



**THE MEETING WILL BEGIN
PROMPTLY AT ??PM**



Spartanburg-Union County Line

From the Pacolet River to the Enoree River

**Prepared by: CESI
2022**



**David Ballard, PLS
Revenue and Fiscal Affairs
SC Geodetic Survey**





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Overview

- Reason for boundary clarification
- Why is the SC Geodetic Survey the chosen agency
- The requirements and duties of the SC Geodetic Survey
- Explanation of our methods
- Boundary clarification procedure
- Legal process for individuals disagreeing with SCGS findings
- Statutory description of county boundary
- Research and findings
- Monumentation and Survey
- Conclusion



The Reason...

- Passage of time and growth has led to confusion over statutory county descriptions and the locations of county boundary lines
- Exact and precise locations and boundaries of state's political subdivisions are critical for services, enforcement of property rights and election of public officials.
- Technology exists now to cost-effectively provide definite and permanent markers of boundary lines
- Necessary for state government and political subdivisions



Why the SC Geodetic Survey?

- Over the last 30+ years, the South Carolina Geodetic Survey has worked with South Carolina counties to help resolve some of the ambiguities present in the current Code of Law
- SC Geodetic Survey was also used in the clarification of the NC/SC boundary
- In the early 90's Greenville and Spartanburg counties asked the Geodetic Survey to help them work out the location of their Statutory Boundary. Their boundary was clarified and placed into law.
- After it's completion the General Assembly decided to enact legislation assigning the SC Geodetic Survey as the mediator to resolve disputes between counties.



The duties of the SC Geodetic Survey (SCGS) with respect to determining county boundaries

SC Code of Laws §27-2-105

Act No. 262 of 2014

- (1994) Dispute between two or more counties- SCGS will act as mediator to resolve the dispute
- (1994/2014) SCGS to assist counties in defining and monumenting the locations of county boundaries and positioning the monuments using geodetic surveys where counties are ill-defined, unmarked, or poorly marked
- (2014) SCGS will clarify county boundaries as defined in Chapter 3, Title 4
- (2014) SCGS will analyze archival and other evidence and perform field surveys to position geographically all county boundaries in accordance with statutory descriptions
- (2014) To amend section 27-2-105, Code of Laws of South Carolina, 1976, relating to the duties of the South Carolina Geodetic Survey (SCGS) with respect to determining county boundaries, so as to authorize and direct the SCGS to clarify county boundaries and mediate boundary disputes between counties by providing a procedure allowing the SCGS administratively to adjust county boundaries, to provide the procedures including notice that SCGS must follow in making such adjustments, to provide that affected parties may appeal these adjustments to the Administrative Law Court in a de novo hearing, to provide the method of determining the effective date of these administrative county boundary adjustments and the notice requirements for these adjustments to be effective and to provide that nothing contained in this administrative process restricts the authority of the General Assembly by legislative enactment to adjust or otherwise clarify county boundaries by legislative enactment.



MONUMENTS

VS

MONUMENTS



Geodetic Surveys & Common Geographic Coordinate Systems

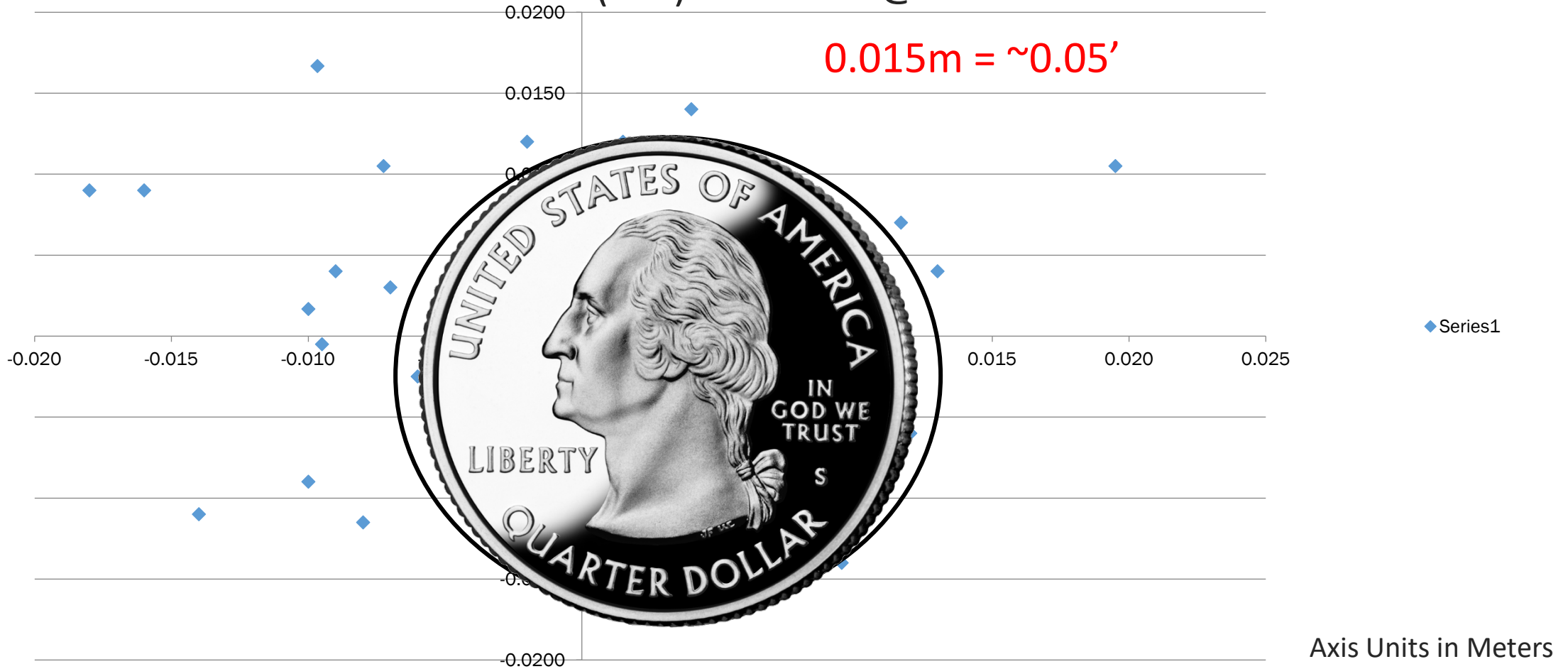
Why we use them for boundary surveys.



Scatter Gram of Differences Between Observations

2 - Five Minute Sessions

RMSE(2-D) = 0.020m @95%



Steps for Clarifying Boundaries

SC Code of Law SECTION 27-2-105

SCGS Requirements:

- Upon reestablishing county boundary, SCGS shall certify its work and within 30 days of certification:
 - Provide copies to the administrator of each affected county;
 - Provide written notification to affected parties
 - Provide notice and copies to the public through its official website and or other means it considers appropriate; and
 - Notify as it determines appropriate, other affected state and federal agencies
- (Initiates 60 Day Appeal Process)
- Certified Surveys submitted to Secretary of State, Register of Deeds Offices, and South Carolina Department of Archives with Cover Letter
- Date of the cover letter is the date the surveys become effective
- Introduce Legislation to update Code of Law to reflect clarified boundary with State Plane Coordinates

SCGS Steps for Clarifying Boundaries

- Notify County Administrators in advance of planned work
- Conduct historical research for documentary evidence of boundaries*
- Perform field work to locate monuments and corroborating evidence and position on State Plane Coordinates*
- Share preliminary findings with county officials for impact analysis and to plan public meetings
- Hold public meeting
- Receive feedback and input from local officials and public
- Review and update findings, as appropriate
- Certify plats*
- Send out mailings to affected parties along boundary*
- 60day window for appeals*
- Record/File plats*



SC Code of Law SECTION 27-2-105

- **Affected Parties Disagreeing with SCGS:**
 - May file request for a contested case hearing with the SC Administrative Law Court
 - This decision may be appealed
 - **“Affected Party”**
 - Governing body of an affected county
 - Governing body of a political subdivision of this State
 - An elected official, other than a statewide elected official
 - A property owner or an individual residing in the certification zone
 - A business entity located in the certification zone
 - A nonresident individual who owns or leases real property situated in the certification zone

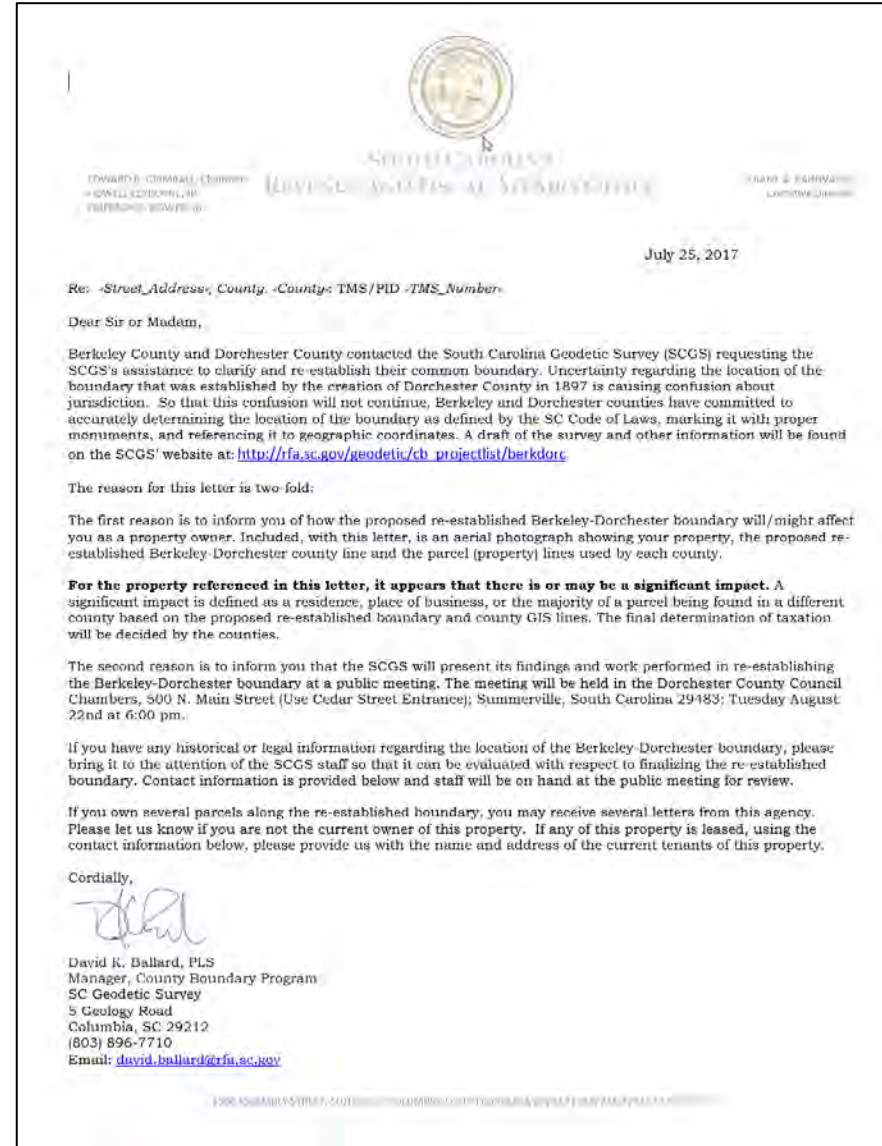
Chapter 5, Title 4

- **Change of Boundaries**

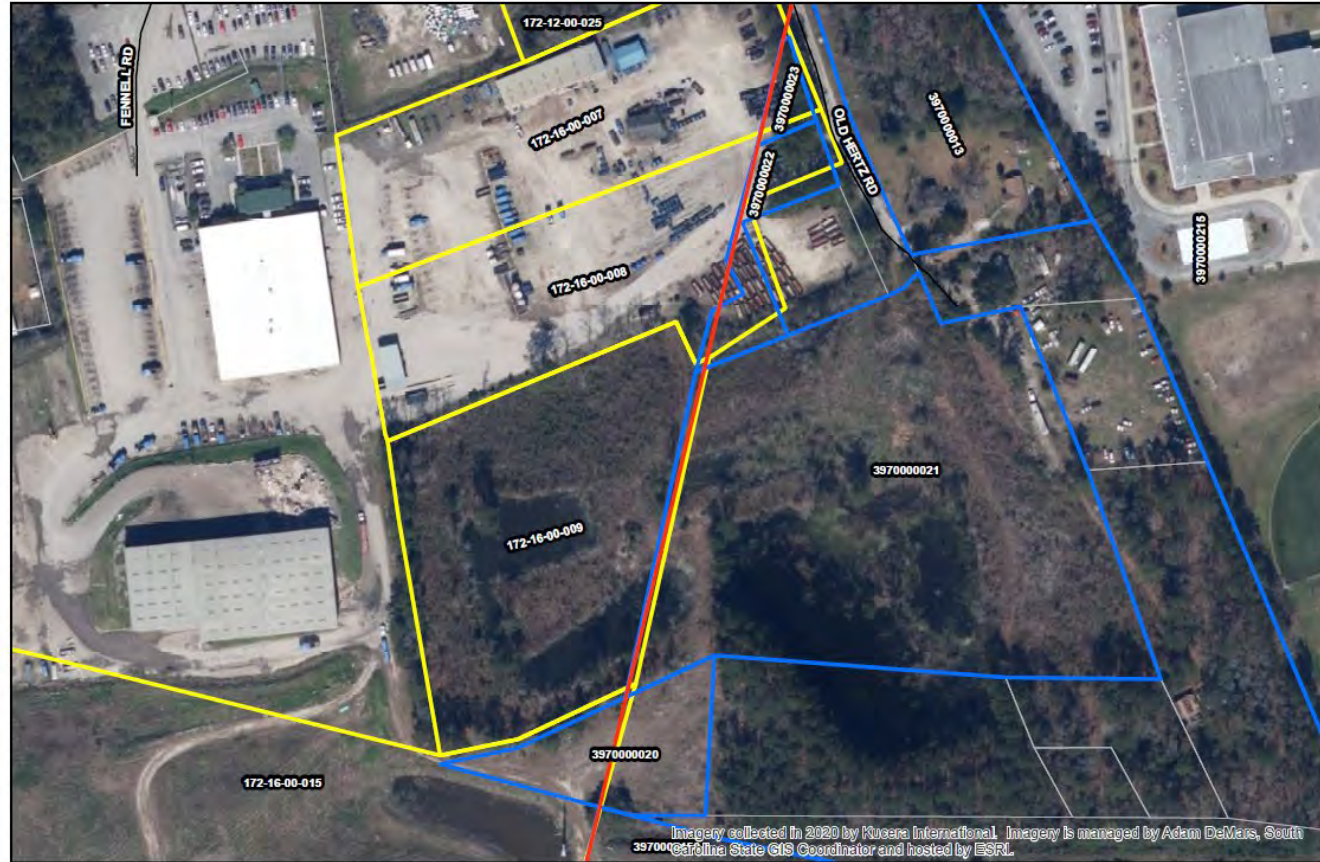
- **S.C. Code § 4-5-120: Procedure for annexing part of county-** governing body or 10 percent of registered voters petition in writing, shall deposit with the clerk of court an amount of money sufficient to cover the expenses of surveys , plats, annexation commission and the election to be held to determine whether the proposed annexation shall be effected and then file such resolution or petition in the office of the clerk of court
- **S.C. Code § 4-5-130: Appointment of Commission for annexation-** once presented to the governor then within 30 days the governor shall appoint a commission of four persons
- **S.C. Code § 4-5-140: Employment of Surveyors-** commission may contract for survey and location of the proposed change of line and for such purpose may employ 3 surveyors
- **S.C. Code § 4-5-170: Governor shall order election; voting place; eligible electors-** to be held in an area sought to be transferred and an election to be held in the county to which the area is proposed to be transferred
- **Propose and adopt Legislation**



Public Meeting Notification (Example)



Public Meeting Notification (Example)



- Legend
- Re-established Statutory Line
 - Charleston Parcels
 - Dorchester Parcels

This Sketch is for Information Purposes Only

Spartanburg – Union County Line

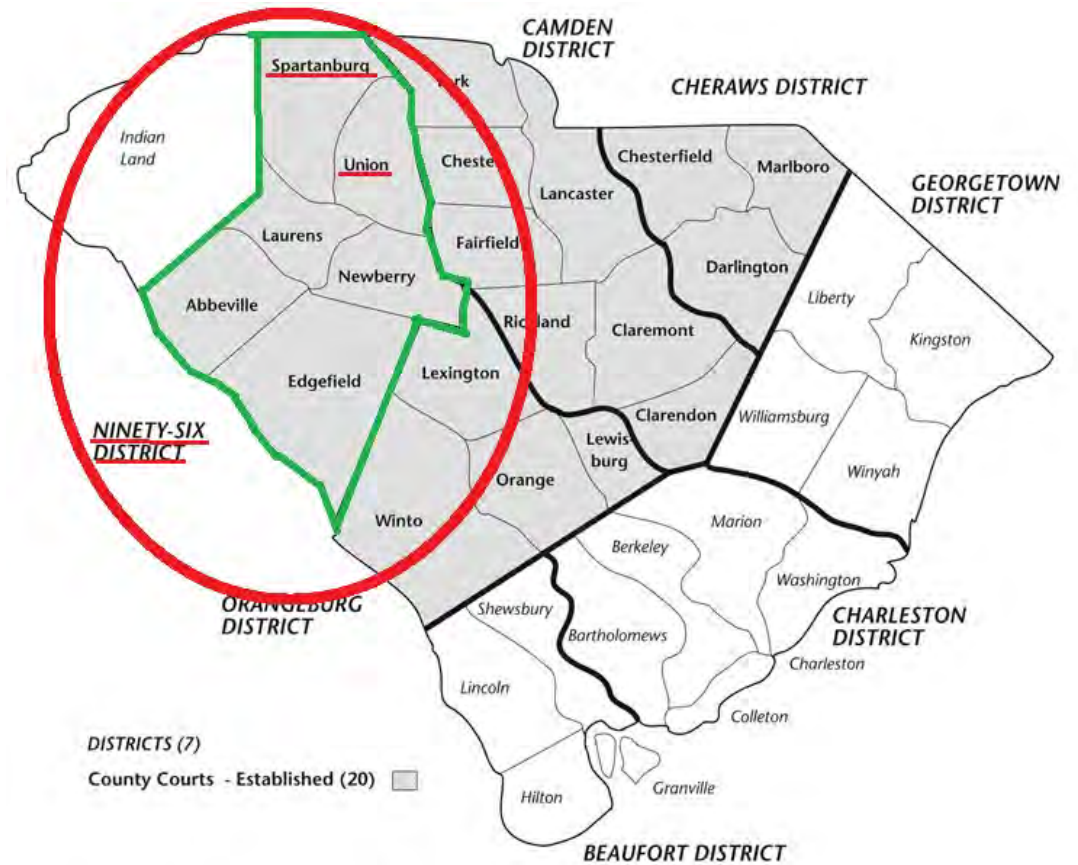
From the Pacolet River to the Enoree River



Frank A. 'Alex' Rankin, III - PE/PLS
Concord Engineering & Surveying

Spartanburg-Union County Line

- In 1785 Act No. 1263 divided the Ninety-Six District into six counties
- Spartanburg County ran from “Tate’s Ferry (on Broad River) thence along the road to John Ford’s plantation on Enoree River, including same...”



Spartanburg-Union County Line

- Union County was described as “...one other county, of the other part of said district...”
- No description of the borders, it was the remnant after the other counties were taken out of the Ninety-Six District
- In 1897, Cherokee was created - after that the Spartanburg-Union line ended at the Pacolet River
- Spartanburg’s description in 1785 notwithstanding, it does not appear a road ran directly from Tate’s Ferry to John Ford’s plantation



Spartanburg-Union County Line

- A map (or sketch) at the Caroliniana Library in Columbia, titled A Representation of the County of Spartanburg – Laid down by a Scale of Three Miles to an Inch - and dated to sometime in the middle 1780s - shows Spartanburg's eastern boundary as a road, labeled “*computed*”
- This does not appear to be a survey, but a sketch or composite



Fig. 7



Spartanburg-Union County Line



- While it does not show Tate's Ferry or John Ford's plantation - given the date and the "road" as a boundary - this may be the document that served as the basis for the county's description in Act 1263 of 1785



Spartanburg-Union County Line

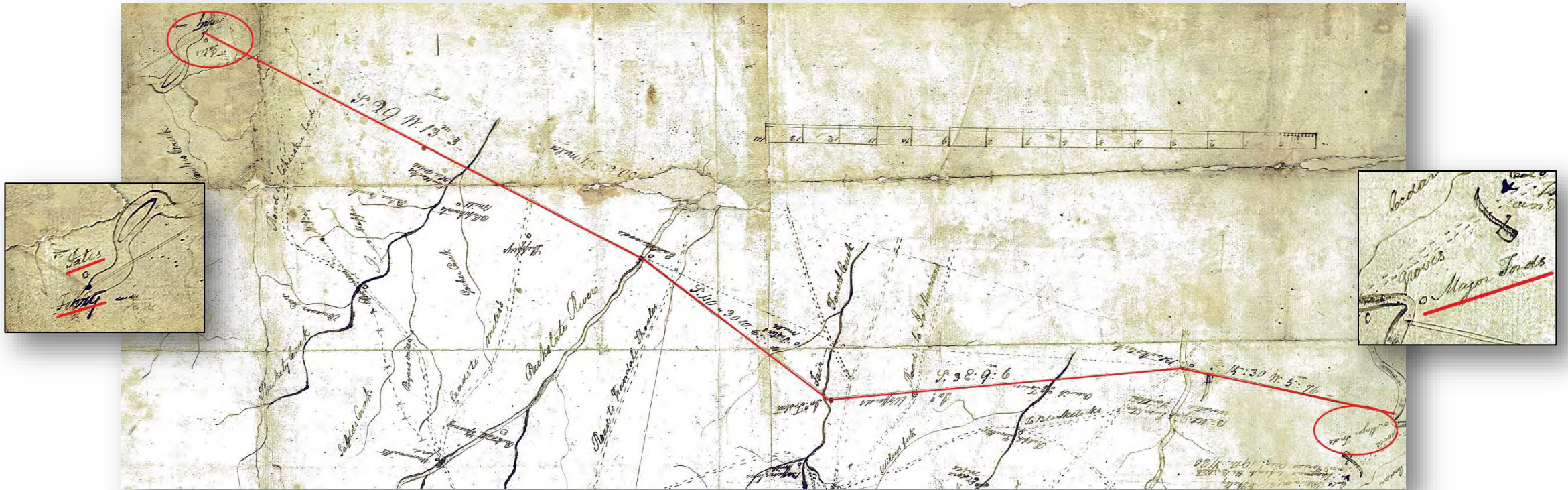
- However, another map (also at Caroliniana Library) *does* show Tate's Ferry and *Major Ford's* plantation
- This untitled map, assigned at date of 1791, shows Spartanburg's eastern boundary – not as a road – but as a series of straight lines



Fig. 8



Spartanburg-Union County Line

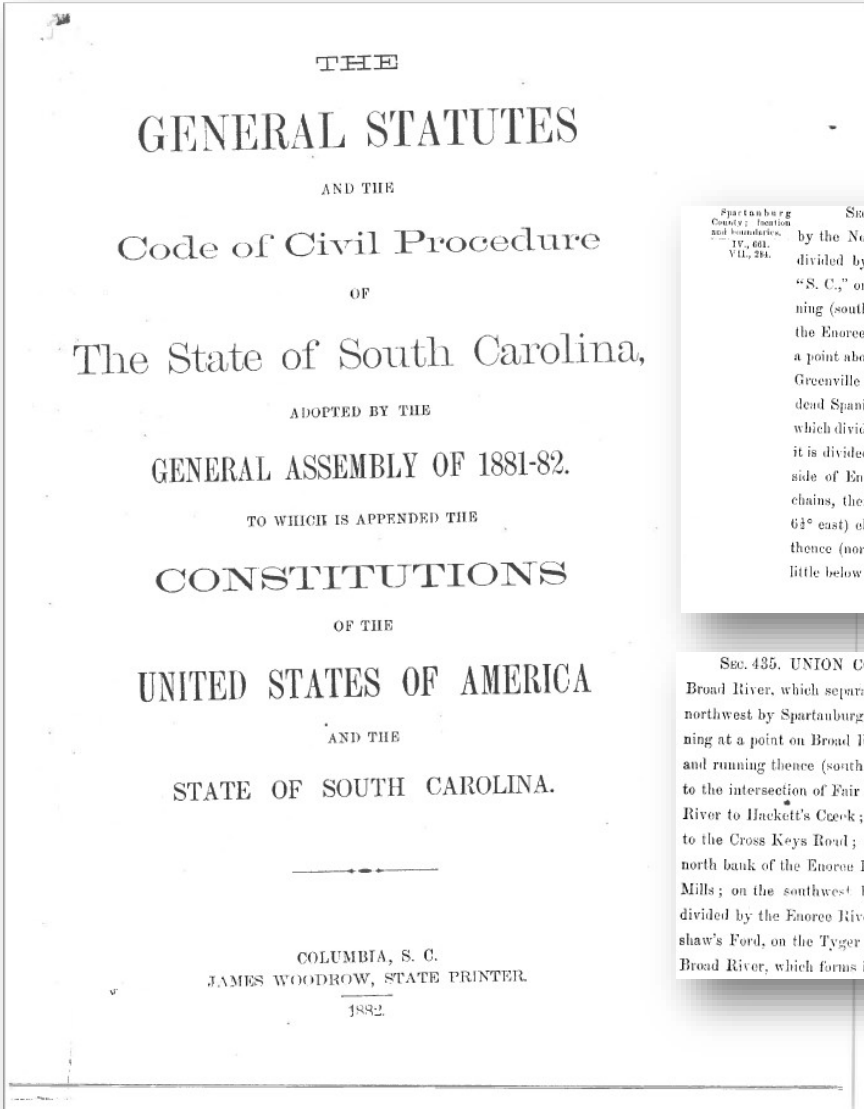


- Very much a sketch or working drawing, the lines are not the same as later adopted, but like them run from the Broad River to the Pacolet River, then to Fair Forest Creek, then to the Tyger River, and finally to the Enoree River



Spartanburg-Union County Line

- The first appearance in statute of the straight lines that currently define the Spartanburg-Union boundary is in the General Statutes of 1881-1882.



Spartanburg County: location and boundaries. IV, 661. VII, 291.

Sec. 433. SPARTANBURG COUNTY is bounded as follows: On the north by the North Carolina line; on the west by Greenville County, from which it is divided by a line commencing on the North Carolina line, at a stone marked "S. C.," on the east side of Blackstock's Road, near the Tryon Mountain, and running (south 2° east) twenty-two miles and sixty-four chains, or until it intersects the Enoree River, at Abner's Mill on said river; thence down the Enoree River to a point about one mile and three-quarters below Anderson's Bridge (the corner of Greenville and Laurens Counties); on the southwest by the Enoree River, down to a dead Spanish oak, below Head's Ford, and a little above the mouth of a small creek, which divides it from Laurens County; on the southeast by Union County, from which it is divided by the following lines: beginning at the dead Spanish oak on the north side of Enoree River, and running (north 12° east) three miles and twenty-six chains, thence (north 17° east) two miles and twenty-eight chains, thence (north 64° east) eleven miles and 15 chains, crossing Tyger River, to Fair Forest Creek, thence (north 33° 45' east) six miles and thirty-seven chains, to Pacolet River, a little below Gist's Mill, thence (north 29° east) fourteen miles and four chains, to

Union County: location and boundaries. IV, 662. VII, 291.

Sec. 435. UNION COUNTY is bounded as follows: On the northeast by Broad River, which separates it from York, Chester, and Fairfield Counties; on the northwest by Spartanburg, from which it is divided by the following lines: beginning at a point on Broad River, one-half mile above the mouth of Cherokee Creek, and running thence (south 29° west) to Pacolet River; thence (south 33° west) to the intersection of Fair Forest Creek; thence (south 64° west) across the Tyger River to Hackett's Creek; thence (south 17° west) two miles twenty-eight chains, to the Cross Keys Road; thence (south 12° west) to a dead Spanish oak on the north bank of the Enoree River, a little above Musgrove's Ford, opposite Gordon's Mills; on the southwest by Laurens and Newberry Counties, from which it is divided by the Enoree River, down to Avery's Ford; thence by the road to Crenshaw's Ford, on the Tyger River; thence down said river to its junction with the Broad River, which forms its southeast boundary.

Spartanburg-Union County Line

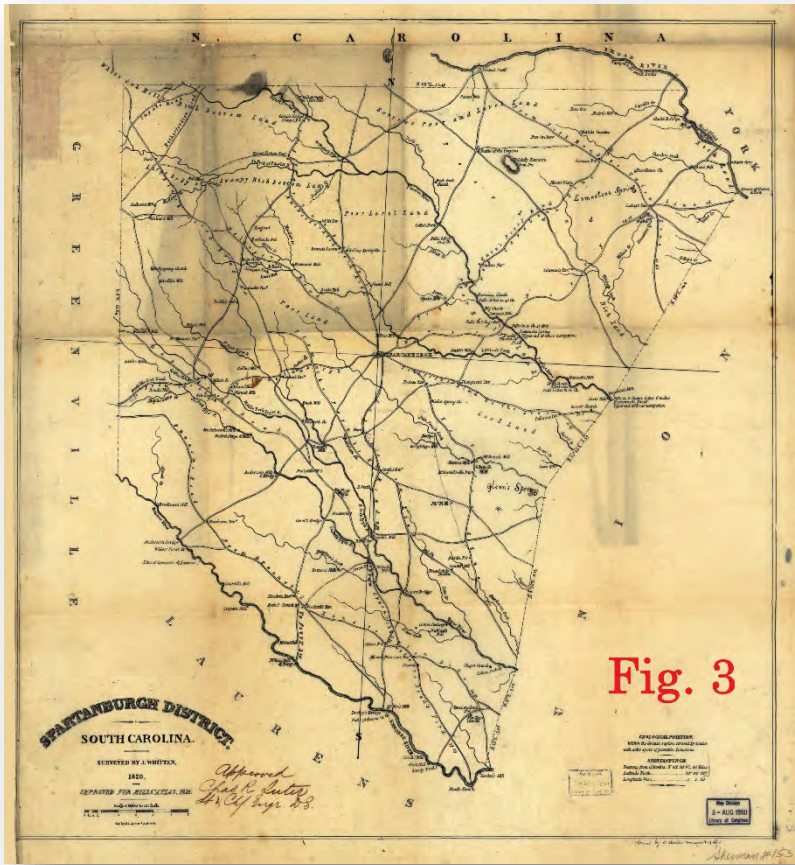


Fig. 3



Fig. 4

- But - the Mills Atlas maps of 1825 show the *same boundary* as first described a half-century later in the General Statutes of 1881-1882...

Spartanburg-Union County Line

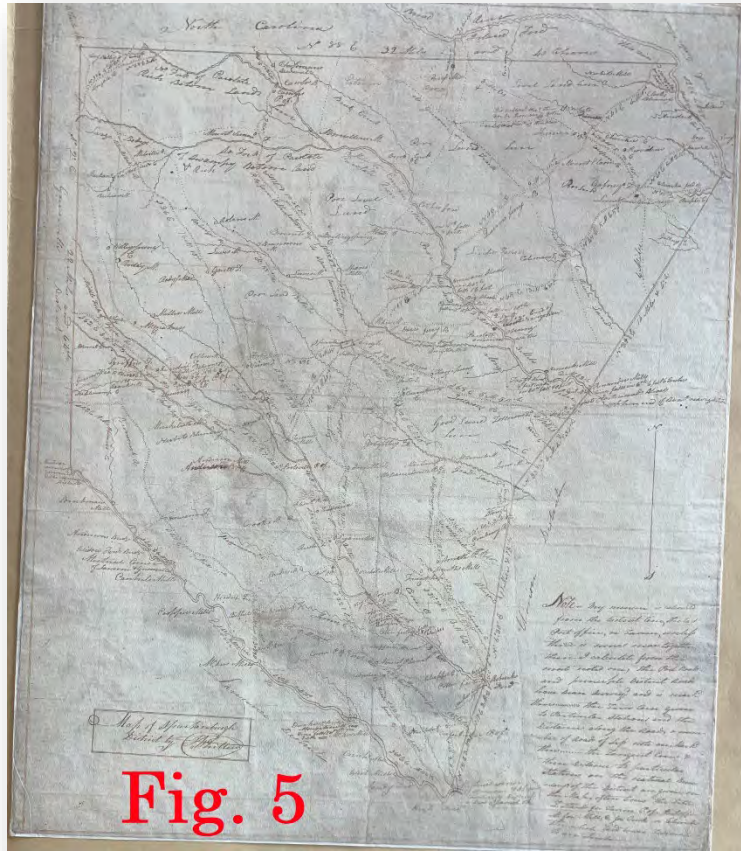


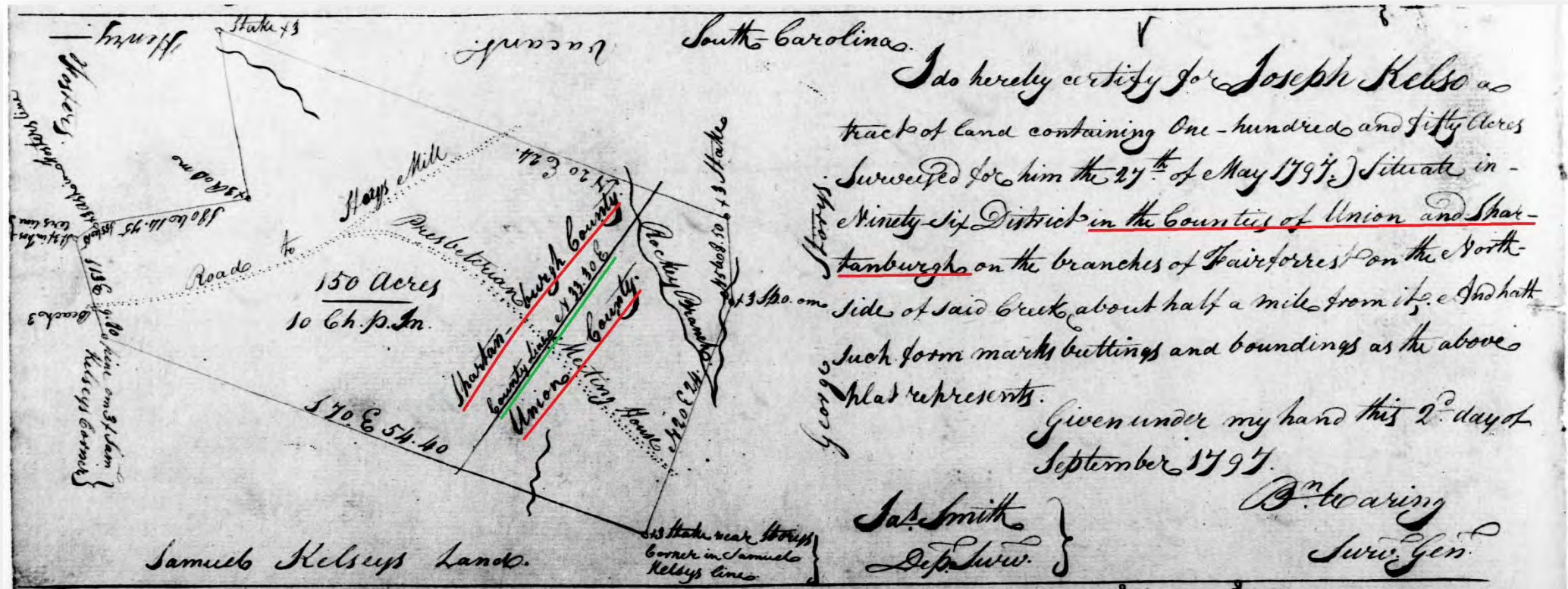
Fig. 5



Fig. 6

- ...as do the 1820 surveys by R. Thompson and J. Whitten the Mills Maps were based on...

Spartanburg-Union County Line



- ...and - in 1797 a grant to Joseph Kelso shows the county line across the grant with a bearing of North 33° 30' East

Spartanburg-Union County Line

- In 1785 the boundary was created and described as a “road”
- At least by 1791 this boundary proved problematic, and surveys were being done to find a more workable boundary
- Apparently by 1797 a new boundary had been adopted

- Certainly by 1820 the current county boundary is adopted
- However, a diligent search of SC Archives and the archives of the South Carolina legislature has turned up neither the enabling legislation, nor determined the date it was adopted



Spartanburg-Union County Line

- The statute descriptions call for straight lines which intersect in rivers, creeks, and roads – there are no fixed monuments marking the line
- Having the original enabling legislation might shed some light on why those particular lines were chosen – who or what was intended to be in one county versus the other
- Thus, the only specific information to guide us in re-establishing the boundary is what we could glean from the statute and the 1820 surveys by Thompson and Whitten



Spartanburg-Union County Line

- Whitten's 1820 survey of Spartanburg County – and the statute description of Union County- both describe the corner at the Enoree River as a “dead Spanish oak” opposite Gordon's Mills (formerly Musgrove Mill)

north bank of the Enoree River, a little above Musgrove's Ford, opposite Gordon's Mills; on the southwest by Laurens and Newberry Counties, from which it is

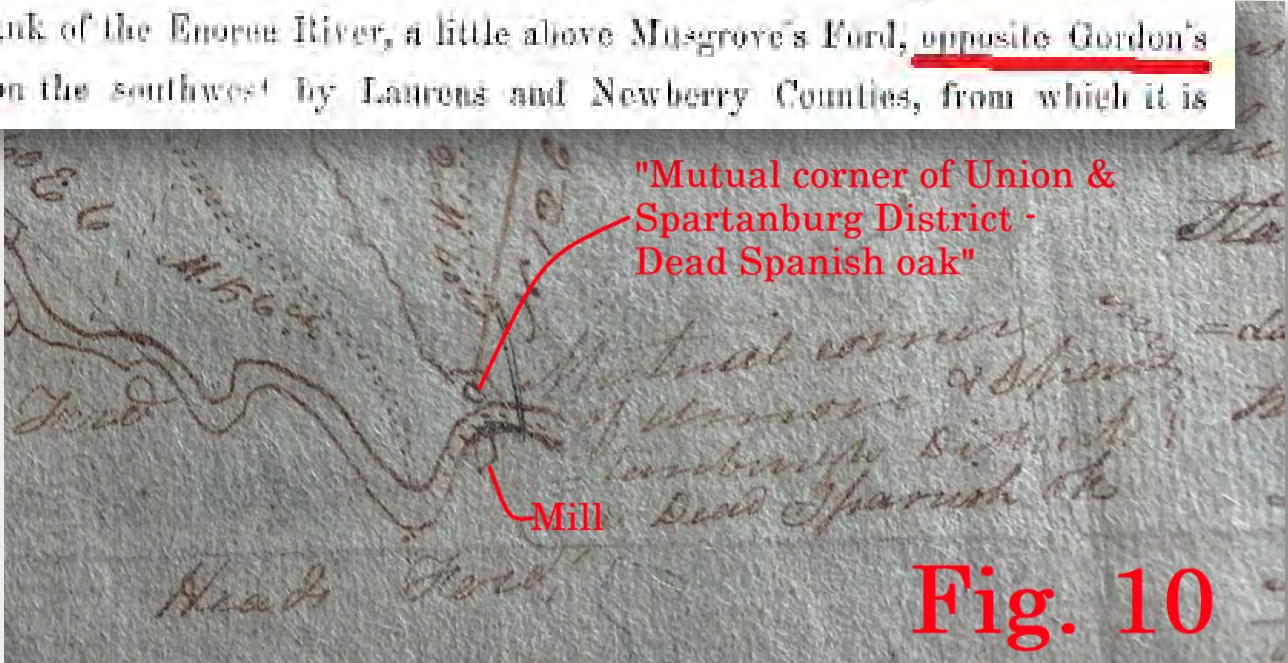


Fig. 10

Spartanburg-Union County Line

- Dawn Weaver, Park Manager for Musgrove Mill State Historic Site Park, assisted the effort, noting that the mill site is buried under almost 10' of sediment, but the very substantial foundations are still visible on the south bank of Enoree River

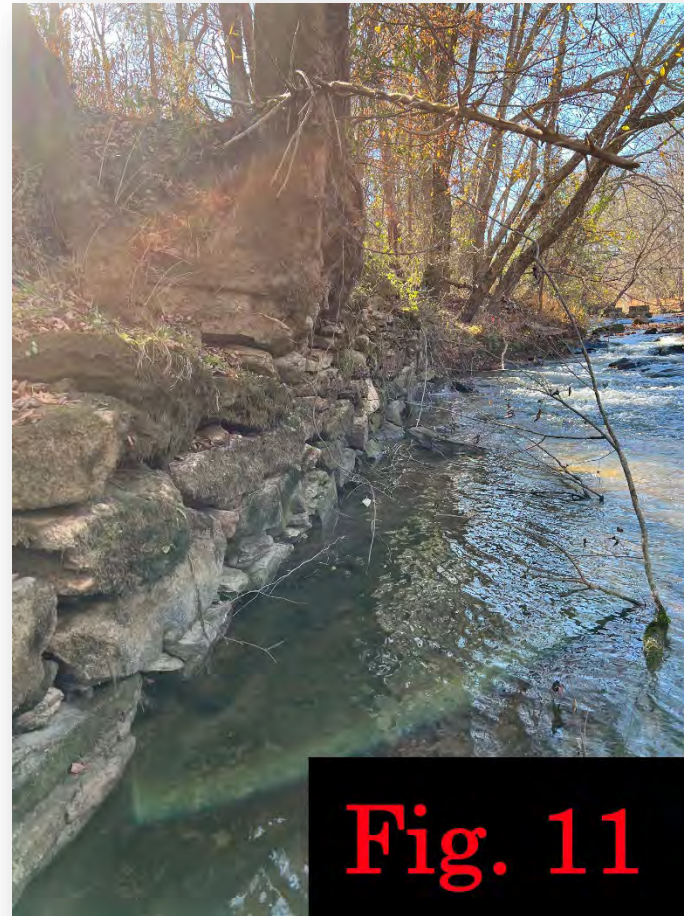


Fig. 11

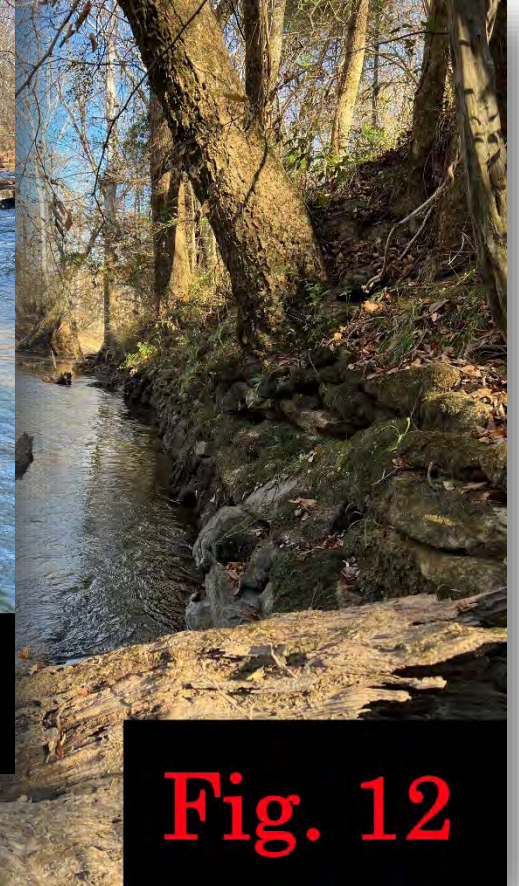


Fig. 12



Spartanburg-Union County Line

- Both of the 1820 surveys for Spartanburg and for Union had details not shown on the 1825 Mills Atlas map
- In particular, Thompson's survey of Union County showed "Plantation Settlements" the boundary passed through



Spartanburg-Union County Line

- A reconnaissance searching along the approximate county line for “Plantation Settlements” found evidence in one place
- About a mile north of Fair Forest Creek, chimney butts, foundations, wisteria, and other signs



Fig. 13



Fig. 14

Spartanburg-Union County Line

- The center of the remains of this structure was field located and used to determine the alignment of the southern end of this leg of the county boundary

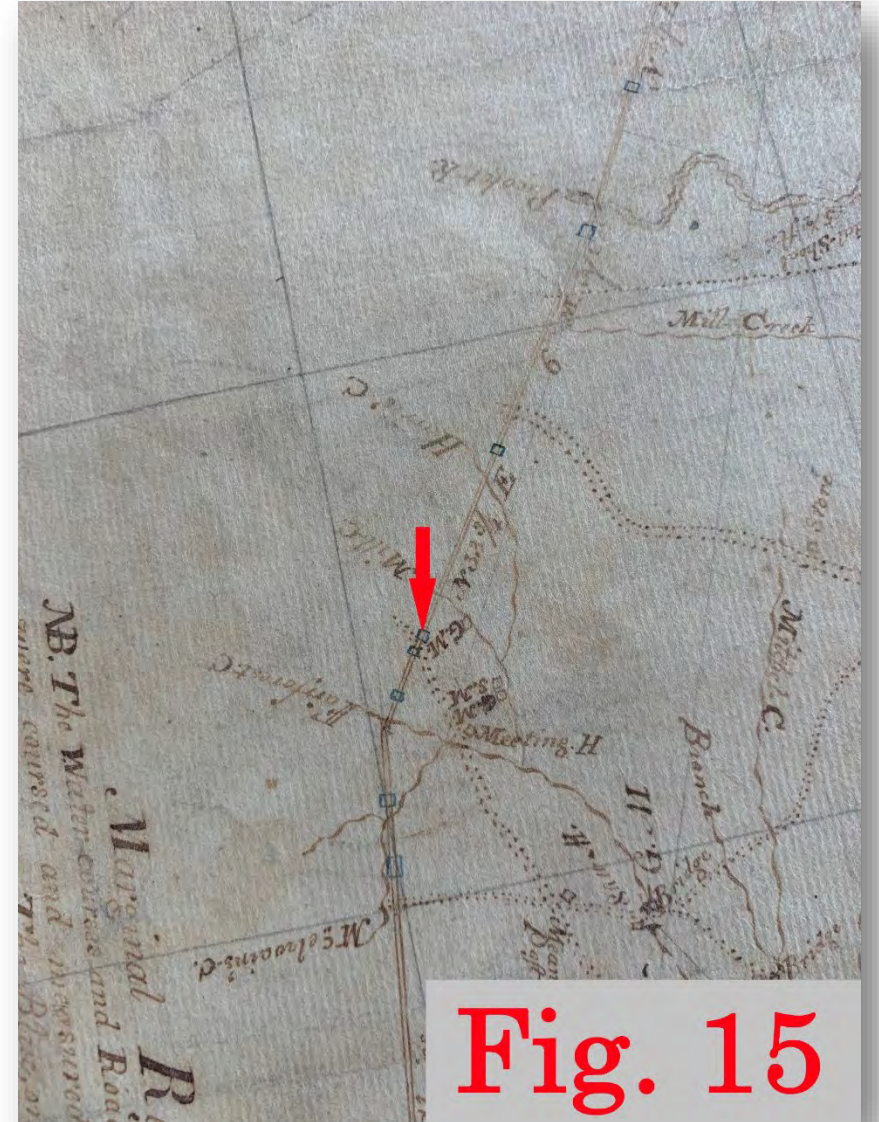


Fig. 15



Spartanburg-Union County Line

- At the northern end of this leg Thompson's survey showed a "Plantation Settlement" on the boundary just south of the Pacolet River

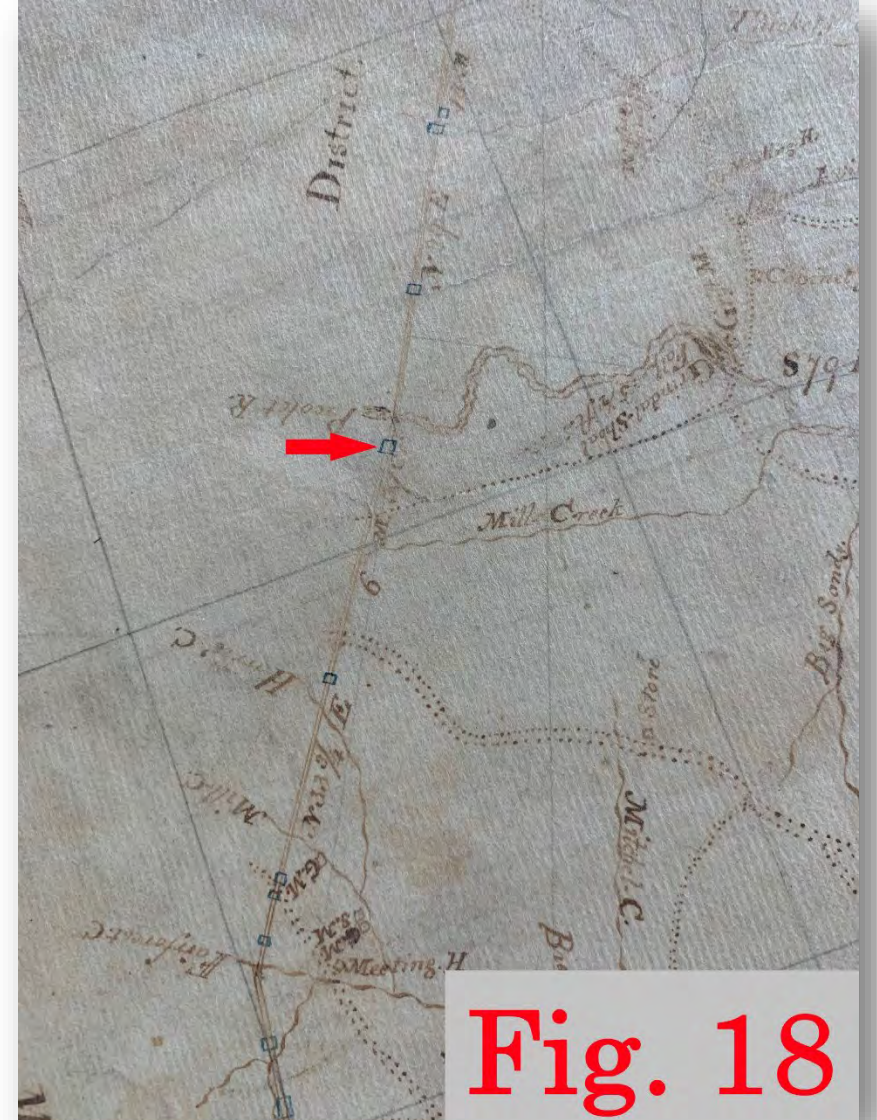


Fig. 18



Spartanburg-Union County Line

- No physical evidence of this structure was discovered
- However, property owner Mr. Ken Kirby, shared a tracing of an 1888 survey by J.F. Sloan stating that the property was in both counties and previously owned by Mrs. Annie Pritchard

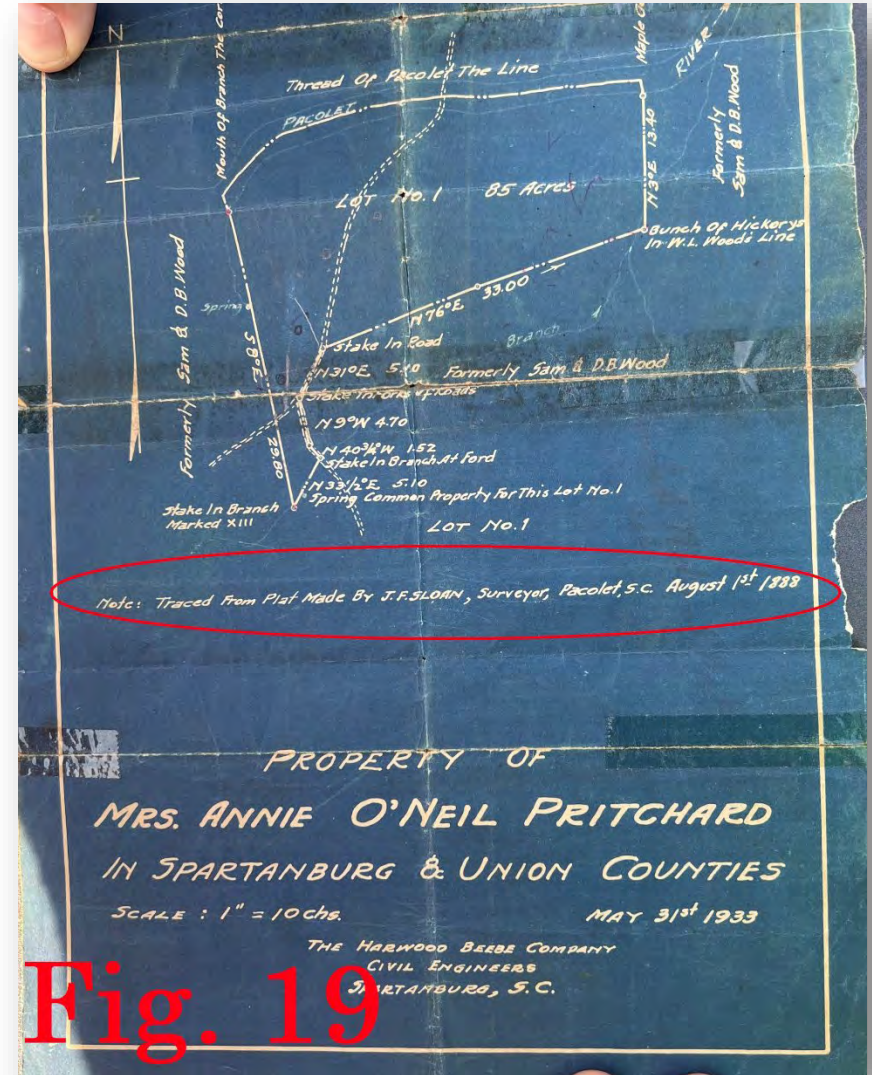
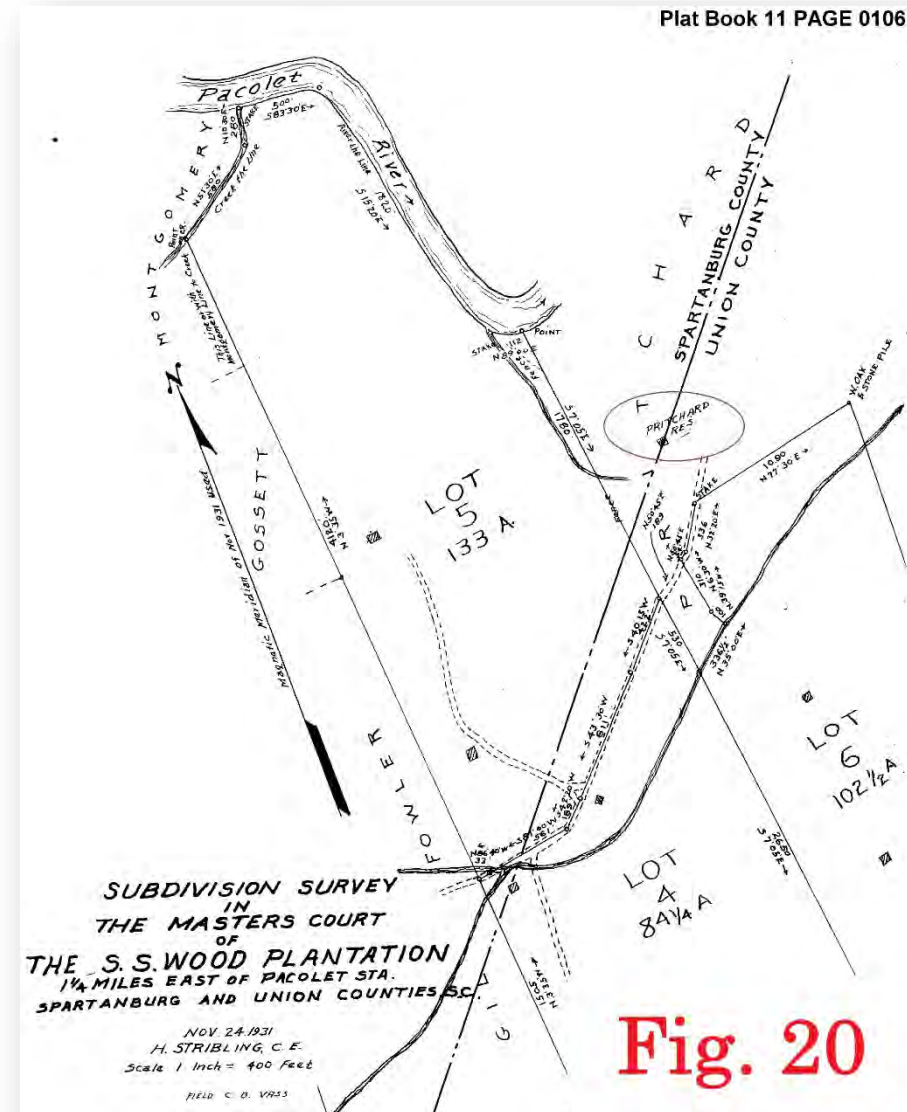


Fig. 19



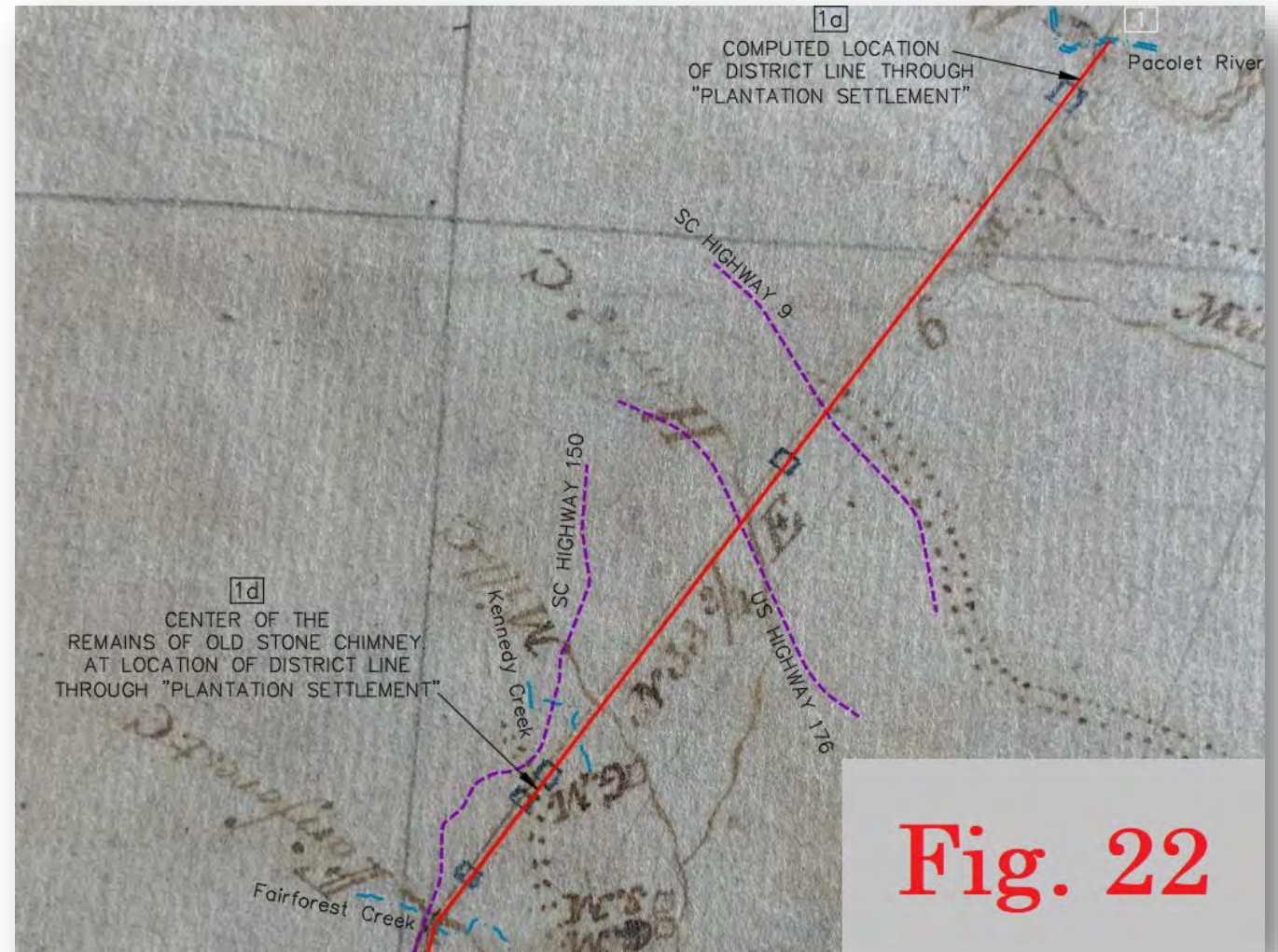
Spartanburg-Union County Line

- A survey from 1931 by H. Stribling shows the same property boundary for the adjoining property
- It graphically shows a house labeled “Pritchard Res.” and depicts the county line bisecting the structure



Spartanburg-Union County Line

- The “Pritchard House” appears to be the location of the 1820 “Plantation Settlement”
- Using those old surveys CESI tied down property corners and calculated coordinates for the “Pritchard House”
- A line was projected through both house locations



Spartanburg-Union County Line

- The 1820 Whitten survey of Spartanburg shows the county boundary intersecting the Pacolet River about 1000' downstream of Gist's Mill and Fernanda's Mill.
- No physical evidence of the mills was found.
- Dr. Terry Ferguson, Professor Emeritus with Wofford College, has done field research in this area
- His best guess is that, based on topography, the mills stood near a sharp bend in the river

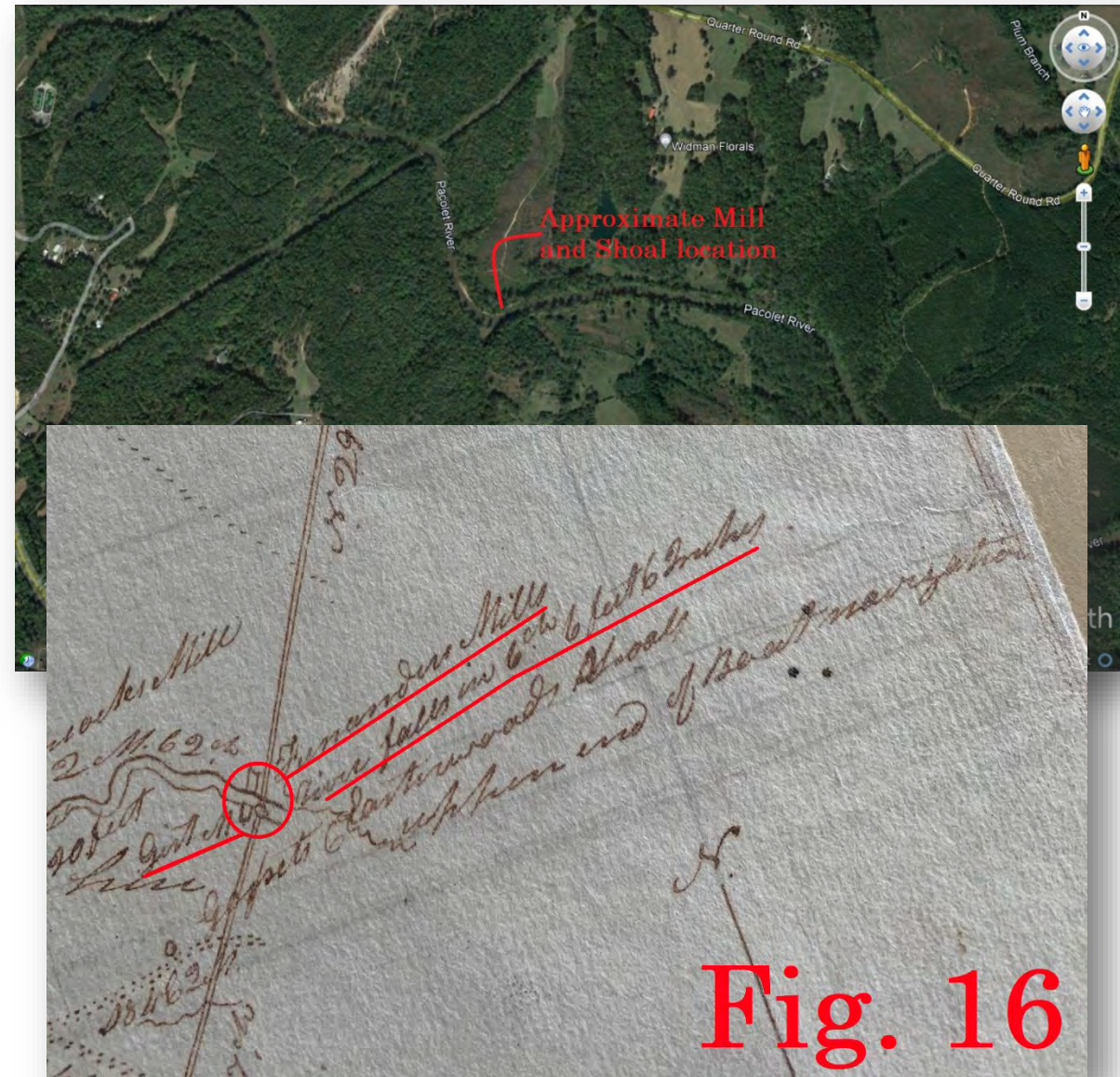


Fig. 16



Spartanburg-Union County Line

- The intersection of the Pacolet River and the line created by the two “Plantation Settlements” is 1300’ downstream of the “best guess” location for the two mills
- This compares favorably with the distance of 1000’ scaled from the 1820 map



Fig. 21



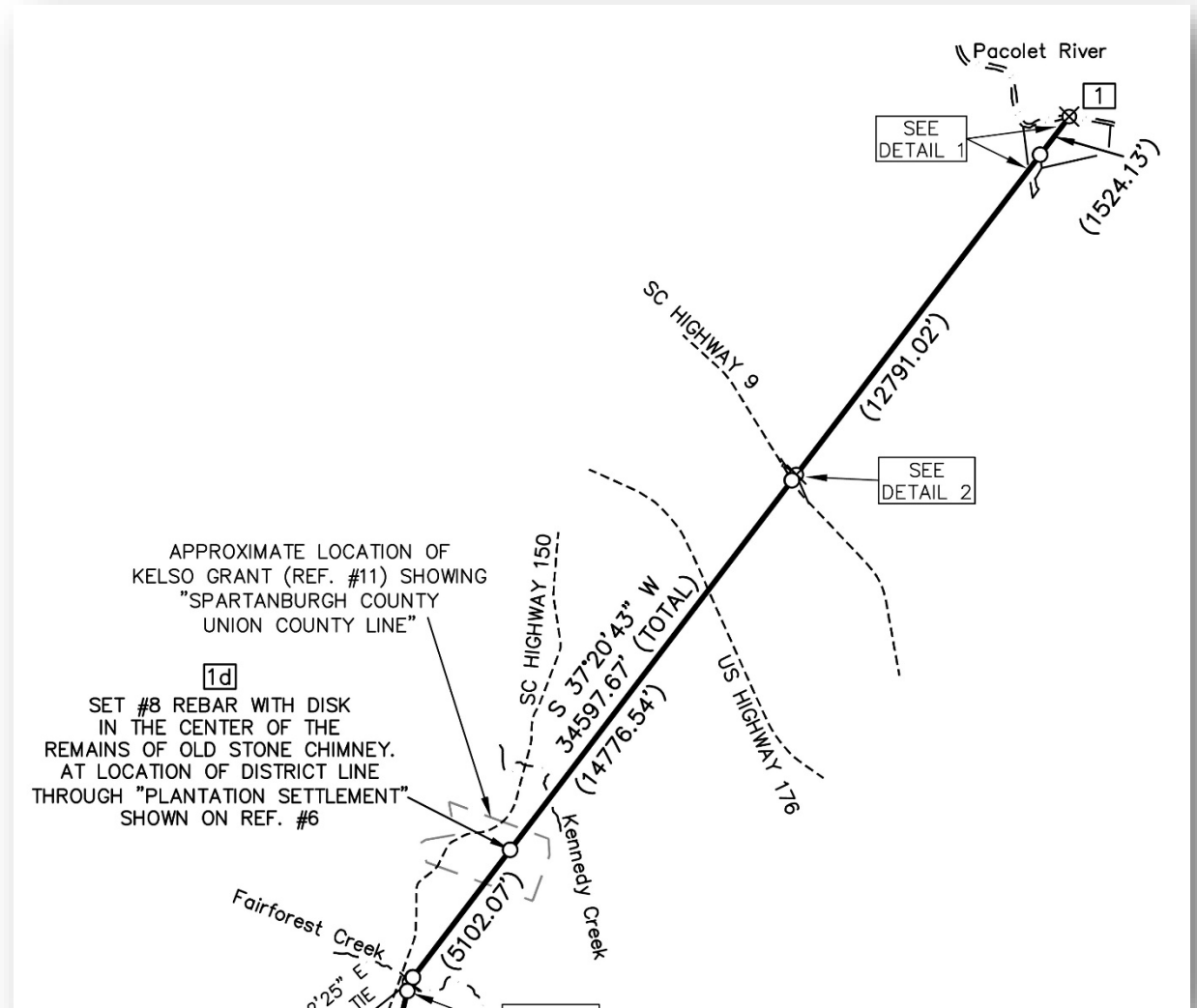
Spartanburg-Union County Line

- The distance from the Pacolet River to the calculated location of the “Pritchard Res.” is 1524’
- This compares favorably with the distance of 1800’ from the Pacolet to the “Plantation Settlement” scaled from Thompson’s 1820 map



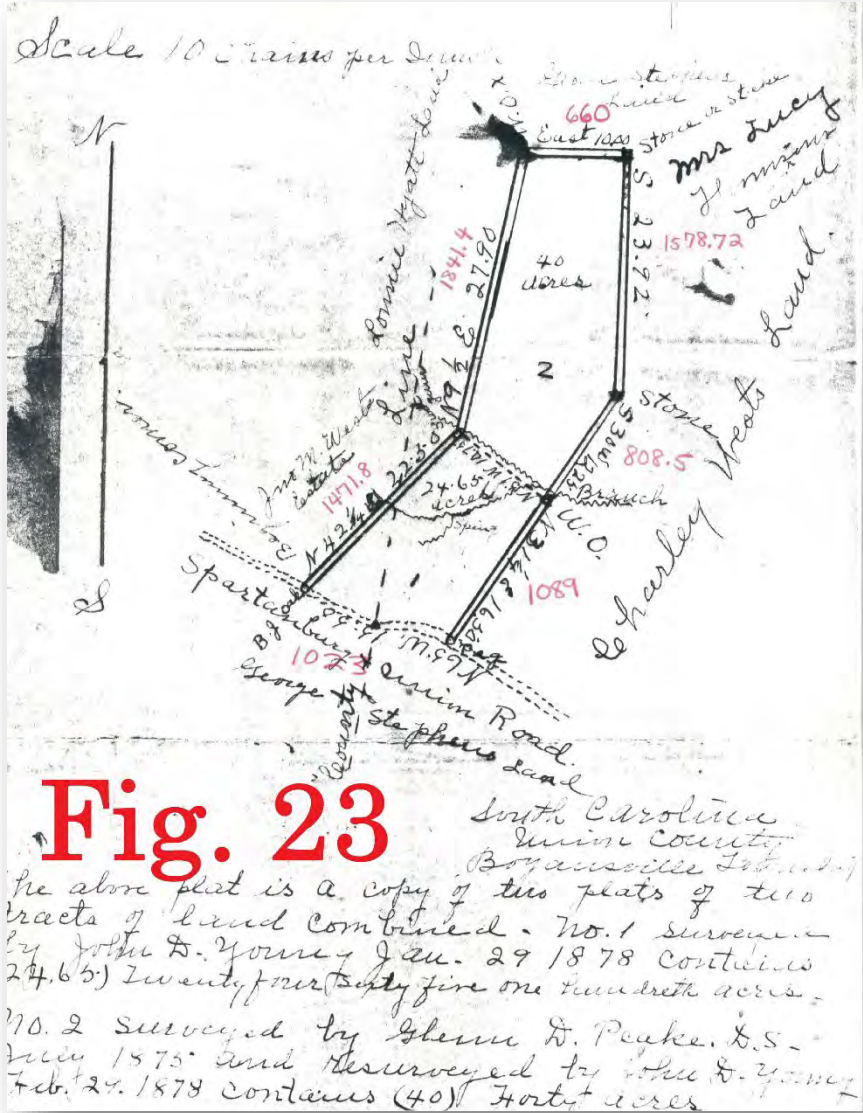
Spartanburg-Union County Line

- Along this line the distance from Pacolet River to Fair Forest Creek is 34,597.67'
- In 1820 it was measured as 34,122' (6 miles 37 chains)
- A distance difference of 475' (about 1%)
- The current bearing matches the 1820 bearing within about one degree

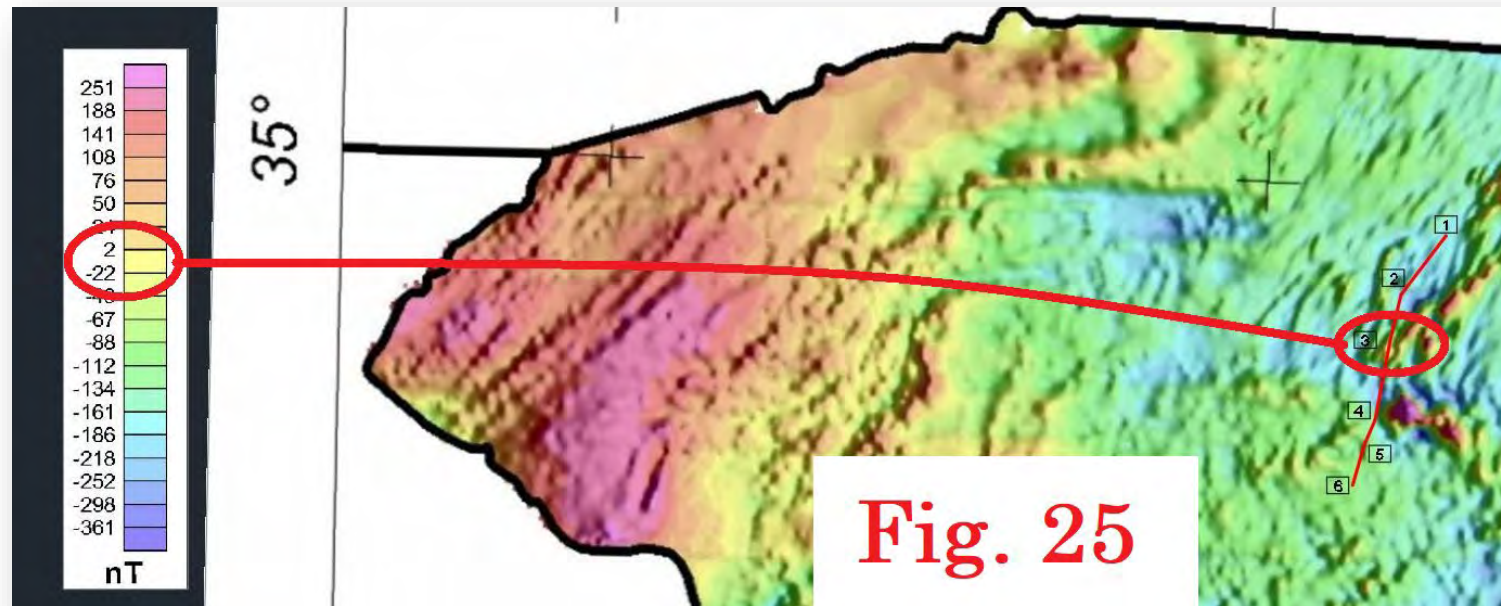


Spartanburg-Union County Line

- The statute description and the 1820 surveys show a straight line from Fair Forest Creek to Hackett's Creek (now Hackers Creek)
- However, the files of Jake Black, Union County Assessor, contained an unrecorded plat showing an 1875 survey by Glenn D. Peake and an 1878 survey by John D. Young depicting the county boundary



Spartanburg-Union County Line



- Preliminary analysis indicated that using this plat to locate the county boundary would put a bend in what by statute was a straight line.
- However, a review of the US Geologic Survey's map of magnetic anomalies showed one at this location



Spartanburg-Union County Line



- North of Hackett's Creek (now Hackers Creek) both Thompson and Whitten showed the line running through a sinusoidal section of Dutchman Creek

Spartanburg-Union County Line

- That portion of Dutchman Creek still looks very much the same today
- CESI selected this as the best guide for aligning the lower end of this leg of the county boundary

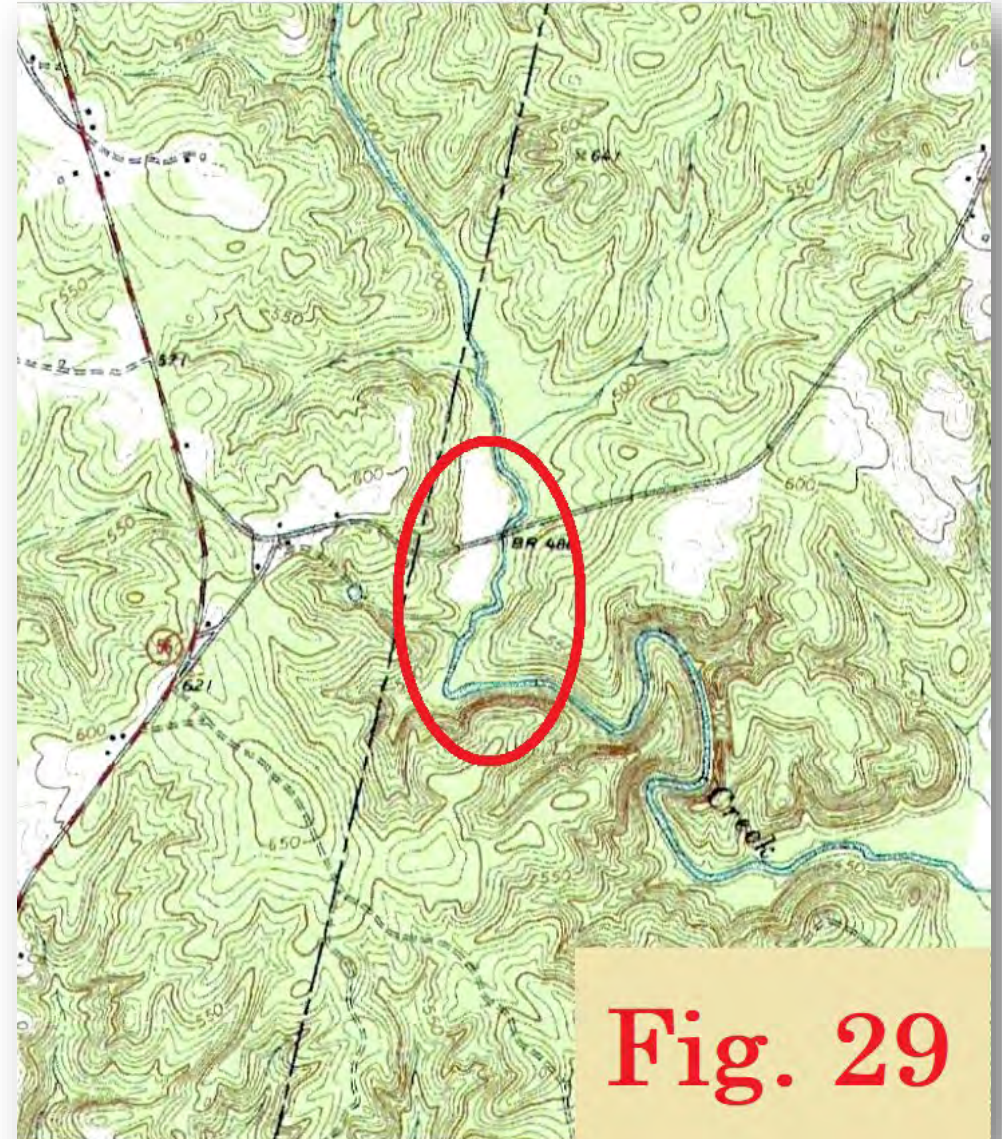
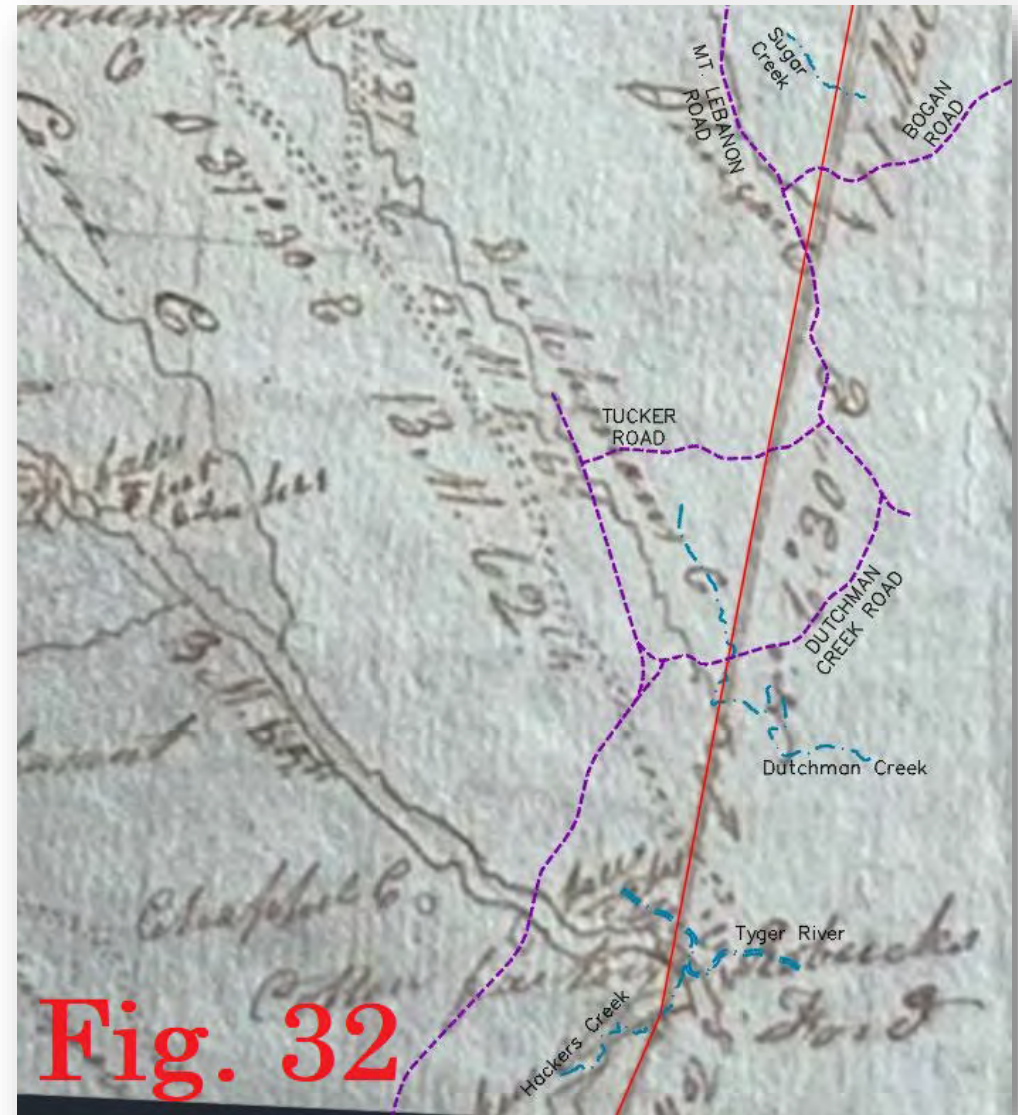


Fig. 29



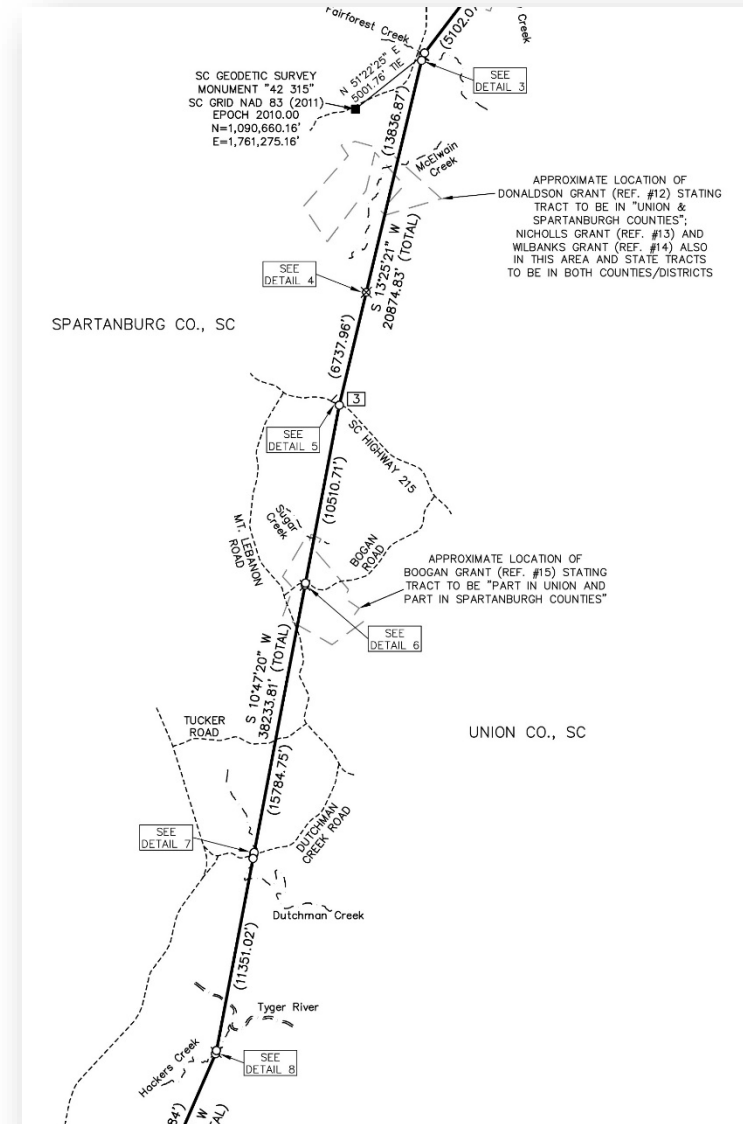
Spartanburg-Union County Line

- CESI extended a line from the calculated point at SC Hwy 215 through the sinusoidal section of Dutchman Creek and intersected Hackers Creek



Spartanburg-Union County Line

- The bearing from Fair Forest to SC Hwy 215 is off by over two degrees, but the bearing from there to Hackers Creek is off by less than one-half degree
- 1820 distance of 58,938' (11 miles 13 chains) matches overall current distance of 59,108.64 within about 170' or 0.2%



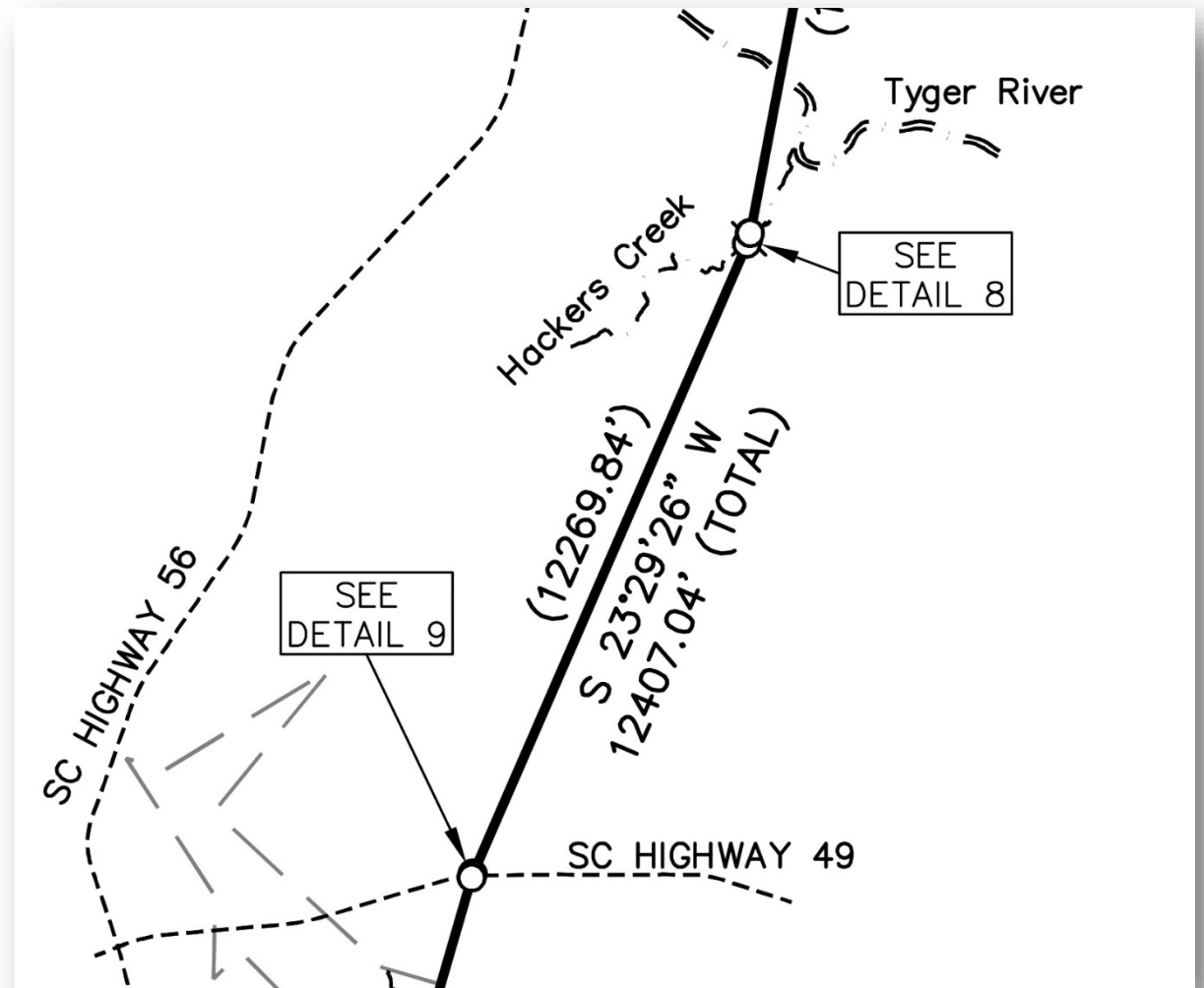
Spartanburg-Union County Line

- The next leg of the boundary is described by all sources as going from Hackett's Creek to Cross Key Road
- The 1820 and statutory distance is 2 miles and 28 chains (12,408')
- SC Hwy 49 appears to be in the same location at the county boundary as Cross Key Road in 1820



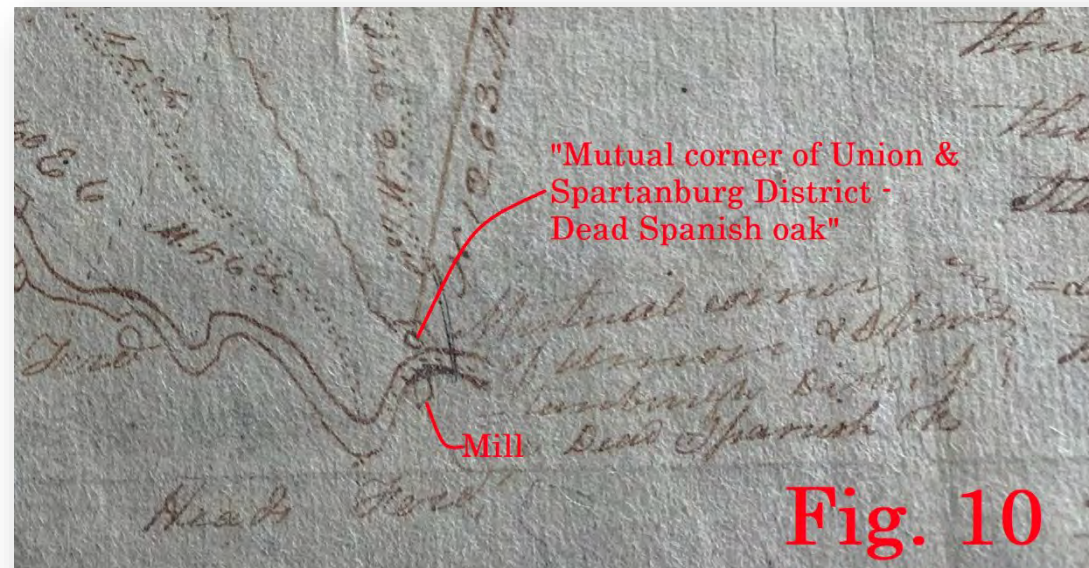
Spartanburg-Union County Line

- The distances on the two preceding legs were amazingly close to the statute distance – so on this leg CESI opted to use the distance to intersect the centerline of SC Hwy 49
- 12,407.04' grid = 12,408' ground
- Bearing is different by one-and-three-quarters degrees



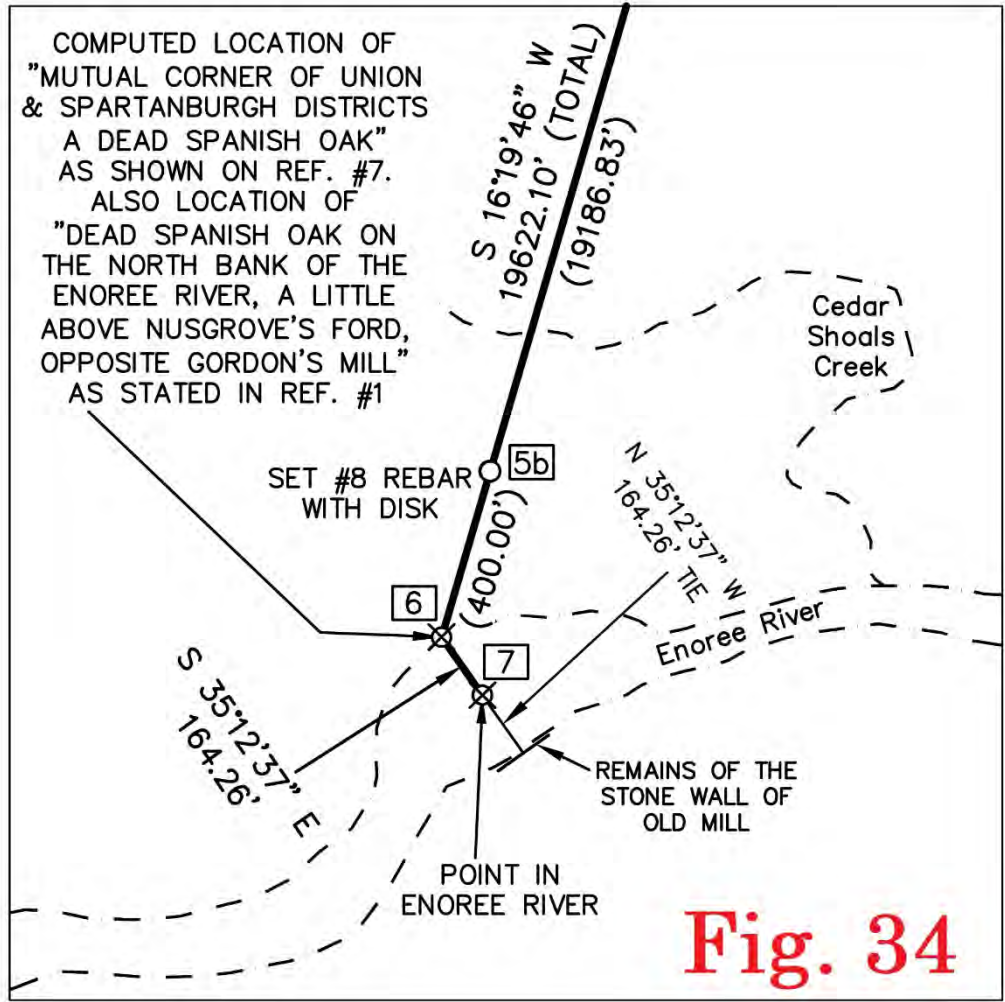
Spartanburg-Union County Line

- It had been evident since starting the project that there was an error of around one-half mile in the distance from the “dead Spanish oak” at the Enoree River to Cross Key Road
- Thus, the best evidence for establishing this corner was the foundation of Gordon’s Mill (Musgrove’s Mill) across the river



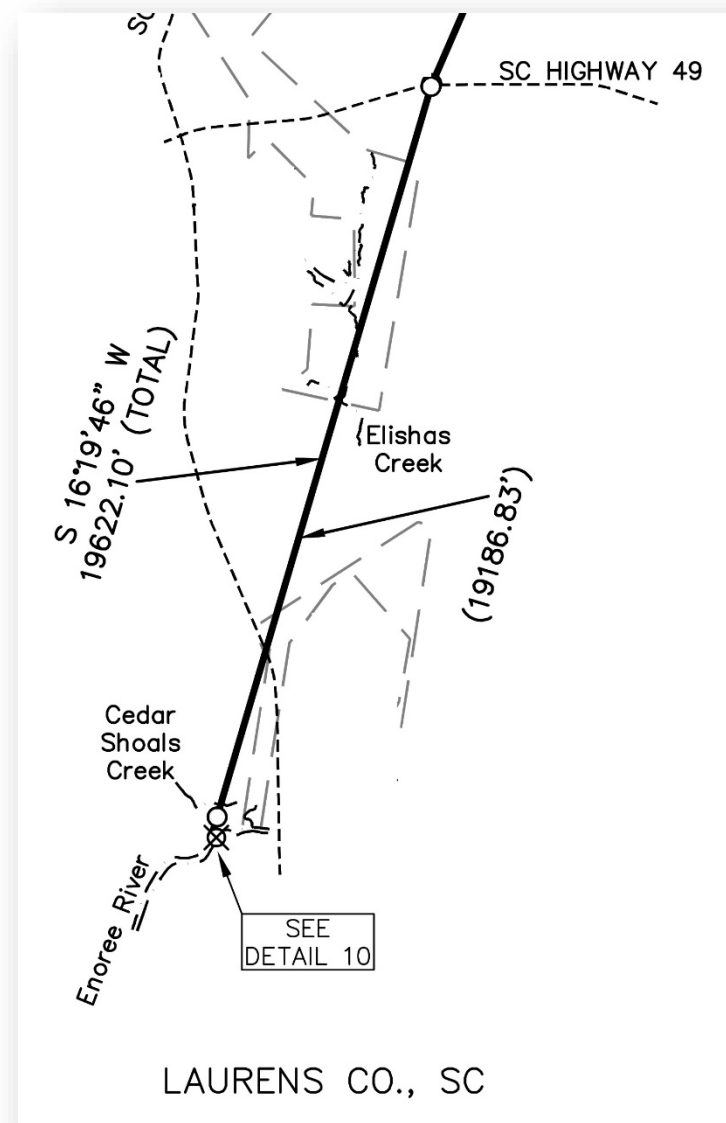
Spartanburg-Union County Line

- To establish the location of the “dead Spanish oak” CESI projected from the center of the foundation, and perpendicular to it, to the north bank of the Enoree River



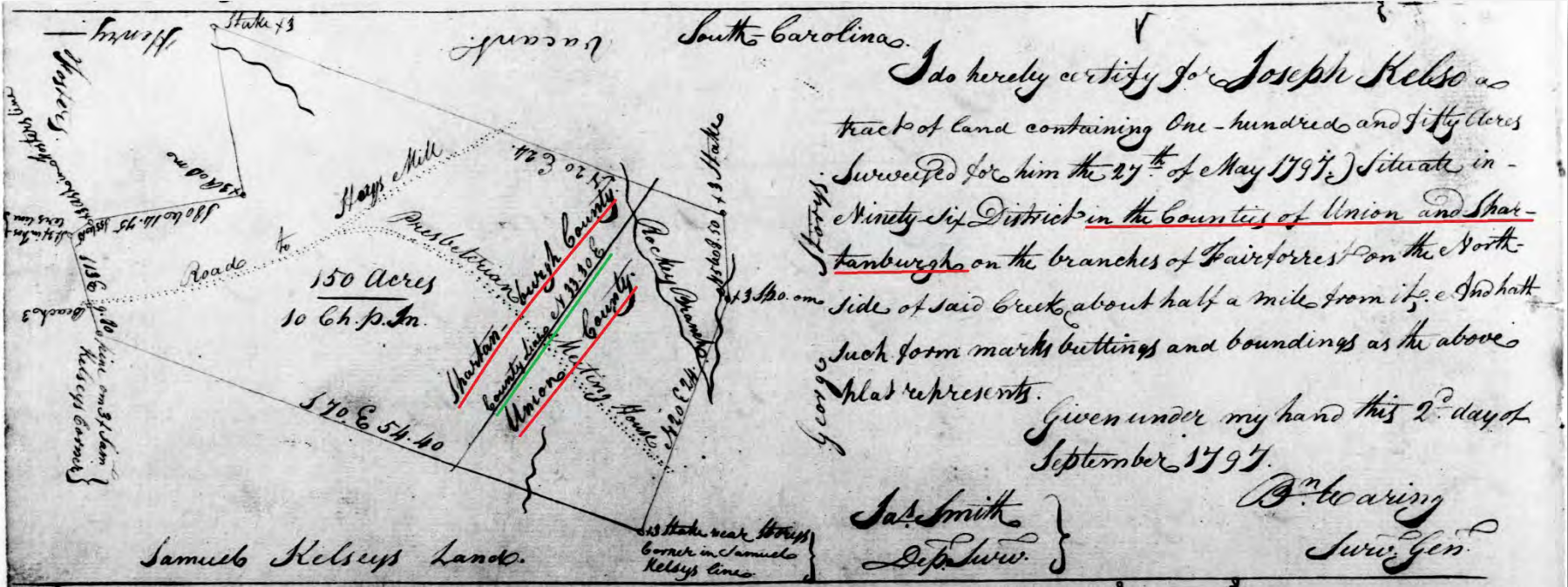
Spartanburg-Union County Line

- The distance from the calculated “dead Spanish oak” to the centerline of SC Hwy 49 is 19,622.10’ versus the statute distance of 17,556’ (3 miles 26 chains), a difference of over 2000’
- The bearing, however, matches the statute bearing to within one-half degree



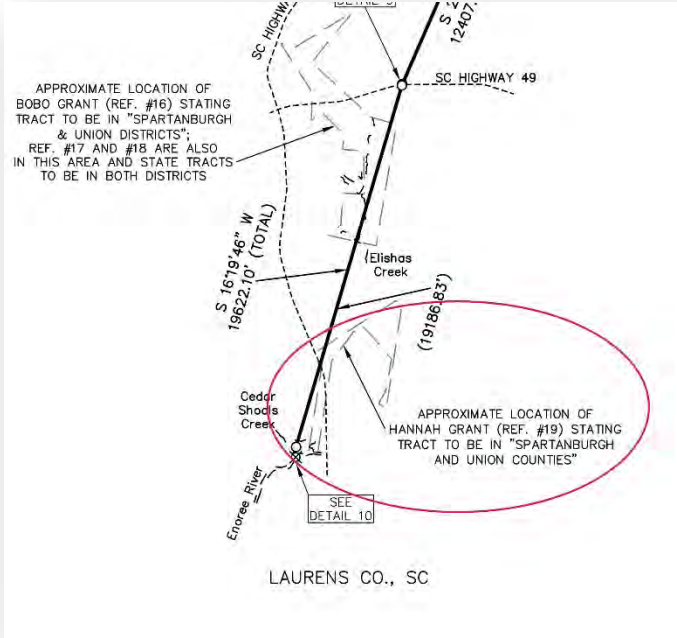
Spartanburg-Union County Line

- The final step was to compare the locations for the county boundary with the historic grants obtained from SC Archives that, according to the grants, were situated in both Spartanburg and Union counties



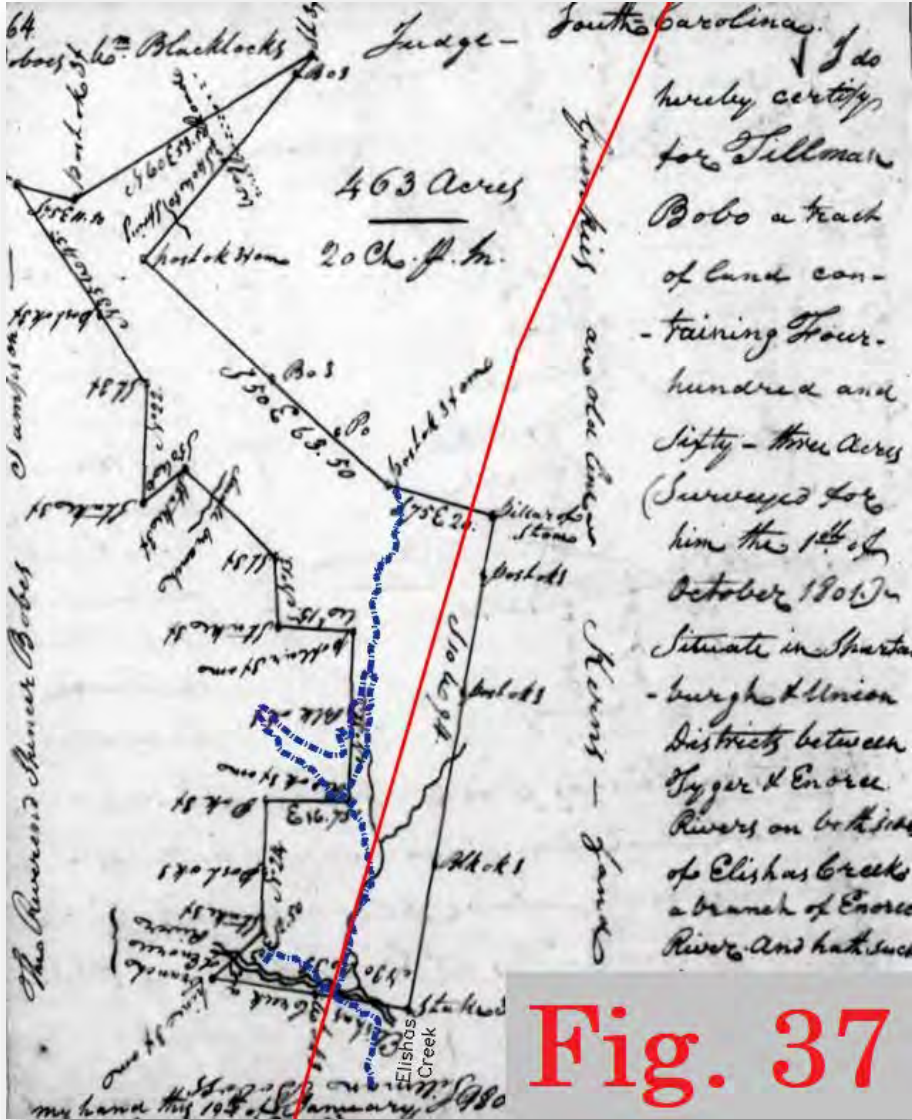
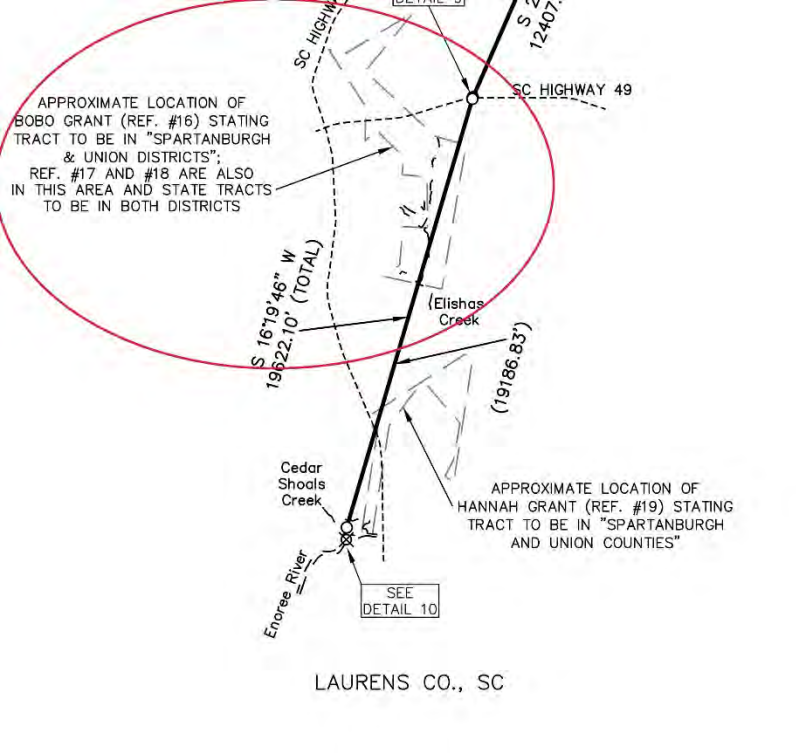
Spartanburg-Union County Line

- Starting just north of the Enoree River is the 165-acre Robert Hannah grant of 1794



Spartanburg-Union County Line

- Moving a couple miles north is the 463-acre Bobo Tillman grant from 1801 on Elishas Creek



Spartanburg-Union County Line

- On Sugar Creek is the 361-acre grant to Isaac Boogan from 1795

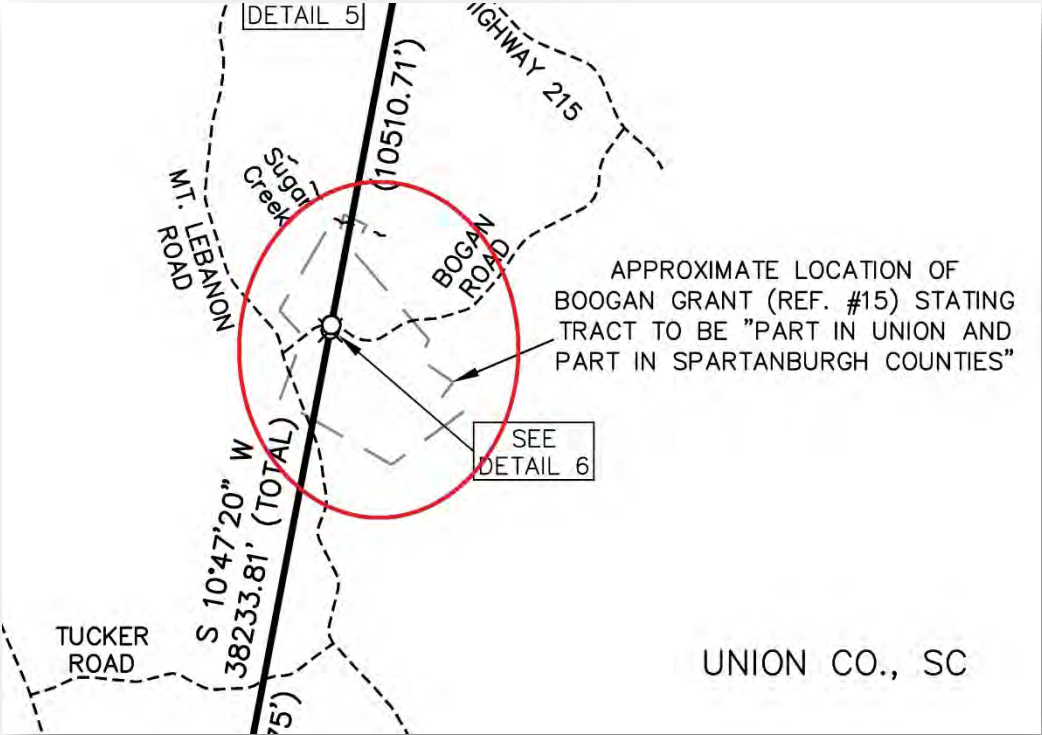
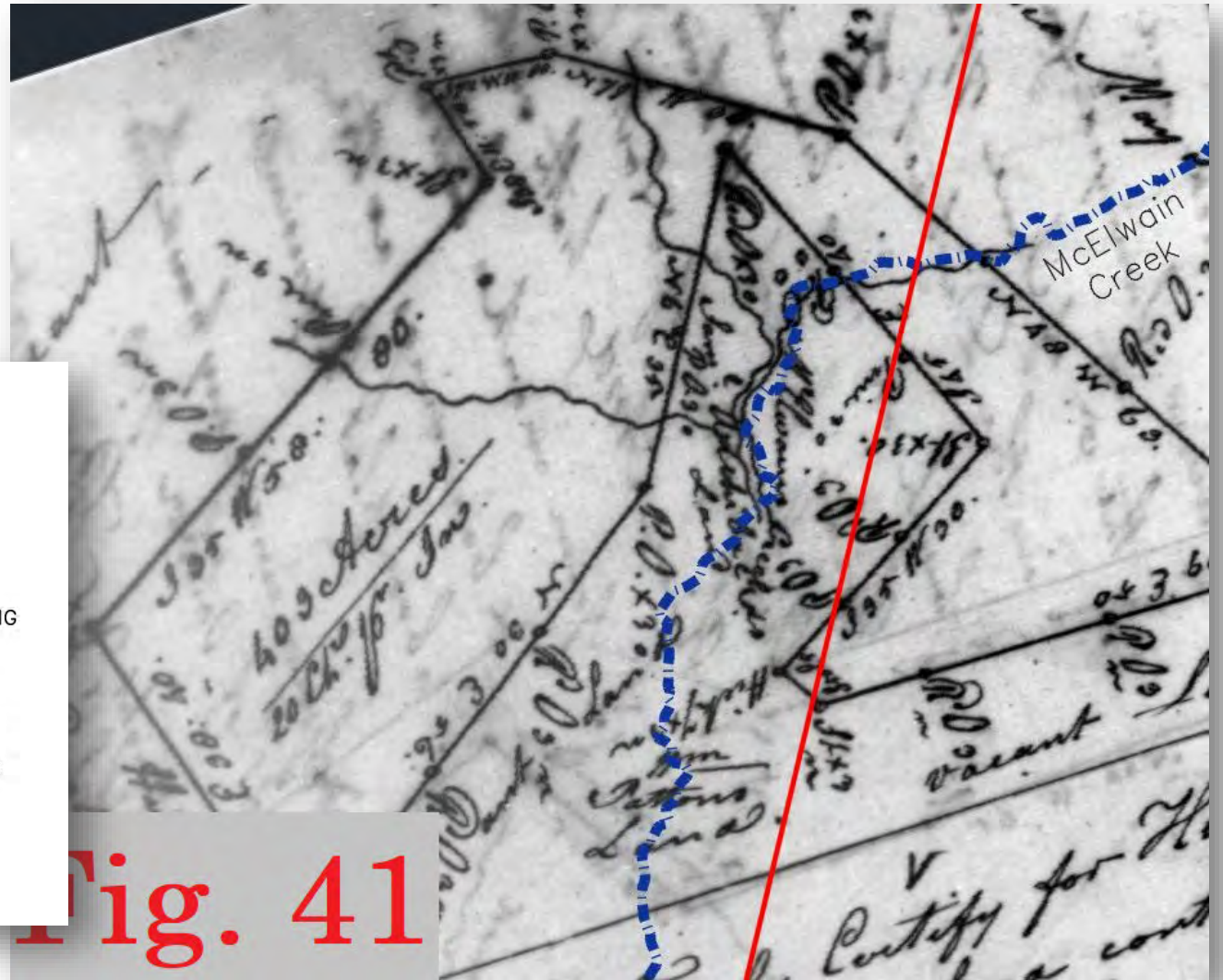
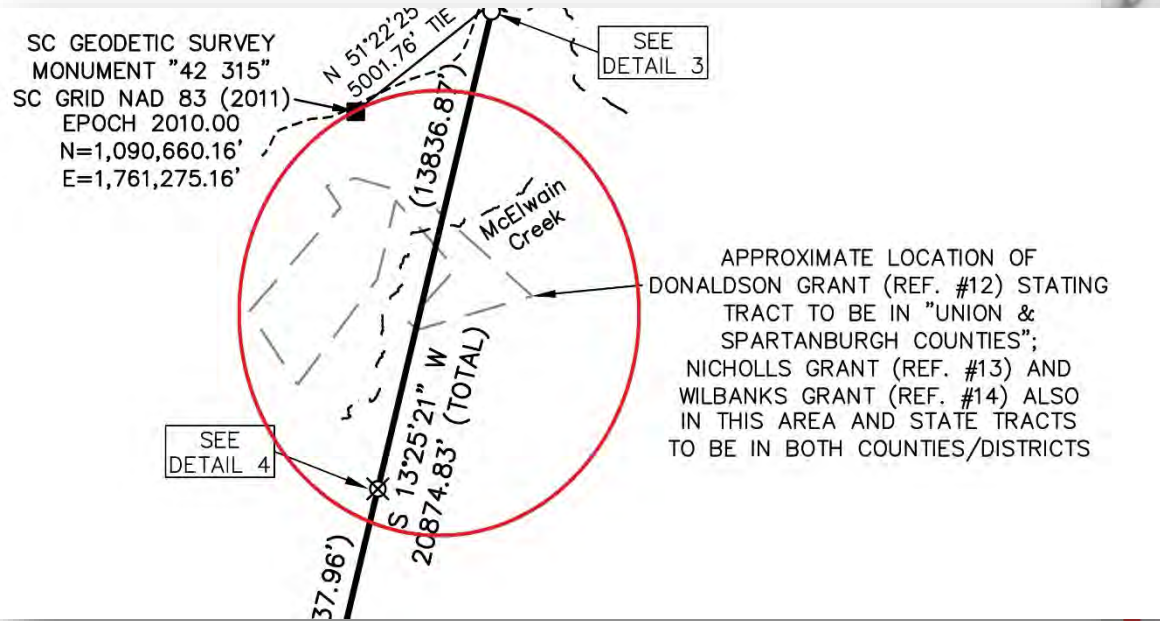


Fig. 39

Spartanburg-Union County Line

- On McElwain Creek is the 403-acre grant to Hugh Donaldson in 1793



Spartanburg-Union County Line

- Finally, a mile north of Fair Forest Creek, at the location of the “Plantation Settlement” that established that leg, is the Joseph Kelso grant of 150-acres from 1797

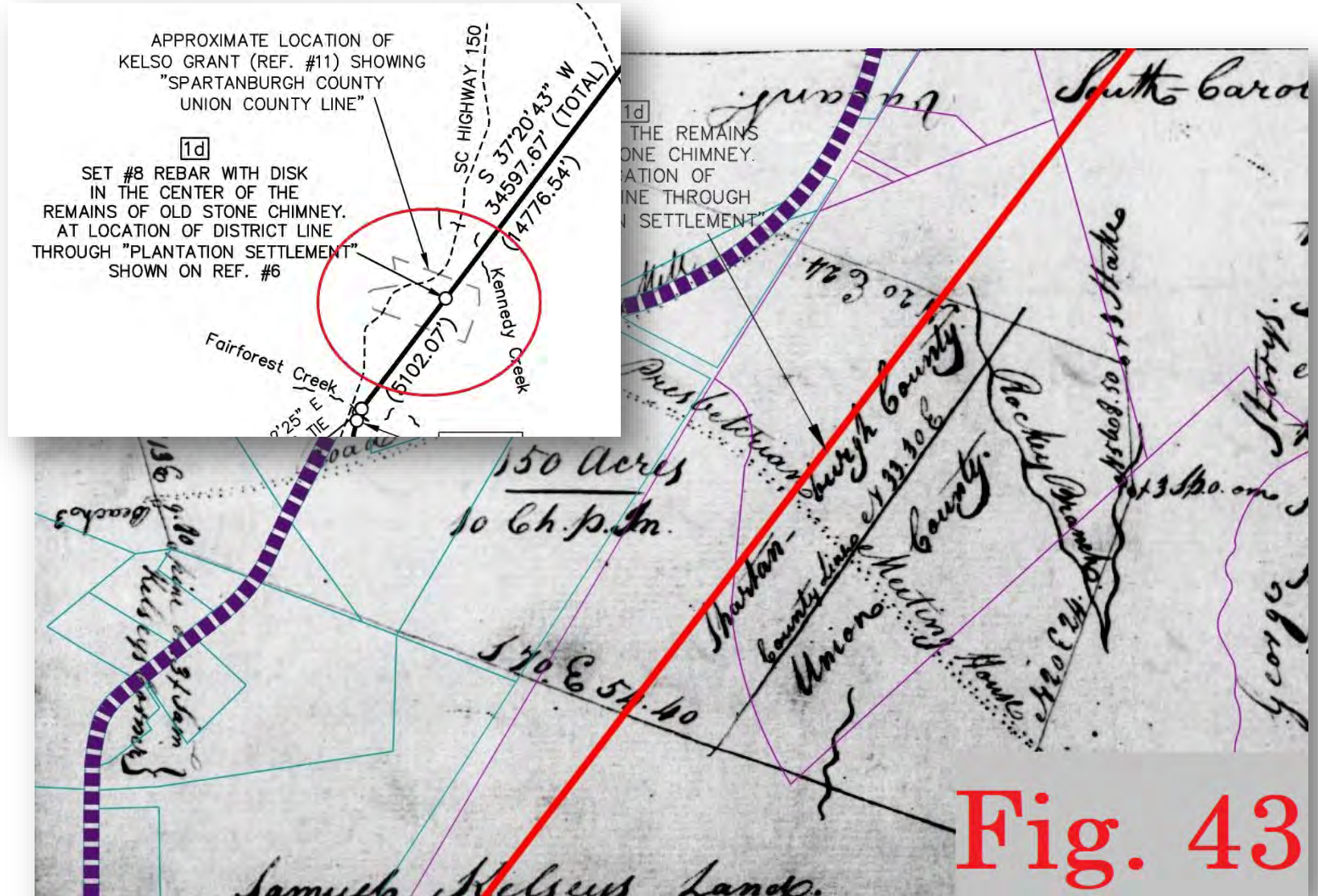
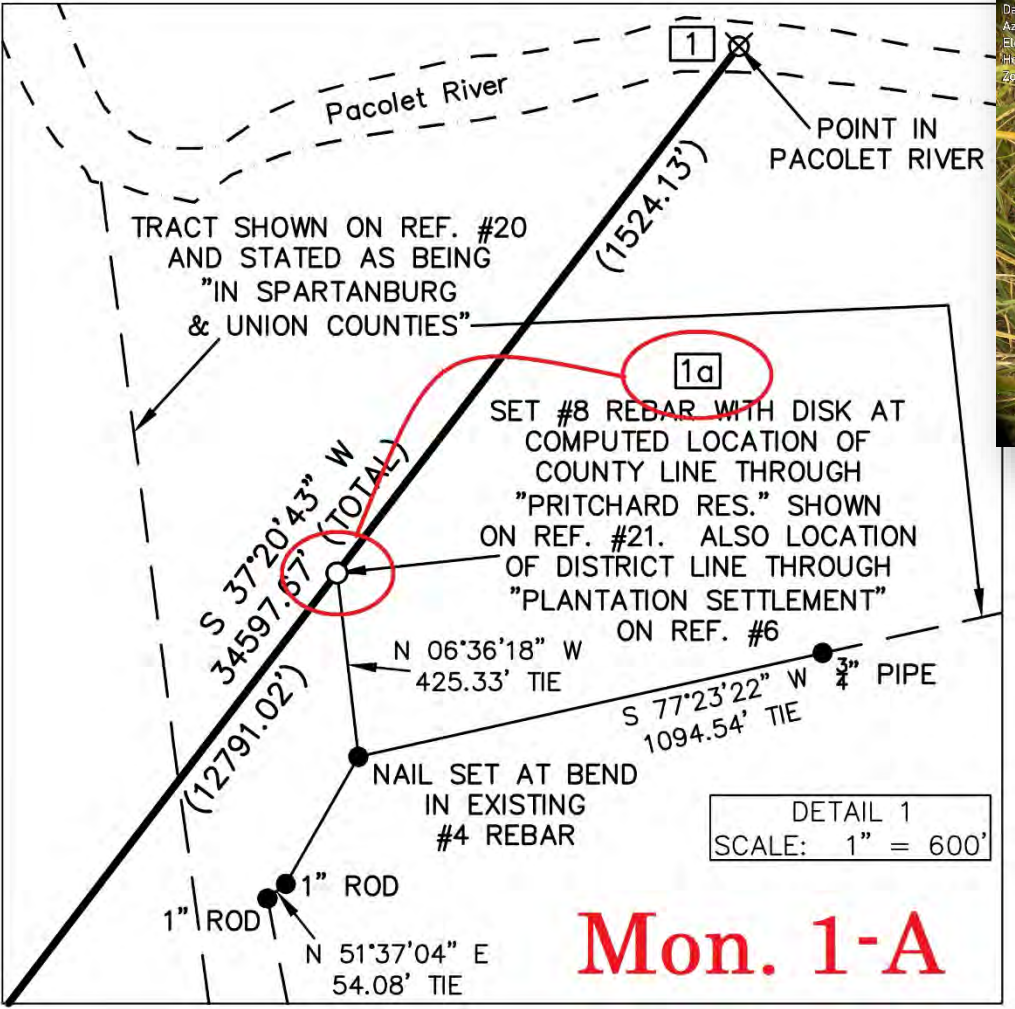


Fig. 43

Spartanburg-Union County Line



Mon. 1-A

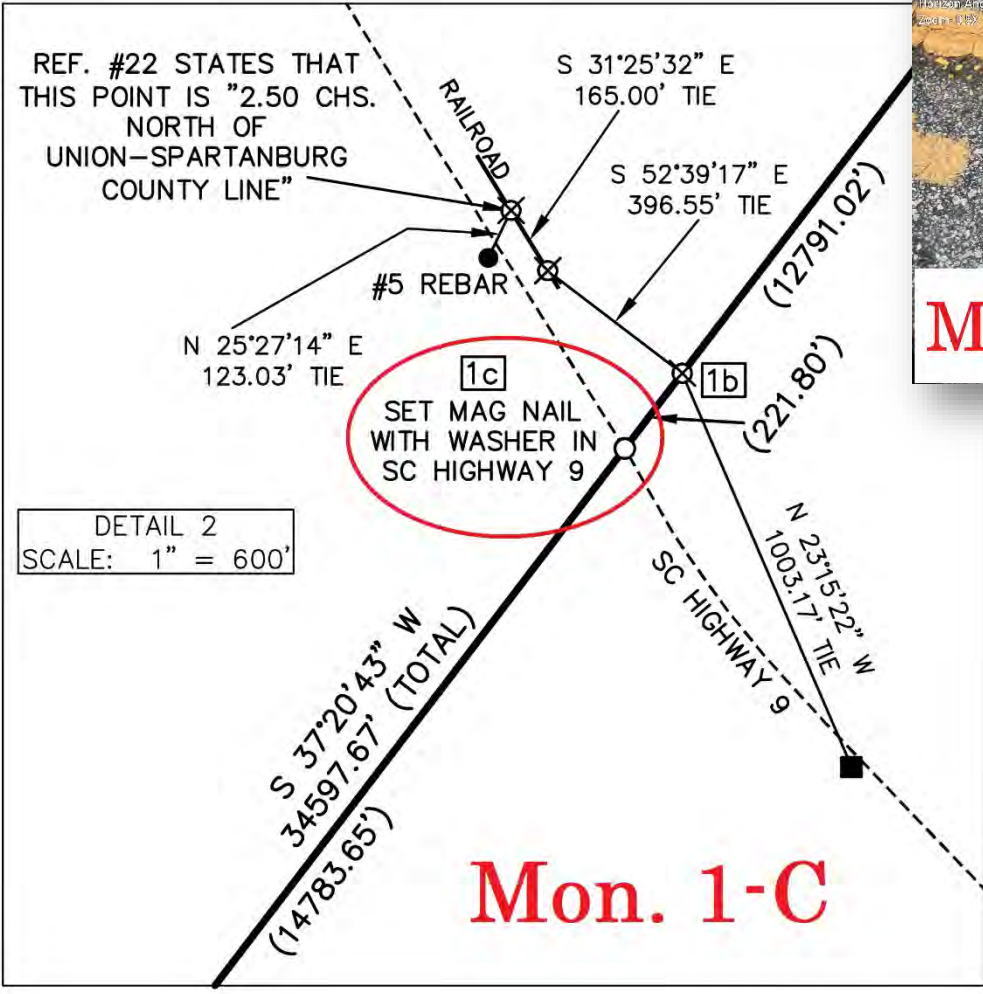


Mon. 1-A

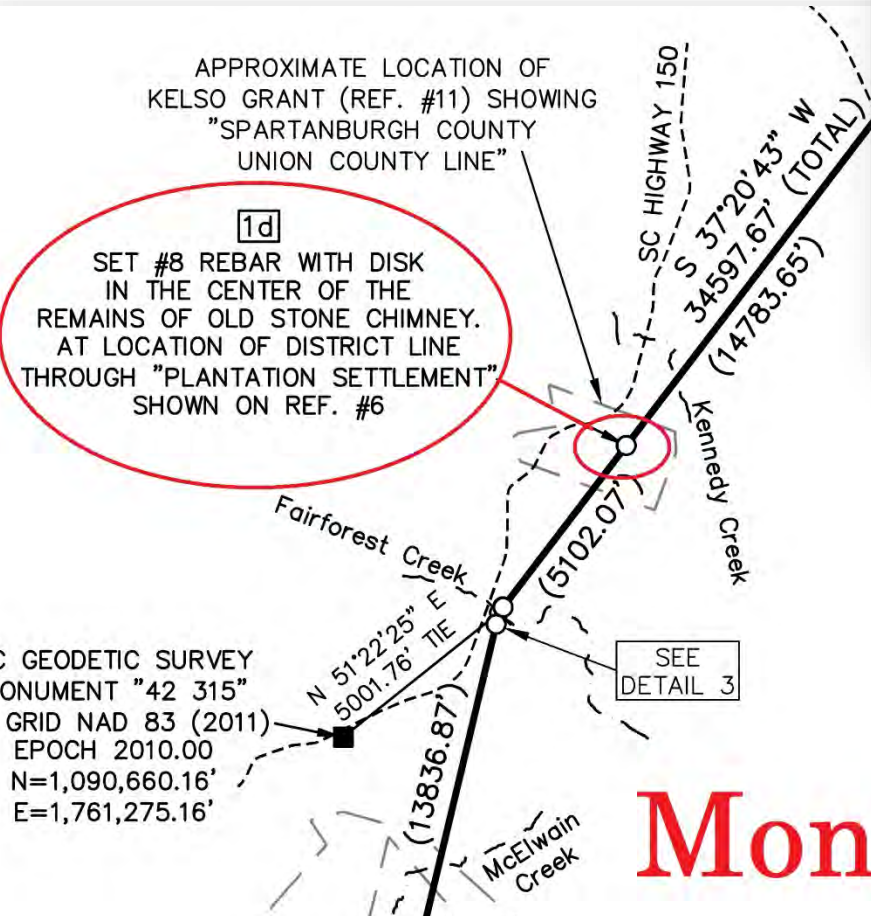


Mon. 1-A

Spartanburg-Union County Line



Spartanburg-Union County Line

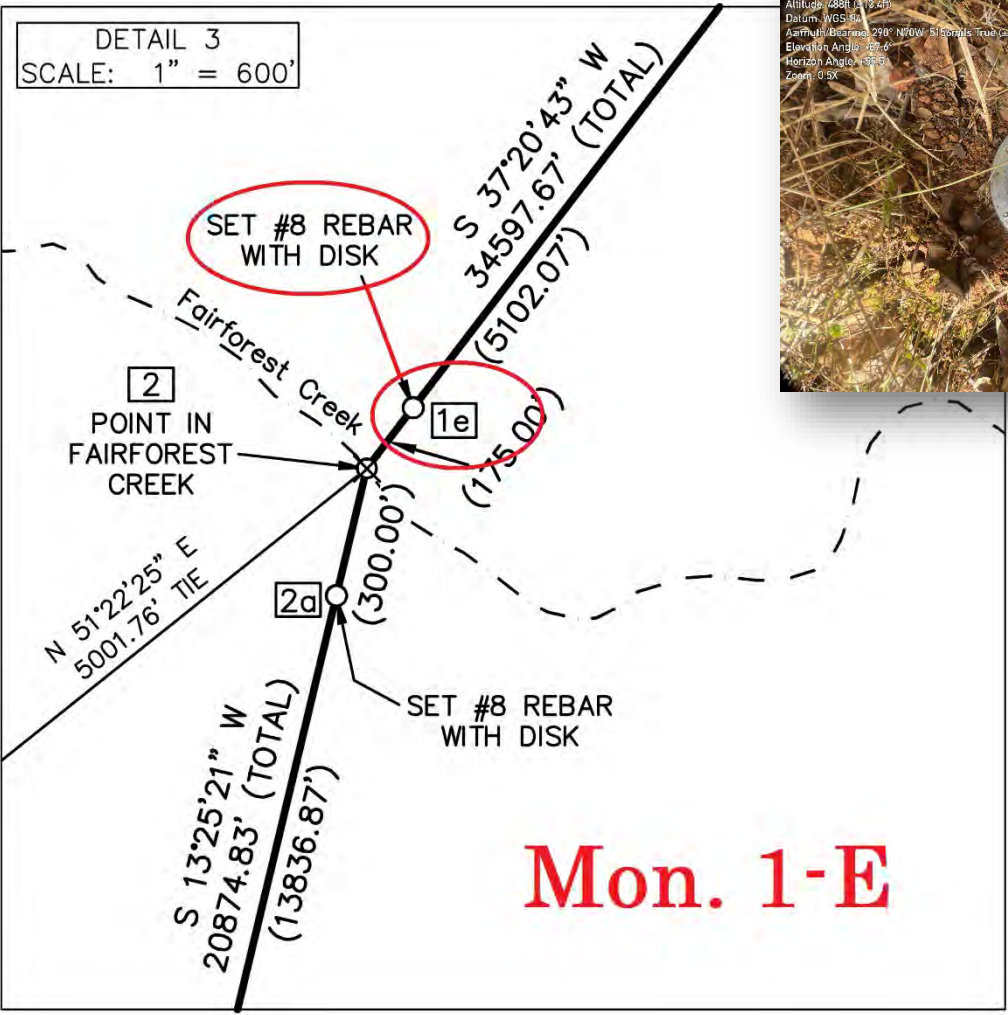


Mon. 1-D

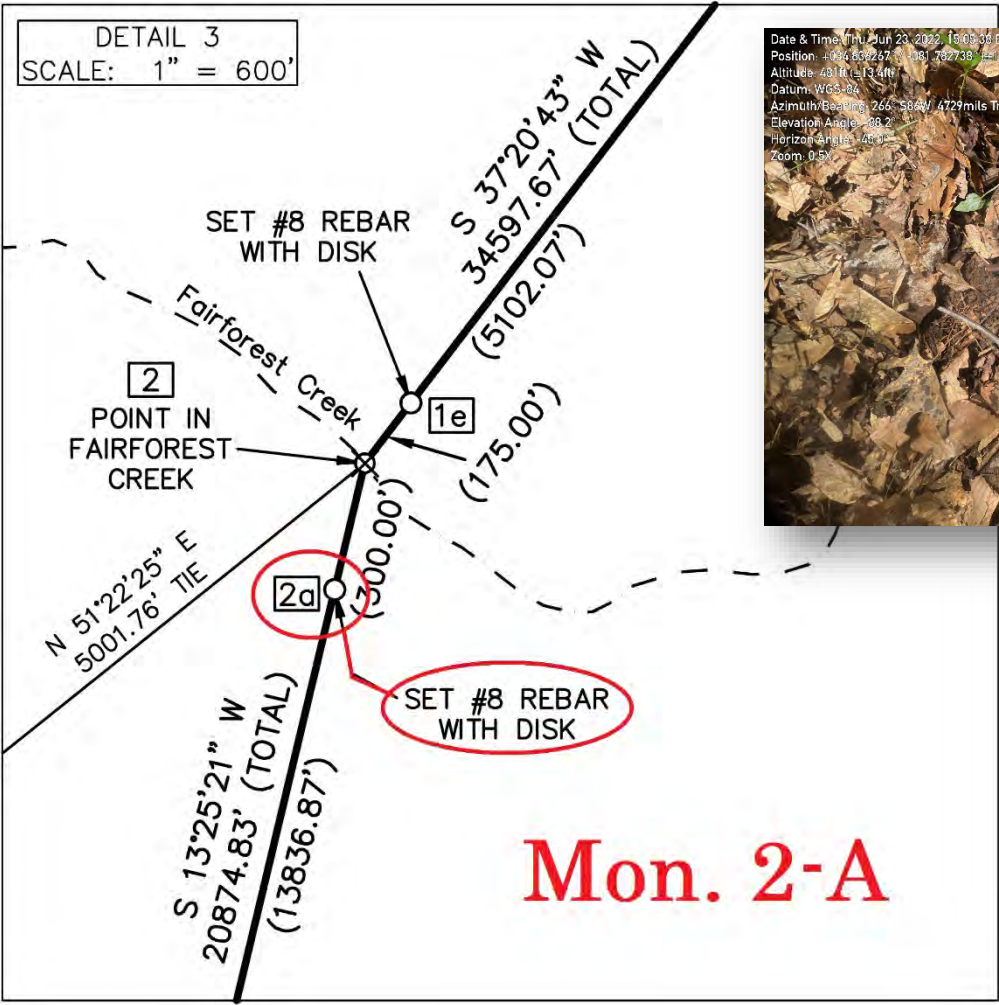
Mon. 1-D

Mon. 1-D

Spartanburg-Union County Line



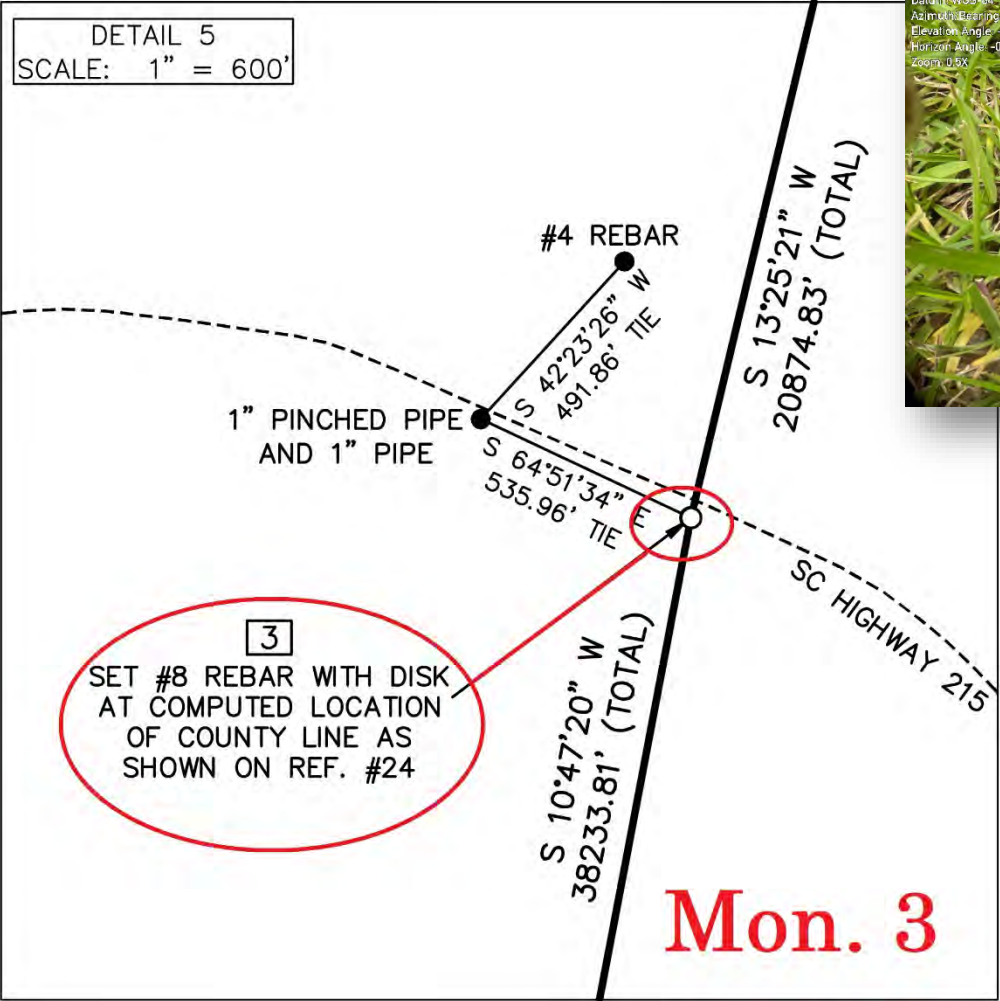
Spartanburg-Union County Line



Mon. 2-A



Spartanburg-Union County Line

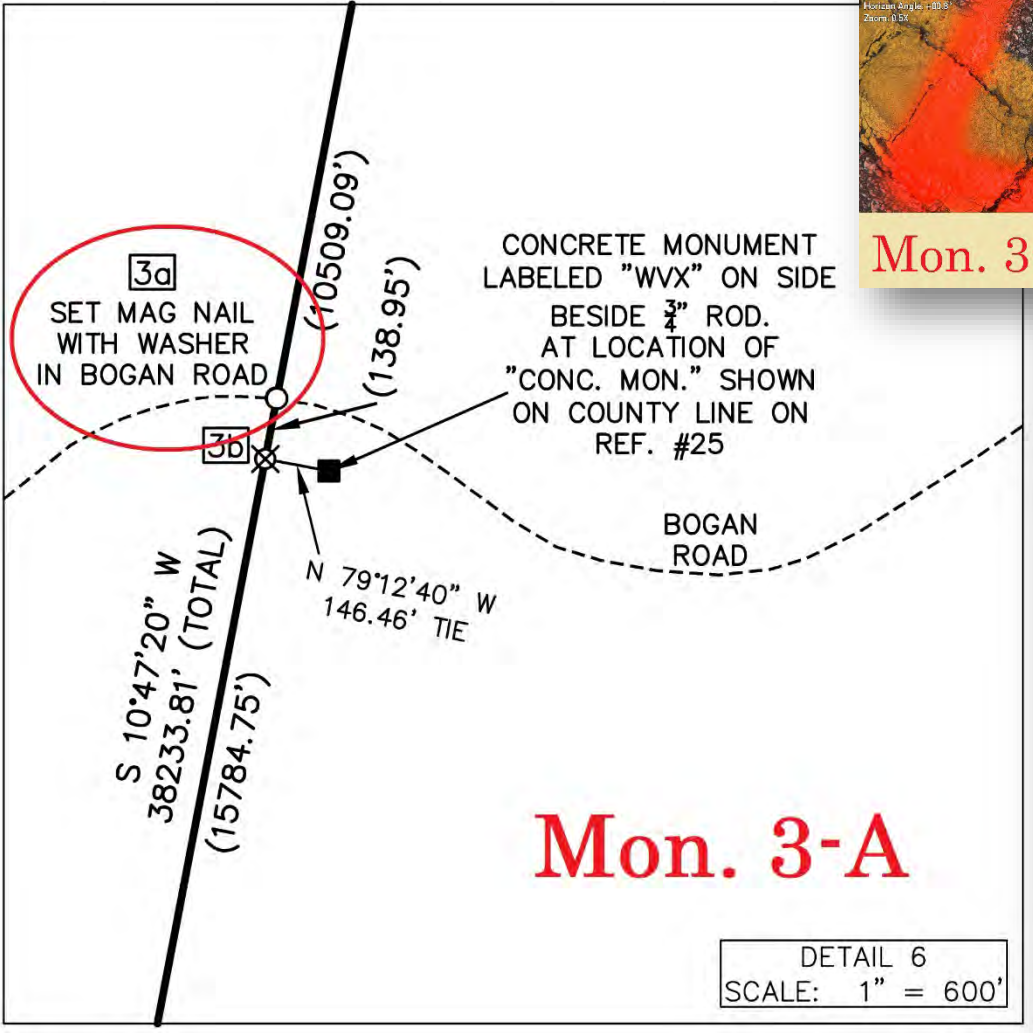


Spartanburg-Union County Line



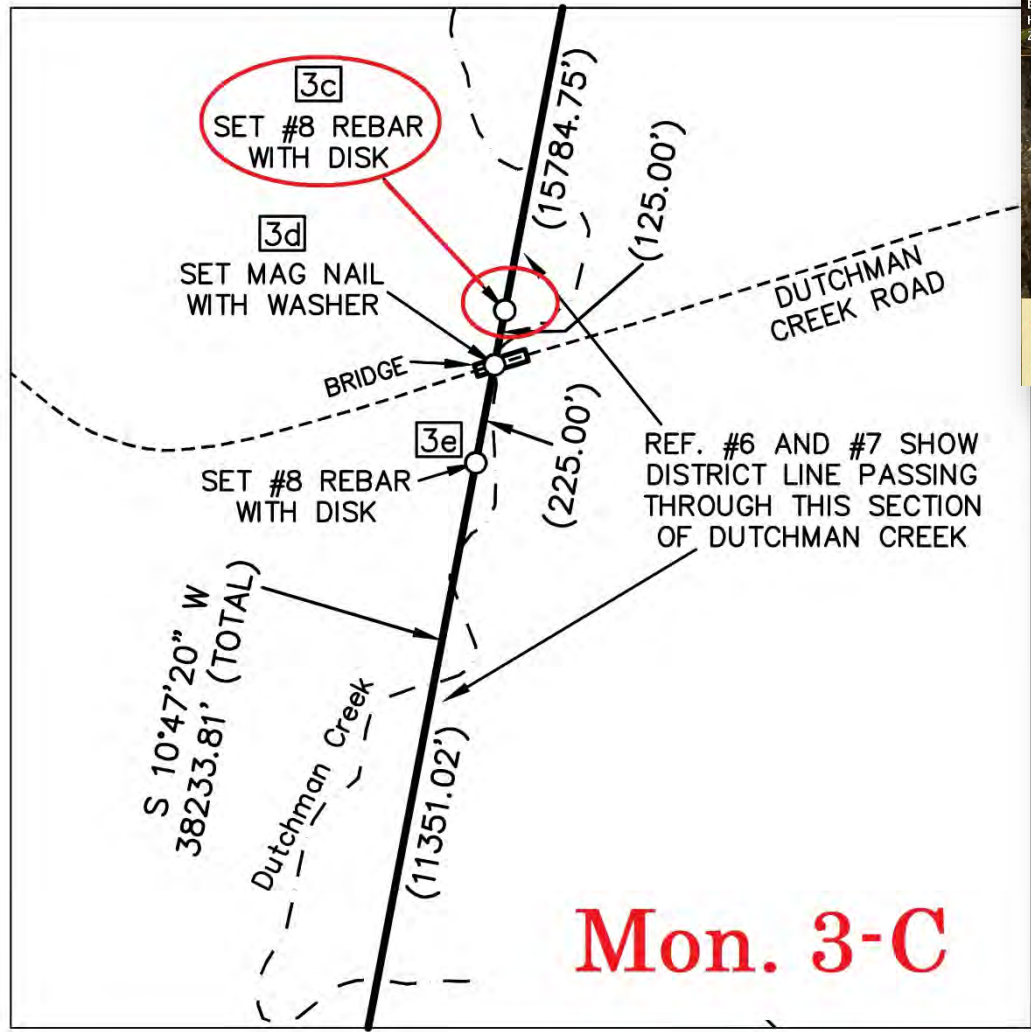
2022, 12:55:07 EDT
 081.804368° (±15.1ft)
 22W 6009mils True (±180°)

Mon. 3-A

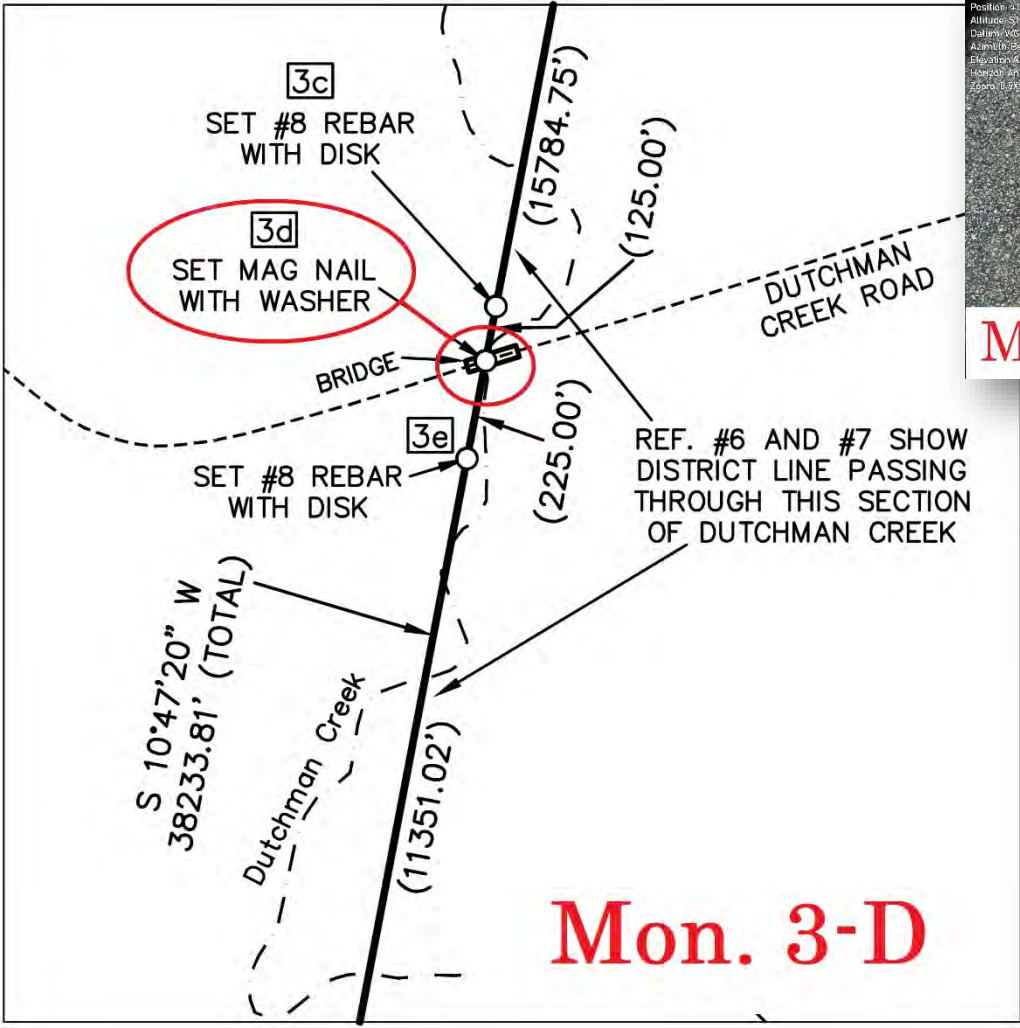


Mon. 3-A

Spartanburg-Union County Line



Spartanburg-Union County Line



Mon. 3-D

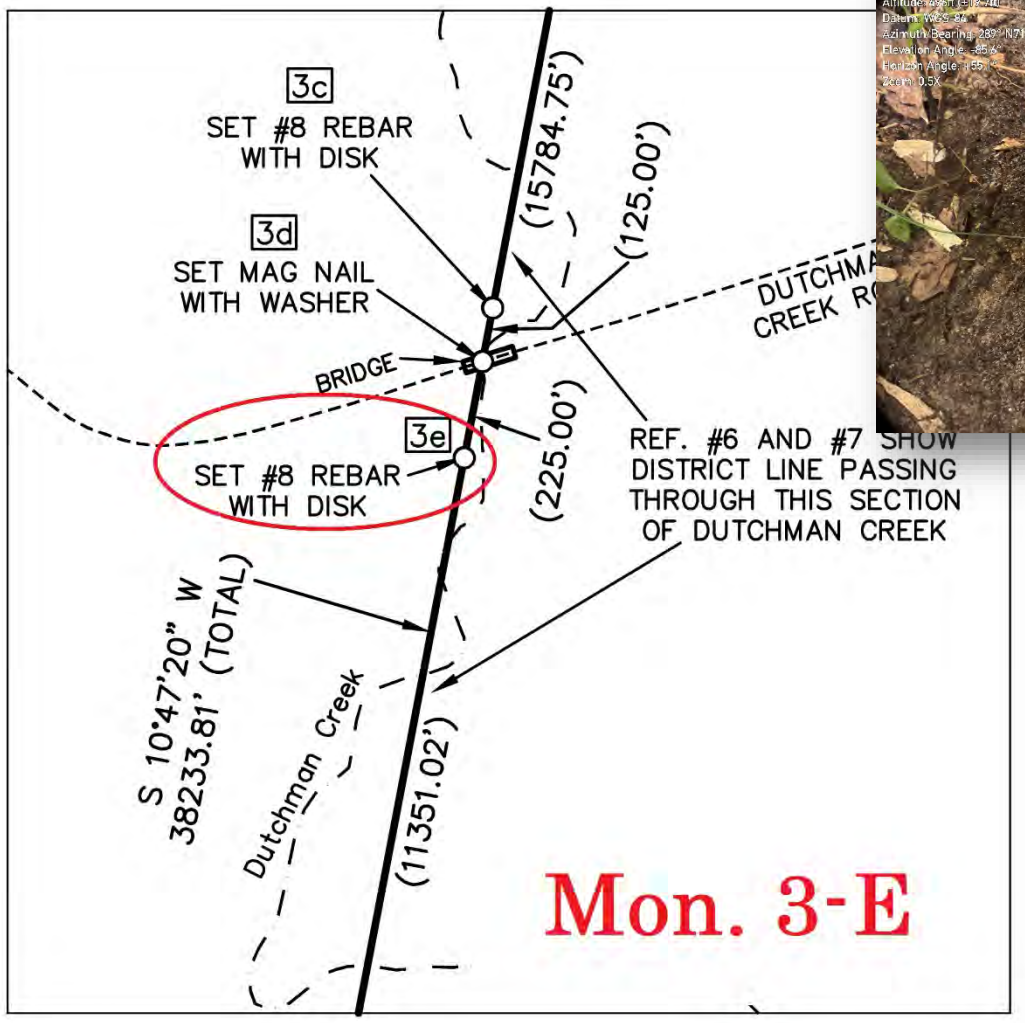


Mon. 3-D



Mon. 3-D

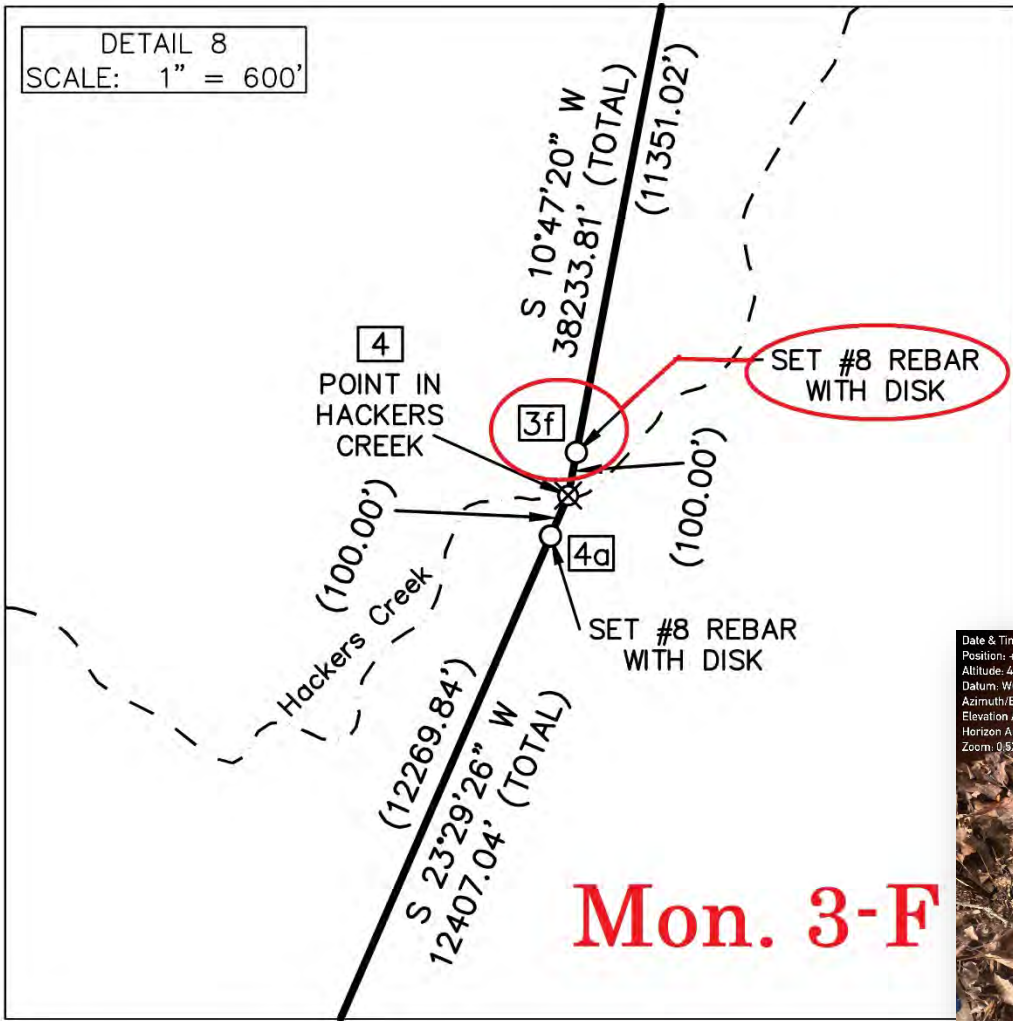
Spartanburg-Union County Line



Mon. 3-E

Mon. 3-E

Spartanburg-Union County Line

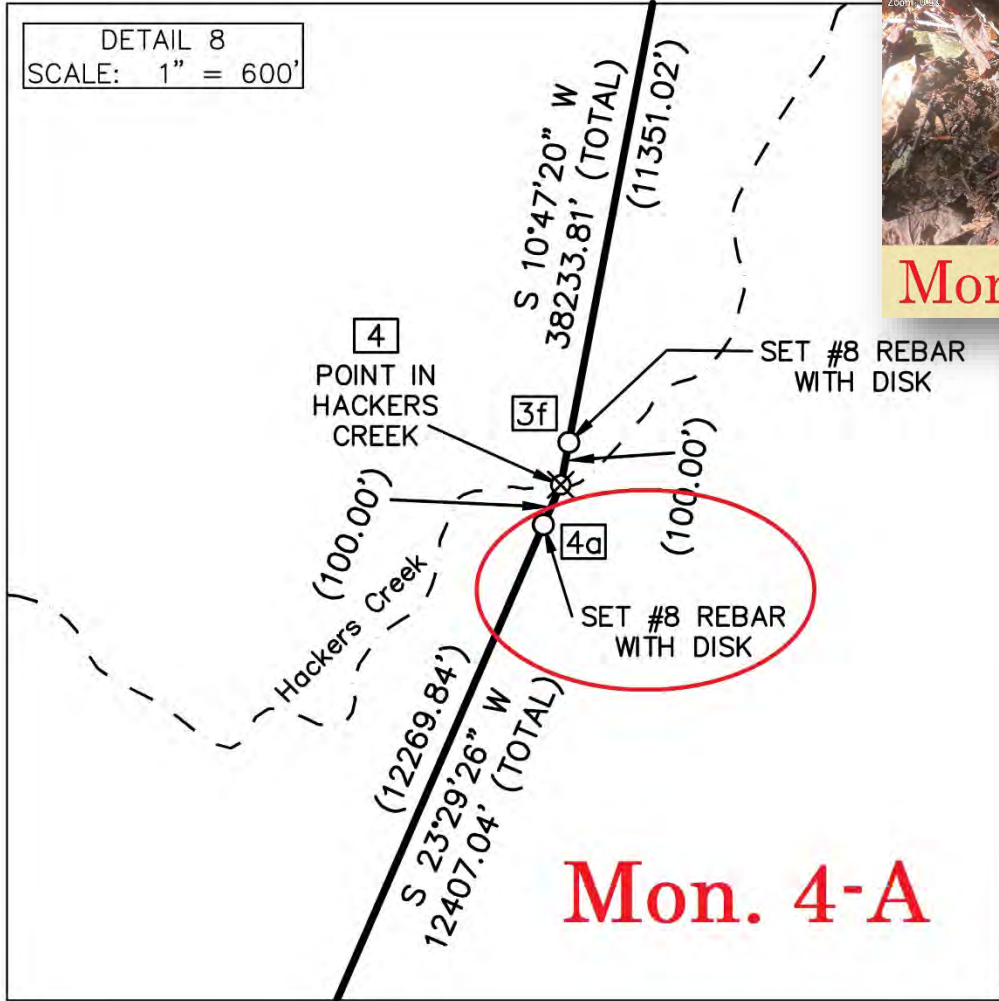


Date & Time: Thu, Jun 30, 2022, 10:33:16 EDT
 Position: +034.678075° / -081.820903° (±15.6ft)
 Altitude: 439ft (±10.9ft)
 Datum: WGS-84
 Azimuth/Bearing: 254° S74W 4516mils True (±12°)
 Elevation Angle: -12.2°
 Horizon Angle: +01.0°
 Zoom: 0.5X

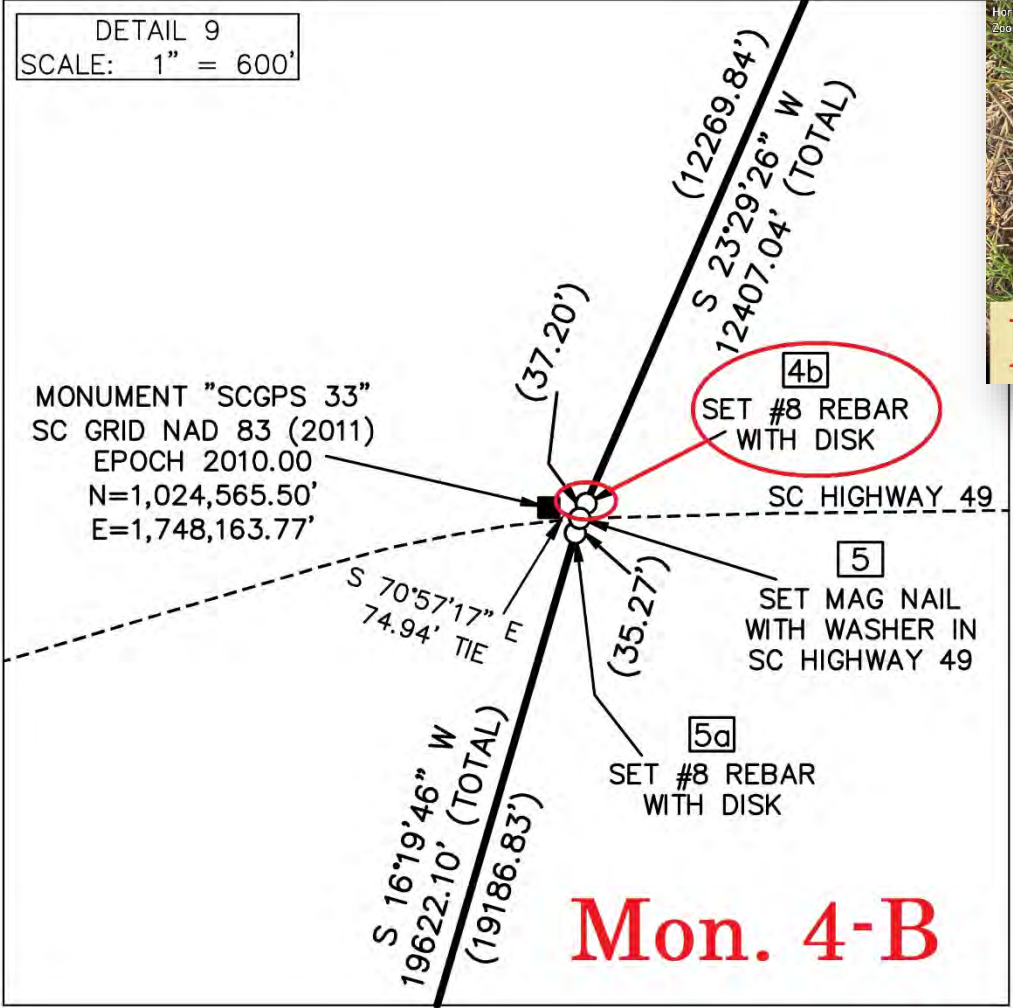


Mon. 3-F

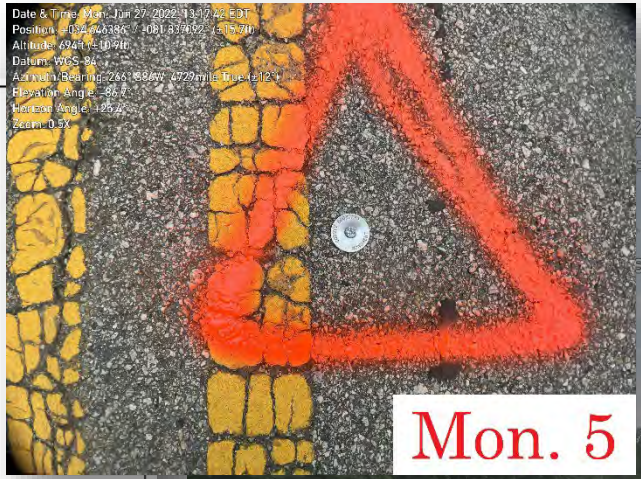
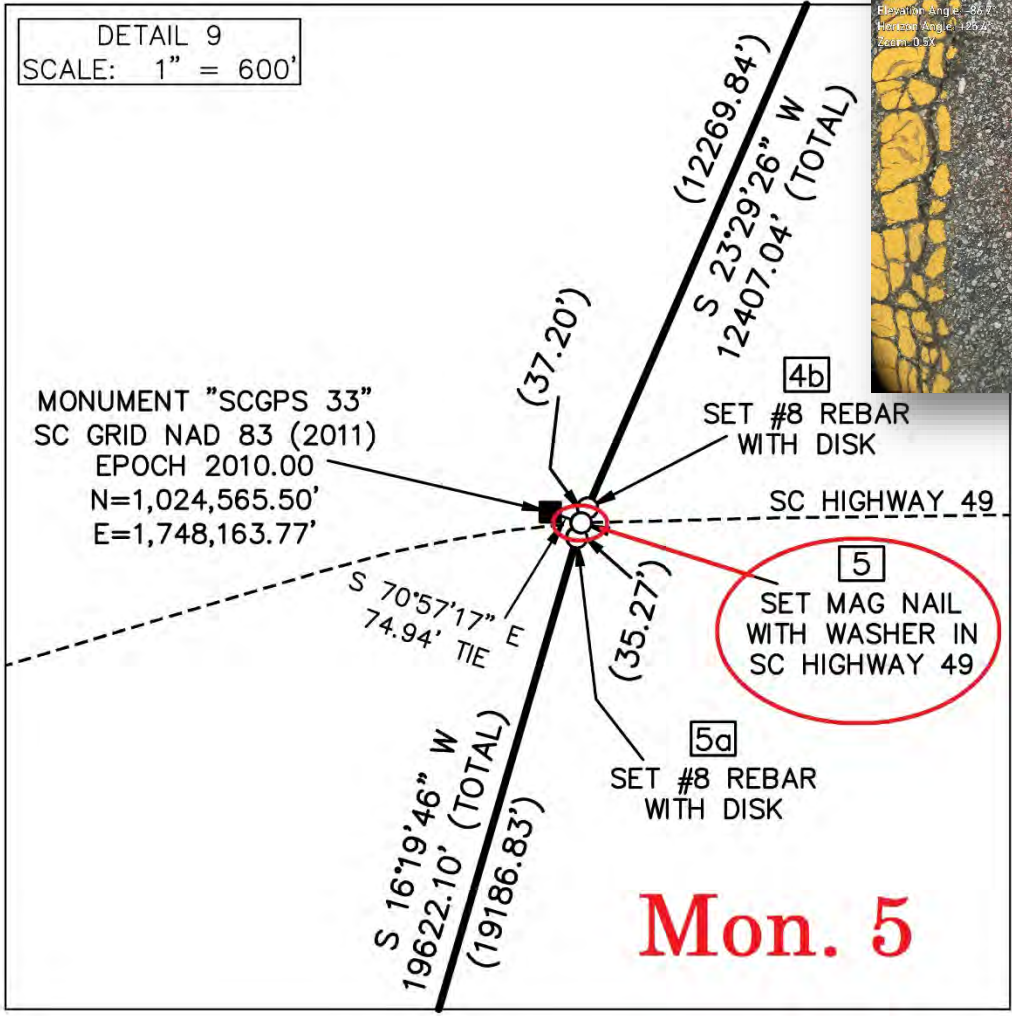
Spartanburg-Union County Line



Spartanburg-Union County Line



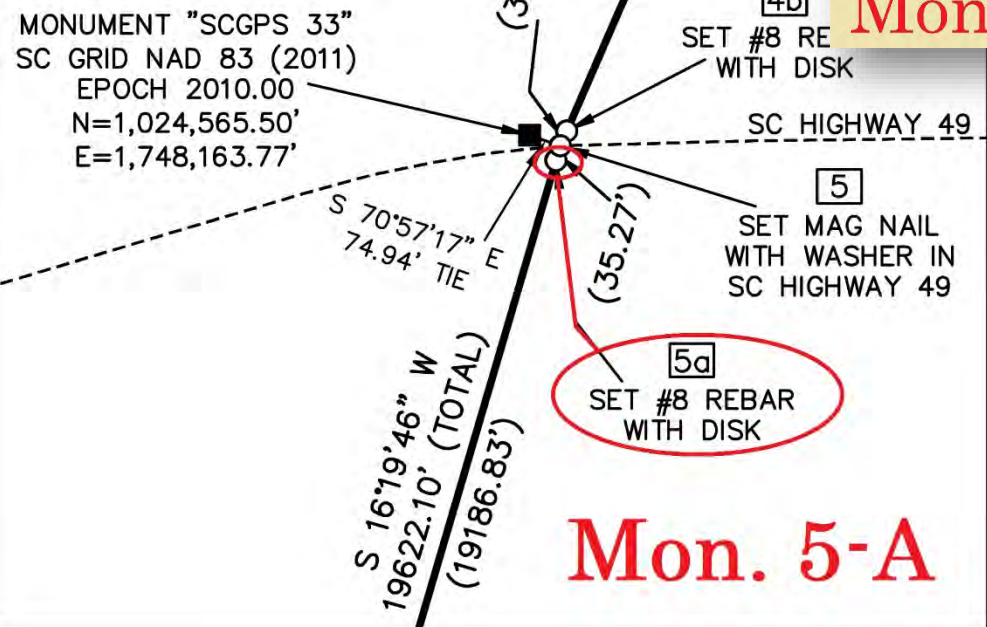
Spartanburg-Union County Line



Spartanburg-Union County Line

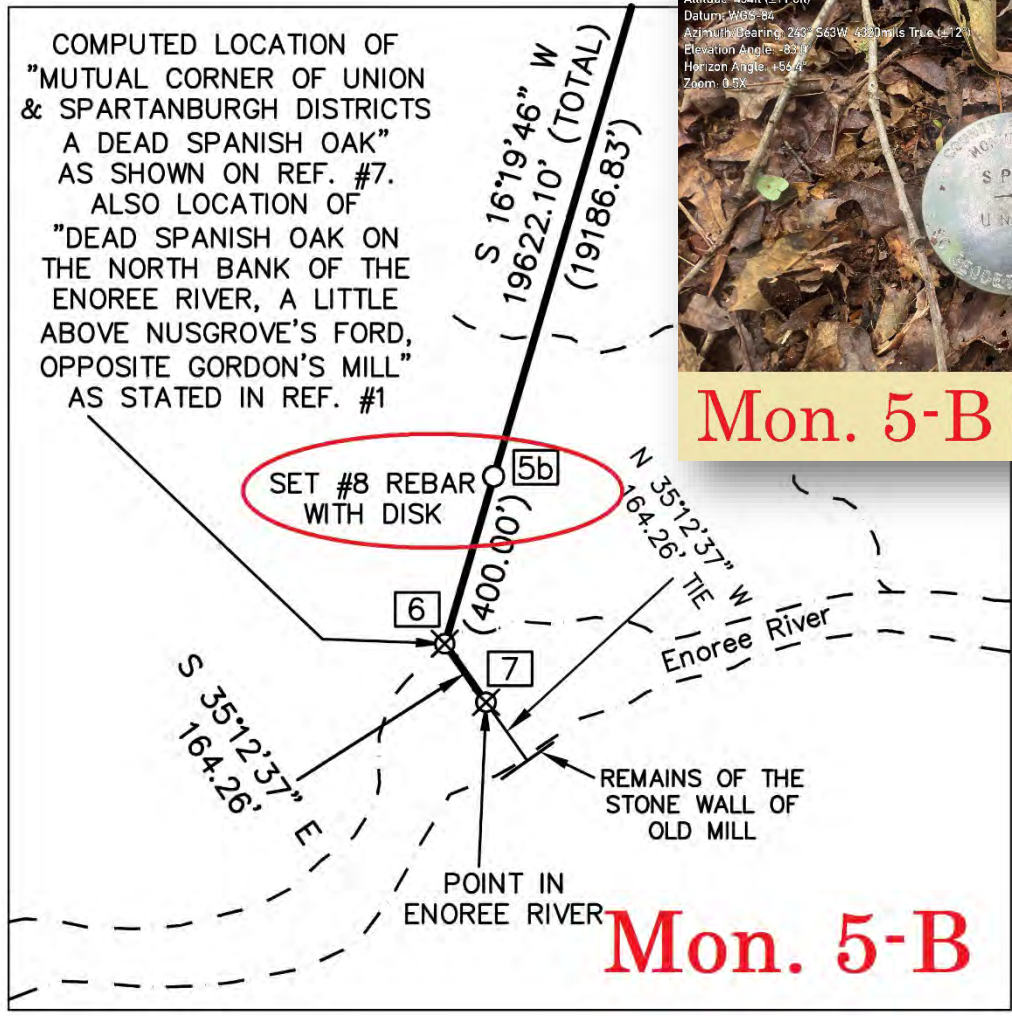


DETAIL 9
 SCALE: 1" = 600'



Spartanburg-Union County Line

COMPUTED LOCATION OF "MUTUAL CORNER OF UNION & SPARTANBURGH DISTRICTS A DEAD SPANISH OAK" AS SHOWN ON REF. #7.
 ALSO LOCATION OF "DEAD SPANISH OAK ON THE NORTH BANK OF THE ENOREE RIVER, A LITTLE ABOVE NUSGROVE'S FORD, OPPOSITE GORDON'S MILL" AS STATED IN REF. #1



Mon. 5-B

29. 2022. 14:47:48 EDT
 / -081 854566° (±15.5ft)
 S30W 3733mils True (±12°)



Mon. 5-B

WHAT HAPPENS NEXT:

- PUBLIC MEETING**
- CERTIFICATION OF PLAT**
- NOTIFY AFFECTED PARTIES**
- 60 DAY APPEAL WINDOW**
- RECORD/FILE PLAT UNDER COVER LETTER**
- DATE OF LETTER IS THE EFFECTIVE DATE OF THE BOUNDARY**

Project Page:

<https://rfa.sc.gov/programs-services/geodetic/county/Spartanburg-Union>

QUESTIONS?

Or Information You Would Like to Provide?

PLEASE CALL: [803-734-3793](tel:803-734-3793)

or EMAIL: boundary@rfa.sc.gov

**We Will Work to Address Questions Promptly or Direct
Questions to the Appropriate Agency or Jurisdictional Entity**

