

SPECIAL PROVISIONS FOR
PROTECTION OF RAILWAY INTEREST
North Carolina Department of Transportation
Norfolk Southern Railway Company

Archdale, Randolph/Guilford Counties
Milepost M-2.93 to Milepost M-3.25
NCDOT Project: 34843.2.1(U-2702)
Federal Aid Project: CMS-1595(1)

**Proposed Improvements to Surrett Drive (SR-1595) at its
Intersection With Eden Terrace Road (SR-1592) and
Corporation Drive.**

**1. AUTHORITY OF RAILROAD ENGINEER AND
NCDOT ENGINEER:**

The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of his Company including the adequacy of the foundations and structures supporting the Railroad tracks and the necessity for flagging during construction.

The authorized representative of the North Carolina Department of Transportation, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.

2. NOTICE OF STARTING WORK:

- A. The contractor shall not commence any work on railroad rights-of-way until he has complied with the following conditions:**
- a. Given the Railroad written notice, with copy to the Engineer who has been designated to be in charge of the work, at least ten days in advance of the date he proposes to begin work on Railroad rights-of-way.**

Office of Chief Engineer
Bridges & Structures
Norfolk Southern Corporation
1200 Peachtree Street, N.E.,
7th Floor
Atlanta, Georgia 30309

- b. Obtained written authorization from the Railroad to begin work on Railroad rights-of-way, such authorization to include an outline of specific conditions with which he must comply.
 - c. Obtained written approval from the Railroad of Railroad Protective Insurance Liability coverage as required by paragraph 14 herein.
 - d. Furnished a schedule for all work within the Railroad rights-of-way as required by paragraph 7,B,1.
- B. The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

3. INTERFERENCE WITH RAILROAD OPERATIONS:

- A. The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad Company. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service shall be deferred by the Contractor until the flagging service or inspection service required by the Railroad is available at the job site.
- B. Whenever work within Railroad rights-of-way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.
- C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Engineer, such provisions are insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the NCDOT.

4. TRACK CLEARANCES:

A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. However, before undertaking any work within Railroad right-of-way, or before placing any obstruction over any track, the Contractor shall:

- 1. Notify the Railroad's representative at least 72 hours in advance of the work.**
- 2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as may be necessary.**
- 3. Receive permission from the Railroad's representative to proceed with the work.**
- 4. Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.**

5. CONSTRUCTION PROCEDURES:

A. General:

Construction work and operations by the Contractor on Railroad property shall be:

- 1. Subject to the inspection and approval of the Railroad.**
- 2. In accord with the Railroad's written outline of specific conditions.**
- 3. In accord with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.**
- 4. In accord with these Special Provisions.**

B. Excavation:

The subgrade of an operated track shall be maintained with edge of berm at least 10'-0" from centerline of track and not more than 24-inches below top of rail. Contractor will not be required to make existing section meet this specification if substandard, in which case existing section will be maintained.

C. Excavation for Structures:

The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles

or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. All plans and calculations for shoring shall be prepared and signed by a Registered Professional Engineer. The Engineer will be responsible for the accuracy for all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions. The procedure for doing such work, including need of and plans and calculations for shoring shall first be approved by the Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.

D. Demolition. Erection, Hoisting

1. Railroad tracks and other railroad property must be protected from damage during the procedure.
2. The Contractor is required to submit a plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.
3. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted.
4. Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.
5. A data sheet must be submitted listing the types, size, and arrangements of all rigging and connection equipment.
6. A complete procedure is to be submitted, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.
7. All erection or demolition plans, procedures, data sheets, etc. submitted must be prepared, signed and sealed by a Registered Professional Engineer.

8. The Railroad's representative must be present at the site during the entire demolition and erection procedure period.
9. All procedures, plans and calculations shall first be approved by the Engineer and the Railroad Engineer, but such approval does not relieve the Contractor from liability.

E. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:
 - (a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.
 - (b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way radios.
 - (c) No blasting shall be done without the presence of an authorized representative of the Railroad. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2B) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.
 - (d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.
2. The Railroad representative will:
 - (a) Determine approximate location of trains and advise the Contractor the appropriate amount of time available for the blasting operation and clean up.

- (b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these special provisions.

F. Maintenance of Railroad Facilities:

1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor will promptly repair eroded areas within Railroad rights-of-way and repair any other damage to the property of the Railroad or its tenants.
2. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

G. Storage of Materials and Equipment:

Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights-of-way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

H. Cleanup:

Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights-of-way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights-of-way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

6. DAMAGES:

- A. The Contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by Railroad traffic.
- B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7. **FLAGGING SERVICES:**

A. **When Required:**

Under the terms of the agreement between the NCDOT and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are or are likely to be, working on the Railroad's right-of-way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required full time until the project has been completed.

B. **Scheduling and Notification:**

- 1. The Contractor's work requiring railroad flagging should be scheduled to limit the presence of a flagman at the site to a maximum of 50 hours per week. The Contractor shall receive Railroad approval of work schedules requiring a flagman's presence in excess of 40 hours per week.
- 2.. Not later than the time that approval is initially requested to begin work on Railroad right-of-way, Contractor shall furnish to the Railroad and the NCDOT a schedule for all work required to complete the portion of the project within Railroad right-of-way and arrange for a job site meeting between the Contractor, the NCDOT, and the Railroad's

authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.

3. The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Railroad right-of-way in accordance with this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen, is present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days notice before flagging service may be discontinued and responsibility for payment stopped.
- 4.. If, after the flagman is assigned to the project site, an emergency arises that requires the flagman's presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the NCDOT or Railroad.

C. Payment:

1. The NCDOT will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction.
2. The estimated cost of flagging is \$650 per day based on a 10-hour workday. This cost includes the base pay for the flagman, overhead, and includes an estimated \$50 per diem charge for travel expenses, meals and lodging. The charge to the NCDOT by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.

3. Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 and 1/2 times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 and 1/2 times the normal rate.
4. Railroad work involved in preparing and handling bills will also be charged to the NCDOT. Charges to the NCDOT by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging costs are provided for information only and are not binding in any way.

D. Verification:

1. The Contractor and NCDOT will review and sign the Railroad flagman's time sheet (Form 11123), attesting that the flagman was present during the time recorded. Flagmen may be removed by the Railroad if form is not signed. If flagman is removed, the Contractor will not be allowed to re-enter the Railroad right-of-way until the issue is resolved. Any complaints concerning flagman or flagmen must be resolved in a timely manner. If need for flagman or flagmen is questioned, please contact Railroad's System Engineer Public Improvements (404) 529-1641. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Highway Engineer. Address all written correspondence to:

<p>Office of Chief Engineer Bridges & Structures Norfolk Southern Corporation 1200 Peachtree Street, N.E., 7th Floor Atlanta, Georgia 30309</p>	<p>Attn: T. D. Wyatt System Engineer Public Improvements</p>
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2. The Railroad flagman assigned to the project will be responsible for notifying the Project Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Project Engineer will document such notification in the project records. When requested, the Project Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD:

- A. Where the plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the NCDOT has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to bear all costs incidental to such crossings whether services are performed by his own forces or by Railroad personnel.**
- B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, until a private crossing agreement has been executed between the Contractor and Railroad.**

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

- A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the NCDOT and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the NCDOT and/or the Railroad.**
- B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.**

10. COOPERATION AND DELAYS:

- A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.**
- B. No charge or claim of the Contractor against either the NCDOT or the Railroad Company will be allowed for hindrance or delay on account of railway traffic; any work done by the Railway Company or other delay incident to or necessary for safe maintenance of railway traffic or for any delays due to compliance with these special provisions.**

11. TRAINMAN'S WALKWAYS:

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railway's protective service is provided shall be removed before the close of each work day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed.

12. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHT-OF-WAY:

- A. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.**
- B. No one is allowed within 25' of the centerline of track without specific authorization from the flagman.**
- C. All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.**
- D. No one is allowed to cross tracks without specific authorization from the flagman.**
- E. All welders and cutting torches working within 25' of track must stop when train is passing.**
- F. No steel tape or chain will be allowed to cross or touch rails without permission.**

13. GUIDELINES EQUIPMENT ON RAILROAD RIGHT-OF-WAY:

- A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from railroad official and flagman.**
- B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.**
- C. All employees will stay with their machines when crane or boom equipment is pointed toward track.**

- D. All cranes and boom equipment under load will stop work while train is passing (including pile driving).**
- E. Swinging loads must be secured to prevent movement while train is passing.**
- F. No loads will be suspended above a moving train.**
- G. No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.**
- H. Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.**
- I. No equipment or load movement within 25' or above a standing train or railroad equipment without specific authorization of the flagman.**
- J. All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.**
- K. All equipment, loads and cables are prohibited from touching rails.**
- L. While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.**
- M. No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.**
- N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.**
- O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.**

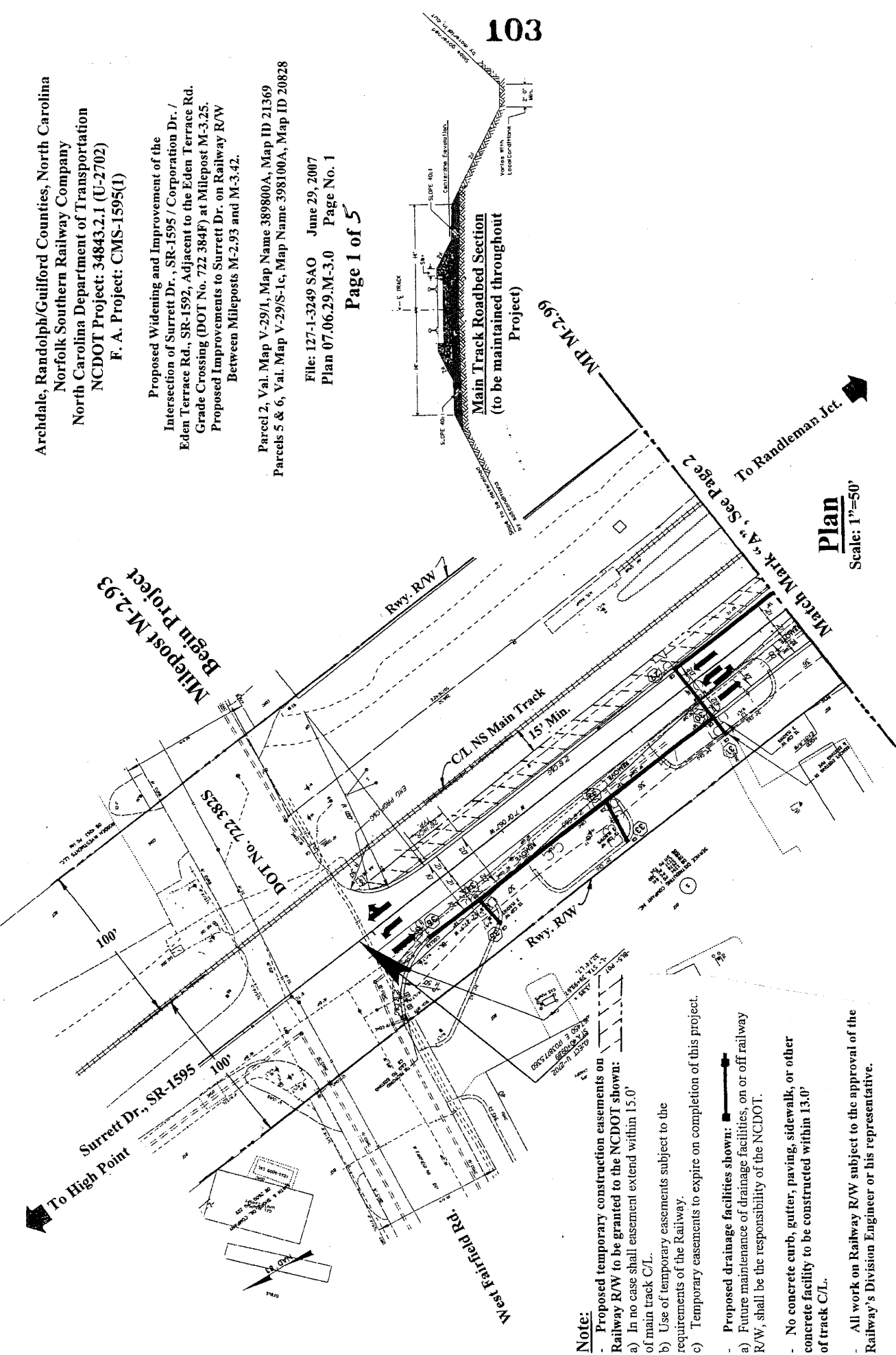
Archdale, Randolph/Guilford Counties, North Carolina
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Proposed Widening and Improvement of the
 Intersection of Surratt Dr., SR-1595 / Corporation Dr. /
 Eden Terrace Rd., SR-1592, Adjacent to the Eden Terrace Rd.
 Grade Crossing (DOT No. 722 384F) at Milepost M-3.25.
 Proposed Improvements to Surratt Dr. on Railway R/W
 Between Mileposts M-2.93 and M-3.42.

Parcel 2, Val. Map V-29/1, Map Name 389800A, Map ID 21369
 Parcels 5 & 6, Val. Map V-29/S-1c, Map Name 398100A, Map ID 20828

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 Plan 07.06.29.M-3.0 Page No. 1

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- Note:**
- Proposed temporary construction easements on Railway R/W to be granted to the NCDOT shown:
 - a) In no case shall easement extend within 15.0' of main track C/L.
 - b) Use of temporary easements subject to the requirements of the Railway.
 - c) Temporary easements to expire on completion of this project.
 - Proposed drainage facilities shown:
 - a) Future maintenance of drainage facilities, on or off railway R/W, shall be the responsibility of the NCDOT.
 - No concrete curb, gutter, paving, sidewalk, or other concrete facility to be constructed within 13.0' of track C/L.
 - All work on Railway R/W subject to the approval of the Railway's Division Engineer or his representative.

Plan
 Scale: 1"=50'

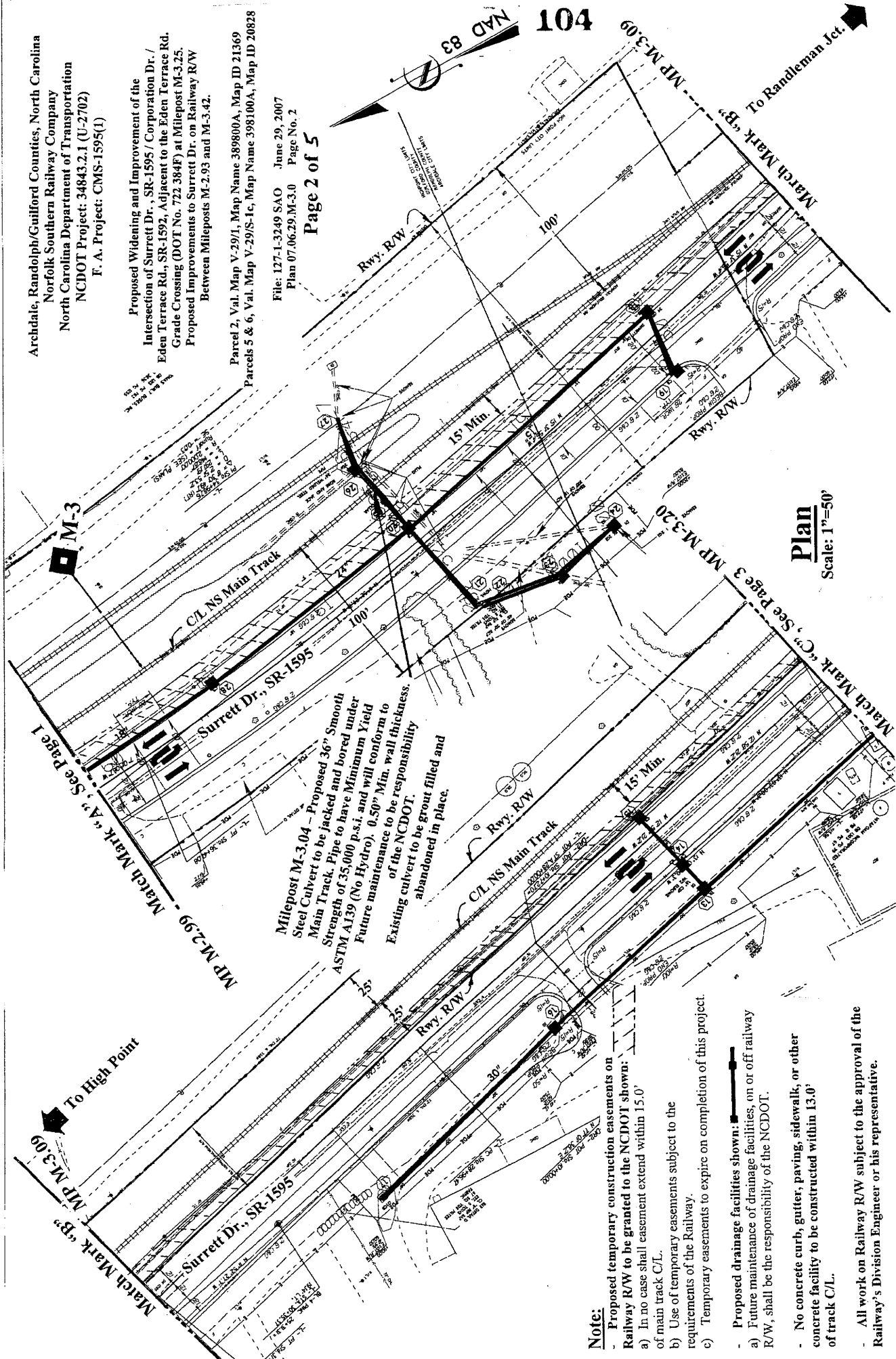
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Milepost M-3.04 - Proposed 36" Smooth
 Steel Culvert to be jacked and bored under
 Main Track. Pipe to have Minimum Yield
 Strength of 35,000 p.s.i. and will conform to
 ASTM A139 (No Hydro). 0.50" Min. wall thickness.
 Future maintenance to be responsibility
 of the NCDOT.
 Existing culvert to be grout filled and
 abandoned in place.

Plan
 Scale: 1"=50'

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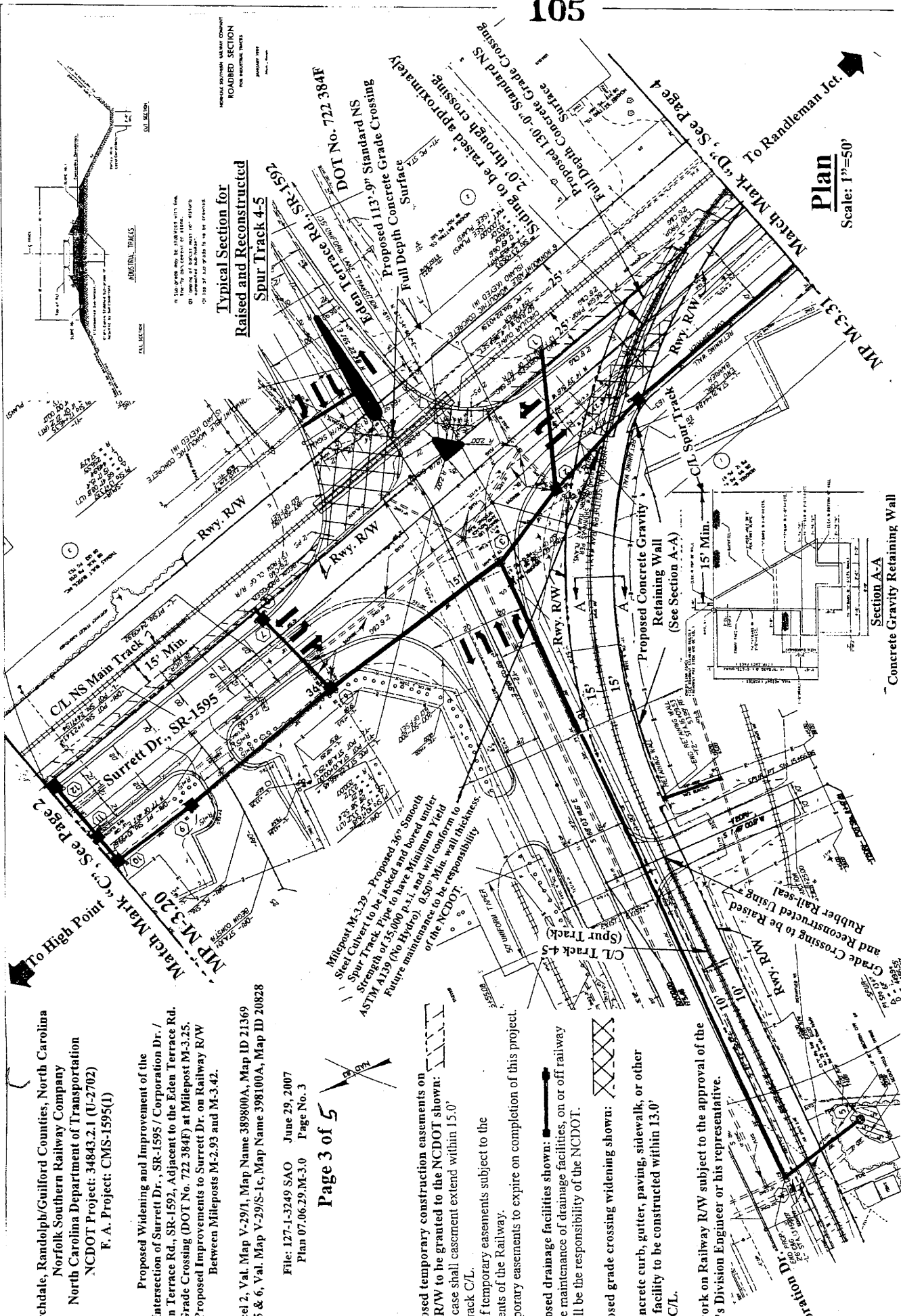
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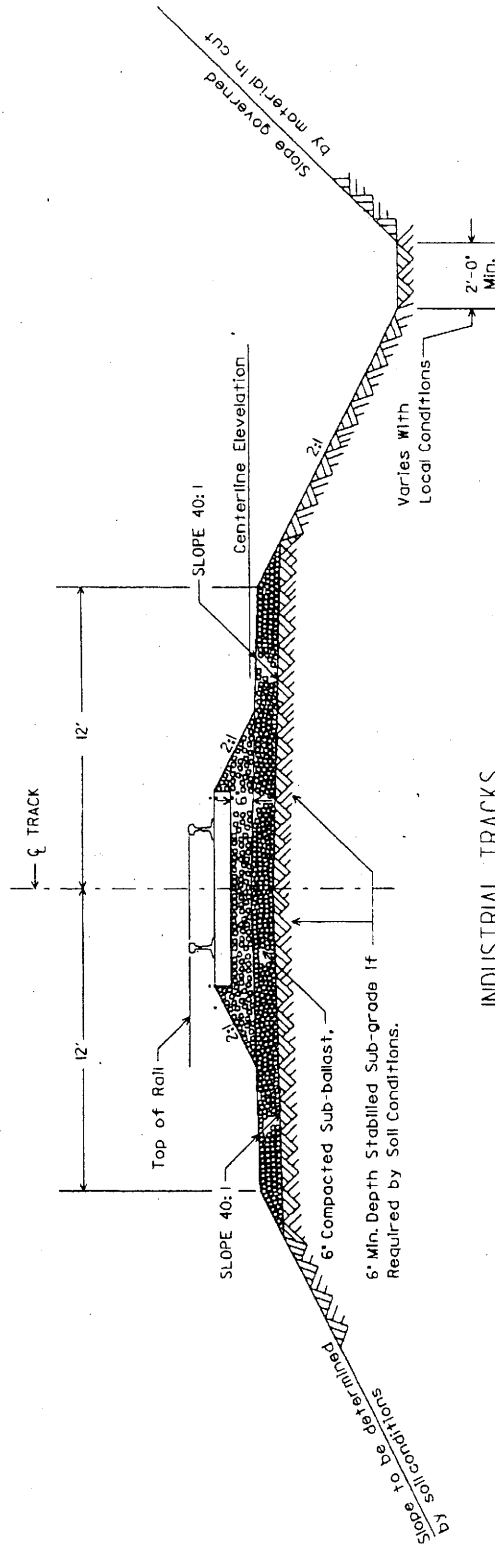
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 - a) Future maintenance of drainage facilities, on or off railway R/W, shall be the responsibility of the NCDOT.
- Proposed grade crossing widening shown:
 - No concrete curb, gutter, paving, sidewalk, or other concrete facility to be constructed within 13.0' of track C/L.
- All work on Railway R/W subject to the approval of the Railway's Division Engineer or his representative.



Plan
 Scale: 1"=50'

Section A-A
 Concrete Gravity Retaining Wall



FILL SECTION

CUT SECTION

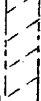

INDUSTRIAL TRACKS

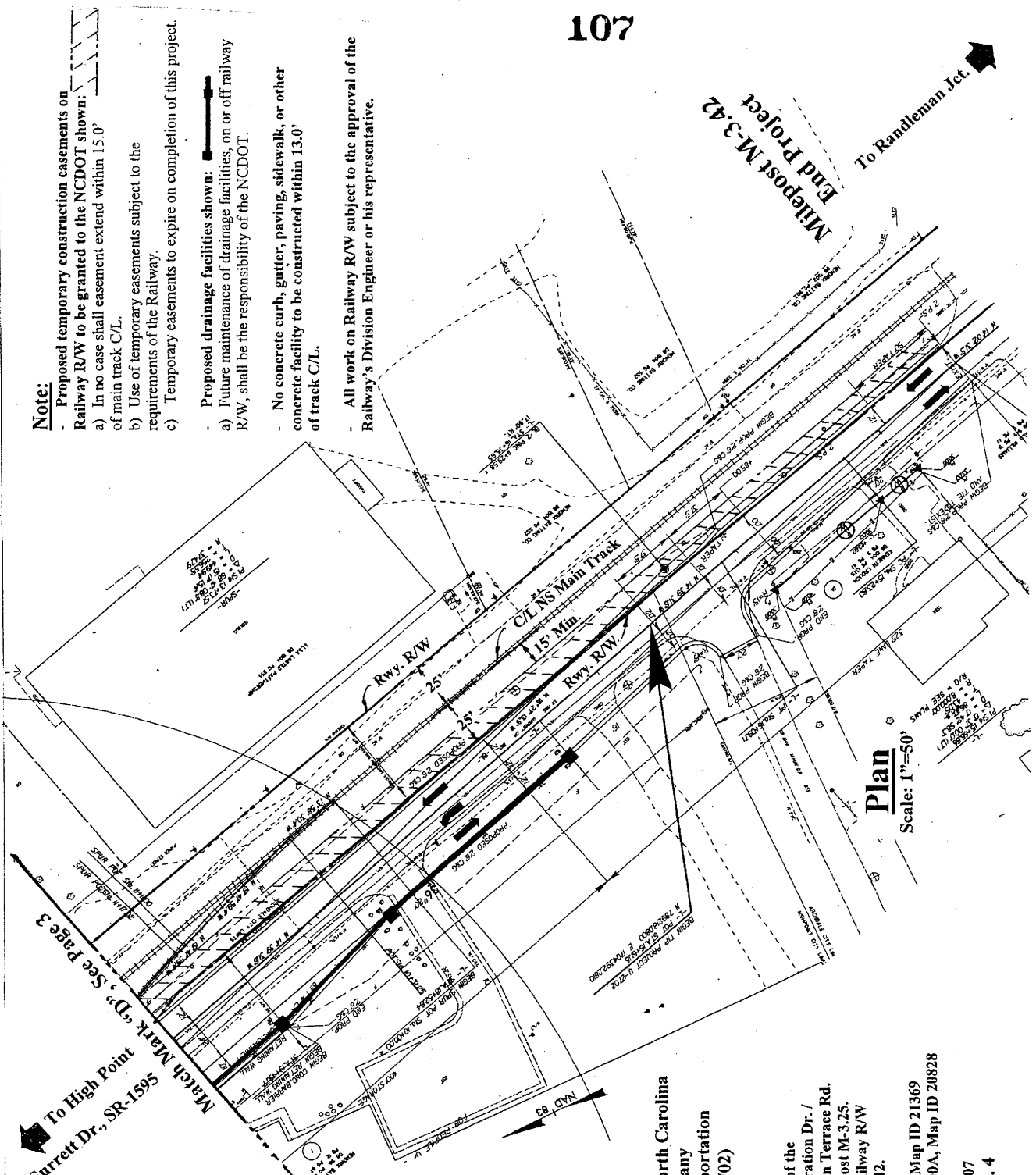
- (1) Sub-grade may be stabilized with lime, lime-fly ash, cement or stone.
- (2) Tamping of ballast must not disturb compacted sub-ballast.
- (3) Top of sub-grade is to be crowned.

NORFOLK SOUTHERN RAILWAY COMPANY
ROADBED SECTION
 FOR INDUSTRIAL TRACKS
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 JANUARY 1989
 Atlanta, Georgia

DATE	
REVISION	

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To Randleman Jct. 

To High Point
Surrett Dr., SR-1595
Match Mark (D) See Page 3

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Section GA - Graded Aggregate

GA-1 Description

The Work shall consist of furnishing and installing graded aggregate as shown on the plans or as directed by the Engineer.

GA-2 General Conditions

- A. Three categories of graded aggregates are covered by this specification:
 - A - Clean filter aggregate for use as backfill for trench drains, or drainage material for underdrain systems (2 sizes).
 - A1 - Coarse filter aggregate
 - A2 - Fine filter aggregate
 - B - Dense graded aggregate for use as roadway/pavement subbase, railroad subballast, structural bedding, or culvert bedding.
 - C - Large graded aggregate for use as erosion protection, channel lining, and armor stone (3 sizes).
 - C1 - 3 inch erosion stone.
 - C2 - Small riprap, sized 6 inches to 18 inches, up to 200 pounds.
 - C3 - Large riprap, sized 18 inches to 36 inches, up to 4000 pounds.
 - C4 - Surge stone (shot rock)
- B. Railroad ballast for use in track structure (2 sizes) - Shall conform to the requirements of Section BA - Ballast of the Specifications.
- C. The Contractor shall furnish a certification of compliance stating that the material meets or exceeds the requirements of the specification.
- D. All graded aggregate shall be approved by the Engineer prior to installation.
- E. Only those aggregate sources which are fully certified to produce material for the local State Department of Transportation are to be utilized, unless prior approval is obtained from the Company.
- F. Graded aggregates subject to on site stockpiling prior to placement shall be reblended as directed by the Engineer to ensure compliance with the original gradation specified.

GA-3 Materials

A. Category A material shall meet the following specification:

1. Clean filter aggregate consists of 2 types:

A1 - Coarse filter aggregate shall comply with either AASHTO gradations No. 67, No. 7, or No. 78, as shown in Appendix A, Table 1.

A2 - Fine filter aggregate shall comply with AASHTO gradation No. 10, as shown in Appendix A, Table 1, modified to have no more than 5 percent passing No. 200 Sieve. Permeability will be at least 0.05 cm/sec as measured by AASHTO T 215.

2. Material will be produced from sound rock or naturally occurring deposits, and will be free from organics and deleterious material as defined by AASHTO T 112.

B. Category B material shall meet the following specification:

1. Dense graded aggregate shall comply with the NS gradation as shown in Appendix A, Table 2. This gradation may be modified at the discretion of the Engineer to accommodate locally produced dense graded aggregate (aggregate base) that complies with local State Department of Transportation specifications.

2. Material shall be produced from sound rock or naturally occurring deposits, and shall be free from organics and deleterious material as defined by AASHTO T 112. The material must not have a Liquid Limit (LL) in excess of 25 (AASHTO T 89), or a Plasticity Index (PI) in excess of 6 (AASHTO T 90).

3. Original source of the dense graded aggregate shall have a Percentage of Wear (LA Abrasion) no greater than 50 percent (AASHTO T 96).

C. Category C material shall meet the following specification:

1. Large graded aggregate consists of 4 types:

C1 - 3 inch erosion stone shall comply with AASHTO gradation No. 1, as shown in Appendix A, Table 3.

- C2 - Small riprap shall consist of reasonably well graded pieces sized up to 2 cubic feet, with not more than 10 percent passing a 5 inch square screen. Weight will typically be between 10 and 200 pounds.
 - C3 - Large riprap shall consist of reasonably well graded pieces sized up to 1 cubic yard, with not more than 10 percent passing 12 inch square screen. Weight will typically be between 200 and 4000 pounds.
 - C4 - Surge Stone (shot rock) shall consist of quarry production material that is unsorted and may contain variable sized pieces and rock fines. The Engineer will determine if the size range of material from a particular source is appropriate for usage on the individual project.
2. Material shall be produced from sound durable rock with a specific gravity of at least 2.50. Percentage of Wear (L.A. Abrasion) not greater than 50 percent (AASHTO T 96). The material shall be free of cracks, soft seams, or other structural defects. The pieces shall be roughly angular and shall be reasonably free from thin, flat or elongated pieces. Types C1, C2, and C3 will be relatively free of dust and fines.
 3. As shown on project plans or as directed by the Engineer, rock excavated on site as part of the project may be utilized provided that it meets the requirements of this specification section.

GA-4 Delivery

- A. Unless otherwise specified by project contract, the Contractor shall be responsible for furnishing graded aggregate.
- B. If graded aggregate is specified by project contract to be furnished by the Company, it shall be delivered to the nearest available track (as determined by the Company) in Company owned gondola or hopper cars. The Contractor shall be responsible for prompt unloading of the cars and for the transport of the material to the job site for installation or stockpiling.
- C. The Engineer, or person(s) designated by the Engineer, shall collect quarry tickets for each load of graded aggregate used at the job site.
- D. The Engineer may refuse acceptance, at no cost to the Company, if it is determined by testing that the material being supplied is unsuitable or visibly not within specifications.

GA-5 Installation

- A. All categories of graded aggregate shall be placed in accordance to project plans, using standard construction practices and equipment. Changes or substitutions must be approved in advance of installation by the Engineer.
- B. Category A materials shall be installed as follows:

1. Filter materials shall be placed and fully compacted in lifts not to exceed 6 inches in thickness following compaction.
2. When used in combination, care shall be taken not to mix types A1 and A2 during installation.
3. Filter materials contaminated by native soils during installation shall be removed. Soil infiltration of the Filter materials by the overlaying soil or subgrade course shall not be considered contamination.

C. Category B material shall be installed as follows:

1. Material shall be placed and fully compacted in lifts not to exceed 6 inches in thickness following compaction.
2. Compaction shall be 100 percent of Standard Proctor based on the compaction test methods of AASHTO T-180. The Engineer shall, at the Company's expense, conduct field density tests to verify compaction.
3. Moisture content shall be controlled as necessary to obtain specified densities. Water shall be added when in the opinion of the Engineer, added moisture is necessary to obtain desired density. When the material is too wet to obtain desired density, the material shall be worked by discing, harrowing, or other means to dry the material to a workable moisture content. Tolerance shall be plus or minus 2 percent from optimum moisture.

Delivery of crushed stone furnished by the Contractor may be refused at no cost to the Company, if, in the opinion of the Engineer, the moisture content is excessive. If pugmill is used, the Engineer shall be furnished the results of moisture content tests performed at the quarry to determine the average moisture content. Weight shall be deducted from the quarry tickets for any moisture content over 6 percent.

4. Finished dense graded aggregate layer shall conform to the depth, width, and slope specified in the typical section(s) shown on the plans. Construction tolerances for the final surface of the dense graded aggregate layer shall be plus or minus 0.025 foot of planned elevation, unless otherwise shown on the plans, and shall be free of ruts and depressions. The Contractor shall be required to mill the final surface if deemed necessary by the Engineer to obtain specified section.
 5. Damage to completed dense graded aggregate layer caused by the Contractor during subsequent operations shall be repaired by the Contractor at his expense prior to acceptance of work by the Company. This shall include, but is not limited to, rutting, disintegrating stone shoulders, inter-mixing of foreign materials, or disturbance of finished surface layer to the extent that the material fails to achieve specified density.
- D. Category C material shall be installed as follows:

1. Prior to placement, subgrade or existing ground surface shall be excavated or regraded to conform with slopes and elevations specified in the plans. Any existing washes, ruts, or voids shall be filled and compacted to provide a uniform placement surface.
2. On slopes the material shall be placed in horizontal layers, roughly perpendicular to the slope. Category C materials shall not be placed on slopes steeper than their natural angle of repose.
3. Material shall be placed so that the random sized pieces are evenly distributed and "pockets" of excessively small or large material are avoided. The Engineer shall require redistribution of material if necessary.
4. Material layer thickness shall be uniform, and follow the plan lines as closely as possible. Thickness tolerances will be plus or minus 3 inches. This may be altered at the discretion of the Engineer to account for material size variations.
5. If placement of an engineering fabric beneath material is specified on the plans, it shall be installed in compliance with Section EF - Engineering Fabrics of these Specifications. Placement of material on fabric shall be done in a manner that shall not damage or destroy the fabric. The Contractor shall be responsible for repairs to the fabric if it is damaged.

GA - Graded Aggregate Appendix A

Table 1 - Gradation for Clean Filter Aggregate (Category A)

Type	Percent Passing Standard Sieve Size by Weight								
A1	1"	3/4"	1/2"	3/8"	#4	#8	#16	#100	#200
#67	100	90-100	....	20-55	0-10	0-5	....	....	....
#7	....	100	90-100	40-70	0-15	0-5	....	....	....
#78	....	100	90-100	40-75	5-25	0-10	0-5	....	....
A2	1"	3/4"	1/2"	3/8"	#4	#8	#16	#100	#200
#10	....	....	....	100	85-100	....	....	10-30	(0-5)*

*Company specification requirement

Table 2 - Gradation for Dense Graded Aggregate (Category B)

Type	Percent Passing Standard Sieve Size by Weight					
B	2"	1"	3/8"	#10	#40	#200
DGA*	100	90-100	50-84	26-50	12-30	5-12

*Dense graded aggregate

Table 3 - Gradation for Large Graded Aggregate (Category C)

Type	Percent Passing Standard Sieve Size by Weight							
C	4"	3 1/2"	3"	2 1/2"	2"	1 1/2"	1"	3/4"
C1	100	90-100	....	25-60	....	0-15	....	0-5

END OF SECTION

**SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST
NORFOLK SOUTHERN RAILWAY COMPANY** 09/06

14 **INSURANCE:** State Project: 34843.3.1, U-2702 County: Randolph/Guilford

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to provide coverage conforming to the requirements of the Federal-Aid Policy Guide outlined under 23 CFR 646A for all work to be performed on Railroad right(s) of way by carrying insurance of the following kinds and amounts:

1. **CONTRACTOR'S COMMERCIAL GENERAL LIABILITY INSURANCE:**

The Contractor shall furnish an original and one copy of the certificate of insurance and one certified copy of the policy to the Department as evidence that, with respect to the operations he performs on railroad right of way, he carries regular Commercial General Liability Insurance having a combined single limit of not less than \$2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include explosion, collapse, and underground hazard (XCU) coverage, shall be endorsed to name Railroad specified in item A.2.c. below as an additional insured, and shall include a severability of interests provision.

2. **RAILROAD PROTECTIVE LIABILITY INSURANCE:**

The Contractor shall furnish to the Department an original and one duplicate of the Railroad Protective Liability Insurance having a combined single limit of not less than \$2,000,000 each occurrence and \$6,000,000 in the aggregate applying separately to each annual period. If the project involves track over which passenger trains operate, the insurance limits required are not less than a combined single limit of \$5,000,000 each occurrence and \$10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

The standards for the Railroad Protective Liability Insurance are as follows:

- a. The insurer must be rated A- or better by A.M. Best Company, Inc.
- b. The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:
- c.
 - (1) CG 00 35 01 96 and CG 28 31 10 93; or
 - (2) CG 00 35 07 98 and CG 28 31 07 98; or
 - (3) CG 00 35 10 01; or
 - (4) CG 00 35 12 04.

- d. The named insured shall read:
 Norfolk Southern Railway Company
 Three Commercial Place
 Norfolk, Virginia 23510-2191
 Attn: D. W. Fries, Director Risk Management
- e. The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Department project and contract identification numbers.

The Description and Designation shall read: **All construction within the railroad right of way on project 34843.3.1, U-2702-on Surrett Dr and Eden Terrace Road in Randolph and Guilford Counties, NC.**

- f. The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number.
- g. The name and address of the prime contractor must appear on the Declarations.
- h. The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."
- i. Other endorsements/forms that will be accepted are:
- (1) Broad Form Nuclear Exclusion – Form IL 00 21
 - (2) 30-day Advance Notice of Non-renewal or cancellation
 - (3) 60- day written notice be given the Department prior to cancellation or change
 - (4) Quick Reference or Index Form CL/IL 240
- j. Endorsements/forms that are **NOT** acceptable are:
- (1) Any Pollution Exclusion Endorsement except CG 28 31
 - (2) Any Punitive or Exemplary Damages Exclusion
 - (3) Known injury or Damage Exclusion form CG 00 59
 - (4) Any Common Policy Conditions form
 - (5) Any other endorsement/form not specifically authorized in item no. 2.h above.

- B. Prior to entry on Railroad right-of-way, the original and one duplicate copy of the Railroad Protective Liability Insurance Policy shall be submitted by the Prime Contractor to the Department at the address below for its review and transmittal to the Railroad. In addition, certificates of insurance evidencing the Prime Contractor's Commercial General Liability Insurance shall be issued to the Railroad and the Department at the addresses below, and one certified copy of the Prime Contractor's policy is to be forwarded to the Department for its review and transmittal to the Railroad. All policies and certificates of insurance shall state that the insurance coverage will not be suspended, voided, canceled, or reduced in coverage or limits without (30) days advance written notice to Railroad and the Department. No work will be permitted by Railroad on its right-of-way until it has reviewed and approved the evidence of insurance required herein.

DEPARTMENT:

Department of Transportation
 Utilities Coordination Unit
 C/O Mr. David Hinnant, State Railroad Agent
 1591 Mail Service Center
 Raleigh, NC 27699-1591

RAILROAD:

Mr. D. W. Fries, ARM
 Director Risk Management
 Norfolk Southern Railway Company
 Three Commercial Place
 Norfolk, Virginia 23510-2191

- C. The insurance required herein shall not limit the obligations of Department or its Contractors under the terms of this agreement.
- D. All insurance herein before specified shall be carried until the final inspection and acceptance of the project, or that portion of the project within railroad right of way, by the Department or, in the case of subcontractors, until the Contractor furnishes a letter to the Engineer stating that the subcontractor has completed his subcontracted work within railroad right of way to the satisfaction of the Contractor and that the Contractor will accomplish any additional work necessary on railroad right of way with his own forces. It is understood that the amounts specified are minimum amounts and that the Contractor may carry insurance in larger amounts if he so desires. As to "aggregate limits", if the insurer establishes loss reserves equal to or in excess of the aggregate limit specified in any of the required insurance policies, Contractor shall immediately notify the Department of Transportation and shall cease all operations until the aggregate limit is reinstated. If the insurer establishes loss reserves equal to or in excess of one/half of the aggregate limit, Contractor shall arrange to restore the aggregate limit to at least the minimum amount stated in these requirements. Any insurance policies and certificates taken out and furnished due to these requirements shall be approved by the Department and the Railroad Company as to form and amount prior to beginning work on railroad right of way.

15. FAILURE TO COMPLY:

- A. In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:
- (1) The Railroad Engineer may require that the Contractor vacate Railroad property.
 - (2) The Engineer may withhold all monies due the Contractor on monthly statements.

Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

16. PAYMENT FOR COST OF COMPLIANCE:

- A. No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such cost shall be included in prices bid for other items of the work as specified in the payment items.

RAILROAD SITE DATA:

The following information is provided as a convenience to the Contractor. This information is subject to change and the Contractor should contact the Railroad to verify the accuracy. Since this information is shown as a convenience to the Contractor but is subject to change, the Contractor shall have no claims whatsoever against either the Railroad or the Department of Transportation for any delays or additional costs incurred based on changes in this information.

Number of tracks	-	<u>1</u>
Number of trains per day	-	<u>4</u>
Maximum speed of trains	-	<u>10mph</u>