

# CITY OF BROOKHAVEN

## NORTH FORK NANCY CREEK STREAM RESTORATION

### FROM I-285 TO MURPHEY CANDLER LAKE

### ISSUED FOR PERMIT - DESIGN DRAWINGS



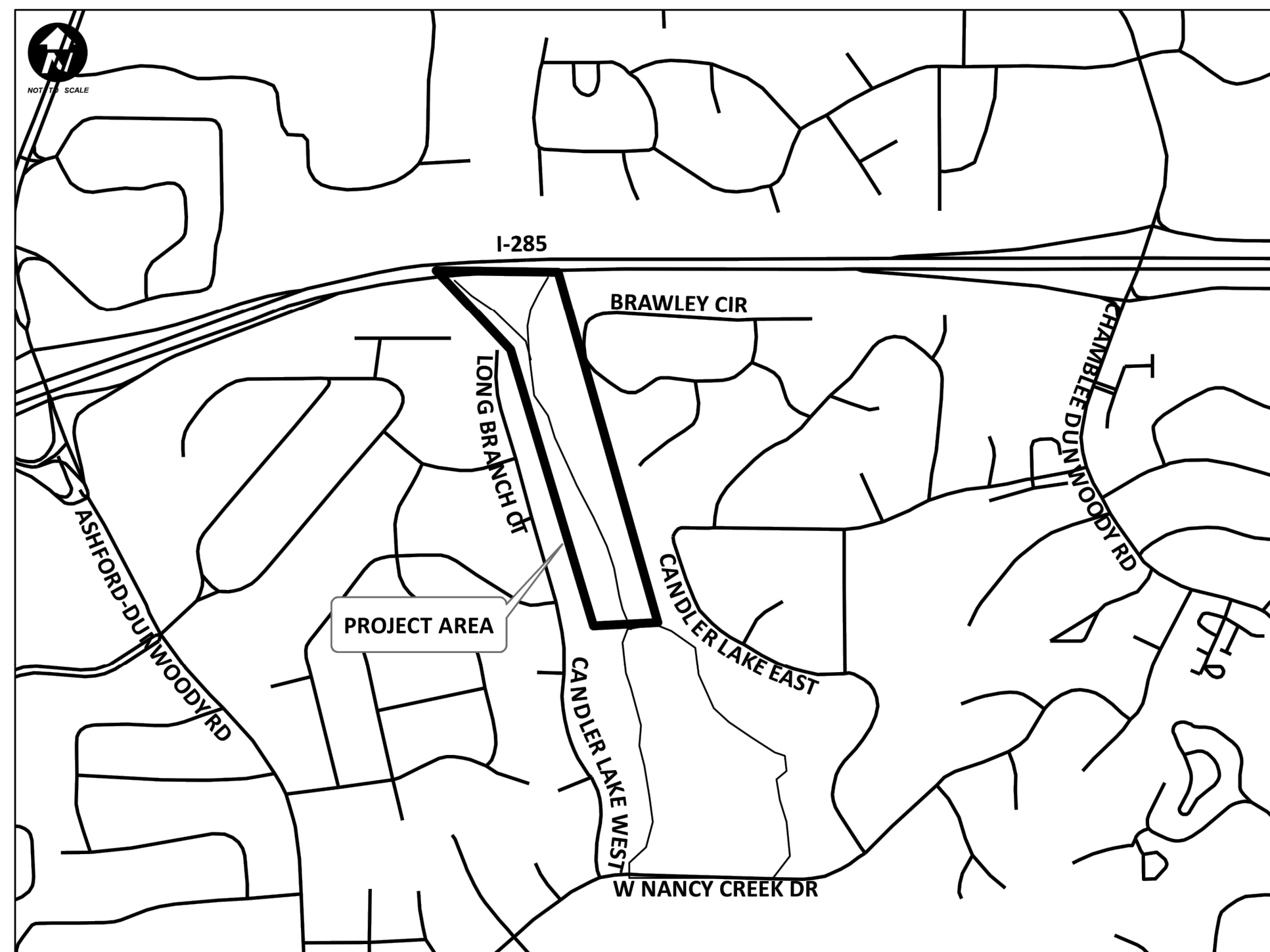
APPROVED  
FIRE MARSHAL

*Joseph E. Burge*  
Joe Burge



APPROVED  
Engineering

*Timothy Ward*  
Timothy Ward

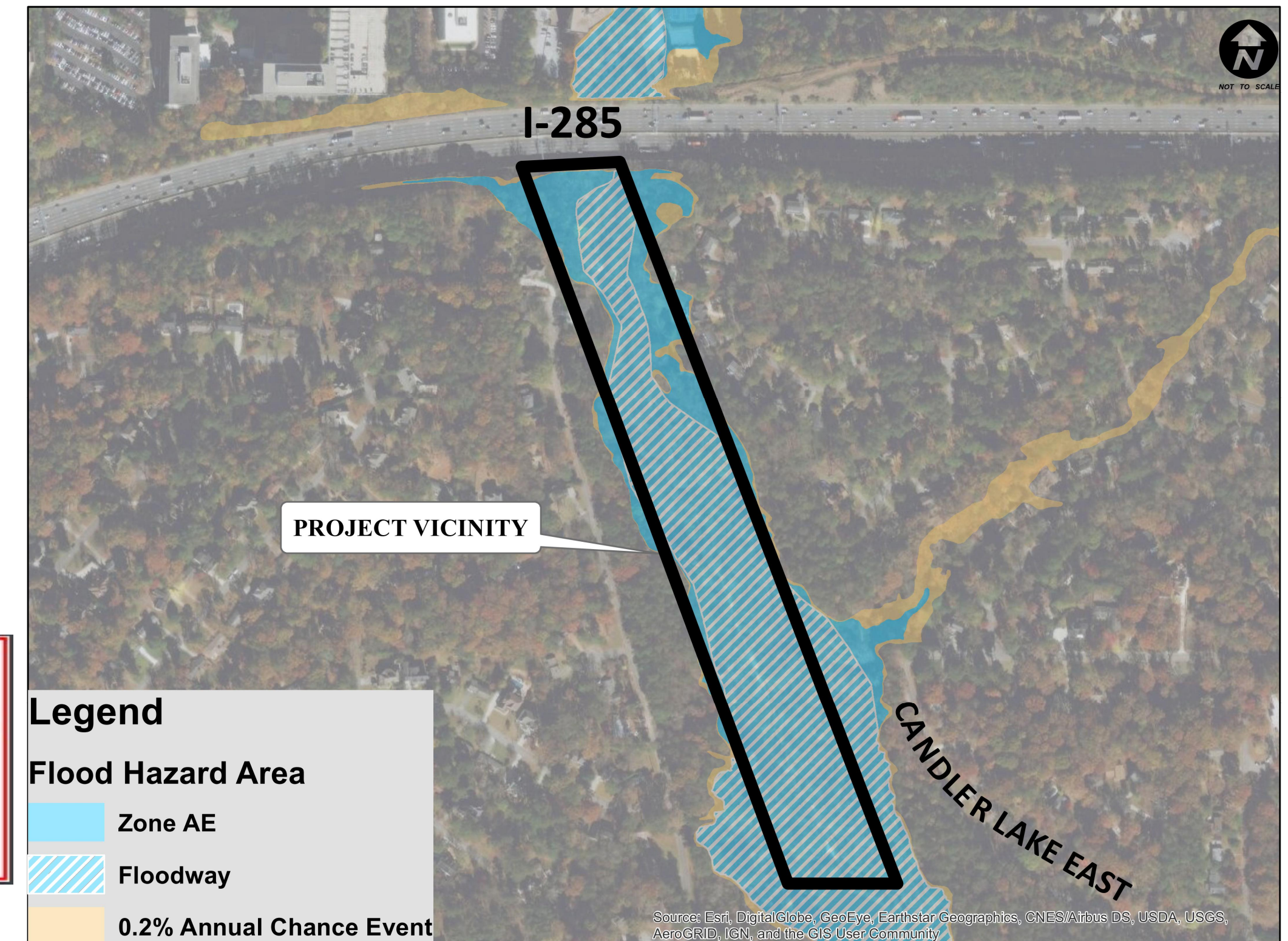


VICINITY MAP  
NOT TO SCALE



**DO NOT BEGIN CONSTRUCTION**  
before the on-site pre-construction meeting  
with the City Land Development Inspector.  
Schedule through the Project Portal:  
<https://cityworks.brookhavenga.gov/ProjectPortal>

LOCATION/FLOOD HAZARD MAP



**Legend**  
Flood Hazard Area  
Zone AE  
Floodway  
0.2% Annual Chance Event

NOT TO SCALE  
FIRM PANEL 13089C0012K  
EFFECTIVE DATE AUGUST 15, 2019

4251 LONG BRANCH CT  
BROOKHAVEN, DEKALB COUNTY GA  
LOT(S) 0331, 0346

PRIMARY PERMITTEE  
CITY OF BROOKHAVEN  
4362 PEACHTREE ROAD  
BROOKHAVEN, GA 30019  
(404)637-0540

SECONDARY PERMITTEE  
N/A

GPS COORDINATES BEGINNING OF PROJECT:  
- LAT = 33.9199  
- LONG = -84.3279  
GPS COORDINATES END OF PROJECT:  
- LAT = 33.9148  
- LONG = -84.3262

The City of Brookhaven does not certify the accuracy of these drawings. In approving these drawings and specifications, the City has relied upon the accuracy of the information and representations furnished herein by the engineer, or architect, and/or applicant. The City of Brookhaven assumes no liability or responsibility for the accuracy of the representations provided.

SEPTEMBER 2023



Georgia Registered Engineering Firm PED-004433  
Expires 06/30/2024

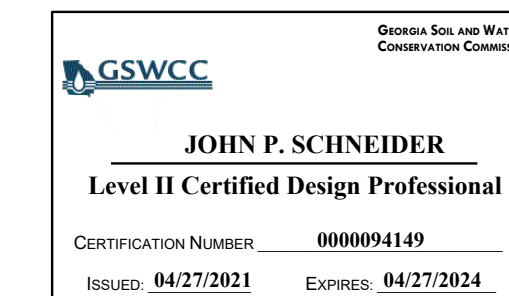
360 Interstate North Parkway, Suite 250  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - www.freese.com



THIS PROJECT WAS PREPARED USING THE HORIZONTAL COORDINATE SYSTEM ON GEORGIA WEST ZONE (NAD83), AND NORTH AMERICAN VERTICAL DATUM (NAVD 1988).

DISTURBED AREA: 4.3 ACRES

PERMITS:  
USACE NWP27: SAS-2020-00393  
GA EPD: BV-044-21-01  
COUNTY: 3115753  
CITY: LDP22-00016



24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION



GENERAL NOTES

- THE PROJECT BEGINS ADJACENT TO I-285 AT 4251 LONG BRANCH CT, AND EXTENDS DOWNSTREAM TO MURPHEY CANDLER LAKE WITHIN THE CITY OF BROOKHAVEN IN LAND LOT(S) 0331 & 0346 IN THE 18TH DISTRICT, DEKALB COUNTY, GEORGIA.
- THE PROJECT IS FOR THE RESTORATION/STABILIZATION OF NORTH FORK NANCY CREEK. CONSTRUCTION ACTIVITY WILL INCLUDE INSTALLATION OF IN-STREAM STRUCTURES, ACCOMPANYING SITE GRADING, BANK STABILIZATION, AND PLANTING OF NATIVE VEGETATION.
- HORIZONTAL CONTROL IS BASED UPON GEORGIA STATE PLANE COORDINATE SYSTEM, (GA WEST ZONE, NAD83). VERTICAL DATUM IS NAVD88.
- THIS PROPERTY LIES WITHIN SPECIAL FLOOD HAZARD ZONE 'AE', FIRM MAP NUMBER 13089C0012K OF THE DEKALB COUNTY FLOOD INSURANCE STUDY, EFFECTIVE DATE: AUGUST 15, 2019.
- THE STORMWATER RUNOFF FLOWS DIRECTLY INTO NORTH FORK NANCY CREEK. NORTH FORK NANCY CREEK IS A PART OF THE NANCY CREEK WATERSHED IN DEKALB COUNTY.
- EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALSO NOTIFY UTILITIES OF PROPOSED CONSTRUCTION AT LEAST (2), BUT NOT MORE THAN TEN (10) WORKING DAYS IN ADVANCE. FOR UTILITY LOCATES/NOTIFICATIONS CONTACT:  
DEKALB COUNTY PUBLIC WORKS: 404-371-2000  
DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT: 770-621-7200  
UTILITY PROTECTION CENTER: 811 OR 1-800-282-7411
- ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY OF BROOKHAVEN, DEKALB COUNTY, AND STATE OF GEORGIA STANDARDS AND SPECIFICATIONS.
- TO REPORT PUBLIC WORKS EMERGENCIES, CONTACT THE CITY OF BROOKHAVEN PUBLIC WORKS DEPARTMENT 24 HOURS-A-DAY NUMBER: 404-637-0540.
- PLACE MATERIAL FROM EXCAVATION AWAY FROM DRAINAGE FEATURES TO PREVENT OBSTRUCTION OF STORM DRAINAGE FLOW.
- THE SITE GRADE WILL BE RETURNED TO NATURAL CONTOURS TYPICAL OF A RIPARIAN ENVIRONMENT. ALL DISTURBED PAVEMENT, CURB, SIDEWALK, AND LANDSCAPING WILL BE REPLACED IN KIND.
- CONTRACTOR TO COORDINATE WITH PROJECT ENGINEER REGARDING NECESSARY BYPASS PUMPING AND/OR TEMPORARY PIPING TO MAINTAIN CREEK FLOWS WITHOUT IMPACT TO THE ENVIRONMENT.
- CONSTRUCTION LAYOUT AND STAKING SHALL BE PROVIDED BY THE CONTRACTOR.
- CONTRACTOR TO ESTABLISH TEMPORARY SUPPORT FOR EXISTING UTILITIES AND MAINTAIN IT THROUGHOUT CONSTRUCTION, IF REQUIRED.
- DURING NON-WORKING HOURS OR DAYS, ALL EXCAVATED AREAS ARE TO BE BACKFILLED OR SECURED AND PROTECTED USING APPROVED SAFETY DEVICES AND MATERIALS.
- IF ANY CONFLICTS OR DISCREPANCIES ARE DISCOVERED, EITHER IN THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS OR DISCREPANCIES ARE RESOLVED.
- THE CONTRACTOR SHALL VERIFY ALL INFORMATION BEFORE PROCEEDING AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL NOT MOVE OR DRIVE CONSTRUCTION MACHINERY OR HEAVY EQUIPMENT OVER THE PEDESTRIAN BRIDGE. SEE SHEET C-3 OR ES-4 FOR LOCATION.
- SHOULD PARK TRAILS BE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR OR REPLACE TO MATCH PRE-PROJECT CONDITIONS.
- FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED TO BE EFFECTIVE AND IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- THE SANITARY SEWER AERIAL CROSSING AT APPROXIMATE LOCATION OF STA 14+08 TO BE STABILIZED, AS NECESSARY DURING CONSTRUCTION TO ELIMINATE/MINIMIZE ADVERSE EFFECTS. SEE SHEET C-2 FOR LOCATION.
- THE PREPARATION OF THESE DRAWINGS WAS FINANCED IN PART THROUGH A GRANT FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY UNDER THE PROVISIONS OF SECTION 319(h) OF THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, IN PARTNERSHIP WITH THE ENVIRONMENTAL PROTECTION DIVISION OF THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.
- AN UPDATED TREE SURVEY WILL BE PERFORMED PRIOR TO CONSTRUCTION IN ORDER TO FIELD-LOCATE "LEAVE-TREES" FOR THE CONTRACTOR(S) TO AVOID.
- CONSTRUCTION DRAWINGS NOT DEPENDENT ON TREE MATERIALS BEING RE-USED ON SITE. CONTRACTOR MAY SUPPLEMENT WOODY MATERIALS WITH THOSE REMOVED ON SITE ONLY IF MARKED FOR REMOVAL.
- REFER TO APPENDED TREE PLAN FOR CRZ/SRP IMPACTS AND PRELIMINARY TREE REMOVAL PLAN.
- SEE BELOW TABLE FOR IN-STREAM STRUCTURE STATIONING AND ELEVATION DATA. ELEVATIONS REFER TO THE THALWEG (I.E. INVERT) OF THE CHANNEL.

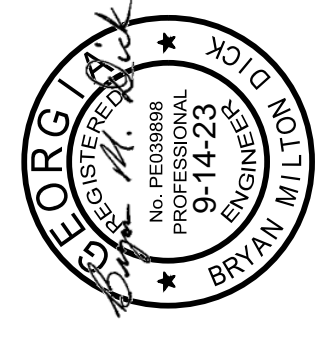
| STRUCTURE DATA TABLE |             |                |
|----------------------|-------------|----------------|
| STATION              | DESCRIPTION | ELEVATION (FT) |
| 10+30                | ROCK SILL   | 892.6          |
| 10+42                | ROCK SILL   | 892.6          |
| 10+84                | LOG SILL    | 890.9          |
| 11+49                | LOG VANE    | 890.7          |
| 11+85                | LOG SILL    | 890.8          |
| 12+29                | LOG VANE    | 890.4          |
| 13+06                | LOG SILL    | 890.0          |
| 15+58                | LOG VANE    | 886.1          |
| 15+97                | LOG SILL    | 886.1          |
| 16+37                | LOG SILL    | 886.7          |
| 17+31                | LOG SILL    | 886.5          |
| 18+11                | LOG SILL    | 886.2          |
| 18+67                | LOG VANE    | 886.1          |
| 19+55                | LOG VANE    | 886.2          |
| 19+90                | LOG SILL    | 886.2          |
| 20+40                | LOG SILL    | 886.2          |
| 21+02                | LOG VANE    | 886.1          |
| 21+37                | LOG SILL    | 885.6          |
| 21+76                | LOG VANE    | 886.0          |
| 22+18                | LOG SILL    | 886.0          |
| 22+79                | LOG VANE    | 886.0          |
| 23+29                | LOG SILL    | 885.8          |

| STRUCTURE DATA TABLE |             |                |
|----------------------|-------------|----------------|
| STATION              | DESCRIPTION | ELEVATION (FT) |
| 23+73                | LOG SILL    | 885.5          |
| 24+46                | LOG SILL    | 886.1          |
| 24+82                | LOG SILL    | 885.8          |
| 25+30                | LOG SILL    | 885.9          |
| 25+61                | LOG SILL    | 886.2          |
| 26+10                | LOG SILL    | 886.2          |
| 26+45                | LOG SILL    | 886.0          |
| 26+83                | LOG SILL    | 886.0          |
| 27+67                | LOG SILL    | 886.0          |
| 28+04                | LOG SILL    | 885.0          |
| 28+48                | LOG VANE    | 885.3          |
| 28+88                | LOG SILL    | 884.6          |
| 29+27                | LOG SILL    | 884.2          |
| 29+66                | LOG SILL    | 884.1          |

| SHEET LIST TABLE |              |   |
|------------------|--------------|---|
| SEQUENCE NO.     | SHEET NUMBER | SHEET DESCRIPTION                         |
| 1                | T-1          | TITLE COVER                               |
| 2                | G-1          | GENERAL NOTES                             |
| 3                | G-2          | OVERVIEW MAP                              |
| 4                | C-1          | START TO STA 14+00                        |
| 5                | C-2          | STA 14+00 TO STA 18+00                    |
| 6                | C-3          | STA 18+00 TO STA 22+00                    |
| 7                | C-4          | STA 22+00 TO STA 26+00                    |
| 8                | C-5          | STA 26+00 TO END                          |
| 9                | CS-1         | CROSS SECTION VIEWS                       |
| 10               | CS-2         | CROSS SECTION VIEWS                       |
| 11               | CS-3         | CROSS SECTION VIEWS                       |
| 12               | CS-4         | CROSS SECTION VIEWS                       |
| 13               | CS-5         | CROSS SECTION VIEWS                       |
| 14               | CS-6         | CROSS SECTION VIEWS                       |
| 15               | DT-1         | DETAILS                                   |
| 16               | DT-2         | DETAILS                                   |
| 17               | DT-3         | DETAILS                                   |
| 18               | DT-4         | DETAILS                                   |
| 19               | DT-5         | DETAILS                                   |
| 20               | DT-6         | DETAILS                                   |
| 21               | ES-1         | EROSION CONTROL NOTES I                   |
| 22               | ES-2         | EROSION CONTROL NOTES II                  |
| 23               | ES-3         | START TO STA 14+00 - PHASE I & II         |
| 24               | ES-4         | STA 14+00 TO STA 22+00 - PHASE I & II     |
| 25               | ES-5         | STA 22+00 TO END - PHASE I & II           |
| 26               | ES-6         | DS STAGE & STOCK PILE AREA - PHASE I & II |
| 27               | ES-7         | START TO STA 14+00 - PHASE III            |
| 28               | ES-8         | STA 14+00 TO STA 22+00 - PHASE III        |
| 29               | ES-9         | STA 22+00 TO END - PHASE III              |
| 30               | ES-10        | DS STAGE & STOCKPILE AREA - PHASE III     |
| 31               | ES-11        | ESC DETAILS                               |
| 32               | ES-12        | ESC DETAILS                               |
| 33               | ES-13        | ESC DETAILS                               |



Freese and Nichols, Inc.  
Georgia Registered Engineering Firm PEF-004433  
Expires 02/28/2025



**FREES & NICHOLS**  
360 Interstate North Parkway,  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**

GENERAL

GENERAL NOTES

|     |       |    |      |             |              |
|-----|-------|----|------|-------------|--------------|
| NO. | ISSUE | BY | DATE | FRN JOB NO. | BGAZ0127     |
|     |       |    |      | DATE        | 07/05/2023   |
|     |       |    |      | DESIGNED    | JMM/JLU      |
|     |       |    |      | DRAWN       | JMM/jps      |
|     |       |    |      | REVIEWED    | JLU          |
|     |       |    |      | CHECKED     | JLU          |
|     |       |    |      | FILE NAME   | GN-NOTES.dwg |

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

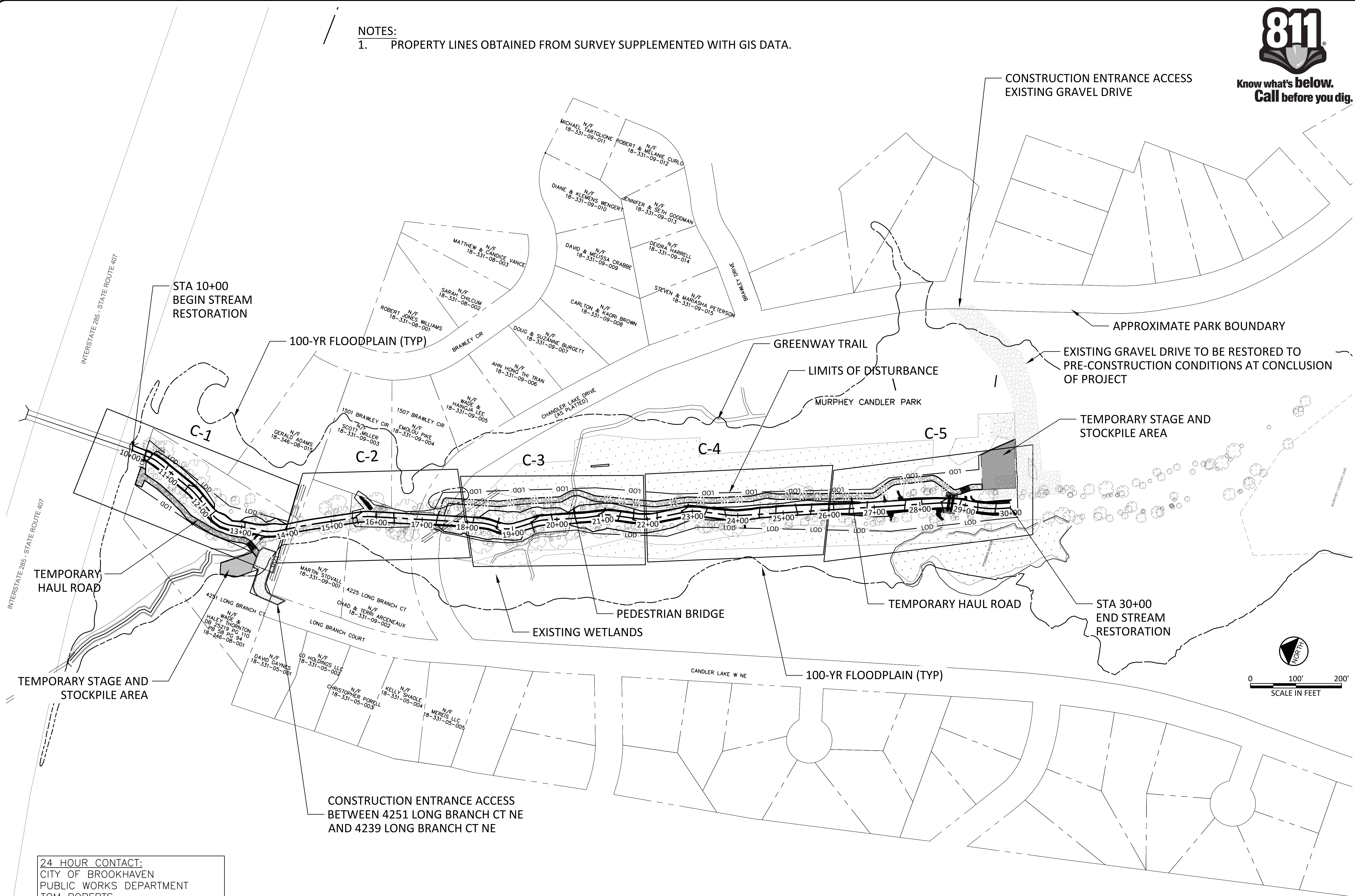
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ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION



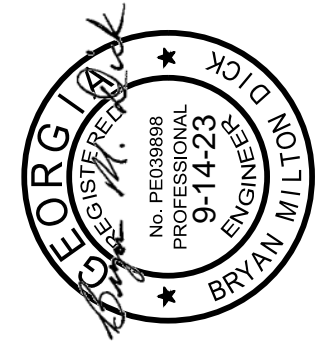
Know what's below.  
Call before you dig.

- NOTES:  
1. PROPERTY LINES OBTAINED FROM SURVEY SUPPLEMENTED WITH GIS DATA.



24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

Freese and Nichols, Inc.  
Georgia Registered Engineering Firm PEF-004433  
Expires 02/28/2025



CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**

GENERAL

OVERVIEW MAP

| NO. | ISSUE        | BY  | DATE       | FRN JOB NO.            |
|-----|--------------|-----|------------|------------------------|
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| 2   | VERIFY SCALE | JPS | 09/15/2022 | DESIGNED JMM/JLU       |
| 3   | VERIFY SCALE | JPS | 09/15/2022 | DRAWN JMM/JPS          |
| 4   | VERIFY SCALE | JPS | 09/15/2022 | CHECKED JLU            |
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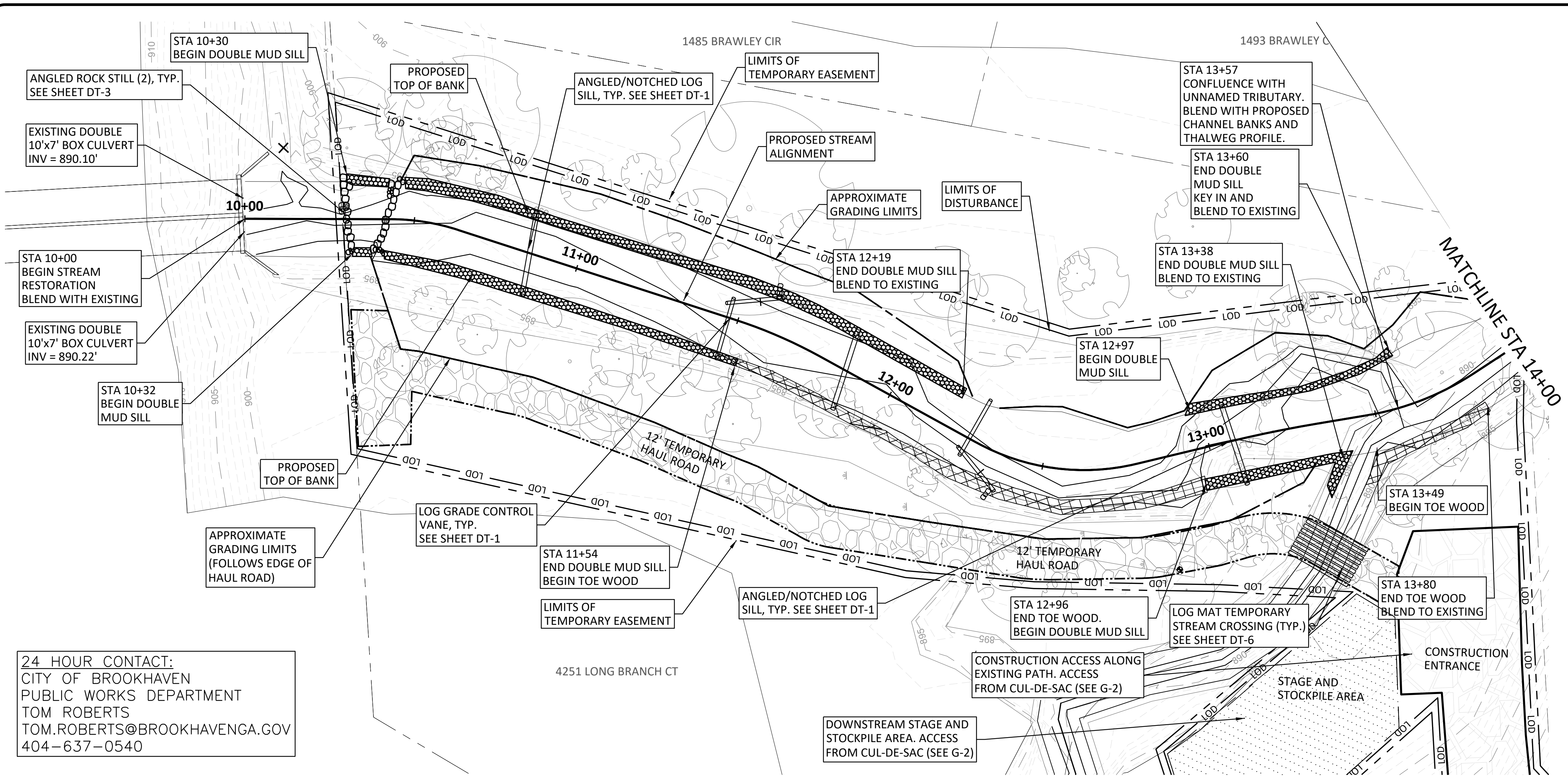
SHEET **G-2**  
SEQ. 3

ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION

APPROVED PLAN 10/17/2023  
Permit # LDP22-00016

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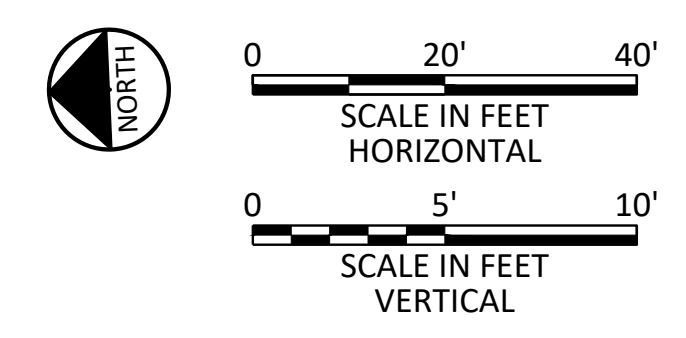
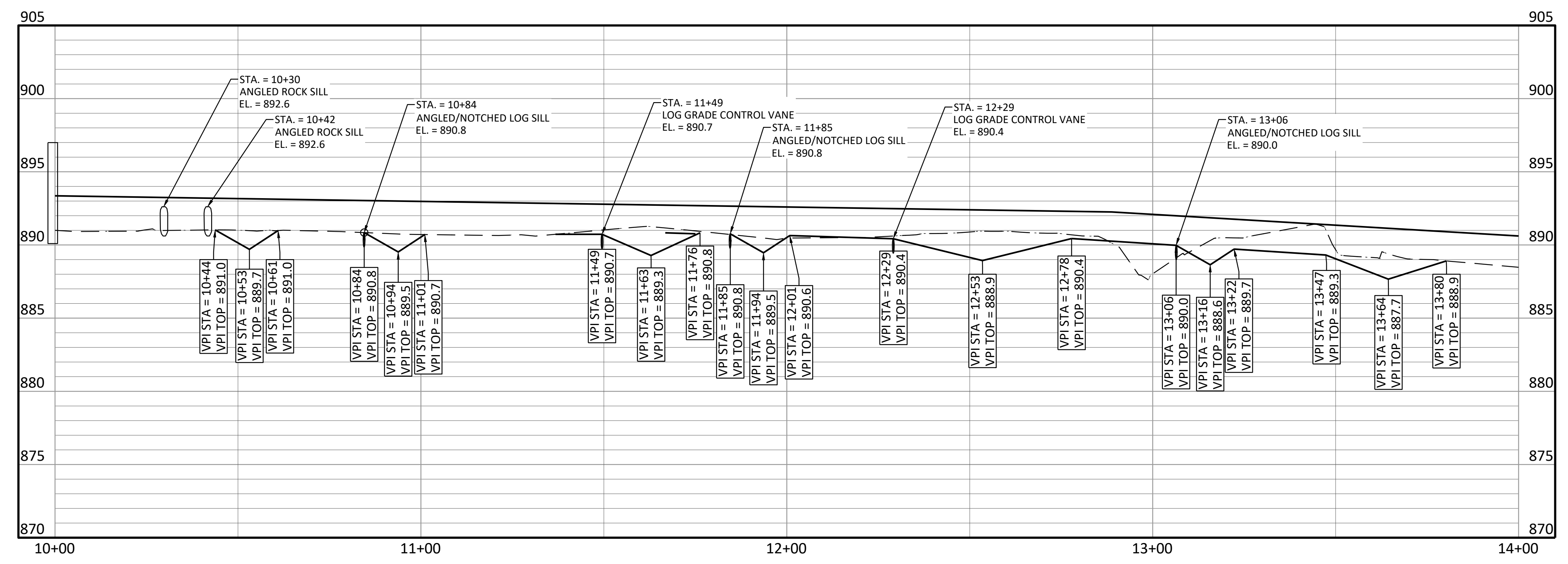
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- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - ALL WOOD CHIPS USED FOR HAUL ROAD AND/OR STORED ON SITE SHALL BE SPREAD AROUND THE SITE OR HAULED AWAY.

### LEGEND

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA



24 HOUR CONTACT:  
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TOM ROBERTS  
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Expires 02/28/2025

GEORGIA REGISTERED PROFESSIONAL ENGINEER  
9-14-23  
BRYAN W. LITTLE, P.E.

**FREES & NICHOLS**  
360 Interstate North Parkway,  
Atlanta, GA 30339  
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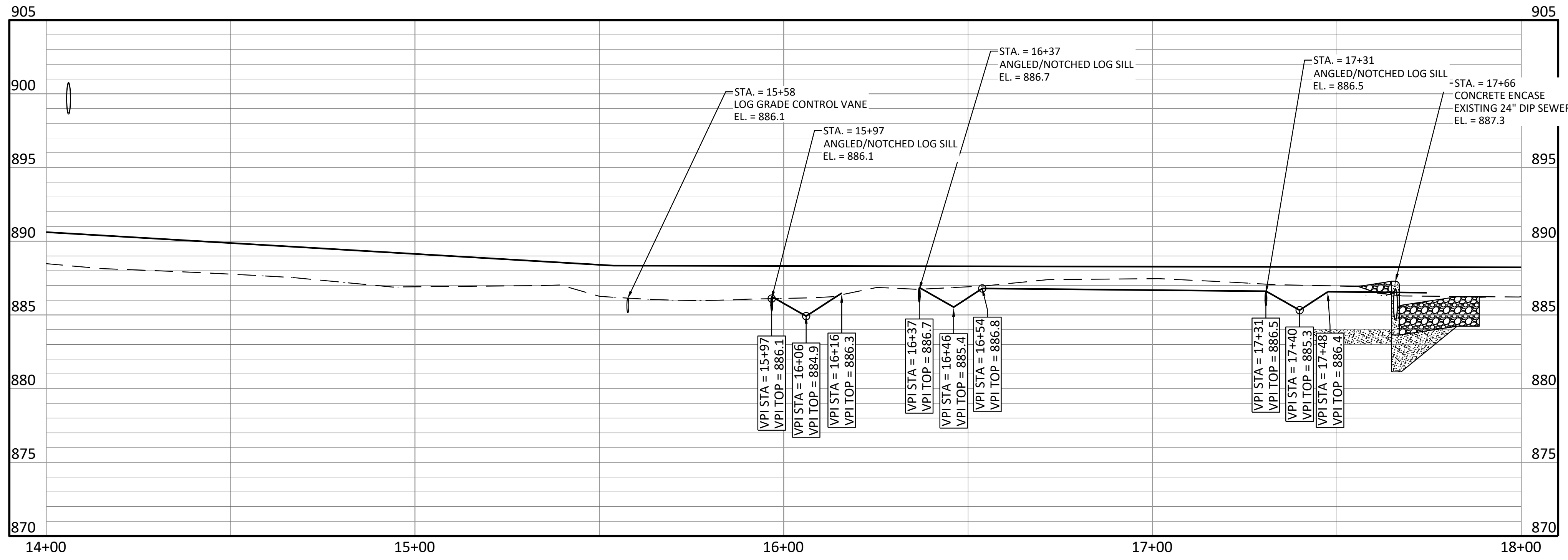
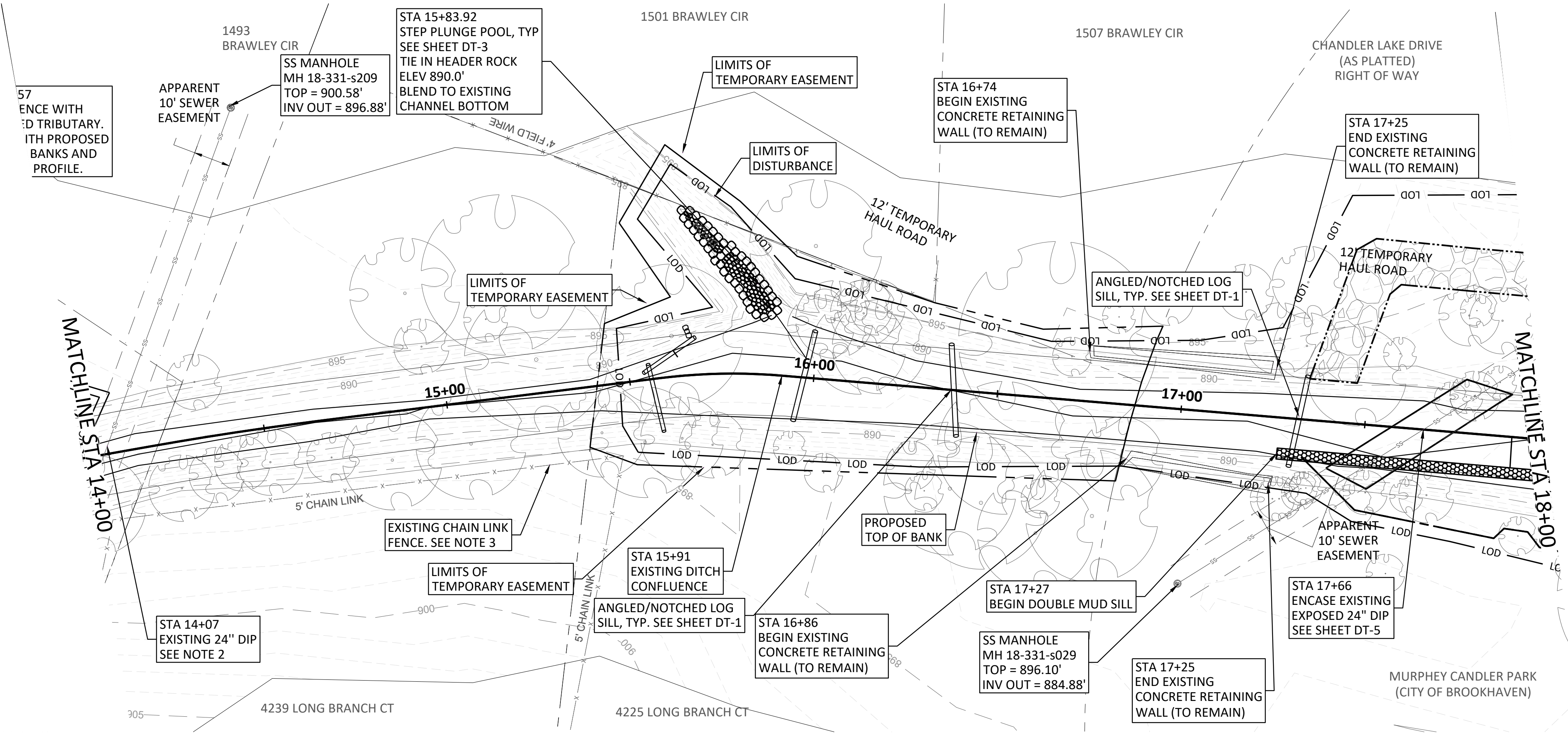
CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL  
**NORTH FORK NANCY CREEK  
START TO STA 14+00**

|     |   |     |            |             |                 |
|-----|---|-----|------------|-------------|-----------------|
| NO. | ISSUE   | BY  | DATE       | FRN JOB NO. | BGA20127        |
| 0   | VERIFY SCALE  | JPS | 09/15/2022 | DATE        | 07/05/2023      |
| 1   | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. | JPS | 12/22/2022 | DESIGNED    | JMB/CM          |
|     |   |     |            | DRAWN       | JMM/jps         |
|     |   |     |            | REVISION    |                 |
|     |   |     |            | CHECKED     | BMD             |
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ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION

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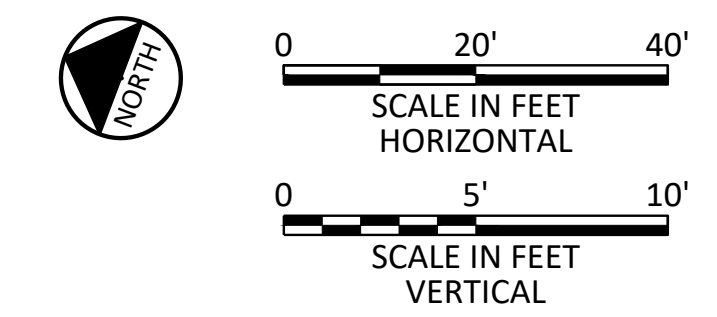


- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - NO CONSTRUCTION ACTIVITIES WILL OCCUR WITHIN 10' ON EITHER SIDE OF THE AERIAL SEWER CROSSING. IF DAMAGED DURING CONSTRUCTION, THE CONTRACT SHALL REPAIR AND REPLACE THE SEWER LINE TO EXISTING CONDITIONS.
  - THE EXISTING CHAIN LINK FENCE TO REMAIN. IF DAMAGED, THE CONTRACTOR TO REPAIR AND REPLACE TO EXISTING CONDITIONS.

**LEGEND**

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LOD - LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm P.E. 004433  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

**Freese and Nichols**  
 CIVIL  
 NORTH FORK NANCY CREEK  
 STA 14+00 TO STA 18+00

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

| NO. | ISSUE                         | DATE      | BY  | DATE       | BY  | DATE | BY |
|-----|-------------------------------|-----------|-----|------------|-----|------|----|
| 1   | ISSUE                         |           |     |            |     |      |    |
| 2   | CITY OF BROOKHAVEN LDP REVIEW | 12/2/2022 | JPS | 09/15/2022 | JPS |      |    |
| 3   | DEKALB COUNTY LDP REVIEW      |           |     |            |     |      |    |
| 4   | VERIFY SCALE                  |           |     |            |     |      |    |

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

FILE NAME: CV-PP-SHTS1.dwg  
 CHECKED: BMD  
 DESIGNED: JMB/CM  
 DRAWN: JMB/JPS  
 DATE: 07/05/2023  
 BG/20127

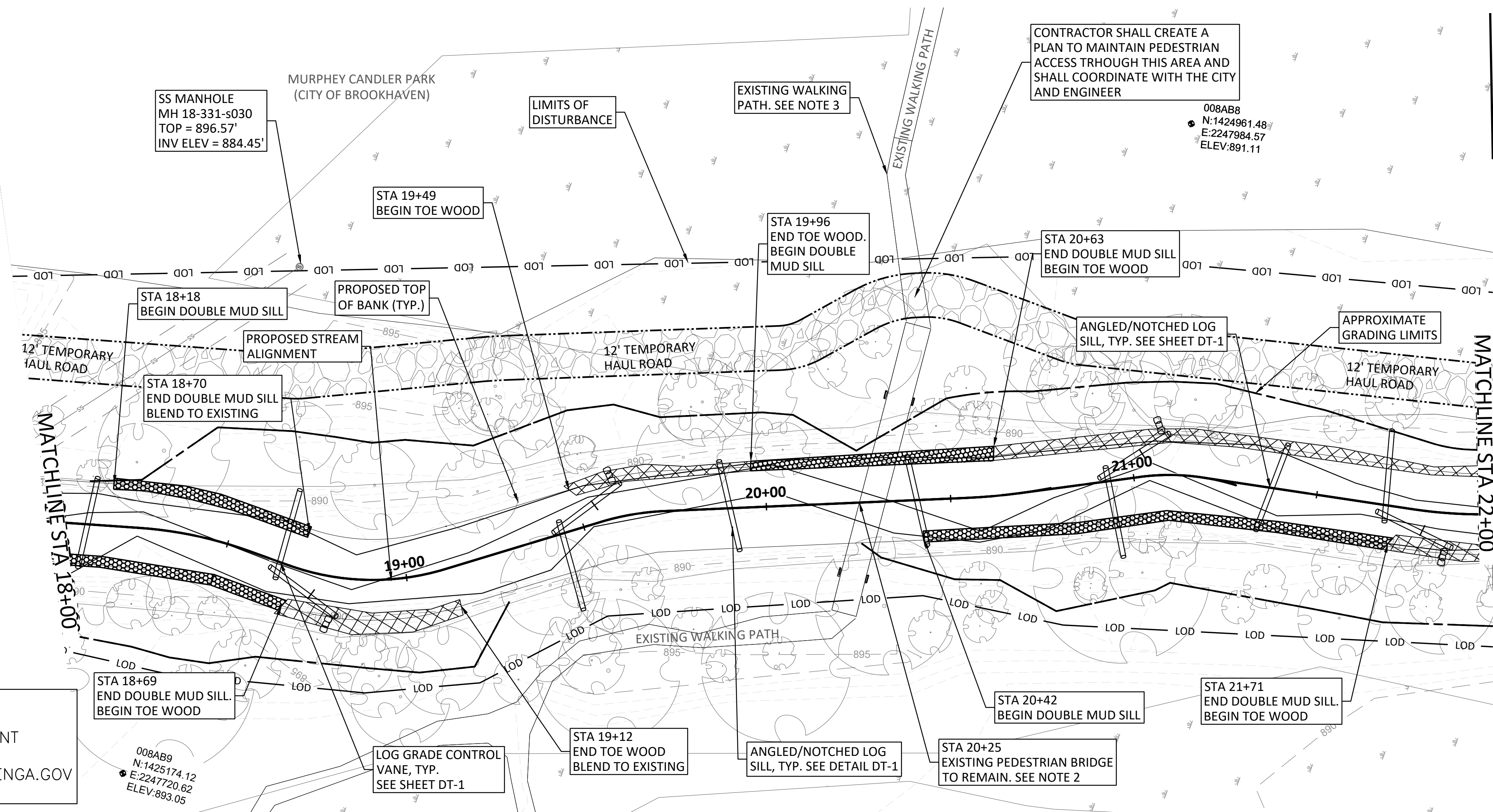
SHEET: C-2  
 SEQ. 5

ISSUED FOR PERMIT NOT FOR CONSTRUCTION

APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

ACAD Ref: 24.1s (LMS Tech)  
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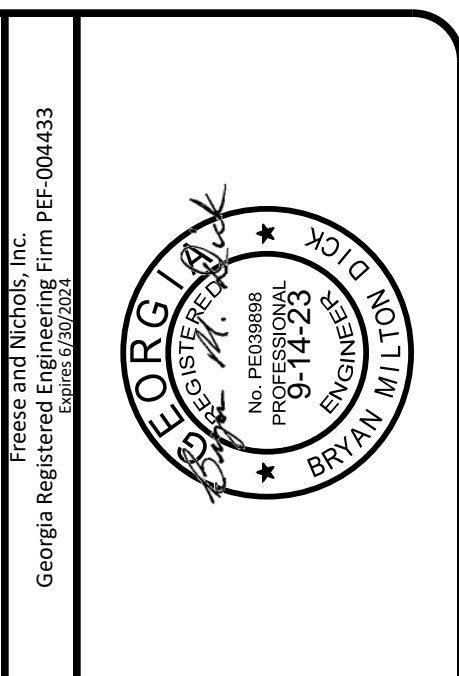
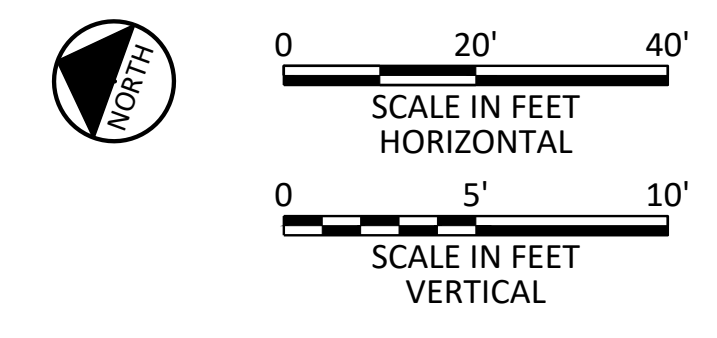
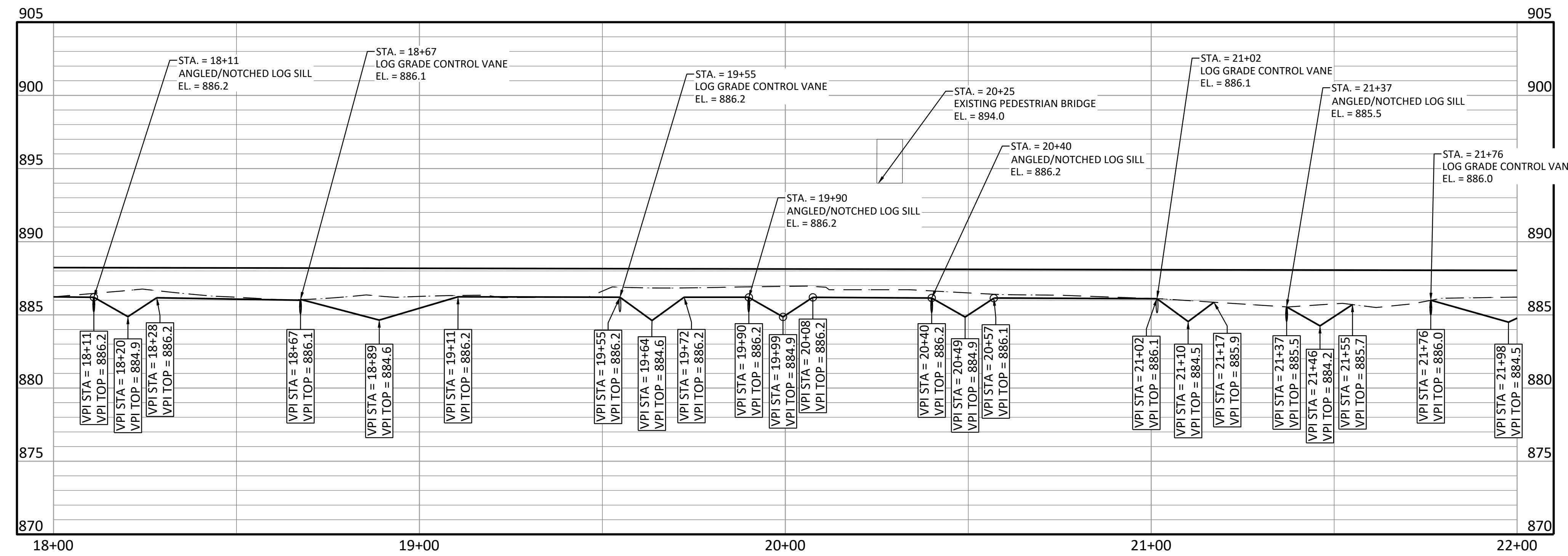
24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - CONTRACTOR SHALL NOT MOVE OR DRIVE HEAVY MACHINERY ACROSS PEDESTRIAN BRIDGE. IF PEDESTRIAN BRIDGE IS DAMAGED DURING CONSTRUCTION, CONTRACTOR TO RESTORE TO EXISTING CONDITION AT NO ADDITIONAL COST TO OWNER.
  - WALKING PATH TO BE RESTORED TO EXISTING CONDITION UPON PROJECT COMPLETION.

### LEGEND

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LOD - LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA



**FREES NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.frees.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION**  
 FROM I-285 TO MURPHEY CANDLER LAKE  
 CIVIL  
 NORTH FORK NANCY CREEK  
 STA 18+00 TO STA 22+00

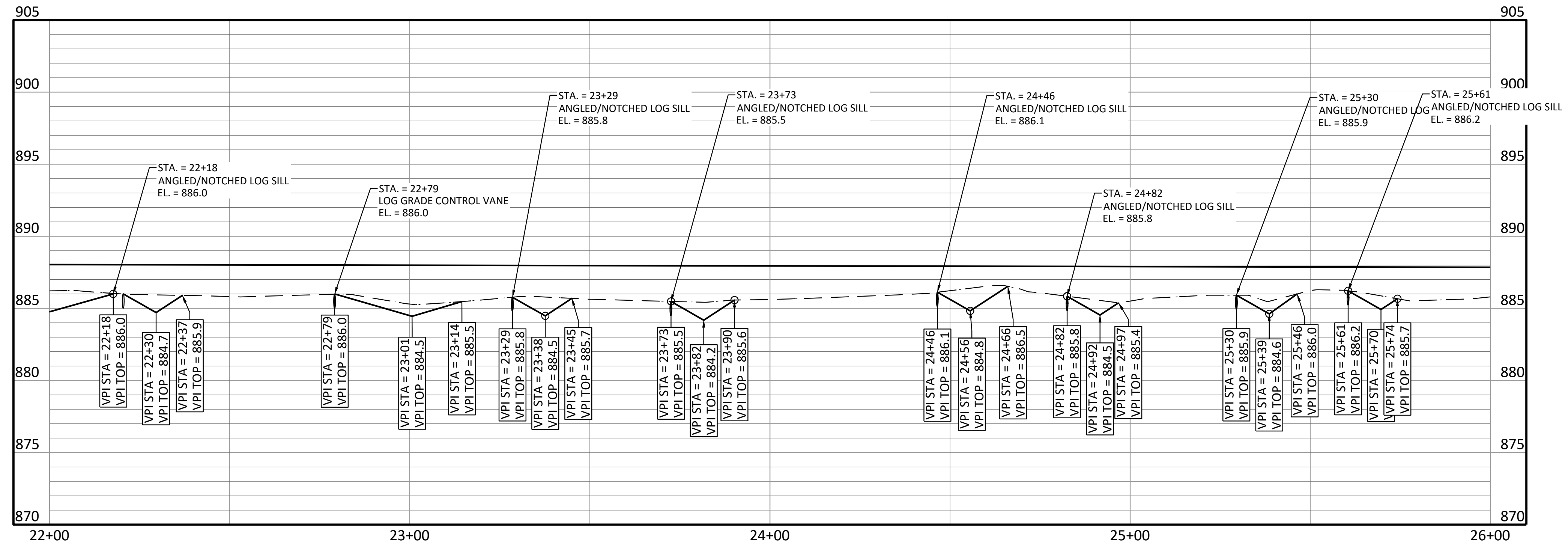
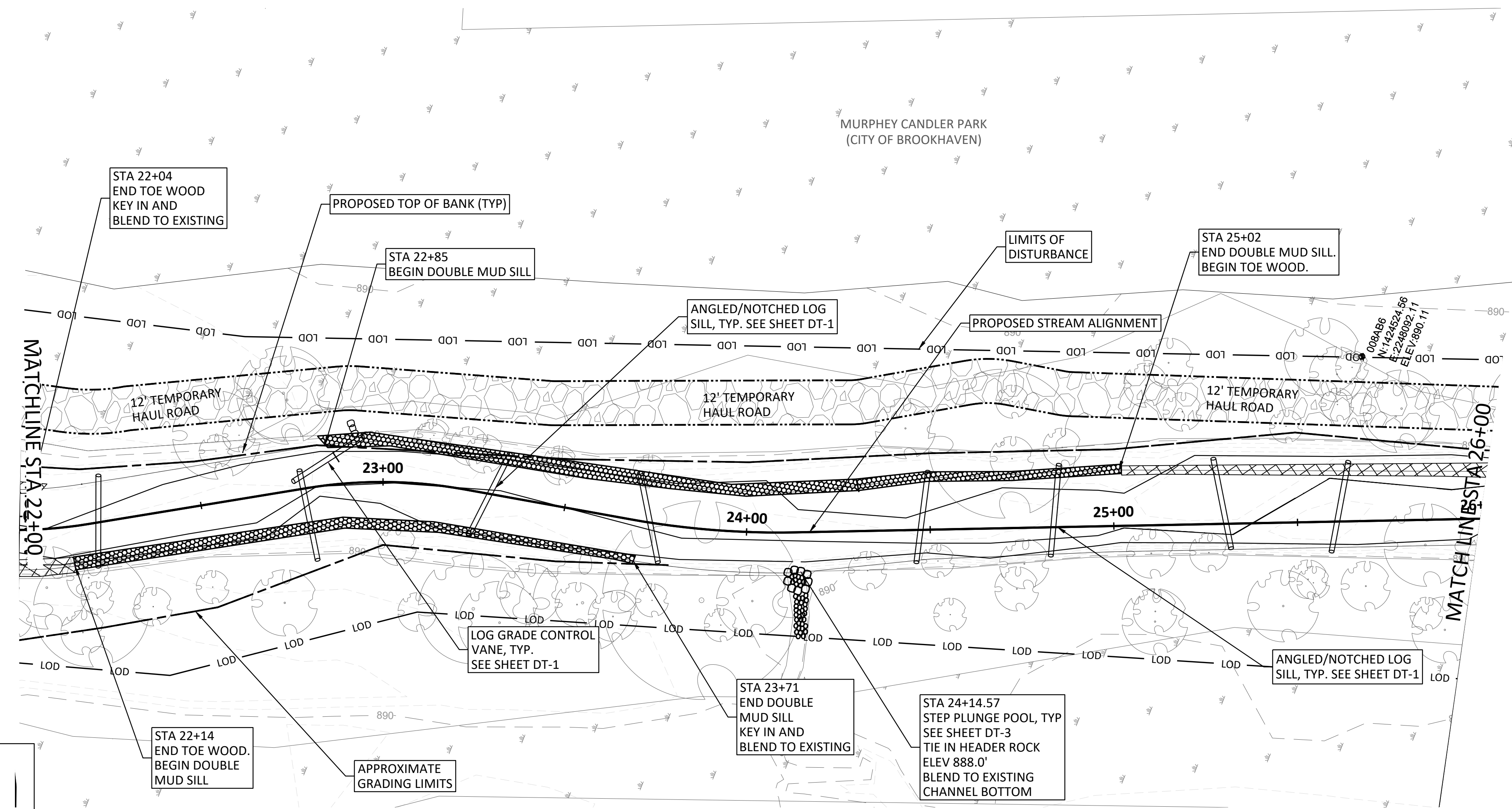
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| 1   | DESIGN REVIEW | 07/05/2023 | JPS | 09/15/2022 | JPS |                 |           |
| 2   | DESIGN REVIEW | 12/22/2022 | JPS |            |     |                 |           |

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION

APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

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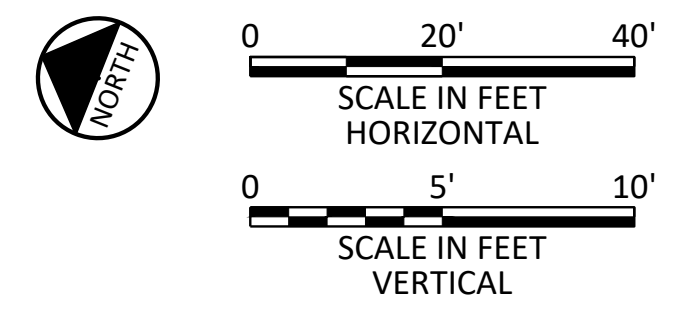
24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



- NOTES:
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  2. WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  3. THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  4. ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.

**LEGEND**

- LOG GRADE CONTROL VANE
- ANGLED ROCK SILL
- STEP PLUNGE POOL
- ANGLED/NOTCHED LOG SILL
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- TOE WOOD
- DOUBLE MUD SILL
- EXISTING WETLANDS
- PROPOSED GRADING LIMITS
- PROPOSED STREAM ALIGNMENT
- PROPOSED TOP OF BANK
- HAUL ROAD
- LIMITS OF DISTURBANCE
- TEMPORARY EASEMENT
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPERTY BOUNDARY
- STAGE AND STOCKPILE AREA



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 02/28/2025

GEORGIA REGISTERED PROFESSIONAL ENGINEER  
 9-14-23  
 BR/AN/INTL/DOCK

**FREES & NICHOLS**  
 CIVIL  
 360 Interstate North Parkway,  
 Suwanee, GA 30039  
 Phone: (404) 334-4310  
 Web: www.freese.com

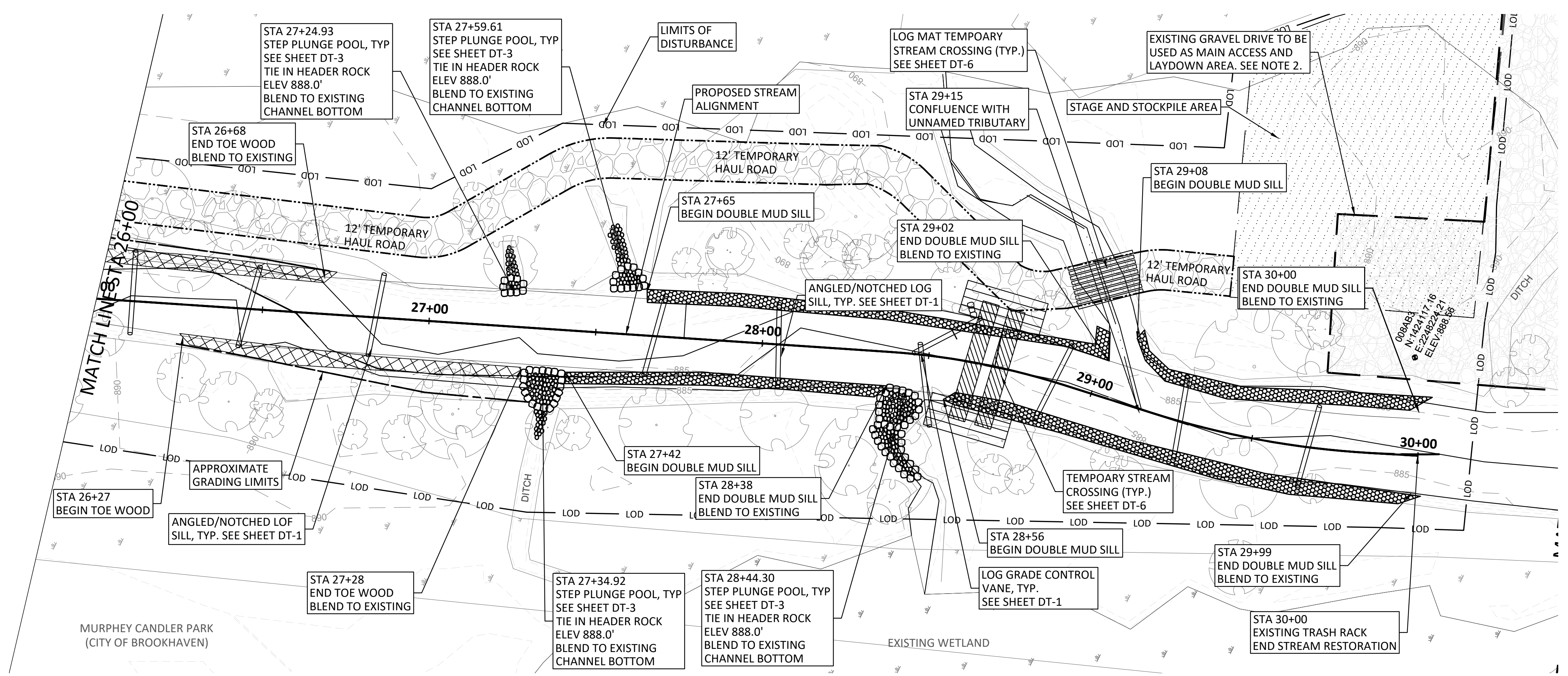
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

**NORTH FORK NANCY CREEK STA 22+00 TO STA 26+00**

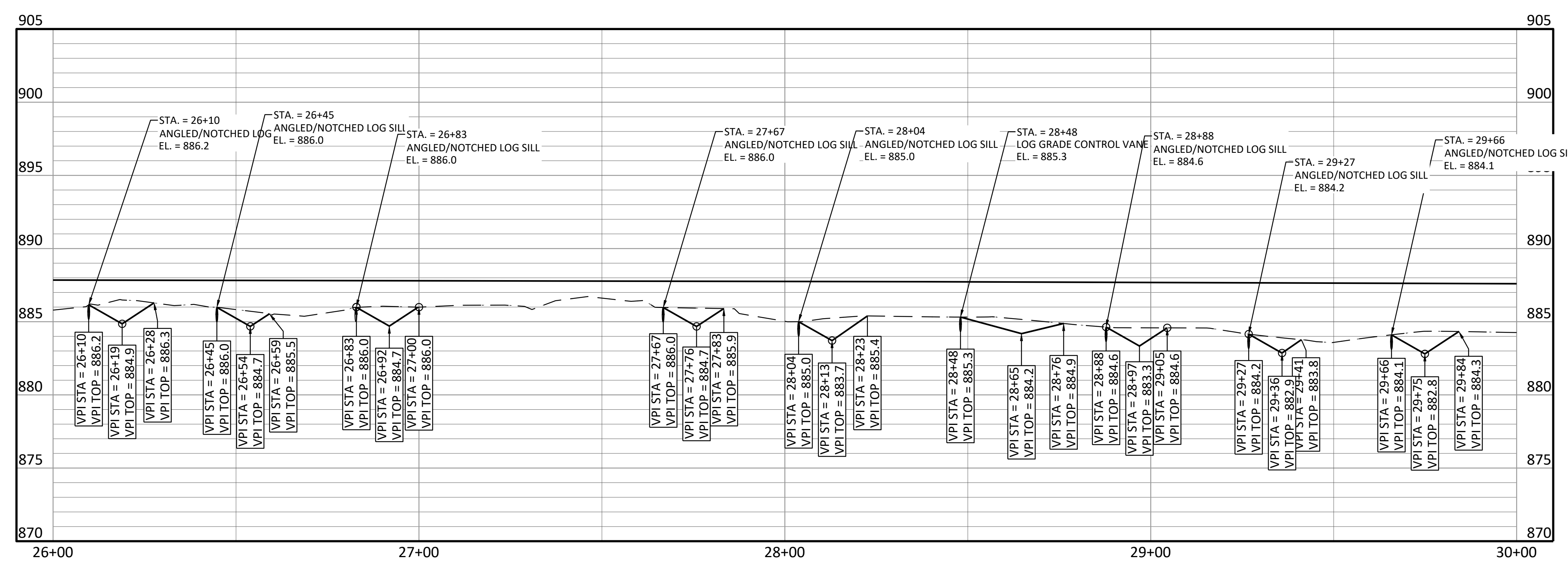
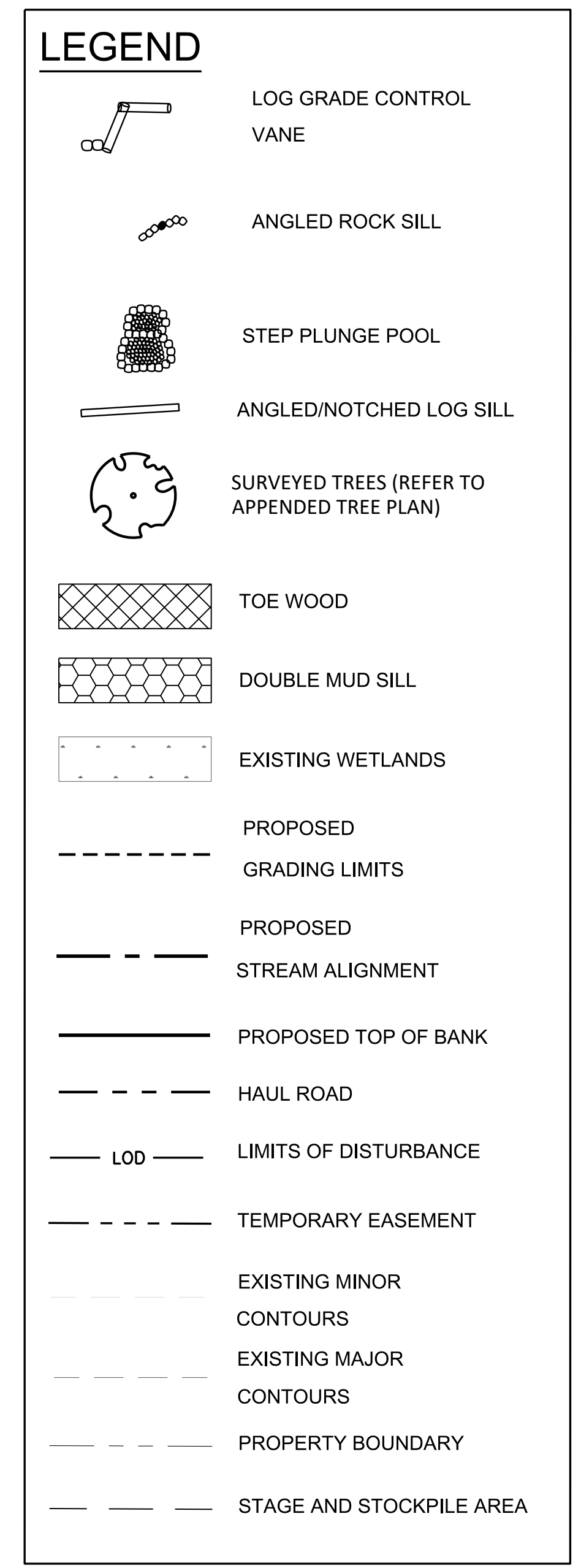
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|     |       |    |      | DATE  | 07/05/2023      |
|     |       |    |      | DESIGNED  | JM/BCM          |
|     |       |    |      | DRAWN   | JM/JPS          |
|     |       |    |      | REVISION  | ###             |
|     |       |    |      | CHECKED   | BMD             |
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 NOT FOR CONSTRUCTION

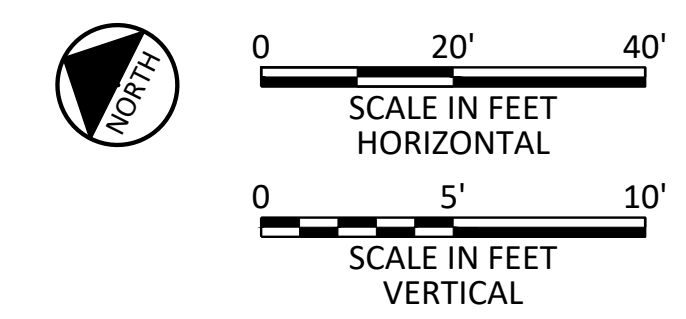
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  - ALL TEMPORARY STREAM CROSSINGS REQUIRE PLANS FOR CONSTRUCTION, REMOVAL AND RESTORATION PER DT-6.
  - THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - GRAVEL DRIVE SHALL BE RESTORED TO PRE-PROJECT CONDITIONS FOLLOWING PROJECT COMPLETION.
  - ALL WOOD CHIPS USED FOR HAUL ROAD AND/OR STORED ON SITE SHALL BE SPREAD AROUND THE SITE OR HAULED AWAY.



24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PE# 004433  
 ENGINEER  
 PROFESSIONAL  
 9-14-23  
 BR/AM/ML/CL/DK

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suwanee, GA 30039  
 Phone: (404) 334-4310  
 Web: www.freese.com

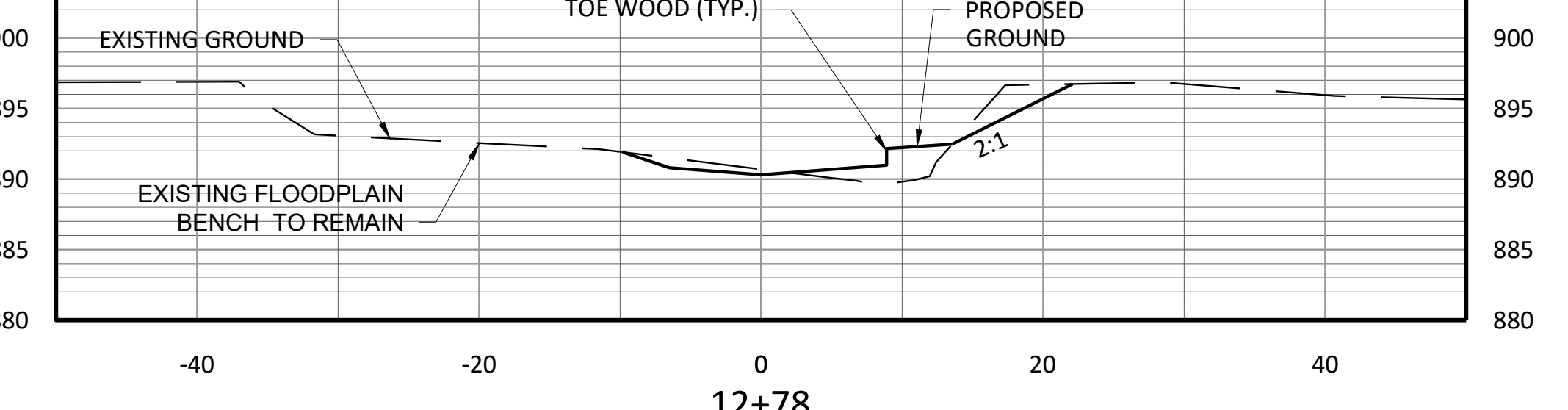
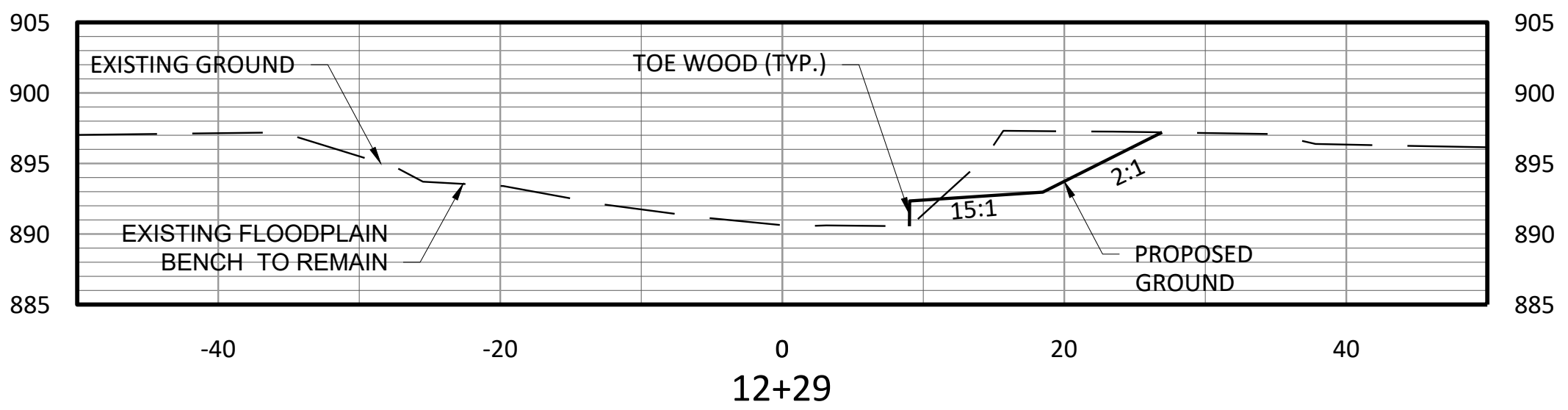
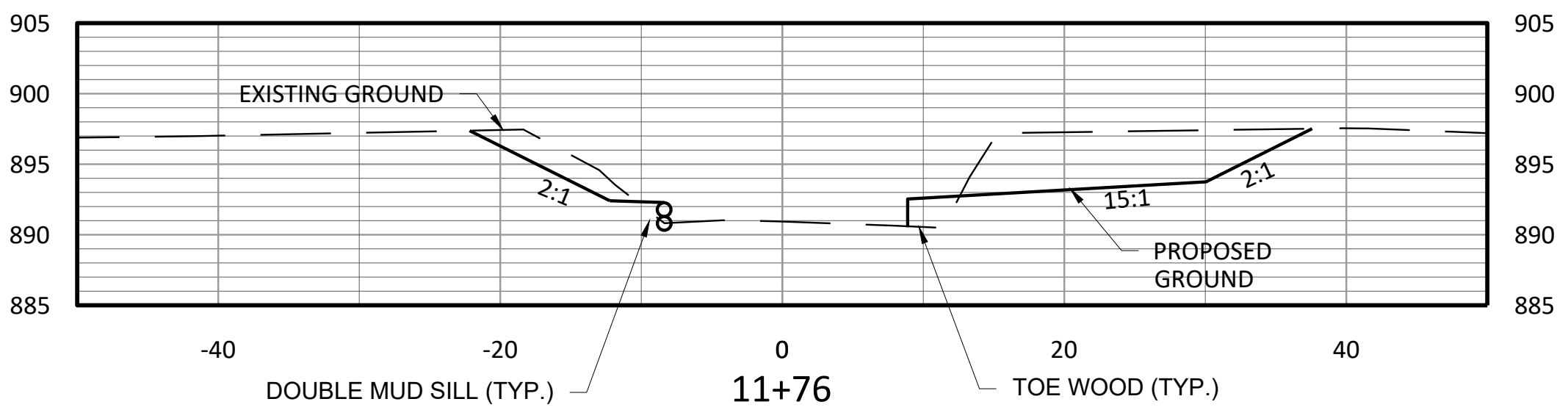
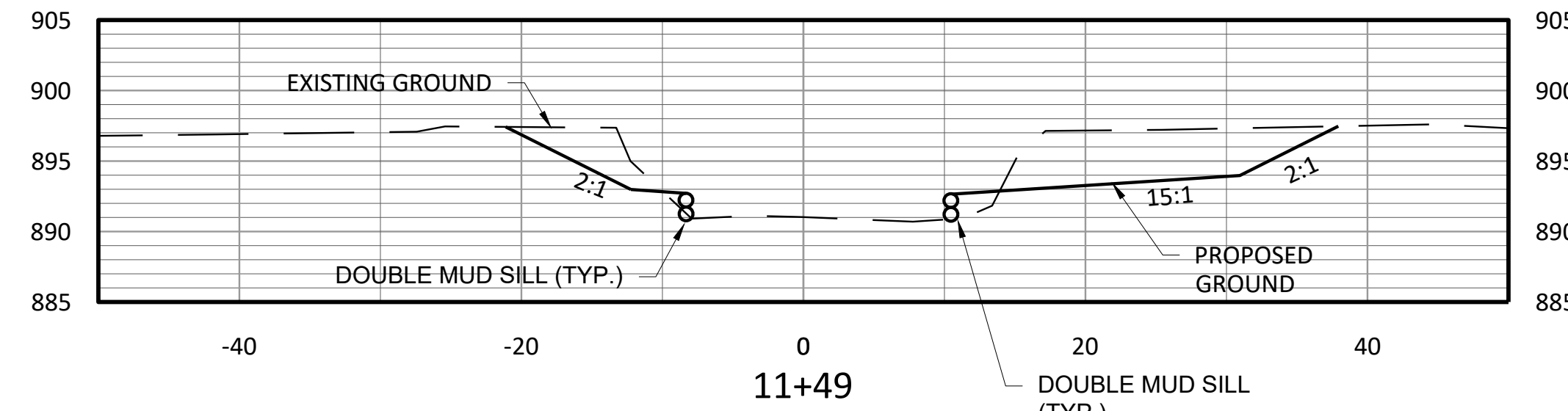
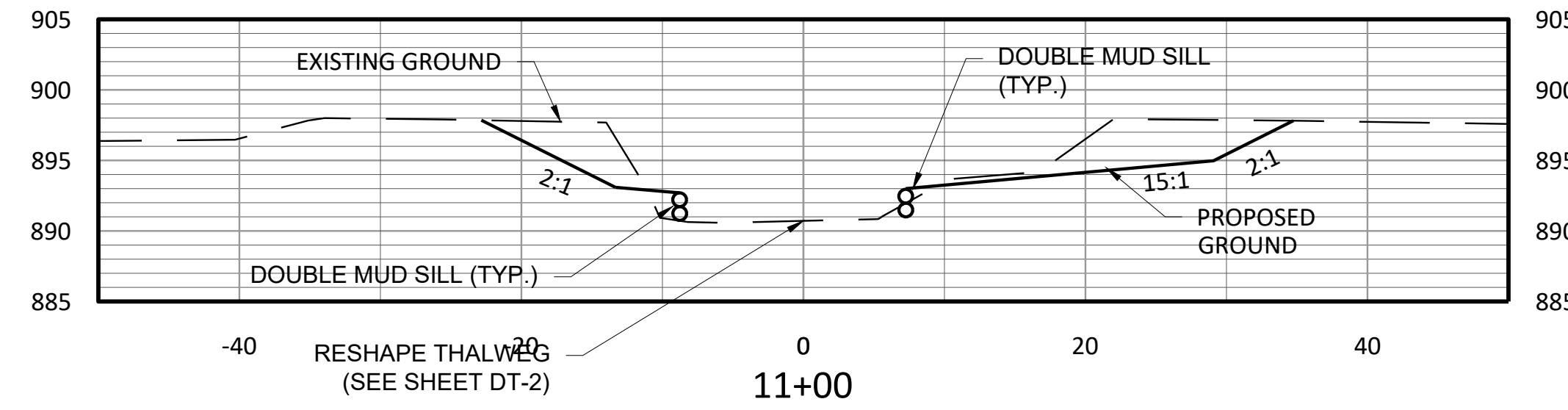
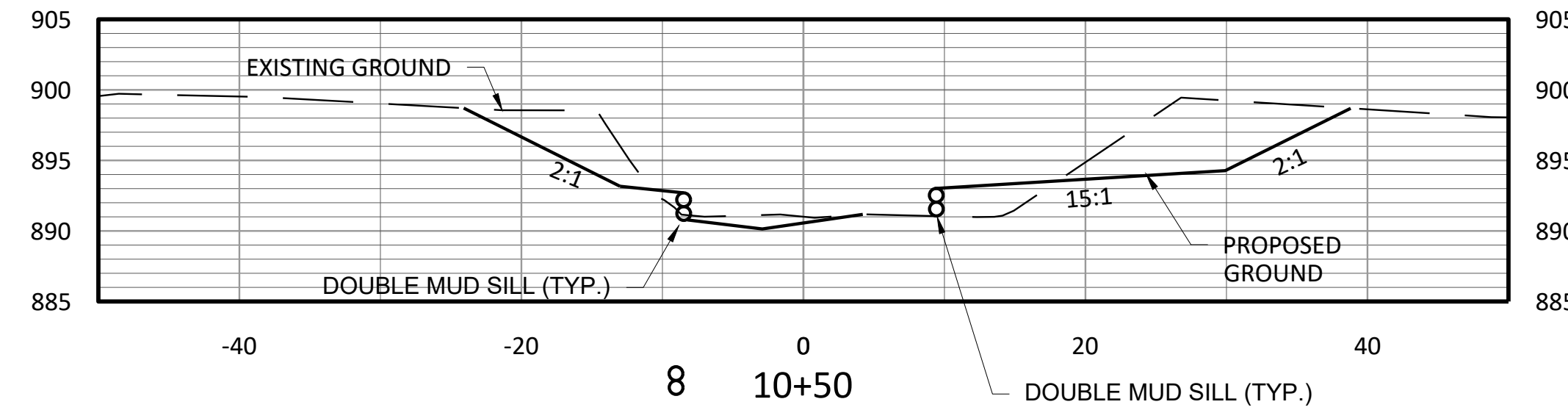
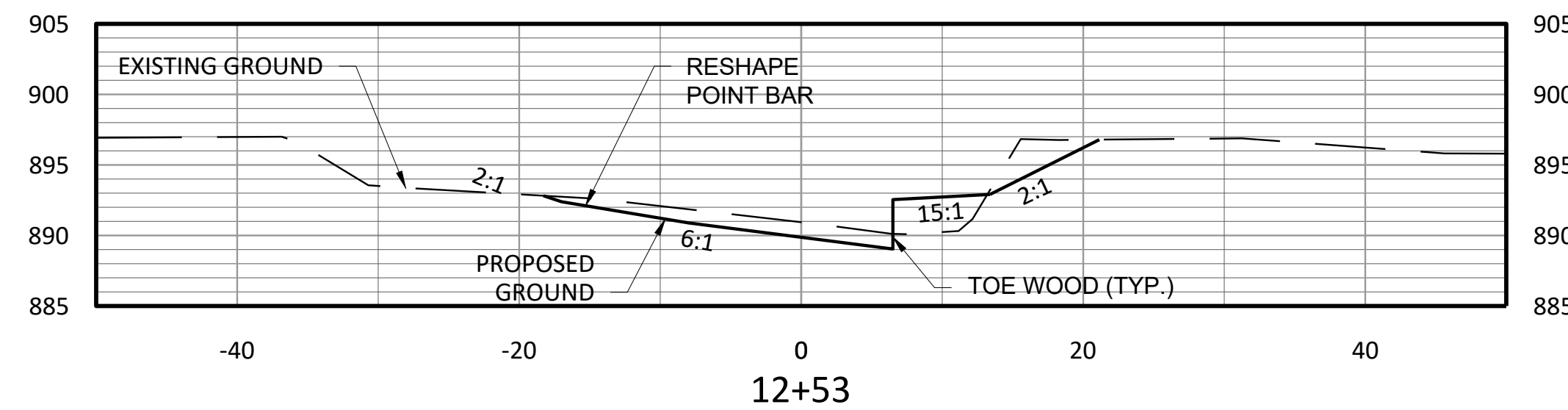
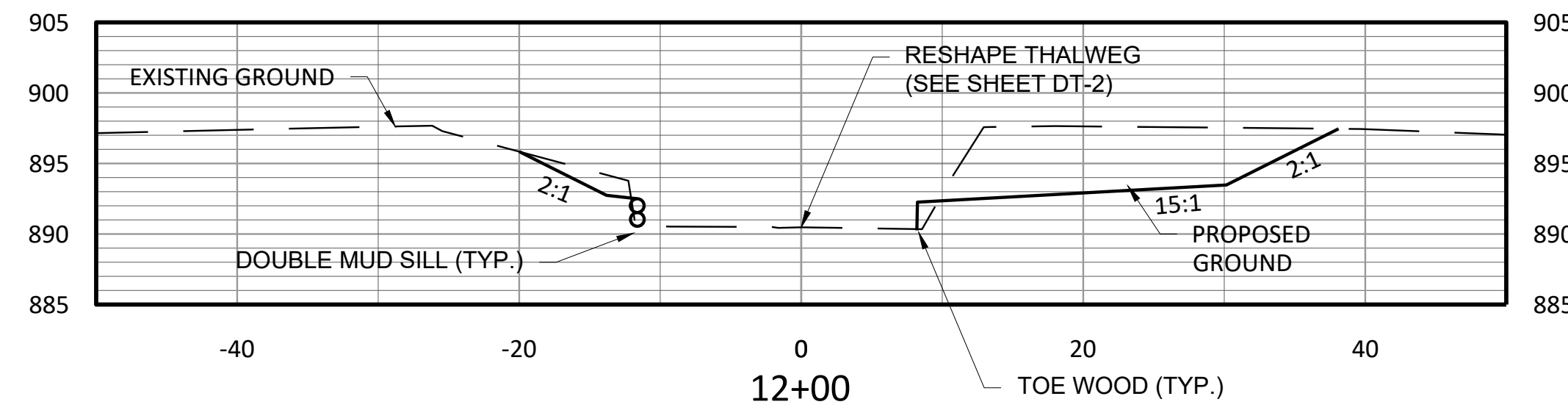
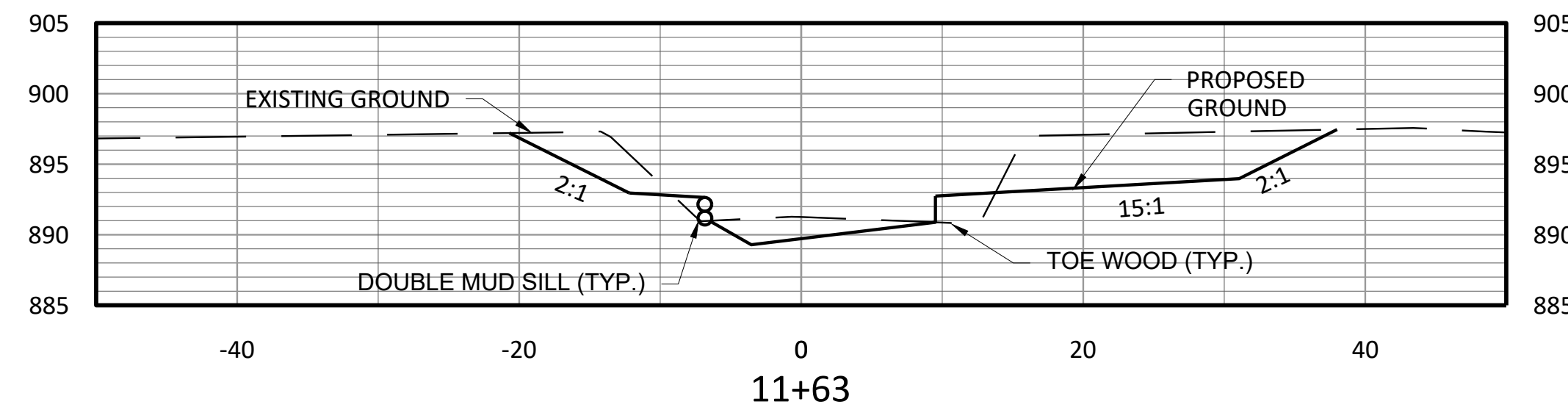
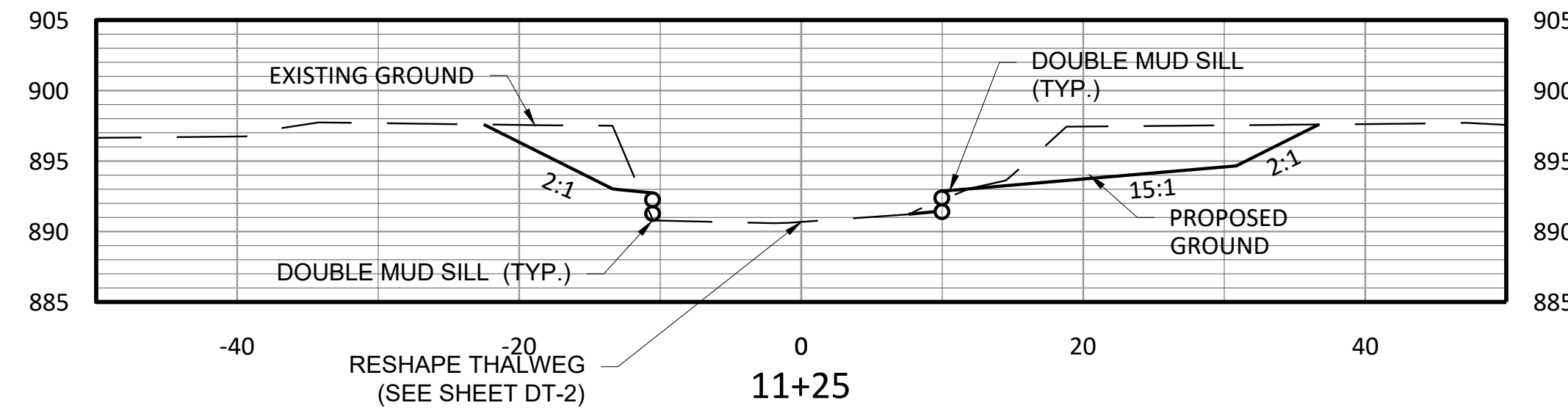
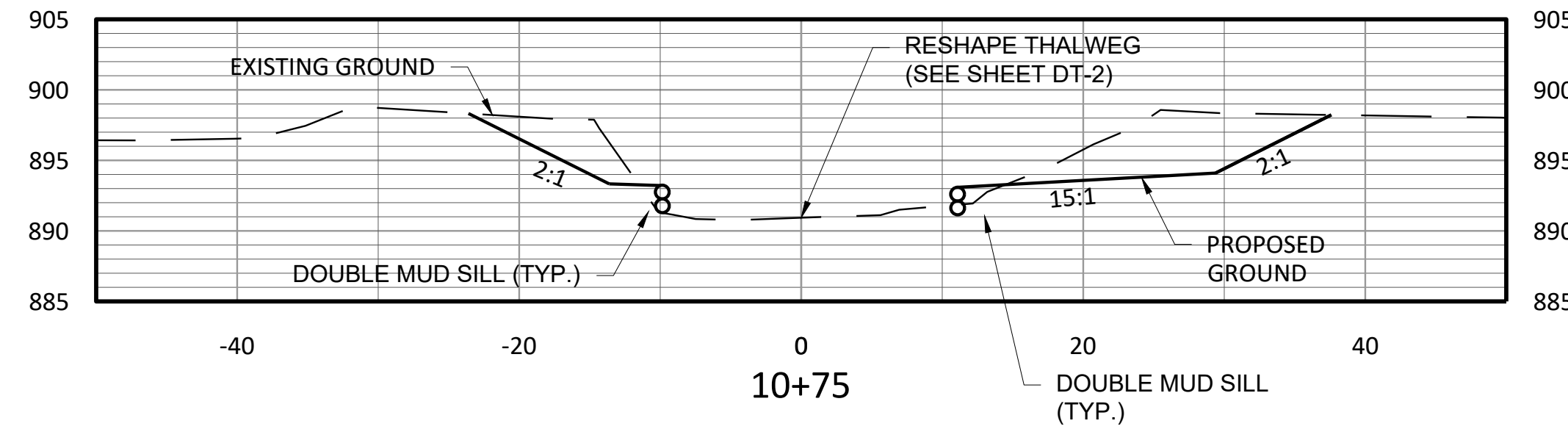
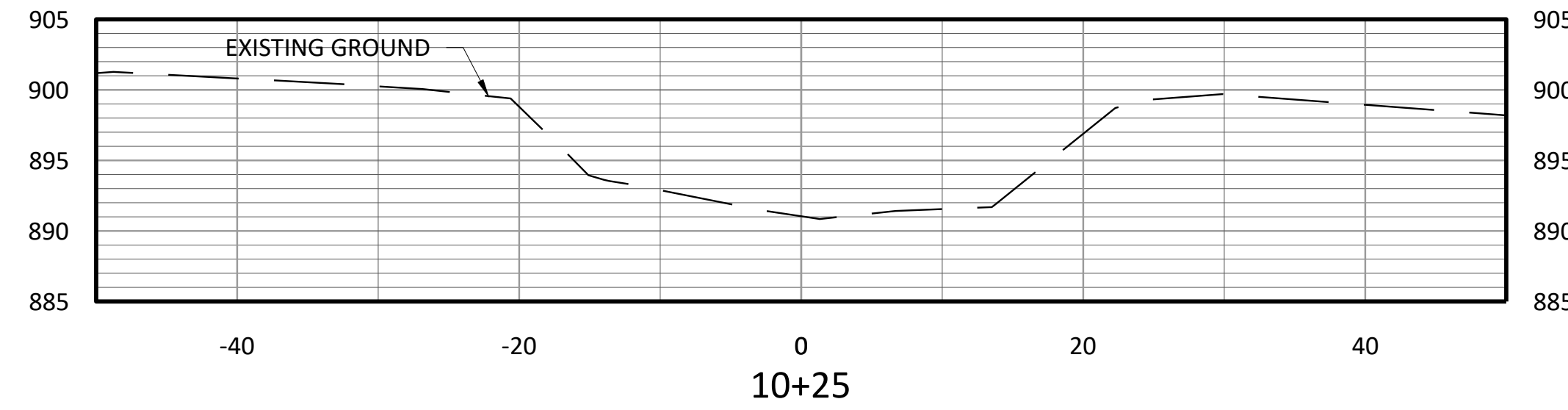
CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 CIVIL  
**NORTH FORK NANCY CREEK  
 STA 26+00 TO END**

| NO. | ISSUE                         | BY  | DATE       | F&N JOB NO. | DATE       | DESIGNED | DRAWN  | REVISION | CHECKED | BMD |
|-----|-------------------------------|-----|------------|-------------|------------|----------|--------|----------|---------|-----|
| 1   | ISSUE                         | JPS | 12/2/2022  | BGA20127    | 07/05/2023 | JM/BCM   | JM/JPJ | ###      | ###     | BMD |
| 2   | CITY OF BROOKHAVEN LDP REVIEW | JPS | 09/15/2022 |             |            |          |        |          |         |     |
| 3   | DEKALB COUNTY LDP REVIEW      | JPS | 09/15/2022 |             |            |          |        |          |         |     |
| 4   | VERIFY SCALE                  |     |            |             |            |          |        |          |         |     |

Bar: is one inch on original drawing. If not one inch on this sheet, adjust scale.

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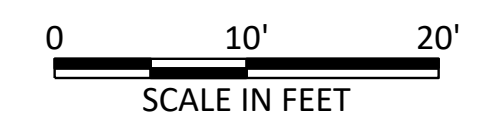




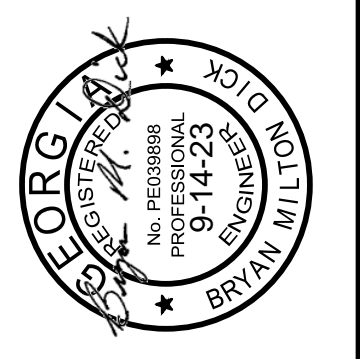
- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

| LEGEND |   |
|--------|---|
| ---    | EXISTING GROUND PROFILE ALONG ALIGNMENT |
| —      | PROPOSED GROUND                         |

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/30/2025



**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CROSS SECTION VIEWS

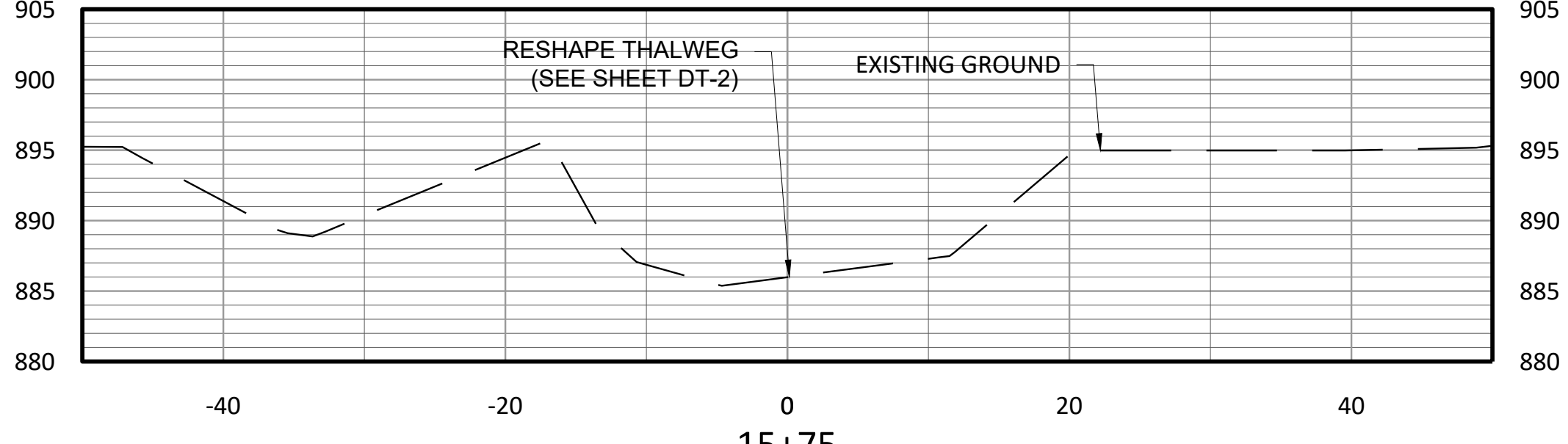
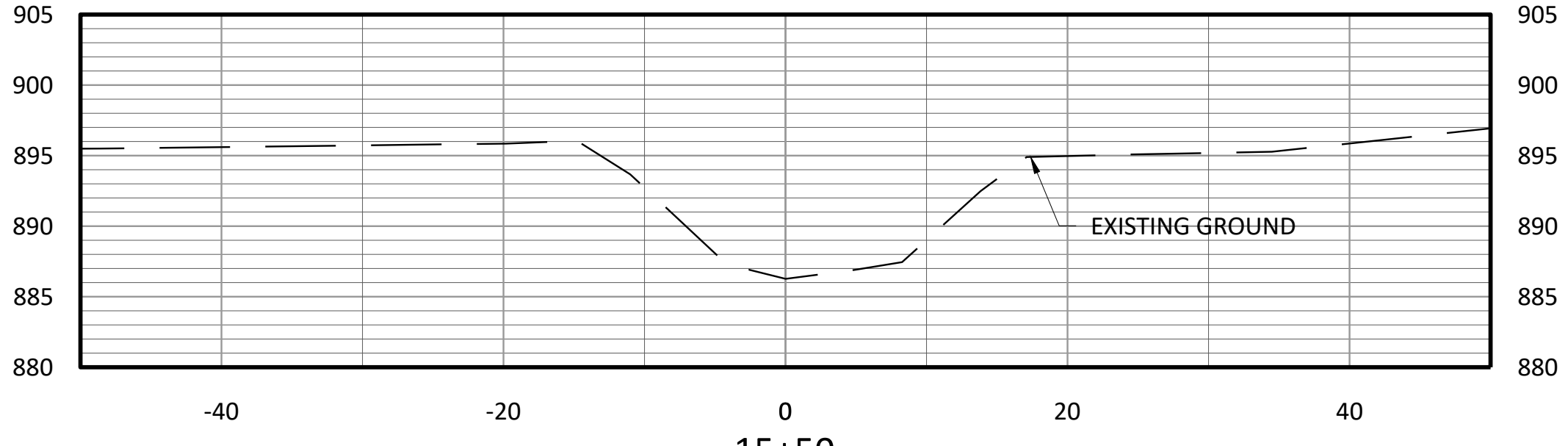
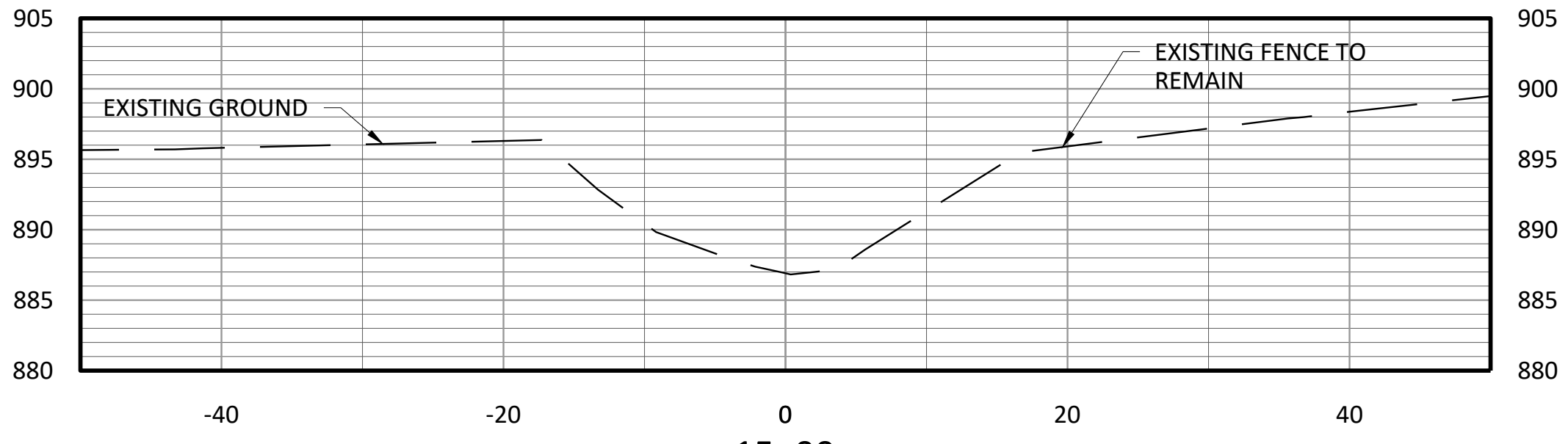
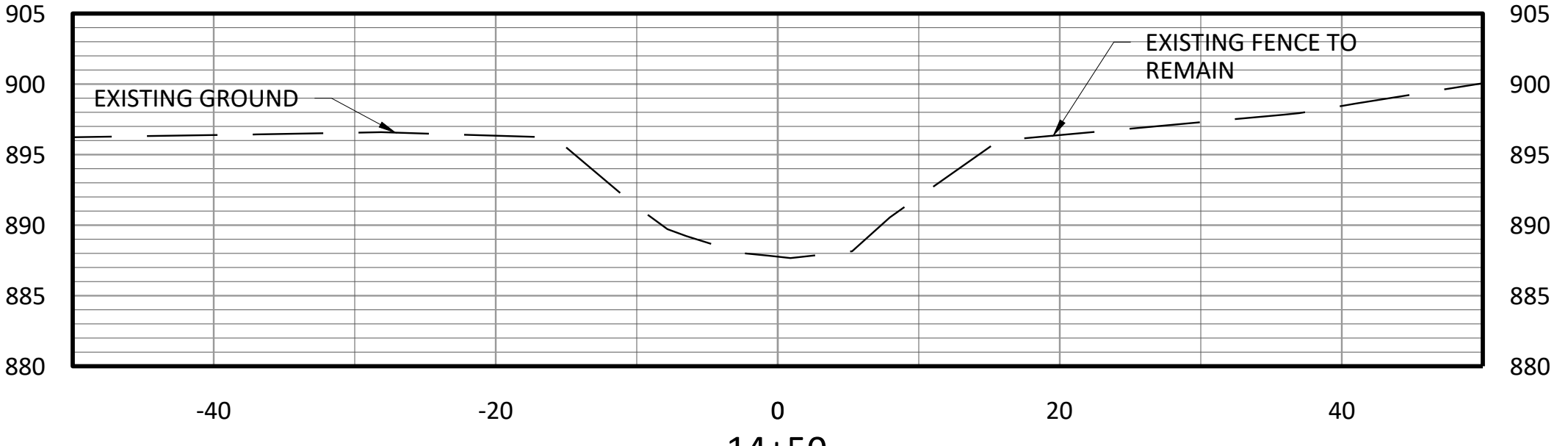
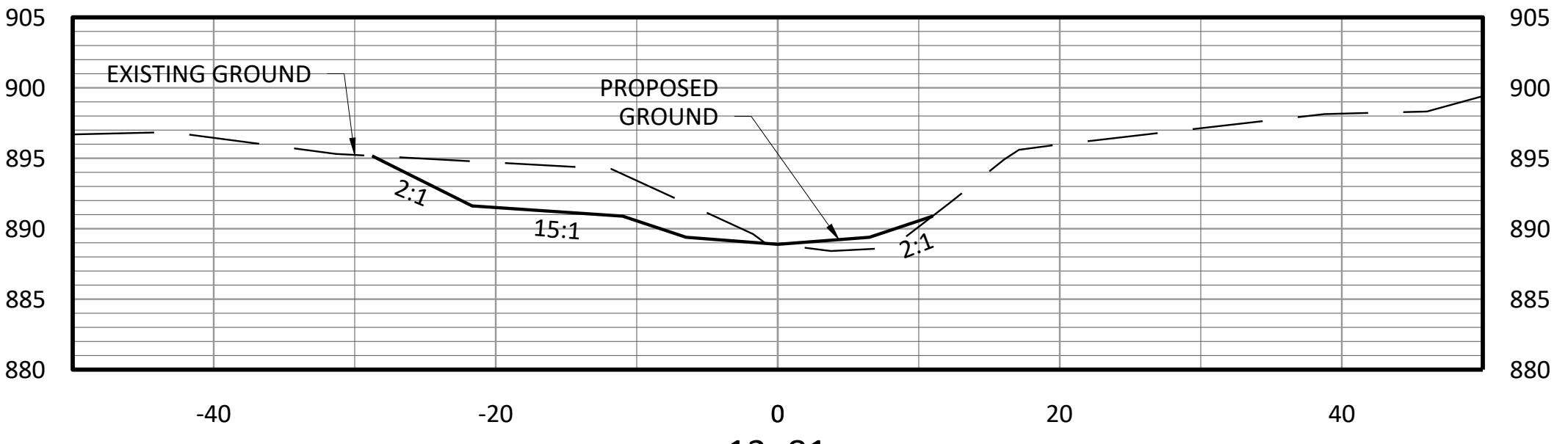
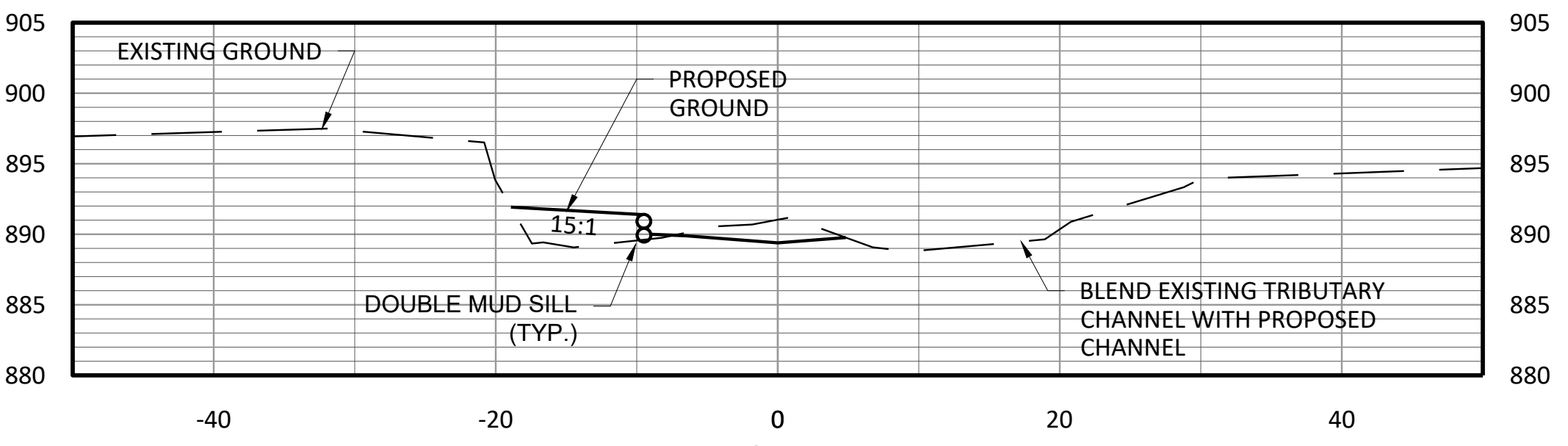
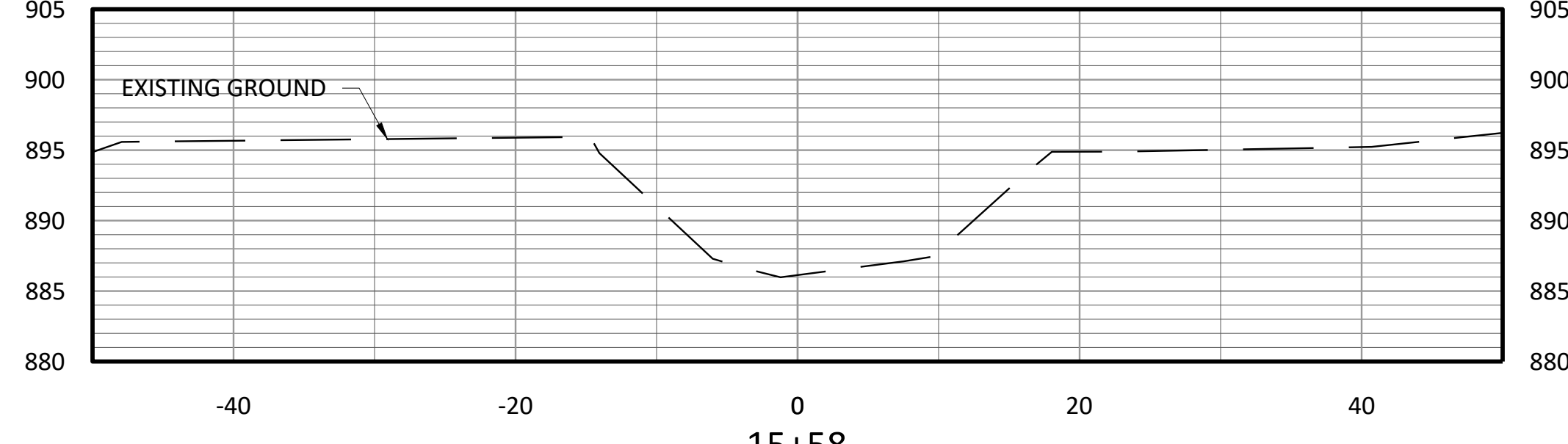
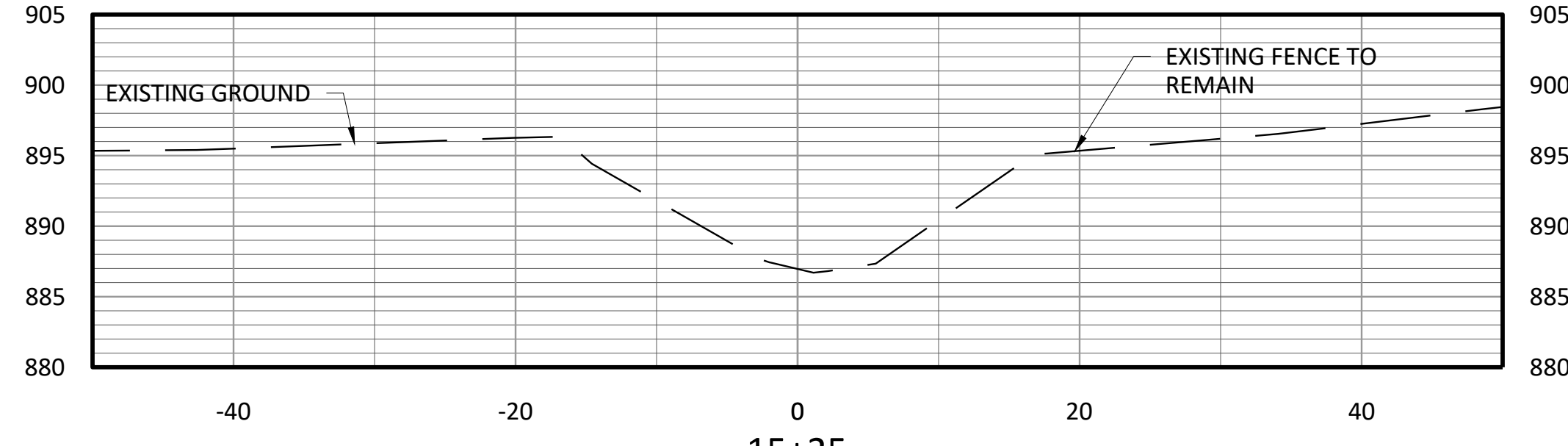
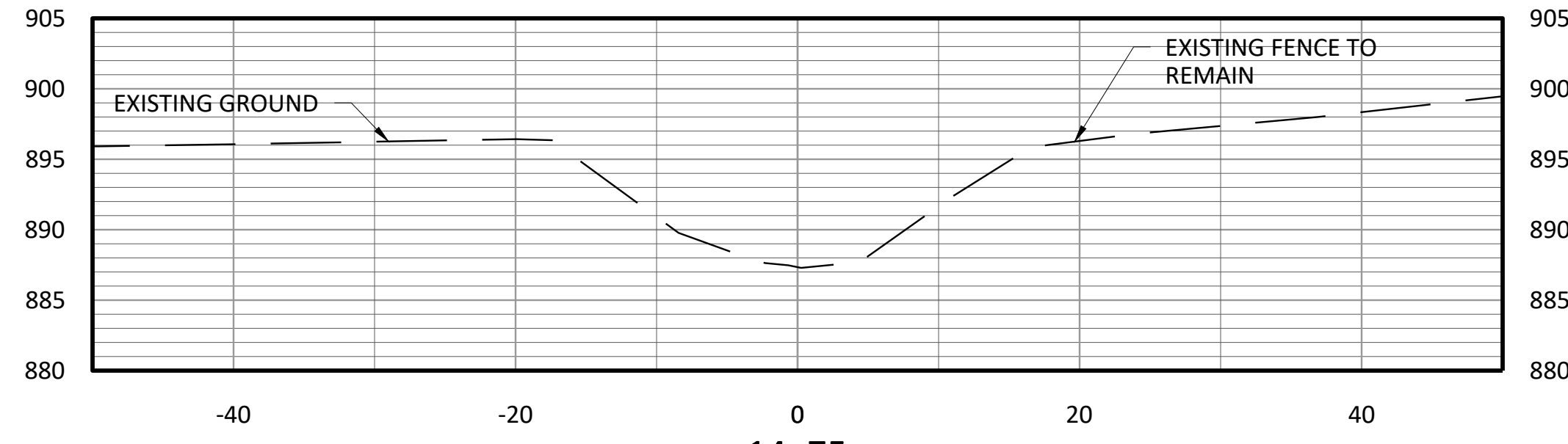
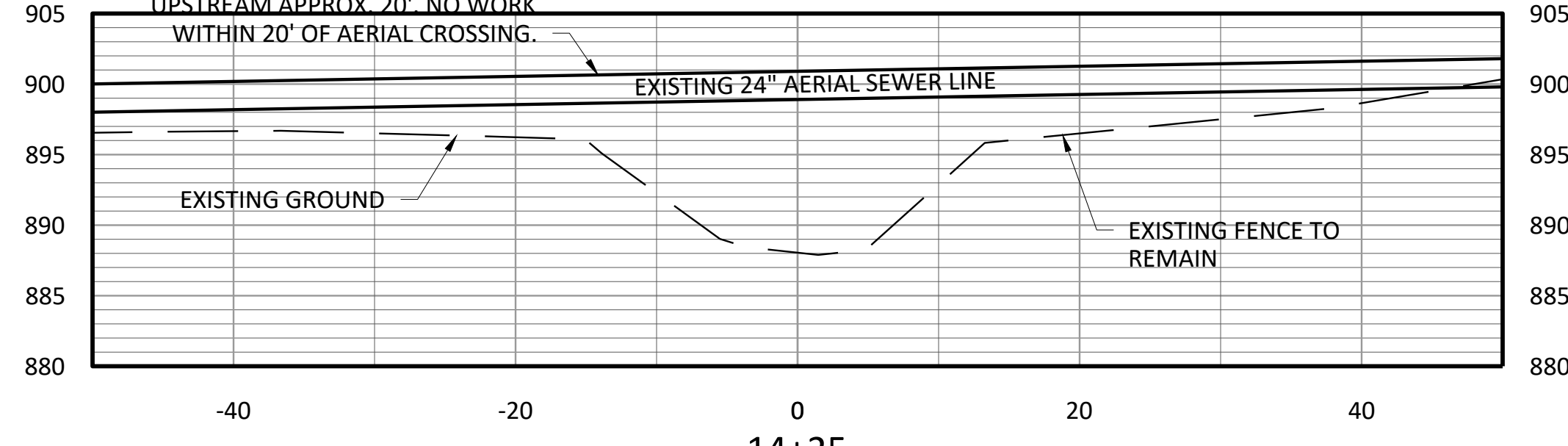
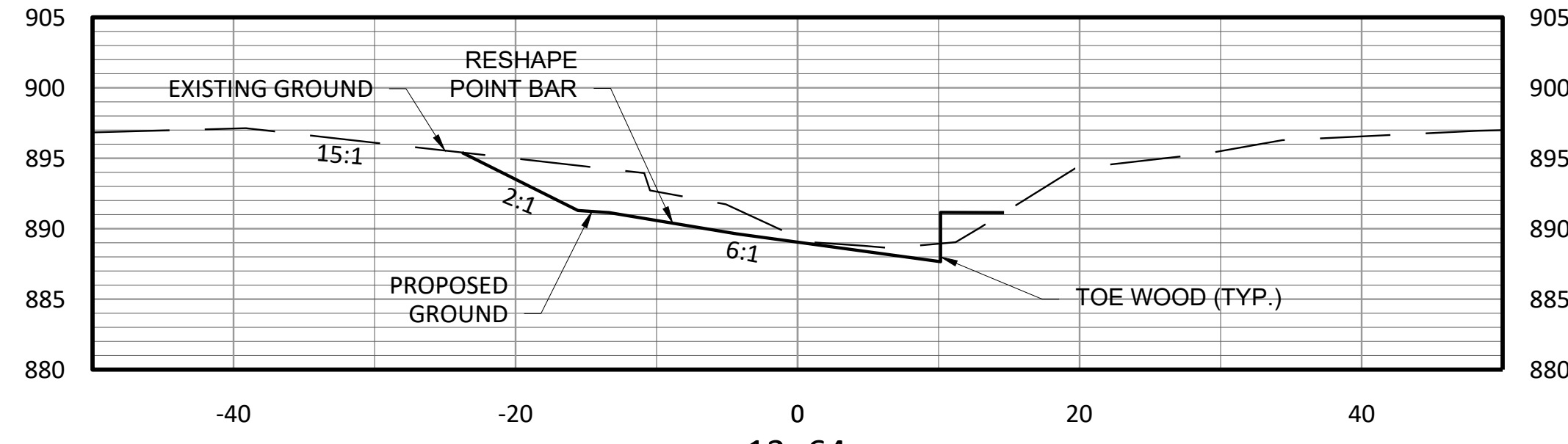
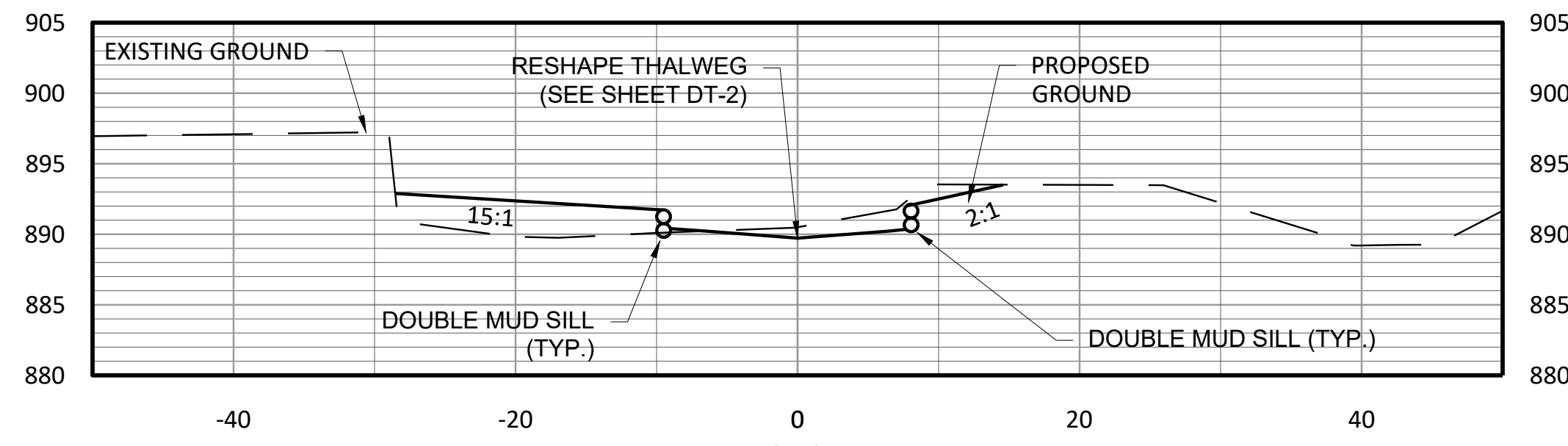
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| 1   | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. | JPS | 09/15/2022 |            |                     | ### | BMD |

SHEET **CS-1**  
 SEQ. APPROVED PLAN 01/17/2023  
 Permit # LDP22-0016

**ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION**

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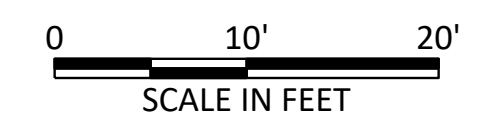
- NOTES:
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  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

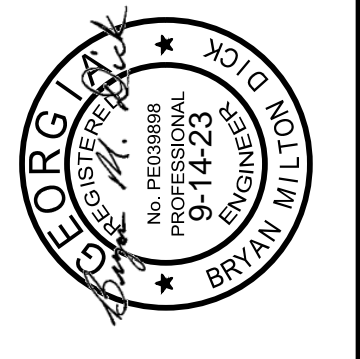
--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/30/2025



**FREES & NICHOLS**  
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 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

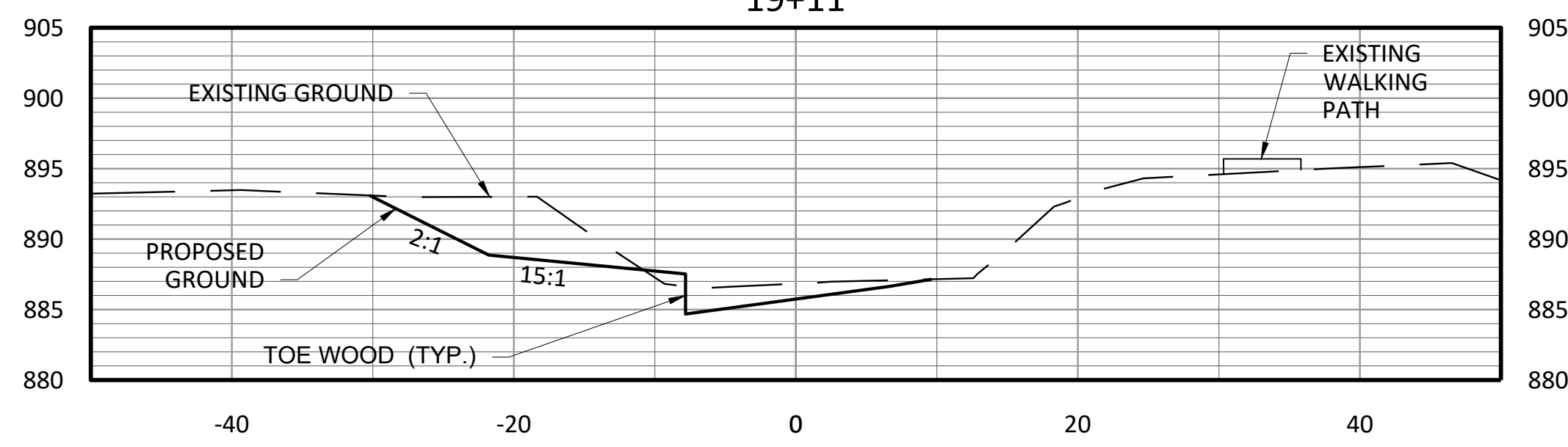
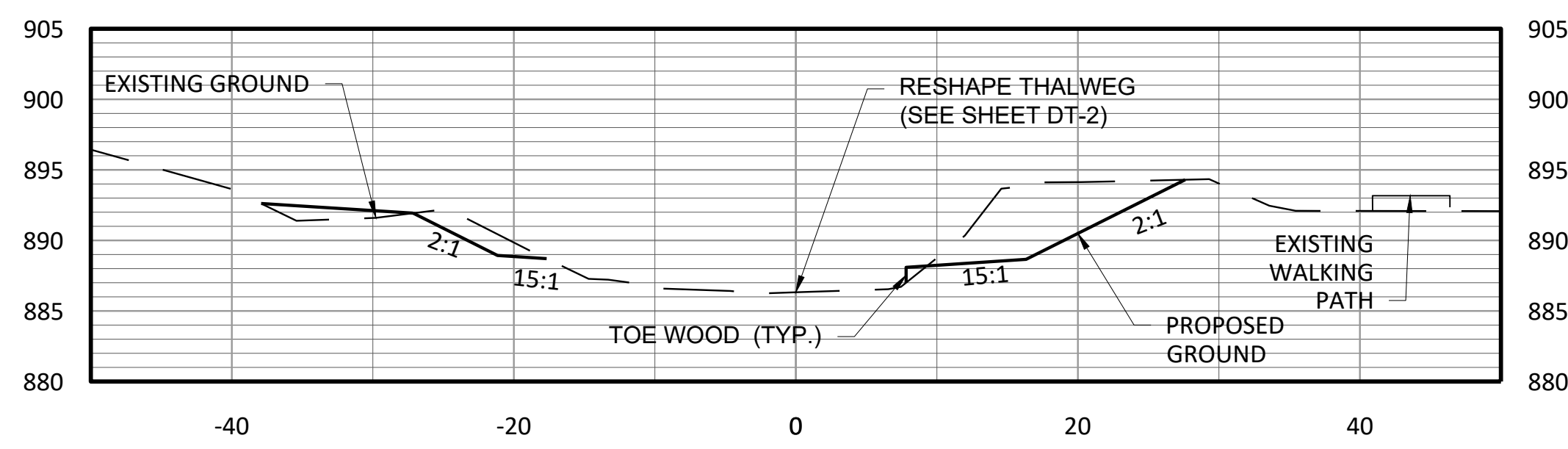
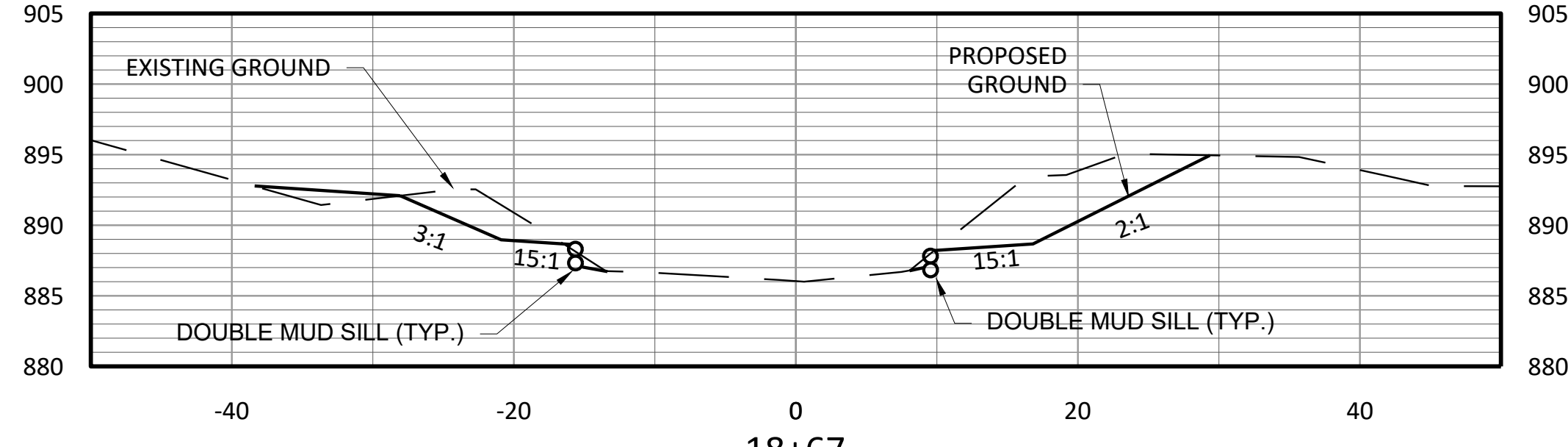
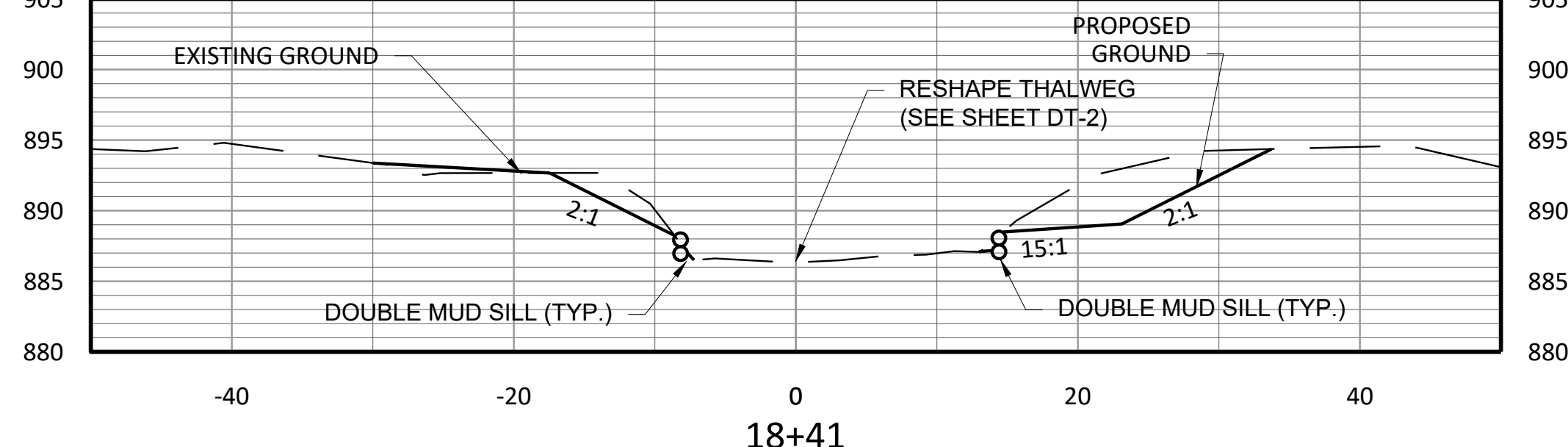
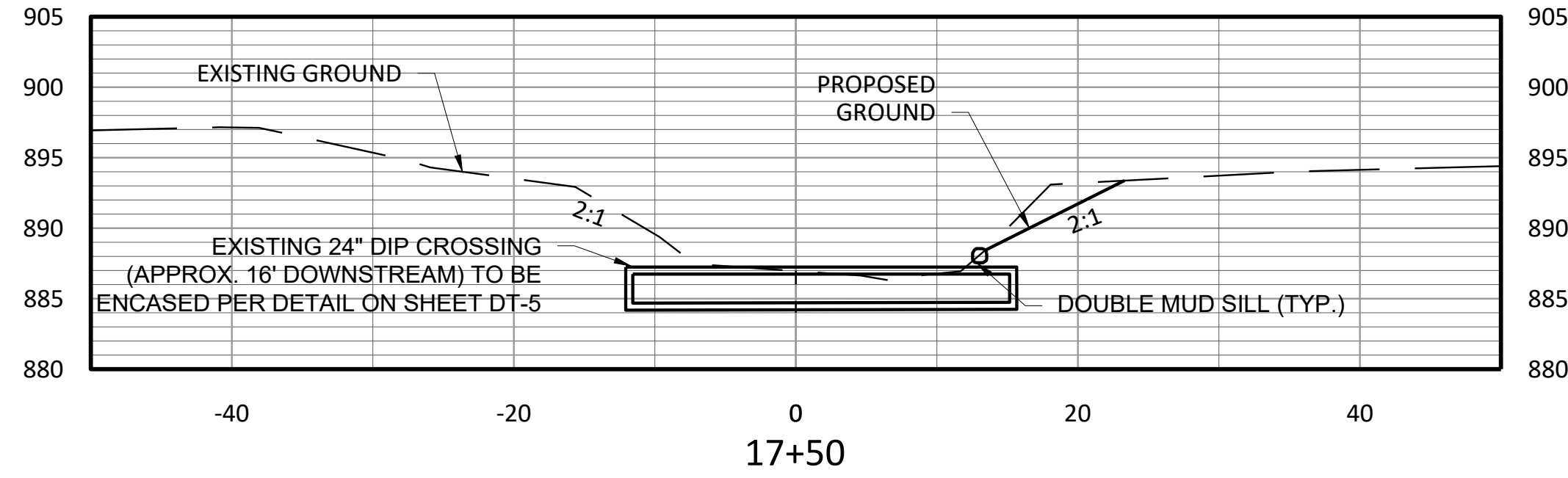
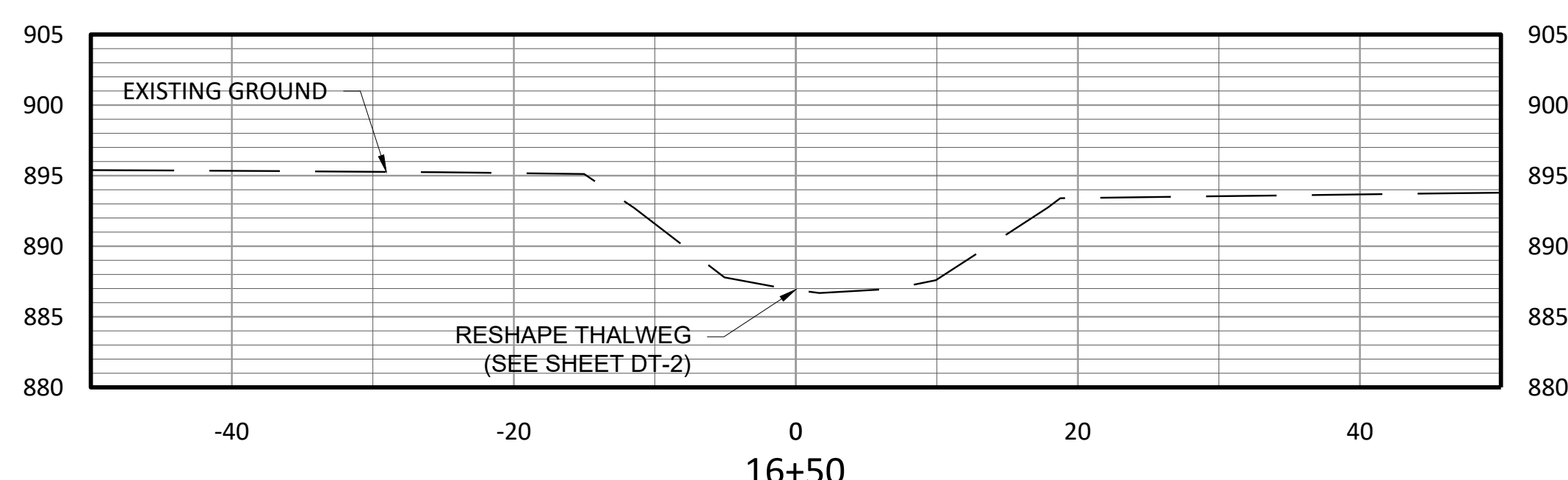
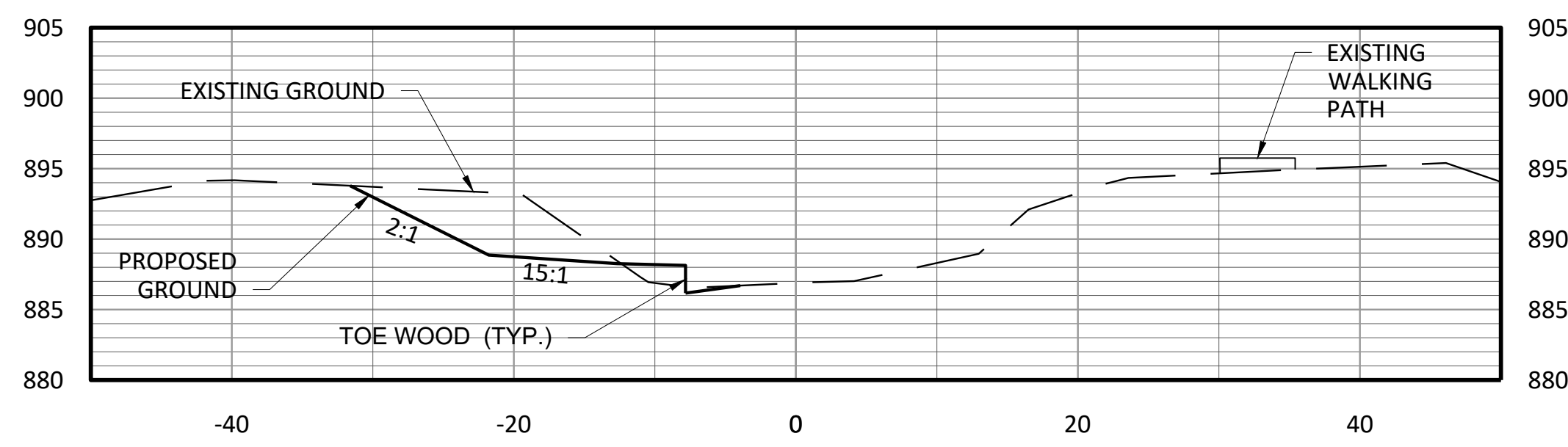
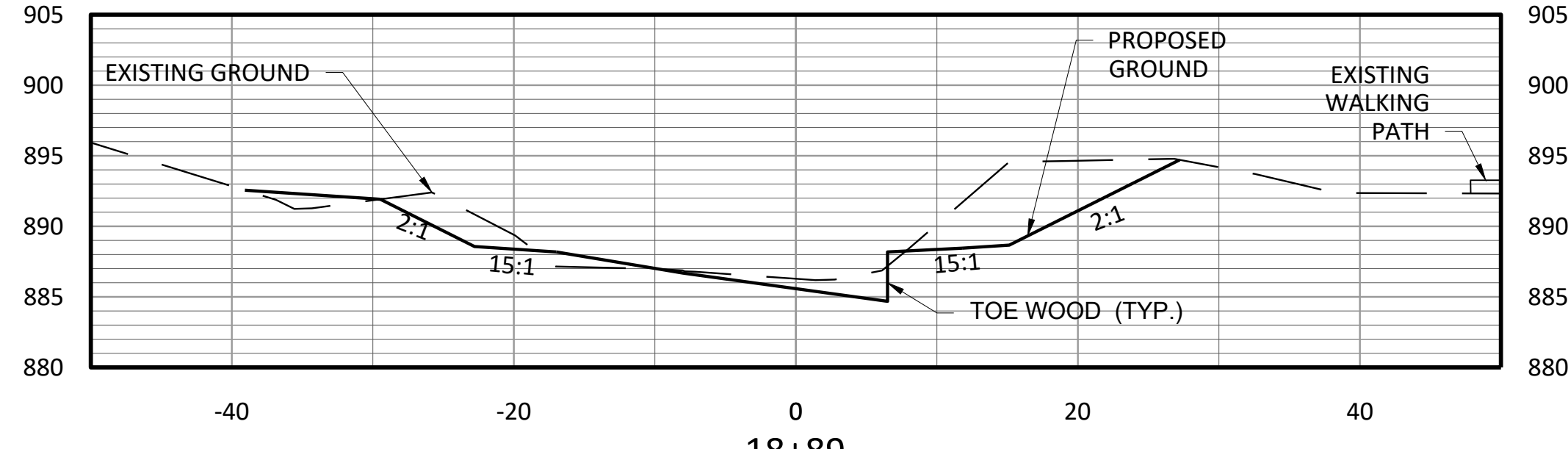
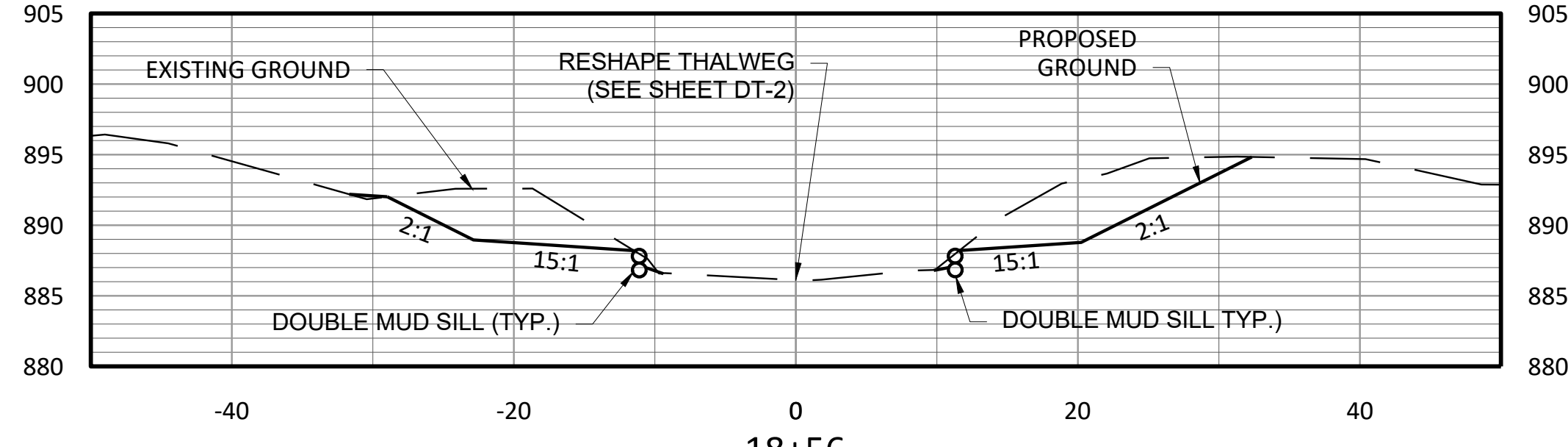
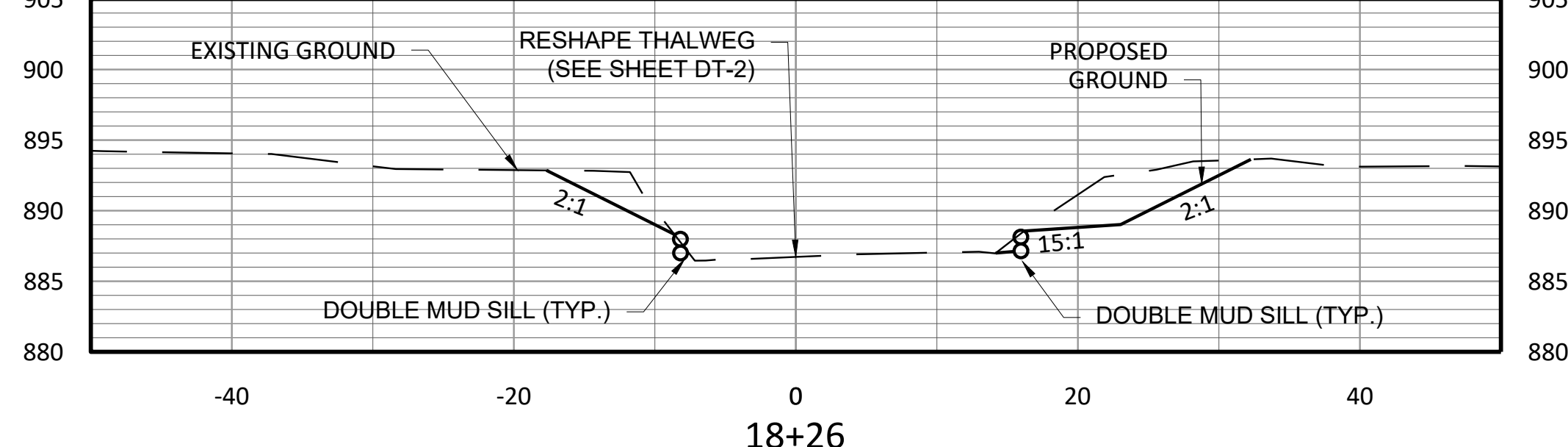
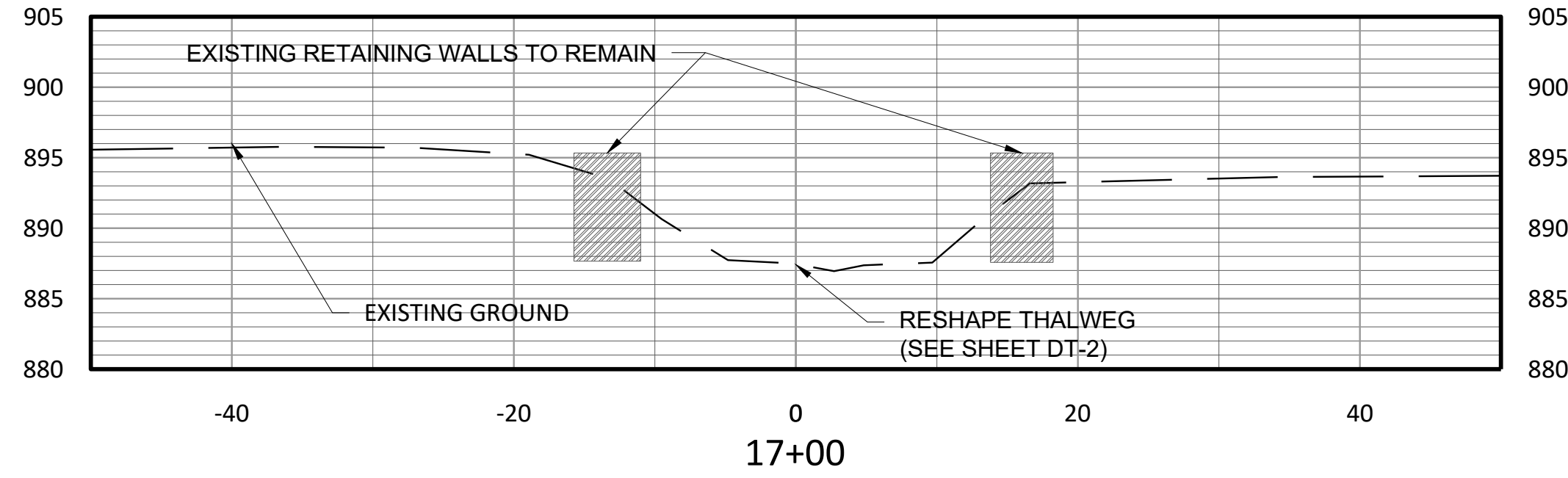
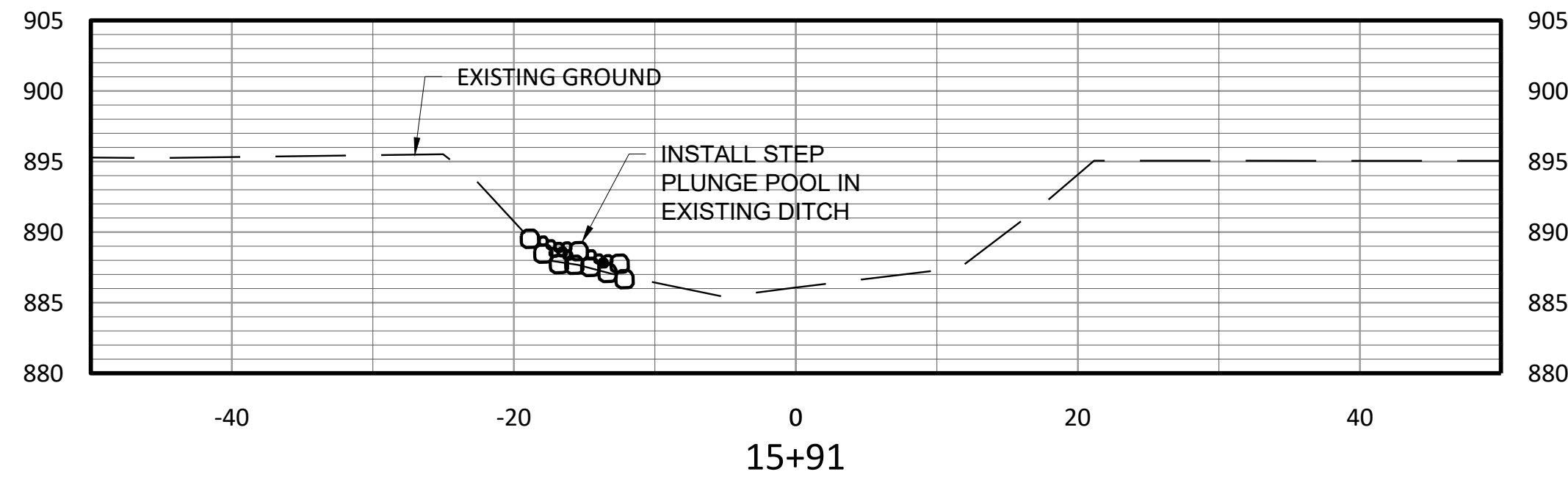
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SHEET **CS-2**  
 SEQ. APPROVED PLAN 10/17/2023  
 Per # LDP22-001/16

**CROSS SECTION VIEWS**

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 Filename: N:\WTU\Drawings\CV-SECTION-VIEW.dwg  
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**ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION**



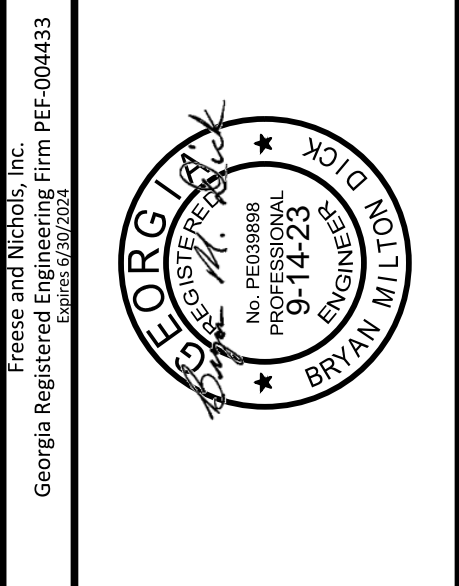
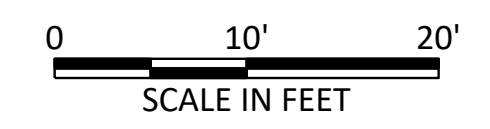
- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540



**FREES & NICHOLS**  
360 Interstate North Parkway,  
Atlanta, GA 30339  
Phone: (404) 334-4310  
Web: www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN

CROSS SECTION VIEWS

CROSS SECTION VIEWS

| NO. | ISSUE    | DATE       | BY     | DATE | BY | DATE | BY | DATE | BY | FILE NAME           |
|-----|----------|------------|--------|------|----|------|----|------|----|---------------------|
| 1   | ISSUE    |            |        |      |    |      |    |      |    | CV-SECTION-VIEW.dwg |
| 2   | DESIGNED | 07/05/2023 | JM/RCM |      |    |      |    |      |    |                     |
| 3   | DRAWN    | 12/22/2022 | JPS    |      |    |      |    |      |    |                     |
| 4   | REVIEWED | 09/15/2022 | JPS    |      |    |      |    |      |    |                     |
| 5   | CHECKED  |            |        |      |    |      |    |      |    |                     |
| 6   | BMD      |            |        |      |    |      |    |      |    |                     |

SHEET **CS-3**

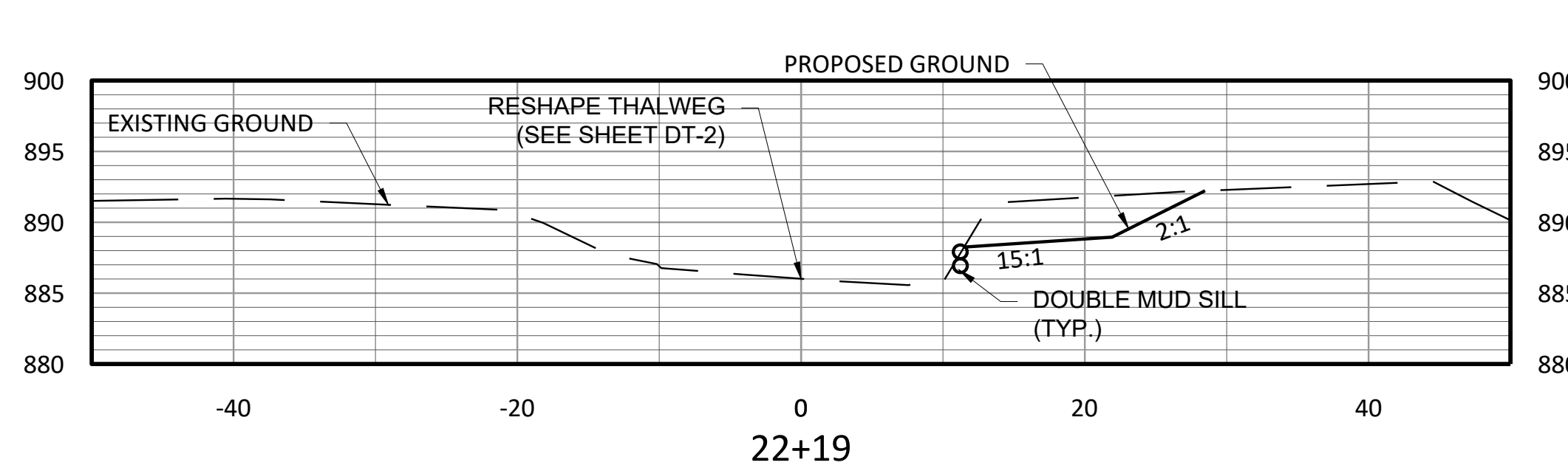
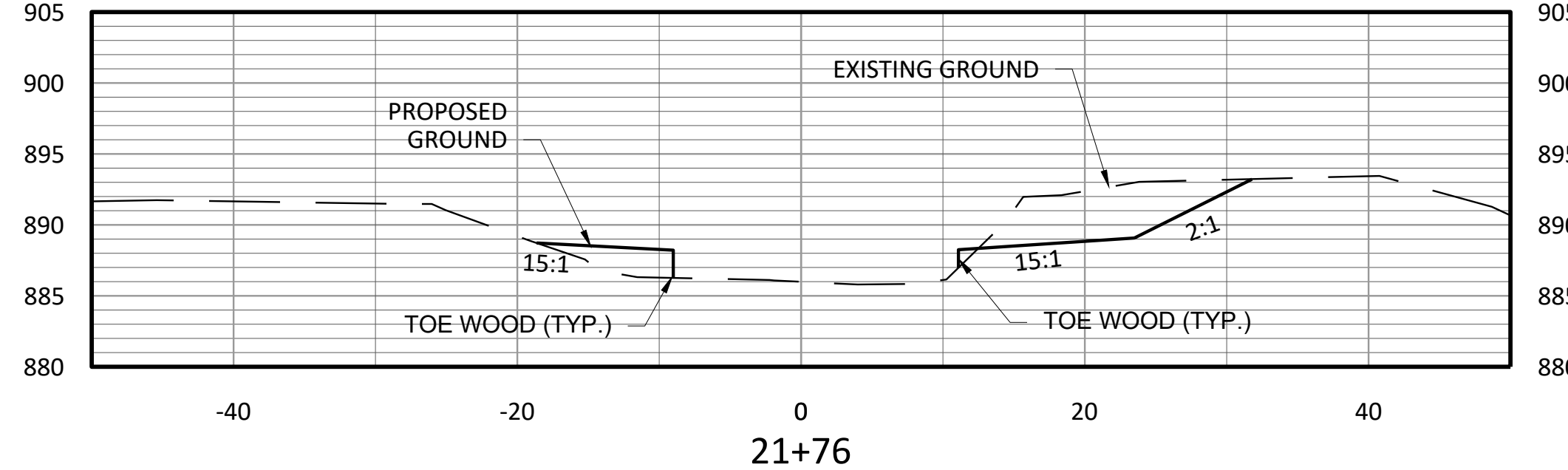
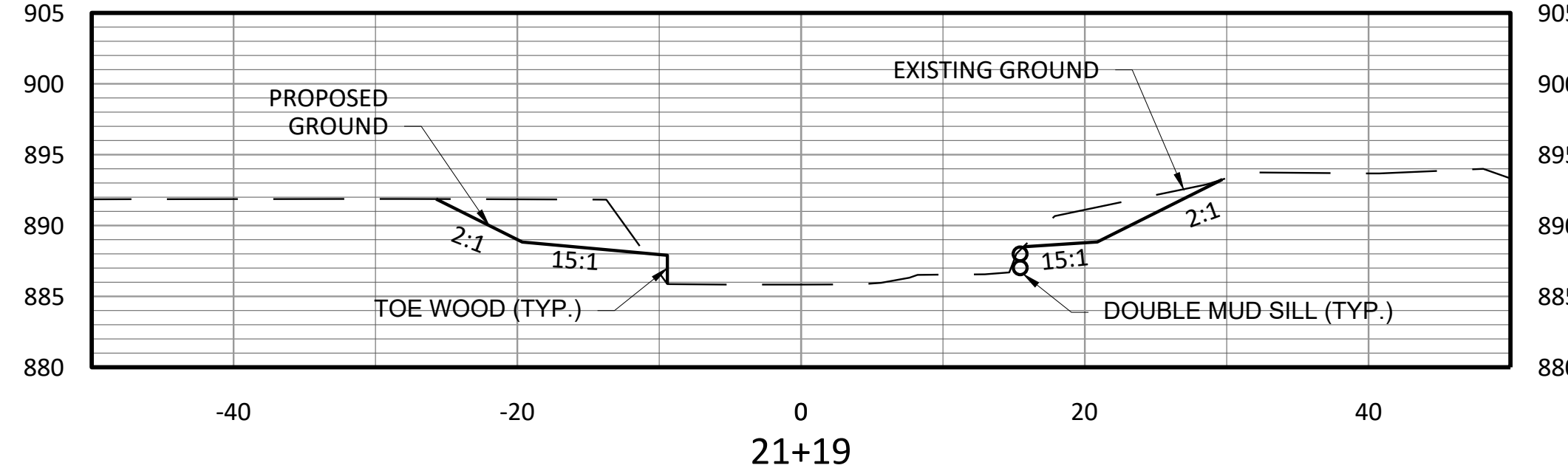
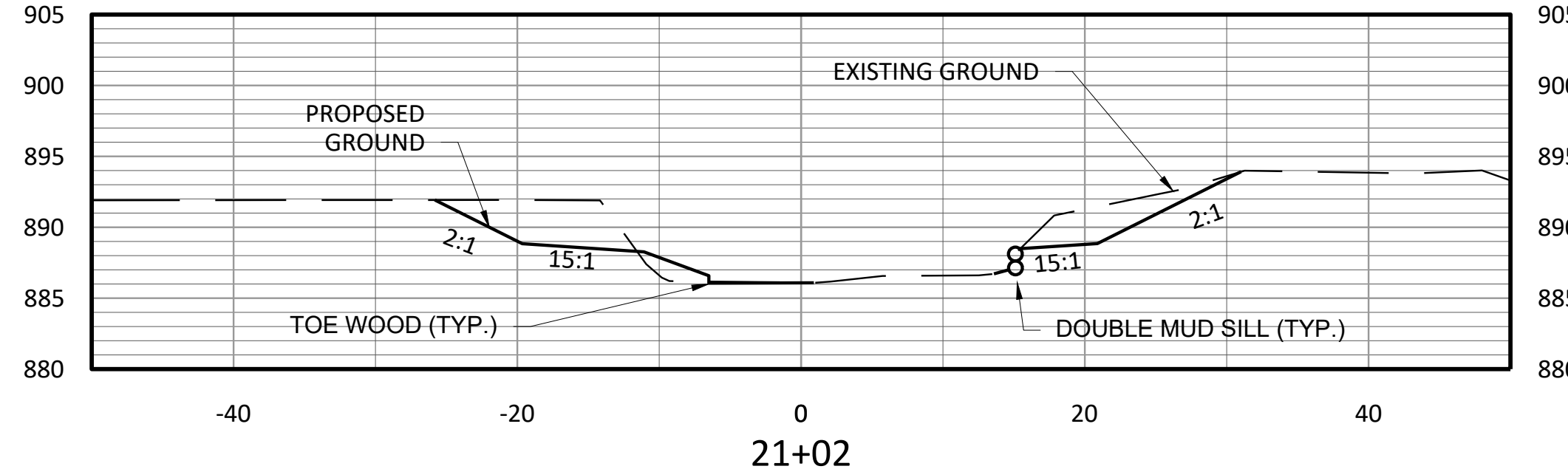
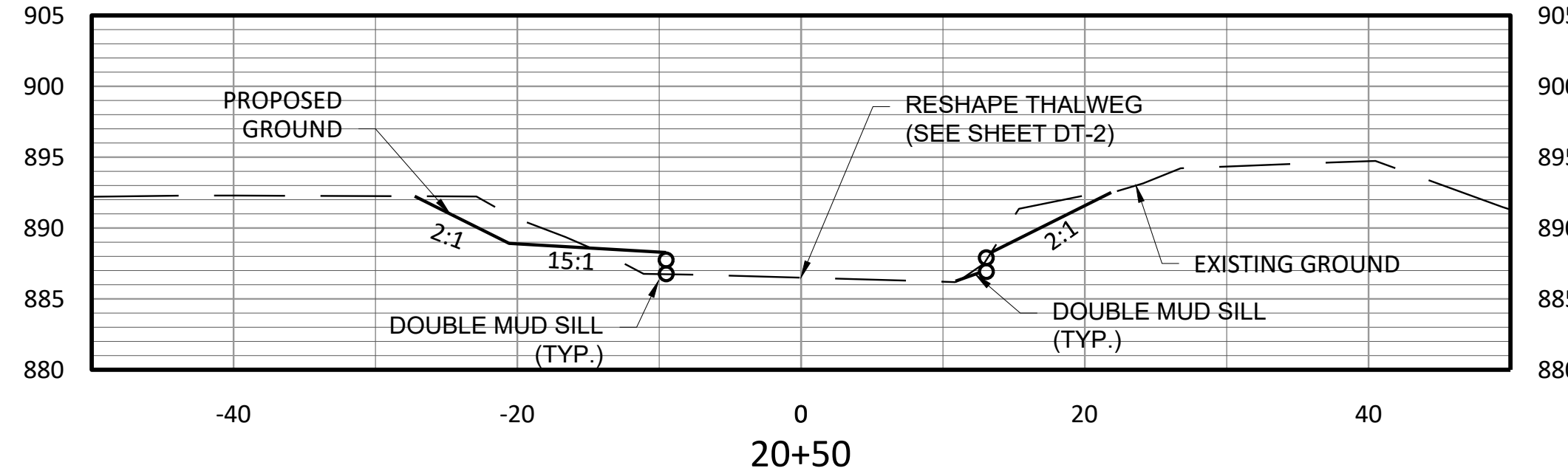
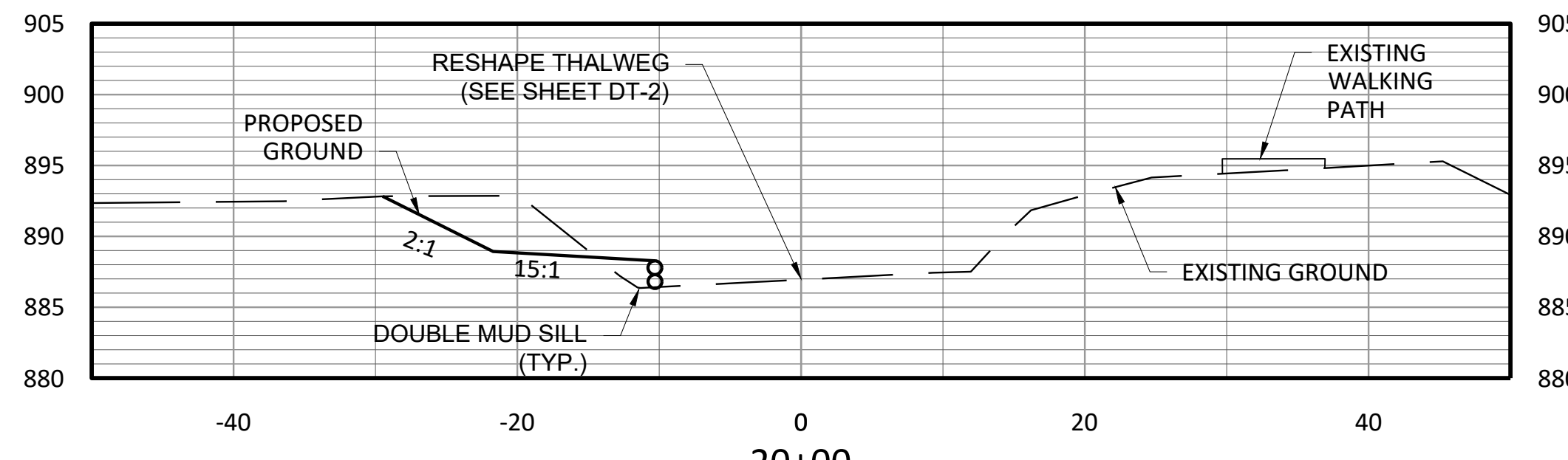
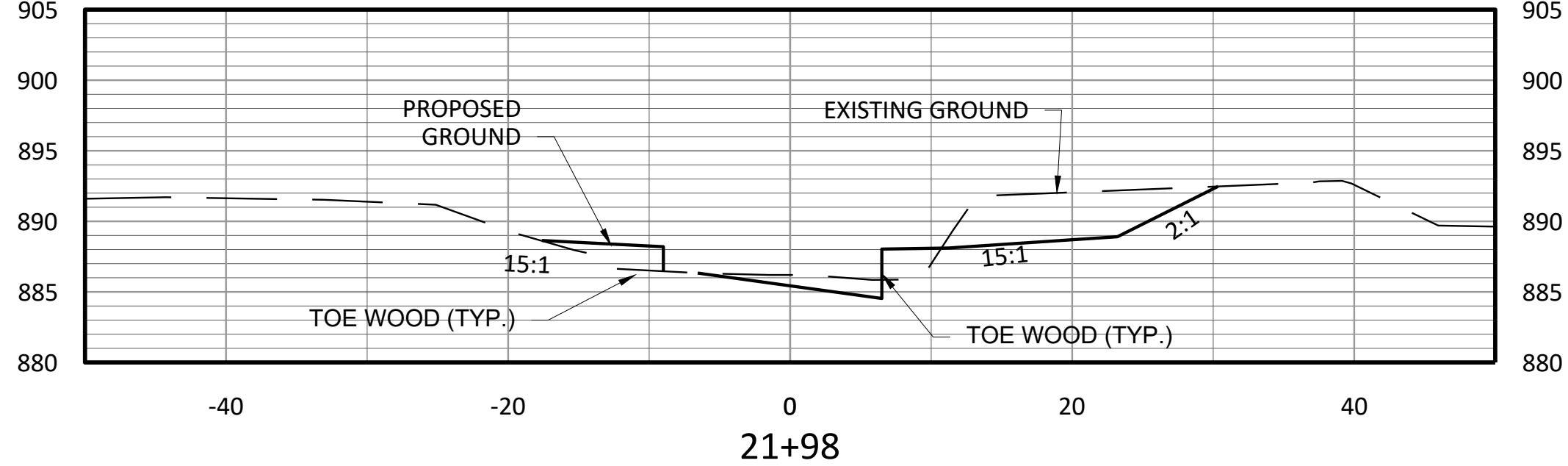
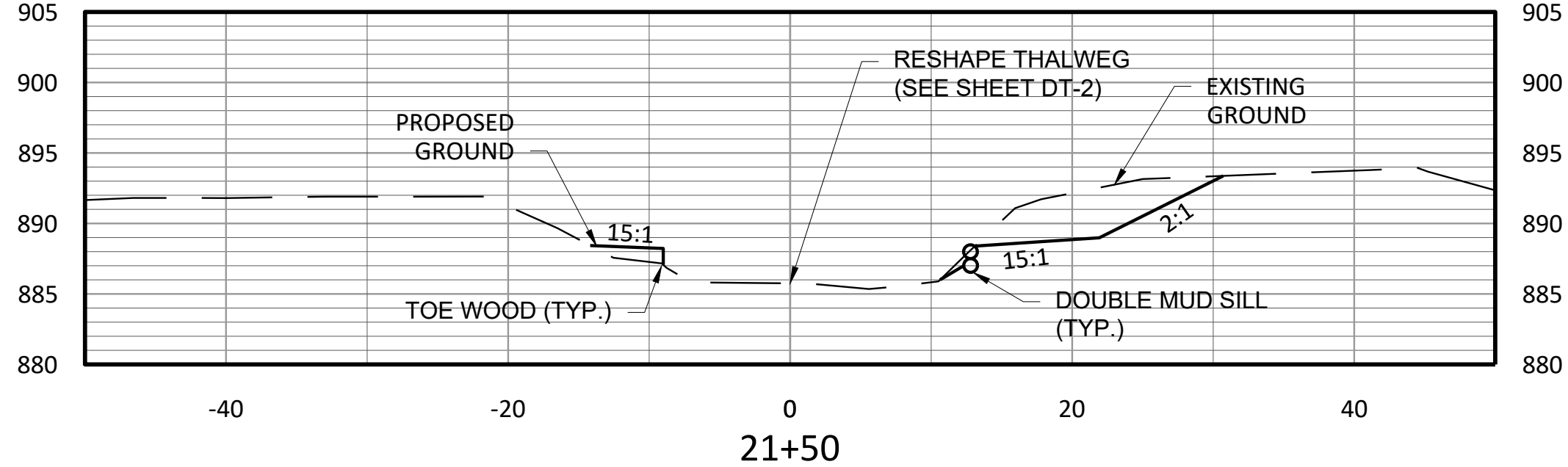
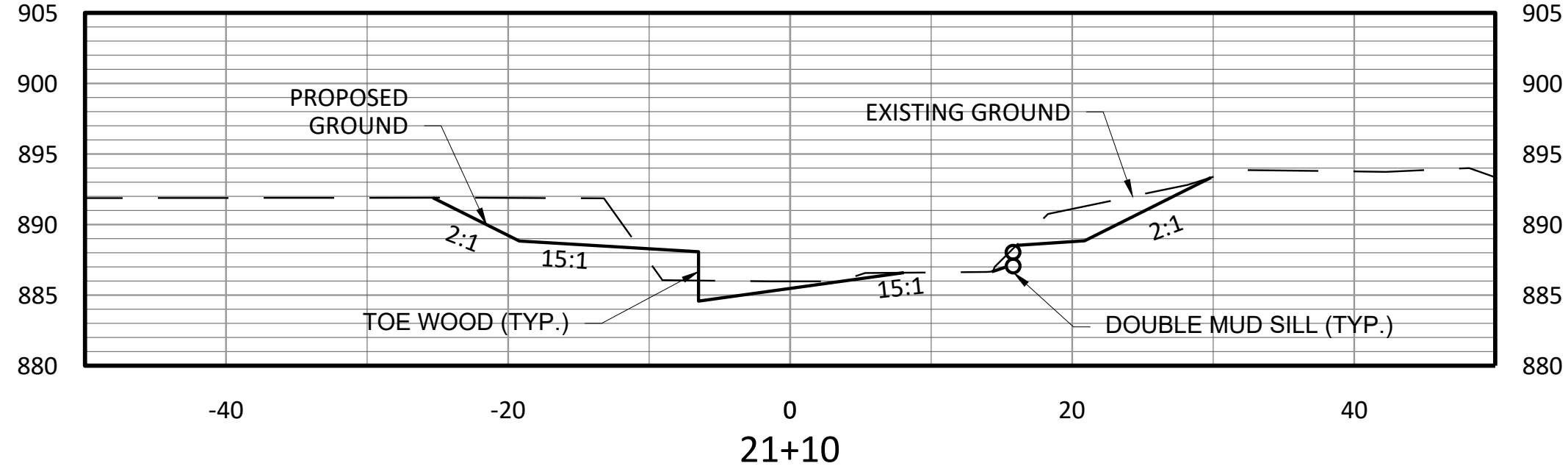
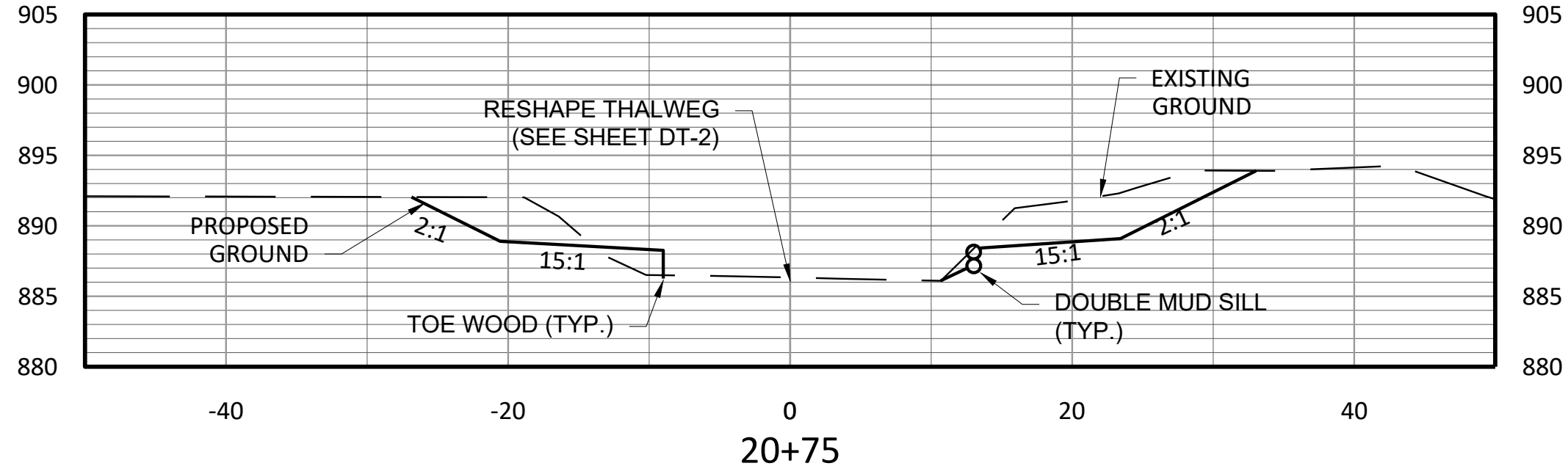
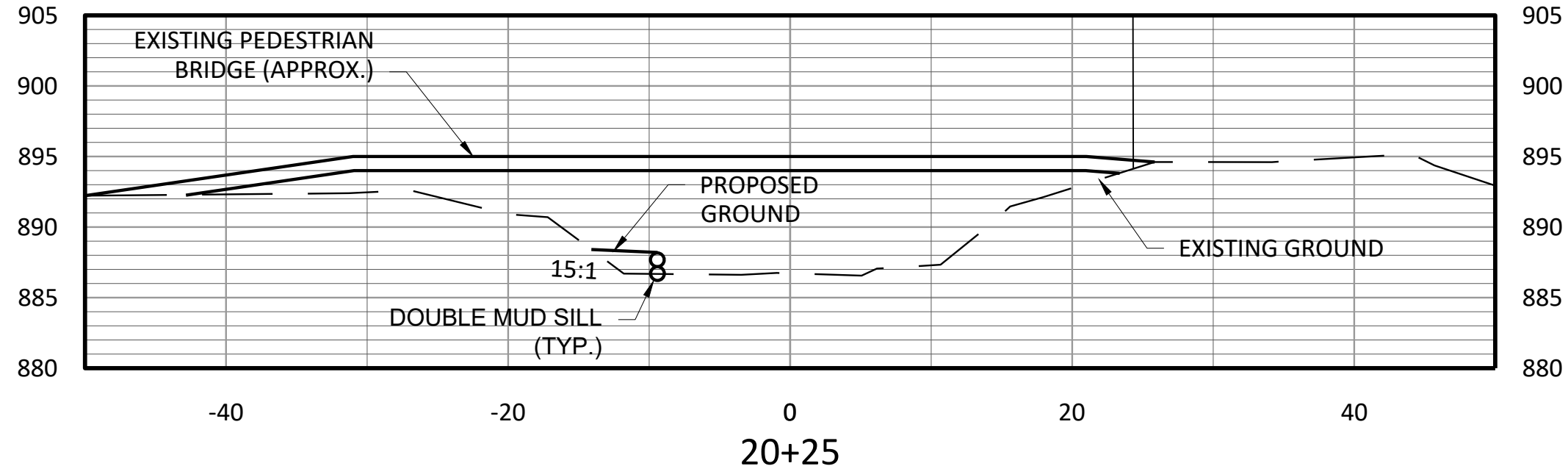
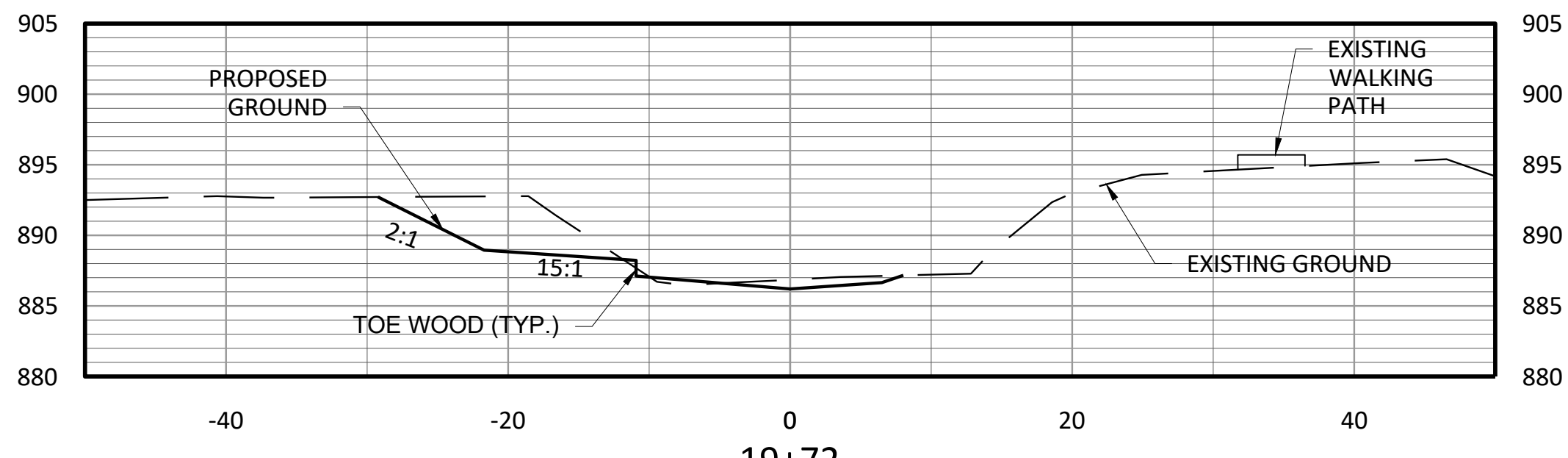
SEQ. **11**

APPROVED PLAN 10/17/2023

Permit # LDP22-00116

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NOT FOR CONSTRUCTION

ACAD Ref: 24.1s (LMS Tech)  
Filename: N:\WTU\Drawings\CV-SECTION-VIEW.dwg  
Last Saved: 7/20/2023 12:40 PM Saved By: 02875



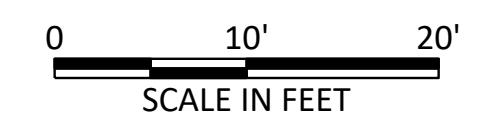
- NOTES:
- ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  - ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  - SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

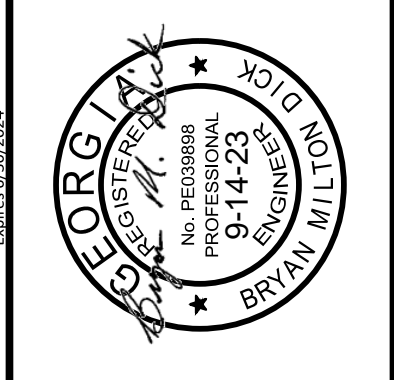
--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/2025



**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN

CROSS SECTION VIEWS

CROSS SECTION VIEWS

| NO. | ISSUE | BY  | DATE       | REVISED  | FILE NAME | ### | BMD |
|-----|-------|-----|------------|----------|-----------|-----|-----|
| 0   |       | JPS | 12/22/2022 | DESIGNED | JM/RCM    | ### | BMD |
| 1   |       | JPS | 09/15/2022 | DRAWN    | JM/JPS    | ### | BMD |

CV-SECTION-VIEW.dwg

SHEET **CS-4**

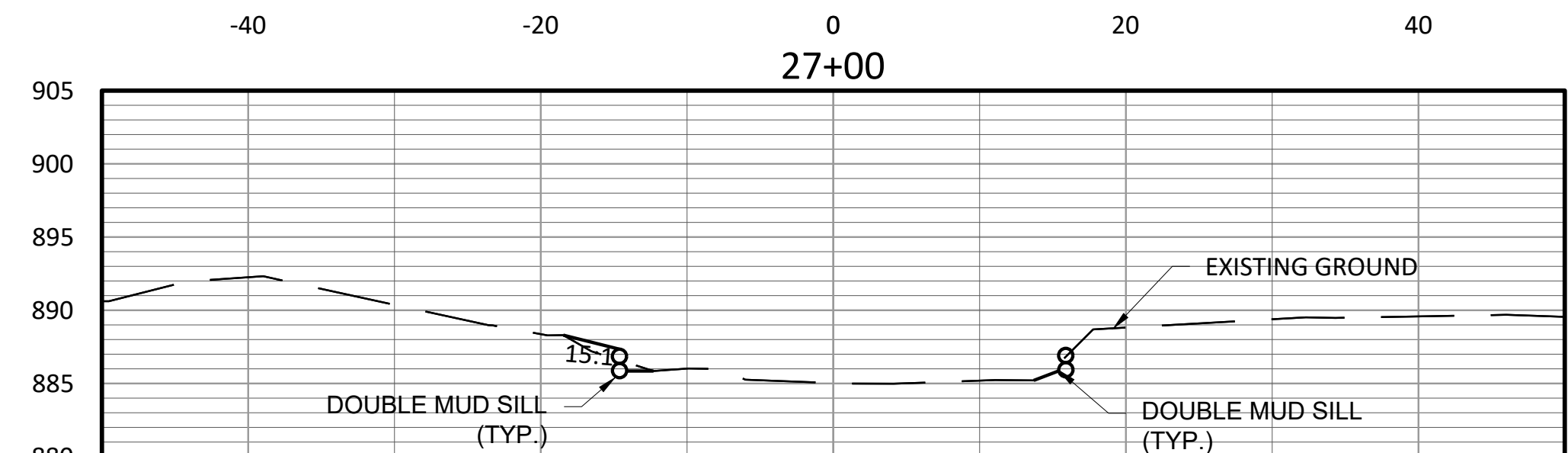
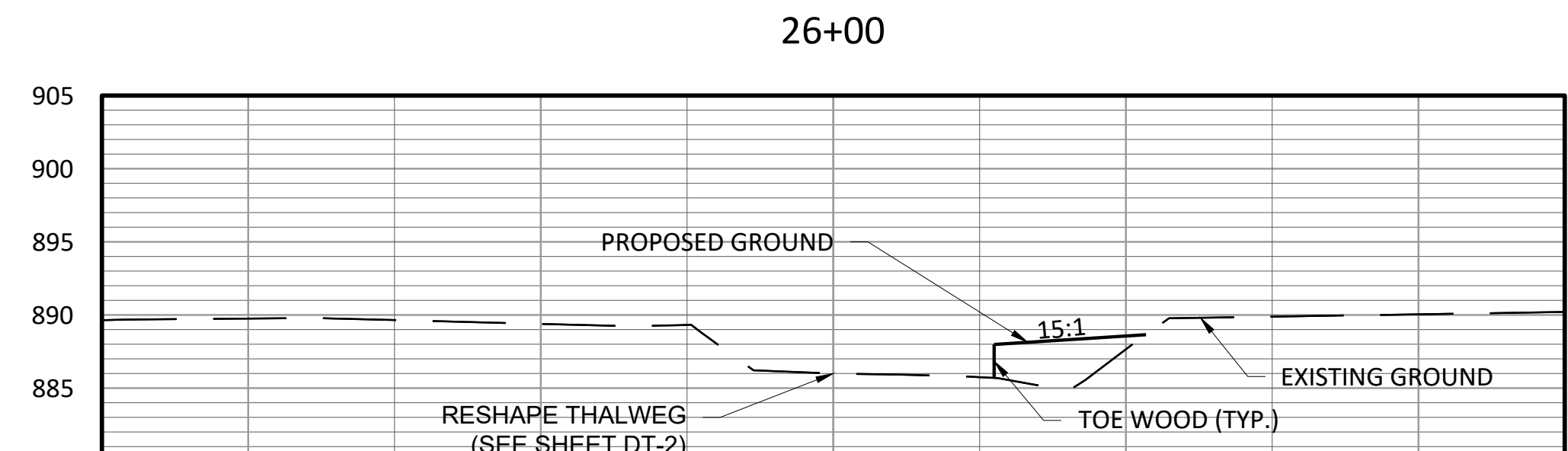
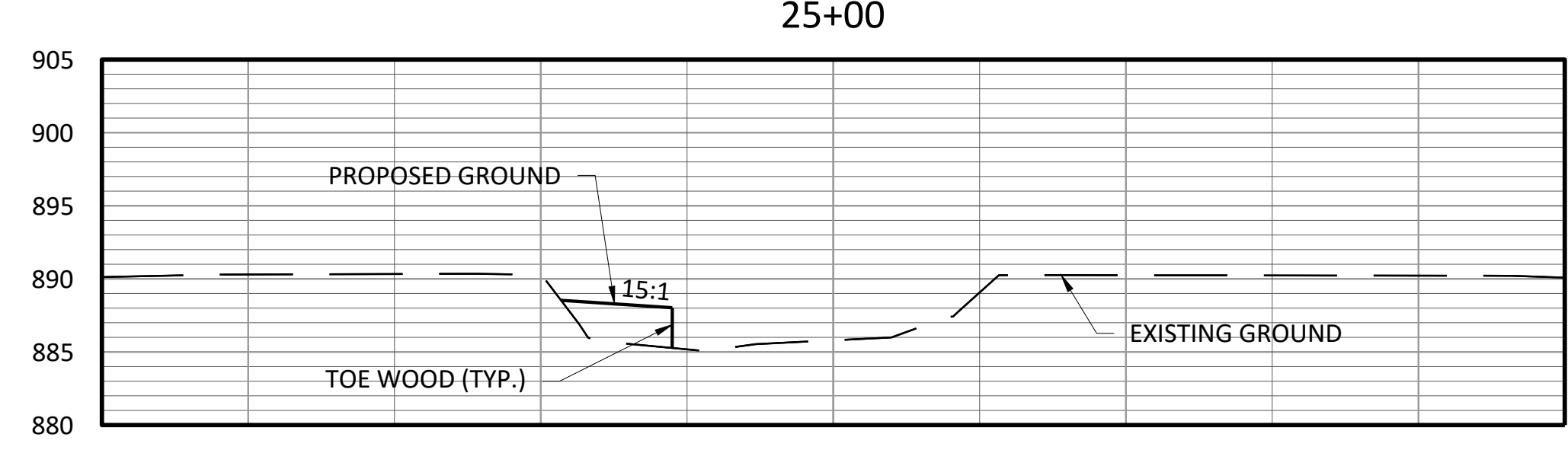
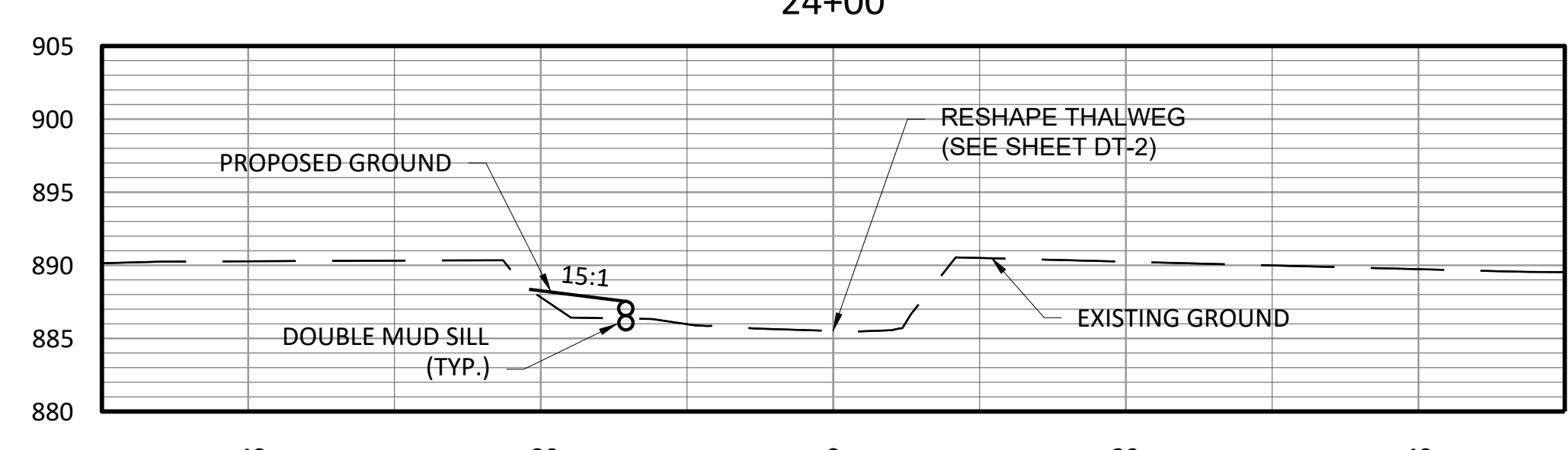
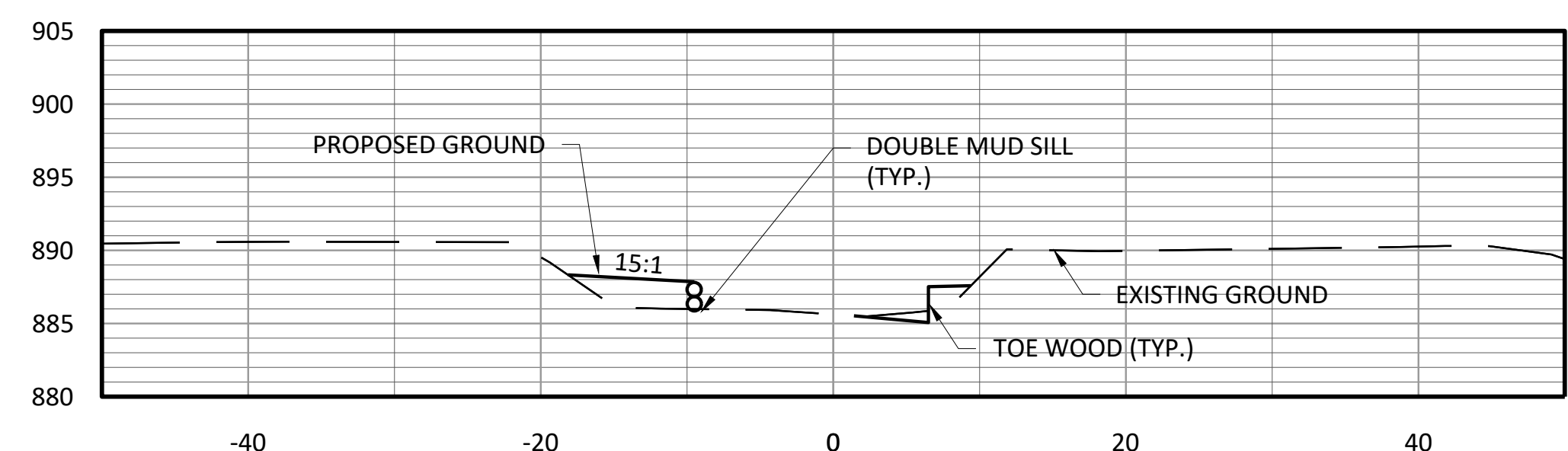
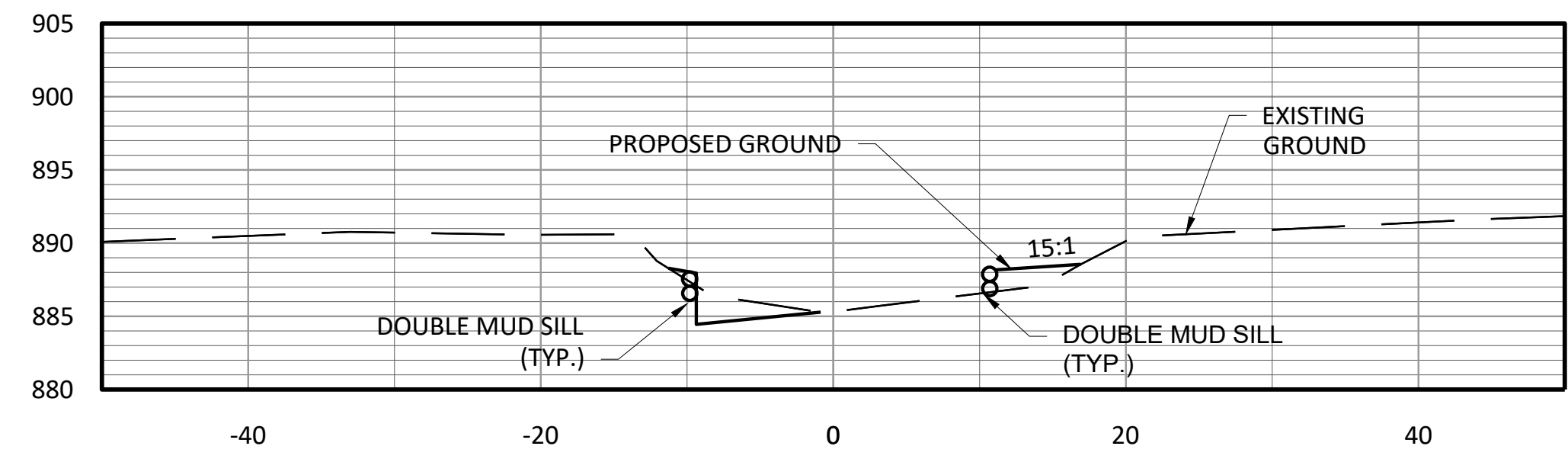
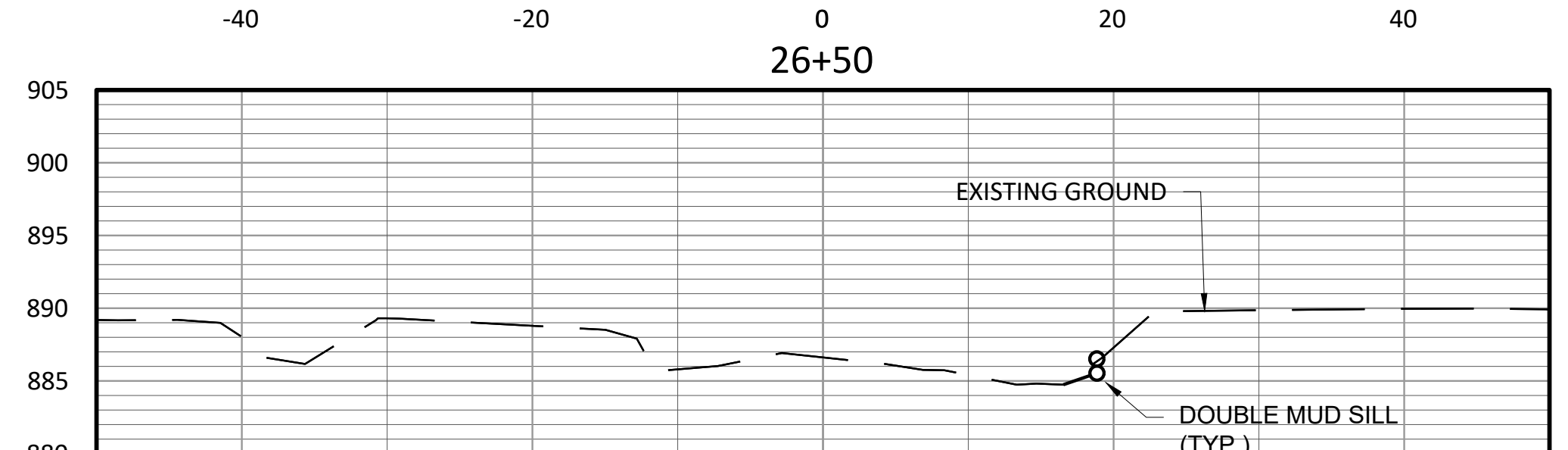
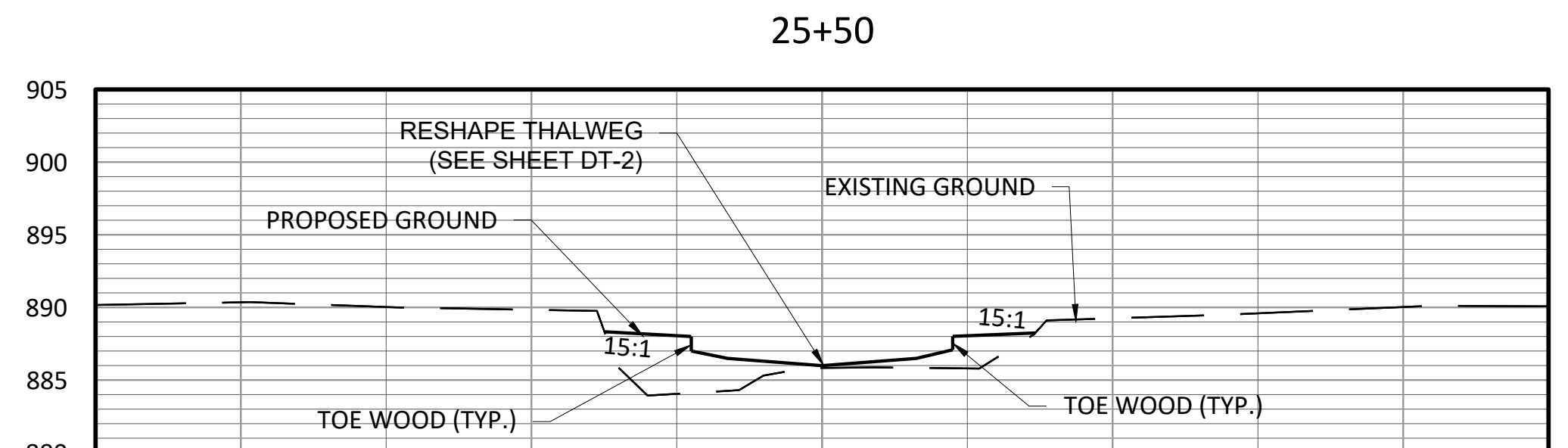
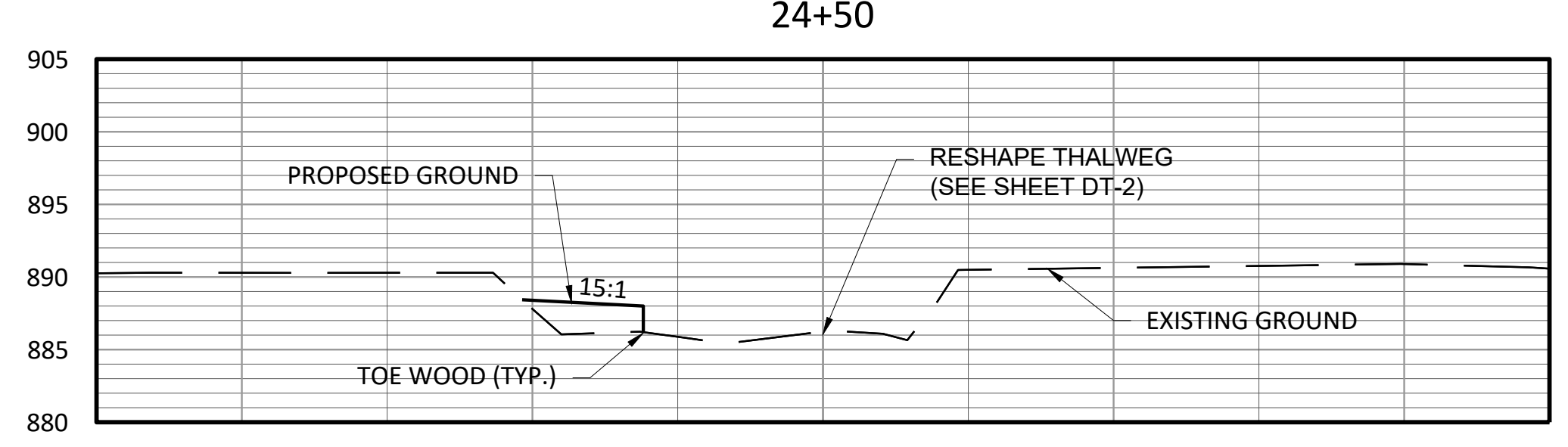
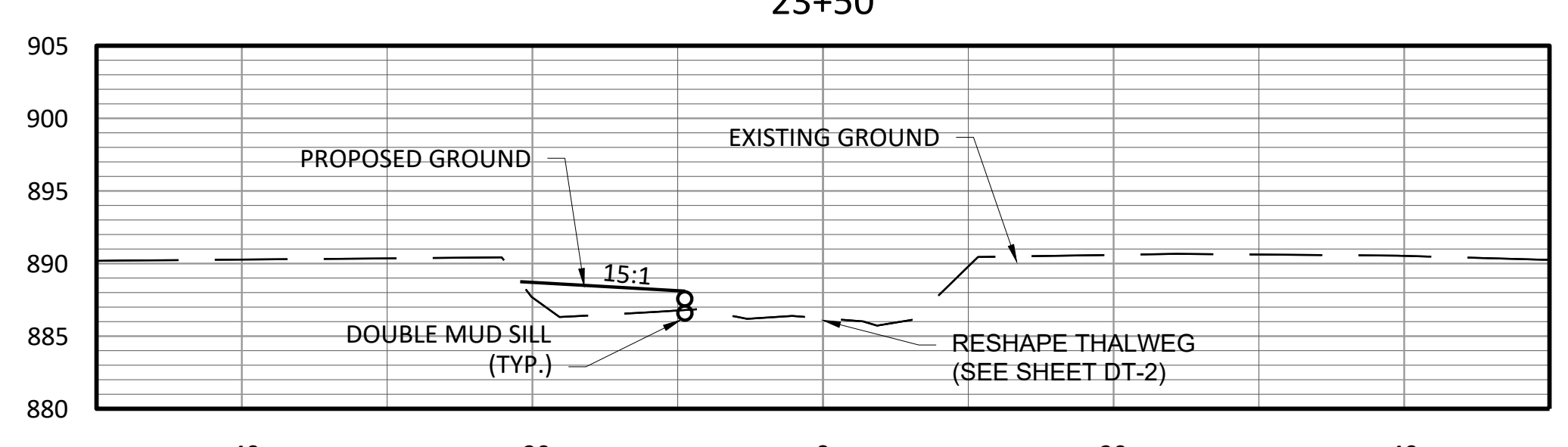
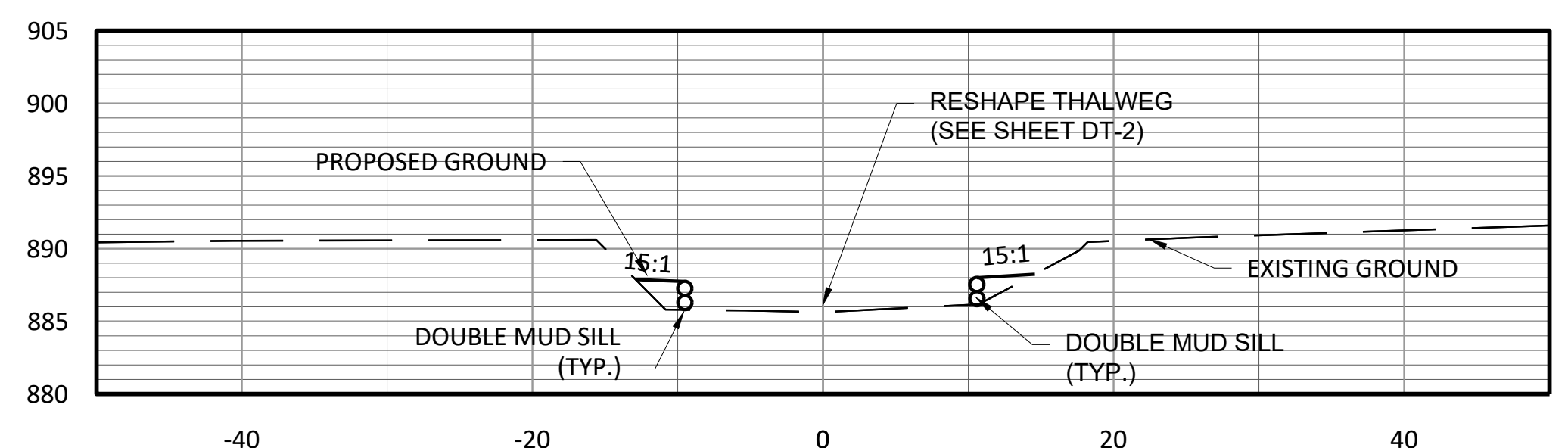
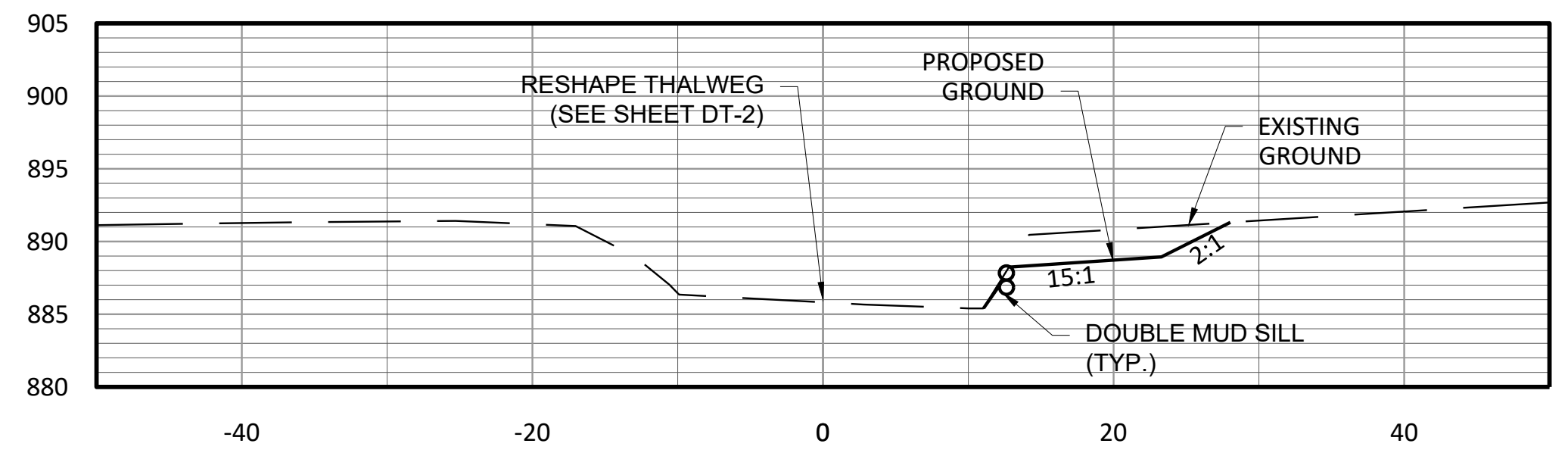
SEQ. **12**

APPROVED PLAN 10/17/2023

Permit # LDP22-00116

ACAD Ref: 24.1s (LMS Tech)  
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 Last Saved: 7/20/2023 12:40 PM Saved By: 02875

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 NOT FOR CONSTRUCTION



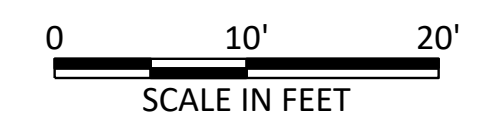
- NOTES:
- ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  - ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  - SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

**LEGEND**

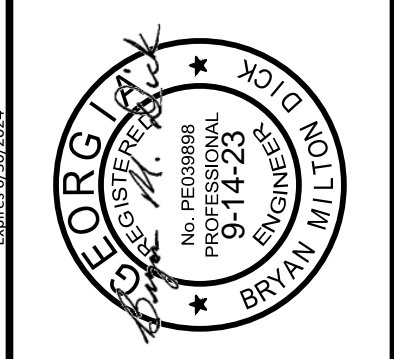
--- EXISTING GROUND PROFILE ALONG ALIGNMENT

— PROPOSED GROUND

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/30/2025



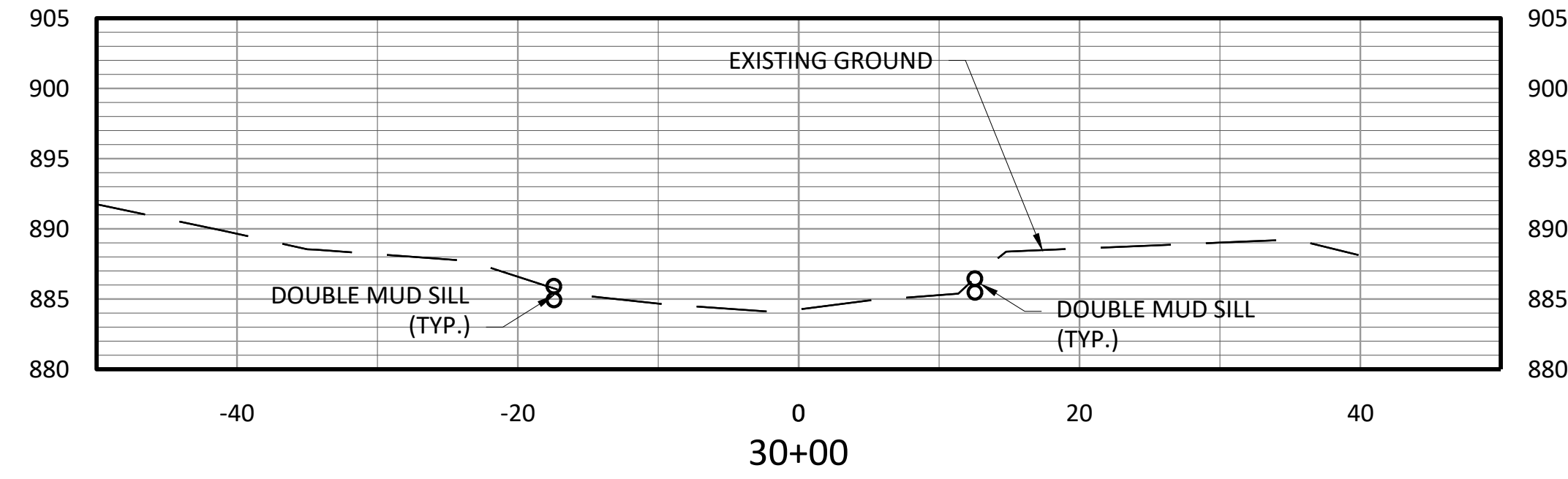
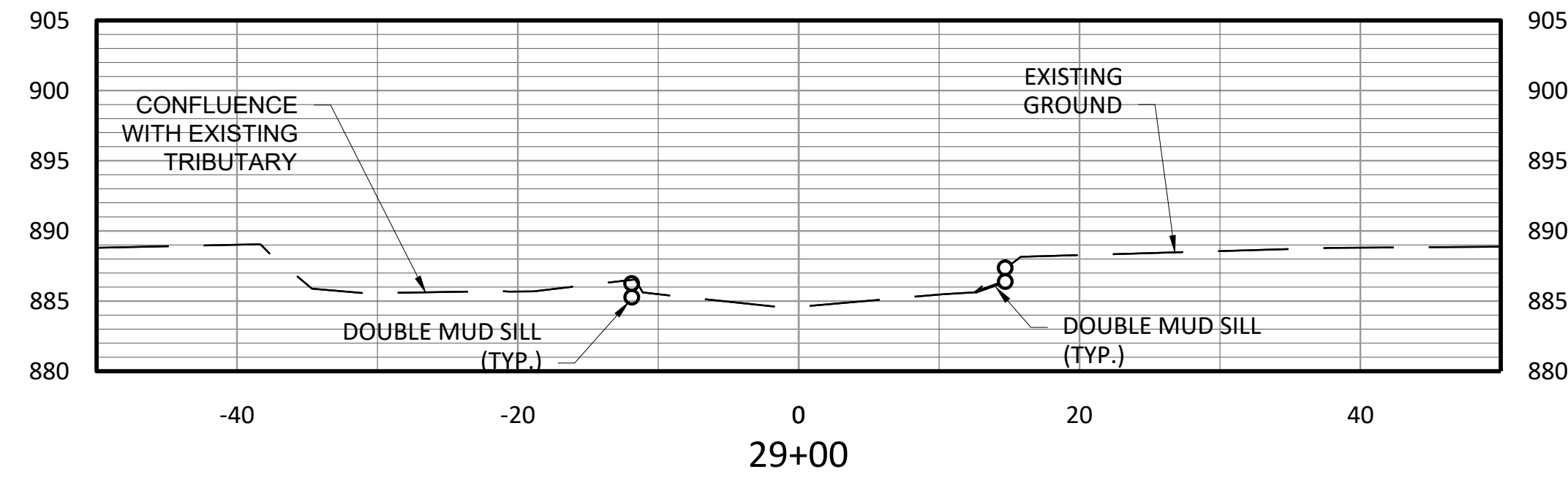
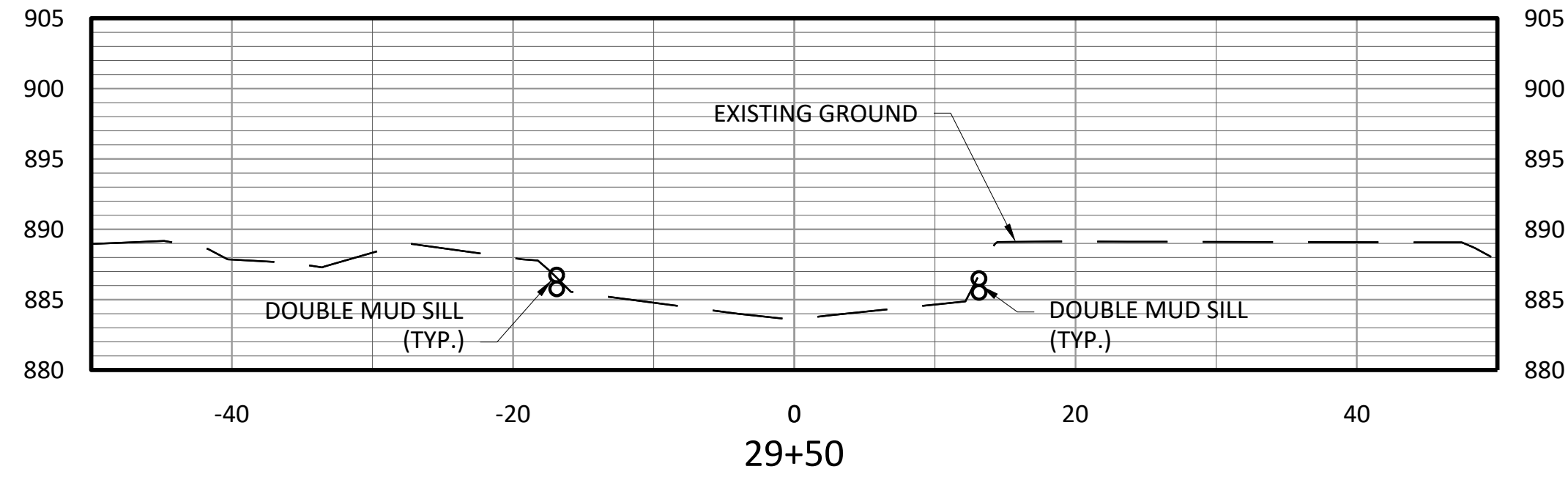
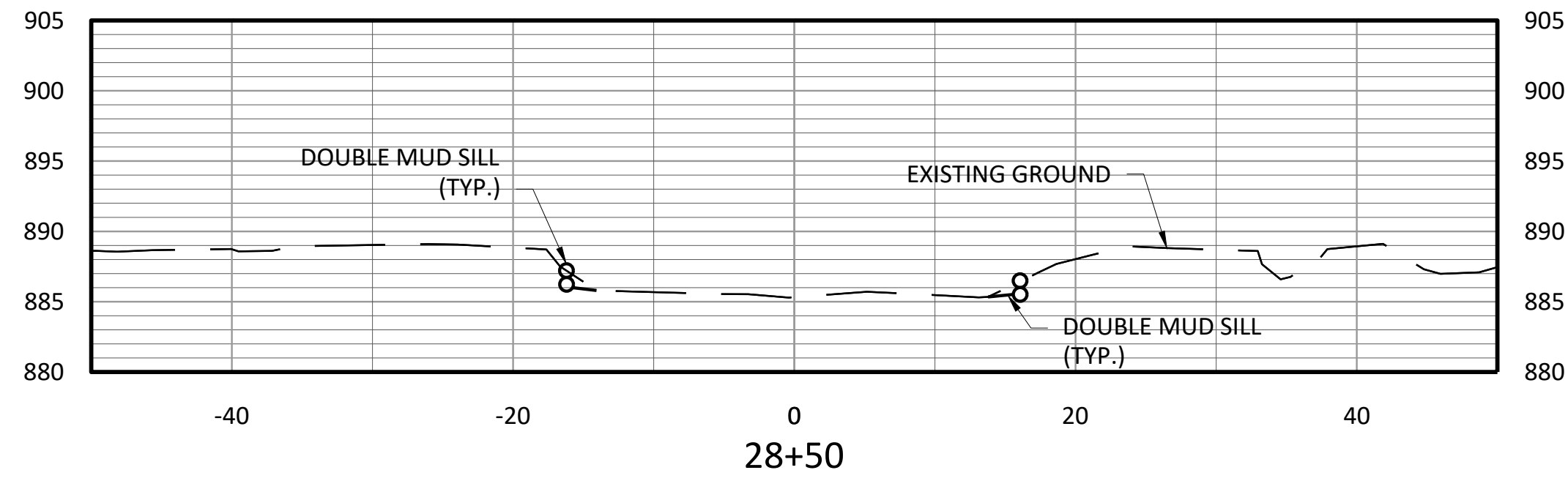
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 230 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 CROSS SECTION VIEWS  
**CROSS SECTION VIEWS**

| NO. | ISSUE | BY  | DATE       | REV. NO. | DESCRIPTION                   | FILE NAME           | DATE       | DESIGNED | DRAWN  | CHECKED | REVISION | DATE | FILE NAME | DATE |
|-----|-------|-----|------------|----------|-------------------------------|---------------------|------------|----------|--------|---------|----------|------|-----------|------|
| 1   |       | JPS | 12/22/2022 | 1        | CITY OF BROOKHAVEN LDP REVIEW | CV-SECTION-VIEW.dwg | 09/15/2022 | JM/RCM   | JM/JPS | JM/JPS  | ###      | ###  |           |      |
| 2   |       | JPS | 09/15/2022 | 2        | DEKALB COUNTY LDP REVIEW      | CV-SECTION-VIEW.dwg |            |          |        |         |          |      |           |      |

SHEET **CS-5**  
 SEQ. **13**  
 APPROVED PLAN 10/17/2023  
 NOT FOR CONSTRUCTION  
 Permit # LDP22-00116

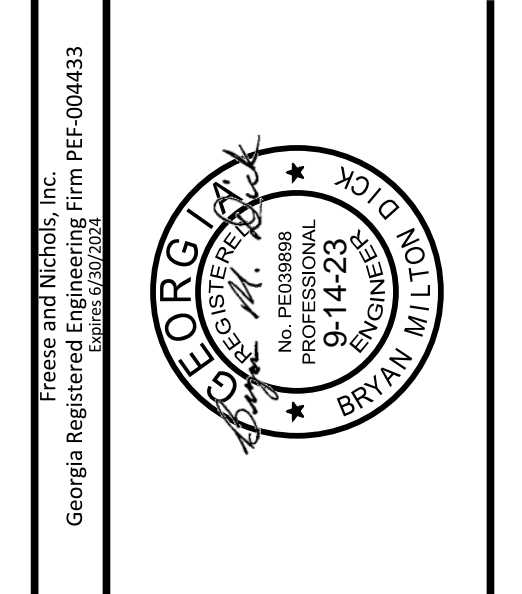
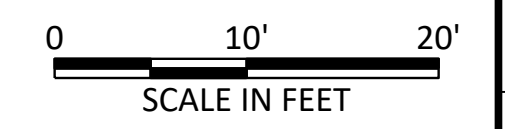
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 Filename: N:\WTU\Drawings\CV-SECTION-VIEW.dwg  
 Last Saved: 7/20/2023 12:40 PM Saved By: 02875



- NOTES:
1. ALL GRADED SLOPES SHALL BE LINED WITH COIR MATTING PER THE DETAIL (SEE SHEET DT-1).
  2. ALL TOE PROTECTION WILL BE BLENDED TO EXISTING GROUND AT THE TOP OF LOG TO LIMIT EROSION ALONG THE TOP OF DOUBLE MUD SILL.
  3. SEE PLAN VIEW SHEET FOR PROPOSED BENCH WIDTHS AND BLENDING.

| LEGEND |   |
|--------|---|
| ---    | EXISTING GROUND PROFILE ALONG ALIGNMENT |
| —      | PROPOSED GROUND                         |

24 HOUR CONTACT:  
 CITY OF BROOKHAVEN  
 PUBLIC WORKS DEPARTMENT  
 TOM ROBERTS  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 404-637-0540



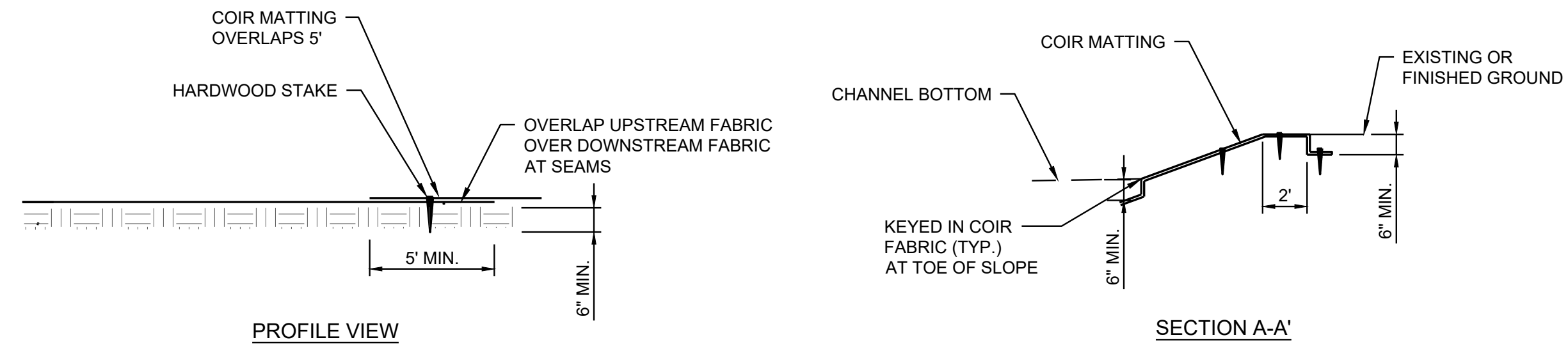
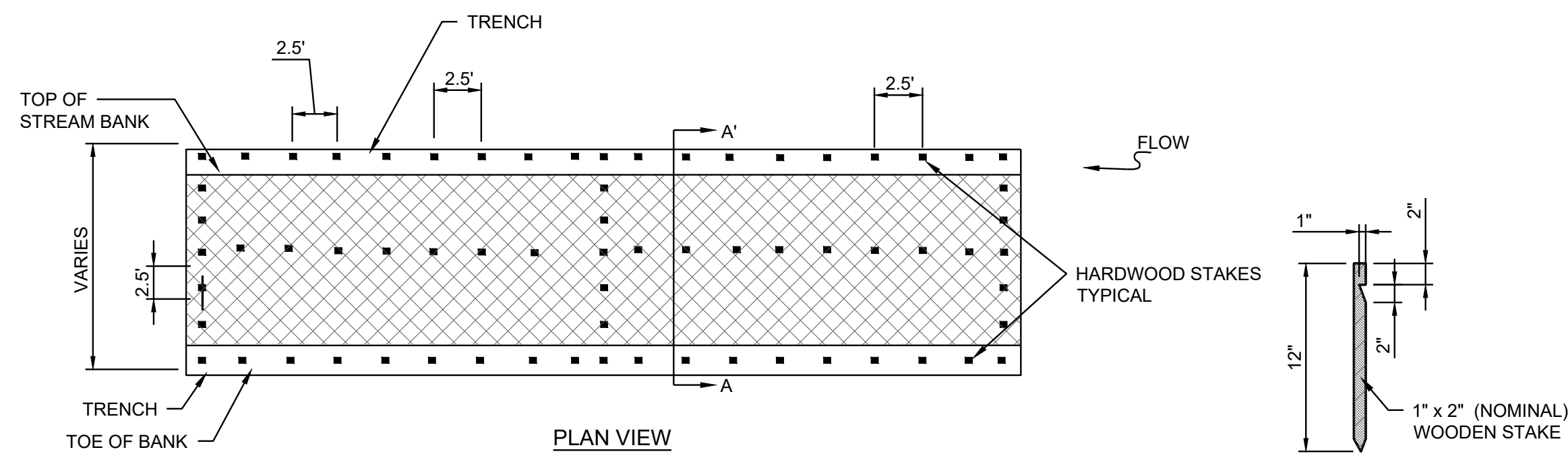
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone - (404) 334-4310  
 Web - www.freese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 CROSS SECTION VIEWS  
 CROSS SECTION VIEWS

|     |       |     |            |                     |
|-----|-------|-----|------------|---------------------|
| NO. | ISSUE | BY  | DATE       | FRN JOB NO.         |
| 1   |       |     |            | BGA20127            |
| 2   |       |     |            | DATE 07/05/2023     |
| 3   |       |     |            | DESIGNED JMR/CM     |
| 4   |       | JPS | 12/2/2022  | DRAWN JMW/JPS       |
| 5   |       | JPS | 09/15/2022 | REVISED ###/###     |
| 6   |       |     |            | CHECKED BMD         |
| 7   |       |     |            | FILE NAME           |
| 8   |       |     |            | CV-SECTION-VIEW.dwg |

SHEET **CS-6**  
 SEQ. **14**  
 APPROVED PLAN 01/17/2023  
 # LDP22-001/6

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 NOT FOR CONSTRUCTION

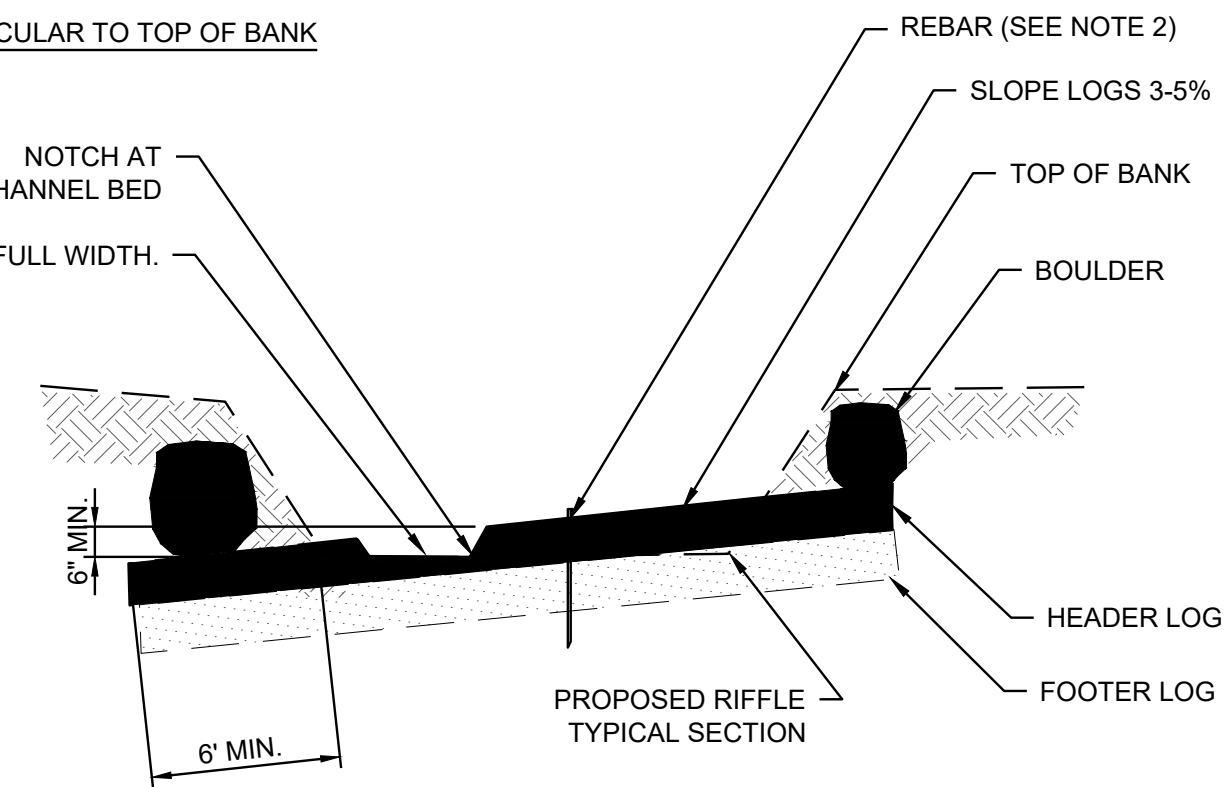
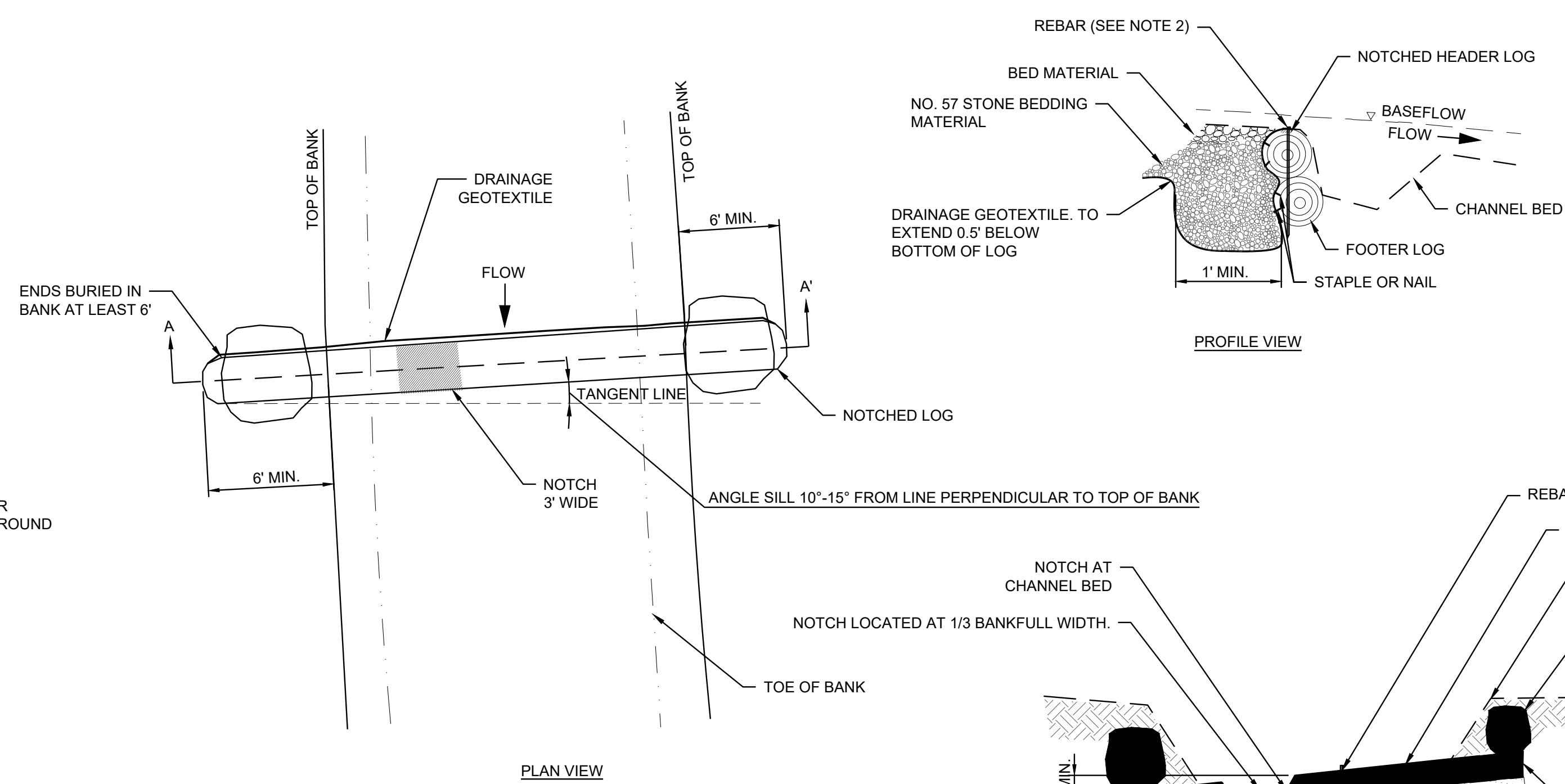


**NOTES:**

1. MAXIMUM SINGLE LENGTH OF MATTING/MESH IS 100'.
2. TOP AND BOTTOM EDGES OF MATTING/MESH SHALL BE KEYPED IN.
3. COIR MATTING DETAIL SHOWN IS FOR PERMANENT INSTALLATION. TEMPORARY INSTALLATION FOR EROSION CONTROL PROTECTION AS STIPULATED SHALL BE TO THE EXTENT THAT THE PROJECT SITE NEEDS TO BE PROTECTED FOR EROSION AND SEDIMENT CONTROL DURING NON-WORKING HOURS.
4. SEE SPECIFICATION FOR MATERIAL REQUIREMENTS.

**COIR FIBER MATTING  
SCALE: NTS**

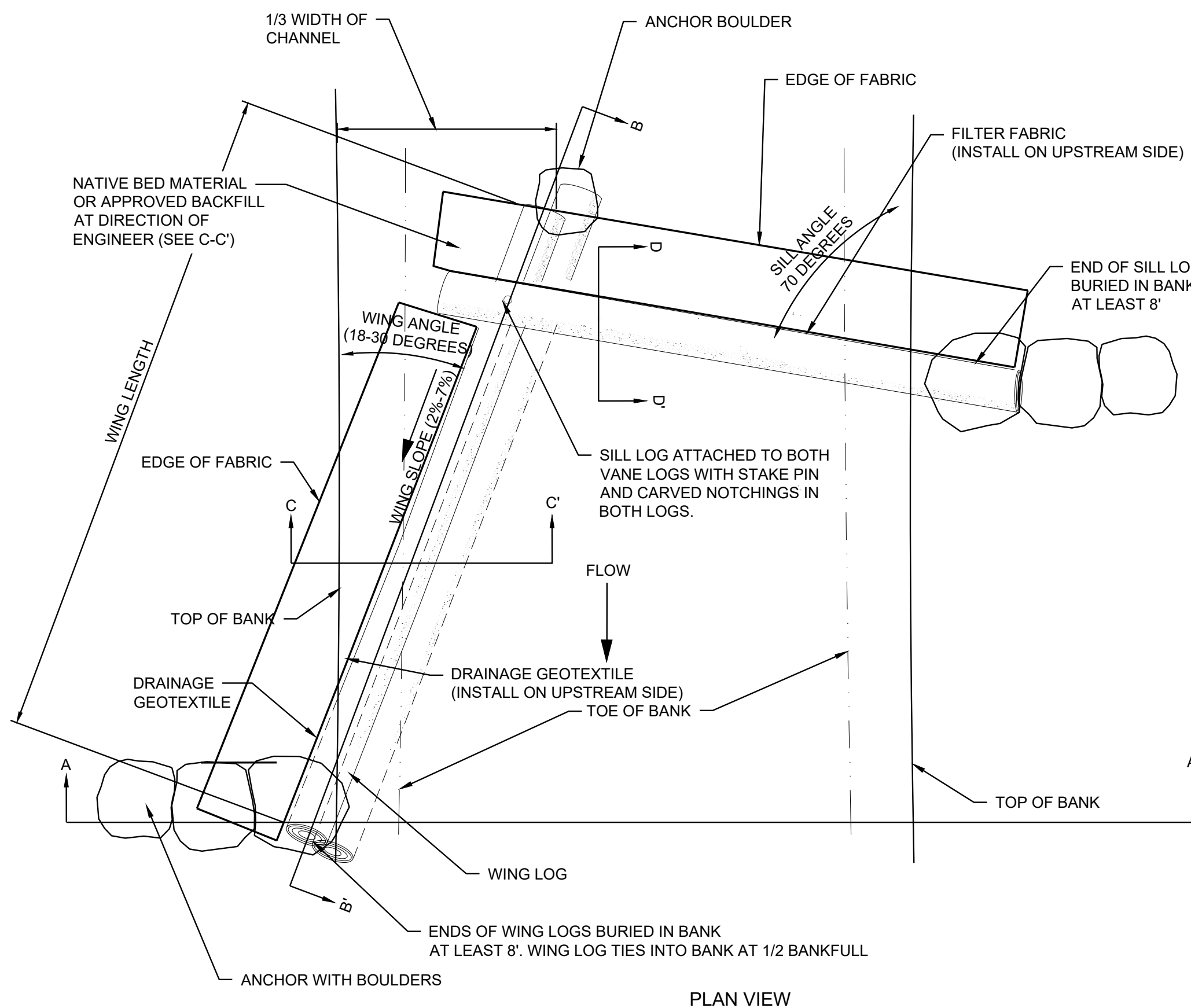
- NOTE:**
1. ALTERNATE SILL DIRECTION AND SLOPE IN ACCORDANCE WITH PLANS.
  2. DRILL 1-1/8" DIAMETER HOLE IN LOGS AND DRIVE #8 REBAR THROUGH. BEND AT TOP.
  3. NOTCH LOCATED AT 1/3 BANKFULL, ALTERNATING IN RIFFLE, OR LOCATED AT MIDDLE AT THE HEAD OF POOL.
  4. LOG SHALL BE EMBEDDED IN BANK A MINIMUM OF 6'.



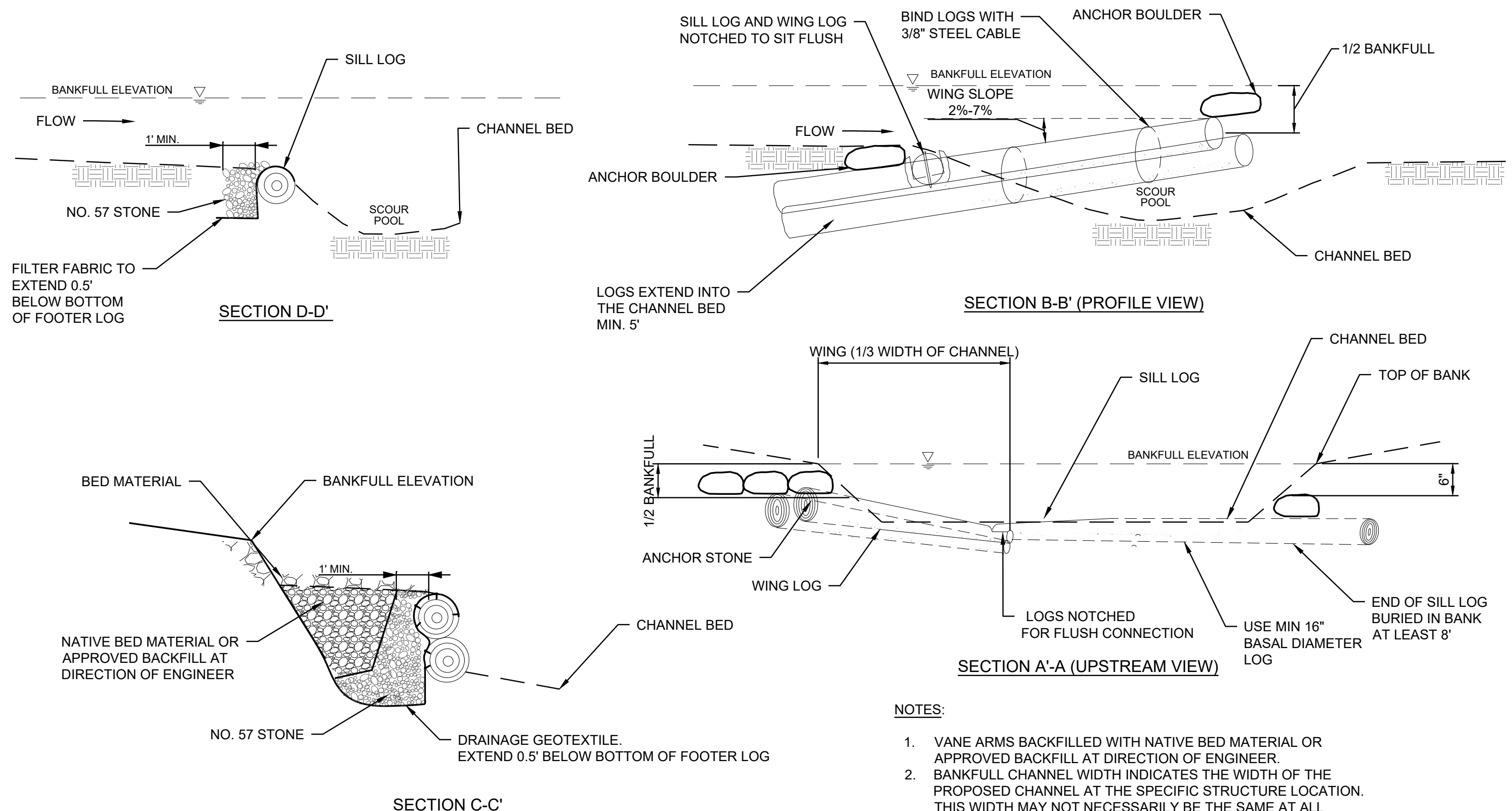
LOG SECTION A - A' LOOKING UPSTREAM

**ANGLED NOTCHED LOG SILL  
SCALE: NTS**

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

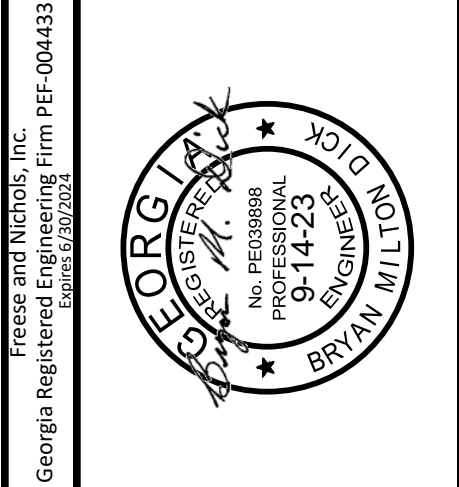


**LOG GRADE CONTROL VANE  
SCALE: NTS**



**NOTES:**

1. VANE ARMS BACKFILLED WITH NATIVE BED MATERIAL OR APPROVED BACKFILL AT DIRECTION OF ENGINEER.
2. BANKFULL CHANNEL WIDTH INDICATES THE WIDTH OF THE PROPOSED CHANNEL AT THE SPECIFIC STRUCTURE LOCATION. THIS WIDTH MAY NOT NECESSARILY BE THE SAME AT ALL LOCATIONS.



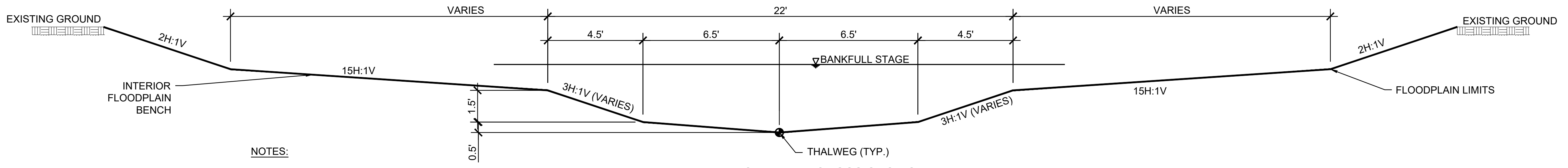
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**

CITY OF BROOKHAVEN  
CIVIL - DETAILS

| NO. | ISSUE   | DATE | BY  | DATE       | BY  | DATE       | BY  | DATE       | BY  | DATE       | BY  |
|-----|---|------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
| 0   | VERIFY SCALE  |      | JPS | 12/22/2022 | JPS | 09/15/2022 | JPS | 07/05/2023 | JPS | 07/05/2023 | JPS |
| 1   | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. |      | JPS | 09/15/2022 | JPS | 09/15/2022 | JPS | 07/05/2023 | JPS | 07/05/2023 | JPS |

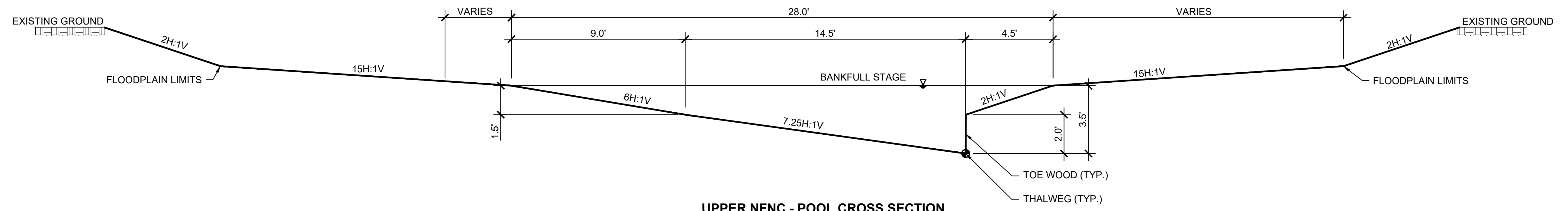
SHEET **DT-1**

ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION

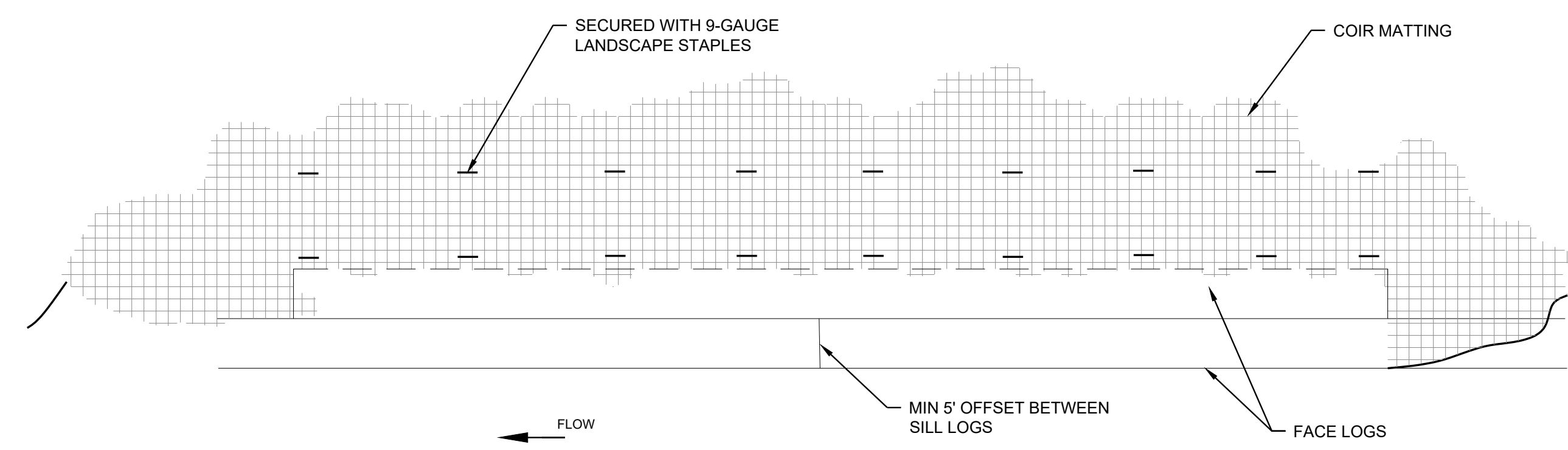


**UPPER NFNC - RIFFLE CROSS SECTION**  
SCALE: NTS

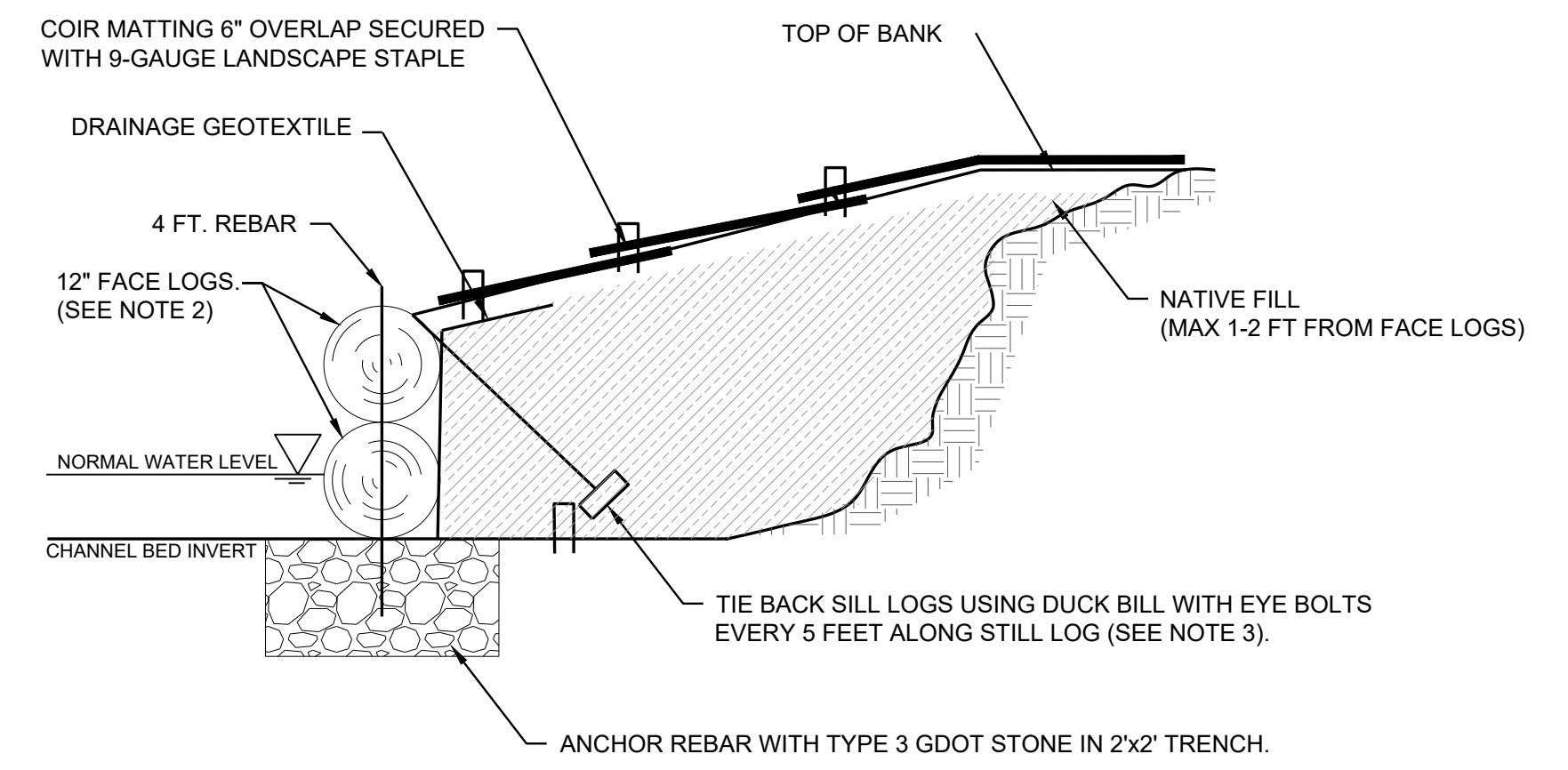
**NOTES:**  
1. RIFFLE CROSS-SECTION TYPICALLY OCCURS AT MID-RIFFLE AND POOL CROSS-SECTION AT THE MID-POOL. CHANNEL DEPTH AND SIDE SLOPES WILL VARY ALONG TRANSITION FROM POOL CROSS-SECTION TO RIFFLE CROSS-SECTION.



**UPPER NFNC - POOL CROSS SECTION**  
SCALE: NTS



**DOUBLE MUD SILL - PLAN VIEW**

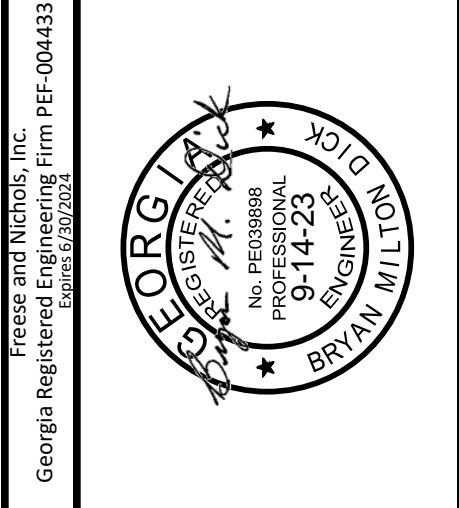


**DOUBLE MUD SILL WITH COIR MATTING - SECTION VIEW**

**NOTES:**  
1. SILL LOGS SHOULD BE PLACED EVERY 15 FT.  
2. COIR TO BE WRAPPED IN BETWEEN SILL LOGS BEFORE TRANSITION TO BANK.  
3. TIEBACKS TO BE TRENCHED IN AND NOT OVER-EXCAVATED (I.E. 2-4 FT) INTO THE BANK.

**DOUBLE MUD SILL**  
SCALE: NTS

**24 HOUR CONTACT:**  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
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**FRESE & NICHOLS**  
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**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL - DETAILS  
**DETAILS**

|     |   |     |            |             |                    |
|-----|---|-----|------------|-------------|--------------------|
| NO. | ISSUE   | BY  | DATE       | FRN JOB NO. | BGA20127           |
| 0   | VERIFY SCALE  | JPS | 12/2/2022  | DATE        | 07/05/2023         |
| 1   | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. | JPS | 09/15/2022 | DESIGNED    | JMB/CM             |
|     |   |     |            | DRAWN       | JMW/JPS            |
|     |   |     |            | REVISION    | ###                |
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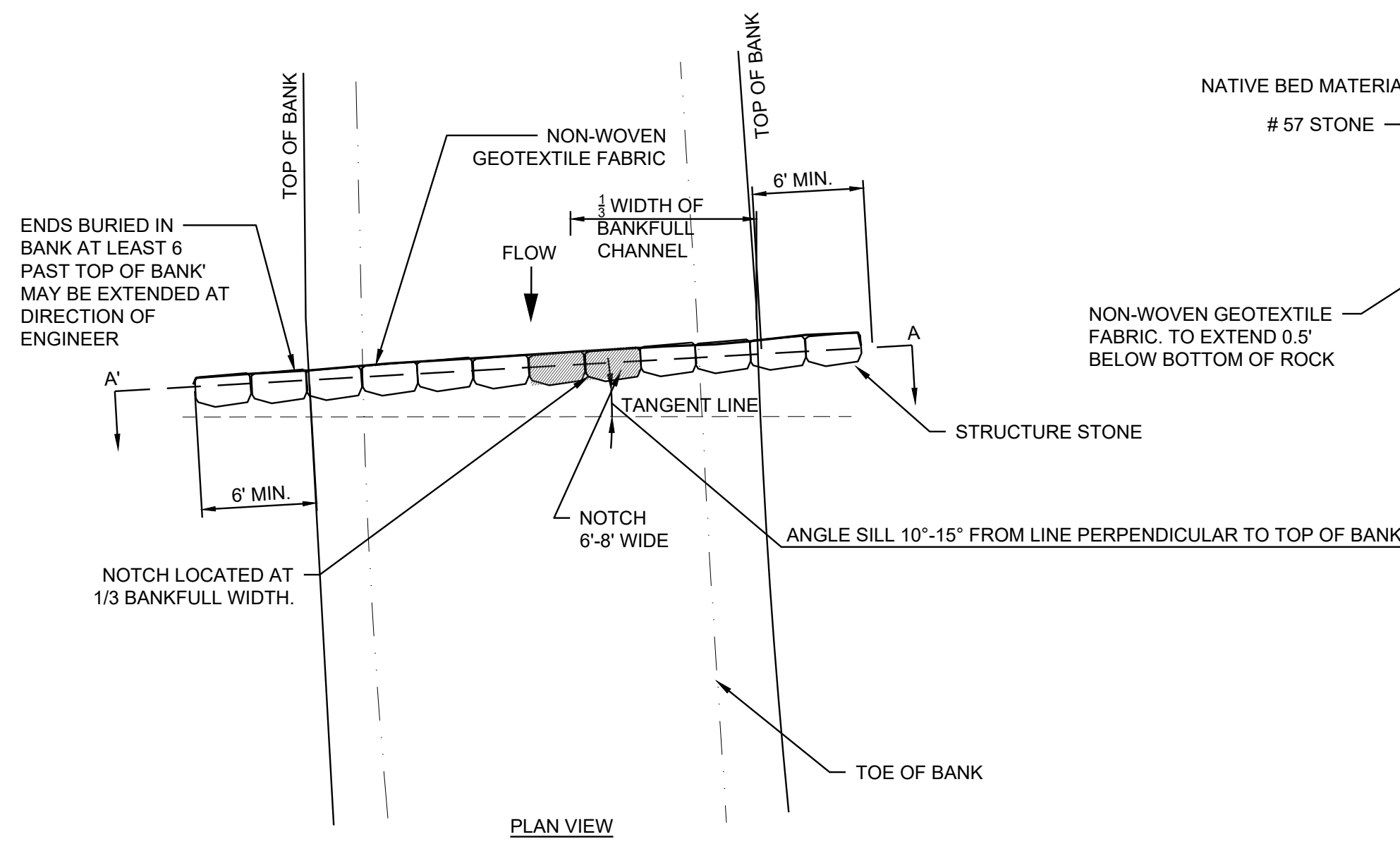
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SHEET **DT-2**  
SEQ. 16  
APPROVED PLAN 10/17/2023  
Permit # LDP22-00016

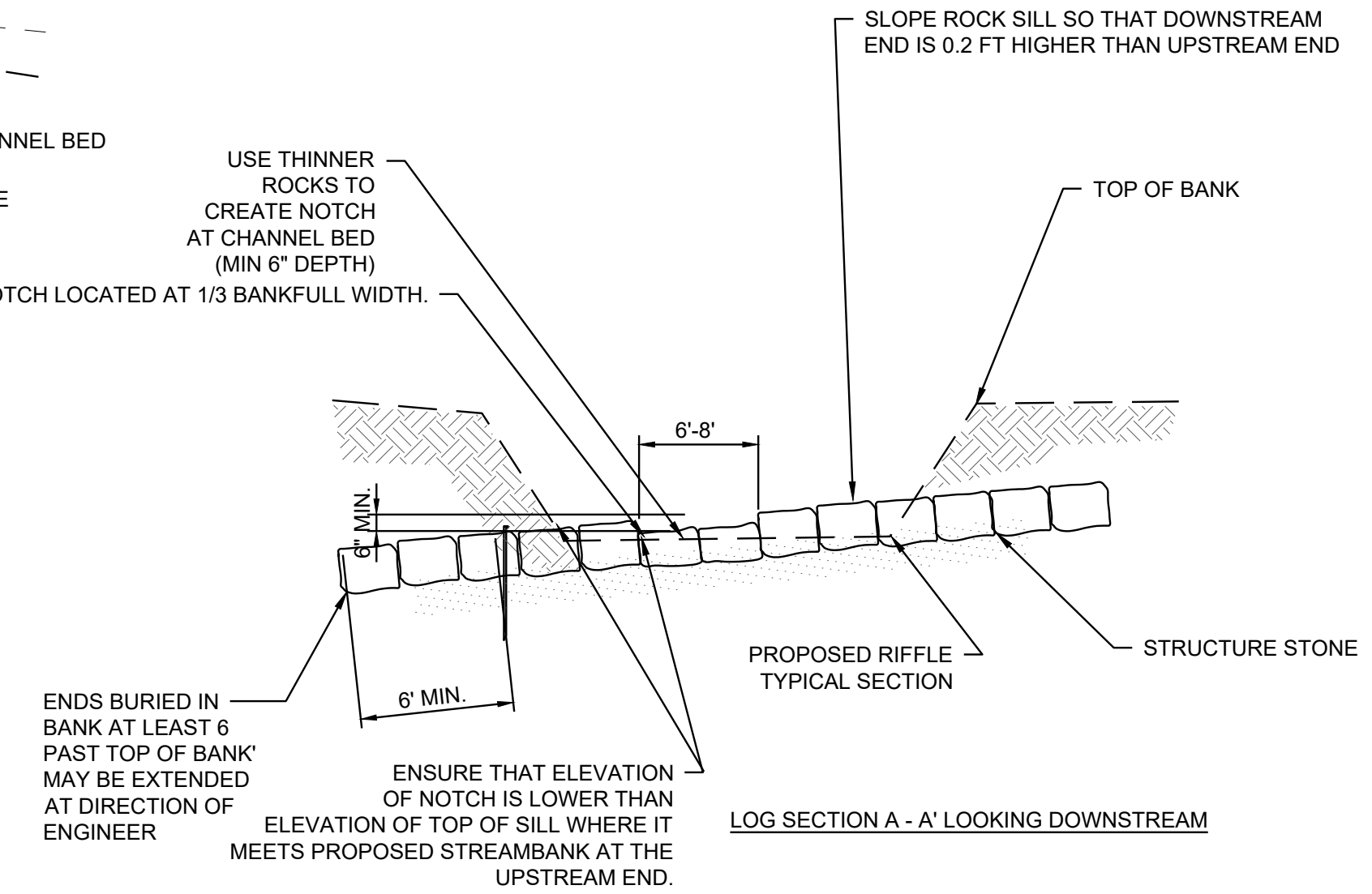


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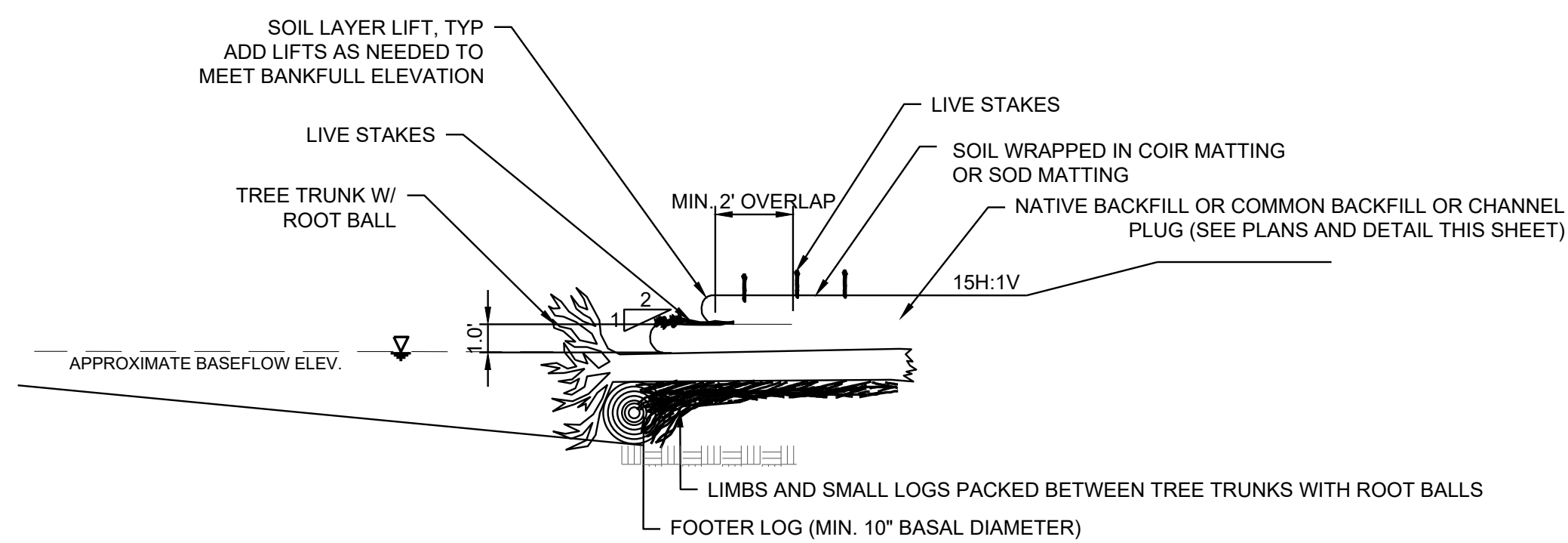
1. ALTERNATE SILL DIRECTION AND SLOPE IN ACCORDANCE WITH PLANS.
2. SILL ROCKS TO BE STRUCTURE STONE.
3. CREATE LOW-FLOW NOTCH OF AT LEAST 6" DEPTH USING THINNER ROCK. LOCATE AT 1/3 BANKFULL, ALTERNATING IN RIFFLE, OR LOCATED AT MIDDLE AT THE HEAD OF POOL.
4. ENDS OF SILL SHALL BE EMBEDDED INTO BANK AT LEAST 6' PAST TOP OF BANK. MAY BE EXTENDED AT DIRECTION OF ENGINEER.
5. IN STEP-POOL AREAS, ANGLED ROCKS SILLS TO BE ALTERNATED IN DIRECTION IN SAME MANNER SHOWN IN THE ANGLED LOG STEP POOL DETAIL (SEE DETAIL THIS SHEET).
6. ENSURE THAT ELEVATION OF BOTTOM OF NOTCH IS LOWER THAN ELEVATION OF TOP OF SILL WHERE IT MEETS THE PROPOSED BANK AT THE UPSTREAM END.



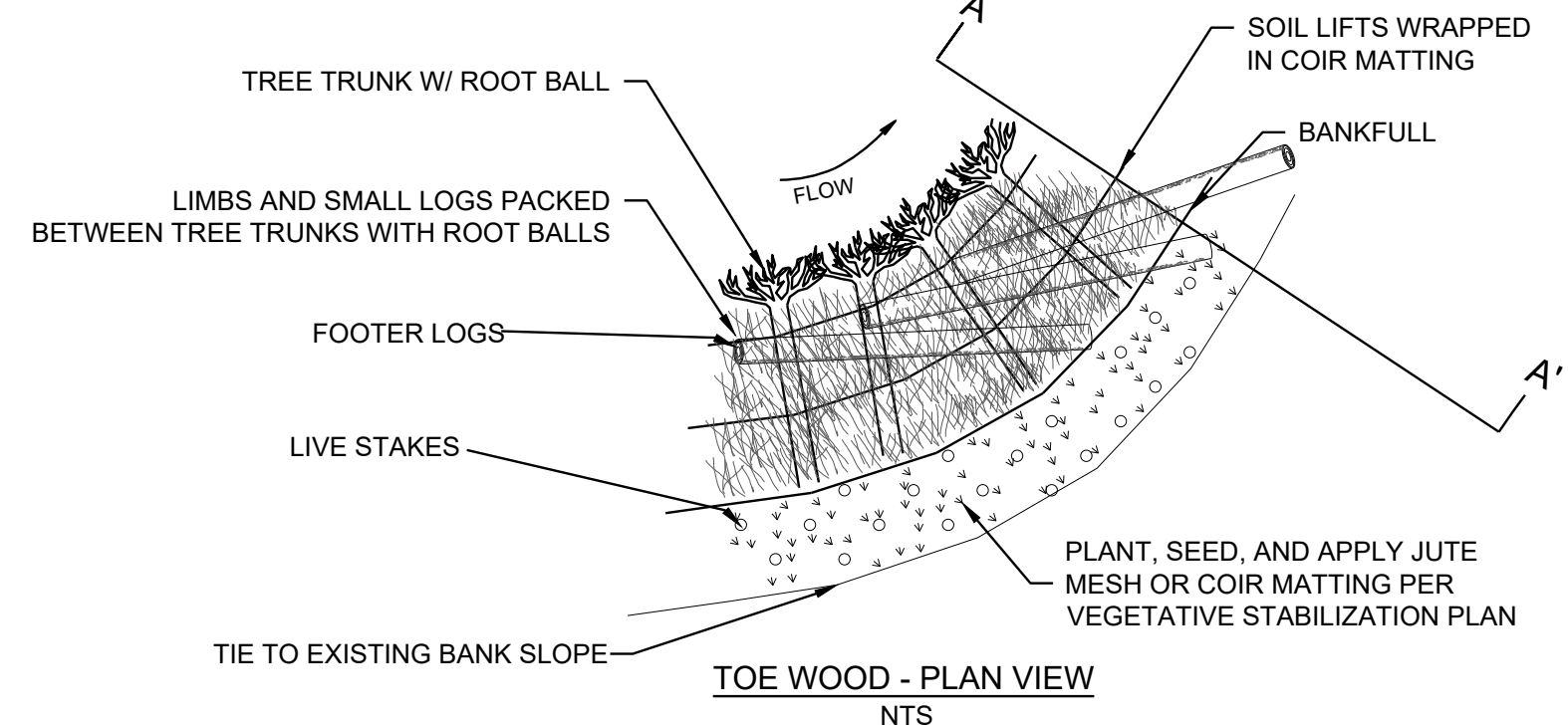
**ANGLED ROCK SILL**  
SCALE: NTS



LOG SECTION A - A' LOOKING DOWNSTREAM



**TOE WOOD - SECTION VIEW A-A'**  
NTS

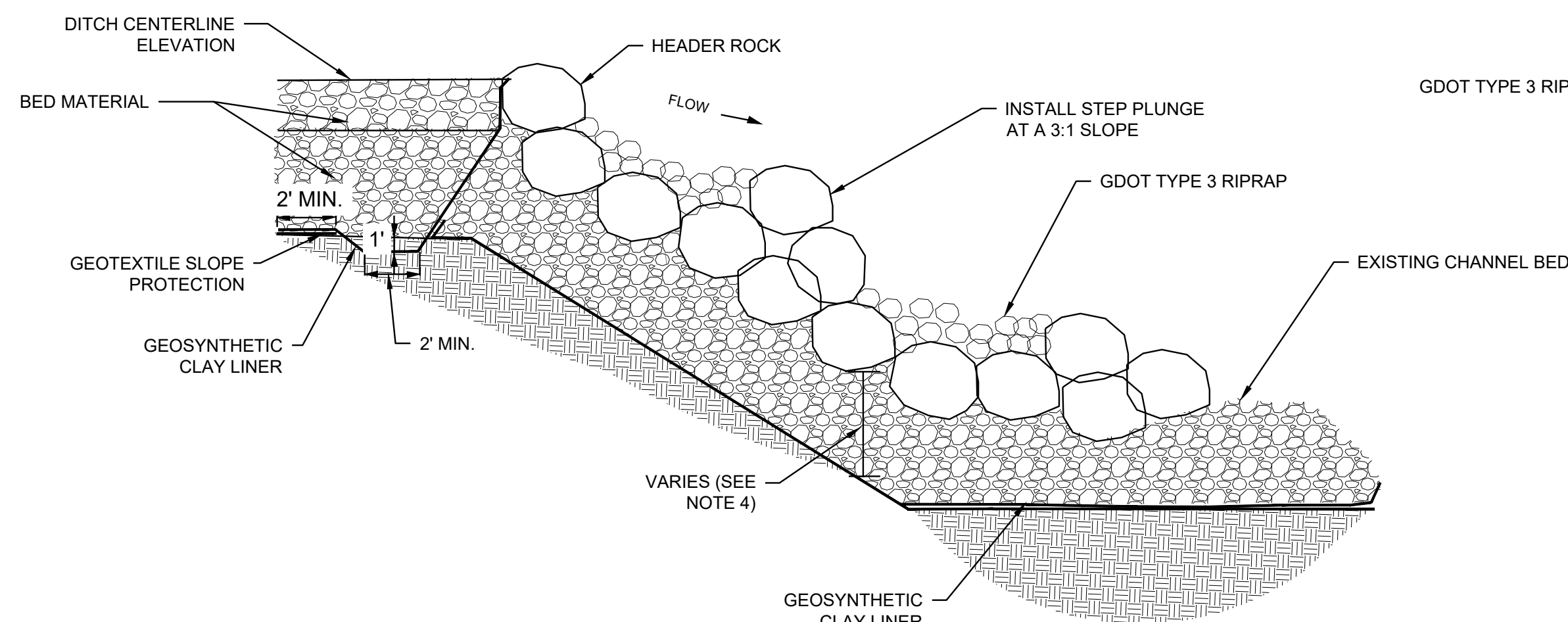


**TOE WOOD - PLAN VIEW**  
NTS

**NOTES:**

1. THE CONTRACTOR SHALL USE LOGS, TRUNKS WITH ROOTS, AND BRANCHES TO FORM THE "TOE WOOD" STREAMBANK TOE PROTECTION.
2. THE STREAMBANKS ABOVE THE TOE WOOD SHALL BE FORMED FROM SOIL LIFTS WRAPPED IN COIR MATTING.
3. TOP OF LOG FOR ROOT WAD SET AT NORMAL BASE FLOW ELEVATION OF CHANNEL.

**TOE WOOD**  
SCALE: NTS

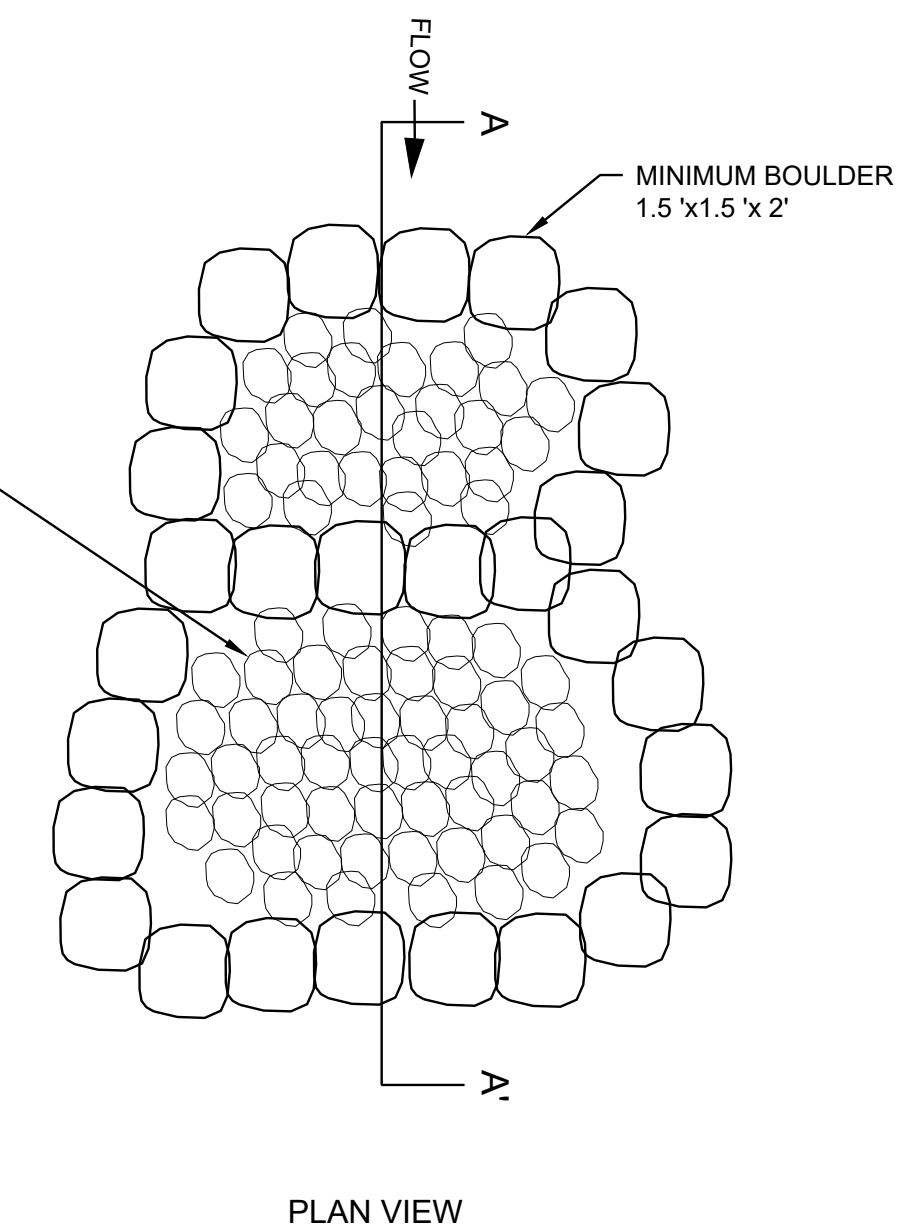


**TYPICAL SECTION - A TO A' (PROFILE VIEW - ALONG CENTERLINE)**

**NOTES:**

1. HEADER AND FOOTER ROCKS SHALL BE ABLE TO BE STACKED.
2. SEE PROFILE FOR THALWEG SLOPES.
3. STEP PLUNGE POOL SHALL EXTEND ALONG THE BANK AND KEY INTO TOE OF SLOPE.
4. BASE OF FOOTER ROCKS SHALL BE ATOP BED MATERIAL.
5. REFER TO TYPICAL SECTION FOR CHANNEL WIDTH AND DEPTH DIMENSIONS.
6. ROCKS SHALL BE INSTALLED TIGHTLY AGAINST EACH OTHER; GAPS ARE NOT ACCEPTABLE.

**STEP PLUNGE POOL**  
SCALE: NTS



**PLAN VIEW**

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540

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**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**

| NO. | ISSUE | DATE       | BY  | DATE | DESIGNED | DRAWN | REVIEWED | CHECKED | BMD |
|-----|-------|------------|-----|------|----------|-------|----------|---------|-----|
|     |       |            |     |      | BGA20127 | JMS   | JMS      | ###     | ### |
|     |       | 07/05/2023 |     |      | JMS      | JMS   | JMS      | ###     | ### |
|     |       | 12/2/2022  | JPS |      | JMS      | JMS   | JMS      | ###     | ### |
|     |       | 09/15/2022 | JPS |      | JMS      | JMS   | JMS      | ###     | ### |
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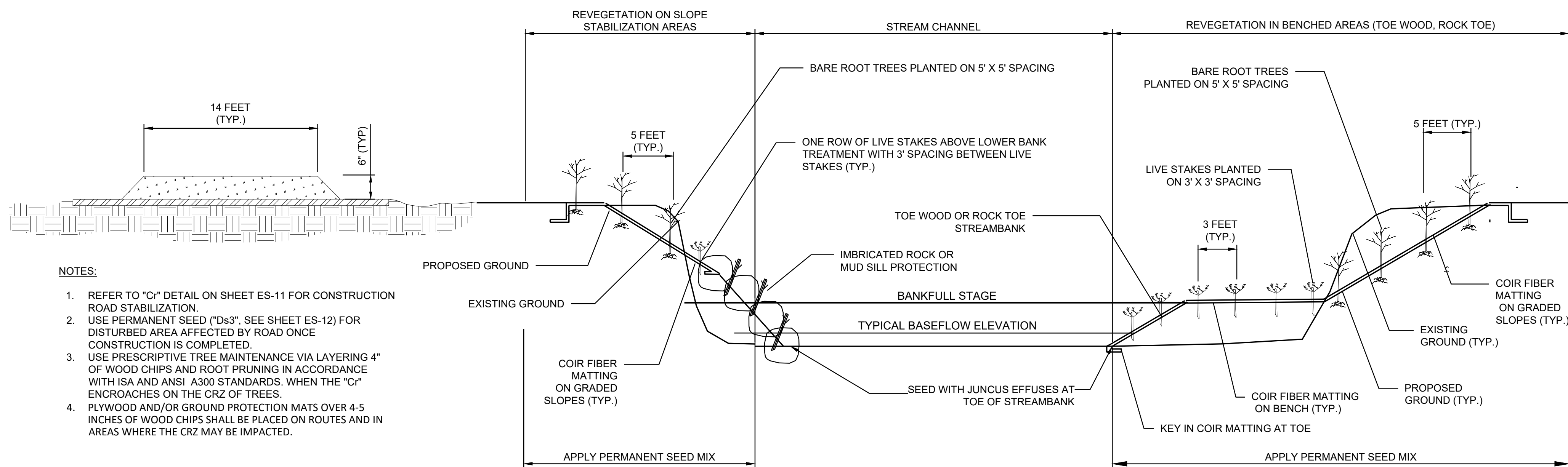
SHEET **DT-3**

SEQ. 17

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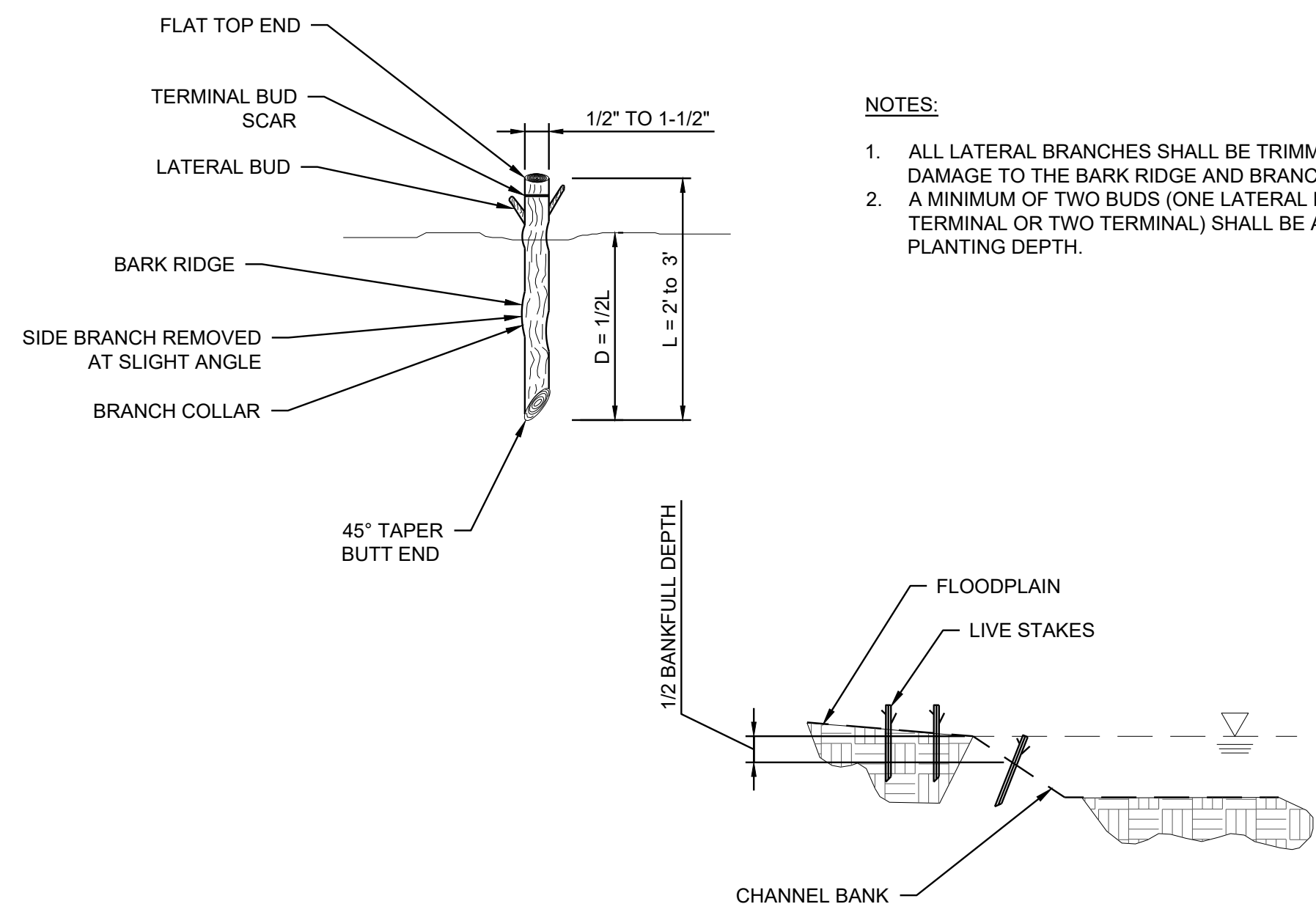
APPROVED PLAN 10/17/2023  
Permit # LDP22-00016

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- NOTES:**
1. THE LEFT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED FOR STREAMBANKS WHERE ROCK TOE PROTECTION, STACKED ROCK WALL, OR MUD SILLS ARE TO BE USED ON THE LOWER BANK WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
  2. THE RIGHT SIDE OF THIS SECTION SHOWS PLANTING APPROACH TO BE APPLIED WHERE TOE WOOD IS USED TO CREATE A BENCH WITH GRADING OR GEOBAG WALL ON THE UPPER BANK.
  3. IF CROSS-SECTIONS SHOW NO GRADING OR OTHER TREATMENT ON PARTS OF THE EXISTING STREAMBANKS (UPPER BANK, LOWER BANK OR BOTH) THEN EXISTING VEGETATION IS TO REMAIN UNDISTURBED.
  4. SEE PLANT LIST FOR SPECIES AND SIZE.

**REVEGETATION TYPICAL SECTION**  
SCALE: NTS



- NOTES:**
1. ALL LATERAL BRANCHES SHALL BE TRIMMED TO AVOID DAMAGE TO THE BARK RIDGE AND BRANCH COLLAR.
  2. A MINIMUM OF TWO BUDS (ONE LATERAL PLUS ONE TERMINAL OR TWO TERMINAL) SHALL BE ABOVE THE PLANTING DEPTH.

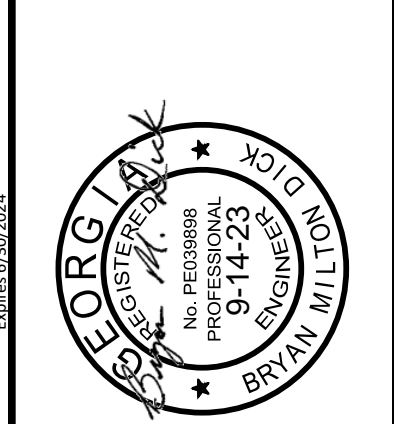
**LIVE STAKE**  
SCALE: NTS

- NOTES:**
1. UTILIZE JUNCUS EFFUSES MORE HEAVILY IN AREAS AROUND PEDESTRIAN BRIDGE.
  2. SOIL TESTS SHALL BE CONDUCTED TO DETERMINE FERTILIZER NEEDS.

|                   | Scientific Name  | Common Name       | Quantity | Remarks   |
|-------------------|--|-------------------|----------|---|
| BARE ROOT TREES   | <i>Acer rubrum</i>   | Red maple         | 109      | Bare root 1/0 seedlings placed on 5-ft centers, alternating plants between rows and species randomly distributed.   |
|                   | <i>Platanus occidentalis</i>   | American sycamore | 218      |   |
|                   | <i>Quercus pagoda</i>  | Cherry Bark oak   | 109      |   |
|                   | <i>Liriodendron tulipifera</i>   | Yellow poplar     | 109      |   |
|                   | <i>Fagus grandifolia</i>   | American beech    | 109      |   |
| BARE ROOT SHRUBS  | <i>Betula nigra</i>  | River birch       | 73       | Stakes placed on 3' centers, alternating stakes between rows and with species randomly distributed. One row of live stakes planted above staked rock wall and rock toe protection, with stakes spaced 3' apart. |
|                   | <i>Hamamelis virginiana</i>  | Witch hazel       | 363      |   |
| LIVE STAKES       | <i>Lindera benzoin</i>   | Spice bush        | 363      |   |
|                   | <i>Alnus serrulata</i>   | Tag alder         | 242      |   |
|                   | <i>Salix sericea</i>   | Silky willow      | 242      |   |
| PERMANENT SEEDING | Mellow Marsh Fams Piedmont Shade Mix or Equivalent                                   |                   |          | Apply at 25 lbs/acre  |
|                   | Manually apply seed of Juncus effuses at toe of streambed in areas of bank treatment |                   |          |   |
| TEMPORARY SEEDING | Summer: Brown-top millet   |                   |          | Apply at 50 lbs/acre to all disturbed areas   |
|                   | Winter: Wrens-abruzzi winter rye or Winter Wheat                                     |                   |          |   |

**PLANT LIST**

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
404-637-0540



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360 Interstate North Parkway,  
Suite 250 Atlanta, GA 30339  
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CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL - DETAILS  
**DETAILS**

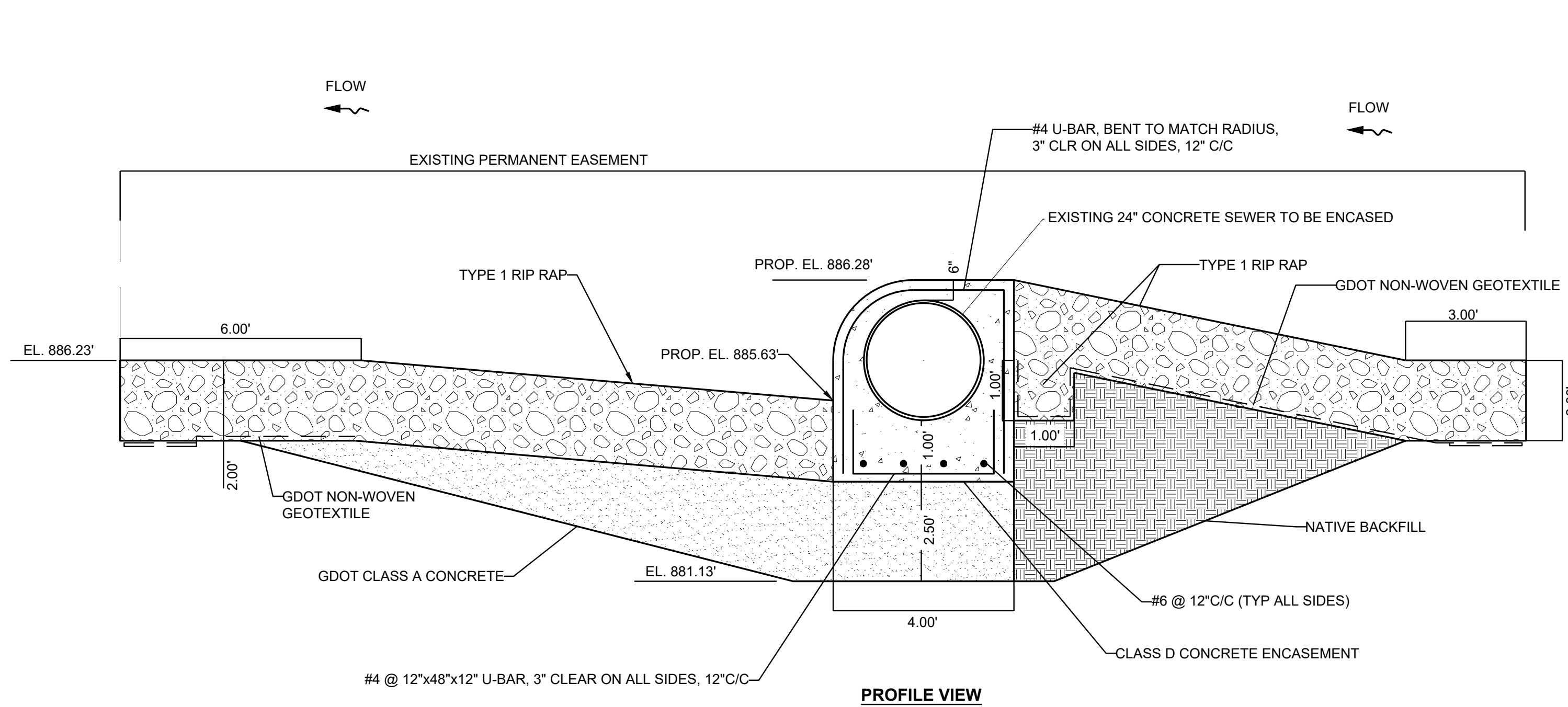
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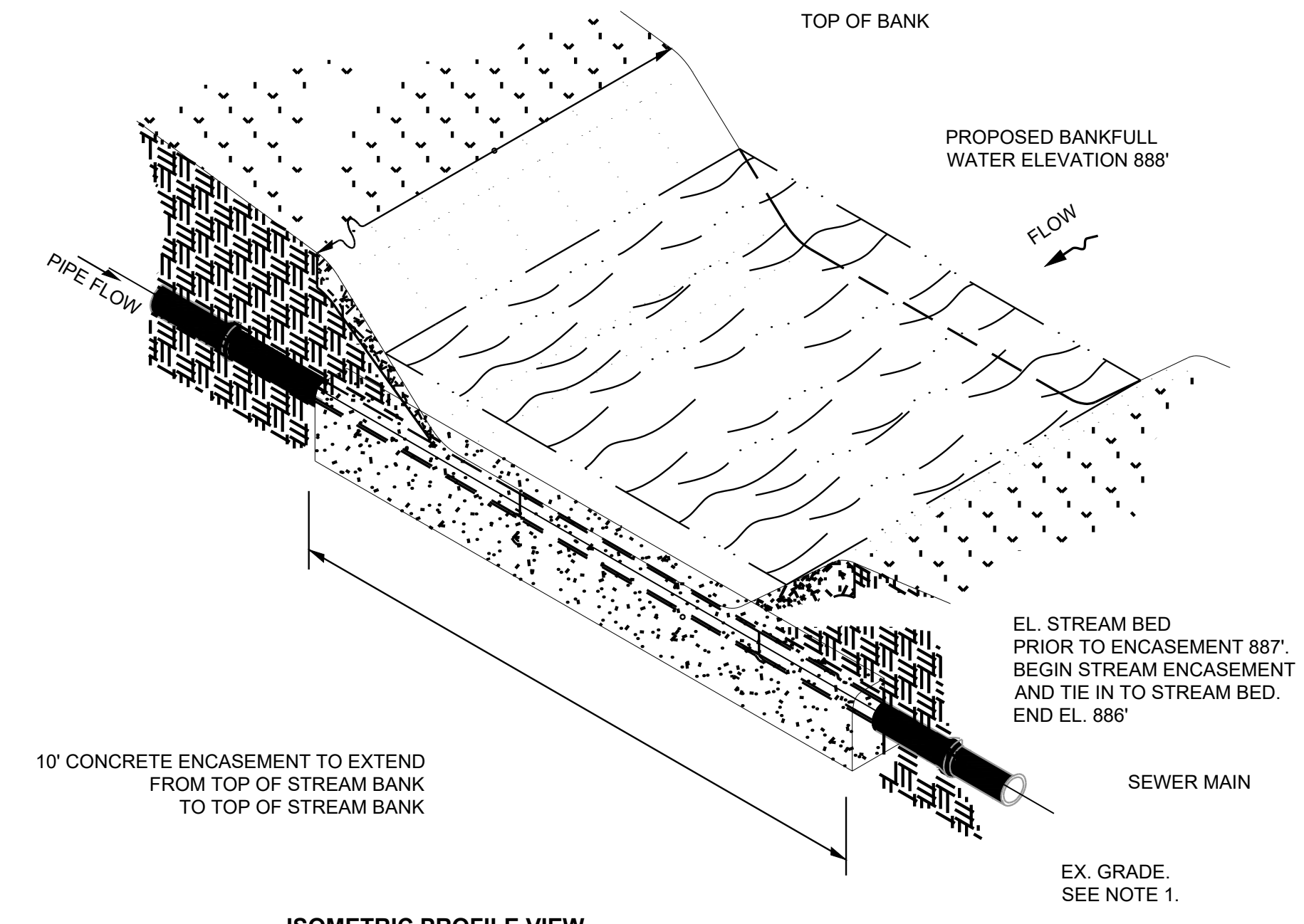
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SHEET DT-4  
SEQ. 18  
APPROVED PLAN 10/17/2023  
Permit # LDP22-00016



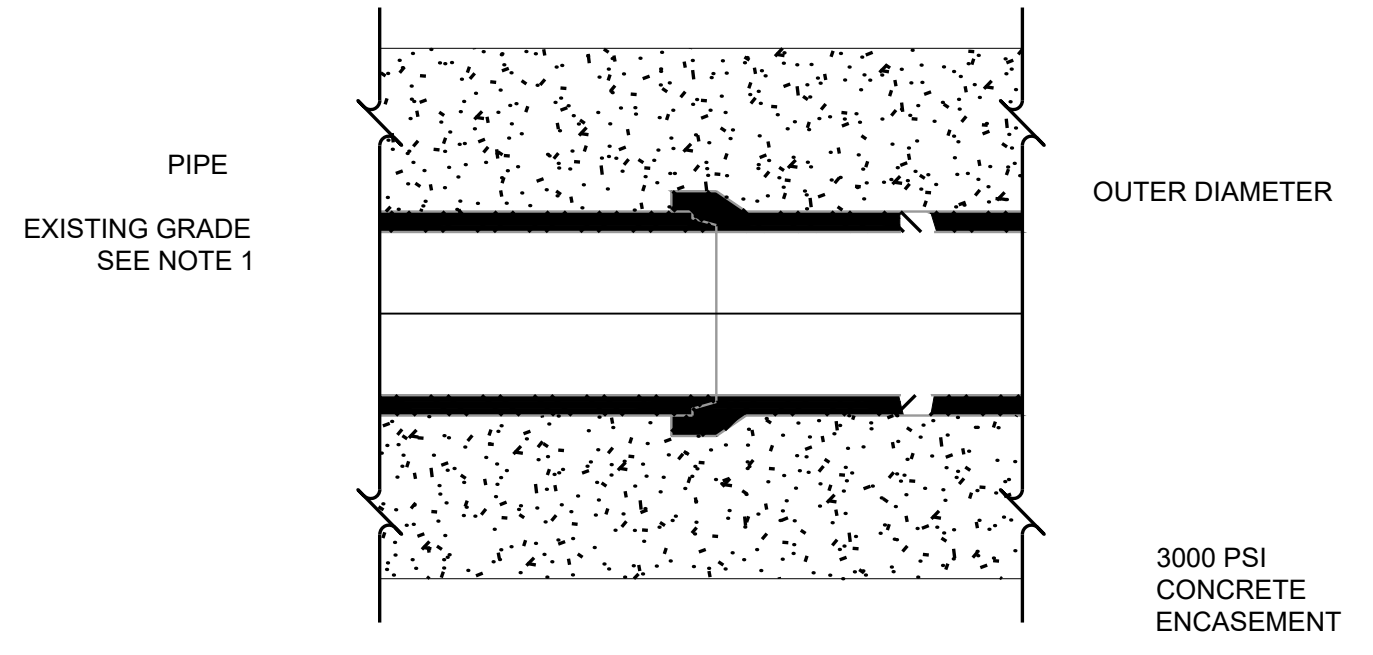
PROFILE VIEW



ISOMETRIC PROFILE VIEW

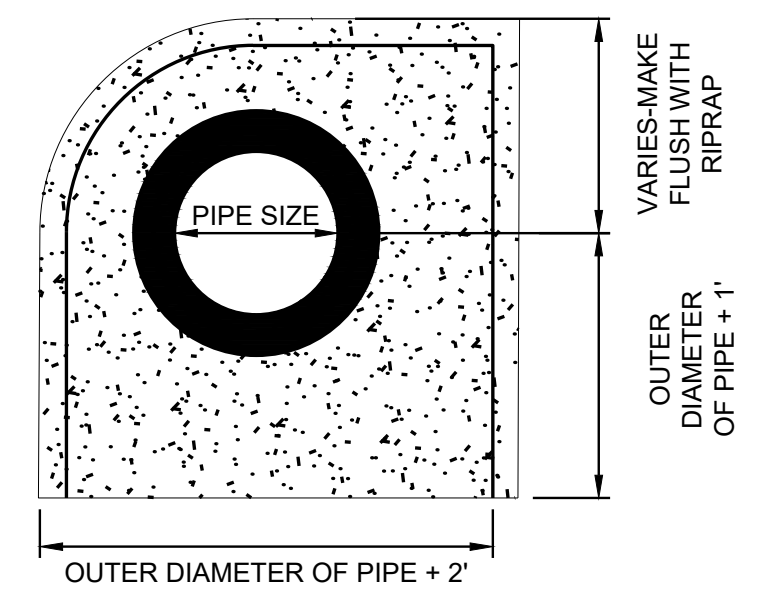
NOTES:

1. UPPER HALF OF EXISTING PIPE CURRENTLY ABOVE GRADE. PIPE MUST BE ENCASED BY CONCRETE FULLY.
2. FINAL PROPOSED BED ELEVATION 886'.
3. CONCRETE TO BE 3000 PSI.
4. ENCASEMENT TO BE USED ONLY WHERE SPECIFIED ON PLANS.



LONGITUDINAL SECTION VIEW

CONCRETE SEWER ENCASEMENT  
SCALE: NTS

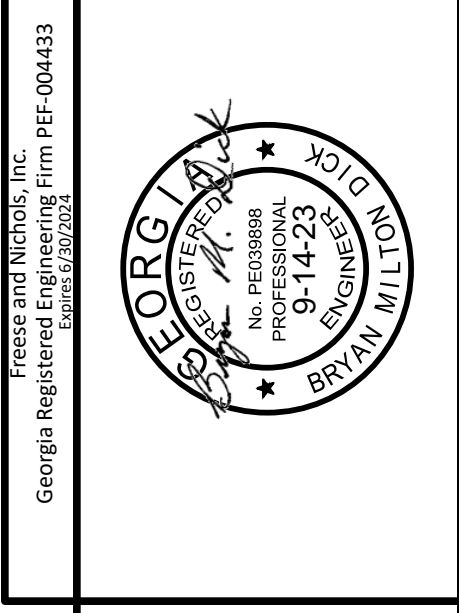


TRANSVERSE SECTION VIEW

ROCK PLACEMENT NOTES:

1. PLACE ROCK MATERIAL IN SUCH MANNER AS TO PRODUCE A REASONABLY WELL-GRADED MASS OF ROCK WITH THE MINIMUM PRACTICABLE PERCENTAGE OF VOIDS.
2. A TOLERANCE OF PLUS 6 OR MINUS 0 INCHES FROM THE SLOPE LINES AND GRADES SHOWN ON THE PLANS SHALL BE ALLOWED IN THE FINISHED SURFACE OF THE ROCK.
3. PLACE ROCK MATERIAL TO ITS FULL COURSE THICKNESS AT ONE OPERATION.
4. DISTRIBUTE THE LARGER STONES EVENLY AND CONFORM THE ENTIRE MASS OF STONES IN THEIR FINAL POSITION TO THE SPECIFIED GRADATION.
5. FINISHED ROCK MATERIAL SHALL BE FREE FROM OBJECTIONABLE POCKETS OF SMALL STONES AND CLUSTERS OF LARGER STONES.
6. PLACING ROCK MATERIAL IN LAYERS SHALL NOT BE PERMITTED.
7. PLACING MATERIAL BY DUMPING FROM TOP OF SLOPE, DUMPING INTO CHUTES, OR BY SIMILAR METHODS LIKELY TO CAUSE SEGREGATION OF THE VARIOUS SIZES SHALL NOT BE PERMITTED.
8. THE DESIRED DISTRIBUTION OF THE VARIOUS SIZES OF STONES THROUGHOUT THE MASS SHALL BE OBTAINED BY METHODS OF PLACEMENT WHICH PRODUCES THE SPECIFIED RESULTS.
9. REARRANGE INDIVIDUAL STONES BY MECHANICAL EQUIPMENT OR BY HAND TO THE EXTENT NECESSARY TO OBTAIN A REASONABLY WELL GRADED DISTRIBUTION OF STONE SIZES.
10. MAINTAIN THE MATERIAL PROTECTION UNTIL ACCEPTED AND REPLACE ANY MATERIAL DISPLACED DURING CONSTRUCTION.
11. NON-WOVEN GEOTEXTILE AND CONCRETE ITEMS SHALL MEET GDOT SPECIFICATIONS

24 HOUR CONTACT:  
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TOM ROBERTS  
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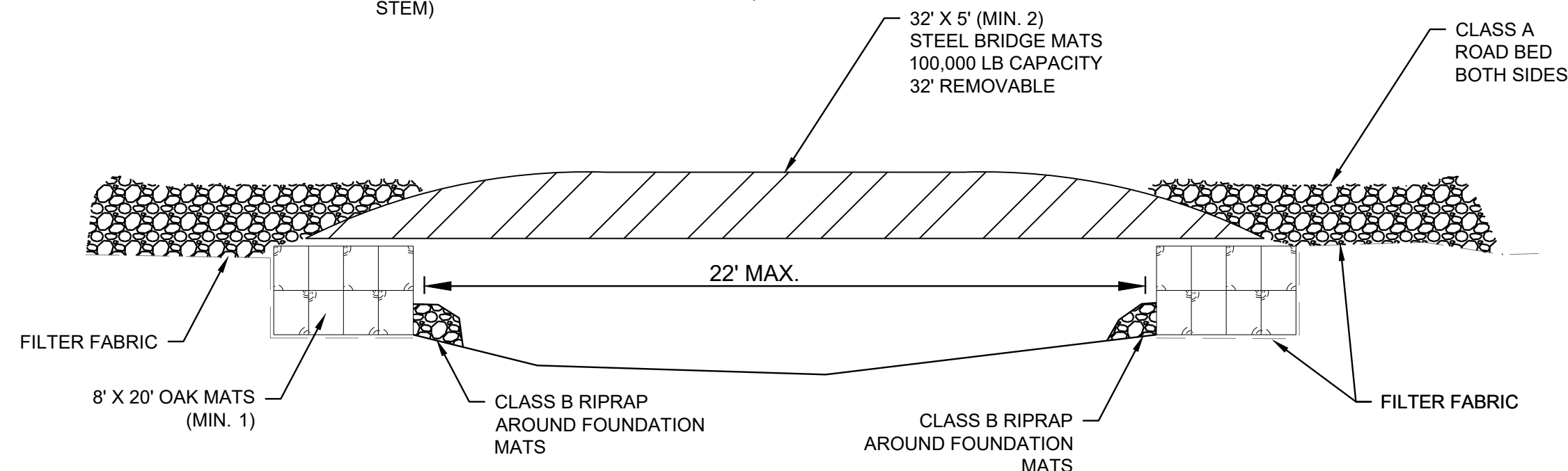
CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
CIVIL - DETAILS  
DETAILS

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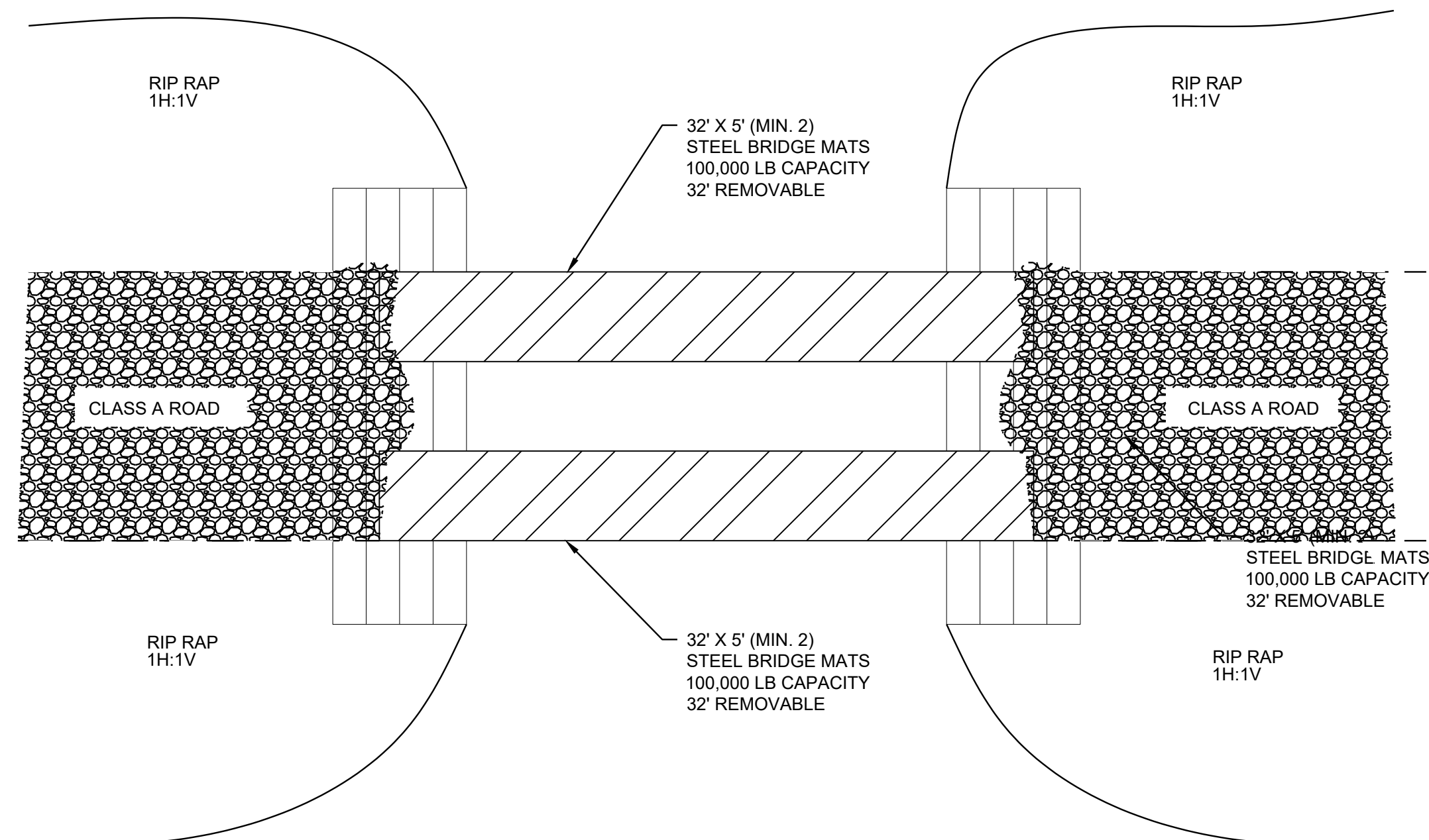
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**NOTES:**

1. EXACT LOCATION TO BE DETERMINED BY ENGINEER IN FIELD. ONLY ONE CROSSING LOCATION TO BE INSTALLED AT A TIME.
2. SPANS TO BE REMOVED PRIOR TO HIGH WATER FLOWS OR INCREMENT WEATHER. SPANS WILL BE REMOVED FROM FLOODPLAIN OR ANCHORED TO PREVENT FLOTATION.
3. IF STEEL OR LOG SPANS ARE TO REMAIN DURING INCREMENT WEATHER, THEN THEY ARE TO BE ANCHORED AT ONE END WITH A STEEL CABLE OR CHAIN, LARGE TREES OR BOULDERS, OR DRIVEN STEEL ANCHORS IN ACCORDANCE WITH GSWCC REQUIREMENTS.
4. ALL STREAM CROSSINGS TO BE SIZED TO SPAN ENTIRE WIDTH OF STREAM AND PROVIDE MINIMUM OVERHANG WIDTH TO MEET ALL GSWCC REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE CROSSING IS ADEQUATELY INSTALLED AND MAINTAINED PER GSWCC STANDARDS.
5. DRAINAGE AREA = 1190 ACRES.
6. AVG. WATERSHED SLOPE = 9.89%
7. EST. STREAMFLOW AT BANKFULL:
  - 7.1. UNNAMED TRIB TO NFNC = 165 CFS. (HAUL ROAD JUST U/S OF TRASH RACK ON UNNAMED TRIB)
  - 7.2. UNNAMED TRIB TO NFNC = 382 CFS (HAUL ROAD JUST UPSTREAM OF CONFLUENCE WITH UNNAMED TRIB)
  - 7.3. NORTH FORK NANCY CREEK = 1410 CFS (AT TRASH RACK ON MAIN STEM)



STREAM CROSSING - PROFILE VIEW  
NTS

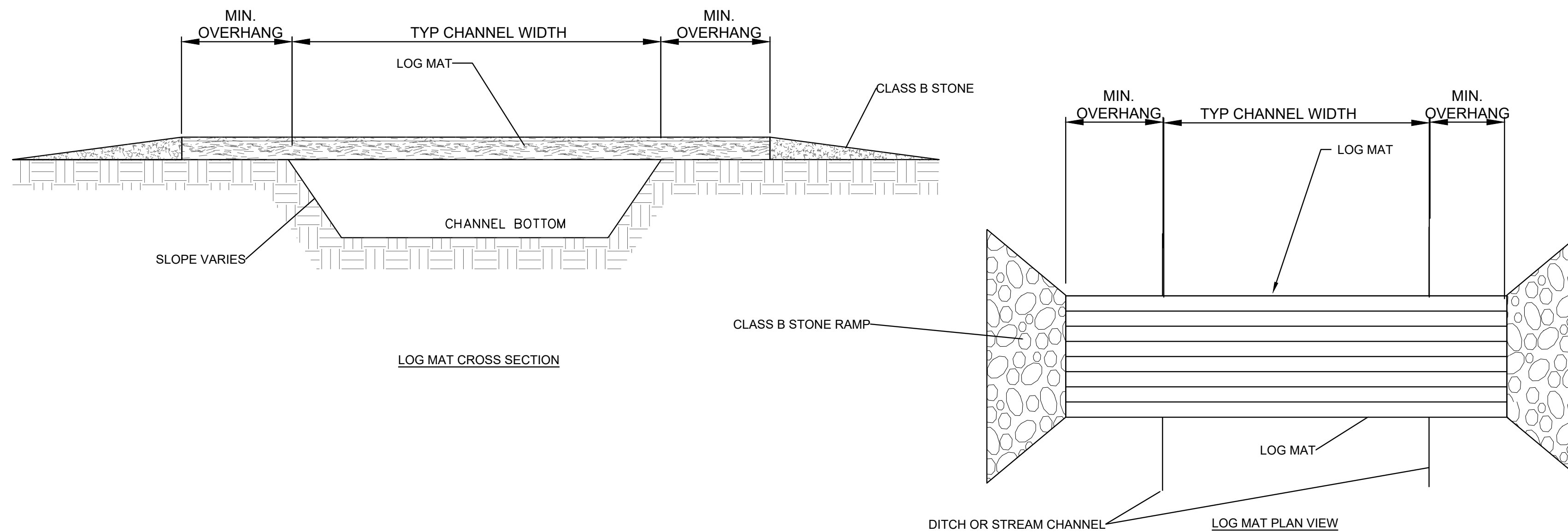


STREAM CROSSING - PLAN VIEW  
NTS

**NOTES:**

1. CONSTRUCT STREAM CROSSING WHEN FLOW IS LOW.
2. HAVE ALL NECESSARY MATERIALS AND EQUIPMENT ON-SITE BEFORE WORK BEGINS.
3. MINIMIZE CLEARING AND EXCAVATION OF STREAMBANKS. DO NOT EXCAVATE CHANNEL BOTTOM.
4. LINE STREAMBANK AND ACCESS RAMP AREA WITH NON-WOVEN FILTER FABRIC.
5. INSTALL STREAM CROSSING AT RIGHT ANGLE TO THE FLOW. THE CROSSING SHALL ALLOW FLOW TO ENTER THE CHANNEL UNIMPEDED.
6. MAINTAIN CROSSING SO THAT RUNOFF IN THE CONSTRUCTION ROAD DOES NOT ENTER EXISTING CHANNEL BY INSTALLING SILT FENCE ON ALL FOUR CORNERS ADJACENT TO THE STREAM. SEE SILT FENCE DETAIL.
7. STABILIZE AN ACCESS RAMP OF CLASS B STONE TO THE EDGE OF THE MUD MAT.
8. THE LOG MAT SHALL BE OF SUFFICIENT SIZE AND WIDTH TO SUPPORT THE LARGEST VEHICLE CROSSING THE CHANNEL.
9. CONTRACTOR SHALL DETERMINE AN APPROPRIATE RAMP ANGLE ACCORDING TO EQUIPMENT UTILIZED, RECOMMENDED AT A 5:1 SLOPE.
10. FOR REMOVAL OF TEMPORARY IMPACTS, THE FOLLOWING SEQUENCING SHOULD BE OBSERVED:
  - IN ALL FORESTED WETLANDS, CLEARING WILL BE DONE BY HAND & GRUBBING WILL OCCUR AS NEEDED TO INSTALL TEMPORARY HAUL ROADS.
  - IMPACTS AT STREAM CROSSING LOCATIONS WILL BE MINIMIZED BY USE OF APPROPRIATE EROSION CONTROL & FLOW DIVERSION MEASURES DURING CONSTRUCTION.
  - DIRECT IMPACTS FROM CONSTRUCTION TO THESE FEATURES WILL BE TEMPORARY, & ANY IMPACTED AREAS WILL BE RESTORED TO ORIGINAL GRADE & STABILIZED FOLLOWING CONSTRUCTION. THE CONTRACTOR SHALL LINE THE LOD WITH TREE PROTECTION FENCE TO PREVENT THE UNNECESSARY REMOVAL OF VEGETATION.
  - PRIOR TO EXCAVATING IN JURISDICTIONAL STREAMS, RIP-RAP COFFERDAMS WILL BE INSTALLED UPSTREAM & DOWNSTREAM OF THE EXCAVATION AREA TO ISOLATE THE DISTURBED AREA AND CONTAIN SEDIMENT. STREAM FLOW ON THE UPSTREAM SIDE OF THE EXCAVATION WILL BE POOLED ABOVE THE COFFERDAM AND PUMPED AROUND THE EXCAVATION AREA. THE PUMPED WATER WILL BE DISCHARGED ON THE DOWNSTREAM SIDE OF THE EXCAVATION BELOW THE LOWER COFFERDAM THROUGH SEDIMENT BAGS TO FILTER THE DISCHARGE WATER OF SEDIMENT BEFORE ALLOWING THE WATER TO BE RETURNED TO THE STREAM CHANNEL. A COFFERDAM (I.E. IMPERVIOUS DIKE) AND BYPASS PUMP DETAIL IS ATTACHED IN THE DESIGN PLANS ON SHEET ES-13.
  - ALL MATERIAL TEMPORARILY SIDE CAST INTO WETLAND AREAS WILL BE PLACED ON FILTER FABRIC.
  - HAUL ROADS AND OTHER TEMPORARY WORK AREAS WILL BE BACKFILLED AND PROPERLY COMPACTED TO THE ORIGINAL (PRE-CONSTRUCTION) GROUND ELEVATION, AND THE RE-ESTABLISHED GRADE WILL BE STABILIZED WITH A SEED MIX MADE UP OF NATIVE SPECIES APPROPRIATE FOR RESTORATION & STABILIZATION OF WETLAND & UPLAND SOILS.
  - TEMPORARY EROSION SEED MIXES WILL ALSO BE USED TO STABILIZE DISTURBED AREAS WITHIN THE REQUIRED STABILIZATION TIME FRAMES. SPECIFICS ABOUT THIS SEED MIX IS INCLUDED IN SPECIFICATION SECTION 6.01 "PERMANENT AND TEMPORARY SEEDING".
  - AT COMPLETION OF STREAM CONSTRUCTION ACTIVITIES, ANY GRAVEL AND FILTER MEDIA ON TEMPORARY HAUL ROADS SHALL BE REMOVED AND THE SOILS RIPPED/LOOSENED TO THE DEPTH OF THE COMPACTED LAYER (MINIMUM OF 6-INCHES). AVOID RIPPING IN AREAS THAT HAVE BURIED UTILITIES, WIRES, PIPES, CULVERTS, OR DIVERSION CHANNELS.

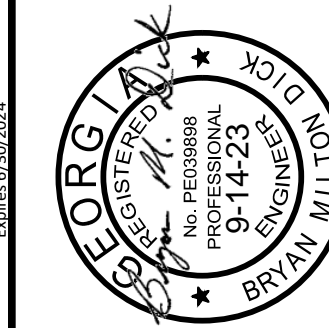
**TEMPORARY STREAM CROSSING (Sr-B)**  
SCALE: NTS



LOG MAT - TEMPORARY STREAM CROSSING (Sr-B)  
SCALE: NTS

24 HOUR CONTACT:  
CITY OF BROOKHAVEN  
PUBLIC WORKS DEPARTMENT  
TOM ROBERTS  
TOM.ROBERTS@BROOKHAVENGA.GOV  
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CITY OF BROOKHAVEN  
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CIVIL - DETAILS  
**DETAILS**

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SHEET DT-6

SEQ. 20

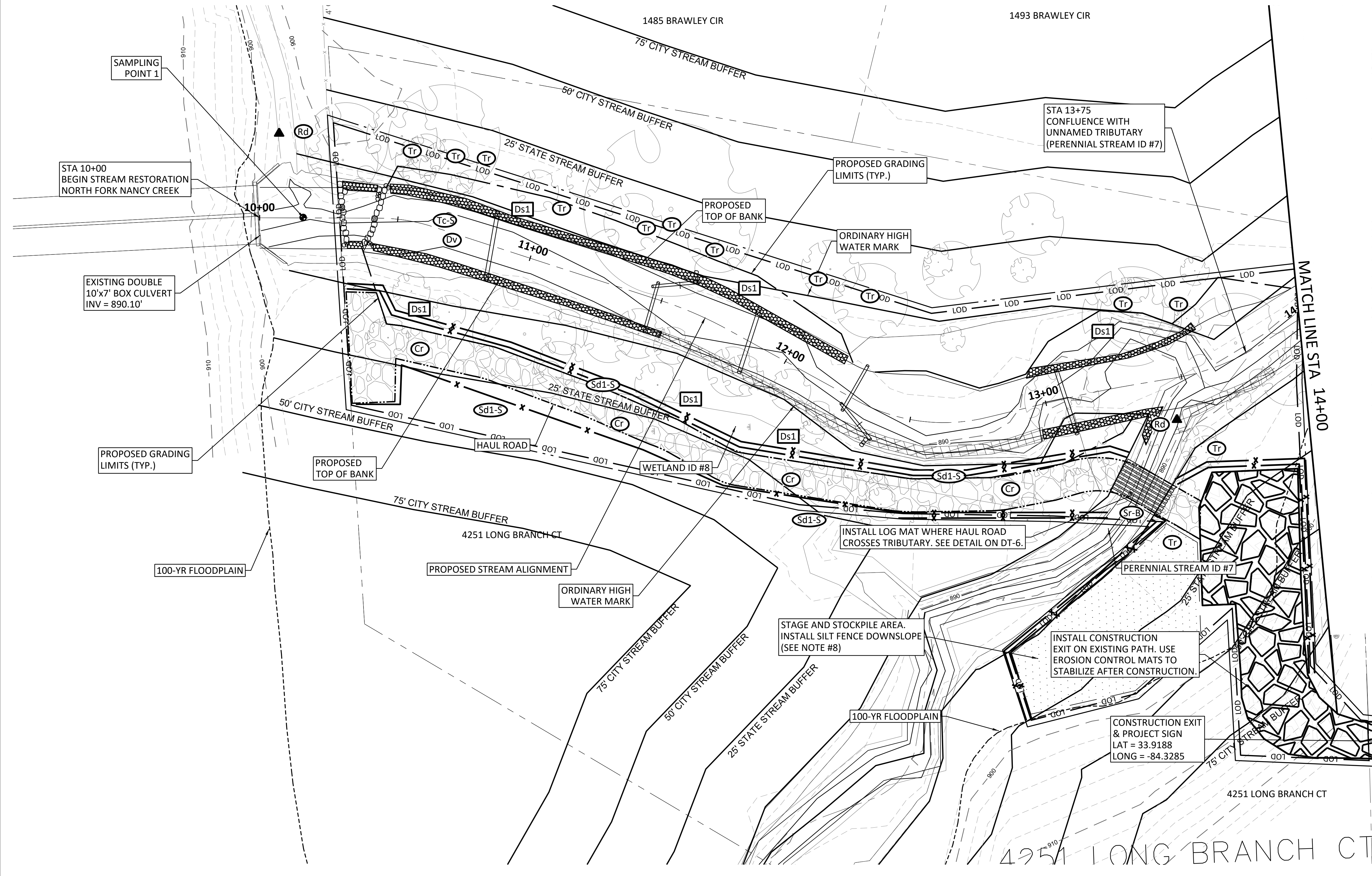
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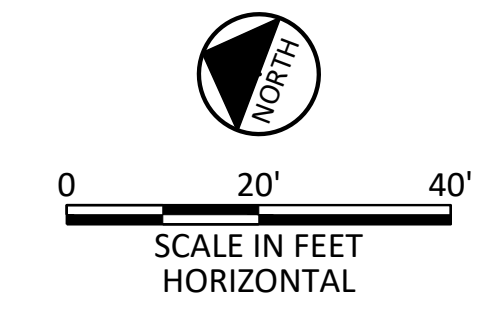


- NOTES:
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
  - INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  - A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ). HAND-DIG WHERE SILT FENCE CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  - HAUL RD SHALL BE CONSTRUCTED PER THE GSWCC REQUIREMENTS FOR CONSTRUCTION ROAD STABILIZATION.
  - MATERIAL STORAGE OR CONSTRUCTION LAYOUT CAN TAKE PLACE IN THE LOCATION OF THE EXISTING SANITARY SEWER EASEMENT. MATERIAL PILES SHALL BE SURROUNDED BY SILT FENCING AND COVERED AT END OF DAY AND WHEN ACCESS IS NOT ACTIVELY NEEDED.
  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.

- EXISTING WETLAND
- SURVEYED TREES (REFER TO APPENDED TREE PLAN)
- 100-YEAR FLOODPLAIN EXTENTS
- LOD LIMITS OF DISTURBANCE
- Ds1 DISTURBED AREA - MULCH
- Ss EROSION CONTROL MATS (SEE NOTE 3)
- Sd1-S SILT FENCE - TYPE S
- Rd ROCK FILTER DAM
- Tr TREE PROTECTION (SEE NOTE 2)
- Co CONSTRUCTION EXIT
- Cr CONSTRUCTION ROAD STABILIZATION
- Tc-S TURBIDITY CURTAIN - STAKED (SEE NOTE 5)
- Sr-B TEMP. STREAM CROSSING
- Dv DIVERSION-PUMPED

24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**GSWCC**  
 Georgia State and Water Construction Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



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Freese & Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/29/2025

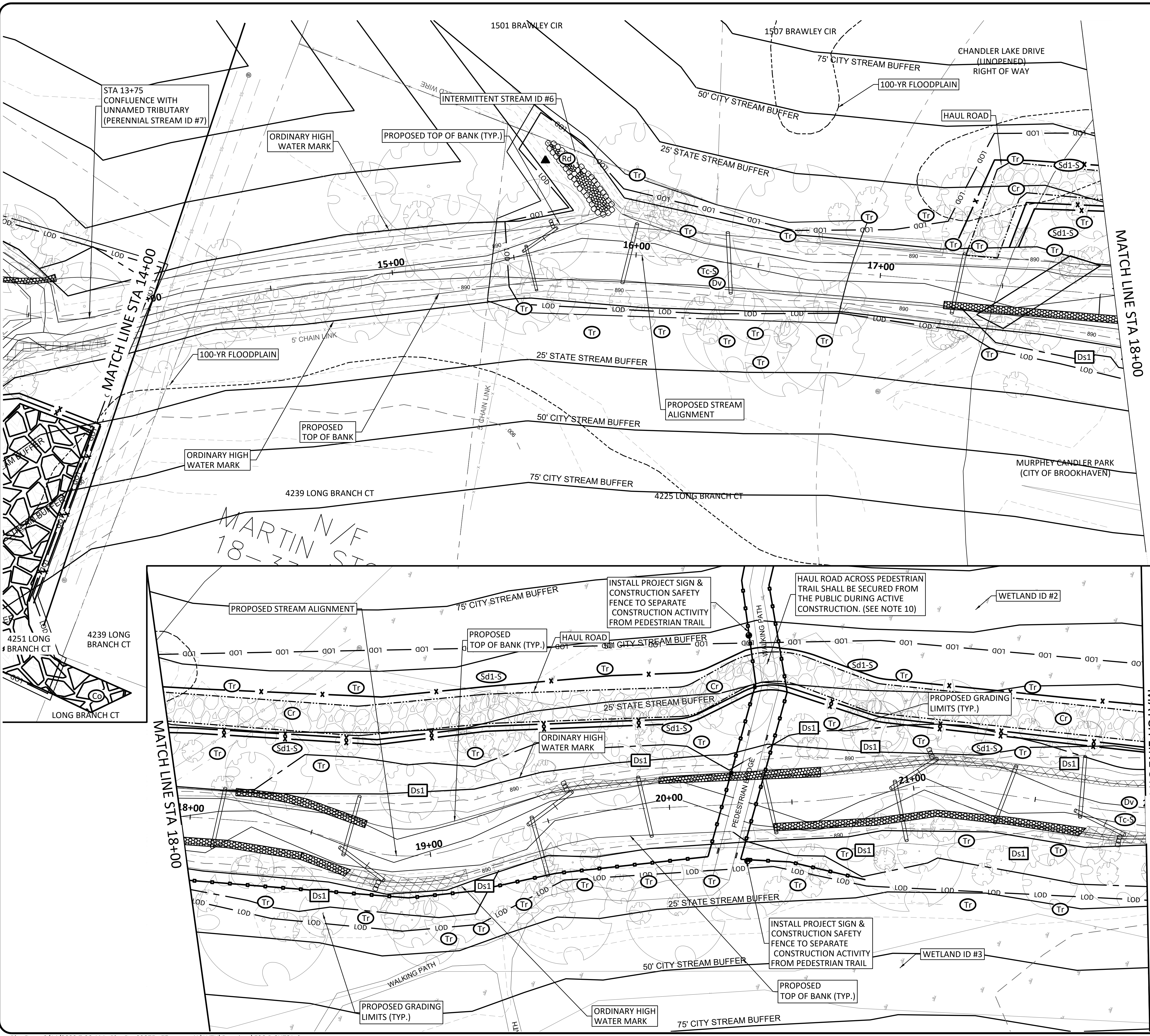
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S  
**START TO STA 14+00 - PHASE I & II**

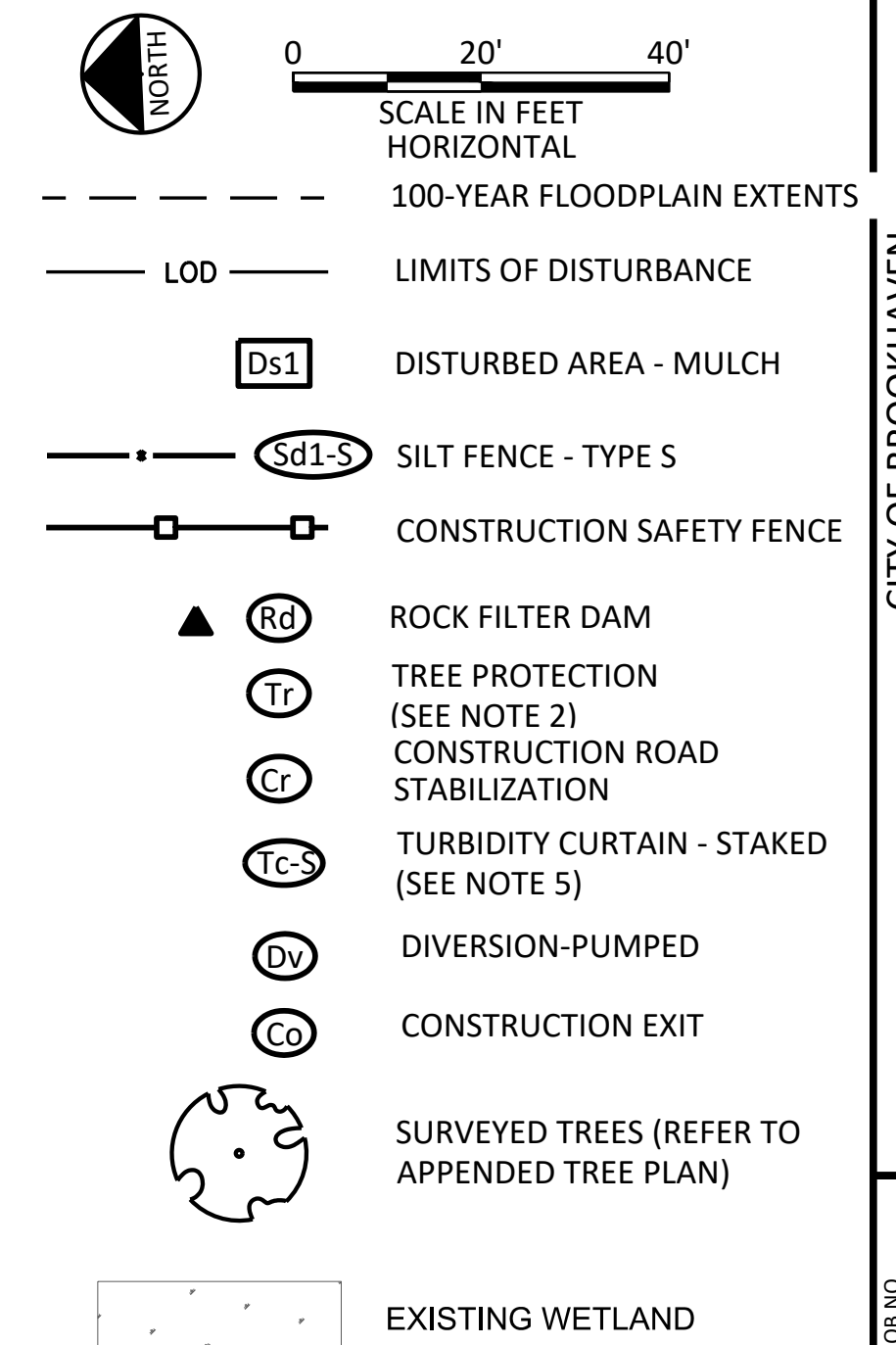
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SHEET **ES-3**  
 SEQ. 23  
 APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

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- NOTES:
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  - ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
  - INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  - A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ), HAND-DIG WHERE SILT FENCE CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  - HAUL RD SHALL BE CONSTRUCTED PER THE GSWCC REQUIREMENTS FOR CONSTRUCTION ROAD STABILIZATION.
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  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.
  - CONTRACTOR SHALL HAVE A PLAN TO MAINTAIN PEDESTRIAN ACCESS THROUGH THE EXISTING WALKING PATH AND SHALL COORDINATE WITH THE CITY AND ENGINEER.



24 HOUR CONTACT:  
 TOM ROBERTS  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL



**GSWCC**  
 Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024

PROFESSIONAL ENGINEERING FIRM PEF-004433  
 GEORGIA REGISTERED PROFESSIONAL ENGINEER  
 JOHN P. SCHNEIDER  
 License No. 100000000  
 Expires 09/14/2023

**FRESE NICHOLS**  
 360 Interstate North Parkway  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.frese.com

**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**  
 STA 14+00 TO STA 22+00 - PHASE I & II

| NO. | ISSUE   | DATE       | BY  | FILE NAME       |
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NO. 12/2/2022  
 DATE 12/2/2022  
 DESIGNED JUL  
 DRAWN JPS  
 REVISIONS  
 CHECKED RCE  
 FILE NAME ESC-P-SHTS1.dwg

SHEET ES-4

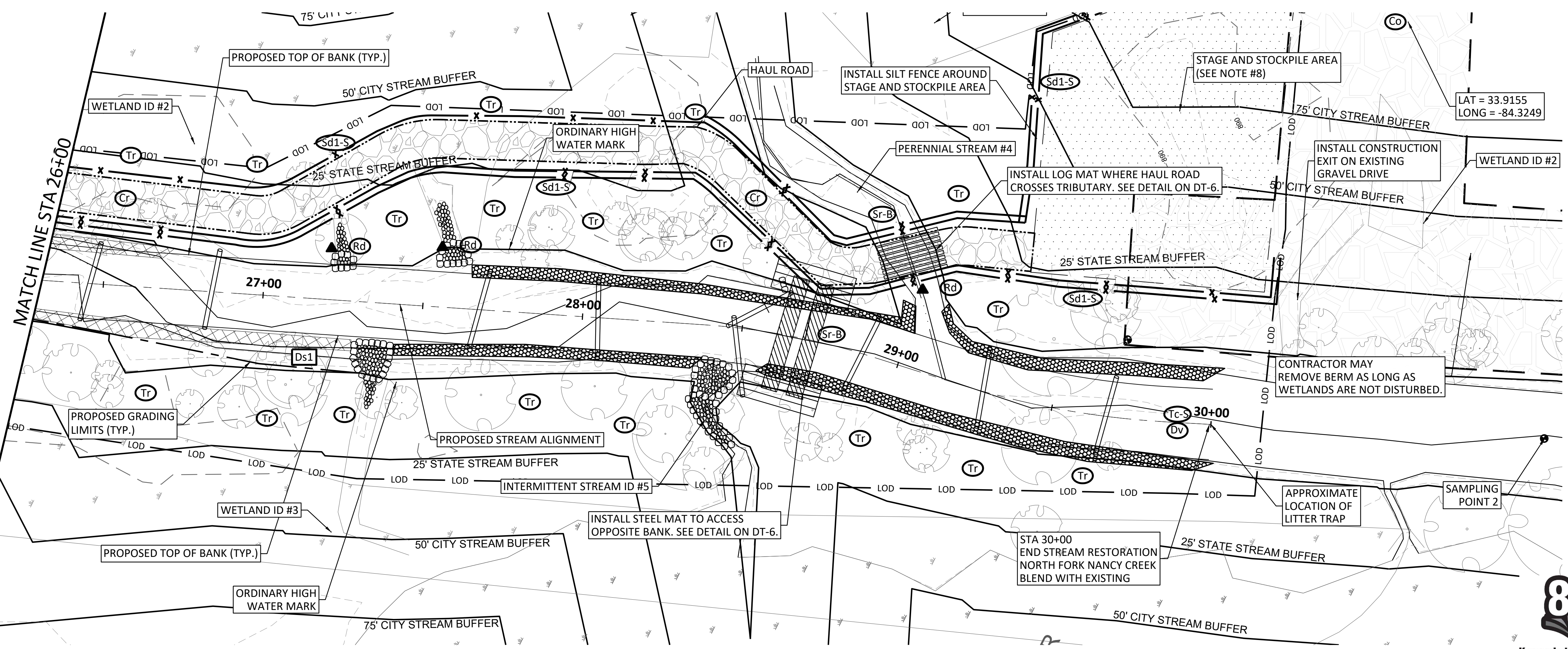
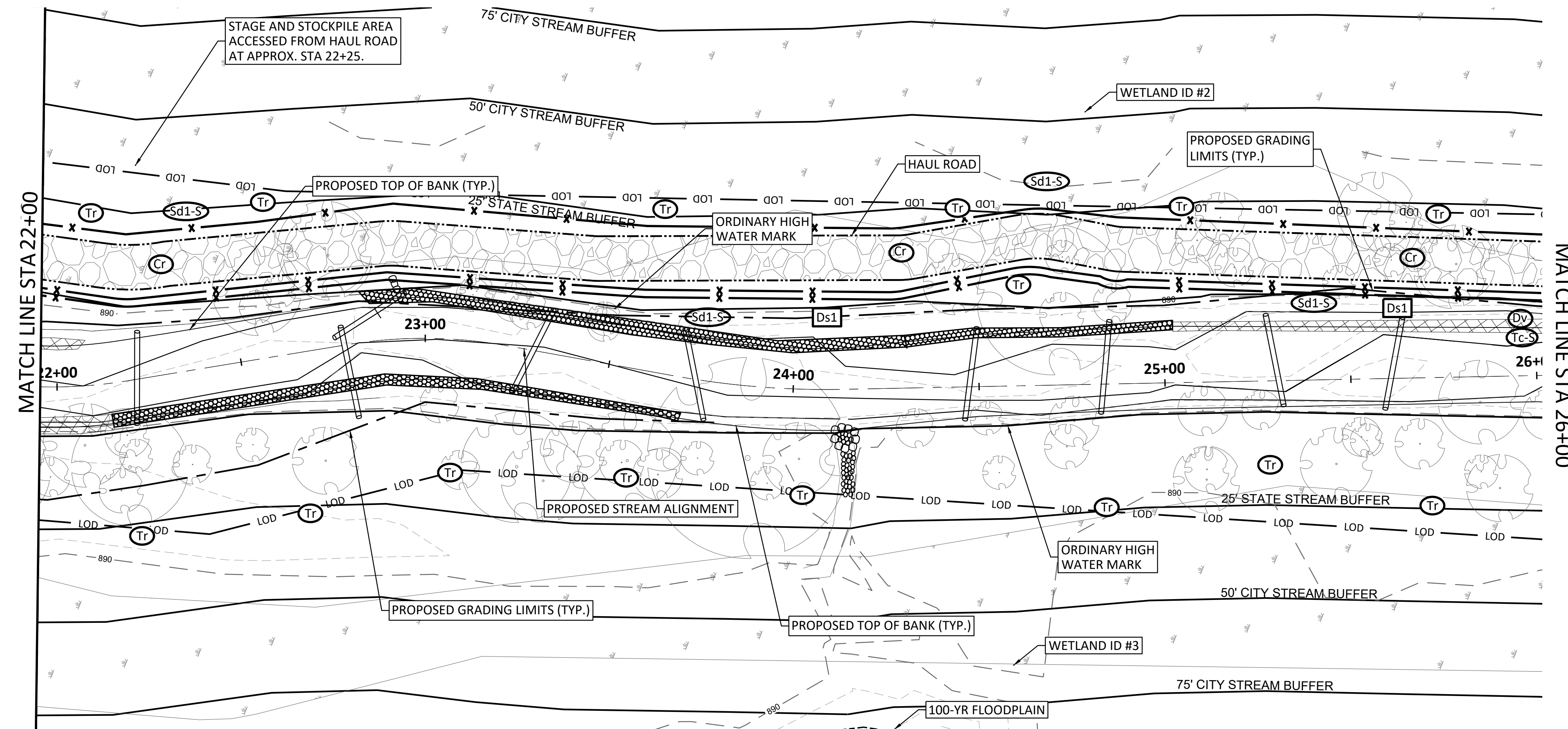
SEQ. 24

APPROVED PLAN 10/17/2023  
 Permit # LDP22-00016

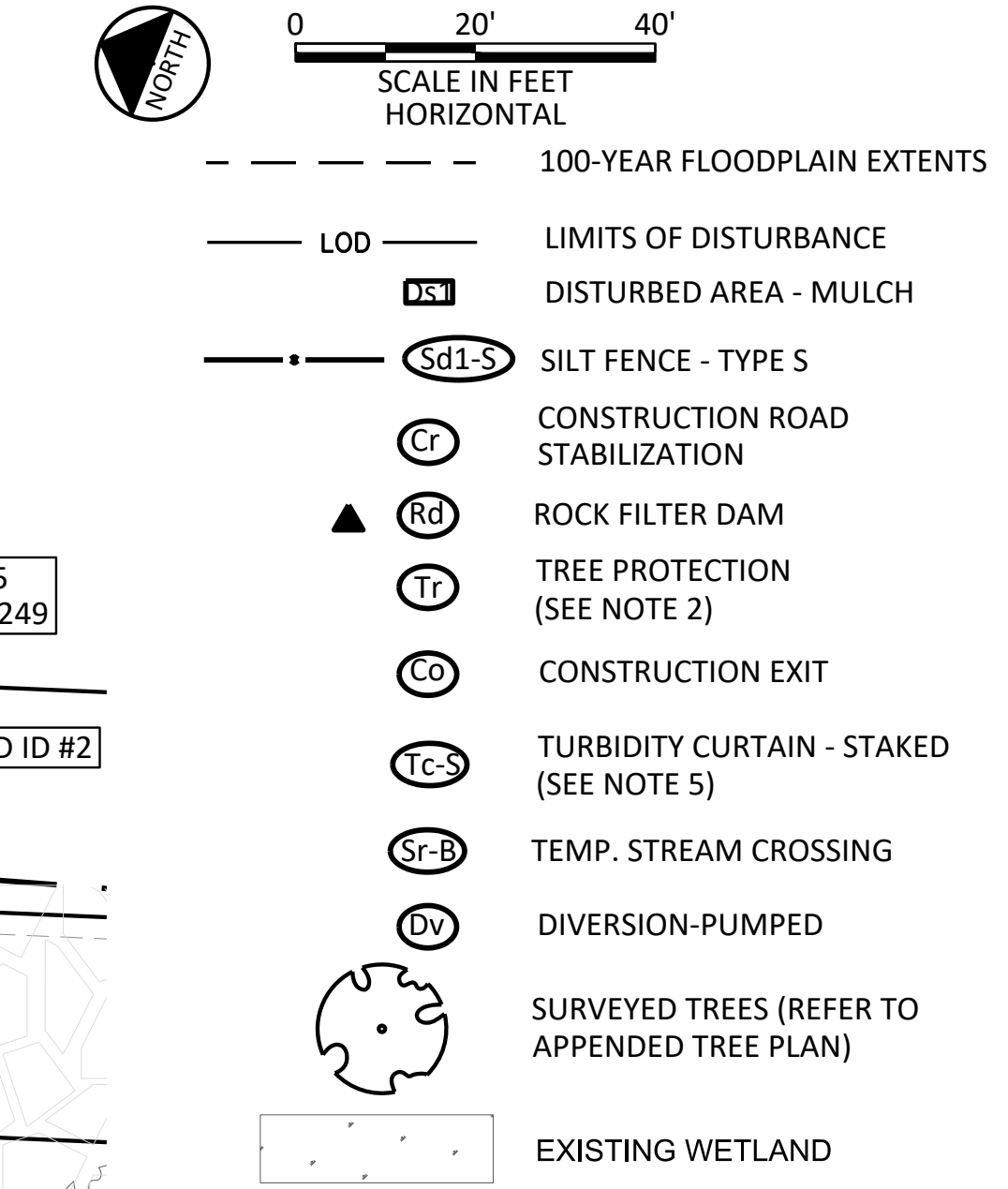


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- NOTES:
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  - ALL TREES ON THE SITE GREATER THAN 6" DBH AND NOT MARKED AS REMOVED ON THE TREE PLAN SHALL BE PROTECTED USING TREE PROTECTION FENCING AND THE DESIGNATED TREE PRESCRIPTION, PER ES-11. REFER TO SUPPLEMENTAL TREE PLAN.
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24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
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 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**811**  
 Know what's below.  
 Call before you dig.

**GSWCC**  
 Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 Certification Number: 0000094149  
 Issued: 04/27/2021 Expires: 04/27/2024

Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 09/14/2023  
 PROFESSIONAL SEAL

**FREES & NICHOLS**  
 360 Interstate North Parkway  
 Suwanee, GA 30039  
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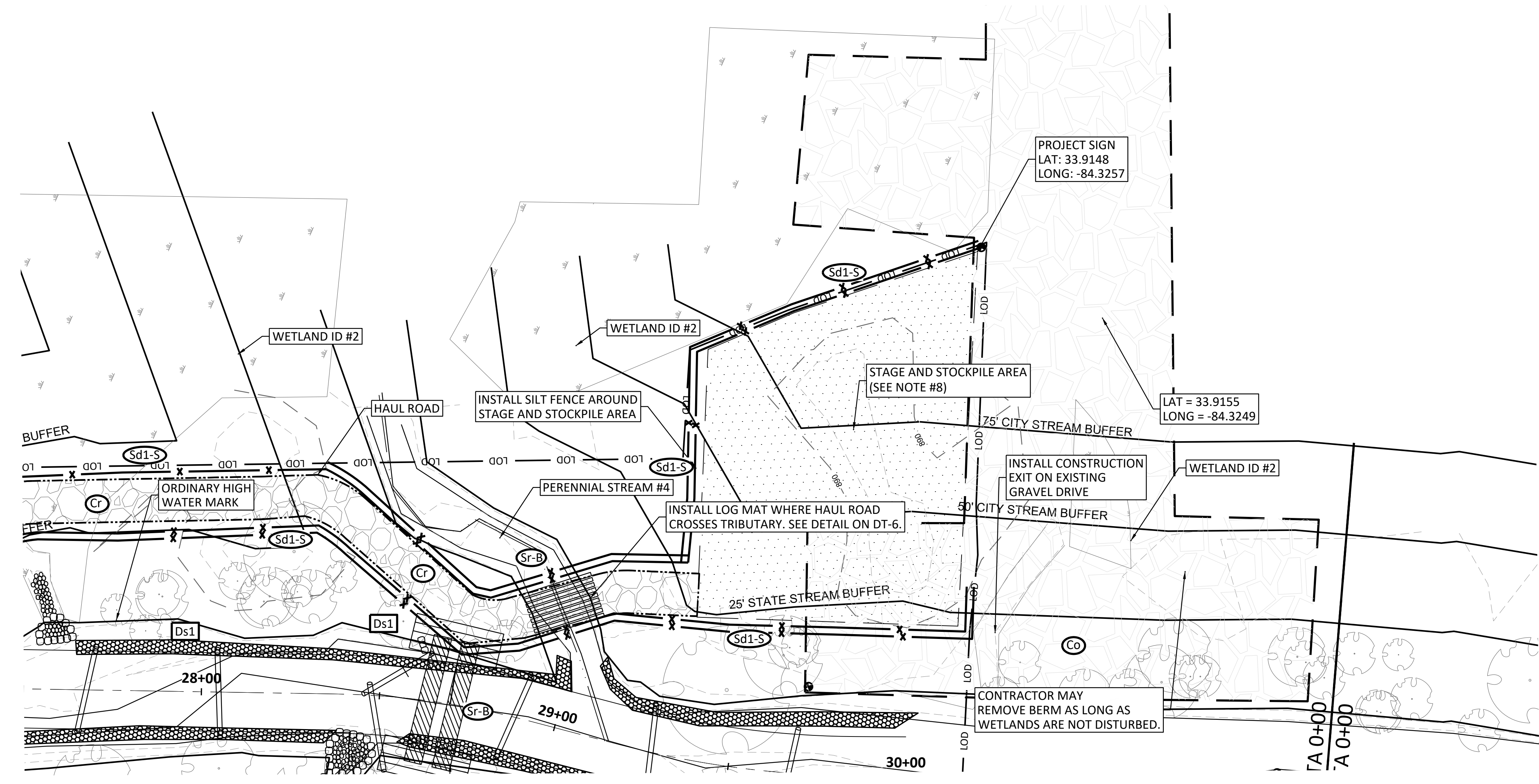
CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S  
**STA 22+00 TO END - PHASE I & II**

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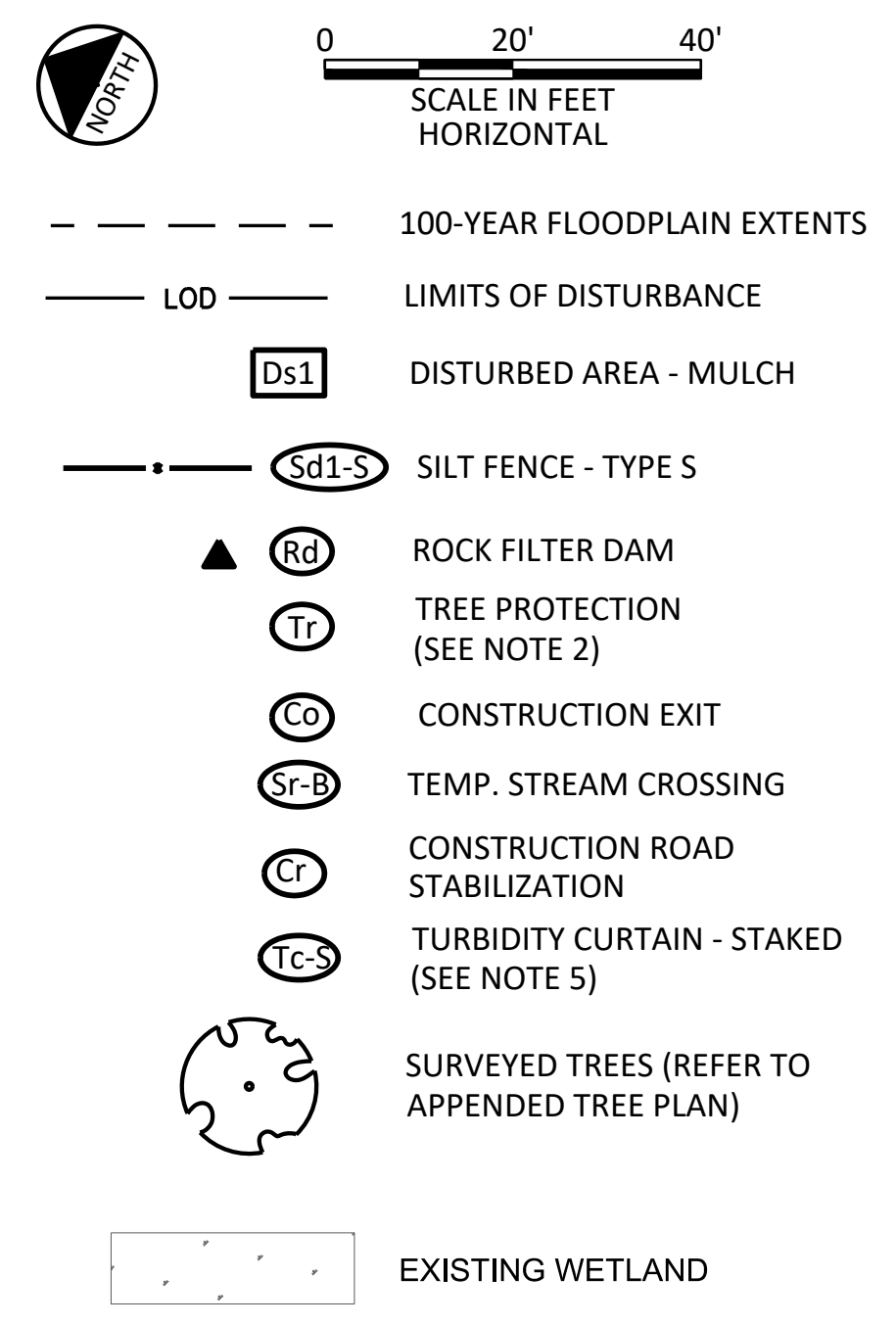
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- PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.



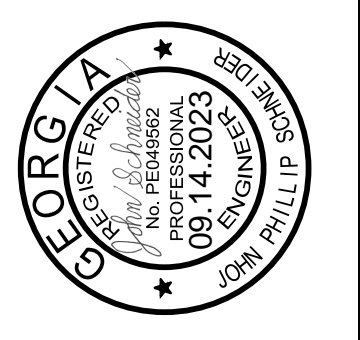
24 HOUR CONTACT:  
 TOM ROBERTS  
 NAME  
 404-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

**GSWCC** Georgia Soil and Water Conservation Commission  
**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER: 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



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 Georgia Registered Engineering Firm PEF-004433  
 Expires 09/29/2025



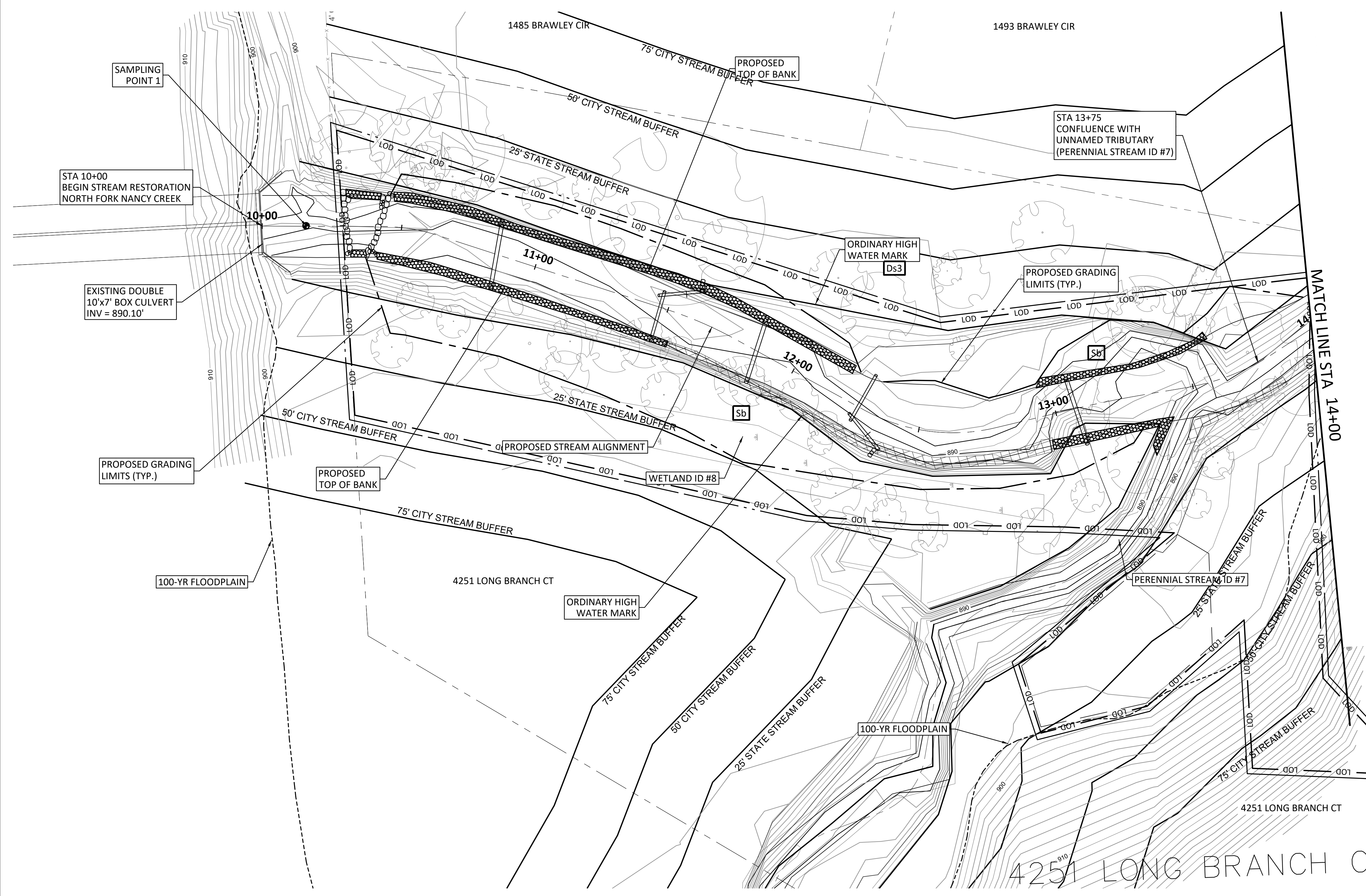
**FREESE & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30330  
 Phone - (404) 334-4310  
 Web - www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

| NO. | ISSUE    | DATE       | BY  | DESCRIPTION | FILE NAME       |
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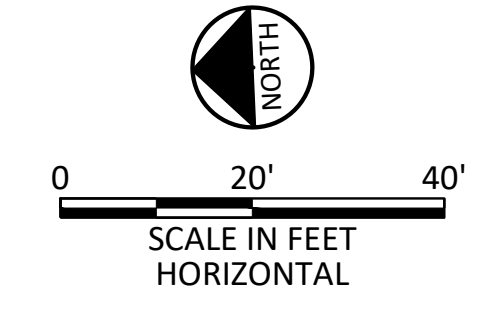
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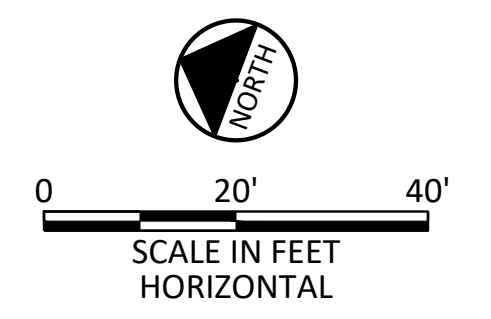


**NOTES:**

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- LOD — LIMITS OF DISTURBANCE
- Ds3 DISTURBED AREA - PERM SEED  
\*SEE PLANTING MIX DETAILS
- Sb STREAMBANK STABILIZATION (PERM VEGETATION)  
\*SEE PLANTING DETAILS



24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
 4-637-0540  
 PHONE  
 TOM.ROBERTS@BROOKHAVENGA.GOV  
 EMAIL

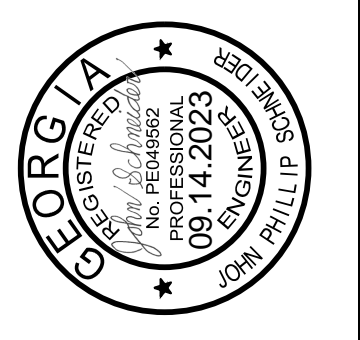
**GSWCC** Georgia Soil and Water Conservation Commission

**JOHN P. SCHNEIDER**  
 Level II Certified Design Professional  
 CERTIFICATION NUMBER 0000094149  
 ISSUED: 04/27/2021 EXPIRES: 04/27/2024



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Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 02/28/2025



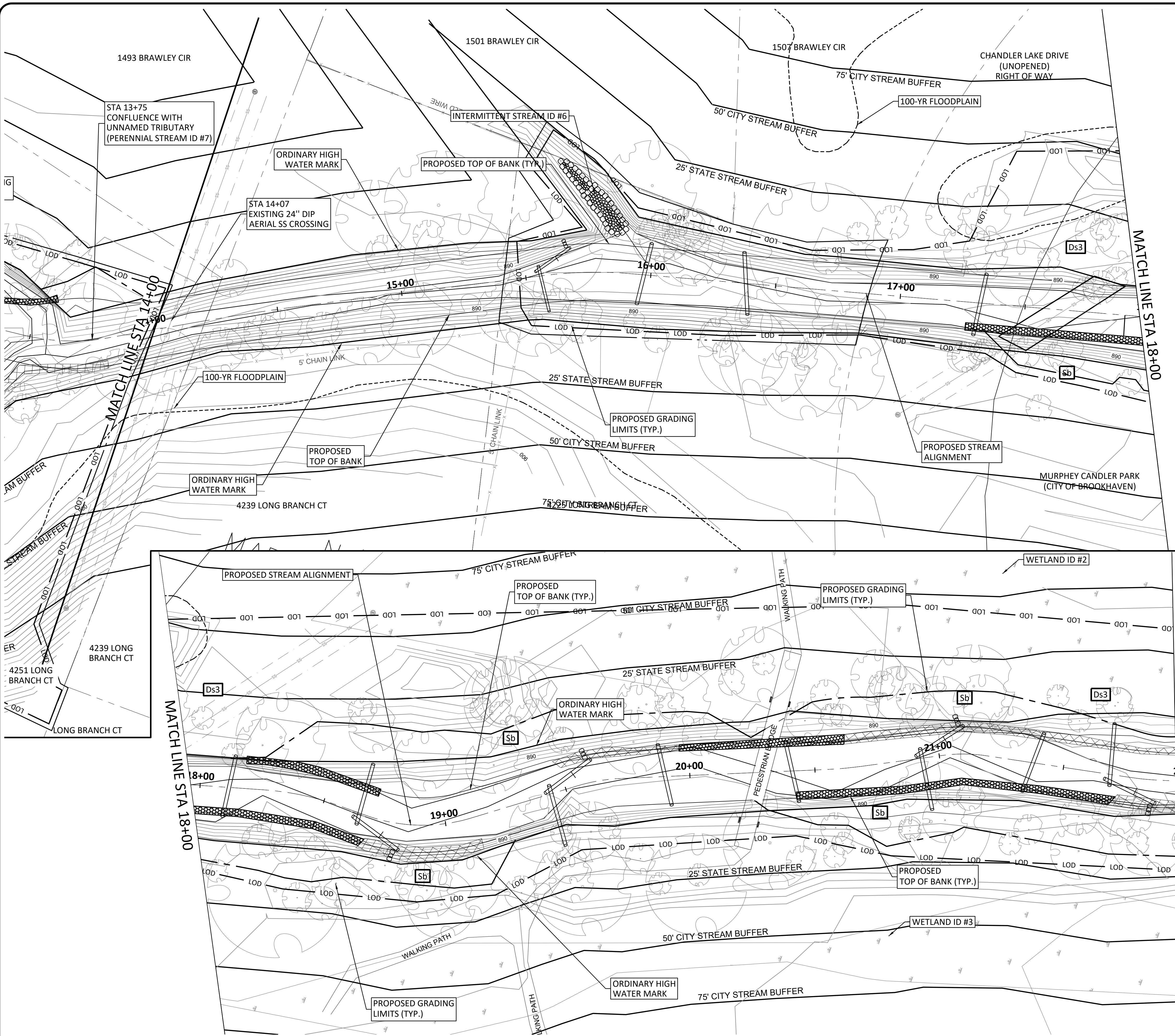
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
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CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S

| NO. | ISSUE        | DATE       | BY  | DATE       | FILE NAME            |
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| 4   | DRAWN        | 12/2/2022  | JPS | 12/2/2022  | ESC-P-SHTS1_post.dwg |
| 5   | REVISION     | 12/2/2022  | JPS | 12/2/2022  | ESC-P-SHTS1_post.dwg |

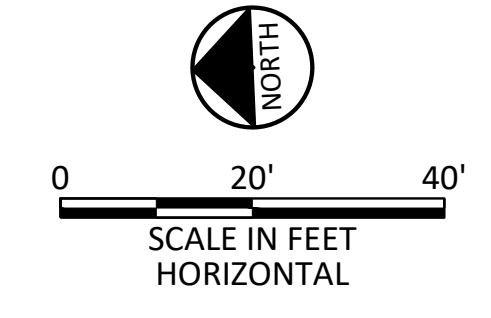
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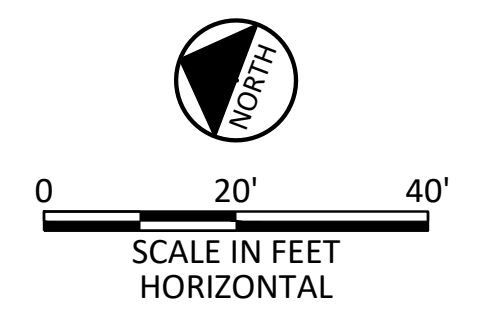


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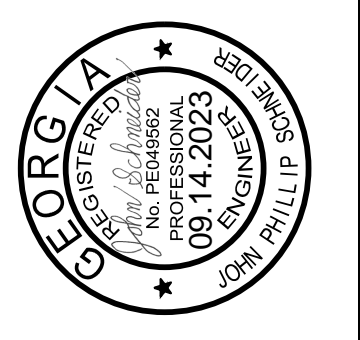
- LOD — LIMITS OF DISTURBANCE
- [Ds3] DISTURBED AREA - PERM SEED  
\*SEE PLANTING MIX DETAILS
- [Sb] STREAMBANK STABILIZATION (PERM VEGETATION)  
\*SEE PLANTING DETAILS



24 HOUR CONTACT:  
**TOM ROBERTS**  
 NAME  
 404-637-0540  
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Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm P.E.#004433  
 Expires 09/20/25



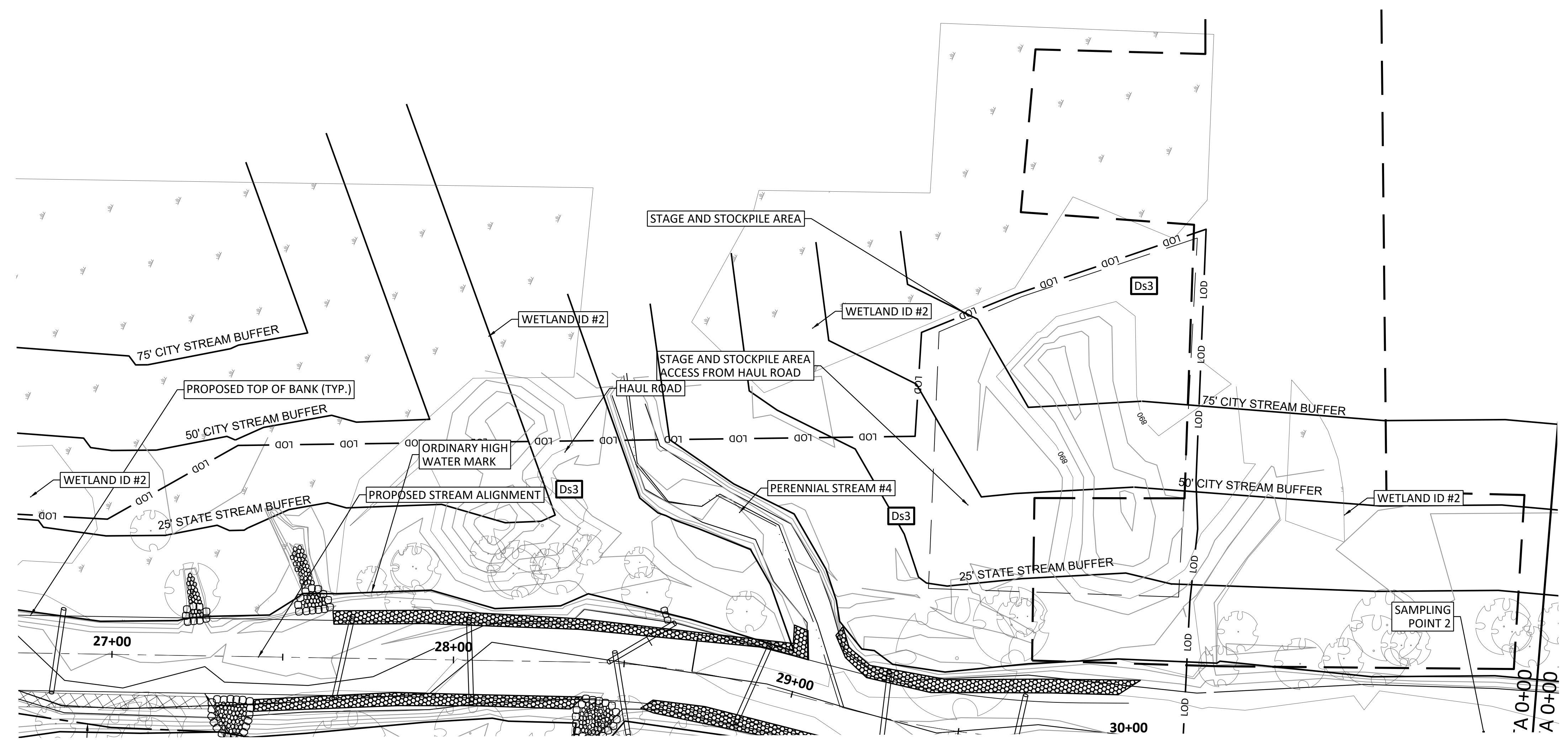
**FREES & NICHOLS**  
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**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE  
 STA 14+00 TO STA 22+00 - PHASE III**

| NO. | ISSUE    | DATE       | BY  | DESCRIPTION | FILE NAME            |
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| 3   | REVISION | 09/15/2022 | JPS | REVIEWED    |                      |
| 4   | REVISION | 09/15/2022 | JPS | CHECKED     |                      |
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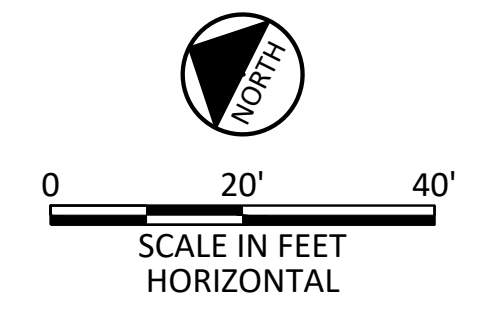
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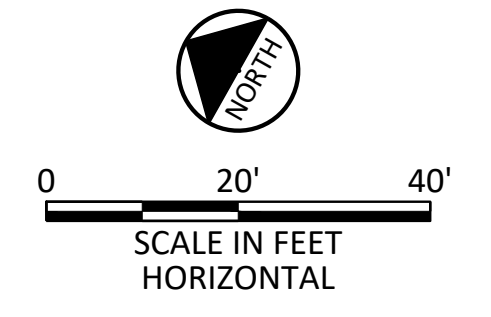


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- LOD LIMITS OF DISTURBANCE
- Ds3 DISTURBED AREA - PERM SEED \*SEE PLANTING MIX DETAILS
- Sb STREAMBANK STABILIZATION (PERM VEGETATION) \*SEE PLANTING DETAILS



24 HOUR CONTACT:

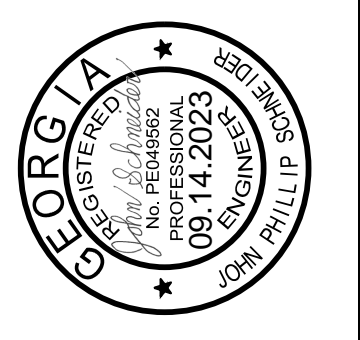
TOM ROBERTS  
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 Level II Certified Design Professional  
 Certification Number: 0000094149  
 Issued: 04/27/2021 Expires: 04/27/2024

Freese and Nichols, Inc.  
 Georgia Registered Engineering Firm PEF-004433  
 Expires 07/29/2025



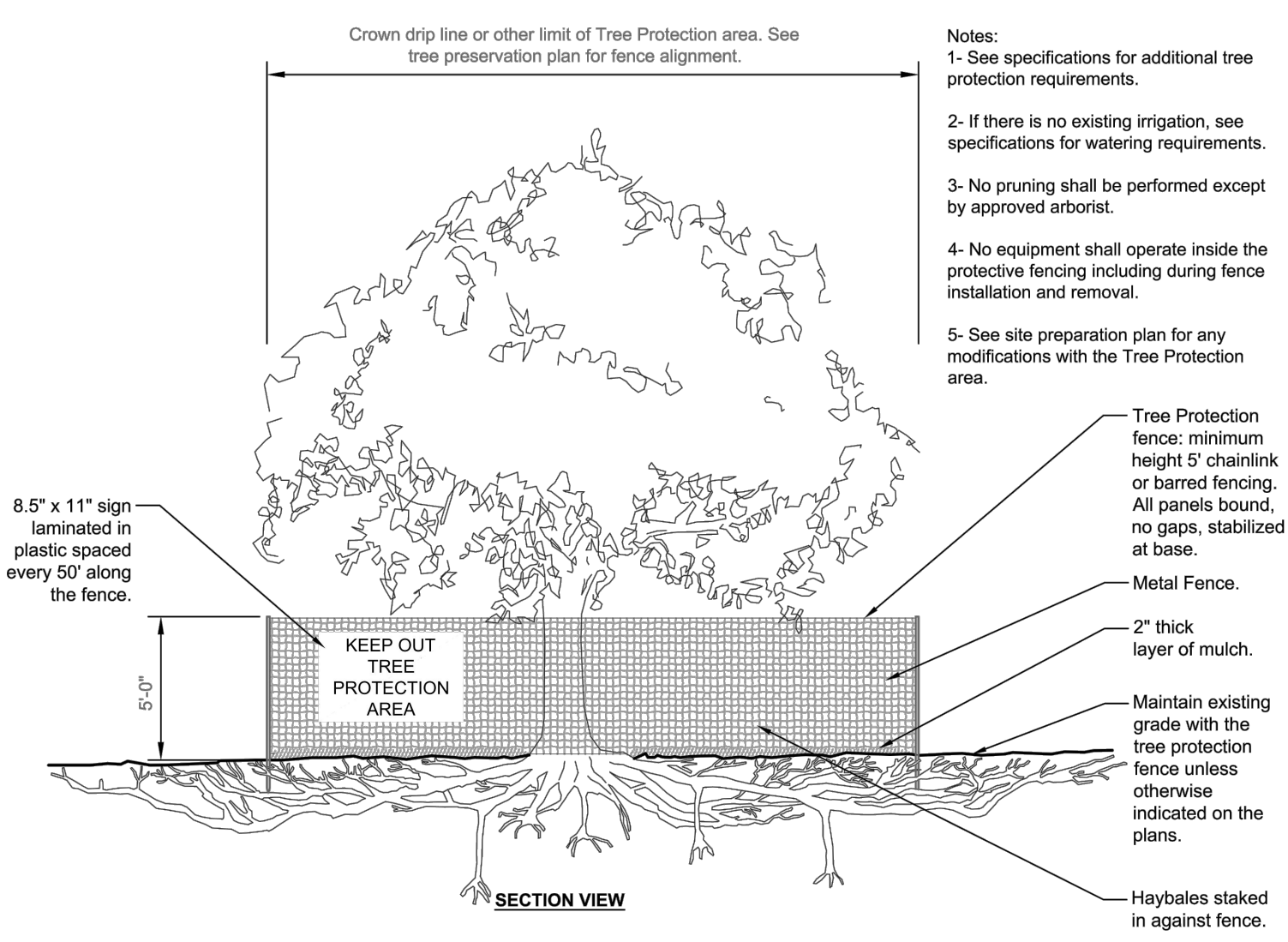
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 E&S  
**DS STAGE & STOCKPILE AREA - PHASE III**

| NO. | ISSUE   | DATE       | BY  | DATE      | FILE NAME            |
|-----|---|------------|-----|-----------|----------------------|
| 0   | VERIFY SCALE  | 09/15/2022 | JPS | 12/2/2022 | ESC-P-SHTS1_post.dwg |
| 1   | Bar is one inch on original drawing. If not one inch on this sheet, adjust scale. | 09/15/2022 | JPS | 12/2/2022 | ESC-P-SHTS1_post.dwg |

SHEET ES-10

ISSUED FOR PERMIT  
 NOT FOR CONSTRUCTION



- Notes:**
- 1- See specifications for additional tree protection requirements.
  - 2- If there is no existing irrigation, see specifications for watering requirements.
  - 3- No pruning shall be performed except by approved arborist.
  - 4- No equipment shall operate inside the protective fencing including during fence installation and removal.
  - 5- See site preparation plan for any modifications with the Tree Protection area.

Tree Protection fence: minimum height 5' chainlink or barred fencing. All panels bound, no gaps, stabilized at base.

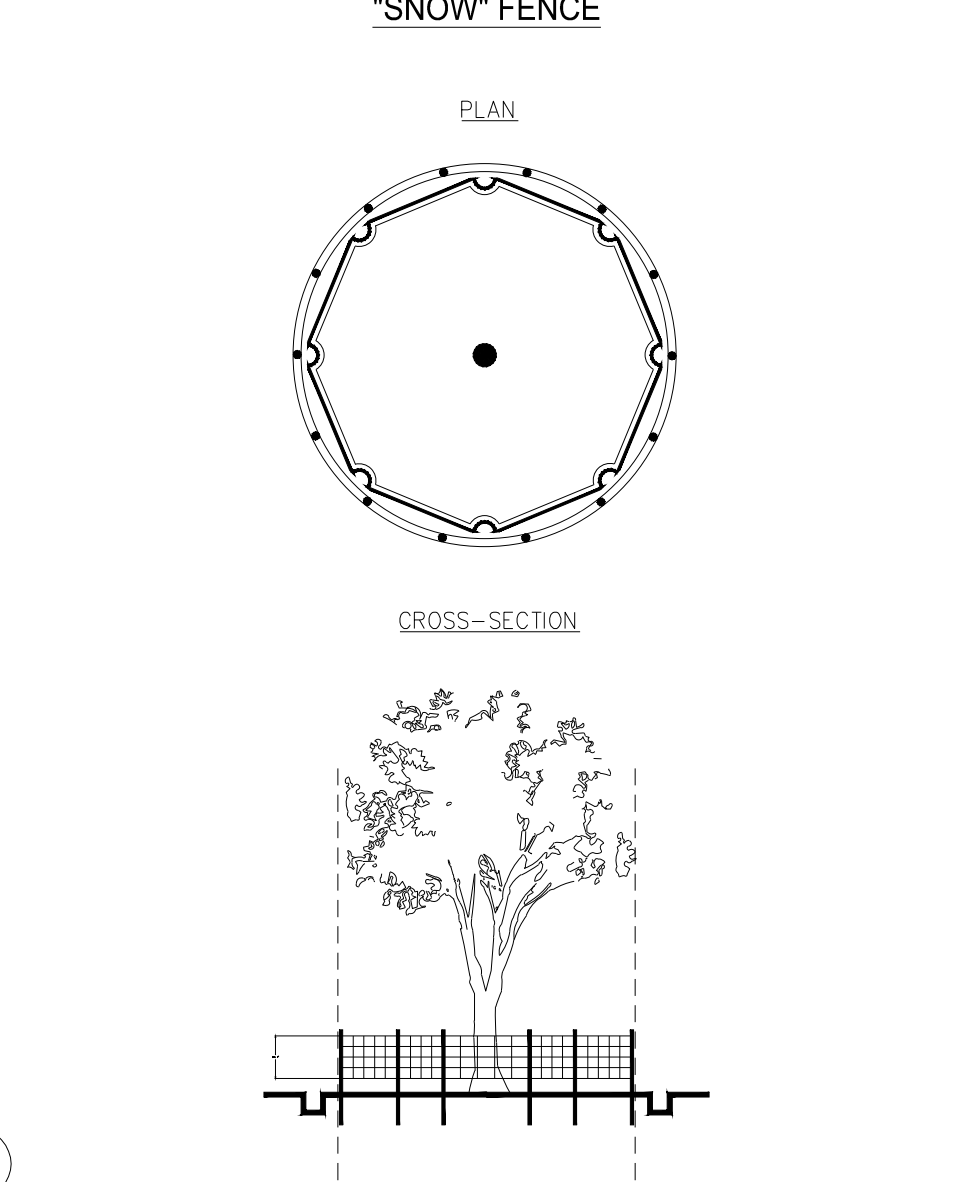
Metal Fence.

2\"/>

**Tr TREE PROTECTION**

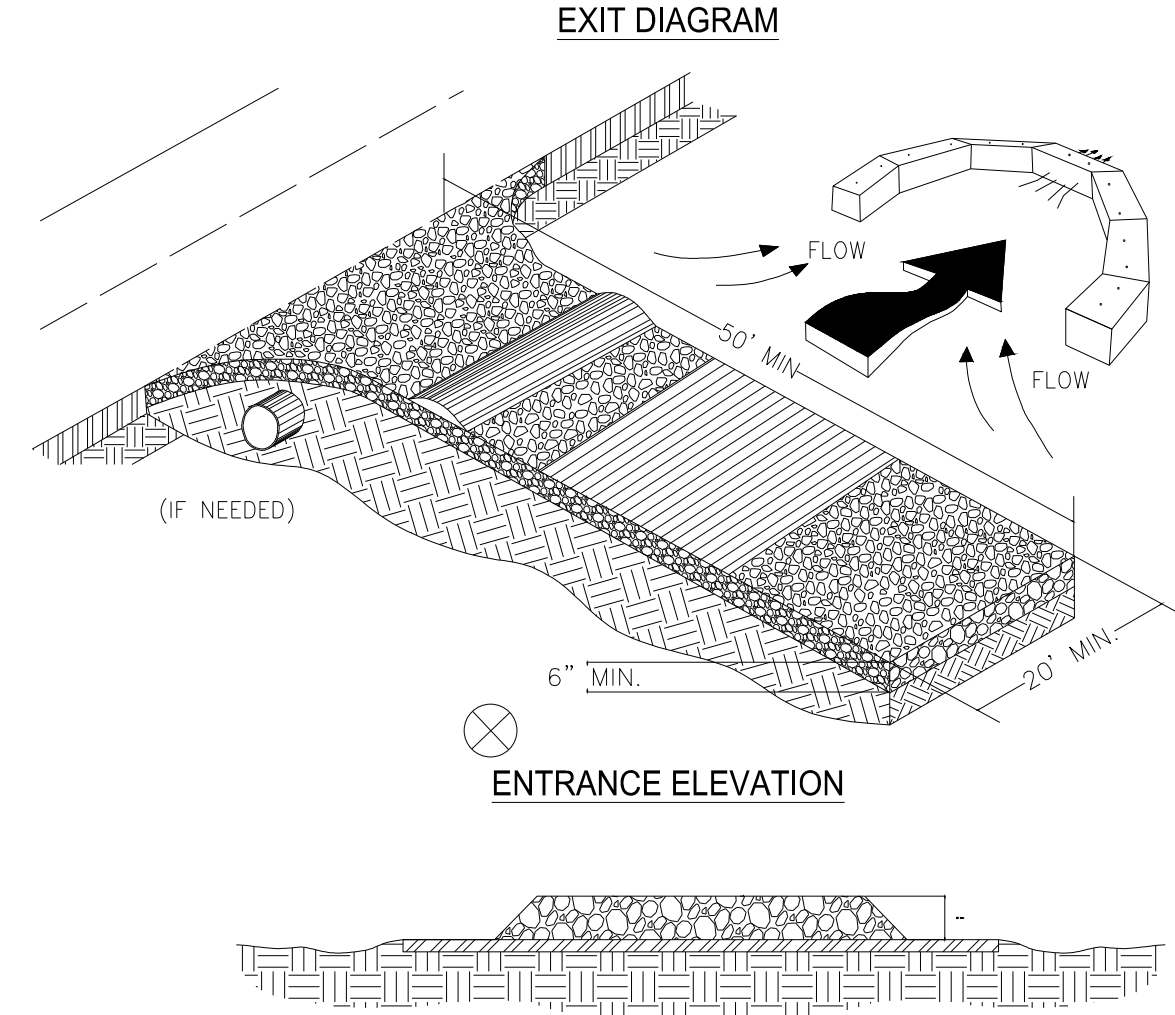
- NOTES:**
1. THE ABOVE DETAIL IS THE STANDARD CITY OF BROOKHAVEN TREE PROTECTION DETAIL. REFER TO THE DETAIL TO THE RIGHT FOR THE GSWCC ALTERNATE.
  2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
  3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
  4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
  5. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A 1.3-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  6. THE STRUCTURAL ROOT PLATE (SRP) IS DEFINED AS A 0.5-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  7. NO MACHINE TRENCHING THROUGH CRZ. HAND-DIG WHERE SILT FENCE (SD-1) CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  8. IF IMPACTING THE CRZ WITH TRAFFIC FROM OPERATING EQUIPMENT, A 5\"/>

**"Tr" TREE PROTECTION (ALTERNATE)**



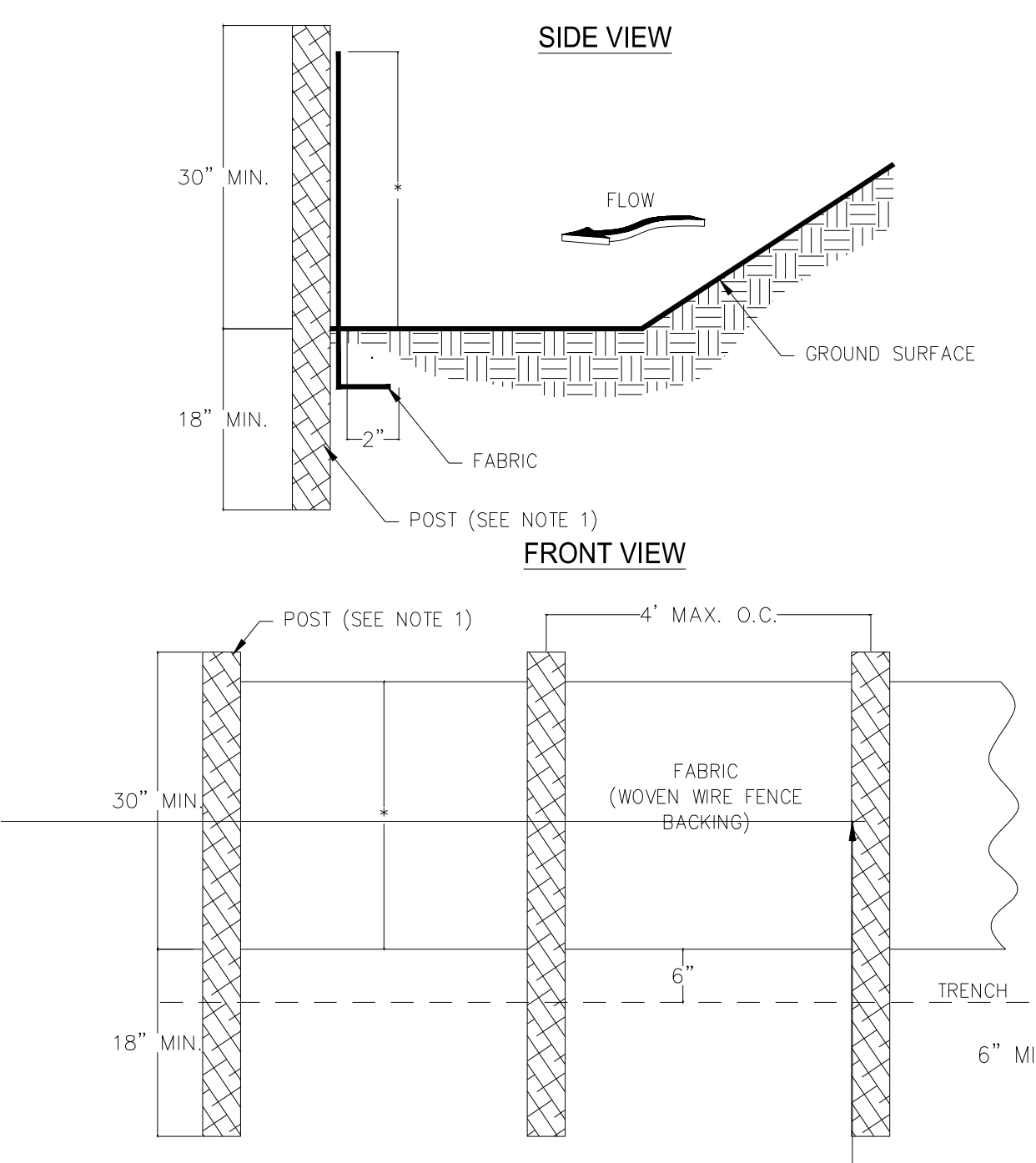
- NOTES:**
1. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
  2. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
  3. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
  4. THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A 1.3-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  5. THE STRUCTURAL ROOT PLATE (SRP) IS DEFINED AS A 0.5-FT RADIUS PER EVERY DIAMETER-INCH OF THE TREE.
  6. NO MACHINE TRENCHING THROUGH CRZ. HAND-DIG WHERE SILT FENCE (SD-1) CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  7. IF IMPACTING THE CRZ WITH TRAFFIC FROM OPERATING EQUIPMENT, A 5\"/>

**CRUSHED STONE CONSTRUCTION EXIT**



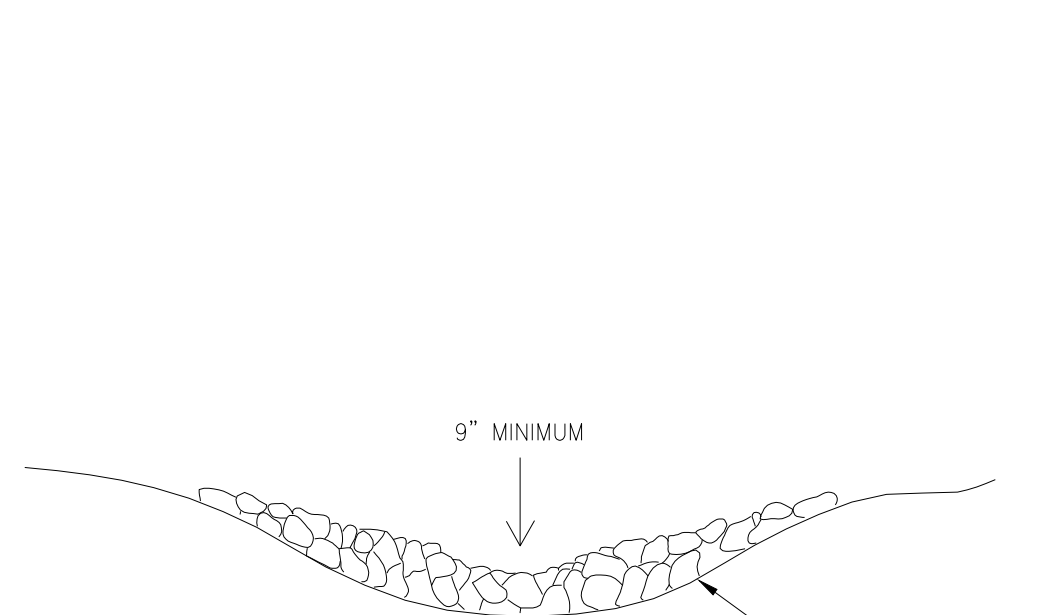
- NOTES:**
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
  2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
  3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5\"/>

**SILT FENCE - TYPE S (Sd1-S)**

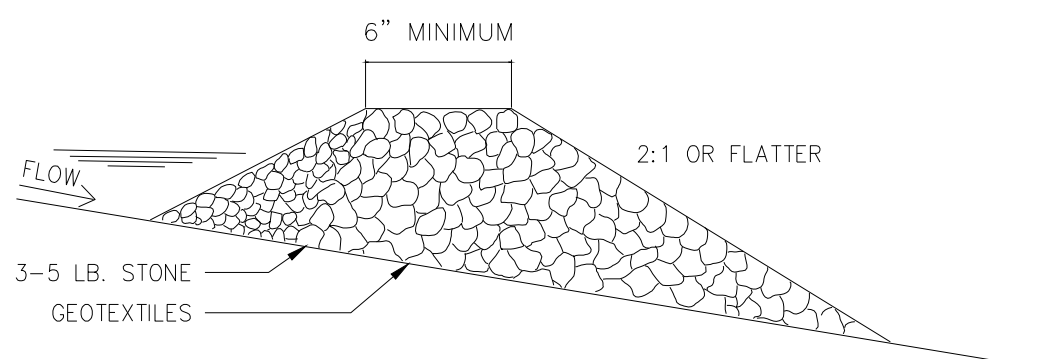


- NOTES:**
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
  2. HEIGHT (H) IS TO BE 30\"/>

**"Rd" ROCK FILTER DAM**

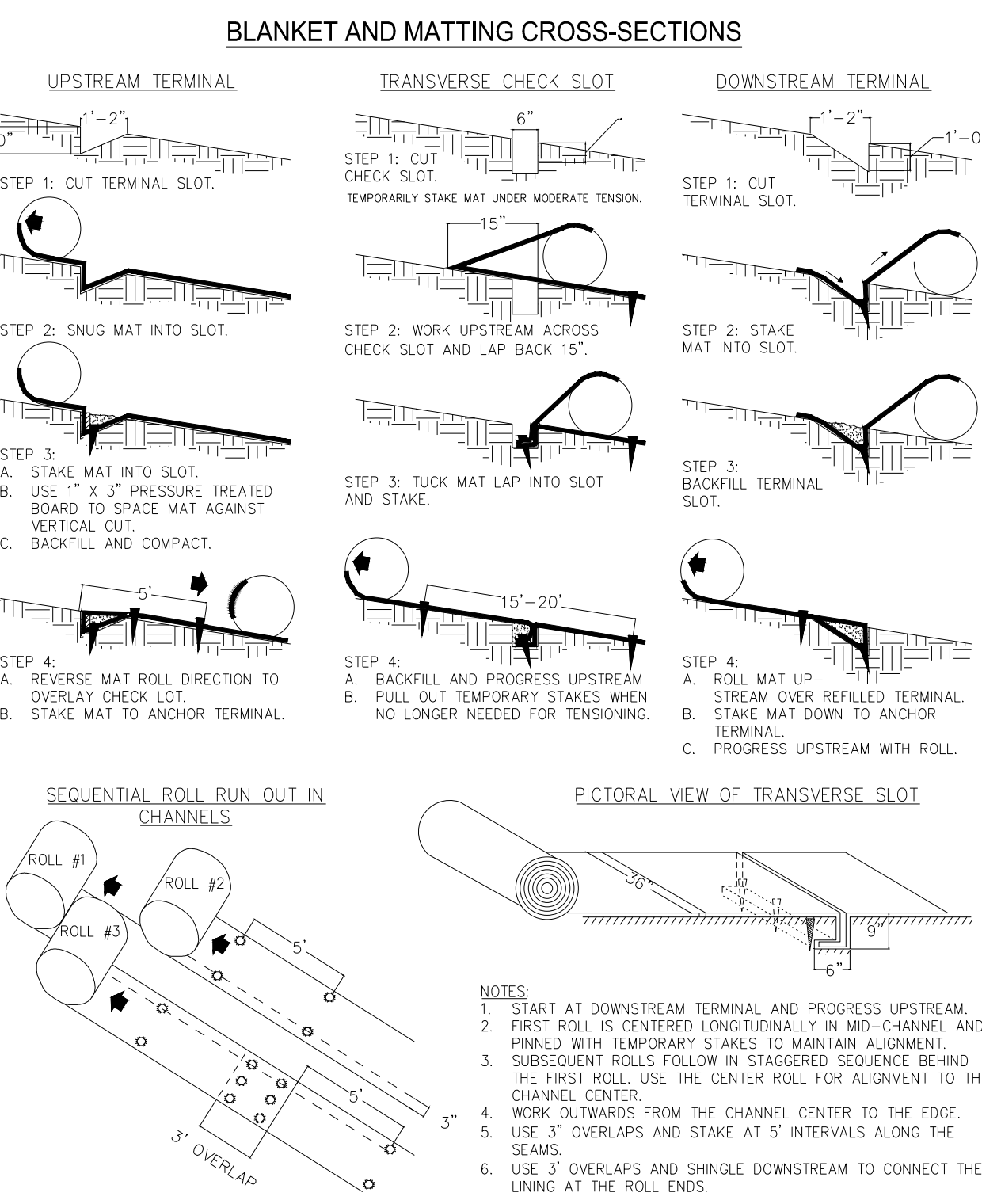


**NOTE:** ROCK FILTER DAM IS TO BE CLEANED OUT WHEN VOLUME BECOMES HALF FULL.

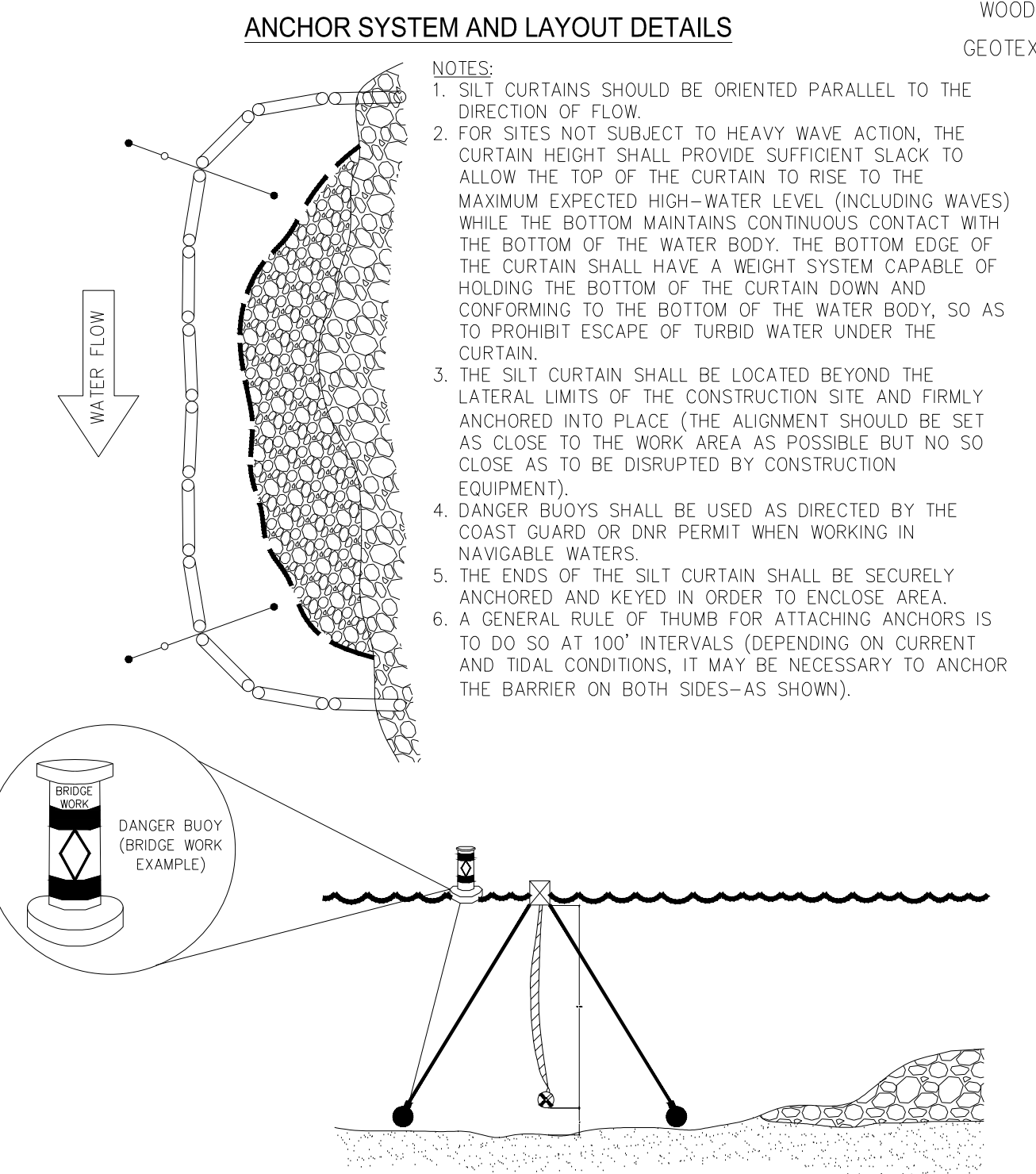


**NOTE:** ROCK SIZE DETERMINED ACCORDING TO SPECIFICATIONS SET FORTH IN GSWCC REQUIREMENTS.

**"Ss" TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)**

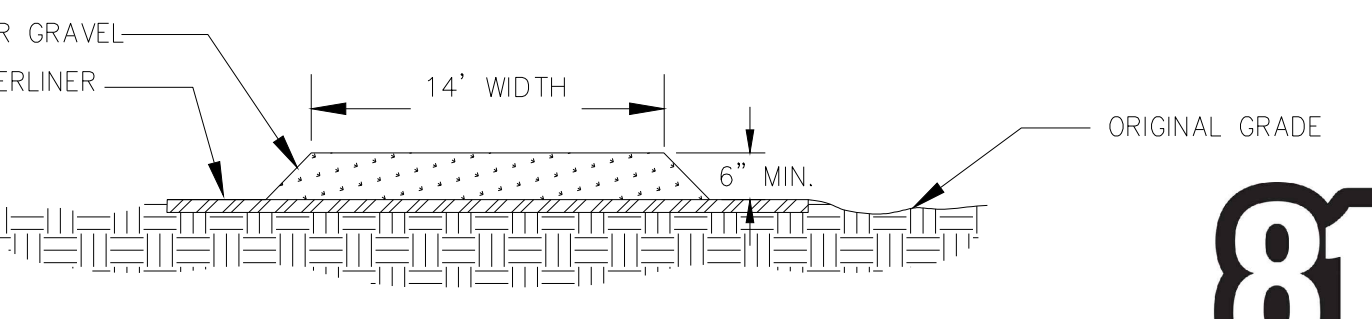


**"Tc" TURBIDITY CURTAIN SYSTEM**



- NOTES:**
1. SILT CURTAINS SHOULD BE ORIENTED PARALLEL TO THE DIRECTION OF FLOW.
  2. FOR SITES NOT SUBJECT TO HEAVY WAVE ACTION, THE CURTAIN HEIGHT SHALL PROVIDE SUFFICIENT SLACK TO ALLOW THE TOP OF THE CURTAIN TO RISE TO THE MAXIMUM EXPECTED HIGH-WATER LEVEL (INCLUDING WAVES) WHILE THE BOTTOM MAINTAINS CONTINUOUS CONTACT WITH THE BOTTOM OF THE WATER BODY. THE BOTTOM EDGE OF THE CURTAIN SHALL HAVE A WEIGHT SYSTEM CAPABLE OF HOLDING THE BOTTOM OF THE CURTAIN DOWN AND CONFORMING TO THE BOTTOM OF THE WATER BODY, SO AS TO PROHIBIT ESCAPE OF TURBID WATER UNDER THE CURTAIN.
  3. THE SILT CURTAIN SHALL BE LOCATED BEYOND THE LATERAL LIMITS OF THE CONSTRUCTION SITE AND FIRMLY ANCHORED INTO PLACE (THE ALIGNMENT SHOULD BE SET AS CLOSE TO THE WORK AREA AS POSSIBLE BUT NO SO CLOSE AS TO BE DISRUPTED BY CONSTRUCTION EQUIPMENT).
  4. DANGER BUOYS SHALL BE USED AS DIRECTED BY THE COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERS.
  5. THE ENDS OF THE SILT CURTAIN SHALL BE SECURELY ANCHORED AND KEPT IN ORDER TO ENCLOSE AREA.
  6. A GENERAL RULE OF THUMB FOR ATTACHING ANCHORS IS TO DO SO AT 100' INTERVALS (DEPENDENT ON CURRENT AND TIDAL CONDITIONS, IT MAY BE NECESSARY TO ANCHOR THE BARRIER ON BOTH SIDES-AS SHOWN).

**"Cr" CONSTRUCTION ROAD STABILIZATION**



- NOTES:**
1. INSTALL ACCORDING TO THE APPROVED PLAN, PER SHEET DT-5, NOTE 10 ON SHEET DT-6, AND PER GSWCC REQUIREMENTS.
  2. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5\"/>



**Know what's below. Call before you dig.**

24 HOUR CONTACT:

**TOM ROBERTS**  
NAME  
404-637-0540  
PHONE  
TOM.ROBERTS@BROOKHAVENGA.GOV  
EMAIL

**GSWCC** Georgia Soil and Water Conservation Commission

**JOHN P. SCHNEIDER**  
Level II Certified Design Professional  
CERTIFICATION NUMBER: 0000094149  
ISSUED: 04/27/2021 EXPIRES: 04/27/2024

Georgia Registered Professional Engineer  
No. PE00002002  
09/14/2023

**FRESE & NICHOLS**  
360 Interstate North Parkway,  
Suite 250  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - www.frese.com

**CITY OF BROOKHAVEN**  
**N.FORK NANCY CREEK STREAMBANK RESTORATION**  
**FROM I-285 TO MURPHEY CANDLER LAKE**  
E-85C  
ESC DETAILS

| NO. | ISSUE | DATE | BY | FILE NAME       | DESCRIPTION |
|-----|-------|------|----|-----------------|-------------|
|     |       |      |    | ESC-DETAILS.dwg |             |

DESIGNED: JLU  
DRAWN: JPS  
REVIEW: JPS  
DATE: 12/2/2022  
DATE: 09/15/2022  
DATE: 12/2/2022

"Ds3" - DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)

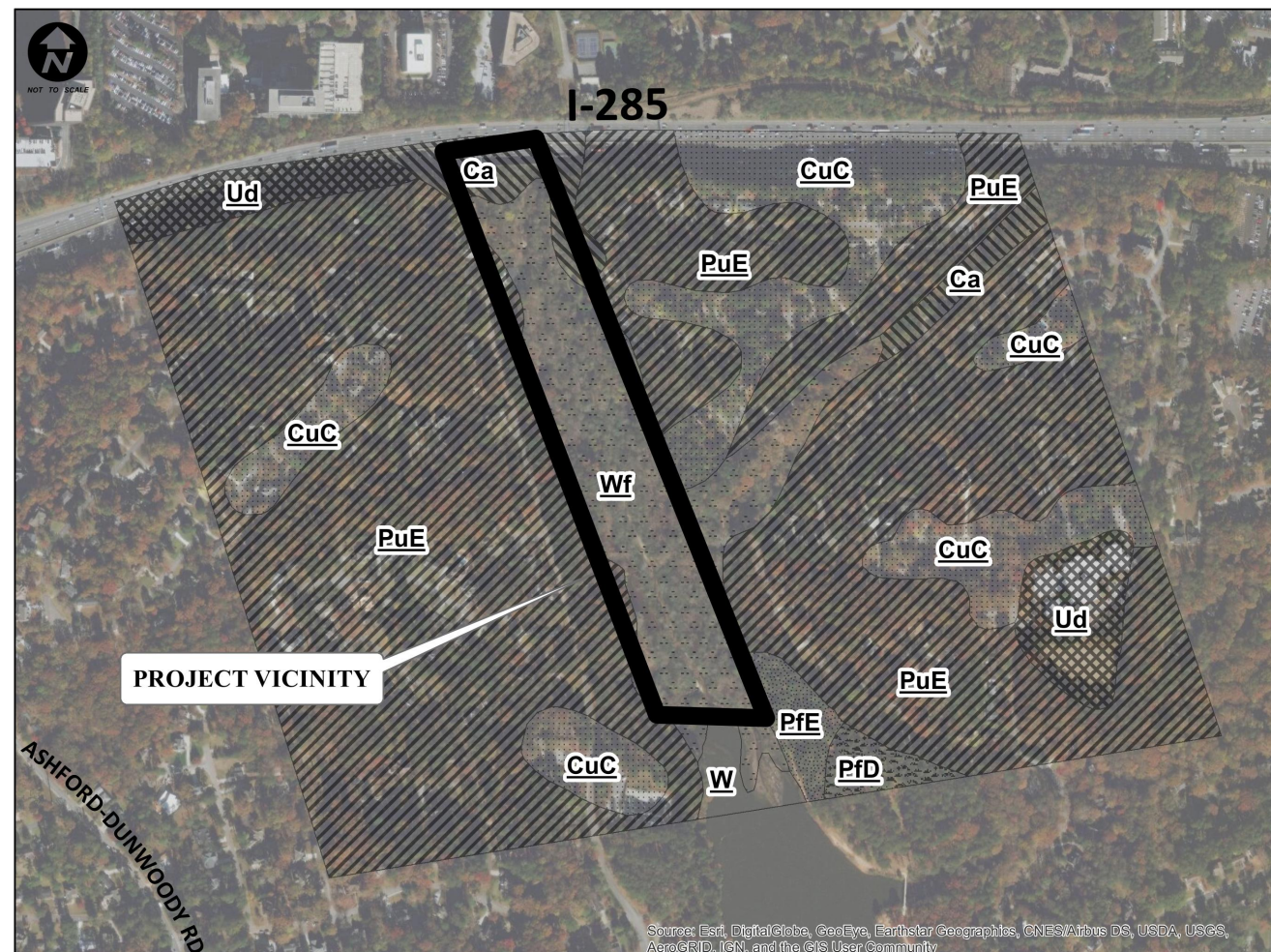
- SCARIFY, PIT OR RENCH SEALED OR CRUSTED SOIL.
- APPLY TALL FESCUE SEED AT A RATE OF 1.1 LBS PER 1000 SQ.FT WHEN PLANTED ON ITS OWN. APPLY AT A RATE OF 30 LBS PER 1000 SQ. FT. WHEN PLANTED WITH OTHER PERENNIALS.
- FIRST PLANTING YEAR FERTILIZER APPLICATION FOR TALL FESCUE SHOULD BE USING 6-12-12 (N-P-K) AT A RATE OF 1500 LBS/ACRE. N TOP DRESSING RATE SHOULD BE 50-100 LBS/ACRE. CONTRACTOR MAY ALTERNATIVELY FERTILIZE BASED ON SOIL TEST RESULTS.
- APPLY AGRICULTURAL LIME AS PRESCRIBED BY SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE. APPLY SEED BY HAND, CYCLONE SEEDER, DRILL OR HYDRO-SEEDER. SEED PLANTED WITH A DRILL SHOULD BE PLANTED 1/4" - 1/2" DEEP.
- STRAW OR HAY MULCH SHALL BE APPLIED AT A RATE OF 2 OR 2.5 TONS PER ACRE.
- IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL, BUT NOT TO THE EXTENT TO CAUSE EROSION.

\*FERTILIZER REQUIREMENTS

| TYPE OF SPECIES                       | YEAR                     | ANALYSIS OR EQUIVALENT N-P-K     | RATE  | N TOP DRESSING RATE   |
|---------------------------------------|--------------------------|----------------------------------|---|---|
| 1. COOL SEASON GRASSES                | FIRST SECOND MAINTENANCE | 6-12-12<br>6-12-12<br>10-10-10   | 1500 LBS/AC<br>1000 LBS/AC<br>400 LBS/AC                    | 50-100 LBS/AC<br>1 1/2 /<br>-<br>30                         |
| 2. COOL SEASON GRASSES AND LEGUMES    | FIRST SECOND MAINTENANCE | 6-12-12<br>0-10-10<br>0-10-10    | 1500 LBS/AC<br>1000 LBS/AC<br>400 LBS/AC                    | 0-50 LBS/AC<br>1 /<br>-                                     |
| 3. GROUND COVERS                      | FIRST SECOND MAINTENANCE | 10-10-10<br>10-10-10<br>10-10-10 | 1300 LBS/AC<br>1300 LBS/AC<br>1100 LBS/AC                   | -<br>-<br>-   |
| 4. PINE SEEDLINGS                     | FIRST                    | 20-10-5                          | ONE 21-GRAM PELLETT PER SEEDLING PLACED IN THE CLOSING HOLE | -   |
| 5. SHRUBS LESPEDEZA                   | FIRST MAINTENANCE        | 0-10-10<br>0-10-10               | 700 LBS/AC<br>700 LBS/AC                                    | -<br>-  |
| 6. TEMPORARY COVER CROPS SEEDED ALONE | FIRST                    | 10-10-10                         | 500 LBS/AC  | 30 LBS/AC 5/  |
| 7. WARM SEASON GRASSES                | FIRST SECOND MAINTENANCE | 6-12-12<br>6-12-12<br>10-10-10   | 1500 LBS/AC<br>800 LBS/AC<br>400 LBS/AC                     | 50-100 LBS/AC<br>2/6 /<br>50-100 LBS/AC<br>2 /<br>30 LBS/AC |
| 8. WARM SEASON GRASSES AND LEGUMES    | FIRST SECOND MAINTENANCE | 6-12-12<br>0-10-10<br>0-10-10    | 1500 LBS/AC<br>1000 LBS/AC<br>400 LBS/AC                    | 50 LBS/AC 6 /   |

\*UNLESS SOIL TESTS INDICATE OTHERWISE

SOILS MAP EXHIBIT "Z"



NOT TO SCALE

SOILS TABLE "Z"

| Map Unit Symbol | Map Unit Name   | Rating |
|-----------------|---|--------|
| Ca              | Cartecay silt loam, frequently flooded                | A/D    |
| CuC             | Cecil-Urban land complex, 2 to 10 percent slopes      | B      |
| PfD             | Pacolet sandy loam, 10 to 15 percent slopes           | B      |
| PfE             | Pacolet sandy loam, 15 to 30 percent slopes           | B      |
| PuE             | Pacolet - Urban Land complex, 15 to 25 percent slopes | B      |
| Wf              | Wehadkee silt loam, frequently flooded                | B/D    |
| W               | Water   | -      |
| Ud              | Urban Land  | -      |

"Ds1" - DISTURBED AREA STABILIZATION (WITH MULCH ONLY)

DEFINITION

APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

CONDITIONS

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED.

SPECIFICATIONS

MULCHING WITHOUT SEEDING

THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION:

- GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
- INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
- LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS

SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED

- DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
- WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
- CUTBACK ASPHALT (SLOW CURING) SHALL BE APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER SQ. YD.).
- POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

APPLYING MULCH

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.

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

ANCHORING MULCH:

- STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH.

TACKIFERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB -TACKIFERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

- NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
- POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

APPENDIX 1  
THE ESR&P PLAN MUST INCLUDE AT LEAST FOUR (4) OF THE FOLLOWING BMPs FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO AN IMPAIRED STREAM SEGMENT AND FOR SITES WHICH EPD HAS APPROVED IN WRITING A REQUEST TO DISTURB 50 ACRES OR MORE AT ANY ONE TIME.  
The four items chosen must be appropriate for the site conditions.

| Plan Page #              | Included Y/N                        |   |
|--------------------------|-------------------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/>            | a. During construction activities, double the width of the 25-foot undisturbed vegetated buffer along all State waters requiring a buffer and the 50-foot undisturbed vegetated buffer along all State waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | b. Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | c. Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.   |
| ES-3<br>ES-4<br>ES-6     | <input checked="" type="checkbox"/> | d. A large sign (minimum 4 feet x 8 feet) must be posted on site by the actual start date of construction. The sign must be visible from a public roadway. The sign must identify the following: (1) construction site, (2) the permittee(s), (3) the contact person(s) and telephone number(s), and (4) the permittee-hosted website where the Plan can be viewed must be provided on the submitted NOI. The sign must remain on site and the Plan must be available on the provided website until a NOT has been submitted. |
| ES-1                     | <input checked="" type="checkbox"/> | e. Use flocculants or coagulants and/or mulch to stabilize areas left disturbed for more than seven (7) calendar days in accordance with Part III. D.1. of the current NPDES Permits.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | f. Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24-hour period, recognizing the exceptions specified in Part IV.D.6.d. of the current NPDES Permits.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | g. Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.G.A. 12-7-6 (a)(1).  |
| <input type="checkbox"/> | <input type="checkbox"/>            | h. Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.  |
| ES-12                    | <input checked="" type="checkbox"/> | i. Limit the amount of disturbed area at any one time to no greater than 25 acres or 50% of the total planned site, whichever is less. All calculations must be included on the Plan.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | j. Use "Dirt II" techniques available on the EPD website to model and manage construction storm water runoff (including sheet flow). All calculations must be included on the Plan. ( <a href="https://epd.georgia.gov/erosion-and-sedimentation">https://epd.georgia.gov/erosion-and-sedimentation</a> )   |
| <input type="checkbox"/> | <input type="checkbox"/>            | k. Add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of six (6) inches to document improved levels of soil carbon after final stabilization of the construction site.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | l. Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | m. Use appropriate erosion control slope stabilization instead of concrete in all construction storm water ditches and storm drainages designed for a 25-year, 24-hour rainfall event.  |
| <input type="checkbox"/> | <input type="checkbox"/>            | n. Use flocculants or coagulants under a passive dosing method (e.g., flocculant blocks) within construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.  |
| <input type="checkbox"/> | <input type="checkbox"/>            | o. Install sod for a minimum 20-foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever storm water (including sheet flow) may be discharged.  |
| ES-12                    | <input checked="" type="checkbox"/> | p. Conduct soil tests to identify and to implement site-specific fertilizer needs.  |
| <input type="checkbox"/> | <input type="checkbox"/>            | q. Certified personnel for primary permittees shall conduct inspections at least twice every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3)(a) – (c); secondary permittees, Part IV.D.4.b.(3)(a) – (c); and tertiary permittees Part IV.D.4.c.(3)(a) – (c) *   |
| <input type="checkbox"/> | <input type="checkbox"/>            | r. Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.  |
| <input type="checkbox"/> | <input type="checkbox"/>            | s. Use alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). (If using this item please refer to the Alternative BMP guidance document found at <a href="http://www.gaswcc.georgia.gov">www.gaswcc.georgia.gov</a> )  |
| <input type="checkbox"/> | <input type="checkbox"/>            | t. Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any state mandated buffer areas from such calculations). All calculations must be included in the Plan.   |
| <input type="checkbox"/> | <input type="checkbox"/>            | u. Conduct inspections during the intermediate grading and drainage BMP phase and during the final BMP phase of the project by the design professional who prepared the Plan in accordance with Part IV.A.5 of the permit.  |
| <input type="checkbox"/> | <input type="checkbox"/>            | v. Install Post Construction BMPs (e.g., runoff reduction BMPs) which remove 80% TSS as outlined in the Georgia Stormwater Management Manual known as the Blue Book or an equivalent or more stringent design manual.   |

\* This requirement is different for infrastructure projects:  
Certified personnel for primary permittees shall conduct inspections at least once every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3)(a) – (c) of the permit.

APPENDIX 1, ITEM i

THE NATURE OF STREAM RESTORATION INVOLVES CONSTRUCTION IN A LINEAR MANNER, WHERE NO MORE THAN 1 ACRE MAXIMUM SHALL BE ACTIVELY DISTURBED AT ANY GIVEN TIME.

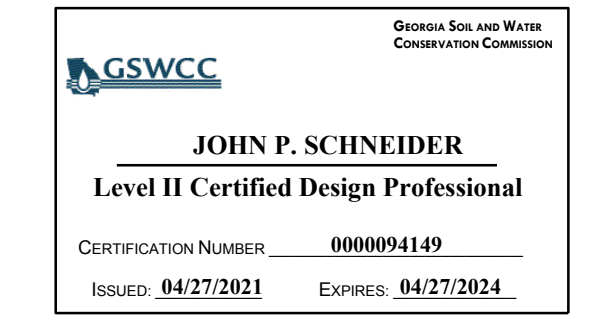
CALCULATIONS FOR MAX DISTURBED ACREAGE:

MAX DISTURBED WORK AREA = 1 AC  
SOUTHERN HAUL ROAD = 0.4 AC  
TOTAL DISTURBED AREA = 4.3 AC

(1 + 0.4)/4.3 x 100% = 33% MAX SITE DISTURBANCE

24 HOUR CONTACT:

TOM ROBERTS  
NAME  
404-637-0540  
PHONE  
TOM.ROBERTS@BROOKHAVENGA.GOV  
EMAIL



Georgia Registered Professional Engineer, License No. PE-004433



**FREES & NICHOLS**  
360 Interstate North Parkway,  
Suite 250  
Atlanta, GA 30339  
Phone - (404) 334-4310  
Web - [www.freese.com](http://www.freese.com)

CITY OF BROOKHAVEN  
N.FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE  
E&S  
ESC DETAILS

| NO. | ISSUE        | DATE       | BY  | DESCRIPTION   |
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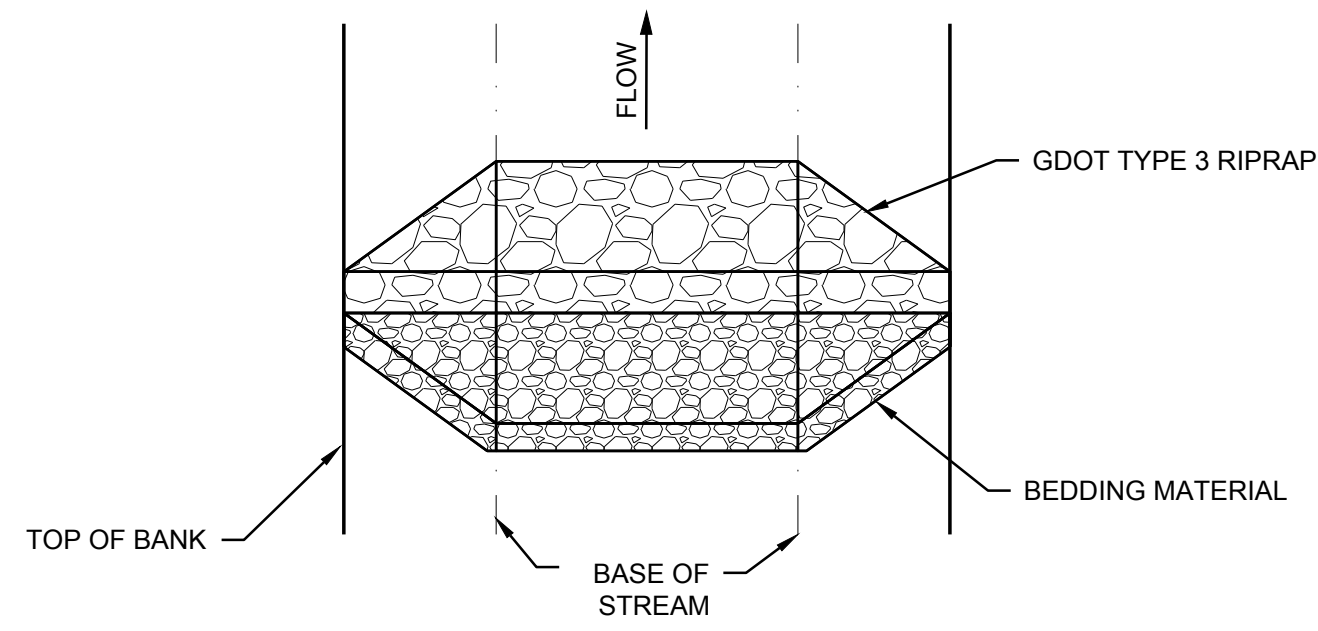
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**ES-12**  
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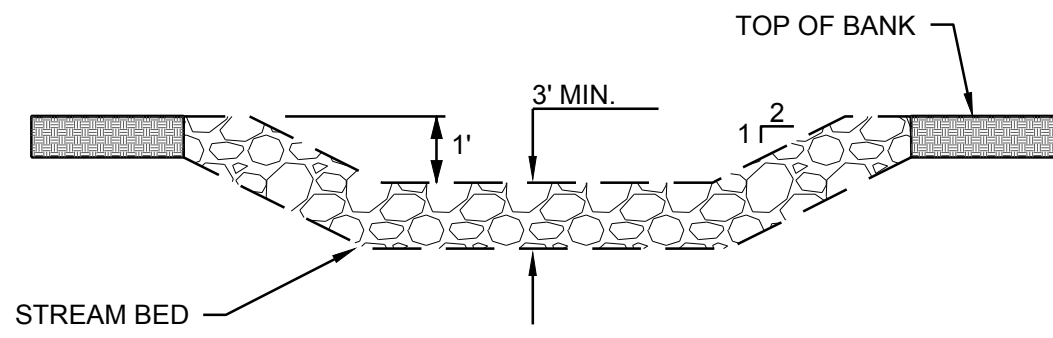
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Last Saved: 8/28/2023 4:24 PM Saved By: 02875

**NOTE:**

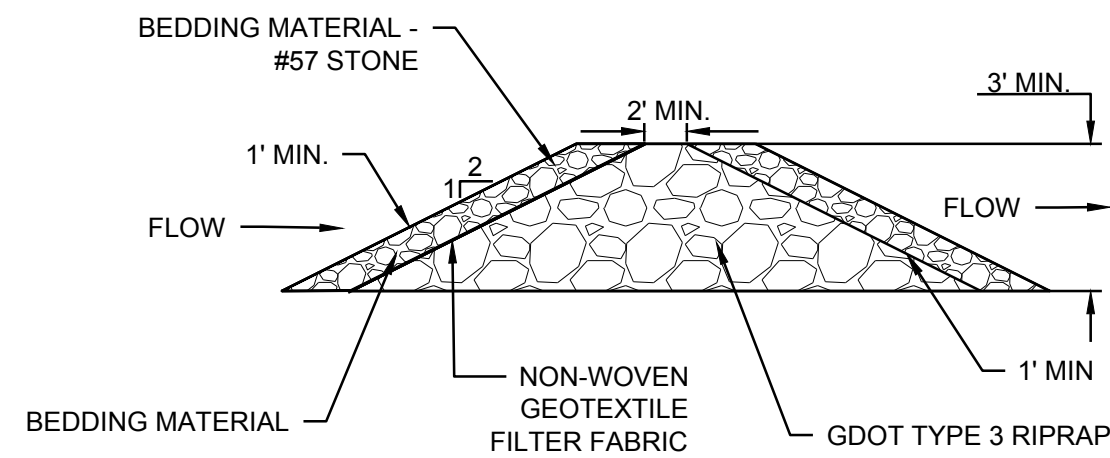
1. THE STRUCTURE SHALL BE USED FOR DIVERTING AND PUMPING ONLY. THE STRUCTURE SHALL BE RELOCATED OR REMOVED ONCE PUMPING/DIVERTING IS COMPLETE.
2. EITHER TYPE OF IMPERVIOUS DIKE (SANDBAG OR STONE) MAY BE USED.



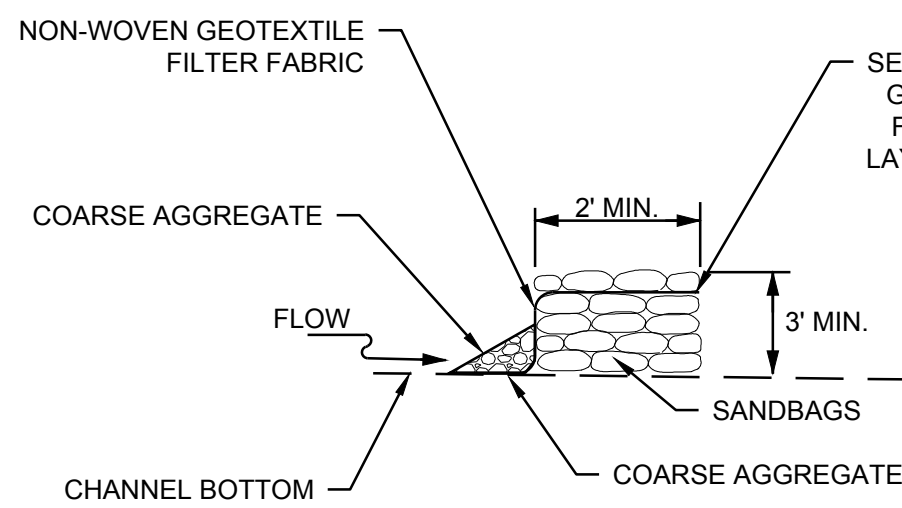
**STONE IMPERVIOUS DIKE  
PLAN VIEW**



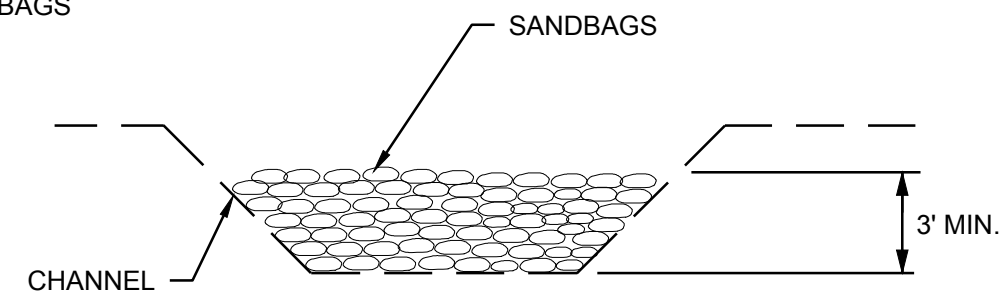
**STONE IMPERVIOUS DIKE  
CROSS SECTION**



**STONE IMPERVIOUS DIKE  
PROFILE**

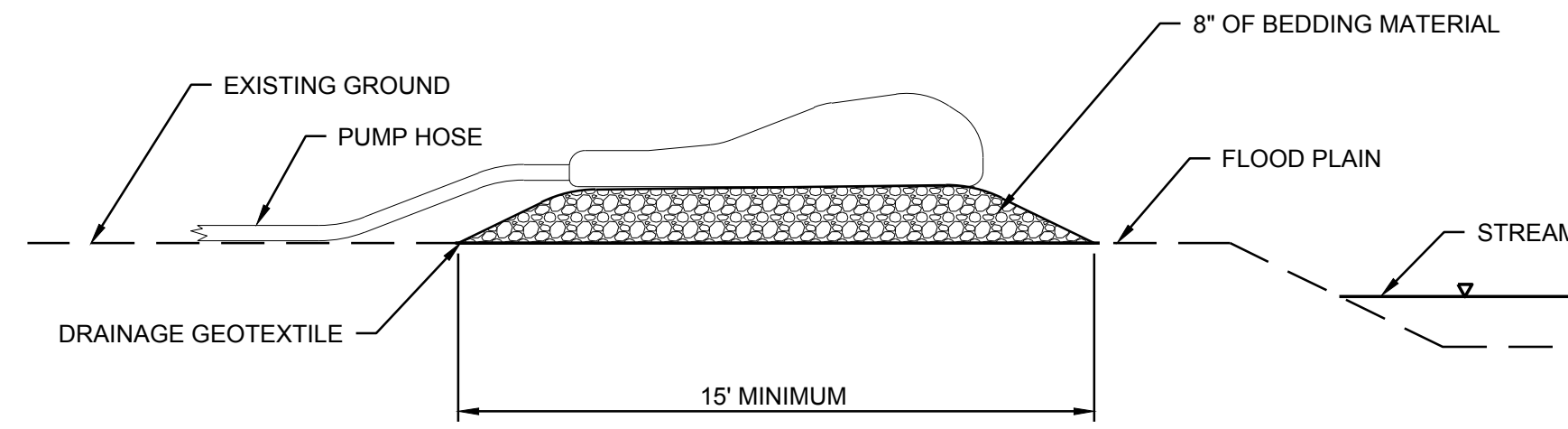


**SANDBAG IMPERVIOUS  
DIKE PROFILE**

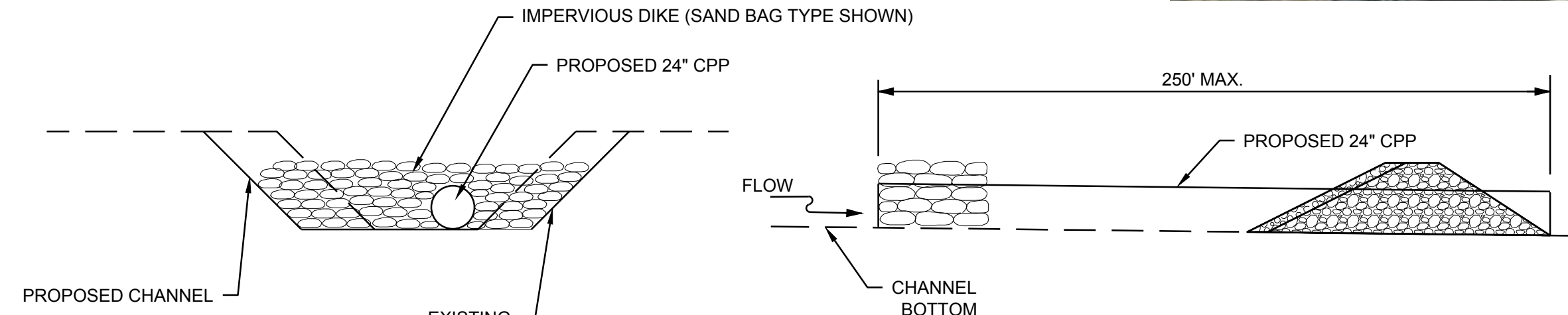


**SANDBAG IMPERVIOUS DIKE  
CROSS SECTION**

**IMPERVIOUS DIKE  
SCALE: NTS**



**SPECIAL STILLING BASIN  
SCALE: NTS**

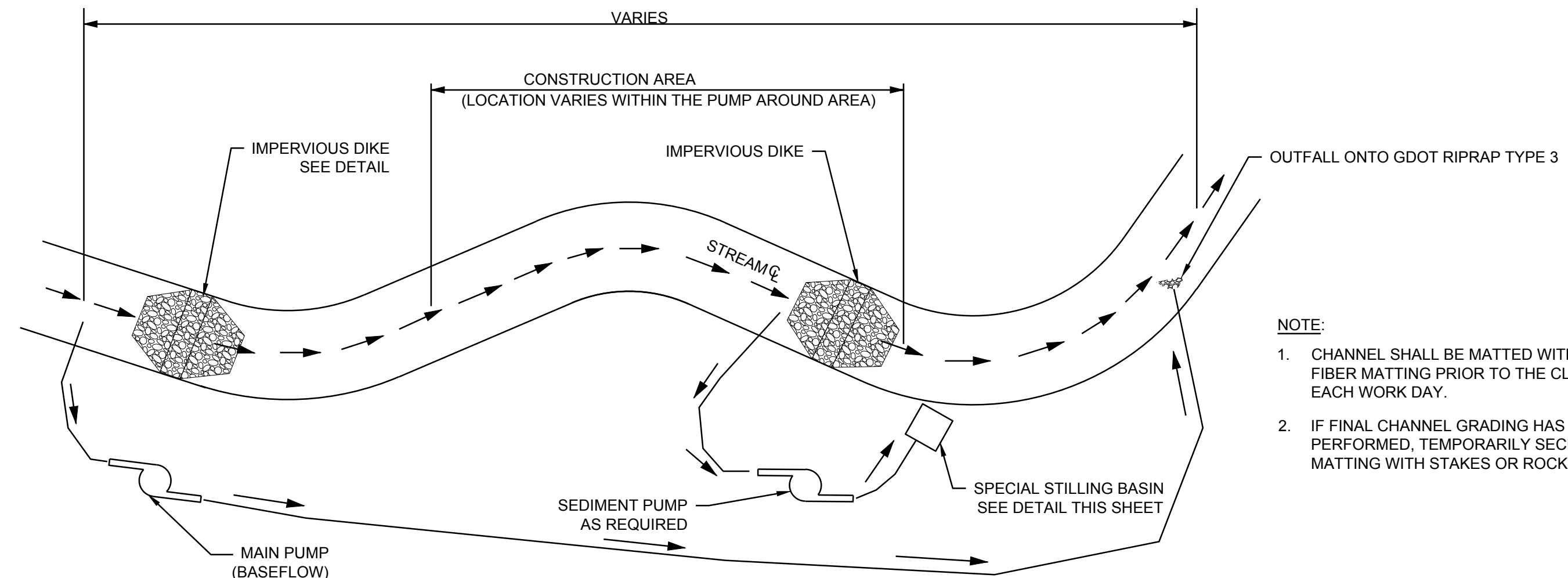


**PIPE DIVERSION CROSS SECTION**

**PIPE DIVERSION PROFILE**

**NOTE:**

1. PIPE MUST HAVE POSITIVE DRAINAGE WHEN USING DIVERSION (0.3% TO 2.0% PIPE SLOPE IS RECOMMENDED)



**PUMP-AROUND DIVERSION PLANVIEW**

**NOTE:**

1. CHANNEL SHALL BE MATTED WITH COIR FIBER MATTING PRIOR TO THE CLOSE OF EACH WORK DAY.
2. IF FINAL CHANNEL GRADING HAS NOT BEEN PERFORMED, TEMPORARILY SECURE COIR MATTING WITH STAKES OR ROCK

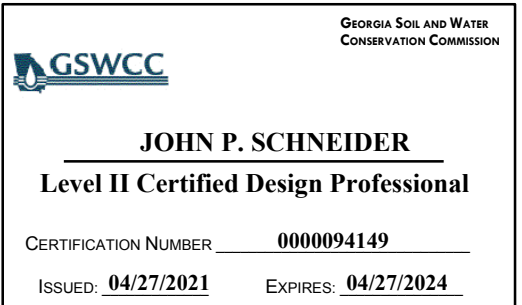
**"Dv" PUMP-AROUND/PIPE DIVERSION  
SCALE: NTS**

24 HOUR CONTACT:

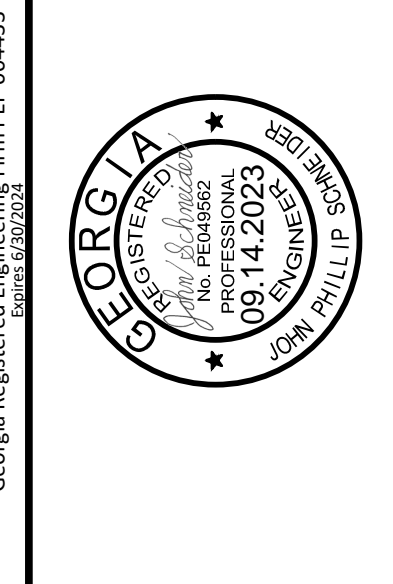
TOM ROBERTS  
NAME

404-637-0540  
PHONE

TOM.ROBERTS@BROOKHAVENGA.GOV  
EMAIL



ISSUED FOR PERMIT  
NOT FOR CONSTRUCTION



**FREESE & NICHOLS**  
360 Interstate North Parkway,  
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Atlanta, GA 30339  
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**N.FORK NANCY CREEK STREAMBANK RESTORATION  
FROM I-285 TO MURPHEY CANDLER LAKE**  
E&S  
E&S  
CITY OF BROOKHAVEN

| NO. | ISSUE    | DATE       | BY  | DATE      | F&N JOB NO. |
|-----|----------|------------|-----|-----------|-------------|
| 0   | ISSUED   | 04/27/2021 |     |           | BGA20127    |
| 1   | REVISED  | 09/15/2022 | JPS | 12/2/2022 | DESIGNED    |
| 2   | CHECKED  | 09/15/2022 | JPS | 12/2/2022 | DRAWN       |
| 3   | REVIEWED | 09/15/2022 | JPS | 12/2/2022 | REVIEWED    |
| 4   | REVIEWED | 09/15/2022 | JPS | 12/2/2022 | REVIEWED    |
| 5   | REVIEWED | 09/15/2022 | JPS | 12/2/2022 | REVIEWED    |

SHEET  
ES-13  
33  
Permit # LDP22-00016





- NOTES:**
- CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION.
  - ALL TREES ON THE SITE GREATER THAN 6" SHALL BE PROTECTED USING TREE PROTECTION FENCING.
  - INSTALL EROSION CONTROL MATS ON ALL SLOPES STEEPER THAN 2.5:1 OR GREATER THAN 10 FEET IN HEIGHT IN AREAS OF CONCENTRATED FLOW.
  - A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
  - WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
  - NO MACHINE TRENCHING THROUGH CRITICAL ROOT ZONE (CRZ), HAND-DIG WHERE SILT FENCE CROSSES THE CRZ OF ANY TREE. ROOT PRUNE AS NEEDED ACCORDING TO ISA/ANSI PROFESSIONAL STANDARDS.
  - HAUL RD SHALL BE CONSTRUCTED PER THE GSWCC REQUIREMENTS FOR CONSTRUCTION ROAD STABILIZATION.
  - MATERIAL STORAGE OR CONSTRUCTION LAYOUT CAN TAKE PLACE IN THE LOCATION OF THE EXISTING SANITARY SEWER EASEMENT. MATERIAL PILES SHALL BE SURROUNDED BY SILT FENCING AND COVERED AT END OF DAY AND WHEN ACCESS IS NOT ACTIVELY NEEDED.
  - ALL MATERIALS STORED IN FLOODPLAIN WILL BE ANCHORED TO PREVENT FLOTATION.
  - PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.

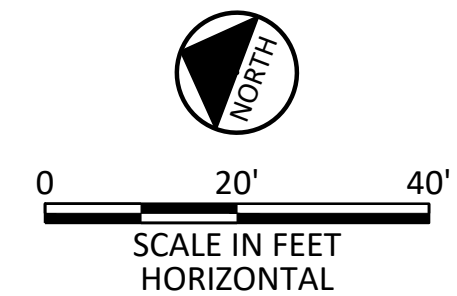
--- TEMPORARY EASEMENTS  
 --- PROPERTY BOUNDARIES  
 --- LOD --- LIMITS OF DISTURBANCE

EXISTING WETLAND

● SURVEYED TREES  
 ☒ REMOVED TREES

○ STRUCTURAL ROOT PLATE (SRP)  
 SRP ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

○ CRITICAL ROOT ZONE (CRZ)  
 CRZ ENCROACHMENT (TREE PRESCRIPTION REQUIRED)



|                |  | LEFT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|--|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Tree ID        |  | L000                           | L001 | L002 | L003 | L004 | L005 | L006 | L007 | L008 | L009 | L010 | L011 | L012 | L013 | L014 | L015 | L016 | L017 | L018 | L019 | L020 | L021 | L022 | L023 | L024 | L025 | L026 | L027 |
| DBH (INCH)     |  | 17                             | 20   | 17   | 11   | 8    | 10   | 27   | 14   | 6    | 10   | 8    | 14   | 42   | 15   | 14   | 18   | 6    | 7    | 14   | 6    | 15   | 16   | 24   | 18   | 6    | 6    | 24   | 7    |
| SRP (FT)       |  | 8.5                            | 10   | 8.5  | 5.5  | 4    | 5    | 13.5 | 7    | 3    | 5    | 4    | 7    | 21   | 7.5  | 7    | 9    | 3    | 3.5  | 7    | 3    | 7.5  | 8    | 12   | 9    | 3    | 3    | 12   | 3.5  |
| SRP IMPACT (%) |  | 0                              | 0    | 0    | 15   | 62   | 0    | 3    | 32   | 100  | 31   | 0    | 35   | 18   | 2    | 0    | 0    | 0    | 0    | 0    | 0    | 44   | 55   | 51   | 0    | 88   | 100  | 0    |      |
| CRZ (FT)       |  | 22.1                           | 26   | 22.1 | 14.3 | 10.4 | 13   | 35.1 | 18.2 | 7.8  | 13   | 10.4 | 18.2 | 54.6 | 19.5 | 18.2 | 23.4 | 7.8  | 9.1  | 18.2 | 7.8  | 19.5 | 20.8 | 31.2 | 23.4 | 7.8  | 31.2 | 9.1  |      |
| CRZ IMPACT (%) |  | 24                             | 16   | 12   | 31   | 53   | 22   | 25   | 42   | 74   | 42   | 1    | 44   | 37   | 29   | 1    | 7    | 0    | 0    | 0    | 0    | 44   | 51   | 50   | 0    | 67   | 64   | 2    |      |

|                |  | RIGHT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|--|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID        |  | R000                            | R001 | R002 | R003 | R004 | R005 | R006 | R007 | R008 | R009 | R010 | R011 | R012 | R013 | R014 | R015 | R016 | R017 | R018 | R019 | R020 | R021 | R022 | R023 | R024 | R025 | R026 | R027 | R028 | R029 |
| DBH (INCH)     |  | 10                              | 9    | 8    | 25   | 12   | 11   | 12   | 12   | 11   | 9    | 12   | 10   | 10   | 8    | 6    | 12   | 8    | 18   | 7    | 11   | 8    | 18   | 8    | 15   | 8    | 7    | 8    | 10   | 7    | 14   |
| SRP (FT)       |  | 5                               | 4.5  | 4    | 12.5 | 6    | 5.5  | 6    | 6    | 5.5  | 4.5  | 6    | 5    | 5    | 4    | 3    | 6    | 4    | 9    | 3.5  | 5.5  | 4    | 9    | 4    | 7.5  | 4    | 3.5  | 4    | 5    | 3.5  | 7    |
| SRP IMPACT (%) |  | 100                             | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 75   | 52   | 0    | 1    | 94   | 100  | 100  | 20   | 92   | 55   | 0    | 0    | 0    | 12   |      |
| CRZ (FT)       |  | 13                              | 11.7 | 10.4 | 32.5 | 15.6 | 14.3 | 15.6 | 15.6 | 14.3 | 11.7 | 15.6 | 13   | 13   | 10.4 | 7.8  | 15.6 | 10.4 | 23.4 | 9.1  | 14.3 | 10.4 | 23.4 | 10.4 | 19.5 | 10.4 | 9.1  | 13   | 9.1  | 18.2 |      |
| CRZ IMPACT (%) |  | 96                              | 100  | 100  | 87   | 97   | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 75   | 59   | 49   | 16   | 27   | 69   | 91   | 100  | 55   | 65   | 50   | 0    | 15   | 34   |      |

**FREESE & NICHOLS**  
 360 Interstate North Parkway, Suite 250 Atlanta, GA 30339  
 Phone: (404) 334-4310 Web: www.freese.com

**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

TR ## START TO STA 14+00

|     |              |            |     |                  |
|-----|--------------|------------|-----|------------------|
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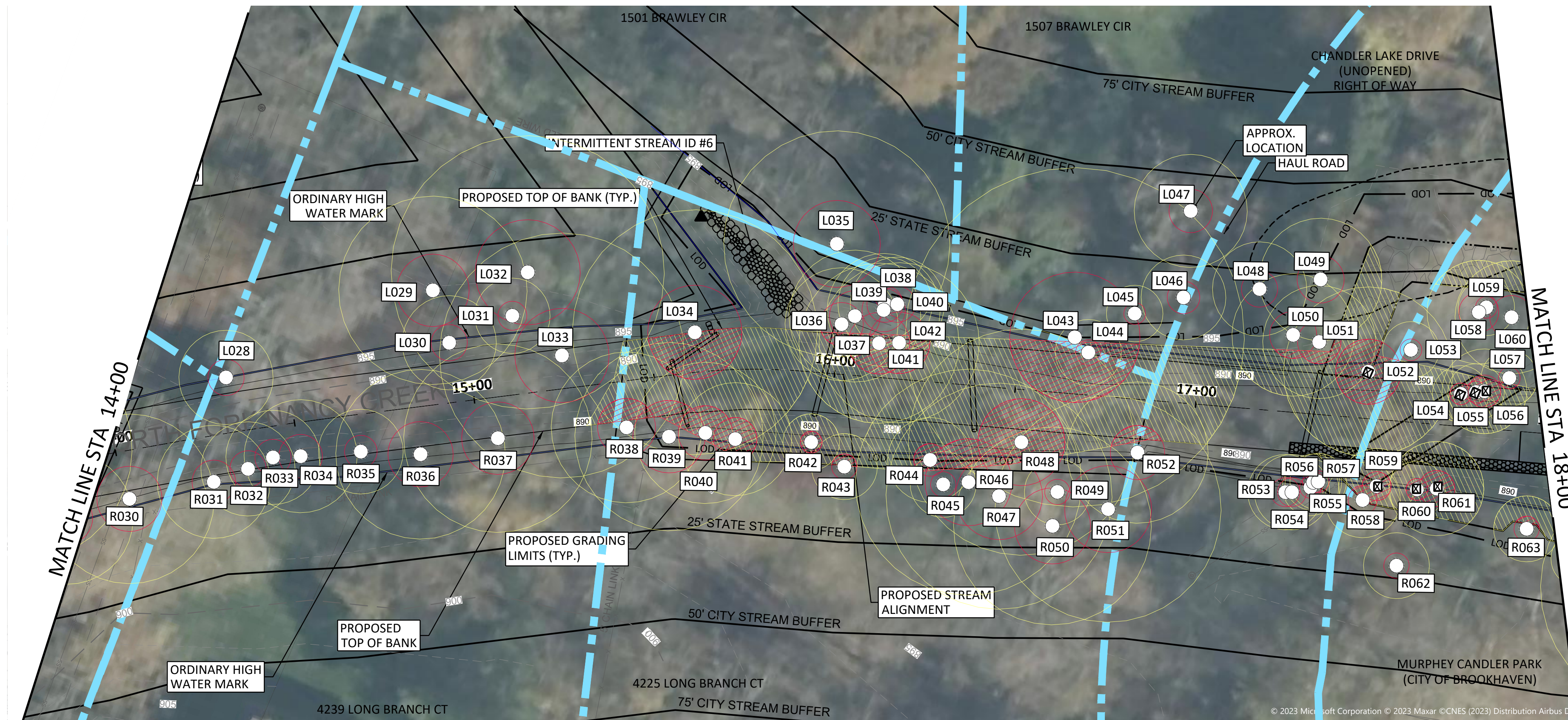
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 DATE 12/22/2022  
 DESIGNED  
 DRAWN  
 CITY OF BROOKHAVEN LDP REVIEW  
 DEKALB COUNTY LDP REVIEW  
 CHECKED  
 RCE

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET TR-1

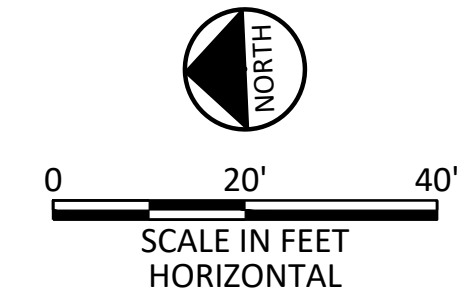
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 Last Saved: 11/14/2023 3:30 PM Saved By: 02875



NOTES:

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- CONTRACTOR SHALL HAVE A PLAN TO MAINTAIN PEDESTRIAN ACCESS THROUGH THE EXISTING WALKING PATH AND SHALL COORDINATE WITH THE CITY AND ENGINEER.
- PLYWOOD AND/OR GROUND PROTECTION MATS OVER 4-5 INCHES OF WOOD CHIPS SHALL BE PLACED ON ROUTES AND IN AREAS WHERE THE CRZ MAY BE IMPACTED.



- TEMPORARY EASEMENTS
- PROPERTY BOUNDARIES
- LOD --- LIMITS OF DISTURBANCE
- EXISTING WETLAND
- SURVEYED TREES
- ⊠ REMOVED TREES
- STRUCTURAL ROOT PLATE (SRP)
- SRP ENCROACHMENT (TREE PRESCRIPTION REQUIRED)
- CRITICAL ROOT ZONE (CRZ)
- CRZ ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

|                |  | LEFT BANK (LOOKING DOWNSTREAM)  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|--|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID        |  | L028                            | L029 | L030 | L031 | L032 | L033 | L034 | L035 | L036 | L037 | L038 | L039 | L040 | L041 | L042 | L043 | L044 | L045 | L046 | L047 | L048 | L049 | L050 | L051 | L052 | L053 | L054 | L055 | L056 | L057 | L058 | L059 | L060 |      |
| DBH (INCH)     |  | 10                              | 20   | 10   | 8    | 29   | 26   | 26   | 24   | 12   | 14   | 10   | 12   | 10   | 17   | 17   | 36   | 7    | 6    | 9    | 12   | 10   | 13   | 13   | 12   | 18   | 6    | 6    | 6    | 9    | 6    | 11   | 6    | 12   |      |
| SRP (FT)       |  | 5                               | 10   | 5    | 4    | 14.5 | 13   | 13   | 12   | 6    | 7    | 5    | 6    | 5    | 8.5  | 8.5  | 18   | 3.5  | 3    | 4.5  | 6    | 5    | 6.5  | 6.5  | 6    | 9    | 3    | 3    | 3    | 4.5  | 3    | 5.5  | 3    | 6    |      |
| SRP IMPACT (%) |  | 0                               | 0    | 0    | 0    | 0    | 0    | 50   | 0    | 25   | 10   | 0    | 0    | 68   | 66   | 46   | 95   | 0    | 0    | 0    | 0    | 0    | 12   | 32   | 94   | 0    | 100  | 100  | 94   | 19   | 0    | 0    | 0    | 0    |      |
| CRZ (FT)       |  | 13                              | 26   | 13   | 10.4 | 37.7 | 33.8 | 33.8 | 31.2 | 15.6 | 18.2 | 13   | 15.6 | 13   | 22.1 | 46.8 | 9.1  | 7.8  | 11.7 | 15.6 | 13   | 16.9 | 16.9 | 15.6 | 23.4 | 7.8  | 7.8  | 7.8  | 11.7 | 7.8  | 14.3 | 7.8  | 15.6 |      |      |
| CRZ IMPACT (%) |  | 0                               | 0    | 0    | 0    | 0    | 0    | 44   | 6    | 41   | 34   | 12   | 23   | 12   | 57   | 56   | 38   | 69   | 0    | 0    | 0    | 0    | 16   | 40   | 56   | 75   | 22   | 91   | 83   | 69   | 38   | 22   | 12   | 22   |      |
|                |  | RIGHT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| TREE ID        |  | R030                            | R031 | R032 | R033 | R034 | R035 | R036 | R037 | R038 | R039 | R040 | R041 | R042 | R043 | R044 | R045 | R046 | R047 | R048 | R049 | R050 | R051 | R052 | R053 | R054 | R055 | R056 | R057 | R058 | R059 | R060 | R061 | R062 | R063 |
| DBH (INCH)     |  | 18                              | 12   | 10   | 10   | 12   | 9    | 18   | 20   | 16   | 20   | 15   | 12   | 6    | 7    | 9    | 7    | 24   | 24   | 24   | 7    | 21   | 24   | 15   | 8    | 8    | 6    | 6    | 6    | 8    | 8    | 6    | 10   | 7    | 7    |
| SRP (FT)       |  | 9                               | 6    | 5    | 5    | 6    | 4.5  | 9    | 10   | 8    | 10   | 7.5  | 6    | 3    | 3.5  | 4.5  | 3.5  | 12   | 12   | 12   | 3.5  | 10.5 | 12   | 7.5  | 4    | 4    | 3    | 3    | 4    | 4    | 3    | 5    | 3.5  | 3.5  |      |
| SRP IMPACT (%) |  | 0                               | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 35   | 29   | 66   | 91   | 100  | 45   | 89   | 0    | 29   | 9    | 78   | 0    | 0    | 0    | 27   | 0    | 0    | 0    | 0    | 0    | 45   | 100  | 100  | 100  | 0    | 25   |
| CRZ (FT)       |  | 23.4                            | 15.6 | 13   | 13   | 15.6 | 11.7 | 23.4 | 26   | 20.8 | 26   | 19.5 | 15.6 | 7.8  | 9.1  | 11.7 | 9.1  | 31.2 | 31.2 | 31.2 | 9.1  | 27.3 | 31.2 | 19.5 | 10.4 | 10.4 | 7.8  | 7.8  | 7.8  | 10.4 | 10.4 | 7.8  | 13   | 9.1  | 9.1  |
| CRZ IMPACT (%) |  | 0                               | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 47   | 48   | 56   | 64   | 92   | 48   | 65   | 23   | 41   | 32   | 58   | 0    | 10   | 18   | 43   | 0    | 0    | 0    | 5    | 11   | 42   | 74   | 96   | 86   | 0    | 51   |



FOR REFERENCE ONLY  
 NOT FOR CONSTRUCTION

Freese & Nichols, Inc.  
 Georgia Registered Engineering Firm REF-004433  
 Expires 09/30/2025

REFERENCE DRAWING  
 THIS DOCUMENT IS RELEASED AS A SURVEY AND TREE IMPACTS ONLY. ALL "LEAVE TREES" WILL BE FIELD-LOCATED PRIOR TO CONSTRUCTION.

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 250  
 Atlanta, GA 30339  
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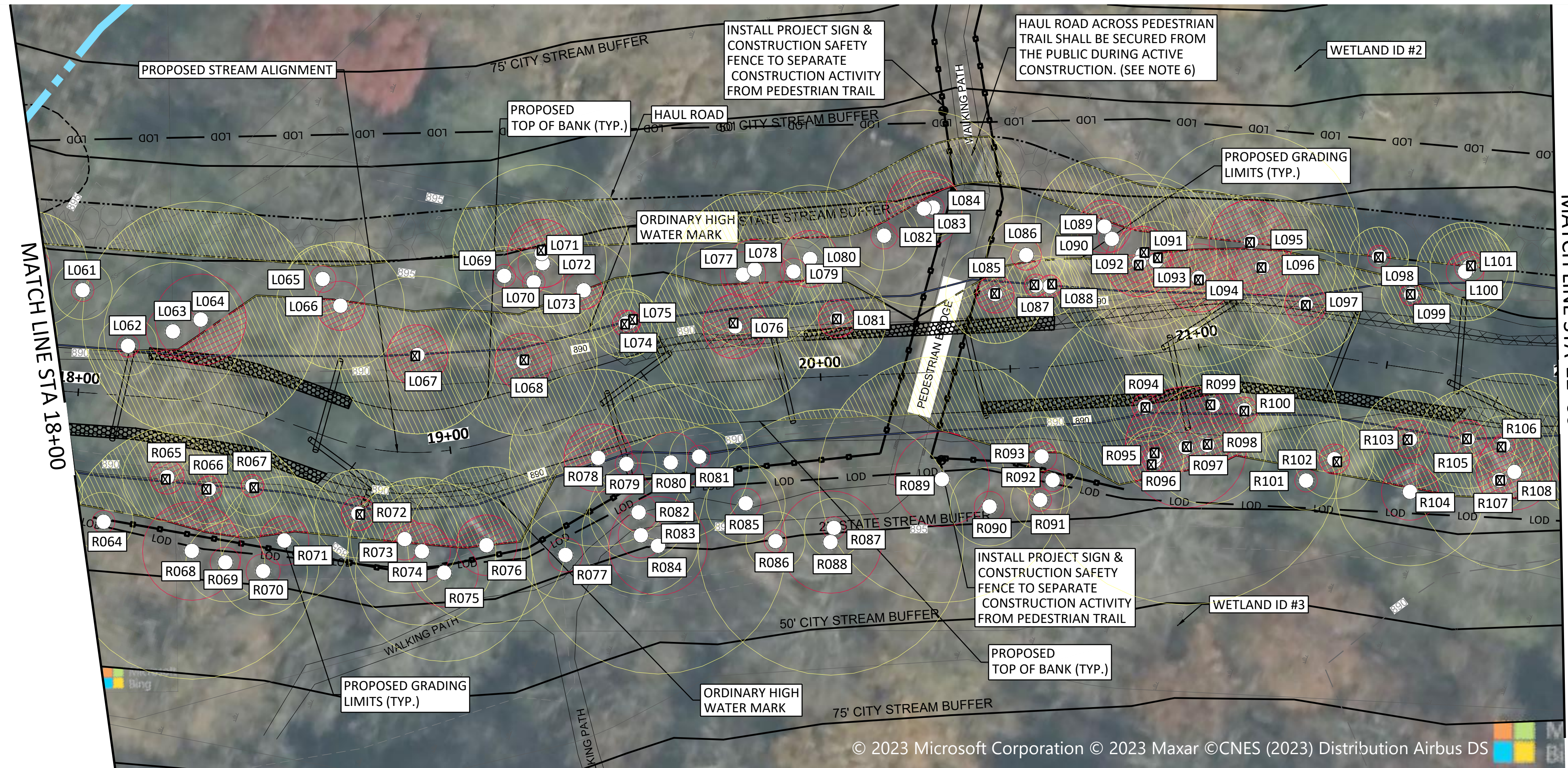
CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

TR ##  
 STA 14+00 TO STA 18+00

|     |       |          |       |                  |          |
|-----|-------|----------|-------|------------------|----------|
| NO. | ISSUE | DATE     | BY    | FILE NAME        |          |
|     |       |          |       | ESC-TR-SHTS1.dwg |          |
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|     |       |          |       |                  |          |
| NO. | DATE  | DESIGNED | DRAWN | CHECKED          | REVISION |
|     |       |          |       |                  |          |

SHEET TR-2  
 SEQ.

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NOTES:

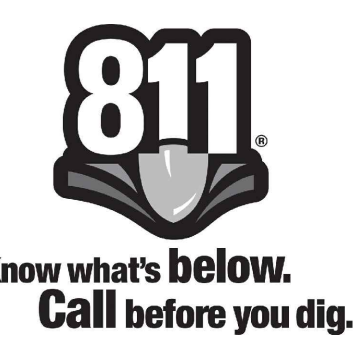
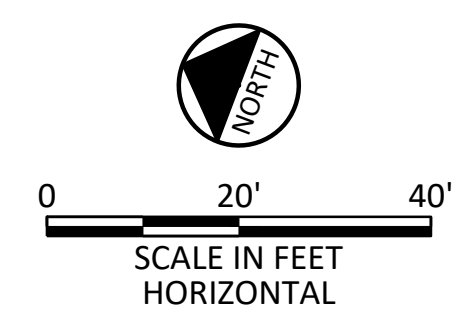
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- A TURBIDITY CURTAIN SHALL BE USED DOWNSTREAM OF ACTIVE CHANNEL DISTURBING ACTIVITY, PER GDOT DETAIL D-51, IN CONJUNCTION WITH A PUMPED DIVERSION. BOTH CAN BE MOVED AS CONSTRUCTION SEQUENCING WARRANTS.
- WETLANDS TO BE RESTORED WITH NATIVE PLANTINGS AND ANY TEMPORARY FILLS REMOVED TO RE-ESTABLISH WETLAND ELEVATIONS TO PRE-CONSTRUCTION CONTOURS, SEE PLANTING PLAN FOR MORE DETAILS.
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--- TEMPORARY EASEMENTS  
 --- PROPERTY BOUNDARIES  
 --- LOD --- LIMITS OF DISTURBANCE  
 [Pattern] EXISTING WETLAND  
 ● SURVEYED TREES  
 [Symbol] REMOVED TREES  
 [Circle] STRUCTURAL ROOT PLATE (SRP)  
 [Hatched] SRP ENCROACHMENT (TREE PRESCRIPTION REQUIRED)  
 [Circle] CRITICAL ROOT ZONE (CRZ)  
 [Hatched] CRZ ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

|                |  | LEFT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|--|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID        |  | L061                           | L062 | L063 | L064 | L065 | L066 | L067 | L068 | L069 | L070 | L071 | L072 | L073 | L074 | L075 | L076 | L077 | L078 | L079 | L080 | L081 | L082 | L083 | L084 | L085 | L086 | L087 | L088 | L089 | L090 | L091 | L092 | L093 | L094 | L095 | L096 | L097 | L098 | L099 | L100 | L101 |
| DBH (INCH)     |  | 6                              | 6    | 14   | 24   | 7    | 13   | 16   | 15   | 6    | 6    | 18   | 13   | 10   | 7    | 6    | 17   | 12   | 16   | 7    | 15   | 10   | 7    | 20   | 6    | 10   | 8    | 6    | 6    | 14   | 7    | 15   | 18   | 8    | 18   | 22   | 15   | 11   | 6    | 6    | 10   | 8    |
| SRP (FT)       |  | 3                              | 3    | 7    | 12   | 3.5  | 6.5  | 8    | 7.5  | 3    | 3    | 9    | 6.5  | 5    | 3.5  | 3    | 8.5  | 6    | 8    | 3.5  | 7.5  | 5    | 3.5  | 10   | 3    | 5    | 4    | 3    | 3    | 7    | 3.5  | 7.5  | 9    | 4    | 9    | 11   | 7.5  | 5.5  | 3    | 3    | 5    | 4    |
| SRP IMPACT (%) |  | 0                              | 23   | 15   | 34   | 0    | 63   | 100  | 100  | 0    | 0    | 40   | 12   | 51   | 100  | 100  | 100  | 25   | 23   | 8    | 14   | 100  | 1    | 37   | 0    | 100  | 21   | 100  | 100  | 35   | 0    | 55   | 66   | 81   | 96   | 90   | 92   | 100  | 50   | 100  | 31   | 49   |
| CRZ (FT)       |  | 7.8                            | 7.8  | 18.2 | 31.2 | 9.1  | 16.9 | 20.8 | 19.5 | 7.8  | 7.8  | 23.4 | 16.9 | 13   | 9.1  | 7.8  | 22.1 | 15.6 | 20.8 | 9.1  | 19.5 | 13   | 9.1  | 26   | 7.8  | 13   | 10.4 | 7.8  | 18.2 | 9.1  | 19.5 | 23.4 | 10.4 | 23.4 | 28.6 | 19.5 | 14.3 | 7.8  | 7.8  | 13   | 10.4 |      |
| CRZ IMPACT (%) |  | 0                              | 40   | 42   | 62   | 40   | 66   | 85   | 91   | 3    | 4    | 49   | 48   | 52   | 100  | 100  | 82   | 56   | 66   | 32   | 58   | 89   | 26   | 30   | 26   | 73   | 37   | 95   | 78   | 59   | 40   | 78   | 79   | 72   | 91   | 69   | 92   | 97   | 66   | 73   | 60   | 54   |

|                |  | RIGHT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|--|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID        |  | R064                            | R065 | R066 | R067 | R068 | R069 | R070 | R071 | R072 | R073 | R074 | R075 | R076 | R077 | R078 | R079 | R080 | R081 | R082 | R083 | R084 | R085 | R086 | R087 | R088 | R089 | R090 | R091 | R092 | R093 | R094 | R095 | R096 | R097 | R098 | R099 | R100 | R101 | R102 | R103 | R104 | R105 | R106 | R107 | R108 |
| DBH (INCH)     |  | 6                               | 9    | 7    | 6    | 26   | 8    | 9    | 13   | 9    | 11   | 15   | 18   | 16   | 9    | 18   | 6    | 16   | 6    | 10   | 12   | 26   | 8    | 6    | 27   | 25   | 8    | 6    | 6    | 8    | 7    | 6    | 6    | 32   | 12   | 7    | 7    | 6    | 8    | 10   | 15   | 10   | 6    | 6    | 20   |      |
| SRP (FT)       |  | 3                               | 4.5  | 3.5  | 3    | 13   | 4    | 4.5  | 6.5  | 4.5  | 5.5  | 7.5  | 9    | 8    | 4.5  | 9    | 3    | 8    | 3    | 5    | 6    | 13   | 4    | 3    | 3    | 13.5 | 12.5 | 4    | 3    | 3    | 4    | 3.5  | 3    | 3    | 16   | 6    | 3.5  | 3.5  | 3    | 4    | 5    | 7.5  | 5    | 3    | 3    | 10   |
| SRP IMPACT (%) |  | 0                               | 100  | 100  | 100  | 22   | 0    | 0    | 32   | 100  | 60   | 34   | 6    | 50   | 0    | 51   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 33   | 100  | 100  | 100  | 73   | 98   | 100  | 100  | 0    | 99   | 100  | 41   | 100  | 100  | 90   |
| CRZ (FT)       |  | 7.8                             | 11.7 | 9.1  | 7.8  | 33.8 | 10.4 | 11.7 | 16.9 | 11.7 | 14.3 | 19.5 | 23.4 | 20.8 | 11.7 | 23.4 | 7.8  | 20.8 | 7.8  | 13   | 15.6 | 33.8 | 10.4 | 7.8  | 7.8  | 35.1 | 32.5 | 10.4 | 7.8  | 7.8  | 10.4 | 9.1  | 7.8  | 7.8  | 41.6 | 15.6 | 9.1  | 9.1  | 7.8  | 10.4 | 13   | 19.5 | 13   | 7.8  | 7.8  | 26   |
| CRZ IMPACT (%) |  | 24                              | 100  | 100  | 100  | 37   | 10   | 5    | 44   | 83   | 54   | 43   | 29   | 43   | 0    | 53   | 18   | 29   | 0    | 0    | 0    | 5    | 0    | 0    | 0    | 1    | 26   | 0    | 0    | 1    | 45   | 100  | 90   | 83   | 58   | 72   | 100  | 100  | 25   | 72   | 100  | 46   | 100  | 100  | 86   | 66   |



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 Georgia Registered Engineering Firm REF-004433  
 ENGINEER

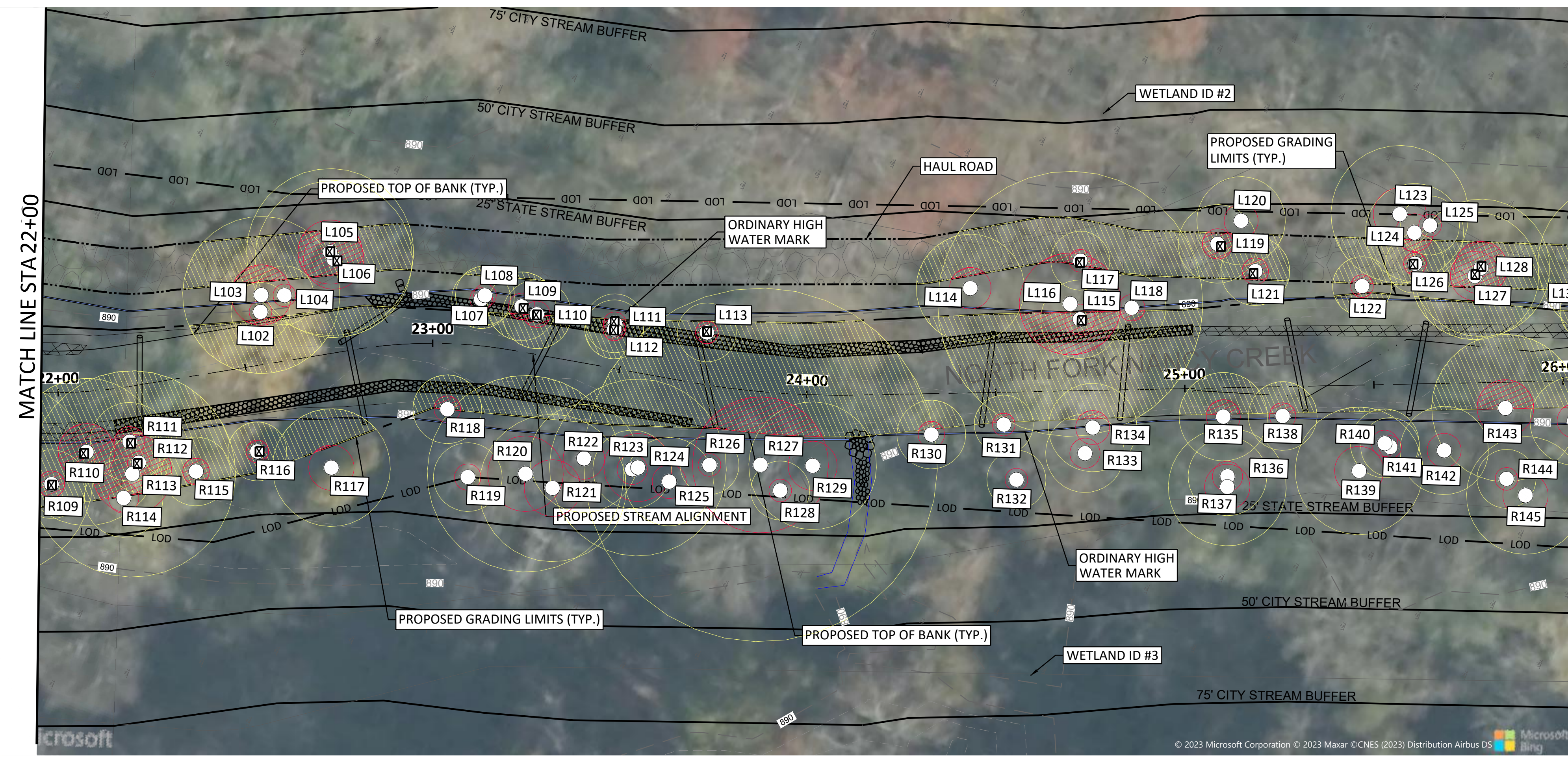
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 250  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**  
 TR ##  
 STA 18+00 TO STA 22+00

|     |              |            |     |                  |
|-----|--------------|------------|-----|------------------|
| NO. | ISSUE        | DATE       | BY  | FILE NAME        |
| 0   | VERIFY SCALE | 09/15/2022 | JPS | ESC-TR-SHTS1.dwg |
| 1   | VERIFY SCALE | 12/2/2022  | JPS | ESC-TR-SHTS1.dwg |

DESIGNED: BGA20127 DATE: 12/2/2022  
 DRAWN: JPS  
 CHECKED: JPS  
 REVISION: JPS

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 Last Saved: 11/14/2023 3:30 PM Saved By: 02875



MATCH LINE STA 22+00

MATCH LINE STA 26+00

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- PROPERTY BOUNDARIES
- LOD --- LIMITS OF DISTURBANCE
- EXISTING WETLAND
- SURVEYED TREES
- REMOVED TREES
- STRUCTURAL ROOT PLATE (SRP)
- SRP ENCROACHMENT (TREE PRESCRIPTION REQUIRED)
- CRITICAL ROOT ZONE (CRZ)
- CRZ ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

| LEFT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID                        | L102 | L103 | L104 | L105 | L106 | L107 | L108 | L109 | L110 | L111 | L112 | L113 | L114 | L115 | L116 | L117 | L118 | L119 | L120 | L121 | L122 | L123 | L124 | L125 | L126 | L127 | L128 |
| DBH (INCH)                     | 6    | 16   | 6    | 17   | 16   | 6    | 6    | 7    | 7    | 6    | 6    | 6    | 11   | 8    | 27   | 6    | 7    | 8    | 9    | 7    | 6    | 14   | 10   | 6    | 6    | 13   | 14   |
| SRP (FT)                       | 3    | 8    | 3    | 8.5  | 8    | 3    | 3    | 3.5  | 3.5  | 3    | 3    | 3    | 5.5  | 4    | 13.5 | 3    | 3.5  | 4    | 4.5  | 3.5  | 3    | 7    | 5    | 3    | 3    | 6.5  | 7    |
| SRP IMPACT (%)                 | 12   | 29   | 0    | 82   | 82   | 0    | 0    | 15   | 47   | 72   | 98   | 100  | 14   | 79   | 46   | 75   | 35   | 92   | 7    | 88   | 47   | 1    | 27   | 0    | 100  | 78   | 92   |
| CRZ (FT)                       | 7.8  | 20.8 | 7.8  | 22.1 | 20.8 | 7.8  | 7.8  | 9.1  | 9.1  | 7.8  | 7.8  | 7.8  | 14.3 | 10.4 | 35.1 | 7.8  | 9.1  | 10.4 | 11.7 | 9.1  | 7.8  | 18.2 | 13   | 7.8  | 7.8  | 16.9 | 18.2 |
| CRZ IMPACT (%)                 | 34   | 63   | 27   | 44   | 48   | 28   | 27   | 41   | 49   | 59   | 72   | 73   | 55   | 62   | 64   | 60   | 45   | 65   | 32   | 67   | 77   | 27   | 41   | 19   | 87   | 68   | 60   |

| RIGHT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID                         | R109 | R110 | R111 | R112 | R113 | R114 | R115 | R116 | R117 | R118 | R119 | R120 | R121 | R122 | R123 | R124 | R125 | R126 | R127 | R128 | R129 | R130 | R131 | R132 | R133 | R134 | R135 | R136 | R137 | R138 | R139 | R140 | R141 | R142 | R143 | R144 | R145 |
| DBH (INCH)                      | 7    | 15   | 8    | 6    | 21   | 8    | 7    | 6    | 12   | 7    | 7    | 20   | 15   | 11   | 8    | 18   | 9    | 6    | 36   | 6    | 13   | 7    | 6    | 6    | 8    | 9    | 9    | 8    | 12   | 7    | 13   | 7    | 6    | 9    | 15   | 6    | 12   |
| SRP (FT)                        | 3.5  | 7.5  | 4    | 3    | 10.5 | 4    | 3.5  | 3    | 6    | 3.5  | 3.5  | 10   | 7.5  | 5.5  | 4    | 9    | 4.5  | 3    | 18   | 3    | 6.5  | 3.5  | 3    | 3    | 4    | 4.5  | 4.5  | 4    | 6    | 3.5  | 6.5  | 3.5  | 3    | 4.5  | 7.5  | 3    | 6    |
| SRP IMPACT (%)                  | 100  | 100  | 100  | 100  | 82   | 42   | 99   | 100  | 2    | 51   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 21   | 0    | 0    | 25   | 37   | 0    | 0    | 18   | 41   | 0    | 0    | 0    | 0    | 0    | 0    | 52   | 0    | 0    |      |
| CRZ (FT)                        | 9.1  | 19.5 | 10.4 | 7.8  | 27.3 | 10.4 | 9.1  | 7.8  | 15.6 | 9.1  | 9.1  | 26   | 19.5 | 14.3 | 10.4 | 23.4 | 11.7 | 7.8  | 46.8 | 7.8  | 16.9 | 9.1  | 7.8  | 7.8  | 10.4 | 11.7 | 11.7 | 10.4 | 15.6 | 9.1  | 16.9 | 9.1  | 7.8  | 11.7 | 19.5 | 7.8  | 15.6 |
| CRZ IMPACT (%)                  | 87   | 89   | 100  | 100  | 62   | 47   | 72   | 90   | 29   | 53   | 0    | 15   | 1    | 11   | 0    | 21   | 0    | 0    | 33   | 0    | 21   | 40   | 46   | 0    | 3    | 37   | 46   | 0    | 0    | 45   | 1    | 1    | 0    | 1    | 51   | 0    | 0    |



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 Expires 09/30/2025

REFERENCE DRAWING  
 THIS DOCUMENT IS RELEASED AS A SURVEY AND TREE IMPACTS ONLY. ALL "LEAVE TREES" WILL BE FIELD-LOCATED PRIOR TO CONSTRUCTION.

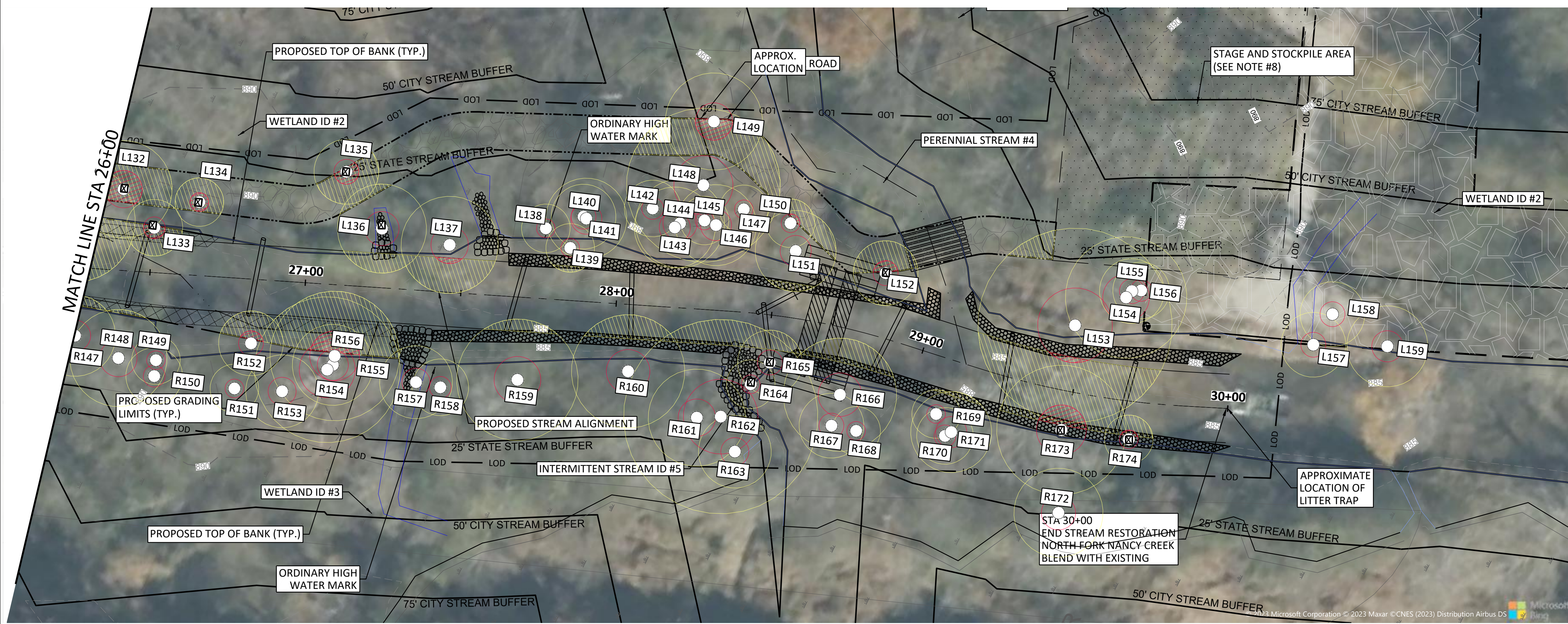
**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 250  
 Atlanta, GA 30330  
 Phone - (404) 334-4310  
 Web - www.freese.com

CITY OF BROOKHAVEN  
**N. FORK NANCY CREEK STREAMBANK RESTORATION  
 FROM I-285 TO MURPHEY CANDLER LAKE**

|           |          |          |           |          |            |           |                  |
|-----------|----------|----------|-----------|----------|------------|-----------|------------------|
| PROJ. NO. | BGA20127 | DATE     | 12/2/2022 | DRAWN    | JPS        | CHECKED   | RCE              |
| DATE      |          | DESIGNED |           | REVIEWED |            | FILE NAME | ESC-TR-SHTS1.dwg |
| BY        |          | JPS      | 12/2/2022 | JPS      | 09/15/2022 |           |                  |
| NO.       | ISSUE    |          |           |          |            |           |                  |
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 Last Saved: 11/14/2023 3:30 PM Saved By: 02875



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0 20' 40'  
SCALE IN FEET HORIZONTAL

TEMPORARY EASEMENTS  
 PROPERTY BOUNDARIES  
 LOD LIMITS OF DISTURBANCE

EXISTING WETLAND

SURVEYED TREES  
 REMOVED TREES

STRUCTURAL ROOT PLATE (SRP)

SRP ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

CRITICAL ROOT ZONE (CRZ)

CRZ ENCROACHMENT (TREE PRESCRIPTION REQUIRED)

| LEFT BANK (LOOKING DOWNSTREAM)  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TREE ID                         | L129 | L130 | L131 | L132 | L133 | L134 | L135 | L136 | L137 | L138 | L139 | L140 | L141 | L142 | L143 | L144 | L145 | L146 | L147 | L148 | L149 | L150 | L151 | L152 | L153 | L154 | L155 | L156 | L157 | L158 | L159 |
| DBH (INCH)                      | 16   | 6    | 15   | 12   | 7    | 6    | 8    | 11   | 12   | 6    | 6    | 8    | 10   | 7    | 10   | 11   | 6    | 10   | 6    | 19   | 12   | 6    | 10   | 8    | 24   | 15   | 8    | 7    | 8    | 10   |      |
| SRP (FT)                        | 8    | 3    | 7.5  | 6    | 3.5  | 3    | 4    | 5.5  | 6    | 3    | 3    | 4    | 5    | 3.5  | 5    | 5.5  | 3    | 5    | 3    | 9.5  | 6    | 3    | 5    | 4    | 12   | 7.5  | 4    | 3.5  | 4    | 5    |      |
| SRP IMPACT (%)                  | 82   | 47   | 69   | 90   | 62   | 100  | 69   | 0    | 9    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 59   | 18   | 0    | 42   | 4    | 0    | 0    | 0    | 0    | 0    | 0    |      |
| CRZ (FT)                        | 20.8 | 7.8  | 19.5 | 15.6 | 9.1  | 7.8  | 10.4 | 14.3 | 15.6 | 7.8  | 7.8  | 10.4 | 13   | 9.1  | 13   | 14.3 | 7.8  | 13   | 7.8  | 24.7 | 15.6 | 7.8  | 13   | 10.4 | 31.2 | 19.5 | 10.4 | 9.1  | 10.4 | 13   |      |
| CRZ IMPACT (%)                  | 48   | 59   | 82   | 59   | 61   | 74   | 57   | 24   | 33   | 0    | 7    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 29   | 43   | 37   | 23   | 48   | 33   | 0    | 0    | 0    | 0    | 0    |      |
| RIGHT BANK (LOOKING DOWNSTREAM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| TREE ID                         | R146 | R147 | R148 | R149 | R150 | R151 | R152 | R153 | R154 | R155 | R156 | R157 | R158 | R159 | R160 | R161 | R162 | R163 | R164 | R165 | R166 | R167 | R168 | R169 | R170 | R171 | R172 | R173 | R174 |      |      |
| DBH (INCH)                      | 9    | 10   | 12   | 6    | 7    | 6    | 8    | 9    | 18   | 10   | 16   | 9    | 7    | 15   | 14   | 12   | 24   | 9    | 6    | 8    | 14   | 8    | 6    | 6    | 7    | 10   | 11   | 16   | 6    |      |      |
| SRP (FT)                        | 4.5  | 5    | 6    | 3    | 3.5  | 3    | 4    | 4.5  | 9    | 5    | 8    | 4.5  | 3.5  | 7.5  | 7    | 6    | 12   | 4.5  | 3    | 4    | 7    | 4    | 3    | 3    | 3.5  | 5    | 5.5  | 8    | 3    |      |      |
| SRP IMPACT (%)                  | 7    | 0    | 0    | 0    | 0    | 0    | 29   | 0    | 12   | 5    | 41   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 37   | 25   |      |      |
| CRZ (FT)                        | 11.7 | 13   | 15.6 | 7.8  | 9.1  | 7.8  | 10.4 | 11.7 | 23.4 | 13   | 20.8 | 11.7 | 9.1  | 19.5 | 18.2 | 15.6 | 31.2 | 11.7 | 7.8  | 10.4 | 18.2 | 10.4 | 7.8  | 7.8  | 9.1  | 13   | 14.3 | 20.8 | 7.8  |      |      |
| CRZ IMPACT (%)                  | 33   | 6    | 1    | 0    | 0    | 0    | 42   | 0    | 34   | 31   | 46   | 1    | 0    | 5    | 16   | 0    | 8    | 0    | 0    | 26   | 17   | 0    | 0    | 1    | 0    | 3    | 0    | 44   | 40   |      |      |

**REFERENCE DRAWING**  
 THIS DOCUMENT IS RELEASED AS A SURVEY AND TREE IMPACTS ONLY. ALL "LEAVE TREES" WILL BE FIELD-LOCATED PRIOR TO CONSTRUCTION.

**FREES & NICHOLS**  
 360 Interstate North Parkway,  
 Suite 250  
 Atlanta, GA 30339  
 Phone: (404) 334-4310  
 Web: www.frees.com

**CITY OF BROOKHAVEN**  
**N. FORK NANCY CREEK STREAMBANK RESTORATION FROM I-285 TO MURPHEY CANDLER LAKE**

TR ##  
 STA 26+00 TO END

|     |       |    |            |                               |                  |
|-----|-------|----|------------|-------------------------------|------------------|
| NO. | ISSUE | BY | DATE       | PKN JOB NO.                   | BGA20127         |
|     |       |    | 12/27/2022 | DATE                          | 12/27/2022       |
|     |       |    |            | DRAWN                         | JPS              |
|     |       |    | 12/27/2022 | CITY OF BROOKHAVEN LDP REVIEW |                  |
|     |       |    | 09/15/2022 | DEKALB COUNTY LDP REVIEW      |                  |
|     |       |    |            | CHECKED                       | RCE              |
|     |       |    |            | FILE NAME                     | ESC-TR-SHTS1.dwg |

VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

811  
 Know what's below.  
 Call before you dig.

FOR REFERENCE ONLY  
 NOT FOR CONSTRUCTION

SHEET TR-5  
 SEQ.