## SITE SUMMARY

#### 24 HOUR CONTACT: TBD

PRIMARY PERMITTEE:

City of Valdosta

Ben O'Dowd 300 N. Lee Street

Valdosta, GA 31601 bodowd@valdostacity.com 229-259-3530

**TOTAL SITE AREA (ACRES):** ±14.1 Acres TOTAL DISTURBED AREA (ACRES): ±14.1 Acres

#### SITE NAME and DESCRIPTION OF CONSTRUCTION ACTIVITY:

Old Clyattville Road Widening

The proposed site is located along a portion of Old Clyattville Road between Gil Harbin and Mud Swamp (Begin N: 30.803144 W: 83-291143, End N: 30.794780 W: 83.285504) in Lowndes County, Valdosta, Georgia. The site is currently an existing highway.. There are jurisdictional wetlands on the site. The proposed work includes clearing, grading, road construction, and installation of infrastructure. A portion of the site is within a 100-year flood plain. The site is in Land Lot 29 & 34 of the 11th Land District. The project is proposed to begin in January 2024 with project completion estimated in January 2025.

#### NAME OF INITIAL RECEIVING WATER:

 City of Valdosta Storm System Mud Swamp Basin

#### WATER QUALITY SAMPLING LOCATIONS:

Location #1-Outfall of Structure A-1 A turbidity limit of 50 NTUs has been established for this location based on the

- ollowina criteria: Warm Water Fishery
- Construction Site Size: 10.01 25 ACRES
- Surface water drainage area: 0-4.99 mi<sup>2</sup>

#### RUNOFF COEFFICIENT OR PEAK FLOW:

POST-DEVELOPMENT= 88

PRE-DEVELOPMENT= 88

# **GENERAL ESPC NOTES**

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

#### ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits.

The design professional who prepared the ES&PC plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs, and sediment basins within 7

Amendments/revisions to the ES&PC plan which have a significant effect on BMPs with a

hydraulic component must be certified by the design professional. Waste materials shall not be discharged to waters of the State, except as authorized

by a Section 404 permit. This ES&PC plan is in compliance with waste disposal, sanitary sewer, or septic tank

All construction shall be in accordance with City of Valdosta standards and specifications.

All erosion control measures shall be inspected by the contractor daily. Any damages observed shall be repaired by the end of that day.

Contractor shall be responsible for installing the minimum required erosion control measures as shown on plans. Contractor is also responsible for ensuring compliance with NPDES law. . The contractor is to verify all elevations of proposed structures as shown to ensure positive drainage prior to any construction.

13. ADDITIONAL EROSIÓN CONTROL MEASURES MAY BE REQUIRED BY FIELD INSPECTOR.

. Upon completion of the project and receipt of certificate of occupancy, the contractor shall remove all temporary erosion control measures and dispose of them unless noted on plans.

## **EROSION AND SEDIMENT CONTROLS**

SEQUENCE OF MAJOR ACTIVITIES: Initial sediment storage requirements and perimeter control

- Clearing, grubbing, rough grading
- Maintenance of best management practices on-going throughout project
- Demolition of existing structures Intermediate grading and drainage BMPs
- Infrastructure construction
- Final grading

#### **BUFFER ENCROACHMENTS:**

- A Buffer Encroachment is not needed for this project.
- A Buffer variance is not required for this project.

For common drainage locations a temporary (or permanent) sediment basin providing at least" 1800 cubic feet (67 cubic yards) of storage per acre drained, or equivalent control measures, shall be provided until final stabilization of the site." Implementation and maintenance of sediment basins shall be conducted according to paragraph IV.D.3.a.(3) of Permit GAR 100002.

or REASON WHY NOT INSTALLED

#### STABILIZATION MEASURES

A stabilized construction exit (Co) shall be provided to help reduce vehicle tracking of sediments. Paved streets used to access the site and those within shall be swept as needed to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling material from the construction site shall be covered with tarpaulins. Silt fencing (Sd1) shall be utilized downstream of all disturbed areas. Temporary sediment traps (Sd2) shall be installed around all stormwater structures. Check dams (Cd) shall be installed in areas of concentrated flow. Dust control (Du) shall be utilized on all disturbed areas. Temporary and permanent grassing (Ds2, Ds3) shall be applied according to the schedule shown in the specifications for the practice. Stabilization measures shall be initiated as soon as practicable but in no case later than 14 days after construction has temporarily or permanently ceased.

#### POST-CONSTRUCTION BMPs

Stormwater detention ponds and vegetated swales are permanent measures that will be installed to control pollutants after construction operations are complete. Velocity dissipation devices will be placed at discharge locations and along the length of any outflow channel in order to provide a non—erosive flow so that the natural physical and biological characteristics and functions of the water course are maintained and protected. The installation of these devices may be subject to Section 404 of the federal Clean Water Act.

## OTHER CONTROLS

TIMING OF CONTROLS/MEASURES: All control measures shall be implemented according to the construction schedule shown in the Sequence of Major Activities section.

#### NON-STORMWATER DISCHARGES:

It is expected that the following non—stormwater discharges will occur from the site during the construction period

- Water from water line flushings and fire hydrants.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred)
- Uncontaminated ground water (from dewatering excavation).

containers and, if possible, under a roof or other enclosure.

All non-stormwater discharges shall be directed to a sediment basin prior to discharge.

#### **POTENTIAL POLLUTANTS:**

The following potential pollutants typically identified with construction may be present on—site. Pollution prevention measures implemented as part of this plan will reduce the potential for contact of these pollutants with stormwater.

- Petroleum products Construction debris
- Silt
- Fertilizers Paints and related materials
- Chlorinated water line flushings Sanitary waste

#### **SPILL PREVENTION:**

Material management practices: Good Housekeeping: The following good housekeeping practices shall be followed on-site during the construction project

- An effort shall be made to store only enough of any product utilized on-site as is required to do the job.
- All materials stored on-site shall be stored in a neat, orderly manner in their appropriate
- Building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site, provide cover (e.g. plastic sheeting, temporary roofs) to minimize the exposure of these products to precipitation and to stormwater, or a similarly effective means designed to minimize the discharge of pollutants from these areas. Minimization of exposure is not required in cases where exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk to stormwater contamination (such as final products and materials intended for outdoor use).
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer. • Whenever possible, all of a product shall be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal shall be followed. • The site superintendent shall inspect daily to ensure proper use and disposal of materials

on-site. Hazardous Products:

- Hazardous products used on—site shall be kept in original containers unless they are not resealable.
- Original labels and safety data sheets (MSDSs) shall be retained on site. • Surplus hazardous products shall be disposed of according to Federal, State, and Local auidelines.
- Fertilizers: • Fertilizers used for enhancement of stabilization measures shall be applied according to
  - applicable rate schedules • Fertilizers shall be "worked" into the soil to minimize exposure to stormwater.
  - Fertilizer materials stored on-site shall be managed in a manner to reduce the potential for stormwater contamination.

• Paint materials on—site shall be stored in tightly sealed containers.

• Excess paint and paint waste shall be disposed of according to applicable Federal, State, and Local quidelines.

#### SPILL CONTROL PRACTICES:

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices shall be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup shall be clearly posted and site personnel shall be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup shall be kept in material storage area on-site.
- All spills shall be cleaned up immediately after discovery. • Spills of toxic or hazardous material shall be reported to the appropriate Federal, State, or local government agency, regardless of the size.
- The spill prevention plan shall be adjusted to include measures to prevent spills from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the clean up measures shall also be included.

The site superintendent responsible for the day—to—day operations shall be the spill prevention and

#### **WASTE DISPOSAL:**

All trash and construction debris from the site shall be deposited in a dumpster. The dumpster shall be emptied when full. No construction waste materials shall be buried on—site. All personnel shall be instructed regarding the correct procedure for waste disposal. All waste disposal practices shall be conducted in accordance with State and/or local waste disposal regulations.

 Hazardous Waste: All hazardous waste materials shall be disposed of in the manner specified by State or local regulation or by the manufacturer. Site personnel shall be instructed in these practices and the Project Superintendent, the individual who manages day—to—day site operations, shall be responsible for seeing that these practices are followed. Sanitary Waste:

Sanitary waste generated from portable units shall be emptied as required to provide for sanitary conditions. All sanitary waste disposal practices shall be conducted in accordance with State and/or local waste disposal regulations.

## INSPECTIONS AND RECORD KEEPING

The following is the complete requirements of inspections and record keeping as stated in Part IV.D.4.a of the Permit:

- 4. Inspections.
- a. Permittee requirements.

(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.

(2). Measure and record rainfall within disturbed areas of the site that have not met final stabilization once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.

(3). Certified personnel (provided by the primary permittee) shall inspect the following at least once every fourteen (14) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non—working Sunday or any non—working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the primary permittee's construction site; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.

(4). Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is submitted to EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

(5). Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction site that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part of this permit.

# SAMPLING FREQUENCY AND REPORTING OF RESULTS

The following is the complete requirements of inspections and record keeping as stated in Part IV.D.6.d and Part IV.E of the Permit:

#### Part IV.D.6.d Sampling Frequency

(1). The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any stormwater discharge to a monitored receiving water and/or from a monitored outfall location within forty—five (45) minutes or as soon as possible.

(2). However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the stormwater discharge. (3). Sampling by the permittee shall occur for the following qualifying events:

(a). For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the representative sampling location; (b). In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the representative sampling location, whichever comes first;

(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (2) business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours\* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained;

required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and (e). Existing construction activities, i.e., those that are occurring on or before the effective

date of this permit, that have met the sampling required by (a) above shall sample in

(d). Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not

by (b) above shall not be required to conduct additional sampling other than as required by (c) above. \*Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows

accordance with (b). Those existing construction activities that have met the sampling required

- 1. The applicable permittees are required to submit the sampling results to the EPD by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any stormwater discharge(s) or the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to the EPD. Sampling reports must be submitted to EPD using the electronic submittal service provided by EPD. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.
- 2. All sampling reports shall include the following information:
- a. The rainfall amount, date, exact place and time of sampling or measurements;
- b. The name(s) of the certified personnel who performed the sampling and measurements;
- c. The date(s) analyses were performed: d. The time(s) analyses were initiated;

for sampling at any time of the day or week.

- e. The name(s) of the certified personnel who performed the analyses;
- f. References and written procedures, when available, for the analytical techniques or methods
- q. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;
- h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and i. Certification statement that sampling was conducted as per the Plan.
- 3. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD according to the schedule in Appendix A of this permit. The permittee shall retain a copy of the proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI.

## RETENTION OF RECORDS

a. A copy of all Notices of Intent submitted to EPD;

The following is the complete requirements of retention of records as stated in Part IV.F of the

The primary permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VI:

- b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit; c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
- d. A copy of all sampling information, results, and reports required by this permit; e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit; f. A copy of all violation summaries and violation summary reports generated in accordance
- with Part III.D.2. of this permit; and g. Daily rainfall information collected in accordance with Part IV.D.4.a.(2). of this permit.

2. Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports

(including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), or other reports reguested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the permittee's primary place of business or at a designated alternative location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

# SAMPLING PROCEDURES AND **ANALYTICAL TESTING METHODS**

1. All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136; the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.

- 1.1. Sample containers should be labeled prior to collecting the samples. 1.2. Samples should be well mixed before transferring to a secondary container. 1.3. Large mouth, well cleaned and rinsed glass or plastic jars should be used for
- collecting samples. The jars should be cleaned thoroughly to avoid contamination. 1.4. Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event.
- 2.1. Ideally the samples should be taken from the horizontal and vertical center of the
  - receiving water(s) or the stormwater outfall channel(s). 2.2. Care should be taken to avoid stirring the bottom sediments in the receiving water(s)
  - or in the outfall stormwater channel. 2.3. The sampling container should be held so that the opening faces upstream. 2.4. The samples should be kept free from floating debris.

# **NOTICE OF TERMINATION**

Upon final stabilization, A Notice of Termination shall be submitted to GA EPD in accordance with Permit GAR 100002 on forms provided by EPD (if available) or in the format outlined in the permit.

# **DESIGN PROFESSIONAL CERTIFICATION**

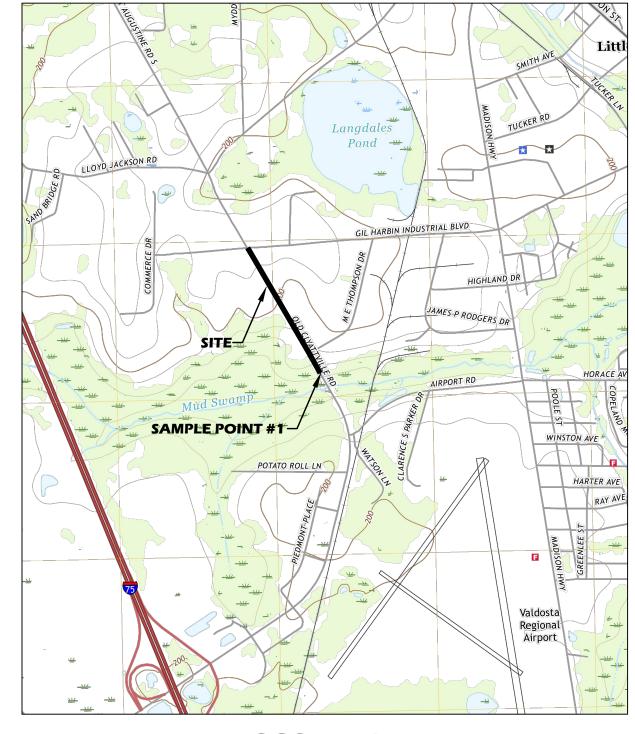
I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my supervision.

" I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which the land—disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the stormwater outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR100002."

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for the monitoring of all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent steams and other water

Clayton Milligan, P.E. Level II Certification # 00000049262

GA PE# 34187



**USGS MAP** 



GA CORP# 0419099 FL CORP# F04000002135 P.O. Box 2830

3998 Inner Perimeter Road

Valdosta, GA 31604 Telephone: 229-253-0900 Fax: 229-253-1842 E-mail: lea@lea-pc.com

# OLD **CLYATTVILLE ROAD WIDENING** PI#0016285

**LAND LOT 64 & 29 OF THE** 11TH LAND DISTRICT CITY OF VALDOSTA **LOWNDES COUNTY STATE OF GEORGIA** 

DATE DESCRIPTION



**Call** before you dig. IF YOU DIG GEORGIA... **CALL US FIRST!** 

Know what's **below**.

UTILITIES PROTECTION CENTER IT'S THE LAW

SCALE: N.T.S. **DESIGNED BY:** DEA

**CHECKED BY: MCM** SUBMITTAL DATE: 09-28-23

> THESE DRAWINGS ARE THE PROPERTY OF THE ENGINEER AND MAY NOT BE REPRODUCED OR © LEA, PC 2023

(SHEET 1 OF 3)

**ESPC DETAILS** 

0026-40

GSWCC LEVEL II CERT. #49262

**51-001** 



# **DUST CONTROL ON DISTURBED AREAS**

#### **DEFINITION**

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS AND DEMOLITION SITES.

#### **PURPOSE**

TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES AND REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH. WELFARE, OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

#### CONDITIONS

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

#### **METHODS AND MATERIALS**

#### TEMPORARY METHODS

MULCHES: SEE STANDARD DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY) IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, CURRENT EDITION. SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. TACKIFIERS, BINDERS, AND RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S

RECOMMENDATIONS. VEGETATIVE COVER: SEE STANDARD DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY

SPRAY-ON ADHESIVES: THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS.

TILLAGE: THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY

PRODUCE THE DESIRED EFFECT. IRRIGATION: THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS: SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALL, BALES OF HAY IND SIMILAR MATERIALS CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

PERMANENT METHODS PERMANENT VEGETATION: SEE STANDARD DS3 - DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING: THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. TONE: COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

ADHESIVE	WATER DILUTION	TYPE OF NOZZLE	APPLICATION RATE (Gallons/Acre)
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4: 1	FINE SPRAY	300

## **EROSION CONTROL NOTES:**

- THE CONTRACTOR SHALL MINIMIZE THE AREAS TO BE DISTURBED SIMULTANEOUSLY.
- A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT
- THE CONTRACTOR SHALL VERIFY WITH ENGINEER THE NOTICE OF INTENT HAS BEEN SUBMITTED TO EPD PRIOR TO CONSTRUCTION.
- TREE PROTECTION FENCING SHOULD BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBANG ACTIVITY AND MAINTAINED UNTIL FINAL LANDSCAPE IS INSTALLED. THE TREE PROTECTION FENCING SHOULD BE INSPECTED DAILY. ANY FAILURES OF SAID FENCING SHOULD BE REPAIRED IMMEDIATELY.
- AFTER INSTALLATION OF INITIAL EROSION CONTROL MEASURES, THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION BY THE PROJECT DESIGN PROFESSIONAL. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE PROJECT DESIGN PROFESSIONAL APPROVES THE INSTALLATION OF SAID EROSION CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT ADDITIONAL EROSION CONTROL MEASURES, THE CONTRACTOR MUST CONSTRUCT ANY ADDITIONAL EROSION CONTROL DEVICES DEEMED NECESSARY BY THE SITE INSPECTION.
- ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
- SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED PER REQUIREMENTS OF THE "MANUAL FOR EROSION AND SEDIMENT
- THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT LAND STRIPPED OF ITS NATURAL GROUND COVER IS EXPOSED ONLY IN SMALL QUANTITIES AND THEREFORE LIMITED DURATIONS, BEFORE PERMANENT EROSION PROTECTION IS
- EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE DESIGN PROFESSIONAL IMMEDIATELY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING BARRIERS AT THE TOE OF ALL SLOPES UNDER CONSTRUCTION. THESE BARRIERS SHALL BE AS SHOWN IN THE PLANS. THESE BARRIERS MAY BE RELOCATED AND REUSED AFTER PERMANENT SLOPE STABILIZATION BECOMES FULLY ESTABLISHED. AS THEY ARE RELOCATED, ANY DEFECTIVE MATERIALS IN THE BARRIER SHALL BE REPLACED. IN ADDITION, ALL DEBRIS AND SILT AT THE PREVIOUS LOCATION SHALL BE REMOVED.
- 13. CUT AND FILL SLOPES ARE NOT TO EXCEED 2H:1V.
- 14. ALL SLOPES STEEPER THAN 2.5:1 AND WITH A HEIGHT OF TEN FEET OR GREATER, AND CUTS AND FILLS WITHIN STREAM BUFFERS, SHALL BE STABILIZED WITH SOD. SEE SEPARATE DETAILS FOR ADDITIONAL
- 15. TYPE "A" SILT FENCE SHALL BE PLACED AT THE TOE OF ALL DIRT STOCKPILE AREAS.
- 16. CHECK DAMS SHALL BE INSTALLED IN AREAS OF CONCENTRATED FLOWS AS SHOWN ON THE PLAN.
- 17. ALL DRAINAGE SWALES SHALL BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS
- 18. ALL GRADED AREAS SHALL BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS
- 19. ALL ROADWAY AND PARKING SHOULDERS SHOULD BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS ACHIEVED.
- 20. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER
- . UPON COMPLETION OF THE PROJECT AND RECEIPT OF CERTIFICATE OF OCCUPANCY, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND DISPOSE OF THEM UNLESS NOTED ON PLANS.

# DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

#### DEFINITION

THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDLINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

#### **PURPOSE**

- TO REDUCE RUNOFF AND SEDIMENT DAMAGE OF DOWNSTREAM RESOURCES
- TO PROTECT THE SOIL SURFACE FROM EROSION
- TO IMPROVE WILDLIFE HABITAT TO IMPROVE AESTHETICS
- TO IMPROVE TILTH, INFILTRATION AND AERATION AS WELL AS ORGANIC MATTER FOR PERMANENT PLANTINGS.

#### CONDITIONS

THIS PRACTICE IS APPLICABLE ON AREAS SUBJECT TO EROSION FOR UP TO SIX MONTHS OR UNTIL THE ESTABLISHMENT OF FINISHED GRADE OR PERMANENT VEGETATIVE COVER. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ENSURE ECONOMICAL AND EFFECTIVE STABILIZATION.

#### **SPECIFICATIONS**

- GRADING AND SHAPING
- 1.1. EXCESSIVE WATER RUN-OFF MUST BE CONTROLLED BY PLANNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BASINS AND OTHERS. 1.2. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.
- SEEDBED PREPARATION 2.1. WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. 2.2. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL
- IS LOOSE AND NOT SEALED BY RAIN. 2.3. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH UNDISTURBED CUT SLOPES, THE SOIL
- SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND **GFRMINATE**
- LIME AND FERTILIZER 3.1. AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A
- RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. 3.2. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED.
- 3.3. ON SOILS OF VERY LOW FERTILITY, USE 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE EQUIVALENT PER ACRE (12-16 LBS./1,000SQ.FT.). IF THE SITE WILL PERMIT, APPLY BEFORE LAND PREPARATION AND DISK, RIP OR CHISEL TO INCORPORATE

IN MIXTURE

- SEEDING: SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. IRRIGATION
- 5.1. DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL ENSURE GERMINATION OF THE SEED. 5.3. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

#### SEEDING RATES FOR TEMPORARY SEEDING

	ALONE			KIURE	PLANTING DATES **			
SPECIES	RATE PER 1,000 SQ.FT.	RATE PER ACRE *	RATE PER 1,000 SQ.FT.	RATE PER ACRE *	COASTAL AREA			
Barley	3.3 lbs.	3 bushels	0.6 lbs.	1/2 bushel	9/1-12/31			
Annual Lespedeza	0.9 lbs.	40 lbs.	0.2 lbs.	10 lbs.	1/15-3/15			
Weeping Lovegrass	0.1 lbs.	4 lbs.	0.05 lbs.	2 lbs.	2/14-6/15			
Browntop Millet	0.9 lbs.	40 lbs.	0.2 lbs.	10 lbs.	4/1-7/15			
Pearl Millet	1.1 lbs.	50 lbs.	NOT RECOMMENDE	ED FOR MIXTURES	4/1-8/31			
Oats	2.9 lbs.	4 bushels	0.7 lbs.	1 bushel	9/1-11/30			
Rye	3.9 lbs.	3 bushels	0.6 lbs.	1/2 bushel	9/1-2/28			
Ryegrass	0.9 lbs.	40 lbs.	NOT TO BE USE	D IN MIXTURES	8/15-3/31			
Sudangrass	1.4 lbs.	60 lbs.	NOT RECOMMENDE	ED FOR MIXTURES	3/1-7/31			
Triticale	3.3 lbs.	3 bushels	0.6 lbs.	1/2 bushel	1/1-1/31, 9/15-10/15, 12/15-12/31			
Wheat	4.1 lbs.	3 bushels	0.7 lbs.	1/2 bushel	10/15–1/31			

#### \* UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES \*\* SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

HULLED BERMUDA-FEBRUARY THROUGH MAY

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CLEARING & GRUBBING	77																									
EROSION CONTROL DEVICES	//	$V_{i}$	77	77	<i>X</i> //	<i>\\\\</i>	<b>7</b> //	<b>V</b> //		//	77	77	77	<i>\\\\</i>	7/			1	77	77	<i>X</i> //	<i>777</i>	<b>7</b>	<b>77</b>	$\overline{Z}$	$\overline{M}$
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PAVING																										
FINE GRADING & LANDSCAPING							П				1										T					
TEMPORARY GRASSING AND												MILLE														
TYPE OF GRASS		RYEGRASS, ANNUAL (SEP-MAR)																								
FINAL GRASSING		SEE NOTE BELOW																								

NOTE: FINAL GRASSING SHALL CONSIST OF SODDING ALL DISTURBED AREAS AFTER BUILDING CONSTRUCTION IS COMPLETED. IF ALL AREAS ARE NOT SODDED, THE FOLLOWING GRASSES SHALL BE PLANTED UNTIL PERMANENT VEGETATIVE COVER CAN BE ESTABLISHED: BROWNTOP MILLET-JUNE THROUGH OCTOBER UNHULLED BERMUDA-NOVEMBER THROUGH JANUARY

#### DISTURBED AREA STABILIZATION Ds3 (WITH PERMANENT VEGETATION)

#### **DEFINITION**

THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

#### **PURPOSE**

- TO PROTECT THE SOIL FROM EROSION
- TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS.
- TO IMPROVE WILDLIFE HABITAT AND VISUAL RESOURCES.
- TO IMPROVE AESTHETICS.

#### REQUIREMENT FOR REGULATORY COMPLIANCE

THIS PRACTICE SHALL BE APPLIED IMMEDIATELY TO ROUGH GRADED AREAS THAT WILL BE UNDISTURBED FOR LONGER THAN SIX MONTHS. THIS PRACTICE OR SODDING SHALL BE APPLIED TO ALL AREAS AT FINAL GRADE. "FINAL STABILIZATION" MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES AND AREAS LOCATED OUTSIDE THE WASTE DISPOSAL LIMITS OF A LANDFILL CELL THAT HAS BEEN CERTIFIED BY EPD FOR WASTE DISPOSAL, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION). FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION. FOR LINEAR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL OR SILVICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY STABILIZING THE DISTURBED LAND FOR ITS AGRICULTURAL OR SILVICULTURAL USE. UNTIL THIS STANDARD IS SATISFIED AND PERMANENT CONTROL MEASURES AND FACILITIES ARE OPERATIONAL, INTERIM STABILIZATION MEASURES AND TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL NOT BE

#### **CONDITIONS**

PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDED AREAS.

#### **CONSTRUCTION SPECIFICATIONS**

1. GRADING AND SHAPING

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- 1.1. GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING
- SEEDBED PREPARATION, SEEDING, MULCHING, AND MAINTENANCE OF VEGETATION. LIME AND FERTILIZER RATES AND ANALYSIS
- AGRICULTURAL LIME IS REQUIRED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE
- 2.2. LIME SPREAD BY CONVENTIONAL EQUIPMENT SHALL BE "GROUND LIMESTONE". GROUND LIMESTONE IS DOLOMITIC LIMESTONE GROUND SO THAT 90 PERCENT OF THE MATERIAL WILL PASS THROUGH A 10-MESH SIEVE, NOT LESS THAN 50 PERCENT WILL PASS THROUGH A 50-MESH SIEVE AND NOT LESS THAN 25 PERCENT WILL PASS THROUGH A 100-MESH SIEVE.
- AGRICULTURAL LIME SPREAD BY HYDRAULIC SEEDING EQUIPMENT SHALL BE "FINELY GROUND LIMESTONE". FINELY GROUND LIMESTONE IS DOLOMITIC LIMESTONE GROUND SO THAT 98 PERCENT OF THE MATERIAL WILL PASS THROUGH A 20-MESH SIEVE AND NOT LESS THAN 70 PERCENT WILL PASS THROUGH A 100-MESH SIEVE. 3. LIME AND FERTILIZER APPLICATION
- 3.1. WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INNOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE INNOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER.
- FINELY GROUND LIMESTONE WILL BE MIXED WITH WATER AND APPLIED IMMEDIATELY AFTER MULCHING IS COMPLETED OR IN COMBINATION WITH THE TOP DRESSING. WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS:
- 3.3.1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION. 3.3.2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
- BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED. 3.3.4. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH PINE TREE SEEDLING.
- 4. PLANT SELECTION 4.1. PLANTS SHALL BE SELECTED ON THE BASIS OF SPECIES CHARACTERISTICS, SITE AND SOIL CONDITIONS, PLANNED USE AND MAINTENANCE OF THE AREA; TIME OF YEAR OF PLANTING, METHOD
- OF PLANTING; AND THE NEEDS AND DESIRES OF THE LAND USER. 4.2. SOME PERENNIAL SPECIES ARE EASILY ESTABLISHED AND CAN BE PLANTED ALONE. EXAMPLES OF THESE ARE COMMON BERMUDA AND WEEPING LOVEGRASS.
- 4.3. OTHER PERENNIALS SUCH AS BAHIA GRASS AND SERICEA LESPEDEZA, ARE SLOW TO BECOME ESTABLISHED AND SHOULD BE PLANTED WITH ANOTHER PERENNIAL SPECIES. THE ADDITIONAL SPECIES WILL PROVIDE QUICK COVER AND AMPLE SOIL PROTECTION UNTIL THE TARGET PERENNIAL SPECIES BECOME ESTABLISHED. 4.4. PLANT SELECTION MAY ALSO INCLUDE ANNUAL COMPANION CROPS. ANNUAL COMPANION CROPS SHOULD BE USED ONLY WHEN THE PERENNIAL SPECIES ARE NOT PLANTED DURING THEIR
- OPTIMUM PLANTING PERIOD. A COMMON MIXTURE IS BROWN TOP MILLET WITH COMMON BERMUDA IN MID-SUMMER. CARE SHOULD BE TAKEN IN SELECTING COMPANION CROP SPECIES AND SEEDING RATES BECAUSE ANNUAL CROPS WILL COMPETE WITH PERENNIAL SPECIES FOR WATER, NUTRIENT AND GROWING SPACE. A HIGH SEEDING RATE OF THE COMPANION CROP MAY PREVENT THE ESTABLISHMENT OF PERENNIAL SPECIES. 4.5. RYEGRASS SHALL NOT BE USED IN ANY SEEDING MIXTURES CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL
- SEEDBED PREPARATION 5.1. SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL
- BE DONE AS FOLLOWS FOR BROADCAST PLANTINGS: 5.2. TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES: ALLEVIATE COMPACTION: INCORPORATE LIME AND FERTILIZER: SMOOTH AND FIRM THE SOIL:
- ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS USED. 5.3. TILLAGE MAY BE DONE WITH ANY SUITABLE FOUIPMENT
- 5.4. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE. 5.5. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE WILL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE
- TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED. 6. PLANTING HAUBVIII
- MIX THE SEED, INOCULANT, FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.
- SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.
- NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.
- 7.1. MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED.
- 7.2. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2½ TONS PER ACRE. SERICEA LESPEDEZA HAY SHALL BE APPLIED AT THE RATE OF 3 TONS PER ACRE.
  7.3. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL
- BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING. 7.4. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER.
- 7.5. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED. 7.6. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED
- WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. 7.7. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS
- SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING. 8.1. IF WATER IS APPLIED, IT MUST BE AT A RATE NOT CAUSING RUNOFF AND EROSION. THOROUGHLY WET THE SOIL TO A DEPTH THAT WILL ENSURE GERMINATION OF THE SEED.
- USE AND MANAGEMENT 9.1. MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE THAT THE SEEDS ARE MATURE. MOW BETWEEN NOVEMBER AND MARCH.
- 9.2. BERMUDAGRASS AND BAHIAGRASS MAY BE MOWED AS DESIRED. MAINTAIN AT LEAST 6 INCHES OF TOP GROWTH UNDER ANY USE AND MANAGEMENT. MODERATE USE OF TOP GROWTH IS BENEFICIAL AFTER ESTABLISHMENT.
- 9.3. EXCLUDE TRAFFIC UNTIL THE PLANTS ARE WELL ESTABLISHED.

\* UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES

\*\*\*\* DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS.

\*\*\* PLANT WITH TEMPORARY COVER SUCH AS WINTER ANNUALS.

#### SEEDING RATES FOR PERMANENT VEGETATION

	ALC	NE	WITH OTHER	PERENNIALS	   PLANTING DATES **		
SPECIES	RATE PER 1,000 SQ.FT.	RATE PER ACRE *	RATE PER 1,000 SQ.FT.	RATE PER ACRE *	COASTAL AREA		
Pensacola Bahia	1.4 lbs.	60 lbs.	0.7 lbs.	30 lbs.	1/1–12/31		
ommon Bermuda (Hulled seed)	0.2 lbs.	10 lbs.	0.7 lbs.	6 lbs.	2/14-6/30		
ommon Bermuda Unhulled seed)***	0.2 lbs.	10 lbs.	0.1 lbs.	6 lbs.	11/1-1/31		
ericea Lespedeza (scarified)	1.4 lbs.	60 lbs.	1.4 lbs.	60 lbs.	2/14-6/15		
ericea Lespedeza (unscarified)	1.7 lbs.	75 lbs.	1.7 lbs.	75 lbs.	1/1–12/31		
Lespedeza (scarified)	1.4 lbs.	60 lbs.	1.4 lbs.	60 lbs.	2/14-5/31		
eeping Lovegrass	0.1 lbs.	4 lbs.	0.05 lbs.	2 lbs.	2/1-6/15		
Panicgrass, Atlantic Coastal	0.5 lbs.	20.0 lbs.	0.5 lbs.	20.0 lbs.	2/1-4/30		
Sunflower 'Aztec'	0.2 lbs.	10 lbs.	0.2 lbs.	10 lbs.	4/1-5/31		
·	·	·	·	·	<u></u>		

\*\* SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

#### FERTILIZER REQUIREMENTS

SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
Cool season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs/ac. 1000 lbs/ac. 400 lbs/ac.	50-100 lbs/ac. <sup>1/2/</sup> - 30 lbs/ac.
Cool season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs/ac. 1000 lbs/ac. 400 lbs/ac.	0-50 lbs/ac. <sup>1/</sup> - -
Warm season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs/ac. 800 lbs/ac. 400 lbs/ac.	50-100 lbs/ac. <sup>2/3/</sup> 50-100 lbs/ac. <sup>2/</sup> 30 lbs/ac.
Warm season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs/ac. 1000 lbs/ac. 400 lbs/ac.	50 lbs/ac. <sup>3/</sup> - -

- 1/ APPLY IN SPRING FOLLOWING SEEDING.
- 2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED. 3/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

**ESPC DETAILS** (SHEET 2 OF 3)

**51-002** 

67 OF 74 SHEETS

DATE DESCRIPTION

GA CORP# 0419099

FL CORP# F04000002135

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OLD

CLYATTVILLE

ROAD

**WIDENING** 

PI#0016285

**LAND LOT 64 & 29 OF THE** 

11TH LAND DISTRICT

**CITY OF VALDOSTA** 

**LOWNDES COUNTY** 

**STATE OF GEORGIA** 

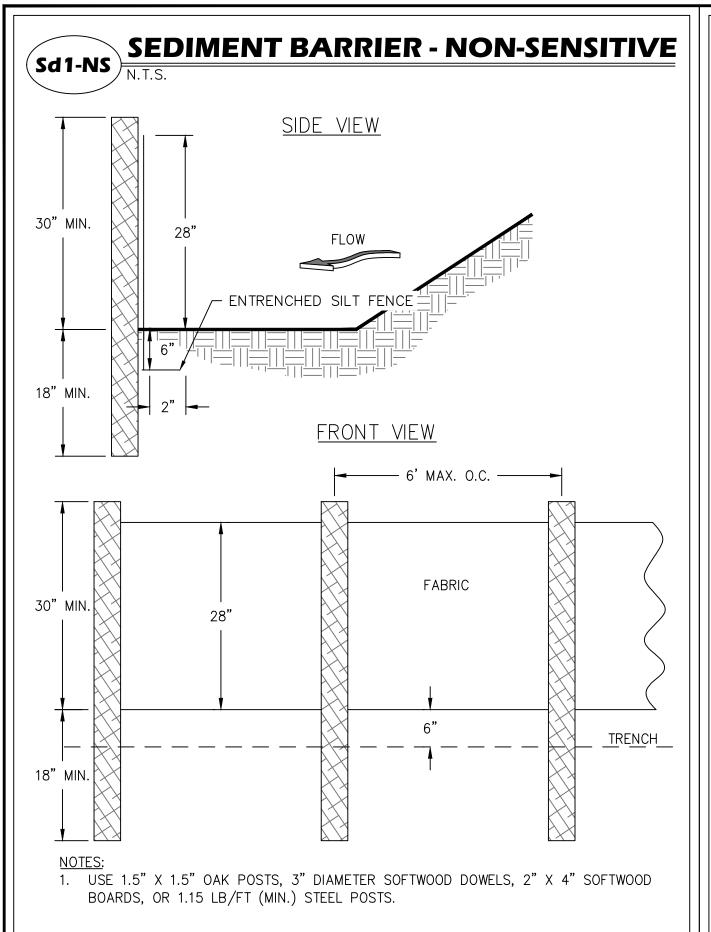
Valdosta, GA 31604

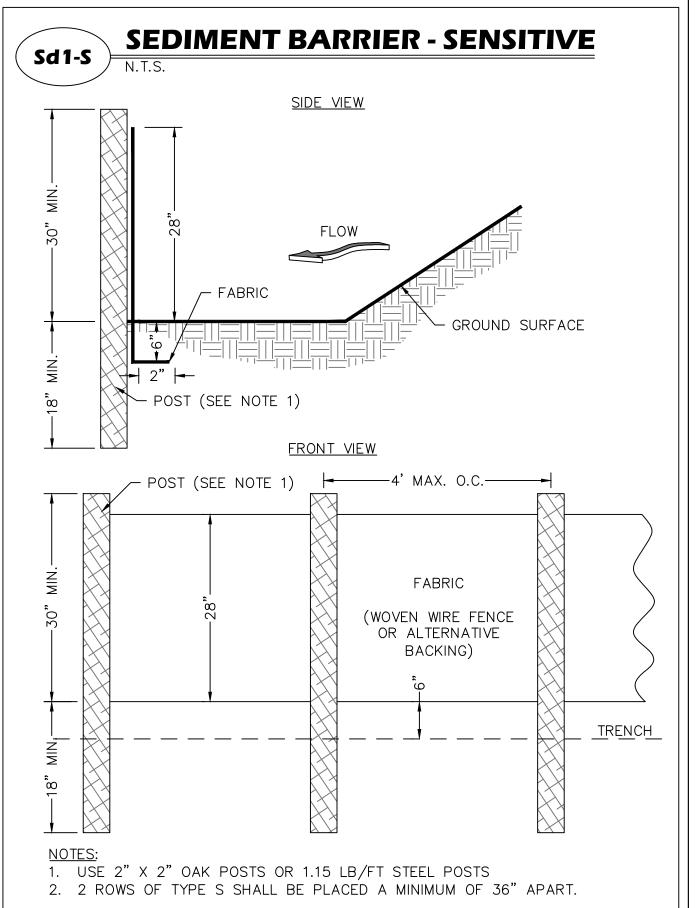
N.T.S. DEA **DESIGNED BY:** CHECKED BY: **MCM** 

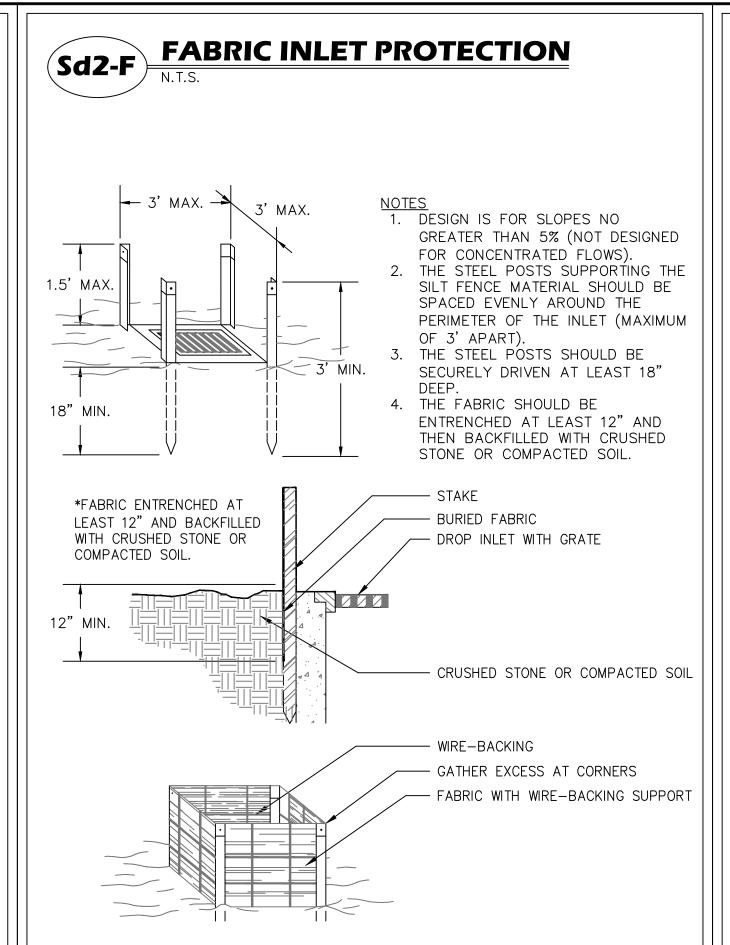
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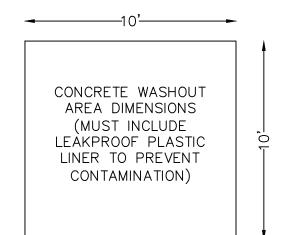






#### NOTE:

- 1. ADVISE CONCRETE TRUCK DRIVERS OF THE DESIGNATED WASH-OUT AREAS BEFORE THEY START THE JOB.
- 2. EXCAVATE PIT LARGE ENOUGH TO CONTAIN WASHDOWN WATER. THIS MUST BE AWAY FROM STORM DRAINS AND WATERWAYS.
- 3. WASHDOWN CHUTE, HOPPER, AND REAR OF VEHICLE ONLY. DO NOT WASH OUT
- 4. ENSURE THAT ALL WASHDOWN WATER STAYS IN PIT.
- 5. DISPOSE OF SETTLED, HARDENED CONCRETE IN GARBAGE WITH OTHER CONSTRUCTION DEBRIS.
- 6. NEVER DISPOSE OF WASHDOWN WATER IN STREETS, STORM DRAINS, OR
- 7. CONCRETE WASHDOWN AREA MUST INCLUDE A LEAKPROOF LINER.





GA CORP# 0419099 FL CORP# F04000002135 P.O. Box 2830 3998 Inner Perimeter Road Valdosta, GA 31604 Telephone: 229-253-0900 Fax: 229-253-1842 E-mail: lea@lea-pc.com

# **OLD** CLYATTVILLE **ROAD WIDENING** PI#0016285

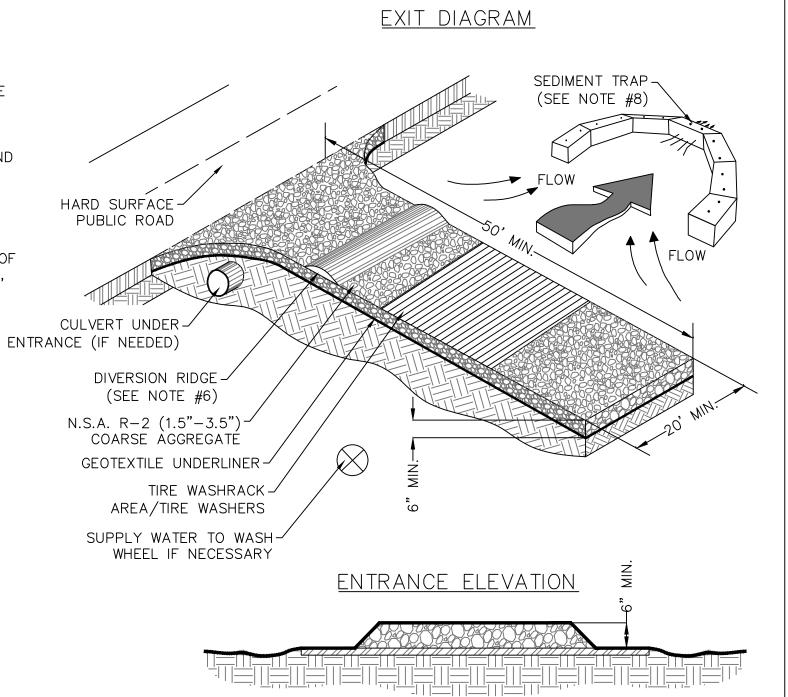
**LAND LOT 64 & 29 OF THE** 11TH LAND DISTRICT CITY OF VALDOSTA **LOWNDES COUNTY** STATE OF GEORGIA

**REVISIONS** DATE DESCRIPTION

# **CONSTRUCTION EXIT**

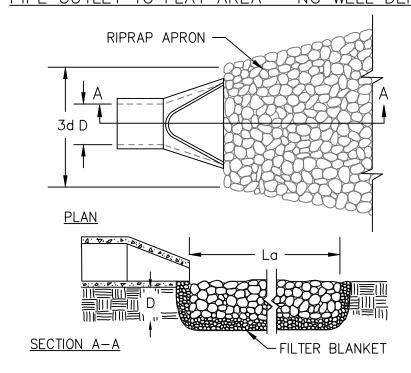
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS. 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.

- 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
- 4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6". 5. PAD WIDTH SHALL EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
- 6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.. 7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE
- 8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
- 9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL <u>SUITABLE</u> FOR TRUCK TRAFFIC THAT REMOVES MUD AND DIRT.
- 10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

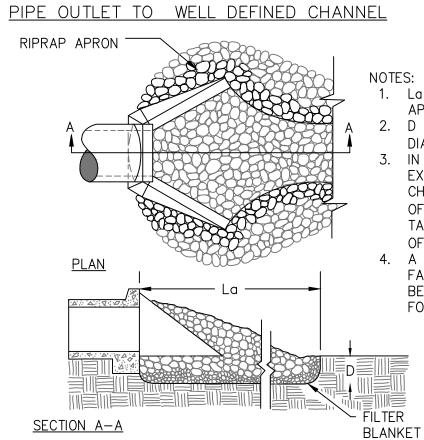


# STORM DRAIN OUTLET PROTECTION

PIPE OUTLET TO FLAT AREA - NO WELL DEFINED CHANNEL



St



	Ol	UTLE	r Pro	OTEC	TION	DIME	NSIO	<b>VS</b>	
OUTLET	PIPE DIA. (ft.)	FLOW RATE (cfs)	VELOCITY (fps)	TAILWATER CONDITION	APRON LEN. (La, ft.)	WIDTH AT HEADWALL (W, ft)	DOWNSTREAM WIDTH (W <sub>2</sub> , ft)	AVG. STONE DIA. (d50, ft)	STONE DEPTH (D, ft)
A-1	5.0	138.0	9.0	MIN	30	15	35	0.9	1.8
B-1	1.5	1.1	2.9	MIN	9	4.5	10.5	0.3	0.6
C-1	1.5	1.2	3.0	MIN	9	4.5	10.5	0.3	0.6
D-1	1.5	2.2	5.3	MIN	9	4.5	10.5	0.3	0.6
E-1	1.5	0.6	2.5	MIN	9	4.5	10.5	0.3	0.6

N.T.S. SCALE: **DESIGNED BY:** DEA

**CHECKED BY:** MCM

SUBMITTAL DATE: 09-28-23 JOB NO. 0026-40

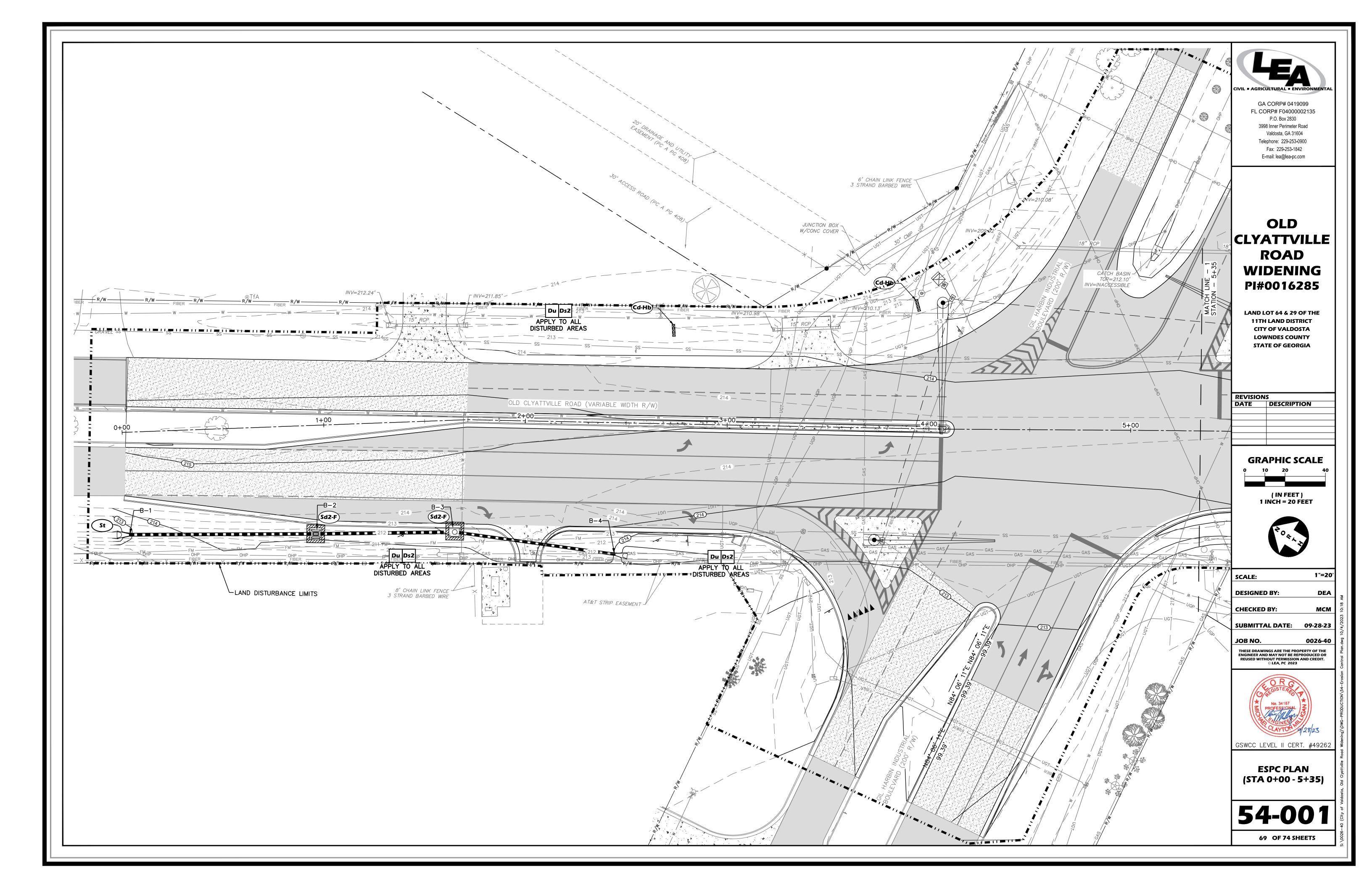
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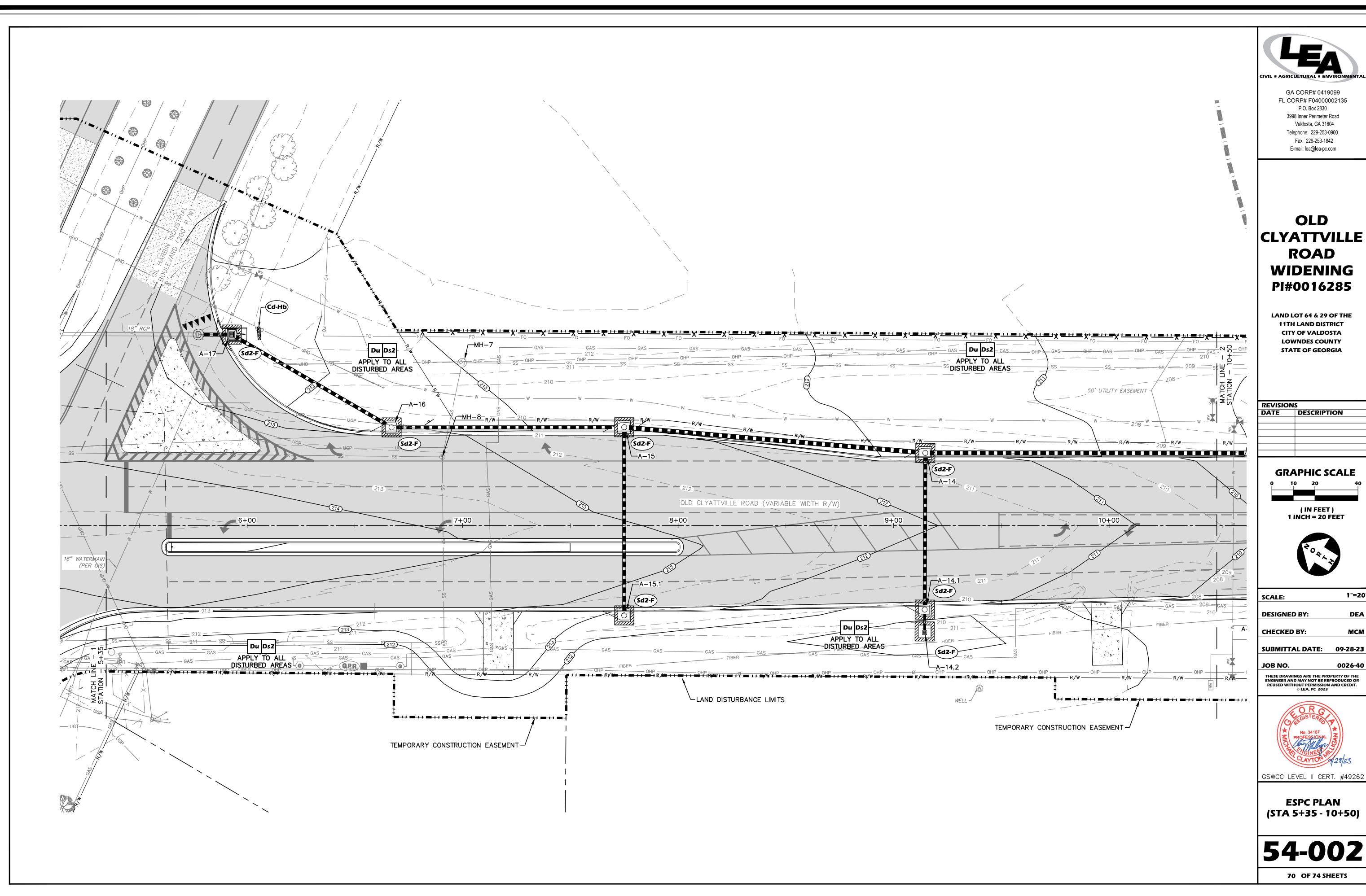


GSWCC LEVEL II CERT. #49262

**ESPC DETAILS** (SHEET 3 OF 3)

51-003





GA CORP# 0419099 FL CORP# F04000002135 P.O. Box 2830 3998 Inner Perimeter Road Valdosta, GA 31604 Telephone: 229-253-0900 Fax: 229-253-1842 E-mail: lea@lea-pc.com

# **OLD** CLYATTVILLE **ROAD WIDENING** PI#0016285

LAND LOT 64 & 29 OF THE 11TH LAND DISTRICT CITY OF VALDOSTA **LOWNDES COUNTY** STATE OF GEORGIA

REVISIONS
DATE DESCRIPTION

**GRAPHIC SCALE** 

1 INCH = 20 FEET



1"=20' DEA MCM

0026-40

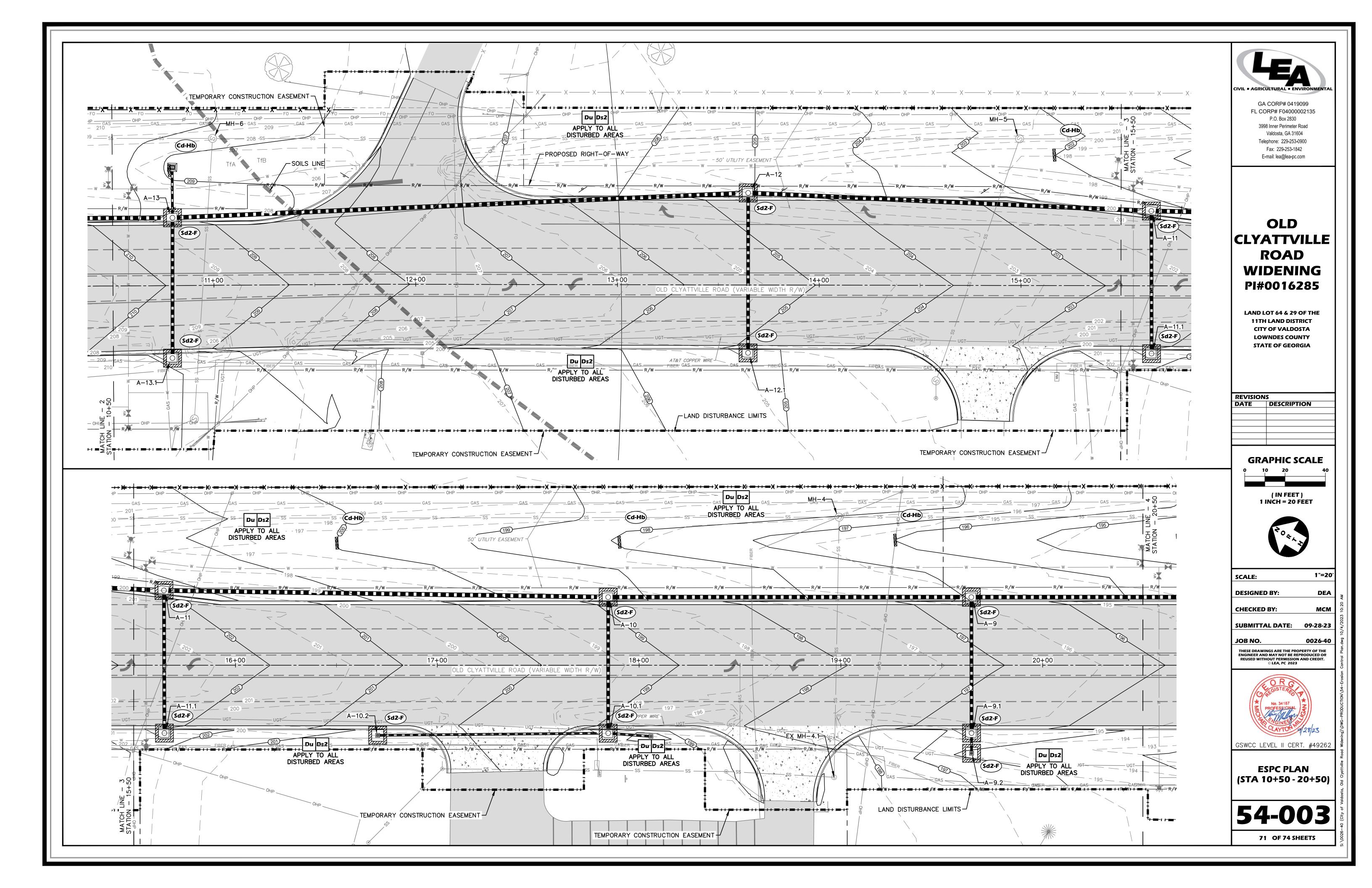
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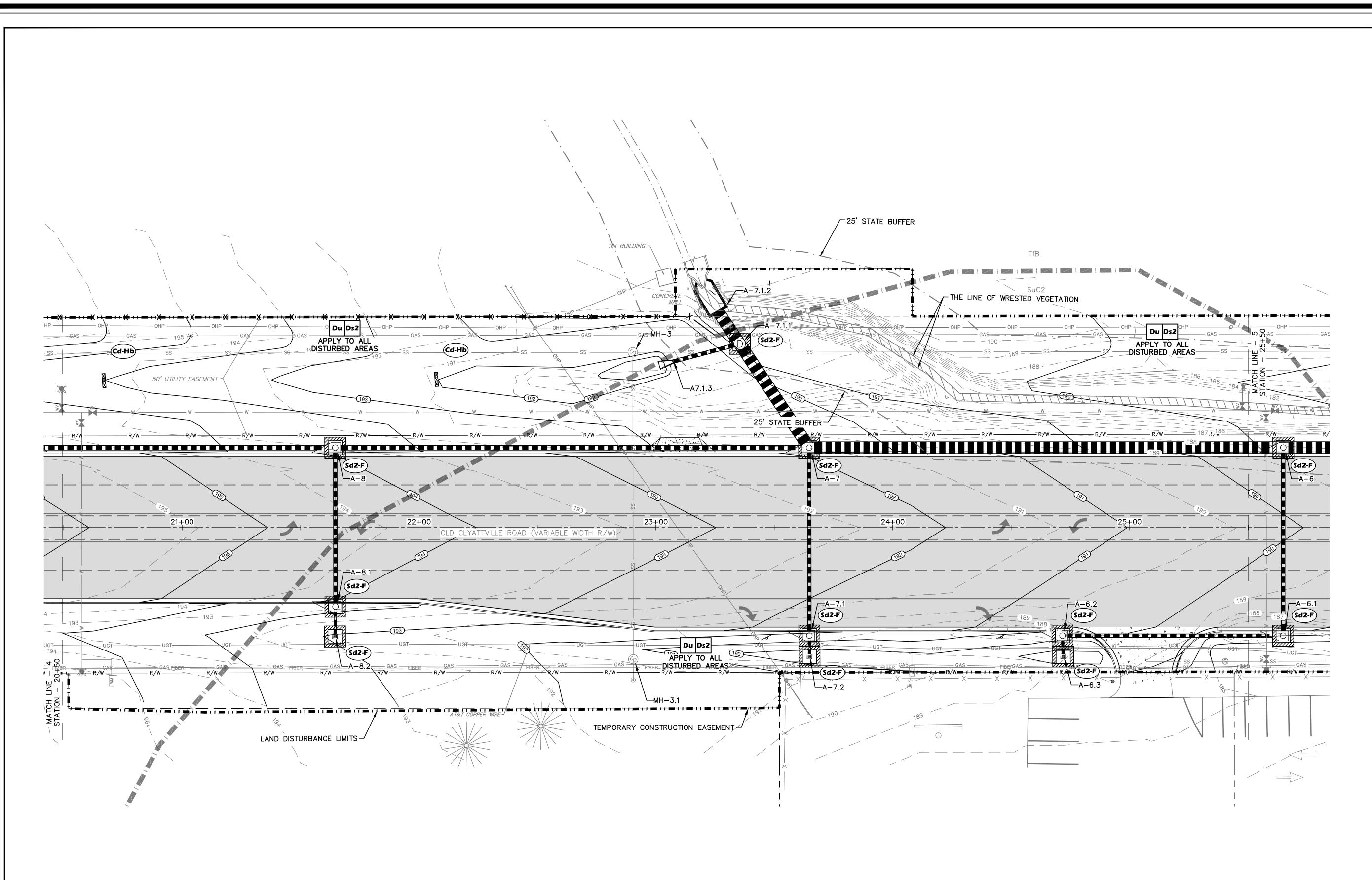


GSWCC LEVEL II CERT. #49262

**ESPC PLAN** (STA 5+35 - 10+50)

54-002







# OLD CLYATTVILLE ROAD WIDENING PI#0016285

LAND LOT 64 & 29 OF THE
11TH LAND DISTRICT
CITY OF VALDOSTA
LOWNDES COUNTY
STATE OF GEORGIA

REVISIONS
DATE DESCRIPTION

( IN FEET )
1 INCH = 20 FEET



1"=20'

DESIGNED BY:

CHECKED BY:

MCM

SUBMITTAL DATE: 09-28-23

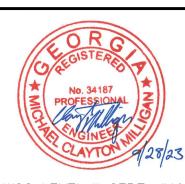
JOB NO.

0026-40

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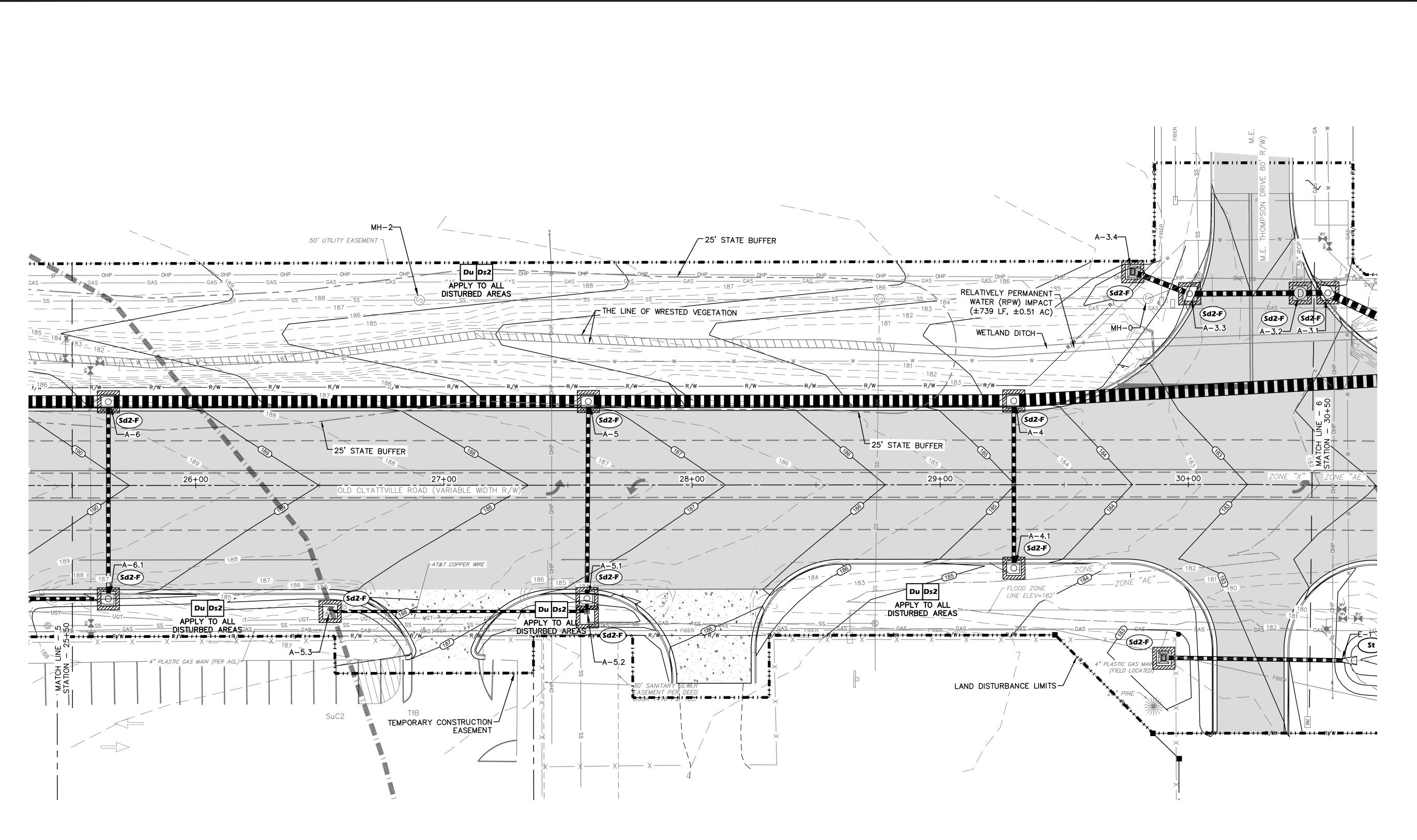
**SCALE:** 



GSWCC LEVEL II CERT. #49262

ESPC PLAN (STA 20+50 - 25+50)

54-004





# OLD CLYATTVILLE ROAD WIDENING PI#0016285

LAND LOT 64 & 29 OF THE 11TH LAND DISTRICT CITY OF VALDOSTA LOWNDES COUNTY STATE OF GEORGIA

REVISIONS
DATE DESCRIPTION

GRAPHIC SCALE

10 20 4

(IN FEET)
1 INCH = 20 FEET



1"=20'

DESIGNED BY: DEA

CHECKED BY: MCM

SUBMITTAL DATE: 09-28-23

JOB NO. 0026-40

**SCALE:** 





GSWCC LEVEL II CERT. #49262

ESPC PLAN (STA 25+50 - 30+50)

54-005

