Augusta
GEORGIA

Procurement Department

Mrs. Geri Sams, Director

CERTIFIED MAILED

TO: All Vendors
Tywanna Scott, Procurement Assurance Analyst
Hameed Malik, Augusta Engineering Department

FROM: Geri A. Sams
Director of Procurement

DATE: July 14, 2022

SUBJ: **New RFP Opening Date Change and Responses to Vendor's Questions**

RFP ITEM: RFP Item #22-258 5th Street Improvement Projects and 6th Street Improvement Projects for Augusta, GA – Engineering Department

NEW RFP OPENING DATE: Tuesday, July 26, 2022 @ 3:00 p.m.

ADDENDUM NO. 1

Respondents on this project are hereby notified that this Addendum shall be attached to and made part of the above-named RFP Package. The changes and clarifications shall supplement the contract documents for the above referenced project. Changes shown in this document shall supersede previously dated contract documents. Acknowledge receipt of all Addendums on "Attachment B" within the specifications package.

The RFP Opening Date for RFP Item #22-258 5th Street Improvement Projects and 6th Street Improvement Projects and Telfair Street Improvement for Augusta, GA – Engineering Department has been changed:

From: Monday, July 18, 2022 @ 3:00 p.m.

To: Tuesday, July 26, 2022 @ 3:00 p.m.

Responses to Vendor's Questions:

1. Question: Typically, on scored proposals pricing is held in the sealed envelope until all technical/evaluation proposals are scored. Once these are scored submitters are notified of their score, and sometimes of other submitters scores. Price proposals are then unsealed, oftentimes in a public opening. This provides complete transparency and prevents the possible suggestion that price proposals were opened while the technical/qualifications proposals are being scored and possibly affecting the score of the technical/qualification proposals. At what stage of evaluations will technical/qualification proposal scores be provided to submitters and the public. At what stage of evaluations will prices be unsealed and be provided to submitters and the public?
Answer: All compliant submittals are scored first technically by the evaluation committee and ranked. If presentations are warranted, the short listed firms are scored after presentations. Price proposals are opened and scored after all technical phases have been completed. At no time during the evaluation process are companies made aware of scores or pricing. Information can be provided after the project is awarded by the Augusta Commission.

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Addendum 1 RFP Item #22-258 5th Street Improvement Projects and 6th Street Improvement Projects
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2. Question: General Note 13 on 5th Street plans state the contractor must pay for inspection for any after normal work hours. Much of the work on this project is likely to be performed after hours. Will this note apply?
   Answer: Not applicable to this project

3. Question: Is a soil survey or other geotechnical evaluations available?
   Answer: See pavement evaluation attached to this Addendum 1.

4. Question: Have utility companies been coordinated with?
   Answer: Yes, during preconstruction, contractor is responsible for coordinating with utilities companies for relocation, if needed.

5. Question: Is a Utility Adjustment Schedule available.
   Answer: Yes, selected contractor shall coordinate with the utility companies.

6. Question: Has the railroad been coordinated with?
   Answer: Yes, during preconstruction phase. Contractor must secure railroad Right of Entry Agreement, railway insurance, and provide us with a schedule for work around or on the track.

7. Question: Who provides and pays for railroad flagging? If it is the contractor, please provide sufficient information (company name, flagging hours, notice requirements, costs, etc. to determine appropriate costs to include in his bid.
   Answer: Pay Item has been added to the bid proposal for railroad flagging as a contingency; contractor shall use it per owner's approval. Contractor shall coordinate with railroad and must secure railroad Right of Entry Agreement, railway insurance, and provide us with a schedule for work around or on the track. Railroad special provisions has been added.

8. Question: Is contractor required to provide railroad insurance? If yes, please provide sufficient information to determine coverages required including number of trains per day, how many trains per day are passenger and how many are freight, speed of trains, etc.
   Answer: Contractor shall coordinate with railroad and must secure railroad Right of Entry Agreement, railway insurance, and provide us with a schedule for work around or on the track.

9. Question: 6th St. Sheet 04-0002 states if a RR flagman is going to be onsite more than 30 days the contractor is to provide him a spot in the field office, a laptop and a printer. Spec GC-110 states the owner *may require* the Contractor to provide a field office. In light of the RR note it appears a field office will be needed since the entire project is within the RR ROW. Please provide specifications for the field office, laptop, and printer.
   Answer: Assume, Augusta Engineering Department will be able to provide field office during construction.

10. Question: What impacts, if any, of the current supply chain issues were contemplated when determining construction time? If none, should contract time be reconsidered in light of the current supply chain issues?
    Answer: Assume, AED is open to consider contract time extension if such issues arises. Contractor shall notify the owner with supporting documents in a timely manner.

11. Question: Given the current supply chain issues and reinforced concrete pipe supplier's inability to adequately and timely supply material are alternates to reinforced concrete pipe allowed? If yes, please provide any required additional backfill and bedding requirements.
    Answer: Assume, no.

12. Question: Given the current commodities market can the GDOT AC index be included in this project? As a note, GDOT has begun to index all of their projects moving forward regardless of completion date.
    Answer: Assume, no.

13. Question: There are no line items for Water Quality Monitoring or Water Quality Inspections as required per specifications provided in the proposal.

Answer: Assume AED is responsible for Water Quality Monitoring or Water Quality Inspections.

14. Question: Are there any asphalt cores for 5th or 6th Street? If so, can the core information be provided to the Contractor?
    Answer: See pavement evaluation attached to this Addendum 1.
15. Question: Is it the intent for the City of Augusta to award both projects to one single Contractor?
    Answer: Assume, yes.
16. Question: If both projects are awarded, will NTP be given on the same date for both projects?
    Answer: Assume, yes. However, 5th Street Improvement shall commence and substantially completed first followed by 6th Street Improvements. However, Utility and Storm Sewer work at 6th Street can commence prior to substantial completion of 5th Street Improvement project.
17. Question: Is the 540-calendar day completion date for both 5th and 6th Street combined?
    Answer: Assume, yes.
18. Question: Just to verify, both 5th and 6th Street projects will be awarded as unit prices contracts, correct?
    Answer: Correct, to the most responsive and qualified respondent as determined by the evaluation committee.
19. Question: What is the budget for both 5th and 6th Street projects?
    Answer: It is the policy of Augusta, GA Procurement Department not to release budgets for projects which we are seeking solicitations.
20. Question: Please provide the Contractor with contact information for both CSX and Norfolk Southern in order to get an insurance quote. Additionally, please provide the following information: how many trains per day, passenger or freight, and speed of each.
    Answer: Assume, yes, Contractor shall coordinate with railroad and must secure railroad Right of Entry Agreement, railway insurance, and provide us with a schedule for work around or on the track. Contacts as follows:

    NS Southern Contact

    Beth Novak
    On behalf of
    Jake Watson
    Norfolk Southern Corporation
    Beth Novak, P.E.
    Project Engineer
    Neel-Schaffer, Inc.
    Phone: 678.604.0040 ext. 4016
    Direct Line: 470.344.7968
    Mobile: 770.361.4903

    CSX Contact

    Bryan Haye
    Engineering Technician | Rail Division
    STV
    (O) 904-253-6235
    (C) 904-376-5310
21. Question: Does the City of Augusta have a current agreement with CSX and Norfolk Southern they can share with the Contractor for insurance purposes?
    Answer: Assume, AED is currently working with the Railroad to execute construction agreement. However, contractor shall be responsible to get right of entry agreement, insurance and written authorization from railway to begin the work.
22. Question: Will all utility relocations be done prior to NTP for both 5th and 6th Street projects?
    Answer: Assume, contractor is responsible to coordinate with utilities companies for

relocation if needed.

23. Question: The 5th Street project has several intersections that have proposed storm pipe being installed under the existing pavement. Will the Contractor be allowed to install detours and close each intersection at separate times to install the new storm pipe not under traffic?
Answer: Assume, Detour is allowed for such work for limited time as approved by the Augusta Engineering Department – Traffic. No complete street closure is allowed.

24. Question: Section 6.1 in the proposal mentions a new water main system is proposed within the project limits to avoid conflict with storm sewer crossings. Who is responsible for this new water main system? When will it be installed?
Answer: Assume, AUD is responsible for new watermain system. Contractor shall coordinate with AUD during construction.

25. Question: 5th St Bid Item 400-3205 lists 12.5mm OGFC. Project plans call for OGI. Please clarify.
Answer: The 12.5mm OGFC mix is to be used for this project. Plan sheets were updated as shown in this Addendum 1.

26. Question: On the 5th Street Plans, Sheet 05-0003, "Typical Section-06" shows the side roads to have 6" x 24" Curb and Gutter. The mainline plan sheets are drawn showing 6" x 30" curb and gutter on all the intersecting streets and on the bid schedule there is not a pay item on 5th street for 6" x 24" curb and gutter. Please clarify.
Answer: This project is to only utilize 6" x 30" Curb and Gutter. Plan sheets were updated as shown in this Addendum 1.

27. Question: On the 5th street plans, sheet 06-0001, "Summary of Quantities", you show the milling being , "1 ½" depth with all the typical sections being 2 ½" depth. Please clarify.
Answer: The line item for milling was updated after plans were submitted to variable depth. Plan sheets were updated as shown in this Addendum 1.

28. Question: On the 5th street plans, sheet 06-0001, "Summary of Quantities", you do not show any OGFC asphalt when it is shown on the typical sections and bid schedule. Please clarify.
Answer: The 12.5mm OGFC mix is to be used for this project. Plan sheets were updated as shown in Addendum 1.

29. Question: On 5th street, the typical sections show 9.5mm surface course; whereas, the bid schedule shows 12.5mm. Please clarify.
Answer: The 12.5mm surface course is to be used for this project. Plan sheets were updated as shown in this Addendum 1.

30. Question: Item 437-1300 on the bid schedule for 5th street, "Straight granite Curb". Please clarify where this granite curb is to be installed.
Answer: Assume, this line item is to be utilized where existing Granite Curb cannot be reset and new curb must be put in place to replace the existing damaged curb.

31. Question: The alignment layout data provided in the 5th Street plans is insufficient and not accurate. Please verify and provide updated alignment layout data.
Answer: Updates were made to signify the correct beginning and ending station of the project. Plan sheets were updated as shown in Addendum 1.

32. Question: The GAB bid items for the 5th Street project have units of SY. Can the units be revised to TONS for all GAB bid items?
Answer: Assume, no change. Use GDOT specifications.

33. Question: There is C&G tp 2 6x24 called out in the typical sections for 5th Street, however, there is no bid item provided. Please clarify.
Answer: This project is to only utilize 6" x 30" Curb and Gutter. Plan sheets were updated as shown in this Addendum 1.

34. Question: The typical sections for 5th Street call out 1.5" 9.5 mm superpave type II. The bid items provided have only 12.5 mm superpave. Please clarify which mix should be priced.
Answer: The 12.5mm surface course is to be used for this project. Plan sheets were updated

as shown in this Addendum 1.

35. Question: The typical sections for 5th Steet call out 1" AC open graded crack relief interlayer. How will this be paid for?
Answer: A 12.5mm OGFC mix is to be used for this project. Plan sheets were updated as shown in this Addendum 1.
36. Question: The typical sections for 5th Street call out 2.5" milling. Is the intent to mill 2.5" and inlay with 1" AC open graded crack relief + 1.5" AC 9.5 mm superpave? Please clarify.
Answer: The line item for milling was updated after plans were submitted to variable depth. Plan sheets were updated as shown in this Addendum 1.
37. Question: The landscaping plans have several call outs for "Alternate 1: Provide 1000 SF uncompacted soil per tree using silva cells." Is the Contractor responsible for providing a price for this alternate? If so, will a pay item be added?
Answer: See revised Bid Proposal attached to this Addendum 1.
38. Question: There are 2 bid items for 5th Street, Weed Control and Water Truck, with a qty of 2 years. Please clarify how the City of Augusta intends to use these two items.
Answer: The line item for Water Truck was removed. Plan sheets were updated as shown in this Addendum 1.
39. Question: Are the 2 remove pipe bid items on 5th Street for storm pipe? If so, please clarify the location.
Answer: Addendum 1 provides the locations where storm pipe is to be removed on the Demolition Sheets.
40. Question: There are no cross section plans provided with the 5th Street plan set. Can the cross sections be added?
Answer: Assume, no cross sections.
41. Question: Drawing 27-0006 in the 5th Street plans calls out proposed signal poles that look like mast arms. Should these be existing poles to remain? If new, will pay items be added?
Answer: Assume all signal poles at Reynolds Street needed to be updated so this work is included under Item 639-3004 for "Steel Strain Pole, TP IV (W/35 FT mast arm)".
42. Question: GDOT Specification 725-0010 Weed Control lists the unit of measure as "square yard", however the bid form lists the unit of measure as "year." Please advise how to reconcile the different units.
Answer: See revised Bid Proposal. The corrected quantity for 725-0010 Weed control is 3,751 square yards.
43. Question: Please provide a specification for Bid Item 725-0011 Water Truck.
Answer: The line item for Water Truck was removed. Plan sheets were updated as shown in this Addendum 1.
44. Question: There are several line items on 5th St for which there are none on 6th St., but the work is still required. Examples include Curb Removal, Sidewalk Removal, Light Standard Removal, Detectable Warning Surface. Please clarify.
Answer: Assume removal as part of Grading Complete quantity (lump sum) if not specified on the bid proposal.
45. Question: 5th St. requires 4" GAB under sidewalk where 6th St. does not. Please confirm.
Answer: Assume, not GAB is required on 6th Street.
46. Question: No lighting plans for 6th St. Please provide.
Answer: See lighting plans attached to this Addendum 1.
47. Question: 6th St. Sheet 04-0002 contains specific notes regarding CSX railroad. However, CSX is a very small portion of the project whereas NS is throughout the project. Please provide any specific NS railroad notes specifically in regard to soils excavated from NS ROW. Any soils excavated from

both railroads will likely need to be disposed. Therefore, please provide lists of the railroad's approved laboratories, transporters, and disposal facilities and their rates for inclusion in the bid.
Answer: Assume, There is no soil removal from either railroad ROW.

48. Question: 6th St. Bid Item 402-4510 requires polymer modified AC whereas the typical sections do not. Please clarify.
Answer: Do not use polymer-modified asphalt. See revisions to bid item.

49. Question: Who is responsible for completing work within the railroad right of way? Who is responsible for completing work between the railroad tracks?
Answer: Contractor is responsible for completing work within the Railroad Right of Way and between the tracks.

50. Question: 5th St requires 6x30 curb and 6th St requires 8x24 curb. Please confirm.
Answer: Use the Type 2 8x24 curb and gutter as shown on the typical sections.

51. Question: 6th St typical sections dimension 6" of GABC inside the curb. We believe the intent was to detail the GABC extending 6" outside the curb. Please clarify.
Answer: The 6" dimension refers to the width of curb. The GABC is only located beneath the curb and gutter as shown.

52. Question: Intersections on 6th St. require stamped crosswalks for which there are no pay items. Please clarify.
Answer: See revised Bid Proposal attached to this Addendum 1.

53. Question: At the pre-bid there was mention of micro milling. This type of work is not detailed in the plans and there are no pay items. Please clarify.
Answer: Refer typical section. Assume 1.5 inches milling between the track throughout the project limit.

54. Question: The 6th Street bid item shows 12.5 mm superpave with poly-mod. The typical sections in the plans call out regular 12.5 mm superpave. Please clarify which is correct.
Answer: Do not use polymer-modified asphalt. See revisions to bid item.

55. Question: The 6th Street typical sections do not provide a thickness for the 12.5 mm superpave. Please clarify.
Answer: 1.5 inch minimum, refer to Typical Section

56. Question: Just to verify is the intent on 6th Street to mill & inlay the existing pavement between the railroad tracks? If so, are there certain hours/days this can be done?
Answer: Yes. Contractor to coordinate with the railroad.

57. Question: Micro milling was mentioned in the pre-proposal conference, however, the plans and bid items do not show this. Please clarify.
Answer: Refer typical section. Assume 1.5 inches milling between the track throughout the project limit.

58. Question: Are the adjust manhole bid items for both storm & sanitary sewer in existing pavement that gets resurfaced?
Answer: Yes.

59. Question: There is a light pole removal bid item for 5th Street but not for 6th Street. Can a bid item for light pole removal for 6th Street be added?
Answer: Assume, for 6th Street light pole removal will be paid under grading complete.

60. Question: Will the City of Augusta salvage the existing light poles to be removed?
Answer: Assume, no. Contractor is responsible to salvage existing light poles.

61. Question: The bid item unit for sod on 5th Street is SF the unit for sod on 6th Street is SY. Can the units be revised to match?
Answer: Assume, SY for 6th Street project.

62. Question: Based on the mainline plans for 6th Street, there will be the need for class b concrete base or pavement widening in several areas. There is not a bid item for this on the fee proposal. Can a bid item be added?
    Answer: Bid Item has been added. See revised Bid Proposal attached to this Addendum 1.
63. Question: There are lighting bid items for 6th Street, however, no lighting plans have been provided in the plan set. Please clarify.
    Answer: See lighting plans attached to this Addendum 1.
64. Question: There are new brick pavers on 6th Street shown in the 13 series. There are no details in the plans and there is not a bid item. How will the brick pavers be paid for and can details be provided?
    Answer: Bid Item has been added. See revised Bid Proposal attached to this Addendum 1.
65. Question: The drainage profiles in the 6th Street plans show several trench drains with metal caps. There are no bid items provided on the fee proposal for this work. Will a bid item be added? Can a detail be provided for the trench drains?
    Answer: See revised Bid Proposal attached to this Addendum 1.
66. Question: Page 5 of 5 in the fee proposal mentions all lump sum items need to have an itemized breakdown. Is this for Grading Complete and Traffic Control only?
    Answer: Yes.
67. Question: Based on the proposal, all storm pipes will need 6" of Type II Foundation Backfill. Can a pay item be added?
    Answer: Assume, it is incidental to pipe structure.
68. Question: There is no silt fence maintenance bid item for 6th Street. Can a bid item be added?
    Answer: Bid Item has been added. See revised Bid Proposal attached to this Addendum 1.

Please acknowledge addendum in your submittal
END OF ADDENDUM

ATTACHMENTS:

REVISED AUD MEASUREMENT & PAYMENT (11 PAGES)
REVISED BID PROPOSAL (5 PAGES)
REVISED AUD GENERAL NOTES (6 PAGES)
PAYMENT EVALUATION (58 PAGES)
NORFOLK SOUTHERN SPECIAL PROVISIONS (23 PAGES)
REVISED 5TH STREET ADDENDUM 1 DRAWINGS (10 PAGES)
REVISED 6TH STREET ADDENDUM 1 DRAWINGS (14 PAGES)

AUGUSTA UTILITIES DEPARTMENT

MEASUREMENT AND PAYMENT

WATER MAIN

ITEMS W-1(A-Z) - All piping line items shall be measured in linear feet and shall include costs for piping and installation, locating wire, locating tape, normal joints and gaskets, trench excavation, trench protection, dewatering, bedding material, asphalt cutting, normal backfill, pressure and leakage testing, pipe sterilization, bacteriological testing, and flushing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS W-2(A-Z) - All piping line items shall be measured in linear feet and shall include costs for piping and installation, locating wire, locating tape, restrained joints and gaskets, trench excavation, trench protection, dewatering, bedding material, asphalt cutting, normal backfill, pressure and leakage testing, pipe sterilization, bacteriological testing, and flushing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-3(A-Z) - Jack and bore line items shall be measured in linear feet and shall include costs for casing piping, field lok gasket carrier piping, and installation. Shall also include costs for bore pit excavation, trench protection, dewatering, bedding material, asphalt cutting, end seals, casing spacers, normal backfill, pressure and leakage testing, pipe sterilization, bacteriological testing, and flushing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-4 (A-Z) – Miscellaneous pipe fittings shall be measured individually (each) and include costs for the complete fitting and installation including polywrap and mechanical joint restraint, regardless of material. Miscellaneous Pipe Fittings shall either be Mechanical Joint Fittings unless otherwise specified on the plans or contract documents. All mechanical joint fittings shall be installed using approved restraining glands, no separate payment will be made for these restraining glands. Approved adapters shall be used where necessary to provide a transition between pipes and/or fittings of differing outside diameters. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items. Thrust blocking shall only be utilized, in addition to restraining glands, if specified on plans, when tying-into existing non-restrained pipe, or when approved by AUD Construction Inspector, and will be paid for under pay M-2.

ITEM W-5 – Fire hydrants shall be measured individually (each) and shall include costs for hydrants, fire hydrant riser, restrained ductile iron lead pipe, polywrap, valve, valve box, fittings associated with connecting to water main, connection to water main, stone drain bed, soil surface preparation excavation, asphalt/concrete cutting, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS W-6 (A-Z) - All vertical gate valve line items shall be measured individually (each) and shall include costs for full body ductile iron valves, polywrap, hand wheel where specified, valve boxes/vaults, manholes, concrete collar, excavation, dewatering, asphalt/concrete cutting, all associated fittings, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS W-7 (A-Z) - All horizontal gate valve line items shall be measured individually (each) and shall include costs for full body ductile iron valves, polywrap, hand wheel where specified, valve boxes/vaults, manholes, concrete collar, excavation, dewatering, asphalt/concrete cutting, all associated fittings, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS W-8 (A-Z) - All butterfly valve line items shall be measured individually (each) and shall include costs for full body ductile iron valves, polywrap hand wheel where specified, valve boxes/vaults, manholes, concrete collar, excavation, dewatering, asphalt/concrete cutting, all associated fittings, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS W-9 (A-Z) - All combination air valve, dual air valve, and air and vacuum valve line items shall be measured individually (each) and shall include costs for the specified air valve, brass fittings, copper tubing, PVC fittings, PVC schedule 80 pipe, painted air release pipe with cap, bollards, pipeline marker, manhole, concrete collar, excavation, dewatering, asphalt/concrete cutting, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-10 - Tapping sleeve and valves shall be measured individually (each) and shall include costs for tapping sleeve, tapping valve, associated hardware, polywrap, valve boxes, concrete collar, temporary plugging/draining of pipeline, excavation, dewatering, asphalt/concrete cutting, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-11 - Check valves, Actuator valves, and Pressure Reducing Valves shall be measured individually (each) and shall include costs for valves, valve boxes/vaults, manholes, concrete collars, excavation, dewatering, asphalt/concrete cutting, all associated pipe and fittings, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-12 - All cut-in gate valves shall be measured individually (each) and shall include costs for full body ductile iron valves, valve boxes/vaults, concrete collar, manholes, excavation, dewatering, asphalt/concrete cutting, all associated fittings, installation, normal backfill, and testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-13 (A-Z) - Long side water service connections shall be measured individually (each) and shall include costs for piping, all associated fittings, water meter connection, relocating water meter if necessary, dewatering, asphalt/concrete cutting (including service markings), installation: open cut and/or by torpedo, normal backfill, grassing, and property restoration. This line item shall include the cost of reconnection of any existing services, if required. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-14 (A-Z) - Short side water service connections shall be measured individually (each) and shall include costs for piping, all associated fittings, water meter connection, relocating water meter if necessary, dewatering, asphalt/concrete cutting (including service markings), installation: open cut and/or by torpedo, normal backfill, grassing, and property restoration. This line item shall include the cost of reconnection of any existing services, if required. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-15 - Polyethylene pipe wrap shall be measured in linear feet and shall include costs for pipe wrap materials and installation. Polyethylene pipe wrap shall be 8.0 mils in thickness. No additional payment shall be made for these items.

ITEM W-16 – Tie-ins to existing lines shall be measured individually (each) and shall include costs for cutting, removal of any needed existing pipe, concrete anchor block with stainless steel rods to the existing line, and abandoning the existing line. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-17 – Miscellaneous concrete shall be measured in cubic yards and shall include costs for 3,000 psi concrete, form work, installation, excavation, dewatering, soil stabilization, pipe stabilization, asphalt cutting, and normal backfill. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM W-18 – Abandon valve shall be measured individually (each) and shall include costs for closing valve, removing valve riser, removing valve collar, removing valve lid, filling with flowable fill or dirt, situational specific. No additional payment shall be made for these items.

ITEM W-19 – Adjust valve box to grade shall be measured individually (each) and shall include costs for adjusting the height of the riser and the lid, remove and replacing the concrete collar. No additional payment shall be made for these items.

ITEM W-20 – Adjust water meter to grade shall be measured individually (each) and should only include costs for fill dirt, dirt removal, grassing, and property restoration. No additional pay item shall be made for this item.

SANITARY SEWER

ITEMS S-1 (A-Z) - All gravity sewer line piping line items shall be measured in linear feet and shall include costs for piping and installation, locating wire, locating tape, trench excavation, trench protection, dewatering, 57 stone, asphalt cutting, normal joints and gaskets, normal backfill, infiltration and exfiltration testing, and mandrel pulling. CCTV camera inspection will be performed by the Augusta Utilities Department. Lines will not be approved or accepted until the Augusta Utilities Department's Project Manager approves all testing results. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS S-2 (A-Z) - All force main sewer line piping line items shall be measured in linear feet and shall include costs for piping and installation, locating wire, locating tape, trench excavation, trench protection, dewatering, bedding material, asphalt cutting, normal joints and gaskets, normal backfill, pressure testing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS S-3 (A-Z) - All force main sewer line piping line items shall be measured in linear feet and shall include costs for piping and installation, locating wire, trench excavation, trench protection, dewatering, bedding material , asphalt cutting, restrained joints and gaskets, welded, fused, normal backfill, air testing. Ductile Iron Pipe shall be lined with Protecto 401 Ceramic Epoxy. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-4 (A-Z) - Jack and bore line items shall be measured in linear feet and shall include costs for casing piping, field lok gasket carrier piping, and installation. Shall also include costs for bore pit excavation, trench protection, dewatering, asphalt cutting, end seals, casing spacers, normal backfill, infiltration and exfiltration testing, and mandrel pulling. CCTV camera inspection will be performed by the Augusta Utilities Department. Lines will not be approved or accepted until the Augusta Utilities Department's Project Manager approves all testing results. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-5 - Miscellaneous pipefittings shall be measured individually (each) and include costs for all sewer fittings and installation including polywrap and mechanical joint restraint, regardless of material. Miscellaneous Pipe Fittings shall either be Mechanical Joint Fittings and/or Flanged Fitting unless otherwise specified on the plans or contract documents. All mechanical joint fittings shall be installed using approved restraining glands, no separate payment will be made for these restraining glands. Approved adapters shall be used where necessary to provide a transition between pipes and/or fittings of differing outside diameters. Ductile Iron Pipe shall be lined with Protecto 401 Ceramic Epoxy. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items. Thrust blocking shall only be utilized, in addition to restraining glands, if specified on plans, when tying-into existing non-restrained pipe, or when approved by AUD Construction Inspector, and will be paid for under pay Item M-2.

ITEMS S-6 (A-Z) – Pre-cast manholes shall be measured individually (each) and shall include costs for manholes, ring and cover as specified on the plans, risers, concrete collar, excavation, 57 stone, dewatering, asphalt cutting, collars and boots, grouting and/or other connections, installation, normal backfill, and vacuum testing. Manhole vacuum testing shall include all costs for testing equipment, testing labor, mobilization, demobilization, and reporting. Manholes failing testing shall be re-tested at Contractor's expense. Repairs to failing manholes shall be made external to the manhole utilizing a method approved by the Augusta Utilities Department. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS S-7 (A-Z) - Additional sanitary manhole depth line items shall be measured by vertical foot and shall include costs for excavation, dewatering, and backfill as specified by type and class. No additional payment shall be made for these items.

ITEMS S-8 (A-Z) – Sanitary sewer exterior manhole joint wrapping shall be measured individually and shall include the costs for wrapping material and installation. No additional payment shall be made for these items.

ITEMS S-9 (A-Z) – Sanitary sewer interior protective coating shall be measured by the vertical foot of manhole and shall include the costs for coating material and installation. No additional payment shall be made for these items.

ITEM S-10 – Outside drop piping shall be measured individually (each) and shall include the costs for all piping, fittings, joint restraints, brick dam, and 57 stone. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-11 – Dog house/connector manholes shall be measured individually (each) and shall include the costs for excavation, 57 stone, dewatering, asphalt cutting, pipe cutting and removal, collars and boots, grouting and/or other connections, installation, normal backfill, and vacuum testing as specified. The costs for the manhole, ring and cover as specified on the plans, risers, and concrete collar shall be included within this line item. Additional depth manhole sections shall be included within the appropriate manhole line item Manhole vacuum testing shall include all costs for testing equipment, testing labor, mobilization, demobilization, and reporting. Manholes failing testing shall be re-tested at Contractor's expense. Repairs to failing manholes shall be made external to the manhole utilizing a method approved by the Augusta Utilities Department. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-12 - Sanitary sewer manhole tie-ins shall be measured individually (each) and shall include costs for cutting/coring of existing manholes, collars, rubber boots, any required gaskets, concrete collar, excavation, dewatering, soil stabilization, asphalt cutting, and normal backfill. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-13A - Sanitary sewer service long side connections shall be measured individually (each) and shall include costs for 6-inch PVC piping, concrete collar or precast concrete valve ring, PVC twist-off plug, mainline wye, 6" wye, cleanout, plug, excavation, dewatering, asphalt/concrete cutting (including service markings), installation, normal backfill, and property restoration. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-13B - Sanitary sewer service short side connections shall be measured individually (each) and shall include costs for 6-inch PVC piping, concrete collar or precast concrete valve ring, PVC twist-off plug, mainline wye, 6" wye, cleanout, plug, excavation, dewatering, asphalt/concrete cutting (including service markings), installation, normal backfill, and property restoration. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-14 - Concrete pipe encasement shall be measured in cubic yards and shall include costs for concrete, reinforcing steel when specified or detailed, form work, installation, excavation, dewatering, soil stabilization, pipe stabilization, asphalt cutting, and normal backfill. No additional payment shall be made for these items.

ITEM S-15 – Water main crossings shall be measured individually (each) and shall include costs for pipe cutting, excavation, ductile iron water piping, connection sleeves, normal backfill, and property restoration. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-16 – Polyethylene pipe encasement shall be measured in linear feet and shall include costs for pipe wrap materials and installation. Polyethylene pipe wrap shall be 8.0 mils in thickness. No additional payment shall be made for these items.

ITEM S-17 - Cut and plug sewers shall be measured in cubic yards and shall include costs for cutting of existing pipelines, plugging of existing pipelines with flowable fill, excavation, dewatering, asphalt/concrete cutting, and normal backfill. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM S-18 – Abandon manhole shall be measured individually (each) and shall include costs for removing the cone, filling the trough with flowable fill, and filling the remainder of the manhole with select fill or flowable fill, situation specific. No additional payment shall be made for these items.

ITEM S-19 – Adjust manhole to grade shall be measured individually (each) and shall include costs for adjusting the height of the riser, manhole ring and cover, remove and replacing the concrete collar. No additional payment shall be made for these items.

ITEM S-20 – Miscellaneous concrete shall be measured in cubic yards and shall include costs for 3,000 psi concrete, form work, installation, excavation, dewatering, soil stabilization, pipe stabilization, asphalt cutting, and normal backfill. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

PAVEMENT STRUCTURES

ITEM P-1 - Asphalt overlay shall be measured in square yards and shall include costs for asphalt materials, tack coat, and installation, temporary striping and permanent striping (replaced in kind), and markers (both temporary and permanent). AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-2 - Aggregate base (10 ½" thick) and asphalt patch (2 ½" thick) shall be measured in square yards and shall include costs for existing pavement removal and disposal, all aggregates (regardless of type), 2 ½" graded aggregate base removal and disposal, bituminous tack coat, asphalt, installation, excavation, striping (both temporary and permanent), and markers (both temporary and permanent). The square yardage calculation shall be based upon a standard width of seven (7) feet for payment purposes. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-3 – Asphalt pavement leveling shall be measured in tons and shall include costs for all asphalt (regardless of type) used to create a level road surface prior to asphalt overlay as authorized by the project representative. The payment shall be based upon confirmed delivery tickets. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-4 - Milling shall be measured in square yards and shall include all materials, labor, equipment, and material removal and disposal costs. No additional payment shall be made for these items.

ITEMS P-5 - Concrete sidewalk shall be measured in square yards and shall include costs for existing sidewalk removal and disposal, 3000 psi concrete, installation, site preparation, formwork, and finishing. Existing concrete shall be removed to the nearest joint as directed by the project representative. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEMS P-6 - Concrete driveways shall be measured in square yards and shall include costs for existing driveways removal and disposal, 3000 psi concrete, installation, site preparation, formwork, and finishing. Existing concrete shall be removed to the nearest joint as directed by the project representative. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-7 – Asphalt driveway replacement shall be measured in square yards and shall include costs for existing asphalt removal and disposal, asphalt, tack coat, installation, site preparation. Existing asphalt shall be removed to the nearest joint as directed by the project representative. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-8 - Curb and/or gutter placement shall be measured in linear feet and shall include costs for concrete, installation, site preparation, formwork, and finishing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-9 - Curb and/or gutter removal and replacement shall be measured in linear feet and shall include costs for removal and disposal of existing concrete curb and/or gutter, concrete, installation, site preparation, formwork, and finishing. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-10 – Raised edge asphalt curb removal/replacement shall be measured in square yards and shall include costs for removal and disposal of existing asphalt curb, site preparation, tack coat, asphalt, and installation. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM P-11 – Concrete Cap (8" thick) and asphalt patch (2 " thick) shall be measured in square yards and shall include costs for select backfill, bituminous tack coat, asphalt, installation, excavation, striping (both temporary and permanent), and markers (both temporary and permanent). The square yardage calculation shall be based upon a standard width of 4' plus the outside diameter of the utility for payment purposes. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

MISCELLANEOUS

ITEM M-1 - Flowable fill shall be measured in cubic yards and shall include costs for all materials, labor, equipment, and excess materials. No additional payment shall be made for these items.

ITEM M-2 – 3000 psi concrete shall be measured in cubic yards and shall include costs for excavation, labor, equipment, formwork, and concrete material placement. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM M-3 - Rock excavation shall be measured in cubic yards and shall include costs for blasting, labor, equipment, and material removal and disposal. No additional payment shall be made for these items.

ITEM M-4 - Select backfill shall be measured in cubic yards and shall include costs for the backfill and installation as well as all transportation, stockpiling, removal and disposal charges. The volume of material included shall be the actual measured "in-place" volume. The maximum trench width used to calculate the volume will be 7 feet. AUD will coordinate materials testing, and be responsible for the cost of all passing tests. Costs associated with any failed materials tests will be the responsibility of the contractor. No additional payment shall be made for these items.

ITEM M-5 - Clearing and grubbing shall be measured in acres and shall include costs for vegetation removal, stockpiling, disposal and any required permitting. No additional payment shall be made for these items.

ITEM M-6 (A-Z) - Fence removal and replacement shall be measured in linear feet and shall include all costs associated with removal and replacement of the existing fence with new materials of like quality as necessary for water line installation. No additional payment shall be made for these items.

ITEM M-7 - Fiber Optic Cable shall be measured in linear feet and shall include costs for conduit and installation, locating tape, trench excavation, trench protection, dewatering, asphalt cutting, and normal backfill. No additional payment shall be made for these items.

LUMP SUM CONSTRUCTION

ITEM LS- 1- Mobilization, Demobilization includes, but is not limited to, performance of preparatory work and operations for the assembling and setting up necessary for work on the Project, such as shops, plants, storage areas, sanitary facilities, moving in of personnel and equipment, incidentals to the Project, and any other facilities, as required by the Specifications and special requirements of the Contract Documents, as well as by Laws and Regulations in effect at the Site. Partial payments will be made with 50 percent payable following receipt and approval of preconstruction video with the first pay application and the remaining 50 percent payable with receipt and approval of post-construction video. No separate or additional payment shall be made for these items.

ITEM LS- 2- Bonds, Insurance includes all costs associated with obtaining any bonds or insurance required to perform the work in accordance with the plans and specifications and as required by local and state law. Partial Payments shall be made base on the percentage complete on the current pay application excluding payments made for mobilization (LS-1), bonds, insurance (LS-2), and temporary erosion and sediment control (LS-3). No separate or additional payment shall be made for these items.

ITEM LS- 3- Temporary Erosion and Sediment Control includes, but is not limited to, the installation, maintenance, and removal of all temporary erosion and sediment control measures as required by the engineer, local and state law, and in accordance with plans and specifications during construction to ensure no sediment leaves the construction site until a time at which final stabilization is approved by the local issuing authority and/or the state. Partial Payments shall be made base on the percentage complete on the current pay application excluding payments made for mobilization (LS-1), bonds, insurance (LS-2), and temporary erosion and sediment control (LS-3). No separate or additional payment shall be made for these items.

ITEM LS- 4- Traffic Control includes, but is not limited to, all flaggers, labor, materials, equipment, and all other items necessary and incidental to completion of the work as required by all local and state laws and permits and in accordance with plans and specifications. Progress payments will be made based upon the percentage of estimated total time that traffic control will be required unless otherwise specified. No separate or additional payment shall be made for these items.

ITEM LS- 5- Permanent Grassing includes, but is not limited to, all labor, materials and maintenance required to establish permanent grassing on all disturbed areas in accordance with plans and specifications. Payment will not be made for this item until such a time that the Notice of Termination (NOT) has been filed and the grass is established to the satisfaction of the local issuing authority and/or the state. No separate or additional payment shall be made for these items.

ITEM LS- 6- As-built Survey includes all labor required to prepare an As-built Survey Drawing. The As-built Survey Drawing will be produced using Georgia State Plane Coordinates (GSPC) (NAD83, NAVD88) in accordance with the latest Georgia Minimum Technical Standards and to the satisfaction of the Engineer. A table shall be provided on the drawing with each Structure Identification number, the corresponding GSPC, and the top elevation of the structure. Sewer Manholes shall also include rim and all invert elevation, diameter of the Manhole, and any other information needed by the Engineer. Sewer Lines shall also include invert elevations (Gravity only), size, materials, slope, and length. The As-built Survey shall be performed by a Georgia Licensed Surveyor. No Partial Payment will be made. Full Payment will only be made after a Sealed As-built Survey drawing, in PDF format and an AutoCAD version, is complete, received, and approved. No separate or additional payment shall be made for these items.

ITEM LS-7 – Allowance to be used only at the approval of the Owner.

ITEM LS-8 – Allowance for CSX Railroad Flagging and Inspection. Allowance to only be used at the approval of the engineer. Costs can not include prime contractor's supervisor, project manager, overhead, profit or any other non-direct cost. All of these indirect costs need to be included in the base bid of the applicable Items (S-1 & S-4). Receipts for paid invoices will be provided with pay applications requesting reimbursement.

SECTION 3: BID PROPOSAL

Date: ______________

Gentlemen:

In compliance with your invitation for bids dated ___________, 2022, the undersigned hereby proposed to furnish all labor, equipment, and materials, and to perform all work for the installation of roadway improvements, and appurtenances referred to herein as:

5th STREET IMPROVEMENT PROJECT PI#0011415
6th STREET IMPROVEMENT PROJECT PI#0011421

In strict accordance with the Contract Documents and in consideration of the amounts shown on the Bid Schedule attached hereto and totaling:

____ **DOLLARS**
($____________________)

The undersigned hereby agrees that, upon written acceptance of this bid, he will within 10 days of receipt of such notice execute a formal contract agreement with the OWNER, and that he will provide the bond or guarantees required by the Contract Documents.

The undersigned hereby agrees that, if awarded the contract, he will commence the work within **10** calendar days after the date of written notice to proceed, and that he will complete all work within **540** calendar days.

The undersigned acknowledges receipt of the following addenda:

Addendum Number:	**Addendum Date:**
______________	____________
______________	____________

Respectfully submitted:

____
(Name of the Firm)

____
(Business Address)

By: _____________________

Title: ___________________

5th STREET IMPROVEMENT PROJECT PI#0011415

ITEM	DESCRIPTION	QUANTITY	UNITS	PRICE	AMOUNT
000-1000	FORCE ACCOUNT	1	LS	$ 500,000	$ 500,000.00
150-1000	TRAFFIC CONTROL - COMPLETE	1	LS		
210-0100	GRADING COMPLETE - FINAL	1	LS		
310-5040	GR AGG BASE CRS, 4 INCH, INCL MATL	3050	SY		
310-5060	GR AGG BASE CRS, 6 INCH, INCL MATL	3440	SY		
400-3205	ASPH CONC 12.5 MM OGFC, GP 2 ONLY, INCL BITUM MATL & H LIME	775	TN		
402-3130	REC AC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	1395	TN		
413-0750	TACK COAT	1295	GL		
432-5010	MILL ASPH CONC PVMT, VARIABLE DEPTH	17000	SY		
437-1300	STRAIGHT GRANITE CURB, 5 IN X 16 IN, TP A	700	LF		
441-0018	DRIVEWAY CONCRETE, 8 IN TK	1175	SY		
441-0104	CONC SIDEWALK, 4 IN	3050	SY		
441-6022	CONC CURB & GUTTER/ 6X30TP2	3840	LF		
500-9999	CL B CONC, BASE OR PVMT WIDEN	150	CY		
610-0355	REM CONC CURB ALL SIZ	5000	LF		
610-2815	REM CONC SIDEWALK	3340	SY		
611-5280	RESET GRANITE CURB	4000	LF		
900-0039	BRICK PAVERS	14820	SF		
999-5200	DETECTABLE WARNING SURFACE	695	SF		
610-6605	REM LIGHTING STANDARD	102	EA		
681-3600	LIGHTING STD, SPCL DES 66W LED LUMINAIRE WITH 12 FT POLE, COMPLETE, SINGLE HEAD	111	EA		
681-6900	LUMINAIRE - REPLACE EXISTING HEAD WITH 66 W LED	111	EA		
682-6219	CONDUIT, NONMETL, TP 2, 1 IN	6545	LF		
682-8995	POWER SERVICE CABINET	6	EA		
639-3004	STEEL STRAIN POLE, TP IV (W/35 FT MAST ARM)	4	EA		
647-6250	LOOP DETECTOR, 6 FT X 40 FT, BIPOLE	5	EA		
937-9999	RELOCATE EX PEDESTRIAN DETECTION SYSTEM TO SIGNAL POLE	3	EA		
653-0320	THERMOPLASTIC PVMT MARKING, SYMBOL, TP 4	16	EA		
653-0110	THERMO MARKING, ARROW, TP 1	16	EA		
653-0120	THERMO MARKING, ARROW, TP 2	10	EA		
653-0130	THERMO MARKING, ARROW, TP 3	3	EA		
653-1501	THERMO SOLID TRAF ST 5 IN, WHI	2500	LF		
653-1502	THERMO SOLID TRAF ST, 5 IN YEL	6680	LF		
653-1704	THERMO SOLID TRAF ST, 24 IN, WH	245	LF		
653-1804	THERMO SOLID TRAF ST, 8 IN, WH	5150	LF		
653-3804	THERMO SKIP TRAF ST, 8 IN, WH	265	GLF		
653-4502	THERMO SKIP TRAF ST 5 IN, YEL	0.43	GLM		
653-6004	THERMOPLASTIC TRAF STRIPING, WHITE	80	SY		

654-1001	RAISED PVMT MARKERS TP 1	197	EA		
654-1003	RAISED PVMT MARKERS TP 3	20	EA		
610-0959	REM PIPE - 12 IN	35	LF		
610-0961	REM PIPE - 15 IN	450	LF		
611-3000	RECONSTR CATCH BASIN, GP 1	21	EA		
611-3050	RECONSTR CATCH BASIN, GP 1 (REPLACE TOP)	6	EA		
611-3010	RECONSTR CURB INLET, GROUP 1	1	EA		
611-3011	RECONSTR DROP INLET, GROUP 1 (REPLACE TOP)	2	EA		
611-3100	RECONSTR JUNCTION BOX	1	EA		
611-5551	RESET SIGN	28	EA		
611-8010	ADJUST HYDRANT TO GRADE	5	EA		
611-8050	ADJUST MANHOLE TO GRADE	65	EA		
611-8140	ADJUST WATER VALVE TO GRADE	32	EA		
611-9999	ADJUST CATCH BASIN, GP 1 TO GRADE	38	EA		
670-9710	RELOCATE EXIST FIRE HYDRANT	3	EA		
550-1180	STM DR PIPE 18, H 1-10 - REINFORCED CONCRETE PIPE	525	LF		
668-1100	CATCH BASIN, GP 1	16	EA		
700-0601	SOD	44140	SF		
700-6910	PERMANENT GRASSING - SEED	1	AC		
702-0910	QUERCUS VIRGINIANA - LIVE OAK - 3" CAL	95	EA		
702-9025	LANDSCAPE MULCH	313	CY		
706-0000	TURF ESTABLISHMENT,	1.05	AC		
708-1000	PLANT TOPSOIL	951	CY		
725-0010	WEED CONTROL	3751	SY		
766-7020	IRRIGATION SYSTEM - GATOR BAG, OR EQUAL	95	EA		
163-0550	CONS & REM INLET SEDIMENT TRAP	74	EA		
165-0105	MAINT OF INLET SEDIMENT TRAP	74	EA		
165-0030	MAINT OF TEMP SILT FENCE, TP C	1155	LF		
171-0030	TEMPORARY SILT FENCE, TYPE C	2310	LF		
				TOTAL	

6th STREET IMPROVEMENT PROJECT PI#0011421

ITEM NO.	ITEM	QTY	UNIT	PRICE	AMOUNT
000-1000	FORCE ACCOUNT	1	LS	$200,000	$200,000
000-0000	RAILRAOD FLAGGING	1	LS	$95,000	$95,000
150-1000	TRAFFIC CONTROL - M107401	1	LS		
163-0232	TEMPORARY GRASSING	0.1	AC		
163-0240	MULCH	2	TN		
163-0550	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	40	EA		
165-0030	MAINTENANCE OF TEMPORARY SILT FENCE	2500	LF		
165-0105	MAINTENANCE OF INLET SEDIMENT TRAP	40	EA		
171-0030	TEMPORARY SILT FENCE, TYPE C	2500	LF		
210-0100	GRADING COMPLETE - M107401	1	LS		

310-1101	GR AGGR BASE CRS, INCL MATL	820	TN		
402-1812	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	250	TN		
402-3130	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	1,200	TN		
413-0705	TACK COAT	1400	GL		
432-5010	MILL ASPH CONC PVMT, VARIABLE DEPTH	13400	SY		
441-0016	DRIVEWAY CONCRETE, 6 IN TK	570	SY		
441-0104	CONC SIDEWALK, 4 IN	2200	SY		
441-4020	CONC VALLEY GUTTER, 6 IN	580	SY		
441-6216	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	5000	LF		
444-1000	SAWED JOINTS IN EXIST PAVEMENTS - PCC	370	LF		
444-1000	CLASS B CONC. BASE OR PAVEMTN WIDENING	50	CY		
611-3000	RECONSTR CATCH BASIN, GROUP 1	15	EA		
611-3010	RECONSTR DROP INLET, GROUP 1	5	EA		
611-5551	RESET SIGN	50	EA		
611-8050	ADJUST MANHOLE TO GRADE	55	EA		
611-8120	ADJUST WATER METER BOX TO GRADE	20	EA		
611-8140	ADJUST WATER VALVE BOX TO GRADE	16	EA		
636-1041	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	18	SF		
636-2070	GALV STEEL POSTS, TP 7	60	LF		
653-0100	THERMOPLASTIC PVMT MARKING, RR/HWY CROSSING SYMBOL	1	EA		
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	2300	LF		
653-1502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	4800	LF		
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	280	LF		
653-1804	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	2600	LF		
668-6115	TRENCH DRAIN, 15 IN	180	LF		
670-9710	RELOCATE EXIST FIRE HYDRANT	5	EA		
680-4110	LIGHTING STD, 11-15 FT MH, POST TOP	75	EA		
680-6130	LUMINAIRE, TP 3, LED	85	EA		
682-1405	CABLE, TP XHHW, AWG NO 8	1100	LF		
682-1406	CABLE, TP XHHW, AWG NO 6	18000	LF		
682-1407	CABLE, TP XHHW, AWG NO 4	6600	LF		
682-6219	CONDUIT, NONMETL, TP 2, 1 IN	2600	LF		
682-6221	CONDUIT, NONMETL, TP 2, 1 1/2 IN	1200	LF		
682-6230	CONDUIT, NONMETL, TP 3, 1 IN	1900	LF		
682-6232	CONDUIT, NONMETL, TP 3, 1 1/2 IN	830	LF		
682-2110	ELECTRICAL SERVICE POINT	1	EA		
682-9022	ELECTRICAL JUNCTION BOX, REINFORCED PLASTIC MORTAR	60	EA		
682-9950	DIRECTIONAL BORE -	2700	LF		
700-6910	PERMANENT GRASSING	0.1	AC		
700-9300	SOD	360	SY		
900-0039	BRICK PAVERS	1025	SF		
999-1500	INTEGRALLY COLORED HOT APPLIED	350	SY		

	SYNTHETIC ASPHALT (STAMPED ASPHALT)				
				TOTAL	

TOTAL 5th STREET IMPROVEMENT PROJECT PI#0011415

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TOTAL 6TH STREET IMPROVEMENT PROJECT PI#0011421

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GRAND TOTAL

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GRADING COMPLETE:** ***Shall include any work without a specific pay item such as: **removal and disposal of all miscellaneous roadway items, utility items, and drainage items (i.e., demolition items), shall be included in the item of grading complete, unless otherwise established as separate contract items. This work shall include but not be limited to the removal of pavement, fine grading, concrete, curbs, gutters, drainage structures, light poles, concrete foundations abandoned utilities , abandoned street car tracks, and any other miscellaneous removal items whether shown on the plans or not. The items of grading complete shall also include other miscellaneous items of construction not otherwise shown as a separate pay item such as** ***Mob/Demob*** **,general clearing, cut and fill, constructing shoulder an subgrade, saw cutting, finish grading, construction layout, the hauling and disposal of undesirable or surplus materials, removing and/or resetting mailboxes, removing and/or resetting ages and fences, removing and/or resetting irrigation sprinkler heads, bonds and insurance etc. Unless noted in bid proposal includes remove/reset fences and gates (all type); remove/reconnect water services, complete; reconnect sanitary services, reconstruct wall, height varies; remove/reset signs (type varies); remove/reset water sprinkler systems(complete); remove/reset water valves(size varies); remove/reset yard lamps (type varies); remove/reset mailboxes (type varies); Erosion Control (temporary grassing);**
Remove concrete driveway paving.

Contractor shall be responsible for railroad insurance, railroad coordination and right of entry with NS Southern and CSX.

Railroad Flagging Pay Item shall be used per owner's approval.

******LS (Lump Sum) – For all Lump Sum items, attach itemized break of lump sum amount on separate sheet***

GENERAL AUD NOTES

1. All construction of water distribution systems and wastewater collection system lines shall be in accordance with Augusta Utilities Department (AUD) Water & Sanitary Sewer Systems-Design Standards, Construction Specifications and Details (latest publication).

2. The Contractor is responsible for verifying the exact location, size, and material of any existing water or sanitary sewer utility proposed for connection or use by the project.

3. Contractor shall contact the Utilities Protection Inc. "Call Before You Dig" service (811) in order to locate utilities prior to starting any excavation or construction. The locations of underground utilities as shown on plans are approximate as determined from existing records.

4. The Contractor shall coordinate the work of the utility companies.

5. The Augusta Engineering Department (AED) shall be notified at least 48 hours (two working days) in advance during regular working hours (8:30am to 5:00pm, Monday-Friday, excluding Augusta, Georgia holidays) prior to the commencement of any construction activity within Augusta, Georgia right-of-way. Contact AED at (706-821-1706).

6. The AUD Engineering Division shall be notified at least 48 hours (two working days) in advance during regular working hours (8:30 am to 5:00 pm, Monday-Friday, excluding Augusta, Georgia holidays) prior to any construction, tie-ins, or testing of water or wastewater utilities. No work shall commence until contact is made with the project's AUD inspections representative.

7. Disturbance of any Survey Markers or Monuments requires re-establishment by a Professional Land Surveyor at the Contractor's expense. Documentation of the work must be presented to the AUD Engineering Division before the project is completed.

8. Any discrepancies, errors, or omissions discovered on plans or in the specifications should be noted on the contract proposal and does not relieve the Contractor of responsibility to correct the same.

9. All concrete shall and have minimum 28-day strength of 3,000 psi.

10. If a conflict arises between the new work and the existing water and sewer utilities during the course of construction, it will be the responsibility of the

Owner/Developer/Contractor, at their expense and not AUD's, to correct the discrepancy as directed by a representative of AUD.

11. All existing Augusta road structures such as storm manholes, inlet boxes, etc., shall be maintained and or adjusted as is appropriate to ensure proper use.

12. All materials deemed salvageable by AUD are the property of Augusta, Georgia and will be removed and stored on site in a secured area determined during construction by the contractor, and Augusta Utilities Department.

13. For private developments, AUD shall not be responsible for pavement patching and/or replacement and the site restoration whenever AUD performs repair, replacement or installation work.

14. If AUD must repair or replace utilities on the work site, then the responsible party shall arrange for access by AUD as required to repair or replace the utility.

15. A minimum (20') Utility Easement centered over all water lines and a minimum 20' Utility Easement centered over all wastewater lines shall be deeded to Augusta, Georgia at completion and acceptance of said lines. Easements containing both water and sewer shall be 10' from the center of the utility to outside of the easement, while maintaining minimum separation requirements as listed in AUD's Water and Sanitary Sewer Systems-Design Standards, Construction Specifications, and Details.

16. A right-of-way encroachment permit shall be obtained from AED prior to commencing any work within an Augusta, Georgia right-of-way. The utilities encroachment permit must be applied for through AUD.

17. "A Georgia DOT right-of-way encroachment permit may be required for work on temporary or permanent state routes. Contact AUD Engineering Division to determine if a permit is required. The utilities encroachment permit must be applied for through AUD. Conditions of the permit must be complied with fully. The permit must be in hand a minimum 24 hours notice given to GDOT prior to beginning any work in the GDOT right-of-way."

18. Traffic control devices shall meet and be installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Also, a traffic control/detour plan shall be submitted to the City Engineer for approval as noted in the Augusta-Richmond County, Georgia-Rights of Way Encroachment Guidelines.

19. The Contractor and the AUD representative shall have a copy of the Augusta-Richmond County, Georgia-Rights of Way Encroachment Guidelines Development Document #15, adopted June 1999, amended August 2000. The requirements set forth in this document shall be adhered to at all times.

20. Clearing and grubbing shall be at the Contractor's discretion, subject to AUD approval, to facilitate construction.

21. The implementation of best management practices (BMP's) for erosion and sediment control in accordance with the Manual for Erosion and Sediment Control in Georgia shall be installed and maintained at all times.

AUD WATER NOTES

1. An AUD inspector shall be present or section left uncovered until inspected by the inspector when a tap, tie-in occurs, restrained joints are installed, bends, fittings, fire hydrants, valves and pressure testing. Contractor is to provide at least 48 hour notice (two working days) in advance during regular working hours (8:30 am to 5:00 pm, Monday-Friday, excluding Augusta, Georgia holidays).

2. All PVC water lines shall be a minimum DR-18 PVC meeting AWWA C-900 and/or C-905, unless otherwise shown or specified.

3. All DIP water lines shall be class 350 for lines 16" diameter and smaller, and class 300 for lines 18" diameter through 24" diameter, unless otherwise specified or shown.

4. All new water lines shall be installed per pipeline manufacturer recommendations.

5. All water lines shall be tested, chlorinated, and checked for bacteria per AUD's Water & Sanitary Sewer Systems-Design Standards, Construction Specifications and Details.

6. Copper Wire (12-gauge, Insulated, Single Strand) shall be attached along top of all buried water lines, wrapped around service corporations and brought up on the outside of all valve boxes, stubbing out at the top to facilitate traceability. This wire shall be properly spliced with a water proof connector for electrical connectivity, and then insulated to protect against corrosion. (Reference AUD Details when applicable).

7. Detector Tape shall be 4 inches wide and placed 2 feet above pipe. Add similar device to conduit per AUD detail 3.6.

8. All water valves on the main lines, including hydrant laterals, shall be open-left if installed south of Gordon Highway (S.R. 10), or open-right if installed north of Gordon Highway.

9. The Contractor shall furnish, install, and maintain a meter box at the termination point of all water services. Meter boxes will in no way be placed under driveways. Meter boxes will preferably be located in the center of the lot and within 1' inside of the R/W, and maintained by the Contractor until such time the meter is installed.

10. Water services shall have minimum diameter of 1 inch (Reference AUD Details when applicable).

11. Any existing water service lines which are extensions off an existing water main to be abandoned discovered during construction shall be replaced. These new service lines are to tie into the new water main and be reconnected to the existing water meter.

12. All existing water services shall be extended and meter boxes relocated as required beyond the limits of construction. The services shall be connected to the new water main after said main has been sterilized, pressure tested and put into service. In the event that the service line is not active, a new water service will be required to be constructed.

13. All water meters shall be purchased from AUD Construction and Maintenance Division.

14. The Developer/Contractor shall locate water services and valves by etching a "W" for the water service and a "V" for a valve in the curb or in the pavement if no curb is available, and highlight the etching with blue paint per the APWA uniform color code. In the event that the valve is located behind the curb or pavement, invert the "V" marking so that it points to the valve outside the roadway.

15. Fire hydrants are to be located a minimum of one foot inside existing right-of-way with a 3 foot radius clearance.

16. Existing fire hydrants and meters that are removed shall be turned over to AUD.

17. Per AUD's Water & Sanitary Sewer Systems-Design Standards, Construction Specifications and Details:
    a. For backflow installations for non-residential development, a minimum "double-check" backflow-prevention device shall be installed on the customer's side of all services.
    b. Fire lines require a minimum "double detector" backflow device.
    c. For backflow installations for residential developments, a "dual check" backflow device shall be installed on the customer's side of the service line at the point of tie-in to the water meter.
    d. For some medium hazard to high hazard locations, a reduced pressure zone (RPZ) backflow device will be required.

18. Backflow devices shall be tested by a certified person within five (5) working days of installation and the results furnished to the AUD Back Flow Inspector within 10 working days of installation prior to any water use. AUD shall be notified prior to testing Contact the Augusta Utilities Back Flow Inspector at 706-722-1639.

AUD SEWER NOTES

1. An AUD inspector shall be present or section left uncovered until inspected by the inspector when a core, tap, tie-in occurs, manhole installed, and all required testing. Contractor is to provide at least 48 hour notice (two working days) in advance during regular working hours (8:30 am to 5:00 pm, Monday-Friday, excluding Augusta, Georgia holidays).

2. The Contractor is to verify the invert elevations (I.E.) of existing pipes prior to beginning construction.

3. Sewer force main shall be PVC DR-18 C-900 or C-905 as applicable or DIP class 350, epoxy lined.

4. All new sewer lines shall be installed per pipeline manufacturer requirements.

5. Copper Wire (12-gauge, Insulated, Single Strand) shall be attached along top of all buried sewer lines to facilitate traceability. The wire shall run along the top of the main and along individual service lines and brought up on the outside of all manholes, cleanouts, or other above ground features stubbing out at the top for locating purposes. This wire shall be properly spliced with a water proof connector for electrical connectivity, and then insulated to protect against corrosion. (Reference AUD Details when applicable).

6. Detector Tape shall be 4 inches wide and placed 2 feet above pipe add similar device to conduit per AUD detail 3.6.

7. All tie-ins to existing manholes shall be cored unless otherwise approved by AUD Inspector.

8. All manholes require "K or N Seal" or equal, rubber boots, unless otherwise approved by AUD Inspector.

9. No connection shall be made to existing wastewater lines until the proposed line is inspected and approved by AUD's Engineering Division.

10. All wastewater manholes shall have an elevation drop of 0.2 foot across the inlet and outlet inverts.

11. Wastewater clean-outs shall be installed at all individual services as shown in AUD-Details, and shall not be installed under driveways or any paved areas without prior approval from AUD.

12. Service lines to sanitary sewer main shall be bedded per these AUD Specifications and AUD Details.

13. Maximum sanitary sewer infiltration shall not exceed 100 GPD/inch of pipe diameter per mile.

14. The Contractor shall locate sanitary sewer services by etching an "S" in the curb or in the pavement if no curb is available, and highlight the etching with green paint per the APWA uniform color code.

15. Finished floor elevations of all proposed buildings shall be a minimum of five (5) feet above the invert elevation of the wastewater main or manhole at the point of tie-in. In instances where this is not possible, a backwater valve shall be installed in the sewer service.

REPORT OF
PAVEMENT CONDITION SURVEY
COMPREHENSIVE DOWNTOWN CONCEPT PLAN
FOR THE CITY OF AUGUSTA, GEORGIA
Broad, Green, Telfair, 13th, 9th, 6th and 5th Streets
RICHMOND COUNTY, GEORGIA

Prepared for:

Cooper Carry
191 Peachtree Street, NE
Suite 2400
Atlanta, Georgia 30303

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
2677 Buford Highway
Atlanta, Georgia 30324
(404) 873-4761

April 25, 2016

Project No. 6166-16-0040

amec
foster
wheeler

April 25, 2016

Cooper Carry
191 Peachtree Street, NE
Suite 2400
Atlanta, Georgia 30303

Attn: Mr. Gary Warner
Director of Planning and Landscape Architecture

Re: Report of Pavement Condition Survey
Comprehensive Downtown Concept Plan
Augusta, Georgia
Amec Foster Wheeler Project No. 6166160040

Dear Mr. Warner:

Amec Foster Wheeler Consultants, Inc. (Amec Foster Wheeler) has completed the pavement condition survey for the above referenced project. These services were performed in general accordance with our proposal dated June 30, 2015. This report presents the results of our evaluation and provides a brief discussion of pavement options based on our current understanding of the project and the City of Augusta requirements.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,

Amec Foster Wheeler Environment & Infrastructure, Inc.

REGISTERED PROFESSIONAL ENGINEER
No. PE25484
4/25/16
J. TODD JACKSON

Daimia T. Gunning, P.E.
Senior Engineer

J. Todd Jackson, P.E.
Associate Engineer

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PAVEMENT CONDITION SURVEY
BROAD, GREEN, TELFAIR, 13TH, 9TH, 6TH AND 5TH STREETS
AUGUSTA, GEORGIA

Amec Foster Wheeler Project No. 6166160040
April 25, 2016

1.0 INTRODUCTION

This report presents the results of our pavement condition survey for Broad, Green, Telfair, 13th, 9th, 6th and 5th Streets in Augusta, Georgia. Our scope of work for this project included performing 28 pavement cores and shallow auger borings to assess the soil subgrade. The purpose of these services is to provide information and pavement repair recommendations.

2.0 PROJECT INFORMATION

2.1 Site Location and Description

ITEM	DESCRIPTION
Location	Portions of seven streets in downtown Augusta, Georgia.
Existing Improvements	Two and four lane roads. Some with divided medians.

2.2 Project Description

ITEM	DESCRIPTION
Site layout	Refer to the Boring Location Plan (Figure 1 in the Appendix)
Finished grades	Match existing.
Grading	Limited to drainage improvement along the edge of the roadway.

3.0 PAVEMENT CONDITIONS

3.1 Typical Subsurface Profile

Based on the results of the site visual survey, cores, borings, and subsurface conditions on the project site are summarized in the following sections. Thirty cores were planned in total; however two locations (C-18 and C-22) were omitted due to conflicts with utilities.

The core locations are shown in Figure 1, attached. At each core location the thicknesses of the pavement materials were recorded by our field personnel. Photographs of the individual cores are located in the Appendix (Photographs 1 through 28). The approximate existing pavement section thicknesses at the individual test locations are detailed in the table below.

	Pavement Section			Soil Subgrade		
	Asphalt (Inches)	Concrete (Inches)	GAB (inches)	Visual Classification	"N"- value*	Moisture Content (%)
C-1	9	--	--	--	OHP/UL***	--
C-2	4	7	--	--	OHP/UL	--
C-3	4	4	--	Wood – poss. RR tie	--	–
C-4	4 ¼	6	–	Brown silty clay	4	27
C-5	6	--	6	Brown fine sand	11	14
C-6	2	7 ½	--	Brown fine sand	11	13
C-7	5	3 ½ (Pavers)	3	Brown sand	14	6
C-8	5 ½	--	--	Brown silty fine sand	34	9
C-9	6	3	--	--	OHP/UL	--
C-10	3 ¾	5	--	Brown silty fine sand	7	12
C-11	5	3 ½	--	Brown fine sand	15	13
C-12	6	–	--	Concrete rubble	28	9
C-13	8	–	--	Brown clayey sand	8	6
C-14	8	--	--	--	OHP/UL	--
C-15	1	6	--	Brown clayey sand	5	17
C-16	3	--	--	--	OHP/UL	--
C-17	7 ½		3	Brown clayey sand	12	12
C-18**	--					
C-19	5 ½	5	--	Gravelly sand	14	6
C-20	5	--	--	--	OHP/UL	--
C-21	3 ½	5 Pavers	--	Brown sand	12	12
C-22**	--					
C-23	4	--	8	--	OHP/UL	--
C-24	5	--	24	Gravel	20	--
C-25	3	--	--	--	OHP/UL	--
C-26	4	--	--	--	OHP/UL	--
C-27	5	--	6	--	OHP/UL	--
C-28	1 ½	4	--	--	OHP/UL	--

	Pavement Section			Soil Subgrade		
	Asphalt (Inches)	Concrete (Inches)	GAB (inches)	Visual Classification	"N"- value*	Moisture Content (%)
C-29	2 ½	10	--	--	OHP/UL	--
C-30	3	5 ½	--	Orange sand	17	7

* Standard penetration test performed just below pavement
** Eliminated due to utility conflicts
*** Overhead Power/Underground Utility prevented standard penetration test of subgrade

3.2 Typical Surface Conditions

A visual pavement condition survey was conducted on March 21, 2016 in general accordance with typically accepted pavement engineering practices. The pavement was divided by our representative into several general areas having the same apparent functional and structural characteristics. Our representative noted the presence and severity of any of the following typical asphalt pavement distresses:

- Longitudinal and Transverse Cracking
- Alligator Cracking
- Block Cracking
- Rutting
- Patches

These types of distresses are briefly discussed below:

- **Longitudinal and transverse cracking:** Usually the result of climate or pavement durability related factors. This type of distress is usually caused by poorly constructed paving lane joints or hardening of the pavement due to daily temperature cycling. Without proper maintenance or rehabilitation, this type of cracking can progress to more severe forms of pavement distress including potholes or alligator cracking as was observed in some areas of the roadway.
- **Block cracking:** Interconnected cracks that divide the pavement into approximately rectangular pieces where observed in major areas of the road. This type of cracking is caused mainly by shrinkage of the asphalt concrete and daily temperature cycling, which results in daily stress/strain cycling. However, it is not load associated; it usually indicates that the asphalt has hardened significantly.
- **Rutting:** Rutting is caused by displacement of material which allows channels to form which are typically in the wheel paths. Compaction or displacement of unstable materials is the cause of rutting. Unstable materials could consist of granular base and/or the soil subgrade. Typically, minor rutting is due to displacement of the granular base and more severe rutting has affected the soil subgrade. This distress was observed in a small area in the northern portion of the roadway.

- **Patches:** An area of pavement that has been replaced with new materials to repair the existing pavement. A patch is considered a defect no matter how well it is performing (a patched area or adjacent area does not usually perform as well as an original pavement section). Generally some roughness is always associated with this distress.
- **Alligator cracking:** A structural distress caused by fatigue failure of the asphalt concrete under repeated traffic loading. The majority of this distress observed was of medium to high severity, and mostly limited to the north drive lane. Cracking begins at the bottom of the asphalt surface where tensile stress and strain are highest under a wheel load. The cracks propagate to the surface initially as a series of parallel longitudinal cracks. After repeated traffic loading, the cracks connect, forming many-sided, sharp-angled pieces. This type of condition is typical of the pavements in the northern end of the roadway.

3.3 Drainage Observations

In addition to pavement conditions, general surface drainage conditions along the roadway were noted. The overall surface drainage appeared to be good to fair. In general it appears the roadways drains per sheet flow into inlet structures.

3.4 Groundwater

The boreholes were observed while drilling and after completion for the presence and level of groundwater. Groundwater was not observed in the borings while drilling, or for the short duration that the borings were allowed to remain open. However, this does not necessarily mean perched water conditions due not occur under different conditions. These water level observations provide an approximate indication of the groundwater conditions existing at the time the borings were drilled.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. In addition, perched water can develop over low permeability strata. Therefore, groundwater levels during construction or at other times in the life of the pavements may be higher or lower than the levels indicated here in. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 General Pavement Condition

The existing asphalt is generally in fair to good condition over the roadway sections surveyed. The condition of each section and relevant photographs are summarized in the following table.

Street Name	Photographs (See Appendix)	Primary Distress Types	Pavement Rating
Broad Street	29 to 44	Longitudinal/Transverse, Block Cracking	Satisfactory to Good
Green Street	45 to 52	Longitudinal/Transverse, Block Cracking	Satisfactory to Good
Telfair Street	53 to 60	Longitudinal/Transverse Cracking	Satisfactory
9th Street/James Brown Boulevard	61 to 65	Longitudinal/Transverse, Block, Alligator Cracking	Fair to Satisfactory
13th Street	66 to 71	Longitudinal/Transverse, Block Cracking	Satisfactory to Good
6th Street	72 to 76	Longitudinal/Transverse Cracking	Satisfactory
5th Street	77 to 80	Longitudinal/Transverse Cracking	Satisfactory

4.2 Pavements

4.2.1 Repair Recommendations

In general, the overall asphalt pavement surface condition along the surveyed areas are considered Fair to Good depending on the area. Future life expectancy and based on pavement section and anticipated traffic loading was beyond the scope of this survey. For general reference, we recommend a variety of repairs based on the pavements function and present state.

Cracking: Non- structural cracking such as longitudinal, transverse, joint or block cracking can be sealed to prevent infiltration of water and foreign materials that can accelerate the degradation of the pavements.

Alligator Cracked Areas: The asphalt should be removed and the granular subgrade assessed and repaired as needed to provide a stable working platform for reconstruction of the pavement section required.

Rutting Areas: We recommend the asphalt be stripped in this area and the stability of the granular base assessed. If the granular base cannot be stabilized by harrow, drying and compaction this material will need to be removed and the soil subgrade further assess. Limited remediation of the soil subgrade is anticipated and may be more extensive in areas where the poorest pavement conditions were observed.

Once alligator cracked areas and rutting have been repaired by full depth replacement the remainder of the roadway can be overlaid with a minimum 1½ inch surface course overlay as provided in the Pavement Materials discussed below.

4.2.2 Subgrade Preparation

In areas where full depth asphalt replacement is required we recommend the exposed granular subgrade be evaluated by proofrolling and remediation be performed in areas observed to be unstable prior to commencement of actual paving operations. Where rutting was observed removal of the existing granular base and remediation of soil subgrade will be required. Areas where unsuitable conditions are located should be repaired by removing and replacing with additional granular base or as recommended by the Geotechnical Engineer based conditions observed during construction.

If precipitation occurs after the evaluation or if the surface becomes disturbed, the subgrade should be reassessed by qualified personnel immediately prior to paving. The subgrade should be in its finished form at the time of the final assessment.

4.2.3 Pavement Material Recommendations

Material	Thickness (inches)	GDOT
Subgrade	Upper 12 inches of existing soil or engineered fill	98% of Standard Proctor MMD, -2 to +3% OMC
Aggregate Base	8 inches minimum	GAB, Section 815 and 310
Asphalt Binder Course	3	SP19 - Section 400, 424, 824 and 828
Asphalt Surface Course	2	SP12.5 and SP9.5 - Section 400, 424, 824 and 828

The listed pavement component thicknesses should be used as a guide in order to obtain what would be an anticipated minimum pavement sections for new pavements for many similar sized municipalities. However this pavement section should be evaluated based on actual traffic data prior to acceptance as a design section. Aggregates and base course materials should conform to the Georgia Department of Transportation (GDOT) "Standard Specifications for Construction of Transportation System". In addition, surface preparation and tack coat should also confirm to current GDOT standards.

The graded aggregate base should be compacted to a minimum of 98 percent of the material's modified Proctor (ASTM D-1557, Method C) maximum dry density. Where base course thickness exceeds 6 inches, the material should be placed and compacted in two or more lifts of equal thickness. After properly compacting the existing granular base it may be used in-situ for the recommended granular base layer.

Portland cement concrete should be designed with proper air-entrainment and have a minimum compressive strength of 4,500 psi after 28 days of laboratory curing. Adequate reinforcement and number of longitudinal and transverse control joints should be placed in the rigid pavement in accordance with ACI requirements. The joints should be sealed as soon as possible (in accordance with sealant manufacturer's instructions) to minimize infiltration of water into the soil.

4.2.4 Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section.

4.2.5 Pavement Maintenance

Preventive maintenance should be planned and provided for through an on-going pavement management program. Preventive maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment. Preventive maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Preventive maintenance is usually the first priority when implementing a planned pavement maintenance program and provides the highest return on investment for pavements. Prior to implementing any maintenance, additional engineering observation is recommended to determine the type and extent of preventive maintenance. Even with periodic maintenance, some movements and related cracking may still occur and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations:

- Final grade adjacent to parking lots and drives should slope down from pavement edges at a minimum 2%;
- Install joint sealant and seal cracks immediately;
- Seal all landscaped areas in, or adjacent to pavements to reduce moisture migration to subgrade soils;
- Place compacted, low permeability backfill against the exterior side of curb and gutter; and,
- Place curb, gutter and/or sidewalk directly on low permeability subgrade soils rather than on unbound granular base course materials.

4.3 Earthwork

The following presents recommendations for subgrade preparation and placement of engineered fills, if needed. Earthwork on the project should be observed and evaluated by a qualified geotechnical engineer or his representative. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation and other geotechnical conditions exposed during the construction of the project.

4.3.1 Materials Types

Engineered fill should consist of approved materials, free of organic material, debris and particles larger than about 4 inches. The maximum particle size criteria may be relaxed by the geotechnical engineer of record depending on construction techniques, material gradation, allowable lift thickness and observations during fill placement. Soils for use as engineered fill material should conform to the following specifications:

Gradation	**Percent Finer by Weight (ASTM C 136)**
4"	100

- Liquid Limit..45 (max)
- Plasticity Index...25 (max)
- Any well graded granular soil

4.3.2 Compaction Requirements

Where undercutting is required the material may be replaced with engineered fill as designated herein. Recommended compaction and moisture content criteria for engineered fill materials are as follows:

Material Type and Location	**Per the Standard Proctor Test (ASTM D 1557)**		
	Minimum Compaction Requirement (%)	**Range of Moisture Contents for Compaction**	
		Minimum	**Maximum**
Acceptable soil or approved imported fill soils:			
Beneath pavements:	95	-2%	+3%
	Per the Modified Proctor Test (ASTM D 1557)		
Aggregate base (beneath pavements)	98	-3%	+3%

Engineered fill materials should be placed in horizontal, loose lifts not exceeding 9 inches in thickness and should be thoroughly compacted. Where light compaction equipment is used, as is customary in confined spaces, the lift thickness may need to be reduced to achieve the desired degree of compaction. Soils removed which will be used as engineered fill should be protected to aid in preventing an increase in moisture content due to rain.

4.3.3 Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of pavements. The site should also be prepared to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become frozen, desiccated, saturated, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted prior to floor slab and pavement construction and observed by a qualified geotechnical engineer or his representative.

Surface water should not be allowed to pond on the site and soak into the soil during construction. Construction staging should provide drainage of surface water and precipitation away from the excavations. Any water that collects over or adjacent to construction areas should be promptly removed, along with any softened or disturbed soils.

Groundwater was not encountered in any of the borings during our exploration. Based on our understanding of the proposed development, we do not expect groundwater to affect construction. If groundwater is encountered during construction, some form of temporary dewatering may be required. Conventional dewatering methods, such as pumping from sumps, should likely be adequate for temporary removal of any groundwater encountered during excavation at the site.

All excavations should be sloped or braced as required by OSHA regulations to provide stability and safe working conditions. Temporary excavations will probably be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current Occupational Health and Safety Administration (OSHA) Excavation and Trench Safety Standards.

Construction site safety is the sole responsibility of the contractor who controls the means, methods and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean that Amec Foster Wheeler is assuming any responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied or inferred.

5.0 QUALIFICATIONS OF RECOMMENDATIONS

Our evaluation of foundation design and construction conditions has been based on our understanding of the site, the available project information, our assumptions and the data obtained during our field exploration as described herein. The general subsurface conditions used were based on interpolation of the subsurface data at our borings. The design recommendations in this report have been developed on the basis of the previously described project characteristics and subsurface conditions. If project criteria or locations change, we must be permitted to determine if our recommendations are still applicable or if they must be modified. The findings of such a review will be presented in a supplemental report.

Subsurface conditions in unexplored locations may vary from those encountered at specific boring location. The nature and extent of variations may not become evident until the course of construction. If such variations then appear evident, it will be necessary to re-evaluate the recommendations of this report after on-site observations of the conditions.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Regardless of the thoroughness of a subsurface exploration, there is the possibility that conditions will differ from those at the boring location, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, experienced geotechnical engineers must observe earthwork and foundation construction to assess if the conditions anticipated in design actually exist.

Our professional services have been performed, our findings derived, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties either express or implied. This company is not responsible for the conclusions, opinions or recommendations of others based on these data.

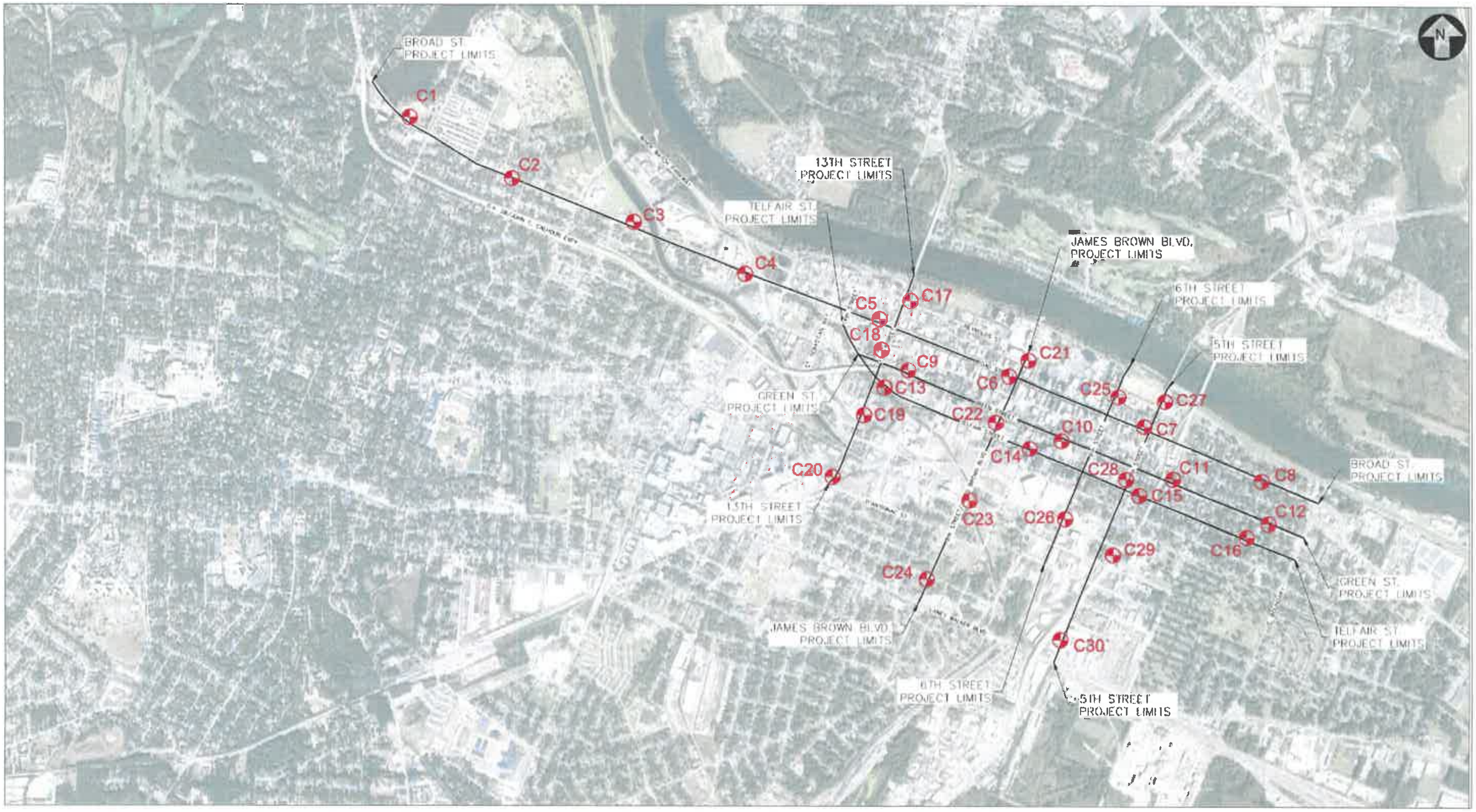
APPENDIX

Boring Location Plan

Photographs

- 1 to 28 – Pavement Cores
- 29 to 80 – Pavement Condition

C:\Users\martha.herrera\Desktop\Augusta\Boring Location Plan.dwg – Layout1 04/22/2016 3:55pm martha.herrera



LEGEND	
⊕	APPROXIMATE SOIL TEST BORING LOCATION

AUGUSTA DOWNTOWN REDEVELOPMENT
AUGUSTA, GEORGIA

amec foster wheeler
Environment & Infrastructure, Inc.
2677 BUFORD HIGHWAY
ATLANTA, GEORGIA 30324 (404) 873-4761

BORING LOCATION PLAN

JOB NO. 6166160040.01.05

FIGURE 1

PREPARED BY/DATE MLH 04-22-2016
CHECKED BY/DATE JTJ 04-22-2016

Photograph 1 - Core C1

Photograph 2 - Core C3

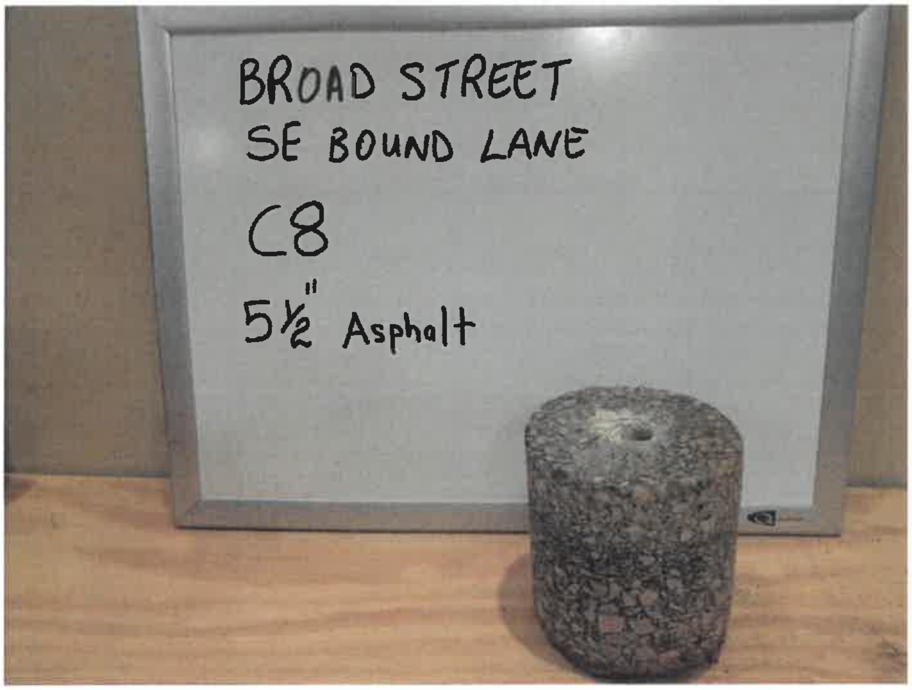
Photograph 3 - Core C5

Photograph 4 - Core C7

Photograph 5 - Core C2

Photograph 6 - Core C4

Photograph 7 - Core C6

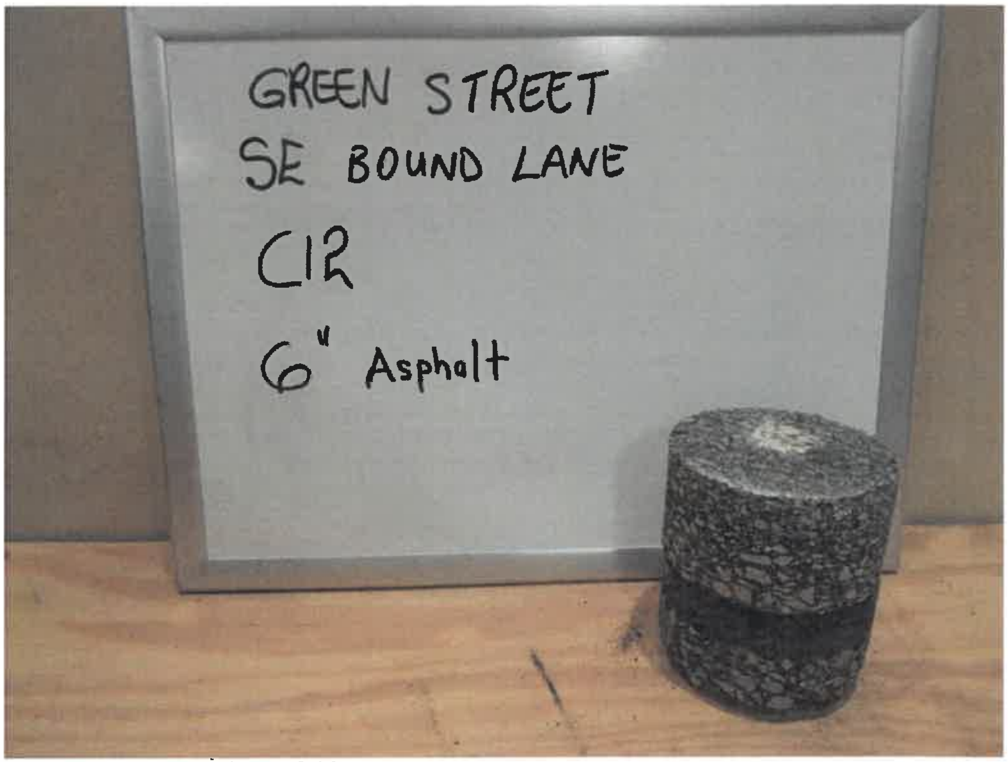


Photograph 8 - Core C8

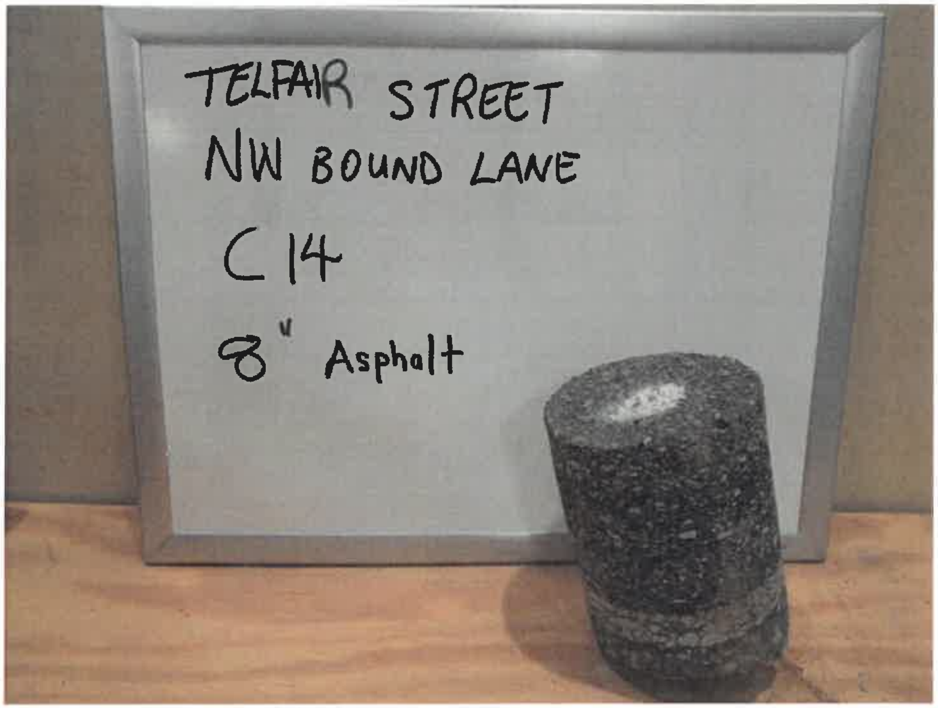
Photograph 9 - Core C9

Photograph 10 – Core C11

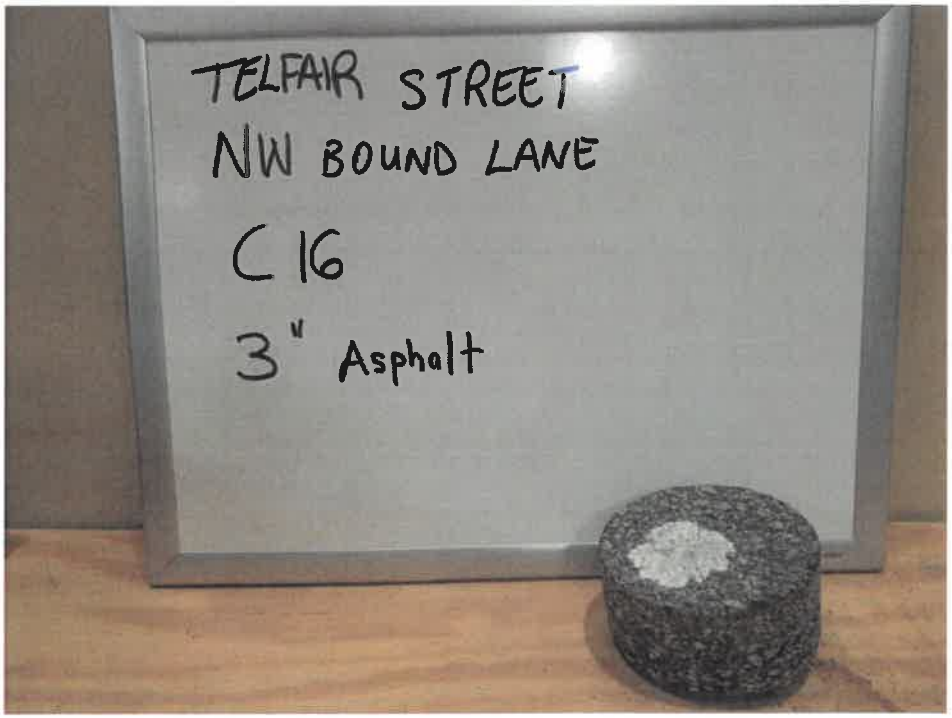
Photograph 11 – Core C10



Photograph 12 – Core C12

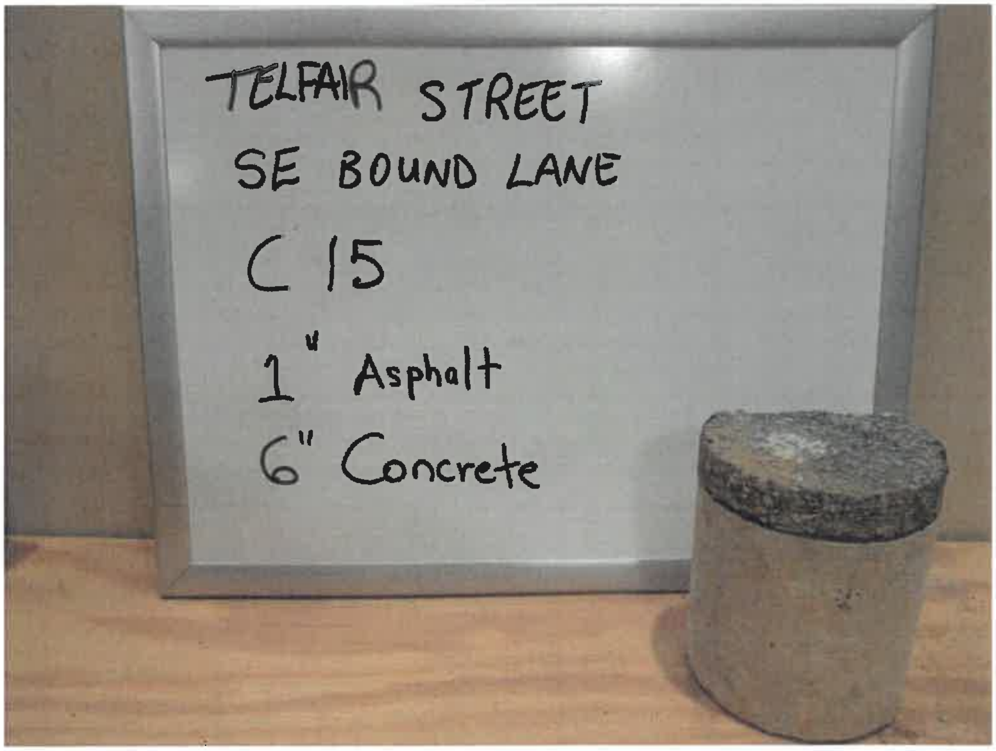


Photograph 13 – Core C14

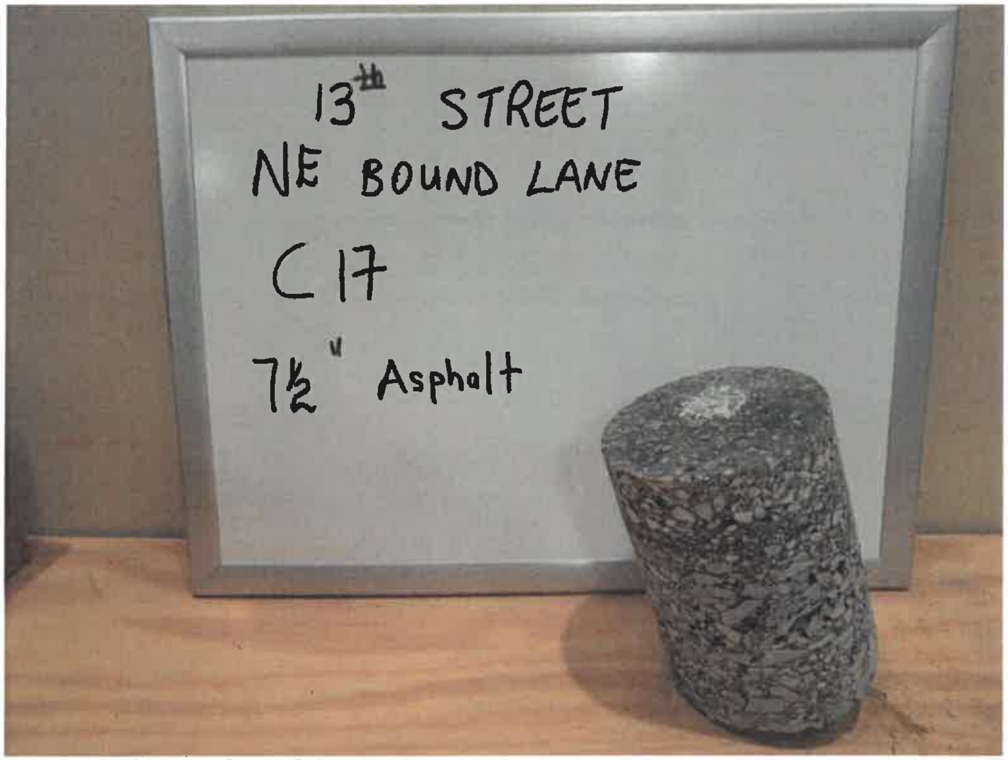


Photograph 14 – Core C16

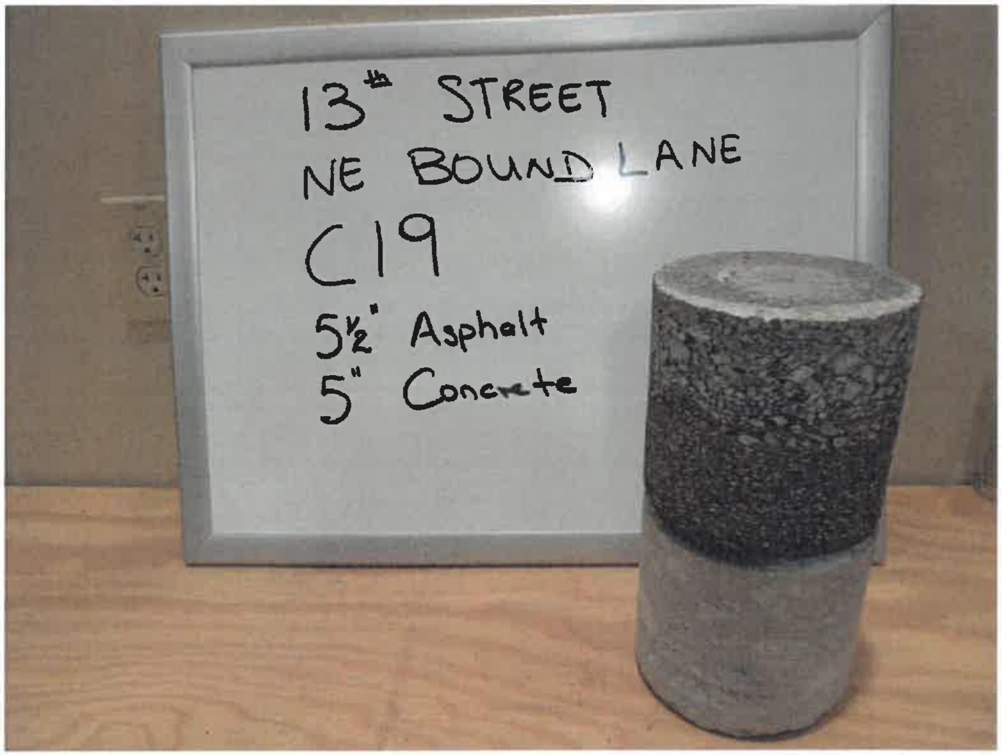
Photograph 15 – Core C13



Photograph 16 – Core C15

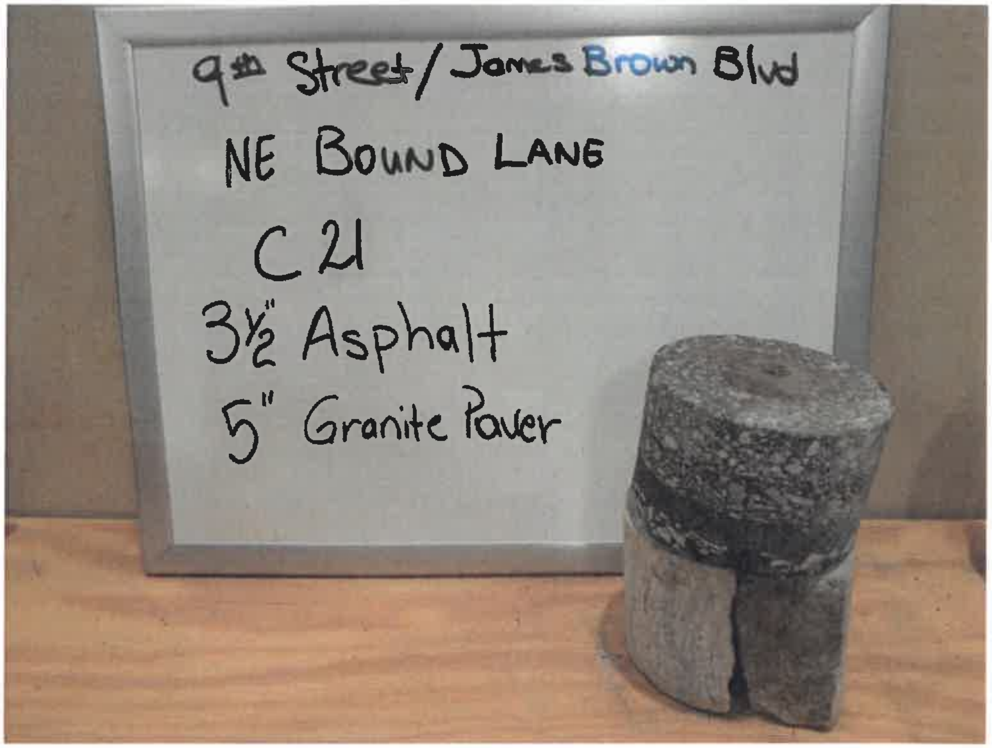


Photograph 17 – Core C17

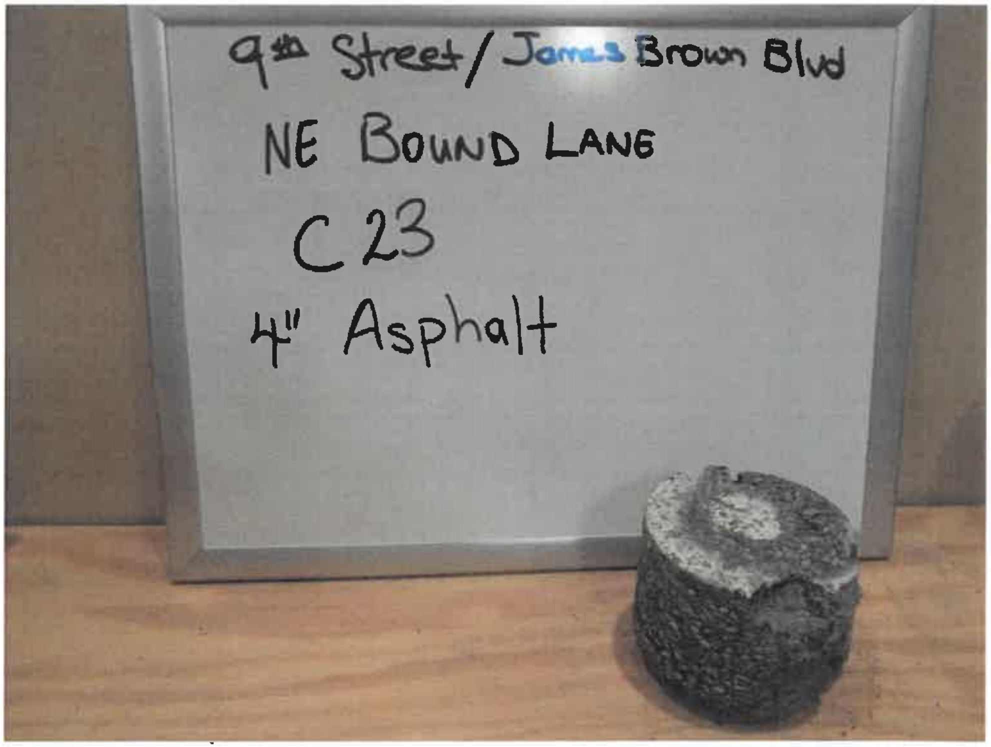


Photograph 18 – Core C19

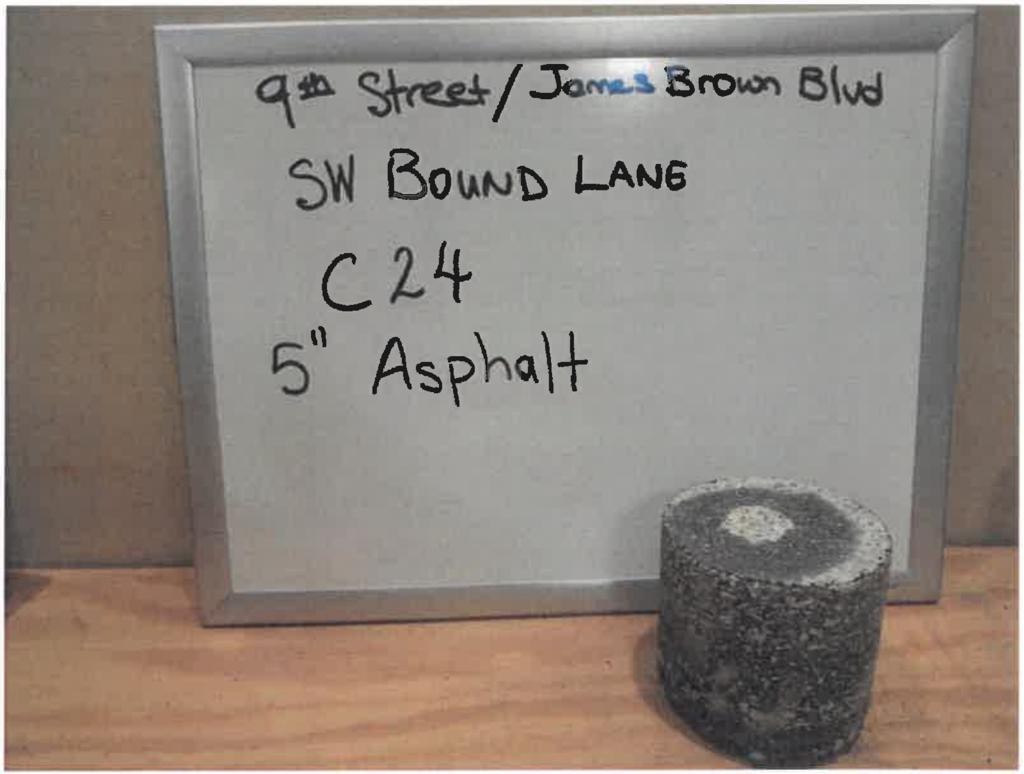
Photograph 19 – Core C20



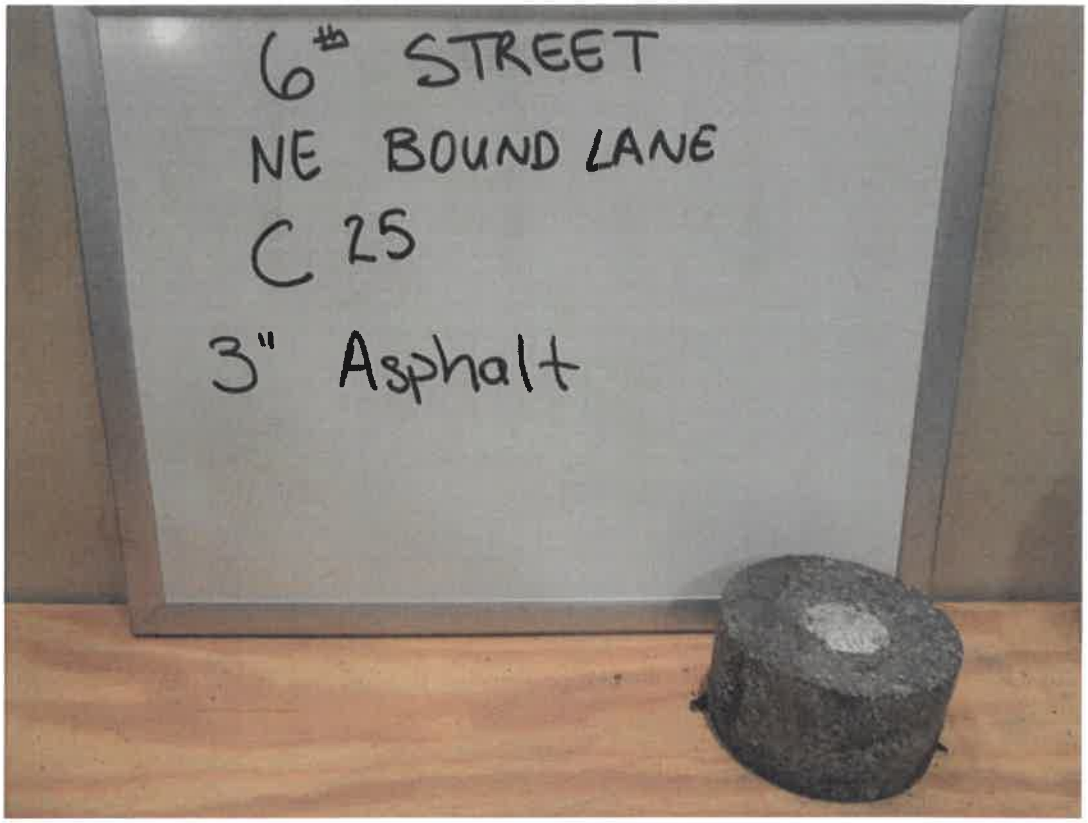
Photograph 20 – Core C21



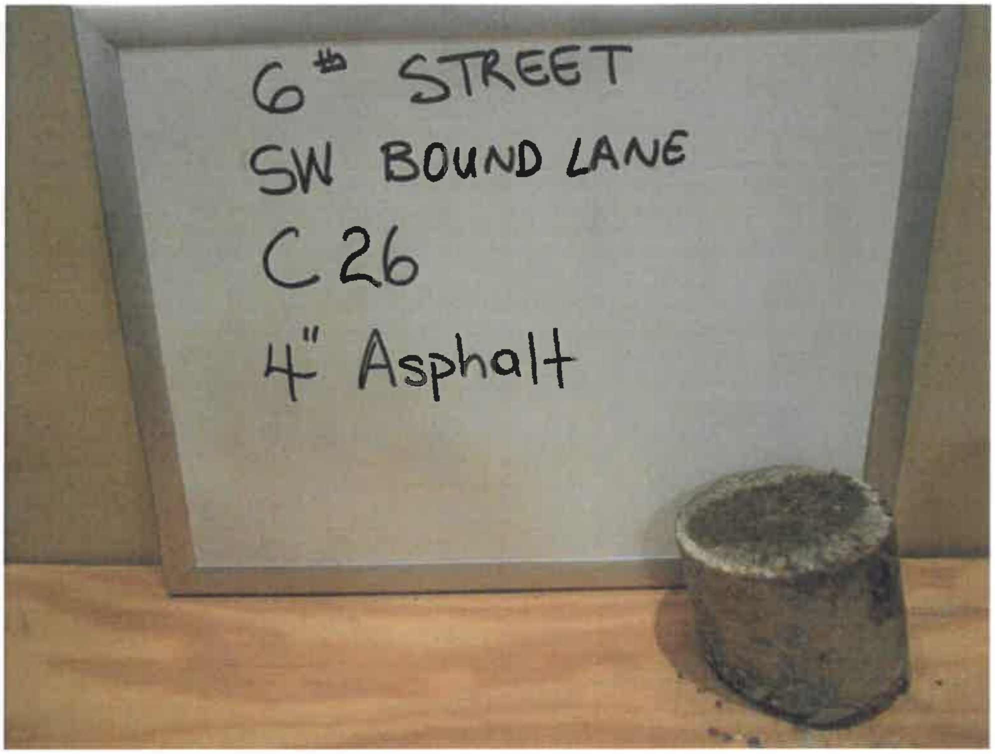
Photograph 21 – Core C23



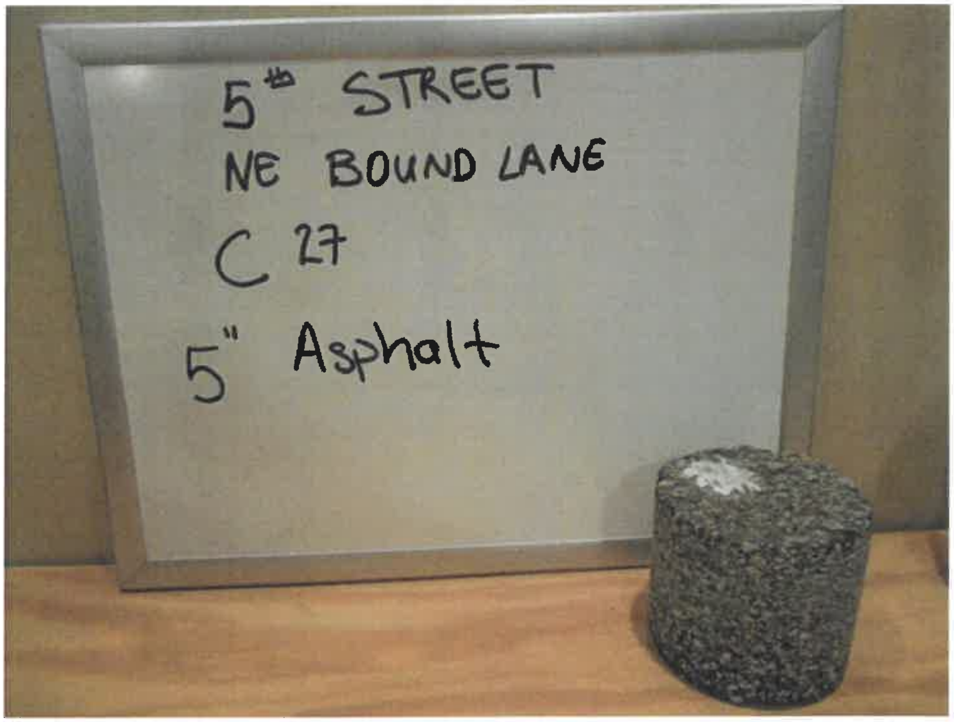
Photograph 22 – Core C24



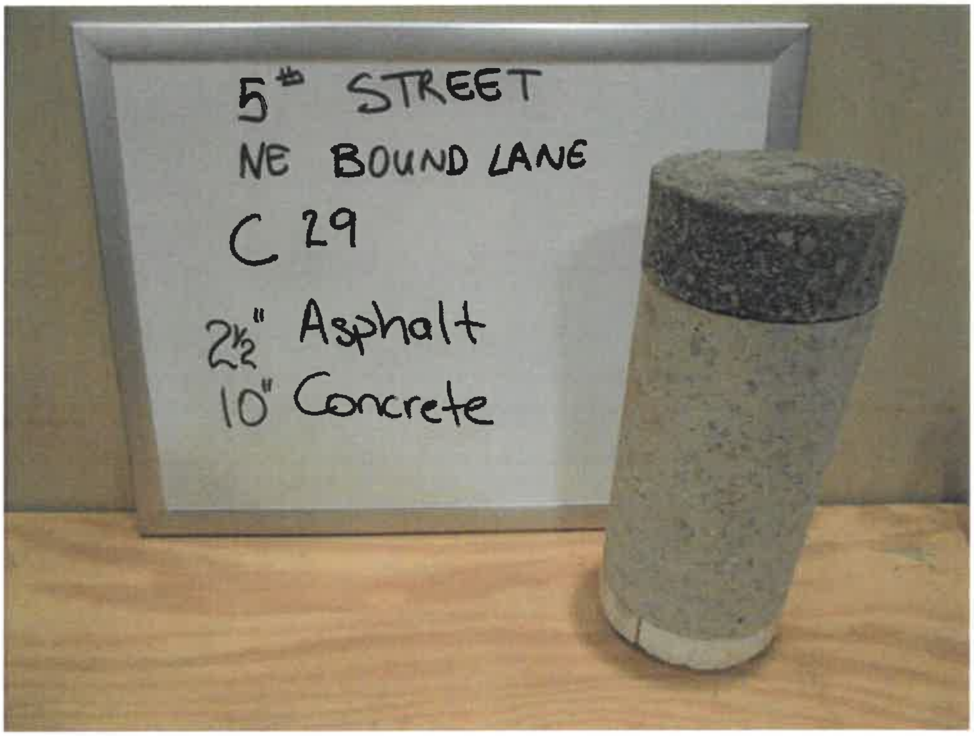
Photograph 23 – Core C25



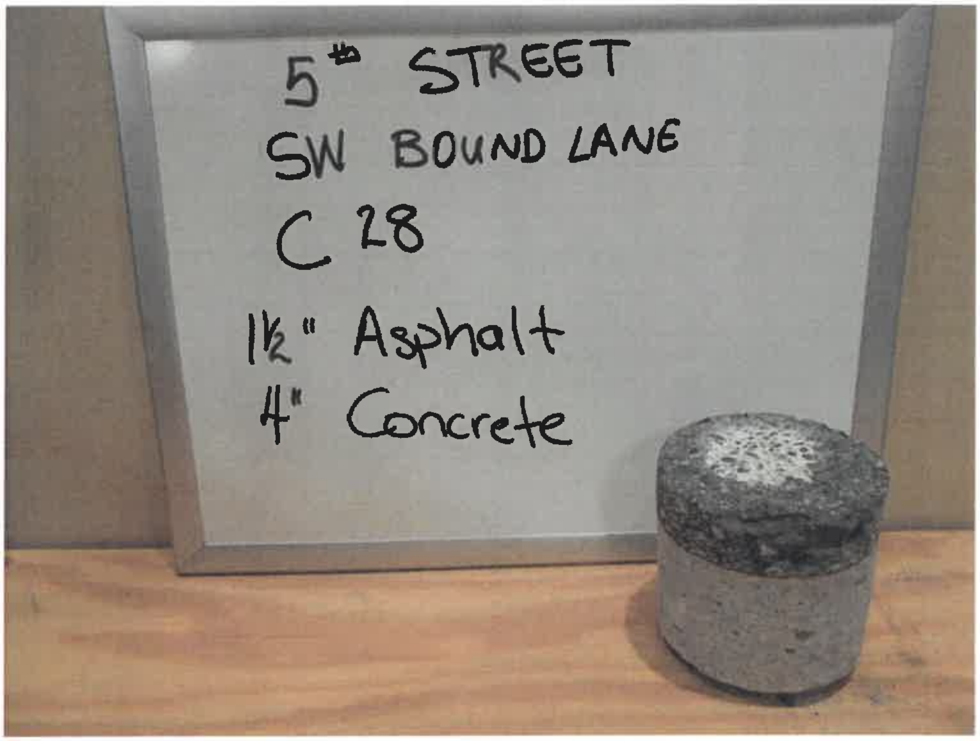
Photograph 24 – Core C26



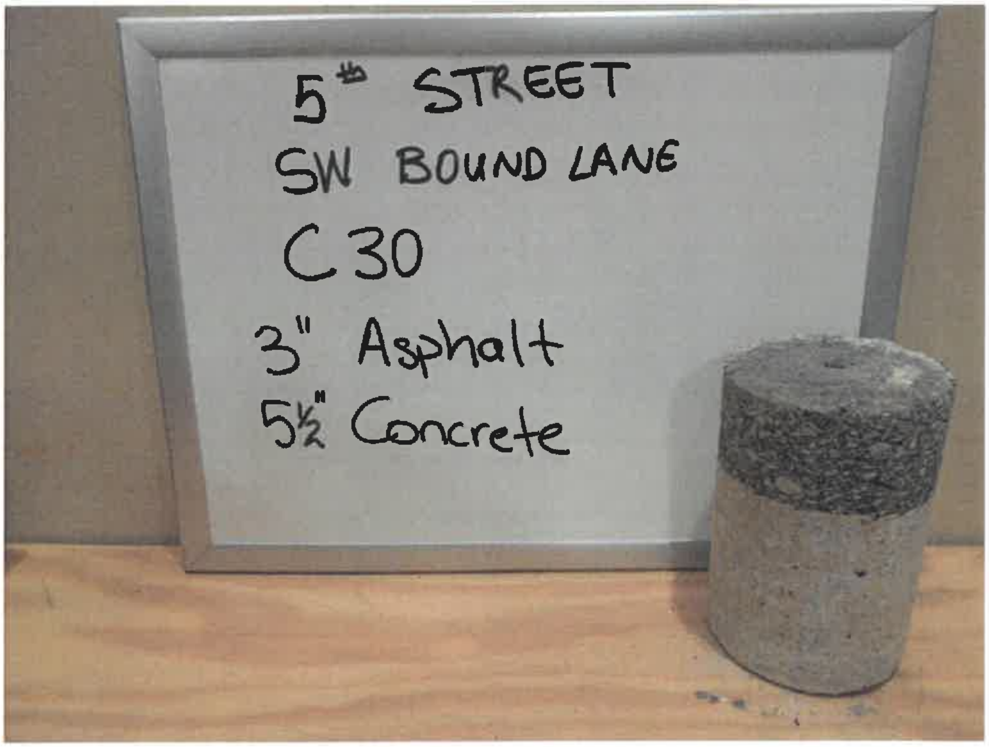
Photograph 25 – Core C27



Photograph 26 – Core C29



Photograph 27 – Core C28



Photograph 28 – Core C30

Photograph 29: Broad Street – View facing southeast of low severity block cracking near C-1.

Photograph 30: Broad Street – View facing southeast of low severity longitudinal cracking near C-2.

Photograph 31: Broad Street – View facing northwest of low severity longitudinal and transverse cracking and several medium severity patches at intersection of Curry Street.

Photograph 32: Broad Street – View facing northwest of low severity longitudinal cracking in the vicinity of Core C3.

Photograph 33: Broad Street – View facing east of pavement in Good condition near intersection of Eve Street between Cores C1 and C2.

Photograph 34: Broad Street – View facing east of pavement in Good condition at intersection with 15th Street looking east.

Photograph 35: Broad Street – View facing northwest of low severity longitudinal cracks and a medium severity patch near Core C4.

Photograph 36: Broad Street – View facing northwest of low severity longitudinal and joint cracks near Core C5.

Photograph 37: Broad Street – View facing southeast of low severity block cracking near 14th Street.

Photograph 38: Broad Street – View facing southeast of medium severity longitudinal cracking and low severity utility patch at intersection with James Brown Blvd near Core C-6.

Photograph 39: Broad Street – View facing southeast between 6th Street and 7th Streets of low severity longitudinal and transverse.

Photograph 40: Broad Street – View facing southeast of low severity weathering of pavement in Good condition near intersection with 4th Street.

Photograph 41: Broad Street – View facing southeast of low severity weathering of pavement in Good condition near Core C8.

Photograph 42: Broad Street – View facing northwest of low severity weathering of pavement in Good condition at intersection of East Boundary Street.

Photograph 43: Broad Street – View facing northwest of medium severity longitudinal and transverse cracking of pavement in Satisfactory condition near Core C7.

Photograph 44: Broad Street – View facing northwest approaching 8th Street of reflective cracking around manhole collar (typical).

Photograph 45: Green Street – View facing northwest of pavement in Good condition near Core C9.

Photograph 46: Green Street – View facing southeast of single low severity transverse crack of pavement in Good condition between 11th Street and 12th Streets.

Photograph 47: Green Street – View facing southeast of pavement in Good condition near Core C10.

Photograph 48: Green Street – View facing southeast of pavement in Good condition near Core C10.

Photograph 49: Green Street – View facing southeast of pavement in Good condition near intersection with 5th Street.

Photograph 50: Green Street – View facing southeast of low severity block cracking near Core C12.

Photograph 51: Green Street – View facing northwest of low severity block cracking in pavement in Satisfactory condition near Core C11.

Photograph 52: Green Street – View facing northwest of pavement in Good condition between 6th Street and 7th Street.

Photograph 53: Telfair Street – View facing northwest of low severity joint crack and medium severity weathering near intersection of Green Street.

Photograph 54: Telfair Street – View facing southeast of pavement in Good condition near Core C13 looking.

Photograph 55: Telfair Street – View facing southeast of low to medium severity block cracking near intersection with 9th Street.

Photograph 56: Telfair Street – View facing southeast of low severity joint cracking in pavement between 6th Street and 5th Street.

Photograph 57: Telfair Street – View facing southeast of low severity alligator cracking near East Boundary Street.

Photograph 58: Telfair Street – View facing northwest of low severity block cracking.

Photograph 59: Telfair Street – View facing northwest near US 1 of low severity longitudinal and transverse cracks.

Photograph 60: Telfair Street – View facing northwest of pavement in Satisfactory condition near Core C14.

Photograph 61: 9th Street/James Brown Blvd – View facing north of low severity transverse cracking near Telfair Street intersection.

Photograph 62: 9th Street/James Brown Blvd – View facing north of pavement in Satisfactory Condition near Core C21.

Photograph 63: 9th Street/James Brown Blvd – View facing south of low severity block cracking and medium severity patches approximately 250 north of Green Street.

Photograph 64: 9th Street/James Brown Blvd – View facing south of low to medium severity block cracking in pavements of Fair condition near Core C24.

Photograph 65: 9th Street/James Brown Blvd – View facing north of medium severity patch and medium severity alligator cracking Core C23.

Photograph 66: 13th Street – View facing north of pavement in Good condition at intersection with Green Street.

Photograph 67: 13th Street – View facing north of pavement in Good condition near Core C17.

Photograph 68: 13th Street – View facing north of pavement in Good condition near intersection of Broad Street.

Photograph 69: 13th Street – View facing south of pavement in Good condition near Core C19.

Photograph 70: 13th Street – View facing north of low severity transverse cracks near Core C19.

Photograph 71: 13th Street – View facing south of low severity longitudinal and transverse cracking along with shallow rutting in right wheel lane near Core C20. Pavement in Satisfactory condition.

Photograph 72: 6th Street – View facing north of medium severity joint crack and medium severity weathering near Taylor Street. Pavement in Fair condition.

Photograph 73: 6th Street – View facing north of medium severity longitudinal cracking near Telfair Street.

Photograph 74: 6th Street – View facing north near of low severity longitudinal cracking near Core C25.

Photograph 75: 6th Street – View facing south of pavement in Satisfactory condition near intersection of Ellis Street.

Photograph 76: 6th Street – View facing south of medium severity longitudinal cracking near Core C26.

Photograph 77: 5th Street – View facing south of medium severity weathering and low severity longitudinal cracking near Core C30.

Photograph 78: 5th Street – View facing north of medium severity joint cracking near Core C29 looking north.

Photograph 79: 5th Street – View facing north of pavement in Satisfactory condition near intersection of Reynolds Street.

Photograph 80: 5th Street – View facing south of medium severity joint cracking near Core C28.

E. Norfolk Southern – Special Provisions for Protection of Railway Interests

1. AUTHORITY OF RAILROAD ENGINEER AND SPONSOR ENGINEER:

Norfolk Southern Railway Company, hereinafter referred to as "Railroad", and their authorized representative shall have final authority in all matters affecting the safe maintenance of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks. For Public Improvement Projects impacting the Railroad, the Railroad's Public Improvements Engineer, hereinafter referred to as "Railroad Engineer", will serve as the authorized representative of the Railroad.

The authorized representative of the Project Sponsor ("Sponsor"), hereinafter referred to as the "Sponsor's Engineer", shall have authority over all other matters as prescribed herein and in the Project Specifications.

The Sponsor's Prime Contractor, hereinafter referred to as "Contractor" shall be responsible for completing any and all work in accordance with the terms prescribed herein and in the Project Specifications. These terms and conditions are subject to change without notice at the sole discretion of the Railroad. The Contractor must request the latest version of these provisions from the Railroad prior to commencing work and must follow the requirements outlined therein.

2. NOTICE OF STARTING WORK:

A. The Contractor shall not commence any work on Railroad rights-of-way until the Contractor has complied with the following conditions:

   1. Signed and received a fully executed copy of the required Norfolk Southern Contractor Right of Entry Agreement. Contractor Right of Entry Agreements to be submitted via email to the Public Improvements Engineer.

   2. Given the Railroad written notice in electronic format to the Railroad Engineer, with copy to the Sponsor's Engineer who has been designated to be in charge of the work, at least ten days in advance of the date the Contractor proposes to begin work on Railroad rights-of-way.

   3. Obtained written approval from the Railroad of Railroad Protective Liability Insurance coverage as required by paragraph 14 herein. It should be noted that the Railroad does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for the Railroad to review.

   4. Obtained Railroad Protective Services as required by paragraph 7 herein.

   5. Obtained written authorization from the Railroad to begin work on Railroad's rights-of-way, such authorization to include an outline of specific conditions with which the Contractor must comply. Written Authorization will be issued by the Railroad once all items on the NS Construction Checklist (refer to Appendix J) have been completed.

   6. Furnished a schedule for all work within the Railroad's rights-of-way as required by paragraph 7.B.1.

B. The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

C. All project-related utility work that is to occur on, over, or under Railroad right-of-way must be coordinated with the Norfolk Southern Pipe and Wire Program. The Contractor must receive approval from the Norfolk Southern Pipe and Wire Program prior to commencing any utility work.

3. INTERFERENCE WITH RAILROAD OPERATIONS:

A. The Contractor shall so arrange and conduct the Contractor's work that there will be no interference with Railroad's operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires Railroad Protective Services or inspection service shall be deferred by the Contractor until the Railroad Protective Services or inspection service required by the Railroad is available at the job site.

B. Whenever work within Railroad's rights-of-way is of such a nature that impediment to Railroad's operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct the Contractor's operations so that such impediment is reduced to the absolute minimum.

C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in the Railroad Engineer's absence, the Railroad's Division Engineer, such provisions are insufficient, either may require or provide such provisions as the Railroad deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the Sponsor.

D. "One Call" Services do not locate buried Norfolk Southern Signals and Communications Lines. The contractor shall contact the Railroad's representative 7 days in advance of work at those places where excavation, pile driving, or heavy loads may damage the Railroad's underground facilities. Upon request from the Contractor or Sponsor, Railroad forces will locate and paint mark or flag the Railroad's underground facilities. The Contractor shall avoid excavation or other disturbances of these facilities. If disturbance or excavation is required near a buried Railroad facility, the contractor shall coordinate with the Railroad to have the facility potholed manually with careful hand excavation. The facility shall be protected by the Contractor during the course of the disturbance under the supervision and direction of the Railroad's representative.

4. TRACK CLEARANCES:

A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. If temporary clearances are not shown on the project plans, the following criteria shall govern the use of falsework and formwork above or adjacent to operated tracks.

1. A minimum vertical clearance of 22'-0" above top of highest rail shall be maintained at all times.

2. A minimum horizontal clearance of 13'-0" from centerline of tangent track or 14'-0" from centerline of curved track shall be maintained at all times. Additional horizontal clearance may be required in special cases to be safe for operating conditions. This additional clearance will be as determined by the Railroad Engineer.

3. All proposed temporary clearances which are less than those listed above must be submitted to Railroad Engineer for approval prior to construction and must also be authorized by the regulatory body of the State if less than the legally prescribed clearances.

4. The temporary clearance requirements noted above shall also apply to all other physical obstructions including, but not limited to: stockpiled materials, parked equipment, placement or driving of piles, and bracing or other construction supports.

B. Before undertaking any work within Railroad right-of-way, and before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative at least 72 hours in advance of the work.

2. Receive assurance from the Railroad's representative that arrangements have been made for Railroad Protective Services as may be necessary.

3. Receive permission from the Railroad's representative to proceed with the work.

4. Ascertain that the Sponsor's Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

5. CONSTRUCTION PROCEDURES:

A. General:

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

   a. Subject to the inspection and approval of the Railroad Engineer or their designated Construction Engineering Representative.

   b. In accordance with the Railroad's written outline of specific conditions.

   c. In accordance with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.

   d. In accordance with these Special Provisions.

2. Submittal Requirements

   a. The Contractor shall submit all construction related correspondence and submittals electronically to the Railroad Engineer.

b. The contractor should anticipate a minimum of 45 days for NS and their GEC to complete the review of all construction submittals. Time frames for reviews can vary significantly depending on the complexity of the project and the quality of submittals. Submittals requiring input from other departments may require additional time.

c. All work in the vicinity of the Railroad's property that has the potential to affect the Railroad's train operations or disturb the Railroad's Property must be submitted and approved by the Railroad prior to work being performed.

d. All submittals and calculations must be signed and sealed by a registered engineer licensed in the state of the project work.

e. All submittals shall first be approved by the Sponsor's Engineer prior to submission to the Railroad Engineer for review. Submittals are reviewed by the Railroad for impacts to Railroad operations only; therefore, approval from the Railroad Engineer shall not relieve the Contractor from liability.

f. For all construction projects, the following submittals, but not limited to those listed below, shall be provided for review and approval when applicable:

    (1) General Means and Methods
    (2) Ballast Protection
    (3) Construction Excavation & Shoring
    (4) Pipe, Culvert, & Tunnel Installations
    (5) Demolition Procedure
    (6) Erection & Hoisting Procedure
    (7) Debris Shielding or Containment
    (8) Blasting
    (9) Formwork for the bridge deck, diaphragms, overhang brackets, and protective platforms
    (10) Bent Cap Falsework. A lift plan will be required if the contractor want to move the falsework over the tracks.

g. For Undergrade Bridges (Bridges carrying the Railroad) the following submittals in addition to those listed above shall be provided for review and approval:

    (1) Girder Shop Drawings including welding/fabrication procedures
    (2) Bearing Shop Drawings and Material Certifications
    (3) Shop Drawings for drainage, handrails/fencing, and expansion dams
    (4) Concrete Mix Design
    (5) Structural Steel, Rebar, and/or Strand Certifications
    (6) 28-day Cylinder Test for Concrete Strength
    (7) Waterproofing Material Certification
    (8) Dampproofing materials
    (9) Test Reports for all steel
    (10) Foundation Construction Reports

Other submittals may be required upon request from the Railroad. Fabrication may not begin until the Railroad has approved the required shop drawings.

h. The Contractor shall include in all submissions a detailed narrative indicating the progression of work with the anticipated timeframe to complete each task. Work will not be permitted to commence until the Contractor has provided the Railroad with a satisfactory plan that the project will be undertaken without scheduling, performance, or safety related issues. Submissions shall also provide: a listing of the anticipated equipment to be used, plan and profile views showing the location of all equipment to be used relative to the track centerline(s) shown, and a contingency plan of action covering the event that a primary piece of equipment malfunctions.

B. Ballast Protection

1. The Contractor shall submit the proposed ballast protection system detailing the specific filter fabric and anchorage system to be used during all construction activities.

2. The ballast protection is to extend 25' beyond the proposed limit of work, be installed at the start of the project and be continuously maintained to prevent all contaminants from entering the ballast section of all tracks for the entire duration of the project.

C. Excavation:

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

2. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.

D. Excavation for Structures and Shoring Protection:

1. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material.

2. The use of shoring systems utilizing tiebacks shall not be permitted without written approval from the Railroad Engineer.

3. Shoring systems utilizing trench boxes shall not be permitted within the Theoretical Railroad Embankment (Zones 1, 2, or 3) as shown on NS Typical Drawing No. 4 – Shoring Requirements without written approval from the Railroad Engineer.

4. All plans and calculations for shoring shall be prepared, signed, and sealed by a Registered Professional Engineer licensed in the state of the proposed project, in accordance with Norfolk Southern's Overhead Grade Separation Design Criteria, subsection H.1.6 - Construction Excavation (Refer to Norfolk Southern Public Improvement Projects Manual Appendix H). The Registered Professional Engineer will be responsible for the accuracy for all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions.

5. The Contractor shall provide a detailed installation and removal plan of the shoring components. Any component that will be installed via the use of a crane or any other lifting device shall be subject to the guidelines outlined in section 5.G of these provisions.

6. The Contractor shall be required to survey the track(s) and Railroad embankment and provide a cross section of the proposed excavation in relation to the tracks.

7. Calculations for the proposed shoring should include deflection calculations. The maximum deflection for excavations within 18'-0" of the centerline of the nearest track shall be 3/8". For all other cases, the max deflection shall not exceed ½".

8. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.

9. The front face of shoring located closest to the NS track for all shoring setups located in Zone 2 (shown on NS Typical Drawing No. 4 – Shoring Requirements in Appendix I) shall remain in place and be cut off 2'-0" below the final ground elevation. The remaining shoring in Zone 2 and all shoring in Zone 1 may be removed and all voids must be backfilled with flowable fill.

E. Pipe, Culvert, & Tunnel Installations

1. Pipe, Culvert, & Tunnel Installations shall be in accordance with the appropriate Norfolk Southern Design Specification as noted below:

   a. For Open Cut Method refer to Norfolk Southern Public Improvement Projects Manual Appendix H.4.6.
   b. For Jack and Bore Method refer to Norfolk Southern Public Improvement Projects Manual Appendix H.4.7.
   c. For Tunneling Method refer to Norfolk Southern Public Improvement Projects Manual Appendix H.4.8.

2. The installation methods provided are for pipes carrying storm water or open flow run-off. All other closed pipeline systems shall be installed in accordance Norfolk Southern's Pipe and Wire Program and the NSCE-8.

F. Demolition Procedures

1. General

   a. Demolition plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.

   b. Railroad tracks and other Railroad property must be protected from damage during the procedure.

c. A pre-demolition meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the demolition procedure.

d. The Railroad Engineer or the Railroad Engineer's designated representative must be present at the site during the entire demolition procedure period.

e. Demolition of existing bridge decks in spans over the Railroad shall be performed in a controlled manner (i.e. saw-cutting). No impact equipment (track-mounted hoe-ram, jackhammers, etc.) may be used over the Railroad without approval by the Railroad Engineer.

f. Existing, obsolete, bridge piers shall be removed to a sufficient depth below grade to enable restoration of the existing/proposed track ditch, but in no case less than 2'-0" below final grade.

2. Submittal Requirements

a. In addition to the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:

(1) A plan showing the location of cranes, horizontally and vertically, with proposed boom lengths, operating radii, counterweights, and delivery or disposal locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

(2) Rating sheets showing that cranes or lifting devices are adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.

(3) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing structure showing complete and sufficient details with supporting data for the demolition of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.

(4) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the object being hoisted. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The

position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.

(5) A complete demolition procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

(6) Design and supporting calculations for the temporary support of components, including but not limited to the stability of the superstructure during the temporary condition, temporary girder tie-downs and falsework.

3. Overhead Demolition Debris Shield

a. The demolition debris shield shall be installed prior to the demolition of the bridge deck or other relevant portions of the superstructure over the track area to catch all falling debris.

b. The demolition debris shield shall provide a minimum vertical clearance as specified in Section 4.A.1 of these provisions or maintain the existing vertical clearance if the existing clearance is less than that specified in Section 4.A.1.

c. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Demolition procedure submission.

d. The Contractor shall submit the demolition debris shield design and supporting calculations for approval by the Railroad Engineer.

e. The demolition debris shield shall have a minimum design load of 50 pounds per square foot plus the weight of the equipment, debris, personnel, and other loads to be carried.

f. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.

g. The Contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Railroad Engineer.

4. Vertical Demolition Debris Shield

a. A vertical demolition debris shield may be required for substructure removals in close proximity to the Railroad's track and other facilities, as determined by the Railroad Engineer.

G. Erection & Hoisting Procedures

1. General

a. Erection plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.

b. Neither crane handoffs nor "walking" of cranes with suspended load will be permitted for erection on or over Railroad right-of-way.

c. Railroad tracks and other Railroad property must be protected from damage during the erection procedure.

d. A pre-erection meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the erection procedure.

e. The Railroad Engineer or the Railroad Engineer's designated representative must be present at the site during the entire erection procedure period.

f. For field splices located over Railroad property, a minimum of 50% of the holes for each connection shall be filled with bolts or pins prior to releasing the crane. A minimum of 50% of the holes filled shall be filled with bolts. All bolts must be appropriately tightened. Any changes to previously approved field splice locations must be submitted to the Railroad for review and approval. Refer to Norfolk Southern's Overhead Grade Separation Design Criteria for additional splice details (Norfolk Southern Public Improvement Projects Manual Appendix H.1, Section 4.A.3.).

2. Submittal Requirements

a. In addition to the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:

(1) As-built beam seat elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Railroad Engineer for review and verification at least 30 days in advance of the erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.

(2) A plan showing the location of cranes, horizontally and vertically, with proposed boom lengths, operating radii, counterweights, and delivery or staging locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

(3) Rating sheets showing that cranes or lifting devices are adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane,

counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.

(4) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the proposed structure showing complete and sufficient details with supporting data for the erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.

(5) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the object being hoisted. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.

(6) A complete erection procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.

(7) Design and supporting calculations for the temporary support of components, including but not limited to temporary girder tie-downs and falsework.

H. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Sponsor Engineer for use of explosives on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:

   a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.

   b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way radios.

   c. No blasting shall be done without the presence of the Railroad Engineer or the Railroad Engineer's authorized representative. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2.B) will be required to arrange for the presence of an authorized Railroad representative and such Railroad Protective Services as the Railroad may require.

   d. Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at the Contractor's expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If the Contractor's actions result in delay of trains, the Contractor shall bear the entire cost thereof.

   e. The blasting Contractor shall have a copy of the approved blasting plan on hand while on the site.

   f. Explosive materials or loaded holes shall not be left unattended at the blast site.

   g. A seismograph shall be placed on the track shoulder adjacent to each blast which will govern the peak particle velocity of two inches per second. Measurement shall also be taken on the ground adjacent to structures as designated by a qualified and independent blasting consultant. The Railroad reserves the option to direct the placement of additional seismographs at structures or other locations of concern, without regard to scaled distance.

   h. After each blast, the blasting Contractor shall provide a copy of their drill log and blast report, which includes number of holes, depth of holes, number of decks, type and pounds of explosives used per deck.

   i. The Railroad may require top of rail elevations and track centers taken before, during and after the blasting and excavation operation to check for any track misalignment resulting from the Contractor's activities.

2. The Railroad representative will:

   a. Determine approximate location of trains and advise the Contractor the appropriate amount of time available for the blasting operation and clean up.

   b. Have the authority to order discontinuance of blasting if, in the Railroad representative's opinion, blasting is too hazardous or is not in accord with these special provisions.

3. The Contractor must hire, at no expense to the Railroad, a qualified and independent blasting consultant to oversee the use of explosives. The blasting consultant will:

   a. Review the Contractor's proposed drilling and loading patterns, and with the blasting consultant's personnel and instruments, monitor the blasting operations.

   b. Confirm that the minimum amounts of explosives are used to remove the rock.

   c. Be empowered to intercede if the blasting consultant concludes that the Contractor's blasting operations are endangering the Railway.

   d. Submit a letter acknowledging that the blasting consultant has been engaged to oversee the entire blasting operation and that the blasting consultant approves of the blasting plan.

   e. Furnish copies of all vibration readings to the Railroad representative immediately after each blast. The representative will sign and date the seismograph tapes after each shot to verify the readings are for that specific shot.

   f. Advise the Railroad representative as to the safety of the operation and notify him of any modifications to the blasting operation as the work progresses.

4. The request for permission to use explosives on the Railroad's Right-of-Way shall include a blasting proposal providing the following details:

   a. A drawing which shows the proposed blasting area, location of nearest hole and distance to Railway structures, all with reference to the centerline of track.

   b. Hole diameter.

   c. Hole spacing and pattern.

   d. Maximum depth of hole.

   e. Maximum number of decks per hole.

   f. Maximum pounds of explosives per hole.

   g. Maximum pounds of explosives per delay.

   h. Maximum number of holes per detonation.

   i. Type of detonator and explosives to be used. (Electronic detonating devices will not be permitted). Diameter of explosives if different from hole diameter.

   j. Approximate dates and time of day when the explosives are to be detonated.

   k. Type of flyrock protection.

   l. Type and patterns of audible warning and all clear signals to be used before and after each blast.

   m. A copy of the blasting license and qualifications of the person directly in charge of the blasting operation, including their name, address, and telephone number.

   n. A copy of the Authority's permit granting permission to blast on the site.

   o. A letter from the blasting consultant acknowledging that the blasting consultant has been engaged to oversee the entire blasting operation and that the blasting consultant approves of the blasting plan.

   p. In addition to the insurance requirements outlined in Paragraph 14 of these Provisions, A certificate of insurance from the Contractor's insurer stating the amount of coverage for XCU (Explosive Collapse and Underground Hazard) insurance and that XCU Insurance is in force for this project.

q. A copy of the borings and Geotechnical information or report.

I. Track Monitoring

1. At the direction of the Railroad Engineer, any activity that has the potential to disturb the Railroad track structure may require the Contractor to submit a detailed track monitoring program for approval by the Railroad Engineer.

2. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.

3. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Railroad Engineer for analysis.

4. If any movement has occurred as determined by the Railroad Engineer, the Railroad will be immediately notified. Railroad, at its sole discretion, shall have the right to immediately require all Contractor operations to be ceased and determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including the monitoring of corrective action of the Contractor will be at project expense.

J. Maintenance of Railroad Facilities:

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

2. If, in the course of construction, it may be necessary to block a ditch, pipe or other drainage facility, temporary pipes, ditches, or other drainage facilities shall be installed to maintain adequate drainage, as approved by the Railroad Engineer. Upon completion of the work, the temporary facilities shall be removed, and the permanent facilities restored.

3. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

K. Storage of Materials and Equipment:

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

2. All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save the Railroad, and any

associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim, or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

L. Cleanup:

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

6. DAMAGES:

A. The Contractor shall assume all liability for any and all damages to the Contractor's work, employees, servants, equipment, and materials caused by Railroad traffic.

B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7. RAILROAD PROTECTIVE SERVICES:

A. Requirements:

1. Railroad Protective Services will not be provided until the Contractor's insurance has been reviewed and approved by the Railroad.

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

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

4. For Projects exceeding 30 days of construction, Contractor shall provide the Railroad Protective Services personnel a small work area with a desk/counter and chair within the field/site trailer, including the use of bathroom facilities, where the Railroad Protective Services personnel can check in/out with the Project, as well as to the Railroad Protective Services personnel's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer; and

have the ability to print off needed documentation and orders as needed at the field/site trailer. This should aid in maximizing the Railroad Protective Services personnel's time and efficiency on the Project.

B. Scheduling and Notification:

1. The Contractor's work requiring Railroad Protective Services should be scheduled to limit the presence of such personnel at the site. Railroad approval will be required for any Railroad Protective Services requests in excess of 40 hours per week, and in such cases, should be limited to a maximum of 50 hours per week.

2. Not later than the time that approval is initially requested to begin work on Railroad right-of-way, the Contractor shall furnish to the Railroad and the Sponsor a schedule for all work required to complete the portion of the project within Railroad right-of-way and arrange for a job site meeting between the Contractor, the Sponsor, and the Railroad's authorized representative. The Railroad Protective Services personnel may not be provided until the job site meeting has been conducted and the Contractor's work has been scheduled.

3. The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of the intent to begin work within Railroad right-of-way in accordance with this special provision, and must receive written or verbal confirmation of this request from the Railroad representative. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 10 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if Railroad Protective Services will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the Engineer. If Railroad Protective Services are required, no work shall be undertaken until the Railroad Protective Services personnel is present at the job site. It may take 30 days or longer to obtain Railroad Protective Services initially from the Railroad. When Railroad Protective Services begin, the Railroad Protective Services personnel is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If Railroad Protective Services become unnecessary and are suspended, it may take 30 days or longer to again obtain Railroad Protective Services from the Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days notice before Railroad Protective Service may be discontinued and responsibility for payment stopped.

4. If, after the Railroad Protective Services personnel is assigned to the project site, an emergency arises that requires the personnel's presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the personnel is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Sponsor or Railroad.

C. Payment:

1. The Sponsor will be responsible for paying the Railroad directly for any and all costs of Railroad Protective Services which may be required to accomplish the construction.

2. The estimated cost of Railroad Protective Services is the current rate per day based on a 12-hour workday. This cost includes the base pay for the Railroad Protective Services personnel, overhead, and includes a per diem charge for travel expenses, meals, and lodging. The charge to the Sponsor by the Railroad will be the actual cost based on the rate of pay for the personnel who is available Railroad Protective Services at the time the service is required.

3. Work by Railroad Protective Services in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 and 1/2 times the appropriate rate. Work by Railroad Protective Services in excess of 12 hours per day will result in overtime at 2 times the appropriate rate. If work is performed on a holiday, the Railroad Protective Services rate is 2 and 1/2 times the normal rate.

4. Railroad work involved in preparing and handling bills will also be charged to the Sponsor. Charges to the Sponsor by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Railroad Protective Services costs are subject to change. The above estimates of Railroad Protective Services costs are provided for information only and are not binding in any way.

D. Verification:

1. The Railroad's Protective Services personnel will electronically enter Railroad Protective Services time via the Railroad's electronic billing system. Any complaints concerning Railroad Protective Services must be resolved in a timely manner. If the need for Railroad Protective Services is questioned, please contact the Railroad Engineer. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Sponsor's Engineer. Address all written correspondence electronically to the Railroad Engineer.

2. The Railroad Protective Services personnel assigned to the project will be responsible for notifying the Sponsor's Representative upon arrival at the job site on the first day (or as soon thereafter as possible) that Railroad Protective Services begin and on the last day that the Railroad Protective Services personnel performs such services for each separate period that services are provided. The Sponsor's Representative will document such notification in the project records. When requested, the Sponsor's Representative will also sign the Railroad Protective Services personnel's document(s) showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD TRACK:

A. Where the plans show or imply that materials of any nature must be hauled across the Railroad's track, unless the plans clearly show that the Sponsor has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's track. The Contractor or Sponsor will be required to bear all costs incidental to such crossings whether services are performed by the Contractor's own forces or by Railroad personnel.

B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for its installation, maintenance, necessary watching and Railroad Protective Services thereof and removal, until a temporary private crossing agreement has been executed between the Contractor and Railroad. The approval process for an agreement normally takes 90 days.

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

   A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Sponsor and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Sponsor and/or the Railroad.

   B. Should the Contractor desire any changes in addition to the above, then the Contractor shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

10. COOPERATION AND DELAYS:

   A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging the Contractor's schedule, the Contractor shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

   B. No charge or claim of the Contractor against either the Sponsor or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of railroad traffic or for any delays due to compliance with these special provisions.

11. TRAINMAN'S WALKWAYS:

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

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

   A. The Contractor and/or the Sponsor's personnel authorized to perform work on the Railroad's property as specified in Section 2 above are not required to complete Norfolk Southern Roadway Worker Protection Training; However, the Contractor and the Sponsor's personnel must be familiar with Norfolk Southern's standard operating rules and guidelines, should conduct themselves accordingly, and may be removed from the property for failure to follow these guidelines.

   B. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Wearing of safety boots and reflective vests are required.

C. No one is allowed within 25' of the centerline of track without specific authorization from the Railroad.

D. All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.

E. No one is allowed to cross tracks without specific authorization from the Railroad.

F. All welders and cutting torches working within 25' of track must stop when train is passing.

G. No steel tape or chain will be allowed to cross or touch rails without permission from the Railroad.

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

A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from Railroad official and Railroad Protective Services personnel.

B. No crane or boom equipment will be allowed to foul track or lift a load over the track without Railroad Protective Services personnel authorized to obtain track time.

C. All employees will stay with their machines when crane or boom equipment is pointed toward track.

D. All cranes and boom equipment under load will stop work while train is passing (including pile driving).

E. Swinging loads must be secured to prevent movement while train is passing.

F. No loads will be suspended above a moving train.

G. No equipment will be allowed within 25' of centerline of track without specific authorization of the Railroad official and Railroad Protective Services personnel.

H. Trucks, tractors, or any equipment will not touch ballast line without specific permission from Railroad official and Railroad Protective Services personnel. At the beginning of each project that involves the Contractor working within 25' of the centerline of any track, orange construction fencing must be established. Orange construction fencing shall be established in accordance with the minimum temporary horizontal clearances contained in Section 4.A.2 and shall be maintained for the duration of construction.

I. No equipment or load movement is permitted within 25' or above a standing train or Railroad equipment without specific authorization of the Railroad Protective Services personnel.

J. All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the Railroad Protective Services personnel if said personnel views the operation to be dangerous to the passing train.

K. All equipment, loads and cables are prohibited from touching rails.

L. While clearing and grubbing, no vegetation will be removed from Railroad embankment with heavy equipment without specific permission from the Railroad Engineer and Railroad Protective Services personnel.

M. No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.

N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.

O. All cranes and boom equipment will be turned away from track after each workday or whenever unattended by an operator.

P. Prior to performing any crane operations, the Contractor shall establish a single point of contact for the Railroad Protective Services personnel to remain in communication with at all times. Person must also be in direct contact with the individual(s) directing the crane operation(s).

14. INSURANCE:

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to carry insurance of the following kinds and amounts:

1. A Commercial General Liability ("CGL") policy containing products and completed operations, bodily injury, property damage, and contractual liability coverage, with a combined single limit of not less than $5,000,000 for each occurrence with a general aggregate limit of not less than $5,000,000. Any portion of this requirement may be satisfied by a combination of General Liability and/or Excess/Umbrella Liability Coverage. The CGL policy shall provide additional insured coverage equivalent to at least as broad as ISO CG 20 10 11/85.

2. Automobile Liability Insurance with a current ISO occurrence form policy (or equivalent) and apply on an "any auto" (Symbol 1) basis, including coverage for all vehicles used in connection with the Work or Services on the leased property, providing annual limits of at least $1,000,000 per occurrence for bodily injury and property damage combined including uninsured and underinsured motorist coverage, medical payment protection, and loading and unloading. This policy shall be endorsed to include Transportation Pollution Liability Broadened Coverage ISO CA 99 48 03 06 or MCS-90 if vehicles are subject to Federal jurisdiction. If this coverage is on a claims-made form, the Retro Active Date must be prior to the date of this Agreement and the policy endorsement must be maintained for not less than seven (7) years.

3. Workers' Compensation Insurance to meet fully the requirement of any compensation act, plan, or legislative enactment applicable in connection with the death, disability or injury of Licensee's officers, agents, servants, or employees arising directly or indirectly out of the performance of the work.

4. Employers' Liability Insurance with limits of not less than $1,000,000 each accident, $1,000,000 policy limit for disease, and $1,000,000 each employee for disease.

5. All insurance required in Section 14.A (excluding any Workers' Compensation policy) shall name Norfolk Southern Railway and its parent, subsidiary, and affiliated companies as additional insureds with an appropriate endorsement to each policy.

6. All policies secured by Contractor, whether primary, excess, umbrella or otherwise, and providing coverage to the Railway as an additional insured (i) are intended to take priority in responding and to pay before any insurance policies Railway may have secured for itself must respond or pay and (ii) may not seek contribution from any policies the Railway may have secured for itself.

7. No cross-liability exclusions are permitted that would apply to the additional insureds, and there may not be any restrictions in any policy that limits coverage for a claim brought by an additional insured against a named insured.

8. To the fullest extent permitted by law, all insurance furnished by Contractor in compliance with Section 14.A shall include a waiver of subrogation in favor of Railway with an appropriate endorsement to each policy.

9. All policies required in Section 14.A shall not be subject to cancellation, termination, modification, changed, or non-renewed except upon thirty (30) days' prior written notice to the additional insureds.

10. The insurance coverages maintained by Contractor shall not limit any indemnity obligations or other liabilities. The insurance available to Norfolk Southern Railway and its parent, subsidiary and affiliated companies as additional insureds shall not be limited by these requirements should Licensee maintain higher coverage limits.

11. Any deductibles or retentions in excess of $50,000 maintained on any insurance required in 14.A shall be disclosed and approved by Norfolk Southern Railway with a request made for approval to NSRISK3@nscorp.com.

12. Anyone subcontractor providing work on this project must extend CG 20 38 (or broader coverage) additional Insured endorsement to provide coverage for up stream parties.

13. Contractor shall require all subcontractors who are not covered by the insurance carried by Contractor to obtain commercially reasonable insurance coverage, but not less than the requirements of 14.A.

B. In addition to the insurances required in Section 14.A, the Contractor shall also procure on behalf of the Railroad for the entirety of the project:

  1. Railroad Protective Liability (RPL) Insurance having a combined single limit of not less than $5,000,000 each occurrence and $10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

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

     a. The insurer must be rated A- or better by A.M. Best Company, Inc.

b. The policy must be written using one of the following combinations of Insurance Services Office ("ISO") RPL Insurance Form Numbers:
   (1) CG 00 35 01 96 and CG 28 31 10 93; or
   (2) CG 00 35 07 98 and CG 28 31 07 98; or
   (3) CG 00 35 10 01; or
   (4) CG 00 35 12 04; or
   (5) CG 00 35 12 07; or
   (6) CG 00 35 04 13.

c. The named insured shall read:

Norfolk Southern Corporation and its subsidiaries and affiliates
650 West Peachtree Street NW – Box 46
Atlanta, GA 30308
Attn: Risk Manager

(NOTE: Railroad does not share coverage on RPL with any other entity on this policy)

d. The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Sponsor project and contract identification numbers.

e. The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number. **NOTE: Do not include any references to milepost, valuation station, or mile marker on the insurance policy.**

f. The name and address of the prime Contractor must appear on the Declarations.

g. The name and address of the Sponsor must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

h. Endorsements/forms that are **required** are:

   (1) Physical Damage to Property Amendment
   (2) Terrorism Risk Insurance Act (TRIA) coverage must be included

i. Other endorsements/forms that will be accepted are:
   (1) Broad Form Nuclear Exclusion – Form IL 00 21
   (2) 30-day Advance Notice of Non-renewal or cancellation
   (3) Required State Cancellation Endorsement
   (4) Quick Reference or Index Form CL/IL 240

j. Endorsements/forms that are NOT acceptable are:
   (1) Any Pollution Exclusion Endorsement except CG 28 31
   (2) Any Punitive or Exemplary Damages Exclusion

(3) Known injury or Damage Exclusion form CG 00 59
(4) Any Common Policy Conditions form
(5) An Endorsement that limits or excludes Professional Liability coverage
(6) A Non-Cumulation of Liability or Pyramiding of Limits Endorsement
(7) An Endorsement that excludes TRIA coverage
(8) A Sole Agent Endorsement
(9) Any type of deductible endorsement or amendment
(10) Any other endorsement/form not specifically authorized in item no. 2.h above.

SPONSOR:

RAILROAD:
Risk Management
Norfolk Southern Corporation and its subsidiaries
650 West Peachtree Street NW – Box 46
Atlanta, GA 30308
NSRISK3@NSCORP.COM

C. All insurance required under Section 14.A and 14.B shall be underwritten by insurers and be of such form and content, as may be acceptable to the Railway. Prior to entry on Railroad right-of-way, the original electronic RPL Insurance Policy shall be submitted by the Prime Contractor to the Railway at NSRISK3@NSCORP.COM for review and approval. In addition, certificates of insurance evidencing the Prime Contractor's insurance compliant with the requirements in 14.A shall be issued to the Railway at NSRISK3@NSCORP.COM at the same time the RPL Policy is submitted.

D. The insurance required herein shall in no way serve to limit the liability of Sponsor or its Contractors under the terms of this agreement.

E. Insurance Submission Procedures

1. The Railroad will only accept initial insurance submissions via email to NSRISK3@NSCORP.COM. The Railroad will NOT accept initial insurance submissions via hard copies that would be sent either US Mail or Overnight carrier or faxes as only electronic versions only are to be submitted to Railroad. **Please provide point of contact information with the submission including a phone number and email address.**

   For email insurance submissions, the subject line should follow the format provided unless otherwise directed by the Railroad Engineer:

   Insurance Submittal: City, State – NS File Number – NS Milepost – Project Name – Sponsor Project #

2. Railroad requires the following two (2) forms of insurance in the initial electronic insurance submission to NSRISK3@NSCORP.COM to be submitted under a cover letter providing details of the project and containing the contact information:

   a. The full original or certified true electronic countersigned copy of the RPL Insurance Policy in its entirely inclusive of all declarations, schedule of forms and endorsements along with the policy forms and endorsements as required in Section 14.B.

b. A certificate of insurance from the Contractor evidencing the Contractor's insurance in Section 14.A (i.e. the Contractor's commercial general, automobile, and workers' compensation liability insurance, etc.). The certificate must show Norfolk Southern Railroad and its subsidiaries and affiliated companies as an additional insured on the General Liability and Auto policies. The certificate should also indicate that the Workers' Compensation policy waives subrogation against Norfolk Southern Corporation and its subsidiaries. See Appendix J for a Sample Certificate of Insurance.

15. FAILURE TO COMPLY:

A. In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

1. The Railroad Engineer may require that the Contractor vacate Railroad property.

2. The Sponsor's Engineer may withhold all monies due the Contractor on monthly statements.

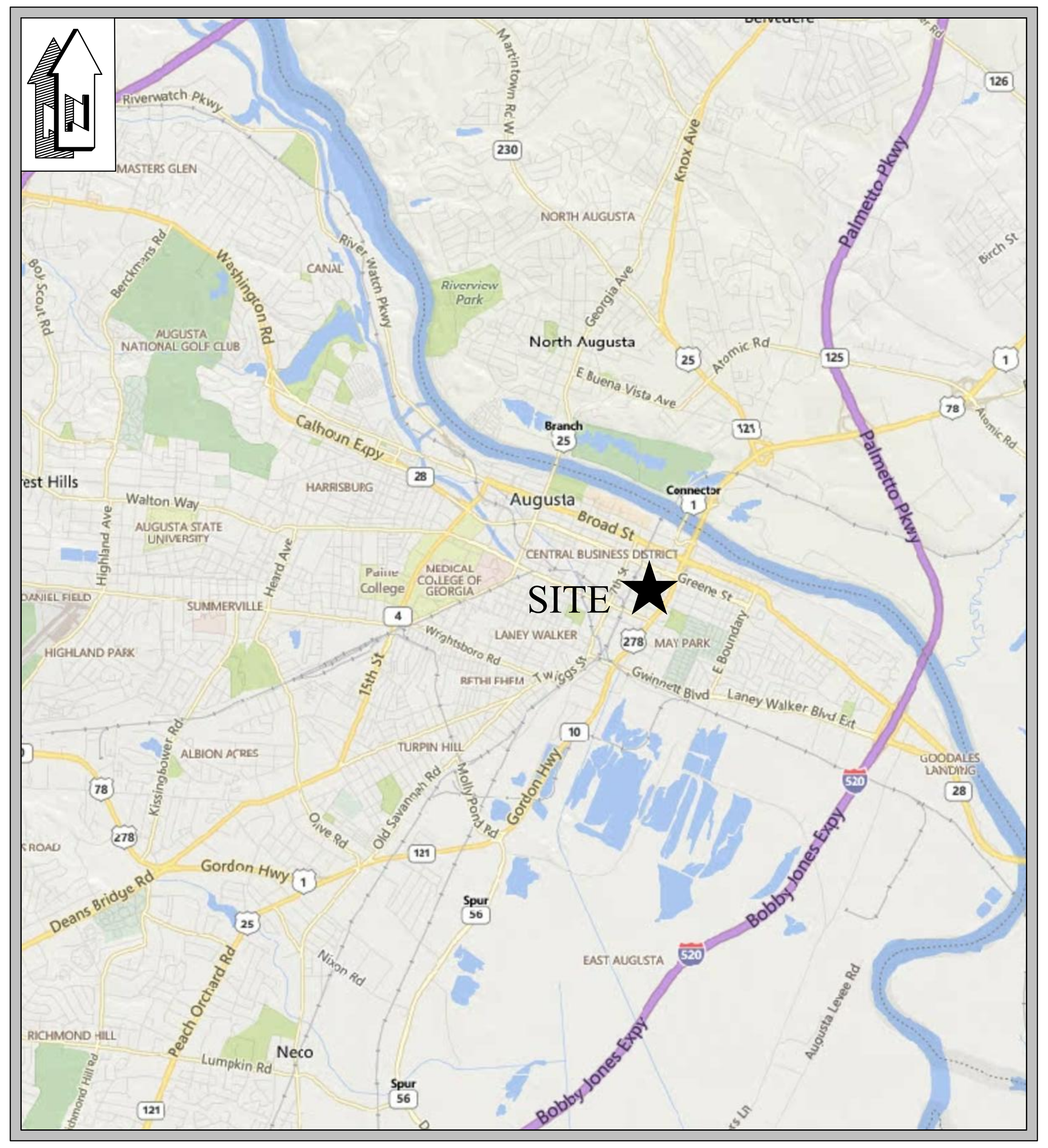
B. Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Sponsor's Engineer.

16. PAYMENT FOR COST OF COMPLIANCE:

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

17. PROJECT INFORMATION

A. Date: ______________________
B. NS File No.: ______________________
C. NS Milepost: ______________________
D. Sponsor's Project No.: ______________________



VICINITY MAP
1" = 1 MILE

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1984 (NAD 1983)/94 EAST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

DESIGN DATA:	
TRAFFIC A.D.T.:	3340 (2021) 4075 (2041)
TRAFFIC D.H.V.:	262 (PM)
DIRECTIONAL DIST.	NB 55%
% TRUCKS:	UNKNOWN
24 HR.TRUCKS%	UNKNOWN
DESIGN SPEED:	35 MPH

LOCATION & DESIGN
APPROVAL DATE: N/A

FUNCTIONAL CLASS:
LOCAL/MAJOR COLLECTOR

THIS PROJECT IS 100% IN RICHMOND COUNTY AND IS 100% IN CONG. DIST. NO 12.

PROJECT DESIGNATION: ENHANCEMENT

PROJECT TO BE CONSTRUCTED AS PER GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATION, 2021 EDITION, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION AND AS MODIFIED BY CONTRACT DOCUMENTS.

NOTE:
ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED, OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA", "HIGHWAY DEPARTMENT", OR " DEPARTMENT" WHEN THE CONTEXT THERE OF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE CITY OF AUGUSTA IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTION 104.03 OF THE SPECIFICATIONS.

AUGUSTA, GEORGIA

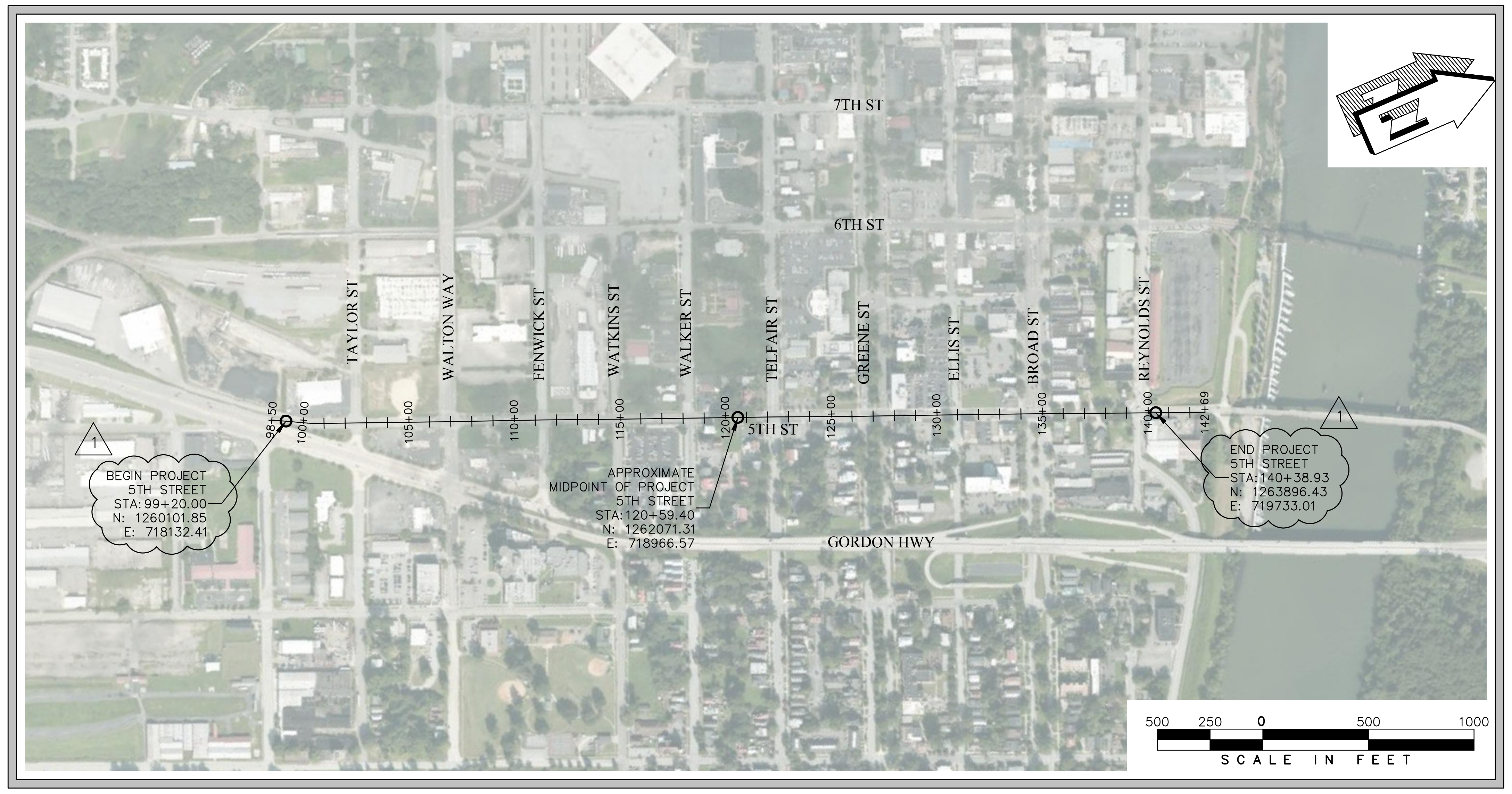
CONSTRUCTION PLANS FOR

5TH STREET IMPROVEMENTS

RICHMOND COUNTY

TIA FUNDED

FEDERAL ROUTE # N/A
STATE ROUTE # N/A
P.I. NO. 0011415



APRIL 26, 2022

TIA
TRANSPORTATION INVESTMENT ACT

GEORGIA811
Utilities Protection Center, Inc.
Know what's below.
Call before you dig.

LENGTH OF PROJECT	245 RICHMOND COUNTY PROJECT NO. 0011415 MILES
NET LENGTH OF ROADWAY	0.74
NET LENGTH OF BRIDGES	0.00
NET LENGTH OF PROJECT	0.74
NET LENGTH OF EXCEPTIONS	0.00
GROSS LENGTH OF PROJECT	0.74

PREPARED BY: CRANSTON

GEORGIA REGISTERED PROFESSIONAL ENGINEER No.PE35685 MITCHELL B. MURCHISON

DESIGNED BY: ______
DESIGN ENGINEER

	DATE	CHIEF ENGINEER
PLANS COMPLETED	4/26/2022	
REVISIONS		
REVISION 1	7/5/2022	

2019–0083
01-0001

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	03	100

GENERAL CONSTRUCTION NOTES:

1. THE TOPOGRAPHIC MAP FOR THIS PROJECT IS BASED ON A SURVEY OF THE CORRIDOR BY AMEC FOSTER WHEELER DATED SEPTEMBER 2ND, 2016 AND WAS SUPPLEMENTED BY CRANSTON ENGINEERING ON JANUARY 11, 2021.
2. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR INDICATED IN ANY WAY THEREBY, WHETHER BY DRAWINGS OR NOTES OR ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY AND ARE NOT GUARANTEED.
3. APPROVAL BY AUGUSTA, GEORGIA IS FOR THE IMPROVEMENTS SHOWN ON THE PLANS. ANY VARIATION FROM THE APPROVED PLANS MUST BE APPROVED BY THE CITY ENGINEER.
4. A PRE–CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO THE BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH AUGUSTA ENGINEERING DEPARTMENT AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.
5. THE AUGUSTA DEPARTMENT OF ENGINEERING (706–821–1706) SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE DURING REGULAR HOURS (8:30 AM TO 5:00 PM, MONDAY THROUGH FRIDAY, EXCLUDING AUGUSTA, GA HOLIDAYS) BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
6. THE CONTRACTOR SHALL CONTACT THE AUGUSTA UTILITIES DEPARTMENT 48 HOURS PRIOR TO ANY CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS BEFORE WORK BEGINS.
8. THE CONTRACTOR SHALL CONTACT 811 "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
9. ALL UNDERGROUND UTILITIES SHALL BE FIELD LOCATED AND MARKED BEFORE BEGINNING CONSTRUCTION.
10. NO EXTRA PAYMENT WILL BE MADE FOR REPAIRS TO DAMAGE OF EXISTING UTILITIES.
11. THE CONTRACTOR SHALL COORDINATE THE WORK OF THE UTILITY COMPANIES & SCHEDULE THE INSTALLATION OF ANY CROSSINGS.
12. IF IN THE COURSE OF CONSTRUCTION, A CONFLICT ARISES BETWEEN THE NEW WORK AND THE EXISTING WATER AND SEWER FACILITIES, IT WILL BE THE RESPONSIBILITY OF THE OWNER, AT THEIR EXPENSE, TO CORRECT SAME AS DIRECTED BY A REPRESENTATIVE OF AUGUSTA UTILITIES DEPARTMENT.
13. THE COST OF INSPECTION BY THE CITY OF AUGUSTA ENGINEERING DEPARTMENT, BEFORE OR AFTER REGULAR WORKING HOURS, ON SATURDAYS, SUNDAYS OR LEGAL HOLIDAYS, SHALL BE PAID FOR BY THE INDIVIDUAL REQUESTING THE INSPECTION AT A RATE OF 1.5 TIMES THE REGULAR SALARY PER HOUR OF THE INSPECTOR PLUS 7.65% FROM THE EMPLOYER'S FICA/MEDICARE MATCH. APPROVAL FOR THE INSPECTION OUTSIDE OF THE NORMAL WORKING HOURS SHALL BE OBTAINED FROM THE COUNTY ENGINEER 48–HOURS IN ADVANCE. PRIOR TO THE COMMENCEMENT OF WORK REQUIRING INSPECTION OUTSIDE OF THE NORMAL HOURS, THE INDIVIDUAL REQUESTING THE INSPECTION SHALL SIGN A FORM WHICH IS FURNISHED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AGREEING TO PAY THE OVERTIME. THE INDIVIDUAL REQUESTING THE INSPECTION SHALL SIGN A FORM WHICH IS FURNISHED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING AGREEING TO PAY THE OVERTIME. THE INDIVIDUAL REQUESTING THE INSPECTION WILL BE BILLED BY THE DEPARTMENT OF PUBLIC WORKS AND ENGINEERING FOR PAYMENT.
14. APPROVAL OF THESE PLANS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF ADHERING TO THE WEIGHT LIMITS PRESCRIBED ON CITY MAINTAINED ROADS FOR HAULING EQUIPMENT AND/OR MATERIALS TO AND FROM THE SITE.
15. ALL WORKMANSHIP & MATERIALS WITHIN AUGUSTA R/W WILL CONFORM TO AUGUSTA, GEORGIA STANDARDS, THE PROJECT SPECIFICATIONS & THE EROSION CONTROL PLAN.
16. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ON SITE A COPY OF THE GEORGIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND CONSTRUCTION STANDARD DETAILS, CURRENT EDITION.
17. ALL SIDEWALKS, CROSSWALKS AND RAMPS MUST BE CONSTRUCTED TO ADA, AASHTO, GEORGIA DEPARTMENT OF TRANSPORTATION AND CITY OF AUGUSTA STANDARDS.
18. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO ADJACENT ROADS, UTILITIES, TREES, AND STRUCTURES CAUSED DURING DEMOLITION AND CONSTRUCTION. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED ITEMS AT HIS EXPENSE.
19. ALL LOT CORNERS, SURVEY MARKERS OR MONUMENTS DISTURBED BY CONSTRUCTION WILL BE REPLACED BY A LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
20. UNSUITABLE AND SURPLUS EXCAVATION MATERIAL NOT REQUIRED FOR FILL SHALL BE DISPOSED OF OFFSITE AT NO ADDITIONAL COST, IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. NO WASTE SHALL BE PLACED ON ANY WETLANDS.
21. ALL SILT BARRIERS MUST BE PLACED IMMEDIATELY FOLLOWING CLEARING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETED.
22. ALL CONNECTIONS BETWEEN EXISTING PAVEMENT AND ANY NEW PAVEMENT OR STRUCTURES SHALL BE SAW CUT TO PROVIDE A FINISHED EDGE.
23. ALL STORM BOXES TO HAVE STEPS IF 4'–0" OR DEEPER.
24. ALL MANHOLES & STORM TRAPS (RING & COVER) TO ALIGN WITH STEPS FOR MAINTENANCE ACCESS.
25. CONTRACTOR SHALL ADJUST UTILITY COVERS (MANHOLE COVERS, METER BOXES, CLEAN–OUTS, ETC.) TO NEW GRADES AS REQUIRED.
26. MATCH EXISTING GRADE AT DOORWAY THRESHOLDS, UNLESS OTHERWISE NOTED IN THE PLANS.
27. ALL PROPOSED FINISHED GRADES (SPOT ELEVATIONS) ALONG CURB WILL BE TOP OF CURB (T/C).
28. ALL SPOT ELEVATIONS ARE AT FINISHED GRADE.
29. REINSTALL ALL STREET SIGNS AT OR NEAR PRESENT LOCATIONS UNLESS OTHERWISE DIRECTED.
30. ALL RED BRICK SHALL BE BORAL BRICK COMPANY, HEARTLAND FLASH PAVER OR REDLAND BRICK, ROCKY RIDGE MOULDED PAVERS, #410 KING WILLIAM OR EQUAL.
31. NO HALF BRICKS OR BATS SHALL BE USED EXCEPT AT THE ENDS OF COURSES WHERE NEEDED AND NO BATS SHALL BE LESS THAN 3 INCHES IN LENGTH. ALL JOINTS SHALL BE BROKEN WITH A LAP OF NO LESS THAN 3 INCHES.
32. ADA RAMPS DETECTABLE WARNING SURFACE (TRUNCATED DOMES) WILL BE GRAY BRICK PAVERS WHEN USED IN CONJUNCTION WITH RED BRICK PAVERS AND WILL MATCH HEARTLAND FLASHED PAVER OR #410 KING WILLIAM WHEN USED IN CONJUNCTION WITH CONCRETE SIDEWALK.
33. AT ALL DRIVEWAY CURB CUT RAMPS A MINIMUM SIDEWALK WIDTH OF 4' SHALL BE MAINTAINED WITH A MAX CROSS SLOPE OF 2%. THE REMAINDER OF THE DRIVEWAY SHALL SLOPE AS NEEDED TO MATCH EXISTING/PROPOSED GUTTER ELEVATIONS. AT ACCESSIBLE CURB CUTS THE MAXIMUM RAMP SLOPE SHALL BE 1:12.
34. THERE ARE NO KNOWN GRAVE SITES OR CEMETERIES LOCATED WITHIN THE PROJECT LIMITS.
35. ALL DRAINAGE EASEMENTS AND DISTURBED AREAS NEED TO BE GRASSED AND/OR RIP–RAPPED AS REQUIRED TO CONTROL EROSION.
36. SITE IS NOT LOCATED WITHIN THE 100 YEAR FLOOD PLAIN.
37. THE CLOSEST AFFECTED BODY OF WATER IS THE AUGUSTA CANAL. IT IS APPROXIMATELY 1,400' SOUTH OF STATION 100+00.
38. ACCORDING TO THE NATIONAL WETLANDS INVENTORY, THERE ARE NO WETLANDS LOCATED IN THE PROJECT AREA.
39. THE PROJECT REQUIRES AN NOI. THE DISTURBED AREA IS 3.07 ACRES.
40. DURING EXCAVATION AND CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC FLOW. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY. CONTRACTOR WILL MAINTAIN ACCESS TO BUSINESSES AND RESIDENCES AT ALL TIMES.
41. AT THE COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL PRESSURE WASH NEW SIDEWALKS AND REMOVE ALL CONSTRUCTION RELATED DEBRIS FROM THE R.O.W.
42. PROTECTING THE NEW WORK WILL BE THE CONTRACTOR'S RESPONSIBILITY UNTIL IT IS COMPLETED AND HANDED OVER TO THE OWNER.

TRAFFIC NOTES

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN SHOWING THE PROPOSED MEASURES TO MANAGE TRAFFIC DURING CONSTRUCTION ACTIVITIES. THE PLAN SHALL CONFORM TO THE 2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND GEORGIA DOT SPECIFICATION 150. ANY LANE CLOSURES MUST BE APPROVED BY AND COORDINATED WITH THE GEORGIA DOT AREA ENGINEER AND/OR THE CITY OF AUGUSTA TRAFFIC ENGINEER. LANE CLOSURES WILL REQUIRE PROPER LANE TAPERS AND ADVANCED WARNINGS PER GEORGIA DOT STANDARDS.
2. ALL SIGNING, MARKING, AND TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.
3. EXISTING TRAFFIC SIGNALS SHALL REMAIN OPERABLE AT ALL TIMES. CONTACT JOHN USSERY, ASSISTANT DIRECTOR, TRAFFIC ENGINEERING DIVISION FOR THE CITY OF AUGUSTA AT 706–821–1850 PRIOR TO BEGINNING WORK TO DISCUSS BURIED SIGNAL EQUIPMENT.
4. ALL LANE CLOSURES WILL BE BETWEEN THE HOURS OF 9AM AND 4PM.
5. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ON–SITE A COPY OF THE GEORGIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND CONSTRUCTION STANDARDS DETAILS, CURRENT EDITION.
6. NO DEMOLITION OR CONSTRUCTION WILL BEGIN UNTIL THE CONTRACTOR HAS COORDINATED WITH KENNY MASS, AUGUSTA–RICHMOND COUNTY TRAFFIC SIGNAL MANAGER, 706–821–1712, AND GUY SHEPHERD, AUGUSTA–RICHMOND COUNTY STREET LIGHTING MANAGER, 706–821–1725.
7. WORK REQUIRING CLOSURE OF A SIDEWALK, LANE OR THE ENTIRE STREET, REQUIRES A PUBLIC SERVICE ANNOUNCEMENT (PSA) AT LEAST 48 HOURS PRIOR TO THE CLOSURE. THE CONTRACTOR WILL PROVIDE THAT INFORMATION TO SHAKEYA CLARK, TRAFFIC ENGINEERING, 706–821–1850, FOR RELEASE OF THE PSA TO THE MEDIA AND EMERGENCY SERVICES. A DETAILED TRAFFIC CONTROL PLAN WILL BE SUBMITTED FOR APPROVAL FOR EACH CLOSURE.

UTILITY AND RAILROAD OWNERS

CONTACT INFORMATION

1. GEORGIA POWER
   POWER
   678–708–9112
2. AT&T
   TELECOMMUNICATIONS
   706–288–5203/706–210–8237
3. COMCAST COMMUNICATIONS
   TELECOMMUNICATIONS
   706–739–2321
4. WOW! (FORMERLY KNOLOGY)
   TELECOMMUNICATIONS
   706–364–1035
5. JEFFERSON ENERGY COOPERATIVE
   ELECTRIC
   706–547–5019
6. AUGUSTA RICHMOND COUNTY UTILITIES DEPARTMENT
   WATER/SEWER
   706–312–4140/706–312–4126
7. ATLANTA GAS LIGHT COMPANY
   GAS
   706–214–1662

REVISION SUMMARY

DATE	SHEETS	DESCRIPTION
7/5/2022	01–0001, 04–0001, 05–0001 TO 05–0003, 06–0001, 19–0003 TO 19–0004, 19–0007, & 50–0001	REVISION 1

Environmental Resources Impact Table

These resources and the restrictions listed are governed by state and federal law.

Resource Name	Location			Permitted Construction Activity	Special Provision	Comments
(from Section A of the ECT)	Beginning STA	Ending STA	Side	(from Section A of the ECT)	(from Section B of the ECT)	(from Section C of the ECT, comments only)
NONE						
404 Permits and Variances (from Section D of the ECT)	Expiration dates (if applicable) Contact GDOT OES 6 months prior to expiration, if work will extend beyond this date.					

If there are no resources, indicate "None" in the first row. Include this table in the General Notes section of the plans as always.

ECT = Environmental Commitments Table, AKA "Green Sheet".

CRANSTON

No.PE35685
MITCHELL B. MURCHISON
4/26/2022

M	DATE	DESCRIPTION
1	7/5/2022	UPDATES TO REVISION SUMMARY

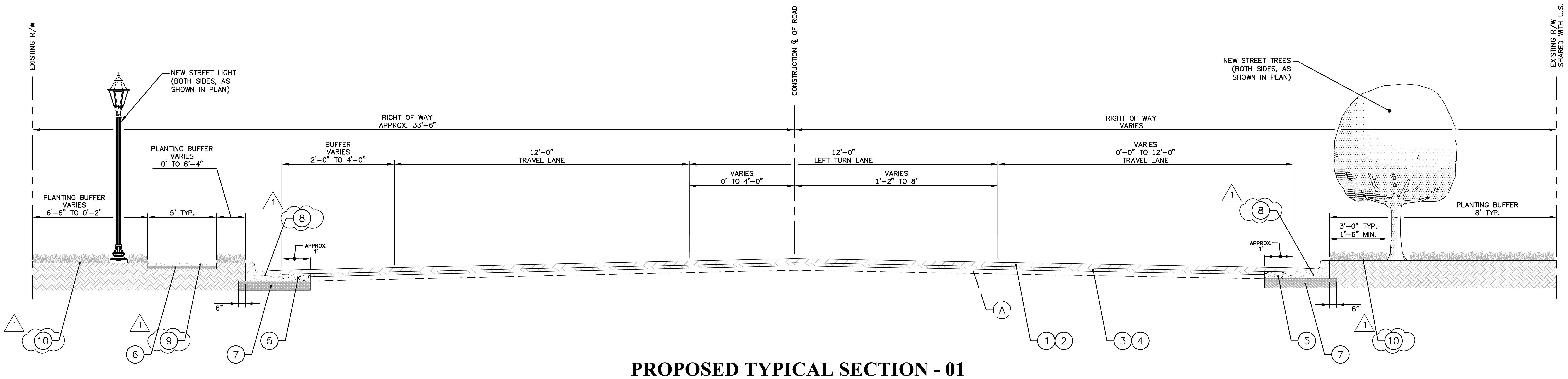
5TH STREET IMPROVEMENTS

GENERAL NOTES &
REVISION SUMMARY

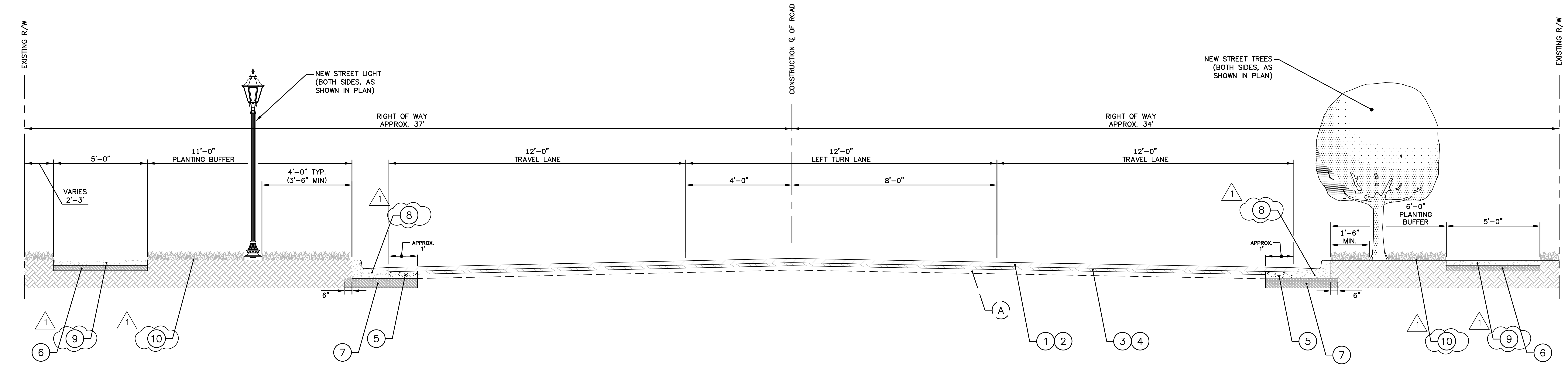
DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	NO SCALE
JOB No.	2019–0083
DRAWING No.	04-0001

GEORGIA811
Utilities Protection Center, Inc.
Know what's below.
Call before you dig.

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	04	100



PROPOSED TYPICAL SECTION - 01
STA 99+20.00 TO STA 102+52.32



PROPOSED TYPICAL SECTION - 02
STA 102+52.32 TO STA 106+90.96

PAVEMENT NOTES: △1

① 1½" RECYCLED ASPHALTIC CONCRETE 12.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME (165 LBS/SY)

② 2½" MILL ASPHALT CONCRETE PAVEMENT

③ 1" ASPHALTIC CONCRETE OPEN GRADED CRACK RELIEF INTERLAYER, GP 2 ONLY, INCL BITUM MATL & H LIME

④ TACK COAT, 0.08 GAL/SY

⑤ CLASS B CONCRETE BASE, PVMT WIDEN, 6 INCH

⑥ GRADED AGGREGATE BASE COURSE, 4 INCH, INCL MATL

⑦ GRADED AGGREGATE BASE COURSE, 6 INCH, INCL MATL

△1

⑧ CONCRETE CURB & GUTTER, TYPE 2, 6x30 (SEE GDOT DETAIL 9032B)

⑨ CONCRETE SIDEWALK, 4 INCH

⑩ PERMANENT GRASSING

Ⓐ EXISTING PAVEMENT (W/ CONCRETE BASE)

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CRANSTON

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No.PE35685
MITCHELL B. MURCHISON
4/26/2022

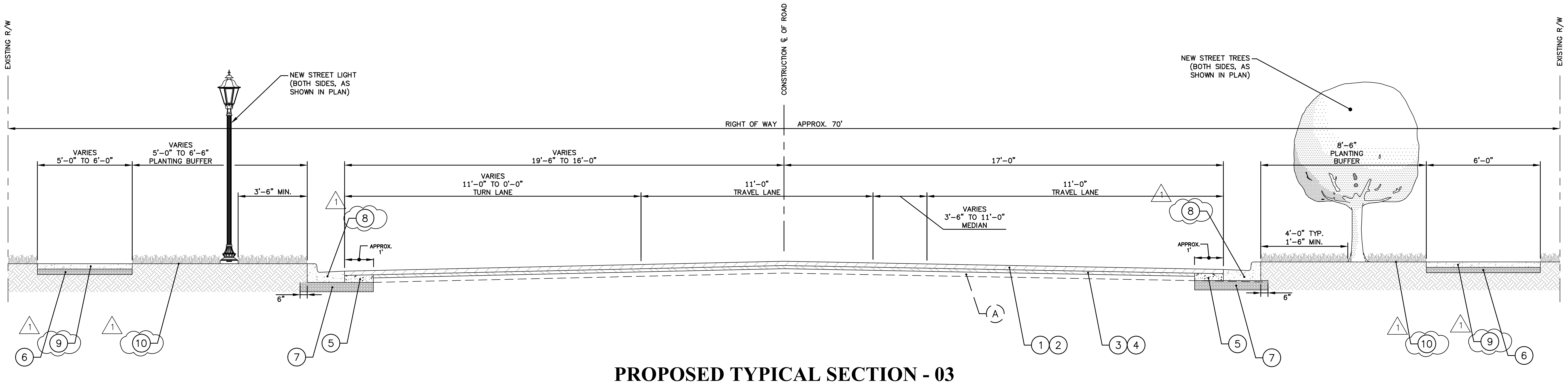
REV #	DATE	DESCRIPTION
1	7/5/2022	REMOVAL OF PAVEMENT NOTE 8 FOR 6X24 CONCRETE CURB & GUTTER, UPDATES TO PAVEMENT NOTE LEADERS AFTER REMOVAL

5TH STREET IMPROVEMENTS

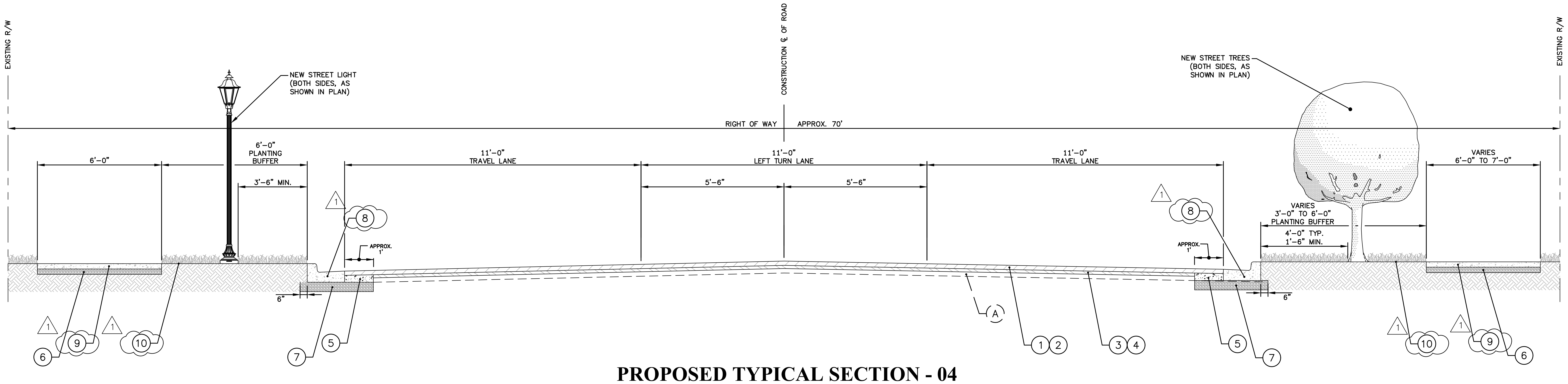
TYPICAL SECTIONS

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	AS SHOWN
JOB No.	2019–0083
DRAWING No.	05-0001

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	05	100



PROPOSED TYPICAL SECTION - 03
STA 106+90.96 TO STA 109+36.30



PROPOSED TYPICAL SECTION - 04
STA 109+36.30 TO STA 122+23.16

PAVEMENT NOTES: 1

① 1½" RECYCLED ASPHALTIC CONCRETE 12.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME (165 LBS/SY)

② 2½" MILL ASPHALT CONCRETE PAVEMENT

③ 1" ASPHALTIC CONCRETE OPEN GRADED CRACK RELIEF INTERLAYER, GP 2 ONLY, INCL BITUM MATL & H LIME

④ TACK COAT, 0.08 GAL/SY

⑤ CLASS B CONCRETE BASE, PVMT WIDEN, 6 INCH

⑥ GRADED AGGREGATE BASE COURSE, 4 INCH, INCL MATL

⑦ GRADED AGGREGATE BASE COURSE, 6 INCH, INCL MATL

1

⑧ CONCRETE CURB & GUTTER, TYPE 2, 6x30 (SEE GDOT DETAIL 9032B)

⑨ CONCRETE SIDEWALK, 4 INCH

⑩ PERMANENT GRASSING

Ⓐ EXISTING PAVEMENT (W/ CONCRETE BASE)

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CRANSTON

No.PE35685
MITCHELL B. MURCHISON
4/26/2022

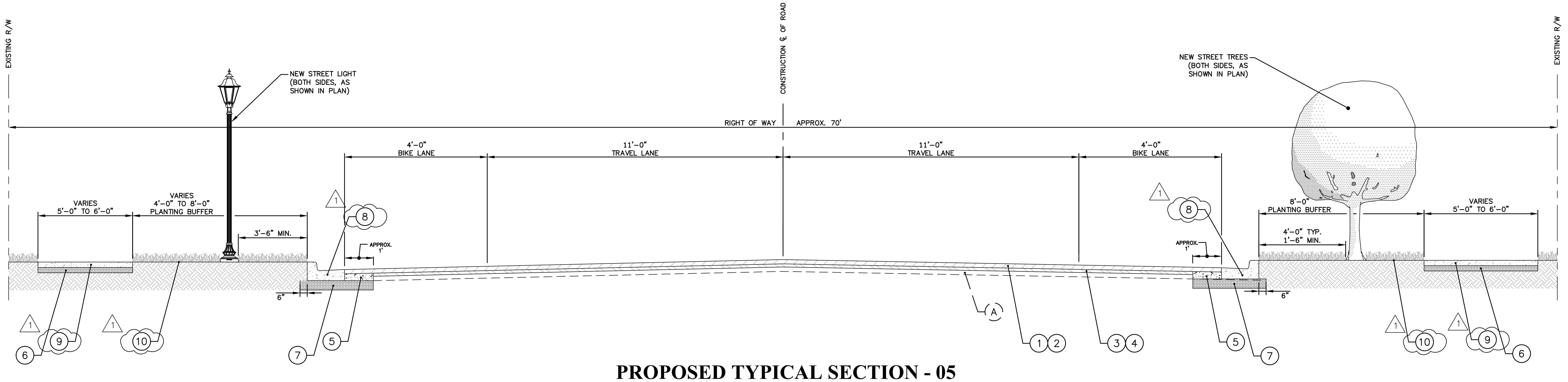
REV #	DATE	DESCRIPTION
1	7/5/2022	REMOVAL OF PAVEMENT NOTE 8 FOR 6X24 CONCRETE CURB & GUTTER, UPDATES TO PAVEMENT NOTE LEADERS AFTER REMOVAL

5TH STREET IMPROVEMENTS

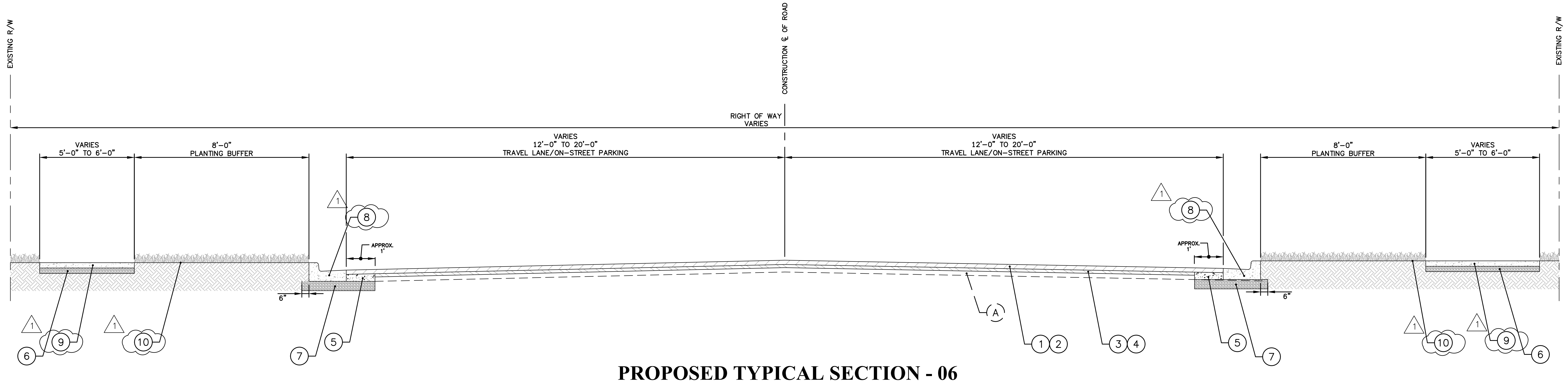
TYPICAL SECTIONS

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	AS SHOWN
JOB No.	2019-0083
DRAWING No.	05-0002

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	06	100



PROPOSED TYPICAL SECTION - 05
STA 122+23.16 TO STA 140+08.70



PROPOSED TYPICAL SECTION - 06
SIDE ROADS

PAVEMENT NOTES: △1

① 1½" RECYCLED ASPHALTIC CONCRETE 12.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME (165 LBS/SY)

② 2½" MILL ASPHALT CONCRETE PAVEMENT

③ 1" ASPHALTIC CONCRETE OPEN GRADED CRACK RELIEF INTERLAYER, GP 2 ONLY, INCL BITUM MATL & H LIME

④ TACK COAT, 0.08 GAL/SY

⑤ CLASS B CONCRETE BASE, PVMT WIDEN, 6 INCH

⑥ GRADED AGGREGATE BASE COURSE, 4 INCH, INCL MATL

⑦ GRADED AGGREGATE BASE COURSE, 6 INCH, INCL MATL

△1

⑧ CONCRETE CURB & GUTTER, TYPE 2, 6x30 (SEE GDOT DETAIL 9032B)

⑨ CONCRETE SIDEWALK, 4 INCH

⑩ PERMANENT GRASSING

Ⓐ EXISTING PAVEMENT (W/ CONCRETE BASE)

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CRANSTON

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No.PE35685
MITCHELL B. MURCHISON
4/26/2022

REV #	DATE	DESCRIPTION
1	7/5/2022	REMOVAL OF PAVEMENT NOTE 8 FOR 6X24 CONCRETE CURB & GUTTER, UPDATES TO PAVEMENT NOTE LEADERS AFTER REMOVAL

5TH STREET IMPROVEMENTS

TYPICAL SECTIONS

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	AS SHOWN
JOB No.	2019-0083
DRAWING No.	05-0003

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	07	100

SUMMARY OF QUANTITIES

TRAFFIC CONTROL - 0011415	
ITEM NO. 150-1000	
0011415 CONCEPT	LUMP

GRADING COMPLETE - 0011415	
ITEM NO. 210-0100	
0011415 CONCEPT	LUMP

1

REMOVE CONCRETE DRIVEWAY PAVING - 0011415	
ITEM NO. 610-0011	
0011415 CONCEPT	LUMP

SURFACING QUANTITIES

1

ITEM NO.	DESCRIPTION	UNIT	QTY
310-5040	GR AGGR BASE CRS 4 IN, INCL MATL	SY	3050
~~310-5060~~	~~GR AGGR BASE CRS 6 IN, INCL MATL~~	~~SY~~	~~3440~~
400-3205	ASPH CONC 12.5 MM OGFC, GROUP 2 ONLY, INCL BITUM MATL & H LIME	TON	775
402-3130	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GROUP 2 ONLY, INCL BITUM MATL & H LIME	TON	1395
413-0750	TACK COAT	GAL	1295
432-5010	MILL ASPH CONC PAVEMENT, VARIABLE DEPTH	SY	17000
437-1300	STRAIGHT GRANITE CURB, 5 IN X 16 IN, TP A	LF	700
441-0018	DRIVEWAY CONCRETE, 8 IN TK	SY	1220
441-0104	CONC SIDEWALK, 4 IN	SY	3050
441-6022	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	LF	3840
500-9999	CLASS B CONC, BASE OR PAVEMENT WIDENING	CY	150
610-0355	REMOVE CONCRETE CURB & GUTTER, ALL SIZES	LF	5000
610-2815	REMOVE CONCRETE SIDEWALK	SY	3340
611-5280	RESET GRANITE CURB	LF	4000
900-0039	BRICK PAVERS	SF	14820
999-5200	DETECTABLE WARNING SURFACE	SF	695

PAVEMENT MARKING QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY
653-0320	THERMOPLASTIC PVMT MARKING, SYMBOL, TP 4	EA	16
652-0110	THERMO MARKING, ARROW, TP 1	EA	16
653-0120	THERMO MARKING, ARROW, TP 2	EA	10
653-0130	THERMO MARKING, ARROW, TP 3	EA	3
653-1501	THERMO SOLID TRAF ST 5 IN, WHI	LF	2500
653-1502	THERMO SOLID TRAF ST, 5 IN YEL	LF	6680
653-1704	THERMO SOLID TRAF ST, 24 IN, WH	LF	245
653-1804	THERMO SOLID TRAF ST, 8 IN, WH	LF	5150
653-3804	THERMO SKIP TRAF ST, 8 IN, WH	GLF	265
653-4502	THERMO SKIP TRAF ST 5 IN, YEL	GLM	0.43
653-6004	THERMOPLASTIC TRAF STRIPING, WHITE	SY	80
654-1001	RAISED PVMT MARKERS TP 1	EA	197
654-1003	RAISED PVMT MARKERS TP 3	EA	20

SIGNAL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY
639-3004	STEEL STRAIN POLE, TP IV (W/35 FT MAST ARM)	EA	4
647-6250	LOOP DETECTOR, 6 FT X 40 FT, BIPOLE	EA	5
937-9999	RELOCATE EX PEDESTRIAN DETECTION SYSTEM TO SIGNAL POLE	EA	3

SIGNING QUANTITIES

1

ITEM NO.	DESCRIPTION	UNIT	QTY
611-5551	RESET SIGN	EA	28

LIGHTING QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY
610-6605	REMOVE LIGHTING STD	EA	102
681-3600	LIGHTING STD, SPECIAL DESIGN 66W LED LUMINAIRE WITH 12 FT POLE, COMPLETE, SINGLE HEAD	EA	111
681-6900	LUMINAIRE - REPLACE EXISTING HEAD WITH 66 W LED	EA	111
682-6222	CONDUIT, NONMETAL, TP 2, 2 IN	LF	6545
682-8995	POWER SERVICE CABINET	EA	6

EROSION CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY
163-0550	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	EA	74
165-0105	MAINTENANCE OF INLET SEDIMENT TRAP	EA	74
165-0030	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	LF	1155
167-1500	WATER QUALITY INSPECTIONS	MO	24
171-0030	TEMPORARY SILT FENCE, TP C	LF	2310

LANDSCAPING QUANTITIES

1

725-0011 - WATER TRUCK **REMOVED**

ITEM NO.	DESCRIPTION	UNIT	QTY
700-0601	SOD	SF	44140
700-6910	PERMANENT GRASSING - SEED	AC	1.015
702-0910	QUERCUS VIRGINIANA - LIVE OAK - 3" CAL	EA	95
~~702-9025~~	~~LANDSCAPE MULCH~~	~~CY~~	~~312.5~~
706-0000	TURF ESTABLISHMENT	AC	1.015
~~708-1000~~	~~PLANT TOPSOIL~~	~~CY~~	~~951~~
725-0010	WEED CONTROL	YR	2
766-7020	IRRIGATION SYSTEM - GATOR BAG, OR EQUAL	EA	95

UTILITY QUANTITIES

1

ITEM NO.	DESCRIPTION	UNIT	QTY
550-1180	STORM DRAIN PIPE 18, H 1-10 - REINFORCED CONCRETE PIPE	LF	525
610-0959	REM PIPE - 12 IN	LF	35
610-0961	REM PIPE - 15 IN	LF	450
611-3000	RECONSTR CATCH BASIN, GP 1	EA	21
611-3050	RECONSTR CATCH BASIN, GP 1 (REPLACE TOP)	EA	6
611-3010	RECONSTR CURB INLET, GROUP 1	EA	1
611-3011	RECONSTR DROP INLET, GROUP 1 (REPLACE TOP)	EA	2
611-3100	RECONSTR JUNCTION BOX	EA	1
611-5551	RESET SIGN	EA	28
611-8010	ADJUST HYDRANT TO GRADE	EA	5
611-8050	ADJUST MANHOLE TO GRADE	EA	65
611-8140	ADJUST WATER VALVE TO GRADE	EA	32
~~611-9999~~	~~ADJUST CATCH BASIN, GP 1 TO GRADE~~	~~EA~~	~~38~~
668-1100	CATCH BASIN, GROUP 1	EA	16
~~670-9710~~	~~RELOCATE EXIST FIRE HYDRANT~~	~~EA~~	~~3~~

1

ROADWAY PAVING QUANTITIES

LOCATION	GR AGGR BASE CRS 6 IN, INCL MATL	RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GROUP 2 ONLY, INCL BITUM MATL & H LIME	TACK COAT	MILL ASPH CONC PAVEMENT, 1 1/2" IN DEPTH
	SY	TON	GAL	SY
5TH STREET	683	1127	1093	13660
TAYLOR STREET	101	40	39	485
WALTON WAY	100	49	48	599
FENWICK STREET	89	26	25	310
WATKINS STREET	83	20	19	243
WALKER STREET	91	27	28	338
TELFAIR STREET	91	38	39	470
GREENE STREET	0	0	0	0
ELLIS STREET	89	23	24	285
BROAD STREET	0	0	0	0
REYNOLDS STREET	72	36	37	454
TOTAL	1399	1386	1352	16844

GEORGIA811
Utilities Protection Center, Inc.
Know what's below.
Call before you dig.

CRANSTON

No.PE35685
MITCHELL B. MURCHISON
4/26/2022

REV #	DATE	DESCRIPTION
1	7/5/2022	UPDATES TO ITEMS IN SUMMARY OF QUANTITIES

5TH STREET IMPROVEMENTS

SUMMARY OF QUANTITIES

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	1" = 20'
JOB No.	2019-0083
DRAWING No.	06-0001

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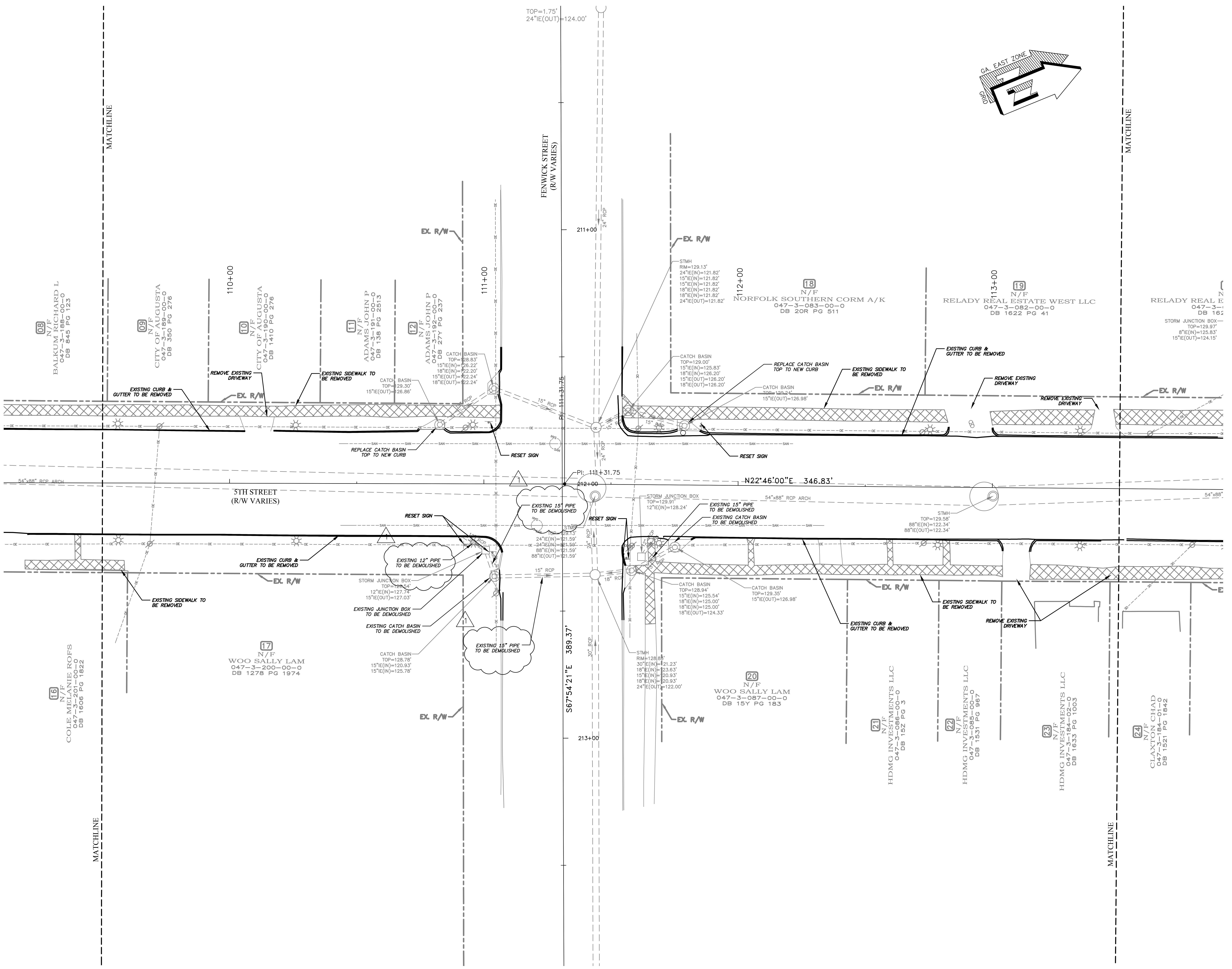
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	26	100



PLAN
HORIZONTAL SCALE 1"=20'

20 10 0 20 40
SCALE IN FEET

GENERAL NOTES:

1. CONTRACTOR TO ADJUST TO GRADE ALL STORM/UTILITY MANHOLES AND UTILITY METERS/VALVES LOCATED WITHIN PAVEMENT, UNLESS NOTED OTHERWISE.

ALL STORM AND SANITARY SEWER STRUCTURES TO REMAIN

CRANSTON

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No.PE35685
MITCHELL B. MURCHISON
4/26/2022

REV #	DATE	DESCRIPTION
1	7/5/2022	ADDITION OF MULTILEADERS FOR PIPES THAT ARE TO BE DEMOLISHED

5TH STREET IMPROVEMENTS

DEMOLITION PLANS
STA. 109+50 TO 113+50

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	1" = 20'
JOB No.	2019-0083
DRAWING No.	19-0003

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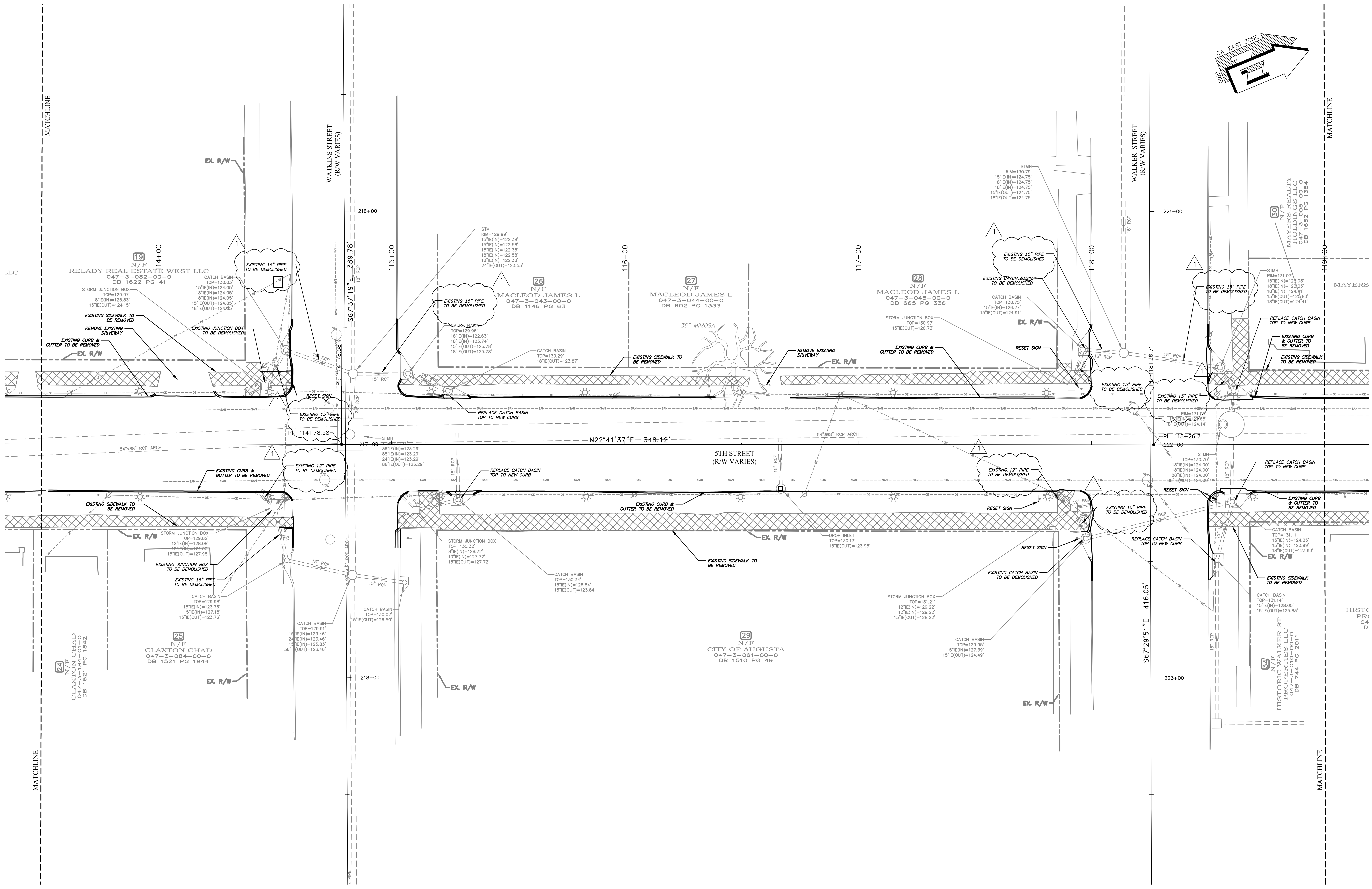
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	27	100



GENERAL NOTES:

1. CONTRACTOR TO ADJUST TO GRADE ALL STORM/UTILITY MANHOLES AND UTILITY METERS/VALVES LOCATED WITHIN PAVEMENT, UNLESS NOTED OTHERWISE.

ALL STORM AND SANITARY SEWER STRUCTURES TO REMAIN

PLAN
HORIZONTAL SCALE 1"=20'
20 10 0 20 40
SCALE IN FEET

CRANSTON

GEORGIA REGISTERED No.PE35685 PROFESSIONAL ENGINEER MITCHELL B. MURCHISON
4/26/2022

REV #	DATE	DESCRIPTION
1	7/5/2022	ADDITION OF MULTILEADERS FOR PIPES THAT ARE TO BE DEMOLISHED

5TH STREET IMPROVEMENTS

DEMOLITION PLANS
STA. 113+50 TO 119+00

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	1" = 20'
JOB No.	2019-0083
DRAWING No.	19-0004

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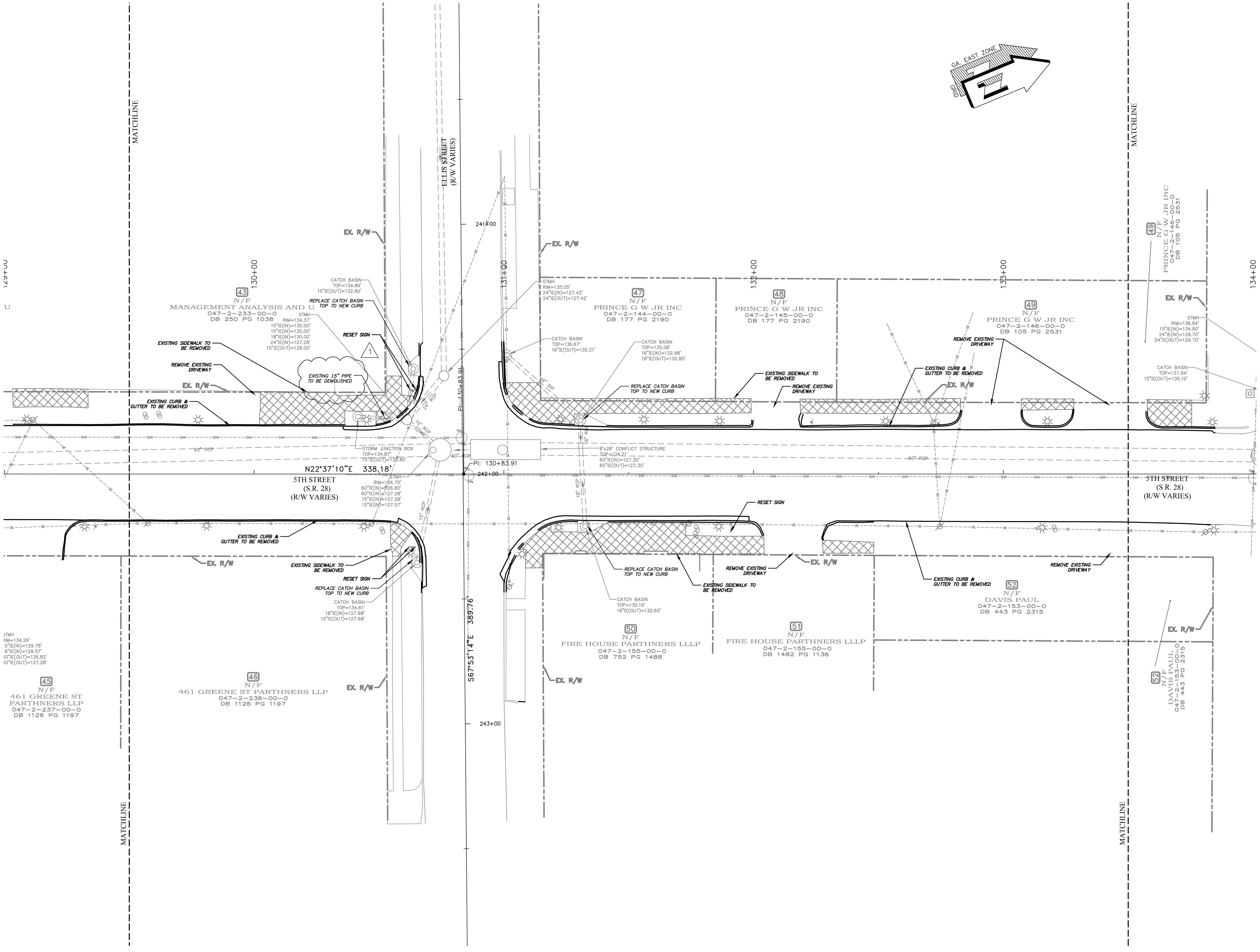
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011415	30	100



PLAN
HORIZONTAL SCALE 1"=20'

20 10 0 20 40
SCALE IN FEET

GENERAL NOTES:

1. CONTRACTOR TO ADJUST TO GRADE ALL STORM/UTILITY MANHOLES AND UTILITY METERS/VALVES LOCATED WITHIN PAVEMENT, UNLESS NOTED OTHERWISE.

ALL STORM AND SANITARY SEWER STRUCTURES TO REMAIN

CRANSTON

GEORGIA
REGISTERED
No.PE35685
PROFESSIONAL
ENGINEER
MITCHELL B. MURCHISON
4/26/2022

REV #	DATE	DESCRIPTION
1	7/5/2022	ADDITION OF MULTILEADERS FOR PIPES THAT ARE TO BE DEMOLISHED

5TH STREET IMPROVEMENTS

DEMOLITION PLANS
STA. 129+50 TO 133+50

DRAWN BY:	CEB
CHECKED BY:	SMS
APPROVED BY:	MBM
DATE:	APRIL 26, 2022
SCALE:	1" = 20'
JOB No.	2019-0083
DRAWING No.	19-0007

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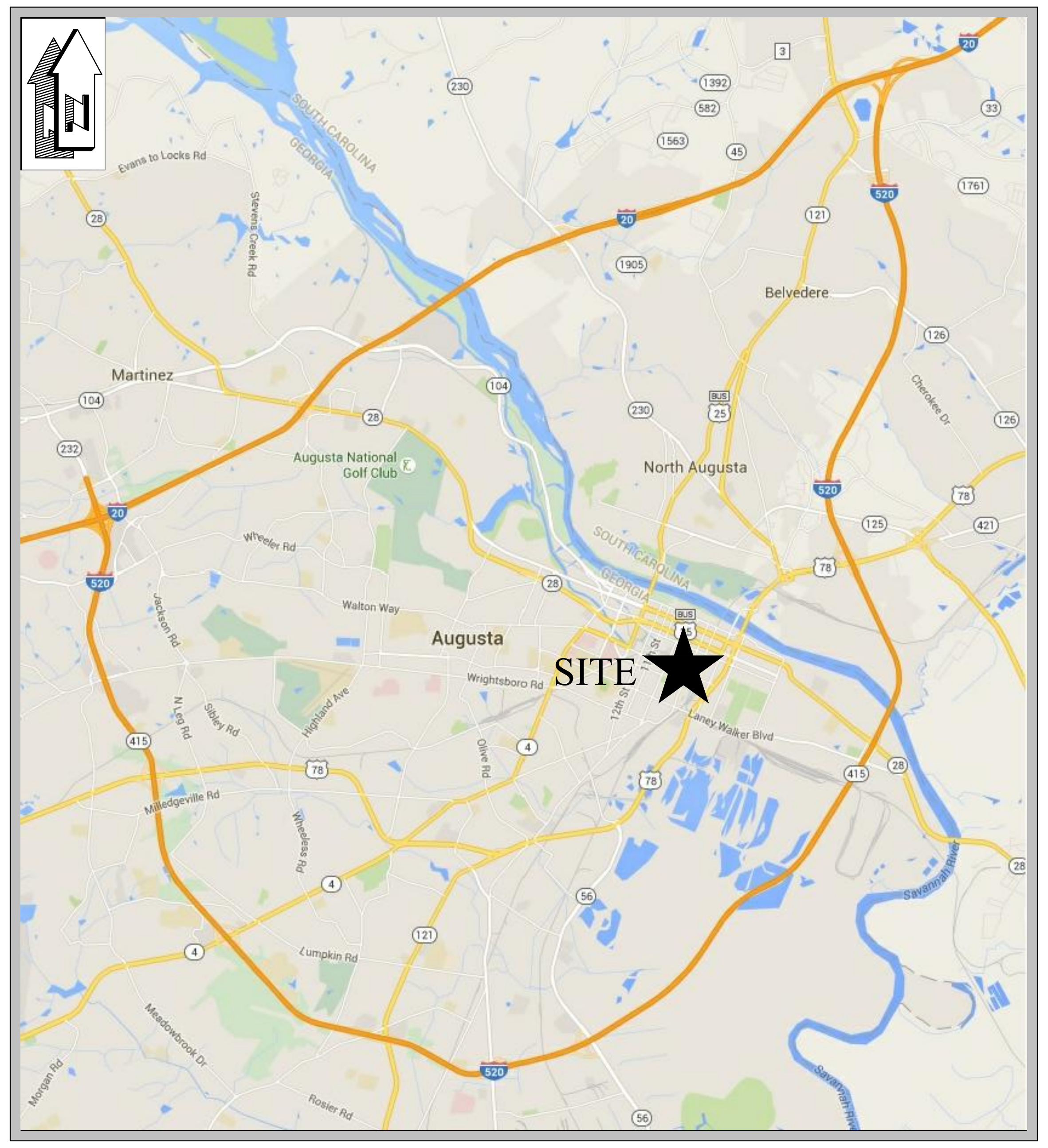
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	P.I. NO. 0011419	77	**100**



VICINITY MAP
N.T.S.

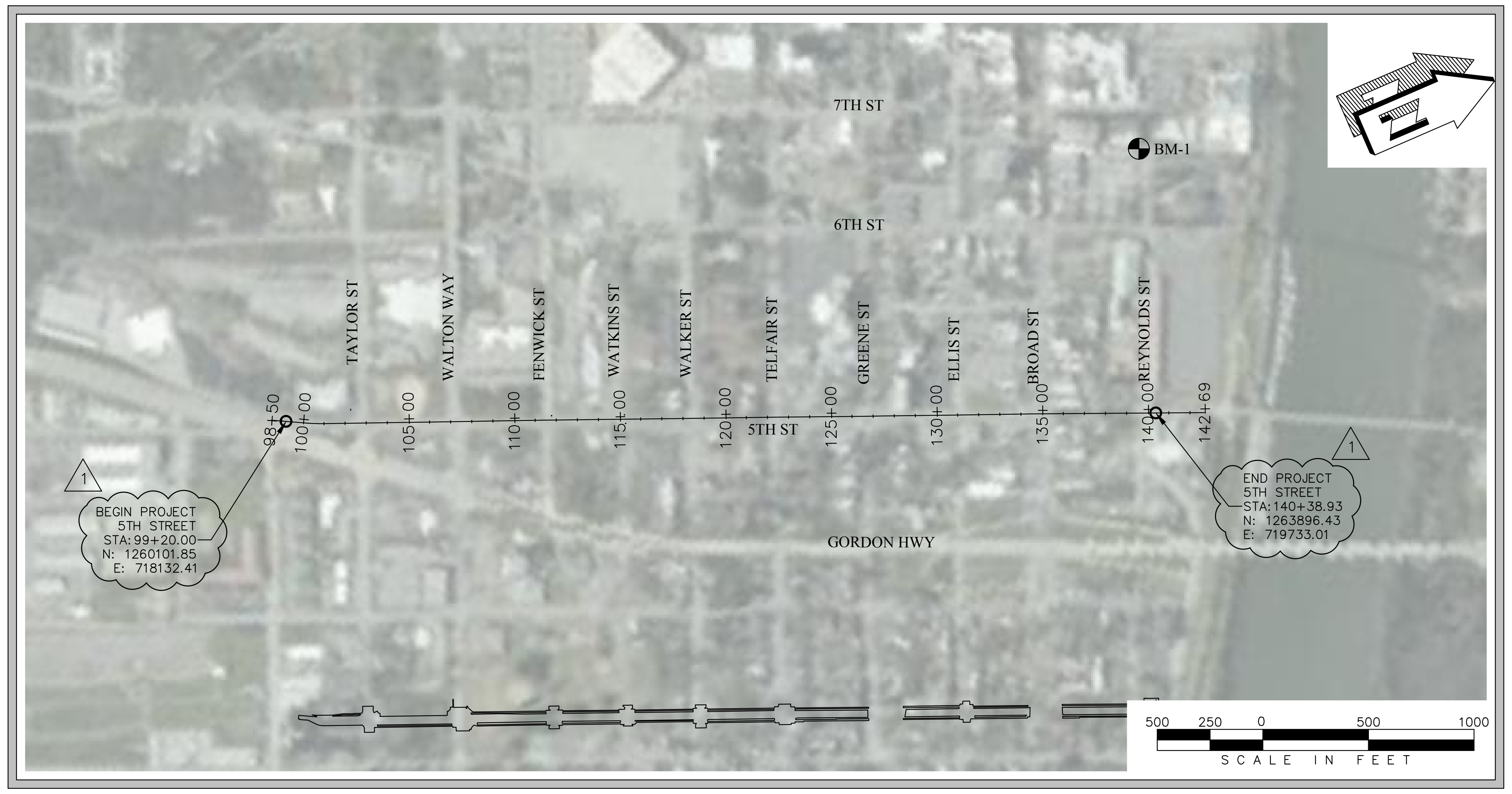
EROSION AND SEDIMENT CONTROL PLANS FOR

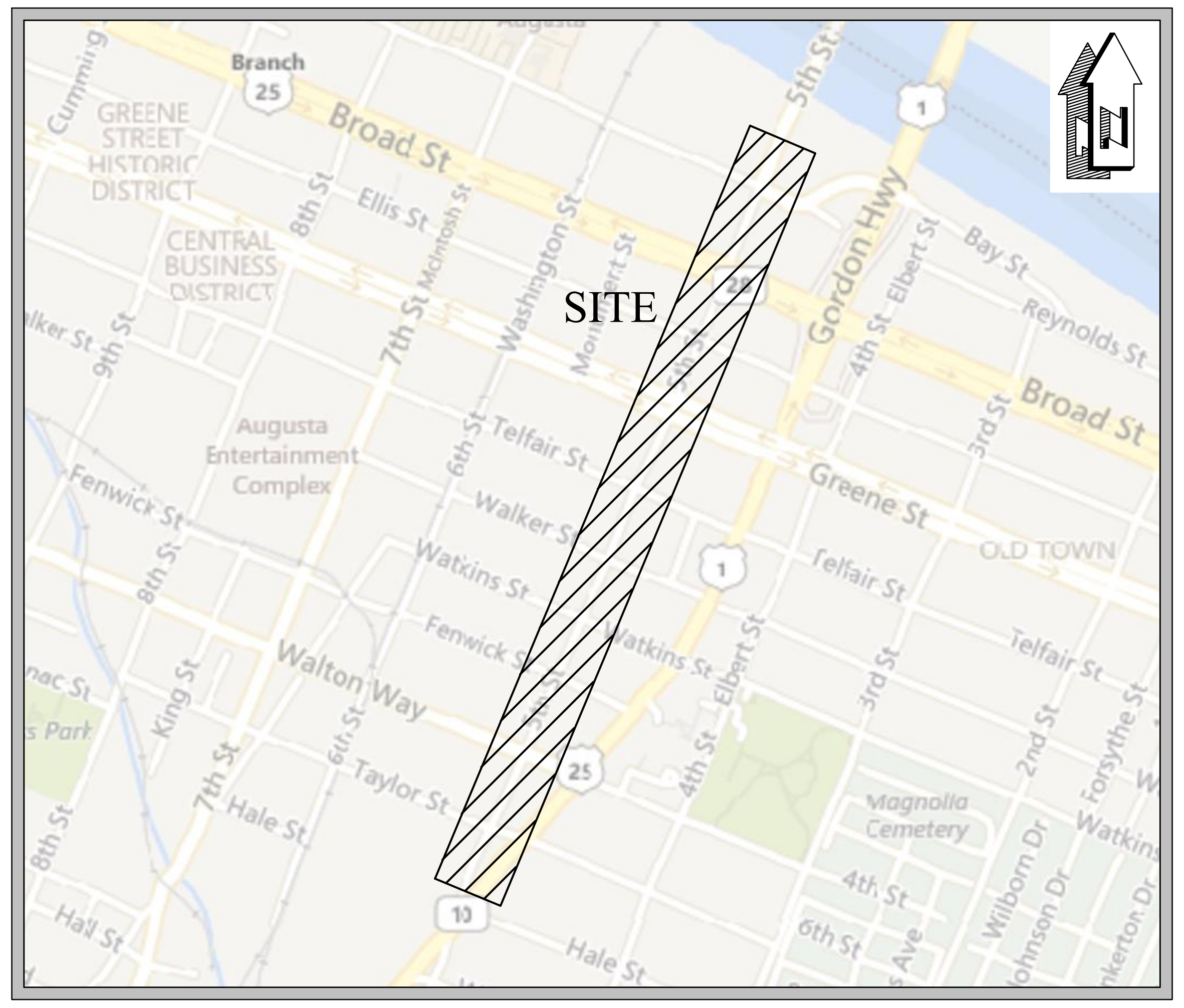
5TH STREET IMPROVEMENTS

PREPARED FOR

AUGUSTA, GEORGIA

535 TELFAIR STREET
AUGUSTA, GA 30901





LOCATION MAP
N.T.S.

PROJECT DATA:

1. PRIMARY PERMITTEE:
   CITY OF AUGUSTA
   535 TELFAIR STREET
   AUGUSTA, GA 30901
   PHONE: (706) 821–2300
   24 HOUR CONTACT:
   NAME: JUNE HAMAL
   PHONE: 706–821–1891
2. ZONING: N/A
3. IMPERVIOUS AREA:
   EXISTING: 5.40 ACRES
   PROPOSED: 4.84 ACRES
4. PERVIOUS AREA:
   EXISTING: 0.94 ACRES
   PROPOSED: 2.09 ACRES
5. RECEIVING STREAM: BEAVERDAM DITCH
6. ULTIMATE STREAM: SAVANNAH RIVER

PREPARED BY

CRANSTON

"I CERTIFY THAT THIS EROSION, SEIMENTATION AND POLLUTION CONTROL PLAN HAS BEEN PREPARED IN ACCORDANCE WITH PART IV, OF THE GENERAL NPDES PERMIT NO. GAR100002."

"I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AN SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100002."

"I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR THE MONITORING OF: (a) ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES SHOWN ON THE USGS TOPOGRAPHICAL MAP AND ALL OTHER FIELD-VERIFIED PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES, OR (b) WHERE ANY SUCH SPECIFIC IDENTIFIED PERENNIAL OR INTERMITTENT STREAM AND OTHER WATER BODY IS NOT PROPOSED TO BE SAMPLED, I HAVE DETERMINED IN MY PROFESSIONAL JUDGEMENT, UTILIZING THE FACTORS REQUIRED IN THE GENERAL NPDES PERMIT NO. GAR100002, THAT THE INCREASE IN THE TURBITITY OF EACH SPECIFIC IDENTIIFED SAMPLED RECEIVING WATER WILL BE REPRESENTATIVE OF THE INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIEFIED UN-SAMPLED RECEIVING WATER."

"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."

APRIL 26, 2022

TIA
TRANSPORTATION INVESTMENT ACT

GEORGIA 811
www.Georgia811.com

GSWCC Georgia Soil and Water Conservation Commission
Mitchell B Murchison
Level II Certified Design Professional
Certification Number 000046296
Issued: 11/01/2019 Expires: 11/01/2022

No.PE35685
MITCHELL B. MURCHISON

UNDER SUPERVISION OF: ______________________
MITCHELL B. MURCHISON, P.E
GSWCC LEVEL II CERT. # 46296

RECOMMENDED FOR APPROVAL BY: ______________________

REVISIONS		
REV #	DATE	DESCRIPTION
1	7/5/2022	UPDATES TO ALIGNMENT LABELS

2019–0083
50-0001

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SUMMARY OF QUANTITIES

SUMMARY OF DRIVEWAY PAVING

LOCATION	310-1101	441-0016	441-4020	444-1000
	GR AGGR BASE CRS, INCL MATL	DRIVEWAY CONCRETE, 6 IN TK	CONC VALLEY GUTTER, 6 IN	SAWED JOINTS IN EXISTING PAVEMENTS - PCC
	(TON)	(SQ YD)	(SQ YD)	(LF)
102+19, R	12	35	23	11
105+57, L	12	35	33	20
105+73, R	58	172	118	97
112+30, L	8	25	34	21
112+42, R	7	22	22	10
116+72, L	5	14	26	14
117+14, L	5	14	26	14
117+20, R	11	33	44	30
121+64, R	7	21	26	14
122+07, L	6	19	35	22
122+45, R	7	20	26	14
124+53, L	18	53	37	24
124+98, L	12	35	26	14
125+41, R	5	15	22	10
129+72, L	5	15	24	12
130+49, R				
130+91, L	12	37	53	38
SUB-TOTAL	190	565	575	365
AS DIRECTED	0	5	5	5
TOTAL	190	570	580	370

SUMMARY OF TEMPORARY EROSION CONTROL

LOCATION	163-0232	163-0240	163-0550	165-0030	165-0105	171-0030
	TEMPORARY GRASS	MULCH	CONSTRUCT & REMOVE INLET SEDIMENT TRAP	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	MAINTENANCE OF INLET SEDIMENT TRAP	TEMPORARY SILT FENCE, TYPE C
	(AC)	(TON)	(EA)	(LF)	(EA)	(LIN FT)
6TH STREET	0.1	1.5	36	2500	36	2500
SUB-TOTAL	0.1	1.5	36	2500	36	2500
AS DIRECTED	0	0.5	4	0	4	0
TOTAL	0.1	2	40	2500	40	2500

SUMMARY OF CURB & GUTTER

LOCATION	310-1101	441-6216
	GR AGGR BASE CRS. INCL MATL	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2
	(TON)	(LIN FT)
6TH STREET	621	4968
SUB-TOTAL	621	4968
AS DIRECTED	9	32
TOTAL	630	5000

SUMMARY OF ROADWAY PAVING

LOCATION	402-1812	402-3130	413-0750	432-5010	500-9999	999-1500
	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	TACK COAT	MILL ASPH CONC PVMT, VARIABLE DEPTH	CLASS B CONC, BASE OR PVMT WIDENING	INTEGRALLY COLORED HOT APPLIED SYNTHETIC ASPHALT (STAMPED ASPHALT)
	(TON)	(TON)	(GAL)	(SQ YDS)	(CY)	(SY)
6TH STREET	250	1105	1340	13383	50	350
SUB-TOTAL	250	1105	1340	13383	50	350
AS DIRECTED	0	95	60	17	0	0
TOTAL	250	1200	1400	13400	50	350

SUMMARY OF SIDEWALK

LOCATION	441-0104	900-0039
	CONC SIDEWALK, 4 IN	BRICK PAVERS
	(SQ YD)	(SF)
6TH STREET	2160	1025
SUB-TOTAL	2160	1025
AS DIRECTED	40	75
TOTAL	2200	1100

SUMMARY OF SIGNING

LOCATION	611-5551	636-1041	636-2070
	RESET SIGN	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP9	GALV STEEL POSTS, TP 7
	(EA)	(SF)	(LF)
6TH STREET	21		
STA 103+63 LT		9	30
STA 105+84 LT		9	30
FENWICK STREET	7		
WATKINS STREET	6		
WALKER STREET	4		
ELLIS STREET	7		
REYNOLDS STREET	3		
SUB-TOTAL	48	18	60
AS DIRECTED	2	2	0
TOTAL	50	20	60

SUMMARY OF PAVEMENT MARKING

LOCATION	653-0100	653-1501	653-1502	653-1704	653-1804
	THERMOPLASTIC PVMT MARKING, RR/HWY CROSSING SYMBOL	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE
	(EA)	(LIN FT)	(LIN FT)	(LIN FT)	(LIN FT)
6TH STREET	1	2283	4800	280	2525
SUB-TOTAL	1	2283	4800	280	2525
AS DIRECTED	0	17	0	0	75
TOTAL	1	2300	4800	280	2600

SUMMARY OF DRAINAGE

LOCATION	611-3000	611-3010	611-8050	668-6115
	RECONSTR CATCH BASIN, GROUP I	RECONSTR DROP INLET, GROUP I	ADJUST MANHOLE TO GRADE	TRENCH DRAIN, 15 IN
	(EA)	(EA)	(EA)	(LF)
6TH STREET	13	5	51	180
SUB-TOTAL	13	5	51	180
AS DIRECTED	2	0	4	0
TOTAL	15	5	55	180

SUMMARY OF MISCELLANEOUS QUANTITIES

LOCATION	611-8120	611-8140	670-9710	700-6910	700-9300
	ADJUST WATER METER BOX TO GRADE	ADJUST WATER VALVE BOX TO GRADE	RELOCATE EXISTING FIRE HYDRANT	PERMANENT GRASSING	SOD
	(EA)	(EA)	(EA)	(AC)	(SY)
6TH STREET	18	16	5	0.1	353
SUB-TOTAL	18	16	5	0.1	353
AS DIRECTED	2	0	0	0	7
TOTAL	20	16	5	0.1	360

150-1000
TRAFFIC CONTROL-PI 0011421
(LS)
LUMP

210-0100
GRADING COMPLETE-PI 0011421
(LS)
LUMP

SUMMARY OF LIGHTING QUANTITIES

LOCATION	680-4110	680-6130	682-1405	682-1406	682-1407	682-6219	682-6221	682-6230	682-6232	682-2110	682-9022	682-9950
	LIGHTING STD, 11-15 FT MH, POST TOP	LIMINAIRE, TP 3, LED	CABLE, TP XHHW, AWG NO 8	CABLE, TP XHHW, AWG NO 6	CABLE, TP XHHW, AWG NO 4	CONDUIT, NONMETAL, TP 2, 1 IN	CONDUIT, NONMETAL, TP 2, 1½IN	CONDUIT, NONMETAL, TP 3, 1 IN	CONDUIT, NONMETAL, TP 3, 1½IN	ELECTRICAL SERVICE POINT	ELECTRICAL JUNCTION BOX, REINFORCED PLASTIC MORTAR	DIRECTIONAL BORE - 2 IN
	(EA)	(EA)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(EA)	(EA)	(LF)
6TH STREET	73	83	1065	17750	6585	2555	1165	1865	825	1	60	2690
SUB-TOTAL	73	83	1065	17750	6585	2555	1165	1865	825	1	60	2690
AS DIRECTED	2	2	35	250	15	45	35	35	5	0	0	10
TOTAL	75	85	1100	18000	6600	2600	1200	1900	830	1	60	2700

REVISION DATES

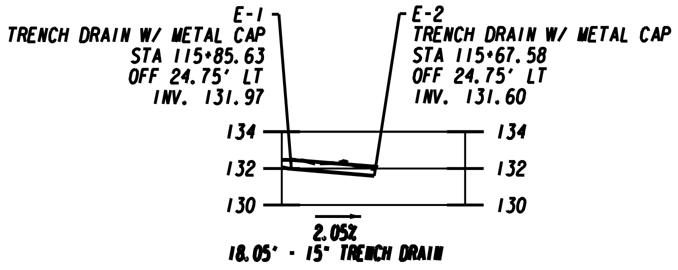
SUMMARY QUANTITIES

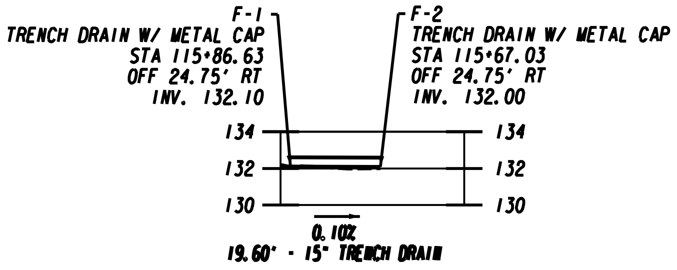
6TH STREET IMPROVEMENT

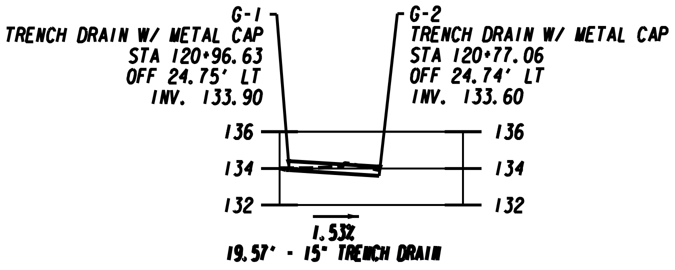
TAYLOR STREET TO REYNOLDS STREET

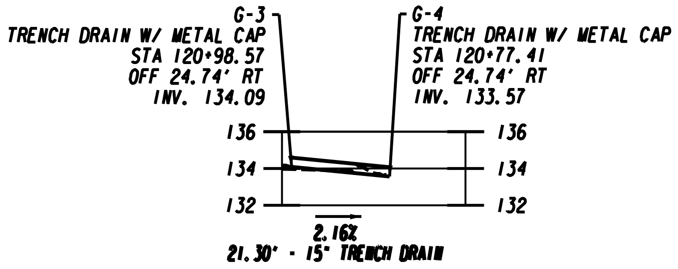
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	

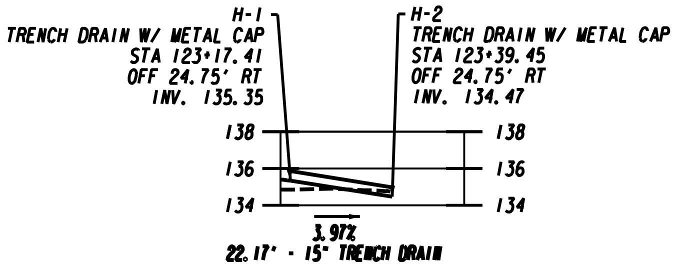
DRAWING No.
06-0001

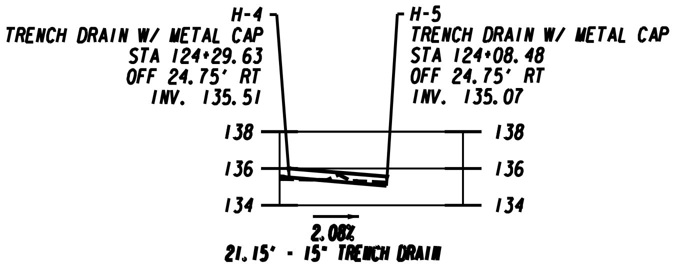


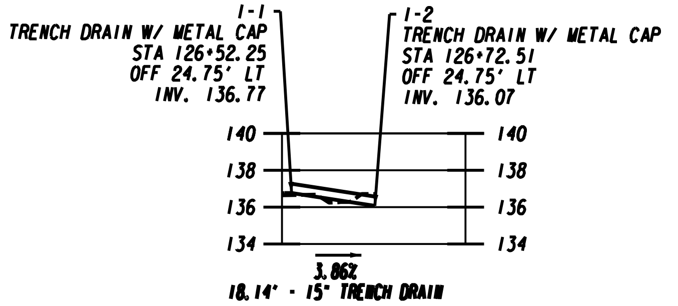


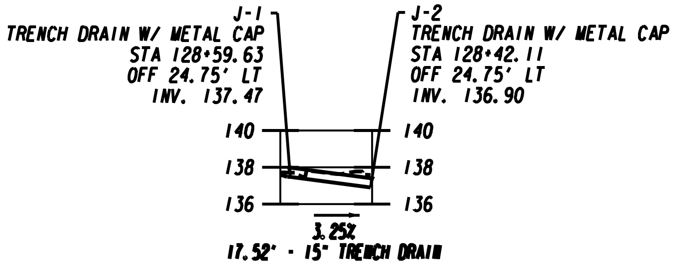


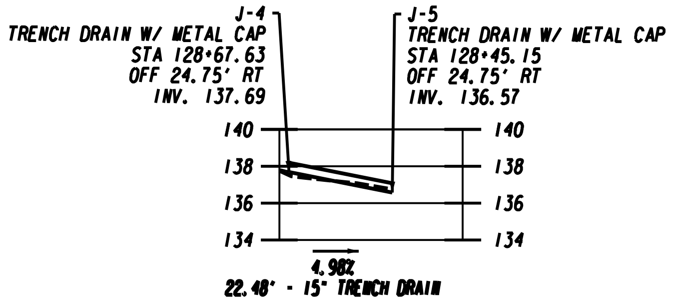












CPL
ARCHITECTURE
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3011 SUTTON GATE DRIVE, SUITE 130
SUWANEE, GEORGIA 30024
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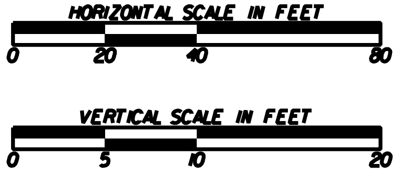


REVISION DATES

DRAINAGE PROFILES

6TH STREET IMPROVEMENT
TAYLOR STREET TO REYNOLDS STREET

CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	

DRAWING No.
22-0001

10/23/2015 GPLN

GENERAL NOTES:

1. ALL LUMINAIRE SOURCE TYPES SHALL BE LED AND MUST MEET ALL REQUIREMENTS OUTLINED WITHIN GDOT SPECIFICATION 927 LUMINAIRES, LED.

2. OPERATING VOLTAGE SHALL BE 240 VOLTS.

3. ALL FUSES AND FUSEHOLDERS SHALL BE IN-LINE TYPE AND WATERPROOF. ALL FUSEHOLDERS IN LIGHTING STANDARDS WITH AN ALUMINUM TRANSFORMER BASE SHALL BE BREAKAWAY.

4. ALL CONDUIT ACCESSORIES, SUCH AS EXPANSION JOINTS, PULL BOXES, CONDUIT BODIES, ELBOWS, FLEXIBLE CONDUIT, ETC., SHALL BE INCLUDED IN THE PRICE BID FOR CONDUIT.

5. THE CONTRACTOR SHALL INSTALL A NYLON PULL CORD OR GALVANIZED PULL WIRE IN EACH EMPTY CONDUIT. THE COST OF THIS ITEM WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF THE CONDUIT.

6. THE CONTRACTOR SHALL SUBMIT PHOTOMETRIC DATA AND .IES FILES TO THE GDOT ROADWAY LIGHTING GROUP FOR VERIFICATION AND APPROVAL.

7. THE CONTRACTOR SHALL BEWARE OF OVERHEAD POWER LINES AND LOCATE TOWERS AND/OR STANDARDS IN ACCORDANCE WITH NATIONAL ELECTRICAL SAFETY CODE (NESC) AND GEORGIA POWER EMC STANDARDS.

8. THE CONTRACTOR SHALL COORDINATE THE MODIFICATION WORK AT EACH SERVICE POINT WITH:

-GEORGIA POWER
301 15TH STREET
AUGUSTA, GA, 30901
(888) 660-5890

9. THE CONTRACTOR SHALL CONFIRM THE SERVICE TYPE AND LOCATION PRIOR TO BEGINNING ANY INSTALLATION WORK.

10. RIGID CONDUIT, INSTALLED ON STRUCTURES, SHALL BE SUPPORTED AT LEAST EVERY TEN FEET AND WITHIN THREE FEET OF JUNCTION BOXES, LUMINAIRES, ETC.

11. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR.

12. THE CONTRACTOR SHALL FURNISH A FIVE YEAR WRITTEN WARRANTY FOR PARTS AND DEFECTIVE WORKMANSHIP ON THE LUMINAIRES, POLES, LIGHTING CONTROL PANEL AND ALL THE OTHER ELECTRICAL EQUIPMENT. THE WARRANTY PERIOD SHALL BEGIN AFTER THE SYSTEM HAS SUCCESSFULLY COMPLETED A 30 DAY BURN-IN PERIOD WITH NO FAILURES AND HAS BEEN ACCEPTED BY GDOT.

13. ALL ELECTRICAL MATERIALS AND INSTALLATION METHODS SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRIC SAFETY CODE (NESC) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). ALL ELECTRICAL MATERIALS USE SHALL BE U.L. LISTED FOR THE INTENDED PURPOSE, SHALL MEET GDOT 2013 STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH GDOT'S QUALIFIED PRODUCTS LIST (QPL).

14. ALL CONDUIT WHICH IS RUN UNDERNEATH ROADWAYS AND DRIVEWAYS SHALL BE HDPE, TYPE 3 AND INSTALLED PRIOR TO ANY NEW PAVING OR SHALL BE DIRECTIONALLY BORED. NO NEW PAVING SHALL BE CUT TO INSTALL CONDUIT.

15. RIGID GALVANIZED STEEL (RGS) SHALL BE USED ABOVE GRADE, WHERE EXPOSED TO DAMAGE AND WHERE NOTED.

16. LUMINAIRES, POLES AND ASSOCIATED MOUNTING HARDWARE SHALL MEET APPLICABLE SECTIONS OF THE 2013 GDOT STANDARDS SPECIFICATIONS.

17. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE START OF THE PROJECT.

18. THE ON/OFF CONTROLS FOR EACH LIGHTING CIRCUIT SHALL BE PROVIDED THROUGH PHOTOCELL CONTROLLED LIGHTING CONTACTORS LOCATED AT THE PANELS, UNLESS OTHERWISE NOTED.

19. ELECTRICAL EQUIPMENT SUCH AS THE PHOTOELECTRIC CONTROL SYSTEM, CONTACTORS, PANELBOARD, GROUND RODS, CIRCUIT BREAKERS AND CONNECTIONS TO LIGHTING ARRESTORS ARE CONSIDERED TO BE INCIDENTAL TO THE ELECTRICAL SYSTEMS AND ARE TO BE INCLUDED IN THE COST OF THE MAIN SERVICE PICKUP POINTS.

20. CONTRACTOR SHALL ROUTE ALL CONDUIT RUNS BETWEEN EACH FIXTURE AND FROM THE LAST FIXTURE TO THE UTILITY COMPANY SERVICE POINT IN THE MOST DIRECT ROUTE AS POSSIBLE.

21. NO CONDUIT IS TO BE RUN ON PRIVATE PROPERTY.

22. CARE MUST BE TAKEN IN THE INSTALLATION OF THE CONDUIT SYSTEM TO AVOID ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES AND LIGHTING SYSTEMS. ANY DAMAGE TO THE EXISTING UTILITIES AND LIGHTING SYSTEMS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT.

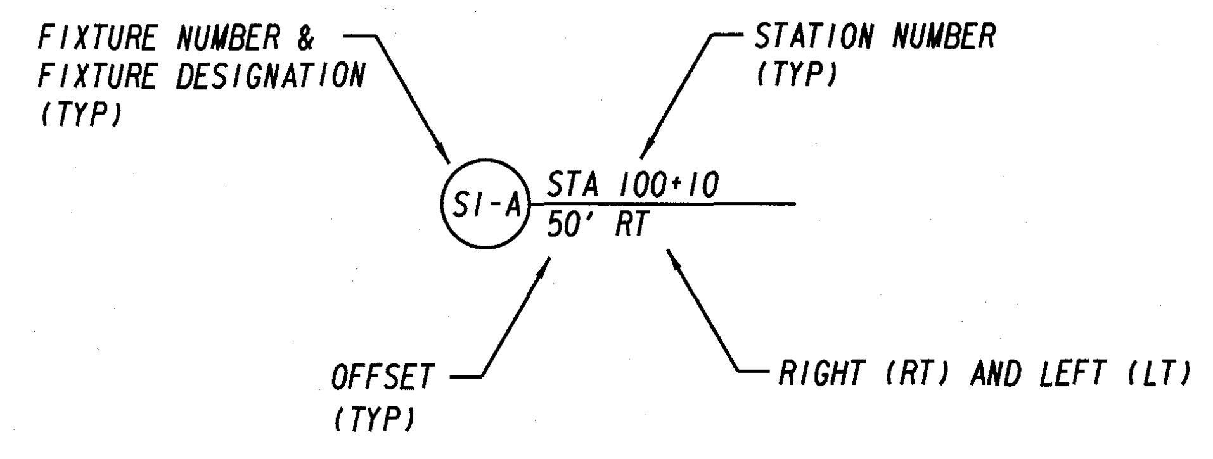
23. AASHTO APPROVED BREAKAWAY BASES MUST BE SUPPLIED FOR POLES AS SPECIFIED IN THE THE FOUNDATION DETAILS.

24. THE CONTRACTOR IS RESPONSIBLE FOR THE ELECTRICITY COST UNTIL THE LIGHTING SYSTEM IS ACCEPTED BY THE DEPARTMENT. AT THAT TIME, THE CONTRACTOR WILL NOTIFY THE LOCAL GOVERNMENT IN WRITING ON THE TRANSFER OF THIS RESPONSIBILITY. INCLUDED WITH THIS COMMUNICATION, THE CONTRACTOR IS TO PROVIDE A COPY OF ALL WARANTIES, INCLUDING LUMINAIRES, TO THE LOCAL GOVERNMENT. THE DEPARTMENT IS TO RECEIVE A COPY OF THIS COMMUNICATION.

25. ALL LIGHTING CONNECTIONS SHALL BE MADE ABOVE GRADE INSIDE POLE BASES.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER & CATALOG NUMBER	MOUNTING	NO./LAMPS	LOAD
A	STERNBERG LIGHTING *PT-6130CLED-24L30T3-MDL014-SV1-BKT W/ STERNBERG LIGHTING AUGUSTA POLE *4212FP4-.188-SSCC-BKT	12' POLE	LED	87 W
B	STERNBERG LIGHTING *PT-6130CLED-32L30T3-MDL016-SV1-BKT W/ STERNBERG LIGHTING AUGUSTA POLE *4212FP4-.188-SSCC-BKT	12' POLE	LED	133 W
C	STERNBERG LIGHTING *PT-6130CLED-24L30T3-MDL014-SV1-BKT ON EXISTING STERNBERG LIGHTING AGUSTA POLE	12' POLE	LED	87 W
	OR APPROVED EQUAL			

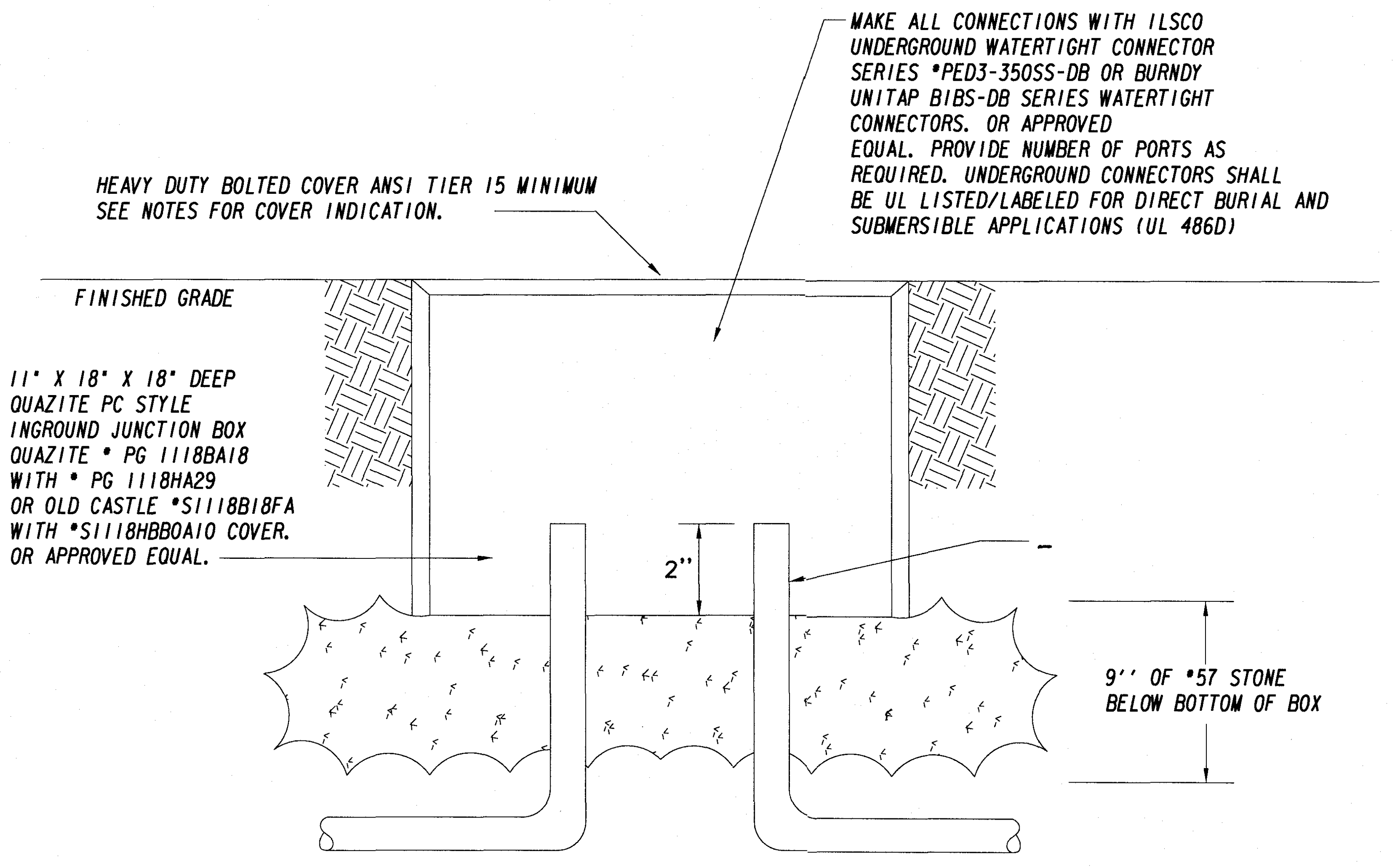


1 / 25-0001 TYPICAL LIGHT POLE IDENTIFICATION

SCALE: NTS

LEGEND

- - - - -	UNDERGROUND CONDUIT
———	EXPOSED CONDUIT
—◆—◆—	DIRECT BORE
☒- - -⊙	SERVICE POINT, SEE DRAWINGS.
A 2 ⊙	LIGHT FIXTURE, CAPITAL LETTER INDICATES TYPE, NUMBER INDICATES CIRCUIT.
A 2 ⊙	EXISTING LIGHT FIXTURE TO BE REPLACED & EXISTING POLE TO REMAIN, CAPITAL LETTER INDICATES TYPE, NUMBER INDICATES CIRCUIT.
IG	IN GROUND JUNCTION BOX
TFROC	TYPICAL FOR REMAINDER OF CIRCUIT.
38,781 A AVAILABLE	AVAILABLE SYMMETRICAL SHORT CIRCUIT CURRENT AT THE EQUIPMENT AS CALCULATED BY THE ENGINEER. THE ELECTRICAL DISTRIBUTION SYSTEM SHALL BE A FULLY RATED SYSTEM.
(10')	LENGTH OF FEEDER IN FEET.



2 / 25-0001 TYPICAL IN GROUND JUNCTION BOX INSTALLATION DETAIL

SCALE: NTS

No. PE11956
WILLIAM B. M. WOMACK
02-04-2022

PROPERTY AND EXISTING R/W LINE	- - - - ℙ - - - -
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	- - C - - F - -
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▧
EASEMENT FOR CONSTR OF DRIVES	☒

BEGIN LIMIT OF ACCESS............BLA	
END LIMIT OF ACCESS.............ELA	
REQ'D LIMIT OF ACCESS	—ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W	—III—III—
ORANGE BARRIER FENCE	—●—●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	▼———▼

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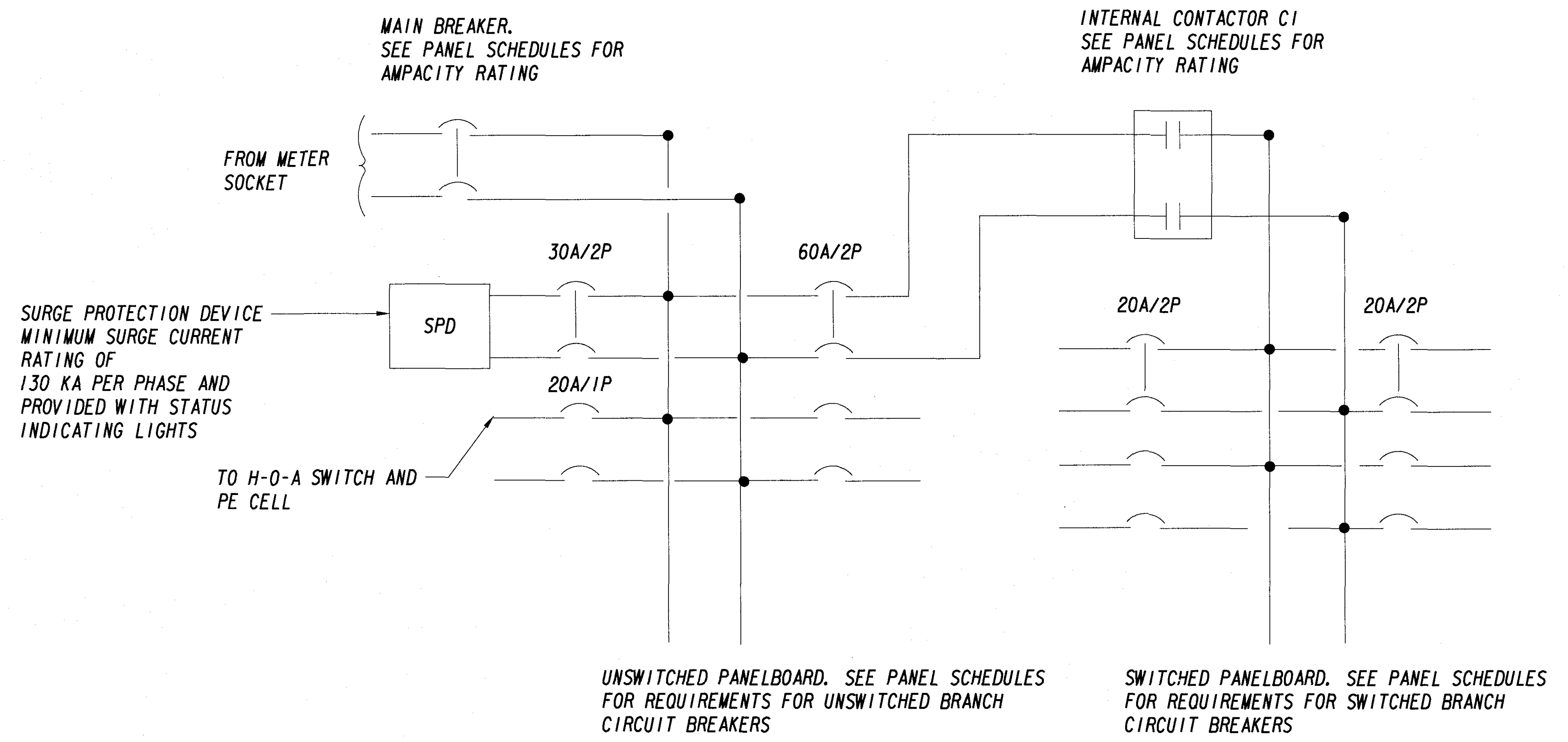
Duluth, GA 30097
(678) 417-4000 keckwood.com

REVISION DATES		

LIGHTING PLANS
6TH STREET IMPROVEMENT
TAYLOR STREET TO REYNOLDS STREET

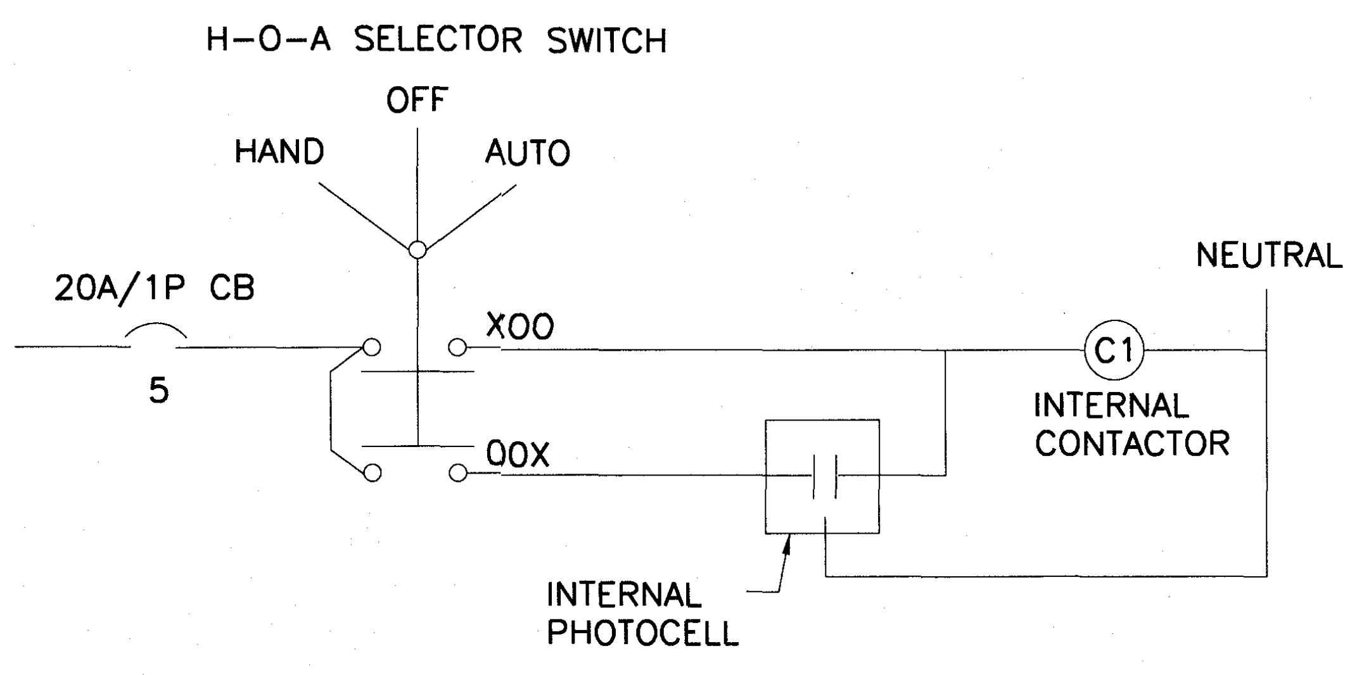
CHECKED:	WBMW	DATE:	02.04.22	DRAWING No.
BACKCHECKED:		DATE:		25-0001
CORRECTED:		DATE:		
VERIFIED:		DATE:		



1
25-0002

TYPICAL METER PEDESTIAL WIRING DIAGRAM

SCALE: NTS



METER PEDESTAL CONTROL SCHEMATIC

WIRING SCHEDULE

① SEE DRAWINGS FOR WIRING

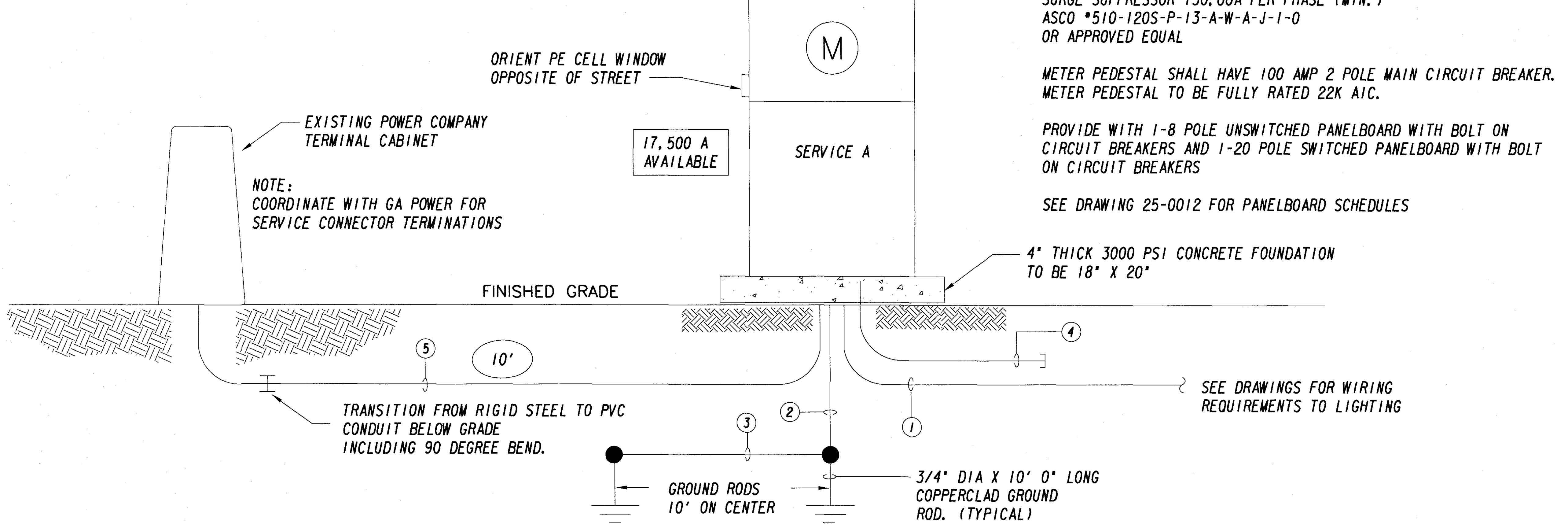
② 1*6G IN 3/4" PVC C

③ *6

④ 3/4" EMPTY C. STUB OUT AND CAP 5' FROM PAD

⑤ 3*3 IN 1" C.

ALL CONDUCTORS ARE TO BE COPPER
UNLESS OTHERWISE NOTED



MILBANK CP3B "SL"SWITCHED LOAD CENTER COMMERCIAL
PEDESTAL-100 AMP 120/240 VOLT 1* 3 WIRE.
MILBANK *CP3B-5-1-C-1-*-P-22-SS-SL1 WITH
*CP-16PDMNT-CALT MOUNTING PEDESTAL
*CP-PE-HOA-3 POS-HOA SWITCH
*CP-PE-TYPE 5-2 POS PE CONTROL KIT

SURGE SUPPRESSOR 130,00A PER PHASE (MIN.)
ASCO *510-120S-P-13-A-W-A-J-1-0
OR APPROVED EQUAL

METER PEDESTAL SHALL HAVE 100 AMP 2 POLE MAIN CIRCUIT BREAKER.
METER PEDESTAL TO BE FULLY RATED 22K AIC.

PROVIDE WITH 1-8 POLE UNSWITCHED PANELBOARD WITH BOLT ON CIRCUIT BREAKERS AND 1-20 POLE SWITCHED PANELBOARD WITH BOLT ON CIRCUIT BREAKERS

SEE DRAWING 25-0012 FOR PANELBOARD SCHEDULES

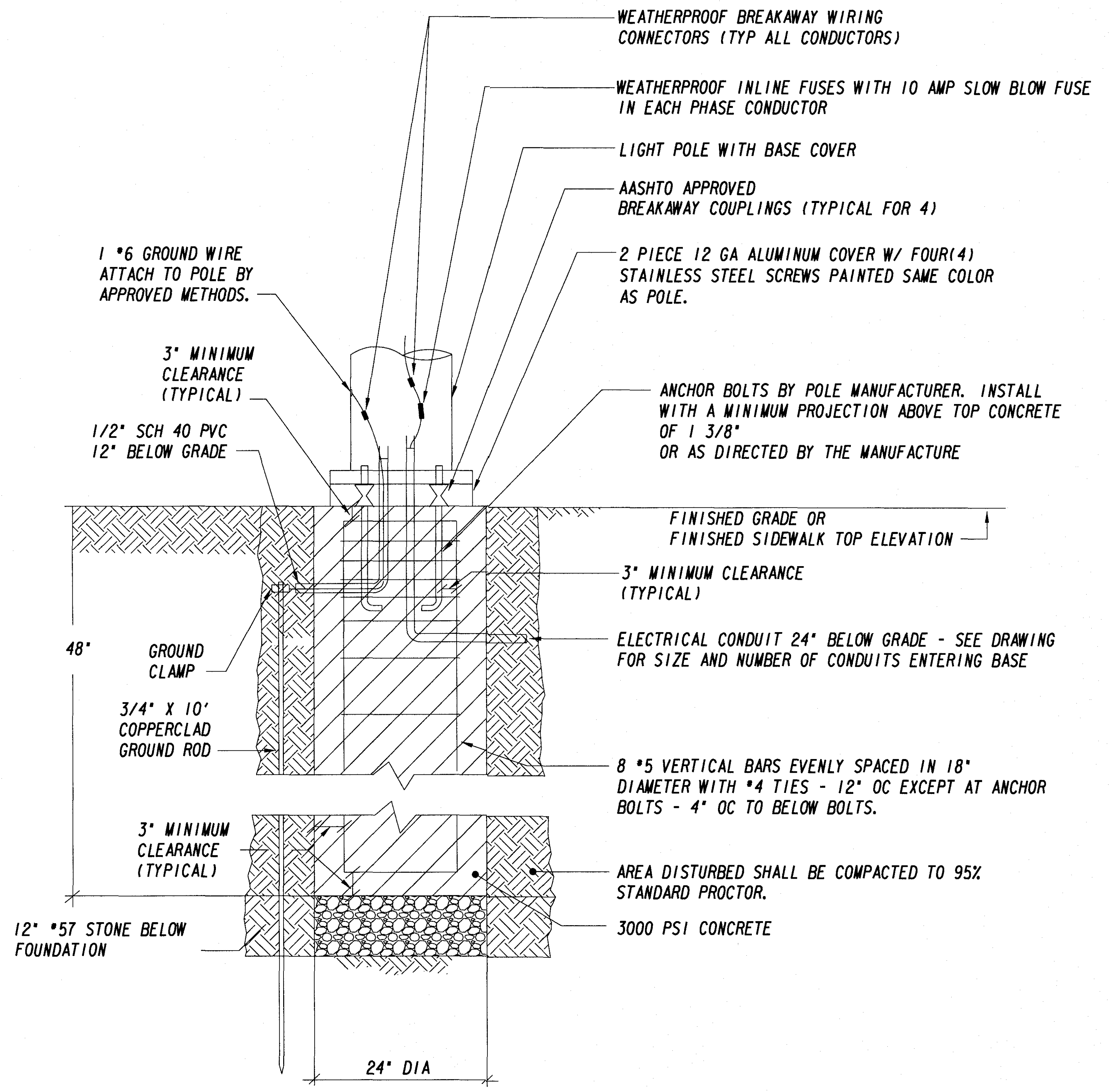
NOTE:
COORDINATE WITH GA POWER FOR
SERVICE CONNECTOR TERMINATIONS

4" THICK 3000 PSI CONCRETE FOUNDATION
TO BE 18" X 20"

2
25-0002

ONE LINE DIAGRAM SERVICE A

SCALE: NTS



WEATHERPROOF BREAKAWAY WIRING CONNECTORS (TYP ALL CONDUCTORS)

WEATHERPROOF INLINE FUSES WITH 10 AMP SLOW BLOW FUSE IN EACH PHASE CONDUCTOR

LIGHT POLE WITH BASE COVER

AASHTO APPROVED BREAKAWAY COUPLINGS (TYPICAL FOR 4)

2 PIECE 12 GA ALUMINUM COVER W/ FOUR(4) STAINLESS STEEL SCREWS PAINTED SAME COLOR AS POLE.

1 *6 GROUND WIRE ATTACH TO POLE BY APPROVED METHODS.

ANCHOR BOLTS BY POLE MANUFACTURER. INSTALL WITH A MINIMUM PROJECTION ABOVE TOP CONCRETE OF 1 3/8"
OR AS DIRECTED BY THE MANUFACTURE

ELECTRICAL CONDUIT 24" BELOW GRADE - SEE DRAWING FOR SIZE AND NUMBER OF CONDUITS ENTERING BASE

8 *5 VERTICAL BARS EVENLY SPACED IN 18" DIAMETER WITH *4 TIES - 12" OC EXCEPT AT ANCHOR BOLTS - 4" OC TO BELOW BOLTS.

AREA DISTURBED SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

3000 PSI CONCRETE

12" *57 STONE BELOW FOUNDATION

FIXTURE TYPE A FOUNDATION DETAIL

3
25-0002

SCALE: NTS

No. PE11956
WILLIAM B. M. WOMACK

02-04-2022

PROPERTY AND EXISTING R/W LINE	------℗------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	—C——F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▧
EASEMENT FOR CONSTR OF DRIVES	⊠

BEGIN LIMIT OF ACCESS............BLA	
END LIMIT OF ACCESS..............ELA	
REQ'D LIMIT OF ACCESS	—ooo——ooo—
REQ'D LIMIT OF ACCESS & R/W	—+++——+++—
ORANGE BARRIER FENCE	—●——●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	▼——▼

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REVISION DATES

LIGHTING PLANS
6TH STREET IMPROVEMENT
TAYLOR STREET TO REYNOLDS STREET

CHECKED:		DATE: 02-04-22	DRAWING No.
BACKCHECKED:		DATE:	25-0002
CORRECTED:		DATE:	
VERIFIED:		DATE:	

2/1/2022 6:28:30 PM
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GPLOT-V8
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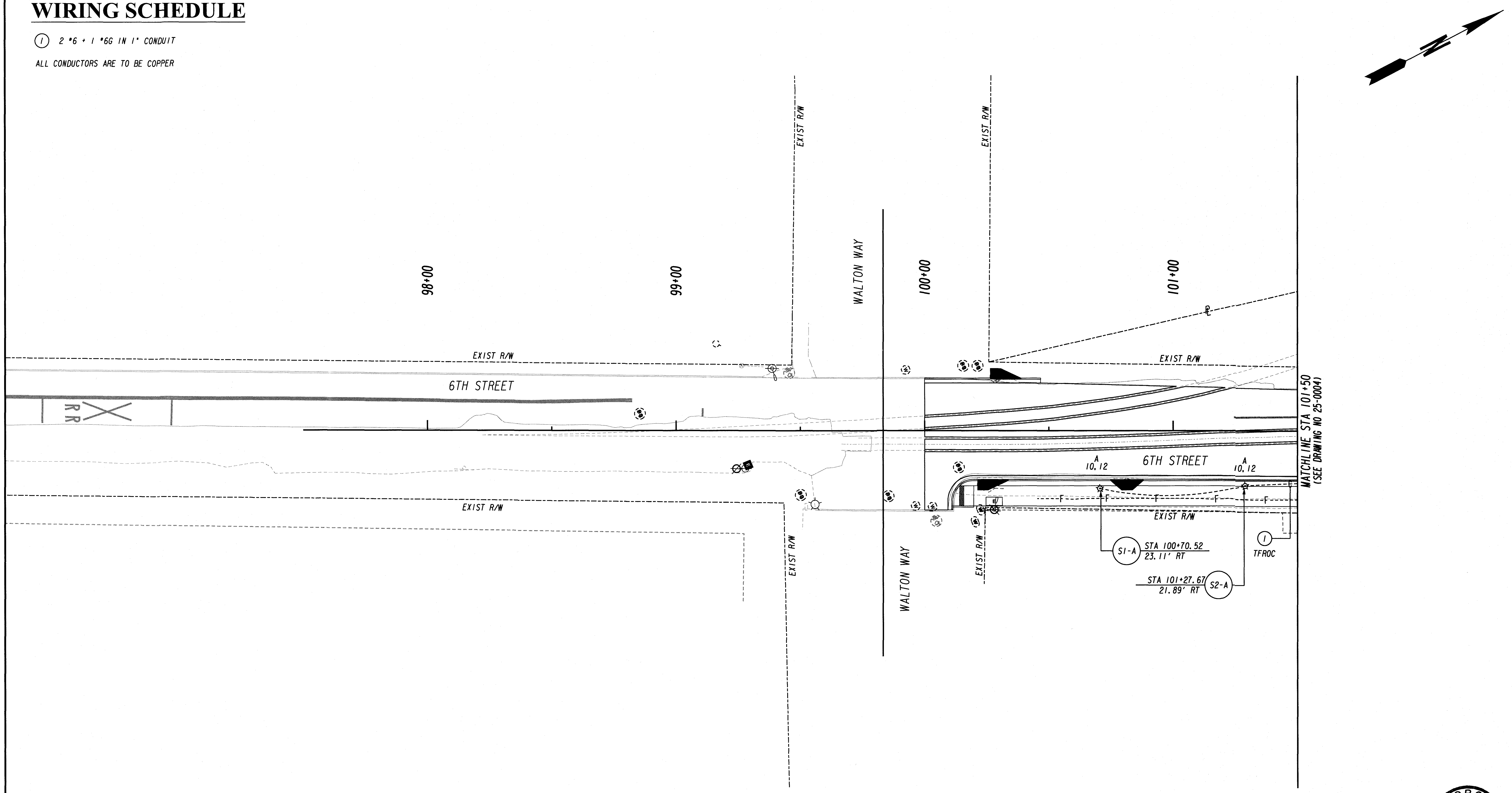
GDOT Georgia Department of Transportation

P. I. No.
0011421

WIRING SCHEDULE

(1) 2 #6 + 1 #6G IN 1" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



No. PE11956
WILLIAM B. M. WOMACK

02.04.2022

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ORANGE BARRIER FENCE	—●——●—
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SCALE IN FEET
0 20 40 80

REVISION DATES		

LIGHTING PLANS

6TH STREET IMPROVEMENT

TAYLOR STREET TO REYNOLDS STREET

				DRAWING No.
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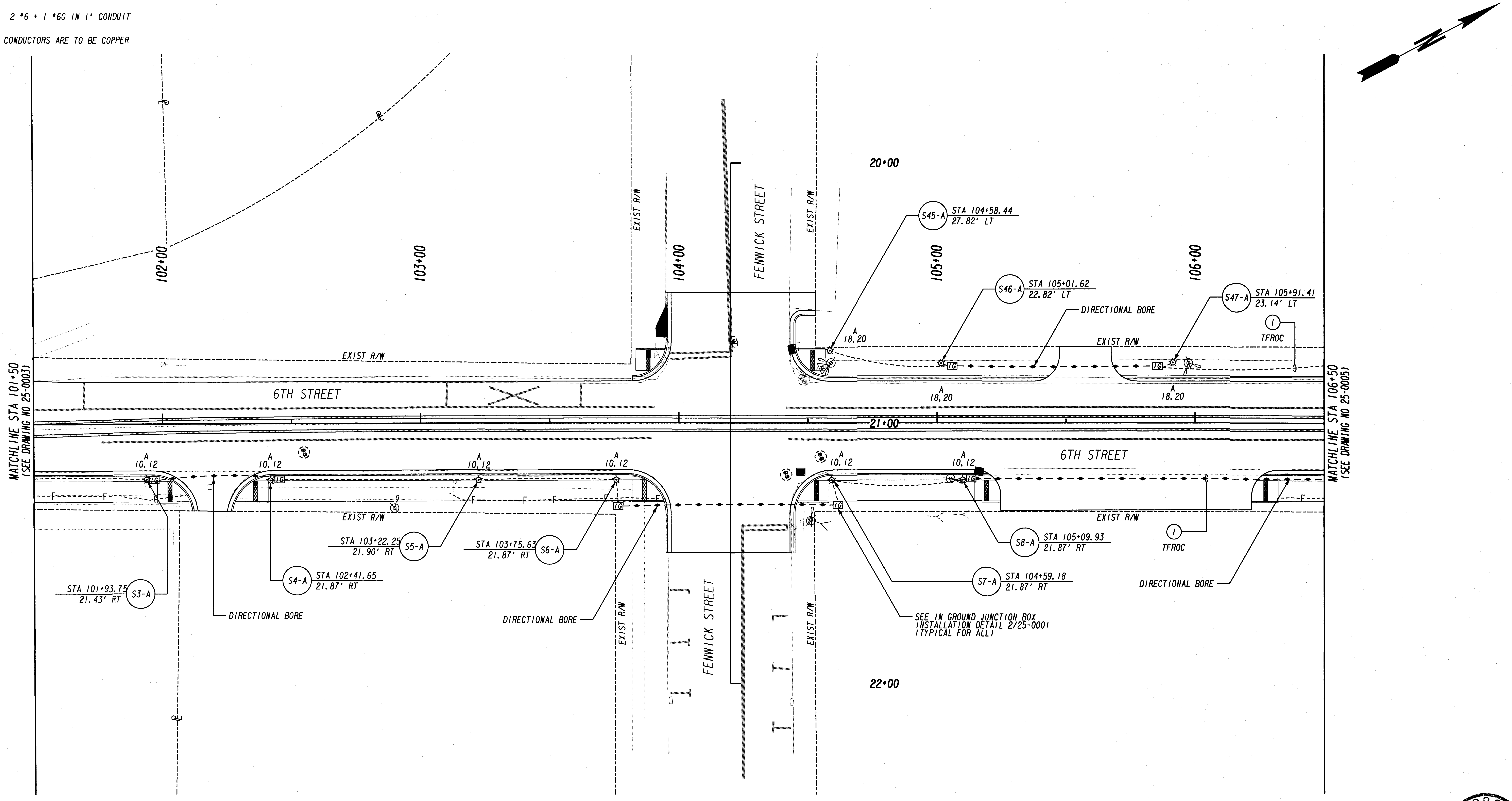
VERIFIED:		DATE:		

10/23/2015 GPLN

WIRING SCHEDULE

① 2 #6 + 1 #6G IN 1" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



No. PE11956
WILLIAM B. M. WOMACK

02-04. 2022

PROPERTY AND EXISTING R/W LINE	------℗------
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ORANGE BARRIER FENCE	——●——●——
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SCALE IN FEET
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VERIFIED:		DATE:		

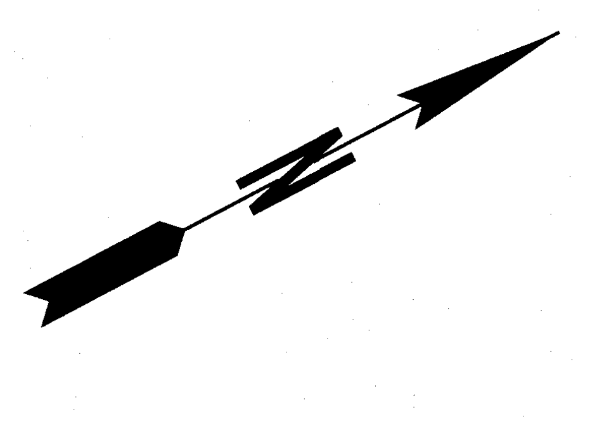
WIRING SCHEDULE

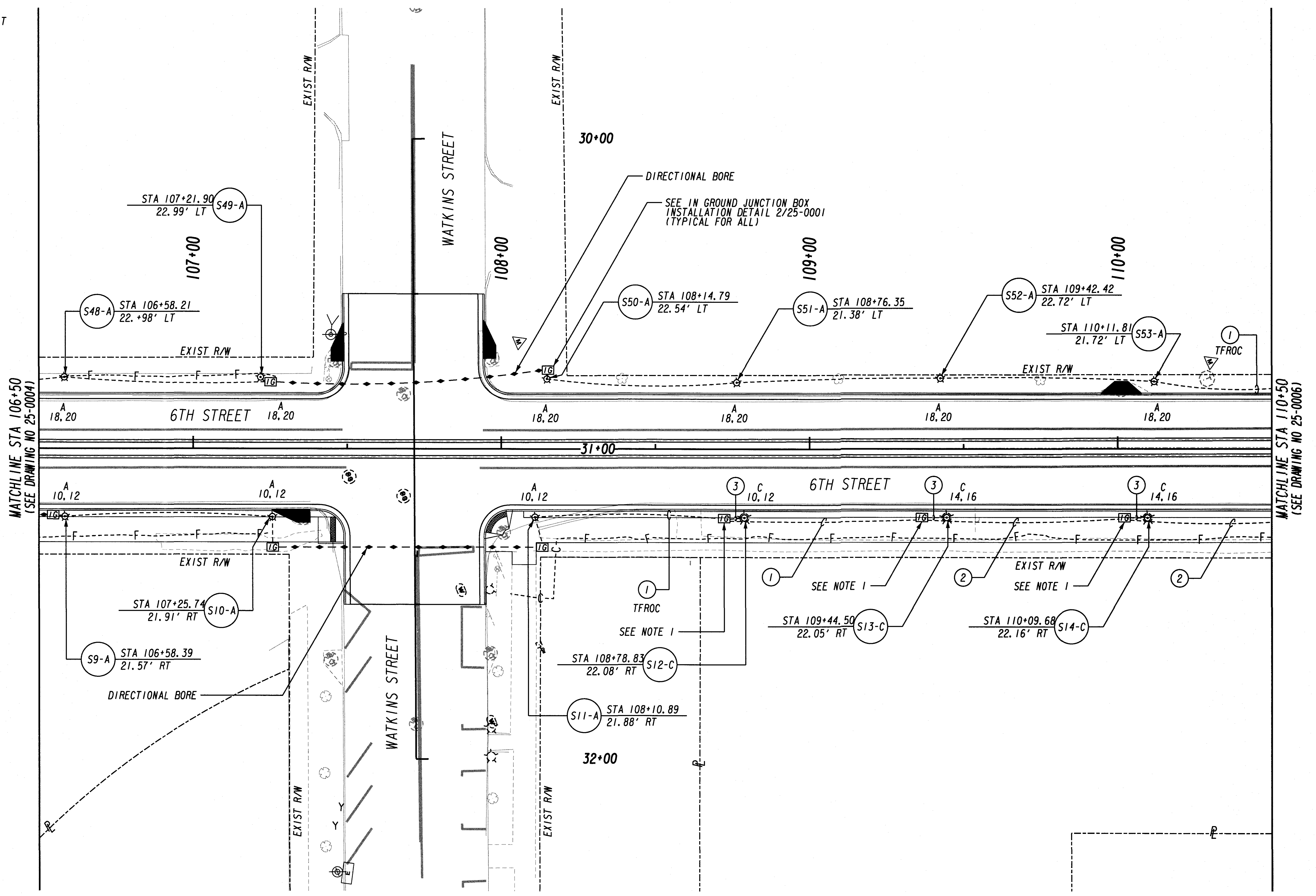
① 2 #6 + 1 #6G IN 1" CONDUIT

② 2 #4 + 2 #6 + 1 #4G IN 1 1/2" CONDUIT

③ 2 #8 + 1 #8G IN EXISTING CONDUIT

ALL CONDUCTORS ARE TO BE COPPER





NOTES:

1. THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING UNDERGROUND CONDUIT/CONDUCTORS OUT OF THE POLE BASE FOR EXISTING POLES ALONG 6TH STREET. ONCE LOCATED, BREAK THE CONDUIT AND REMOVE THE CONDUCTORS BETWEEN THE BREAK AND THE POLE BASE, KEEPING CONDUIT IN THE POLE BASE INTACT FOR REUSE.THE EXISTING CONDUCTORS WILL BE REMOVED AND REPLACED AS SPECIFIED. PULL NEW CONDUCTORSNINTO THE EXISTING POLE BASE AND RECONNECT AS REQUIRED TO KEEP THE CIRCUITRY OPERATIONAL. MAKE ALL SPLICES IN THE INGROUND JUNCTION BOX AS PER DETAIL 2/25-0001.

Georgia Registered Professional Engineer No. PE11958
WILLIAM B. M. WOMACK
02.04.2022

PROPERTY AND EXISTING R/W LINE	------℗------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	— C — F —
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SCALE IN FEET
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REVISION DATES

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6TH STREET IMPROVEMENT

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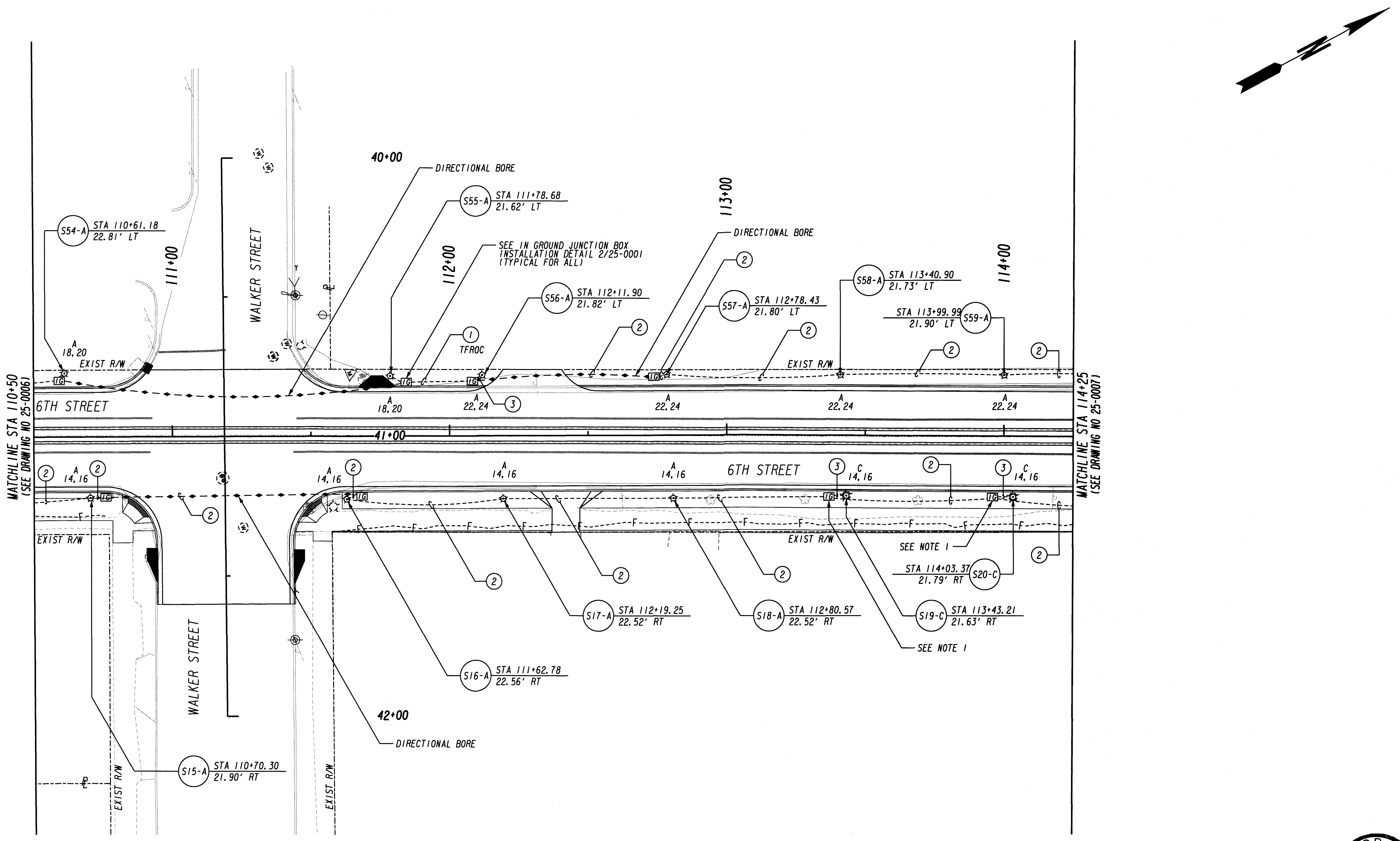
WIRING SCHEDULE

(1) 2 #6 + 1 #6G IN 1" CONDUIT

(2) 2 #4 + 2 #6 + 1 #4G IN 1 1/2" CONDUIT

(3) 2 #8 + 1 #8G IN EXISTING CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



NOTES:

1. THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING UNDERGROUND CONDUIT/CONDUCTORS OUT OF THE POLE BASE FOR EXISTING POLES ALONG 6TH STREET. ONCE LOCATED, BREAK THE CONDUIT AND REMOVE THE CONDUCTORS BETWEEN THE BREAK AND THE POLE BASE, KEEPING CONDUIT IN THE POLE BASE INTACT FOR REUSE. THE EXISTING CONDUCTORS WILL BE REMOVED AND REPLACED AS SPECIFIED. PULL NEW CONDUCTORSNINTO THE EXISTING POLE BASE AND RECONNECT AS REQUIRED TO KEEP THE CIRCUITRY OPERATIONAL. MAKE ALL SPLICES IN THE INGROUND JUNCTION BOX AS PER DETAIL 2/25-0001.

WILLIAM B. M. WOMACK
02-04-2022

PROPERTY AND EXISTING R/W LINE	------℗------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	—C— —F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▨
EASEMENT FOR CONSTR OF DRIVES	☒

BEGIN LIMIT OF ACCESS	BLA
END LIMIT OF ACCESS	ELA
REQ'D LIMIT OF ACCESS	—ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W	—|||—|||—
ORANGE BARRIER FENCE	—●—●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	25-0005

Keck+Wood
COLLABORATION BY DESIGN
3090 Premiere Parkway, Suite 200
Duluth, GA 30097
(678) 417-4000 keckwood.com

SCALE IN FEET
0 20 40 80

REVISION DATES

LIGHTING PLANS

6TH STREET IMPROVEMENT

TAYLOR STREET TO REYNOLDS STREET

CHECKED:	WMW	DATE:	02-04-22	DRAWING No.
BACKCHECKED:		DATE:		25-0006
CORRECTED:		DATE:		
VERIFIED:		DATE:		

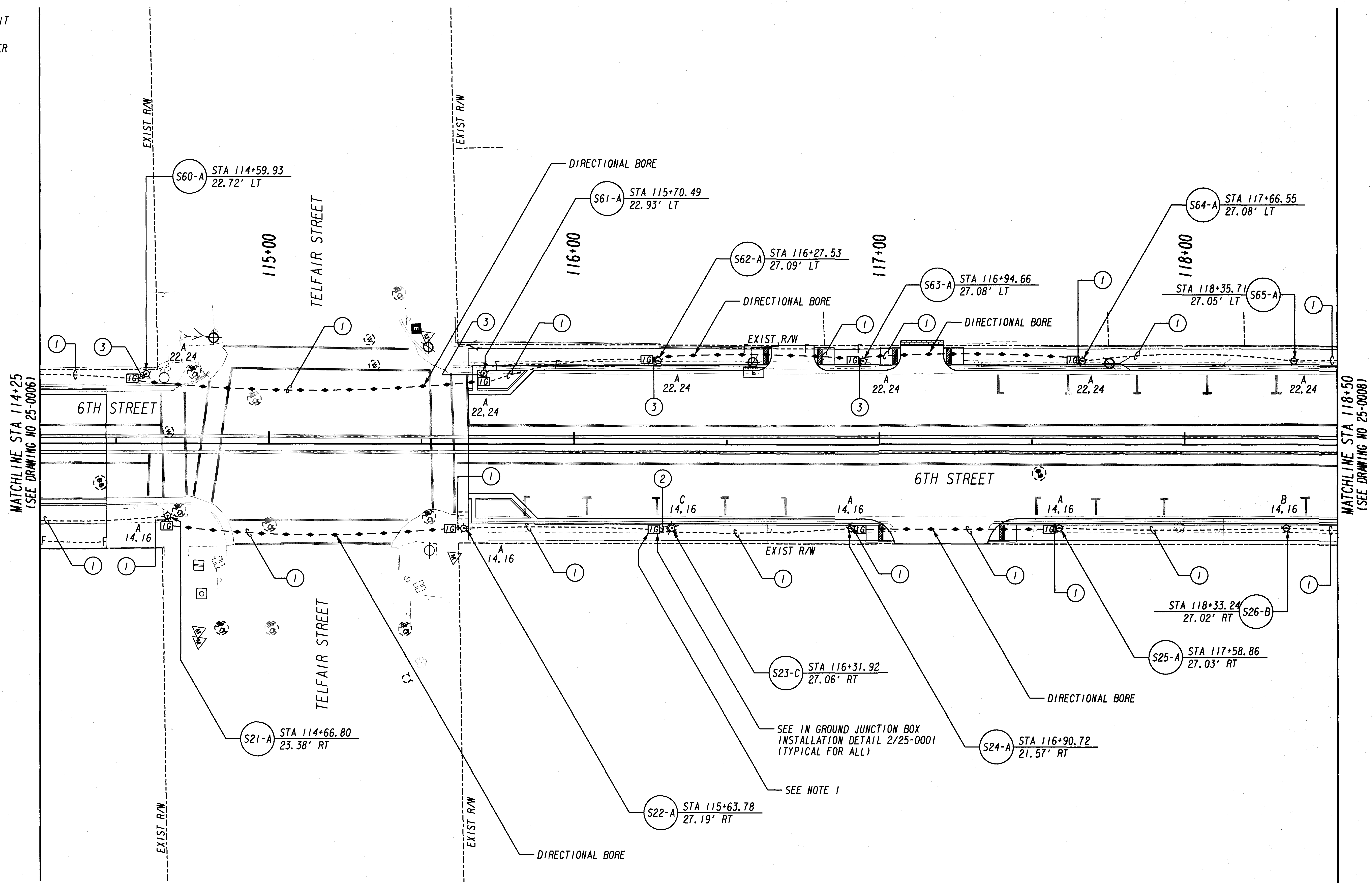
WIRING SCHEDULE

① 2 #4 + 2 #6 + 1 #4G IN 1 1/2" CONDUIT

② 2 #8 + 1 #8G IN EXISTING CONDUIT

③ 2 #8 + 1 #8G IN 1" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



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William B. M. Womack
No. PE11932

02.04.2022

PROPERTY AND EXISTING R/W LINE	------℗------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	—C— —F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▨
EASEMENT FOR CONSTR OF DRIVES	▨

BEGIN LIMIT OF ACCESS............BLA	
END LIMIT OF ACCESS.............ELA	
REQ'D LIMIT OF ACCESS	—ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W	—‖‖—‖‖—
ORANGE BARRIER FENCE	—●—●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	▼——▼

25-0006

Keck+Wood
COLLABORATION BY DESIGN
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Duluth, GA 30097
(678) 417-4000 keckwood.com

SCALE IN FEET
0 20 40 80

REVISION DATES		

LIGHTING PLANS
6TH STREET IMPROVEMENT
TAYLOR STREET TO REYNOLDS STREET

CHECKED:	wbmw	DATE:	02.04.22	DRAWING No.
BACKCHECKED:		DATE:		25-0007
CORRECTED:		DATE:		
VERIFIED:		DATE:		

WIRING SCHEDULE

① 2 *4 + 2 *6 + 1 *4G IN 1 1/2" CONDUIT

② 2 *8 + 1 *8G IN 1" CONDUIT

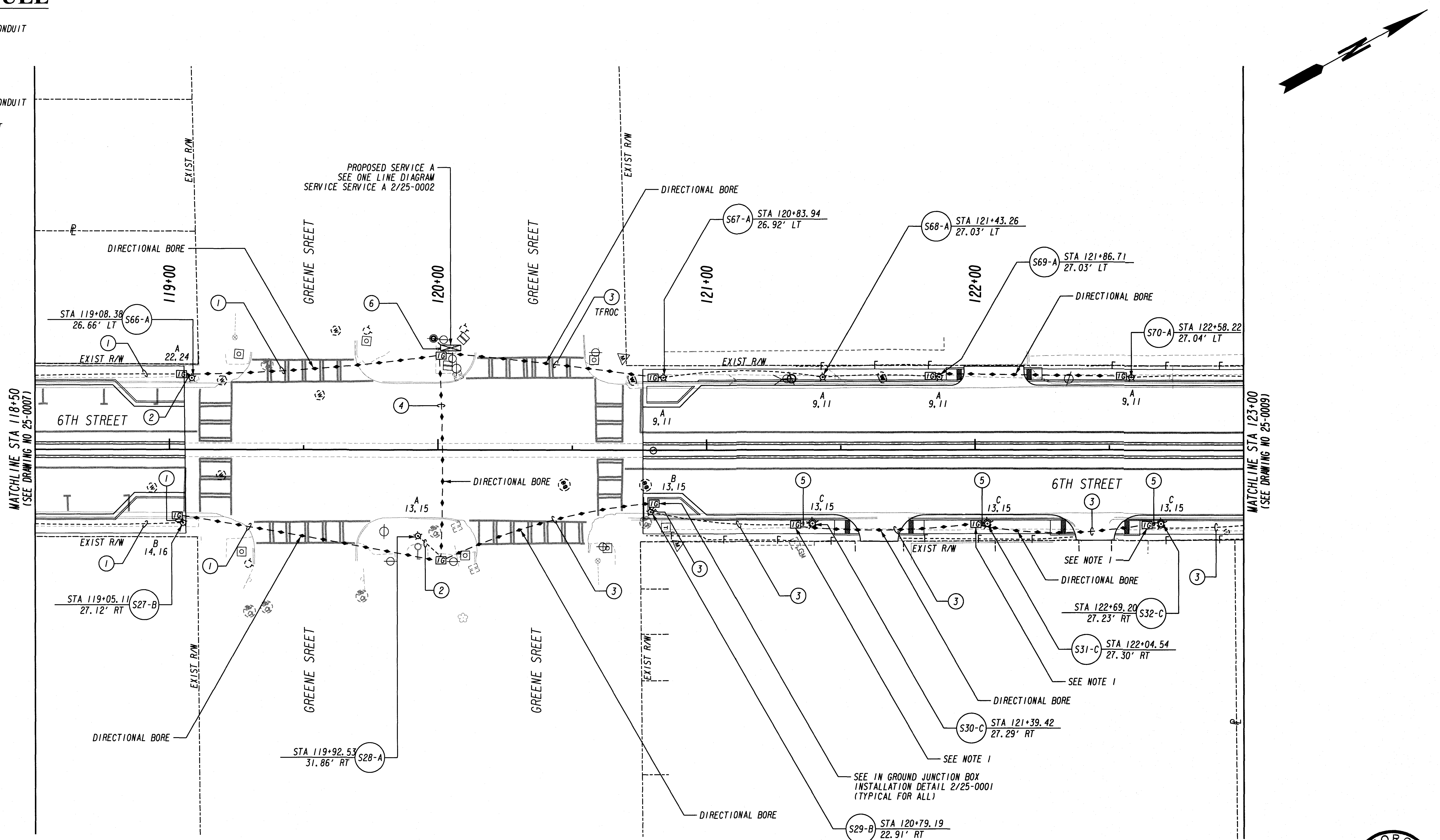
③ 2 *6 + 1 *6G IN 1" CONDUIT

④ 2 *4 + 4 *6 + 1 *4G IN 1 1/2" CONDUIT

⑤ 2 *8 + 1 *8G IN EXISTING CONDUIT

⑥ 12 *8 + 1* 8G IN 1 1/2" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



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PROPERTY AND EXISTING R/W LINE ------P------
REQUIRED R/W LINE ———
CONSTRUCTION LIMITS —C— —F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES ▨
EASEMENT FOR CONSTR OF SLOPES ▨
EASEMENT FOR CONSTR OF DRIVES ▨

BEGIN LIMIT OF ACCESS............BLA
END LIMIT OF ACCESS.............ELA
REQ'D LIMIT OF ACCESS —ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W —||—||—
ORANGE BARRIER FENCE —●—●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE) ▼—▼

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SCALE IN FEET
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REVISION DATES

William B. M. Womack
02.04.2022

LIGHTING PLANS

6TH STREET IMPROVEMENT

TAYLOR STREET TO REYNOLDS STREET

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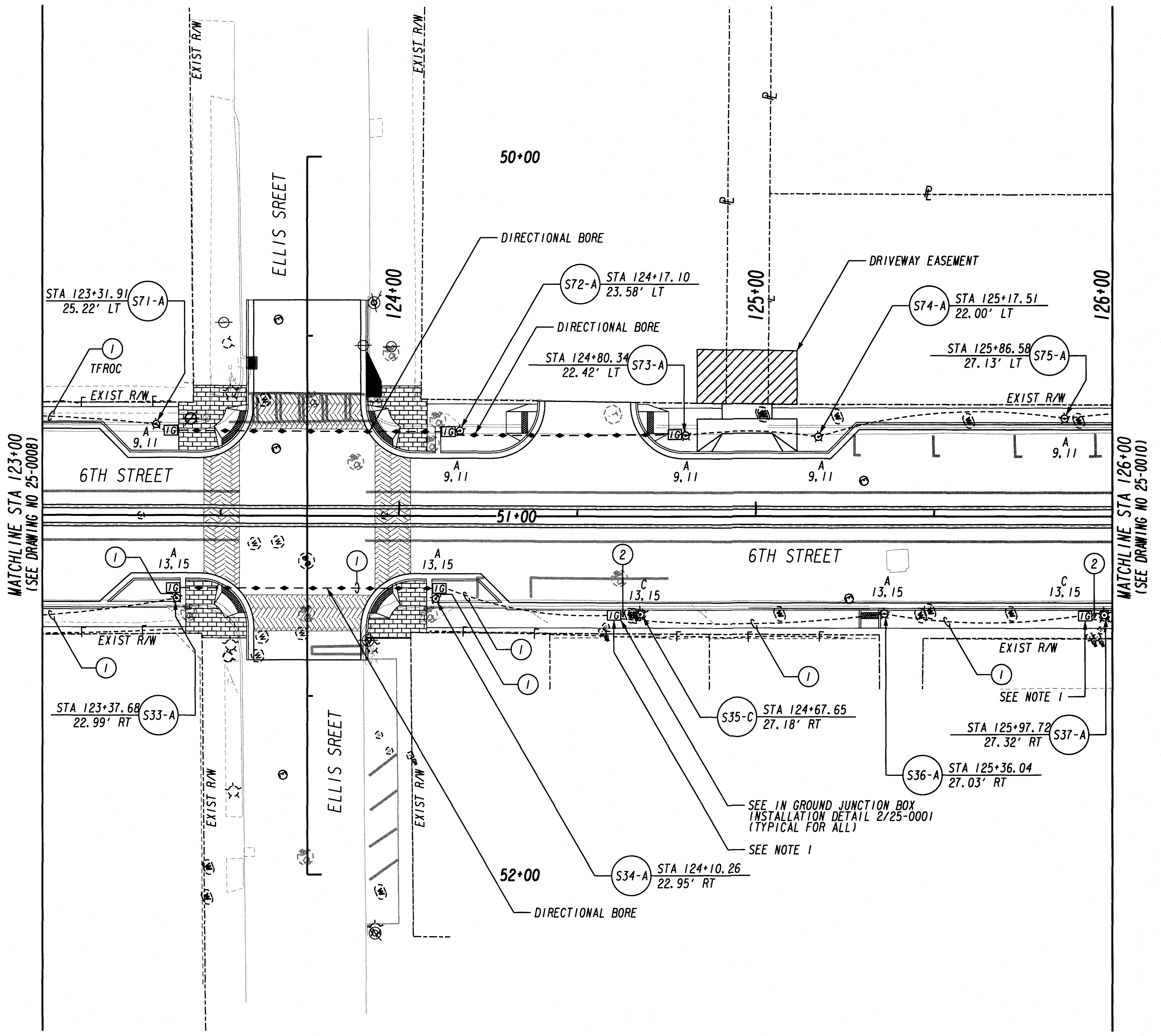
VERIFIED:		DATE:		

WIRING SCHEDULE

① 2 #6 + 1 #6G IN 1" CONDUIT

② 2 #8 + 1 #8G IN EXISTING CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



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WILLIAM B. M. WOMACK
No. PE11956
02-04-2022

PROPERTY AND EXISTING R/W LINE	------℘------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	—C— —F—
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▧
EASEMENT FOR CONSTR OF DRIVES	☒

BEGIN LIMIT OF ACCESS............BLA	
END LIMIT OF ACCESS.............ELA	
REQ'D LIMIT OF ACCESS	—ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W	—+++—+++—
ORANGE BARRIER FENCE	—●—●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	▾——▾

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6TH STREET IMPROVEMENT
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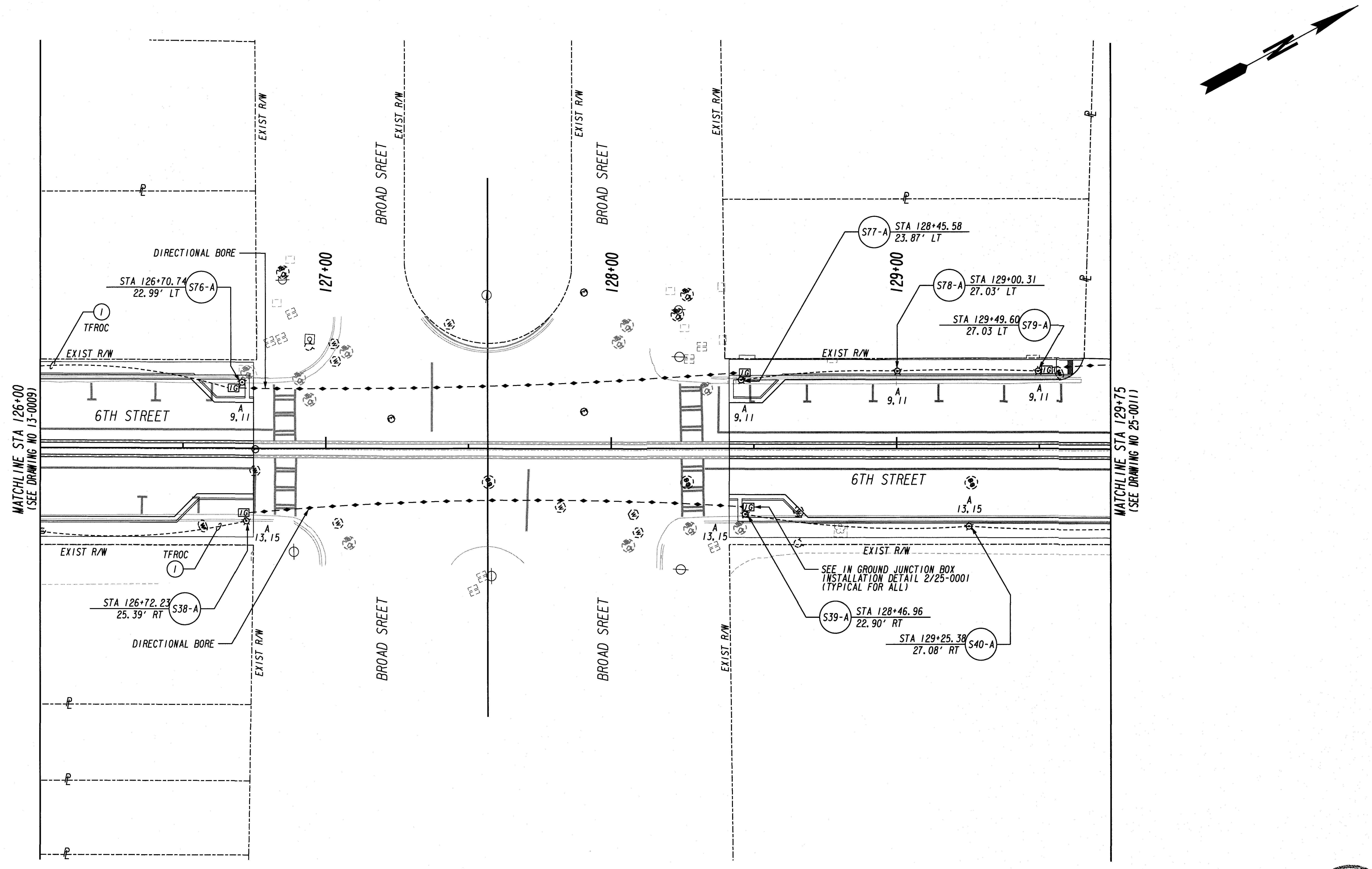
VERIFIED:		DATE:		

WIRING SCHEDULE

① 2 #6 + 1 #6G IN 1" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



GEORGIA REGISTERED No. PE11956 PROFESSIONAL ENGINEER WILLIAM B. M. WOMACK

02.04.2022

PROPERTY AND EXISTING R/W LINE ------℄------
REQUIRED R/W LINE
CONSTRUCTION LIMITS —C— —F—
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES ▨
EASEMENT FOR CONSTR OF SLOPES ▨
EASEMENT FOR CONSTR OF DRIVES ▨

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ORANGE BARRIER FENCE —●——●—
ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE) ▼——▼

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REVISION DATES

LIGHTING PLANS

6TH STREET IMPROVEMENT

TAYLOR STREET TO REYNOLDS STREET

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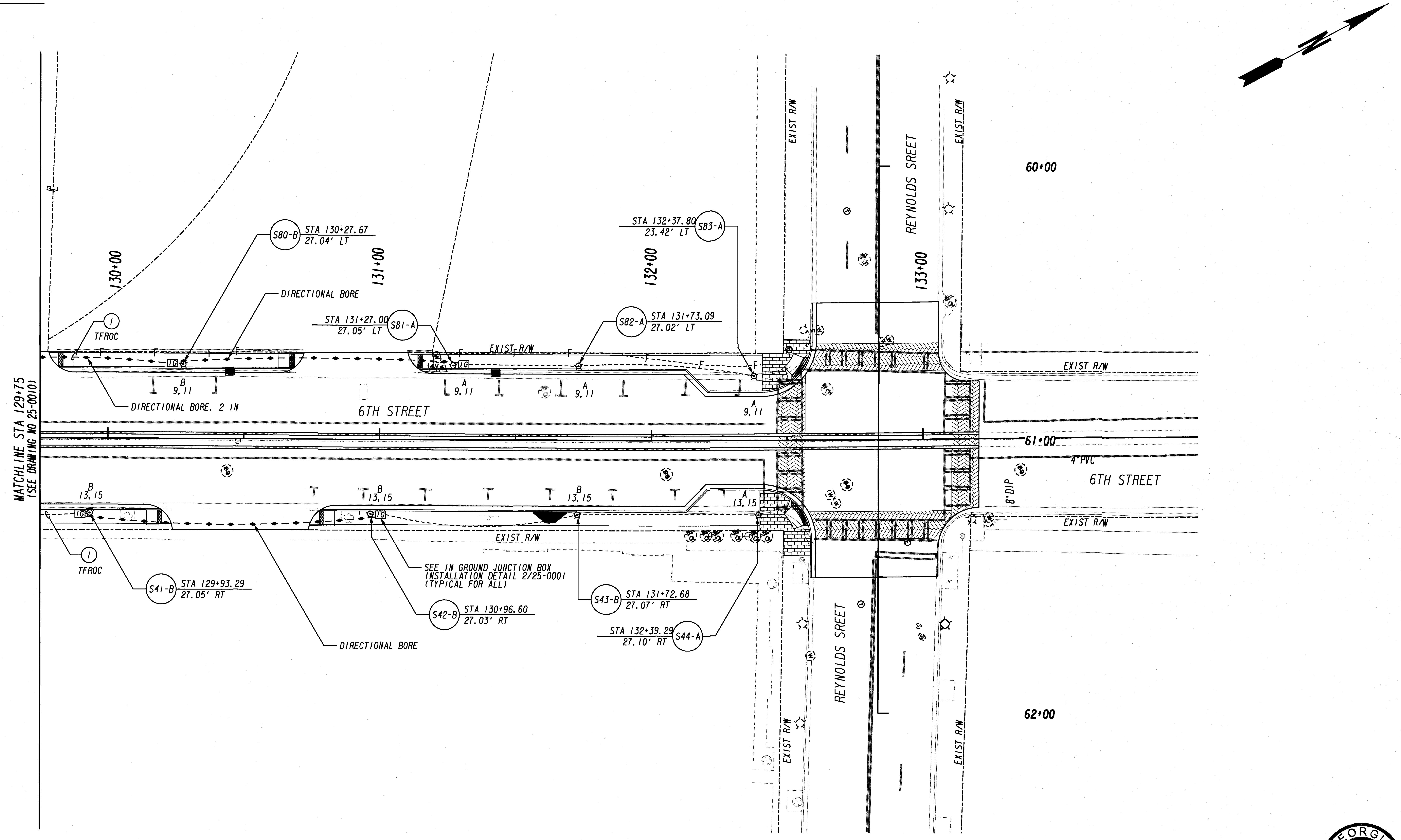
WIRING SCHEDULE

① 2 #6 + 1 #6G IN 1" CONDUIT

ALL CONDUCTORS ARE TO BE COPPER



William B. M. Womack
02.04.2022

PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES
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REVISION DATES

LIGHTING PLANS
6TH STREET IMPROVEMENT
TAYLOR STREET TO REYNOLDS STREET

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BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	

DRAWING No.
25-0011

FIXTURE TABLE

Pole No.	Station No.	Offset	(R)or(L)	SERVICE	Fixture Type	Voltage	Pole Height
S1-A	100+70.52	23.11'	R	A	A	240	12
S2-A	101+27.67	21.89'	R	A	A	240	12
S3-A	101+93.75	21.43'	R	A	A	240	12
S4-A	102+41.65	21.87'	R	A	A	240	12
S5-A	103+22.25	21.90'	R	A	A	240	12
S6-A	103+75.63	21.87'	R	A	A	240	12
S7-A	104+59.18	21.87'	R	A	A	240	12
S8-A	105+09.93	21.87'	R	A	A	240	12
S9-A	106+58.39	21.57'	R	A	A	240	12
S10-A	107+25.74	21.91'	R	A	A	240	12
S11-A	108+10.89	21.88'	R	A	A	240	12
S12-C	108+78.83	22.08'	R	A	C	240	12
S13-C	109+44.50	22.05'	R	A	C	240	12
S14-C	110+09.68	22.16'	R	A	C	240	12
S15-A	110+70.30	21.90'	R	A	A	240	12
S16-A	111+62.78	22.56'	R	A	A	240	12
S17-A	112+19.25	22.52'	R	A	A	240	12
S18-A	112+80.57	22.52'	R	A	A	240	12
S19-C	113+43.21	21.63'	R	A	C	240	12
S20-C	114+03.37	21.79'	R	A	C	240	12
S21-A	114+66.80	23.38'	R	A	A	240	12
S22-A	115+63.78	27.19'	R	A	A	240	12
S23-C	116+31.92	27.06'	R	A	C	240	12
S24-A	116+90.72	21.57'	R	A	A	240	12
S25-A	117+58.86	27.03'	R	A	A	240	12
S26-B	118+33.24	27.02'	R	A	B	240	12
S27-B	119+05.11	27.12'	R	A	B	240	12
S28-A	119+92.53	31.86'	R	A	A	240	12
S29-B	120+79.19	22.91'	R	A	B	240	12
S30-C	121+39.42	27.29'	R	A	C	240	12
S31-C	122+04.54	27.30'	R	A	C	240	12
S32-C	122+69.20	27.23'	R	A	C	240	12
S33-A	123+37.680	22.99'	R	A	A	240	12
S34-A	124+10.26	22.95'	R	A	A	240	12
S35-C	124+67.65	27.18'	R	A	C	240	12
S36-A	125+36.04	27.03'	R	A	A	240	12
S37-A	125+97.72	27.32'	R	A	A	240	12
S38-A	126+72.23	25.39'	R	A	A	240	12
S39-A	128+46.96	22.90'	R	A	A	240	12
S40-A	129+25.38	27.08'	R	A	A	240	12
S41-B	129+93.29	27.05'	R	A	B	240	12
S42-B	130+96.60	27.03'	R	A	B	240	12
S43-B	131+72.68	27.07'	R	A	B	240	12
S44-A	132+39.29	27.10'	R	A	A	240	12
S45-A	104+58.44	27.82'	L	A	A	240	12
S46-A	105+01.62	22.82'	L	A	A	240	12
S47-A	105+91.41	23.14'	L	A	A	240	12
S48-A	106+58.21	22.98'	L	A	A	240	12
S49-A	107+21.90	22.99'	L	A	A	240	12
S50-A	108+14.79	22.54'	L	A	A	240	12
S51-A	108+76.35	21.38'	L	A	A	240	12
S52-A	109+42.42	22.72'	L	A	A	240	12
S53-A	110+11.18	21.72'	L	A	A	240	12
S54-A	110+61.18	22.81'	L	A	A	240	12
S55-A	111+78.68	21.62'	L	A	A	240	12
S56-A	112+11.90	21.82'	L	A	A	240	12
S57-A	112+78.43	21.80'	L	A	A	240	12
S58-A	113+40.90	21.73'	L	A	A	240	12
S59-A	113+99.99	21.90'	L	A	A	240	12
S60-A	114+59.93	22.72'	L	A	A	240	12
S61-A	115+70.49	22.93'	L	A	A	240	12
S62-A	116+27.53	27.09'	L	A	A	240	12
S63-A	116+94.66	27.08'	L	A	A	240	12
S64-A	117+66.55	27.08'	L	A	A	240	12
S65-A	118+35.71	27.05'	L	A	A	240	12
S66-A	119+08.38	26.66'	L	A	A	240	12
S67-A	120+83.94	26.92'	L	A	A	240	12
S68-A	121+43.26	27.03'	L	A	A	240	12
S69-A	121+86.71	27.03'	L	A	A	240	12
S70-A	122+58.22	27.04'	L	A	A	240	12
S71-A	123+31.91	25.22'	L	A	A	240	12
S72-A	124+17.10	23.58'	L	A	A	240	12
S73-A	124+80.34	22.42'	L	A	A	240	12
S74-A	125+17.51	22.00'	L	A	A	240	12
S75-A	125+86.58	27.12'	L	A	A	240	12
S76-A	126+70.74	22.99'	L	A	A	240	12
S77-A	128+45.58	23.87'	L	A	A	240	12
S78-A	129+00.31	27.03'	L	A	A	240	12
S79-A	129+49.60	27.03'	L	A	A	240	12
S80-B	130+27.67	27.04'	L	A	B	240	12
S81-A	131+27.00	27.05'	L	A	A	240	12
S82-A	131+73.09	27.02'	L	A	A	240	12
S83-A	132+37.80	23.42'	L	A	A	240	12

SERVICE A (UNSWITCHED)

VOLTAGE: 120/240 V AMPS: 100 A MB
1 PHASE, 3 WIRE TOTAL LOAD: 10.1 KVA
MOUNTING: SURFACE
MILBANK SERVICE PEDESTAL

No.	SERVES	LOAD (KVA)						BRKR		PH		BRKR		LOAD (KVA)						SERVES	No.
		LTG	RCPT	MTR	A/C	KITCH	MISC	TRIP	P	A	B	P	TRIP	MISC	KITCH	A/C	MTR	RCPT	LTG		
1	SPD							30	2	5.00		2	60	5.00						INTERNAL CONTACTOR	2
3											5.00			5.00							4
5	CONTROLS						0.05	20	1	0.05		1	20							SPARE	6
7	SPARE							20	1		0.00	1	20							SPARE	8
										5.05	5.00			10.05	0.00	0.00	0.00	0.00	0.00		

SERVICE A (SWITCHED)

VOLTAGE: 120/240 V AMPS: 60 A MLO
1 PHASE, 3 WIRE TOTAL LOAD: 10.0 KVA
MOUNTING: SURFACE
MILBANK SERVICE PEDESTAL

No.	SERVES	LOAD (KVA)						BRKR		PH		BRKR		LOAD (KVA)						SERVES	No.
		LTG	RCPT	MTR	A/C	KITCH	MISC	TRIP	P	A	B	P	TRIP	MISC	KITCH	A/C	MTR	RCPT	LTG		
9	LIGHTING NW	1.00						20	2	1.70		2	20						0.70	LIGHTING SE 1	10
11		1.00									1.70								0.70		12
13	LIGHTING NE	1.10						20	2	2.00		2	20						0.90	LIGHTING SE 2	14
15		1.10									2.00								0.90		16
17	SPARE							20	1	0.65		2	20						0.65	LIGHTING SW 1	18
19	SPARE							20	1		0.65								0.65		20
21	SPARE							20	1	0.65		2	20						0.65	LIGHTING SW 2	22
23	SPARE							20	1		0.65								0.65		24
25	SPARE							20	1	0.00		1	20							SPARE	26
27	SPARE							20	1		0.00	1	20							SPARE	28
										5.00	5.00			0.00	0.00	0.00	0.00	0.00	10.00	CONNECTED KVA 10	

SERVICE CALCULATION: 5.1KW X 2 = 10.2KW / .9PF = 11.4KVA X 1.25 = 14.25KVA / 240 X 1000 = 59.4 AMPS

No. PE11956
WILLIAM B. M. WOMACK
02.04.2022

PROPERTY AND EXISTING R/W LINE	------₽------
REQUIRED R/W LINE	———
CONSTRUCTION LIMITS	— —C— — —F— —
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	▨
EASEMENT FOR CONSTR OF SLOPES	▧
EASEMENT FOR CONSTR OF DRIVES	⊠

BEGIN LIMIT OF ACCESS............BLA
END LIMIT OF ACCESS.............ELA

REQ'D LIMIT OF ACCESS	—ooo—ooo—
REQ'D LIMIT OF ACCESS & R/W	—‖‖—‖‖—
ORANGE BARRIER FENCE	—●——●—
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	▼———▼

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TAYLOR STREET TO REYNOLDS STREET

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