FAYETTE County
Create Your Story!

Purchasing Department
140 Stonewall Avenue West, Ste 204
Fayetteville, GA 30214
Phone: 770-305-5420
www.fayettecountyga.gov

May 24, 2021

Subject: Invitation to Bid #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

Gentlemen/Ladies:

Fayette County, Georgia invites you to submit a bid for improving the storm conveyance system to circumvent flooding in the area of 100 Pleasant Hill. You are invited to submit a bid in accordance with the information contained herein.

Questions concerning this invitation to bid should be addressed to Natasha Duggan in writing via email to nduggan@fayettecountyga.gov or fax to (770) 719-5534. Questions will be accepted until 3:00 p.m., Thursday, June 3, 2021.

Purchasing Department office hours are Monday through Friday 8:00 a.m. to 5:00 p.m. The office telephone number is (770) 305-5420.

Please return your response to the following address:

Fayette County Purchasing Department
140 Stonewall Avenue West, Suite 204
Fayetteville, Georgia 30214
Attention: Contracts Administrator

Bid Number: **1970-B**
Bid Name: **100 Pleasant Hill – Storm Conveyance Improvement**

Your envelope *must* be sealed, and should show your company's name and address.

Bids will be received at the above address until 12:00 p.m., Wednesday, June 9, 2021 in the Purchasing Department, Suite 204. A virtual bid opening will be held that day at 3:00 p.m. You may view the bid opening at https://fayettecountyga.gov/administration/BOC/county_commission_meetings.htm.

Bids must be signed to be considered. Late bids cannot be considered. Faxed bids or emailed bids cannot be considered.

If you download this invitation to bid from the county's web site, it will be your responsibility to check the web site for any addenda that might be issued for this solicitation. The county cannot not be responsible for a vendor not receiving information provided in any addendum.

Thank you for participating in the solicitation process.

Sincerely,

Ted L. Burgess
Director of Purchasing

SPECIFICATIONS

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT
Fayette County, GA

1970-B: 100 Pleasant Hill Storm Conveyance Improvement

Prepared For:

Fayette County Environmental Management
140 Stonewall Ave. West, Suite 203
Fayetteville, GA 30214

Prepared By:

3500 Parkway Lane, Suite 500
Peachtree Corners, Georgia 30092
678.336.7740
www.pondco.com

5 May 2021
ITB No. 1970-B

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CHECKLIST OF DOCUMENTS TO RETURN

ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

Return this checklist and the documents listed below with your submittal.

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1) _____

Bid Bond * _____

Exceptions, if any _____

Company Information Form _____

Contractor Experience Form _____

GDOT Prequalification Documentation (on company letterhead) _____

Letter certifying three years of existence and no contract default _____

Project Pricing Sheet (2 pages) * _____

* Failure to execute and return this document will make the bid non-responsive and not eligible for award consideration.

COMPANY NAME: _____

INTRODUCTION

Fayette County is soliciting Bids from Georgia Department of Transportation (GDOT) prequalified Contractors experienced with drainage improvements, water line installation, grading, and paving. The project location is near the intersection of Old Ivy and Redwine Road in Fayette County.

The project consists of improving the storm conveyance system to circumvent flooding. The existing system, located on both private property and County right-of-way, will be upgraded with larger pipes and structures along Old Ivy and Redwine Road to increase storm water capacity.

Fayette County will provide construction oversight and acquire all necessary fee-simple right-of-way and construction easements for this project.

FAYETTE COUNTY GENERAL TERMS AND CONDITIONS
ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

1. **Definitions**: The term "contractor" as used herein and elsewhere in these Terms and Conditions shall be used synonymously with the term "successful bidder." The term "county" shall mean Fayette County, Georgia.

2. **Bid is Offer to Contract**: Each bid constitutes an offer to become legally bound to a contract with the county, incorporating the invitation to bid and the bidder's bid. The binding offer includes compliance with all terms, conditions, special conditions, specifications, and requirements stated in the invitation to bid, except to the extent that a bidder takes written exception to such provisions. All such terms, conditions, special conditions, specifications, and requirements will form the basis of the contract. The bidder should take care to answer all questions and provide all requested information, and to note any exceptions in the bid submission. Failure to observe any of the instructions or conditions in this invitation to bid may result in rejection of the bid.

3. **Binding Offer**: Each bid shall constitute a firm offer that is binding for sixty (60) days from the date of the bid opening, unless the bidder takes exception to this provision in writing.

4. **Bidder's Questions**: The Fayette County Purchasing Department must receive questions about this invitation to bid in writing at least six days before the scheduled bid opening, excluding Saturdays, Sundays, and holidays. The county will post answers to questions and/or other information concerning the invitation to bid in the form of an addendum on the county's website at www.fayettecountyga.gov. It is the responsibility of the prospective bidder to check the website for any addenda issued for this invitation to bid.

5. **References**: Include with your bid a list of three (3) projects that your company has completed that are of the same or similar nature to the work described in this invitation to bid, on the form provided. Include all information as requested on the form.

6. **Bid Submission:** Submit your bid, along with any addenda issued by the county, in a sealed opaque envelope with the following information written on the outside of the envelope:

    a. The bidder's company name,
    b. The bid number, which is ***#1970-B***, and
    c. The bid name, which is **100 Pleasant Hill – Storm Conveyance Improvement**

    Mail or deliver one (1) original, unbound bid, signed in ink by a company official authorized to make a legal and binding offer, and a copy on a flash drive, to:

    Fayette County Government Purchasing Department
    140 Stonewall Avenue West, Suite 204
    Fayetteville, GA 30214
    Attention: Contracts Administrator

You may submit bids in person, by U.S. mail, or by a commercial carrier. Do not submit bids by facsimile, e-mail, or other electronic means. Once submitted, all bids become the property of Fayette County.

7. **Bid Preparation Costs**: The bidder shall bear all costs associated with preparing the bid.

8. **Late Bids:** Bids not received by the time and date of the scheduled bid opening will not be considered, unless the delay is a result of action or inaction by the county.

9. **More than One Bid**: Do not submit alternate bids or options, unless requested or authorized by the county in the Invitation to Bid. If a responder submits more than one bid without being requested or authorized to do so, the county may disqualify the bids from that responder, at the county's option.

10. **Bid Corrections or Withdrawals:** The bidder may correct a mistake, or withdraw a bid, before the bid opening by sending written notification to the Director of Purchasing. Bids may be withdrawn after the bid opening only with written authorization from the Director of Purchasing.

11. **Defects or Irregularities in Bids:** The county reserves the right to waive any defect or irregularity in any bid received. In case of an error in extension of prices or totals in the bid, the unit prices shall govern.

12. **Prices Held Firm**: Prices quoted shall be firm for the period of the contract, unless otherwise specified in the bid. All prices for commodities, supplies, equipment, or other products shall be quoted FOB Destination, Fayette County or job site.

13. **Brand Name:** If items in this invitation for bid have been identified, described or referenced by a brand name or trade name description, such identification is intended to be descriptive, but not restrictive and is to indicate the quality and characteristics of products that may be offered. Alternative products may be considered for award if clearly identified in the bid. Items offered must meet required specifications and must be of a quality which will adequately serve the use and purpose for which intended.

14. **Bidder Substitutions:** Bidders offering substitutions or deviations from specifications stated in the invitation to bid, shall list such substitutions or deviations on the "Exceptions to Specifications" sheet provided, or on a separate sheet to be submitted with the bid. The absence of such list shall indicate that the bidder has taken no exception to the specifications. The evaluation of bids and the determination as to equality and acceptability of products or services offered shall be the responsibility of the county.

15. **Samples**: When the county requires samples as part of the bid and vendor selection process, bidders must provide requested samples within the time allotted, and at no cost to the county unless otherwise specified. Any goods provided under contract shall conform to the sample submitted. The county will return samples only at the bidder's request, and at the bidder's expense, if they are not destroyed by testing.

16. **Non-Collusion**: By responding to this invitation to bid, the bidder represents that the bid is not made in connection with any competing bidder, supplier, or service provider submitting a separate response to this invitation to bid, and is in all respects fair and without collusion or fraud.

17. **Bid Evaluation:** Award will be made to the lowest responsive, responsible bidder, taking into consideration payment terms, vendor qualifications and experience, quality, references, any exceptions listed, and/or other factors deemed relevant in making the award. The county may make such investigation as it deems necessary to determine the ability of the bidder to perform, and the bidder shall furnish to the county all information and data for this purpose as the county may request. The county reserves the right to reject any bid item, any bid, or all bids, and to re- advertise for bids.

18. **Determination of Lowest Bidder**: If the Invitation to Bid includes a base bid and alternates, the low bid will be determined based on the sum of the base bid and any alternates selected by the Owner.

19. **Payment Terms and Discounts**: The County's standard payment terms are Net 30. Any deviation from standard payment terms must be specified in the resulting contract, and both parties must agree on such deviation. Cash discounts offered will be a consideration in awarding the bid, but only if they give the county at least 15 days from receipt of invoice to pay. For taking discounts, time will be computed from the date of invoice acceptance by the County, or the date a correct invoice is received, whichever is the later date. Payment is deemed made, for the purpose of earning the discount, on the date of the check.

20. **Trade Secrets – Confidentiality:** If any person or entity submits a bid or proposal that contains trade secrets, an affidavit shall be included with the bid or proposal. The affidavit shall declare the specific included information which constitutes trade secrets. Any trade secrets must be either (1) placed in a separate envelope, clearly identified and marked as such, or (2) at a minimum, marked in the affidavit or an attached document explaining exactly where such information is, and otherwise marked, highlighted, or made plainly visible. See O.C.G.A. § 50- 18-72 (A)(34).

21. **Trade Secrets – Internal Use:** In submitting a bid, the bidder agrees that the county may reveal any trade secret materials contained in the bid to all county staff and officials involved in the selection process, and to any outside consultant or other third parties who may assist in the selection process. The bidder agrees to hold harmless the county and each of its officers, employees, and agents from all costs, damages, and expenses incurred in connection with refusing to disclose any material which the bidder has designated as a trade secret.

22. **Ethics – Disclosure of Relationships**: Before a proposed contract in excess of $10,000.00 is recommended for award to the Board of Commissioners or the County Administrator, or before the County renews, extends, or otherwise modifies a contract after it has been awarded, the contractor must disclose certain relationships with any County Commissioner or County Official, or their spouse, mother, father, grandparent, brother, sister, son or daughter related by blood, adoption, or marriage (including in-laws). A relationship that must be reported exists if any of these individuals is a director, officer, partner, or employee, or has a substantial financial interest the business, as described in Fayette County Ordinance Chapter 2, Article IV, Division 3 (Code of Ethics).

    If such relationship exists between your company and any individual mentioned above, relevant information must be presented in the form of a written letter to the Director of Purchasing. You must include the letter with any bid, proposal, or price quote you submit to the Purchasing Department.

In the event that a contractor fails to comply with this requirement, the County will take action as appropriate to the situation, which may include actions up to and including rejection of the bid or offer, cancellation of the contract in question, or debarment or suspension from award of a County contract for a period of up to three years.

23. **Contract Execution & Notice to Proceed**: After the Board of Commissioners makes an award, all required documents are received by the county, and the contract is fully executed with signature of both parties, the county will issue a written Notice to Proceed. The county shall not be liable for payment of any work done or any costs incurred by any bidder prior to the county issuing the Notice to Proceed.

24. **Unavailability of Funds**: This contract will terminate immediately and absolutely at such time as appropriated and otherwise unobligated funds are no longer available to satisfy the obligations of the county under the contract.

25. **Insurance**: The successful bidder shall procure and maintain the following insurance, to be in effect throughout the term of the contract, in at least the amounts and limits as follows:

    a. **General Liability Insurance**: $1,000,000 combined single limit per occurrence, including bodily and personal injury, destruction of property, and contractual liability.

    b. **Automobile Liability Insurance**: $1,000,000 combined single limit each occurrence, including bodily injury and property damage liability.

    c. **Worker's Compensation & Employer's Liability Insurance**: Workers Compensation as required by Georgia statute.

    Before a contract with the successful bidder is executed, the successful bidder shall provide Certificates of Insurance for all required coverage. The successful offer or can provide the Certificate of Insurance after award of the contract, but must be provided prior to execution of the contract document by both parties. The certificate shall list an additional insured as follows:

    Fayette County, Georgia
    140 Stonewall Avenue West
    Fayetteville, GA 30214

26. **Bid Bond**: You must include a bid bond with your bid, equal to five percent (5%) of the total amount bid. Bid bonds shall be provided by a surety which appears on Georgia's list of approved sureties administered by the State Insurance Commissioner, or the U.S. Treasury's list of approved bond sureties (Circular 570).

27. **Performance and Payment Bonds**: Prior to execution of a contract, the successful bidder shall submit a performance bond of 100 percent of the contract amount, and a payment bond of 100 percent of the contract value, provided by a surety which appears on Georgia's list of approved sureties administered by the State Insurance Commissioner, or the U.S. Treasury's list of approved bond sureties (Circular 570).

28. **Building Permits**: Work performed for the county requiring building permits by licensed contractors will not have permit fees assessed, although any re-inspection fees for disapproved inspections will be the responsibility of the contractor prior to final inspections and the Certificate of Occupancy or Certificate of Completion being issued.

29. **Unauthorized Performance:** The County will not compensate the contractor for work performed unless the work is authorized under the contract, as initially executed or as amended.

30. **Assignment of Contract:** Assignment of any contract resulting from this invitation to bid will not be authorized, except with express written authorization from the county.

31. **Indemnification**: The contractor shall defend, indemnify and save the county and all its officers, agents and employees harmless from all suits, actions, or other claims of any character, name and description brought for or on account of any damages, losses, or expenses to the extent caused by or resulting from the negligence, recklessness, or intentionally wrongful conduct of the contractor or other persons employed or utilized by the contractor in the performance of the contract. The contractor shall pay any judgment with cost which may be obtained against the county growing out of such damages, losses, or expenses.

32. **Severability**: The invalidity of one or more of the phrases, sentences, clauses or sections contained in the contract shall not affect the validity of the remaining portion of the contract. If any provision of the contract is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision to the extent that the provision is unenforceable. In such case, the contract shall be deemed amended to the extent necessary to make it enforceable while preserving its intent.

33. **Delivery Failures:** If the contractor fails to deliver contracted goods or services within the time specified in the contract, or fails to replace rejected items in a timely manner, the county shall have authority to make open-market purchases of comparable goods or services. The county shall have the right to invoice the contractor for any excess expenses incurred, or deduct such amount from monies owed the contractor. Such purchases shall be deducted from contracted quantities.

34. **Substitution of Contracted Items:** The contractor shall be obligated to deliver products awarded in this contract in accordance with terms and conditions specified herein. If a contractor is unable to deliver the products under the contract, it shall be the contractor's responsibility to obtain prior approval of the ordering agency to deliver an acceptable substitute at the same price quoted in the contractor's original bid. In the event any contractor consistently needs to substitute or refuses to substitute products, the County reserves the right to terminate the contract or invoke the "Delivery Failures" clause stated herein.

35. **Inspection and Acceptance of Deliveries**: The county reserves the right to inspect all goods and products delivered. The county will decide whether to accept or reject items delivered. The inspection shall be conclusive except with respect to latent defects, fraud, or such gross mistakes as shall amount to fraud. Final inspection resulting in acceptance or rejection of the products will be made as soon as practicable, but failure to inspect shall not be construed as a waiver by the county to claim reimbursement or damages for such products which are later found to be in non-conformance with specifications. Should public necessity demand it, the county reserves the right to use or consume articles delivered which are substandard in quality, subject to an adjustment in price to be determined by the Purchasing Director.

36. **Termination for Cause**: The County may terminate the contract for cause by sending written notice to the contractor of the contractor's default in the performance of any term of this agreement. As appropriate, the county will compensate the contractor for completed performance, and for any partially completed performance as determined by the county to be adequately performed. Termination shall be without prejudice to any of the county's rights or remedies by law.

37. **Termination for Convenience**: The County may terminate the contract for its convenience at any time with 10 days' written notice to the contractor. In the event of termination for convenience, the county will pay the contractor for services performed. The county will compensate partially completed performance based upon a signed statement of completion submitted by the contractor, which shall itemize each element of performance completed.

38. **Force Majeure**: Neither party shall be deemed to be in breach of the contract to the extent that performance of its obligations is delayed, restricted, or prevented by reason of any act of God, natural disaster, act of government, or any other act or condition beyond the reasonable control of the party in question.

39. **Governing Law**: This agreement shall be governed in accordance with the laws of the State of Georgia. The parties agree to submit to the jurisdiction in Georgia, and further agree that any cause of action arising under this agreement shall be required to be brought in the appropriate venue in Fayette County, Georgia.

40. **Records Retention:** The contractor shall retain all records pertaining to the contract for three years after the county makes final payments to the contractor, and all other pending matters are closed.

41. **Breach of Contract:** In the event that the contractor or a subcontractor should violate or breach contract terms, upon discovery of such violation or breach the county will notify the contractor in writing. The contractor or subcontractor shall be entitled to cure the breach within ten (10) days and provide evidence of such cure. If the contractor fails to cure the violation or breach within the ten-day time, the county shall be entitled to all available remedies, including termination of the contract, or the requirement that a subcontractor be dismissed from performing work under the contract. The county shall be entitled to any and all damages permissible by law.

42. **Preconstruction Conference:** There shall be a preconstruction conference for this project with, at a minimum, Fayette County, Contractor, selected firm, utilities, testing agency, and Design Engineer.

43. **Testing and Suppliers:** All testing shall meet the requirements outlined in the GDOT Sampling, Testing and inspection guide. Contractors shall use suppliers on the appropriate GDOT Qualified Products List.

FAYETTE COUNTY PROJECT SPECIFIC TERMS AND CONDITIONS
ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

A. **Reference and Incorporation of GDOT Specifications -** Unless noted otherwise in this Invitation to Bid (ITB), the Georgia Department of Transportation's Standard Specifications Construction of Transportation Systems, 2021 Edition are incorporated by reference into the Project Manual and contract documents. All work shall be performed in accordance with the GDOT specifications, and all pay items shall be measured and evaluated in accordance with the specifications. They shall supersede all other specifications unless more stringent requirements are listed.

It is the responsibility of the Contractor to be familiar with these specifications before bidding and to adhere to them during construction. Copies of the documents can be obtained from the GDOT website.

B. **Schedule** – Time is of the essence. The project shall commence within seven (7) calendar days of the Contractor receiving the Notice to Proceed (NTP) and shall be completed within 60 calendar days of the Contractor receiving the NTP from Fayette County. Contract time is measured on a Calendar Day basis and includes County Holidays and weekends.

C. **County Holidays** – The Contractor shall not work on a County Holiday unless written approval is provided by Fayette County at least three days prior to the Holiday. The 2021 Holiday Schedule is available on the County's website: https://fayettecountyga.gov/information/county_holidays.htm

D. **Work Hours** – Unless pre-approved otherwise by Fayette County, all work shall be performed Monday thru Saturday (no Sunday work) and between the hours of 7:00 AM and 7:00 PM.

E. **Traffic Control** – The Contractor shall prepare a Traffic Control Plan for review and approval by Fayette County prior to mobilization. The Plan shall include information on road closures, lane closures, detours, access to private property, etc. The Contractor may close the portion of Old Ivy located between Redwine Road and Pleasant Hill to thru traffic. Access to all homes shall be maintained at all times. With prior County written approval, the Contractor may close one lane of Redwine Road to facilitate storm pipe installation and/or utility relocation. All signs, markings, etc. shall be in accordance with the MUTCD.

F. **Port-a-John** – The Contractor shall provide and maintain a port-a-john facility for workers during the duration of the project.

G. **Sanitary Sewer Relocation** – If relocation of the pressurized sanitary sewer line is required, the Contractor is responsible for coordinating with the property owner and performing the work at a time suitable for all parties. Provide at least 48-hours advance notice of any impact to the home's sewer system.

H. **Water System Impacts** – The Contractor shall plan and discuss possible impacts to potable water at least 48-hours beforehand with the Water System. The Water System will be responsible for notifying impacted customers.

I. **Replacement Trees in Old Ivy Right-of-Way** – The four impacted trees in the Old Ivy right-of-way shall be replaced with minimum 3-inch diameter-at-breast-height caliper Red Acer Maples, planted and staked.

Contractor shall also provide 15-gallon tree gator (or equivalent) watering bags. The existing stumps shall be fully removed by excavation prior to replanting.

J. **Prequalification of Bidders** – The Prime Contractor shall be prequalified with the Georgia Department of Transportation (GDOT) in one or more work classes applicable to the project. In addition, the following are required:

1. The Contractor doing the paving work (Prime or Sub) shall be GDOT prequalified in Work Class 400 – Hot Mix Asphaltic Concrete;

2. The Contractor installing storm pipe (Prime or Sub) shall be GDOT prequalified in Work Class 550 – Storm Drain Pipe; and

3. The Contractor working on the water line(s) shall be a licensed utility company in the State of Georgia.

The bid package shall include a list of all companies comprising the project team (Prime and Subcontractors) and documentation demonstrating the above items are satisfied. Failure to provide the documentation may result in the bid being disqualified.

K. **Section 102 – Bidding Requirements and Conditions** – This section of the GDOT Specifications shall not apply for this ITB.

L. **Section 103 – Award and Execution of Contract** – This section of the GDOT Specifications shall not apply for this ITB.

M. **Section 105.05 Cooperation by Contractor** – The Contractor will be supplied with two hardcopy sets and one portable document file (PDF) copy of the approved Plans and Contract assemblies for this ITB. The Contractor shall always keep one hard copy set on the project site.

N. **Section 105.09 Authority and Duties of the Resident Engineer** – The Resident Engineer shall be designated by Fayette County.

O. **Section 105.10 Duties of the Inspector** – Inspectors may be employed by Fayette County or Fayette County's designated Engineer.

P. **Section 106.11 Field Laboratory** – A field laboratory is not required.

Q. **Section 108.08 Failure or Delay in Completing Work on Time -** Time is an essential element of the Contract, and any delay in the prosecution of The Work may inconvenience the public, obstruct traffic, or interfere with business. In addition to the aforementioned inconveniences, any delay in completion of The Work will always increase the cost of engineering. For this reason, it is important that The Work be pressed vigorously to completion. Should the Contractor or, in case of default, the Surety fail to complete the Work within the time stipulated in the Contract or within such extra time that may be allowed, charges shall be assessed against any money due or that may become due the Contractor in accordance with the following schedule:

Contract Amount		Daily Charges
For More Than	To and Including	Calendar Day or Completion Date
$---	$50,000	$950
$50,000	$250,000	$960
$250,000	$500,000	$1,240
$500,000	$2,500,000	$1,660
$2,500,000	$5,000,000	$2,700
$5,000,000	$10,000,000	$3,400

These fixed liquidated damages are not established as a penalty but are calculated and agreed upon in advance by the County and the Contractor due the uncertainty and impossibility of making a determination as to the actual and consequential damages which are incurred by the County and the general public as a result of the failure on the part of the Contractor to complete The Work on time.

In addition to the above, the Contractor shall meet and satisfy all applicable GDOT specifications as written in Section 108 Prosecution and Progress. In the event of a conflict the more stringent shall apply.

R. **Contractor Staging** – No staging area is provided by Fayette County for the project beyond the acquired right of way and easements for the project. Contractor staging shall not interfere with traffic on County or City roads.

S. **Permits and Licenses** – Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the Contractor unless otherwise stated in the Contract Documents.

T. **Contractor Supervision and Work Coordination –** The Contractor shall supervise and direct the work. He/she shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, including traffic control. The Contractor shall employ and maintain onsite a qualified supervisor or superintendent who will be designated in writing by the Contractor as the Contractor's site representative. The supervisor shall have full authority to act on behalf of the Contractor and all communications given to the supervisor shall be as binding as if given to the Contractor. The supervisor shall always be present on the site as required to perform adequate supervision and coordination of the work.

U. **Workmanship Guarantee** – The Contractor shall warranty and guarantee all materials supplied, equipment furnished, and work performed to be free from defects (resulting from faulty materials supplied or workmanship) for a period of twelve (12) months from the date of Final Acceptance.

The Owner shall give notice of observed defects with reasonable promptness and the Contractor shall have 30 days to address the issue(s).

If the Contractor fails to make such repairs, adjustments, or other work that may be made necessary by

such defects, the Owner may do so and charge the Contractor the cost thereby incurred. If different guarantees or warranties are required in the technical specifications for specific items, then the more stringent (i.e., longer) apply.

V. **As-Built Survey** - The Contractor shall provide a third-party as-built survey of the storm sewer system. The survey shall be stamped by a Register Land Surveyor (RLS) licensed in the state of Georgia and include, at a minimum, the following information:

1. Topographic data with one-foot contours for all disturbed areas located on the 100 Pleasant Hill property;

2. The 100 Pleasant Hill residence Finished Floor Elevation (FFE), Drain Inlet (DI) elevation of structure C1, and invert of structure D3 to ensure appropriate free-board between the 100-Year ponding elevation and the residence; and

3. Up- and down-gradient invert elevations, diameter, length, and slope for all new pipe segments.

Due to the potential for flooding of private property, the as-built system shall be constructed within the following tolerances of the design:

a. Yard topography within 6-inches of design and grades to the swale and structure D3 equal to or greater than design.

b. The minimum difference in elevation between the residence FFE and top of structure C1 shall be 2.36-feet.

c. The minimum difference in elevation between the residence FFE and invert of structure D3 shall be 2.86-feet.

d. Pipe slopes shall be within +/- 0.25% of the design slope.

e. The invert of new structure A1.0 shall be within 6-inches of design in order to prevent back-water impacts to the system during large storm events.

In addition to the above, the Contractor shall meet and satisfy all applicable GDOT specifications for the installation of storm pipe. In the event of a conflict the more stringent standard shall apply.

W. **Special Allowance** – Due to the nature of the project and the potential for unforeseen conditions, it is anticipated that some additional work or modification to the scope may be required. A $15,000.00 Allowance is to be included in the Base Bid, to be used to cover Claims (Section 105.13) or Extra Work (Section 109.05). The procedures for submitting such requests are documented in the referenced Sections. If approved, the amount of the Claim or Extra Work will be deducted from the Allowance. Requests greater than the amount available in the Allowance category will require approval from the Fayette County Board of Commissioners. Any allowance remaining unused at the end of the project will be deducted from the Contract amount by a Contract Amendment.

FAYETTE COUNTY WATER SYSTEM REQUIREMENTS

ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

1. General Design Requirements

1.1. Magnetic detection tape and tracer wire shall be placed directly over all nonmetal pipe at a maximum depth of 2 feet from finished grade.

1.2. Fire hydrants are to be located on the right-of-way line, and shall have a gate valve installed between the main and the fire hydrant.

1.3. All fittings (valves, tees, crosses, bends, reducers) shall be restrained in a method approved by the Water Department. All fittings shall have a minimum of 1 full joint of DIP extending out of each side of the fitting.

1.4. Each valve 2 inches or larger, except fire hydrant valves, shall have a valve marker 4" square by 4'-0" long with four (4) #2 reinforcing rods placed directly behind the valve. The marker shall be set to leave 18 inches exposed above grade with the word “WATER” stamped into the concrete. A “V” notch should also be cut in the curb and painted blue.

1.5. Each underground valve shall include a valve box placed vertically to allow operation of the valve. Valve boxes not located in roadways shall have a pre-cast concrete collar placed level around the top for protection.

1.6. All temporary and interim water connections connected to Fayette County Water System water sources shall be approved prior to installation. Connections shall be metered and billed in accordance with the rates established by the Water Department.

1.7. Water mains that are installed crossing or immediately parallel to existing gas lines, sewer lines, or storm drains shall be ductile iron pipe as required by the Water Department and/or the Owner of the affected utility.

2. Materials of Construction

2.1 General Material Requirements

All materials shall be as specified herein or approved equal by the Fayette County Water System and/or these standards. Materials submittal are required for review and approval by Fayette County Water System for each project prior to construction.

2.1.1 Pipe

2.1.1.1 Ductile Iron Pipe (Required)

Pipe shall be Pressure Class 350 with slip joints conforming to ANSI Specifications A-21.5, latest designation. Must meet ANSI/AWWA Standard C151.

Pipe shall have an exterior coating of coal tar varnish and an interior cement mortar lining with bituminous seal coat conforming to ANSI A-21.4, latest designation.

The seal coat for the lining shall not impair the potability or impart color, taste, odor, phenols, toxicity, caustic alkalinity, or have deleterious effect to the Water. Each pipe shall bear a mark denoting the class to which it belongs. All pipe shall be manufactured within the limits of the continental United States.

2.1.1.2 Steel Casing Pipe

Pipe shall be of steel construction of the size and wall thickness below with lengths called for on the approved plans.

Water Main Size	Casing Size*	Wall Thickness
8"	16"	.250
10"	16"	.250
12"	18"	.312
16"	24"	.375
18"	30"	.375
20"	30"	.375
24"	36"	.500

* Slip Joint DIP Applications with Field Lok Gaskets or approved equal.

2.1.1.3 Nestable Corrugated Steel Casing Pipe

Pipe shall consist of matching half-round segments of 14 gauge corrugated galvanized steel casing pipe which when assembled, become lengths of full-round corrugated steel pipe. Feasible alternatives will be considered by the Water Dept.

2.1.1.4 Copper Tubing

Type K copper 2 inches and smaller shall conform to AWWA Specification 7S-CR, ASTM Specifications B-88, and Federal Specification WW-T-799. All service lines from the main to the meter up to 1" shall be copper tubing. Service lines from 1-1/4" up to 3" can be copper tubing or HDPE water service tubing as defined above. Copper Tubing in vaults shall be Type L hard copper.

2.1.2 Joints and Gaskets

No lead-tip gaskets shall be used.

2.1.2.1 Mechanical Joint Ductile Iron Pipe

Mechanical joint ductile iron pipe shall be furnished with mechanical joint retainer glands, complete with rings, gaskets, bolts, and joint materials conforming to ANSI A-21.11, latest designation.

2.1.2.2 Slip Joint Ductile Iron Pipe

Gaskets shall conform to ANSI A-21.11, latest designation. Use lubricants and gaskets of proper size, shape, and composition as recommended by the pipe manufacturer.

2.1.3 Pipe Fittings and Specials

2.1.3.1 Specials

Specials shall be short body Class 350 ductile iron conforming to ANSI A-21.1 and A-21.10. Fittings shall be epoxy resin lined and conform to ANSI A-21.11. Ductile iron fitting shall be as manufactured by the Ductile Iron Company of America, or equal. Fittings and Specials shall be complete with rings, bolts, gaskets, etc., for joints.

2.1.4 Valves

All valves shall meet current AWWA Standards.

2.1.4.1 Twelve (12) Inch and Larger Valves

Twelve (12) inch and larger valves shall be Butterfly Type Dresser Style 450, Mueller, Pratt or approved equal for underground service with a two (2) inch square operating nut. Connections shall be mechanical joint with retainer glands.

2.1.4.2 Eight (8) Inch and Smaller Valves

Eight (8) inch and smaller valves shall be Resilient Seat Gate Type Dresser Style 3067-01 Mueller or approved equal for underground service with a two (2) inch square operating nut. Connections shall be mechanical joint with retainer glands.

2.1.4.3 Air Release Valves

Air release valves shall be Vent-O-Mat Series RBX or approved equal with check valve on vent to prevent return of air into water main.

2.1.4.4 Check Valves and Backflow Preventers

Are required in all new construction and shall be in accordance with Fayette County Water System requirements.

2.1.4.5 Tapping Sleeves, Crosses and Valves

Tapping sleeves shall be Ford FAST Style stainless steel or approved equal. Crosses and valves shall be mechanical joints and of the proper type for the pipe material to be tapped.

2.1.4.6 Valve Boxes

Valve boxes shall be of the roadway extension type, of proper length and base size with suitable detachable cover, coated inside and out with a good asphaltum paint. Valve extensions are required on all valves at trench depths greater than six feet. Boxes shall be manufactured of ductile iron, be 5-1/4 inch inside diameter, "Standard Telescopic Valve Box" as manufactured by Griffin Foundry and Mfg. Company, Rome, Georgia, or approved equal. Cover shall be marked "Water" in raised cast letters. All boxes not located in roadway shall have a 24" diameter pre-cast concrete collar placed level around the top for protection.

2.1.5 Fire Hydrants

All fire hydrants shall conform to the requirements of AWWA C502, latest revision for 250 psi working pressure. Hydrants shall be the compression type, closing with line pressure. Hydrants shall meet Georgia Fire Insurance Commission Standards and Local Fire Department requirements.

Fire hydrants shall be cast iron, bronze mounted, left opening with tamper proof operating nuts and mechanical joint end connections. Hydrants shall have 5-1/4 inch main valve opening, two (2) 2-1/2 inch hose nozzles, and one (1) 4 -1/2 inch steamer nozzle. Hydrants shall have 30 to 36 inches above grade. Hydrants shall be M&H Style 129, or approved equal. All hydrants shall be dry tap, traffic model meeting all AWWA Standard Specifications, conforming to Georgia Fire Insurance Commission Standards. All hydrants shall have a 5-1/4 inch minimum main valve opening.

3. GENERAL CONSTRUCTION REQUIREMENTS

3.1. General

The following shall establish the general construction requirements for the installation of all water piping and pumping facilities as well as clearing and grubbing of right-of-ways and easements, and paving and grassing of areas behind curb lines as required for installation, maintenance, and repair of water and sewer systems in unincorporated areas of Fayette County.

It shall be understood that these standards reflect the minimum requirements necessary for final acceptance of the utility by the Water Department.

a) It shall be the responsibility of the contractor to notify all utility companies prior to any excavation.

b) The contractor shall notify the Fayette County Water System forty-eight (48) hours prior to beginning construction.

All construction shall be subject to inspection by authorized representatives of the Water Department at any time, and at their request no dirt cover shall be placed on any portion of completed water or sewer system until it has been inspected and approved by the Water Department Inspector.

It shall be the responsibility of the contractor to coordinate all construction and insure that these standards are adhered to. Any work not meeting these standards shall be corrected immediately by

the contractor, after notification by the County Water Department Representative. Should the work not be corrected after verbal notification, a written stop work order shall be issued by the Water Department until the deficiencies have been corrected.

3.2 Bench Marks and Monuments

All established bench marks, property pins, monuments, and other reference points shall be maintained; if destroyed or disturbed, they shall be replaced as directed by the Water Department.

4. WATER SYSTEM CONSTRUCTION STANDARDS

4.1 Installation Procedures

4.1.1 General

The following shall establish the general construction requirements for the installation of water distribution systems, installed, operated, and maintained in the unincorporated areas of Fayette County. It shall be understood that these standards reflect the minimum requirements necessary for final acceptance of the utility by the Water System.

a) It shall be the responsibility of the contractor to notify all utility companies prior to any excavation. Any pipe, solder or flux used in the installation or repair of water service lines or water mains must be lead-free. Pipe and fittings must not contain more than 8.0% lead and solders and flux must not contain more than 0.2% lead.

b) The contractor shall notify the Fayette County Water System forty-eight (48) hours prior to beginning construction. This department may request a pre-construction conference with the contractor and his sub-contractor before beginning construction.

c) All construction shall be subject to inspection by authorized representatives of the Water Department at any time, and at their request no dirt cover shall be placed on any portion of installed facilities until it has been inspected and approved by the Water Department Inspector.

d) It shall be the responsibility of the contractor to coordinate all construction and insure that these standards are adhered to. Any work not meeting these standards shall be corrected immediately by the contractor, after notification by the Water System Representative. Should the work not be corrected after verbal notification, a written stop work order shall be issued by the Water Department until the deficiencies have been corrected.

e) All work performed in excavations shall be conducted in such a way as to ensure the safety of the workers is maintained. Safe practices should conform to OSHA regulations for working in confined spaces especially as they pertain to excavations and the protective systems they require.

4.1.2 Trench Construction

4.1.2.1 Trench Description

Trench may be open cut from the ground surface where designated on the plans or approved by the Water Department. Boring may be required to protect certain surface improvements and to satisfy requirements of the Georgia Department of Transportation and/or the railroad companies. Minimum width shall be the nominal diameter of the pipe plus twelve inches and minimum cover on pipe shall be 48 inches. Bottom of the trenches shall be hand dressed so that the pipe has even bearing on solid undisturbed earth throughout its entire length between bell holes. Bell holes of sufficient size for making perfect joints shall be provided. Changes in grade shall be gradual.

4.1.2.2 Alignment

Alignment shall be as indicated on the approved plans. When an obstruction is encountered, make necessary changes in alignment or grade as approved by the Water Department. Injury or damage to adjacent structures, water, sewer, gas line, or other utilities should be avoided.

4.1.2.3 Excavation

Excavation shall consist of removing earthwork for the satisfactory placement of water mains and appurtenances. This includes vegetation, brush and debris, soil, rock, pavements, etc., for the intent and purpose of constructing the work to required lines and grades, including sheathing, bracing and dewatering of excavations, trench bed stabilization, and such other incidentals necessary to comply with plans and specifications.

Plans direct sections where jack and bore methods are required under certain pavements and/or railroads.

4.1.2.4 Sheathing and Bracing

When trench sides must be kept as nearly vertical as possible, it may be necessary to sheath, brace, or support trench sides.

When trench depth excavation exceeds five (5) feet, sheathing and bracing shall be required to protect the pipe crew from injury, irrespective of the visible judgment of soil conditions by the Contractor. In event the sheathing cannot be removed without injury to the pipe of adjoining structures, it shall be left in place or cut, and the upper part then removed. All trenching, sheathing, bracing, side sloping, etc., shall conform to the regulations of the Occupational Safety and Health Administration of the U. S. Department of Labor (OSHA). Side sloping in accordance with OSHA regulations is acceptable where conditions permit. It shall be the responsibility of the Contractor to insure that all safety measures are met.

4.1.2.5 Stabilization and Bedding

Subgrade stabilizer is to be used where required by the Water Department. In soft ground, quicksand, or in areas where soil conditions are such that pipe alignment, or grade is endangered, the trench shall be excavated below grade and then brought back to grade with stone stabilizer material. Stone stabilizer material shall be

A.S.T.M. #57 crushed stone. Depth of stone shall be 6 inch min. or as directed by the Water Department.

4.1.2.6 Excavated Material

All excavated material shall be placed on one side of the trench in a manner to prevent blockage of surface drainage patterns and traffic. It shall be so placed as to not endanger the work, allowing at all times free access to the trench, and all existing utilities publicly or privately owned, particularly fire hydrants.

Where necessary, wood fencing or retainers shall be erected to retain the excavated material within narrow limits to prevent obstruction of traffic and/or encroachment upon pavements or other areas restricted by property owners. Included shall be protection of hedges, walls, flower/rock gardens, shade trees, fruit trees, and vegetable gardens. Satisfactory provisions shall be made for travel on sidewalks, crosswalks, streets, railroads, bridges, private ways, railings, barriers, etc. All drains, gutters, culverts, and sewers for surface drainage shall be kept open, or if it is evident they must be temporarily closed then all requirements of the Owner must be met prior to such closing.

Excavated material shall not, in any case, be placed upon the pavement surfaces of public roads or streets, owned by the city, county or state, unless prior approval is given by the proper Department having jurisdiction. In periods between dusk and daylight, and during inclement weather when visibility is limited, caution lights and barricades shall be placed at each end and along the excavated material. Each building, wall, fence, pile, bridge, railroad, sidewalk, driveway, tree, lawn, garden, or any other improvement encountered is to be properly protected from injury. In event of damage during the work, prompt repairs satisfactory to the Water Department and the property owner shall be made by the Contractor.

4.1.2.7 Limit of Open Trench

The length of the trench to be opened or the area of surface to be disturbed and restored at any one time shall be limited to that which the Contractor can complete in one day's work, or less in event of apparent inclement weather, or not to exceed 100 feet.

It shall be the Contractor's responsibility to provide adequate barricades, warning signs, flagmen, flashing lights, etc., as necessary to safeguard the public. All trenches must be backfilled by the close of each work day.

4.1.2.8 Disposition of Water

Keep trenches free of water. The Contractor shall furnish all equipment and labor necessary to remove any water found or accumulated in the trench. Other excavation shall be kept clear of water while pipe is being laid or concrete or masonry is being placed. No pipe shall be laid in water and water must not be permitted to flow over or rise upon any masonry or pipe until the work has been accepted to prevent flow-in of silty water and thus prevent buildup of foreign matter in the pipe.

All water pumped or bailed from the trench or other excavation must be conveyed in an acceptable manner to a suitable point of discharge, i.e. a stream or ditch,

where it shall not cause injury to public health, or public or private property, or to work under construction or previously completed or to the street surfaces, or to cause interference with the use of streets by the public.

4.1.2.9 Excavation Near Roads and Railroads

Special care must be exercised in trenching near roads and railroads to protect against collapsing of the roadbed structure. Each situation must be evaluated on account of varying soils. Where excavations encroaching at or near roads and/or railroads will be limited because of scheduled jack/bore methods required for installations under roads and/or railroads, the trench excavated shall be halted at least ten (10) feet from the pavement edge of a road, or more if soil conditions so indicate, and no nearer than twenty-five (25) feet from the centerline of the railroad track nearest the excavation as measured at 90 degrees (right angles) to the railroad.

4.1.2.10 Subsurface Obstructions

In excavating, backfilling and laying pipe care must be taken not to remove, disturb or injure any water, sewer, gas, electric, telephone, or other conduits or utilities without prior approval of the owner of the utility encountered, including private utilities.

If necessary in order to perform the intended work, the Contractor shall sling, shore up, and maintain such utilities in operation, and promptly repair any damage done to them. Before final acceptance of the work, all such utilities shall be made "equal to or better" than prior to construction.

It shall be the Contractor's responsibility to locate underground utilities. In event of damage to the utilities, the Contractor will promptly notify the utility owner (private or public) and must assume full responsibility therefore.

In event pipe or conduits providing service to adjoining buildings are broken, or damaged to some questionable degree of service, the Contractor shall immediately make repairs at his own expense, or be otherwise liable for repair costs incurred by others. The utility owner reserves the right to make repairs, caused by the Contractor, without prior notice. Removal or relocation of a utility encountered may be done upon prior approval by the utility owner given directly to the Contractor.

4.1.2.11 Embankments

Whenever the water main is to be installed in a fill area, the Water Department will require the installation of ductile iron pipe.

4.1.2.12 Rock Excavation

Remove rock to 6 inches below grade of trench and build back trench bottom with suitable material tamped into place.

When necessary, blasting operations shall be conducted in strict accordance with all existing ordinances and regulations. Blasting shall be conducted by persons licensed to use explosives.

4.1.2.13 Inspection Before Laying of Pipe

Before any pipe is laid in the trench, the pipe shall be subject to inspection. Only first quality pipe with smooth surfaces (interior and exterior), free from cracks, flaws, blisters, etc., shall be used. Pipe contaminated with dirt deposits shall be cleaned prior to installation in the trench.

4.1.3 Pipe Installation

4.1.3.1 Handling

Pipe shall be carefully unloaded with a pipe unloader or crane.

4.1.3.2 Laying

Pipe shall be swept clean of trash or dirt before lowering into the trench. After the pipe has been cleaned it shall be lowered into the trench in such a manner that the pipe shall not be damaged. Each joint shall then be lined and brought to a uniform grade upon a solid trench bottom. Bell holes for couplings or bell shall be prepared with a minimum clearance of two inches. Pipe shall be laid in straight lines on uniform grades and shall not be deflected either vertically or horizontally in excess of that recommended by the manufacturer. Pipe shall be installed below pavement.

Before stopping work each day all open pipe ends shall be closed with a proper size plug. Protect pipe from floating.

4.1.3.3 Mechanical Joints

Clean spigot and bell of foreign material and apply a prepared lubricant solution before slipping gasket and gland over spigot end of pipe. Small side of gasket and lip of gland must face the socket. Paint gasket with lubricant solution and place spigot end of pipe securely home in socket. Push gasket evenly into position in socket, slide gland into position and tighten bolts with fingers.

Tighten bolts with a torque wrench to recommended tightness by tightening bottom bolt and then top bolt. Thereafter, all bolts shall be tightened in sequence of 180o apart until all bolts are within the range of torque recommended by the manufacturer. If effective sealing is not accomplished, disassemble and reassemble after thorough cleaning.

4.1.3.4 Slip Joints

Jointing shall be made with rubber gaskets and lubricant furnished by the manufacturer in strict accordance with the manufacturer's recommendations. Prepare field cut pipe by filing 1/8 inch 30o bevel on pipe end to avoid injuring gasket.

4.1.3.5 Threaded Pipe

Wire brush threads clean and apply an approved joint compound. Tighten until joint is snug and watertight.

4.1.3.6 Polyvinyl Chloride Pipe

Pipe shall be American Water Works Standard AWWA C900 or C909. Do not thread PVC pipe; when connections to existing threads are necessary, adaptors will

be used. Use strap wrenches to couple threaded PVC pipe fittings and use lubricant recommended by pipe manufacturer.

Avoid excessive torque and do not score pipe. Use couplings furnished with pipe for fittings and install in strict accordance with the manufacturer's recommendations.

4.1.3.7 Nestable Corrugated Steel Casing Pipe

Construct trench approximately 12 inches wider than the diameter of the pipe to be installed. Round bottom of trench to conform to the shape of the pipe. Remove large stones and other obstructions. Do not excavate more material than necessary. If excavation is made in unstable soil, place a 12-inch layer of gravel in trench bottom. Assemble pipe casing in strict accordance with manufacturer's recommendations.

4.1.3.8 Restrained Joints

All restrained joints shall be installed in strict accordance with manufacturer's recommendations.

4.1.4 Connections to Existing Mains

Connections to existing mains shall be made at the locations shown on the plans or as directed by the Water Department. No connections shall be made without first submitting the name and references of the Contractor performing the work for approval by the Water Department. After Contractor approval, connections may be made forty-eight (48) hours after notice is given to the Water Department.

When existing gate valves on the distribution system must be shut off in order to make connections, this work will be done by the contractor with approval of the Water Department. Shut-offs will be made at such time as will be convenient to the greatest number of customers affected.

When an existing main has been cut or a plug removed for a connection, the work of making a connection shall proceed without interruption until complete.

Connections to existing mains shall be governed by all applicable provisions of these specifications. The contractor shall locate, excavate and cut the existing main, remove the section of old pipe, rework the trench, connect the new pipe with the old and set necessary specials and valves as shown on the approved plans. All necessary precautions shall be taken to brace valves and mains under pressure to prevent blow outs.

Where new construction is required over existing piping, a steel reinforced grade beam at least 4 feet wide and 2 feet deep is required.

4.1.5 Backfilling

The trench shall be backfilled with loose native earth free of clods, large stones, debris, or other objectionable material.

In traffic areas, particularly roads and streets, parking lots and walkways, the full depth of backfill shall receive thorough tamping in 6 inch layers to a minimum of 98% standard proctor density. The Water Department may request that soil compaction test be performed by an outside testing consultant. The contractor will be responsible for payment to the testing

consultant. Particular attention is directed to driveways and walkways, and areas subject to mail delivery where prompt backfilling is required to prevent inconvenience to the public.

In all areas of construction, the excavated material shall be cleared from the premises and the completed work left in a neat and acceptable condition. Included are such items as broken pavement and other matter not classified as earth.

Trenches and other excavated areas completed by the Contractor shall be kept in a good and safe condition during a two year maintenance period following acceptance by the Water Department and regulatory agencies.

4.1.5.1 Time

Trenches shall be backfilled as soon as practical after laying and jointing the pipe. Provisions for traffic as specified under "Excavated Material" must be adhered to.

4.1.5.2 In Non-Traffic Areas

Carefully refill with suitable material in layers not exceeding 6 inches in thickness and thoroughly tamp with mechanical tamps to one foot above the top of the pipe. The remainder of the trench may be backfilled without tamping with the exception of areas around valves and fire hydrants which require tamping as specified under the installation of those items. The backfill shall be rounded over the trench to provide allowance for future backfill settlement.

4.1.6 Uncased Bores for Driveways

Uncased bores for lines under paved driveways shall be in strict accordance with State Highway requirements and all applicable provisions of the plans and specifications.

Shore, brace and maintain all safety measures to avoid danger or damage.

4.1.6.1 Asphalt Concrete Paving Replacement (Where Open Cut is Allowed)

Materials and construction methods shall conform to the Georgia State Department of Transportation Standard Specifications, latest edition, and typical details of these standards.

4.1.6.2 Removal

Existing pavement shall be sawed.

4.1.6.3 Excavation and Backfill

Excavation and backfill shall be in accordance with this Section.

4.1.6.4 Base

Base shall be 8 inches of "High Early Strength" concrete in accordance with Section 430 of the Georgia Standard Specifications for Construction of Roads and Bridges.

4.1.7 Setting Valve Markers

Set vertically in ground with 18 inch projecting. Locate as directed by Water System.

4.1.8 Plugging Dead Ends

All dead ends of pipes, tees, or crosses shall be plugged or capped. Installation of plugs or caps shall be as specified for similar pipe and fittings. A fire hydrant assembly shall be installed on the end of the pipe as directed by the Water Department.

4.1.9 Pipe Restraint Requirements

All bends, tees, ends of mains, and crosses shall be restrained as indicated on the plans or as directed by the Water Department. All restrained joints shall conform to manufacturer's recommendations.

4.1.10 Fire Hydrants

Shall be located and installed as shown on the plans or as directed by the Water Department, and set plumb from 30 to 36 inches of hydrant exposed above the ground. Contractor will furnish adjustable anchor couplings as required to maintain these dimensions. Hydrant extension kit will only be allowed if approved by Fayette County Water System prior to installation.

Foreign matter shall be removed from the interior of hydrants, stuffing boxes tightened and the valve operated to assure they are in working order before installation.

Fourteen (14) cubic feet of gravel shall be placed around base of hydrants to insure drainage. Tie rods or hydrant tees and anchor couplings shall be installed, and backfill shall be thoroughly tamped around hydrants. See details.

4.1.11 Services

4.1.11.1 Cross Connections

Cross connection to any other water supply, either by the contractor or an Individual, is not permitted.

4.1.11.2 Cleanup and Property Restoration

Upon completion of backfilling, all surplus earth, rock or other materials shall be moved and disposed of immediately by the Contractor. All streets, driveways, monuments, mailboxes or other private property damaged by the Contractor or Sub-Contractors shall be cleaned up and restored to their original condition as soon as possible.

4.1.12 Protection of the Work

The contractor will be responsible for the care of all work until final completion and acceptance, and will be required to make good at his own expense any damage or injury it may sustain for any cause.

4.2 Hydrostatic Testing

4.2.1 Expelled Air

Before applying the specified test pressure, all air shall be expelled from the pipe. If hydrants, blow-offs or air release valves are not available at the high elevations, the Contractor shall make the necessary taps at points of highest elevation before the test is made and insert plugs after the tests have been completed. Any cracked or defective pipe, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and

replaced with sound material and the test shall be repeated until satisfactory to the Water System.

4.2.2 Testing Required

After all piping has been placed, each section shall be tested by the contractor in the presence of the Department Inspector and tests shall be continued until all leaks have been made tight to the satisfaction of the Department Inspector. The contractor shall furnish all water pumps, gauges, bulkheads, and other materials necessary to conduct the test as herein required. Every precaution must be taken to valve off or otherwise protect control equipment in or attached to the pipe line to prevent damage or injury thereto. All piping shall be hydrostatically tested at a pressure of at least one and one-half times the rated pressure of the pipe for fifteen (15) minutes, then at the rated pressure of the pipe for two (2) hours.

4.2.3 Allowable Leakage Test

Following the initial fifteen (15) minute pressure test, the pressure loss shall be recorded and the pressure dropped to the rated pressure of the pipe for the additional two (2) hours.

At the end of the two (2) hour period a leakage test shall be conducted as follows. The pipe being tested shall be refilled, monitoring the amount of water required, until the original pressure rating is obtained. The maximum leakage allowed will be ten (10) gallons per inch diameter per mile per day.

4.2.4 Water for Testing

Prior to receiving water for hydrostatic testing, the Contractor shall notify the Water Department that he desires water for testing and disinfection. A temporary fill line shall be extended from an existing active water main to the water main being filled. This line shall be equipped with a meter and a backflow prevention device as specified herein. The Water Department shall provide an inspector to operate all active water valves and witness tests and disinfection procedures. The contractor or his sub-contractor shall not operate active water valves under any circumstances.

Water used in testing shall be paid for by the contractor at the standard rate as established by the Water Department. The amount shall be calculated by determining the capacities of the lines installed and being tested or as read from the meter on the temporary fill line.

4.3 Disinfection of Water Lines

4.3.1 General

After piping has been satisfactorily installed, pressure tested and flushed, the contractor shall disinfect all potable water lines and equipment installed by him. Precaution should be taken in laying pipes, valves, and hydrants to keep them as clean as possible to minimize contamination. Water mains shall be disinfected by filling them with water and introducing a chlorine solution during the filling process to achieve 25 mg/l free chlorine throughout the main. Care should be taken in filling the mains so that the entrained air is drawn from the pipe at all high points so as to permit intimate contact of the disinfection agent with the entire inside surface of the pipe and appurtenances. The disinfection solution shall be allowed to remain in the lines for not less than twenty-four (24) hours. At the end of the 24 hour period, all portions of the main shall show a residual chlorine content of not less than 10 mg/l. The heavily chlorinated water shall be neutralized with an approved chemical or method prior to discharging from the water mains.

Disinfection of water lines and the disposal of heavily chlorinated water (following disinfection) must be accomplished in accordance with the latest edition of AWWA Standard C651.

4.3.2 Notification of Testing

The Water Department shall be notified twenty-four (24) hours before filling lines for disinfection.

4.3.3 Amount of Disinfecting Agent Used

An acceptable method is by preparing a 1% solution with sodium hypochlorite or calcium hypochlorite. The required amount of chlorine to produce a 25 mg/l concentration in 100 feet of pipe is as follows:

Pipe Diameter	100% Chlorine (lb.)	1% Chlorine Solutions (gal.)
4	.013	0.16
6	.030	0.36
8	.054	0.65
10	.085	1.02
12	.120	1.44
16	.217	2.60

4.3.4 Residual Testing

After wasting the heavily chlorinated water in an approved manner and final flushing, water samples shall be taken from the water main and shall be tested for bacteriological quality at a state approved lab. Copies of written lab results must be received by the Water Department prior to installation of any water meters.

4.4 Inspections and Acceptance

4.4.1 General

Before water can be used in a new system, the system must first receive final approval and acceptance from the Fayette County Water Department.

4.4.2 Inspection for Approval

Authorized representatives of the Water Department shall have access to the work for inspection at any reasonable time. The final inspection of all improvements shall be held before conditional acceptance of the work and before the start of the two (2) year maintenance period. When all construction in accordance with these standards has been completed, the contractor shall request by letter a final inspection and acceptance from the Water Department.

All permits and drawings will be examined at this time to insure that the work has been completed in accordance with the approved plans and these standards.

4.4.3 Stop Work Order

Any work not meeting the requirements of these standards or the approved plans shall be corrected by the contractor. At any time, throughout construction, should the work not be corrected after notification by the County, a stop work order shall be issued by the County.

BIDDER QUALIFICATIONS
ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

In addition to other requirements specified within the Bid Package, bidders shall meet the following minimum qualifications to be considered responsive and responsible. The bidder shall provide sufficient documentation to demonstrate these qualifications are satisfied. Minimum submittal requirements are indicated in italics.

1. Company contact information. *Provide a completed "Company Information Form".*

2. Identify the project team. The Prime Contractor and/or Subcontractors shall be GDOT prequalified in GDOT work class areas as defined elsewhere in these Fayette County Terms & Conditions.

3. The Prime Contractor shall have been in business under the present company name for a minimum of three (3) years and shall not have been declared in default on any construction contract within that time. *Provide a letter on company letterhead and signed by the President/CEO certifying this information.*

4. The Contractor and/or the designated Subcontractors shall have, within the past five years, successfully completed at least three stormwater infrastructure projects that include similar roadwork. *Provide a completed "Contractor Experience Form" demonstrating the requested experience.*

EXCEPTIONS TO SPECIFICATIONS

Invitation to Bid #1970-B: 100 Pleasant Hill – Storm Conveyance System

Please list below any exceptions or clarifications to the specifications of this bid. Explain any exceptions in full.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

COMPANY NAME: _____

COMPANY INFORMATION FORM
ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

COMPANY

Company Name: _____

Physical Address: _____

_____

Mailing Address (if different): _____

_____

AUTHORIZED REPRESENTATIVE

Signature: _____

Printed or Typed Name: _____

Title: _____

Email Address: _____

Phone Number: _____ Fax Number: _____

PROJECT CONTACT PERSON

Name: _____

Title: _____

Office Number: _____ Cell Number: _____

Email Address: _____

CONTRACTOR EXPERIENCE FORM

ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

Project 1

Project Name	
Project Location	
Owner Name	
Owner Telephone & Email	
Date of Award	
Date of Completion	
Contract Amount ($)	
Project Description	

Project 2

Project Name	
Project Location	
Owner Name	
Owner Telephone & Email	
Date of Award	
Date of Completion	
Contract Amount ($)	
Project Description	

CONTRACTOR EXPERIENCE FORM - continued
ITB #1970-B: 100 Pleasant Hill – Storm Conveyance Improvement

Project 3

Project Name	
Project Location	
Owner Name	
Owner Telephone & Email	
Date of Award	
Date of Completion	
Contract Amount ($)	
Project Description	

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(l)

The undersigned contractor ("Contractor") executes this Affidavit to comply with O.C.G.A § 13-10-91 related to any contract to which Contractor is a party that is subject to O.C.G.A. § 13-10-91 and hereby verifies its compliance with O.C.G.A. § 13-10-91, attesting as follows:

a) The Contractor has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program;

b) The Contractor will continue to use the federal work authorization program throughout the contract period, including any renewal or extension thereof;

c) The Contractor will notify the public employer in the event the Contractor ceases to utilize the federal work authorization program during the contract period, including renewals or extensions thereof;

d) The Contractor understands that ceasing to utilize the federal work authorization program constitutes a material breach of Contract;

e) The Contractor will contract for the performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the Contractor with the information required by O.C.G.A. § 13-10-91(a), (b), and (c);

f) The Contractor acknowledges and agrees that this Affidavit shall be incorporated into any contract(s) subject to the provisions of O.C.G.A. § 13-10- 91 for the project listed below to which Contractor is a party after the date hereof without further action or consent by Contractor; and

g) Contractor acknowledges its responsibility to submit copies of any affidavits, drivers' licenses, and identification cards required pursuant to O.C.G.A. § 13-10-91 to the public employer within five business days of receipt.

_____ _____

Federal Work Authorization User Identification Number Date of Authorization

_____ 1970-B: 100 Pleasant Hill - Storm Conveyance System

Name of Contractor Name of Project

_____

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 20_____ in _____ (city), _____ (state).

_____

Signature of Authorized Officer or Agent

_____

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20_____.

_____

NOTARY PUBLIC
My Commission Expires: _____

BIDDER NAME: _____

Project Pricing Sheet Fayette County ITB #1970-B 100 Pleasant Hill Storm Conveyance Improvement					
Pay Item #	**Item Description**	**Quantity**	**Unit Measure**	**Unit Price**	**Total Price**
151-1000	MOBILIZATION	1.00	LS		
				Subtotal	
	Roadway				
150-1000	TRAFFIC CONTROL	1.00	LS		
310-5080	GR AGGR BASE CRS, 8 IN, INCL MATL	180.00	SY		
402-3103	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	60.00	TN		
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	100.00	TN		
413-0750	TACK COAT	42.00	GL		
441-0104	CONCRETE SIDEWALK, 4 IN	20.00	SY		
432-0206	MILL ASPH CONC PVMT, 1 1/2 IN DEPTH	180.00	SY		
441-6012	CONC CURB & GUTTER, 6 IN X 24 IN, TP 2	215.00	LF		
				Subtotal	
	Drainage				
205-0001	UNCLASS EXCAV	900.00	CY		
210-0100	GRADING COMPLETE	1.00	LS		
610-0959	REMOVE PIPE (12" CMP)	75.00	LF		
610-0959	REMOVE PIPE (18" CMP)	285.00	LF		
610-0959	REMOVE PIPE (24" CMP)	210.00	LF		
550-1180	STORM DRAIN PIPE, 18 IN, H 1-1	25.00	LF		
550-1360	STORM DRAIN PIPE, 36 IN, H 1-10	660.00	LF		
550-3336	SAFETY END SECTION 36 IN, STORM DRAIN, 4:1 SLOPE	1.00	EA		
550-4236	FLARED END SECTION 36 IN, STORM DRAIN	1.00	EA		
668-5000	JUNCTION BOX	3.00	EA		
668-2100	DROP INLET, GP 1	2.00	EA		
009-3500	MISC. LANDSCAPE ITEMS - RIVER ROCK, 6 - 8 INCH	220.00	SY		
207-0203	FOUND BKFILL MATL, TP II (Pipe Bedding)	800.00	CY		
600-0001	FLOWABLE FILL and/or GROUT (For Abandon Pipe)	8.00	CY		
				Subtotal	
	Signing and Marking				
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	800.00	LF		
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	30.00	LF		
653-3501	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	150.00	LF		
Project Pricing Sheet Fayette County ITB #1970-B 100 Pleasant Hill Storm Conveyance Improvement					

BIDDER NAME: _____

				Subtotal	
	Staging				
202-1500	CLEARING & GRUBBING	1.00	LS		
				Subtotal	
	Erosion Control				
163-0232	TEMPORARY GRASSING	0.50	AC		
171-0030	TYPE C SILT FENCE	600.00	LF		
643-8200	TREE PROTECTION FENCE	720.00	LF		
716-2000	EROSION CONTROL MATS	250.00	SY		
702-9025	LANDSCAPE MULCH	750.00	SY		
700-6910	PERMANENT GRASSING	0.50	AC		
603-2180	STN DUMPED RIP RAP, TP 3, 12 IN (Outlet Protection and Check Dams)	45.00	SY		
700-9300	SOD (Bermuda)	1400	SY		
603-7000	PLASTIC FILTER FABRIC	25.00	SY		
				Subtotal	
	Landscape				
009-3500	MISC. LANDSCAPE ITEMS - RED ACER MAPLE TREES, 3 IN DBH	4.00	EA		
				Subtotal	
	Waterline				
-	INSTALL DIP INCLUDING FITTINGS AND TESTING, 8 IN	40.00	LF		
-	INSTALL DIP INCLUDING FITTINGS AND TESTING, 12 IN	140.00	LF		
-	FIELDLOCK GASKET, 8 IN	1.00	EA		
-	UNIFLANGE RETAINER GLANDS (OR EQUIVALENT), 8 IN	8.00	EA		
-	PLUG, 6 IN	1.00	EA		
-	MECHANICAL JOINT WITH BLOCKING, 12 IN X 8 IN	2.00	EA		
-	GATE VAVLE, 8 IN	3.00	EA		
-	BUTTERFLY VALVE, 12 IN	3.00	EA		
-	MECHANICAL JOINT 45 DEG BENDS WITH BLOCKING, 12 IN	4.00	EA		
-	MECHANICAL JOINT 45 DEGREE BENDS BLOCKING, 8 IN	8.00	EA		
-	UNIFLANGE BELL JOINT RESTRAINT GLAND (OR EQUIVALENT), 12 IN	23.00	EA		
				Subtotal	
	Sanitary Sewer Force Main				
-	SANITARY FORCE MAIN, 2 IN	1.00	LS		
				Subtotal	
	Allowance				
	ALLOWANCE	1.00	LS	***Subtotal***	$ 15,000.00
				Total Construction Cost =	

CIVIL CONSTRUCTION DOCUMENTS FOR

FAYETTE COUNTY

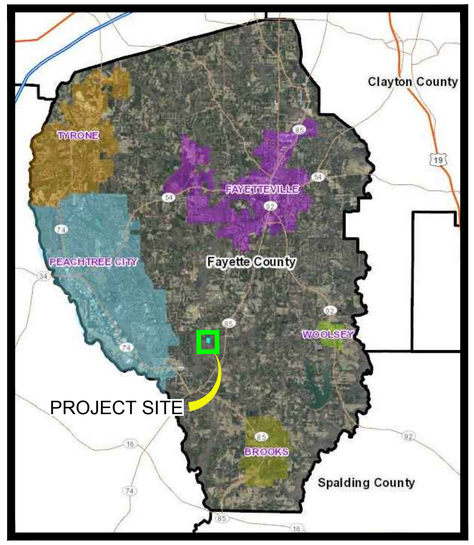
100 PLEASANT HILL - STORM CONVEYANCE IMPROVEMENT

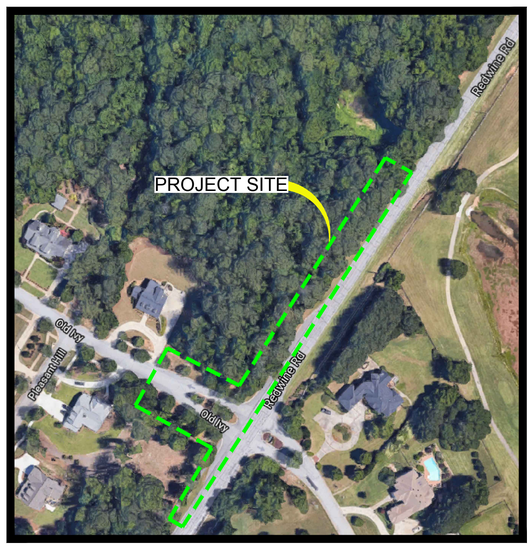
LAND LOT 1, 1ST DISTRICT, FAYETTE COUNTY, GA.

MAY 14, 2021

FOR CONSTRUCTION ONLY

FAYETTE COUNTY PROJECT NUMBER: N/A





VICINITY MAP

SCALE: NTS

CLIENT INFORMATION

OWNER CONTACT (24-HR):
PHIL MALLON
PHONE (770) 313-9855

publicworks@FayetteCountyGA.GOV

CLIENT INFORMATION:
FAYETTE COUNTY ENVIRONMENTAL MANAGEMENT
140 STONEWALL AVE. W.,
SUITE 203, FAYETTEVILLE, GA. 30214

CIVIL DESIGN TEAM

PROJECT MANAGER:
FRED A. HALTERMAN, PE
HaltermanF@pondco.com
CIVIL ENGINEER:
FRED A. HALTERMAN, PE

POND AND COMPANY
3500 PARKWAY LANE SUITE 500
PEACHTREE CORNERS, GA 30092
PHONE (678) 336-7740
FAX (678) 336-7744
WEB: www.pondco.com

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

PROJECT DESCRIPTION:

THIS PROJECT CONSISTS OF IMPROVING THE STORM CONVEYANCE SYSTEM TO CIRCUMVENT THE FLOODING AT 100 PLEASANT HILL ROAD. THE EXISTING SYSTEM TO BE UPGRADED WITH LARGER PIPES/STRUCTURES ALONG OLD IVY AND REDWINE ROAD TO INCREASE STORM RUNOFF CAPACITY.

PROJECT INFORMATION:

DISTURBED AREA:
0.92 ACRES

IMPERVIOUS SURFACE AREA:
0.26 ACRES

REFERENCE DATUM:
NAD 1983 (2011)- STATE PLANE COORDINATE SYSTEM OF GEORGIA - WEST ZONE. VERTICAL IS NAVD 1988.

PROJECT SPECIFICATION:

THE CONTRACTOR SHALL REFER TO AND USE THE SUPPLIED COUNTY PROJECT SPECIFICATIONS. FOR OTHER APPLICABLE STANDARDS OR SPECIFICATIONS, CONTRACTOR TO USE THE CURRENT GDOT APPROVED STANDARD SPECIFICATION CONSTRUCTION OF TRANSPORTATION SYSTEM DOCUMENT FOR THIS PROJECT.

CIVIL INDEX

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

FOR REVIEW ONLY

Know what's **below.**
Call before you dig.
Dial 811
Or Call 800-282-7411

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: C-000
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
Fax (678) 336-7744
ga@pondco.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

COVER

SHEET IDENTIFICATION
G-000

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\G-000.dwg PLOTTED: Monday, May 17, 2021

G-000.dwg

CONSTRUCTION ONLY

G-000

ABBREVIATIONS

AAP	ALARM ANNUNCIATOR PANEL AUTOMATIC
AARV	AIR RELEASE VALVE AUTOMATIC
AAV	AIR VENT
AB	ANCHOR BOLT
ABAN	ABANDON(ED)
ABRSV	ABRASIVE
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABV	ABOVE
AC	ALTERNATING CURRENT
ACCMP	ASPHALT-COATED CORRUGATED METAL PIPE
ACP	ASBESTOS CEMENT PIPE
ADDM	ADDENDUM
ADH	ADHESIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AHD	AHEAD
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
AMT	AMOUNT
APRX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
AS	ALUM SOLUTION
ASPH	ASPHALT
ASSY	ASSEMBLY
AVE	AVENUE
A/C	AIR CONDITIONING
A/VV	AIR/VACUUM AIR VALVE

BAF	BAFFLE
BCV	BALL CHECK VALVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BI	BLACK IRON
BITUM	BITUMINOUS OR BITUMASTIC
B/L	BASELINE
BLDG	BUILDING
BLK	BLOCK
BM	BENCH MARK
BOC	BACK OF CURB
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BSP	BLACK STEEL PIPE
BV	BALL VALVE
BW	BOTH WAYS
BWW	BACKWASH WATER

CAP	CAPACITY
CA	COMPRESSED AIR
CAV	COMBINATION AIR VALVE
CB	CATCH BASIN
CCC	CHLORINE CONTACT CHAMBER
CE	CHLORINATED EFFLUENT
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CV	CHECK VALVE
CI	CAST IRON
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
C/L	CENTER LINE
CL2	CHLORINE GAS
CLF	CHAIN LINK FENCE
CLR	CLEAR OR CLEARANCE
CLVT	CULVERT
CMP	CORRUGATED METAL PIPE
CMPA	CORRUGATED METAL PIPE ARCH
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CNR	CORNER
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COAG	COAGULANT
COL	COLUMN
COM	COMMON
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCT(ION)
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
COORD	COORDINATE
CO	COMPANY
CP	CONCRETE PIPE
CPA	CONCRETE PIPE ARCH
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CONCENTRIC REDUCER
CS	CHLORINE SOLUTION
CSG	CASING
CTV	CABLE TELEVISION
CY	CUBIC YARD
CYL	CYLINDER
C&G	CURB AND GUTTER
C/C	CENTER TO CENTER

DAT	DATUM
DBL	DOUBLE
DC	DIRECT CURRENT
DEMO	DEMOLITION
DEPT	DEPARTMENT
DESC	DESCRIPTION
DET	DETAIL
DF	DIESEL FUEL
DI	DUCTILE IRON
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIR	DIRECTION
DMH	DROP MANHOLE
DN	DOWN
DR	DRAIN
DV	DIAPHRAGM VALVE
DW	DRIVEWAY
DWG	DRAWING
DWV	DRAIN, WASTE, AND VENT

E	
E	EAST
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EFF	EFFLUENT
E/L	EASEMENT LINE
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRICAL
EMER	EMERGENCY
EMC	ENCASE(MENT)
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPRF	EXPLOSION PROOF
EQUIP	EQUIPMENT
ER	ECCENTRIC REDUCER
ESTM	EASEMENT
EST	ESTIMATE(D)
EW	EACH WAY
EXC	EXCAVATE
EXP	EXPANSION
EXST	EXISTING
EXST	EXISTING GRADE
EXT	EXTERIOR
EXTN	EXTENSION

F	
FAB	FABRICATE(D)
FCA	FLANGED COUPLING ADAPTER
FB	FLAT BAR
FCV	FLOW-CONTROL VALVE
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FILTER(ED) EFFLUENT
FHY	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH(ED)
FIN/FLR	FINISH FLOOR
FIN/GR	FINISH GRADE
FL	FLUORIDE
FLG	FLANGE(D)
FLL	FLOW LINE
FLTR	FILTER
FM	FORCE MAIN
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FUT	FUTURE
FV	FOOT VALVE
FW	FINISHED WATER
FWP	FACTORY WIRED PANEL
F/F	FACE TO FACE

G	
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GIP	GALVANIZED IRON PIPE
GJ	GROOVE JOINT
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GRTG	GRATING
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL PIPE
GSR	GROUND STORAGE RESERVOIR
GST	GROUND STORAGE TANK
GT	GROUT
GV	GATE VALVE

H	
HB	HOSE BIBB
HD	HEAVY-DUTY
HDPE	HIGH-DENSITY POLYETHYLENE
HDR	HYDRAULIC
HFA	HYDROFLUOSILICIC ACID
HGR	HANGER
HGT	HEIGHT
HNDRL	HAND RAIL
HOA	HAND-OFF-AUTO
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPA	HIGH PRESSURE AIR
HR	HOUR
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HWL	HIGH WATER LEVEL
HWY	HIGWAY
HZ	HERTZ

I	
ID	INSIDE DIAMETER
IN	INCH(ES)
INF	INFLUENT
INT	INTERSECTION
INTR	INTERIOR
INV	INVERT
IP	IRON PIPE
IPS	INTERNATIONAL PIPE STANDARD
IR	INTERNAL RECYCLE
IW	IRRIGATION WATER

J	
JB	JUNCTION BOX
JT	JOINT

K	
K	KIP (1,000 LB)
KPL	KICK PLATE
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR

L	
L	LEFT
LAB	LABORATORY
LAM	LAMINATE OR LAMINATION
LATL	LATERAL
LAV	LAVATORY
LEN	LEN LENGTH
LB	POUND(S)
LF	LINEAR FEET
LP	LIGHT POLE
LS	LIME SLURRY
LSS	LIME STABILIZED SLUDGE
LVR	LOUVER
LWL	LOW WATER LEVEL

M	
M	METER
MAINT	MAINTAIN OR MAINTENANCE
MAN	MANUAL(LY)
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
ME	MITERED END
MECH	MECHANICAL
MEG	MATCH EXISTING GRADE
MFR	MANUFACTURE(R)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MI	MILE(S)
MIN	MINIMUM, MINUTE(S)
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MO	MASONRY OPENING
MON	MONUMENT
MPH	MILES PER HOUR
MPT	MALE PIPE THREAD
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MTD	MOUNTED
MV	MOTORIZED VALVE
MW	MANWAY
MWL	MEAN WATER LEVEL
MWP	MAXIMUM WORKING PRESSURE

N	
N	NORTH
NaOCl	SODIUM HYPOCHLORITE
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NPF	NATIONAL PIPE THREAD
NPT	NATIONAL PIPE TAPER (THREAD)
NPW	NON-POTABLE WATER
NRS	NON-RISING SYSTEM
NTS	NOT TO SCALE
NW	NORTHWEST
N/A	NOT APPLICABLE

O	
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
OF	OUTSIDE FACE
OH	OVER HEAD
OHW	OVER HEAD WIRE
OPP	OPPOSITE
OPT	OPTIONAL
OR	OFFICIAL RECORDS
OSY	OUTSIDE SCREW AND YOKE
O&M	OPERATION AND MAINTENANCE

P	
PA	PROCESS AIR
PC	POINT OF CURVE
PCM	PERMANENT CONTROL MONUMENT PLAIN END
PE	
PG	PRESSURE GAGE
PI	POINT OF INTERSECTION
PL	PLATE
P/L	PROPERTY LINE
PNV	PINCH VALVE
POB	POINT OF BEGINNING
POJ	PUSH-ON JOINT
POL	POLYMER
PP	POWER POLE
PPD	POUNDS PER DAY
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PRW	PROCESS WATER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE POINT OF
PT	TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
PWR	PWR POWER

Q	
Q	FLOW
QTY	QUANTITY

R	
RAD	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RC	REINFORCED CONCRETE
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
RD	ROAD
RDCR	REDUCER
REBAR	REBAR REINFORCING STEEL REF
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REM	REMOVE(ABLE)
REQ'D	REQUIRED
RF	RAISED FACE
RJ	RESTRAINED JOINT
RM	ROOM
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RT	RIGHT
RVT	RIVETED
RW	RAW WATER
RWW	RAW WASTEWATER
R/W	RIGHT-OF-WAY

S	
S	SOUTH
SA	SAMPLE LINE
SAN	SANITARY
SCHED	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SECT	SECTION
SEFF	SECONDARY EFFLUENT
SF	SQUARE FOOT OR FEET
SHT	SHEET(ED)(ING)
SIG	SIGNAL
SIM	SIMILAR
SL	SLUDGE
SLV	SLEEVE
SM	SHEET METAL
SOLN	SOLUTION
SP	SOIL PIPE, SPACE(ING)
SPEC	SPECIFICATION
SPRT	SUPPORT
SQ	SQUARE
SS	SANITARY SEWER
SSE	SUBSTANDARD EFFLUENT
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STK	STAKE
STL	STEEL
STR	STRAIGHT
STRUCT	STRUCTURAL
SURF	SURFACE
SV	SOLENOID VALVE
SVCE	SERVICE
SVW	SERVICE WATER
SW	SOUTHWEST
SWD	SIDEWATER DEPTH
SWSH	SURFACE WASH
SYM	SYMBOL
SYMM	SYMMETRICAL
S/W	SIDEWALK

T	
TAN TB	TANGENT TOP OF BEAM
TBM	TEMPORARY BENCH MARK TEST
TB-xx	BORING-xx (e.g. TB-1)
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TE	TOTALLY ENCLOSED
TEFC	TOTALLY ENCLOSED FAN COOLED
TEL	TELEPHONE
TENV	TOTALLY ENCLOSED NON-VENTILATED
THD	THREAD(ED)
THK	THICK(NESS
TLM	TELEMETRY
TOB	TOP OF BANK
TOC	TOP OF CURB
TOS	TOE OF SLOPE
TOT	TOTAL
TP	TELEPHONE POLE
TS	THICKENED SLUDGE
TV	TELEVISION
TYP	TYPICAL
T&B	TOP AND BOTTOM

U	
UD	UNDERDRAIN
UG	UNDERGROUND
ULT	ULTIMATE
UN	UNION
UON	UNLESS OTHERWISE NOTED
UGE	UNDERGROUND ELECTRIC
UTC	UNDERGROUND TELEPHONE CABLE
UTIL	UTILITY

V	
V	VOLT(S)
VAC	VACUUM
VAR	VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME

W	
W	WATT, WEST
WAS	WASTE ACTIVATED SLUDGE WALL
WCO	CLEAN OUT
WF	WIDE FLANGE
WH	WALL HYDRANT
WL	WATER LINE
WM	WATER MAIN
WP	WATER PROOF(ING),WORKING POINT
WPR	WORKING PRESSURE
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
WT	WEIGHT
WTP	WATER TREATMENT PLANT
WW	WASH WATER
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWTP	WASTEWATER TREATMENT PLANT
W/	WITH
W/O	W/O WITHOUT

X XFER	TRANSFER

Y	
YD	YD YARD(S)
YH	YARD HYDRANT
YR	YEAR(S)

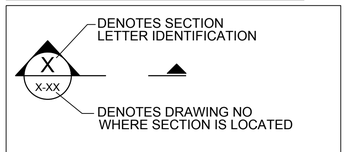
CIVIL LEGEND

PROPOSED ITEM	DESCRIPTION
+ 267.54	SPOT ELEVATION
– – – –C/L– – – –C/L–	CONSTRUCTION LIMITS
——W——W——	DOMESTIC WATER
——FW——FW——	FIRE WATER
	VALVE
	FIRE HYDRANT
——SS——SS——	SANITARY SEWER
S	SANITARY SEWER MANHOLE
CO	SANITARY SEWER CLEANOUT
	STORM DRAIN
	DROP INLET
	HEADWALL
— x ——— x —	FENCE
———40———	PROPOSED CONTOUR MAJOR
———42———	PROPOSED CONTOUR MINOR
N	NORTH ARROW
———TPF———	TREE PROTECTION FENCE
———??———	UNKNOWN UTILITY
———E———	EXISTING ELECTRICAL OVERHEAD
——— CM ———	EXISTING COMMUNICATION LINE OVERHEAD
	GUARD RAIL
	BENCHMARK

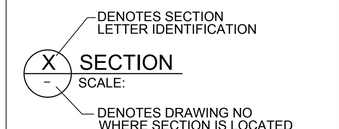
HATCHING LEGEND

	CAST-IN-PLACE CONCRETE
	ASPHALT PAVEMENT SURFACE
	HEAVY DUTY GRAVEL
	EARTH
	GROUT
	RIP RAP

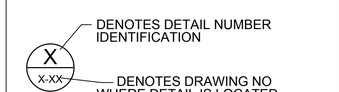
REFERENCE SYMBOLS



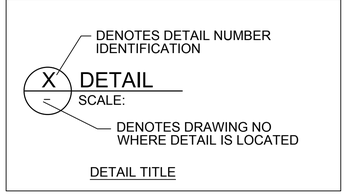
SECTION REFERENCE



SECTION TITLE



DETAIL REFERENCE



DETAIL TITLE

FOR REVIEW ONLY

CONSTRUCTION ONLY

MARK	DESCRIPTION	DATE	APPR.	MARK	APPR.	DESCRIPTION	DATE

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE
PLOT DATE:
FILE NUMBER: C-001
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
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Norcross, Georgia 30092
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

LEGEND AND ABBREVIATIONS

SHEET IDENTIFICATION
C-001

C-001.dwg

C-001

GENERAL NOTES

1. BENCHMARK FOR CONSTRUCTION HAS BEEN PROVIDED ON SHEET V-001.
2. ALL LABOR, MATERIALS, AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE MINIMUM ENGINEERING AND CONSTRUCTION STANDARDS ADOPTED BY GEORGIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS AND FAYETTE COUNTY STANDARDS. WHERE CONFLICTS OR OMISSIONS EXIST, FAYETTE COUNTY STANDARDS SHALL DICTATE. SUBSTITUTIONS AND DEVIATION FROM PLANS AND SPECIFICATIONS SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
3. SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
4. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE BY GEORGIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS AND FAYETTE COUNTY DEVELOPMENT REGULATIONS, LATEST EDITION, UNLESS OTHERWISE WAIVED.
5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND IN HAND BEFORE BEGINNING ANY CONSTRUCTION. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. ANY PENALTIES, STOP WORK ORDERS OR ADDITIONAL WORK RESULTING FROM THE CONTRACTOR BEING IN VIOLATION OF THE REQUIREMENTS ABOVE, SHALL BE FULLY BORNE BY THE CONTRACTOR.
6. THE LOCATION OF ALL EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING UNDERGROUND UTILITIES, WHETHER SHOWN ON THE PLAN OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FIRST. ANY FEES ASSOCIATED WITH UTILITY RELOCATIONS SHALL BE BORNE IN ACCORDANCE WITH RESPECTIVE UTILITY COMPANY STANDARDS. IT IS REQUESTED UTILITY COMPANIES MOVE THEIR PARTICULAR UTILITIES. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED. DIAL 811 BEFORE DIGGING OR CALL 800-282-7411.
7. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING TO BE HELD BETWEEN FAYETTE COUNTY, UTILITIES, ENGINEER OF RECORD, CONTRACTOR AND ANY SUBCONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF EVERY KIND, INCLUDING LANDSCAPE SPRINKLERS, SHALL BE PLACED BENEATH THE PAVEMENT AND ITS EDGES PRIOR TO THE CONSTRUCTION OF THE PAVEMENT. THE PAVEMENT SHALL NOT BE CUT WITHOUT PRIOR APPROVAL OF THE ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND AT LEAST 48 HOURS HOURS BEFORE REQUIRED INSPECTION ON EACH AND EVERY PHASE OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS NOTICE PRIOR TO ANY SCHEDULED TESTING. NO PRESSURE TESTING, OR FINAL TESTING WILL BE ACCEPTED UNLESS WITNESSED BY THE ENGINEER'S REPRESENTATIVE. THE CONTRACTOR IS REQUIRED TO NOTIFY 48 HOURS TO FAYETTE COUNTY FOR PROOF ROLL.
10. ALL CONTRACTORS, FAYETTE COUNTY REPRESENTATIVES, AND UTILITY COMPANIES ARE RESPONSIBLE FOR THEIR RESPECTIVE SURVEYING AND LAYOUT FROM BENCHMARK PROVIDED ON CONSTRUCTION PLANS. ANY SURVEY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE REPLACED UPON COMPLETION OF THE WORK BY A REGISTERED LAND SURVEYOR.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING ANY CONSTRUCTION ACTIVITIES FROM TAKING PLACE OUTSIDE OF THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS. ANY ON-SITE OR OFFSITE AREAS DISTURBED SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.
12. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS AND ALL PERMITS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TWO (2) SETS OF RECORD DRAWINGS TO THE ENGINEER OF RECORD WITHIN TWO (2) WEEKS AFTER CONSTRUCTION HAS BEEN COMPLETED ON EACH PHASE.
13. TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS WERE TAKEN FROM SURVEY PROVIDED BY: GEOSURVEY, LTD., DATED: FEBRUARY 21, 2019.
14. ANY CONSTRUCTION BEYOND THE RIGHT-OF-WAY AND/OR ESTABLISHED EASEMENT LINES, ONTO ADJACENT PROPERTY, REQUIRES ADJACENT PROPERTY OWNER PERMISSION AND NECESSARY EASEMENTS PRIOR TO PERFORMING ANY WORK. THE CONTRACTOR IS TO VERIFY SUCH EASEMENTS AND PERMISSIONS PRIOR TO DISTURBING ANY OFF-SITE PROPERTY.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXISTING SITE CONDITIONS OF SOIL PRIOR TO N.T.P. CONSTRUCTION TO DETERMINE IF ANY OFF SITE MATERIALS WILL NEED TO BE IMPORTED TO ACHIEVE THE GRADES SPECIFIED ON THE PLANS.
16. CLEAR AREAS INDICATED SHALL BE COMPLETELY CLEAR OF ALL TIMBER, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH, AND ALL OTHER DEBRIS AND OBSTRUCTIONS RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE GROUND.
17. PRIOR TO BID PREPARATION, THE CONTRACTOR MUST BECOME FAMILIAR WITH THE OVERALL SITE CONDITIONS AND PERFORM ADDITIONAL INVESTIGATIONS AS DETERMINED NECESSARY TO UNDERSTAND THE LIMIT AND DEPTH OF EXPECTED ORGANIC SILT PEAT AREAS, PRESENCE OF ROCK, ADEQUACY OF EXISTING MATERIALS AS FILL, DEWATERING REQUIREMENTS, CLEAN FILL REQUIRED FROM OFFSITE, AND MATERIALS TO BE DISPOSED OF OFFSITE, ALL OF WHICH WILL AFFECT THE PRICING, ANY DELAY, INCONVENIENCE, OR EXPENSE CAUSED TO THE CONTRACTOR DUE TO INADEQUATE INVESTIGATION OF EXISTING CONDITIONS SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION WILL BE ALLOWED. THE MATERIALS ANTICIPATED TO BE ENCOUNTERED DURING CONSTRUCTION MAY REQUIRE DRYING PRIOR TO USE AS BACKFILL, AND THE CONTRACTOR MAY HAVE TO IMPORT MATERIALS, AT NO EXTRA COST, FROM OFFSITE TO MEET THE REQUIREMENTS FOR COMPACTION AND PROPER FILL
18. NEITHER OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR ERRORS OR MISINTERPRETATIONS RESULTING FROM USE OF INCOMPLETE SETS OF BIDDING DOCUMENTS.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND LICENSES FOR PERFORMING THE DEMOLITION WORK AND SHALL FURNISH A COPY OF THESE ITEMS TO THE ENGINEER PRIOR TO COMMENCING THE WORK. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES OR LOCAL AUTHORITIES FURNISHING GAS, WATER, ELECTRICAL, TELEPHONE, OR SEWER SERVICE SO THEY CAN REMOVE, RELOCATE, DISCONNECT, CAP OR PLUG THEIR EQUIPMENT IN ORDER TO FACILITATE DEMOLITION. DIAL 811 BEFORE DIGGING OR CALL 800-282-7411.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL TREES, STRUCTURES, AND UTILITIES NOT MARKED FOR REMOVAL OR DEMOLITION AND SHALL PROMPTLY REPAIR ANY DAMAGE AS DIRECTED BY THE ENGINEER AT NO COST TO THE OWNER.
4. THE CONTRACTOR SHALL REMOVE PAVING MARKED FOR DEMOLITION WHICH INCLUDES ALL ASPHALT, CONCRETE, BASE, AND RETAINING WALLS (INCLUDING THE FOOTERS).
5. THE CONTRACTOR SHALL REMOVE TREES MARKED FOR REMOVAL WHICH INCLUDES THE ROOTS ASSOCIATED WITH THE TREE. TREES NOT MARKED FOR REMOVAL SHALL BE PROTECTED IN ACCORDANCE WITH THE FAYETTE COUNTY REGULATIONS.
6. THE CONTRACTOR SHALL REMOVE UNSALVAGEABLE MATERIALS AND YARD WASTE FROM THE SITE IMMEDIATELY AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
7. THE CONTRACTOR SHALL SAW-CUT A SMOOTH STRAIGHT EDGE ON ANY PAVEMENT PROPOSED FOR DEMOLITION PRIOR TO ITS REMOVAL. PRIOR TO CONNECTING PROPOSED PAVEMENT TO EXISTING PAVEMENT, THE CONTRACTOR SHALL ENSURE THAT THE EDGE OF THE EXISTING PAVEMENT IS STRAIGHT AND UNIFORM.
8. THE DEMOLITION SHALL BE PHASED TO PROVIDE AT LEAST ONE 10 FOOT LANE OF TRAFFIC AT ALL TIMES.
9. CONTRACTOR TO FOLLOW ALL APPLICABLE OSHA STANDARDS FOR ALL EXCAVATIONS.

ES & PC NOTES

1. AMENDMENT/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
2. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
3. ALL BUFFERS AND TREE SAVE AREAS SHALL BE CLEARLY IDENTIFIED WITH FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
4. SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.
5. INSPECT AND DOCUMENT THE CONDITION OF RUNOFF CONTROLS EVERY 7 DAYS, OR EVERY 14 DAYS AND WITHIN 24 HOURS AFTER EACH RAIN OF 0.5 INCH OR MORE.
6. PERMITEE SHALL SUBMIT A SIGNED NOTICE OF TERMINATION (NOT) FORM TO THE GEORGIA DIVISION OF WATER AFTER THE SITE HAS BEEN FINALLY STABILIZED.
7. 67 CY/AC SEDIMENT STORAGE SUBSTANTIALLY HANDLED BY SILT FENCE. THE LINEAR NATURE OF THIS PROJECT COUPLED WITH LIMITED WORK AREA (ESPECIALLY ADJACENT TO STATE WATER) DOES NOT PROVIDE OPPORTUNITY FOR INSTALLATION OF PERMANENT BMPS TO PREVENT POLLUTANTS FROM DISCHARGING THE SITE WITHOUT FURTHER ENCROACHMENT INTO ADJACENT PRIVATE PROPERTY. DURING CONSTRUCTION, SILT FENCE WILL BE USED TO PREVENT POLLUTANTS FROM DISCHARGING THE SITE. AFTER CONSTRUCTION IS COMPLETE ALL AREAS WILL BE STABILIZED.
8. SOIL STOCKPILES MUST BE LOCATED AWAY FROM STREAMS, PONDS, SWALES AND CATCH BASINS. STOCKPILES MUST BE SEEDED, MULCHED, AND ADEQUATELY CONTAINED THROUGH THE USE OF SILT FENCE.
9. SEDIMENT-LADEN WATER ENCOUNTERED DURING TRENCHING, BORING, OR OTHER EXCAVATION ACTIVITIES MUST BE PUMPED TO A SEDIMENT TRAPPING OR FILTERING DEVICE AND CLEANED BEFORE BEING DISCHARGED. DISCHARGES TO STORM DRAINS, DITCHES, OR WATER BODIES MUST BE COVERED UNDER A EPD PERMIT.
10. ALL BARE SOIL AREAS NOT SUBJECT TO ACTIVE CLEARING, EXCAVATION, GRADING, OR FILL ACTIVITIES MUST BE STABILIZED WITH TEMPORARY OR PERMANENT SEEDING OR MULCHING WITHIN 14 DAYS.
11. GOOD HOUSEKEEPING PRACTICES MUST BE APPLIED TO PREVENT CONTAMINATED RUNOFF OR OTHER IMPACTS FROM PAINT OR CONCRETE WASTES, FUELS AND OILS, TRASH AND LITTER, OR OTHER MATERIALS.
12. SILT FENCES, DITCH CHECKS, NON-PERMANET SEDIMENT TRAPS, AND OTHER TEMPORARY CONTROLS MUST BE REMOVED AFTER VEGETATION IN UPGRADIENT AREAS IS ESTABLISHED AND DITCHES ARE STABLE.
13. GOOD HOUSEKEEPING MEASURES FOR MATERIALS STORAGE AND HANDLING, VEHICLE FUELING AND MAINTENANCE, SPILL RESPONSE AND CLEANUP, AND WASTE MANAGEMENT MUST BE FOLLOWED TO ENSURE THAT RUNOFF FROM THE SITE IS FREE OF CONTAMINANTS.
14. ALL BMPS SELECTED SHALL BE INSTALLED, OPERATED, AND MAINTAINED ACCORDING TO GSWCC FIELD MANUAL, GEORGIA DIVISION OF WATER GUIDELINES, MANUFACTURER'S REQUIREMENTS, OR STANDARD INDUSTRY PRACTICE, AS APPROPRIATE.
15. APPROVED PLANS AND NPDES DAILY LOG MUST BE ONSITE AT ALL TIMES.

EARTHWORK, GRADING, STABILIZATION, PAVING AND DRAINAGE NOTES

1. COMPACT ALL UTILITY TRENCHES WITHIN ROADWAYS TO 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T - 180) AND TO 95% WITHIN OTHER AREAS.
2. If ORGANIC SOILS AS ENCOUNTERED BELOW UTILITY TRENCHES, THE ORGANIC SOILS WILL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. SUITABLE MATERIAL SHALL BE COMPACTED TO NO LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T - 180) OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
3. STABILIZED SUBGRADE TO MEET SPECIFIED REQUIREMENTS.
4. ASPHALTIC CONCRETE TO GDOT STANDARD SPECIFICATION (LATEST EDITION) SECTION 916.1 AND FAYETTE COUNTY, WHICHEVER IS GREATER.
5. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
6. ALL CONCRETE FLUMES, WALKS, AND CURBS SHALL BE CONSTRUCTED WITH 3000 PSI CONCRETE.
7. ALL ON-SITE AREAS DISTURBED BY THE CONSTRUCTION SHALL BE STABILIZED USING MEASURES THAT MATCH THE EXISTING VEGETATIVE CONDITIONS OF THE SITE. CONTRACTOR IS RESPONSIBLE FOR IRRIGATION OF PERMANENT GRASSING.
8. THE REINFORCED CONCRETE PIPE SHALL BE CLASS III WITH WALL THICKNESS "B" CONFORMING TO ASTM C - 76 OR AWWA 302 -74 AND GASKETS SHALL BE IN ACCORDANCE WITH ASTM C - 443 OR ASTM D - 412.
9. ALL PIPE CALL OUTS ARE MEASURED CENTER LINE TO CENTER LINE FOR MANHOLES AND INLETS AND FROM THE END OF THE PIPE FOR MITERED END SECTIONS.
10. ALL DEWATERING COSTS ASSOCIATED WITH THE INSTALLATION AND CONSTRUCTION OF THE UNDERGROUND UTILITIES; STORM WATER PIPES AND MANHOLES; SANITARY SEWER MAINS, FORCE MAINS, MANHOLES, AND LIFT STATIONS; AND STORM WATER MANAGEMENT SYSTEMS SHALL BE INCLUDED AS PART OF THE CONSTRUCTION BID COSTS. THE CONTRACTOR SHALL SUBMIT FOR WATER USE PERMITS IF REQUIRED FOR DEWATERING ACTIVITIES.
11. ALL PIPES SHALL HAVE 3 FEET MINIMUM COVER UNLESS OTHERWISE SPECIFIED IN PLANS, CONTRACTOR SHALL TAKE CARE TO PROVIDE PROPER GRADE ELEVATIONS AND ALIGNMENTS.
12. THE CONTRACTOR MUST INSTALL AND MAINTAIN GRASS OR SOD ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETED FINAL GRADES, AS NOTED ON PLANS, AND AT ANY OTHER TIME AS NECESSARY TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES TO ANY DOWNSTREAM WATER BODY, WETLAND, OR OFF-SITE PROPERTY. SODDING ON SLOPES 3:1 AND STEEPER SHALL BE STAKED.
13. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONTROL TURBIDITY AND SEDIMENT INCLUDING, BUT NOT LIMITED TO, THE INSTALLATION OF TURBIDITY BARRIERS AND SILT FENCES AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY AND SEDIMENT BARRIERS MUST BE MAINTAINED AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING THE BARRIERS.
14. EXISTING RUNOFF COEFFI0CIENT FOR THE PROJECT: 70. PROPOSED RUNOFF COEFFICIENT FOR THE PROJECT: 70.
15. ALL CONCRETE STRUCTURES SHOWN ARE PRE-CAST FROM AN APPROVED VENDOR. CAST-IN-PLACE METHODS MAY BE USED FOR STRUCTURE COMPONENTS WHERE APPLICABLE FOR APPROVAL.

OTHER UTILITY INFORMATION

1. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES WHICH MAY HAVE THEIR UTILITIES WITHIN THE CONSTRUCTION AREAS TO LOCATE THEIR FACILITIES IN THE FIELD FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING CONSTRUCTION. DIAL 811 BEFORE DIGGING OR CALL 800-282-7411.
2. DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE TWENTY-FIVE (25) FEET ON EACH SIDE OF ANY PERPENDICULAR CROSSING OF METALLIC GAS MAINS OR ANY OTHER CATHODICALLY PROTECTED PIPELINE AND FOR LOCATIONS PARALLEL TO AND WITHIN TEN FEET OF METALLIC GAS MAINS OR OTHER CATHODICALLY PROTECTED PIPE AND THROUGH THE AREA OF INFLUENCE OF CATHODIC PROTECTION ANODE BED.

SPILL CONTROL NOTES:

1. IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS NOTES OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
   a. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
   b. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
   c. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.
   d. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
   e. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
2. PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS, AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATERS, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.

TRAFFIC CONTROL NOTES:

1. CONTRACTOR TO COORDINATE LANE CLOSURE WITH FAYETTE COUNTY AND ENGINEER. CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) AND GDOT STANDARDS.
2. FULL ROAD CLOSURE OF OLD IVY MAY BE PERMITTED WITH AN APPROVED DETOUR / TRAFFIC CONTROL PLAN AND WRITTEN APPROVAL FROM THE COUNTY.

FOR REVIEW ONLY

CONSTRUCTION ONLY

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMER

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
PLOT SCALE
PLOT DATE
FILE NAME:
SIZE: ANSI D
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: C-002

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
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Phone (678) 336-7740
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CIVIL NOTES

SHEET IDENTIFICATION
C-002

LEGEND

FF	FINISHED FLOOR ELEVATION
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE
IE	INVERT
TC	TOP OF CURB
EP	EDGE OF PAVEMENT
P/L	PROPERTY LINE
R/W	RIGHT OF WAY
APPROX.	APPROXIMATE
DB	DEED BOOK
PG	PAGE
PB	PLAT BOOK
△	CONTROL / MONUMENT
× 00.00	TRUNCATED SPOT ELEVATION
☐ AC	AIR CONDITIONER
☐ T	TELEPHONE BOX
☐ E	ELECTRICAL BOX
☐ UP	UTILITY POLE
○ TSB	TRAFFIC SIGNAL BOX
○ TS	TRAFFIC SIGNAL POLE
○ PED	PEDESTRIAN SIGNAL POLE
HW	HARDWOOD TREE
☐ WM	WATER METER
☐ C	CABLE BOX
○ LP	LIGHT POLE
☼	FIRE HYDRANT
○ IPF	IRON PIN FOUND
○ IPS	1/2" REBAR SET WITH CAP

UNDERGROUND GAS LINE	— — G — — G —
UNDERGROUND ELECTRIC	— — E — — E —
CONTOUR MAJOR	— — — — — —
CONTOUR MINOR	— — — — — —
PIPE	▬▬▬
FENCE	—☐——☐—
WATER MAIN	— — W — — W —
UNDERGROUND COMM.	— — FO — — FO —
OVERHEAD ELECTRIC	— — OE — — OE —

NOTES

1. HORIZONTAL AND VERTICAL INFORMATION DERIVED FROM TWO CONTROL POINTS SET WITH A TRIMBLE R10 USING TRIMBLE VRS, AND VERIFIED WITH A TRIMBLE VX/S SERIES S7 2 DR PLUS.
2. GPS AND TOTAL STATION SURVEY PERFORMED ON 02/19/2021.
3. MEASUREMENTS SHOWN ARE US SURVEY FEET (GROUND).
4. CONTOURS SHOWN ARE AT A 1-FOOT INTERVAL BASED ON NAVD88 (2012B).
5. SPOT ELEVATION DIGITS ARE TRUNCATED TO THE TENS PLACE VALUE FOR BREVITY AND CLARITY.
6. BEARINGS SHOWN ON THIS SURVEY ARE FROM GRID NORTH (GA NAD83 WEST ZONE).
7. THE UNDERGROUND UTILITIES SHOWN ARE PROVIDED BY FAYETTE COUNTY. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION AND/OR A PRIVATE UTILITY LOCATE REQUEST MAY BE NECESSARY.
8. ANY SETBACKS AND BUFFERS SHOWN ARE GOVERNED BY THE LOCAL JURISDICTION AND SHOULD BE CONFIRMED IN WRITING PRIOR TO LAND PLANNING OR ANY CONSTRUCTION ACTIVITIES.

DATE	DESCRIPTION	MARK

APPR	DATE	DESCRIPTION	MARK

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
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JOB NO.

DESIGNED BY: PS		DATE: MAY 13, 2021
DWN BY: PS	CKD BY: WM	SOLICITATION NO.:
SUBMITTED BY: FAH		CONTRACT NO.:
PLOT SCALE:	PLOT DATE:	FILE NUMBER: V-001
SIZE: ANSI D	FILE NAME:	

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

AS-BUILT CONDITION SURVEY

SHEET
IDENTIFICATION
V-001

100% DESIGN SUBMITTAL

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\03.Disc\03.14.Land Survey\Drawings\V-XP0001.dwg PLOTTED: Thursday, May 13, 2021

V-001.dwg

V-001

DEMOLITION NOTES:

A. PROTECTION:
1. PERFORM DEMOLITION SO AS TO PREVENT DAMAGE TO ADJACENT IMPROVEMENTS AND FACILITIES TO REMAIN TO INCLUDE AREAS OUTSIDE OF APPROVED LIMITS OF DISTURBANCE
2. PROTECT NEW OR EXISTING WORK FROM DAMAGE DURING DEMOLITION OPERATIONS.
3. PROTECT EXISTING SITE APPURTENANCES AND LANDSCAPING TO REMAIN.
4. DAMAGES: WITHOUT COST TO THE OWNER AND WITHOUT DELAY, REPAIR ANY DAMAGES CAUSED TO FACILITIES TO REMAIN.CONTRACTOR TO BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGED ROADWAY/ASPHALT DURING PROJECT CONSTRUCTION.
5. CONTRACTOR TO ESTABLISH TEMPORARY BENCHMARKS ON SITE AT LOCATIONS THAT WILL REMAIN UNDISTURBED THROUGHOUT CONSTRUCTION.
6. CONTRACTOR TO COORDINATE WITH FAYETTE COUNTY AND UTILITY COMPANIES ON THE RELOCATION OF UTILITIES.
7. CONTRACTOR TO MAINTAIN ACCESS TO AFFECTED PROPERTIES AT ALL TIMES.
8. ANY DAMAGED ASPHALT OUTSIDE OF THE RESURFACE OR PAVING LIMITS SHOWN ON PLANS WILL REQUIRE TO BE MILLED AND RESURFACED.

B. REMOVAL & DISPOSAL OF DEMOLISHED MATERIALS:
1. ALL DEMOLISHED OR REMOVED ITEMS AND MATERIALS SHALL BE CONSIDERED SCRAP EXCEPT FOR THOSE INDICATED TO REMAIN, THOSE INDICATED TO BE REINSTALLED, THOSE INDICATED TO BE SALVAGED, AND HISTORICAL ITEMS.
2. ALL ITEMS INDICATED TO REMAIN SHALL BE PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
3. PROMPTLY DISPOSE OF MATERIALS RESULTING FROM DEMOLITION OPERATIONS. DO NOT ALLOW MATERIALS TO ACCUMULATED ON SITE.
4. TRANSPORT MATERIALS RESULTING FROM DEMOLITION OPERATIONS AND LEGALLY DISPOSE OF OFF-SITE.
5. OFF-SITE DISPOSAL LOCATION SHALL NOT BE WITHIN ONE-HALF MILE OF ANY PORTION OF THE PROJECT SITE OR WITHIN SIGHT OF THE PROJECT SITE.
6. DO NOT BURN REMOVED MATERIALS ON PROJECT SITE.
7. CONTRACTOR TO COORDINATE THE LOCATION OF ANY MATERIAL LAYDOWN AREAS WITH THE COUNTY AND MAINTAIN ENOUGH CLEAR SPACE FOR CONSTRICTION EQUIPMENT ACCESS.

C. POLLUTION CONTROLS:
1. CONTROL THE SPREAD OF DUST AND DIRT WITH PRACTICAL MEANS.
2. OBSERVE ENVIRONMENTAL PROTECTION REGULATIONS.
3. DO NOT ALLOW WATER USAGE THAT RESULTS IN FREEZING OR FLOODING.
4. DO NOT ALLOW ADJACENT IMPROVEMENTS TO REMAIN TO BECOME SOILED BY DEMOLITION OPERATIONS.

D. CLEANING:
1. REMOVE TOOLS AND EQUIPMENT. DISPOSE OF SCRAP.
2. LEAVE EXTERIOR AREAS FREE OF DEBRIS.
3. CLEAN SOIL, SMUDGES, AND DUST FROM SURFACES TO REMAIN.
4. RETURN STRUCTURES AND SURFACES TO REMAIN TO CONDITION EXISTING PRIOR TO COMMENCEMENT OF DEMOLITION.

SPECIMEN TREE LIST

TREE #	DBH	SPECIES	STATUS	DESCRIPTION	RECOMPENSE UNITS REQUIRED
1	15"	HARDWOOD	REMOVED		
2	14"	HARDWOOD	REMOVED		
3	8"	HARDWOOD	REMOVED		
4	18"	HARDWOOD	REMOVED		
5	14"	HARDWOOD	REMOVED		
6	8"	HARDWOOD	REMOVED		
7	10"	HARDWOOD	REMOVED		
8	23"	HARDWOOD	REMOVED		
9	5"	HARDWOOD	REMOVED		
10	12"	HARDWOOD	REMOVED		
11	4"	HARDWOOD	REMOVED		
12	8"	HARDWOOD	REMOVED		
13	4"	HARDWOOD	REMOVED		
14	14"	HARDWOOD	REMOVED		
15	26"	PINE	REMOVED		
16	14"	HARDWOOD	REMOVED		
17	24"	HARDWOOD	REMOVED		
18	17"	HARDWOOD	REMOVED		
19	8"	HARDWOOD	REMOVED		
20	6"	HARDWOOD	REMOVED		
21	20"	PINE	REMOVED		
22	6"	HARDWOOD	REMOVED		
23	24"	HARDWOOD	REMOVED		
24	5"	HARDWOOD	REMOVED		
25	10"	HARDWOOD	REMOVED	STREET TREE	
26	10"	HARDWOOD	REMOVED	STREET TREE	
27	10"	HARDWOOD	REMOVED	STREET TREE	
28	10"	HARDWOOD	REMOVED	STREET TREE	

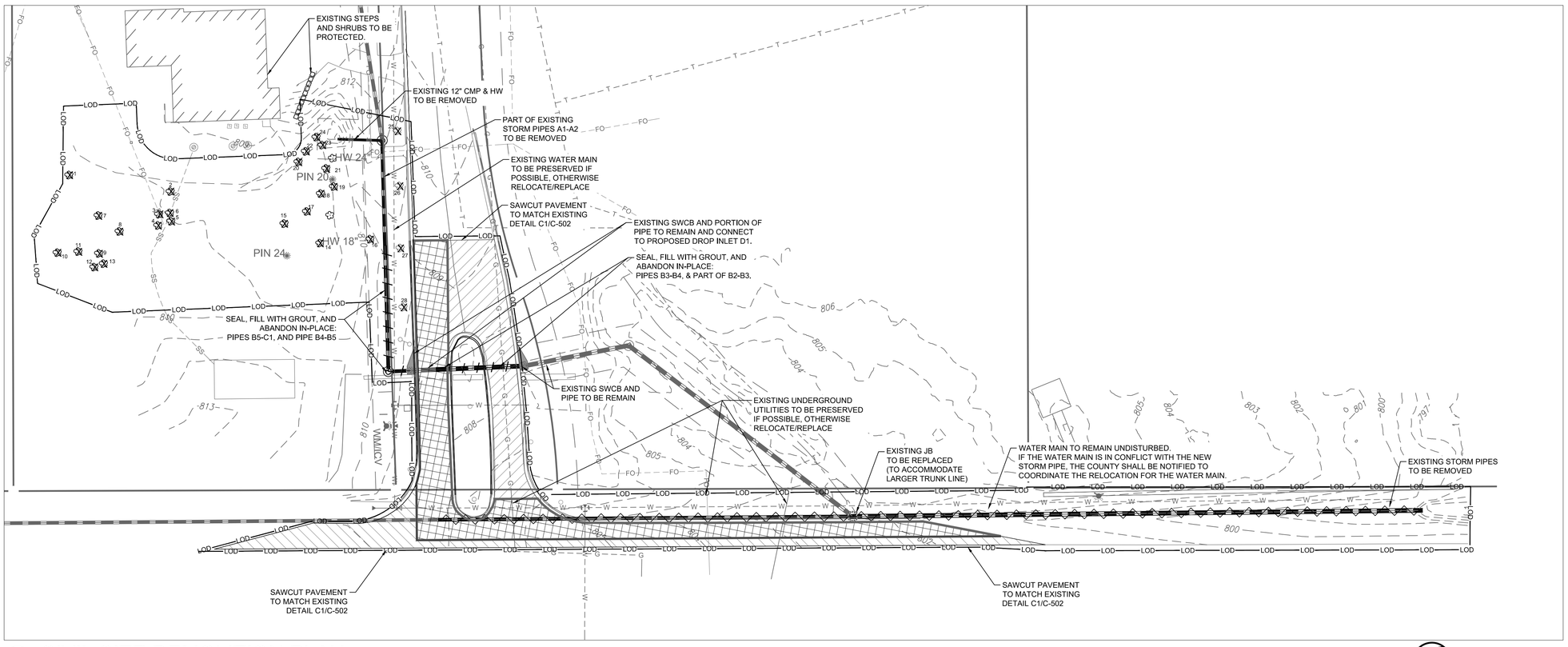
NOTES:
1. TREE SURVEY WAS DONE BY FAYETTE COUNTY.
2. THE RECOMPENSE UNITS ARE ONLY IF IT IS REQUIRED TO REPLACE STREET TREES, GATOR BAGS/WATERING WILL BE REQUIRED.
3. DBH =DIAMETER BREAST HEIGHT
4. STREET TREES WITHIN OLD IVY R/W TO BE 4 (FOUR) 3-INCH RED ACER MAPLE TREES.

SHEET LEGEND

- DEMOLISH PAVING AND SUB-GRADE FOR PIPE AND STRUCTURE INSTALLATION
- MILL ASPHALT PAVEMENT FOR RESURFACING AND REMARKING
- LOD LOD — LIMITS OF DISTURBANCE
- EXISTING UTILITY TO BE DEMOLISHED OR RELOCATED
- EXISTING STORM PIPE AND STRUCTURE TO BE REMOVED
- EXISTING STORM PIPE AND STRUCTURE TO BE SEALED, FILLED AND ABANDONED.

GENERAL SHEET NOTES:

1. REFER TO SHEETS C-001 AND C-002 FOR LEGENDS, ABBREVIATIONS, AND CIVIL NOTES.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF CONSTRUCTION PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. ALL CONCRETE FORMWORK AND REINFORCING BARS TO BE INSPECTED BY THE FIELD REPRESENTATIVE IN CONJUNCTION WITH THE CONTRACTORS REPRESENTATIVE BEFORE CONCRETE IS PLACED.
4. AS-BUILT DRAWINGS SHALL CONTAIN ALL RELEVANT ELEVATIONS AND INVERTS. (SHALL BE CERTIFIED BY A GEORGIA REGISTERED LAND SURVEYOR)
5. CONTRACTOR TO ESTABLISH TEMPORARY SUPPORT FOR EXISTING UTILITIES AND MAINTAIN IT THROUGHOUT CONSTRUCTION.
6. CONTRACTOR TO MAINTAIN UTILITY SERVICES DURING CONSTRUCTION, WITH MINIMAL INTERRUPTION.
7. CONTRACTOR TO BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGED CURB, DRIVEWAYS, ASPHALT, FENCING OR EXISTING ROADWAY OUTSIDE OF PAVING LIMITS DURING CONSTRUCTION.
8. ANY DAMAGED ASPHALT OUTSIDE OF THE RESURFACE OR PAVING LIMITS SHOWN ON PLANS WILL REQUIRE TO BE MILLED AND RESURFACED.
9. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS TO PROTECT OR RELOCATE THE EXISTING INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO GAS, COMMUNICATIONS, POWER, AND WATER.
10. EXISTING CONDITIONS AS SHOWN ARE BASED ON SURVEY PROVIDED IN GENERAL NOTES #13 FROM SHEET C-002. EXISTING CONDITIONS SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE CONFIRMED BY CONTRACTOR PRIOR TO WORK.
11. ANY TREE TO REMAIN WITH MORE THAN 30% OF THE CRITICAL ROOT ZONE COMPROMISED (ABOUT 1.5 x DIAMETER TREE) WILL BE REQUIRED TO BE REMOVED POST-CONSTRUCTION.
12. FAYETTE COUNTY TO COORDINATE AND OBTAIN REQUIRED EASEMENTS.
13. INSIDE OF LIMIT OF DISTURBANCE NEEDS TO BE ENTIRELY CLEARED.



A1 CIVIL SITE DEMOLITION PLAN
SCALE: 1" = 30'

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMAN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: CD101
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
Fax (678) 336-7744
www.pond.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CIVIL SITE DEMOLITION PLAN

SHEET IDENTIFICATION
CD101

CONSTRUCTION ONLY

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CD-101.dwg PLOTTED: Tuesday, May 18, 2021

CD-101.dwg

CD101

GENERAL SHEET NOTES:

1. ALL CONCRETE FORMWORK AND REINFORCING BARS TO BE INSPECTED BY THE FIELD REPRESENTATIVE IN CONJUNCTION WITH THE CONTRACTOR'S REPRESENTATIVE BEFORE CONCRETE IS PLACED.
2. CONTRACTOR TO BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGED CURB, DRIVEWAYS, ASPHALT, FENCING OR ROADWAY DURING CONSTRUCTION.
3. CONTRACTOR TO PROVIDE BYPASS PUMPING PLAN TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
4. ALL DAMAGED, DEMOLISHED, OR REMOVED SOD TO BE REPLACED IN-KIND WITH SOD.
5. RIVER ROCK MATERIAL TO BE SUBMITTED FOR APPROVAL. 6-8 INCH TO BE MINIMUM AVERAGE SIZE. DETAIL A3/C-502.
6. IF SANITARY FORCE MAIN NEEDS TO BE RELOCATED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INCLUDE A BID PRICE FOR THIS WORK TO LOWER THE FORCE MAIN TO AVOID ANY GRADE CONFLICTS.

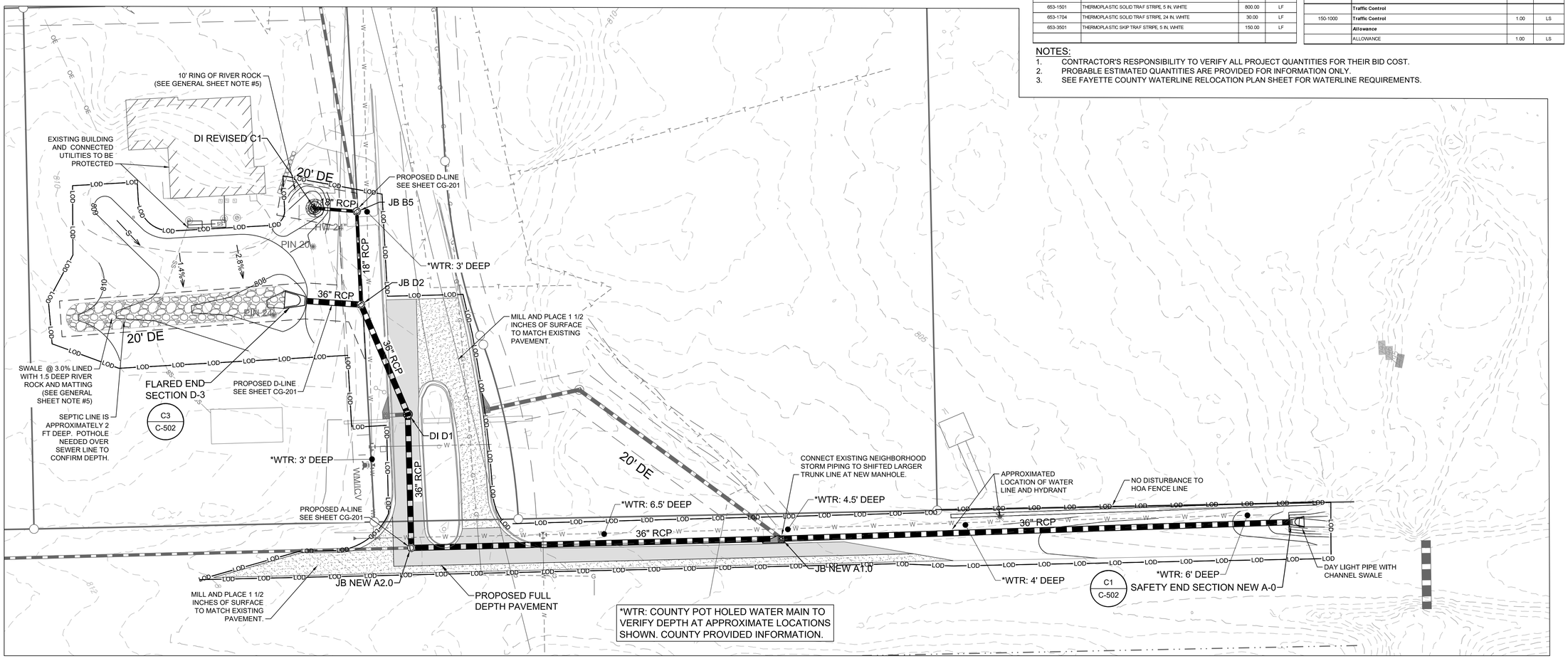
GRADING NOTES:

1. ROAD TO BE GRADED FROM CROWN TO EDGE OF ASPHALT AT 1/4" PER 1'
2. MAXIMUM SLOPES ALLOWED WITHIN FAYETTE COUNTY RIGHT-OF-WAY SHALL BE 3:1. PROVIDE MAXIMUM FLATTER SLOPES WHERE POSSIBLE.
3. REFER TO SHEET CG-201 FOR THE STORM SYSTEM STRUCTURE ELEVATIONS.
4. NO DISTURBANCE TO HOA FENCE LINE, TO STAY WITHIN COUNTY ROW.

LEGEND:

RESURFACE OR PARTIAL DEPTH OVERLAY PAVING

FULL DEPTH ASPHALT PAVING (FOUNDATION TYPE REFER TO FAYETTE COUNTY TYPICAL)



A1 CIVIL SITE AND GRADING PLAN
SCALE: 1" = 30'

0 15' 30' 60' 90'

QUANTITY TABLE:

Project Pricing Sheet
Fayette County ITB #XXXX-X
100 Pleasant Hill Storm Conveyance Improvement

Pay Item #	Item Description	Quantity	Unit Measure
151-1000	MOBILIZATION	1.00	LS
	Roadway		
150-1000	TRAFFIC CONTROL	1.00	LS
310-5060	GR AGGR BASE CRS, 8 INCH, INCL MATL	180.00	SY
402-3103	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	60.00	TN
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	100.00	TN
413-0750	TACK COAT	42.00	GL
441-0104	CONCRETE SIDEWALK, 4 INCH	20.00	SY
432-0206	MILL ASPH CONC PVMT, 1 1/2 IN DEPTH	180.00	SY
441-6012	CONC CURB & GUTTER, 6 IN X 24 IN, TP 2	215.00	LF
	Drainage		
205-0001	UNCLASS EXCAV	900.00	CY
210-0100	GRADING COMPLETE	1.00	LS
610-0959	REMOVE PIPE (12" CMP)	75.00	LF
610-0959	REMOVE PIPE (18" CMP)	285.00	LF
610-0959	REMOVE PIPE (24" CMP)	210.00	LF
550-1180	STORM DRAIN PIPE, 18 IN, H 1-1	25.00	LF
550-1360	STORM DRAIN PIPE, 36 IN, H 1-10	660.00	LF
550-3336	SAFETY END SECTION 36 IN, STORM DRAIN, 4:1 SLOPE	1.00	EA
550-4236	FLARED END SECTION 36 IN, STORM DRAIN	1.00	EA
668-5000	JUNCTION BOX	3.00	EA
668-2100	DROP INLET, GP 1	2.00	EA
009-3500	MISC. LANDSCAPE ITEMS- RIVER ROCK	220.00	SY
207-0203	FOUND BKFILL MATL, TP II (Pipe Bedding)	800.00	CY
600-0001	FLOWABLE FILL and/or GROUT (For Abandon Pipe)	8.00	CY
	Signing and Marking		
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	800.00	LF
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	30.00	LF
653-3501	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	150.00	LF

Pay Item #	Item Description	Quantity	Unit Measure
	Staging		
202-1500	CLEARING & GRUBBING	1.00	LS
	Erosion Control		
163-0232	TEMPORARY GRASSING	0.50	AC
171-0030	TYPE C SILT FENCE	600.00	LF
643-8200	TREE PROTECTION FENCE	720.00	LF
716-2000	EROSION CONTROL MATS	250.00	SY
702-9025	LANDSCAPE MULCH	750.00	SY
700-6910	PERMANENT GRASSING	0.50	AC
603-2080	Rip Rap Type 3 12" (Outlet Protection and Check Dams)	45.00	SY
700-9300	SOD	1400	SY
603-7000	PLASTIC FILTER FABRIC	25.00	SY
	Waterline		
-	INSTALL 8" DIP INCLUDING FITTINGS AND TESTING	40.00	LF
-	INSTALL 12" DIP INCLUDING FITTINGS AND TESTING	140.00	LF
-	8" FIELDLOCK GASKET	1.00	EA
-	8" UNIFLANGE RETAINER GLANDS (OR EQUIVALENT)	8.00	EA
-	6" PLUG	1.00	EA
-	12" X 6" MECHANICAL JOINT WITH BLOCKING	2.00	EA
-	8" GATE VAVLE	3.00	EA
-	12" BUTTERFLY VALVE	3.00	EA
-	12" MECHANICAL JOINT 45 DEG BENDS WITH BLOCKING	4.00	EA
-	8" MECHANICAL JOINT 45 DEGREE BENDS BLOCKING	8.00	EA
-	12" UNIFLANGE BELL JOINT RESTRAINT GLAND (OR EQUIVALENT)	23.00	EA
	Sanitary Sewer Force Main		
-	2 IN SANITARY FORCE MAIN	1.00	LS
	Traffic Control		
150-1000	**Traffic Control**	1.00	LS
	Allowance		
	ALLOWANCE	1.00	LS

NOTES:

1. CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL PROJECT QUANTITIES FOR THEIR BID COST.
2. PROBABLE ESTIMATED QUANTITIES ARE PROVIDED FOR INFORMATION ONLY.
3. SEE FAYETTE COUNTY WATERLINE RELOCATION PLAN SHEET FOR WATERLINE REQUIREMENTS.

FOR REVIEW ONLY

CONSTRUCTION ONLY

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMER

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME:
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: CG101

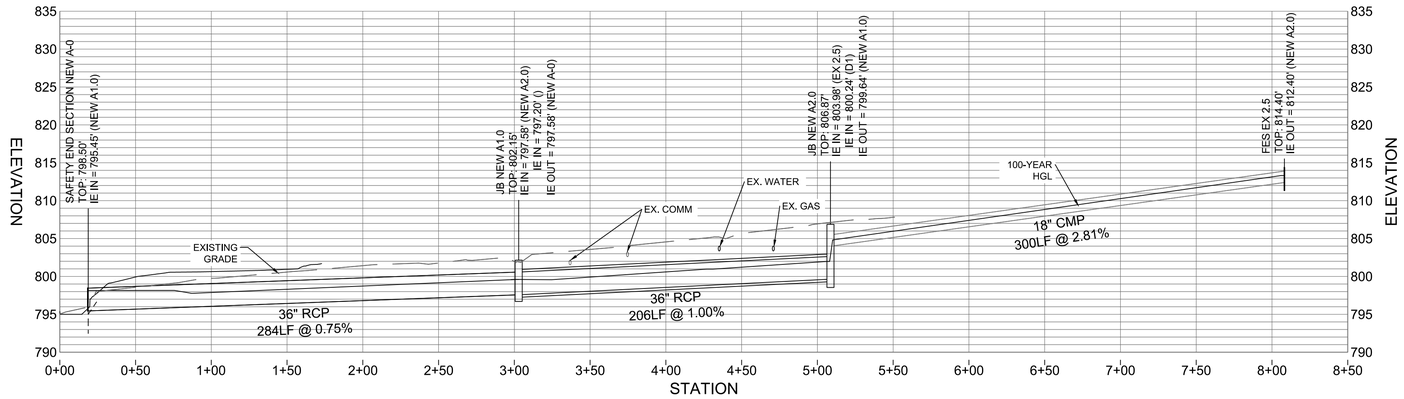
100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Norcross, GA 30092
Phone (678) 336-7140
Fax (678) 336-7744
pondco.com

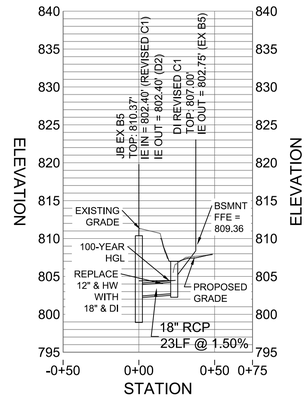
100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CIVIL SITE AND GRADING PLAN

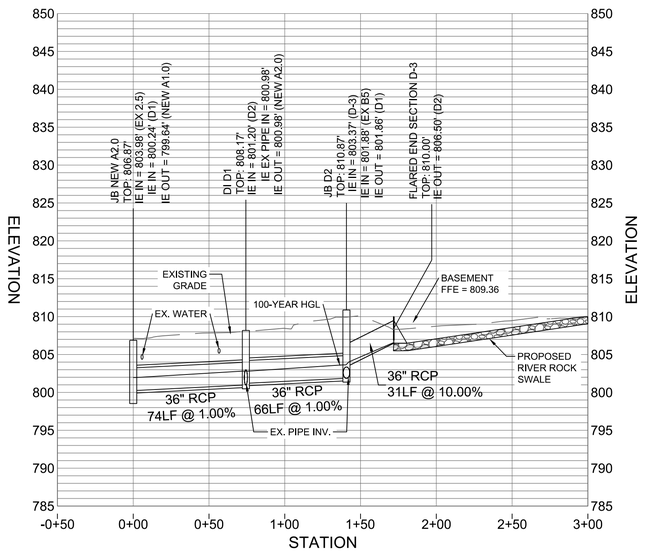
SHEET IDENTIFICATION
CG101



PROPOSED A-LINE PROFILE
HORZ. SCALE 1"= 30'
VERT. SCALE 1"= 6'



PROPOSED D-LINE PROFILE
HORZ. SCALE 1"= 30'
VERT. SCALE 1"= 6'



PROPOSED C-LINE PROFILE
HORZ. SCALE 1"= 30'
VERT. SCALE 1"= 6'

Storm Sewer Tabulation

Page 1

Station		Len (ft)	Drng Area		Rnoff coeff	Are a	› C	Tc		Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1 (A1)	End	107.00C	0.00	16.38	0.23	0.00	6.30	8.4	21.4	6.2	38.74	66.69	8.71	36	1.00	796.51	797.58	798.15	799.60	799.00	802.50	"A1-A0.5
2 (A2)	1 (A1)	206.00C	0.00	15.21	0.00	0.00	5.89	0.0	20.7	6.3	36.84	46.47	7.30	36	0.49	799.00	800.00	801.02	802.01	802.50	805.50	"A1.5-A1 (2)
3(A2.5)	2 (A2)	300.00C	1.45	1.45	0.57	0.83	0.83	17.4	17.4	6.8	5.66	9.53	5.31	18	2.81	803.98	812.40	804.81	813.32	805.50	813.90	"A-2.5
4 (B1)	1 (A1)	139.56C	0.57	1.17	0.00	0.00	0.41	0.0	10.2	8.8	3.61	16.72	2.51	24	1.86	797.20	799.80	799.60	800.47	802.50	804.66	A1-B1
5 (B2)	4 (B1)	52.464	0.60	0.60	0.68	0.41	0.41	9.5	9.5	9.1	3.73	7.56	2.40	24	0.38	800.00	800.20	800.99	801.19	804.66	808.71	B1-B2
6 (D1)	2 (A2)	74.000	0.00	13.76	0.00	0.00	5.06	0.0	20.4	6.3	31.89	66.69	5.98	36	1.00	800.24	800.98	802.84	802.81	805.50	808.36	"Y1-*A1.5
7 (B3)	6 (D1)	12.600	0.60	0.60	0.50	0.30	0.30	13.7	13.7	7.7	2.31	16.19	2.13	24	1.75	800.98	801.20	802.81	801.73	808.36	808.04	B2-B3
8 (D2)	6 (D1)	66.380	0.00	13.16	0.00	0.00	4.76	0.0	20.2	6.3	30.21	66.50	7.37	36	0.99	801.20	801.86	802.81	803.64	808.36	809.28	"Y2-*Y1
9 (D3)	8 (D2)	31.230	10.56	10.56	0.35	3.70	3.70	20.0	20.0	6.4	23.54	91.42	8.58	36	6.40	803.00	805.00	804.04	806.56	809.28	806.50	"Y3-*Y2
10 (B5)	8 (B5)	52.000	0.00	2.60	0.00	0.00	1.07	0.0	11.3	8.5	9.02	10.50	5.11	18	1.00	801.88	802.40	803.64	804.02	809.28	810.37	B4-B5
11 (B6)	10 (B6)	127.00C	0.26	2.00	0.75	0.20	0.86	5.0	10.8	8.6	7.40	10.94	4.89	18	3.70	802.40	807.10	804.42	808.15	810.37	813.31	B5-B6
12 (B7)	11 (B6)	32.106	1.74	1.74	0.38	0.66	0.66	10.6	10.6	8.7	5.76	10.04	4.69	18	3.11	807.10	808.10	808.15	809.03	813.31	812.90	B6-B7
13 (C1)	10 (B5)	33.400	0.60	0.60	0.35	0.21	0.21	5.0	5.0	11.8	2.47	10.59	1.40	18	1.02	802.40	802.74	804.42	804.44	810.37	806.80	"B5-C1

Project File: OPTION 4 -- 05-13-2021.stm | Number of lines: 13 | Run Date: 5/13/2021

NOTES:Intensity = 48.92 / (Inlet time + 4.30) ^ 0.64; Return period =Yrs. 100 , c = cir e = ellip b = box

A1 PROPOSED STORM PROFILES

SCALE: AS SHOWN

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMAN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
PLOT SCALE
SIZE: ANSI D
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: CG201
PLOT DATE:
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7240
Fax (678) 336-7744
pond.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

PROPOSED STORM PROFILES

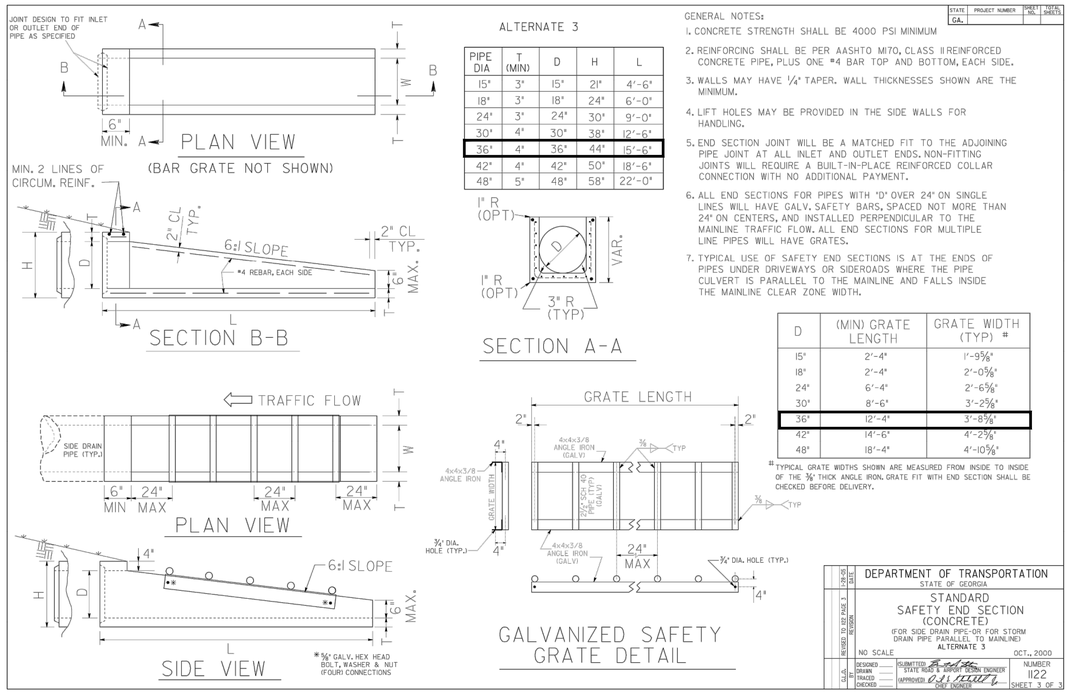
SHEET IDENTIFICATION
CG201

CONSTRUCTION ONLY

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CG-101.dwg PLOTTED: Monday, May 17, 2021

CG-101.dwg

CG201



ALTERNATE 3

PIPE DIA	T (MIN)	D	H	L
15"	3"	15"	21"	4'-6"
18"	3"	18"	24"	6'-0"
24"	3"	24"	30"	9'-0"
30"	4"	30"	38"	12'-6"
36"	4"	36"	44"	15'-6"
42"	4"	42"	50"	18'-6"
48"	5"	48"	58"	22'-0"

SECTION A-A

GENERAL NOTES:

1. CONCRETE STRENGTH SHALL BE 4000 PSI MINIMUM
2. REINFORCING SHALL BE PER AASHTO M170, CLASS II REINFORCED CONCRETE PIPE, PLUS ONE #4 BAR TOP AND BOTTOM, EACH SIDE.
3. WALLS MAY HAVE 1/4" TAPER. WALL THICKNESSES SHOWN ARE THE MINIMUM.
4. LIFT HOLES MAY BE PROVIDED IN THE SIDE WALLS FOR HANDLING.
5. END SECTION JOINT WILL BE A MATCHED FIT TO THE ADJOINING PIPE JOINT AT ALL INLET AND OUTLET ENDS. NON-FITTING JOINTS WILL REQUIRE A BUILT-IN-PLACE REINFORCED COLLAR CONNECTION WITH NO ADDITIONAL PAYMENT.
6. ALL END SECTIONS FOR PIPES WITH "D" OVER 24" ON SINGLE LINES WILL HAVE GALV. SAFETY BARS, SPACED NOT MORE THAN 24" ON CENTERS, AND INSTALLED PERPENDICULAR TO THE MAINLINE TRAFFIC FLOW. ALL END SECTIONS FOR MULTIPLE LINE PIPES WILL HAVE GRATES.
7. TYPICAL USE OF SAFETY END SECTIONS IS AT THE ENDS OF PIPES UNDER DRIVEWAYS OR SIDEROADS WHERE THE PIPE CULVERT IS PARALLEL TO THE MAINLINE AND FALLS INSIDE THE MAINLINE CLEAR ZONE WIDTH.

D	(MIN) GRATE LENGTH	GRATE WIDTH (TYP) #
15"	2'-4"	1'-9 9/16"
18"	2'-4"	2'-0 5/8"
24"	6'-4"	2'-6 7/8"
30"	8'-6"	3'-2 5/8"
36"	12'-4"	3'-8 5/8"
42"	14'-6"	4'-2 5/8"
48"	18'-4"	4'-10 5/8"

TYPICAL GRATE WIDTHS SHOWN ARE MEASURED FROM INSIDE TO INSIDE OF THE 3/8" THICK ANGLE IRON. GRATE FIT WITH END SECTION SHALL BE CHECKED BEFORE DELIVERY.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
SAFETY END SECTION
(CONCRETE)
FOR SIDE DRAIN PIPE-OR FOR STORM DRAIN PIPE PARALLEL TO MAINLINE
ALTERNATE 3

NO SCALE — OCT., 2000

DESIGNED — SUBMITTED — STATE ROAD & AIRPORT DESIGN ENGINEER
DRAWN — TRACED — CHECKED — APPROVED — CHIEF ENGINEER

NUMBER 122 — SHEET 3 OF 3

C1 GDOT STANDARD SAFETY END SECTION (CONCRETE)
NO SCALE

NOTE: SEE STANDARD 1019A (BRICK) AND STANDARD 1040 FOR CONSTRUCTION ALTERNATES BRICK MASONRY AND CIRCULAR PRECAST SECTIONS RESPECTIVELY.

DIMENSIONS FOR DROP INLETS

PIPE SIZE	TYPE "A"		TYPE "B"		TYPE "C"				TYPE "E"			
	MIN. h	MIN. H	MIN. h	MIN. H	Wor W2	Q	MIN. h	MIN. H	Wor W2	Q	MIN. h	MIN. H
12"	2'-0"	2'-6 1/2"	2'-7"	3'-3 1/2"	2'-0"		2'-7"	3'-3 1/2"	2'-0"		2'-7"	3'-3 1/2"
18"	2'-3 1/2"	2'-9"	2'-10"	3'-6 1/2"	2'-0"	0'-6"	2'-10"	3'-6 1/2"	2'-0"	0'-6"	2'-10"	3'-6 1/2"
24"					3'-0"	0'-6"	6'-3 1/2"	5'-0"	3'-0"	0'-6"	6'-3"	5'-0"
30"					3'-6"	0'-9"	6'-6 1/2"	5'-3"	3'-6"	0'-9"	6'-3"	5'-0"
36"					4'-0"	1'-0"	6'-10 1/2"	5'-7"	4'-0"	1'-0"	6'-3"	5'-0"
42"					4'-6"	1'-3"	7'-1 1/2"	6'-0"	4'-6"	1'-3"	6'-3"	5'-0"
48"					5'-0"	1'-6"	7'-5"	6'-3"	5'-0"	1'-6"	6'-3"	5'-0"
54"					5'-6"	1'-9"	7'-8 1/2"	6'-6"	5'-6"	1'-9"	7'-6"	6'-3"
60"					6'-0"	2'-0"	8'-0"	6'-9"	6'-0"	2'-0"	8'-1"	6'-9"

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

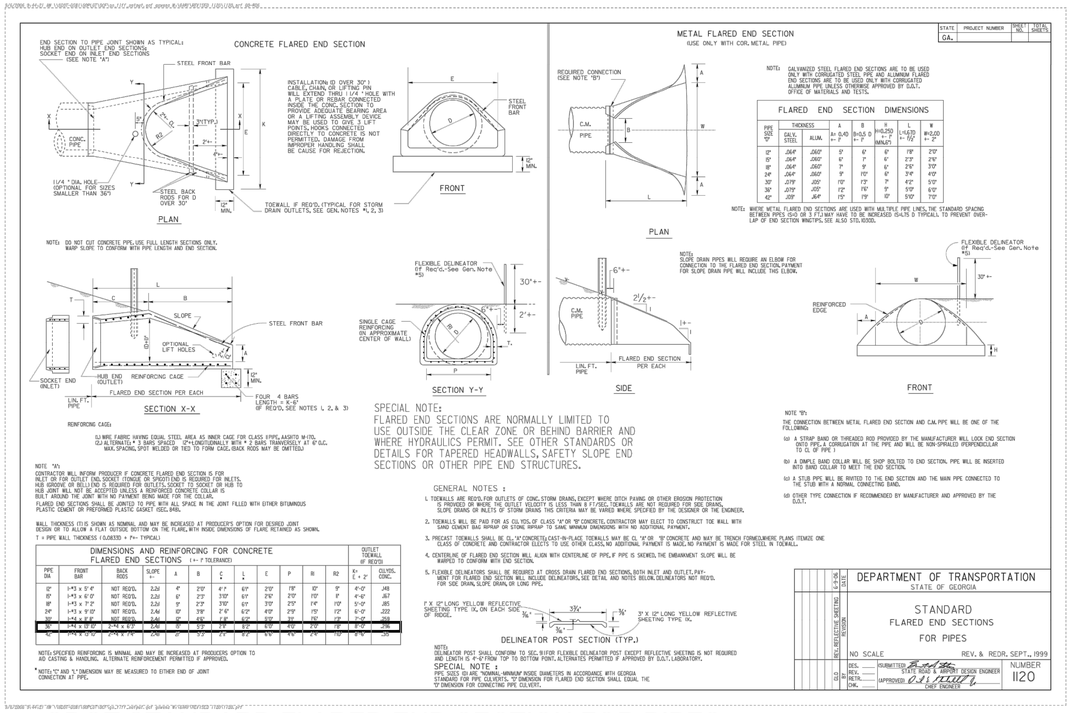
STANDARD
PRECAST DROP INLETS

SCALE AS SHOWN — AUG. 1999

DESIGNED — SUBMITTED — STATE ROAD & AIRPORT DESIGN ENGINEER
DRAWN — TRACED — CHECKED — APPROVED — CHIEF ENGINEER

NUMBER 1019A PRECAST

A1 FAYETTE COUNTY TYPICAL PRECAST DROP INLETS
NO SCALE



FLARED END SECTION DIMENSIONS

PIPE SIZE	THICKNESS CAL'Y. STEEL	THICKNESS ALUM.	A	B	L	W
12"	.064"	.060"	9"	6"	6"	19"
15"	.064"	.060"	11"	7"	6"	23"
18"	.064"	.060"	7"	9"	6"	29"
24"	.064"	.060"	9"	11"	6"	37"
30"	.079"	.105"	11"	13"	7"	47"
36"	.079"	.105"	13"	15"	9"	57"
42"	.109"	.164"	15"	19"	10"	67"

GENERAL NOTES :

1. TOEWALLS ARE REQ'D. FOR OUTLETS OF CONC. STORM DRAINS, EXCEPT WHERE DITCH PAVING OR OTHER EROSION PROTECTION EXTENDS FROM THE END OF THE FLARED END SECTION TO THE BOTTOM OF THE DITCH. TOEWALLS ARE NOT REQ'D. FOR SIDE DRAIN OUTLETS OR INLETS TO STORM DRAINS THIS CRITERIA MAY BE WAIVED WHERE SPECIFIED BY THE DESIGNER OR THE ENGINEER.
2. TOEWALLS WILL BE PAID FOR AS CU.YDS.OF CLASS "A" OR "B" CONCRETE. CONTRACTOR MAY ELECT TO CONSTRUCT TOE WALL WITH SAND CEMENT BAG RIPRAP OR STONE RIPRAP TO SAME MINIMUM DIMENSIONS WITH NO ADDITIONAL PAYMENT.
3. PRECAST TOEWALLS SHALL BE CL."A" CONCRETE/CAST-IN-PLACE TOEWALLS MAY BE CL."A" OR "B" CONCRETE AND MAY BE TRENCH FORMED,WHERE PLANS ITEMIZE ONE CLASS OF CONCRETE AND CONTRACTOR ELECTS TO USE OTHER CLASS, NO ADDITIONAL PAYMENT IS MADE, NO PAYMENT IS MADE FOR STEEL IN TOEWALL.
4. CENTERLINE OF FLARED END SECTION WILL ALIGN WITH CENTERLINE OF PIPE, IF PIPE IS SKEWED, THE EMBANKMENT SLOPE WILL BE TAPERED TO CONFORM WITH END SECTION.
5. FLEXIBLE DELINEATORS SHALL BE REQUIRED AT CROSS DRAIN FLARED END SECTIONS, BOTH INLET AND OUTLET, PAY-MENT FOR FLARED END SECTION WILL INCLUDE DELINEATORS, SEE DETAIL AND NOTES BELOW, DELINEATORS NOT REQ'D. FOR SIDE DRAIN, SLOPE DRAIN, OR LONG PIPE.

DELINEATOR POST SECTION (TYP.)

NOTE: DELINEATOR POST SHALL CONFORM TO SEC. 9.1.1.1 FOR FLEXIBLE DELINEATOR POST EXCEPT REFLECTIVE SHEETING IS NOT REQUIRED AND LENGTH IS 4'-4" FROM TOP TO BOTTOM POST, ALTERNATES PERMITTED IF APPROVED BY D.O.T. LABORATORY.

SPECIAL NOTE 1
PIPE SIZES 15 AND "EQUIVALENT" MINIMUM RISES IN ACCORDANCE WITH GEORGIA STANDARD FOR PIPE CULVERTS. "D" DIMENSION FOR FLARED END SECTION SHALL EQUAL THE "D" DIMENSION FOR CONNECTING PIPE CULVERT.

NOTE "A":
CONTRACTOR WILL INFORM PRODUCER IF CONCRETE FLARED END SECTION IS FOR INLET OR FOR OUTLET END, SOCKET TONGUE OR SPIGOT END IS REQUIRED FOR INLETS. HUB (GROOVE OR BELL) END IS REQUIRED FOR OUTLETS, SOCKET TO SOCKET OR HUB TO HUB COUPLING BANDS WILL BE REQUIRED WHERE SPIGOT ENDS OF PIPE IS BUILT AROUND THE JOINT WITH NO PAYMENT BEING MADE FOR THE COLLAR.
FLARED END SECTIONS SHALL BE JOINTED TO PIPE WITH ALL SPACE IN THE JOINT FILLED WITH EITHER BITUMINOUS PLASTIC CEMENT OR PREFORMED PLASTIC GASKET (SEE GEN. 8.0.).

WALL THICKNESS (T) IS SHOWN AS NOMINAL AND MAY BE INCREASED AT PRODUCER'S OPTION FOR DESIRED JOINT DESIGN OR TO ALLOW A FLAT OUTSIDE BOTTOM ON THE FLARE, WITH INSIDE DIMENSIONS OF FLARE RETAINED AS SHOWN.
T = PIPE WALL THICKNESS +0.06INCH + 7%- TYPICAL

DIMENSIONS AND REINFORCING FOR CONCRETE FLARED END SECTIONS (+- 7 TOLERANCE)

PIPE DIA	FRONT BAR	BACK RODS	SLOPE	A	B	C	L	E	P	R1	R2	X= E + 2"	OUTLET TOEWALL IF REQ'D. CU.YDS. CONC.
12"	1-#3 x 9'-6"	NOT REQ'D.	3.2H	4"	2'-0"	4'-7"	6'-7"	2'-0"	1'-8"	6"	9"	4'-0"	.148
15"	1-#3 x 10'-0"	NOT REQ'D.	3.2H	6"	2'-3"	5'-10"	6'-9"	2'-6"	2'-0"	11"	1'-	4'-6"	.167
18"	1-#3 x 11'-2"	NOT REQ'D.	3.2H	7"	2'-7"	5'-10"	6'-9"	3'-0"	2'-3"	1'-4"	1'-3"	5'-0"	.185
24"	1-#3 x 9'-10"	NOT REQ'D.	2.6H	10"	3'-8"	7'-6"	6'-9"	4'-0"	2'-9"	1'-5"	1'-7"	6'-0"	.222
30"	1-#3 x 8'-6"	NOT REQ'D.	2.4H	12"	4'-5"	8'-6"	6'-9"	5'-0"	3'-3"	1'-6"	1'-11"	7'-0"	.259
36"	1-#3 x 10'-0"	2-#4 x 6'-9"	2.4H	15"	5'-1"	9'-8"	6'-9"	6'-0"	3'-9"	1'-8"	2'-3"	8'-0"	.296
42"	1-#3 x 11'-2"	2-#4 x 7'-6"	2.4H	17"	5'-8"	10'-7"	6'-9"	7'-0"	4'-3"	1'-9"	2'-7"	9'-0"	.333
48"	1-#3 x 9'-10"	2-#4 x 8'-3"	2.4H	20"	6'-7"	11'-7"	6'-9"	8'-0"	4'-9"	1'-10"	2'-11"	10'-0"	.370

NOTE: SPECIFIED REINFORCING IS MINIMAL AND MAY BE INCREASED AT PRODUCERS OPTION TO AID CASTING & HANDLING. ALTERNATE REINFORCEMENT PERMITTED IF APPROVED BY D.O.T.

* NOTES "T" AND "L" DIMENSION MAY BE MEASURED TO EITHER END OF JOINT CONNECTION AT PIPE.

REINFORCING CAGE:
0.3 WIRE FABRIC HAVING EQUAL STEEL AREA AS INNER CAGE FOR CLASS II PIPE, AASHTO M-170, CL.I ALTERNATE) * 3 BARS SPACED 12"+-1 LONGITUDINALLY WITH * 2 BARS TRANSVERSELY AT 6" O.C. MAX. SPACING, SPOT WELDED OR TIED TO FORM CAGE. HOOK RODS MAY BE OMITTED

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

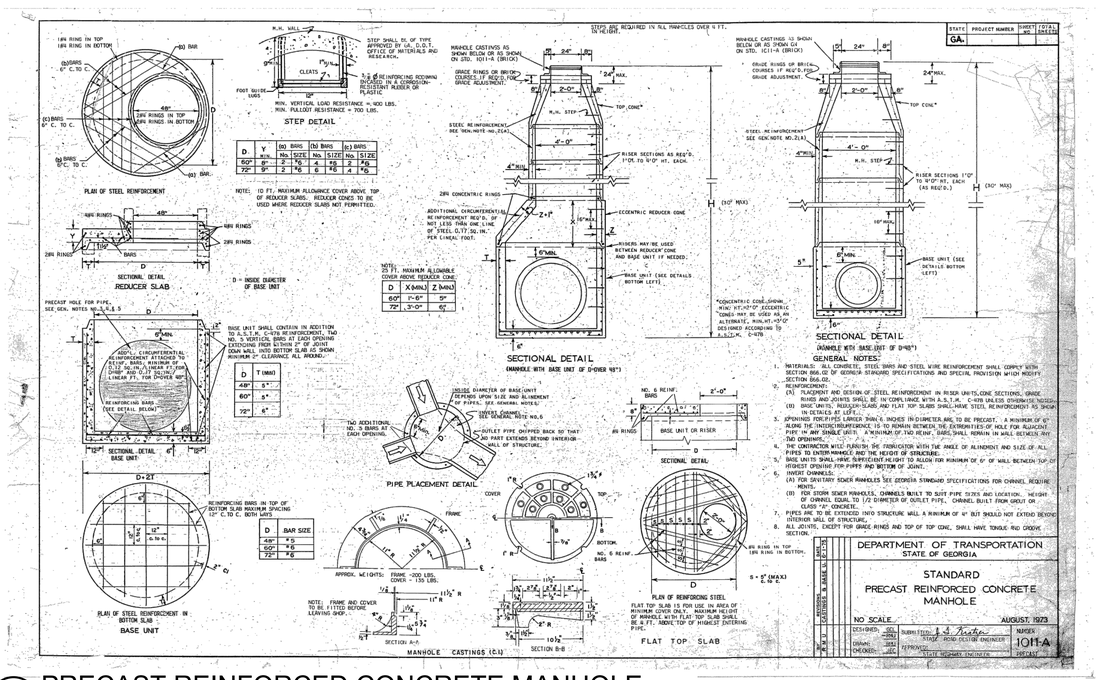
STANDARD
FLARED END SECTIONS
FOR PIPES

NO SCALE — REV., & REDR. SEPT., 1999

DESIGNED — SUBMITTED — STATE ROAD & AIRPORT DESIGN ENGINEER
DRAWN — TRACED — CHECKED — APPROVED — CHIEF ENGINEER

NUMBER 1120 — SHEET 3 OF 3

C3 GDOT STANDARD FLARED END SECTION FOR PIPES
NO SCALE



GENERAL NOTES:

1. MATERIALS: ALL CONCRETE, STEEL BARS AND STEEL WIRE REINFORCEMENT SHALL COMPLY WITH SECTION 886.02 OF GEORGIA STANDARD SPECIFICATIONS AND SPECIAL PROVISION WHICH MODIFY SECTION 886.02.
2. REINFORCEMENT:
   (A) PLACEMENT AND DESIGN OF STEEL REINFORCEMENT IN RISER UNITS, CONE SECTIONS, GRADE RINGS AND JOINTS SHALL BE IN CONFORMANCE WITH A.S.T.M. C-478 UNLESS OTHERWISE NOTED.
   (B) BASE UNITS, REDUCER SLABS AND FLAT TOP SLABS SHALL HAVE STEEL REINFORCEMENT AS SHOWN IN DETAILS AT LEFT.
3. OPENINGS FOR PIPES LARGER THAN 6 INCHES IN DIAMETER ARE TO BE PRECAST. A MINIMUM OF 6" ALONG THE INSIDE REINFORCEMENT IS TO REMAIN BETWEEN THE PERIPHERIES OF HOLE FOR PLACING PIPE IN ANY SINGLE UNIT. A MINIMUM OF TWO REINF. BARS SHALL REMAIN IN WALL BETWEEN ANY TWO OPENINGS.
4. THE CONTRACTOR WILL FURNISH THE MANUFACTURER WITH THE ANGLE OF ALIGNMENT AND SIZE OF ALL PIPES TO ENTER MANHOLE, AND THE HEIGHT OF STRUCTURE.
5. BASE UNITS SHALL HAVE SUFFICIENT HEIGHT TO ALLOW FOR MINIMUM OF 6" OF WALL BETWEEN TOP OF RECESS OPENING FOR PIPES AND BOTTOM OF JOINT.
6. INVERT CHANNELS:
   (A) FOR SANITARY SEWER MANHOLES SEE GEORGIA STANDARD SPECIFICATIONS FOR CHANNEL REQUIRE MENTS.
   (B) FOR STORM SEWER MANHOLES, CHANNELS BUILT TO SUIT PIPE SIZES AND LOCATION. HEIGHT OF CHANNEL EQUAL TO 1/2 DIAMETER OF OUTLET PIPE. CHANNEL BUILT FROM GROUT OR CLASS "A" CONCRETE.
7. PIPES ARE TO BE EXTENDED INTO STRUCTURE WALL A MINIMUM OF 4" BUT SHOULD NOT EXTEND BEYOND INTERIOR WALL OF STRUCTURE.
8. ALL JOINTS, EXCEPT FOR GRADE RINGS AND TOP OF TOP CONE, SHALL HAVE TONGUE AND GROOVE SECTION.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
PRECAST REINFORCED CONCRETE MANHOLE

NO SCALE — AUGUST, 1973

DESIGNED — SUBMITTED — STATE ROAD DESIGN ENGINEER
DRAWN — CHECKED — APPROVED — STATE HIGHWAY ENGINEER

NUMBER 1011A — REVISED

A3 PRECAST REINFORCED CONCRETE MANHOLE
NO SCALE

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATCHARD

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
SUBMITTED BY: FAH
PLOT SCALE:
SIZE: ANSI D
PLOT DATE:
FILE NAME:
DATE: MAY 14, 2021
SOLICITATION NO.:
CKD BY: WM
CONTRACT NO.:
P.I.E. NUMBER: C-501

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Norcross, GA 30092
Phone (678) 336-7140
Fax (678) 336-7744
pondco.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CONSTRUCTION DETAILS

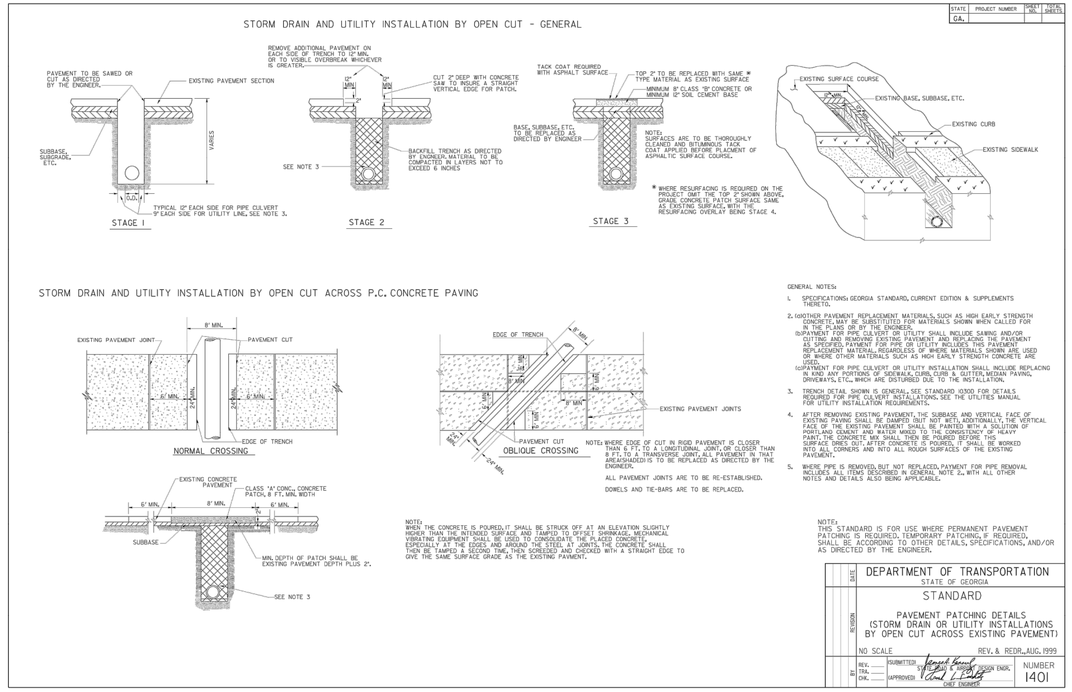
SHEET IDENTIFICATION
C-501

CONSTRUCTION ONLY

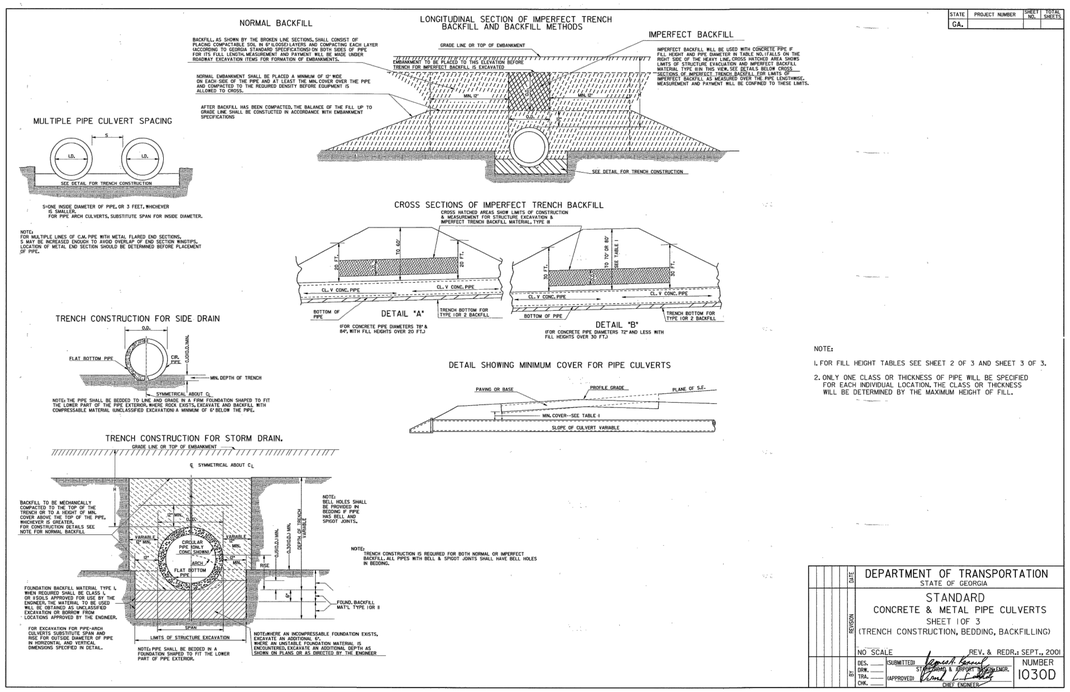
FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\C-501.DWG PLOTTED: Monday, May 17, 2021

C-501.DWG

C-501



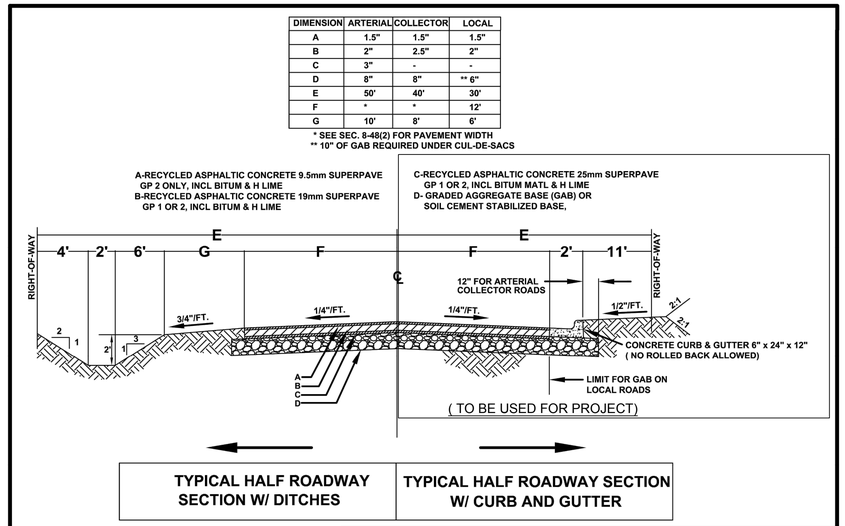
C1 GDOT PAVEMENT PATCH DETAILS
NO SCALE



A1 GDOT CONCRETE & METAL PIPE CULVERTS STANDARD
NO SCALE

DIMENSION	ARTERIAL	COLLECTOR	LOCAL
A	1.5"	1.5"	1.5"
B	2"	2.5"	2"
C	3"	-	-
D	8"	8"	** 6"
E	50'	40'	30'
F	*	*	12'
G	10'	8'	6'

* SEE SEC. 8-48(2) FOR PAVEMENT WIDTH
** 10" OF GAB REQUIRED UNDER CUL-DE-SACS



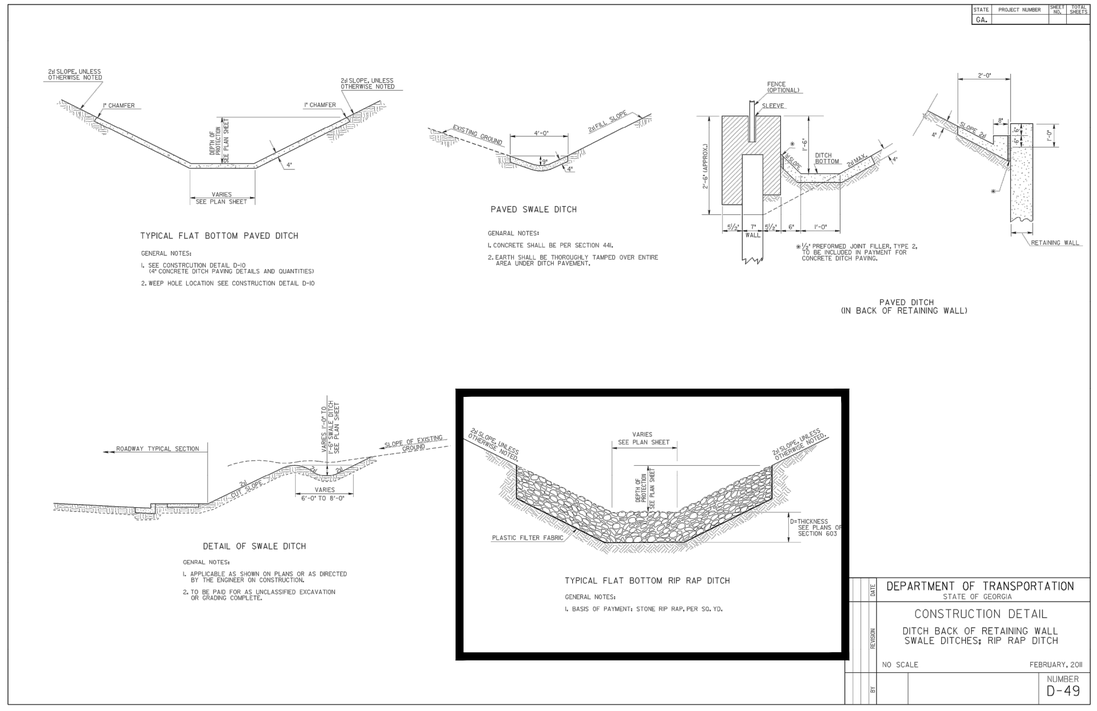
FAYETTE COUNTY, GEORGIA
ENGINEERING DEPARTMENT
TELEPHONE: 770.460.5730 EXT. 5410
WEBSITE: www.fayettecountyga.gov

FAYETTE COUNTY TYPICAL ROAD CROSS SECTION
FIGURE 8-49(4)

NO.	DATE	BY	REVISIONS
01	02/2017	JLR	ASPHALT

DRAWN BY: JJG | SCALE: NTS | DATE: ~~SEPTEMBER 27, 2006~~ REVISED 2017

C3 FAYETTE COUNTY TYPICAL ROAD CROSS SECTION
NO SCALE



A3 RIVER ROCK CHANNEL WITH FABRIC
NO SCALE

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMER

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: C-502
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CONSTRUCTION DETAILS

SHEET IDENTIFICATION
C-502

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\C-501.DWG PLOTTED: Monday, May 17, 2021

C-501.DWG

CONSTRUCTION ONLY

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

GENERAL NOTES :

1. ALL TRAFFIC CONTROL DEVICES SHALL BE MADE AND ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS; THE MUTCD; THE GEORGIA STANDARD SPECIFICATIONS, AND/OR SPECIAL PROVISIONS. (SEE SECTION 150)
2. ALL TRAFFIC CONTROL DEVICES SHALL BE AS SHOWN, OR AS DIRECTED BY THE ENGINEER. ADDITIONAL DEVICES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
3. ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE LEVEL OF PAVEMENT EDGE FOR DIRECTIONAL TRAFFIC OF TWO (2) LANES OR LESS AND A MINIMUM OF 7 FEET FOR DIRECTIONAL OF THREE (3) OR MORE LANES. ALL PORTABLE SIGNS AND SIGN MOUNTING DEVICES UTILIZED IN THE WORK SHALL BE NCHRP 350 COMPLIANT. PORTABLE SIGNS MAY BE USED WHEN THE DURATION OF THE WORK IS LESS THAN 3 DAYS.
4. WHEN THE CONSTRUCTION AREA HAS ENTRANCE/EXIT RAMPS OR INTERSECTIONS, WORK WILL BE PERFORMED IN SUCH A MANNER TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE AS POSSIBLE. ADDITIONAL CHANNELIZATION AND SIGNING SHALL BE INSTALLED, AS REQUIRED, TO ALLOW TRAFFIC TO REMAIN AS OPERATIONAL AS POSSIBLE. WHEN ENTRANCE RAMPS/INTERSECTIONS ARE INOPERABLE, FLAGGERS WILL BE UTILIZED TO CONTROL AND PROHIBIT MOVEMENT INTO THE PROJECT AT THAT POINT UNTIL CONSTRUCTION HAS CLEARED THE RESTRICTION SUFFICIENT TO RETURN TO OPERATIONAL STATUS.
5. FOR NIGHT TIME OPERATIONS, DRUMS SHALL HAVE, FOR THE LENGTH OF THE TAPER ONLY, A SIX (6") INCH ORANGE REFLECTIZED TOP STRIPE ON EACH DRUM IN THE TAPER AS REQUIRED IN SECTION 150. SPACING OF DEVICES SHALL BE AS SHOWN. DURING DAYLIGHT HOURS, CONES (28" MIN.) MAY BE USED IN ADVANCE OF AND THROUGHOUT WORK AREA.
6. SIGN LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS BUT MUST BE WITHIN THE LIMITATIONS SET FORTH IN THE MUTCD.
7. A PORTABLE SELF-SUSTAINED SEQUENTIAL OR FLASHING ARROW SIGN SHALL BE USED AT THE BEGINNING OF EACH LANE CLOSURE ON MULTI-LANE HIGHWAYS. ARROW PANELS SHALL NOT BE USED ON TWO-LANE TWO-WAY HIGHWAYS EXCEPT IN CAUTION MODE.
8. WHEN NOT IN USE, PORTABLE SIGNS SHALL BE REMOVED FROM THE TRAVELWAY SO THAT THE MESSAGE IS NOT VISIBLE TO THE MOTORIST. INTERIM SIGNS THAT ARE PERMANENTLY MOUNTED SHALL BE COVERED WHEN NOT APPLICABLE. SEE SECTION 150.
9. PROJECT SIGNS W20-1, G20-1 & G20-2 FOR THIS PROJECT SHALL BE COORDINATED WITH ADJACENT CONSTRUCTION PROJECTS. ONLY ONE SET OF SIGNS IS REQUIRED IN EACH DIRECTION FOR THE TOTAL LENGTH OF ALL PROJECTS- AT THE BEGINNING OF THE FIRST PROJECT AND AT THE ENDING OF THE LAST PROJECT. ADVANCE CONSTRUCTION SIGNS ARE NOT REQUIRED ON INTERMEDIATE PROJECTS, UNLESS CONSTRUCTION ON THE ADJACENT PROJECTS IS COMPLETED BEFOREHAND. THEN PROJECT CONSTRUCTION SIGNS WILL BE ADDED AS NECESSARY.
10. ALL THE COST OF THE MATERIALS, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL SECTION 150, LUMP SUM. WHEN SHOWN AS A PAYMENT ITEM IN THE PROPOSAL. OTHERWISE, ALL THE COST WILL BE INCLUDED IN THE OVER-ALL BID SUBMITTED, EXCEPT ON CERTAIN PROJECTS SOME ITEMS MAY BE PAID FOR SEPARATELY BY THE UNIT WHEN SPECIFIED ON THE PLANS AND IN THE PROPOSAL.
11. FOR FREEWAY CONSTRUCTION THE CONTRACTOR SHALL ARRANGE HIS WORK SO THAT THERE IS AN EXIT GORE SIGN AND AN EXIT DIRECTION SIGN IN PLACE FOR ALL EXIT RAMPS AT ALL TIMES.
12. ALL CROSSROADS, SIDEROADS, RAMPS OR OTHER ENTRANCES TO MAINLINE CONSTRUCTION SHALL REQUIRE W20-1 SIGNS LOCATED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
13. MARKINGS AND/OR SIGNS IN CONFLICT WITH INTERIM TRAFFIC CONTROL SHALL BE REMOVED, RELOCATED OR COVERED* APPLICABLE EXISTING AND INTERIM MARKINGS AND/OR SIGNING SHALL BE MAINTAINED PER SECTION 150.
14. ANY CHANNELIZING DEVICES (DRUMS OR BARRICADES) IN CONFLICT WITH CONCRETE BARRIERS SHALL BE OMITTED.
15. CONTRACTOR SHALL PROVIDE THE NECESSARY TRAFFIC CONTROL DURING THE TIE-IN OPERATION.
16. THE TRAFFIC CONTROL DEVICES SHOWN FOR ANY STAGE CONSTRUCTION SHALL REMAIN IN PLACE AND BE UTILIZED SO LONG AS NECESSARY FOR THE FOLLOWING STAGES AND SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER REQUIRED. THE DEVICES MAY OR MAY NOT BE SHOWN ON THE PLANS FOR THESE FOLLOWING STAGES. REFER TO THE PLAN SHEET FOR THE INITIAL STAGE FOR THESE TRAFFIC CONTROLS.
17. EXISTING GUIDE SIGNS SHALL REMAIN IN PLACE SO LONG AS THEY DO NOT CONFLICT WITH THE CONSTRUCTION OF THIS PROJECT. WHEN IN CONFLICT, THEY SHALL BE RELOCATED ON TEMPORARY POSTS AT THE LOCATION AS DIRECTED BY THE ENGINEER. ANY DISTANCE SHOWN ON THE SIGN SHALL BE ADJUSTED ACCORDINGLY. IF THE SIGNS CANNOT BE RELOCATED, THEN THE SIGN SHALL BE REMOVED AND STORED AT A PLACE DESIGNATED BY THE ENGINEER. IF NEITHER OF THE ABOVE CAN BE DONE, THEN THE CONTRACTOR SHALL PROVIDE INTERIM GUIDE SIGNS AS COVERED IN SECTION 150.
18. (a) ON PROJECTS WITH LOW OR SOFT SHOULDERS, THE CONTRACTOR SHALL ERECT IMMEDIATELY AHEAD OF CONSTRUCTION OPERATIONS "LOW/SOFT SHOULDER" WARNING SIGNS AT THE PROJECT TERMINI, AT INTERVALS NOT TO EXCEED 1 MILE AND IMMEDIATELY PAST EACH CROSSROAD.

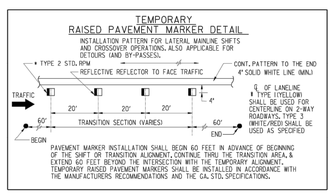
(b) WHERE THE CONTRACTOR IS NOT RESPONSIBLE FOR SHOULDER CONSTRUCTION, THE DEPARTMENT WILL FURNISH THESE SIGNS FOR THE CONTRACTOR TO PICK UP, TRANSPORT, AND ERECT. THE DEPARTMENT WILL LATER REMOVE AND RETAIN THE SIGNS.

STANDARD LEGEND

- STRIPED DRUM
- TYPE III BARRICADES
- SPECIAL BARRICADE WITH BI-DIRECTIONAL, TYPE "C" STEADY BURNING LIGHT OR HIGHWAY SIGN AS SPECIFIED (SEE DETAIL)
- SEQUENTIAL OR FLASHING ARROW
- PORTABLE CHANGEABLE MESSAGE SIGN
- PERMANENT TYPE POST MOUNTED SIGN
- TEMPORARY POST MOUNTED SIGN
- PORTABLE MOUNTED SIGN - FLAGS NOT REQUIRED
- WORK AREA
- TRAFFIC CONE - 28" MIN. - (DAYTIME USE ONLY)
- FLAGGER WITH STOP-SLOW PADDLE
- TRAFFIC IMPACT ATTENUATOR (CRASH CUSHION)
- TYPE I CLEAR (WHITE) DELINEATOR - SINGLE FACE
- TYPE I YELLOW DELINEATOR - SINGLE FACE
- TYPE I CLEAR (WHITE) DELINEATOR DOUBLE FACE
- TYPE I YELLOW DELINEATOR DOUBLE FACE

TEMPORARY RAISED PAVEMENT MARKER DETAIL

INSTALLATION PATTERN FOR LATERAL, MAINLINE SHIFTS AND CROSSOVER OPERATIONS, ALSO APPLICABLE FOR DETOURS (AND BY-PASSES).



PAVEMENT MARKER INSTALLATION SHALL BEGIN 60 FEET IN ADVANCE OF BEGINNING OF THE SHIFT OR TRANSITION ALIGNMENT, CONTINUE THRU THE TRANSITION AREA, & EXTEND 60 FEET BEYOND THE INTERSECTION WITH THE TEMPORARY ALIGNMENT. TEMPORARY RAISED PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND THE GA. STD. SPECIFICATIONS.

DATE	DESCRIPTION
5-30-06	REVISED GENERAL NOTES, ADDITIONAL DETAILS
4-24-06	SPEC. BAR. SK SPEC. REVISION

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
TRAFFIC CONTROL
GENERAL NOTES, STANDARD LEGEND, MISCELLANEOUS DETAILS

NO SCALE — AUG., 1999

BY: DES. ____ DRW. ____ TRA. ____ CHK. ____ (SUBMITTED) STATE ROAD & AIRPORT DESIGN ENGINEER (APPROVED) CHIEF ENGINEER

NUMBER 9100

A1 TRAFFIC CONTROL GENERAL NOTES, STANDARD LEGEND, MISCELLANEOUS DETAILS
NO SCALE

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMAN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: C-503
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

CONSTRUCTION DETAILS

SHEET IDENTIFICATION
C-503

CONSTRUCTION ONLY

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 DIRECT SUPERVISION.

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

FRED A. HALTERMAN, P.E.
GSWCC LEVEL II CERTIFICATION # 25622
EXPIRES: 07/02/2021

5/14/2021
DATE

EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN GENERAL NOTES

(IN CONFORMANCE WITH STATE OF GEORGIA GENERAL NPDES PERMIT NO. GAR 100001.)

OWNER/ PRIMARY PERMITEE: FAYETTE COUNTY ENVIRONMENTAL MANAGEMENT
PHIL MALLON
140 STONEWALL AVE. W.,
SUITE 203, FAYETTEVILLE, GA. 30214
PHONE (770) 313-9855
PUBLICWORKS@FAYETTE COUNTYGA.GOV

ENGINEER: POND & COMPANY
3500 PARKWAY LANE, SUITE 500
PEACHTREE CORNERS, GEORGIA 30092
PHONE: (678) 336-7740
FAX: (678) 336-7744

CONTACT: FRED A. HALTERMAN, PE
GA. P.E. # 031813 , E&S LEVEL II CERTIFICATION # 25622

CONTRACTOR: TO BE DETERMINED

24-HOUR EROSION AND SEDIMENT CONTROL CONTACT: PHIL MALLON (770) 313-9855

TOTAL SITE AREA: 0.92 ACRES
DISTURBED AREA: 0.92 ACRES

EXISTING LAND USE: THE EXISTING LAND USE CONSISTS OF A RESIDENTIAL LOT, ADJACENT STREET INTERSECTION, AND EXISTING STORM SEWER PIPING.

PROPOSED LAND USE: THIS PROJECT CONSISTS OF IMPROVING THE STORM CONVEYANCE SYSTEM TO CIRCUMVENT THE FLOODING AT 100 PLEASANT HILL ROAD. THE EXISTING SYSTEM TO BE UPGRADED WITH LARGER PIPES/STRUCTURES ALONG OLD IVY AND REDWINE ROAD TO INCREASE STORM RUNOFF CAPACITY.

BUFFER ENCROACHMENT: NO BUFFER ENCROACHMENTS ARE PROPOSED.

GPS COORDINATES OF SITE: 33° 22' 31.31" N, 84° 31' 00.19" W
NAME OF RECEIVING WATERS: REDWINE LAKE
AREA OF ON-SITE WETLANDS: 0 AC
PRE-CONSTRUCTION CURVE NUMBER: 71
POST-CONSTRUCTION CURVE NUMBER: 71

EROSION CONTROL LEGEND

Ds1	TEMPORARY MULCHING - DETAIL A4/CE-501	Sd1-S	SILT FENCING - DETAIL C2/CE-501
Ds2	TEMPORARY SEEDING - DETAIL A1/CE-502	Du	DUST CONTROL - DETAIL A1/CE-501
Ds3	PERMANENT SEEDING - DETAIL A1/CE-503	Tr	TREE PROTECTION FENCE - DETAIL C1/CE-504
Ds4	DISTURBED AREA STABILIZATION W/ SOODING - DETAIL A3/CE-502	Cd-S	STONE CHECK DAM DETAIL A2/CE-501
Ss	SLOPE STABILIZATION DETAIL A1/CE-504	Sd2-P	CURB INLET PROTECTION DETAIL A4/CE-504
		Di	DIVERSION DETAIL B1/CE-501

National Flood Hazard Layer FIRMette

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS: Without Base Flood Elevation (BFE) Zone A, V, A99; With BFE or Depth Zone AE, AO, AH, VE, AR; Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X; Future Conditions 1% Annual Chance Flood Hazard Zone X; Area with Reduced Flood Risk due to Levee. See Notes. Zone X; Area with Flood Risk due to Levee Zone D
- OTHER AREAS: NO SCREEN Area of Minimal Flood Hazard Zone X; Effective LOMRs; Area of Undetermined Flood Hazard Zone D
- GENERAL STRUCTURES: Channel, Culvert, or Storm Sewer; Levee, Dike, or Floodwall
- OTHER FEATURES: 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation; Coastal Transect; 513 Base Flood Elevation Line (BFE); Limit of Study; Jurisdiction Boundary; Coastal Transect Baseline; Profile Baseline; Hydrographic Feature
- MAP PANELS: Digital Data Available; No Digital Data Available; Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/18/2021 at 3:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

PLAN NORTH

FEMA FLOOD MAP - 1311C0094E
SCALE: NTS DATED 09/26/2008

THERE ARE KNOWN WETLANDS LOCATED WITHIN 200 FEET OF PROJECT AREA.
STATE WATERS DO EXIST WITHIN 200 FEET OF PROJECT AREA.

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25- OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS..

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.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

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.

ALL BUFFERS AND TREE SAVE AREAS SHALL BE CLEARLY IDENTIFIED WITH FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.

SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.

ACTIVITY SCHEDULE (FOR PERMITTING REFERENCE ONLY)

ACTIVITY	TIME / 12 WEEKS											
	1	2	3	4	5	6	7	8	9	10	11	12
INSTALL SILT FENCE, CONSTRUCTION EXIT												
CLEARING AND GRUBBING												
INSTALL REMAINDER OF INITIAL PERIMTER CONTROLS INCLUDING SEDIMENT BASINS, CHECK DAMS, ROCK DAMS, DIVERSION BERMS, ROCK FILTER, DOWN DRAINS, INLET SEDIMENT TRAPS, AND FILTER RINGS,												
DEMOLITION OF SURFACE PAVEMENT, OR ANY OTHER MISCELLANEOUS REQUIRED BMP , FENCES, EXISTING CULVERTS AND UTILITY POLES												
ROUGH GRADING OPERATIONS												
UTILITY RELOCATION												
INSTALLATION OF PROPOSED STORM SYSTEM												
FINAL PAVING AND GRADING												
PERMANENT SEEDING												
REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES												
MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES												

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

FOR REVIEW ONLY

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

	DATE	DESCRIPTION	MARK	APPR.	DATE	DESCRIPTION	MARK	APPR.

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE
PLOT DATE:
FILE NUMBER: CE001
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENTATION CONTROL NOTES

SHEET IDENTIFICATION
CE001

CONSTRUCTION ONLY

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CE-001.dwg PLOTTED: Monday, May 17, 2021

CE-001.dwg

CE001

STRUCTURAL PRACTICES:

THE STRUCTURAL PRACTICES SHOWN ON THIS PLAN HAVE BEEN DESIGNED TO REDUCE EROSION & SEDIMENTATION OF DISTURBED AREAS.

SILT FENCE (SD1-TYPE "S"), TEMPORARY SEDIMENT BASINS, AND DIVERSION DITCHES WILL BE INSTALLED PRIOR TO CLEARING AND GRADING OPERATIONS TO KEEP SEDIMENT CONTAINED WITHIN THE SITE AS NECESSARY. DISTURBED AREA STABILIZATION SHALL BE STABILIZED WITH MULCH (Ds1), TEMPORARY SEEDING (Ds2), AND PERMANENT SEEDING (Ds3) AS NECESSARY. INLET SEDIMENT TRAP PROTECTION WILL BE USED TO HELP PREVENT SEDIMENT FROM ENTERING ANY EXISTING INLETS. SEDIMENT STORAGE OF 67 CY PER DISTURBED ACRE IS PROVIDED BY TEMPORARY SEDIMENT BASINS.

CRITICAL WORK ZONE:

ALL SLOPES 3:1 OR STEEPER AND HIGHER THAN 5 FEET, AND ALL SLOPES ADJACENT TO BUFFERS SHALL RECEIVE SURFACE ROUGHENING, AND EROSION CONTROL MATTING. SILT FENCING WILL BE USED TO PREVENT SEDIMENT FROM LEAVING THE DISTURBED AREA. INLET PROTECTION WILL BE USED TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER.

CONSTRUCTION PERIOD STORM WATER POLLUTANT CONTROL:

SEDIMENTATION AND FUEL SPILLS ARE POTENTIAL SOURCES OF STORM WATER POLLUTION DURING THE CONSTRUCTION PROCESS. THESE POLLUTANTS WILL BE REMOVED AND/OR REDUCED VIA THE BMP'S CONTAINED WITHIN THIS PLAN

STABILIZATION MEASURES:

THE STABILIZATION MEASURES SHOWN ON THESE PLANS HAVE BEEN DESIGNED TO STABILIZE THE DISTURBED AREAS FOLLOWING THE TEMPORARY OR PERMANENT COMPLETION OF CONSTRUCTION. ALL EXPOSED AREAS SHALL BE STABILIZED WITH TEMPORARY MULCHING (DS1) IMMEDIATELY AFTER TRENCHING IF THEY ARE TO REMAIN INACTIVE FOR 14 DAYS OR MORE. ALL DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY (DS2) OR PERMANENT (DS3) VEGETATION AS INDICATED ON THE PLAN. SLOPES GREATER 3:1 ARE TO BE STABILIZED WITH EROSION CONTROL MATTING (MB). DUST CONTROL (DU) SHALL ALSO BE PROVIDED AS NEEDED DURING GRADING ACTIVITIES. SEE EROSION, SEDIMENTATION, AND POLLUTION CONTROL (ESPCP) DETAIL SHEETS FOR MORE DETAILS REGARDING THESE STABILIZATION MEASURES.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, EXCEPT:

WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR OTHER ADVERSE WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL.

WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.

KEEPING PLANS CURRENT:

THE PRIMARY, SECONDARY OR TERTIARY PERMITTEES, AS APPLICABLE, SHALL AMEND THEIR PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION , OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT (I.E., THOSE BMPS WHERE THE DESIGN IS BASED UPON RAINFALL INTENSITY, DURATION AND RETURN FREQUENCY STORMS) OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM SOURCES IDENTIFIED UNDER PART IV.D.3. OF THIS PERMIT. AMENDMENTS TO THE PLAN MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AS PROVIDED IN THIS PERMIT. SECONDARY PERMITTEES MUST NOTIFY THE PRIMARY PERMITTEE WITHIN 24-HOURS OF BECOMING AWARE OF ANY SUSPECTED BMP DESIGNED DEFICIENCIES WHICH ARE NOT EFFECTIVE IN CONTROLLING THE DISCHARGE OF POLLUTANTS FROM THE SECONDARY PERMITTEE'S SITE. THE PRIMARY PERMITTEE MUST EVALUATE WHETHER THESE DEFICIENCIES EXIST WITHIN 48-HOURS OF SUCH NOTICE, AND IF THESE DEFICIENCIES ARE FOUND TO EXIST MUST AMEND THE PLAN IN ACCORDANCE WITH THIS PARAGRAPH TO ADDRESS THOSE DEFICIENT BMPS WITHIN SEVEN (7) DAYS OF BEING NOTIFIED BY THE SECONDARY PERMITTEE. WHEN THE PLAN IS AMENDED, THE PRIMARY PERMITTEE MUST NOTIFY AND PROVIDE A COPY OF THE AMENDMENT TO ALL AFFECTED SECONDARY PERMITTEES WITHIN THIS SEVEN (7) DAY PERIOD. THE SECONDARY PERMITTEE(S) MUST IMPLEMENT ANY NEW PLAN REQUIREMENTS AFFECTING THEIR SITE(S) WITHIN 48-HOURS OF NOTIFICATION BY THE PRIMARY PERMITTEE. NOTWITHSTANDING THE FOREGOING, THE PRIMARY OR TERTIARY PERMITTEE REMAINS RESPONSIBLE FOR INSURING THAT THE PLAN, AS APPROPRIATE, MEETS THE REQUIREMENTS OF THIS PERMIT.

PROPER OPERATION AND MAINTENANCE:

THE PERMITTEE SHALL AT ALL TIMES PROPERLY OPERATE AND MAINTAIN ALL FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL (AND RELATED APPURTENANCES) WHICH ARE INSTALLED OR USED BY THE PERMITTEE TO ACHIEVE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT AND WITH THE REQUIRED PLANS. PROPER OPERATION AND MAINTENANCE ALSO INCLUDES ADEQUATE LABORATORY CONTROLS AND APPROPRIATE QUALITY ASSURANCE PROCEDURES. PROPER OPERATION AND MAINTENANCE REQUIRES THE OPERATION OF BACKUP OR AUXILIARY FACILITIES OR SIMILAR SYSTEMS, INSTALLED BY AN PERMITTEE ONLY WHEN NECESSARY TO ACHIEVE COMPLIANCE WITH THE CONDITIONS OF THE PERMIT.

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

REFER TO THE DETAILS CONTAINED WITHIN THIS PLAN SET FOR ADDITIONAL MAINTENANCE INSTRUCTION.

NON-STORM WATER DISCHARGES:

NON-STORM WATER DISCHARGES (DISCHARGES FROM FIRE FIGHTING ACTIVITIES, FIRE HYDRANT FLUSHING, POTABLE WATER SOURCES INCLUDING WATER LINE FLUSHING, IRRIGATION DRAINAGE, AIR CONDITIONING CONDENSATE, SPRINGS, UNCONTAMINATED GROUNDWATER, AND FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS OR POLLUTANTS) THAT ARE COMBINED WITH STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY SHALL BE DISCHARGED TO THE PROPOSED STORM DRAINAGE SYSTEM AND ROUTED THROUGH THE EROSION AND SEDIMENTATION CONTROLS IDENTIFIED WITHIN THIS PLAN. NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF THIS IS NOT POSSIBLE.

WASTE MATERIALS AND DISPOSAL:

ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER OR OTHER APPROPRIATE WASTE MANAGEMENT FACILITY PERMISSIBLE UNDER GAR PERMIT NO. 100001. WASTE MANAGEMENT FACILITIES SHALL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE WASTE MANAGEMENT FACILITIES. WASTE MANAGEMENT FACILITIES SHALL BE EMPTIED A MINIMUM OF ONCE PER WEEK OR MORE OFTEN IF NECESSARY AND TRASH SHALL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE SHALL BE BURIED ON-SITE.

ALL PERSONNEL SHALL BE INSTRUCTED ON PROPER PROCEDURES FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES SHALL BE POSTED AT THE JOB SITE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

LOCATE WASTE COLLECTION AREAS AWAY FROM STREETS, GUTTERS, WATERCOURSES AND STORM DRAINS. WASTE COLLECTION AREAS, SUCH AS DUMPSTERS, ARE OFTEN BEST LOCATED NEAR CONSTRUCTION SITE ENTRANCES TO MINIMIZE TRAFFIC ON DISTURBED SOILS.

HAZARDOUS WASTES:

ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER AS REQUIRED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. THE JOB SITE SUPERINTENDENT, WHO WILL ALSO BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED, SHALL INSTRUCT SITE PERSONNEL IN THESE PRACTICES. MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE SHALL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS SHALL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED AND ANOTHER COPY OF EACH MSDS SHALL BE MAINTAINED IN THE EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN (ESPCP) FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO HANDLES A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF MSDS SHEETS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

THE CONTRACTOR WILL IMPLEMENT THE SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN FOUND WITHIN THIS ESPCP AND WILL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIALS OR HAZARDOUS WASTES SHALL BE ALLOWED TO COME IN CONTACT WITH STORM WATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORM WATER DISCHARGE SHALL BE CONTAINED ON SITE UNTIL APPROPRIATE MEASURES IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS ARE TAKEN TO DISPOSE OF SUCH CONTAMINATED STORM WATER. IT SHALL BE THE RESPONSIBILITY OF THE JOB SITE SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC PLAN.

NOTHING IN THIS PERMIT SHALL BE CONSTRUED TO PRECLUDE THE INSTITUTION OF ANY LEGAL ACTION OR RELIEVE THE PERMITTEE FROM ANY RESPONSIBILITIES, LIABILITIES, OR PENALTIES TO WHICH THE PERMITTEE IS OR MAY BE SUBJECT UNDER THE GEORGIA HAZARDOUS WASTE MANAGEMENT ACT, O.C.G.A. § 12-8-60, ET SEQ. OR UNDER CHAPTER 14 OF TITLE 12 OF THE OFFICIAL CODE OF GEORGIA ANNOTATED; NOR IS THE OPERATOR RELIEVED FROM ANY RESPONSIBILITIES, LIABILITIES OR PENALTIES TO WHICH THE PERMITTEE IS OR MAY BE SUBJECT UNDER SECTION 311 OF THE CLEAN WATER ACT OR SECTION 106 OF COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT.

SANITARY WASTES:

ALL PERMITTEES SHALL ENSURE THAT THIS PLAN IS IN COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS.

A MINIMUM OF ONE PORTABLE SANITARY UNIT SHALL BE PROVIDED FOR EVERY TEN (10) WORKERS ON THE SITE. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH THE LOCAL STATE REGULATIONS.

ALL SANITARY WASTE UNITS SHALL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE. ADDITIONAL CONTAINMENT OF BMP'S SHALL BE IMPLEMENTED AS NECESSARY, SUCH AS GRAVEL BAGS OR SPECIFICALLY DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASE, TO PREVENT WASTE FROM CONTRIBUTING TO STORM WATER DISCHARGES. THE LOCATION OF SANITARY WASTE UNITS MUST BE IDENTIFIED ON THE EROSION CONTROL PLAN GRADING PHASE BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED.

OFFSITE VEHICLE TRACKING / DUST CONTROL:

OFF-SITE VEHICLE TRACKING OF DIRT, SOILS, AND SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED OR ELIMINATED TO THE MAXIMUM EXTENT PRACTICAL. A STABILIZED CONSTRUCTION EXIT (CO) SHALL BE PROVIDED TO REDUCE VEHICLE TRACKING OF SEDIMENT. SEE ESPCP PLAN AND DETAIL SHEETS FOR THE CONSTRUCTION EXIT LOCATIONS AND DETAIL. THE PAVED STREET ADJACENT TO THE CONSTRUCTION EXIT SHALL BE INSPECTED DAILY BY A REPRESENTATIVE OF THE SITE CONTRACTOR FOR TRACKING OF MUD, DIRT, OR ROCK. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE SHALL BE COVERED WITH A TARPAULIN. DUST CONTROL (DU) SHALL BE APPLIED AS NECESSARY TO PREVENT SURFACE AND AIR MOVEMENT OF DUST.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE FOLLOWING MATERIALS ARE EXPECTED TO BE ONSITE DURING CONSTRUCTION: CONCRETE PRODUCTS, ASPHALT, PETROLEUM BASED FUELS AND LUBRICANTS FOR EQUIPMENT, TAR, METAL BUILDING MATERIALS, LUMBER, SHEET ROCK, FLOOR COVERINGS, ELECTRICAL WIRE AND FIXTURES, PAINTS/STAINS/FINISHING TREATMENTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CLEANING SOLVENTS, PESTICIDES, FERTILIZERS, HERBICIDES, CRUSHED STONE, PLASTIC AND METAL PIPES.

SPILL PREVENTION

PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES WILL BE FOLLOWED TO REDUCE THE RISK OF SPILLS AND SPILLS FROM DISCHARGING INTO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

QUANTITIES OF PRODUCTS STORED ONSITE WILL BE LIMITED TO THE AMOUNT NEEDED FOR THE JOB.

A. PRODUCTS AND MATERIALS WILL BE STORED IN A NEAT, ORDERLY MANNER IN APPROPRIATE CONTAINERS PROTECTED FROM RAINFALL, WHERE POSSIBLE.
B. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH MANUFACTURER LABELS LEGIBLE AND VISIBLE.
C. PRODUCT MIXING, PRODUCT DISPOSAL, AND DISPOSAL OF PRODUCT CONTAINERS WILL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
D. THE CONTRACTOR WILL INSPECT SUCH MATERIALS TO ENSURE PROPER USE, STORAGE AND DISPOSAL.

EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN GENERAL NOTES

(IN CONFORMANCE WITH STATE OF GEORGIA GENERAL NPDES PERMIT NO. GAR 100001)

PRODUCT SPECIFIC PRACTICES

PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAINMENT. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.

PAINTS/FINISHES/SOLVENTS - ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED INTO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS, AND PRODUCT CONTAINERS WILL BE DISPOSED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

CONCRETE/MASONRY - NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON SITE. THE CONCRETE PROVIDER HAS RESPONSIBILITY TO ENSURE APPROPRIATE TRAINING HAS BEEN PROVIDED TO THEIR TRUCK DRIVERS, AND MUST PROVIDE APPROPRIATE DETAILS AND RESOURCES TO ENABLE THEM TO COMPLETE A DELIVERY WITHOUT CAUSING POLLUTION. CHUTES, BARRELS, WHEELBARROWS AND OTHER EQUIPMENT MUST BE RINSED IN THE SITE WASH-DOWN AREA. SWEEP OR SHOVEL ANY SPILLS THAT OCCUR AND ALLOW RESIDUE TO SET BEFORE REMOVING. THE HARDENED RESIDUE MAY THEN BE PLACED IN A DESIGNATED CONCRETE/MASONRY RECYCLING BIN ON SITE. DO NOT WASH CONCRETE/MASONRY INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS. TRUCKS SHOULD NOT TRACK ANY CONCRETE OR MUD AND SEDIMENT OFF SITE.

FERTILIZER/HERBICIDES - THESE PRODUCTS WILL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS, THE CROP ESTABLISHMENT GUIDELINES, OR THE SPECIFICATIONS CONTAINED WITHIN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.

SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN:

A. LOCAL, STATE, AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND PROCEDURES SHALL BE MADE AVAILABLE TO SITE PERSONNEL.
B. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST, AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
C. SPILL PREVENTION PRACTICES AND PROCEDURES SHALL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
D. ALL SPILLS WILL BE CLEANED IMMEDIATELY UPON DISCOVERY. ALL SPILLS SHALL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
E. THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL IN THE STORM WATER DISCHARGE(S) FROM A SITE SHALL BE PREVENTED.
F. WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. SEC. 12-14-2, ET SEQ.), 40 CFR 117, OR 40 CFR 302 OCCURS DURING A 24-HOUR PERIOD, THE PERMITTEE IS REQUIRED TO NOTIFY EPD AT (404) 656-4863 OR (800) 241-4113 AND THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802 IN ACCORDANCE WITH THE REQUIREMENTS OF GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. SEC. 12-14-2, ET SEQ.), 40 CFR 117, AND 40 CFR 302 AS SOON AS HE HAS KNOWLEDGE OF THE DISCHARGE.
G. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER) OR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) SHALL BE CONTACTED WITHIN 24 HOURS AT (800) 424-8802.
H. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD SHALL BE CONTACTED WITHIN 24 HOURS AT (404) 656-4863 OR (800) 241-4113.
I. FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL SHALL BE CLEANED AND LOCAL AGENCIES SHALL BE CONTACTED AS REQUIRED.
J. GENERAL NPDES PERMIT NO. GAR 100002 DOES NOT AUTHORIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL RESULTING FROM AN ON-SITE SPILL.

THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY A LICENSED PROFESSIONAL.

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

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No. 031813

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: SK		DATE: MAY 14, 2021	
DWN BY: AC	CKD BY: WM	SOLICITATION NO.:	
SUBMITTED BY: FAH		CONTRACT NO.:	
PLOT SCALE:	PLOT DATE:	FILE NUMBER: CE002	
SIZE: ANSI D	FILE NAME:		

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
Fax (678) 336-7744
JOB NO.

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENTATION
CONTROL NOTES

SHEET
IDENTIFICATION
CE002

CONSTRUCTION ONLY

SHEET LEGEND

SF — SILT FENCE

LOD — LOD — LIMITS OF DISTURBANCE

TPF — TPF — TPF — TREE PROTECTION FENCE

PROPERTY LINE

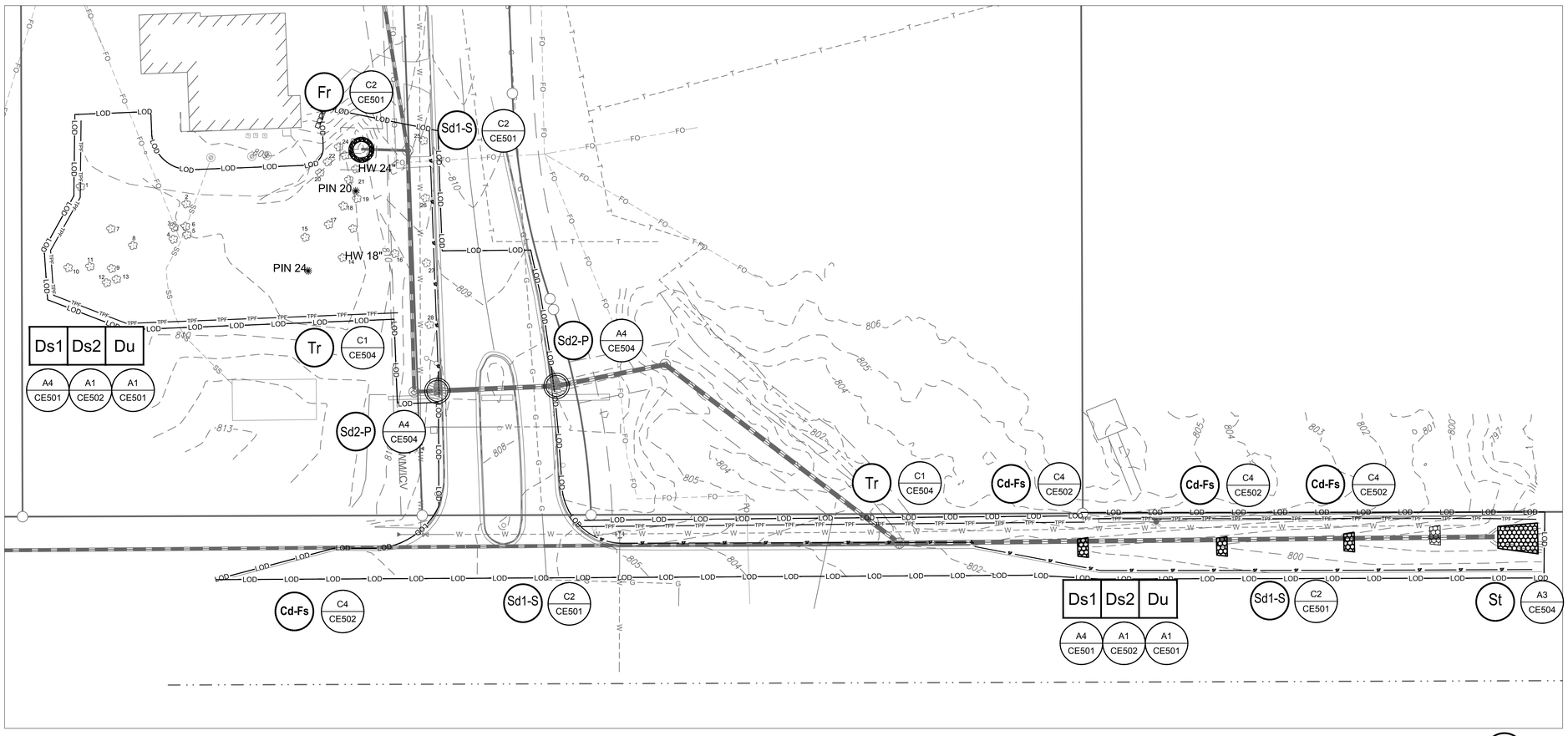
GENERAL SHEET NOTES

1. REFER TO SHEET CE001 FOR GENERAL CIVIL NOTES, LEGENDS, AND ABBREVIATIONS.
2. THIS SHEET IS PART OF A MULTI-SHEET SET OF EROSION CONTROL PLANS AND SHALL BE READ WITH THE FULL SET TO BEST ENSURE PROPER INTERPRETATION.
3. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
4. 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.
5. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
6. ANY DISTURBED AREA LEFT IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED WITH PERMANENT SEEDING.
7. CONSTRUCTION ENTRANCE TO BE DETERMINED BY COUNTY AND CONTRACTOR PRIOR TO CONSTRUCTION.

SUMMARY OF AREAS

ONSITE DISTURBED AREA: 0.92 ACRES

AREA TO SILT FENCE: 0.50 ACRES
(CONSISTS OF PERIMETER AREAS, WHERE SEDIMENT STORAGE IS NOT OBTAINABLE. SEDIMENT REMOVAL IS PROVIDED BY SILT FENCING)
[1/4 ACRE TREATED PER 100 LF SILT FENCE]
[300 LF SILT FENCE REQUIRED]
[583 LF SILT FENCE PROVIDED]



A1 EROSION AND SEDIMENTATION CONTROL PLAN - INITIAL PHASE
SCALE: 1" = 40'

0 20' 40' 80' 120'

24 HR. EROSION CONTROL CONTACT
PHIL MALLON
(770) 313-9855

FOR REVIEW ONLY

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

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GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
SUBMITTED BY: FAH
DATE: MAY 14, 2021
CKD BY: WM
PLOT SCALE
PLOT DATE:
SIZE: ANSI D
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: CE-101
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
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Peachtree Corners, GA 30092
Phone (770) 338-7744
Fax (770) 338-7744
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENTATION
CONTROL PLAN - INITIAL PHASE

SHEET IDENTIFICATION
CE101

CONSTRUCTION ONLY

FILE NAME: X:\PY\19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CE-101.dwg PLOTTED: Monday, May 17, 2021

CE-101.dwg

CE101

SHEET LEGEND

SF	SILT FENCE
LOD LOD	LIMITS OF DISTURBANCE
TPF TPF TPF	TREE PROTECTION FENCE
	PROPERTY LINE

GENERAL SHEET NOTES

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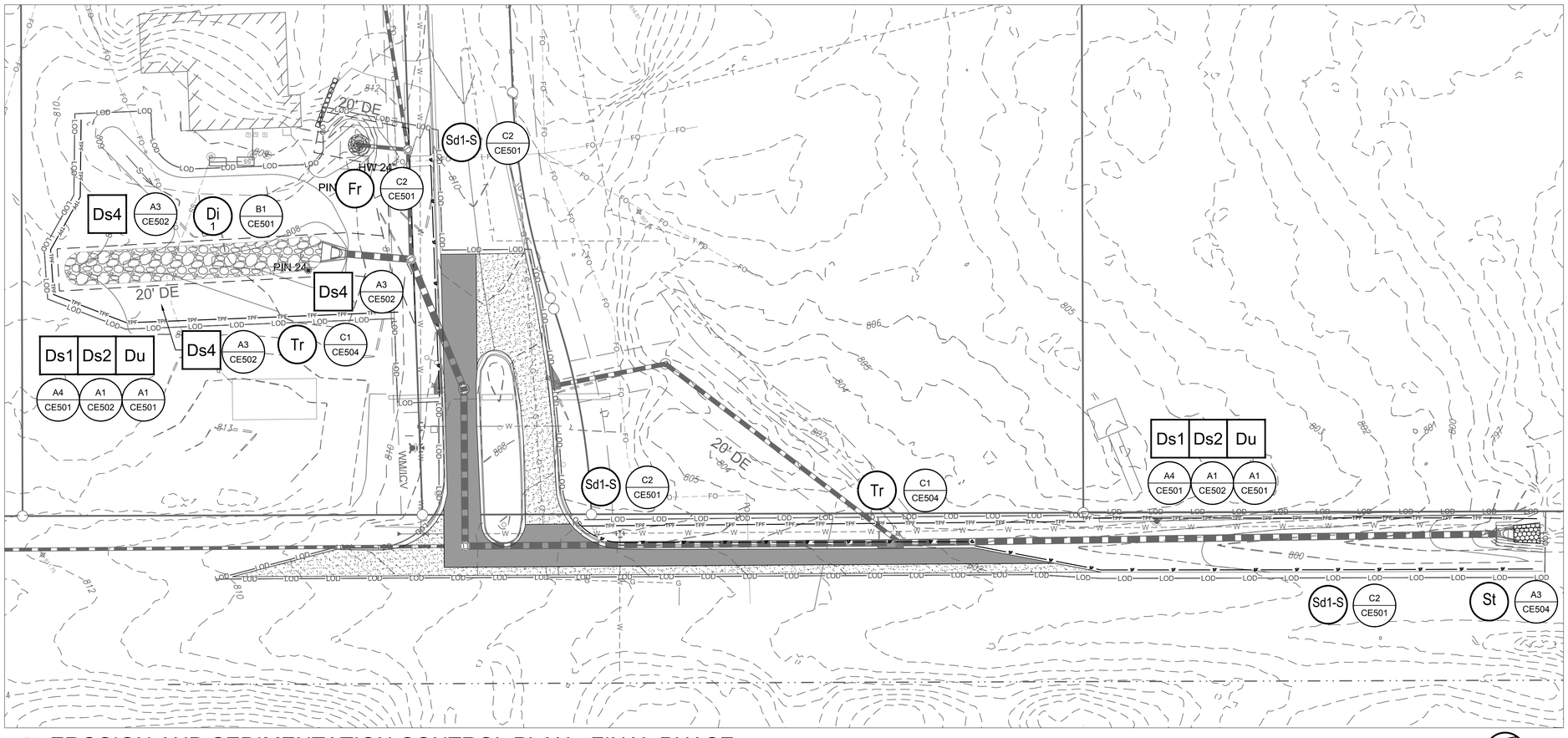

A1 EROSION AND SEDIMENTATION CONTROL PLAN - FINAL PHASE
SCALE: 1" = 40'

0 20' 40' 80' 120'

24 HR. EROSION CONTROL CONTACT
PHIL MALLON
(770) 313-9855

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LEVEL II CERTIFICATION
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MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

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PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME:
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: FE2021

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FAYETTEVILLE
GEORGIA

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Norcross, Georgia 30092
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Fax (770) 338-7744
www.pond.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENTATION CONTROL PLAN - FINAL PHASE

SHEET IDENTIFICATION
CE201

CONSTRUCTION ONLY

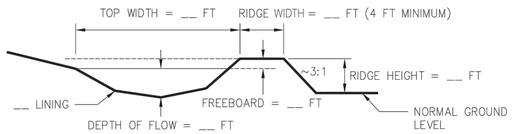
FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CE-101.dwg PLOTTED: Monday, May 17, 2021

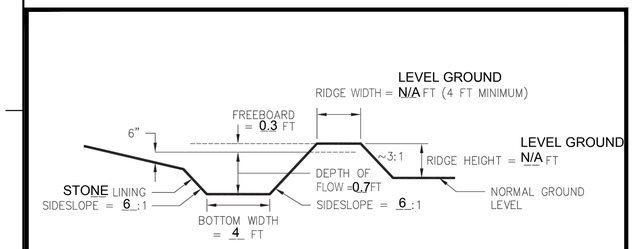
CE-101.dwg

CE201

SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

COMPLETE THE APPROPRIATE DETAIL DRAWING FOR THE CHANNEL CROSS-SECTION OF CHOICE:





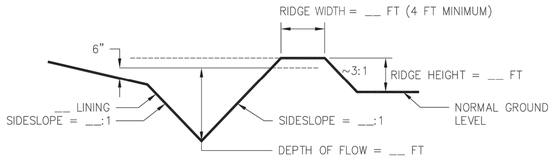


Figure 6-17.2

B1 DIVERSION
NO SCALE — Di

METHODS AND MATERIALS

A. TEMPORARY METHODS

MULCHES
SEE MULCHING. SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL.

VEGETATIVE COVER
SEE TEMPORARY SEEDING.

SPRAY-ON ADHESIVES
THESE ARE USED ON MINERALS SOILS. KEEP TRAFFIC OFF THESE AREAS.

SPRINKLING
THE SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED. THIS METHOD IS ESPECIALLY EFFECTIVE ON HAUL ROADS AND OTHER TRAFFIC ROUTES.

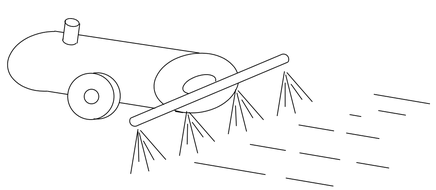
BARRIERS
SOLID BOARD FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

B. PERMANENT METHODS

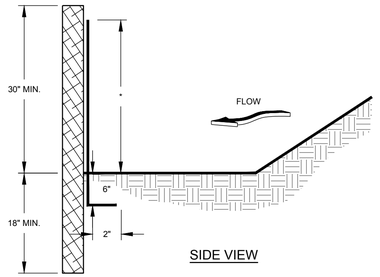
PERMANENT VEGETATION
SEE STANDARD FOR PERMANENT SEEDING, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

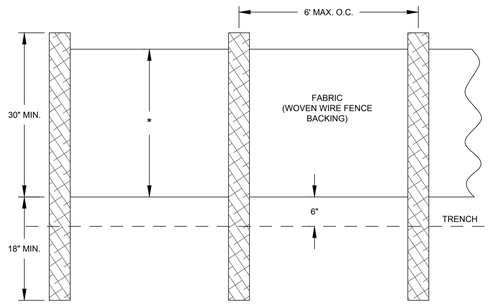
TOPSOILING
THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE TOPSOILING.

STONE
COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.



A1 DUST CONTROL
NO SCALE — Du





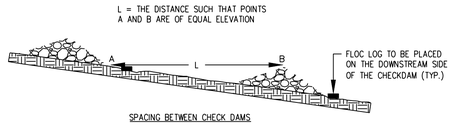
MAINTENANCE

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

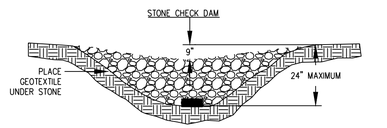
NOTES

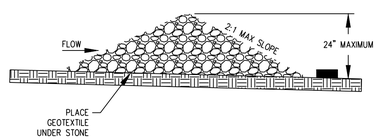
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

C2 TYPE 'S' SILT FENCE
NO SCALE — Sd1-S



SPACING BETWEEN CHECK DAMS





MAINTENANCE
SPECIFICATIONS:

1. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED.
2. SEDIMENT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF ONE-HALF THE ORIGINAL DAM HEIGHT OR BEFORE.
3. IF THE AREA IS TO BE MOWED, CHECK DAMS SHALL BE REMOVED ONCE FINAL STABILIZATION HAS OCCURRED.
4. AFTER REMOVAL, THE AREA BENEATH THE DAM SHALL BE SEEDED AND MULCHED IMMEDIATELY.

FLOC LOG SPECIFICATIONS:

1. CONTRACTOR SHALL PROVIDE 8 OUNCE SOIL SAMPLE OF ALL DIFFERENT SOIL TYPES PRESENT ON THE SITE TO APPLIED POLYMER SYSTEMS, INC (APS). SUCH AS TOPSOIL, CUT MATERIAL, IMPORTED FILL, ETC.
2. CONTRACTOR SHALL PROVIDE AND INSTALL FLOC LOGS AS SHOWN ON THE DIAGRAM. FLOC LOGS TYPES SHOULD BE IN ACCORDANCE WITH APS RECOMMENDATIONS BASED ON THE SOILS PRESENT ON THE SITE.

A2 STONE CHECK DAM
NO SCALE — Cd-S

MULCHING MATERIAL

1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE.
2. WOOD WASTE (CHIPS, SAWDUST, OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH.
3. CUTBACK ASPHALT 9SLOW CURING) SHALL BE APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER SQ. YD.)
4. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION.

APPLYING MULCH

1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY DECOMPOSITION OF THE ORGANIC MULCHES.
3. CUTBACK ASPHALT SHALL BE APPLIED UNIFORMLY. CARE SHOULD BE TAKEN IN AREAS OF PEDESTRIAN TRAFFIC DUE TO PROBLEMS OF "TRACKING IN" OR DAMAGE TO SHOES, CLOTHING, ETC.
4. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH

1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE USED SMOOTH OR SERRATED AND SHOULD BE 20 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OF HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.

   STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKIFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION Tb - TACKIFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENING OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

TABLE 1. Mulching Application Requirements

MATERIAL	RATE	DEPTH
Straw or hay	-	2" to 4"
Wood waste, chips, sawdust, bark	-	2" to 3"
Cutback asphalt	1200 gal./acre, 1/4 gal./sq. yd./ or see manufacturer's recommendations	-
Polyethylene film	Secure with soil, anchors, weights	-
Geotextiles, jute matting, netting, etc.	See manufacturer's recommendations	-

INSTALLATION NOTES:

1. INSTALL ALL OTHER REQUIRED BMPs FIRST.
2. GRADE SITE, IF POSSIBLE, TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
3. LOOSEN COMPACTED SOIL, IF POSSIBLE, TO A DEPTH OF 3 INCHES.
4. APPLY STRAW OR HAY UNIFORMLY, AS SHOWN IN TABLE 1, BY HAND OR MECHANICAL EQUIPMENT, AND ANCHOR BY PRESSING INTO SOIL OR USING NETTING.
5. MULCH ON SLOPES GREATER THAN 3% SHOULD BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1) OR OTHER SUITABLE TACKIFIER.
6. WOOD WASTE ON SLOPES FLATTER THAN 3:1 DO NOT NEED ANCHORING.
7. MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS LEFT INACTIVE FOR FOURTEEN DAYS.

MAINTENANCE NOTES:

1. ADD MULCH AS NEEDED TO MAINTAIN THE SUGGESTED DEPTH.
2. IF ORGANIC MULCH IS TO BE LEFT AND INCORPORATED INTO THE SOIL, APPLY 20-30 POUNDS OF NITROGEN IN ADDITION TO THE FERTILIZER REQUIRED FOR VEGETATION.

A4 DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
NO SCALE — Ds1

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

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GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SK
DWN BY: AC
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT DATE:
PLOT SCALE:
SIZE: ANSI D
FILE NUMBER: CE501
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

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Norcross, Georgia 30092
Phone (678) 336-7140
Fax (678) 336-7744
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100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENT CONTROL DETAILS

SHEET IDENTIFICATION
CE501

CONSTRUCTION ONLY

TEMPORARY SEEDING:

SEEDBED PREPARATION: WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AMD NOT SEALED BY RAINFALL. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH UNDISTURBED CUT SLOPES, THE SOIL SHALL HAVE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER: AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWRWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO SEE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OF THE EQUIVALENT PER ACRE (12-16 LBS/1000 SQ. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

SEEDING:
REFER TO TEMPORARY SEEDING CHART THIS PAGE.

APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROXIMATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE RAKED LIGHTLY TO COVER SEED WITH SOIL IF SEEDING BY HAND.

Species	Broadcost Rates – PLS Per Acre	Broadcost Rates – PLS Per 1000 sq. ft.	Planting Dates (Solid lines indicate optimum dates, dotted lines indicated permissible but marginal dates.) J F M A M J J A S O N D
BARLEY (Hordeum vulgare)			
alone	3 bu. (144 lbs.)	3.3 lb.	
in mixtures	½ bu. (24 lbs.)	0.6 lb.	
LESPEDEZA, ANNUAL (Iezpedeza striata)			
alone	40 lbs.	0.9 lb.	
in mixtures	10 lbs.	0.2 lb.	
LOVEGRASS, WEEPING (Eragrostis curvula)			
alone	4 lbs.	0.1 lb.	
in mixtures	2 lbs.	0.05 lb.	
MILLET, BROWNTOP (Panclum fasciculatum)			
alone	40 lbs.	0.9 lb.	
in mixtures	10 lbs.	0.2 lb.	
MILLET, PEARL (Pennesetum glaucum)			
alone	50 lbs.	1.1 lb.	
OATS (Avena sativa)			
alone	4 bu. (128 lbs.)	2.9 lb.	
in mixtures	1 bu. (32 lbs.)	0.7 lb.	
RYE (Secale cereale)			
alone	3 bu. (168 lbs.)	3.9 lb.	
in mixtures	½ bu. (28 lbs.)	0.6 lb.	
RYEGRASS, ANNUAL (Lolium temulentum)			
alone	40 lbs.	0.9 lb.	
SUDANGRASS (Sorghum sudanese)			
alone	60 lbs.	1.4 lb.	
WHEAT (Triticum aestivum)			
alone	3 bu. (180 lbs.)	4.1 lb.	
in mixtures	½ bu. (30 lbs.)	0.7 lb.	

TABLE 1. SOME TEMPORARY PLANT SPECIES, SEEDING RATES AND PLANTING DATES

Species	Rates per 1,000 sq. ft.	Rates per Acre	Region M-L (Mountain, Blue Ridge, Ridges and Valley)	Region P (Southern Piedmont)	Region C (Southern Coastal Plain, Sand Hills, Black Lands, and Atlantic Coastal Flatwoods)
Barley alone	3.3 lbs.	3 bu.	9 Sept. – 31 Oct.	15 Sept. – 15 Nov.	1 Oct. – 31 Dec.
Barley, in mixtures	0.6 lbs.	0.5 bu.			
Lespedeza, Annual	0.9 lbs.	40 lbs.	1 Mar. – 31 Mar.	1 Mar. – 31 Mar.	1 Feb. – 28 Feb.
Lespedeza, in mixtures	0.2 lbs.	10 lbs.			
Lovegrass, weeping	0.1 lbs.	4 lbs.	1 Apr. – 31 May	1 Apr. – 31 May	1 Mar. – 31 May
Lovegrass, in mixtures	0.05 lbs.	2 lbs.			
Millet, browntop	0.9 lbs.	40 lbs.	15 Apr. – 15 Jun.	15 Apr. – 30 Jun.	15 Apr. – 30 Jun.
Millet, in mixtures	0.2 lbs.	10 lbs.			
Millet, pearl	1.1 lbs.	50 lbs.	15 May – 15 Jul.	1 May – 31 Jul.	15 Apr. – 15 Aug.
Oats, alone	2.99 lbs.	4 bu.	15 Sept. – 15 Nov.	15 Sept. – 15 Nov.	15 Sept. – 15 Nov.
Oats, in mixtures	0.7 lbs.	1 bu.			
Rye (grain), alone	3.9 lbs.	3 bu.	15 Aug. – 31 Oct.	15 Sept. – 30 Nov.	1 Oct. – 31 Dec.
Rye, in mixtures	0.6 lbs.	0.5 bu.			
Ryegrass	0.9 lbs.	40 lbs.	15 Aug. – 15 Nov.	1 Sept. – 15 Dec.	15 Sept. – 31 Dec.
Sudangrass	1.4 lbs.	60 lbs.	1 May – 31 Jul.	1 May – 31 Jul.	1 Apr. – 31 Jul.
Triticale, alone	3.3 lbs.	3 bu.	–	–	15 Oct. – 30 Nov.
Triticale, in mixtures	0.6 lbs.	0.5 bu.			
Wheat, alone	4.1 lbs.	3 bu.	15 Sept. – 30 Nov.	1 Oct. – 15 Dec.	15 Oct. – 31 Dec.
Wheat, in mixtures	0.7 lbs.	0.5 bu.			

1. UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIEW SEEDING RATES.
2. SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.
3. FOR MAJOR LAND RESOURCE AREAS (MLRAs), SEE "TACKIFIERS AND BINDERS" OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.
3. SEEDING RATES ARE BASED ON PURE LIVE SEED (PLS).

TABLE 2. FERTILIZER REQUIREMENTS FOR TEMPORARY VEGETATION

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs./acre)	N Top Dressing Rate (lbs./acre)
Cool season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	1000	–
	Maintenance	10-10-10	400	30
Cool season grasses and legumes	First	6-12-12	1500	0-50
	Second	0-10-10	1000	–
	Maintenance	0-10-10	400	–
Temporary cover crops seeded alone	First	10-10-10	500	30
Worm season grasses	First	6-12-12	1500	50-100
	Second	6-12-12	800	50-100
	Maintenance	10-10-10	400	30

INSTALLATION NOTES:

1. INSTALL ALL E&SC MEASURES PRIOR TO APPLYING TEMPORARY VEGETATION.
2. GRADING OR SHAPING ARE NOT REQUIRED IF SLOPES CAN BE PLANTED WITH A HYDROSEEDER OR BY HAND-SEEDING.
3. SEEDBED PREPARATION IS NOT REQUIRED IF SOIL IS LOOSE AND NOT SEALED BY RAIN.
4. WHEN THE SOIL IS SEALED OR CRUSTED, IT SHOULD BE PITTED, TRENCHED OR SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.
5. AGRICULTURAL LIME IS NOT REQUIRED.
6. FERTILIZE LOW FERTILITY SOILS PRIOR TO OR DURING PLANTING AT THE RATE OF 500-700 LBS./ACRE OF 10-10-10 FERTILIZER OR EQUIVALENT (12-16 LBS./1000 SQ. FT.)
7. IT IS IMPERATIVE THAT YOU CHECK THE TAG ON THE BAG OF SEED TO VERIFY THE TYPE AND GERMINATION OF THE SEED TO BE PLANTED.
8. APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHOULD BE PLANTED ¼"-½" DEEP.
9. APPLY IN ACCORDANCE WITH SPECIFICATIONS ON THE E&SC PLAN. IF INFORMATION IS NOT AVAILABLE, SELECT A TEMPORARY COVER FROM TABLE 1.
10. TEMPORARY COVER SHALL BE APPLIED TO ALL DISTURBED AREAS LEFT IDLE FOR 14 DAYS. (IF AN AREA IS LEFT IDLE FOR 6 MONTHS, PERMANENT COVER SHALL BE APPLIED.)

MAINTENANCE NOTE:

RE-SEED AREAS WHERE AN ADEQUATE STAND OF TEMPORARY VEGETATION FAILS TO EMERGE OR WHERE A POOR STAND EXISTS.

A1 SEEDING SCHEDULE TEMPORARY COVER
NO SCALE

Ds2

DEFINITION

A PERMANENT VEGETATIVE COVER USING SODS ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

CONDITIONS

THIS APPLICATION IS APPROPRIATE FOR AREAS WHICH REQUIRE IMMEDIATE VEGETATIVE COVERS, DROP INLETS, GRASS SWALES, AND WATERWAYS WITH INTERMITTENT FLOW.

PLANNING CONSIDERATIONS

SODDING CAN INITIALLY BE MORE COSTLY THAN SEEDING, BUT THE ADVANTAGES JUSTIFY THE INCREASED INITIAL COSTS.

1. IMMEDIATE EROSION CONTROL, GREEN SURFACE, AND QUICK USE.
2. REDUCED FAILURE AS COMPARED TO SEED AS WELL AS THE LACK OF WEEDS
3. CAN BE ESTABLISHED NEARLY YEAR-ROUND.

SODDING IS PREFERABLE TO SEED IN WATERWAYS AND SWALES BECAUSE OF THE IMMEDIATE PROTECTION OF THE CHANNEL AFTER APPLICATION. SODDING MUST BE STAKED IN CONCENTRATED FLOW AREAS (SEE FIGURE 6-6.1) CONSIDER USING SOD FRAMED AROUND DROP INLETS TO REDUCE SEDIMENTS AND MAINTAINING THE GRADE.

CONSTRUCTION SPECIFICATIONS INSTALLATION

SOIL PREPARATION

BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A STAND. DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS. MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR TABLE 6-6.1.

INSTALLATION

LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD (SEE FIQURE 6-6.2) ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL. IRRIGATE SOD AND SOIL TO A DEPTH OF 4" IMMEDIATELY AFTER INSTALLATION. SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2-3 WEEKS.

MATERIALS

SOD SELECTED SHOULD BE CERTIFIED. SOD GROWN IN THE GENERAL AREA OF THE PROJECT IS DESIRABLE.

1. SOD SHOULD BE MACHINE CUT AND CONTAIN 3/4" (+ OR - 1/4 ") OF SOIL, NOT INCLUDING SHOOTS OR THATCH.
2. SOD SHOULD BE CUT TO THE DESIRED SIZE WITHIN + OR -5% TORN OR UNEVEN PADS SHOULD BE REJECTED.
3. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
4. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER IF IRRIGATION IS NOT AVAILABLE
5. THE SOD TYPE SHOULD BE SHOWN ON THE PLANS OR INSTALLED ACCORDING TO TABLE 6-6.2. SEE FIGURE 6-4.1 FOR YOUR RESOURCE AREA.

MAINTENANCE

RE-SOD AREAS WHERE AN ADEQUATE STAND OF SOD IS NOT OBTAINED. NEW SOD SHOULD BE MOWED SPARINGLY. GRASS HEIGHT SHOULD NOT BE CUT LESS THAN 2"-3" OR AS SPECIFIED (SEE FIQURE 6-6.2) APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TEST OR EVERY 4-6 YEARS. FERTILIZE GRASSES IN ACCORDANCE WITH SOIL TESTS OR TABLE 6-6.3

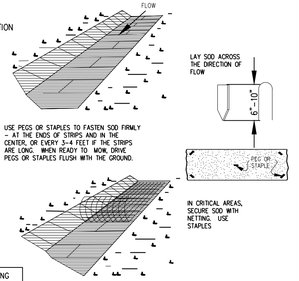
FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (lbs./acre)	NITROGEN TOP DRESSING RATE (lbs./acre)
COOL SEASON GRASSES	FIRST	6-12-12	1500	50-100
	SECOND	6-12-12	1000	–
	MAINTENANCE	10-10-10	400	30
WARM SEASON GRASSES	FIRST	6-12-12	1500	50-100
	SECOND	6-12-12	800	50-100
	MAINTENANCE	10-10-10	400	30

FERTILIZER REQUIREMENTS FOR SOIL SURFACE APPLICATION

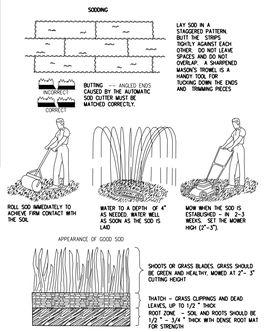
FERTILIZER TYPE	FERTILIZER RATE (lbs/acre)	FERTILIZER RATE (lbs/sq ft)	SEASON
10-10-10	1000	.025	FALL

AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE.



SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA SEASON	GROWING
BERMUDAGRASS	COMMON TIFWAY TIFGREEN TIFLAWN	M-L,P,C P,C P,C P,C	WARM WEATHER
BAHIAGRASS	PENSACOLA	P,C	WARM WEATHER
CENTIPEDE	–	P,C	WARM WEATHER
ST. AUGUSTINE	COMMON BITTERBLUE RALEIGH	C	WARM WEATHER
ZOYSIA	EMERALD MYER	P,C	WARM WEATHER
TALL FESCUE	KENTUCKY	M-L,P	COOL WEATHER



Ds-4 DISTURBED AREA STABILIZATION W/ SODDING
N.T.S.

A3 DISTURBED AREA STABILIZATION W/ SODDING
NO SCALE

Ds4

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

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DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: PE502
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3000 Parkway Lane, Suite 500
Norcross, GA 30092
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STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENT CONTROL DETAILS

SHEET IDENTIFICATION
CE502

CONSTRUCTION ONLY

CE502

CE-501.dwg

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CE-501.dwg PLOTTED: Monday, May 17, 2021

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.

INSTRUCTIONS

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 IMMEDIATELY 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, AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIP RAP, GABIONS, PERMANENT MULCHES OR GEOTEXTILES) HAVE BEEN EMPLOYED. PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES; A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED.

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 REMOVED.

PLANNING CONSIDERATIONS

1. USE CONVENTIONAL PLANTING METHODS WHERE POSSIBLE.
2. WHEN MIXED PLANTINGS ARE DONE DURING MARGINAL PLANTING PERIODS, COMPANION CROPS SHALL BE USED.
3. NO-TILL PLANTING IS EFFECTIVE WHEN PLANTING IS DONE FOLLOWING A SUMMER OR WINTER ANNUAL COVER CROP.
4. BLOCK SOD PROVIDES IMMEDIATE COVER. IT IS ESPECIALLY EFFECTIVE IN CONTROLLING EROSION ADJACENT TO CONCRETE FLUMES AND OTHER STRUCTURES. REFER TO Ds-4 DISTURBED AREA STABILIZATION (WITH SODDING).
5. IRRIGATION SHOULD BE USED WHEN THE SOIL IS DRY OR WHEN SUMMER PLANTINGS ARE DONE.
6. LOW MAINTENANCE PLANTS, AS WELL AS NATIVES, SHOULD BE USED TO ENSURE LONG LASTING EROSION CONTROL.
7. MOWING SHOULD NOT BE PERFORMED DURING THE QUAIL NESTING SEASON (MAY TO SEPT.) WILDLIFE PLANTINGS SHOULD BE INCLUDED IN CRITICAL AREA PLANTINGS. SEE MANUAL FOR PLANT LIST.

GRADING & SHAPING

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 THE VEGETATION. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

LIME AND FERTILIZER APPLICATION

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 AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE 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.

1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
3. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED.
4. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH TREE SEEDLING.

LIME AND FERTILIZER RATES AND ANALYSIS

AGRICULTURAL LIME IS REQUIRED AT A 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.

LIME SPREAD BY CONVENTIONAL EQUIPMENT SHALL BE "GROUND LIMESTONE." GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 90% OF THE MATERIAL WILL PASS THROUGH A 10-MESH SIEVE, NOT LESS THAN 50% 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 CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 98% OF THE MATERIAL WILL PASS THROUGH A 20-MESH SIEVE AND NOT LESS THAN 70% WILL PASS THROUGH A 100-MESH SIEVE.

IT IS DESIRABLE TO USE DOLOMITIC LIMESTONE IN THE SAND HILLS, SOUTHERN COASTAL PLAIN AND ATLANTIC COAST FLATWOODS MLRA'S. (SEE MANUAL). AGRICULTURAL LIME IS GENERALLY NOT REQUIRED WHERE ONLY TREES ARE PLANTED. INITIAL FERTILIZATION, NITROGEN, TOPDRESSING, AND MAINTENANCE FERTILIZER REQUIREMENTS FOR EACH SPECIES OR COMBINATION OF SPECIES ARE LISTED IN TABLE 6-5.1.

PLANT SELECTION

REFER TO TABLES 6-4.1, 6-5.2, 6-5.3 AND 6-5.4 FOR APPROVED SPECIES. SPECIES NOT LISTED SHALL BE APPROVED BY THE STATE RESOURCE CONSERVATIONIST OF THE NATURAL RESOURCE CONSERVATION SERVICE BEFORE THEY ARE USED. 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. SOME PERENNIAL SPECIES ARE EASILY ESTABLISHED AND CAN BE PLANTED ALONE. EXAMPLES OF THESE ARE COMMON BERMUDA, TALL FESCUE AND WEEPING LOVEGRASS. 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. FOR EXAMPLE COMMON SEEDING COMBINATIONS INCLUDE: WEEPING LOVEGRASS WITH SERICEA LESPEDEZA (SCARIFIED) AND TALL FESCUE WITH SERICEA LESPEDEZA (UNSCARIFIED).

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, NUTRIENTS AND GROWING SPACE. A HIGH SEEDING RATE OF THE COMPANION CROP MAY PREVENT THE ESTABLISHMENT OF PERENNIAL SPECIES. 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 COVER.

SEED QUALITY

THE TERM "PURE LIVE SEED" IS USED TO EXPRESS THE QUALITY OF SEED AND IS NOT SHOWN ON THE LABEL. PURE LIVE SEED, PLS, IS EXPRESSED AS A PERCENTAGE OF THE SEEDS THAT ARE PURE AND WILL GERMINATE. INFORMATION ON PERCENT GERMINATION AND PURITY CAN BE FOUND ON SEED TAGS. PLS IS DETERMINED BY MULTIPLYING THE PERCENT OF PURE SEED WITH THE PERCENT OF GERMINATION; I.E., PLS = % GERMINATION x % PURITY

THE PERCENT OF PLS HELPS YOU DETERMINE THE AMOUNT OF SEED YOU NEED. FOR EXAMPLE IF THE SEEDING RATE IS 10 POUNDS PLS AND THE BULK SEED IS 56% PLS,

$$\text{THE BULK SEEDING RATE IS: } \frac{\text{10 LBS. OF PLS / ACRE}}{\text{56\% PLS}} = \text{17.9 LBS / ACRE}$$

YOU WOULD NEED TO PLANT 17.9 LBS/ACRE TO PROVIDE 10 LBS/ACRE OF PURE LIVE SEED.

SEEDBED PREPARATION

SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS:

1. TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 IN. 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 TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR, WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 IN. APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS

1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

INNOCULANTS

ALL LEGUME SEED SHALL BE INOCULATED WITH APPROPRIATE NITROGEN-FIXING BACTERIA. THE INNOCULANT SHALL BE A PURE CULTURE PREPARED SPECIFICALLY FOR THE SEED SPECIES AND USED WITHIN THE DATES ON THE CONTAINER. A MIXING MEDIUM RECOMMENDED BY THE MANUFACTURER SHALL BE USED TO BOND THE INNOCULANT TO THE SEED. FOR CONVENTIONAL SEEDING, USE TWICE THE AMOUNT OF INNOCULANT RECOMMENDED BY THE MANUFACTURER. FOR HYDRAULIC SEEDING, FOUR TIMES THE AMOUNT OF INNOCULANT RECOMMENDED BY THE MANUFACTURER SHALL BE USED. ALL INOCULATED SEED SHALL BE PROTECTED FROM THE SUN AND HIGH TEMPERATURES AND SHALL BE PLANTED THE SAME DAY INOCULATED. NO INOCULATED SEED SHALL REMAIN IN THE HYDROSEEDER LONGER THAN ONE HOUR.

PLANTING

HYDRAULIC SEEDING: MIX THE SEED (INOCULATED IF NEEDED), 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.

CONVENTIONAL SEEDING: 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: 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. NO TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.

INDIVIDUAL PLANTS: SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TOPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOE, TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

MULCHING

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.

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 2 1/2 TONES PER ACRE.

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 THE HYDRAULIC SEEDING.

ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 4:1 OR STEEPER

SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.

PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.

WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED. 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.

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.

APPLYING MULCH

STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE. WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH

ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS.:

EMULSIFIED ASPHALT CAN BE (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT. THE COMBINATION OF ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF WATER PER TON OF MULCH. CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT STATE WATERS, THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS AND OTHER STRUCTURES FROM ASPHALT DISCOLORATION. 2. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL. 3. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY GDOT SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO Tb - TACKIFIERS AND BINDERS. 4. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE-HALF BUSHEL PER ACRE. 5. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

BEDDING MATERIAL: MULCH USED AS A BEDDING MATERIAL TO CONSERVE MOISTURE AND CONTROL WEEDS IN NURSERIES, ORNAMENTAL BEDS, AROUND SHRUBS, AND ON BARE AREAS ON LAWNS.

MATERIAL	DEPTH
GRAIN STRAW	4" TO 6"
GRASS HAY	4" TO 6"
PINE NEEDLES	3" TO 5"
WOOD WASTE	4" TO 6"

IRRIGATION: IRRIGATION WILL BE APPLIED AT A RATE THAT WILL NOT CAUSE RUNOFF.

TOPDRESSING: WILL BE APPLIED ON ALL TEMPORARY AND PERMANENT (PERENNIAL) SPECIES PLANTED ALONE OR IN MIXTURES WITH OTHER SPECIES. RECOMMENDED RATES OF APPLICATION ARE LISTED IN TABLE 6-5.1

SECOND YEAR AND MAINTENANCE FERTILIZATION: SECOND YEAR FERTILIZER RATES AND MAINTENANCE FERTILIZER RATES ARE LISTED IN TABLE 6-5.1

LIME MAINTENANCE APPLICATION: APPLY ONE TON OF AGRICULTURAL LIME EVERY 4 TO 6 YEARS OR AS INDICATED BY SOIL TESTS. SOIL TESTS CAN BE CONDUCTED TO DETERMINE MORE ACCURATE REQUIREMENTS IF DESIRED.

		ANALYSIS OR EQUIVALENT N-P-K		N TOP DRESSING RATE
1. 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. 1/ 2/ -- 30
2. 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. 1/ -- --
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10-10-10 10-10-10 10-10-10	1300 LBS./AC. 3/ 1300 LBS./AC. 3/ 1100 LBS./AC.	-- -- --
4. PINE SEEDLINGS	FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	--
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	0-10-10 0-10-10	700 LBS./AC. 700 LBS./AC. 4/	--
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500 LBS./AC.	30 LBS./AC. 5/
7. 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. 2/ 6/ 50-100 LBS./AC. 2/ 30 LBS./AC.
8. 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. 6/

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

USE AND MANAGEMENT: MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE THAT THE SEEDS ARE MATURE. MOW BETWEEN NOVEMBER AND MARCH. BERMUDAGRASS, BAHIAGRASS AND TALL FESCUE 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. EXCLUDE TRAFFIC UNTIL THE PLANTS ARE WELL ESTABLISHED. BECAUSE OF THE QUAIL NESTING SEASON, MOWING SHOULD NOT TAKE PLACE BETWEEN MAY AND SEPTEMBER.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/		RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.)												REMARKS
	PER ACRE	PER 1000 sq. ft.		J	F	M	A	M	J	J	A	S	O	N	D	
BAHIA, PENSACOLA (PASPALUM NOTATUM) ALONE OR WITH TEMPORARY COVER WITH OTHER PERENNIALS	60 LBS 30 LBS	1.4 LB 0.7 LB	P C													166,000 SEED PER POUND. LOW GROWING. SOD FORMING. SLOW TO ESTABLISH. PLANT WITH A COMPANION CROP. WILL SPREAD INTO BERMUDA PASTURES AND LAWNS. MIX WITH SERICEA LESPEDEZA OR WEEPING LOVEGRASS.
BAHIA, WILMINGTON (PASPALUM NOTATUM) ALONE OR WITH TEMPORARY COVER WITH OTHER PERENNIALS	60 LBS 30 LBS	1.4 LB 0.7 LB	M-L P													SAME AS ABOVE
BERMUDA, COMMON (CYNODON DACTYLON) ALONE WITH OTHER PERENNIALS	10 LBS 6 LBS	0.2 LB 0.1 LB	P C													1,787,000 SEED PER POUND. QUICK COVER. LOW GROWING AND SOD FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
BERMUDA, COMMON (CYNODON DACTYLON) UNHULLED SEED WITH TEMPORARY COVER WITH OTHER PERENNIALS	10 LBS 6 LBS	0.2 LB 0.1 LB	P C													PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE.
BERMUDA SPRIGS (CYNODON DACTYLON) COASTAL, COMMON, MIDLAND, OR TIFT 44 COASTAL, COMMON, OR TIFT 44 TIFT 78	40 CU. FT OR SOD PLUGS 3' X 3'	0.9 CU. FT.	M-L P C C													A CUBIC FOOT CONTAINS APPROXIMATELY 650 SPRIGS. A BUSHEL CONTAINS 1.25 CUBIC FEET OR APPROXIMATELY 800 SPRIGS. SAME AS ABOVE SOUTHERN COASTAL PLAIN ONLY.
CENTIPEDE (ERMOCHLOA OPHIUROIDES)	BLOCK SOD ONLY		P C													DROUGHT TOLERANT. FULL SUN OR PARTIAL SHADE. EFFECTIVE ADJACENT TO CONCRETE AND IN CONCENTRATED FLOW AREAS. IRRIGATION IS NEEDED UNTIL FULLY ESTABLISHED. DO NOT PLANT NEAR PASTURES. WINTERHARDY AS FAR NORTH AS ATHENS AND ATLANTA.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/		RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.)												REMARKS
	PER ACRE	PER 1000 sq. ft.		J	F	M	A	M	J	J	A	S	O	N	D	
CROWNVETCH (CORONILLA VARIA) WITH WINTER ANNUALS OR COOL SEASON GRASSES	15 LBS	0.3 LB	M-L P													100,000 SEED PER POUND. DENSE GROWTH. DROUGHT TOLERANT AND FIRE RESISTANT. ATTRACTIVE ROSE, PINK, AND WHITE BLOSSOMS SPRING TO LATE FALL. MIX WITH 30 POUNDS OF TALL FESCUE OR 15 POUNDS OF RYE. INOCULATE SEED WITH M INNOCULANT. USE FROM NORTH ATLANTA AND NORTHWARD.
FESCUE, TALL (FESTUCA ARUNDINACEA) ALONE WITH OTHER PERENNIALS	50 LBS. 30 LBS.	1.1 LB. 0.7 LB.	M-L P													227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. NOT FOR DROUGHTY SOILS. MIX WITH PERENNIAL LESPEDEZAS OR CROWNVETCH. APPLY TOPDRESSING IN SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
KUDZU (PUERARIA THUMBERGIANA) PLANTS OR CROWNS	3' - 7'- APART		ALL													RAPID AND VIGOROUS GROWTH. EXCELLENT IN GULLY EROSION CONTROL. WILL CLIMB. GOOD LIVESTOCK FORAGE.
LESPEDEZA SERICEA (LESPEDEZA CUNEATA) SCARIFIED UNSCARIFIED SEED-BEARING HAY	60 LBS. 75 LBS. 3 TONS	1.4 LB. 1.7 LB. 138 LBS.	M-L P C M-L P C M-L P C													350,000 SEED PER POUND. WIDELY ADAPTED. LOW MAINTENANCE. MIX WITH WEEPING LOVEGRASS, COMMON BERMUDA, BAHIA, OR TALL FESCUE. TAKES 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED. EXCELLENT ON ROADBANKS. INOCULATE SEED WITH EL INNOCULANT. MIX WITH TALL FESCUE OR WINTER ANNUALS. CUT WHEN SEED IS MATURE, BUT BEFORE IT SHATTERS. ADD TALL FESCUE OR WINTER ANNUALS.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/		RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.)												REMARKS
	PER ACRE	PER 1000 SQ. FT.		J	F	M	A	M	J	J	A	S	O	N	D	
LESPEDEZA AMBRO VIRGATA (LESPEDEZA VIRGATA DC) OR APPALOW (LESPEDEZA CUNEATA [DUMONT] G. DON) SCARIFIED UNSCARIFIED	60 LBS 75 LBS	1.4 LB 1.7 LB	M-L P C M-L P C													300,000 SEED PER POUND. HEIGHT OF GROWTH IS 18 TO 24 INCHES. ADVANTAGEOUS IN URBAN AREAS. SPREADING-TYPE GROWTH. NEW GROWTH HAS BRONZE COLORATION. MIX WITH WEEPING LOVEGRASS, COMMON BERMUDA, BAHIA, TALL FESCUE OR WINTER ANNUALS. DO NOT MIX WITH SERICEA LESPEDEZA. SLOW TO DEVELOP SOLID STANDS. INNOCULATE SEED WITH EL INNOCULANT.
LESPEDEZA, SHRUB (LESPEDEZA BICOLOR) (LESPEDEZA THUMBERGII) PLANTS	3' X 3'		M-L P C													PROVIDE WILDLIFE FOOD AND COVER
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA) ALONE WITH OTHER PERENNIALS	4 LBS 2 LBS	0.1 LB 0.05 LB	M-L P C													1,500,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS
MAIDENCANE (PANICUM HERMITOMON) SPRIGS	2' X 3' SPACING		ALL													FOR VERY WET SITES. MAY CLOG CHANNELS. DIG SPRIGS FROM LOCAL SOURCES. USE ALONG RIVER BANKS AND SHORELINES.
PANICGRASS, ATLANTIC COASTAL (PANICUM AMARUM VAR. AMARULUM)	20 LBS	0.5 LB	P C													GROWS WELL ON COASTAL SAND DUNES, BORROW AREAS, AND GRAVEL PITS. PROVIDES WINTER COVER FOR WILDLIFE. MIX WITH SERICEA LESPEDEZA EXCEPT ON SAND DUNES
REED CANARY GRASS (PHALARIS ARUNDINACEA) ALONE WITH OTHER PERENNIALS	50 LBS 30 LBS	1.1 LB 0.7 LB	M-L P													GROWS SIMILAR TO TALL FESCUE
SUNFLOWER 'AZTEC' MAXIMILLIAN (HELIANTHUS MAXIMILIANI)	10 LBS	0.2 LB	M-L P C													227,000 SEED PER POUND. MIX WITH WEEPING LOVEGRASS OR OTHER LOW-GROWING GRASSES OR LEGUMES.

A1 SEEDING SCHEDULE PERMANENT COVER

NO SCALE

Ds3

DESIGN PROFESSIONAL:
FRED A. HALTERMAN, P.E.
LEVEL II CERTIFICATION
No.: 25622
EXPIRES : 07/02/2021

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No. 031813
FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: SK
DWN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME:
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: CE503

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Peachtree Corners, GA 30092
Phone (678) 336-7740
Fax (678) 336-7744
JOB NO.

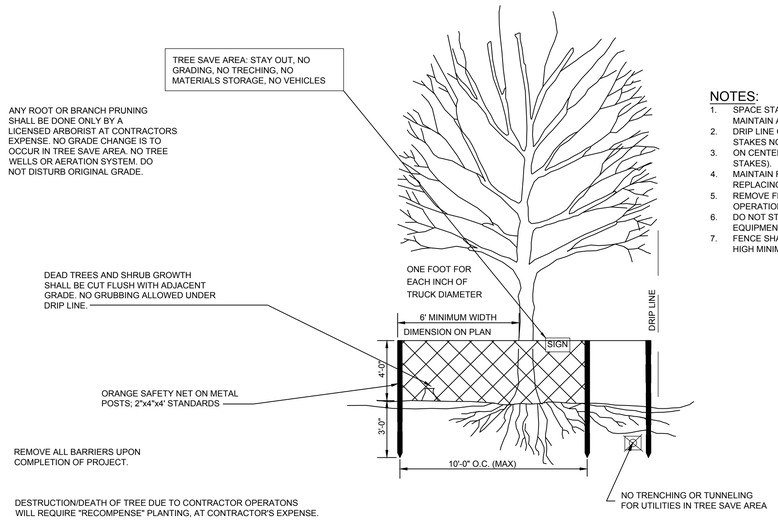
100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENT CONTROL DETAILS

SHEET IDENTIFICATION
CE503

CONSTRUCTION ONLY

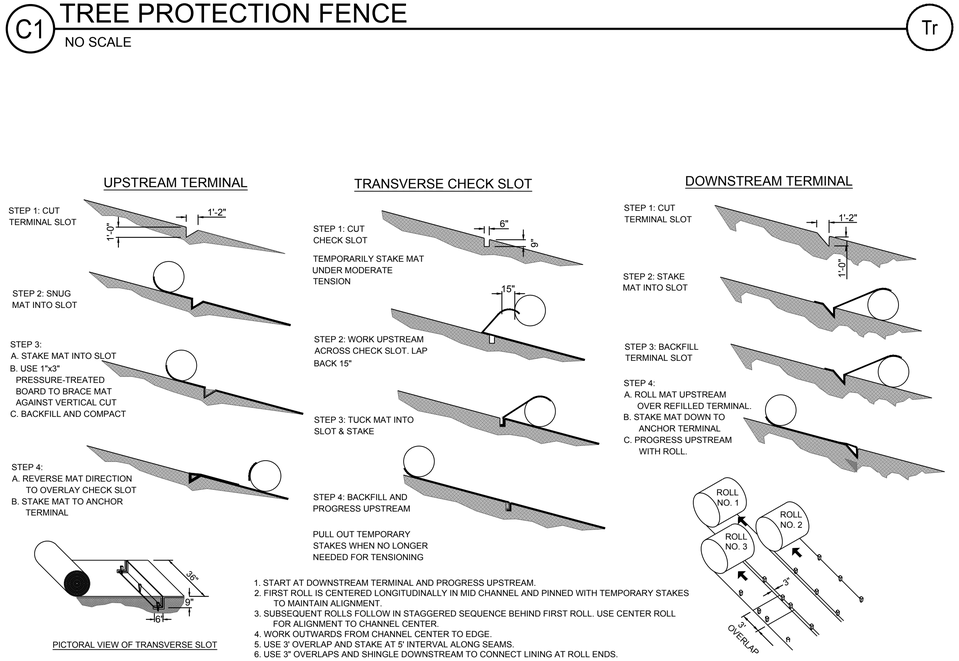
FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04 CAD BIM\04.02 CAD\CE-501.dwg PLOTTED: Monday, May 17, 2021



NOTES:

1. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF
2. DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET
3. ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
4. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT
5. REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
6. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
7. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

C1 TREE PROTECTION FENCE — Tr
NO SCALE

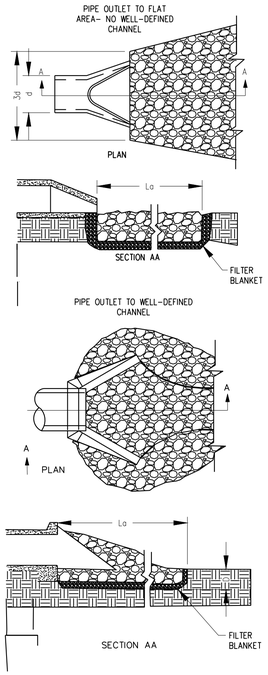


PICTORAL VIEW OF TRANSVERSE SLOT

1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND FIRST ROLL. USE CENTER ROLL FOR ALIGNMENT TO CHANNEL CENTER.
4. WORK OUTWARDS FROM CHANNEL CENTER TO EDGE.
5. USE 3' OVERLAP AND STAKE AT 5' INTERVAL ALONG SEAMS.
6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT LINING AT ROLL ENDS.

SEQUENTIAL ROLL RUN OUT IN CHANNELS

A1 TYPICAL INSTALLATION GUIDELINES FOR SLOPE STABILIZATION WITH MATTING AND BALNKETS — Ss
NO SCALE



CONSTRUCTION NOTES:

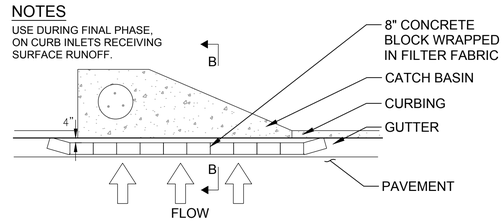
1. Lo IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6".
3. IN A WELL-DEFINCED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.
5. ENSURE THAT THE SUBGRADE FOR THE FILTER AND THE RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENISTY STATED IN THE SPECIFICATIONS.
6. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
7. GEOTEXTILE MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLTION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER FABRIC OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MIN. OF 1 FT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER FABRIC.
8. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
9. FILTER: INSTALL A FILTER TO PREVENT SOIL MOVEMENT THROUGH THE OPENINGS IN THE RIPRAP. THE FILTER SHOULD CONSIST OF A GRADED GRAVEL LAYER AND A SYNTHETIC FILTER CLOTH.
10. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

Riprap Apron Summary

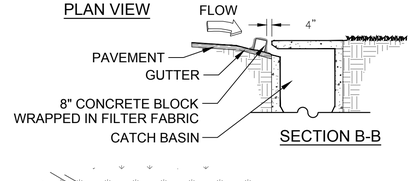
(St) ID	Pipe Diameter (Do)	Flow Rate (cfs)	Velocity (fps)	Tailwater (Min/Max)	Riprap size (d50)	Max Stone Size	Apron Thickness	Apron Length (La)	Apron Width at HW (W=3Do)	Apron Width at End (W=Do+La)	Apron Weight (tons)
Outlet	36	38.73	5.78	Min	0.8	1.2	1.8	18	9	21	18.7

A3 STORM DRAIN OUTLET PROTECTION — St
NO SCALE

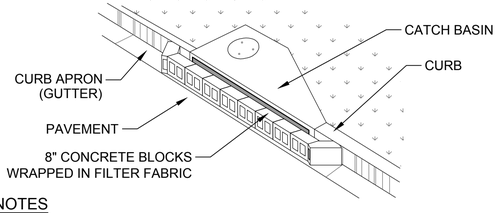
NOTES
USE DURING FINAL PHASE, ON CURB INLETS RECEIVING SURFACE RUNOFF.



PLAN VIEW



SECTION B-B



NOTES

1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

A4 CURB INLET PROTECTION — Sd2-P
NO SCALE

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GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER: CE504
DESIGNED BY: SK
DRN BY: AC
CKD BY: WM
SUBMITTED BY: FAH
PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME:

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3500 Parkway Lane, Suite 500
Norcross, Georgia 30092
Phone (678) 336-7744
Fax (678) 336-7744
pond.com

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

EROSION AND SEDIMENT CONTROL DETAILS

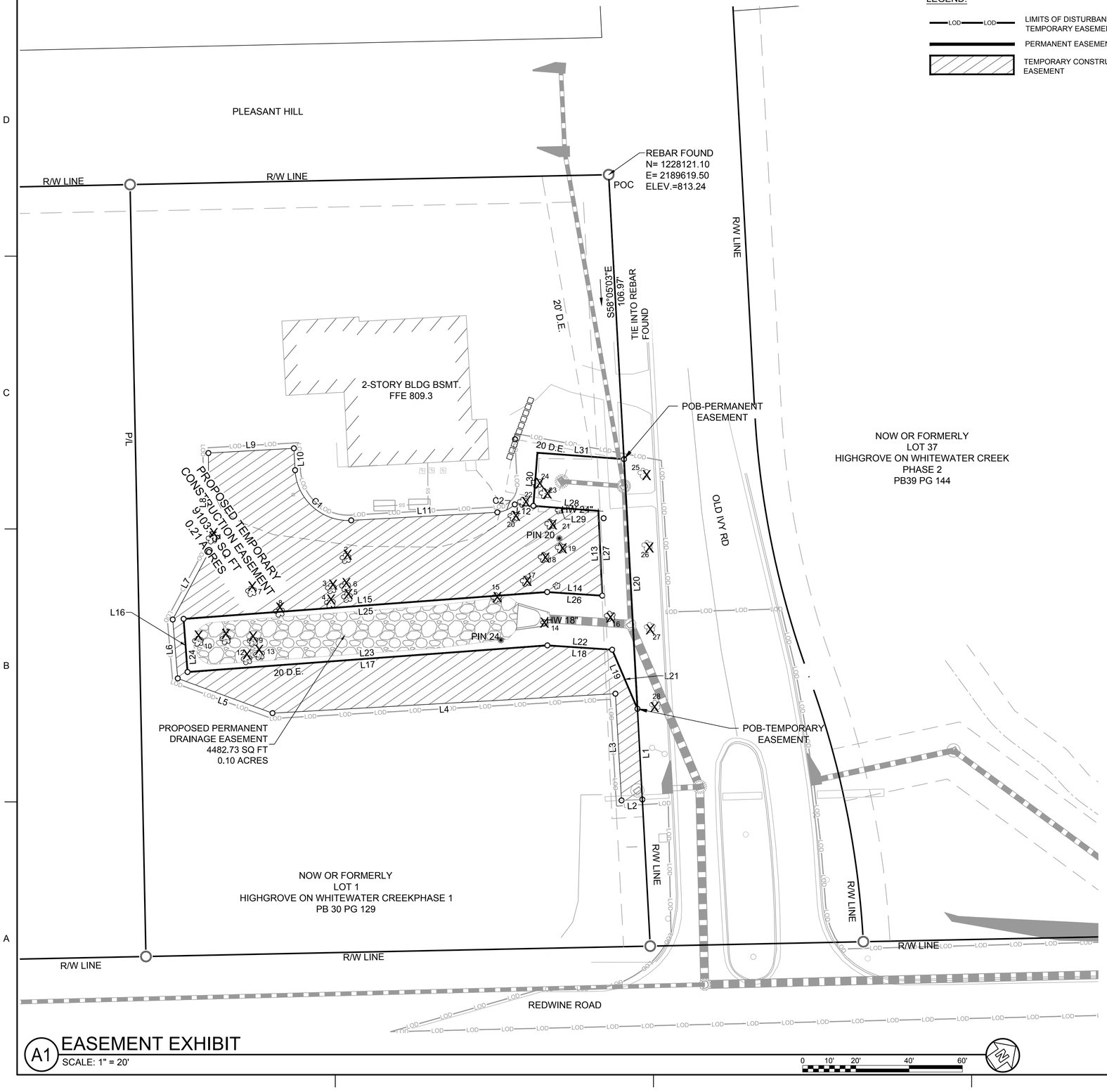
SHEET IDENTIFICATION
CE504

CONSTRUCTION ONLY

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\CE-501.dwg PLOTTED: Monday, May 17, 2021

CE-501.dwg

CE504



LEGEND:

- LOD — LOD — LIMITS OF DISTURBANCE AND TEMPORARY EASEMENT
- PERMANENT EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT

LEGEND:

POC	POINT OF COMMENCE
POB	POINT OF BEGINNING
P/L	PROPERTY LINE
R/W	EXISTING RIGHT OF WAY

GENERAL SHEET NOTES

1. LAND SURVEY REFERENCE: AS-BUILT CONDITIONS FOR PLEASANT HILL ROAD, FAYETEVILLE, GEORGIA., PREPARED BY : POND AND COMPANY, DATED 02/26/2021.
2. FINAL PLAT REFERENCE OF HIGHGROVE ON WHITEWATER CREEK PHASE 1 PLAT BOOK 30, PAGE 129. RECORDED MAY 26, 1998.

PROPOSED TEMPORARY EASEMENT LINE TABLE

Line #	Length	Direction
L1	34.09'	S58° 05' 03"E
L2	7.82'	S32° 14' 43"W
L3	40.17'	N58° 17' 38"W
L4	128.98'	S31° 44' 55"W
L5	37.91'	S55° 08' 24"W
L6	22.21'	N59° 54' 29"W
L7	28.80'	N26° 46' 36"W
L8	37.15'	N55° 20' 52"W
L9	32.17'	N31° 49' 26"E
L10	8.23'	S58° 10' 34"E
L11	54.96'	N31° 49' 26"E
L12	6.99'	N39° 25' 00"E
L13	31.88'	S57° 36' 18"E
L14	20.75'	S38° 47' 20"W
L15	136.91'	S30° 46' 27"W
L16	20.00'	S59° 13' 33"E
L17	135.51'	N30° 46' 27"E
L18	24.39'	N38° 47' 20"E
L19	24.16'	S78° 08' 51"E

PROPOSED TEMPOARRAY EASEMENT CURVE TABLE

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	31.42'	20.00'	90.00	N76° 49' 26"E	28.28'
C2	7.32'	11.00'	38.11	N10° 46' 35"E	7.18'

PROPOSED DRAINAGE PERMANENT EASEMENT LINE TABLE

Line #	Length	Direction
L20	93.94'	S58° 05' 03"E
L21	24.16'	N78° 08' 51"W
L22	24.39'	S38° 47' 20"W
L23	135.51'	S30° 46' 27"W
L24	20.00'	N59° 13' 33"W
L25	136.91'	N30° 46' 27"E
L26	20.75'	N38° 47' 20"E
L27	31.88'	N57° 36' 18"W
L28	24.52'	S39° 25' 00"W
L29	24.52'	S39° 25' 00"W
L30	20.00'	N50° 35' 00"W
L31	32.60'	N39° 11' 03"E

SPECIMEN TREE LIST

TREE #	DBH	SPECIES	STATUS	DESCRIPTION	RECOMPENSE UNITS REQUIRED
1	15"	HARDWOOD	REMOVED		
2	14"	HARDWOOD	REMOVED		
3	8"	HARDWOOD	REMOVED		
4	18"	HARDWOOD	REMOVED		
5	14"	HARDWOOD	REMOVED		
6	8"	HARDWOOD	REMOVED		
7	10"	HARDWOOD	REMOVED		
8	23"	HARDWOOD	REMOVED		
9	5"	HARDWOOD	REMOVED		
10	12"	HARDWOOD	REMOVED		
11	4"	HARDWOOD	REMOVED		
12	8"	HARDWOOD	REMOVED		
13	4"	HARDWOOD	REMOVED		
14	14"	HARDWOOD	REMOVED		
15	26"	PINE	REMOVED		
16	14"	HARDWOOD	REMOVED		
17	24"	HARDWOOD	REMOVED		
18	17"	HARDWOOD	REMOVED		
19	8"	HARDWOOD	REMOVED		
20	6"	HARDWOOD	REMOVED		
21	20"	PINE	REMOVED		
22	6"	HARDWOOD	REMOVED		
23	24"	HARDWOOD	REMOVED		
24	5"	HARDWOOD	REMOVED		
25	10"	HARDWOOD	REMOVED	STREET TREE	2.5" OCTOBER GLORY RED MAPLES
26	10"	HARDWOOD	REMOVED	STREET TREE	
27	10"	HARDWOOD	REMOVED	STREET TREE	
28	10"	HARDWOOD	REMOVED	STREET TREE	

NOTE:
1. THE RECOMPENSE UNITS ARE ONLY IF IT IS REQUIRED. TO REPLACE STREET TREES.
2. DBH =DIAMETER BREAST HEIGHT.

A1 EASEMENT EXHIBIT
SCALE: 1" = 20'

0 10' 20' 40' 60'

Know what's **below.**
Call before you dig.
Dial 811
Or Call 800-282-7411

GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HALTERMAN

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: FH
DWN BY: ABC
CHD BY: FH
SUBMITTED BY: FH
DATE: MAY 14, 2021
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER:
SIZE: ANSI D
FILE NAME: EASEMENT EXHIBIT.dwg

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

POND
3000 Parkway Lane, Suite 900
Norcross, Georgia 30092
Phone (678) 336-7740
Fax (678) 336-7744
www.pond.com

100 PLEASANT HILL
LAND LOT 2 6TH DISTRICT FAYETTE COUNTY GEORGIA
STORM CONVEYANCE IMPROVEMENT

EASEMENT EXHIBIT

SHEET IDENTIFICATION
E-101

CONSTRUCTION ONLY

FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\EASEMENT EXHIBIT.dwg PLOTTED: Monday, May 17, 2021

LEGAL DESCRIPTION
DRAINAGE EASEMENT
100 Pleasant Hill, Fayette County, Georgia.

All that tract or parcel of land containing an area of 4685 square feet, 0.1076 acres, lying and being in the Fayette County, Land lot 2 of the 6th District of Fayette County, Georgia, and being more particularly described as follows:

COMMENCING at a rebar bar found, having a reference coordinate of North 1228121.10, East 2189619.50 GA-West NAD83, at the right of way margin intersection of the southeastern Pleasant Hill 50 foot right of way margin and the southwest Old Ivy variable right of way margin, thence along the southwest right of way margin of Old Ivy Road South 58 degrees 05 minutes 03 seconds East, 106.97 feet to a point, being the **TRUE POINT OF BEGINNING**;

Thence along said right of way margin South 58 degrees 05 minutes 03 seconds East, 93.94 feet to a point; Thence leaving said right of way margin North 78 degrees 08 minutes 51 seconds West, 24.16 feet to a point; Thence South 38 degrees 47 minutes 20 seconds West, 24.39 feet to a point; Thence South 30 degrees 46 minutes 27 seconds West, 135.51 feet to a point; Thence North 59 degrees 13 minutes 33 seconds West, 20.00 feet to a point; Thence North 30 degrees 46 minutes 27 seconds East, 136.91 feet to a point; Thence North 38 degrees 47 minutes 20 seconds East, 20.75 feet to a point; Thence North 57 degrees 36 minutes 18 seconds West, 32.76 feet to a point; Thence South 45 degrees 19 minutes 09 seconds West, 29.50 feet to a point; Thence South 45 degrees 19 minutes 09 seconds West, 5.94 feet to a point; Thence North 44 degrees 40 minutes 51 seconds West, 20.00 feet to a point; Thence North 45 degrees 19 minutes 09 seconds East, 41.60 feet to a point on the right of way margin of Old Ivy Road, also known as the **TRUE POINT OF BEGINNING**.

LEGAL DESCRIPTION
TEMPORARY CONSTRUCTION EASEMENT
100 Pleasant Hill, Fayette County, Georgia.

All that tract or parcel of land containing an area of 9176 square feet, 0.2107 acres, lying and being in the Fayette County, Land Lot 2 of the 6th District of Fayette County, Georgia, and being more particularly described as follows:

COMMENCING at a rebar bar found, having a reference coordinate of North 1228121.10, East 2189619.50 GA-West NAD83, at the right of way margin intersection of the southeastern Pleasant Hill 50 foot right of way margin and the southwest Old Ivy variable right of way margin, thence along the southwest right of way margin of Old Ivy Road South 58 degrees 05 minutes 03 seconds East, 200.91 feet to a point, being **THE TRUE POINT OF BEGINNING**;

Thence along said right of way margin South 58 degrees 05 minutes 03 seconds East, 34.09 feet to a point; Thence leaving said right of way margin South 32 degrees 14 minutes 43 seconds West, 7.82 feet to a point; Thence North 58 degrees 17 minutes 38 seconds West, 40.17 feet to a point; Thence South 31 degrees 44 minutes 55 seconds West, 128.98 feet to a point; Thence South 55 degrees 08 minutes 24 seconds West, 37.91 feet to a point; Thence North 59 degrees 54 minutes 29 seconds West, 22.21 feet to a point; Thence North 26 degrees 46 minutes 36 seconds West, 28.80 feet to a point; Thence North 55 degrees 20 minutes 52 seconds West, 37.15 feet to a point; Thence North 31 degrees 49 minutes 26 seconds East, 32.17 feet to a point; Thence South 58 degrees 10 minutes 34 seconds East, 8.23 feet to a point; Thence along a curve turning to the left with a radius of 20 feet, an arc length of 31.42 feet, and a chord bearing and distance of North 76 degrees 49 minutes 26 seconds East, 28.28 feet to a point; Thence North 31 degrees 49 minutes 26 seconds East, 54.96 feet to a point; Thence along a curve turning to the left with a radius of 9.92 feet, an arc length of 11.82 feet, and a chord bearing and distance of North 01 degrees 53 minutes 00 seconds West, 11.13 feet to a point; Thence North 45 degrees 19 minutes 09 seconds East, 29.50 feet to a point; Thence South 57 degrees 36 minutes 18 seconds East, 32.76 feet to a point; Thence South 38 degrees 47 minutes 20 seconds West, 20.75 feet to a point; Thence South 30 degrees 46 minutes 27 seconds West, 136.91 feet to a point; Thence South 59 degrees 13 minutes 33 seconds East, 20.00 feet to a point; Thence North 30 degrees 46 minutes 27 seconds East, 135.51 feet to a point; Thence North 38 degrees 47 minutes 20 seconds East, 24.39 feet to a point; Thence South 78 degrees 08 minutes 51 seconds East, 24.16 feet to a point on the right of way margin of Old Ivy Road, also known as the **TRUE POINT OF BEGINNING**.

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GEORGIA REGISTERED No. 031813 PROFESSIONAL ENGINEER FRED A. HATTEMAN

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DESIGNED BY: FH
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FILE NAME: EASEMENT EXHIBIT.dwg

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FAYETTEVILLE
GEORGIA

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Peachtree Corners, GA 30092
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Fax (678) 336-7744
pondco.com

100 PLEASANT HILL
LAND LOT 2, 6TH DISTRICT, FAYETTE COUNTY, GEORGIA
STORM CONVEYANCE IMPROVEMENT

LEGAL DESCRIPTIONS

SHEET IDENTIFICATION
E-102

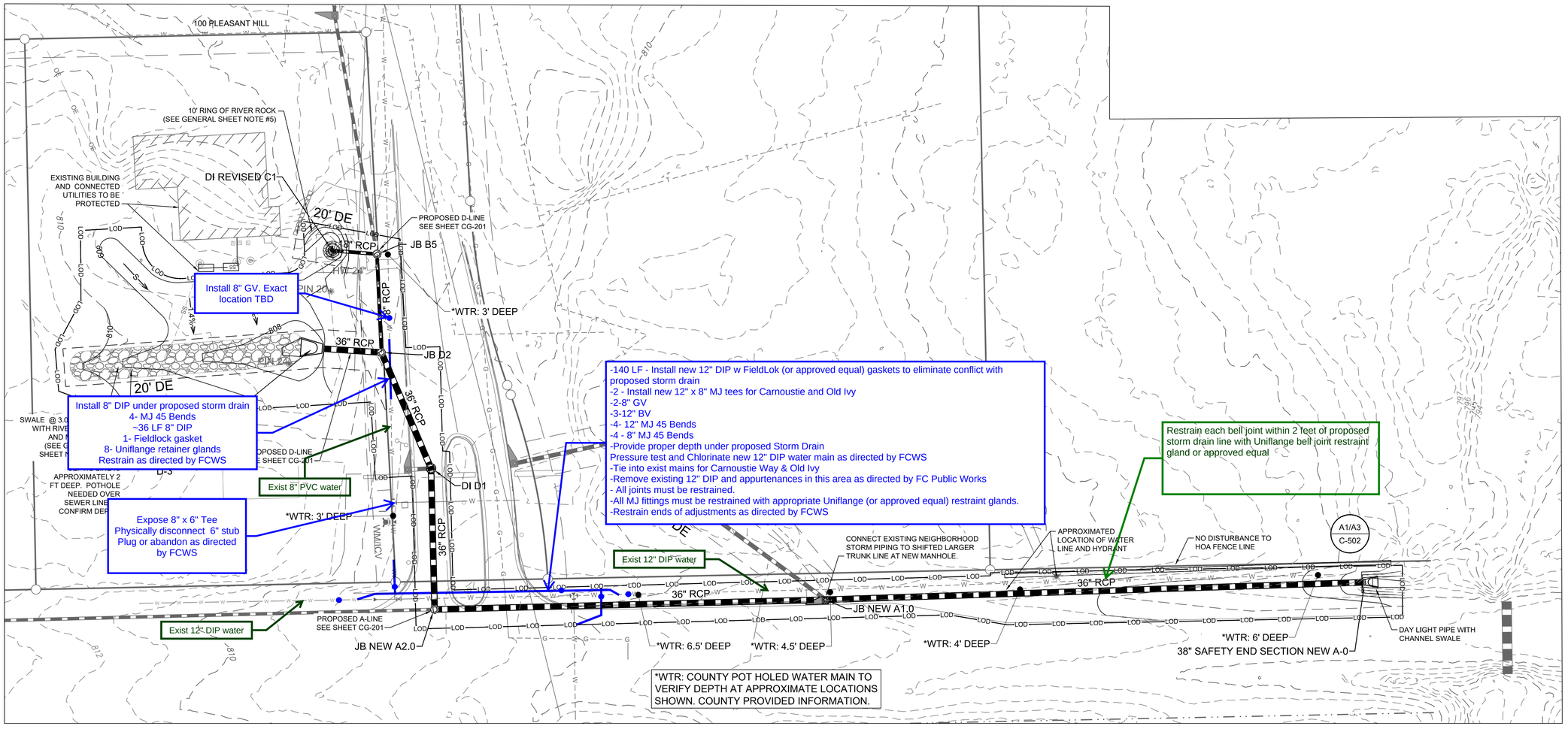
FILE NAME: X:\FY19\1190369\TOX-100 Pleasant Hill at Old Ivy Flooding Correction\04.CAD BIM\04.02.CAD\EASEMENT EXHIBIT.dwg PLOTTED: Monday, May 17, 2021

CONSTRUCTION ONLY

FAYETTE COUNTY WATER SYSTEM REQUIRMENTS FOR
100 PLEASANT HILL - STORM CONVEYANCE IMPROVEMENT

Fayette County
Water System

Pay Item #	Item Description	Quantity	Unit Measure
	Waterline		
-	INSTALL 8" DIP INCLUDING FITTINGS AND TESTING	40.00	LF
-	INSTALL 12" DIP INCLUDING FITTINGS AND TESTING	140.00	LF
-	8" FIELDLOCK GASKET	1.00	EA
-	8" UNIFLANGE RETAINER GLANDS (OR EQUIVALENT)	8.00	EA
-	6" PLUG	1.00	EA
-	12" X 8" MECHANICAL JOINT WITH BLOCKING	2.00	EA
-	8" GATE VAVLE	3.00	EA
-	12" BUTTERFLY VALVE	3.00	EA
-	12" MECHANICAL JOINT 45 DEG BENDS WITH BLOCKING	4.00	EA
-	8" MECHANICAL JOINT 45 DEGREE BENDS BLOCKING	8.00	EA
-	12" UNIFLANGE BELL JOINT RESTRAINT GLAND (OR EQUIVALENT)	23.00	EA



SCALE: 1" = 30'

0 15' 30' 60' 90'

Fayette County Water System - Water Line Relocation Plan

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

100 PLEASANT HILL
FAYETTEVILLE
GEORGIA

100 PLEASANT HILL
STORM CONVEYANCE IMPROVEMENT

SHEET IDENTIFICATION
1 of 1