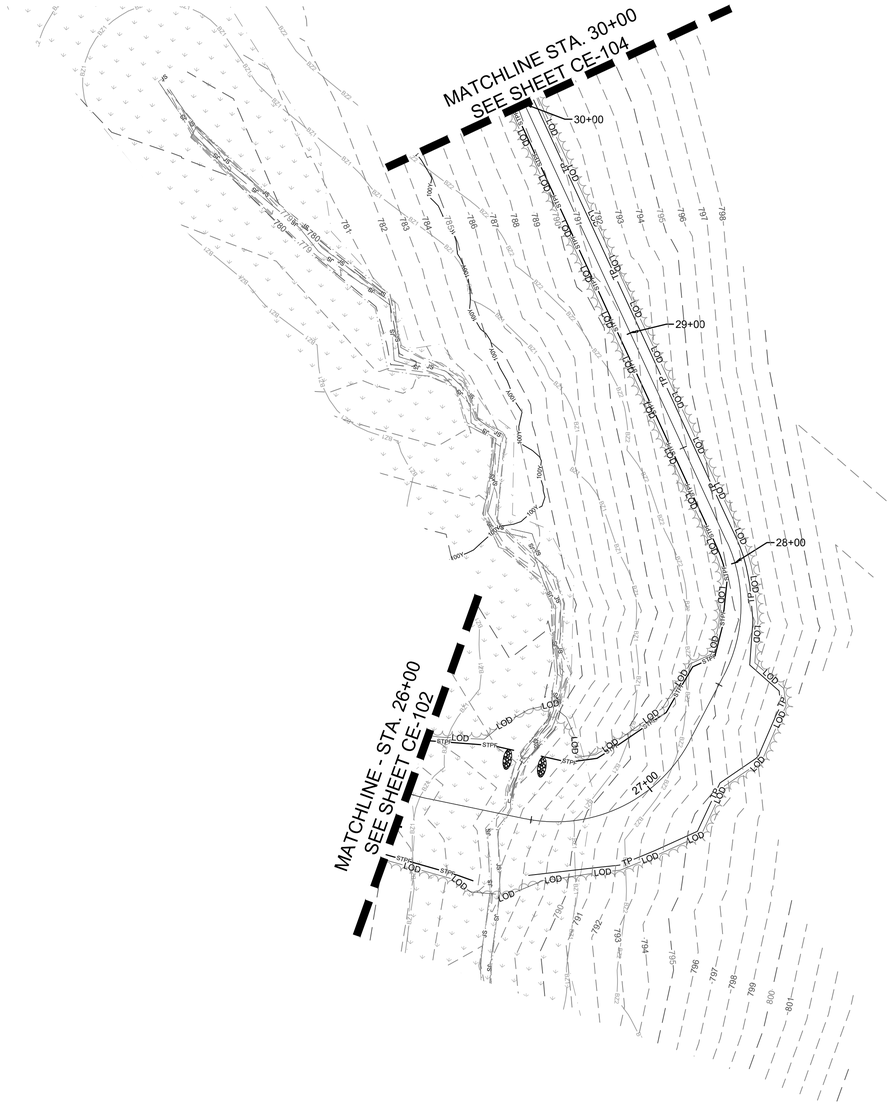


## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- SEDIMENT FENCE - DETAIL A3/CE-506
- TREE PROTECTION FENCE - DETAIL C1/CE-509
- SEDIMENT/TREE PROTECTION FENCE - DETAIL A1/CE-509
- SILT FENCE OUTLET - DETAIL A3/CE-509
- WETLANDS AREA
- CHECK DAM WITH WEIR DETAIL C3/CE-505

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SCALE: 1" = 30'

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049477 JOHN M. MOURAKIS
10/9/2025

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PROJECT NAME

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| DRAWN BY: | EG |
| CHECKED BY: | JM |
| SUBMITTED BY: | RB |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

# CE-103

ORIGINAL SHEET SIZE:
22" X 34"

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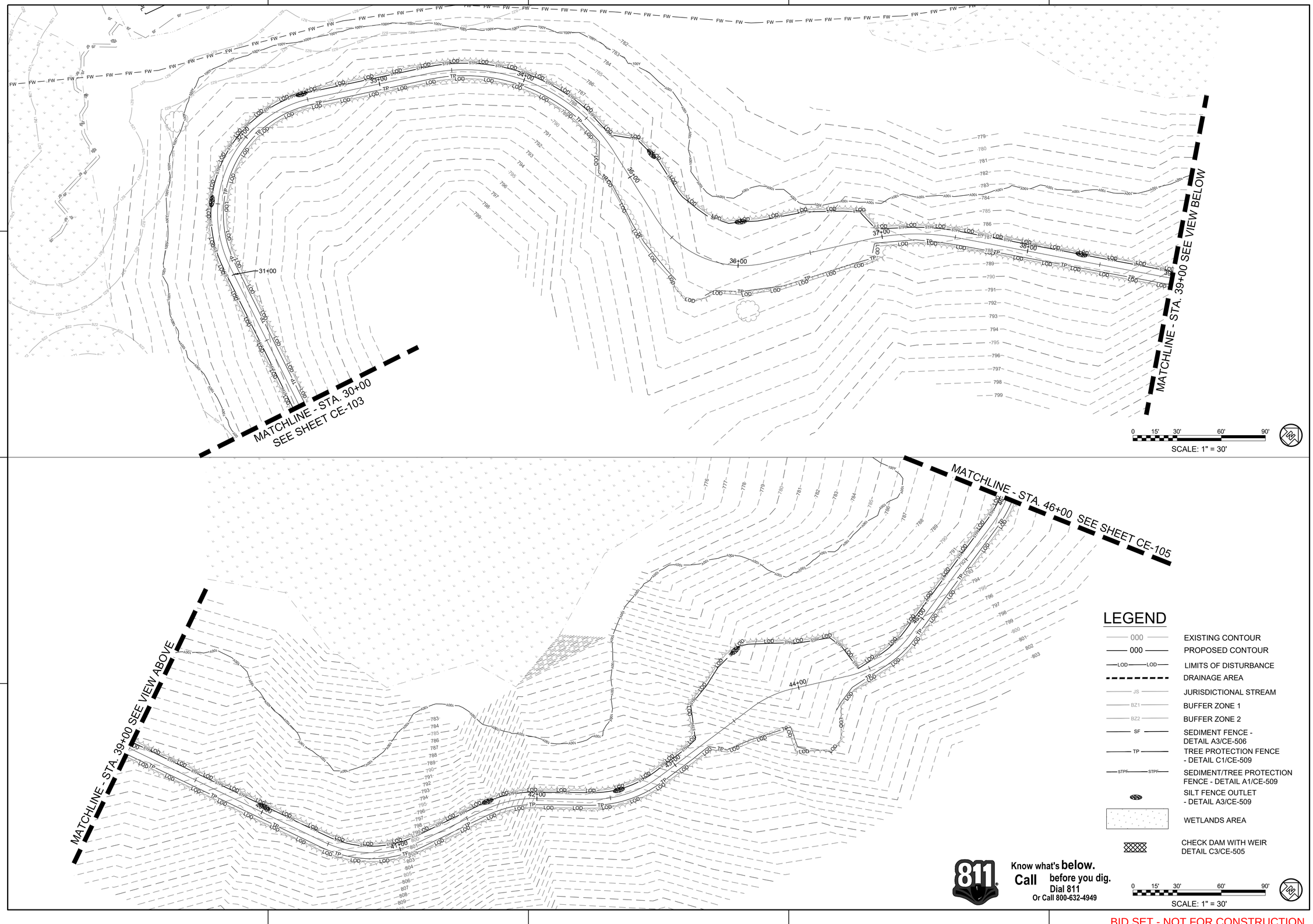


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| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

CE-104

ORIGINAL SHEET SIZE: 22" X 34"

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PROJECT NAME

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| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

CE-105

ORIGINAL SHEET SIZE: 22" X 34"

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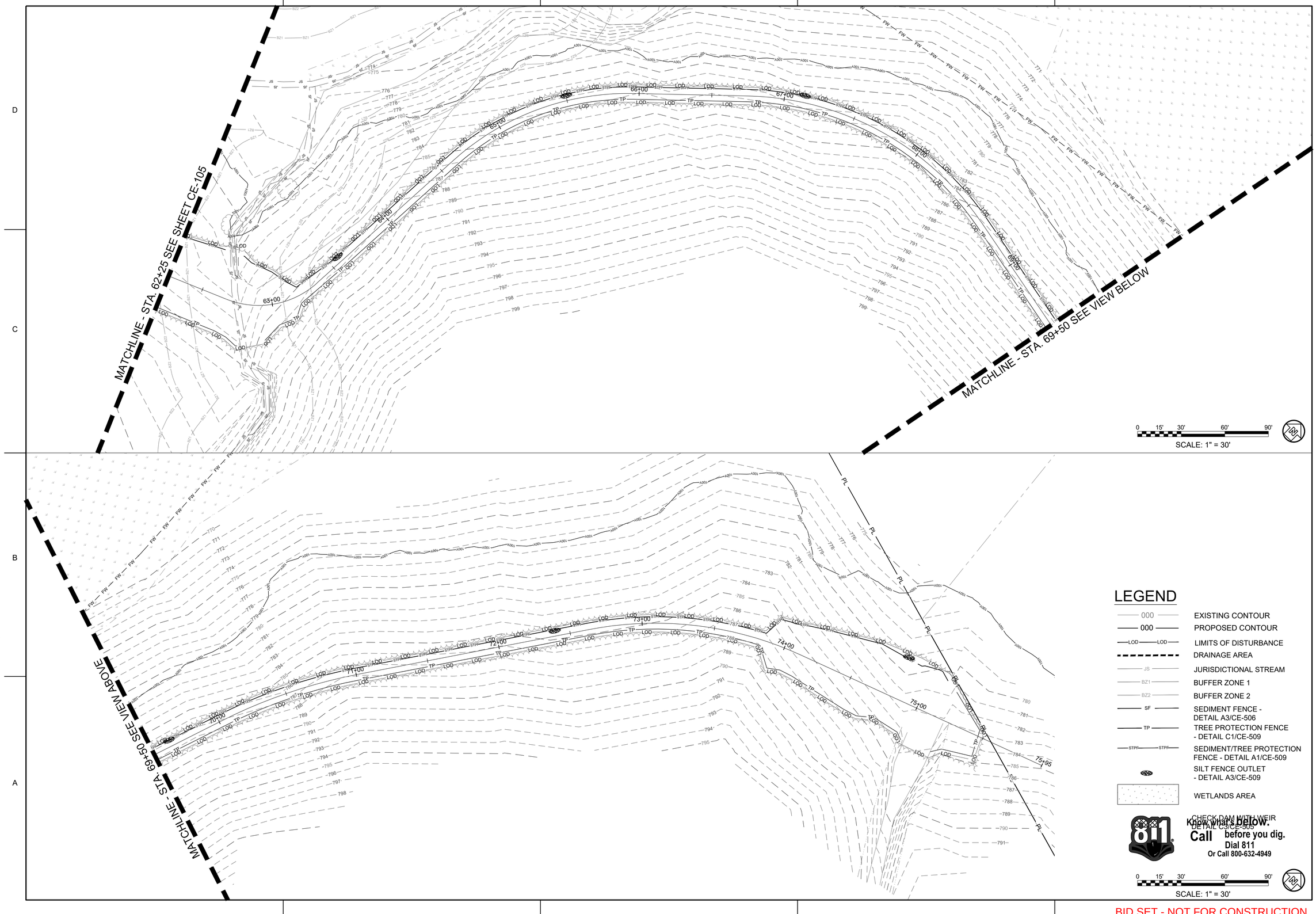


## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- SEDIMENT FENCE - DETAIL A3/CE-506
- TREE PROTECTION FENCE - DETAIL C1/CE-509
- SEDIMENT/TREE PROTECTION FENCE - DETAIL A1/CE-509
- SILT FENCE OUTLET - DETAIL A3/CE-509
- WETLANDS AREA
- CHECK DAM WITH WEIR DETAIL C3/CE-505

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049641 ENGINEER ANDREW M. CLARK
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

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| SUBMITTED BY: | JM |
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| PROJECT # | 1230863 |

SHEET TITLE

## EROSION CONTROL PLAN PHASE 1

SHEET NUMBER

# CE-106

ORIGINAL SHEET SIZE:
22" X 34"

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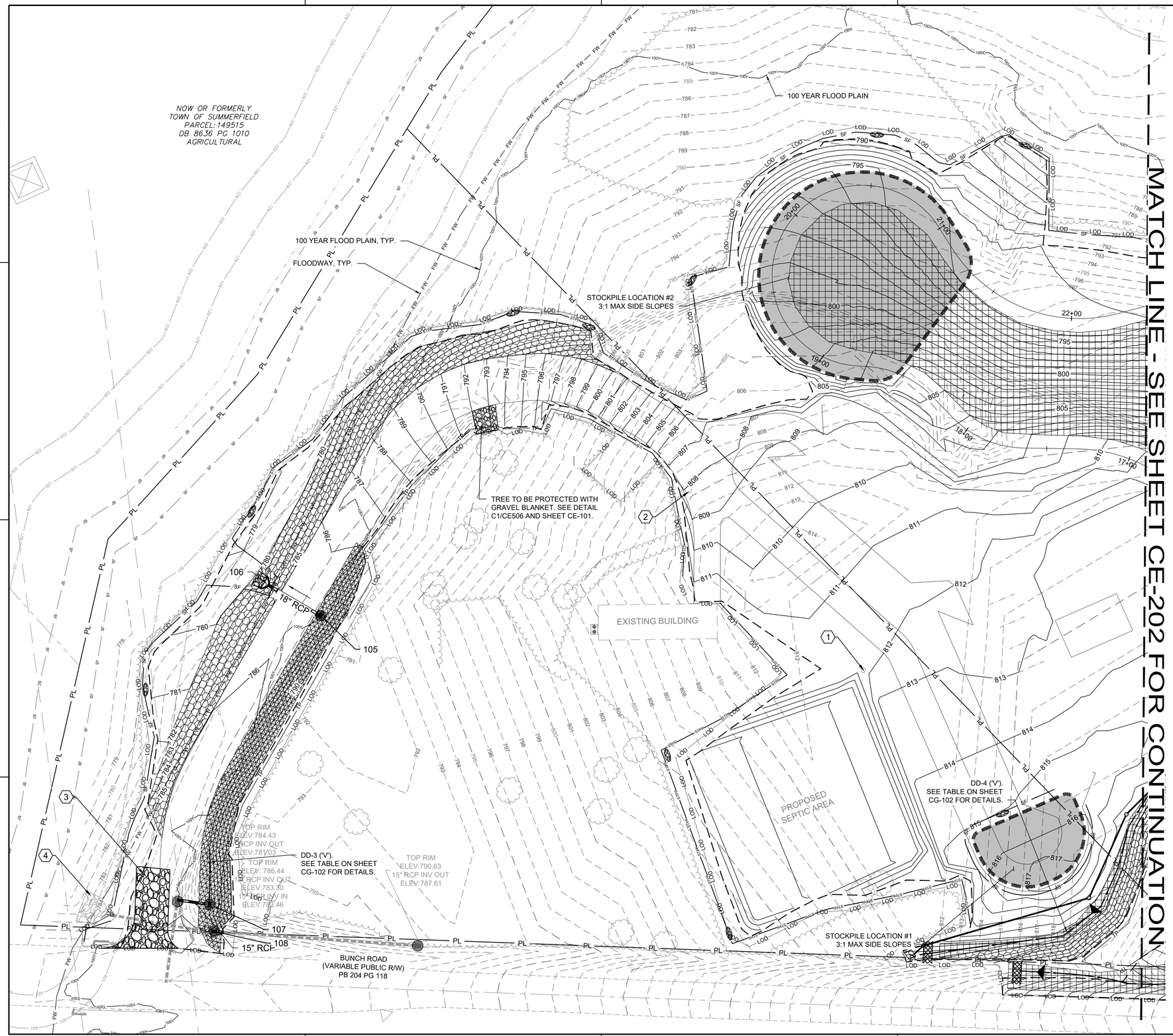


## SHEET KEYNOTES

1. PROTECT AND PRESERVE EXISTING ELECTRICAL BOX THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR TO ADJUST ELECTRICAL BOX TO PROPOSED GRADE.
2. PROTECT AND PRESERVE EXISTING WATER WELL THROUGHOUT ALL PHASES OF CONSTRUCTION. APPROXIMATE LOCATION OF WATER WELL IS SHOWN, CONTRACTOR TO FIELD VERIFY. CONTRACTOR TO ADJUST TOP TO FINISHED GRADE. WATER WELL TOP TO BE TRAFFIC RATED.
3. PROP CONSTRUCTION ENTRANCE. DETAIL A3/CE-501
4. EXIST. RIP RAP TO REMAIN

## LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- JURISDICTIONAL STREAM
- BUFFER ZONE 1
- BUFFER ZONE 2
- DRAINAGE AREA
- SEDIMENT FENCE - DETAIL A3/CE-506
- TREE PROTECTION FENCE - DETAIL C1/CE-509
- SEDIMENT/TREE PROTECTION FENCE - DETAIL A1/CE-509
- CHECK DAMS - DETAIL A3/CE-507
- SILT FENCE OUTLET - DETAIL A3/CE-509
- ROCK PIPE INLET PROTECTION - DETAIL A1/CE-508
- ROCK DOUGHNUT INLET PROTECTION - DETAIL A1/CE-506
- RIP RAP AT PIPE OUTLET. DETAIL C3/CE-506
- CHECK DAM WITH WEIR DETAIL C3/CE-505
- EROSION CONTROL BLANKET-DOUBLE NET. NORTH AMERICAN GREEN S75BN OR EQUIVALENT.
- EROSION CONTROL BLANKET- SINGLE NET. NORTH AMERICAN GREEN SC150BN OR EQUIVALENT
- TURF REINFORCEMENT MATTING (TRM) NORTH AMERICAN GREEN SC250 OR EQUIVALENT
- WETLANDS AREA

SCALE: 1" = 30'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049711 JOSEPH M. MCDANIEL
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

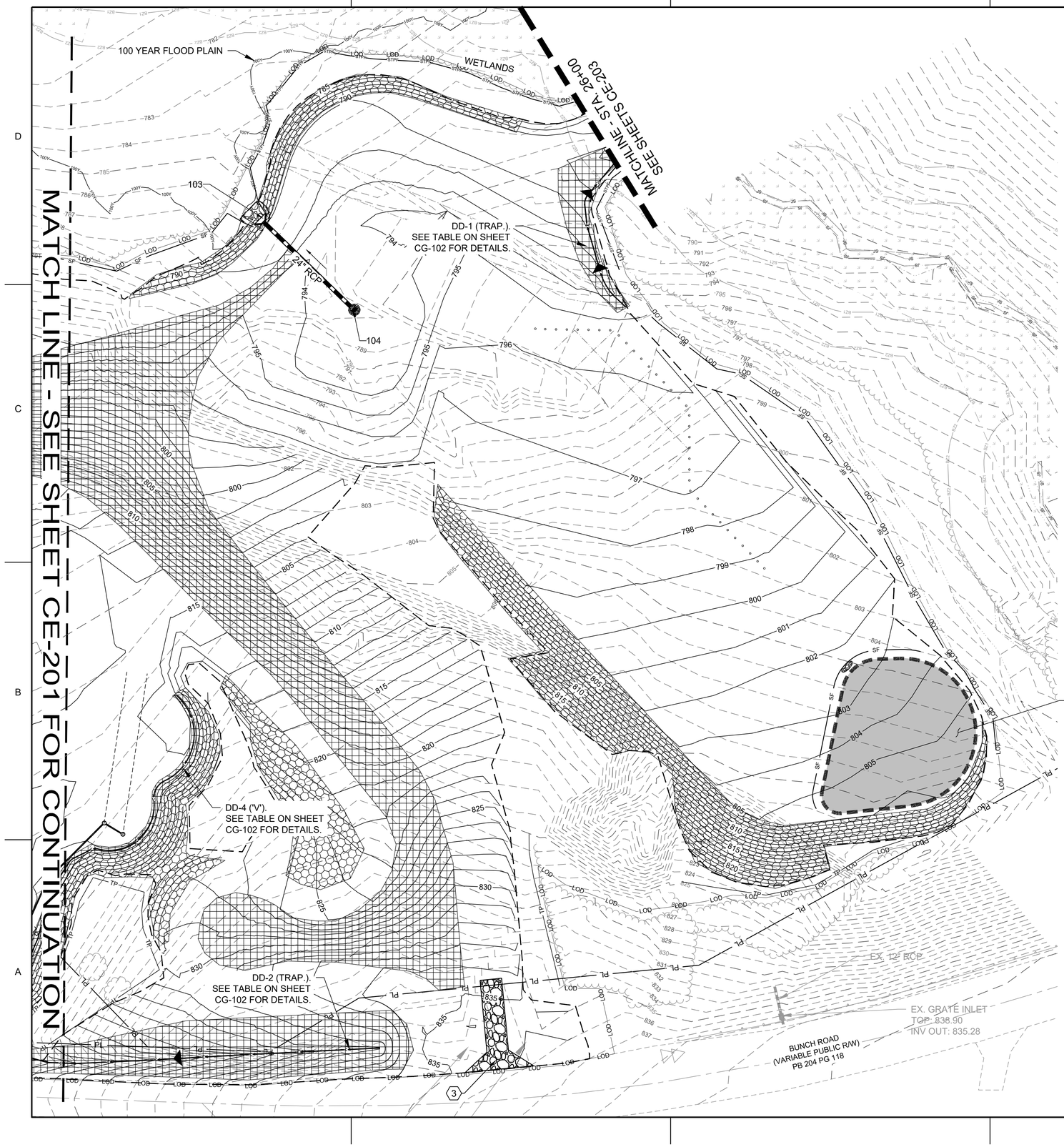
EROSION CONTROL PLAN PHASE 2

SHEET NUMBER

CE-201

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07. CAD-BIM\07. 02 CAD\CIVIL\CE105 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

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- WETLANDS AREA

0 15' 30' 60' 90'

SCALE: 1" = 30'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 052771 JOHN M. HOUKES
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 2

SHEET NUMBER

CE-202

ORIGINAL SHEET SIZE: 22" X 34"

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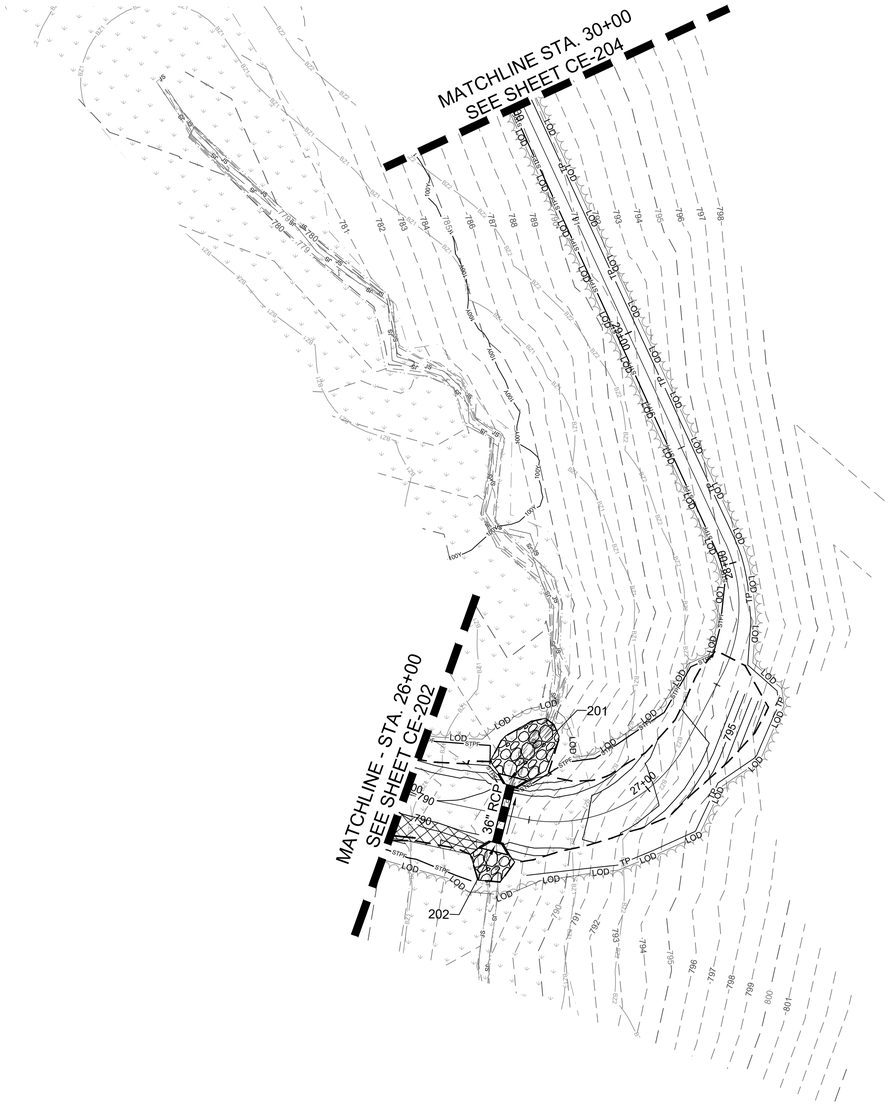


## LEGEND

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- RIP RAP AT PIPE OUTLET. DETAIL C3/CE-506
- WETLANDS AREA

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0 15' 30' 60' 90'

SCALE: 1" = 30'

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049417 ENGINEER JAMES M. MOURAKIS

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

## EROSION CONTROL PLAN PHASE 2

SHEET NUMBER

# CE-203

ORIGINAL SHEET SIZE: 22" X 34"

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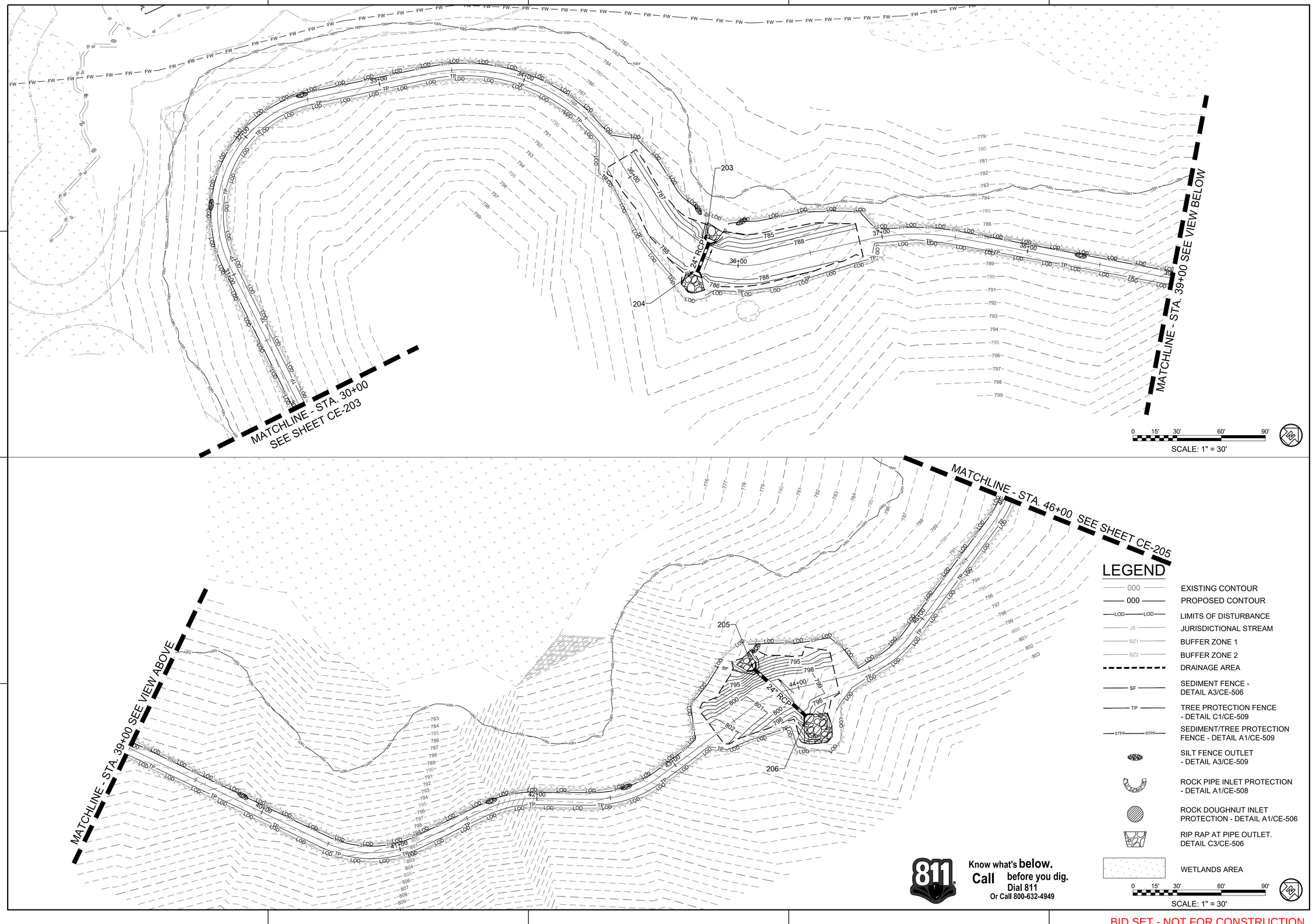


## LEGEND

- EXISTING CONTOUR
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- BUFFER ZONE 1
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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047671 MICHAEL LEE LAMM WOLFE
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 2

SHEET NUMBER

CE-204

ORIGINAL SHEET SIZE: 22" X 34"

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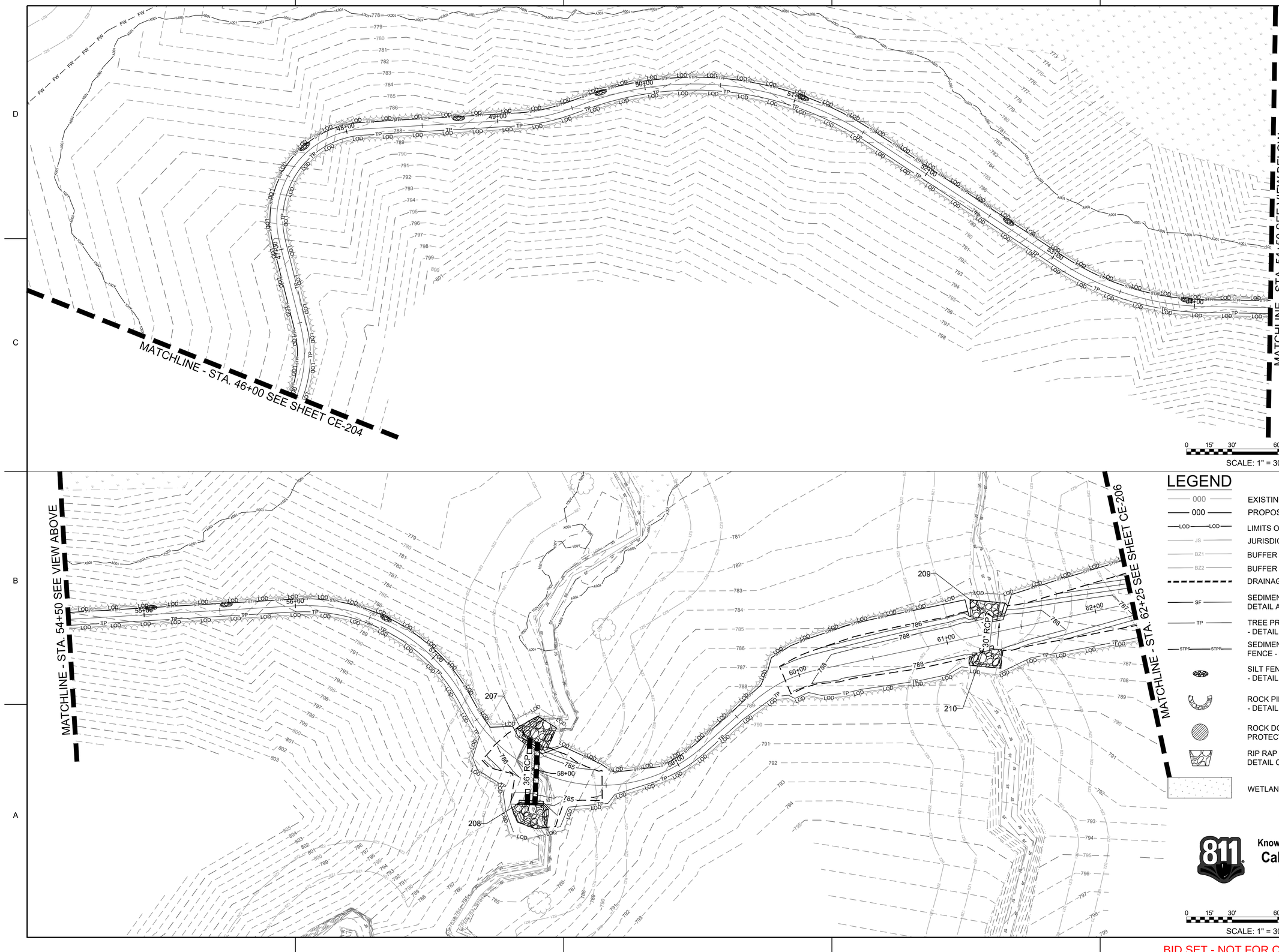


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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047671 JOSEPH M. MCKEE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 2

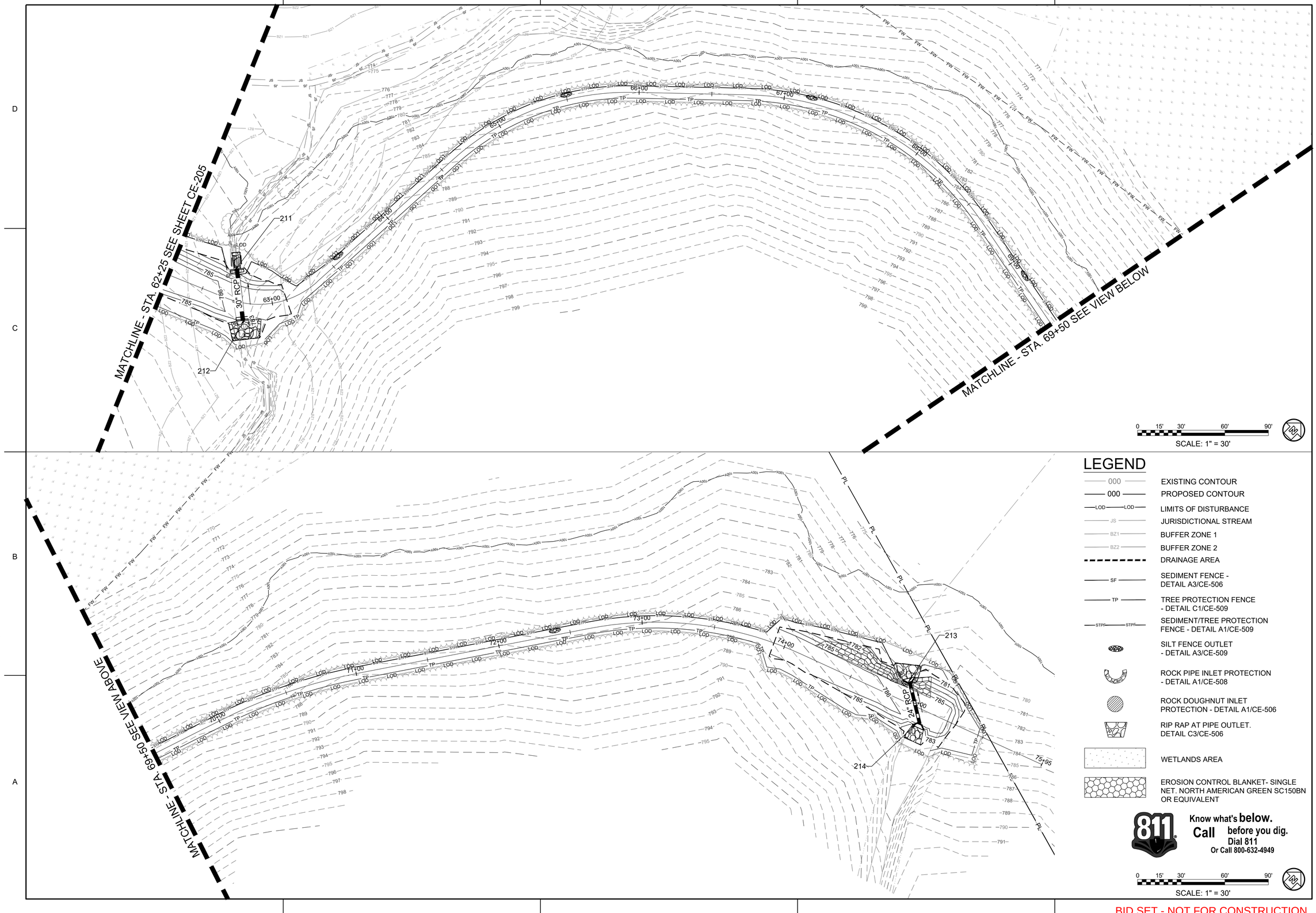
SHEET NUMBER

CE-205

ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE105 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




## LEGEND

- EXISTING CONTOUR
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- WETLANDS AREA
- EROSION CONTROL BLANKET- SINGLE NET. NORTH AMERICAN GREEN SC150BN OR EQUIVALENT

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10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
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PROJECT NAME

# BANDERA FARMS PARK

5448 BUNCH RD
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| DRAWN BY: | AC |
| CHECKED BY: | ML |
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| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN PHASE 2

SHEET NUMBER

CE-206

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE105 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

## GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

## SECTION E: GROUND STABILIZATION

**Required Ground Stabilization Timeframes**

| Site Area Description | Stabilize within this many calendar days after ceasing land disturbance | Timeframe variations |
|---|---|---|
| (a) Perimeter dikes, swales, ditches, and perimeter slopes | 7 | None |
| (b) High Quality Water (HQW) Zones | 7 | None |
| (c) Slopes steeper than 3:1 | 7 | If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed |
| (d) Slopes 3:1 to 4:1 | 14 | -7 days for slopes greater than 50' in length and with slopes steeper than 4:1<br>-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-10 days for Falls Lake Watershed |
| (e) Areas with slopes flatter than 4:1 | 14 | -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones<br>-10 days for Falls Lake Watershed unless there is zero slope |

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

## GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

| Temporary Stabilization | Permanent Stabilization |
|---|---|
| • Temporary grass seed covered with straw or other mulches and tackifiers<br>• Hydroseeding<br>• Rolled erosion control products with or without temporary grass seed<br>• Appropriately applied straw or other mulch<br>• Plastic sheeting | • Permanent grass seed covered with straw or other mulches and tackifiers<br>• Geotextile fabrics such as permanent soil reinforcement matting<br>• Hydroseeding<br>• Shrubs or other permanent plantings covered with mulch<br>• Uniform and evenly distributed ground cover sufficient to restrain erosion<br>• Structural methods such as concrete, asphalt or retaining walls<br>• Rolled erosion control products with grass seed |

## POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

## EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

## LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

## PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

## PORTABLE TOILETS

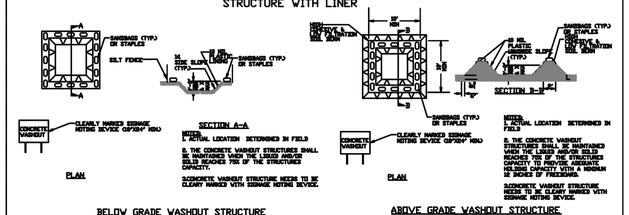
1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

## EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER




## CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

## HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

## HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

# NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047771 ANDREW T. MCKAY
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

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| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-501

ORIGINAL SHEET SIZE: 22" X 34"


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## PART III
## SELF-INSPECTION, RECORDKEEPING AND REPORTING

### SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

| Inspect | Frequency (during normal business hours) | Inspection records must include: |
|---|---|---|
| (1) Rain gauge maintained in good working order | Daily | Daily rainfall amounts.<br>If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division. |
| (2) E&SC Measures | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the measures inspected,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Indication of whether the measures were operating properly,<br>5. Description of maintenance needs for the measure,<br>6. Description, evidence, and date of corrective actions taken. |
| (3) Stormwater discharge outfalls (SDCs) | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the discharge outfalls inspected,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,<br>5. Indication of visible sediment leaving the site,<br>6. Description, evidence, and date of corrective actions taken. |
| (4) Perimeter of site | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If visible sedimentation is found outside site limits, then a record of the following shall be made:<br>1. Actions taken to clean up or stabilize the sediment that has left the site limits,<br>2. Description, evidence, and date of corrective actions taken, and<br>3. An explanation as to the actions taken to control future releases. |
| (5) Streams or wetlands onsite or offsite (where accessible) | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:<br>1. Description, evidence and date of corrective actions taken, and<br>2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit. |
| (6) Ground stabilization measures | After each phase of grading | 1. The phase of gracing (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover).<br>2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible. |

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

## PART III
## SELF-INSPECTION, RECORDKEEPING AND REPORTING

### SECTION B: RECORDKEEPING

**1. E&SC Plan Documentation**

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

| Item to Document | Documentation Requirements |
|---|---|
| (a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan. | Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation. |
| (b) A phase of grading has been completed. | Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase. |
| (c) Ground cover is located and installed in accordance with the approved E&SC plan. | Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications. |
| (d) The maintenance and repair requirements for all E&SC measures have been performed. | Complete, date and sign an inspection report. |
| (e) Corrective actions have been taken to E&SC measures. | Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action. |

**2. Additional Documentation to be Kept on Site**

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

**3. Documentation to be Retained for Three Years**

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

## PART III
## SELF-INSPECTION, RECORDKEEPING AND REPORTING

### SECTION C: REPORTING

**1. Occurrences that Must be Reported**

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

| Occurrence | Reporting Timeframes (After Discovery) and Other Requirements |
|---|---|
| (a) Visible sediment deposition in a stream or wetland | • ***Within 24 hours***, an oral or electronic notification.<br>• ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.<br>• If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions. |
| (b) Oil spills and release of hazardous substances per Item 1(b)-(c) above | • ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. |
| (c) Anticipated bypasses [40 CFR 122.41(m)(3)] | • ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass. |
| (d) Unanticipated bypasses [40 CFR 122.41(m)(3)] | • ***Within 24 hours***, an oral or electronic notification.<br>• ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass. |
| (e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)] | • ***Within 24 hours***, an oral or electronic notification.<br>• ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6).<br>• Division staff may waive the requirement for a written report on a case-by-case basis. |

## PART II, SECTION G, ITEM (4)
## DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

# NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047771 JOSEPH M. MCKEE

10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-502

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION

DATE: PAGE:

## CONSIDERATIONS FOR CONSTRUCTION SCHEDULING

| CONSTRUCTION ACTIVITY | SCHEDULE CONSIDERATION |
|---|---|
| CONSTRUCTION ACCESS: Construction entrance, construction routes, equipment parking areas. | First land-disturbing activity- Stabilize bare areas immediately with gravel and temporary vegetation as construction takes place. |
| SEDIMENT TRAPS AND BARRIERS: Basin traps, sediment fences, and outlet protection. | Install principal basins after construction site is accessed. Install additional traps and barriers as needed during grading. |
| RUNOFF CONTROL: Diversions, perimeter dikes, water bars, and outlet protection. | Install key practices after principal sediment traps and before land grading. Install additional runoff-control measures during grading. |
| RUNOFF CONVEYANCE SYSTEM: Stabilize streambanks, storm drains, channels, inlet and outlet protection, and slope drains. | Where necessary, stabilize streambanks as early as possible. Install principal runoff conveyance system with runoff-control measures. Install remainder of system after grading. |
| LANDING CLEARING AND GRADING: Site preparation- cutting, filling and grading, sediment traps, barriers, diversions, drains, and surface roughening. | Begin major clearing and grading **AFTER** principal sediment and key runoff-control measures are installed. Clear borrow and disposal areas only as needed. Install additional control measures as grading progresses. Mark trees and buffer areas for preservation. |
| SURFACE STABILIZATION: Temporary and permanent seeding, mulching, sodding and riprap. | Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is delayed or complete. |
| BUILDING CONSTRUCTION: Buildings, utilities, and paving. | Install necessary additional erosion and sedimentation control practices as work takes place. |
| LANDSCAPE AND FINAL STABILIZATION: Topsoiling, trees and shrubs, permanent seeding, mulching, sodding, and riprap. | Last construction phase: Stabilize all open areas, including borrow and spoil areas. Remove and stabilize all temporary control areas. |

NOTE: The above are the main aspects of a typical construction sequence in general terms. A detailed Construction Sequence should be site specific based on your project and site needs. As a minimum, the construction sequence schedule should show the following:

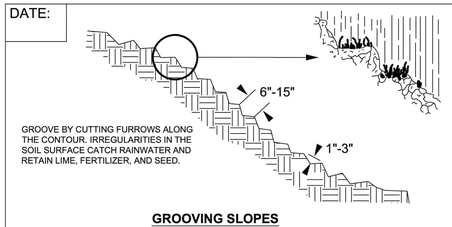
- The erosion and sedimentation control practices to be installed,
- Principal development activities,
- What measures should be in place before other activities are begun, and
- Compatibility with the general construction schedule of the contract.

Many timely construction techniques can reduce the erosion potential of a site, such as (1) shaping earthen fills daily to prevent overflows and (2) constructing temporary diversions ahead of anticipated storms. These types of activities cannot be put on the construction sequence schedule, but should be used whenever possible.

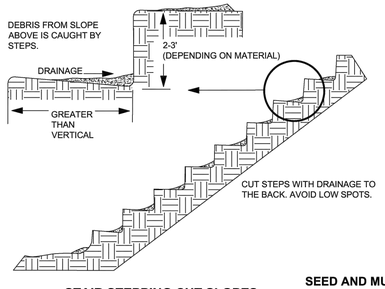
**CONSTRUCTION SEQUENCING** | Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

C1 CONSTRUCTION SQUENCING

DATE: PAGE:




**GROOVING SLOPES**




**STAIR STEPPING CUT SLOPES**

**CUT SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED:**

1. Stair-step grade or groove cut slopes with a gradient steeper than 3:1.
2. Use stair-step grading on any erodible material soft enough to be ripped with a bulldozer. Slopes consisting of soft rock with some subsoil are particularly suited to stair-stepping.
3. Make the vertical cut distance less than the horizontal distance, and slightly slope the horizontal position of the "step" in toward the vertical wall.
4. Do not make individual vertical cuts more than 2 feet in soft materials or more than 3 feet in rocky materials.
5. Grooving uses machinery to create a series of ridges and depressions that run across the slope (on the contour).
6. Groove using any appropriate implement that can be safely operated on the slope. Such as disks, tillers, spring harrows, or the teeth on a front-end loader bucket. Do not make such grooves less than 3 inches deep nor more than 15 inches apart.

**FILL SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED:**

1. Place fill slopes with a gradient steeper than 3:1 in lifts not to exceed 9 inches, and make sure each lift is properly compacted. Ensure that the face of the slope consists of loose, uncompacted fill 4 to 6 inches deep. Use grooving, as described above, to roughen the face of the slopes, if necessary.
2. Do not blade or scrape the final slope face.

**CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED:**

1. Make mowed slopes **no steeper than 3:1**
2. Roughen these areas to shallow grooves by normal tilling, disking, harrowing, or use of a cultipacker-seeder. Make the final pass of any such tillage implement on the contour.
3. Make grooves, formed by such implements, close together (less than 10 inches) and not less than 1 inch deep.
4. Excessive roughness is undesirable where mowing is planned.

**ROUGHENING WITH TRACKED MACHINERY:**

1. Limit roughening with tracked machinery to sandy soils to avoid undue compaction of the soil surface. Tracking is generally not as effective as the other roughening methods described.
2. Operate tracked machinery up and down the slope to leave horizontal depressions in the soil. Do not back-blade during the final grading operation.

**SEED AND MULCH ROUGHENED AREAS IMMEDIATELY TO OBTAIN OPTIMUM SEED GERMINATION AND GROWTH.**

**SURFACE ROUGHENING** | Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

A1 SURFACE ROUGHENING

DATE: PAGE:

| SPACING GUIDE FOR SLOPE BREAKS | | |
|---|---|---|
| | SLOPE | SPACING (FT) |
| Steep Slopes | 2:1 | 20 |
| | 3:1 | 35 |
| | 4:1 | 45 |
| Long Slopes | 15-25% | 50 |
| | 10-15% | 80 |
| | 6-10% | 125 |
| | 3-6% | 200 |
| | <3% | 300 |

Use slope breaks, such as diversions, wattles, or benches, as appropriate, to reduce the length of cut-and-fill slope to limit sheet and rill erosion and prevent gullying.

MAINTENANCE:

1. Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls.
2. Promptly remove all sediment from diversions and other water-disposal practices.
3. If washouts or breaks occur, repair immediately.
4. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

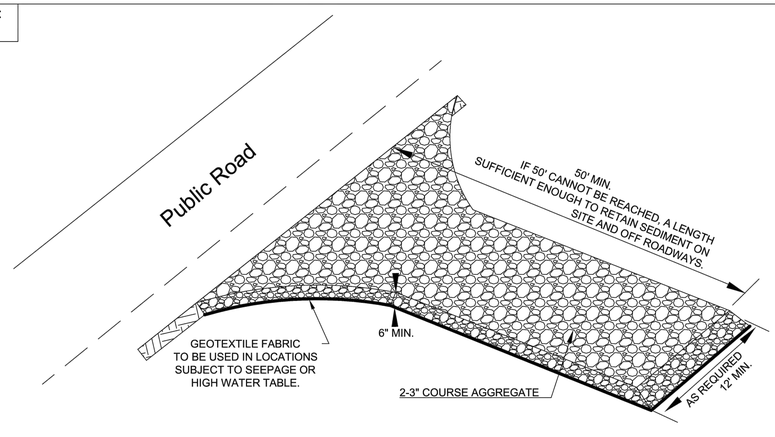
NOTES:

1. Construct and maintain all erosion and sediment control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear and grub areas to be filled by removing trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen, soft, mucky, or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods (subsurface drain).
11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan. Apply temporary stabilization measures on all graded areas when work is to be interrupted or delayed for 30 days or longer.
12. Show topsoil, stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

**LAND GRADING** | Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

C3 LAND GRADING

DATE: PAGE:




Construction:

1. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
2. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.
3. Provide drainage to carry water to a sediment trap or other suitable outlet.
4. Use geotextile fabrics in order to improve stability of the foundation in locations subject to seepage or high water table.

Maintenance:

1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately.
2. Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone.
3. Sediment on roadways is to be removed immediately by broom and shovel, either by manual or mechanical means, and not to be washed off where it has the potential to enter a stream, drainage way or storm drain system.

**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT** | Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

A3 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/ EXIT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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-503

ORIGINAL SHEET SIZE: 22" X 34"


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25


BID SET - NOT FOR CONSTRUCTION

NOTE: CONTRACTOR WILL PROVIDE TEMPORARY VEGETATION UNTIL SITE IS STABILIZED AND CONDITIONS ALLOW FOR SEEDING OF BERMUDAGRASS. REFER TO LANDSCAPING PLANS.

DATE:

PAGE:

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

**Seeding Mixture**

| Species | Rate (lb/acre) |
|---|---|
| Rye (grain) | 120 |
| Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains) | 50 |

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

**Seeding Dates**
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1- May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

**Mulch**
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

**Maintenance**
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

**Seeding Mixture**

| Species | Rate (lb/acre) |
|---|---|
| German millet | 40 |

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

**Seeding Dates**
Mountains — May 15 - Aug. 15
Piedmont — May 1 - Aug. 15
Coastal Plain — Apr. 15 - Aug. 15

**Mulch**
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

**Maintenance**
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

**Seeding Mixture**

| Species | Rate (lb/acre) |
|---|---|
| Rye (grain) | 120 |

**Seeding Dates**
Mountains — Aug. 15 - Dec. 15
Coastal Plain and Piedmont — Aug. 15 - Dec. 31

**Mulch**
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

**Maintenance**
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

**SEED BED PREPARATION:**

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1-1½ tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700 - 1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

**TEMPORARY SEEDING**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

C1 TEMPORARY SEEDING

NOTE: REFERENCE LANDSCAPING PLAN FOR PERMANENT SEEDING. REFER TO PLANT SCHEDULE ON SHEET L-502. CONTRACTOR RESPONSIBLE FOR TIMING FINAL SEEDING WITH APPROPRIATE SEASON.

DATE:

PAGE:

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

**SEEDING MIXTURE**

| Species | Rate |
|---|---|
| Centipede | 5 lbs/acre |
| Indian Woodoats | 1.5-2.5 lbs/acre* |
| Virginia Wild Rye | 4-6 lbs/acre |

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

**Seeding Dates**
Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

**Maintenance:**
Significant maintenance may be required to obtain desired cover.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER

**SEEDING MIXTURE**

| Species | Rate |
|---|---|
| Indian Woodoats | 1.5-2.5 lbs/acre* |
| Virginia Wild Rye | 4-6 lbs/acre* |

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

**Seeding Dates**
Mountains - July 15- Aug 15
Piedmont - Aug 15 - Oct 15

**Maintenance:**
Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL

**SEEDING MIXTURE**

| Species | Rate |
|---|---|
| Hard Fescue | 15 lbs/acre |
| Switchgrass | 2.5-3.5 lbs/acre* |
| Indian Grass | 5-7 lbs/acre* |
| Big Bluestem | 5-7 lbs/acre* |
| Indian Woodoats | 1.5-2.5 lbs/acre* |
| Virginia Wild Rye | 4-6 lbs/acre* |

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

**Seeding Dates**
Mountains - Hard Fescue- Aug 1 - June 1
Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 15
Piedmont and Coastal- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 1
Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

**Maintenance:**
Hard Fescue is not recommended for slopes > 5%. Prefers shade.

**SEED BED PREPARATION:**

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1½ tons/acre on coarse0textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. the finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. all ridges and depressions shall be removed and filled to provide the approved surface drainage . Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NOTES:
1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframes table.
2. A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.
3. Use a seeding mix that will produce fast0growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must cover at leaser 80% of the soil surface.
4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

**PERMANENT SEEDING**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

C3 PERMANENT SEEDING

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**Mulching Materials and Application Rates**

| Material Organic Mulches | Rate Per Acre | Quality | Notes |
|---|---|---|---|
| Straw | 1-2 tons | Dry, unchopped, unweathered; avoid weeds. | Should come from wheat or oats; spread by hand or machine; must be tacked down. |
| Wood Chips | 5-6 tons | Air dry | Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handle, or by hand. Not for use in fine turf. |
| Wood Fiber | 0.5-1 tons | | Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather. |
| Bark | 35 cubic yards | Air dry, shredded or hammer-milled, or chips. | Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack. |
| Corn Stalks | 4-6 tons | Cut or shredded in 4-6 inch lengths. | Apply with mulch blower or by hand. Not for use in fine turf. |
| Sericea Lespedeza seed-bearing stems | 1-3 tons | Green or dry; should contain mature seed. | |
| **Nets and Mats*** | | | |
| Jute net | Cover area | Heavy, uniform; woven of single jute yarn. | Withstands waterflow. Best when used with organic mulch |
| Fiberglass net | Cover area | | Withstands waterflow. Best when used with organic mulch |
| Excelsior (wood fiber net) | Cover area | | Withstands waterflow. |
| Fiberglass roving | 0.5-1 tons | Continuous fibers of drawn glass bound together with a non-toxic agent. | Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq. ft. |
| **Chemical Stabilizers**** | | | |
| Aquatain Aerospray Curasol AK Pertroset SB Terra Tack Crust 500 Genaqua 743 M-145 | Follow Manufacturer's specifications | | Not beneficial to plant growth |

*Refer to Practice No. 6.30, Grass Lined Channels in the NC DEQ E&SC Planning and Design Manual
**Use of trade names does not imply endorsement of product.

**NOTES:**
1. Select material based on site and practice requirements, availability of material, labor and equipment.
2. Before mulching, complete grading, install sediment control practices, and prepare the seedbed. Apply seed before mulching **except** when seed is applied as part of a hydroseeder slurry containing wood fiber mulch or a hydroseeder slurry is applied over straw.

**APPLICATION OF ORGANIC MULCH**
1. Spread mulch uniformly by hand, or with a mulch blower.
2. When spreading straw mulch by hand, divide the area to be mulched into sections of approximately 1,000 $ft^2$, and place 70-90 lb. of straw(1 1/2 to 2 bales) in each section to facilitate uniform distribution.
3. After Spreading, no more than 25% of the ground surface should be visible.
4. In hydroseeding operations a green dye, added to the slurry, assures a uniform application.

**ANCHORING ORGANIC MULCH**
1. Straw mulch must be anchored immediately after spreading.
2. A tractor-drawn implement designed to punch mulch into the soil or a mulch anchoring tool provides maximum erosion control with straw. A regular farm disk, weighted and set nearly straight, may substitute, but will not do a job comparable to the mulch anchoring tool. The disk should not be sharp enough to cut the straw. These methods are limited to slopes no steeper than 3:1, where equipment can operate safely.
3. Application of liquid mulch binders and tackifiers should be heaviest at the edges of areas and at crests of ridges and banks, to resist winds. Binder should be applied uniformly to the rest of the area. Binders may be applied after mulch is spread, or may be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
4. Emulsified asphalt should be applied at 0.10 gallons per square yard (10 gal/1,000 $ft^2$). Heavier applications cause straw to "perch" over rills. Use Rapid setting (RS or CRS) designated asphalt in traffic areas to prevent uncured asphalt from being picked up on shoes and causing damage to rugs, clothes, etc.
5. Synthetic binders may be used as recommended by the manufacturer.
6. Lightweight plastic, cotton, jute, wire or paper nets may be stapled over the mulch according to the manufacturer's recommendations.
7. For small areas where other methods cannot be used, peg and twine anchoring can be used. Drive 8-10 inch wooden pegs to within 3 inches of the soil surface, every 4 feet in all directions. Stakes can be driven before or after straw is spread. Secure mulch by stretching twine between pegs in a criss-cross-within-a-square pattern. Turn twine two or more times around each peg.
8. Rye Grain may be used to anchor mulch in fall plantings, and German Millet in spring. Broadcast at 15 lb/acre before applying mulch.

**CHEMICAL MULCHES**
1. May be effective for soil stabilization if used between May 1 and June 15, or Sept. 15 and Oct. 15, provided that they are used on slopes **no steeper** than 4:1, and that proper seedbed preparation has been accomplished, including surface roughening where required.
2. Chemical mulches cannot be used to bind other mulches, or with wood fiber in a hydroseeded slurry at any time. Follow the manufacturer's recommendations for application.

**FIBERGLASS ROVING**
1. Spread roving uniformly over the area at a rate of 0.25 to 0.35 lb/$yd^2$. Anchor with asphalt immediately after application, at a rate of 0.25-0.35 gal/$yd^2$
2. As a channel lining, and at other sites of concentrated flow, the roving mat must be further anchored to prevent undermining.
3. It may be secured with stakes placed at intervals no greater than 10 feet along the drainageway, and randomly throughout its width, but not more than 10 feet apart.
4. As an option to staking, the roving can be buried to a depth of 5 inches at the upgrade end and at intervals of 50 feet along the length of the channel.

**NETS AND MATS**
1. Nests alone generally provide little moisture conservation benefits and only limited erosion protection. Therefore, typically use in conjunction with an organic mulch such as straw.
2. Except when wood fiber slurry is used, netting should always be installed **over** the mulch. Wood fiber may be sprayed on top of an installed net.
3. Mats, including "excelsior" (wood fiber) blankets, are considered protective mulches and may be used alone.
4. Place the matting in firm contact with the soil, and staple securely.

**MULCHING**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

A1 MULCHING

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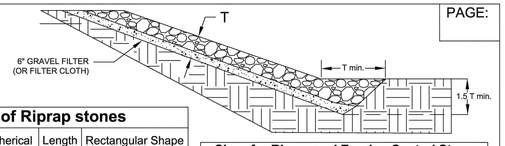
Subgrade Preparation:
1. Prepare the subgrade for riprap and filter to the required lines and grades shown on the plans.
2. Compact any fill required in the subgrade to a density approximating that of the surrounding undisturbed material or overfill depressions with riprap.
3. Remove brush, trees, stumps, and other objectionable material.

Sand and Gravel Filter Blanket:
1. Place the filter blanket immediately after the ground foundation is prepared.
2. When using gravel, spread filter stone in a uniform layer to the specified depth.
3. When more than one layer of filter material is used, spread the layers with minimal mixing.

Synthetic Filter Fabric:
1. Place the cloth filter directly on the prepared foundation.
2. Overlap the edges by at least 12 inches, and space anchor pins every 3 feet along the overlap.
3. Bury the upstream end of the cloth a minimum of 12 inches below ground and bury the lower end of the cloth or over lap with the next section as required.
4. If damage occurs while placing riprap, remove the riprap, and repair the sheet by adding another layer of filter material with a minimum overlap of 12 inches around the damaged area. If damage is extensive, remove and replace the entire sheet.
5. If placing large stones or machine placing is difficult, a 4 inch layer of fine gravel or sand may be needed to protect the filter cloth.

Maintenance:
In general, once a riprap installation has been properly designed and installed it requires very little maintenance. Riprap should be inspected periodically for scour or dislodged stones. Control of weed and brush growth may be needed in some locations.




**Size of Riprap stones**

| Weight (lb) | Mean Spherical Diameter (ft) | Length (ft) | Rectangular Shape Width/Height (ft) |
|---|---|---|---|
| 50 | 0.8 | 1.4 | 0.5 |
| 100 | 1.1 | 1.8 | 0.6 |
| 150 | 1.3 | 2.0 | 0.7 |
| 300 | 1.6 | 2.6 | 0.9 |
| 500 | 1.9 | 3.0 | 1.0 |
| 1000 | 2.2 | 3.7 | 1.3 |
| 1500 | 2.6 | 4.7 | 1.5 |
| 2000 | 2.8 | 5.4 | 1.8 |
| 4000 | 3.6 | 6.0 | 2.0 |
| 6000 | 4.0 | 6.9 | 2.3 |
| 8000 | 4.5 | 7.6 | 2.5 |
| 20,000 | 6.1 | 10.0 | 3.3 |

**Sizes for Riprap and Erosion Control Stone Specified by NCDOT**

| Riprap | | Erosion Control | |
|---|---|---|---|
| **Class 1** | **Class 2** | **Class A** | **Class B** |
| 5-200 lb | 25-250 lb | 2"-6" | 5"-15" |
| 30% shall weigh a minimum of 60 lbs each | 60% shall weigh a minimum of 100 lbs each | | |
| No more than 10% shall weigh less than 15 lbs each | No more than 5% shall weigh less than 50 lbs each | 10% tolerance top and bottom sizes | |
| | | Equally distributed, no gradation specified | Equally distributed, no gradation specified |

Riprap should be a well-graded mixture with 50% by weight larger than the specified design size.
Diameter of the largest stone size in the mix should be 1.5 times the $d_{50}$ size with smaller sizes grading down to 1 inch.

Stone Placement:
1. Placement of riprap should follow immediately after placement of the filter.
2. Place so that riprap forms a dense, well-graded mass of stone with a minimum of voids.
3. Place to its full thickness in one operation.
4. Do not place by dumping through chutes or other methods that cause segregation of stone sizes.
5. Take care not to dislodge underlying base or filter when placing stone.
6. The toe of the riprap slope should be keyed to a stable foundation at its base.
7. The toe should be excavated to a depth about 1.5 times the design thickness of the riprap and extend horizontally from the slope, as shown above.
8. Hand placing may be necessary to achieve the proper distribution of stone sizes to produce a relatively smooth, uniform surface.

**RIP RAP**

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In accordance with the 2013 Design Manual Updates

A3 RIP RAP


POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213



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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047971 JOSEPH M. MCKEE REGISTERED
10/9/2025

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-504

ORIGINAL SHEET SIZE:
22" X 34"


FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25


BID SET - NOT FOR CONSTRUCTION

DATE:

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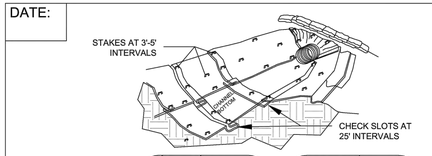
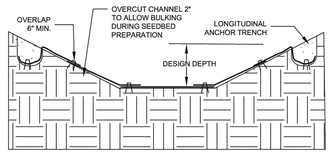
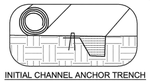
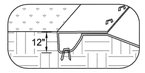
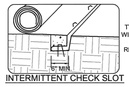




INITIAL CHANNEL ANCHOR TRENCH

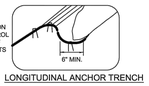


TERMINAL SLOPE AND CHANNEL ANCHOR TRENCH

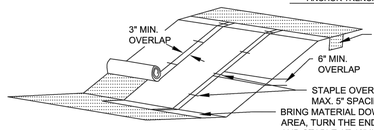


INTERMITTENT CHECK SLOT

TYPICAL INSTALLATION WITH EROSION CONTROL BLANKETS OR TURF REINFORCEMENT MATS



LONGITUDINAL ANCHOR TRENCH



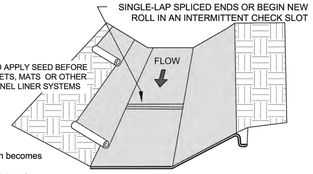

ANCHOR 6"X6" MIN. TRENCH AND STAPLE AT 12" INTERVALS

STAPLE OVERLAPS MAX. 5" SPACING

BRING MATERIAL DOWN TO A LEVEL AREA, TURN THE END UNDER 4" AND STAPLE AT 12" INTERVALS.

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS OR OTHER TEMPORARY CHANNEL LINER SYSTEMS

SINGLE-LAP SPLICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT




NOTES:
1. Lime, fertilize and seed before installation. Planting of shrubs, trees, etc. should occur after installation.
2. Slope surface shall be smooth before placement for proper soil contact.
3. Design velocities exceeding 2 feet/second require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
4. Terminal anchor trenches are required at RECP ends and intermittent check slots must be constructed across channels at 25 foot intervals.
5. Terminal anchor trenches should be a minimum of 12 inches in depth and 6 inches in width. Intermittent check slots should be 6 inches deep and 6 inches wide.
6. For installation on a slope, place RECP 2-3 feet over the top of the slope and into an excavated end trench measuring approximately 12 inches deep by 6 inches wide. Pin the RECP at 1 foot intervals along the bottom of the trench, backfill and compact. Unroll the RECP down the slope maintaining direct contact between the soil and RECP. Secure using staples or pins in a 3 foot center-to-center pattern.
7. 11 gauge, at least 6 inch by 1 inch staples or 12 inch minimum length wooden stakes are recommended for anchoring.
8. Grass-lined channels with design velocities exceeding 6 feet/second should include turf reinforcement mats
9. Check slots to be constructed per manufacturers specifications.
10. Staking or stapling layout per manufacturers specification.
11. If there is a berm at the top of slope, anchor up-slope of the berm.
12. Do not stretch blankets/matting tight, allow the rolls to conform to any irregularities.
13. For slopes less than 3H:1V, rolls may be placed in horizontal strips.

MAINTENANCE:
1. Inspect Rolled Erosion Control Products at least weekly and after each rainfall of 1.0 inch or greater; repair immediately.
2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.
5. Monitor and repair the RECP as necessary until ground cover is established.

DEQ

**ROLLED EROSION CONTROL PRODUCTS**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## C1 ROLLED EROSION CONTROL PRODUCTS

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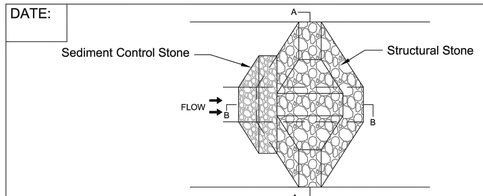
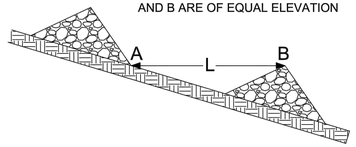
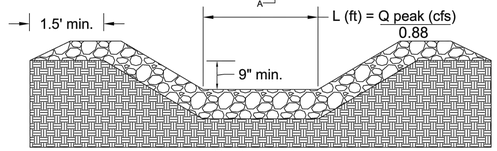
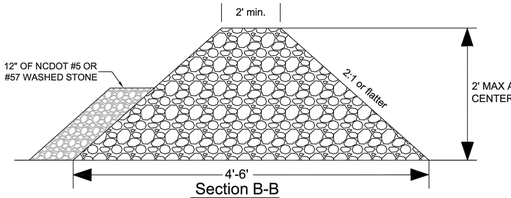



Section A-A




Section B-B

NOTES:
1. Place stone on a filter fabric foundation.
2. The center stone section must be at least 9 inches below natural ground level where the dam abuts the channel banks.
3. Place sediment control stone (NCDOT #5 or $57) on the upstream side of the dam that is a minimum of 1 foot thick.
4. Extend stone at least 1.5 feet beyond the ditch bank to keep water from cutting around the ends of the check dam.
5. Provide an apron that is 3 times the height of the dam. The apron width is at least 4 feet long. Undercut the apron so that the top of the apron is flush with the surrounding grade.
6. Extend the stone at least 1.5 feet beyond the ditch bank to keep water from cutting around the ends of the check dam.
7. Excavate sediment storage area to the dimensions shown on the plan.
8. Protect the channel after the lowest check dam from heavy flow that could cause erosion.
9. Riprap and filter fabric should be keyed in to prevent under cutting.
10. Do not place check dams in intermittent or perennial streams.

MAINTENANCE:
1. Inspect check dams and channels at least weekly and after each rainfall of 1.0 inch or greater. Clean out sediment, straw, limbs or other debris that could clog the channel when needed.
2. Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam. Correct all damage immediately. If significant erosion occurs between dams, additional measures can be taken such as, installing a protective riprap liner in that portion of the channel.
3. Remove sediment accumulated behind the dams as needed to prevent damage to channel vegetation, allow the channel to drain through the stone check dam, and prevent large flows from carrying sediment over the dam. Add stones to the dams as needed to maintain design height and cross section.

DEQ

**CHECK DAM WITH WEIR**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

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**Temporary Seeding Recommendations**

| Common Name | Scientific Name | Rate per Acre | Optimal Planting Date |
|---|---|---|---|
| Rye Grain | Secale Cereale | 30 lbs | Aug. 15 - May 15 |
| Wheat | Triticum Aestivum | 30 lbs | Aug. 15 - May 15 |
| German Millet | Setaria Italica | 10 lbs | May 15 - Aug. 15 |
| Browntop Millet | Urochloa Ramosa | 10 lbs | May 15 - Aug. 15 |

**Temporary Seeding Recommendations:**
- Temporary annual seed selection should be based on season of project installation.
- A single species selection for temporary cover is acceptable.
- In some cases where seasons overlap, a mixture of two or more temporary species may be necessary; however, application rates should not exceed the total recommended rate per acre.
- Temporary seed should be mixed and applied simultaneously with the permanent seed mix if optimal planting dates allow.

**Permanent Seeding Recommendations Type: Cold Season**

| Common Name | Scientific Name | Optimal Planting Dates | % of Mix | Soil Drainage Adaptation | Shade Tolerance | Height |
|---|---|---|---|---|---|---|
| Indian Woodoats | Chasmanthium latifolium | Feb. 15 - Apr. 1, Aug. 15 - Oct. 15 | 1-10% | Well-drained to Droughty | Moderate | 4 |
| Virginia Wildrye | Elymus virginicus | Feb. 15 - Apr. 1, Aug. 15 - Oct. 15 | 5-25% | Well-drained to Droughty | Moderate | 3 |
| Eastern Bottle-brush Grass | Elymus hystrix | Feb. 15 - Apr. 1, Aug. 15 - Oct. 15 | 5-10% | Well-drained to Droughty | Moderate | 3 |
| Rough Bentgrass | Argostis scabra | Feb. 15 - Apr. 1, Aug. 15 - Oct. 15 | 10-20% | Poorly-drained | Poor | 2.5 |
| Winter Bentgrass | Agrostis hyemalis | Feb. 15 - Apr. 1, Aug. 15 - Oct. 15 | 2-5% | Well-drained | Moderate | 3.5 |

**Permanent Seeding Recommendations Type: Wetland**

| Common Name | Scientific Name | Optimal Planting Dates | % of Mix | Soil Drainage Adaptation | Shade Tolerance | Height |
|---|---|---|---|---|---|---|
| Soft Rush | Juncus effusus | Dec. 1 - May 1, Sep. 1 - Nov. 1 | 1-10% | Poorly-drained | Poor | 4 |
| Shallow Sedge | Carex lurida | Dec. 1 - May 1, Sep. 1 - Nov. 1 | 1-10% | Poorly-drained | Poor | 3 |
| Fox Sedge | Carex vulpinoidea | Dec. 1 - May 1, Sep. 1 - Nov. 1 | 1-10% | Poorly-drained | Poor | 3 |
| Leathery Rush | Junucus coriaceus | Dec. 1 - May 1, Sep. 1 - Nov. 1 | 2-5% | Poorly-drained | Poor | 2 |

**Permanent Seeding Recommendations Type: Warm Season**

| Common Name | Scientific Name | Cultivars | Optimal Planting Dates | % of Mix | Soil Drainage Adaptation | Shade Tolerance | Height |
|---|---|---|---|---|---|---|---|
| Switchgrass | Panicum virgatum | Cave-in-rock – well drained Blackwell – well drained Shelter – well drained Kanlow – poorly drained Carthage – well drained | Dec. 1 - Apr. 1 | 10-15% | Cultivar Dependent | Poor | 6 |
| Switchgrass | Panicum virgatum | Alamo – poorly drained | Dec. 1 - May 1 | 10-15% | Cultivar Dependent | Poor | 6 |
| Indiangrass | Sorghastrum nutans | Rumsey, Osage, Cheyenne | Dec. 1 - Apr. 1 | 10-30% | Well-drained to Droughty | Poor | 6 |
| Indiangrass | Sorghastrum nutans | Lometa | Dec. 1 - May 1 | 10-30% | Well-drained to Droughty | Poor | 6 |
| Deertounge | Dichanthelium clandestinum | Tioga | Dec. 1 - Apr. 1 | 5-25% | Poorly-drained to Droughty | Moderate | 2 |
| Big Bluestem | Andropogon gerardii | Roundtree, Kaw, Earl | Dec. 1 - Apr. 1 | 10-30% | Well-drained to Droughty | Poor | 6 |
| Little Bluestem | Schizachyrium scoparium | Cimarron | Dec. 1 - Apr. 1 | 10-30% | Well-drained to Droughty | Poor | 4 |
| Sweet Woodreed | Cinna arundinacea | | Dec. 1 - Apr. 1 | 1-10% | Poorly-drained to Well-drained | Moderate | 5 |
| Rice Cutgrass | Leersia oryzoides | | Dec. 1 - Apr. 1 | 5-25% | Poorly-drained | Poor | 5 |
| Redtop Panicgrass | Panicum rigidulum | | Dec. 1 - Apr. 1 | 10-20% | Well-drained | Poor | 3.5 |
| Baked Panicgrass | Panicum anceps | | Dec. 1 - Apr. 1 | 10-20% | Poorly-drained | Moderate | 3.5 |
| Purple Top | Tridens flavus | | Dec. 1 - Apr. 1 | 5-10% | Well-drained to Droughty | Poor | 2.5 |
| Eastern Gammagrass | Tripsacum dactyloides | | Dec. 1 - Apr. 1 | 5-10% | Well-drained to Poorly-drained | Poor | 4.5 |

**Permanent Seeding:**
- Soil analysis should be performed to determine nutrient and lime needs of each site.
- Riparian buffers regulated for nutrient management may be limited to a single application of fertilizer.
- Apply seed uniformly with a cyclone seeder, drop-type spreader, drill or hydroseeder on a firm, friable seedbed.
- When using a drill, equipment should be calibrated in the field for the desired seeding rate.
- Mulch all plantings immediately after seeding (see 6.14, Mulching).If planting on stream banks steeper than 10% or areas subject to flooding, a biodegradable RECP (6.17, Rolled Erosion Control Products) is recommended to hold seed and soil in place.

**Maintenance:**
- Many of the recommended permanent grass species may require two years of establishment, depending on site conditions.
- Inspect seeded areas for failure and make necessary repairs, soil amendments, and reseedings.
- If weedy exotic species have overtaken the area after the first growing season, the invading species must be eradicated to allow native species to grow.
- Monitor the site until long term stability has been established.

- No specific seeding rate is given in order to allow for custom seed mixes based on site characteristics and season. However, permanent seed inclusion in the mix should total 15 pounds of pure live seed (PLS) per acre drilled or 15-20 pounds PLS per acre broadcast applied.
- At least 4 species should be selected for the mixture, including one species from each type(warm and cold season and wetland); selection of more than four species is recommended for increasing chances of successful vegetation establishment.
- If other species such as wildflowers are added to the mix, they should not be counted in the minimum seeding rate for grasses.

DEQ

**RIPARIAN AREA SEEDING (PIEDMONT REGION)**

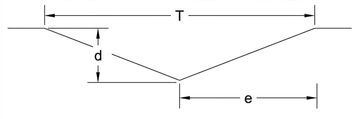
Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A1 RIPARIAN AREA SEEDING (PIEDMONT REGION)

DATE:

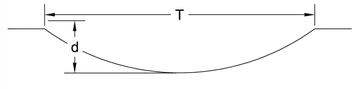
PAGE:

TRIANGULAR "V" CHANNEL CROSS SECTION



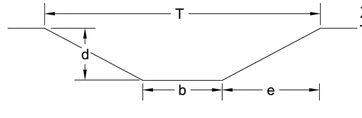

X-Section Area (A) = $Zd^2$
Top Width (T) = 2dz
Z= $\frac{e}{d}$

PARABOLIC CHANNEL CROSS SECTION




X-Section Area (A) = $\frac{2}{3}$ Td
Top Width (T) = $\frac{1.5\ A}{d}$

TRAPEZOIDAL CHANNEL CROSS SECTION




X-Section Area (A) = bd + $Zd^2$
Top Width (T) = b + 2dz
Z= $\frac{e}{d}$

NOTES:
1. At a minimum, grass-lined channels should carry peak runoff from the 10-year storm without eroding. Increase the capacity according to the potential damage if flood hazard exists.
2. If design velocity of the channel to be vegetated by seeding exceeds 2 feet per second, a temporary channel liner is required.
3. Channel side slopes should be 3:1 or flatter to aid in the establishment of vegetation and for maintenance. V-shaped channels along roadways should have side slopes of 6:1 or flatter for safety.
4. Remove all trees, brush, stumps, and other objectionable material from the foundation area, and dispose of properly.
5. Excavate the channel, and shape it to neat lines and dimensions shown on the plans plus a 0.2 foot overcut around the channel perimeter to allow for bulking during seedbed preparations and sod buildup.
6. Remove and properly dispose of all excess soil so that the surface water may enter the channel freely.
7. The procedure used to establish grass in the channel will depend upon the severity of the conditions and selection of species. Protect the channel with mulch or a temporary liner sufficient to withstand anticipated velocities during the establishment period.

Maintenance:
1. During the establishment period, check grass-lined channels after every rainfall.
2. After grass is established, periodically check the channel. check after heavy rainfall events and immediately make any necessary repairs.
3. Check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes.
4. Remove all significant sediment accumulations to maintain the designed carrying capacity.
5. Keep grass in a healthy, vigorous condition at all times.

DEQ

**GRASS-LINED CHANNELS**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A3 GRASS-LINE CHANNELS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CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-505

ORIGINAL SHEET SIZE:
22" X 34"

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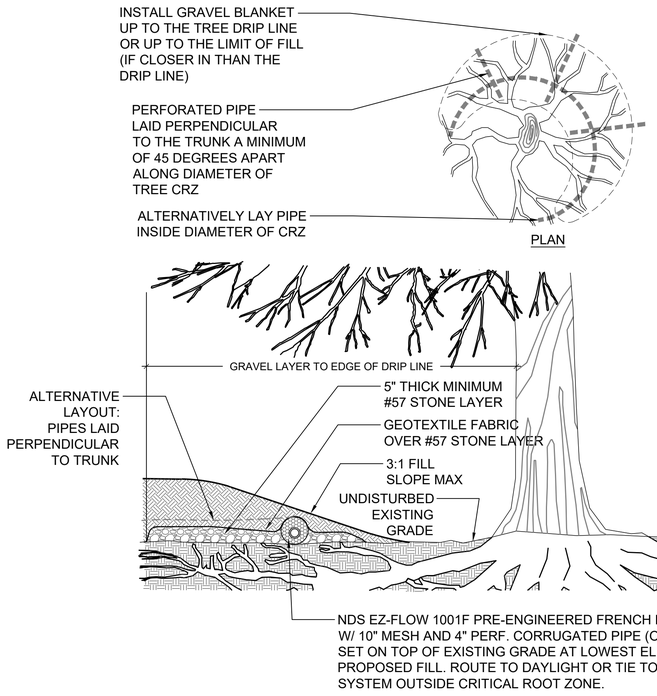
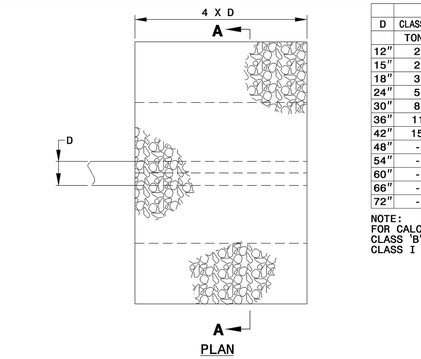



## C1 GRAVEL BLANKET FOR FILL OVER EXISTING CRITICAL ROOT ZONE

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
7-06

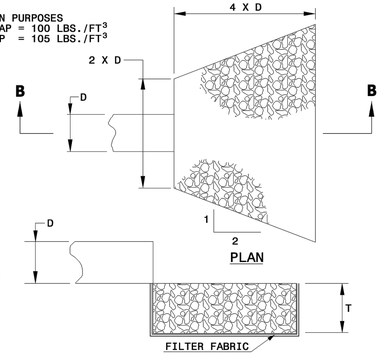
ENGLISH STANDARD DRAWING FOR
**GUIDE FOR RIP RAP AT PIPE OUTLETS**

SHEET 1 OF 1
876.02




| D | OUTLET W/DITCH | | | | | OUTLET W/O DITCH | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CLASS 'B' RIP RAP | | CLASS I RIP RAP | | | CLASS 'B' RIP RAP | | CLASS I RIP RAP | | |
| | TONS | FABRIC (SQ.YD.) | S.Y. | TONS | FABRIC (SQ.YD.) | TONS | FABRIC (SQ.YD.) | S.Y. | TONS | FABRIC (SQ.YD.) |
| 12" | 2 | 5 | 5 | 2 | 5 | 1 | 4 | 2 | 1 | 4 |
| 15" | 2 | 7 | 7 | 3 | 7 | 1 | 5 | 3 | 2 | 6 |
| 18" | 3 | 10 | 9 | 4 | 10 | 2 | 7 | 4 | 2 | 8 |
| 24" | 5 | 14 | 15 | 7 | 15 | 3 | 11 | 7 | 4 | 12 |
| 30" | 8 | 21 | 21 | 11 | 22 | 5 | 16 | 11 | 7 | 17 |
| 36" | 11 | 28 | 29 | 15 | 30 | 7 | 22 | 16 | 10 | 23 |
| 42" | 15 | 37 | 39 | 20 | 39 | 10 | 28 | 22 | 13 | 30 |
| 48" | - | - | 49 | 26 | 50 | - | - | 28 | 17 | 38 |
| 54" | - | - | 60 | 33 | 62 | - | - | 36 | 21 | 47 |
| 60" | - | - | 73 | 40 | 75 | - | - | 44 | 26 | 56 |
| 66" | - | - | 87 | 48 | 89 | - | - | 54 | 32 | 67 |
| 72" | - | - | 102 | 57 | 104 | - | - | 64 | 38 | 78 |

NOTE:
FOR CALCULATION PURPOSES
CLASS 'B' RIP RAP = 100 LBS./FT$^3$
CLASS I RIP RAP = 105 LBS./FT$^3$




H= RIP RAP TO TOP OF PIPE (MAX. H = D + T)
T= 15" CLASS I RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS
T= 12" CLASS 'B' RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS

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ENGLISH STANDARD DRAWING FOR
**GUIDE FOR RIP RAP AT PIPE OUTLETS**

SHEET 1 OF 1
876.02

## C3 RIP RAP AT PIPE OUTLET

DATE:

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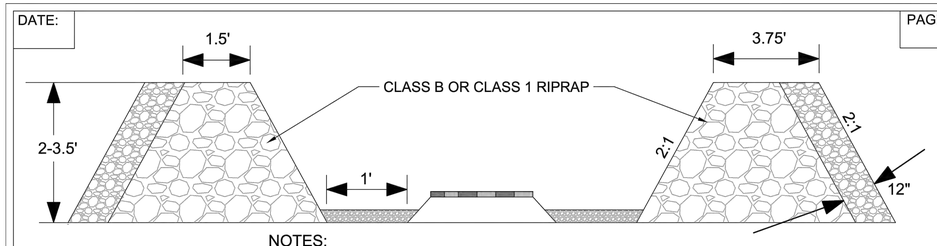
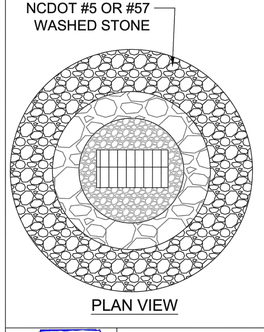



NOTES:
1. Clear the area of all debris that might hinder excavation and disposal of spoil.
2. Grade shallow depression uniformly towards the inlet with side slopes no greater than 2:1. Grade a 1-foot wide level area set 4 inches below the area adjacent to the inlet.
3. Install the Class B or Class 1 riprap in a circle around the inlet. The minimum crest width of the riprap should be 18 inches, with a minimum bottom width of 7.5 feet. The minimum height of the stone is 2 feet.
4. The outside face of the riprap is then lined with 12 inches of NC DOT #5 or #57 washed stone.

MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater; make any repairs immediately.
2. Remove sediment form the sediment pool area when the volume is decreased by half. Stabilize excavated material appropriately.
3. Do not damage or undercut the structure during sediment removal. Remove debris and replace stone as needed. If inlet is covered with wire mesh, clean wire mesh free of debris.

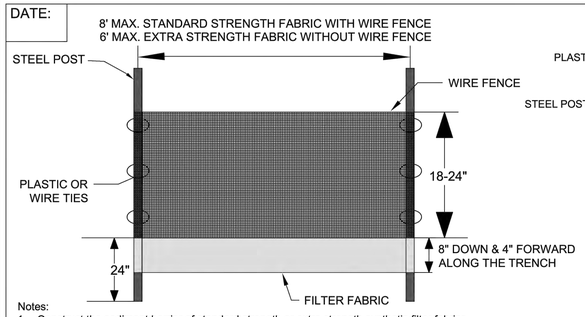
**ROCK DOUGHNUT INLET PROTECTION**

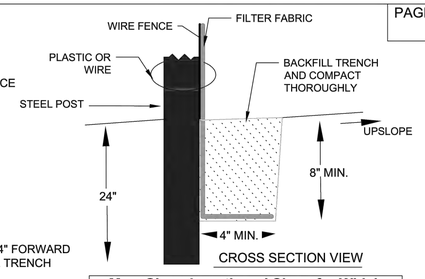
Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A1 BLOCK AND GRAVEL INLET PROTECTION (TEMPORARY)

DATE:

PAGE:




Notes:
1. Construct the sediment barrier of standard strength or extra strength synthetic filter fabrics.
2. Ensure that the height of the sediment fence does not exceed 24 inches above the ground. (Higher fences may impound volumes of water sufficient to cause failure of the structure)
3. Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post.
4. Support standard strength filter fabric by wire mesh fastened securely to the upslope side of the posts. Extend the wire mesh support to the bottom of the trench. Fasten the wire reinforcement, then fabric on the upslope side of the fence post. Wire or plastic zip ties should have a minimum 50 pound tensile strength.
5. When a wire mesh support fence is used, space posts a maximum of 8 feet apart. Supports should be driven securely into the ground a minimum of 24 inches. Wire mesh should be a minimum 14-gauge with 6 inch mesh spacing.
6. Extra strength filter fabric with 6 foot post spacing does not require a wire mesh support fence. Securely fasten the filter fabric directly to posts. Wire or plastic zip ties should have a minimum of 50 pound tensile strength.
7. Excavate the trench approximately 4 inches wide and 8 inches deep along the proposed line of the posts and upslope from the barrier.
8. Place 12 inches of fabric along the bottom and side of the trench.
9. Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance.
10. Do not attach filter fabric to existing trees.
11. Do not place across ditches, streams, or any other areas of concentrated flow.

**Max. Slope Length and Slope for Which Sediment Fence is Applicable**

| Slope | Slope Length (ft) | Max. Area (ft$^2$) |
|---|---|---|
| <2% | 100 | 10,000 |
| 2 to 5% | 75 | 7,500 |
| 5 to 10% | 50 | 5,000 |
| 10 to 20% | 25 | 2,500 |
| >20% | 15 | 1,500 |

Maintenance:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately.
2. Should the fabric of a sediment fence collapse, tear, decompose, or become ineffective, replace it promptly.
3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and reduce pressure on the fence. Take care to avoid undermining the fence during cleanouts.
4. Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

**SEDIMENT FENCE**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A3 SEDIMENT FENCE

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4117 OAK RIDGE RD
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PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

SHEET NUMBER

CE-506

ORIGINAL SHEET SIZE:
22" X 34"

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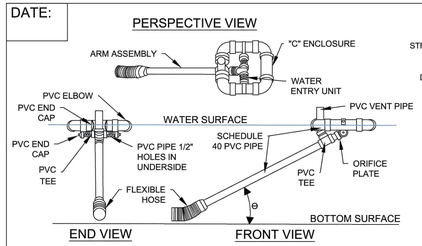
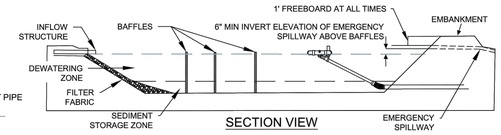
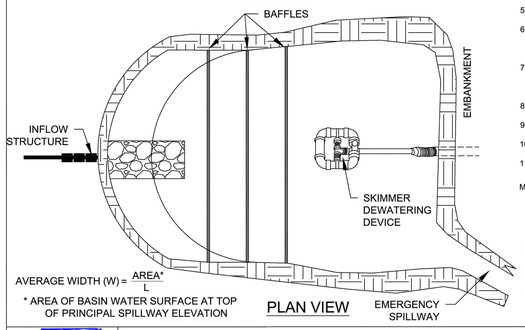



NOTES:
1. Clear, grub and strip the area under the embankment of all vegetation and root mat. Remove all surface soil containing high amounts of organic matter and stockpile or dispose of it properly. Haul all objectionable material to the designated disposal area. Place temporary sediment control measures below basin as needed.
2. Place the fill in lifts not to exceed 9 inches, and machine compact it. Over fill the embankment 6 inches to allow for settlement.
3. Place the barrel on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel, or crushed stone as backfill around the pipe. Place the fill around the pipe spillway in 4-inch layers and compact it under and around the pipe to at least the same density as the adjacent embankment.
4. Place a minimum depth of 2 feet compacted backfill over the pipe spillway before crossing with construction equipment.
5. Ensure that the flow length to basin width ratio is at least 2:1 to improve trapping efficiency. Length is measured at the elevation of the principal spillway.
6. Assemble the skimmer following manufacturers instructions or as designed and lay on the bottom of the basin with the flexible joint at the inlet of the barrel pipe. Attach the flexible joint to the barrel pipe and position the skimmer over the excavated pit or support. Be sure to attach a rope and anchor it to the side of the basin.This will be used to pull the skimmer to the side for maintenance.
7. Install the spillway in undisturbed soil to the greatest extent possible. The spillway should be lined with laminated plastic or impermeable geotextile fabric. The fabric must be wide and long enough to cover the bottom and sides and extend onto the top of the dam for anchoring in a trench. The edges may be secured with 8-inch staples or pins.
8. Filter fabric must be long enough to extend down the slope and exit onto stable ground. The width of the fabric must be one piece, not joined or spliced; otherwise water can get under the fabric.
9. The upper section(s) should overlap the lower section(s) so that water cannot flow under the fabric. Secure the upper edge and sides of the fabric in a trench with staples or pins.
10. Discharge water into the basin in a manner to prevent erosion. Use temporary slope drains or diversions with outlet protection to divert sediment-laden water to the upper end of the pool area to improve basin trap efficiency.
11. Stabilize the emergency spillway embankment and all other disturbed areas above the crest of the principal spillway immediately after construction.

MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make necessary repairs immediately.
2. Remove sediment and restore the basin to its original dimensions when sediment accumulates to one-half the height of the first baffle. Pull the skimmer to one side so that the sediment underneath can be excavated. Excavate the sediment from the entire basin, not just around the skimmer or within the first cell.
3. Make sure any vegetation growing in the bottom of the basin does not hold down the skimmer.
4. Repair baffles if they are damaged. Re-anchor the baffles if water is flowing underneath or around them.
5. Ensure the skimmer is not clogged with trash or debris.
6. If the skimmer arm or barrel pipe is clogged, remove orifice and clear debris with a plumber's snake or by flushing with clean water. Be sure to replace the orifice before repositioning the skimmer.
7. Check fabric lined spillway for damage and make any required repairs with fabric that spans the full width of the spillway. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement.

**SKIMMER SEDIMENT BASIN**

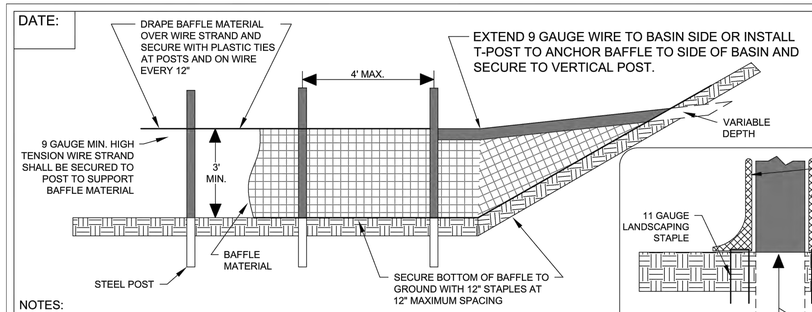
Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

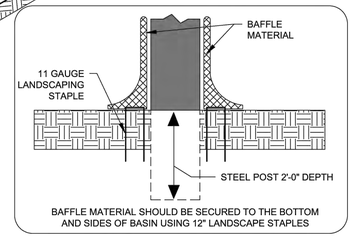
## C1 SKIMMER SEDIMENT BASIN

DATA BLOCK

| BASIN | DRAINAGE AREA (ACRES) | DENUDED AREA (ACRES) | $Q_{10}$ | BASIN VOLUME REQUIRED (CUBIC FT.) | BASIN VOLUME PROVIDED (CUBIC FT.) | BASIN SURFACE AREA REQUIRED (SQ FT.) | BASIN SURFACE AREA PROVIDED (SQ FT.) | CLEANOUT DEPTH (FT.) H/2 | H (FEET) | Z (FEET) | L (FEET) | T (FEET) | W (FEET) | SKIMMER PIPE DIAMETER | SKIMMER ORIFICE DIAMETER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5.70 | 5.20 | 23.00 | 9,306, | 10,224 | 7,475 | 7,713 | 1.5 | 3 | 5 | 144 | 1.5 | 70 | 3.0 | 2.0 |

DATE: PAGE:




NOTES:
1. Use matting made of 100% coconut fiber(coir) twine woven into high strength matrix.
2. Staples should be made of 0.125 inch diameter, new steel wire formed into a 'U' shape not less than 12 inches in length with a throat of 1 inch in width. The staples anchor the porous baffles into the sides and bottom of the basin.
3. Grade the basin so that the bottom is level front to back and side to side.
4. Install the coir fiber baffles immediately upon excavation of the basins.
5. Install posts across the width of the sediment trap.
6. Steel posts should be driven to a depth of 24 inches and spaced in a maximum of 4 feet apart. The top of the fabric should be a minimum of 6 inches higher than the invert of the spillway. Tops of the baffles should be a minimum of 2 inches lower than the top of the earthen embankment.
7. Install 3 coir fiber baffles in basins at drainage outlets with a spacing of 1/4 the basin length. 2 coir fiber baffles can be installed in the basins less than 20 feet in length with a spacing of 1/3 the basin length.
8. Attach a 9-gauge high tension wire strand to the steel posts at a height of 6 inches above the spillway elevation with plastic ties or wire fasteners to prevent sagging. If the temporary sediment basin will be converted to a permanent stormwater basin of a greater depth, the baffle height should be based on the pool depth during use as a temporary sediment basin.

MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater and repair immediately.
2. Maintain access to baffles. If the fabric collapses, tears, decomposes, or becomes ineffective, replace immediately.
3. Remove sediment deposits when it reaches half full. Replace if baffle fabric is damaged during clean-out operations. Sediment depth should never exceed half the designed storage depth.

**POROUS BAFFLES**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## C3 POROUS BAFFLES

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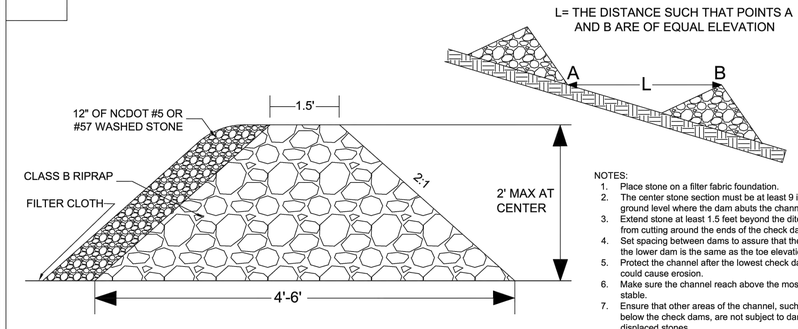


NOTES:
1. Place stone on a filter fabric foundation.
2. The center stone section must be at least 9 inches below natural ground level where the dam abuts the channel banks.
3. Extend stone at least 1.5 feet beyond the ditch bank to keep water from cutting around the ends of the check dam.
4. Set spacing between dams to assure that the elevation at the top of the lower dam is the same as the toe elevation of the upper dam.
5. Protect the channel after the lowest check dam from heavy flow that could cause erosion.
6. Make sure the channel reach above the most upstream dam is stable.
7. Ensure that other areas of the channel, such as culvert entrances below the check dams, are not subject to damage or blockage from displaced stones.
8. Riprap and filter fabric should be keyed in to prevent under cutting.
9. Ends of check dams may need to be turned uphill to prevent bypass and better conform to site conditions.
10. Do not place check dams in intermittent or perennial streams.

MAINTENANCE:
1. Inspect check dams and channels at least weekly and after each rainfall of 1.0 inch or greater. Clean out sediment, straw, limbs or other debris that could clog the channel when needed.
2. Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the dam. Correct all damage immediately. If significant erosion occurs between dams, additional measures can be taken such as, installing a protective riprap liner in that portion of the channel.
3. Remove sediment accumulated behind the dams as needed to prevent damage to channel vegetation, allow the channel to drain through the stone check dam, and prevent large flows from carrying sediment over the dam. Add stones to the dams as needed to maintain design height and cross section.

**CHECK DAM**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A3 CHECK DAM

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CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AC |
| DRAWN BY: | AC |
| CHECKED BY: | ML |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

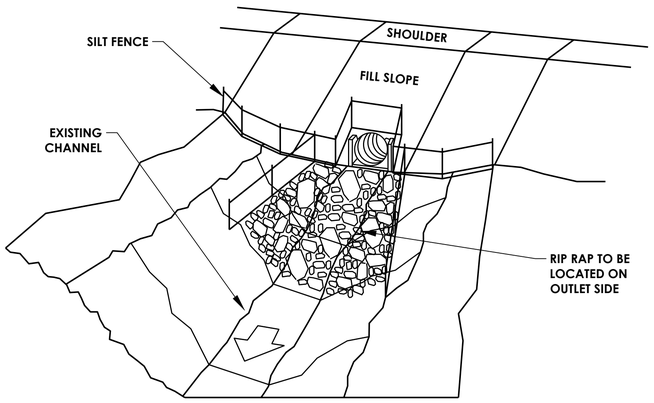
SHEET NUMBER

CE-507

ORIGINAL SHEET SIZE:
22" X 34"

BID SET - NOT FOR CONSTRUCTION

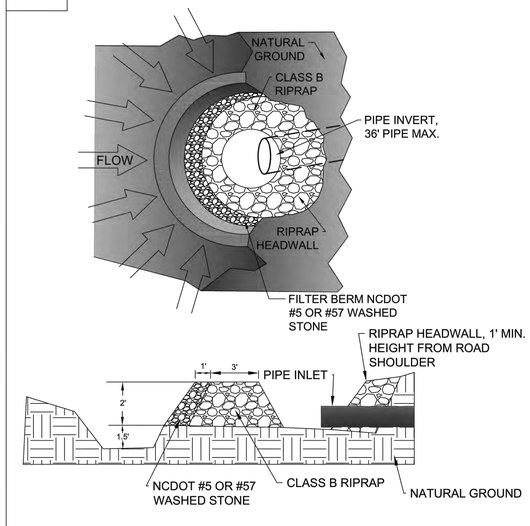
FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




**DETAIL FOR SILT FENCE INSTALLATION AT CULVERT OUTLET**

## C1 SILT FENCE INSTALLATION AT CULVERT OUTLET

DATE: PAGE:




NOTES:
1. Clear the area of all debris that might hinder excavation and disposal of spoil.
2. Install the Class B or Class 1 riprap in a semi-circle around the pipe inlet. The stone should be built up higher on each end where it ties into the embankment. The minimum crest width of the riprap should be 3 feet, with a minimum bottom width of 11 feet. The minimum height should be 2 feet, but also 1 foot lower than the embankment of diversions.
3. A 1 foot thick layer of NC DOT #5 or #57 stone should be placed on the outside slope of the riprap.
4. The sediment storage area should be excavated around the outside of the stone horseshoe 18 inches below natural grade.
5. When contributing drainage area has been stabilized, remove the pipe and rock, fill depression, establish final grading elevations, compact the area properly, and stabilize with ground cover.

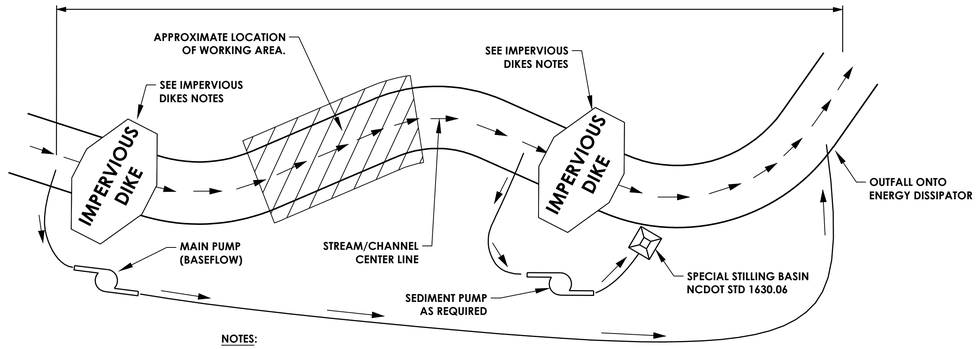
MAINTENANCE:
1. Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater and repair immediately.
2. Remove sediment and restore the sediment storage area to its original dimensions when the sediment has accumulated to one-half the design depth of the trap.
3. Place the sediment that is removed in the designated disposal area and replace the contaminated part of the gravel facing.
4. Check the structure for damage. Any riprap displaced from the stone horseshoe must be replaced immediately.
5. After all the sediment-producing areas have been permanently stabilized, remove the structure and all the unstable sediment. Smooth the area to blend with the adjoining areas and provide permanent ground cover.

DEQ

**ROCK PIPE INLET PROTECTION**

Effective Date: 9/1/2023
In accordance with the 2013 Design Manual Updates

## A1 ROCK PIPE INLET PROTECTION DETAIL




NOTES:

1. CHANNEL SHALL BE MATTED WITH COIR FIBER MATTING (NCDOT STD 1631.01) PRIOR TO THE CLOSE OF EACH WORK DAY.
2. CULVERTS TO BE INSTALLED FOLLOWING THE PROCEDURE INDICATED IN NCDOT STD 300.01, METHOD OF PIPE INSTALLATION. WORK SHOULD BE SCHEDULED TO BE DONE IN ONE DAY WITH STABILIZATION OF SURROUNDING SOILS AND INSTALLATION OF APPROPRIATE E&SC MEASURES.

## IMPERVIOUS DIKE - FOR CULVERT CONSTRUCTION AT WET STREAMS AND CHANNELS

**IMPERVIOUS DIKE NOTES:**

THE WORK COVERED BY THIS SECTION CONSISTS OF FURNISHING, INSTALLING, MAINTAINING, AND REMOVING AN IMPERVIOUS DIKE FOR THE PURPOSE OF DIVERTING NORMAL STREAM FLOW AROUND THE CONSTRUCTION SITE.

1. THE CONTRACTOR SHALL CONSTRUCT AN IMPERVIOUS DIKE IN SUCH A MANNER APPROVED BY THE ENGINEER AND FOLLOWING THE PROCEDURE OUTLINED IN SECTION 4.8.2 IMPERVIOUS DIKE OF THE NCDOT E&SC MANUAL, JANUARY 2015. THE IMPERVIOUS DIKE SHALL NOT PERMIT SEEPAGE OF WATER INTO THE CONSTRUCTION SITE OR CONTRIBUTE TO SILTATION OF THE STREAM. THE IMPERVIOUS DIKE SHALL BE CONSTRUCTED OF AN ACCEPTABLE MATERIAL IN THE LOCATIONS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. ACCEPTABLE MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO SHEET PILES, SANDBAGS, AND/OR THE PLACEMENT OF AN ACCEPTABLE SIZE STONE LINED WITH POLYPROPYLENE OR OTHER IMPERVIOUS FABRIC.
3. EARTH MATERIAL SHALL NOT BE USED TO CONSTRUCT AN IMPERVIOUS DIKE WHEN IT IS IN DIRECT CONTACT WITH THE STREAM.
4. NO DIRECT PAYMENT SHALL BE MADE FOR THE WORK OF INSTALLATION, MAINTENANCE, AND REMOVAL OF IMPERVIOUS DIKE(S) AND RELATED WORK AS DESCRIBED IN THIS PROVISION. PAYMENT FOR SUCH WORK SHALL BE DISTRIBUTED AMONG THE VARIOUS PAY ITEMS.

**TEMPORARY SEDIMENTATION BAG(S) NOTES:**

THE WORK COVERED BY THIS SECTION CONSISTS OF FURNISHING, PLACING, AND REMOVING A TEMPORARY SEDIMENTATION BAG(S) AS DIRECTED BY THE ENGINEER. THE TEMPORARY SEDIMENTATION BAG(S) SHALL BE USED TO FILTER PUMPED WATER DURING THE DRILLED PIER OPERATION, FOOTING EXCAVATION, AND/OR CULVERT OR PIPE CONSTRUCTION.

1. THE FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 1056 FOR TYPE 2 FABRIC.
2. SEDIMENT CONTROL STONE SHALL MEET THE REQUIREMENTS OF SECTION 1005 AND SHALL BE CLEAN OF DIRT AND DEBRIS. INSTALL STONE ACCORDING TO THE DETAIL SHOWN ON THE PLANS.
3. THE TEMPORARY SEDIMENTATION BAG(S) SHALL BE A WATER PERMEABLE FABRIC BAG THAT TRAPS SAND, SILT, AND FINES AS SEDIMENT LADEN WATER IS PUMPED INTO IT. THIS DEVICE SHALL BE CONSTRUCTED SUCH THAT IT IS PORTABLE AND CAN BE USED ADJACENT TO THE DRILLED PIER OPERATION, FOOTING EXCAVATION, AND/OR CULVERT OR PIPE CONSTRUCTION.
4. THE TEMPORARY SEDIMENTATION BAG(S) SHALL BE A BAG CONSTRUCTED TO A MINIMUM SIZE OF 10' X 15' MADE FROM A NONWOVEN FABRIC. IT SHALL HAVE A SEWN-IN 8 IN. (MAXIMUM) SPOUT FOR RECEIVING PUMP DISCHARGE. THE BAG SEAMS SHALL BE SEWN WITH A DOUBLE NEEDLE MACHINE USING A HIGH STRENGTH THREAD. THE SEAMS SHALL HAVE A MINIMUM WIDE WIDTH STRENGTH AS FOLLOWS:

| TEST METHOD | MINIMUM SPECIFICATIONS |
|---|---|
| ASTM D-4884 | 60 LB/IN |

5. THE FABRIC USED TO CONSTRUCT THE BAG SHALL BE STABILIZED TO PROVIDE RESISTANCE TO ULTRA-VIOLET DEGRADATION AND MEET THE FOLLOWING SPECIFICATIONS FOR FLOW RATES, STRENGTH, AND PERMEABILITY:

| PROPERTY | TEST METHOD | UNITS | MIN. SPECIFICATIONS |
|---|---|---|---|
| WEIGHT | ASTM D-3776 | OZ/YD | 8.0 |
| GRAB TENSILE | ASTM D-4632 | LB | 200.0 |
| PUNCTURE | ASTM D-4833 | LB | 130.0 |
| FLOW RATE | ASTM D-4491 | GAL/MIN/SF | 80.0 |
| PERMITTIVITY | ASTM D-4991 | 1/SEC | 1.2 |
| UV RESISTANCE | ASTM D-4355 | % | 70.0 |

6. THE CONTRACTOR SHALL INSTALL THE TEMPORARY SEDIMENTATION BAG IN ACCORDANCE WITH THE DETAILS IN THE PLANS AND AT LOCATIONS AS DIRECTED BY THE ENGINEER.
7. THE TEMPORARY SEDIMENTATION BAG(S) SHALL BE PLACED SO THE INCOMING WATER FLOWS INTO AND THROUGH THE BAG WITHOUT CAUSING EROSION. THE NECK OR SPOUT OF THE BAG SHALL BE TIED OFF TIGHTLY TO STOP THE WATER FROM FLOWING OUT OF THE BAG WITHOUT GOING THROUGH THE WALLS.
8. THE TEMPORARY SEDIMENTATION BAG(S) SHALL BE REPLACED AND DISPOSED OF WHEN IT IS 3/4 FULL OF SEDIMENT OR WHEN IT IS IMPRACTICAL FOR THE BAG TO FILTER THE SEDIMENT OUT AT A REASONABLE FLOW RATE. PRIOR APPROVAL FROM THE ENGINEER MUST BE RECEIVED BEFORE REMOVAL AND REPLACEMENT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SUFFICIENT QUANTITY OF BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT DURING THE DRILLED PIER OPERATION, FOOTING EXCAVATION, AND/OR CULVERT OR PIPE CONSTRUCTION.
10. TEMPORARY SEDIMENTATION BAG(S) WILL BE MEASURED AND PAID FOR PER EACH. THIS PAYMENT WILL BE FULL COMPENSATION FOR ALL WORK COVERED BY THIS PROVISION, INCLUDING BUT NOT LIMITED TO, FURNISHING ALL MATERIALS, PLACING AND MAINTAINING THE TEMPORARY SEDIMENTATION BAG(S), AND REMOVAL AND DISPOSAL OF SILT ACCUMULATIONS AND BAG.

## A3 PUMP AROUND

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4100 Raleigh Street
Suite 114
Charlotte, NC 28213
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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049771 ENGINEER MICHAEL LAMBERT
10/9/2025

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| PROJECT # | 1230863 |

SHEET TITLE

EROSION CONTROL PLAN DETAILS

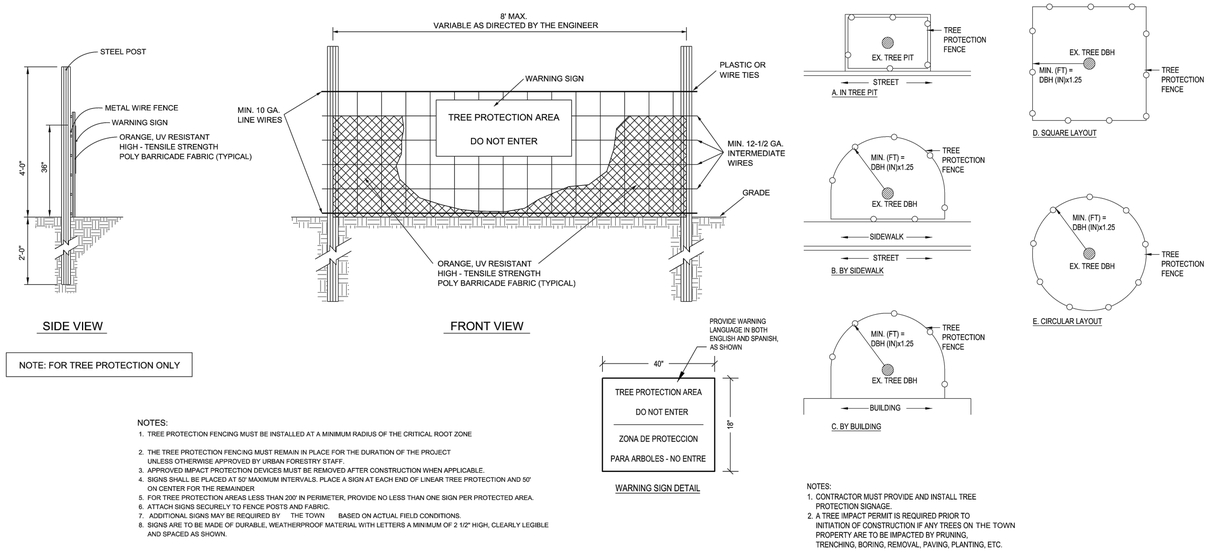
SHEET NUMBER

CE-508

ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

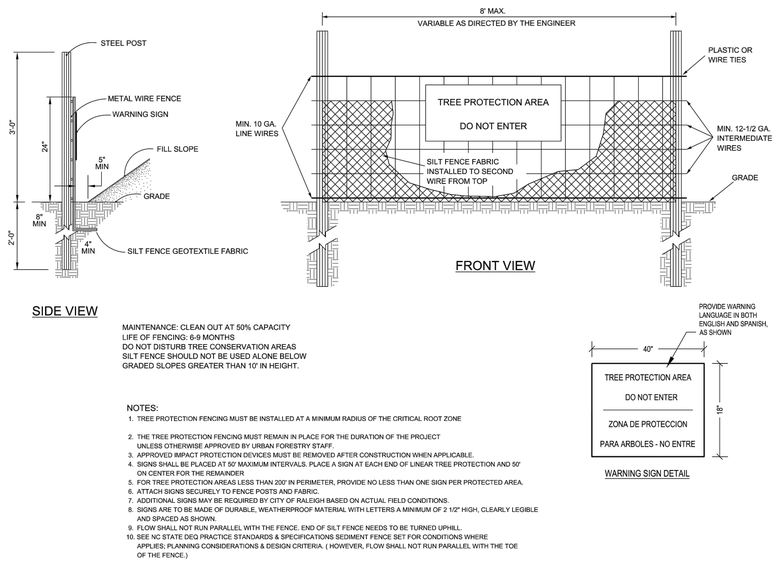
FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\CE500 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25




NOTES:
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE
2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE APPROVED BY URBAN FORESTRY STAFF.
3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
4. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER FOR THE REMAINDER
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. ADDITIONAL SIGNS MAY BE REQUIRED BY THE TOWN BASED ON ACTUAL FIELD CONDITIONS.
8. SIGNS ARE TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL WITH LETTERS A MINIMUM OF 2 1/2" HIGH, CLEARLY LEGIBLE AND SPACED AS SHOWN.

NOTES:
1. CONTRACTOR MUST PROVIDE AND INSTALL TREE PROTECTION SIGNAGE.
2. A TREE IMPACT PERMIT IS REQUIRED PRIOR TO INITIATION OF CONSTRUCTION IF ANY TREES ON THE TOWN PROPERTY ARE TO BE IMPACTED BY PRUNING, TRENCHING, BORING, REMOVAL, PAVING, PLANTING, ETC.

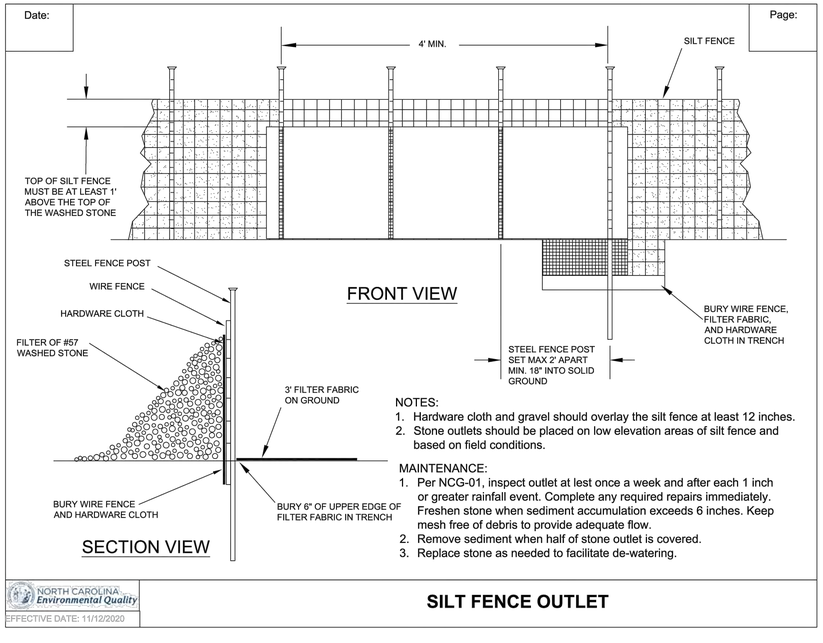
## C1 TREE PROTECTION FENCE DETAIL




MAINTENANCE: CLEAN OUT AT 50% CAPACITY
LIFE OF FENCING: 6-9 MONTHS
DO NOT DISTURB TREE CONSERVATION AREAS
SILT FENCE SHOULD NOT BE USED ALONE BELOW GRADED SLOPES GREATER THAN 10' IN HEIGHT.

NOTES:
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE
2. THE TREE PROTECTION FENCING MUST REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE APPROVED BY URBAN FORESTRY STAFF.
3. APPROVED IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION WHEN APPLICABLE.
4. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER FOR THE REMAINDER
5. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
8. SIGNS ARE TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL WITH LETTERS A MINIMUM OF 2 1/2" HIGH, CLEARLY LEGIBLE AND SPACED AS SHOWN.
9. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
10. SEE NC STATE DEQ PRACTICE STANDARDS & SPECIFICATIONS SEDIMENT FENCE SET FOR CONDITIONS WHERE APPLIES; PLANNING CONSIDERATIONS & DESIGN CRITERIA. ( HOWEVER, FLOW SHALL NOT RUN PARALLEL WITH THE TOE OF THE FENCE.)

## A1 SEDIMENT/TREE PROTECTION FENCE




NOTES:
1. Hardware cloth and gravel should overlay the silt fence at least 12 inches.
2. Stone outlets should be placed on low elevation areas of silt fence and based on field conditions.

MAINTENANCE:
1. Per NCG-01, inspect outlet at lest once a week and after each 1 inch or greater rainfall event. Complete any required repairs immediately. Freshen stone when sediment accumulation exceeds 6 inches. Keep mesh free of debris to provide adequate flow.
2. Remove sediment when half of stone outlet is covered.
3. Replace stone as needed to facilitate de-watering.

## A3 SILT FENCE OUTLET DETAIL


POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213



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EOR/AOR SEAL

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## GENERAL PLANTING NOTES:

1. THE "DESIGN PROFESSIONAL" AS REFERENCED IN THESE NOTES REFERS TO THE LANDSCAPE ARCHITECT/DESIGN FIRM REPRESENTATIVE, THE OWNER'S REPRESENTATIVE, OR THE OWNER, DEPENDING ON THE PROJECT CONTRACT.
2. THE CONTRACTOR WILL SCHEDULE A PRE-CONSTRUCTION MEETING WITH DESIGN PROFESSIONAL TO REVIEW PROJECT LANDSCAPE REQUIREMENTS.
3. ANY SPECIFIC GENERAL CONTRACT TERMS AND CONDITIONS THAT SUPERCEDE THE PLANTING NOTES IN THE DRAWINGS AND/OR SPECIFICATIONS MUST BE NOTED BY THE CONTRACTOR TO THE OWNER DURING CONTRACT NEGOTIATION.
4. CONTRACTOR'S PRICE MUST INCLUDE ALL LABOR AND MATERIAL NECESSARY TO COMPLETE THE WORK, I.E. MULCH, PLANTING, SOIL MIX, STAKING MATERIAL, WATERING, MAINTENANCE DURING CONSTRUCTION, ETC.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL MATERIAL QUANTITIES SHOWN ON THESE DRAWINGS BEFORE PRICING THE WORK, AND WILL BE RESPONSIBLE FOR INSTALLATION OF PLANT MATERIAL ACCORDING TO PLAN. THE PLANT SCHEDULE IS PROVIDED FOR CONTRACTOR'S CONVENIENCE ONLY.
7. PROVIDE PLANT MATERIALS TRUE TO SPECIES AND VARIETY/CULTIVAR COMPLYING WITH RECOMMENDATIONS OF THE TOWN OF SUMMERFIELD UDO, PARTF, AND "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERY MEN.
8. PLANTING PLANS INDICATE DIAGRAMMATIC LOCATIONS ONLY. SITE ADJUSTMENTS OF PLANTING DESIGN AND RELOCATION OF PLANT MATERIAL INSTALLED PRIOR TO DESIGN PROFESSIONAL'S APPROVAL MUST BE DONE WITHOUT PENALTY OR ADDITIONAL COST TO OWNER. STAKE PLANT LOCATIONS AT SITE AND OBTAIN DESIGN PROFESSIONAL'S APPROVAL PRIOR TO PLANT INSTALLATION.
9. DESIGN PROFESSIONAL WILL BE THE SOLE JUDGE OF THE QUALITY AND ACCEPTABILITY OF MATERIALS AND PLACEMENT.
10. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE PLANT MATERIALS AS SPECIFIED ON THE DRAWINGS WILL BE AVAILABLE AT TIME OF PLANTING. NO SUBSTITUTIONS OF PLANT MATERIAL WILL BE ACCEPTED UNLESS APPROVED WITHIN FOUR (4) WEEKS OF PROJECT AWARD IN WRITING BY THE DESIGN PROFESSIONAL, WHO RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY.
11. CONTRACTOR MAY MAKE MATERIAL ORDERS OR OBTAIN GROWING CONTRACTS FROM NURSERIES AT THE BEGINNING OF THE CONTRACT IN ANTICIPATION OF PLANTING AT A LATER DATE. PROVIDE PROVISIONS THAT ANY ORDERS OR CONTRACTS WILL REVERT TO THE OWNER DUE TO CONTRACTOR DEFAULT OR OTHER UNFORESEEN CIRCUMSTANCE.
12. IN ORDER TO BE CONSIDERED AS VIABLE ALTERNATES, PLANTS MUST SHARE THE SAME GENERAL APPEARANCE/FORM, INSTALLATION SIZE, MATURE SIZE, COLOR, QUALITY AND GROWTH HABIT. MATERIALS MUST BE OFFERED AT NO ADDITIONAL COSTS TO THE OWNER.
13. LANDSCAPE WORK WILL BE SCHEDULED TO BE AT A TIME OF YEAR MOST CONDUCIVE FOR ESTABLISHMENT. ANY MATERIAL SPECIFIED THAT CANNOT BE SUPPLIED DUE TO TIME OF YEAR FOR TRANSPLANTING (e.g. "SUMMER DUG") WILL BE SCHEDULED AT THE APPROPRIATE SEASON AFTER INSTALLATION OF OTHER MATERIAL IF NECESSARY. ANY PLANTING AFTER SUBSTANTIAL COMPLETION AS A RESULT MUST BE COMPLETED AT NO ADDITIONAL COST TO OWNER.
14. ALL PLANTS MUST BE HEALTHY, VIGOROUS, FREE OF PESTS AND DISEASE.
15. ALL PLANTS MUST BE CONTAINER-GROWN, OR BALLED AND BURLAPPED AS SPECIFIED.
16. LOCATE AND VERIFY ALL UTILITY LOCATIONS AND EXISTING STRUCTURES IN AND AROUND THE SITE PRIOR TO WORK. BE FAMILIAR WITH UNDERGROUND UTILITIES BEFORE DIGGING. MAINTAIN EXISTING UTILITIES AND STRUCTURES AND PROTECT AGAINST DAMAGE DURING THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES, STRUCTURES, PAVING AND/OR WORK OF OTHER TRADES RESULTING FROM LANDSCAPE CONSTRUCTION.
17. THE CONTRACTOR WILL NOTIFY ALL NECESSARY UTILITY COMPANIES 72 HRS MINIMUM PRIOR TO DIGGING FOR FIELD VERIFICATION OF ALL UNDERGROUND UTILITIES, AND OTHER ELEMENTS, AND COORDINATE WITH THE DESIGN PROFESSIONAL PRIOR TO INITIATING OPERATIONS. THE CONTRACTOR MUST AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF WORK.
18. CONTRACTOR MUST PROTECT ALL EXISTING PLANT MATERIALS INDICATED ON PLANS TO REMAIN. ALL PLANT MATERIAL INDICATED TO REMAIN THAT IS DAMAGED BY THE CONTRACTOR MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER WITH THE SAME SIZE, QUALITY, AND TYPE OF PLANT MATERIAL OR AS REQUIRED BY THE LOCAL REVIEWING AUTHORITY, WHICHEVER HAS A GREATER RECOMPENSE VALUE.
19. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN OR DEFOLIATES (PRIOR TO DATE OF SUBSTANTIAL COMPLETION OF THE WORK) MUST BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, SIZE AND MEETING ALL THE PLANT LIST SPECIFICATIONS.
20. PLANTS MUST BE SPECIMEN QUALITY, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF DISEASES, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS AND/OR DISFIGUREMENT.
21. HEIGHT AND SPREAD DIMENSIONS SPECIFIED REFER TO THE MAIN BODY OF THE PLANT AND NOT FROM BRANCH TIP TO TIP. IF A RANGE OF SIZE IS GIVEN, NO PLANT MUST BE LESS THAN THE MINIMUM SIZE AND NOT LESS THAN 50 PERCENT OF THE PLANTS MUST BE AS LARGE AS THE MAXIMUM SIZE SPECIFIED.
22. HARDWOOD TREES MUST HAVE STRAIGHT TRUNKS WITH CENTRAL LEADERS, FULL HEADED, AND MEET ALL REQUIREMENTS SPECIFIED. DO NOT HANDLE PLANTS BY THE TRUNK.
23. PLACE PLANTS UPRIGHT AND TURNED SO THAT THE MOST ATTRACTIVE SIDE IS VIEWED.
24. AFTER BEING DUG AT THE NURSERY SOURCE, ALL TREES IN LEAF MUST BE ACCLIMATED FOR TWO (2) WEEKS UNDER A MIST SYSTEM PRIOR TO INSTALLATION.
25. MULCH: PROVIDE 3" THICKNESS MULCH AT ALL PLANTS AND PLANTING BEDS. UTILIZE SHREDDED, AGED HARDWOOD MULCH.
26. LEAVES: MUST BE OF MEDIUM FOLIAGE, ALL GOOD LEAVES, MAXIMUM OF 10% CHLOROSIS ALLOWED, WITH NO EXTREME SUCCULENCE.
27. IF DRAINAGE IS NOT SUFFICIENT NOTIFY THE DESIGN PROFESSIONAL IN WRITING BEFORE INSTALLING THE PLANTS, OTHERWISE CONTRACTOR IS RESPONSIBLE FOR THE GUARANTEE AND LIVABILITY OF THE PLANT.
28. THE CONTRACTOR MUST PROVIDE ALL NECESSARY SAFETY MEASURES DURING CONSTRUCTION OPERATIONS TO PROTECT THE PUBLIC ACCORDING TO ALL APPLICABLE CODES AND RECOGNIZED LOCAL PRACTICES
29. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DRAWINGS AND FIELD CONDITIONS TO THE DESIGN PROFESSIONAL PRIOR TO STARTING CONSTRUCTION. FOLLOW THE DESIGN PROFESSIONAL'S INSTRUCTIONS ON RESOLVING ANY DISCREPANCIES.
30. UNLESS OTHERWISE SPECIFIED DUE TO SOIL CONDITIONS, SET ROOT FLARE OF ROOTBALL LEVEL WITH SURROUNDING GRADE. ROOT SYSTEM MUST BE AS SPECIFIED IN PLANT SCHEDULE:
    - A. BALLED AND BURLAPPED: ROOTS MUST BE STURDILY ESTABLISHED IN BALL THAT HAS BEEN TIGHTLY WRAPPED AND SECURELY TIED WITH TWINE OR WIRE, OR PINNED. WHERE WIRE BASKETS ARE USED ON TREES OR SHRUBS, CUT BURLAP AND WIRE BACK TO ¼ THE BASE OF ROOTBALL AND REMOVE FROM PLANTING HOLE. REMOVE ALL STRAPS, WIRE STRAP HANGERS, ETC. FROM ROOTBALL. DO NOT ALLOW REMAINING WIRE TO PROTRUDE INTO MULCH OR TOPSOIL AREAS.
    - B. CONTAINER GROWN: CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING DESIGN PROFESSIONAL OF ROOT BOUND SPECIMENS. REMOVE CONTAINER AND SCARIFY OR SHAVE ROOTBALL AS NEEDED TO REMEDIATE ROOT BOUND CONDITION. PULL SURFACE ROOTS AT TOP OF ROOTBALL OUT IN A DIRECTIONAL PATTERN TO DISCOURAGE CIRCLING ROOTS.
31. STAKING IS ONLY TO BE INSTALLED IN SPECIAL CIRCUMSTANCES AT THE DIRECTION OF THE DESIGN PROFESSIONAL. ANY STAKING MATERIAL MUST BE REMOVED AT THE END OF THE WARRANTY PERIOD.
32. ALL PLANTS TO BE INSTALLED WILL BE FIELD LOCATED TO AVOID EXISTING IMPACT TO NATIVE PLANTS AND STRUCTURAL ROOT PLATES OF EXISTING TREES. COORDINATE WITH DESIGN PROFESSIONAL.

## PLANTING SOIL MIX NOTES:

1. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROCURING A LANDSCAPE SOIL REPORT FROM PROFILE SOIL SOLUTIONS: https://profileps3.com, LOCAL EXTENSION SERVICE, OR OTHER VENDOR.
2. THE LANDSCAPE CONTRACTOR MUST SUPPLY ALL TOPSOIL, PLANTING SOIL MIX AND OTHER ADDITIVES AND MUST APPROVED BY THE DESIGN PROFESSIONAL PRIOR TO ANY BACKFILLING.
3. THE TYPICAL PLANTING SOIL MIX FOR ON-GRADE PLANTINGS (TREES, SHRUBS & GROUND COVERS) MUST CONSIST OF THE FOLLOWING UNLESS OTHERWISE INDICATED ON THE DRAWINGS:
    - 3.1. 60% TOPSOIL (AS SPECIFIED), 40% MR. NATURAL CLM (COMPLETE LANDSCAPE MIX) BY ITSAULNATURAL,LLC, OR AS NOTED BELOW AS AN EQUIVALENT 40% OF PREPARED ADDITIVES (BY VOLUME AS FOLLOWS):
    - 3.1.1. 2 PARTS HUMUS AND/OR PEAT,1 PART STERILIZED COMPOSTED COW MANURE
    - 3.1.2. 1 PART SHREDDED PINE BARK (BARK PIECES BETWEEN ½ INCH AND 2 INCHES IN LENGTH)
    - 3.1.3. COMMERCIAL FERTILIZER OR LIME AS RECOMMENDED IN SOIL REPORT (IF ANY).
4. TYPICAL PLANTING SOIL MIX FOR PERENNIAL OR SEASONAL COLOR BEDS CONSIST OF TOPSOIL AND THE FOLLOWING SOIL AMENDMENTS BY VOLUME:
    - 4.1. 40% TOPSOIL (AS SPECIFIED)
    - 4.2. 25 % HUMUS 15% PULVERIZED PINE BARK MULCH (FINGERNAIL SIZED CHIPS - 1/4 INCH MAX.
    - 4.3. 5% STERILIZED COMPOSTED COW MANURE
    - 4.4. 5 % SAND (ANGULAR BUILDERS SAND) LIME AT A RATE OF 5 LBS. PER 50 SQ. FEET (ADJUST FOR ALKALINE SOILS).
    - 4.5. COMMERCIAL FERTILIZER OR LIME AS RECOMMENDED IN SOIL REPORT (IF ANY).

## WATERING/IRRIGATION:

1. WATERING AFTER INSTALLATION AND WATER TRANSPORTATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE.
2. USE OF TREE CAMEL, OOZE TUBES OR TREE GATOR BAGS FOR TREES ARE REQUIRED IF A TEMPORARY IRRIGATION SYSTEM IS NOT INSTALLED.
3. INSTALLATION OF A PERMANENT IRRIGATION SYSTEM IS NOT PROPOSED. THE CONTRACTOR MAY CHOOSE TO INSTALL A TEMPORARY IRRIGATION SYSTEM IN ORDER TO ESTABLISH INSTALLED PLANT MATERIAL. SUBMIT A PLAN FOR A TEMPORARY SYSTEM TO THE DESIGN PROFESSIONAL FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE SYSTEM SHALL BE DESIGNED TO PROVIDE FULL AND COMPLETE COVERAGE TO ALL LANDSCAPED AREAS OF THE SITE INDICATED ON THE LANDSCAPE PLAN.
4. ALL MATERIALS USED IN THE DESIGN OF THE TEMPORARY SYSTEM, INCLUDING SPRINKLER HEADS, VALVES, VALVE BOXES, CONTROLLERS, PUMPS, BACKFLOW PREVENTORS, RAIN AND FREEZE SENSORS, DRIP EQUIPMENT, WIRE, ELECTRICAL CONNECTIONS, AND PVC PIPE AND FITTINGS, MUST MEET MINIMUM INDUSTRY STANDARDS. MANUFACTURER AND MODEL MUST BE SPECIFIED.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY SYSTEM AFTER SUBSTANTIAL COMPLETION IS OBTAINED.
6. IF PLANTING AREAS ARE NOT IRRIGATED OR IF IRRIGATION IS NOT OPERATING, HAND WATER ROOT BALLS (OR PLANT BEDS FOR GROUNDCOVERS) OF ALL PLANTS TO ASSURE THAT THE ROOTS HAVE ADEQUATE MOISTURE. TEST THE MOISTURE CONTENT IN EACH ROOTBALL TO DETERMINE WATER CONTENT. THE CONTRACTOR MUST INSTALL ONE SET OF WATERING BAGS FOR EACH TREE TO BE MAINTAINED (AND NOT IRRIGATED) FOR TREE WATERING DURING THE WARRANTY PERIOD. WATERING BAGS MUST BE REMOVED BETWEEN DECEMBER 1 AND MARCH 1.
7. IF NO TEMPORARY SYSTEM IS PROPOSED, THE CONTRACTOR WILL DEVELOP A SCHEDULE FOR MANUAL WATERING OF PLANTS.THIS SCHEDULE SHOULD BE INCLUDED IN ANY MAINTENANCE AGREEMENT AND/OR BONDING OF LANDSCAPE MATERIAL AND SHOULD INDICATE THE PARTY RESPONSIBLE FOR PERFORMING THE MANUAL WATERING. THE DURATION OF THE SCHEDULE OF MANUAL WATERING SHOULD BE EQUAL TO THE DURATION OF THE BOND PERIOD OR 12 MONTHS STARTING FROM THE INSTALLATION DATE, WHICHEVER IS GREATER. THE SCHEDULE SHOULD ALSO INDICATE THE AMOUNT OF WATER TO BE APPLIED PER WEEK. THE FOLLOWING IRRIGATION RATES ARE OFFERED AS A GUIDELINE; HOWEVER, THE SUPPLIER OF THE LANDSCAPE MATERIAL SHOULD BE CONSULTED FOR THEIR RECOMMENDATIONS.
    - TREES: MUST BE WATERED DAILY FOR MONTH 1, EVERY OTHER DAY FOR MONTHS 2-4, AND WEEKLY FOR MONTHS 5-12. APPLY 8 GALLONS PER 4" CALIPER TREE PER APPLICATION. ADJUST RATE TO LOCAL RAINFALL AMOUNT. (ASSUME 30 GALLONS PER TREE FOR EVERY INCH OF RAINFALL).
    - SHRUBS: MUST BE WATERED DAILY FOR MONTH 1, EVERY OTHER DAY FOR MONTHS 2-4, AND WEEKLY FOR MONTHS 5-12. APPLY 1 GALLON PER SHRUB PER APPLICATION. ADJUST RATE TO LOCAL RAINFALL AMOUNT. (ASSUME 2 GALLONS PER SHRUB FOR EVERY INCH OF RAINFALL)
    - TURF: MUST RECEIVE 1-INCH OF IRRIGATION PER WEEK APRIL THROUGH SEPTEMBER, 1 /2-INCH OF IRRIGATION OCTOBER THROUGH MARCH. ADJUST RATE TO LOCAL RAINFALL AMOUNT.
    - NATIVE GRASS BEDS: WATER EVERY OTHER DAY FOR THE FIRST MONTH. ONLY CONTINUE WATERING AFTER THAT ONLY DURING EXTENDED OR FORECASTED DRY PERIODS, AND THEN, ONLY ONCE PER WEEK.

## MULCHING:

1. MULCH TOP OF ROOT BALLS AND PLANTING BEDS, COVERING THE ENTIRE PLANTING BED AREA. PROVIDE THE FOLLOWING THICKNESS OF MULCH. TOP OF MULCH MUST BE SMOOTH AND EVEN IN ALL DIRECTIONS.
    - A. TREE SHRUB AND GROUNDCOVER PLANTING AREAS: 3-INCH DEPTH CONTINUOUS FROM PLANT TO PLANT. DEPTH IS DEPTH AFTER SETTLING.
    - B. PERENNIAL PLANTING AREAS: 3-INCH DEPTH CONTINUOUS FROM PLANT TO PLANT. DEPTH IS DEPTH AFTER SETTLING.
2. IN NO CASE WILL MULCH COME IN CONTACT WITH ANY PART OF TRUNK OR ROOT FLARE.
3. APPLY MULCH AFTER ALL PLANTS HAVE BEEN INSTALLED AND APPROVED.
4. CONTRACTOR MUST NOT OVER-MULCH PLANTING BEDS WITH EXCESS MULCH. EXCESS MULCH MUST BE REMOVED AND DISPOSED OF OFF-SITE.
5. LIFT ALL LEAVES, LOW HANGING STEMS AND OTHER GREEN PORTIONS OF PLANTS OUT OF THE MULCH IF COVERED.

## WARRANTY:

1. THE CONTRACTOR MUST COMPLETELY WARRANTY ALL PLANT MATERIAL AS INDICATED BEGINNING AT THE DATE OF SUBSTANTIAL COMPLETION. MAINTENANCE WORK MUST BE PERFORMED UNTIL DATE OF FINAL ACCEPTANCE BY OWNER. THE CONTRACTOR MUST PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE WARRANTY PERIOD.
2. INSTALLER AGREES TO REPAIR OR REPLACE PLANTINGS AND ACCESSORIES THAT FAIL IN MATERIALS, WORKMANSHIP, OR GROWTH WITHIN SPECIFIED WARRANTY PERIOD.
    - A. WARRANTY PERIOD FOR TREES AND SHRUBS: ONE-YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
    - B. WARRANTY PERIOD FOR VINES AND PERENNIALS: ONE-YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
3. PLANTS MUST BE HEALTHY, FREE OF PESTS AND DISEASE, AND IN FLOURISHING CONDITION AT THE END OF THE WARRANTY PERIOD. PLANTS MUST BE FREE OF DEAD AND DYING BRANCHES AND BRANCH TIPS, AND MUST BEAR FOLIAGE OF NORMAL DENSITY, SIZE, AND COLOR FOR THE SPECIES.
4. PLANTS THAT ARE DEAD, DISEASED, INSECT INFESTED, OR NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE DESIGN PROFESSIONAL DURING OR AT THE END OF THE WARRANTY PERIOD, WILL BE DEEMED DEFECTIVE. PLANTS THAT HAVE HAD MORE THAN 25% OF THEIR BRANCHES DIE OR REMOVED MUST BE REPLACED. PLANTS THAT HAVE HAD A MAJOR BRANCH OR SIDE OF THE PLANT REMOVED SUCH THAT CURRENT OR FUTURE AESTHETIC APPEAL OR STRUCTURAL INTEGRITY OF THE PLANT, AS DETERMINED BY THE DESIGN PROFESSIONAL, IS DIMINISHED WILL BE CONSIDERED DEFECTIVE. PLANT MATERIAL DETERMINED TO BE DEFECTIVE MUST BE REPLACED WITHOUT COST TO THE OWNER.
    - A. REMOVE DEFECTIVE OR DEAD PLANTS IMMEDIATELY. REPLACE AS SOON AS WEATHER CONDITIONS PERMIT AND WITHIN ONE OF THE SPECIFIED PLANTING PERIODS.
5. REPLACEMENTS MUST CLOSELY MATCH ADJACENT SPECIMENS OF THE SAME SPECIES. REPLACEMENTS WILL BE SUBJECT TO ALL REQUIREMENTS STATED IN THIS SPECIFICATION. MAKE ALL NECESSARY REPAIRS DUE TO PLANT REPLACEMENTS. SUCH REPAIRS MUST BE DONE AT NO EXTRA COST TO THE OWNER.
6. AT THE END OF THE WARRANTY PERIOD, AND NO LESS THAN FIVE DAYS PRIOR TO FINAL INSPECTION, TREE TIES AND GUYING MUST BE REMOVED FROM THE SITE. ALL TREES THAT HAVE LEANED MUST BE STRAIGHTENED.

## MAINTENANCE PERIOD:

1. THE CONTRACTOR IS REQUIRED TO PROVIDE A 60 DAY LANDSCAPE MAINTENANCE PERIOD INCLUDING WEEDING, MOWING, RE-MULCHING AND WATERING BASED ON THE REQUIREMENTS NOTED ON THIS SHEET UNDER "WATERING/IRRIGATION."
2. MAINTENANCE PERIOD WILL BEGIN IMMEDIATELY AFTER FINAL ACCEPTANCE HAS BEEN PROVIDED IN WRITING BY THE OWNER.

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EOR/AOR SEAL

NORTH CAROLINA
No. 2413
LANDSCAPE ARCHITECT

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | LS |
| DRAWN BY: | EH |
| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

LANDSCAPE GENERAL NOTES

SHEET NUMBER

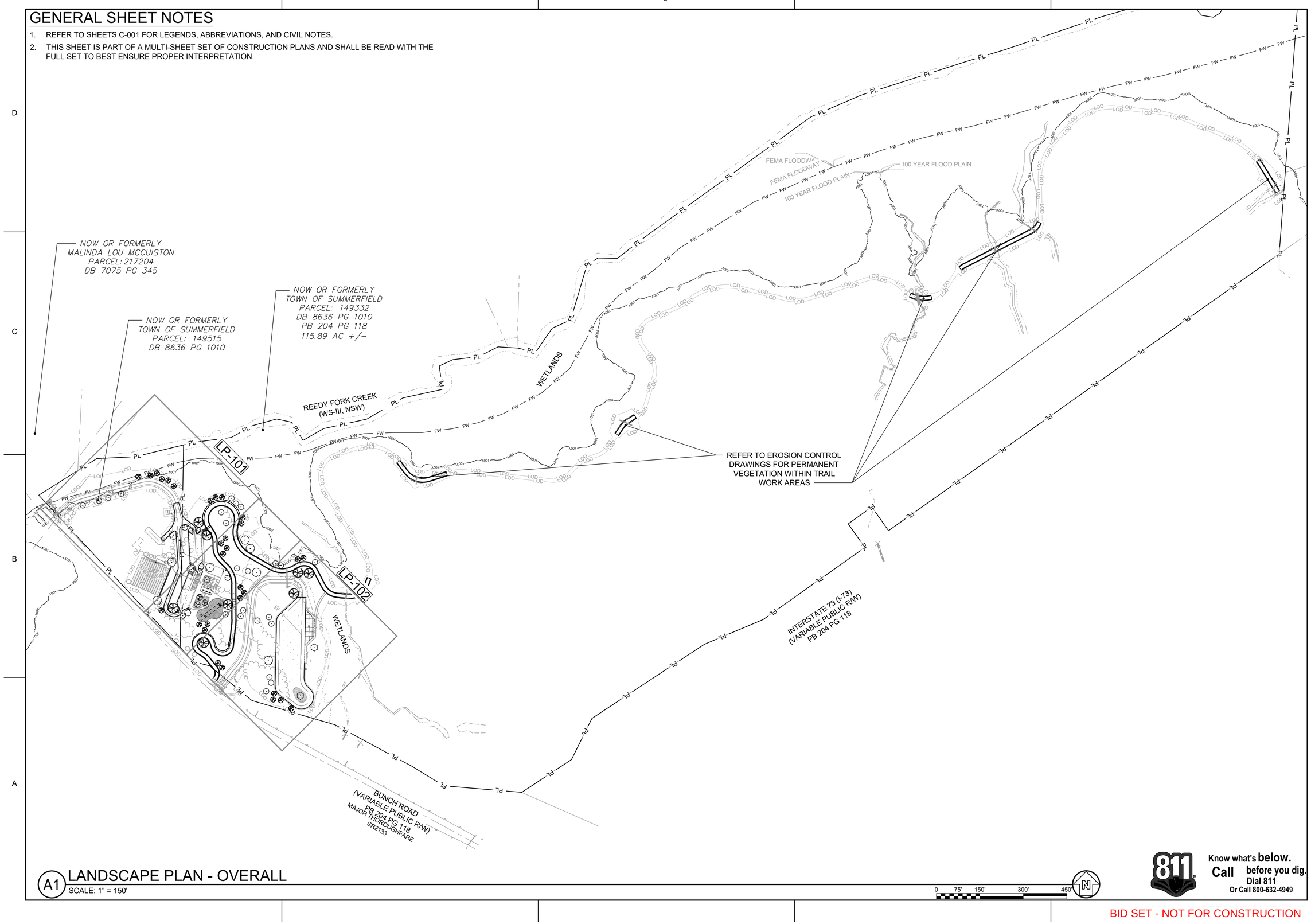
L-001

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\L-001 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.




A1 LANDSCAPE PLAN - OVERALL
SCALE: 1" = 150'

0 75' 150' 300' 450'

Know what's **below.**
**Call** before you dig.
Dial 811
Or Call 800-632-4949

BID SET - NOT FOR CONSTRUCTION

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CADD\CIVIL\LP100 PLOTTED BY: GONZALEZ, ES DATE: 6/30/25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CLIENT INFORMATION

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SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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| MARK | DESCRIPTION | DATE |
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| DESIGNED BY: | LS |
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| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

LANDSCAPE PLAN - OVERALL

SHEET NUMBER

LP-100

ORIGINAL SHEET SIZE:
22" X 34"

A1 LANDSCAPE PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. REFER TO CS100 FOR ADDITIONAL INFORMATION.
4. SEE L-501 FOR PLANTING DETAILS AND SCHEDULE.
5. ALL PLANTS TO MEET REQUIREMENTS LISTED IN GENERAL PLANTING NOTES.
6. ALL PLANT MATERIAL SHALL BE INSTALLED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY UNLESS OTHERWISE APPROVED BY THE TOWN ADMINISTRATOR.

## PLANT SCHEDULE

| SYMBOL | BOTANICAL / COMMON NAME |
|---|---|
| **TREES** | |
| | ACER RUBRUM / RED MAPLE |
| | LIRIODENDRON TULIPIFERA / TULIP TREE |
| | MAGNOLIA MACROPHYLLA / BIGLEAF MAGNOLIA |
| | NYSSA SYLVATICA 'WILDFIRE' / WILDFIRE TUPELO |
| | QUERCUS ALBA / WHITE OAK |
| | QUERCUS LYRATA / OVERCUP OAK |
| | ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM |
| **EVERGREEN TREES** | |
| | PINUS TAEDA / LOBLOLLY PINE |
| **EVERGREEN SHRUBS** | |
| | VIBURNUM OBOVATUM 'MISS SHILLERS DELIGHT' / WALTER'S VIBURNUM |
| **GROUND COVERS** | |
| | ENGINEERED WOOD FIBER PLAYGROUND MULCH |
| | MUHLENBERGIA CAPILLARIS / PINK MUHLY GRASS |

NOTE: SEED ALL IMPACTED LANDSCAPE AREAS WITH ROUNDSTONE STEEP SLOPE STABILIZATION MIX 199 WITHIN THE LIMITS OF DISTURBANCE IF OTHERWISE NOT INDICATED.

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CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

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| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

LANDSCAPE PLAN

SHEET NUMBER

LP-101

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: \\ACP3SERVER\RESOURCES\PROJECTSIFY23\1230863\07.02 CAD\CIVIL\LP100 PLOTTED BY: GONZALEZ_ES DATE: 6/30/25

A1 LANDSCAPE PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

# GENERAL SHEET NOTES

1. REFER TO SHEETS C-001 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. REFER TO CS100 FOR ADDITIONAL INFORMATION.
4. SEE L-501 FOR PLANTING DETAILS AND SCHEDULE.
5. ALL PLANTS TO MEET REQUIREMENTS LISTED IN GENERAL PLANTING NOTES.

## PLANT SCHEDULE

| SYMBOL | BOTANICAL / COMMON NAME |
|---|---|
| **TREES** | |
| | ACER RUBRUM / RED MAPLE |
| | LIRIODENDRON TULIPIFERA / TULIP TREE |
| | MAGNOLIA MACROPHYLLA / BIGLEAF MAGNOLIA |
| | NYSSA SYLVATICA 'WILDFIRE' / WILDFIRE TUPELO |
| | QUERCUS ALBA / WHITE OAK |
| | QUERCUS LYRATA / OVERCUP OAK |
| | ULMUS AMERICANA 'PRINCETON' / AMERICAN ELM |
| **EVERGREEN TREES** | |
| | PINUS TAEDA / LOBLOLLY PINE |
| **EVERGREEN SHRUBS** | |
| | VIBURNUM OBOVATUM 'MISS SHILLERS DELIGHT' / WALTER'S VIBURNUM |
| **GROUND COVERS** | |
| | ENGINEERED WOOD FIBER PLAYGROUND MULCH |
| | MUHLENBERGIA CAPILLARIS / PINK MUHLY GRASS |

NOTE: SEED ALL IMPACTED LANDSCAPE AREAS WITH ROUNDSTONE STEEP SLOPE STABILIZATION MIX 199 WITHIN THE LIMITS OF DISTURBANCE IF OTHERWISE NOT INDICATED.

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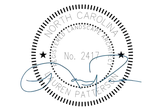


CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

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| MARK | DESCRIPTION | DATE |
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| DESIGNED BY: | LS |
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| CHECKED BY: | LP |
| SUBMITTED BY: | LP |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

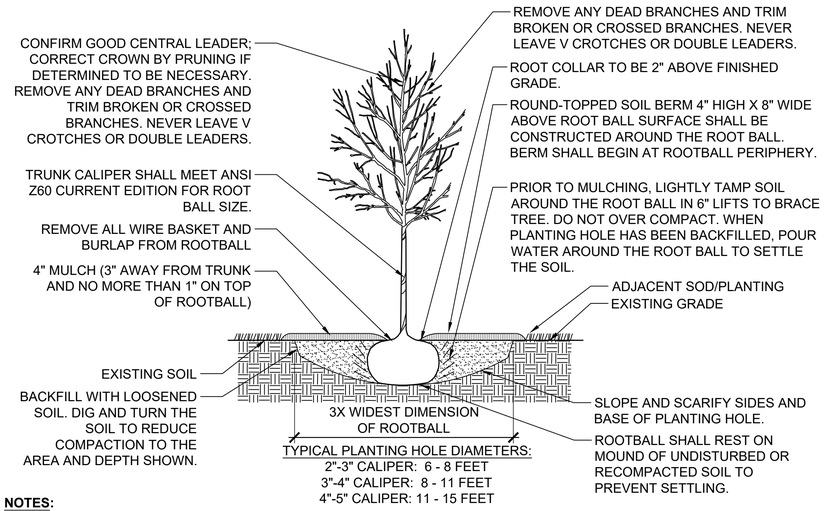
LANDSCAPE PLAN

SHEET NUMBER

LP-102

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02.CAD\CIVIL\LP100 PLOTTED BY: PATTERSON, LAUREN DATE: 6/30/25

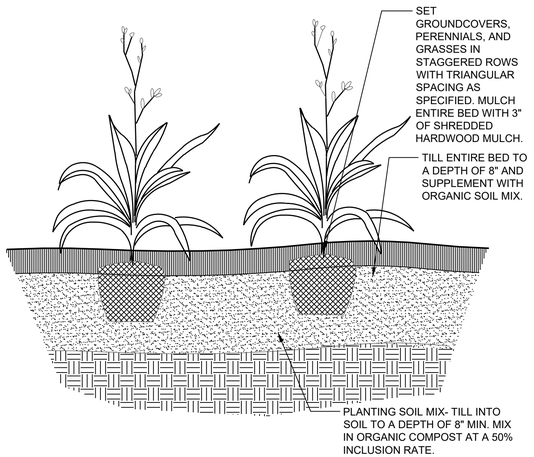



**NOTES:**

1) WHEN THE TREE IS MOVED, THE ROOTBALL SHOULD ALWAYS BE SUPPORTED. TREES SHOULD NEVER BE HANDLED BY THE TRUNK.
2) SET TOP OF ROOT BALL AT ADJACENT FINISH GRADE AND MOUND BACKFILL TO A 4" BERM AROUND ROOTBALL PERIPHERY.
3) REMOVE ALL STRAPS AND NON-BIODEGRADABLE MATERIAL; CUT AND BEND BACK TOP AND SIDES OF WIRE BASKET TO A MINIMUM OF 12" BELOW THE TOP OF THE ROOT BALL BEFORE FINAL BACKFILLING OF ROOT BALL.
4) CUT AND REMOVE BURLAP AND TWINE FROM TOP HALF OF BALL AFTER THE BALL HAS BEEN BACKFILLED.
5) IF TREE IS TO BE PLANTED IN AN AREA OF MODIFIED OR POORLY DRAINED SOIL, REFER TO DETAILS FOR THAT SPECIFIC CONDITION. IF SUCH CONDITIONS ARE NOTED IN THE FIELD NOTIFY DESIGN PROFESSIONAL BEFORE PLANTING.

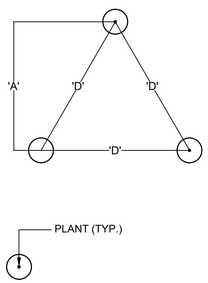
## 1 TREE PLANTING UP TO 4" CAL. (B&B)

1/2" = 1'-0"




## 2 GROUNDCOVER PLANTING

1" = 1'-0" P-BA2-82

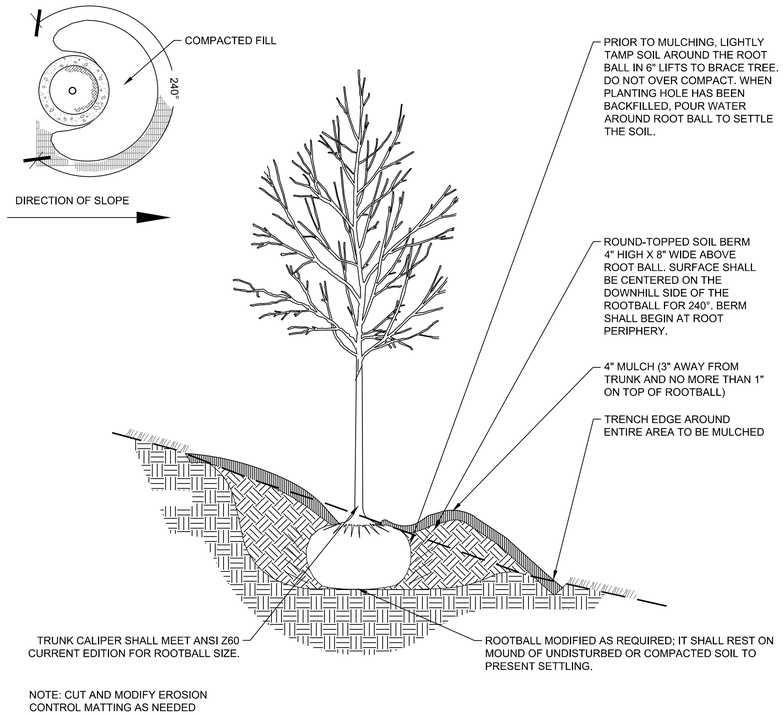



| PLANT SPACING 'D' | ROW 'A' |
|---|---|
| 8" O.C. | 7.00" O.C. |
| 10" O.C. | 8.5" O.C. |
| 12" O.C. | 10.5" O.C. |
| 18" O.C. | 15.5" O.C. |
| 24" O.C. | 21.0" O.C. |
| 36" O.C. | 30" O.C. |
| 48" O.C. | 31.5" O.C. |

NOTE: GROUNDCOVERS, PERENNIALS, AND GRASSES TO BE INSTALLED WITH TRIANGULAR SPACING.

## 3 TYPICAL PLANT SPACING

NTS P-BA2-81




NOTE: CUT AND MODIFY EROSION CONTROL MATTING AS NEEDED

## 4 TREE PLANTING ON A SLOPE

1/2" = 1'-0" P-BA2-48

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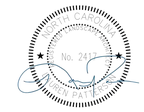


CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | LS |
| DRAWN BY: | EH |
| CHECKED BY: | LS |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

LANDSCAPE DETAILS

SHEET NUMBER

L-501

ORIGINAL SHEET SIZE: 22" X 34"

BID SET - NOT FOR CONSTRUCTION

FILE PATH: \\ACP3SERVER\RESOURCES\PROJECTS\FY23\123086307.CAD-BIM\07.02 CAD\CIVILL-501 PLOTTED BY: GONZALEZ, ES DATE: 9/30/25

# PLANT SCHEDULE

| SYMBOL | QTY | BOTANICAL / COMMON NAME | CONT | CAL | HEIGHT |
|---|---|---|---|---|---|
| **TREES** | | | | | |
| | 3 | ACER RUBRUM / RED MAPLE | B&B | 2" CAL. | 8`-10" HT |
| | 9 | LIRIODENDRON TULIPIFERA / TULIP TREE | B&B | 3" CAL. MIN. | 8`-10" HT |
| | 5 | MAGNOLIA MACROPHYLLA / BIGLEAF MAGNOLIA | 8-10` HT | 2" CAL. | 8`-10" HT |
| | 4 | NYSSA SYLVATICA 'WILDFIRE' / WILDFIRE TUPELO | 8-10` HT | 3" CAL. MIN. | 8`-10" HT |
| | 2 | QUERCUS ALBA / WHITE OAK | 1" CAL. B&B | 3" CAL. MIN. | 8`-10" HT |
| | 23 | QUERCUS LYRATA / OVERCUP OAK | 1" CAL. B&B | 1" CAL. | |
| | 8 | ULMUS AMERICANA `PRINCETON` / AMERICAN ELM | 3" CAL. B&B | 2" CAL. | 8`-10" HT |
| **EVERGREEN TREES** | | | | | |
| | 30 | PINUS TAEDA / LOBLOLLY PINE | 1" CAL. B&B | 1" CAL. | |

| SYMBOL | QTY | BOTANICAL / COMMON NAME | SPACING |
|---|---|---|---|
| **EVERGREEN SHRUBS** | | | |
| | 41 | VIBURNUM OBOVATUM `MISS SHILLERS DELIGHT` / WALTER'S VIBURNUM | 48" o.c. |

| SYMBOL | QTY | BOTANICAL / COMMON NAME |
|---|---|---|
| **GROUND COVERS** | | |
| | 1,644 SF | CYNODON DACTYLON / BERMUDAGRASS |
| | 2,126 SF | MUHLENBERGIA CAPILLARIS / PINK MUHLY GRASS |

NOTE:

1. SEED ALL IMPACTED LANDSCAPE AREAS WITH ROUNDSTONE STEEP SLOPE STABILIZATION MIX 199 WITHIN THE LIMITS OF DISTURBANCE IF OTHERWISE NOT INDICATED.

2. 1" CALIPER TREES TO BE USED FOR REFORESTATION AND SLOPE STABILIZATION.
3. CONTAINERIZED PLANTS SHALL MEET REQUIREMENTS STATED IN GENERAL NOTES NUMBER 7 FOR HEIGHT AND SPREAD. ANY PLANTS DETERMINED NOT TO MEET THE STANDARD ARE SUBJECT TO REJECTION BY THE DESIGN PROFESSIONAL.

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EOR/AOR SEAL

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
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| DESIGNED BY: | LS |
| DRAWN BY: | EH |
| CHECKED BY: | LS |
| SUBMITTED BY: | JM |
| DATE: | 10/9/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

LANDSCAPE DETAILS

SHEET NUMBER

L-502

ORIGINAL SHEET SIZE:
22" X 34"

FILE PATH: X:\FY23\1230863\07.CAD-BIM\07.02 CAD\CIVIL\L-501 PLOTTED BY: PATTERSON, LAUREN DATE: 6/30/25

BID SET - NOT FOR CONSTRUCTION

# ELECTRICAL SPECIFICATIONS

## GENERAL REQUIREMENTS:

REFER TO GENERAL AND SPECIAL CONDITIONS, ETC. OF THE CONTRACT REGARDING THE INSURANCE, TEMPORARY UTILITIES, AND OTHER ITEMS AFFECTING THIS CONTRACT.

VISIT THE JOB SITE TO GET FAMILIAR WITH THE EXISTING CONDITIONS.

THE WORK COVERED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS CONSISTS IN PROVIDING A COMPLETE SYSTEM INCLUDING LABOR, MATERIALS, ETC.

THE TERM "PROVIDE" USED THROUGHOUT SPECIFICATIONS AND ON DRAWINGS SHALL MEAN TO "FURNISH, INSTALL AND CONNECT WITH ALL RELATED ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION READY FOR USE."

COMPLY WITH ALL CODES, LAWS AND REGULATIONS APPLICABLE TO ELECTRICAL INSTALLATION, INCLUDING LATEST NATIONAL ELECTRICAL AND OTHER APPLICABLE CODES. GIVE ALL REQUIRED NOTICES, OBTAIN NECESSARY PERMITS, LICENSES, INSPECTIONS, TESTS AND PAY ALL REQUIRED FEES. PROVIDE A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE LOCAL ELECTRICAL INSPECTOR. INCLUDE IN THE BID ALL ADDITIONAL COSTS FROM THE LOCAL POWER, AND TELEPHONE COMPANY FOR UNDERGROUND ELECTRICAL, AND TELEPHONE SERVICE AND EQUIPMENT AS THEY MAY APPLY.

THE ENTIRE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE WHICH INCLUDES THE LATEST EDITION OF THE NATIONAL ELECTRICAL AND ALL OTHER APPLICABLE CODES, WITH LATEST REVISIONS.

CHECK AND VERIFY WITH THE OWNER, EQUIPMENT SUPPLIERS, AND ALL OTHER CONTRACT DOCUMENTS FOR THE PROJECT THE EXACT REQUIREMENTS FOR PROVIDING REQUIRED AND COMPLETE SERVICES FOR EQUIPMENT, SYSTEMS, ETC., AS SHOWN OR INDICATED. MINOR CHANGES IN OUTLET, LIGHT AND EQUIPMENT LOCATION MAY BE MADE AT ANY TIME PRIOR TO ROUGHING-IN OF THE ELECTRICAL WORK WITHOUT ANY ADDITIONAL COSTS.

INCLUDE ALL EXCAVATION, TRENCHING AND BACKFILLING TO ORIGINAL GRADE AND TO 95% COMPACTION AS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL ELECTRICAL WORK. REFER TO SUPPLEMENTARY CONDITIONS FOR TESTING OF BACKFILLING. PROVIDE SHORING FOR ALL EXCAVATION AND TRENCHING TO PREVENT CAVE-INS. ALL EXCAVATION AND TRENCHING SHALL BE UNCLASSIFIED UNLESS OTHERWISE STATED IN GENERAL AND SPECIAL CONDITIONS OR IN PROPOSAL FORM.

BACKFILL AND TAMP IN 6" LAYERS USING ONLY CLEAN EARTH WITHOUT ANY ROCKS, DEBRIS, ETC.

IT IS ASSUMED THAT ALL MATERIAL TO BE EXCAVATED IS EARTH AND SHALL INCLUDE ALL MATERIALS NOT CLASSIFIED AS ROCK, WHICH SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, SHALE, HARDPAN, LOOSE SHALE, LOOSE STONE IN MASSES AND BOULDERS MEASURING LESS THAN 1/2 CUBIC YARD IN VOLUME. ROCK EXCAVATION SHALL COMPRISE THE FOLLOWING: BOULDERS LARGER THAN 1/2 CUBIC YARD OR MORE IN VOLUME, UNSTRATIFIED MASSES AND ROCK IN LEDGES THAT POSSESSES THE CHARACTERISTICS OF SOLID ROCK WHICH CANNOT BE REMOVED WITHOUT SYSTEMATIC DRILLING AND/OR BLASTING.

CUTTING AND PATCHING OF EXISTING PAVING, WALKS, ETC., AS REQUIRED FOR INSTALLATION OF NEW CONDUIT, BOXES, ETC. WILL BE DONE BY THE ELECTRICAL CONTRACTOR. CUT AND PATCH WALKS, PAVING, ETC. AS REQUIRED FOR INSTALLATION OF NEW CONDUITS, ETC. REPLACE CUT WALKS, PAVING, CURBS, ETC. WITH SAW CUT SECTIONS. PATCH CUT AREAS TO MATCH ADJACENT AREAS AND SURFACES.

## SUBMITTALS:

SUBMIT ELECTRONIC COPY OF SUBMITTAL DATA FOR ALL MATERIALS AND EQUIPMENT THAT ARE TO BE INSTALLED ON THIS PROJECT. UPON APPROVAL BY THE ENGINEER, ELECTRONIC COPY WILL BE RETURNED.

PRIOR TO SUBMITTING INFORMATION, THE CONTRACTOR SHALL REVIEW INFORMATION TO ENSURE IT COMPLIES WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES. THE CONTRACTOR SHALL NOT SUBMIT DATA UNTIL IT COMPLIES.

STAMP ALL SUBMITTAL DATA AND SHOP DRAWINGS AS "APPROVED" ONCE THE DATA COMPLIES INDICATING FULL COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. SHOP DRAWINGS AND SUBMITTAL DATA WILL NOT BE REVIEWED WITHOUT THE "APPROVED" STAMP.

SUBMITTAL DATA AND SHOP DRAWINGS SHALL CLEARLY INDICATE WHICH PIECES OF EQUIPMENT ARE TO BE INSTALLED FOR THIS PROJECT. DATA SHALL INCLUDE EQUIPMENT SIZES, CAPACITIES, REQUIREMENTS FOR ACCESS AND MAINTENANCE, MINIMUM CLEARANCES AS REQUIRED BY THE MANUFACTURER AND CODE, AND ALL OTHER PERTINENT INFORMATION FOR THIS PARTICULAR PROJECT. ALL SHOP DRAWINGS SHALL BE SUBMITTED AT THE SAME TIME AND AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT.

NO MATERIALS OR EQUIPMENT SHALL BE PLACED ON THE JOB SITE, OR INSTALLED, WITHOUT PRIOR APPROVAL BY THE ENGINEER.

## RECORD DRAWINGS:

THIS CONTRACTOR SHALL MAINTAIN A SET OF RECORD DRAWINGS THROUGHOUT CONSTRUCTION AND SHALL UPDATE THEM DAILY.

MARK THE DRAWINGS WITH ALL DEVIATIONS SHOWING THE AS-BUILT CONDITIONS. INCLUDE REVISIONS TO ALL SCHEDULES AS WELL AS REVISED LOCATIONS OF ALL UNDERGROUND CONDUITS, POLES, EQUIPMENT, BOXES, ETC., UNDERGROUND, IN WALLS, ABOVE CEILINGS AND OTHERWISE CONCEALED, WHICH WILL REQUIRE SERVICE AND MAINTENANCE.

SUBMIT 2 COPIES OF THE MARKED UP RECORD DRAWINGS SHOWING THE AS-BUILT CONDITIONS TO THE ENGINEER WHEN CONSTRUCTION IS COMPLETE OR AS DIRECTED BY THE ENGINEER.

## CODES AND STANDARDS:

MATERIALS INSTALLED IN THIS CONTRACT SHALL CONFORM TO THE STANDARDS LISTED BELOW WHERE SUCH STANDARDS ARE APPLICABLE AND SHALL BE NEW AND FIRST CLASS IN ALL RESPECTS.

UNDERWRITER'S LABORATORIES, INC. STANDARDS AND APPROVED LISTINGS (UL)

ELECTRICAL TESTING LABORATORIES STANDARDS (ETL)

CERTIFIED BALLAST MANUFACTURER'S STANDARDS (CBM)

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION STANDARDS (NEMA)

NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION WHICH INCLUDES THE NATIONAL ELECTRICAL CODE (NEC)

INSULATED POWER CABLE ENGINEERS ASSOCIATION STANDARD (IPCEA)

EDISON ELECTRICAL INSTITUTE (EEI)

AMERICAN NATIONAL STANDARDS INSTITUTE STANDARDS (ANSI)

AMERICAN SOCIETY FOR TESTING MATERIALS STANDARDS (ASTM)

ELECTRICAL AND OTHER EQUIPMENT AND/OR MATERIALS THAT ARE DEFECTIVE, OR ARE DAMAGED IN THE COURSE OF CONSTRUCTION, SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR AT HIS EXPENSE.

DEPARTURES AND/OR DEVIATIONS FROM THE SPECIFICATIONS SHALL BE REQUESTED IN WRITING BY THE CONTRACTOR FROM THE ENGINEER AND NO SUCH DEPARTURES AND/OR DEVIATIONS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.

WORKMANSHIP SHALL BE OF THE HIGHEST GRADE, PERFORMED BY MECHANICS SKILLED IN THE INSTALLATION OF THIS TYPE OF WORK, AND LICENSED BY THE PROPER AUTHORITIES TO PERFORM THE WORK.

## WIRING METHODS:

RUN ALL WIRING FOR LIGHTING, POWER AND ALL OTHER SYSTEMS BELOW SLAB ON GRADE AND UNDERGROUND, IN SCHEDULE 40 PVC CONDUIT WITH ASPHALT COATED RIGID GALVANIZED ELBOWS, WITH GROUND WIRE, AND WITH ALL THREADED CONNECTIONS AND JOINTS WATERPROOFED FOR WATERTIGHT INSTALLATION UNLESS OTHERWISE NOTED. RUN ALL WIRING FOR LIGHTING, POWER AND ALL OTHER SYSTEMS ABOVE SLAB ON GRADE AND OVERHEAD IN RIGID GALVANIZED CONDUIT WITH THREADED FITTINGS UNLESS OTHERWISE NOTED.

RIGID, NON-METALLIC CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH ART. 352 OF THE NATIONAL ELECTRICAL CODE. NON-METALLIC CONDUIT SHALL BE SUPPORTED AND/OR ANCHORED IN ACCORDANCE WITH TABLE 352.30 OF THE NATIONAL ELECTRICAL CODE. RIGID NON-METALLIC CONDUIT SHALL NOT BE INSTALLED WHERE SUBJECT TO MECHANICAL DAMAGE UNLESS ADEQUATELY AND PERMANENTLY PROTECTED AGAINST SUCH DAMAGE. WHEN RIGID NON-METALLIC CONDUIT IS USED IN ANY SYSTEM CARRYING POWER OR LIGHTING CIRCUITS AN INSULATED, GREEN, COPPER GROUNDING CONDUCTOR SHALL BE INSTALLED WITHIN THE CONDUIT AND SECURELY ATTACHED AND GROUNDED TO ALL METALLIC PARTS OF THE SYSTEM.

RIGID, NON-METALLIC CONDUIT AND FITTINGS SHALL BE SUNLIGHT PROOF, SCHEDULE 40 PVC AND BEAR THE UNDERWRITER'S LABORATORIES, INC. LABEL OF APPROVAL.

ALL WIRING SHALL BE STRANDED AND SHALL BE COPPER WITH THWN INSULATION. USE COLOR CODED WIRING THROUGHOUT.

TEMPERATURE RATING OF WIRE INSULATION SHALL NOT EXCEED THE TEMPERATURE RATING OF CIRCUIT BREAKERS, LUGS, CONNECTORS, ETC. IF WIRE WITH HIGHER TEMPERATURE RATING IS USED, IT SHALL BE DERATED TO THE TEMPERATURE RATING OF EQUIPMENT TO WHICH IT IS CONNECTED.

WIRE MARKERS AROUND THE CONDUCTOR SHALL BE NON-METALLIC PERMANENT TYPE AS MANUFACTURED BY W.H. BRADY OR APPROVED EQUAL.

RUN TOP OF ALL UNDERGROUND CONDUITS OUTSIDE THE BUILDING MINIMUM 24" BELOW FINISHED GRADE OR PAVING.

PROVIDE ALLEN SYSTEM CAUTION TAPE PLASTIC STRIP MARKER OVER THE ENTIRE RUN OF CONDUITS OUTSIDE THE BUILDING, APPROXIMATELY 8" BELOW FINISHED GRADE OR PAVING.

PROVIDE TYPED CIRCUIT INDEX FOR ALL NEW PANELS AND EQUIPMENT, SHOWING ALL CIRCUIT DESIGNATIONS, INCLUDING ROOM NAMES, EQUIPMENT AND AREAS SERVED, ETC. AS DESIGNATED JUST PRIOR TO OCCUPANCY AND NOT AS DESIGNATED ON DRAWINGS.

PROVIDE PROPER GROUNDING FOR ALL RECEPTACLES, LIGHTS, EQUIPMENT, ETC. AS REQUIRED BY ALL CODES TO COMPLY WITH ARTICLE 250 OF THE LATEST N.E.C., LOCAL CODES, ORDINANCES AND REGULATIONS. USE COPPER FOR MAIN GROUND AS REQUIRED BY CODE. PROVIDE SEPARATE GREEN INSULATED GROUNDING CONDUCTOR FOR EACH NEW LIGHT, RECEPTACLE AND PIECE OF EQUIPMENT INSIDE AND OUTSIDE THE BUILDING. SIZES OF CONDUCTORS SHALL BE AS SHOWN. IF NOT INDICATED, SIZE IN ACCORDANCE WITH CODE.

ALL WIRING DEVICES EQUIPPED WITH GROUNDING CONNECTIONS SHALL BE PERMANENTLY AND SECURELY CONNECTED TO THE ENCLOSURE AND BUILDING GROUNDING SYSTEM IN WHICH THEY ARE MOUNTED WITH A COPPER GROUNDING JUMPER.

VERIFY EXACT GROUNDING REQUIREMENTS ON THE PROJECT BEFORE RUNNING NEW CONDUITS, CONDUCTORS, ETC. GROUNDING CONDUCTORS AS REQUIRED AND/OR INDICATED SHALL BE RUN IN CABLES, RACEWAYS OR CONDUITS WITH CIRCUIT WIRING, PROPERLY BONDED FOR GROUNDING CONTINUITY. GROUND ALL WATER SYSTEMS IN ACCORDANCE WITH THE LATEST NEC CODE.

GROUND SERVICE ENTRANCE EQUIPMENT AS REQUIRED BY ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND THE LOCAL ELECTRICAL CODE.

DISCONNECT SWITCHES SHALL BE NEMA 3R, WEATHERPROOF FOR EXTERIOR USE. PROVIDE NAME PLATES ON EACH MAIN DISCONNECT TO PERMANENTLY IDENTIFY THE EQUIPMENT SERVED.

SPLICING (CIRCUITS OF 600 VOLTS OR LESS): CONDUCTORS, NAMELY THOSE SIZED #6 AWG COPPER AND SMALLER, SHALL BE SPLICED BY USE OF SILICONE FILLED WATERTIGHT SAFETY CONNECTORS EQUAL TO KING NO. 40-569.

STRANDED CONDUCTORS, NAMELY #4 AWG AND LARGER, SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS PLUS GUM TAPE, PLUS FRICTION OR PLASTIC TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS PROVIDED WITH UL APPROVED INSULATING COVERS MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE.

CONDUCTORS IN ALL CASES SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS AND GUTTERS.

ALL WIRES, CABLES, ETC. SHALL BE APPROVED BY THE UNDERWRITER'S LABORATORIES, INC.

ALL BRANCH CIRCUIT CONDUCTORS SHALL BE FACTORY COLOR CODED AND ALL OTHER CONDUCTORS SHALL BE COLOR-TAPED IN LIKE MANNER THROUGHOUT THE SYSTEM TO INDICATE VARIOUS PHASES AND NEUTRAL.

COLOR CODING FOR CONDUCTORS SHALL MATCH EXACTLY THE CODING OF EXISTING SYSTEMS. IN GENERAL THE COLOR CODING FOR SYSTEMS OF LESS THAN 150 VOLT TO GROUND SHALL BE BLACK-RED-BLUE FOR PHASES A-B-C RESPECTIVELY, WHITE FOR GROUNDED NEUTRAL AND GREEN FOR EQUIPMENT GROUNDING.

ALL FEEDER CONNECTORS SIZED LARGER THAN #1/0 SHALL BE 2 BOLT TYPE. SINGLE BOLT CONNECTORS SHALL BE LIMITED FOR USE WITH WIRE SIZE #1/0 AND SMALLER.

ALL RECEPTACLES, DEVICES, ETC. SHALL BE NEMA GROUNDING TYPE.

PANELS SHALL BE WITH BOLT-ON MOLDED CASE BREAKERS AS INDICATED, WITH COMMON TRIP FOR TWO-POLE AND THREE-POLE BREAKERS. FIELD APPLIED HANDLE TIES ARE NOT ACCEPTABLE.

ALL PANEL AND EQUIPMENT BUSSES SHALL BE COPPER.

## TESTS, INSTRUCTIONS:

PERFORM ALL TESTS AS REQUIRED BY CODES. MEG-TEST ALL PANELS TO ELIMINATE GROUNDS AND SHORTS. TEST ALL LIGHTS, RECEPTACLES, EQUIPMENT, ETC. FOR PROPER CONNECTION AND GROUNDING.

CHECK GROUND SYSTEM WITH "EARTH MEGGER". FURNISH THE TEST RESULT TO OWNER AND ENGINEER. THE READINGS SHALL BE 25 OHMS OR LESS.

MAKE SURE THAT ALL LUGS ON ALL FEEDERS ARE TIGHT THROUGHOUT THE CONSTRUCTION.

INSTRUCT OWNER'S REPRESENTATIVE IN PROPER OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. FURNISH TO OWNER TWO (2) BOUND COPIES OF ALL OPERATING AND MAINTENANCE DATA, INCLUDING GUARANTEES AND SPARE PARTS LIST.

## GUARANTEE:

GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AS STATED IN WRITING. REPAIR AND/OR REPLACE, WITHOUT ANY COST TO THE OWNER, ANY DEFECTIVE PART OR PARTS OF THE WORK WITHIN THE GUARANTEE PERIOD FROM THE TIME THE SYSTEM IS PUT INTO OPERATION AS DETERMINED BY THE DATE OF FINAL CERTIFICATE OF PAYMENT WITH EXCEPTIONS AS NOTED.

PROVIDE PERIODICAL INSPECTION AND ADJUSTMENT SERVICE THROUGHOUT THE GUARANTEE PERIOD.

250143-E1002.DWG

# ELECTRICAL ABBREVIATIONS

| | |
|---|---|
| A OR AMP | AMPERE |
| ABV | ABOVE |
| AC | ALTERNATING CURRENT |
| ACB | ABOVE COUNTER BACKSPLASH |
| AFD | ADJUSTABLE FREQUENCY DRIVE |
| AFF | ABOVE FINISHED FLOOR |
| AIC | AMPERES INTERRUPTING CAPACITY |
| AL | ALUMINUM |
| AM | AMMETER |
| AMPL | AMPLIFIER |
| ASYM | ASYMMETRICAL |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AWG | AMERICAN WIRE GAGE |
| BEL | BELOW |
| BD | BUS DUCT |
| BRKR | BREAKER |
| CA | CABLE |
| CAB | CABINET |
| CATV | COMMUNITY ANTENNA TELEVISION OR CABLE TELEVISION |
| CB | CIRCUIT BREAKER |
| CCTV | CLOSED CIRCUIT TELEVISION |
| CF | COMPACT FLUORESCENT |
| CKT | CIRCUIT |
| CLG | CEILING |
| CND | CONDUIT |
| CNTR | CENTER |
| COMB | COMBINATION |
| COND | CONDUCTOR |
| CONN | CONNECTION |
| CONT | CONTACTOR |
| CT | CURRENT TRANSFORMER |
| CTRL | CONTROL |
| CU | COPPER |
| CW | COLD WATER |
| DC | DIRECT CURRENT |
| DISC | DISCONNECT |
| DIST | DISTRIBUTION |
| DR | DOOR RELEASE SERVICE |
| E OR EMER | EMERGENCY |
| EC | ELECTRICAL CONTRACTOR |
| EL | EXISTING TO BE RELOCATED |
| ELEC | ELECTRIC(AL) |
| EM | EXISTING TO BE REMOVED |
| EMN | EXISTING TO BE REMOVED AND NEW INSTALLED |
| EMT | ELECTRICAL METALLIC TUBING |
| ENCL | ENCLOSURE |
| ENG | ENGINE |
| EP | EXPLOSIONPROOF |
| EQUIP | EQUIPMENT |
| ER | EXISTING TO REMAIN |
| EWC | ELECTRIC WATER COOLER |
| EXIST | EXISTING |
| EXT | EXTERIOR |
| FA | FIRE ALARM |
| FACP | FIRE ALARM CONTROL PANEL |
| FDR | FEEDER |
| FC | FOOTCANDLE |
| FLUOR | FLUORESCENT |
| FSS | FUSIBLE SAFETY SWITCH |
| FWE | FURNISHED WITH EQUIPMENT |
| FXTR | FIXTURE |
| GC | GENERAL CONTRACTOR |
| GF | GROUND FAULT |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GND | GROUND |
| H | HORIZONTAL |
| HG | HOSPITAL GRADE |
| HID | HIGH INTENSITY DISCHARGE |
| HOA | HAND-OFF-AUTOMATIC |
| HP | HORSEPOWER OR HEAT PUMP |
| HPF | HIGH POWER FACTOR |
| HPS | HIGH PRESSURE SODIUM |
| HTR | HEATER |
| HW | HOT WATER |
| HZ | HERTZ |
| IC | INTERCOM OR INTERRUPTING CAPACITY |
| IG | ISOLATED GROUND |
| IMC | INTERMEDIATE METAL CONDUIT |
| INC | INCANDESCENT |
| INIT | INITIAL |
| JB | JUNCTION BOX |
| KO | KNOCKOUT |
| KV | KILOVOLT |
| KVA | KILOVOLT-AMPERE |
| KVAR | KILOVOLT-AMPERE REACTIVE |
| KW | KILOWATT |
| KWH | KILOWATT-HOUR |
| LA | LIGHTNING ARRESTER |
| LC | LOADCENTER |
| LPS | LOW PRESSURE SODIUM |
| LTG | LIGHTING |
| LUM | LUMENS |
| MAG | MAGNETIC |
| MAN | MANUAL |
| MC | MECHANICAL CONTRACTOR |
| MCB | MAIN CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER |
| MCM | THOUSAND CIRCULAR MILS |
| M/G | MOTOR/GENERATOR |
| MH | METAL HALIDE OR MOUNTING HEIGHT |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| MOD | MOTOR OPERATED DAMPER |
| MOT | MOTOR |
| MS | MAGNETIC STARTER |
| MTG | MOUNTED OR MOUNTING |
| MTR | METER |
| MV | MERCURY VAPOR |
| NEC | NATIONAL ELECTRICAL CODE |
| NEUT | NEUTRAL |
| NFSS | NON-FUSIBLE SAFETY SWITCH |
| NO | NUMBER |
| OH | OVERHEAD |
| P | POLE |
| PB | PULL BOX OR PUSHBUTTON |
| PBS | PUSHBUTTON STATION |
| PERS | PERSONAL EMERGENCY RESPONSE SYSTEM |
| PH(Ø) | PHASE |
| PNL | PANEL |
| PNLBD | PANELBOARD |
| PRI | PRIMARY |
| PT | POTENTIAL TRANSFORMER |
| PVC | POLYVINYL CHLORIDE |
| PWR | POWER |
| QTY | QUANTITY |
| RECPT | RECEPTACLE |
| RSC | RIGID STEEL CONDUIT |
| SCC | SHORT CIRCUIT CURRENT |
| SDR | MOTOR OPERATED SMOKE DAMPER |
| SEC | SECONDARY |
| SER | SERVICE ENTRANCE RATED |
| SPD | SURGE PROTECTION DEVICE |
| SPKR | SPEAKER |
| SR | SURFACE RACEWAY |
| SS | SURGE SUPPRESSOR/ISOLATED GROUND |
| STR | STARTER |
| SW | SWITCH |
| SWBD | SWITCHBOARD |
| SWGR | SWITCHGEAR |
| SYM | SYMMETRICAL |
| S/N | SOLID NEUTRAL |
| TC | TIME CLOCK |
| TEL | TELEPHONE |
| TGB | TELECOMMUNICATIONS GROUND BAR |
| TMGB | TELECOMMUNICATIONS MAIN GROUND BAR |
| TV | TELEVISION |
| TYP | TYPICAL |
| UF | UNDERFLOOR |
| UG | UNDERGROUND |
| UL | UNDERWRITERS' LABORATORIES |
| UNO | UNLESS NOTED OTHERWISE |
| V | VOLT |
| VA | VOLT-AMPERE |
| VAR | VOLT-AMPERE REACTIVE |
| VM | VOLTMETER |
| W | WATT OR WIRE |
| WP | WEATHERPROOF |
| XFER | TRANSFER |
| XFMR | TRANSFORMER |

NOTES (ELECTRICAL ABBREVIATIONS):
1. REFER TO OTHER ABBREVIATION LISTS ELSEWHERE IN THESE DOCUMENTS FOR ABBREVIATIONS NOT LISTED HERE.

250143-E1003.DWG

# ELEC SYMBOL LEGEND

| MTG. HGT. | SYMBOL | DESCRIPTION |
|---|---|---|
| 6'-0" TO TOP | | 240/120 VOLT SURFACE MOUNTED PANELBOARD. |
| 6'-0" TO TOP | WALL | 240/120 VOLT RECESSED MOUNTED PANELBOARD. |
| | | CONDUIT CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE. |
| | | CONDUIT EXPOSED OR CONCEALED IN WALL OR ABOVE CEILING. |
| 5'-0" TO TOP | 3/30/20 | DISCONNECT SWITCH. NUMBER INDICATES DISCONNECT SWITCH POLES / AMP RATING / (AND IF FUSIBLE TYPE) FUSE SIZE. "WP" = INDICATES WEATHER PROOF (NEMA 3R) ENCLOSURE. "FWE"= INDICATES FURNISHED WITH EQUIPMENT |

## ELECTRICAL DRAWING INDEX

File # 250143-E1001.DWG


E-101 ELECTRICAL SPECIFICATIONS, ABBREVIATIONS, AND SYMBOLS
E-201 ELECTRICAL PLAN, RISER DIAGRAM, AND DETAILS


BID SET - NOT FOR CONSTRUCTION


SKA CONSULTING ENGINEERS
SKA Consulting Engineers, Inc.
7900 Triad Center Drive, Suite 200
Greensboro, NC 27409-9075
t: 336 855 0993
www.skaeng.com
NC License No. F-0508


Project Number: 250143
File Name: 250143-E0101
Plotted: 10/2/2025 4:15 PM


POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213



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EOR/AOR SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037434 ENGINEER RONALD G. LAWRENCE 10/6/25

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AJF |
| DRAWN BY: | AJF |
| CHECKED BY: | RGL |
| SUBMITTED BY: | RGL |
| DATE: | 10/6/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

ELECTRICAL SPECIFICATIONS, ABBREVIATIONS, AND SYMBOLS

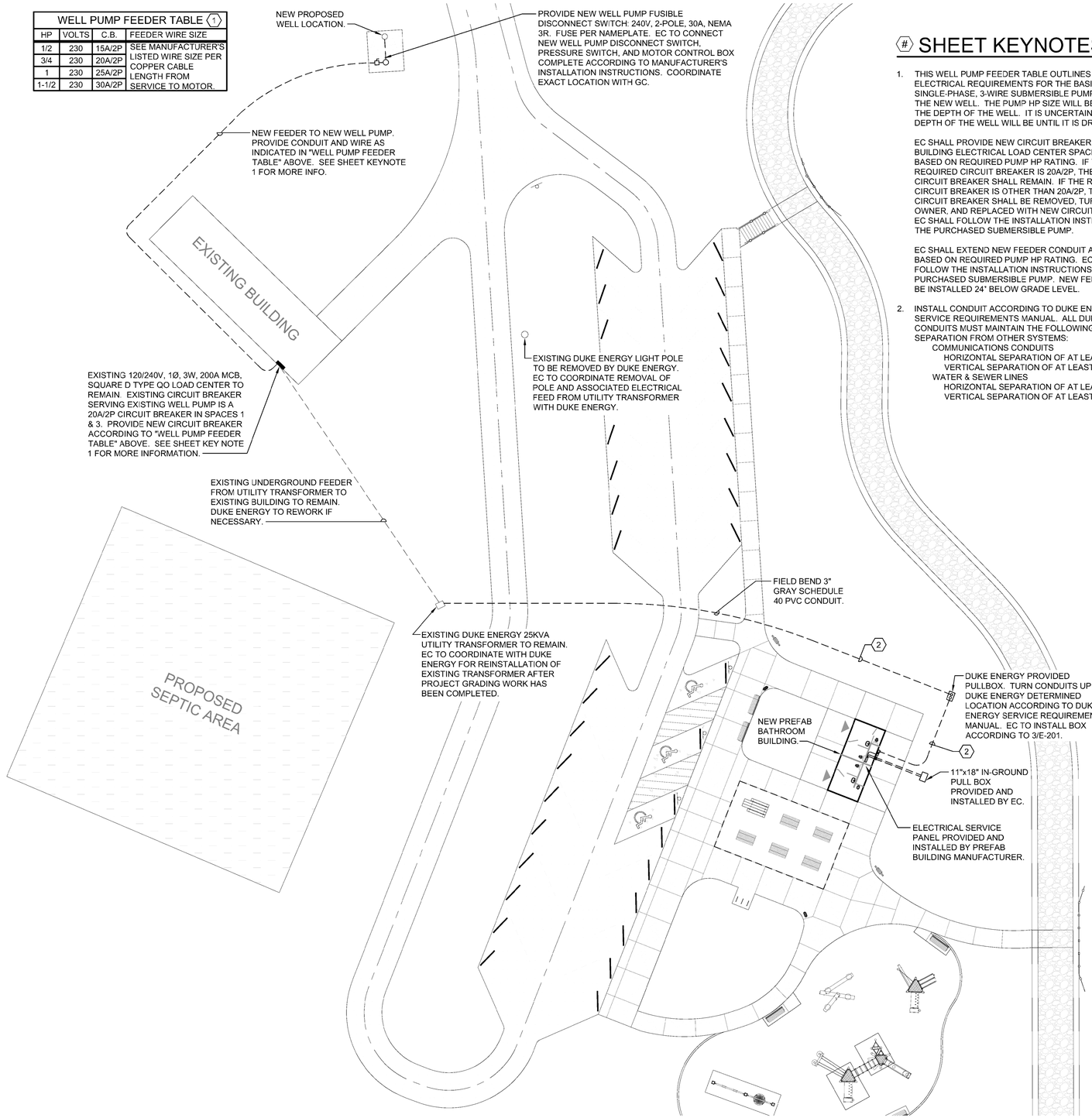
SHEET NUMBER

E-101

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: S:\PROJECTS\2025\250143\SKA DRAWINGS\250143-E0101 PLOTTED BY: ANDREW J. FLYNT DATE: 7/7/25

| WELL PUMP FEEDER TABLE (1) | | | |
|---|---|---|---|
| HP | VOLTS | C.B. | FEEDER WIRE SIZE |
| 1/2 | 230 | 15A/2P | SEE MANUFACTURER'S LISTED WIRE SIZE PER COPPER CABLE LENGTH FROM SERVICE TO MOTOR. |
| 3/4 | 230 | 20A/2P | |
| 1 | 230 | 25A/2P | |
| 1-1/2 | 230 | 30A/2P | |




## 1 ELECTRICAL PLAN
E-201
1" = 20'
Dwg.# 250143-E2001.DWG

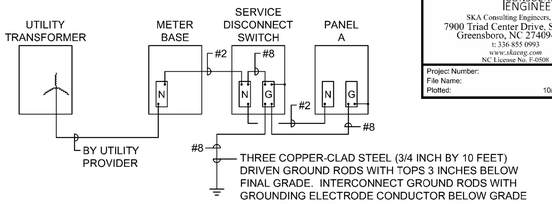
## # SHEET KEYNOTES

1. THIS WELL PUMP FEEDER TABLE OUTLINES THE ELECTRICAL REQUIREMENTS FOR THE BASIS OF DESIGN SINGLE-PHASE, 3-WIRE SUBMERSIBLE PUMP UTILIZED FOR THE NEW WELL. THE PUMP HP SIZE WILL BE BASED ON THE DEPTH OF THE WELL. IT IS UNCERTAIN WHAT THE DEPTH OF THE WELL WILL BE UNTIL IT IS DRILLED.

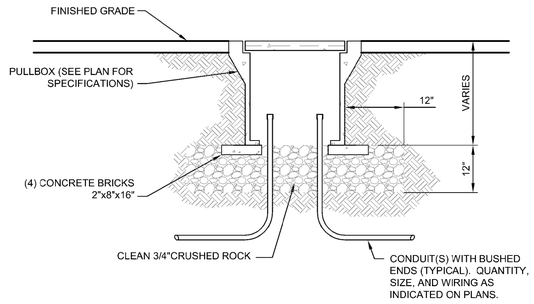
   EC SHALL PROVIDE NEW CIRCUIT BREAKER IN EXISTING BUILDING ELECTRICAL LOAD CENTER SPACES 1 & 3 BASED ON REQUIRED PUMP HP RATING. IF THE REQUIRED CIRCUIT BREAKER IS 20A/2P, THE EXISTING CIRCUIT BREAKER SHALL REMAIN. IF THE REQUIRED CIRCUIT BREAKER IS OTHER THAN 20A/2P, THE EXISTING CIRCUIT BREAKER SHALL BE REMOVED, TURNED OVER TO OWNER, AND REPLACED WITH NEW CIRCUIT BREAKER. EC SHALL FOLLOW THE INSTALLATION INSTRUCTIONS OF THE PURCHASED SUBMERSIBLE PUMP.

   EC SHALL EXTEND NEW FEEDER CONDUIT AND WIRE BASED ON REQUIRED PUMP HP RATING. EC SHALL FOLLOW THE INSTALLATION INSTRUCTIONS OF THE PURCHASED SUBMERSIBLE PUMP. NEW FEEDER SHALL BE INSTALLED 24" BELOW GRADE LEVEL.

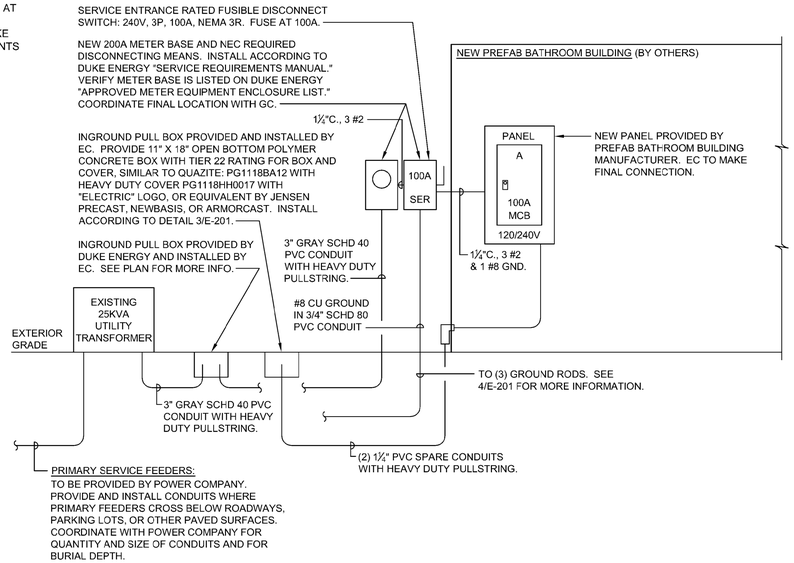
2. INSTALL CONDUIT ACCORDING TO DUKE ENERGY SERVICE REQUIREMENTS MANUAL. ALL DUKE ENERGY CONDUITS MUST MAINTAIN THE FOLLOWING CLEARANCE SEPARATION FROM OTHER SYSTEMS:
   - COMMUNICATIONS CONDUITS
     - HORIZONTAL SEPARATION OF AT LEAST 12"
     - VERTICAL SEPARATION OF AT LEAST 12"
   - WATER & SEWER LINES
     - HORIZONTAL SEPARATION OF AT LEAST 36"
     - VERTICAL SEPARATION OF AT LEAST 12"




## 4 GROUNDING DETAIL
E-201
NOT TO SCALE
Dwg.# 250143-E4001.DWG




## 3 IN-GROUND PULL BOX DETAIL
E-201
NOT TO SCALE
Dwg.# 250143-E6001.DWG




## 2 ELECTRICAL RISER DIAGRAM
E-201
NOT TO SCALE
Dwg.# 250143-E7001.DWG

SKA CONSULTING ENGINEERS
SKA Consulting Engineers, Inc
7900 Triad Center Drive, Suite 200
Greensboro, NC 27409-9075
t: 336 855 0093
www.skaeng.com
NC License No. F-0508

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POND
4100 Raleigh Street
Suite 114
Charlotte, NC 28213

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037434 RONALD G. LAWRENCE 10/6/25

CLIENT INFORMATION

4117 OAK RIDGE RD
SUMMERFIELD, NC 27358

PROJECT NAME

BANDERA FARMS PARK
5448 BUNCH RD
SUMMERFIELD, NC 27358

DRAWING ISSUE

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: | AJF |
| DRAWN BY: | AJF |
| CHECKED BY: | RGL |
| SUBMITTED BY: | RGL |
| DATE: | 10/6/2025 |
| PROJECT # | 1230863 |

SHEET TITLE

ELECTRICAL PLAN, RISER DIAGRAM, AND DETAILS

SHEET NUMBER

E-201

ORIGINAL SHEET SIZE: 22" X 34"

FILE PATH: S:\PROJECTS\2025\250143\SKA DRAWINGS\250143-E0201 PLOTTED BY: ANDREW J. FLYNT DATE: 7/7/25

BID SET - NOT FOR CONSTRUCTION