



PROPOSED CHANGE ORDER REQUEST

Department of Watershed Management

Contract Name: On-Call Water and Sewer (Multiyear Contract With 2 Options to Renew) Date: 5/13/2025

Contractor: GS Construction

Contract Number: 1301520

Change Order Number: 3

Contract Amendment Category: ☒ Cost ☐ Schedule ☒ Scope ☐ Deliverables

| Original Contract \$ Amount: | Contract Start Date: | Original Contract Time:(TERM) | Original Contract End Date: |
|------------------------------|----------------------|-------------------------------|-----------------------------|
| \$24,550,164.00 | 12/2/2022 | 760 | 12/31/2024 |

| NTP Start Date: | Original Performance Days:(TIME) | Original Performance End Date: |
|-----------------|----------------------------------|--------------------------------|
| 12/13/2022 | 730 | 12/12/2024 |

| Previous Renewal: | Previous Time Extensions (Days): | Previous Renewal to \$ Amount: |
|---------------------|----------------------------------|--------------------------------|
| Change Order No. 1: | 0 | \$18,174,809.32 |
| Renewal No. 1: | 365 | \$0.00 |
| Charge Order No. 2: | 0 | \$12,777,615.00 |

| Current Contract Amount: | Current Performance Time (Days): | Current Performance End Date: | Current Contract End Date: |
|--------------------------|----------------------------------|-------------------------------|----------------------------|
| \$55,502,588.32 | 1095 | 12/12/2025 | 12/31/2025 |

Description of Proposed Changes: Change Order No. 3 is being requested by the user department in order to provide the contractor additional funding to complete the critical College Avenue 16-inch and 12-inch Diameter Watermain Replacement Project. The piping in this area is old cast iron steel installed in 1948 and has continued to fail over the last couple of years. In addition, there is a 2-inch old galvanized main that feeds the majority of the businesses only College Avenue that is not in the County's GIS and DWM has no records for the main. The 2-inch main is in urgent need of replacement to a larger 12-inch pipe to adequately serve the businesses along the corridor. Lastly, the City of Avondale is currently doing a streetscape project and the timing of the water main replacement project directly affects the completion of the streetscape project that is scheduled to be completed by December 2025.

Justification of Proposed Changes: The proposed new scope of work arose from the increased water main breaks through the College Avenue area and the need to upsize the piping prior to the City of Avondale completion of their streetscape project. DWM requested pricing from 3 of the department's contractors who currently have active contracts with the department and have the resources to complete the work within the short deadline. GS Construction plans to have 2 crews working on the road to complete the work ahead of schedule by October 2025. DWM recommends approval of the change request by the Board of Commissioners in order to complete the work by the end of the year.

| Proposed Additional Performance Days: | Proposed Cumulative Performance Days: | Proposed Performance End Date: | Proposed Contract End Date: |
|---------------------------------------|---------------------------------------|--------------------------------|-----------------------------|
| NA | NA | NA | NA |
| Proposed Changes to Dollar Amount: | Proposed Cumulative Contract Amount: | Amount Spent To Date: | |
| \$9,326,533.00 | \$64,829,121.32 | \$42,357,378.94 | |

1580 Roadhaven Drive | Stone Mountain, GA 30083 | P: (770) 621-7200 F: (770) 621-7271

www.dekalbwatershed.com

Describe Any Risk Associated With This Change: This change order introduces several risks, primarily related to potential delays in the City of Avondale project timelines and increased financial burdens to DWM if the pipe is not upsized now. Also, if the existing pipe continues to break, DWM will have to perform emergency repairs damaging the new infrastructure recently replaced by the City of Avondale. Upsizing the pipe at a later will be an increased cost to the department due to paying for items such as paving curb to curb, concrete restoration, etc. will have to be funded 100% by DWM.

Effect of NOT Approving This Change: If the change order is not approved, the City of Avondale project may face delays from the continued repairs to the 2-inch galvanized main. Upsizing the pipe at a later will be an increased cost to the department due to paying for items such as paving curb to curb, concrete restoration, etc. will have to be funded 100% by DWM.

Engineering Manager's/Assistant Director's Approval:

Signature:
Print Name & Date:

Deputy Director's Approval:

Signature:
Print Name & Date:

Watershed Director's Approval:

Signature:
Print Name & Date:

Purchasing & Contracting's Approval:

Signature:
Print Name & Date:

Chief Operating Officer's Approval:

Signature:
Print Name & Date:

Contract Name: On-Call Water and Sewer (Multiyear Contract With 2 Options to Renew)

Contractor: GS Construction

Contract Number: 1301520

College Avenue 16-inch and 12-inch WM Replacement

| | | Contractor Name: | | The Renee Group, Inc. | |
|-----------|--|---------------------------|-------|-----------------------|-----------------|
| | | Estimated Completion Date | | 12/31/2025 | |
| | | No. of Crews | | 2 | |
| Bid Items | Description | SOV | Units | Bid Price | Total |
| 3 | Work Zone Staging and Traffic Control: FC 14-Urban Principal Arterial (per link) | 16 | EA | \$ 11,250.00 | \$ 180,000.00 |
| 4 | Police Officer | 3000 | HR | \$ 195.00 | \$ 585,000.00 |
| 5 | Owner Allowance (10% of total bid) | 1 | LS | \$ 1,168,664.88 | \$ 1,168,664.88 |
| 19 | Inlet Sediment Trap | 30 | EA | \$ 260.00 | \$ 7,800.00 |
| 23 | Sodding to Match | 100 | SY | \$ 15.60 | \$ 1,560.00 |
| 27 | Traffic Loop System Restoration | 750 | LF | \$ 41.60 | \$ 31,200.00 |
| 28 | 4-inch Sidewalk Restoration | 1800 | SY | \$ 91.00 | \$ 163,800.00 |
| 30 | Driveway Restoration (Concrete, greater than 4" up to and including 6" Thick) | 820 | SY | \$ 97.50 | \$ 79,950.00 |
| 29 | Driveway Restoration (Concrete, up to and including 4" Thick) | 200 | SY | \$ 97.50 | \$ 19,500.00 |
| 31 | Asphaltic Concrete Driveway Replacement | 200 | SY | \$ 104.00 | \$ 20,800.00 |
| 33 | Concrete Curb & Gutter Removal and Installation, - All Sizes and Types | 1500 | LF | \$ 52.00 | \$ 78,000.00 |
| 34 | Remove and Reset Granite Curb | 100 | LF | \$ 52.00 | \$ 5,200.00 |
| 35 | Night Paving - 9.5mm x 5' Wide | 2253 | SY | \$ 90.00 | \$ 202,770.00 |
| 36 | Night Paving - 19.5mm x 5' Wide | 4505 | SY | \$ 100.00 | \$ 450,500.00 |
| 37 | Night Paving - 25mm x 5' Wide | 6758 | SY | \$ 120.00 | \$ 810,960.00 |
| 42 | 3000 PSI High Early Concrete | 255 | CY | \$ 364.00 | \$ 92,820.00 |
| 43 | Pavement saw cutting, 1" - 6" thick | 13516 | LF | \$ 19.50 | \$ 263,562.00 |
| 44 | Pavement Saw cutting additional thickness per inch | 135160 | IN/FT | \$ 5.20 | \$ 702,832.00 |
| 45 | GPS Locate and Data Collection per Asset | 170 | EA | \$ 123.00 | \$ 20,910.00 |
| 46 | Ground Penetrating Radar - Pipe Location | 6758 | LF | \$ 54.60 | \$ 368,986.80 |
| 50 | CCTV Inspection | 1200 | LF | \$ 13.00 | \$ 15,600.00 |
| 53 | Unsuitable Soil Replace (GAB) | 3754 | CY | \$ 465.00 | \$ 1,745,610.00 |
| 54 | Rock Excavation & Disposal off site | 100 | CY | \$ 350.00 | \$ 35,000.00 |
| 65 | Abandon Existing Pipe in Place | 500 | CY | \$ 364.00 | \$ 182,000.00 |
| 66 | Cut and Plug Existing Pipe Line, 6" up to and including 24" up to and including 8 ft depth | 50 | EA | \$ 4,500.00 | \$ 225,000.00 |
| 67 | Cut and Plug Existing Pipe Line, 6" to 24" more than 8 ft depth | 10 | VF | \$ 650.00 | \$ 6,500.00 |
| 80 | 6in DIP, Water Main, 1ft – 5ft Cover | 658 | LF | \$ 100.00 | \$ 65,800.00 |
| 83 | Zinc Coated 6in DIP, Restrained Joint Pipe Adder | 658 | LF | \$ 21.00 | \$ 13,818.00 |
| 84 | 8in DIP, Water Main, 1ft – 5ft Cover | 360 | LF | \$ 125.00 | \$ 45,000.00 |
| 85 | Zinc Coated 8in DIP, Water Main, >5ft – 10ft Cover | 100 | LF | \$ 160.00 | \$ 16,000.00 |
| 87 | Zinc Coated 8in DIP, Restrained Joint Pipe Adder | 460 | LF | \$ 22.50 | \$ 10,350.00 |
| 92 | 12in DIP, Water Main, 1ft – 5ft Cover | 4270 | LF | \$ 405.00 | \$ 1,729,350.00 |
| 93 | Zinc Coated 12in DIP, Water Main, >5ft – 10ft Cover | 300 | LF | \$ 500.00 | \$ 150,000.00 |
| 95 | Zinc Coated 12in DIP, Restrained Joint Pipe Adder | 4570 | LF | \$ 24.00 | \$ 109,680.00 |
| 96 | 16in DIP, Water Main, 1ft – 5ft Cover | 870 | LF | \$ 520.00 | \$ 452,400.00 |
| 97 | Zinc Coated 16in DIP, Water Main, >5ft – 10ft Cover | 200 | LF | \$ 575.00 | \$ 115,000.00 |
| 99 | Zinc Coated 16in DIP Restrained Joint Pipe Adder | 1070 | LF | \$ 28.00 | \$ 29,960.00 |
| 104 | Zinc Coated DIP Fittings - No greater than 4 linear feet | 12 | TON | \$ 14,300.00 | \$ 171,600.00 |
| 105 | Remove Existing Fire Hydrant Assembly | 10 | EA | \$ 2,500.00 | \$ 25,000.00 |
| 10 | New Fire Hydrant Assembly | 25 | EA | \$ 7,850.00 | \$ 196,250.00 |
| 107 | 6-inch Tap and Saddle | 6 | EA | \$ 9,850.00 | \$ 59,100.00 |
| 109 | 8x8 Tap Saddle & Valve | 11 | EA | \$ 11,450.00 | \$ 125,950.00 |
| 110 | Tapping Sleeve & Valve Assembly 8-inch on Existing 12-inch water main | 1 | EA | \$ 15,500.00 | \$ 15,500.00 |

| G. S. Construction | |
|--------------------|---------------|
| 9/18/2025 | |
| 2 | |
| Bid Price | Total |
| \$ 6,000.00 | \$ 96,000.00 |
| \$ 120.00 | \$ 360,000.00 |
| \$ 847,866.70 | \$ 847,866.70 |
| \$ 200.00 | \$ 6,000.00 |
| \$ 35.00 | \$ 3,500.00 |
| \$ 60.00 | \$ 45,000.00 |
| \$ 33.00 | \$ 59,400.00 |
| \$ 39.00 | \$ 31,980.00 |
| \$ 33.00 | \$ 6,600.00 |
| \$ 60.00 | \$ 12,000.00 |
| \$ 21.00 | \$ 31,500.00 |
| \$ 12.00 | \$ 1,200.00 |
| \$ 134.00 | \$ 301,902.00 |
| \$ 134.00 | \$ 603,670.00 |
| \$ 134.00 | \$ 905,572.00 |
| \$ 119.00 | \$ 30,345.00 |
| \$ 30.00 | \$ 405,480.00 |
| \$ 3.00 | \$ 405,480.00 |
| \$ 150.00 | \$ 25,500.00 |
| \$ 12.00 | \$ 81,096.00 |
| \$ 15.00 | \$ 18,000.00 |
| \$ 39.00 | \$ 146,406.00 |
| \$ 298.00 | \$ 29,800.00 |
| \$ 300.00 | \$ 150,000.00 |
| \$ 5,000.00 | \$ 250,000.00 |
| \$ 5,000.00 | \$ 50,000.00 |
| \$ 120.00 | \$ 78,960.00 |
| \$ 27.00 | \$ 17,766.00 |
| \$ 135.00 | \$ 48,600.00 |
| \$ 85.00 | \$ 8,500.00 |
| \$ 30.00 | \$ 13,800.00 |
| \$ 200.00 | \$ 854,000.00 |
| \$ 225.00 | \$ 67,500.00 |
| \$ 27.00 | \$ 123,390.00 |
| \$ 300.00 | \$ 261,000.00 |
| \$ 325.00 | \$ 65,000.00 |
| \$ 40.50 | \$ 43,335.00 |
| \$ 8,000.00 | \$ 96,000.00 |
| \$ 350.00 | \$ 3,500.00 |
| \$ 7,000.00 | \$ 175,000.00 |
| \$ 6,000.00 | \$ 36,000.00 |
| \$ 9,000.00 | \$ 99,000.00 |
| \$ 15,000.00 | \$ 15,000.00 |

| Garney Companies, Inc. | |
|--|-----------------|
| 1/31/2026 | |
| 1 Crew to start. 2nd crew to start in August | |
| Bid Price | Total |
| \$ 11,000.00 | \$ 176,000.00 |
| \$ 110.00 | \$ 330,000.00 |
| \$ 1,531,254.00 | \$ 1,531,254.00 |
| \$ 350.00 | \$ 10,500.00 |
| \$ 30.00 | \$ 3,000.00 |
| \$ 150.00 | \$ 112,500.00 |
| \$ 130.00 | \$ 234,000.00 |
| \$ 130.00 | \$ 106,600.00 |
| \$ 205.00 | \$ 41,000.00 |
| \$ 155.00 | \$ 31,000.00 |
| \$ 85.00 | \$ 127,500.00 |
| \$ 200.00 | \$ 20,000.00 |
| \$ 60.00 | \$ 135,180.00 |
| \$ 100.00 | \$ 450,500.00 |
| \$ 130.00 | \$ 878,540.00 |
| \$ 400.00 | \$ 102,000.00 |
| \$ 11.00 | \$ 148,676.00 |
| \$ 2.00 | \$ 270,320.00 |
| \$ 350.00 | \$ 59,500.00 |
| \$ 15.00 | \$ 101,370.00 |
| \$ 15.00 | \$ 18,000.00 |
| \$ 500.00 | \$ 1,877,000.00 |
| \$ 800.00 | \$ 80,000.00 |
| \$ 320.00 | \$ 160,000.00 |
| \$ 10,000.00 | \$ 500,000.00 |
| \$ 1,500.00 | \$ 15,000.00 |
| \$ 385.00 | \$ 253,330.00 |
| \$ 36.00 | \$ 23,688.00 |
| \$ 395.00 | \$ 142,200.00 |
| \$ 445.00 | \$ 44,500.00 |
| \$ 39.00 | \$ 17,940.00 |
| \$ 560.00 | \$ 2,391,200.00 |
| \$ 630.00 | \$ 189,000.00 |
| \$ 45.00 | \$ 205,650.00 |
| \$ 690.00 | \$ 600,300.00 |
| \$ 755.00 | \$ 151,000.00 |
| \$ 55.00 | \$ 58,850.00 |
| \$ 25,000.00 | \$ 300,000.00 |
| \$ 5,500.00 | \$ 55,000.00 |
| \$ 17,000.00 | \$ 425,000.00 |
| \$ 20,000.00 | \$ 120,000.00 |
| \$ 23,000.00 | \$ 253,000.00 |
| \$ 29,000.00 | \$ 29,000.00 |

| | | | | | |
|------|--|------|----|------------------|-------------------------|
| 111 | Tapping Sleeve & Valve Assembly 12-inch on Existing 12-inch water main | 1 | EA | \$ 18,000.00 | \$ 18,000.00 |
| 112 | Tapping Sleeve & Valve Assembly 16-inch on Existing 16-inch water main | 2 | EA | \$ 21,000.00 | \$ 42,000.00 |
| NIC | 12x36 Tap Sleeve & Valve | 1 | EA | \$ 32,000.00 | \$ 32,000.00 |
| NIC | 16x36" Tap and Sleeve | 1 | EA | \$ 36,750.00 | \$ 36,750.00 |
| 114 | Restrained Joint Gate Valve 6-inch W/Box & Pad | 8 | EA | \$ 2,850.00 | \$ 22,800.00 |
| 116 | Restrained Joint Gate Valve 8-inch W/Box & Pad | 14 | EA | \$ 3,200.00 | \$ 44,800.00 |
| 120 | Restrained Joint Resiliant Seated Gate Valve 12-inch W/Box & Pad | 15 | EA | \$ 17,250.00 | \$ 258,750.00 |
| 122 | Restrained Joint Resiliant Seated Gate Valve 16-inch W/Box & Pad | 6 | EA | \$ 20,400.00 | \$ 122,400.00 |
| NIC | 6-inch Insertion Valve | 4 | EA | \$ 11,000.00 | \$ 44,000.00 |
| NIC | 8-inch Insertion Valve | 4 | EA | \$ 15,000.00 | \$ 60,000.00 |
| NIC | 12-inch Insertion Valve | 2 | EA | \$ 21,500.00 | \$ 43,000.00 |
| NIC | 16-inch Insertion Valve | 4 | EA | \$ 32,000.00 | \$ 128,000.00 |
| NIC | 36-inch Line Stop | 2 | EA | \$ 80,000.00 | \$ 160,000.00 |
| 125 | 1-inch Air Release Valve Assembly | 2 | EA | \$ 6,500.00 | \$ 13,000.00 |
| 126 | 2-inch Air Release Valve Assembly | 2 | EA | \$ 9,000.00 | \$ 18,000.00 |
| 128 | Water Service Line, 1" Copper (Night) | 825 | LF | \$ 60.00 | \$ 49,500.00 |
| 130 | Water Service Line, 1 1/2" Copper (Night) | 50 | LF | \$ 72.50 | \$ 3,625.00 |
| NIC | Water Service Line, 2" Copper (Night) | 50 | LF | \$ 80.00 | \$ 4,000.00 |
| 143 | Pneumatic Bore Copper Pipe, up to 2-inch | 825 | LF | \$ 36.40 | \$ 30,030.00 |
| 127 | Re-establish Service Connection (residential) | 20 | EA | \$ 750.00 | \$ 15,000.00 |
| NIC | Re-establish Service Connection (Commercial) | 35 | EA | \$ 1,500.00 | \$ 52,500.00 |
| 135 | Meter Relocation/Adjustments | 15 | EA | \$ 2,500.00 | \$ 37,500.00 |
| 137 | Relocation of Existing 3/4" & 1" Water Servicvcs 0-25' | 8 | EA | \$ 2,500.00 | \$ 20,000.00 |
| 138 | Relocation of Existing 3/4" & 1" Water Servicvcs 26-50' | 4 | EA | \$ 3,800.00 | \$ 15,200.00 |
| 139 | Adjust Existing Water Meter Box to Grade (Concrete Paved Areas) | 25 | EA | \$ 550.00 | \$ 13,750.00 |
| 140 | Adjust Existing Water Meter Box to Grade (Asphalt Paved Areas) | 25 | EA | \$ 450.00 | \$ 11,250.00 |
| 180 | Polyethylene Wrap (Night) | 6758 | LF | \$ 8.00 | \$ 54,064.00 |
| 149E | Light Tower | 1300 | HR | \$ 24.70 | \$ 32,110.00 |
| 151E | Vacuum Excavation | 200 | HR | \$ 650.00 | \$ 130,000.00 |
| NIC | T&M Exploritory Excavation (excludes GPR Item 46): Charge against Bid Item 5 (Actual Labor Costs and Equipment Blue Book Rates +15% Markup)(OWNER DETERMINES AMOUNT) | 1 | LS | \$ 500,000.00 | \$ 500,000.00 |
| NIC | Disposal of 16" CS Pipe (Possible remove and replace with 12" pages 13 - 15) | 1200 | LF | \$ 40.00 | \$ 48,000.00 |
| | | | | Total Bid | \$ 12,855,312.68 |

| | |
|------------------|------------------------|
| \$ 20,000.00 | \$ 20,000.00 |
| \$ 45,000.00 | \$ 90,000.00 |
| \$ 150,000.00 | \$ 150,000.00 |
| \$ 200,000.00 | \$ 200,000.00 |
| \$ 3,500.00 | \$ 28,000.00 |
| \$ 4,000.00 | \$ 56,000.00 |
| \$ 10,000.00 | \$ 150,000.00 |
| \$ 20,000.00 | \$ 120,000.00 |
| \$ 15,000.00 | \$ 60,000.00 |
| \$ 17,500.00 | \$ 70,000.00 |
| \$ 37,000.00 | \$ 74,000.00 |
| \$ 40,000.00 | \$ 160,000.00 |
| \$ 100,000.00 | \$ 200,000.00 |
| \$ 3,500.00 | \$ 7,000.00 |
| \$ 4,000.00 | \$ 8,000.00 |
| \$ 30.00 | \$ 24,750.00 |
| \$ 40.00 | \$ 2,000.00 |
| \$ 50.00 | \$ 2,500.00 |
| \$ 55.00 | \$ 45,375.00 |
| \$ 2,500.00 | \$ 50,000.00 |
| \$ 4,500.00 | \$ 157,500.00 |
| \$ 400.00 | \$ 6,000.00 |
| \$ 960.00 | \$ 7,680.00 |
| \$ 2,670.00 | \$ 10,680.00 |
| \$ 270.00 | \$ 6,750.00 |
| \$ 400.00 | \$ 10,000.00 |
| \$ 5.50 | \$ 37,169.00 |
| \$ 20.00 | \$ 26,000.00 |
| \$ 650.00 | \$ 130,000.00 |
| \$ 500,000.00 | \$ 500,000.00 |
| \$ 5.40 | \$ 6,480.00 |
| Total Bid | \$ 9,326,532.70 |

| | |
|------------------|-------------------------|
| \$ 40,000.00 | \$ 40,000.00 |
| \$ 70,000.00 | \$ 140,000.00 |
| \$ 80,000.00 | \$ 80,000.00 |
| \$ 100,000.00 | \$ 100,000.00 |
| \$ 7,500.00 | \$ 60,000.00 |
| \$ 10,000.00 | \$ 140,000.00 |
| \$ 16,000.00 | \$ 240,000.00 |
| \$ 30,000.00 | \$ 180,000.00 |
| \$ 43,000.00 | \$ 172,000.00 |
| \$ 50,000.00 | \$ 200,000.00 |
| \$ 60,000.00 | \$ 120,000.00 |
| \$ 110,000.00 | \$ 440,000.00 |
| \$ 125,000.00 | \$ 250,000.00 |
| \$ 23,000.00 | \$ 46,000.00 |
| \$ 29,000.00 | \$ 58,000.00 |
| \$ 200.00 | \$ 165,000.00 |
| \$ 250.00 | \$ 12,500.00 |
| \$ 300.00 | \$ 15,000.00 |
| \$ 125.00 | \$ 103,125.00 |
| \$ 3,200.00 | \$ 64,000.00 |
| \$ 7,000.00 | \$ 245,000.00 |
| \$ 5,000.00 | \$ 75,000.00 |
| \$ 3,000.00 | \$ 24,000.00 |
| \$ 4,500.00 | \$ 18,000.00 |
| \$ 3,500.00 | \$ 87,500.00 |
| \$ 3,500.00 | \$ 87,500.00 |
| \$ 15.00 | \$ 101,370.00 |
| \$ 75.00 | \$ 97,500.00 |
| \$ 800.00 | \$ 160,000.00 |
| \$ 500,000.00 | \$ 500,000.00 |
| \$ 36.00 | \$ 43,200.00 |
| Total Bid | \$ 16,843,793.00 |

College Avenue 16" and 12" Watermain Replacement Project

| College Avenue 16" and 12" Watermain Replacement Project | | Contractor Name: | | G. S. Construction | |
|--|--|------------------|-------|--------------------|---------------|
| | | No. of Crews | | 2 | |
| Bid Items | Description | SOV | Units | Bid Price | Total |
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| 109 | 8x8 Tap Saddle & Valve | 11 | EA | \$ 9,000.00 | \$ 99,000.00 |
| 110 | Tapping Sleeve & Valve Assembly 8-inch on Existing 12-inch water main | 1 | EA | \$ 15,000.00 | \$ 15,000.00 |
| 111 | Tapping Sleeve & Valve Assembly 12-inch on Existing 12-inch water main | 1 | EA | \$ 20,000.00 | \$ 20,000.00 |
| 112 | Tapping Sleeve & Valve Assembly 16-inch on Existing 16-inch water main | 2 | EA | \$ 45,000.00 | \$ 90,000.00 |
| NIC | 12x36 Tap Sleeve & Valve | 1 | EA | \$ 150,000.00 | \$ 150,000.00 |
| NIC | 16x36" Tap and Sleeve | 1 | EA | \$ 200,000.00 | \$ 200,000.00 |
| 114 | Restrained Joint Gate Valve 6-inch W/Box & Pad | 8 | EA | \$ 3,500.00 | \$ 28,000.00 |
| 116 | Restrained Joint Gate Valve 8-inch W/Box & Pad | 14 | EA | \$ 4,000.00 | \$ 56,000.00 |
| 120 | Restrained Joint Resiliant Seated Gate Valve 12-inch W/Box & Pad | 15 | EA | \$ 10,000.00 | \$ 150,000.00 |
| 122 | Restrained Joint Resiliant Seated Gate Valve 16-inch W/Box & Pad | 6 | EA | \$ 20,000.00 | \$ 120,000.00 |
| NIC | 6-inch Insertion Valve | 4 | EA | \$ 15,000.00 | \$ 60,000.00 |
| NIC | 8-inch Insertion Valve | 4 | EA | \$ 17,500.00 | \$ 70,000.00 |
| NIC | 12-inch Insertion Valve | 2 | EA | \$ 37,000.00 | \$ 74,000.00 |
| NIC | 16-inch Insertion Valve | 4 | EA | \$ 40,000.00 | \$ 160,000.00 |
| NIC | 36-inch Line Stop | 2 | EA | \$ 100,000.00 | \$ 200,000.00 |
| 125 | 1-inch Air Release Valve Assembly | 2 | EA | \$ 3,500.00 | \$ 7,000.00 |
| 126 | 2-inch Air Release Valve Assembly | 2 | EA | \$ 4,000.00 | \$ 8,000.00 |
| 128 | Water Service Line, 1" Copper (Night) | 825 | LF | \$ 30.00 | \$ 24,750.00 |
| 130 | Water Service Line, 1 1/2" Copper (Night) | 50 | LF | \$ 40.00 | \$ 2,000.00 |
| NIC | Water Service Line, 2" Copper (Night) | 50 | LF | \$ 50.00 | \$ 2,500.00 |
| 143 | Pneumatic Bore Copper Pipe, up to 2-inch | 825 | LF | \$ 55.00 | \$ 45,375.00 |
| 127 | Re-establish Service Connection (residential) | 20 | EA | \$ 2,500.00 | \$ 50,000.00 |
| NIC | Re-establish Service Connection (Commercial) | 35 | EA | \$ 4,500.00 | \$ 157,500.00 |

| | | | | | |
|------|--|------|----|---------------|------------------------|
| 135 | Meter Relocation/Adjustments | 15 | EA | \$ 400.00 | \$ 6,000.00 |
| 137 | Relocation of Existing 3/4" & 1" Water Servicves 0-25' | 8 | EA | \$ 960.00 | \$ 7,680.00 |
| 138 | Relocation of Existing 3/4" & 1" Water Servicves 26-50' | 4 | EA | \$ 2,670.00 | \$ 10,680.00 |
| 139 | Adjust Existing Water Meter Box to Grade (Concrete Paved Areas) | 25 | EA | \$ 270.00 | \$ 6,750.00 |
| 140 | Adjust Existing Water Meter Box to Grade (Asphalt Paved Areas) | 25 | EA | \$ 400.00 | \$ 10,000.00 |
| 180 | Polyethylene Wrap (Night) | 6758 | LF | \$ 5.50 | \$ 37,169.00 |
| 149E | Light Tower | 1300 | HR | \$ 20.00 | \$ 26,000.00 |
| 151E | Vacuum Excavation | 200 | HR | \$ 650.00 | \$ 130,000.00 |
| NIC | T&M Exploritory Excavation (excludes GPR Item 46): Charge against Bid Item 5 (Actual Labor Costs and Equipment Blue Book Rates +15% Markup)(OWNER DETERMINES AMOUNT) | 1 | LS | \$ 500,000.00 | \$ 500,000.00 |
| NIC | Disposal of 16" CS Pipe (Possible remove and replace with 12" pages 13 - 15) | 1200 | LF | \$ 5.40 | \$ 6,480.00 |
| | | | | BID | \$ 9,326,533.00 |

OWNER
DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT
180 SAMS STREET
DECATUR, GEORGIA 30030
CONTACT: EDMOND KILLINGBECK
PHONE: (470) 786-2125

OFFICERS
CHIEF EXECUTIVE OFFICER LORRAINE COCHRAN-JOHNSON

DEKALB COUNTY BOARD OF COMMISSIONERS
DISTRICT 1 ROBERT PATRICK
DISTRICT 2 MICHELLE LONG SPEARS
DISTRICT 3 NICOLE MASSIAH
DISTRICT 4 CHAKIRA JOHNSON
DISTRICT 5 MEREDA DAVIS JOHNSON
DISTRICT 6 TED TERRY
DISTRICT 7 LADENA BOLTON

DEPARTMENT OF WATERSHED MANAGEMENT
DIRECTOR REGINALD WELLS

DRAWING INDEX

| COV | COVER |
|--------|---|
| G-01 | GENERAL NOTES & STANDARD DETAILS |
| G-02 | PLAN STA 12+00 TO STA 15+00 |
| 24-003 | PLAN STA 15+00 TO STA 20+00 |
| 24-004 | PLAN STA 20+00 TO STA 25+00 |
| 24-005 | PLAN STA 25+00 TO STA 30+00 |
| 24-006 | PLAN STA 30+00 TO STA 35+00 |
| 24-007 | PLAN STA 35+00 TO STA 41+00 |
| 24-008 | PLAN STA 41+00 TO STA 47+00 |
| 24-009 | PLAN STA 47+00 TO STA 52+00 |
| 24-010 | PLAN STA 52+00 TO STA 57+40 = STA 195+55 |
| 24-011 | PLAN STA 57+40 = STA 195+55 TO STA 200+00 |
| 24-012 | PLAN STA 200+00 TO STA 205+00 |



SITE LOCATION MAP
NOT TO SCALE

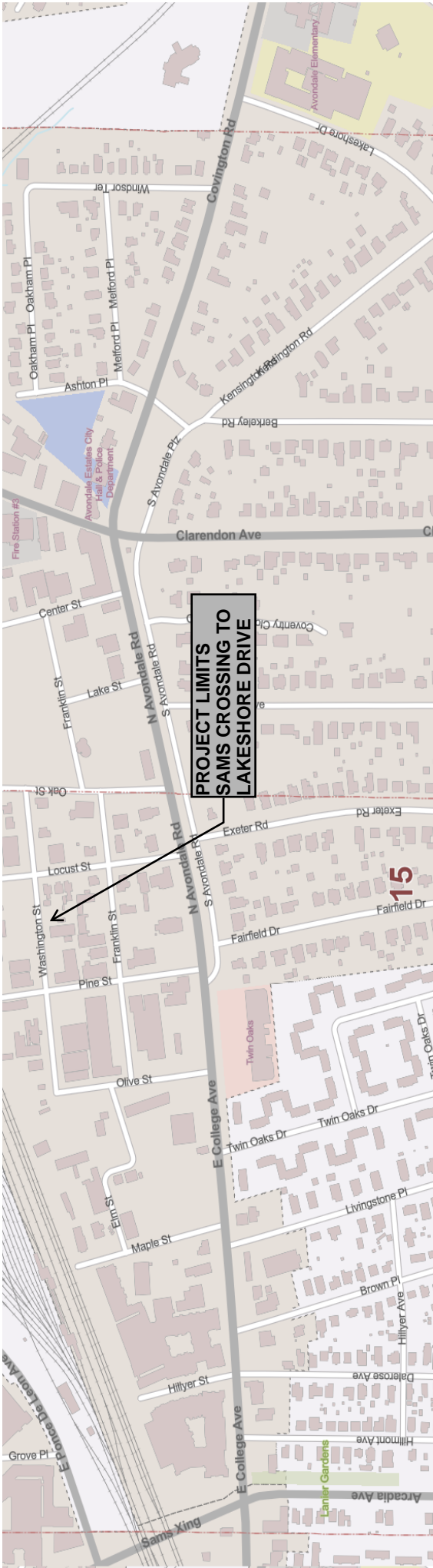
DEKALB COUNTY

DEPARTMENT OF WATERSHED MANAGEMENT

AVONDALE ESTATES WATER MAIN REPLACEMENT

APRIL 2025

SITE LOCATION:
FROM THE INTERSECTION OF SAMS CROSSING AND GA. 10 / US HWY 278
TO LAKESHORE DRIVE AND GA. 10 / US HWY 278.
AVONDALE ESTATES, DEKALB COUNTY, GA



VICINITY MAP
NOT TO SCALE

- WATER AND SEWER NOTES
- ALL DESIGN AND CONSTRUCTION SHALL COMPLY WITH DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT DESIGN STANDARDS, LATEST EDITION.
 - THE DESIGN STANDARDS, LATEST EDITION ARE PROVIDED ON THE DWM EOMS WEBSITE.
 - CONTRACTOR SHALL PROVIDE RECORD DRAWINGS "AS-BUILT PLANS" AND "FINAL PLANS" (IF APPLICABLE) IN HARD COPY AND ELECTRONIC FORMAT (AUTOCAD OR MICROSTATION).
 - FIELD CHANGES DURING CONSTRUCTION MUST BE SUBMITTED FOR REVIEW AND APPROVAL TO THE DWM CONSTRUCTION MANAGER.
 - CONTRACTOR MUST NOTIFY WATER AND SEWER CONSTRUCTION INSPECTOR 72 HOURS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

NOTES

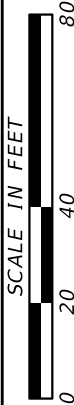
- ALL EROSION AND SEDIMENTATION CONTROLS AND ALL TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO GRADING.
- CONTACTS:
DEKALB WATERSHED MANAGEMENT
EDMOND KILLINGBECK, PHONE: (470) 786-2125
24 HR EMERGENCY OPERATIONS CONTACT, PHONE: (470) 786-2125
- NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS AND OTHER TRAFFIC CONTROL METHODS AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION ON DEKALB COUNTY ROADS.
- BEGIN CONSTRUCTION: N: 33.774824 W: 84.279578
END CONSTRUCTION: N: 33.774851 W: 84.262047



Know what's below
Call before you dig

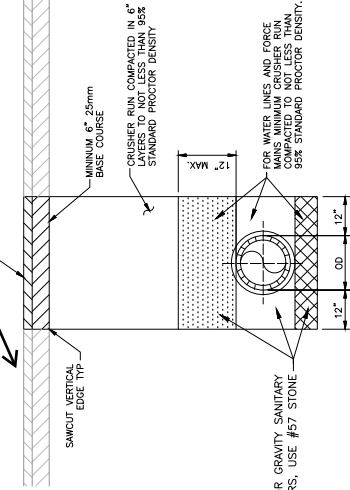
| | | |
|---|-------------|--------------------------------|
| PROPERTY AND EXISTING R/W LINE | -----P----- | BEGIN LIMIT OF ACCESS.....BLA |
| REQUIRED R/W LINE | -----C----- | END LIMIT OF ACCESS.....ELA |
| CONSTRUCTION LIMITS | ---C---F--- | EXISTING LIMIT OF ACCESS |
| EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES | | REQ'D LIMIT OF ACCESS |
| EASEMENT FOR CONSTR OF SLOPES | | EXISTING LIMIT OF ACCESS & R/W |
| EASEMENT FOR CONSTR OF DRIVES | | REQ'D LIMIT OF ACCESS & R/W |
| | | ORANGE BARRIER FENCE |
| | | ESA - ENV. SENSITIVE AREA |

| | |
|---|------------------------|
| REVISION DATES | |
| UTILITY PLANS | WATER MAIN REPLACEMENT |
| SR-10 / US HWY 278 - SAMS CROSSING TO LAKESHORE DR. | |
| CHECKED: | DATE: |
| CORRECTED: | DATE: |
| VERIFIED: | DATE: |



DRAWING No. 1
COVER

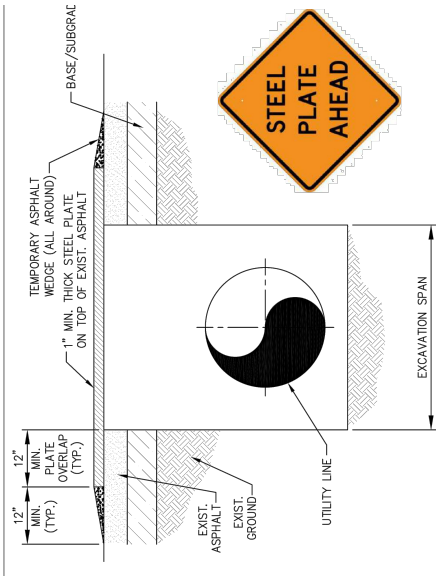
ASPHALT TO BE INSTALLED
IN ACCORDANCE W/GDOT
CONSTRUCTION PERMIT
REQUIREMENTS



- NOTES :
1. SAW OUT EXISTING PAVEMENT TO PROVIDE STRAIGHT VERT. JOINTS.
 2. SURFACES TO BE CLEANED AND BITUMINOUS TACK COAT APPLIED BEFORE PLACEMENT OF ASPHALTIC TOP.
 3. THIS DETAIL MAY ONLY BE USED WITH DOWM'S APPROVAL.

TYPICAL ASPHALT PAVEMENT
PATCH WITHOUT CONCRETE CAP

1
NTS



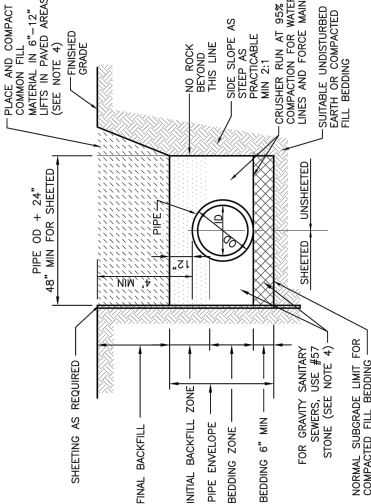
NOTES:

1. INSTALLATION SHALL BE USED IN AREAS WHERE BACKFILLING OPERATIONS OF AN EXCAVATION IN THE ROADWAY CANNOT MEET THE MINIMUM COMPACTION REQUIREMENTS AND PERMANENT PATCHING PLACEMENT WITHIN THE SAME DAY.
2. ALL EXCAVATIONS SHALL BE BACKFILLED WITHIN THE ROADWAY.
3. EACH PLATE IS TO OVERLAP EXISTING PAVEMENT 12" MINIMUM IN EVERY DIRECTION.
4. EACH STEEL PLATE SHALL BE ANCHORED SECURELY TO PREVENT MOVEMENT.
5. TEMPORARY PAVING WITH A COLD ASPHALT MIX OR APPROVED EQUAL SHALL BE USED TO FEATHER EDGES OF THE PLATE TO FORM A WEDGED TAPER TO COVER THE EDGES OF THE STEEL PLATE.
6. THE STEEL PLATE SHALL BE REMOVED WITHIN 30 DAYS OF PLACEMENT WITH THE EXCAVATION MEETING THE MINIMUM COMPACTION REQUIREMENTS AND PERMANENT PATCHING INSTALLED.
7. ANY DITCH LINE NEEDING A STEEL PLATE LONGER THAN 30 DAYS SHALL REQUIRE DOWM'S WRITTEN APPROVAL.
8. THE STEEL PLATE SHALL BE PLACED APPROXIMATELY 100 FEET IN ADVANCE OF THE STEEL PLATE LOCATION. THE SIGNS SHALL MEET MUTOD SIGN SIZE REQUIREMENTS, SHALL STATE STEEL PLATE AHEAD, AND SHALL BE VISIBLE TO THE MOTORIST.

STEEL PLATE

INSTALLATION DETAIL

5
NTS

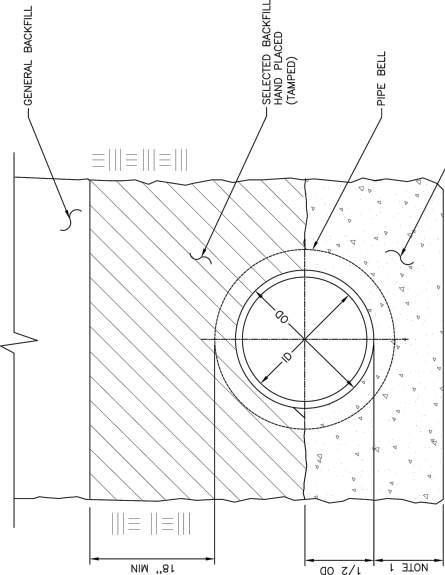


- NOTES:
1. SEE DESIGN STANDARDS FOR ADDITIONAL BEDDING AND TRENCH BACKFILL REQUIREMENTS.
 2. DEPTH OF COVER OVER WATER MAINS, FORCE MAINS AND GRAVITY SANITARY SEWERS SHALL BE AS SHOWN OR AS REQUIRED FROM TOP OF PAVEMENT OR FINISHED GRADE TO TOP OF PIPE.
 3. NO ROCK ONLY BEDDING MATERIAL IN BACKFILL FOR FIRST 2'-0" ABOVE TOP OF PIPE.
 4. BEDDING AND BACKFILL TO BE CRUSHER RUN AT 95% COMPACTION TO THE TOP OF PIPE TO THE BOTTOM OF THE CONCRETE ROAD CAP.
 5. BACKFILL TO BE FREE OF ORGANICS, OBJECTIONABLE MATERIAL AND STONES LARGER THAN 3" IN ITS LONGEST DIMENSION.

BACKFILL AND ALLOWABLE

TRENCH WIDTHS DETAIL

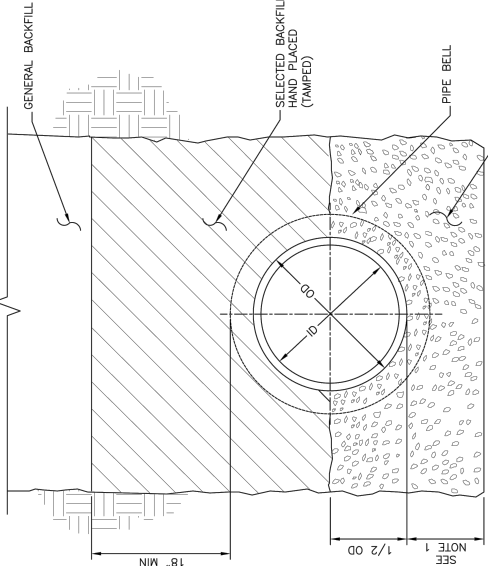
2
NTS



- NOTES:
1. CONCRETE DEPTH BELOW PIPE:
a.) PIPE DIAMETER UP TO 12";
i.) EQUAL TO 1/2 TIMES THE OUTSIDE DIAMETER (OD)
ii.) MINIMUM 6"
b.) PIPE DIAMETER GREATER THAN 12";
i.) EQUAL TO 1/4 TIMES THE OUTSIDE DIAMETER (OD)
ii.) MINIMUM 6"
c.) MAXIMUM 12"

CLASS "A" BEDDING

3
NTS



- NOTES:
1. BEDDING DEPTH BELOW PIPE:
a.) PIPE DIAMETER UP TO 12";
i.) EQUAL TO 1/2 TIMES THE OUTSIDE DIAMETER (OD)
ii.) MINIMUM 4"
b.) PIPE DIAMETER GREATER THAN 12";
i.) EQUAL TO 1/4 TIMES THE OUTSIDE DIAMETER (OD)
ii.) MINIMUM 6"
c.) MAXIMUM 12"

CLASS "A" BEDDING

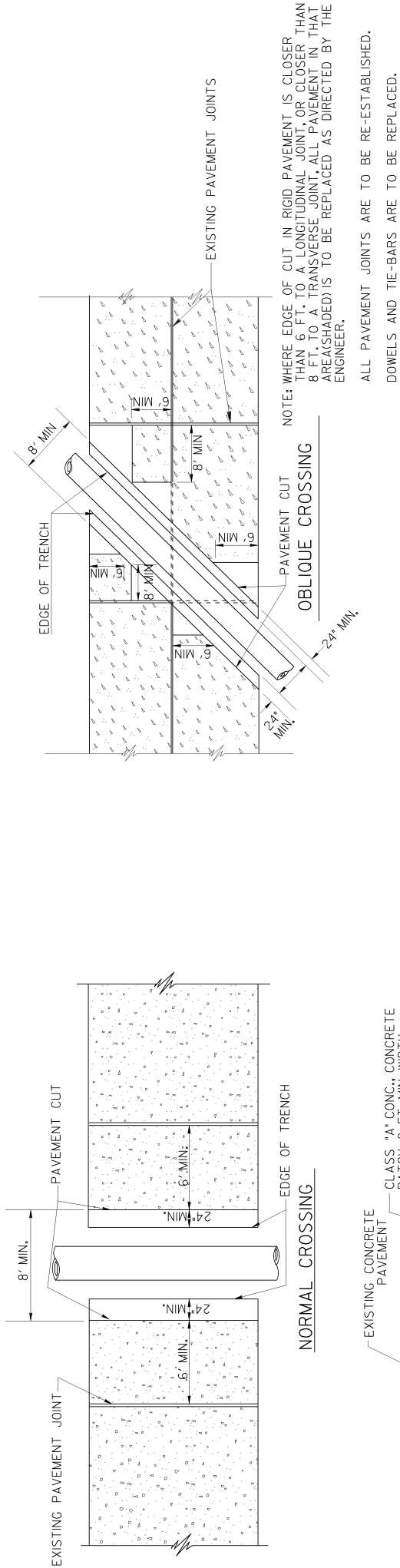
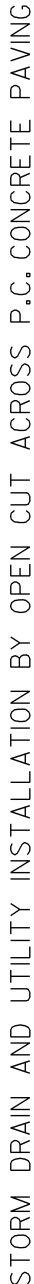
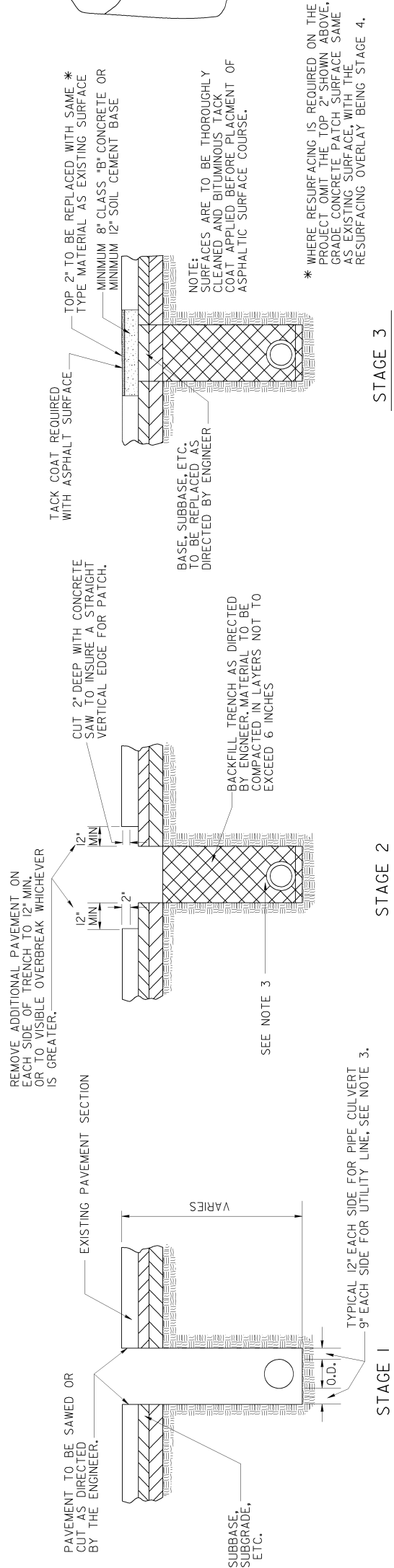
4
NTS

GDOT PERMITTING NOTES:

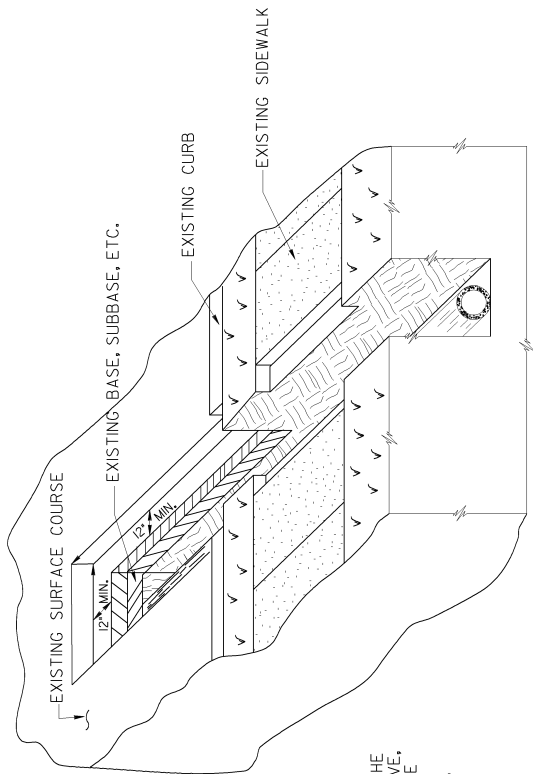
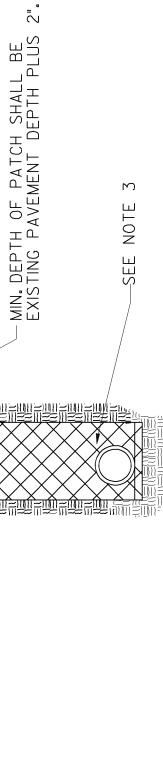
1. ALL DUCTILE IRON PIPING SHALL BE RESTRAINED JOINT PIPE. ALL FITTINGS AND VALVES SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS (EBAA MEGA-LUG OR EQUAL).
2. ALL STORM CROSSINGS SHALL BE INSTALLED WITH CLASS "A" BEDDING WITH FLOWABLE FILL, EXTENDING 5' BEYOND EACH SIDE OF CROSSING, SEE DETAIL 3 THIS SHEET.
3. THE POSTED SPEED LIMIT ALONG US-278 IS 35 MPH EXCEPT WITHIN SCHOOL ZONES WHERE THE SPEED LIMIT IS REDUCED TO 25 MPH.
4. TRENCH WIDTH FOR PAVEMENT CUT TO BE 5 FEET MAXIMUM, WITH 3 FEET BEING TYPICAL, FOR TOTAL LENGTH OF THE DUCTILE IRON PIPE INSTALLATION IN THE EASTBOUND LANE.
5. INSTALLATION OF NEW 12" DIP WATER MAIN TO BE CONTAINED WITHIN THE WIDTH OF THE EASTBOUND LANE WITH EXCEPTION TO THE MAPLE STREET CROSSING AREA.
6. EXISTING PIPE TO BE ABANDONED TO BE FILLED WITH FLOWABLE CONCRETE AND CAPPED AT ALL CUT ENDS.
7. DeKalb DWM HAS COORDINATED WITH THE CITY OF AVONDALE ESTATES AND THEIR CONTRACTOR WHO IS ACTIVELY WORKING IN THIS AREA. GOAL IS TO REPLACE FAILING WATER MAINS PRIOR TO PAVING OF THIS ACTIVE PROJECT. DWM IS SEEKING APPROVAL BASED ON THE PLAN SHEETS UTILIZED FROM THAT PROJECT TO PERMIT THE WORK SHOWN HEREIN.
8. DeKalb COUNTY DWM STANDARD SPECIFICATIONS AND DETAILS SHALL BE ADHERED TO AS STATED IN THE CONTRACT FOR THE ON-CALL CONTRACTORS BEING UTILIZED UNDER THIS PROJECT.

STORM DRAIN AND UTILITY INSTALLATION BY OPEN CUT - GENERAL

STORM DRAIN AND UTILITY INSTALLATION BY OPEN CUT - GENERAL



NOTE: WHEN THE CONCRETE IS POURED, IT SHALL BE STRUCK OFF AT AN ELEVATION SLIGHTLY HIGHER THAN THE INTENDED SURFACE AND TAMPED TO OFF-SET SHRINKAGE. MECHANICAL VIBRATING EQUIPMENT SHALL BE USED TO CONSOLIDATE THE PLACED CONCRETE, ESPECIALLY AT THE EDGES AND AROUND THE STEEL AT JOINTS. THE CONCRETE SHALL THEN BE TAMPED A SECOND TIME, THEN SCREEDED AND CHECKED WITH A STRAIGHT EDGE TO GIVE THE SAME SURFACE GRADE AS THE EXISTING PAVEMENT.

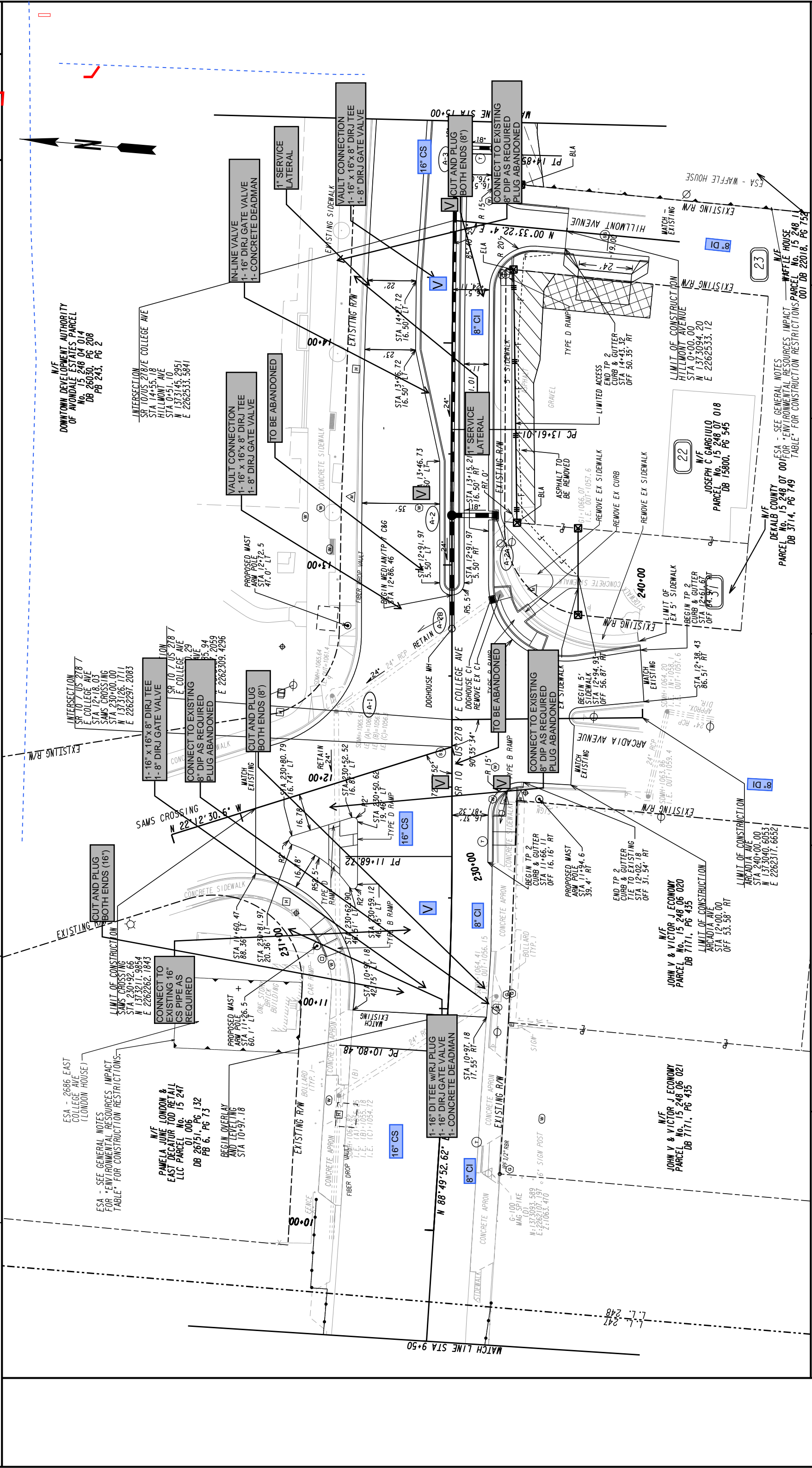


GENERAL NOTES:

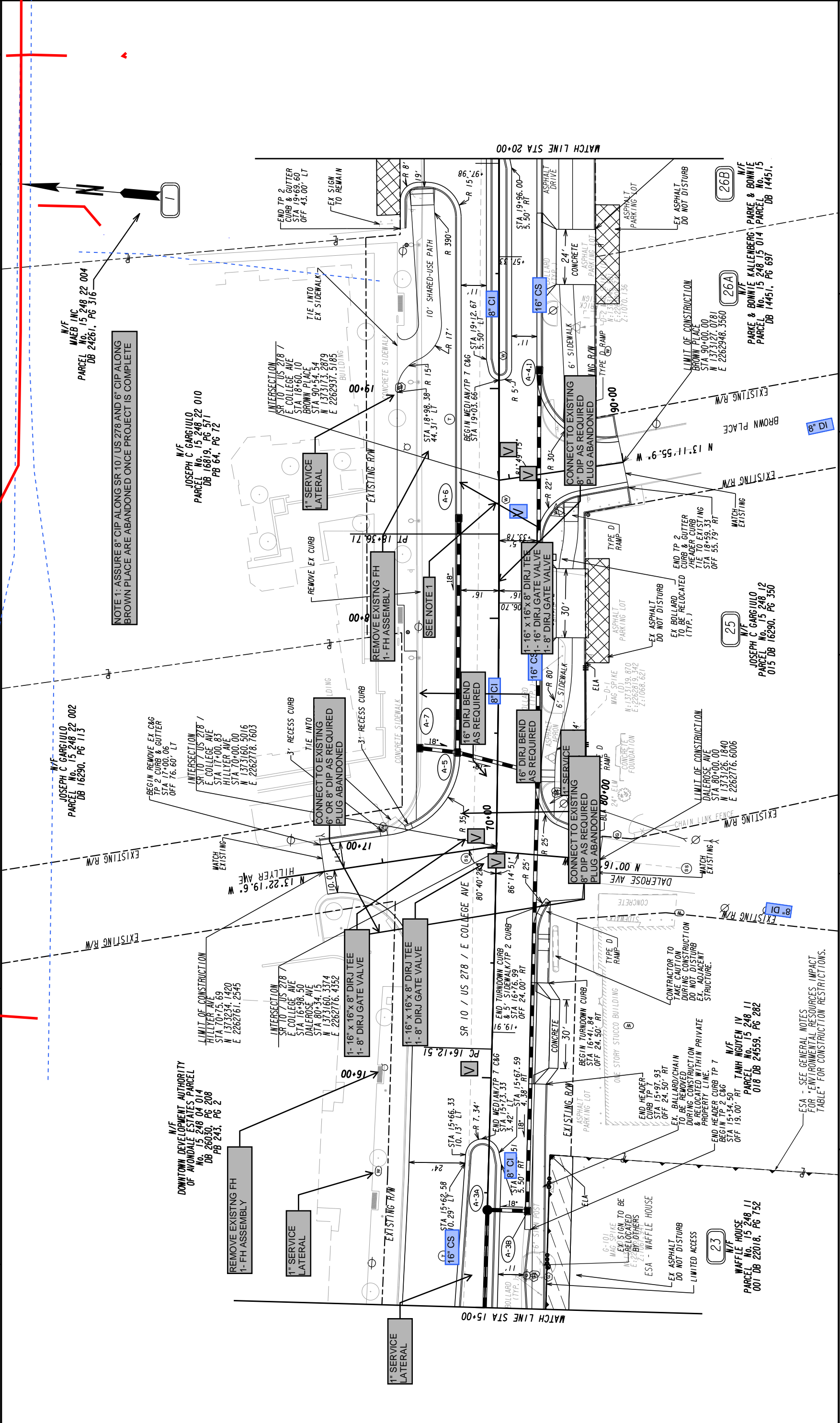
1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERE TO.
2. (a) OTHER PAVEMENT REPLACEMENT MATERIALS, SUCH AS HIGH EARLY STRENGTH CONCRETE, MAY BE SUBSTITUTED FOR MATERIALS SHOWN WHEN CALLED FOR IN THE PLANS OR BY THE ENGINEER.
(b) PAYMENT FOR PIPE CULVERT OR UTILITY SHALL INCLUDE SAWING AND/OR CUTTING AND REMOVING EXISTING PAVEMENT AND REPLACING THE PAVEMENT AS SPECIFIED. PAYMENT FOR PIPE OR UTILITY INCLUDES THIS PAVEMENT REPLACEMENT MATERIAL, REGARDLESS OF WHERE MATERIALS SHOWN ARE USED OR WHERE OTHER MATERIALS SUCH AS HIGH EARLY STRENGTH CONCRETE ARE USED.
3. (a) PAYMENT FOR PIPE CULVERT OR UTILITY INSTALLATION SHALL INCLUDE REPLACING IN KIND ANY PORTIONS OF SIDEWALK, CURB, CURB & GUTTER, MEDIAN PAVING, DRIVEWAYS, ETC., WHICH ARE DISTURBED DUE TO THE INSTALLATION.
(b) TRENCH DETAIL SHOWN IS GENERAL. SEE STANDARD 1030D FOR DETAILS REQUIRED FOR PIPE CULVERT INSTALLATIONS. SEE THE UTILITIES MANUAL FOR UTILITY INSTALLATION REQUIREMENTS.
4. AFTER REMOVING EXISTING PAVEMENT, THE SUBBASE AND VERTICAL FACE OF EXISTING PAVING SHALL BE DAMPED (BUT NOT WET). ADDITIONALLY, THE VERTICAL FACE OF THE EXISTING PAVEMENT SHALL BE PAINTED WITH A SOLUTION OF PORTLAND CEMENT AND WATER MIXED TO THE CONSISTENCY OF HEAVY PAINT. THE CONCRETE MIX SHALL THEN BE POURED BEFORE THIS SURFACE DRIES OUT. AFTER CONCRETE IS POURED, IT SHALL BE WORKED INTO ALL CORNERS AND INTO ALL ROUGH SURFACES OF THE EXISTING PAVEMENT.
5. WHERE PIPE IS REMOVED, BUT NOT REPLACED, PAYMENT FOR PIPE REMOVAL INCLUDES ALL ITEMS DESCRIBED IN GENERAL NOTE 2., WITH ALL OTHER NOTES AND DETAILS ALSO BEING APPLICABLE.

NOTE: THIS STANDARD IS FOR USE WHERE PERMANENT PAVEMENT PATCHING IS REQUIRED. TEMPORARY PATCHING, IF REQUIRED, SHALL BE ACCORDING TO OTHER DETAILS, SPECIFICATIONS, AND/OR AS DIRECTED BY THE ENGINEER.

| | | | |
|--|----------|---|-------------------------|
| | DATE | DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA STANDARD | |
| | REVISION | PAVEMENT PATCHING DETAILS (STORM DRAIN OR UTILITY INSTALLATIONS BY OPEN CUT ACROSS EXISTING PAVEMENT) | |
| | NO | SCALE | REV. & REDR., AUG. 1999 |
| | BY | (SUBMITTED) _____ REV. _____ TRA. _____ CHK. _____ | NUMBER 1401 |
| | | SPECIAL ROAD & AIRPORT DESIGN ENGR. <i>James H. Bond</i> <i>Clayton L. Feltz</i> CHIEF ENGINEER | |

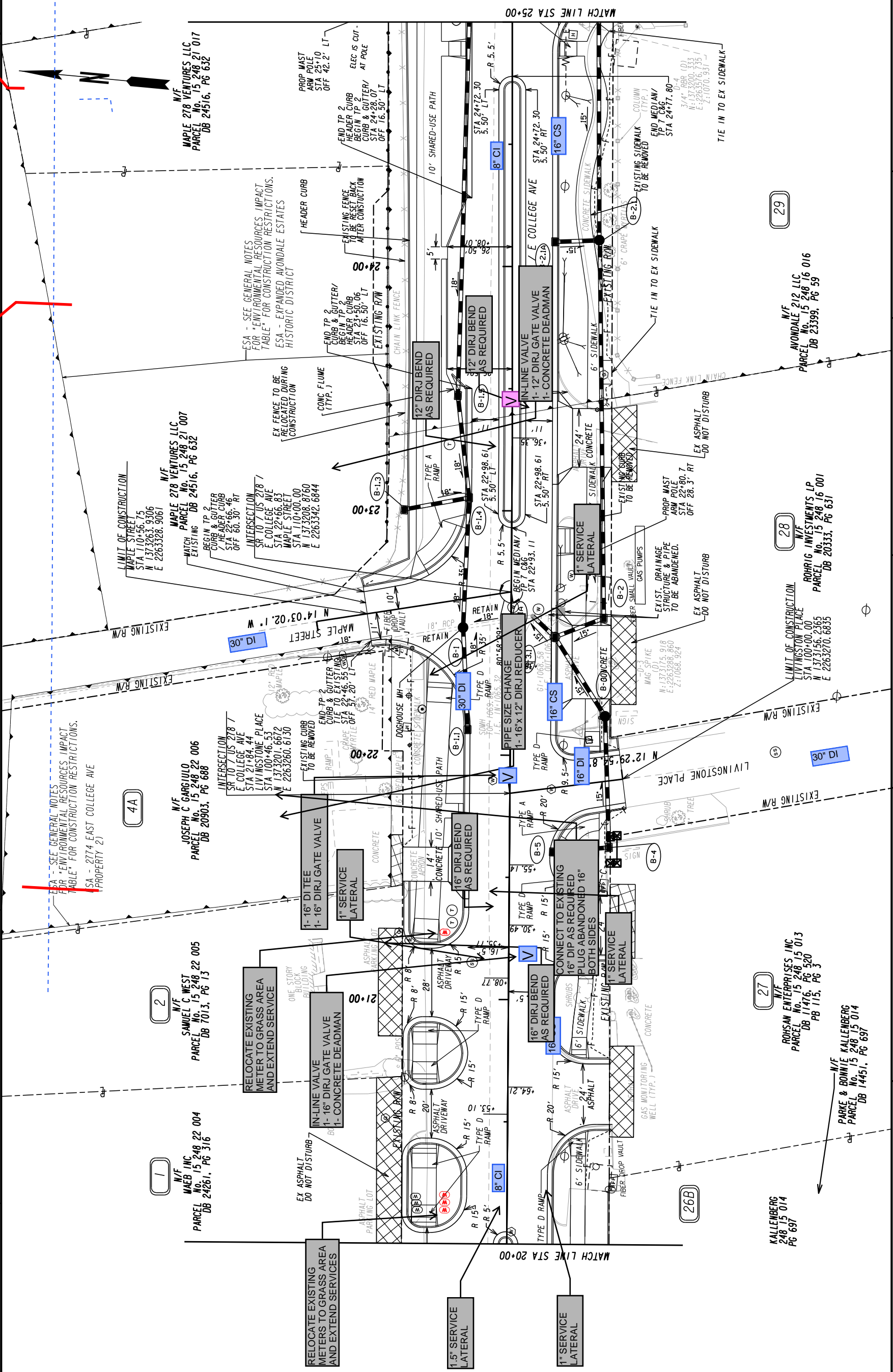


| | | | | | | | | | | | |
|--------------------------------|-------------|--------------------------------|---|---|--------------------|-----------------|--|-------------|-------------|--|--|
| PROPERTY AND EXISTING R/W LINE | ---P--- | BEGIN LIMIT OF ACCESS.....BLA | <div>SCALE IN FEET</div> <div><div></div><div>0204080</div></div> | SR 107 US HWY 278 - SAMS CROSSING TO LAKESHORE DR. | REVISION DATES | | | DRAWING NO. | | | |
| REQUIRED R/W LINE | ----- | END LIMIT OF ACCESS.....ELA | | | DATE: _____ | | | DATE: _____ | | | |
| CONSTRUCTION LIMITS | ---C---F--- | LIMIT OF ACCESS | | | CHECKED: _____ | | | DATE: _____ | | | |
| EASEMENT FOR CONSTR | | REQ'D R/W & LIMIT OF ACCESS | | | BACKCHECKED: _____ | | | DATE: _____ | | | |
| & MAINTENANCE OF SLOPES | | ENVIRONMENTALLY SENSITIVE AREA | | | CORRECTED: _____ | | | DATE: _____ | | | |
| EASEMENT FOR CONSTR OF SLOPES | | ORANGE BARRIER FENCE | | | | VERIFIED: _____ | | | DATE: _____ | | |
| EASEMENT FOR CONSTR OF DRIVES | | | | | | | | | 24-002 | | |

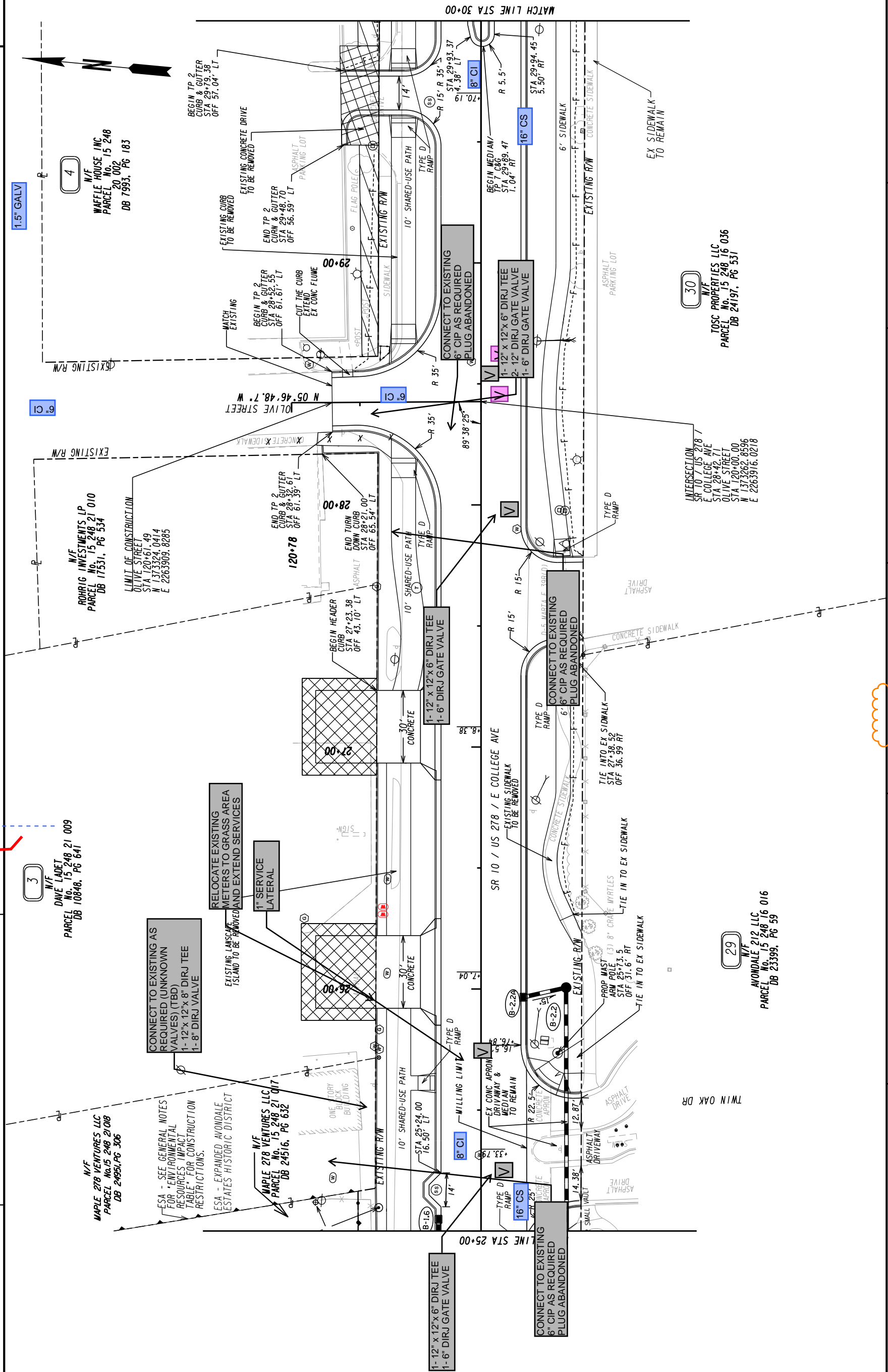


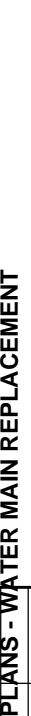





| PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES EASEMENT FOR CONSTR OF DRIVES | BEGIN LIMIT OF ACCESS.....BLA END LIMIT OF ACCESS.....ELA LIMIT OF ACCESS REQ'D R/W & LIMIT OF ACCESS ENVIRONMENTALLY SENSITIVE AREA ORANGE BARRIER FENCE | REVISION DATES | |
|---|--|--|--|
| | | UTILITY PLANS - WATER MAIN REPLACEMENT | SR 107/US HWY 278 - SAMS CROSSING TO LAKESHORE DR. |
| --- | --- | CHECKED: | DATE: |
| --- | --- | BACKCHECKED: | DATE: |
| --- | --- | CORRECTED: | DATE: |
| --- | --- | VERIFIED: | DATE: |
| --- | --- | DRAWING NO. | 24-003 |





| PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES EASEMENT FOR CONSTR OF DRIVES | REVISION DATES | | DATE | | DRAWING NO. |
|--|----------------|-------------|------|------|-------------|
| | NO. | DESCRIPTION | DATE | DATE | |
| BEGIN LIMIT OF ACCESS.....BLA END LIMIT OF ACCESS.....ELA LIMIT OF ACCESS REQ'D R/W & LIMIT OF ACCESS ENVIRONMENTALLY SENSITIVE AREA ORANGE BARRIER FENCE | 1 | 2 | 3 | 4 | 5 |
| SR 10+US HWY 278 - SAMS CROSSING TO LAKESHORE DR. | 1 | 2 | 3 | 4 | 5 |
| 24-004 | 1 | 2 | 3 | 4 | 5 |

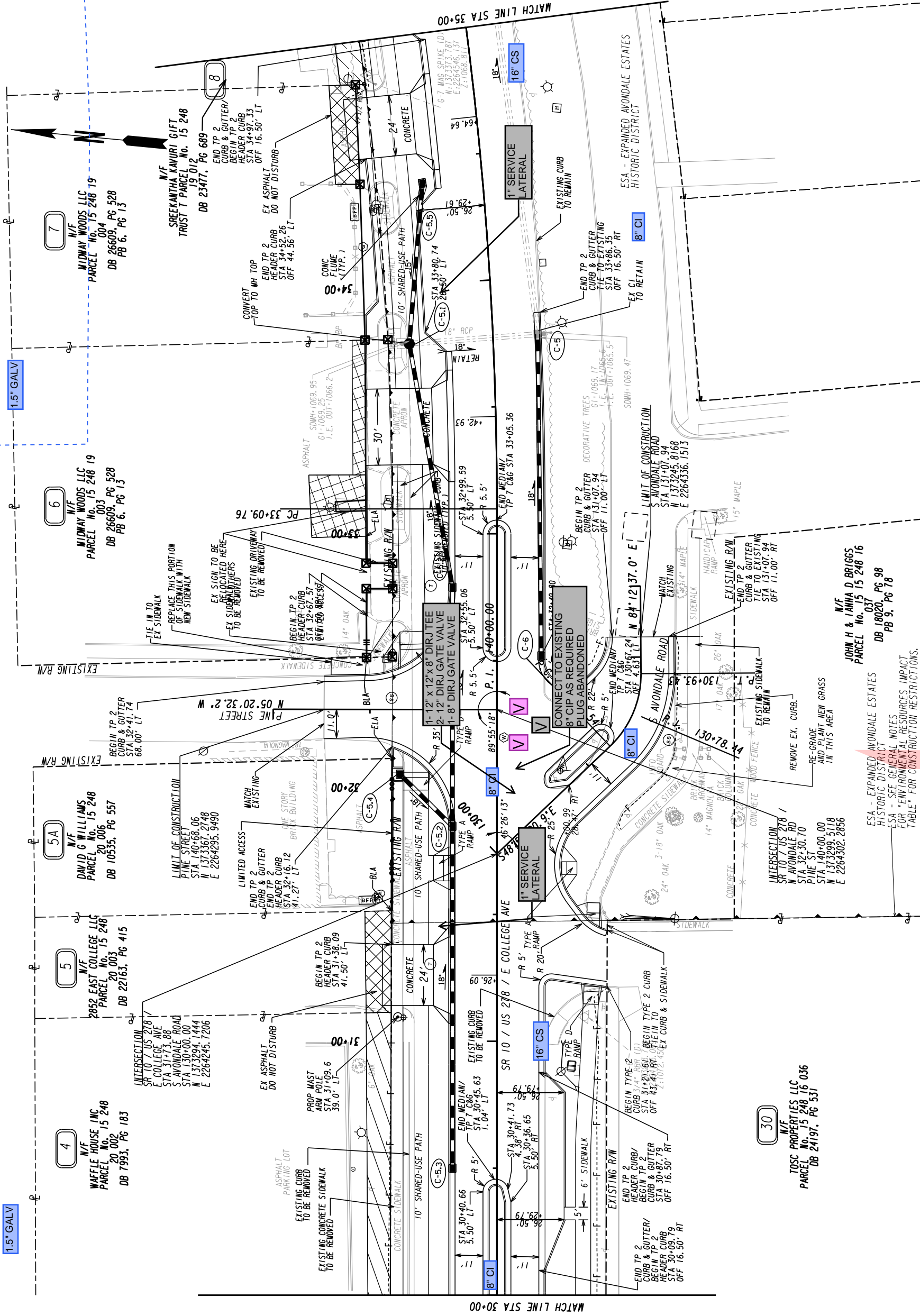


| | | | | | | | | | |
|--|--|--|--|---|---|---|---|--|---|
| PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES EASEMENT FOR CONSTR OF SLOPES EASEMENT FOR CONSTR OF DRIVES |  | BEGIN LIMIT OF ACCESS.....BLA END LIMIT OF ACCESS.....ELA LIMIT OF ACCESS REQ'D R/W & LIMIT OF ACCESS ENVIRONMENTALLY SENSITIVE AREA ORANGE BARRIER FENCE |  |  |  |  |  | UTILITY PLANS - WATER MAIN REPLACEMENT SR 107 US HWY 278 - SAMS CROSSING TO LAKE SHORE DR. CHECKED: _____ DATE: _____ BACKCHECKED: _____ DATE: _____ CORRECTED: _____ DATE: _____ VERIFIED: _____ DATE: _____ | REVISION DATES DRAWING NO. 24-005 |
|--|--|--|--|---|---|---|---|--|---|

1.5" GALV

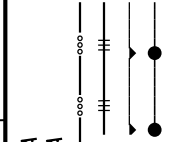
1.5" GALV

1.5" GALV

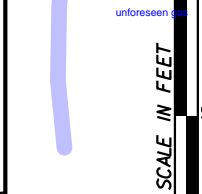


PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ENVIRONMENTALLY SENSITIVE AREA
ORANGE BARRIER FENCE



ASPHALT

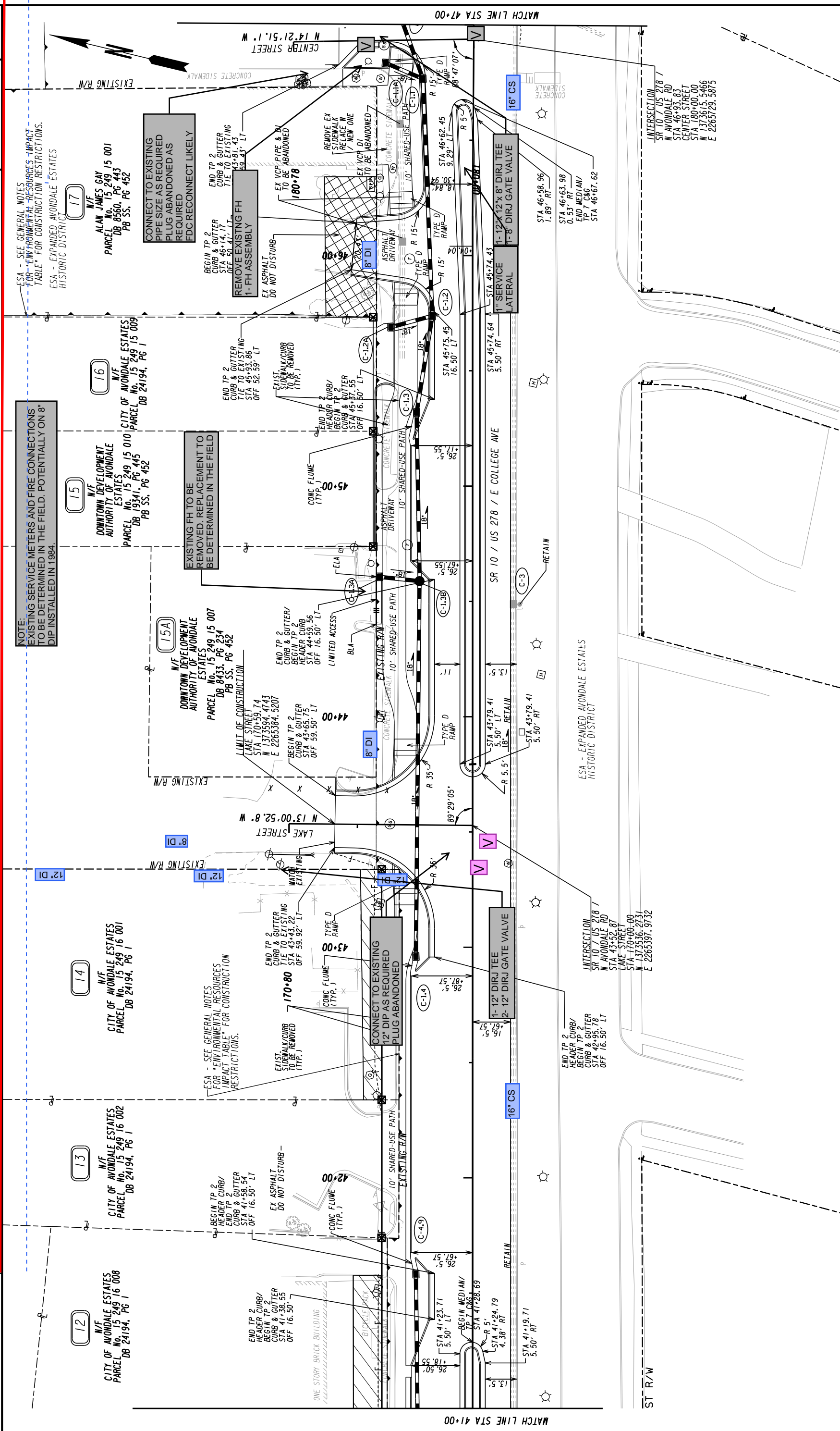


REVISION DATES
UTILITY PLANS - WATER MAIN REPLACEMENT
SR 10 / US HWY 278 - SAMS CROSSING TO
LAKESHORE DR.

| | |
|--------------|-------|
| CHECKED: | DATE: |
| BACKCHECKED: | DATE: |
| CORRECTED: | DATE: |
| VERIFIED: | DATE: |

24-006



[illegible]

NOTE:
IT IS ASSUMED THAT SERVICES ON NORTH
SIDE OF PROJECT THIS AREA ARE ON THE
8" DIP INSTALLED IN 1984. (TBD)

M/F
OCP AVONDALE LLC
PARCEL No. 15 249 11 009
& PARCEL No. 15 249 11 010
DB 23135, PG 28

M/F
CITY OF AVONDALE ESTATES
PARCEL No. 15 249 10 022
DB 6181, PG 694

NOTE:
SEE GENERAL NOTES
FOR "ENVIRONMENTAL RESOURCES IMPACT
TABLE" FOR CONSTRUCTION RESTRICTIONS.
ESA - EXPANDED AVONDALE ESTATES
HISTORIC DISTRICT

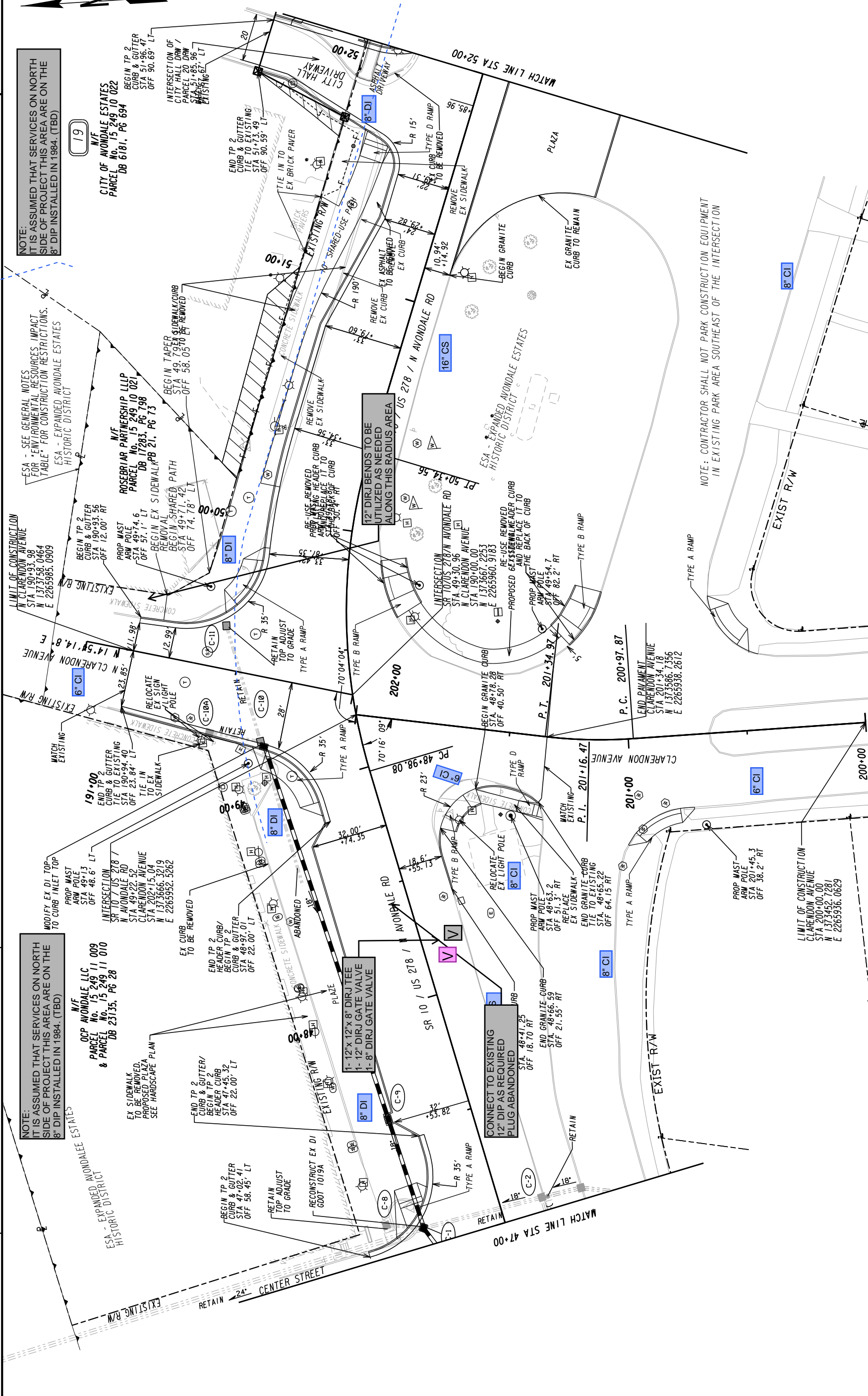
M/F
ROSEBARI PARTNERSHIP LLP
PARCEL No. 15 249 10 021
DB 17283, PG 798

M/F
CITY OF AVONDALE ESTATES
PARCEL No. 15 249 10 022
DB 6181, PG 694

NOTE:
IT IS ASSUMED THAT SERVICES ON NORTH
SIDE OF PROJECT THIS AREA ARE ON THE
8" DIP INSTALLED IN 1984. (TBD)

M/F
CITY OF AVONDALE ESTATES
PARCEL No. 15 249 10 022
DB 6181, PG 694

M/F
CITY OF AVONDALE ESTATES
PARCEL No. 15 249 10 022
DB 6181, PG 694



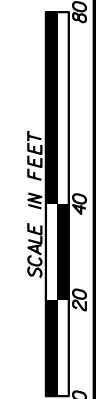
PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

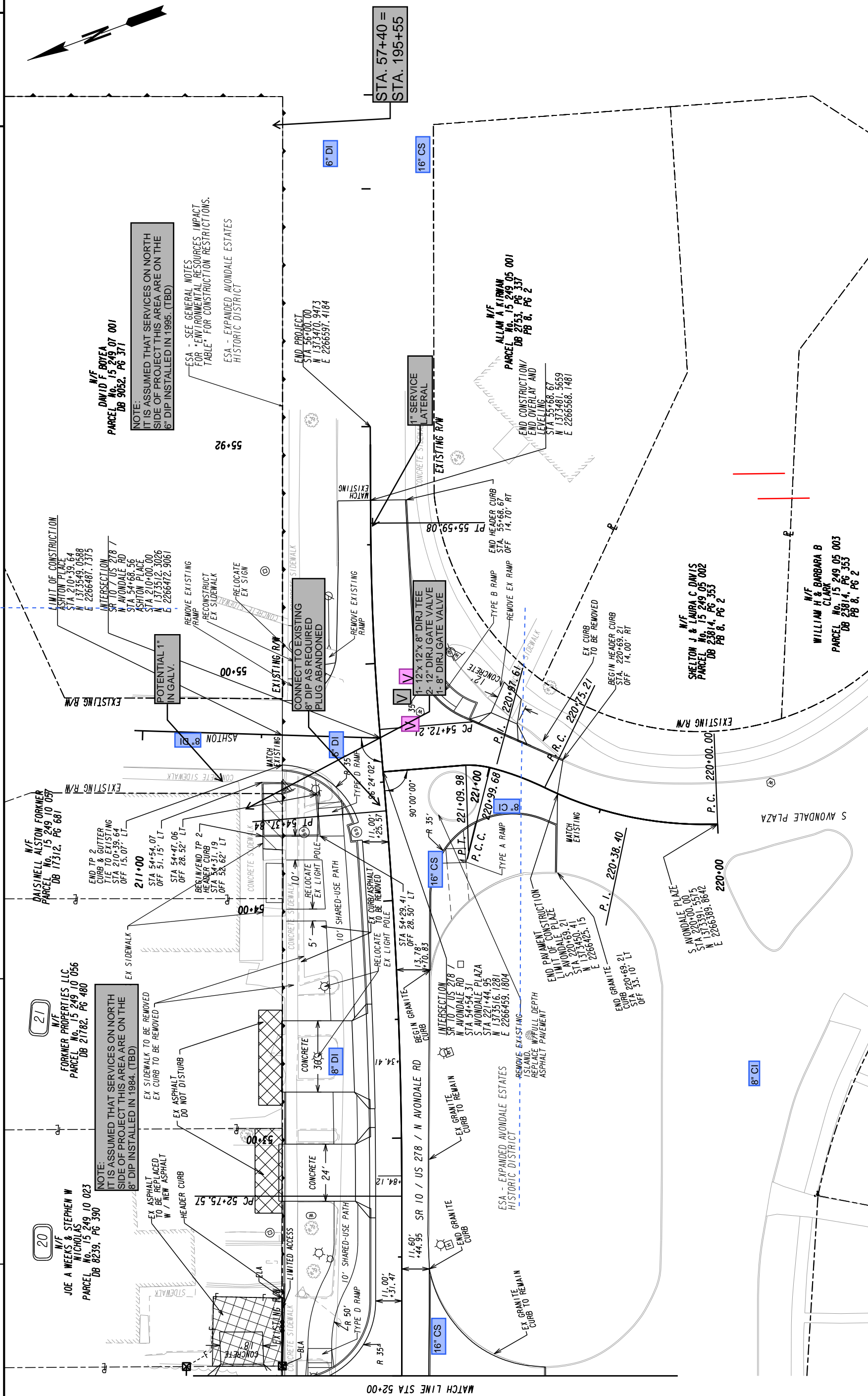
BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ENVIRONMENTALLY SENSITIVE AREA
ORANGE BARRIER FENCE

---BLA
---ELA
---F
---F
---F
---F

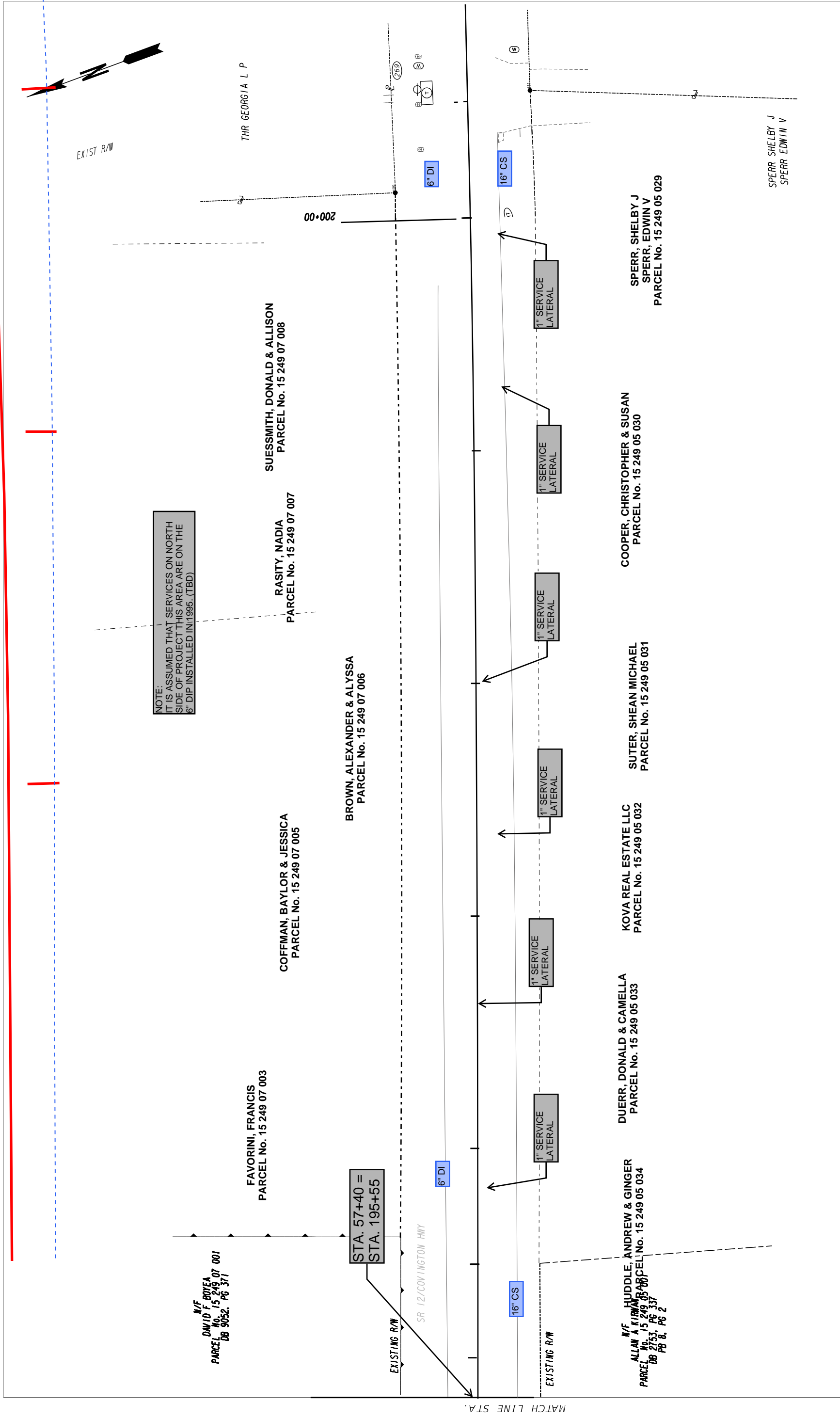
REVISION DATES
UTILITY PLANS - WATER MAIN REPLACEMENT
SR 10 / US HWY 278 - SAMS CROSSING TO
LAKESHORE DR.

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



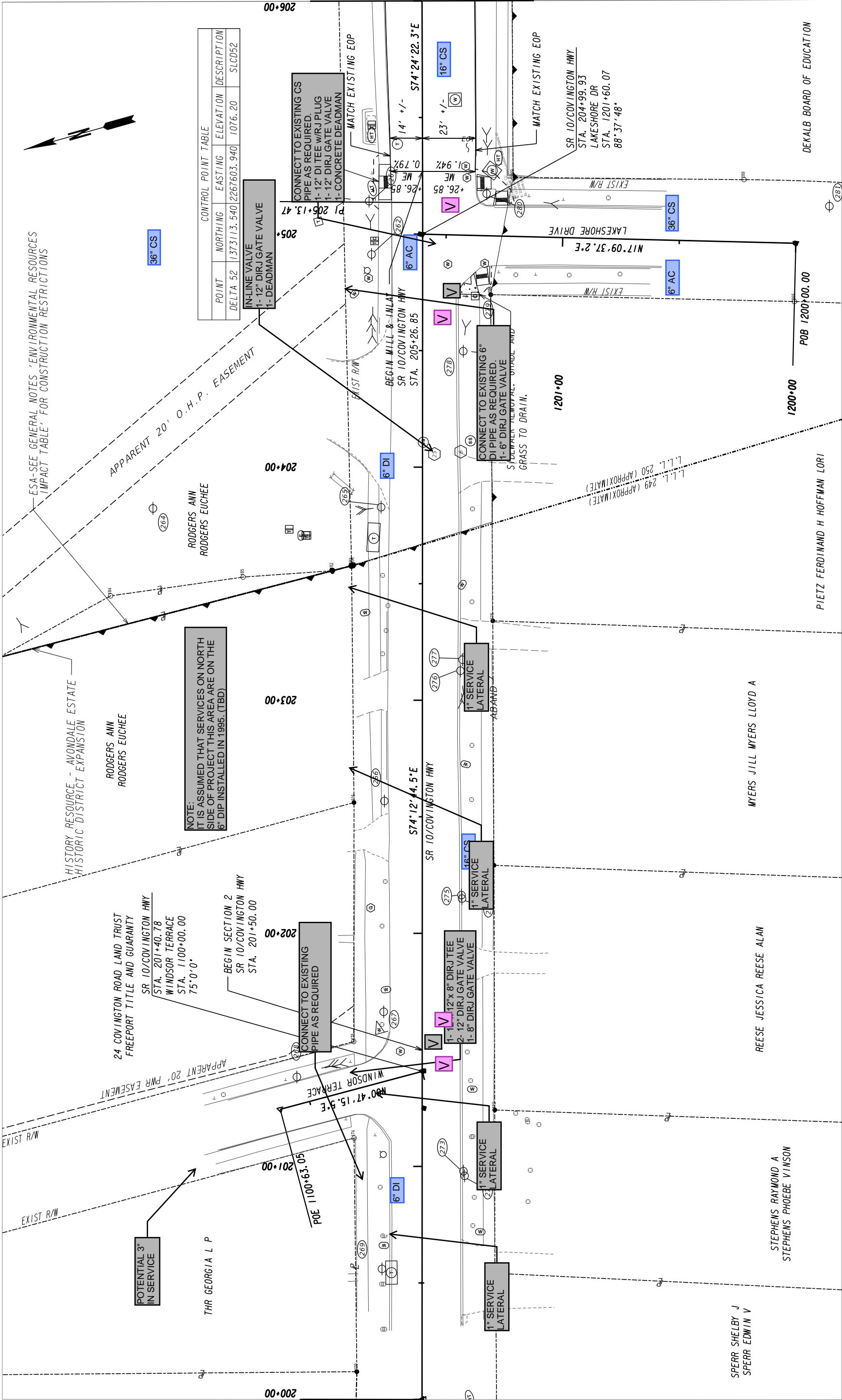


| | | | | |
|--------------------------------|--------------|--------------------------------|--|---|
| PROPERTY AND EXISTING R/W LINE | ---- | BEGIN LIMIT OF ACCESS.....BLA | | <div> <div>REVISION DATES</div> <div>UTILITY PLANS - WATER MAIN REPLACEMENT</div> <div>SR-10 / US HWY-278 - SAMS CROSSING TO LAKESHORE DR.</div> <div>CHECKED: DATE: BACKCHECKED: DATE: CORRECTED: DATE: VERIFIED: DATE:</div> <div>DRAWING No. 24-010</div> </div> |
| REQUIRED R/W LINE | ===== | END LIMIT OF ACCESS.....ELA | | |
| CONSTRUCTION LIMITS | ---C--- F--- | LIMIT OF ACCESS | | |
| EASEMENT FOR CONSTR | | REQ'D R/W & LIMIT OF ACCESS | | |
| & MAINTENANCE OF SLOPES | | ENVIRONMENTALLY SENSITIVE AREA | | |
| EASEMENT FOR CONSTR OF SLOPES | | ORANGE BARRIER FENCE | | |
| EASEMENT FOR CONSTR OF DRIVES | | | | |



| PROPERTY AND EXISTING R/W LINE REQUIRED R/W LINE | BEGIN LIMIT OF ACCESS.....BLA END LIMIT OF ACCESS.....ELA | SCALE IN FEET | REVISION DATES | UTILITY PLANS - WATER MAIN REPLACEMENT | DRAWING NO. |
|---|--|---------------|--|--|-------------|
| CONSTRUCTION LIMITS EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES | ---C---F--- [X/X/X/X] [X/X/X/X] [X/X/X/X] | 0 20 40 80 | SR 10 / US HWY 278 - SAMS CROSSING TO LAKESHORE DR. | | 24-011 |

ESA-SEE GENERAL NOTES 'ENVIRONMENTAL RESOURCES
IMPACT TABLE' FOR CONSTRUCTION RESTRICTIONS



CONTROL POINT TABLE

| POINT | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|----------|-------------|-------------|-----------|-------------|
| DELTA 52 | 1373113.540 | 2267603.940 | 1076.20 | SLC052 |

NOTE:
IT IS ASSUMED THAT SERVICES ON NORTH
SIDE OF PROJECT THIS AREA ARE ON THE
6" DIP INSTALLED IN 1995. (TBD)

PROPERTY AND EXISTING R/W LINE

REQUIRED R/W LINE

CONSTRUCTION LIMITS

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

EXISTING LIMIT OF ACCESS

REQ'D LIMIT OF ACCESS

EXISTING LIMIT OF ACCESS & R/W

REQ'D LIMIT OF ACCESS & R/W

ORANGE BARRIER FENCE

ESA - ENV. SENSITIVE AREA

REVISION DATES

UTILITY PLANS - WATER MAIN REPLACEMENT

SR 10 / US HWY 278 - SAMS CROSSING TO LAKESHORE DR.

CHECKED:

DATE:

BACKCHECKED:

DATE:

CORRECTED:

DATE:

VERIFIED:

DATE:

SCALE IN FEET

0

20

40

80

DRAWING No. 24-012

AVONDALE ESTATES 16" WATER MAIN REPLACEMENT PROJECT

NOTE: PRICING ACCEPTED ASSUMES WORK IS TO BE COMPLETED FROM 7:00PM TO 7:00AM.
GDOT PERMIT TO GOVERN ACTUAL WORK HOURS.

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A.** Methods of measurement and payment for items of work covered under the Bid Form

1.02 SUMMARY

- A.** The total bid price shall cover all work required by the Contract Documents. All work shall meet the Latest DeKalb County Department of Watershed Management Design Standards Manual and Technical Specifications. All costs in connection with the proper and successful completion of the Work, including all materials, equipment, supplies, and appurtenances; providing all equipment and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum prices bid.
- B.** All Work not specifically set forth as a pay item in the Bid Form shall be considered subsidiary obligations of Contractor and all costs in connection therewith shall be included in the prices bid.
- C.** All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only:
 - 1. As a basis for estimating the probable cost of the Work.
 - 2. For the purpose of comparing the bids submitted for the Work.
- D.** The basis of payment for work shall be in accordance with the unit price bid items in the Bid Form and shall be full compensation for labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the unit price bid item. Payment for work will be made on a linear foot, vertical foot, square foot, square yard, cubic yard, or each based on the Contractor's measurement, contingent on verification by The County's Representative. Contractor agrees he will make no claim for additional time, damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished.
- E.** Payment will be made only for the actual quantities of work performed in compliance with the Specifications. The Contractor will be paid an amount equal to the approved quantity times the applicable unit price. Any unused balance of the unit price work shall revert to the County upon completion of the project.
- F.** Pay requests for work performed shall be itemized by asset. The pay request should list each asset by ID number, describe the work performed per the payment bid form,

provide the unit cost, and provide the extended cost. When seeking partial payment where work was attempted and could not be completed, the County approved information shall be provided on the pay request to justify the amount requested. Work performed on pipes should be listed in a separate table from work performed on manholes. The County's Representative will provide an example of the table format.

Additional instructions and/or requirements may be provided by the County's Representative at the project Kick-off meeting.

1.03 MEASUREMENT AND PAYMENT

A. Mobilization, Demobilization and Closeout

The fixed unit price for each bid item shall constitute full compensation for labor and materials required for mobilization, demobilization and closeout. Mobilization and demobilization includes cost of bonds, insurance, temporary utilities, project management and administration, and all other costs related to mobilization and demobilization. Closeout includes the completion of approved as-builts/record drawings, certifications, warranties, all test reports, videos, and final acceptance of the project and property owner signoff.

| Item | Method of Measurement |
|-------------|---|
| AC | Acre - Field Measure |
| AL | Allowance |
| CY | Cubic Yard - Field Measure within limits specified or shown, or measured in vehicle by volume, as specified |
| EA | Each - Field Count |
| GAL | Gallon - Field Measure |
| HR | Hour |
| IN | Inch |
| LB | Pound(s) - Weight Measure by Scale |
| LF | Linear Foot - Field Measure |
| LS | Lump Sum - Unit is one; no measurement will be made |
| SF | Square Foot |
| SY | Square Yard |
| TON | Ton - Weight Measure by Scale (2,000 pounds) |
| VF | Vertical Foot - Field Measure |
| CAL | Caliper Inch |

1.04 SECTION 1 – GENERAL BID ITEMS

A. *Traffic Control (Item No.'s 1 to 4)*

Work Zone Staging and Traffic Control (Per Link) - Traffic control measures for work in low-traffic/residential areas shall be included in the unit price. Additional traffic control measures required for work in high-traffic/commercial areas will be paid for separately when authorized by the County's Representative, as follows.

Payment will be remitted for furnishing, installation, maintenance and removal of temporary traffic control per each link of roadway based upon the current functional classification of the affected roadway as defined by the Federal Highway Administration. This is *not* a 'daily' rate. A roadway link is defined by two nodes or intersections. In the event a single work zone spans one or more intersections, the average link length will be used to determine the eligible quantity or work zones for payment. Each unit price bid shall include all but not be limited to furnishing, installation, maintenance and removing all traffic control devices, message boards, temporary signage, temporary pavement markings and shall include flagging and other means necessary for safe guidance and protection of vehicular and pedestrian traffic through the Work Zone per site based upon the functional classification and site conditions. When a Police Officer is required for traffic control and approved by the County, the cost shall be as stated in the unit bid price. All traffic control measures and plans shall conform to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD), Part 6 (Temporary Traffic Control), latest edition, as published by the US DOT / FHWA. The above referenced bid items are applicable to rehabilitation work within roadways with the following functional classifications:

17 - Collector Street (*all*)

16 - Minor Arterial Street

14 - Urban Principal Arterial

Functional Classification Maps for the Atlanta Metro Counties are available through Georgia's Department of Transportation (GADOT) website at:

<http://www.dot.ga.gov/DS/Data>

<https://itos.maps.arcgis.com/apps/webappviewer/index.html?id=962a2591f91a4303aeafe016ba8db96b>

In the event that a functional classification assignment conflict exists between the drawings and the GADOT, the GADOT classification shall preside. The Contractor shall submit proposed traffic control plans to required regulatory agencies and they shall grant approval before the Work begins. Notification to begin Work shall require at least 72-hour notice to the appropriate agency and the County. Traffic control for roadways with "local" or "rural" functional classifications are considered incidental to the Work and the cost shall be included in the unit price for the Work performed. These type roadways shall meet MUTCD requirements. No separate payment will be made for traffic control roadways with functional classification

other than those stated herein, unless otherwise authorized by the County for exceptional circumstances.

Community Outreach / Right of Entry Acquisition

No separate payment for Outreach. Contractor shall provide according to provisions of Community Outreach services, **Section 01335, Public Outreach (Small Projects)**. The Contractor will be responsible for providing notifications to the Public, including community notices as well as individual notices.

No separate payment shall be made for obtaining the Right of Entry. The Contractor shall be responsible for obtaining executed Right of Entry (ROE) agreements prior to the start of the Work. The Contractor shall make up to three documented attempts to obtain each ROE, including after work hours.

Permitting

The Contractor is responsible for obtaining all city, county and state permits required for prosecution of the work except Georgia EPD and Army Corps of Engineers. The County will obtain and pay for Georgia EPD and Army Corps of Engineers Permits.

B. *Allowance (Item No. 5)*

Allowance: See **Section 01020, Allowances**. This Contract includes one (1) Allowance that will be used at the discretion of the County for any of the purposes designated below and for unforeseen conditions and additional work items associated with the original scope of work.

Material Testing Services Section - Contractor shall procure the services of a Certified Material Testing Service to provide the testing described in **Section 01410, Testing Laboratory Services**. The type and frequency of testing will be as agreed to by the County, or County representative, and will be paid for "per test" against the Allowance amount included in the contract. The maximum mark-up for overhead and profit on this item is 5%.

Water Meter Fees - The Contractor will be required to meter all water used from hydrants for prosecution of work using portable water meters obtained from the County. Payment for water will be against the Allowance based on invoices from the County paid through the Allowance.

C. *Access Route and Easement Clearing (Item No.'s 6 to 13)*

Construction Entrance/Exit (Install and Removal) - Measurement for payment will be per each (EA) entrance/exit installed and maintained per the **Manual for Erosion and Sediment Control of Georgia, latest edition**. Payment will constitute full compensation for all costs associated with access entrances/exits, including installation, maintenance, repair, removal, disposal, and restoration to original grade.

Construction Entrance/Exit (Install Only)- Measurement for payment will be per each (EA) entrance/exit installed and maintained per the **Manual for Erosion and**

Sediment Control of Georgia, latest edition. Payment will constitute full compensation for all costs associated with access entrances/exits, including installation, maintenance & repair.

Access Road Gate - Measurement for payment will be for each (EA) Access Road Gate. The Gate shall meet the requirements stated and shown in the **latest DeKalb County DWM Design Standards Manual Standard Detail G-012**. Payment will constitute full compensation for all costs including all necessary materials and labor to install.

Easement or Right of Entry (ROE) Access Road - Measurement for payment will be per square yard (SY) of road suitably installed and maintained per the **Manual for Erosion and Sediment Control of Georgia, latest edition** or as required by the governing agency. Payment will constitute full compensation for all costs associated with access roads, including installation, maintenance, repair, removal, disposal, and restoration to original grade.

Easement or Right of Entry (ROE) Access Road (Install Only) - Measurement for payment will be per square yard (SY) of road suitably installed and maintained per the **Manual for Erosion and Sediment Control of Georgia, latest edition** or as required by the governing agency. Payment will constitute full compensation for all costs associated with access roads, including installation, maintenance & repair.

Easement or ROE Clearing, Light (Bush Hog) - Measurement for payment will be per square yard (SY) for the type classification category for clearing. The Contractor and the County's Representative will determine the category of clearing (Light) prior to beginning the clearing. Light clearing can be achieved with hand equipment or bush hog. Payment will constitute full compensation for easement or ROE clearing, including, but not limited to labor, equipment, transportation, tools, and other related procedures and materials necessary to remove vegetation and other debris on or near the surface of the ground in the construction area to produce the results specified in **Section 02110, Access Route & Easement Access Clearing**. Easements or ROEs will be cleared of debris or obstructions impeding access to work areas.

Easement or ROE Clearing, Medium (Bush Hog & Chipper) - Measurement for payment will be per square yard (SY) for the type classification category for clearing. The Contractor and the County's Representative will determine the category of clearing (Medium) prior to beginning the clearing. Medium clearing can be achieved with larger hand equipment or bush hog in addition to wood chipper(s). Payment will constitute full compensation for easement or ROE clearing, including, but not limited to labor, equipment, transportation, tools, and other related procedures and materials necessary to remove vegetation and other debris on or near the surface of the ground in the construction area to produce the results specified in **Section 02110, Access Route & Easement Access Clearing**. Easements or ROEs will be cleared of debris or obstructions impeding access to work areas.

Easement Clearing, Heavy (Timbering Equipment) - Measurement for payment will be per caliper inch for the type classification category of clearing. The classification of payment per caliper inch will be measured at four (4) feet from the

base of the tree and shall meet four (4) inch diameter minimum. In addition to heavy clearing, utilization of light and/or medium clearing will be included as determined necessary by the County's Representative.

D. *Site Restoration and Erosion Control (Item No.'s 14 to 26)*

Riprap (Types I, II, & III Installed, **Section 02273, Riprap**)- Measurement for payment will be per square yard (SY) for riprap installed, including geotextile filter fabric underlayment at a minimum 18-inch depth, or as directed by the County. When crossing a stream or ditch, the quantity eligible for payment shall be limited to 10 feet upstream and 10 feet downstream of top of disturbed area and from five feet from the top of bank, across a creek or ditch, banks and bottoms, to five feet beyond top of bank. Any other areas at creeks or ditches disturbed by the Contractor requiring riprap shall be riprapped at no additional cost to the County.

Tree Protection Fence - Measurement for payment will be per linear foot (LF) for tree protection fence suitably installed and maintained per **Section 02276, Site Restoration and Erosion Control**. Installed when required by the County or governing agencies. Payment will constitute full compensation for all costs associated with tree protection fencing, including installation, maintenance, repair, removal, and disposal

Check Dam (Hay Bales) - Measurement for payment will be per each (EA) for check dams suitably installed and maintained per the **Manual for Erosion and Sediment Control of Georgia, latest edition**. Payment will constitute full compensation for all costs associated with check dams, including grading, installation, maintenance, repair, removal, and disposal.

Inlet Sediment Trap- Measurement for payment will be per each (EA) for inlet sediment traps suitably installed and maintained per the Manual for Erosion and Sediment Control of Georgia, latest edition. Payment will constitute full compensation for all costs associated with inlet sediment traps at existing storm water inlet structures, including installation, maintenance, repair, removal, and disposal. Contractor shall be responsible for installing the number of sedimentation traps required to adequately capture silt, from leaving construction sites.

Temporary Creek - Measurement for payment will be per diameter on a per linear foot (LF) basis for temporary stream crossings suitably installed, maintained, and removed per the Manual for Erosion and Sediment control of Georgia, latest edition. Prior to installation of the temporary creek crossing, the Contractor will be required to submit construction plans to include sizing of the pipe diameter to convey the required flow. Plans shall be sealed by a registered Professional Engineer in the State of Georgia. Payment will constitute full compensation for all costs associated with temporary stream (creek) crossings and shall include all necessary materials and labor to install, maintain, remove, and dispose. Cost of aggregate, pipe, and concrete supports shall be included under this item and not in any other bid items.

Sodding to match existing - Measurement for payment will be per square yard (SY). Payment will constitute full compensation including but not limited to fine grading, fertilizing, and sodding disturbed landscaped areas on public or private

property in accordance with **Section 02485, Sodding**. Soil preparation and/or topsoil shall be included. Disturbed areas shall be sodded only when directed to do so by the County or County's Representative.

Seeding to match existing - Measurement for payment will be per square yard (SY). Payment will constitute full compensation including but not limited to fine grading, fertilizing, and seeding disturbed landscaped areas on public or private property in accordance with **Section 02486, Seeding**. Grass seeding shall match in kind the existing adjacent grass of previously landscaped areas. Soil preparation and/or topsoil shall be included.

Silt Fence (**Section 02542, Silt Fence**) - Measurement for payment will be per linear foot (LF) silt fence installed and maintained per single row as required by the Manual for Erosion and Sediment control of Georgia, latest edition. Payment will constitute full compensation for all costs associated with silt fence, including installation, maintenance, repair, removal and disposal.

E. *Pavement, Curb & Gutter* (Item No.'s 27 to 44)

Traffic Loop System Restoration

Measurement for payment for this bid item shall be based on unit price bid per linear foot (LF) of Traffic Loop System restoration.

Payment shall constitute full compensation for labor, materials, equipment, testing and incidentals necessary to complete the work as required.

No extra payment will be made for work included in other items.

Sidewalk Restoration and Concrete Sidewalk

Measurement for payment will be per square yard (SY) of concrete sidewalk removed and replaced, 4" thick +/- . Payment will constitute full compensation for saw cut, removing, disposing, and replacing a public or private sidewalk.

Payment will be full compensation for furnishing labor, materials, tools, and equipment necessary to install and finish concrete sidewalk and handicap ramps and shall include: excavation; backfilling; compaction; restoration of property; disposal of existing sidewalk materials; all joints; all special construction at driveways or other entrances and points; hauling and placing materials; and incidentals necessary to complete the work per **Section 02710, Concrete Curb, Gutter, Sidewalk, and Driveway Repairs**. Payment shall include all approaches through curb and gutter.

Disturbed concrete sidewalk shall be replaced in complete sections between expansion joints.

Concrete Driveway Restoration (All Thicknesses)

Concrete Driveway Restoration and Replacement, Residential & Commercial: Measurement for payment will be per square yard (SY) of driveway removed and

replaced (4" +/- thick). Payment will constitute full compensation for saw cut, removing, disposing, and replacing concrete driveways. Replaced driveways shall be installed per **Section 02710, Concrete Curb, Gutter, Sidewalk, and Driveway Repairs.**

Asphaltic Concrete Driveway Restoration and Replacement, Residential & Commercial: Measurement for payment will be per square yard (SY) of driveway removed and replaced. Payment will constitute full compensation for removing, disposing, and replacing asphalt driveways. Replaced driveways shall be installed per **Section 02700, Pavement Repairs.** Traffic control measures required for work in low-traffic or residential areas shall be included in the unit price.

The unit price shall constitute full compensation for furnishing labor, materials, tools, and equipment necessary to install and finish the work, including removal and disposal of existing driveways.

Asphalt Pavement Milling, up to and over 2 inch depth

Measurement for payment will be per square yard (SY) of pavement removed in two-inch lifts. Payment will constitute full compensation for removing and disposing existing pavement. The unit price shall include, but not be limited to, furnishing equipment, tools, milling, hauling, labor, materials, transportation, disposing milled material, and satisfactorily performing the work in accordance with **Section 02700, Pavement Repairs.**

Curb and Gutter Removal and Installation (All Sizes and Types)

Measurement for payment will be per linear foot (LF) of curb and gutter removed and replaced. Payment will constitute full compensation for labor, materials, tools, and equipment to install curb and gutter as necessary to complete the work. Removing replacing concrete curbs and gutters shall be per **Section 02710, Concrete Curb, Gutter, Sidewalk, and Driveway Repairs.**

Remove and Reset Granite Curb (Labor Only)

Measurement for payment will be per linear foot (LF) of granite curb and gutter installed. Payment will constitute full compensation for installing granite curb and gutter as necessary to complete the work. Removing and resetting granite curbs and gutters shall be per **Section 02700, Pavement Repairs.**

No extra payment will be made for work included in other items.

Superpave Asphalt (Type II – 9.5mm through 25mm)

Measurement for payment for this bid item shall be on unit price bid per Square Yard (SY) of Superpave Asphalt used as required for the work specified in the **Section 02700, Pavement Repairs** and accepted as measured complete in place

(also see link below:

<http://www.dot.ga.gov/PartnerSmart/Business/Source/specs/ss828.pdf>)

Payment shall constitute full compensation for work necessary for a complete installation, including, but not limited to: labor, materials, supplies, equipment and incidentals necessary to complete the work. This shall also include all striping to match existing.

No extra payment will be made for work included in other items.

Speed Hump and / or Table Replacement (To Match Existing)

Measurement for payment for this bid item shall be on unit price bid per square foot of Speed Hump and/or Table replacement.

Payment shall constitute full compensation for labor, materials, equipment and incidentals necessary to complete the work to match the existing Speed Hump and/or Table composition and dimensions.

No extra payment will be made for work included in other items.

Concrete (3000 & 4000 PSI)

This item shall be paid at the unit price bid per number of cubic yards of concrete poured as required in **Section 03300, Cast-In-Place Concrete** and accepted as measured complete in place. The final thickness shall be as specified throughout the entire length of the project. This item shall only be used at the discretion of DWM or its representative.

No additional payment over the contract unit price will be made for concrete with an average thickness greater than required. No additional payment over the contract unit price will be made for a lot of concrete that develops more strength at 28 days than the required compressive strength in the Specifications.

Payment is full compensation for furnishing and placing materials, joint materials, supplies, and incidentals to complete the work.

Reinforced Concrete (4000 PSI)

The reinforced concrete shall have a twenty eight- (28-) day compressive strength of four thousand (4,000) PSI and shall be reinforced with Number 5 rebar spaced twelve (12) inches on center on both the top and bottom faces and in each way as well (i.e., longitudinal and transverse).

This item shall be paid at the unit price bid per number of cubic yards of concrete poured as required in **Section 03300, Cast-In-Place Concrete** and accepted as measured complete in place.

Payment is full compensation for furnishing and placing forming materials, reinforcements, steel, dowel and joint materials, supplies, and incidentals to complete the work.

Pavement Saw Cutting 1" – 6" Thick, G-005 (Section 02324, Trenching and Trench Backfilling)

Measurement and Payment will be per linear foot (LF) up to six inches thick, whether asphalt or concrete.

The unit price shall constitute full compensation for furnishing labor, materials, tools, and equipment necessary to complete the work as specified in the **latest DeKalb County DWM Design Standards Manual Standard Detail G-005**.

No extra payment will be made for work included in other items.

Pavement Saw Cutting Additional Thickness Per Inch

Measurement and Payment will be per inch per linear foot (IN/LF) for additional pavement thicknesses.

The unit price shall constitute full compensation for furnishing labor, materials, tools, and equipment necessary to complete the work as specified in the **latest DeKalb County DWM Design Standards Manual Standard Detail G-005**.

No extra payment will be made for work included in other items.

F. *Utility Location (Item No.'s 45 to 49)*

GPS Locate and Data Collection per Asset - Measurement for payment will be per each (EA). Payment will constitute full compensation to locate, take coordinates and elevations, and provide attribute information for each located asset per the direction provided in the **latest Department of Watershed Management Design Standards Manual**. This payment includes compensation for all digital deliverables outlined in the Design Standards Manual.

Ground Penetrating Radar (Pipe Location) – Measurement for payment will be per linear foot (LF). The unit price shall include all necessary labor, materials, equipment for locating existing buried assets in paved and unpaved areas, pipe location along the pipeline route and all other specified work that is necessary to fully execute the requirements.

GPS Locate and Data Collection for Manholes - Measurement for payment will be per each (EA). Payment will constitute full compensation to locate, take coordinates and elevations, and provide attribute information for each located manhole (and associated sewer line assets as applicable) per the direction provided in the **latest Department of Watershed Management Design Standards Manual**. This payment includes compensation for all digital deliverables outlined in the Design Standards Manual.

Locate and Expose Buried Manhole, Street: Contractor will be paid for locating and exposing buried manholes on a per each basis. Locating and exposing manholes shall be done according to **Section 02607, Manhole Height Adjustment** or **Section 02700, Pavement Repairs**, whichever is most applicable for the site and approved by the County's Representative. Payment shall be made at the bid price for each buried manhole that is acceptably located and exposed and will constitute full compensation for furnishing labor, materials, tools, and equipment necessary to perform all work. Payment for pavement patch or restoration will be a separate

payment item. Raising manhole to required elevation will be paid under a separate line item.

- G.** *Locate and Expose Buried Manhole, Non-Street: Contractor will be paid for locating and exposing buried manholes on a per each basis. Locating and exposing manholes shall be done according to Section 02607, Manhole Height Adjustment and approved by the County's Representative. Payment shall be made at the bid price for each buried manhole that is acceptably located and exposed and will constitute full compensation for furnishing labor, materials, tools, and equipment necessary to perform all work. Raising manhole to required elevation will be paid under a separate line item. Utility Cleaning & Inspection (Item No.'s 50 to 52)*

Sewer **CCTV Inspection - Measurement for payment will be per linear foot (LF)** from center of manhole to center of manhole. **Payment will constitute full compensation to perform a CCTV sewer pipe inspection** on sanitary sewer mains **when called for by the County.** No payment will be made when the Contractor needs to or is required to provide CCTV inspection to supplement a rehab or replacement work item. Defect coding, header data, and coding of service lateral locations are required and shall meet the Technical Specifications format and submittal requirements. There will be no separate payment made for light cleaning, use of an easement machine, or data delivery. **Payment shall only be made for the footage of sewer inspection** between the manholes. **Maintenance of traffic and associated traffic control measures required for the Work shall be included in the unit price. Costs shall include, but are not limited to, labor, equipment, transportation, setup, tools,** bypass pumping for flows up to 25% pipe volume, **public notification, data management and all other related procedures and materials necessary to complete the inspections,** in accordance with **Section 01510, Sanitary Sewer Main Television Inspection (CCTV).** Bypass Flow volume greater than 25% will be paid for separately.

Sanitary Sewer, Heavy Cleaning, 6" to and including 24" Diameter: Measurement for payment will be per linear foot (LF) for the size classification category of sewer acceptably cleaned. Payment will constitute full compensation for sewer cleaning including, but not limited to, labor equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in **Section 02956, Sanitary Sewer Cleaning.** Sewers will be cleaned to remove debris or obstructions found in sewers impeding or prohibiting flow. All sewer-cleaning debris shall be collected and removed from the line through the manhole by bucket, suction, or other means. Sanitary Sewer, Heavy Cleaning shall include all root removal; as measured from sewer root removal section to the nearest manhole for the actual lineal footage of pipeline having roots removed. Payment shall include, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary per **Section 02956, Sanitary Sewer Cleaning.** Payment will not be remitted for the entire pipe segment length unless continuous root removal is required from the upstream to the downstream manhole. The Contractor must receive authorization for payment from the County's Representative prior to proceeding. Removal and disposal of debris and other solids removed from the sewers shall be paid separately under **Section 02956, Sanitary Sewer Cleaning.** Post cleaning CCTV inspection shall be included in this bid item cost for all heavy cleaned pipe segments and be performed per **Section 01510, Sanitary Sewer Main Television and Inspection (CCTV)** except defect

coding will not be required. CCTV inspection shall also include the manhole to manhole segment immediately downstream of the last heavy cleaned sewer segment. If more than 5% of the pipe's cross sectional area of any inspected pipe remains then the sewer shall be re-cleaned at the contractor's sole expense.

Sewer Debris Removal and Disposal from Heavy Cleaning: Measurement for payment will be per ton (TON) as documented on an official copy of the disposal manifest form or ticket receipt provided by the disposal site. Payment will constitute full compensation for removal, transportation and disposal of debris from sewer cleaning operations including, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results per **Section 02956, Sanitary Sewer Cleaning**. The official copy of the disposal manifest form or ticket receipt must clearly indicate the tonnage disposed, and must be submitted to the County's Representative no later than three (3) days after the debris was disposed.

H. *Rock and Soil Excavation* (Item No.'s 53 to 54)

Unsuitable Soil Replacement, (GAB) - Measurement for payment will be per cubic yard (CY) compacted in place. All costs for, hauling and placing imported fill material shall be included in the unit price. Payment will be made on the basis of cubic yards (CY) compacted in place. No soil backfill shall be used in pipe trenches under roadways or other paved areas. In all paved areas, trenches shall be backfilled with crushed rock and compacted in lifts to a minimum required compaction of ninety-five percent (95%) of the maximum dry density. This pay item includes from the top of pipe envelope to the bottom of the concrete cap. Refer to the **latest DeKalb County Department of Watershed Management Design Standards Manual Standard Detail No. G-005**. Separate payment will be made for surface restoration. Payment for materials testing shall be made separately.

Rock Excavation - This item shall cover costs associated with rock removal with regard to pipe and manhole installation. Payment for rock excavation will be made for the quantities as described herein measured in place by the cubic yard at the Bid Form unit price. Payment shall be full compensation for labor, equipment, materials, excavation, blasting, monitoring and/or mechanical removal and disposal of rock, and blasting insurance. Payment for placement of backfill material will be made from Unsuitable Soil Replacement (GAB or approved imported fill). When rock is encountered the material shall be uncovered and the County's Representative notified. The Contractor shall take cross sections of the rock surface. Failure to uncover the rock, notify the County's Representative, and provide cross sections of the undisturbed material shall give the Contractor no right of claim to any classification other than unclassified soils. The top of the trench will be ground elevation as determined by the County's Representative prior to excavation. The quantity of rock excavation to be paid shall be the number of cubic yards of rock measured in place, per the trench width pay limits. Measurement for width shall be limited to 12 inches beyond the outside of the pipe. Measurement for rock excavation will extend to a depth of 8 inches below the pipe barrel for pipe diameter of 21 inch or less and extend to a depth of 12 inches for larger diameter pipe. At manholes and other structures, measurement will be to 24 inches from the outside face of the structure and 12 inches below the bottom of the slab. No measurement or payment will be made for over excavation. The County's

Representative must confirm the volume of rock removal within the limits herein specified. Weathered rock and mixed face or any material removable with moil-point hydra hoe attachment or a rock bucket on a Cat 345 Backhoe will not be considered rock removal. The Contractor will need to submit a blasting plan to the County for review and approval prior to the occurrence of any blasting operations. Refer to the **latest Design Standards Manual** for additional requirements to be included in this bid line item.

I. *Pipe Bursting (Item No.'s 55 to 57)*

Sewer, Replacement with HDPE using Pipe-Bursting Methods, All Diameters, All Depths - Measurement for payment will be per linear foot (LF) of sewer replaced by bursting. Payment will constitute full compensation for replacing existing gravity sewer mains with HDPE piping using pneumatic or static pipe-bursting methods. The unit price bid shall include, but not limited to, furnishing material, installation, equipment, stringing pipe, bypass pumping for flows under 50% of the pipe volume, installing pipe, lubrication, connecting pipes, rebuilding existing manhole wall and invert, air testing, material testing, post-installation cleaning (if required), post-installation CCTV inspection for quality control, and all other related procedures and materials necessary to complete pipe-bursting per **Section 02958, Pipe Bursting**. Payment for reconnecting service laterals shall be a separate pay item under **Section 02530, Service Lateral Reconnection and Replacement**. Pipe Bursting payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the Work. No payment shall be made for any portion of a failed pipe-bursting attempt and results in the use of other replacement methods such as open cut. If a section of existing pipe must be otherwise replaced, then the section will be paid for only by the appropriate conventional pipe work/point repair bid item.

Pipe-Bursting Launch Pits, All Depths - Measurement of payment will be per each (EA) pit depth range regardless of pit width and length. Payment shall include but not limited to labor, equipment, transportation, tools, excavation, shoring, dewatering, pavement saw-cutting, pipe envelope, final backfill outside of paved areas, removal and disposal of excavated material if replaced with imported material, and all other related procedures and materials required for replacing gravity sewer by pipe-bursting. Depth of cut for excavation of pit shall be measured from the installed pipe invert to existing ground level at pipe centerline of horizontal alignment. The unit price shall also include installing and removing appropriate trench stabilization equipment. Payment for surface restoration and final backfill under paved areas will be separate pay items. The restoration allowance is calculated whereby the pit width is two times the pit depth and the pit length is three times the pit depth.

Pipe-Bursting Receiving Pits - Measurement of payment will be per each (EA) pit depth range regardless of pit width and length. Payment shall include but not limited to labor, equipment, transportation, tools, excavation, shoring, dewatering, pavement saw-cutting, pipe envelope, final backfill outside of paved areas, removal and disposal of excavated material if replaced with imported material, and all other related procedures and materials required for replacing gravity sewer by pipe-bursting. Depth of cut for excavation of pit shall be measured from the installed pipe invert to existing ground level at pipe centerline of horizontal

alignment. The unit price shall also include installing and removing appropriate trench stabilization equipment. Payment for surface restoration and final backfill under paved areas will be separate pay items. The restoration allowance is calculated whereby the pit width is two times the pit depth and the pit length is three times the pit depth.

J. Jack & Bore (Item No.'s 58 to 64)

Pipe Boring and Jacking, Casing Diameter 18" to 36", for 6" to 24" Restrained DIP carrier pipe- Measurement and payment will be made for length of casing installed, including DIP carrier pipe per linear foot and sending and receiving pits up to 10' deep. Additional depth of sending and receiving pits will be per vertical linear foot each. Payment for crossing shall be made only at the completion of all work specified for the casing installation. No partial payment shall be made for the construction of the casing. Casing pipe or tunnel liner plate may be included in Partial Payment Requests as stored materials, if the casing pipe is stored at the Project site. Casing pipe which has been properly installed, but has not yet been paid for as installed casing, may also be included as stored materials. No payment shall be made for rock excavation through the casing or the tunnel. No additional payment will be made for control of water. Payment for Carrier Pipe in casing or liner plate shall be made only at the completion of all work specified for the pipe installation. Refer to **Section 02224, Pipe Boring and Jacking** and Design Standards Manual for additional requirements.

K. Pipe Abandonment (Item No.'s 65 to 68)

Abandon (flowable fill) Existing Pipe in Place, all Diameters (**Section 02535, Gravity Flow Sanitary Sewers and 02665 Water Mains and Accessories**) - Measurement for payment will be per cubic yard (CY). Payment will constitute full compensation for existing pipe abandonment by flowable filling the existing pipe in place. The unit price bid shall include, but not be limited to, all costs for material, labor, equipment, bulkheads, vent piping and other miscellaneous items as required for a complete installation.

Cut & Plug Existing Pipe Line, All Diameters (**Section 02535, Gravity Flow Sanitary Sewers and 02665 Water Mains and Accessories**) - Measurement for payment will be per each (EA). Payment will constitute full compensation for excavating, cutting, plugging, bedding, pipe envelope backfill and final backfilling the pipe line. The unit price bid shall include, but not limited to, all costs for material, labor, equipment, and other miscellaneous items as required for a complete installation.

Flowable Fill- Price shall include furnishing and installing controlled low strength flowable fill concrete in accordance with **Section 02535, Gravity Flow Sanitary Sewers and 02665 Water Mains and Accessories**, including labor, materials, equipment and any misc. formwork (if required). Measurement shall be in cubic yards complete in-place and accepted.

L. Manhole Installation (Item No.'s 69 to 71)

Manhole Installation/Replacement

Sewer Manholes, 48" to and including 60" Diameter, Any Depth, Pre-Cast Concrete - Payment will be per vertical foot (VF) for replacement manhole per the diameter and the depth range the manhole falls within as measured from the top of the frame to the invert of the outgoing pipe. Payment will constitute full compensation for all costs for installing new pre-cast concrete manholes complete per **Section 02641, Precast Concrete Manholes**. The unit price bid shall include, but not limited to, excavation, shoring, manhole bedding, base, riser sections(s), cone, anti-floatation measures (if required), chimney, frame, cover, sealant, flexible piping connections, invert, bench(s), trough, connecting the pipes to the manhole, material haul-off (if necessary), backfill and manhole vacuum testing.

Doghouse Manhole Installation

Sewer Manholes, 48" Diameter, Any Depth, Pre-Cast Concrete - Payment will be per vertical foot (VF) for doghouse manhole per the diameter and the depth range the manhole falls within as measured from the top of the frame to the invert of the outgoing pipe. Payment will constitute full compensation for all costs for installing new doghouse concrete manholes complete per design standards manual. The unit price bid shall include, but not limited to, excavation, shoring, manhole bedding, concrete slab, riser sections(s), cone, anti-floatation measures (if required), chimney, frame, cover, sealant, invert, bench(s), trough, , material haul-off (if necessary), and backfill.

Manhole Rehabilitation (*Item No.'s 72 to 79*) Height Adjustment, Each 12" Height Adjustment Lift: Measurement for payment will be per each (EA) 12" height adjustment. The final adjustment may be less than 12" but total adjustment payment will be based on the number of 12" adjustment lifts required to reach the proper height and maintaining a 24" clear manhole opening concentric with the frame. Work shall include removing the casting frame and building up the chimney section of the manhole (reuse existing casting frame and cover). Payment will constitute full compensation for all costs for adjusting each manhole to grade or higher will be included in the unit price, including, but not limited to, labor, equipment, transportation, tools, manhole vacuum testing and all other related procedures and materials necessary to produce the results specified in **Section 02607, Manhole Height Adjustment**. Contractor will advise the County's Representative in writing prior to proceeding. There shall be no distinctions made for diameter of the manhole or its material composition. No separate payment shall be made for resetting existing manhole frames and covers. This work shall be considered an integral part of raising manholes.

Pavement Patch, Concrete Collar for Manhole Frame and Cover: Measurement for payment will be per each (EA) pavement completed. Payment will constitute full compensation for removal and disposal of existing pavement and placement of new pavement including restoration of existing pavement markings. The unit price shall include, but not be limited to, labor, equipment, materials, transportation, and tools required to perform the work per the latest DeKalb County DWM Design Standards Manual Standard Detail No. S-007. No additional payment will be made for removing and replacing adjacent pavement damaged while performing the sewer rehabilitation and replacement work.

Replace Manhole Frame & Cover, All Types: Measurement for payment will be per each (EA). Payment will constitute full compensation for costs for replacing manhole frames and covers including, but no limited to labor, equipment, transportation, tools, pavement removal/disposal, and all other related procedures and materials necessary to produce the results specified in **Section 02608, Manhole Frame and Cover Installation**. Surface restoration to be paid separately. Contractor and County's Representative shall verify the type of frame and cover required for each location prior to replacement. Contractor will advise the County's Representative in writing in the daily report identifying each manhole with replaced type frame and cover.

Replace Manhole Cover, All Types: Measurement for payment will be per each (EA). Payment will constitute full compensation for costs for replacing manhole covers including, but no limited to labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in **Section 02608, Manhole Frame and Cover Installation**. Contractor and County's Representative shall verify the type of cover required for each location prior to replacement.

Manhole Frame Sealing: Measurement for payment will be per each (EA). Payment will constitute full compensation for all costs for installing a manufactured or applied internal or external flexible seal to frame joints including, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials. Refer to **Section 02609, Manhole Frame and Cover Sealing** for additional requirements.

Manhole Connections, All Diameters, all Depths (per Detail S-011) - Measurement and Payment shall be per each (EA). Payment shall include pipe dewatering, excavation, cutting and coring, grout, concrete, connection fittings and flexible couplings, backfill and all requirements in accordance with the specifications. Pavement replacement and rock excavation shall be paid for under their respective bid items.

1.05 SECTION 2 – SMALL DIAMETER BID ITEMS

A. *Waterline Distribution (Item No.'s 80 to 104)*

Ductile Iron Pipeline (Section 02665, Water Mains and Accessories)

Measurement for payment of furnishing and installing zinc coated ductile iron water distribution pipe for various pipe sizes and depths listed in the Bid Form will be on a linear foot basis as determined by measurement along the centerline of the pipe in place. Payment will constitute full compensation for labor, material, equipment, pressure testing, disinfection, excavation, removal and disposal of existing pipe within the installation trench, pavements and excavated materials, excavation support system, utility support system, dewatering, temporary water service, pipe envelope bedding, final backfill not under pavement, compaction for installation of zinc coated ductile iron water distribution pipe, including but not limited to furnishing, transporting, storing, installing the pipe, cleaning, and site restoration. No separate payment will be made for cutting or beveling pipe. Saw cutting, final

backfill under pavement, blocking, restrained pipe, fittings, and surface restoration will be paid separately.

The exterior of ductile iron pipe shall be coated with a layer of arcsprayed zinc per ISO 8179. The mass of the zinc applied shall be 200 g/m² of pipe surface area. A finishing layer topcoat shall be applied to the zinc. The coating system shall conform in every respect to ISO 8179-1 "Ductile iron pipes - External zinc-based coating - Part 1: Metallic zinc with finishing layer. Second edition 2004- 06-01."

B. *Fire Hydrant Assembly (Item No.'s 105 to 106)*

(Section 02665, Water Mains and Accessories)

Measurement for payment for removal of existing fire hydrant assemblies shall be at the unit price bid per each hydrant assembly removed and disposed. Payment shall constitute full compensation for labor, material, and equipment removal and disposal of the fire hydrant assembly from the restrained valve at the main line to and including the fire hydrant. Surface restoration will be paid separately.

Measurement for payment for furnishing and installing fire hydrant assemblies shall be at the unit price bid per each and shall include, but is not limited to transporting, storing, furnishing, and installing. Payment for furnishing and installing fire hydrant assemblies shall be made at the unit price per each and shall constitute full compensation for labor, material, and equipment for installation of fire hydrant assemblies, including fire hydrant, fire hydrant extensions, fire hydrant tee, anchor coupling, restrained valve, valve box; concrete collars; gravel pockets, excavation, removal and disposal of asphalt or concrete pavements and excavated material; excavation support system, utility support system, dewatering, backfilling not under pavement, compaction; disinfection and pressure testing and cleanup. Saw cutting, final backfill under pavement, blocking, restrained pipe, and surface restoration will be paid separately.

C. *Pipe Tapping (Item No.'s 107 to 112)*

(Section 02665, Water Mains and Accessories)

Measurement for payment to furnish and install tapping sleeve and valve assemblies of various sizes as listed in Bid Form shall be based upon the actual quantity of each tapping sleeve and valve assembly and shall constitute full compensation for labor, material, equipment, pressure testing and incidentals as necessary for installation including excavation, removal of pavements and excavated materials, excavation support system, utility support system, dewatering, pipe envelope bedding, final backfill not under pavement, compaction, including but not limited to furnishing, transporting, storing, valves as required, installing tapping sleeve and valve assembly, valve boxes and extensions, concrete collars, markers, pads and required appurtenances, cleaning, and site restoration. Saw cutting, final backfill under pavement, blocking, and surface restoration will be paid separately.

D. *Valves (Item No.'s 113 to 126)*

(Section 02665, Water Mains and Accessories)

Measurement for payment to furnish and install valves of various sizes as listed in the Bid Form and shall be based upon the actual quantity of each valve installed and shall constitute full compensation for labor, material, equipment, disinfection, pressure testing and incidentals as necessary for installation including excavation, removal of pavements and excavated materials, excavation support system, utility support system, dewatering, pipe envelope bedding, final backfill not under pavement, compaction, including but not limited to furnishing, transporting, and storing valves as required, installing valve, valve boxes and extensions, concrete collar, markers, pads and required appurtenances, cleaning, and site restoration. Saw cutting, final backfill under pavement, blocking, and surface restoration will be paid separately.

Air release valve assemblies shall be paid for at the unit price per each size and type of air release valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, bedding and bedding materials, installation of the air release assembly, tapping saddle, isolation valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole, ring and cover, protection of existing utilities, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, surface restoration, and all work and materials necessary to place the air release assembly into service.

E. Service Lines (Item 02665) **NOTE: See Insertion Valve Specification for additional information.**

(Section 02665, Water Mains and Accessories)

The measurement for payment for each Service Line item shall be based on the unit price bid items as stated in the Bid Form.

The unit price shall constitute full compensation for furnishing labor, materials, tools, and equipment necessary to install and finish the work as specified.

Measurement for payment for re-establishing water service connection shall be on a per each water service connection re-established accordance with the requirements of the Contract Documents. Unit price shall include re-establishing customers' line to new service line installation, ensuring that water service is fully restored. Payment for re-establishing water services shall be made at the unit price, per each, and shall constitute full compensation for labor, material, equipment, testing and incidentals as necessary for installation in accordance with the requirements of the Contract Documents.

M((Residential = 3/4" or 1" Connections; Commercial = 1.5" or larger Connections) service lines will be on a per linear foot basis in accordance with the requirements of the Contract Documents. Payment for furnishing and installing water service lines will be made at the unit price, per foot, and shall constitute full compensation for the complete installation and testing of the water service from the water main to the meter stop in the meter box at the property line. Unit price shall include furnishing, transporting and storing pipe and materials, saw cutting pavement,

excavation, removal and disposal of pavement and excavated material, excavation support system, utility support system, dewatering, temporary water service, installing pipe, fitting, thrust blocks and valves as required, pipe envelope bedding, as specified, excavation, backfilling and compaction, pipe disposal, connection to the meter, all copper piping measured horizontally from the face of the meter box to the centerline of the main, casing measured horizontally, tracer wire, valves, corporation stop, saddle strap, meter stop, and all other fittings or items as required by the Contract Documents to provide a complete water service connection. In addition, unit price shall include water service line from the water main to the water meter / flared copper service line only (no compression couplings allowed).

Measurement for payment for furnishing and installing 1 – ½” copper water service lines will be on a per linear foot basis in accordance with the requirements of the Contract Documents. Payment for furnishing and installing water service lines will be made at the unit price, per foot, and shall constitute full compensation for the complete installation and testing of the water service from the water main to the meter stop in the meter box at the property line. Unit price shall include furnishing, transporting and storing pipe and materials, saw cutting pavement, excavation, removal and disposal of pavement and excavated material, excavation support system, utility support system, dewatering, temporary water service, installing pipe, brass fittings, thrust blocks and valves as required, pipe envelope bedding, as specified, excavation, backfilling and compaction, pipe disposal, connection to the meter, all copper piping measured horizontally from the face of the meter box to the centerline of the main, casing measured horizontally, tracer wire, valves, corporation stop, saddle strap, meter stop, and all other fittings or items as required by the Contract Documents to provide a complete water service connection. In addition, unit price shall include a complete connection from the water main tap to the new water meter installation.

Replacement/relocation, installation or adjustment of Water Meters and Box shall be paid for at the unit price per each size water meter installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, bedding and bedding materials, installation of the meter, box and DWM required remote meter reader device (or MXU Transmitter), adjustment to final grade, fittings, protection of existing utilities, removal of old meter, abandonment of old meter box, chlorine for disinfection, disinfection, backfilling, disposal of unsuitable backfill material, testing, utility crossings, dewatering, trench stabilization, clean-up, restoration, bypass and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item.

Measurement for payment for complete installation of ¾” and 1” water meter and box and all necessary fittings shall be on a per each basis in accordance with the requirements of the Contract Documents. Payment for furnishing and installing water meter and box will be made at the unit price, each, and shall constitute full compensation for the complete installation and testing of the new water meter at the property line. Unit price shall include furnishing, transporting and storing water meter, box, materials, customer gate valve and all associated appurtenances, saw cutting pavement, excavation, removal and disposal of pavement and excavated material, excavation support system, utility support system, dewatering, temporary water service, installing pipe, fitting, thrust blocks and valves as required, pipe

envelope bedding, as specified, excavation, backfilling and compaction, meter and box disposal, connection to the service line, and all other fittings or items as required by the Contract Documents to provide a complete water meter connection.

Measurement for payment for complete adjustment of $\frac{3}{4}$ " and 1" water meter and box and all necessary fittings shall be per each (EA) 12" height adjustment in accordance with the requirements of the Contract Documents. The final adjustment may be less than 12" but total adjustment payment will be based on the number of 12" adjustment lifts required to reach the proper height. Payment will constitute full compensation for all costs for uncovering and/or adjusting each meter box to grade will be included in the unit price, including, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce a complete adjustment.

Measurement for payment for replacing water meter parts will be on a per each basis in accordance with the requirements of the Contract Documents. Payment for furnishing and installing water meter parts will be made at the unit price, per each, and shall constitute full compensation for the complete replacement of worn or damaged water meter parts. Unit price shall include furnishing, transporting and storing water meter parts and materials, saw cutting pavement, excavation, removal and disposal of pavement and excavated material, excavation support system, utility support system, dewatering, temporary water service, removing and disposing of worn or damaged water meter parts, installation and replacement of new water meter parts, aggregate bedding as specified, excavation, backfilling and compaction, and all other fittings or items as required by the Contract Documents to provide a complete water service connection.

Relocation of existing Water Meter and Vault for lines up to and larger than 4-inches shall be paid for at the unit price per each water meter relocation and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, bedding and bedding materials, installation of the meter, vault, adjustment to final grade, fittings, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, disposal of unsuitable backfill material, testing, utility crossings, dewatering, trench stabilization, clean-up, restoration, bypass and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item. All water meter and vault relocation work must be coordinated with DeKalb County Construction and Maintenance Department.

F. Sewer line Transmission (Item No.'s 144 to 152)

Gravity Sewer- Ductile Iron Pipe

Replacement, Ductile Iron Pipe (DIP) Gravity Pipe (Replace), All Diameters, All Depth Categories, Open Cut - Measurement for payment will be per linear foot (LF) of pipe for gravity sewer replacement of existing pipe by open cut measured from inside face of manhole to inside face of manhole. Depth of cut shall be the average depth of the pipeline as measured from the pipe invert to the existing ground level at the upstream and downstream manhole. Payment will constitute full compensation including, but not limited to, material, equipment, pressure testing,

excavation, removal and disposal of existing pipe within the installation trench, pavements and excavated materials, excavation support system, utility support system, dewatering, bypass pumping for flows under 50% of pipe volume, pipe envelope bedding, final backfill not under pavement, compaction for installation of ductile iron pipe, including but not limited to furnishing, transporting, storing, installing the pipe, cleaning and site restoration, and all other work incidental to the installation as specified in **Section 02537, Ductile Iron Sanitary Sewer Pipe and Fittings**. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, restrained pipe, fittings, and surface restoration will be paid separately. All associated costs for air testing, post-installation cleaning (if required), and post-installation CCTV inspection for quality control shall be included under this item. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work. No separate payment shall be made for survey work performed by or for the Contractor to establish reference points, benchmarks, cut sheets, limits of rights-of-way or easement, including their restoration, centerlines or baseline points.

Gravity Sewer- Poly Vinyl Chloride (PVC) Pipe (*Item No.'s 153 to 158*)

Replacement, Poly Vinyl Chloride (PVC) Gravity Pipe (Replace), All Diameters, All Depth Categories, Open Cut - Measurement for payment will be per linear foot (LF) of pipe for gravity sewer replacement of existing pipe by open cut measured from inside face of manhole to inside face of manhole. Depth of cut shall be the average depth of the pipeline as measured from the pipe invert to the existing ground level at the upstream and downstream manhole. Payment will constitute full compensation including, but not limited to, material, equipment, pressure testing, excavation, removal and disposal of existing pipe within the installation trench, pavements and excavated materials, excavation support system, utility support system, dewatering, bypass pumping for flows under 50% of pipe volume, pipe envelope bedding, final backfill not under pavement, compaction for installation of PVC pipe, including but not limited to furnishing, transporting, storing, installing the pipe, cleaning and site restoration, and all other work incidental to the installation as specified in **Section 02622, PVC Gravity Sewer Pipe**. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, restrained pipe, fittings, and surface restoration will be paid separately. All associated costs for testing, post-installation cleaning (if required), and post-installation CCTV inspection for quality control shall be included under this item. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work. No separate payment shall be made for survey work performed by or for the Contractor to establish reference points, benchmarks, cut sheets, limits of rights-of-way or easement, including their restoration, centerlines or baseline points.

G. *External Point Repairs (Item No.'s 159 to 168)*

External Sewer Point Repairs, All Diameters, All Pipe Materials, All Depth Categories- Measurement for payment will be per each (EA) sewer main point repair up to fifteen (15) linear feet (LF) in length as measured along the longitudinal axis of the sewer main, rounded to the nearest foot, and generally from new coupling to new coupling. Payment will constitute full compensation for each

external point repair including, but not limited to, material, equipment, excavation, removal and disposal of existing pipe within the installation trench, pavements and excavated materials, excavation support system, utility support system, dewatering, bypass pumping for flows under 50% of pipe volume, post-construction CCTV quality control inspection, pipe envelope bedding, final backfill not under pavement, compaction for installation of pipe, including but not limited to furnishing, transporting, storing, installing the pipe, installing flexible repair couplings, cleaning and site restoration as specified in **Section 02535, Gravity Flow Sanitary Sewers**. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, restrained pipe, fittings, and surface restoration will be paid separately. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work. No separate payment shall be made for concrete collars and couplings or rebuilding pipe penetrations and existing manhole inverts considered incidental to the Work. The point repair depth shall be considered the same as the average sewer main depth for measurement and payment purposes regardless of the actual excavation depth required. The average sewer main pipeline depth shall be as measured from the pipe invert to the existing ground level at the upstream and downstream manhole. Each point repair shall include replacing a section of sewer main pipe up to fifteen (15) feet in length, replacing up to one (1) service reconnection including furnishing and installing necessary service connection pipe, fittings and flexible coupling for a complete reinstatement of the sewer collection piping assembly. Payment will not be remitted to repair any damage to the surrounding areas caused by the Contractor in performance of the Work unless specifically authorized in writing by the County's Representative.

External Sewer Point Repairs, All Diameters, All Pipe Materials, All Depth Categories, Additional Linear Footage - Measurement for payment will be per linear foot of sewer pipe over the fifteen (15) linear feet included in the unit price for an External Point Repair. All length measurements shall be taken as field measurements along the longitudinal axis of the sewer. The depth category shall be the same average sewer main depth as measured for the aforementioned point. Payment will constitute full compensation for all costs for additional new pipe and materials including, but not limited to, material, equipment, excavation, removal and disposal of existing pipe within the installation trench, pavements and excavated materials, excavation support system, utility support system, dewatering, bypass pumping for flows under 50% of pipe volume, post-construction CCTV quality control inspection, pipe envelope bedding, final backfill not under pavement, compaction for installation of pipe, including but not limited to furnishing, transporting, storing, installing the pipe, installing flexible repair couplings, cleaning and site restoration. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, restrained pipe, fittings, and surface restoration will be paid separately. No separate payment shall be made for concrete collars and couplings or rebuilding pipe penetrations and existing manhole inverts considered incidental to the Work. The point repair depth shall be considered the same as the average sewer main depth for measurement and payment purposes regardless of the actual excavation depth required. The average sewer main pipeline depth shall be as measured from the pipe invert to the existing ground level at the upstream and downstream manhole. Payment will not be remitted to repair any damage to the surrounding areas caused by the

Contractor in performance of the Work unless specifically authorized in writing by the County's Representative.

H. *Service Lateral (Item No.'s 169 to 174)*

Service Lateral Reconnection 4"-6" Diameter, Various Depths, All Materials, up to 5 LF - Measurement for payment will be per each (EA). Payment will constitute full compensation to reconnect services excavated and exposed in conjunction with open cut mainline replacement and external point repair work. Payment for each service reconnection will include a wye fitting or an electrofusion, saddle connection installed on the mainline, replacement of up to 5 linear feet of service lateral pipe to accommodate change in horizontal/vertical alignment, including replacement of service line fittings and connections, any additional excavation, removal, disposal, shoring, dewatering, pipe envelope bedding, final backfill not under pavement, compaction for installation of service lateral pipe, including but not limited to furnishing, transporting, storing, installing the pipe, cleaning and site restoration as specified in **Section 02530 Service Lateral Reconnection and Replacement**. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, and surface restoration will be paid separately. All associated costs for testing, post-installation cleaning, if required, and post-installation CCTV video require quality control documentation for the work. No separate or additional payment will be made to install ductile iron piping or fittings for the service piping connections.

Service Lateral New / Replacement, 4" to 6" Diameter, Various Depths, Up to the Right of way, including the cleanout - Measurement for payment will be per linear foot (LF) service lateral replaced. Payment will constitute full compensation at all depths to remove, and replace, the existing sewer lateral piping and fittings from the reconnection of the lateral at the sewer main to the R.O.W. Each service lateral replacement shall include, but not limited to excavation, shoring, dewatering, pipe envelope bedding, final backfill not under pavement, compaction for installation of service lateral pipe, fittings including but not limited to furnishing, transporting, storing, installing the pipe, cleaning and site restoration as specified in **Section 02530 Service Lateral Reconnection and Replacement**. No separate payment will be made for cutting or beveling pipe. Saw cutting, final backfill under pavement, and surface restoration will be paid separately. All related costs for testing, post-installation cleaning, if required and post-installation CCTV inspection for quality control shall be included under this item. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work.

Sewer, Service Lateral, Cap or Plug Existing Lateral, Any Depth - Measurement for payment will be per each (EA). Payment will constitute full compensation for but not limited to cutting, plugging, all costs for material, labor, equipment, and other miscellaneous items as required for a complete installation, excavation, shoring, dewatering, pipe envelope bedding, final backfill, removal and disposal of excavated material if replaced with imported fill material. All related costs for testing, post-installation cleaning, if required and post-installation CCTV inspection for quality control shall be included under this item as specified in **Section 02530 Service Lateral Reconnection and Replacement**. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality

control documentation for the work. Saw cutting, final backfill under pavement, and surface restoration will be paid separately.

Sewer, Cleanout, Install at ROW or Edge of Easement on Private Service - Measurement for payment will be per each (EA). Payment will constitute full compensation to install a two-way cleanout at the edge of the right-of-way or easement boundary complete to include riser piping, cleanout box and/or accessories, cleaning (if necessary), testing, and restoring the service laterals operation as specified in **Section 02530 Service Lateral Reconnection and Replacement** and the latest DeKalb County DWM Design Standards Manual. The cleanout shall incorporate all appropriate and necessary couplings to both the service connection and house connection. A cleanout shall be installed in conjunction with all service lateral replacements to edge of right-of-way or to edge of easement.

Protruding Lateral Removal and Disposal: Measurement for payment will be per each (EA) for each protruding service lateral removed per **Section 02956, Sanitary Sewer Cleaning**. Payment will constitute full compensation for cutting and/or grinding down protruding service laterals, including, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in **Section 01510, Sanitary Sewer Main Television and Sonar Inspection**. Removal of protruding laterals will be done to remove obstructions and/or upsize sewers. Contractor will advise the County's Representative in writing prior to proceeding

I. *Bypass Pumping (Item No.'s 175 to 179)*

Bypass Pump Traffic Ramp - Measurement for Payment will be per linear feet (LF) of Bypass Pump Traffic Ramp installed and maintained and shall constitute full compensation for labor, material, equipment and incidentals as necessary.

Bypass Pumping on 6" to and including 12" Diameter Pipe. Greater than 50% - Measurement for payment will be per linear feet (LF) of pipe segment being bypassed for the size and flow classification category of bypass pumping and temporary flow control. The determination of the percent of flow within the pipe segment being by-passed will be agreed upon by the County and the Contractor prior to County approval of the by-pass pumping. Flow volume of 50% or less will not be paid for separately. Payment will be full compensation for furnishing by-pass pumping plans, labor, materials, equipment, set-up, removal and incidentals necessary to produce the results specified in **Section 01520, Sewer Flow Control**.

J. *Polyethylene Wrap (Item No. 180)*

Measurement for Payment will be per linear feet (LF). The unit price bid shall include, but not limited to, all costs for material, labor, equipment, and other miscellaneous items as required for a complete installation.

Polyethylene encasement is to be specifically manufactured to meet the formulation, physical tests, thickness, and dimensional requirements specified in

standard ANSI/AWWA C105/A21.5 per **Section 02537, Ductile Iron Sanitary Sewer Pipe and Fittings.**

K. *Cured In Place Pipe & Internal Point Repairs (Item No.'s 181 to 206)*

Cured-In-Place-Pipe (CIPP) Felt, GRP Type or other as approved by the County, All Diameters, various thickness-- Measurement for payment will be per linear foot (LF) of sewer acceptably lined based on the actual horizontal length of sewer line as field measured from center of manhole to center of manhole along the axis of the sewer. The length occupied by the manhole itself shall not be deducted. Payment for the diameter (or dimensions) of the sewer being lined and the wall thickness of the liner will constitute full compensation for the labor, equipment, and materials required to furnish and install the work complete. All costs for renewing gravity sewer pipe by CIPP liner will be included in the unit prices including, but not limited to, light cleaning of existing sewer pipe, type testing (excluding tensile test), wet-out, pre-liner, insertion, Vericure type temperature monitoring system, curing, pre and post-installation CCTV inspection for condition confirmation and installation quality control, watertight sealing of connections at manholes, sealing of cut edges in pipe and/or manholes and all other related procedures and materials necessary to complete the pipe lining as specified in Section 02500 - Lining With Cured-In-Place Pipe (CIPP) and Section 02501 - Lining with Ultra-Violet Light Fiberglass Cured-In-Place Pipe. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work. No payment shall be made for any portion of failed CIPP lining attempts and result in other methods used, such as open cut. If a section of existing host pipe must be repaired or replaced prior to installation, then the section will be paid for only by the appropriate conventional pipe work/point repair bid item. Correction of failed CIPP or CIPP deemed defective from mid-warranty internal condition inspection or test reports for structural values, thickness, etc., shall be repaired or replaced at no extra cost to the County. Payment for quality assurance sampling and testing of installed liner will be included in the unit price. See Sections 02500, 02501 and 02520 for warranty specifications.

Internal Pipe Point Repair with CIPP, Felt or GRP, all Diameters, all wall thickness: Measurement for payment will be per each (EA) point repair up to twenty (20) linear feet (LF) in length as measured for each connection coupling along the longitudinal axis of the sewer main, rounded to the nearest foot. Payment for the liner will constitute full compensation for the labor, equipment, and materials required to furnish and install the work complete. All costs for repairing gravity sewer pipe by CIPP will be included in the unit prices. The unit prices shall include testing (excluding tensile test), wet-out, pre-liner, insertion, curing, pre and post-installation CCTV inspection for quality control, watertight sealing connections at manholes, sealing of cut edges in pipe and/or manholes and all other related procedures and materials necessary to complete the pipe lining as specified in Section 02520, Internal Point Repairs To Sanitary Sewers. Payment shall be withheld due to failure to submit all post-installation CCTV video and other required quality control documentation for the work. No payment shall be made for any portion of failed CIPP lining attempts and result in other methods used, such as open cut.

L. *Sanitary Sewer Service Laterals (Item No.'s 207 to 208)*

- A. Robotic Reconnection of Existing Services Laterals- Measurement for payment will be per each (EA). Payment will constitute full compensation to re-connect active services complete and in operation to the lined sewer. Payment for each service re-connection associated with CIPP liners will include the opening of the service tap by robotically cutting the liner in situ, brushing and sealing cut edges as directed by the Owner's Representative. This includes CCTV monitoring of the reconnection process, as well as CCTV zoom into each service lateral after reconnection is complete. There shall be no distinctions made for size of service connection or lateral. If, in the course of the work, an existing service connection is omitted and the Contractor must return to the location to reconnect a service, the reconnection shall be made at the unit price bid and there shall be no additional compensation for remobilization or set-up. **See Sections 02500 and 02501 for warranty specifications.**
- B. Robotic Reconnection of Existing Services Laterals, watertight- Measurement for payment will be per each (EA). Payment will constitute full compensation to re-connect active services complete and in operation to the lined sewer. Payment for each service re-connection associated with CIPP liners will include the opening of the service tap by robotically cutting the liner in situ, brushing and sealing cut edges as directed by the Owner's Representative. Each lateral shall include a watertight seal. There shall be no additional compensation to complete the watertight sealing of each lateral and shall be included within the unit price bid. This includes CCTV monitoring of the reconnection process, as well as CCTV zoom into each service lateral after reconnection is complete. There shall be no distinctions made for size of service connection or lateral. If, in the course of the work, an existing service connection is omitted and the Contractor must return to the location to reconnect a service, the reconnection shall be made at the unit price bid and there shall be no additional compensation for remobilization or set-up. **See Sections 02500 and 02501 for warranty specifications.**

PART 2 - (NOT USED)

PART 3 - (NOT USED)

*****END OF SECTION*****

INSERT VALVES SPECIFICATION

The Insert Valve shall conform to the following:

The Ductile Iron 250 p.s.i.g. Insert Valve shall be a Resilient Wedge Gate Valve designed for use in potable water, raw water, reclaimed water, sewage, irrigation and backflow control systems. The design will allow the valve to be installed into an existing pressurized pipeline while maintaining constant pressure and service as usual. After closing the wedge and adequately restraining the valve body the downstream pipe can be completely removed and replaced (allowing for upsizing of the pipe if necessary). The host pipe shall not be a permanent component of the Insert Valve.

Ductile Iron Construction:

- The ductile iron body, bonnet and wedge provide strength and a pressure rating that meets or exceeds the requirements of AWWA C515. Insert Valve shall be ductile iron construction meeting ASTM A536 Grade 65-45-12. Heavy-duty ductile iron construction for maximum toughness and strength.
- Chemical and modularity tests shall be performed as recommended by the Ductile iron Society, on a per ladle basis. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.
- Sizes 16" and smaller must be capable of working on Cast/Grey Iron or Ductile Iron Class A, B, C and D, IPS PVC, C900 and C909 PVC, Steel, AC pipe diameters without changing either top or bottom portion of split valve body.
- 250 psig maximum working pressure. The pressure rating markings must be cast into the body of the insert valve.
- After the installation of the insert valve body on to the existing pipe a pressure test of 1.1 times that of the contents shall sustained for 15 minutes. Once the pressure test is affectively achieved the insert valve body must not be moved in accordance with AWWA Standards. If the insert valve is moved the pressure test must be completed again. The insert valve must not be moved or repositioned once the pressure test is achieved.

Resilient Wedge Gate Assembly:

- The construction of the Resilient Wedge shall comply with AWWA C509 requirements.
- The ductile iron wedge shall be fully encapsulated with EPDM rubber by a high pressure and high temperature compression or injection mold process. This will assure the ductile gate is fully coated with molded rubber – no exposed iron.
- The resilient wedge shall seat on the valve body and not the pipe to obtain the optimum seating and flow control results. The resilient wedge shall be totally independent of the carrier pipe.

- The resilient wedge shall not come into contact with the carrier pipe or depend on the carrier pipe to create a seal. Abrasion results thus shorting the life and quality of the shut down if the wedge contacts the pipe.
- Pressure equalization on the down or upstream side of the closed wedge shall not be necessary to open the valve.
- The wedge shall be symmetrical and seal equally well with flow in either direction.
- The Resilient wedge must ride inside the body channels to maintain wedge alignment throughout its travel to achieve maximum fluid control regardless of high or low flow pressure or velocity.
- Oversized flow way. Unobstructed to provide optimum flow.

Fusion-Bonded Epoxy:

- The insert valve is fully epoxy coated on the interior and the exterior. The fusion-bonded coating is applied prior to assembly so that even the bolt holes and body-to-bonnet flange surfaces are fully epoxy coated.
- Valve shall be coated with a minimum of 8 mils epoxy in compliance with AWWA C550 and certified to ANSI/NSF-61.

Gaskets and Triple O-Ring Stem Seals:

- This insert valve features triple O-Ring stem seals. Two O-Rings are located above, and one O-Ring is located below the thrust collar.
- The lower two O-Rings provide a permanently sealed lubrication chamber that will make the valve easier to operate over a longer period of time. The upper O-Ring ensures that sand, dirt or grit cannot enter the valve to cause damage to the lower O-Rings. This is especially important for buried and sewage service applications.
- Side flange seals shall be of the O-Ring type of either round, oval, or rectangular crosssectional shape.

Valve Stem & Thrust Washers:

- The gate valve stem and wedge nut shall be copper alloy in accordance with Section 4.4.5.1 of the AWWA C515 Standard.

- The NRS stem must have an integral thrust collar in accordance with Section 4.4.5.3 of AWWA C515 Standard. Two-piece stem collars are not acceptable. The wedge nut shall be independent of the wedge and held in place on three sides by the wedge to prevent possible misalignment.
- Two thrust washers are used. One is located above, and one is located below the stem thrust collar. Two thrust washers ensure easy operation at all times.
- NRS with AWWA standard turns.
- Operated by 2" square wrench nut according to ASTM A126 CL.B – open left or open right

American Made Quality:

- All parts and components to be exclusively and completely assembled, manufactured, machined and coated in the USA.
- All physical and chemical test results shall be recorded such that they can be accessed via the identification number on the casting. These Material Traceability Records (MTR's) are to be made available, in hard copy, to the purchaser that requests such documentation..
- All components shall be manufactured and assembled in the United States. The purchaser shall, with reasonable notice, have the right to plant visitation at his/her expense.

Hardware:

- Bolting materials shall develop the physical strength requirements of ASTM A307 with dimensions conforming to ANSI B18.2.1.

Extended Life Value:

- The stuffing box, operating stem and resilient wedge (complete bonnet and all moving parts) shall be removable, repairable and or replaceable under pressure. In other words, even while the valve is fully pressurized in the system all moving components can be removed under pressure. In the event the valve stem is broken or damaged the bonnet can be removed under pressure.
- Internal pressure equalization system assures the safe entry and removal of the valve bonnet during initial installation as well as future maintenance. This alleviates the need for additional pipe penetration taps or foreign methods (i.e. compressed air or auxiliary water source) to equalize pressure.

Split Restraint Devices:

- Shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.
- The devices shall have a working pressure rating of 350 psi for 4-12 inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.
- Chemical and modularity tests shall be performed as recommended by the Ductile iron Society, on a per ladle basis. Three test bars shall be incrementally poured per production shift as per U.L. specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.
- Gland body wedges and wedge actuating components shall be cast from grade 65-4512 ductile iron material in accordance with ASTM A536.
- Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly.
- Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts. Set screw pressure point type hardware shall not be used.
- Restraint devices shall be listed by Underwriters Laboratories and Approved by Factory Mutual (3" through 16" inch size).

The insert valve specification is written based on a Team InsertValve Patent number 6,776,187 and 7,225,827.

Note: Owner will consider other products for approval by request from the contractor. Request does not guarantee approval.

Measurement and Payment for Insert Valves:

Measurement for payment to furnish and install an Insert Valve assemblies of various sizes as listed in Bid Form shall be based upon the actual quantity of each insert valve assembly and shall constitute full compensation for labor, material, equipment, pressure testing and incidentals as necessary for installation including excavation, removal of pavements and excavated materials, any type of excavation support system, utility support system, dewatering, pipe envelope bedding, final backfill not under pavement, compaction, including but not limited to furnishing, transporting, storing, valves as required, installing tapping sleeve

and valve assembly, valve boxes and extensions, concrete collars, markers, pads and required appurtenances, cleaning, and site restoration. Saw cutting, final backfill under pavement, blocking, rock excavation and disposal, and surface restoration will be paid separately

END OF SECTION