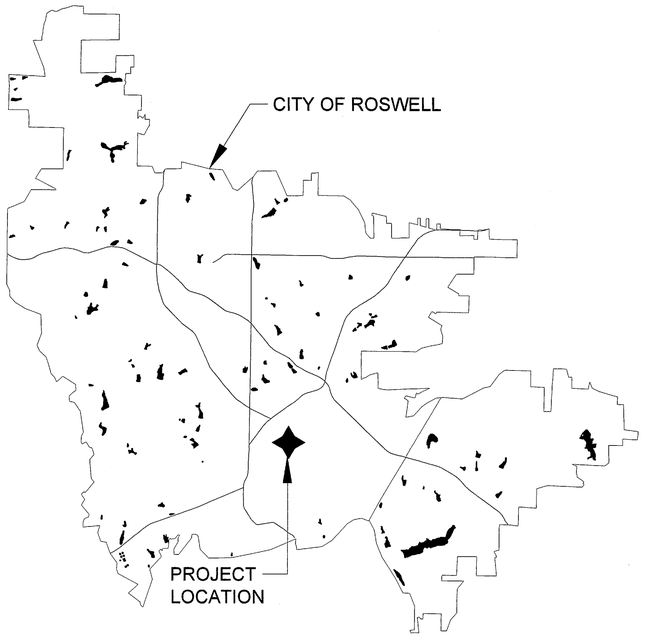
CONSTRUCTION PLANS FOR:
CITY OF ROSWELL, GEORGIA

REQUBMITTAL #1
ENGINEERING



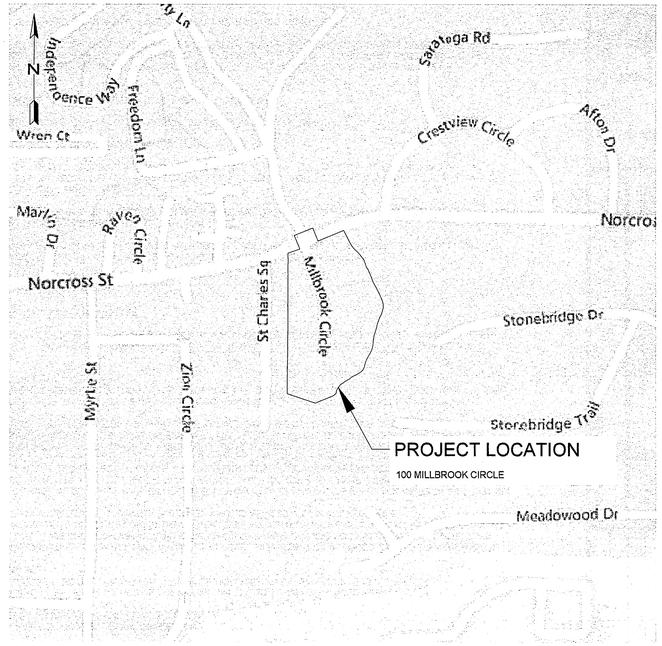
PROJECT VICINITY MAP

SHEET NUMBER	SHEET TITLE
--	COVER SHEET
1	LEGEND, ABBREVIATIONS, AND NOTES
2	SITE PLAN 1
3	SITE PLAN 2
4	STANDARD DETAILS 1
5	STANDARD DETAILS 2
6	EROSION CONTROL NOTES
7	EROSION CONTROL DETAILS

ROSWELL
GEORGIA
SINCE 1854

PROJECT:

MILLBROOK CIRCLE WATER MAIN REPLACEMENT



PROJECT LOCATION MAP

CONSULTING ENGINEER:

ESI
ENGINEERING STRATEGIES, INC.
Phone: (770) 429-0001
AUGUST 2017

Approved Date 8/25/17
Plans Reviewer

GEORGIA REGISTERED PROFESSIONAL ENGINEER W. SCOTT HENNESSEY

24-HOUR CONTACT
CHRIS BOYD (770) 817-6750

Millbrook Cir
20170334

CONSTRUCTION PLANS FOR:
CITY OF ROSWELL, GEORGIA

RESUBMITTAL
ENGINEERING #1

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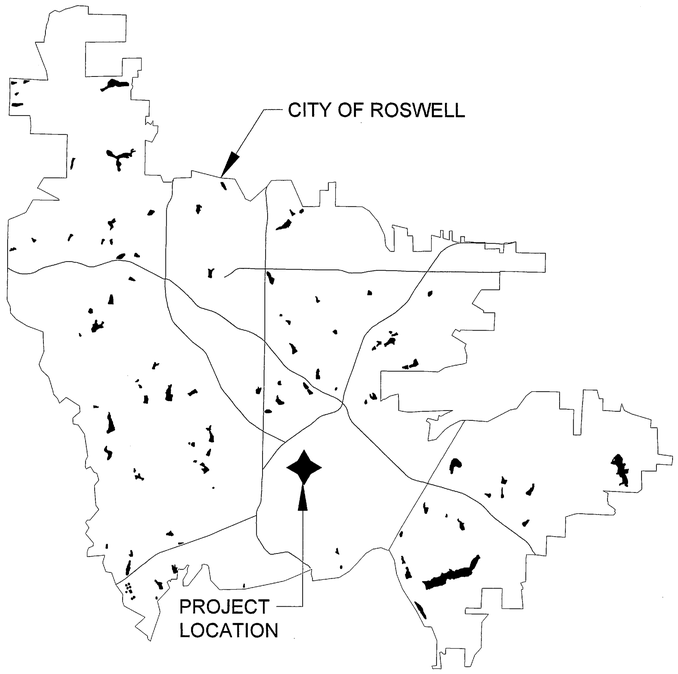
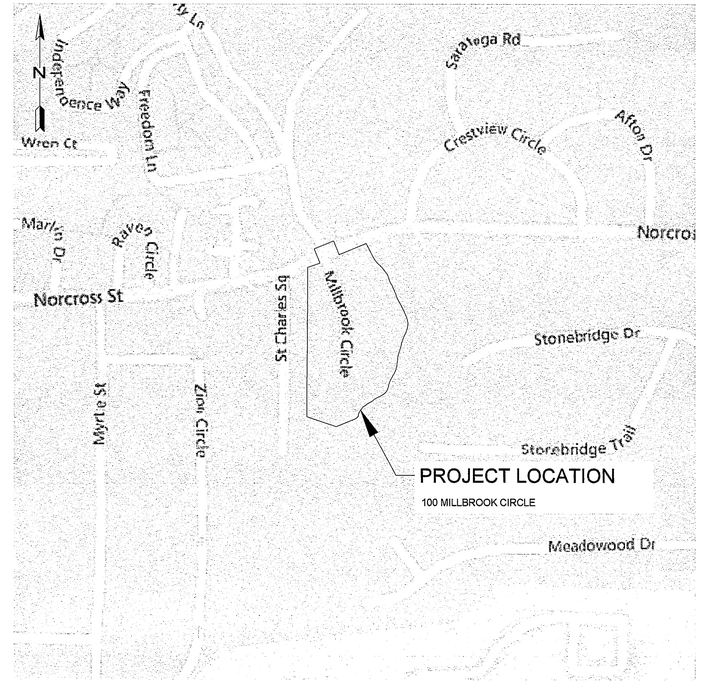


PROJECT VICINITY MAP

ROSWELL
GEORGIA
SINCE 1854



PROJECT LOCATION MAP

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MILLBROOK CIRCLE WATER MAIN REPLACEMENT

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STANDARD LINE TYPES

- EXISTING CONTOUR - MAJOR
- EXISTING CONTOUR - MINOR
- EXISTING EASEMENT
- X — EXISTING FENCE
- ℄ — EXISTING PROPERTY LINE
- R/W — EXISTING RIGHT-OF-WAY
- TV — EXISTING UTILITY - CABLE TELEVISION
- G — EXISTING UTILITY - GAS
- OHP — EXISTING UTILITY - OVERHEAD POWER
- U — EXISTING UTILITY - MISCELLANEOUS
- S — EXISTING UTILITY - SANITARY SEWER
- T — EXISTING UTILITY - TELEPHONE
- W — EXISTING UTILITY - WATER

- PROPOSED CONTOUR - MAJOR
- PROPOSED CONTOUR - MINOR
- PROPOSED EASEMENT - PERMANENT
- PROPOSED EASEMENT - TEMPORARY
- X — PROPOSED FENCE
- ℄ — PROPOSED PROPERTY LINE
- R/W — PROPOSED RIGHT-OF-WAY
- FM — PROPOSED SANITARY SEWER FORCE MAIN
- S — PROPOSED SANITARY SEWER
- U — PROPOSED UTILITY - MISCELLANEOUS
- W — PROPOSED WATER
- SF — TYPE "S" SILT FENCE

STANDARD HATCH PATTERNS

- ASPHALT RESURFACE
- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT

STANDARD SYMBOLS

- FIRE HYDRANT
- YARD HYDRANT
- VALVE - EXISTING
- VALVE - PROPOSED
- WATER METER
- GAS METER
- LIGHT POLE
- POWER POLE WITH GUY WIRE
- POWER POLE WITHOUT GUY WIRE
- TELEPHONE POLE WITH GUY WIRE
- TELEPHONE WITHOUT GUY WIRE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- STORM SEWER CATCH BASIN
- STORM SEWER DROP INLET
- C — UTILITY BOX - CABLE TELEVISION
- T — UTILITY BOX - TELEPHONE
- UTILITY MANHOLE - ELECTRICAL
- UTILITY MANHOLE - TELEPHONE

ABREVIATIONS

ACP	ASBESTOS CEMENT PIPE
ASPH	ASPHALT
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BOC	BACK OF CURB
BV	BALL VALVE
CFM	CUBIC FEET PER MINUTE
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
℄	CENTER LINE
CL	CLASS
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCENTRIC
CPP	CORRUGATED POLYPROPYLENE PIPE
CS	CARBON STEEL
CU	COPPER
CV	CHECK VALVE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
ECC	ECCENTRIC
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EX	EXISTING
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FLG	FLANGE OR FLANGED
FM	FORCE MAIN
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET
G	GAS
GAL	GALLON
GALV	GALVANIZED
GM	GAS METER
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HP	HIGH POINT
HP	HORSEPOWER
ID	INSIDE DIAMETER
IN	INCHES
INV	INVERT
JT	JOINT
KW	KILOWATT
LBS	POUNDS
LF	LINEAR FEET
LOC	LIMIT-OF-CONSTRUCTION
LP	LOW POINT
LR	LONG RADIUS
MAX	MAXIMUM
MB	MAIL BOX
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NC	NORMALLY CLOSED
NIF	NOW OR FORMERLY
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
PCCP	PRE-STRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END
PE	POLYETHYLENE
PL	PROPERTY LINE
PP	POWER POLE
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
RJ	RESTRAINED JOINT
R/W	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
S	SEWER
SCH	SCHEDULE
SQ	SQUARE
SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
SW	STORMWATER
T	TELEPHONE
T&B	TOP AND BOTTOM
TEMP	TEMPORARY
TOW	TOP OF WALL
TP	TELEPHONE POLE
TYP	TYPICAL
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VTR	VENT THROUGH ROOF
W	WATER
W/	WITH
W/O	WITHOUT
WM	WATER METER OR WATER MAIN
YH	YARD HYDRANT

GENERAL CONSTRUCTION NOTES

1. ALL WATER LINE INFRASTRUCTURE SHALL BE INSTALLED USING CITY OF ROSWELL "STANDARD CONSTRUCTION SPECIFICATIONS AND SUBDIVISION REGULATIONS."
2. NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED OUTSIDE OF THE RIGHT-OF-WAY. THERE IS LIMITED SPACE AVAILABLE FOR CONSTRUCTION STORAGE; THEREFORE, CONTRACTOR SHALL NEED TO UTILIZE THE RIGHT-OF-WAY FOR CONSTRUCTION STAGING. NO MATERIALS SHALL BE STORED ON THE ROADWAY OR IN ANY DRIVEWAY. IF IN THE OPINION OF THE CITY OF ROSWELL OR THE ENGINEER ANY MATERIAL IS IMPROPERLY PLACED OR STORED, THE CONTRACTOR SHALL IMMEDIATELY MOVE THE MATERIALS TO AN ACCEPTABLE LOCATION. IT IS ENCOURAGED THAT THE CONTRACTOR, AT HIS OWN EXPENSE, LOCATE A SUITABLE NEARBY LOCATION FOR MATERIAL STORAGE.
3. ANY EXCAVATED SOIL THAT IS PLACED ON THE ROADWAY SHALL BE PLACED ON A TARP OR SIMILAR PROTECTIVE MATERIAL. ALL EXCAVATED SOIL SHALL BE REMOVED FROM THE ROADWAY AT THE END OF EACH DAY AND ANY LOOSE SOIL SHALL BE CLEANED FROM THE ROADWAY SURFACE AT THE END OF EACH DAY.
4. ALL TRENCHES SHALL BE BACKFILLED AT THE END OF EACH DAY AND DISTURBED SURFACES SHALL BE COVERED WITH EROSION CONTROL MATTING AT THE END OF EACH DAY UNTIL PERMANENT GRASSING CAN BE INSTALLED.
5. THE SERVICE LINE FOR LONG-SIDE SERVICE CONNECTIONS SHALL BE INSTALLED BY BORING A HOLE UNDER THE STREET TO INSTALL THE WATER LINE. ALL LONG-SIDE SERVICES SHALL HAVE A 2-INCH PVC CASING PIPE.
6. EXISTING CONTOURS AND FEATURES ARE BASED ON A SURVEY PREPARED BY HB&P SURVEYING COMPANY IN APRIL 2017.

   HORIZONTAL DATUM: GEORGIA STATE PLANE WEST COORDINATE SYSTEM

   VERTICAL DATUM: NAVD 83
7. THE EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM BEST AVAILABLE INFORMATION (UTILITY QUALITY LEVEL B). THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE HORIZONTAL OR VERTICAL ACCURACY OF SAID UTILITIES OR THE POSSIBILITY THAT UNDERGROUND UTILITIES OTHER THAN THE ONES SHOWN ON THE PLANS MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION AND SIZE OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL CONTACT THE UTILITY PROTECTION CENTER BY CALLING 811 AT LEAST 72 HOURS PRIOR TO BEGINNING EXCAVATION ON THE PROJECT.
8. THE PROJECT IS LOCATED IN DISTRICT 12, LAND LOTS 451 AND 452 OF THE CITY OF ROSWELL, FULTON COUNTY, GEORGIA.
9. CONTRACTOR SHALL NOT HAVE MORE THAN 50 FEET OF TRENCH OPEN AT ANY GIVEN TIME. AT THE END OF EACH DAY, TRENCHES SHALL BE BACKFILLED TO PROTECT THE GENERAL PUBLIC. TRENCHES ACROSS ROADWAYS THAT DO NOT HAVE A PERMANENT TRENCH REPAIR AT THE END OF THE DAY SHALL BE TEMPORARILY CAPPED WITH COLD PATCH ASPHALT. THE USE OF STEEL PLATES IS NOT ACCEPTABLE.
10. IF EXISTING WATER METERS INTERFERE WITH INSTALLATION OF NEW WATER LINE, CONTRACTOR SHALL RELOCATE WATER METER, AS REQUIRED, WHILE MAINTAINING WATER SERVICE TO THE CUSTOMER. COST OF RELOCATING WATER METER SHALL BE INCLUDED IN THE UNIT COST OF THE PIPE.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO LANSCAPE/LAWN IRRIGATION SYSTEMS. COST OF REPAIR SHALL BE INCLUDED IN THE UNIT COST OF THE PIPE.
12. WATER LINE SHALL HAVE RESTRAINED JOINTS FOR MINIMUM 100 FEET ON ALL SIDES OF VALVES AND FITTINGS.
13. ALL WATER LINES SHALL BE PRESSURE TESTED, DISINFECTED, AND SHALL PASS A BACTERIA TEST PRIOR TO CUSTOMER TIE-IN.
14. CONTRACTOR SHALL PROVIDE WASTE AND SANITATION FACILITIES FOR THE DURATION OF THE PROJECT.
15. ALL ORNAMENTAL PLANTINGS AND LANDSCAPING BUSHES, TERRACES, FENCES, MAILBOXES, ETC. IMPACTED BY CONSTRUCTION SHALL BE PROTECTED AND/OR REMOVED AND REPLACED. ANY ORNAMENTAL PLANTINGS THAT ARE DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT HIS EXPENSE. TRANSPLANTED AND/OR REPLACED ITEMS SHALL BE GUARANTEED FOR 1 YEAR AFTER WORK IS COMPLETED.
16. LAWNS SHALL BE PERMANENTLY GRASSED WITH SOD THAT MATCHES THE EXISTING GRASS.
17. CLEANUP AND GRASSING SHALL FOLLOW A MAXIMUM OF 500 FEET BEHIND PIPE INSTALLATION.
18. CLEANUP SHALL BE ACCOMPLISHED AT THE END OF EACH DAY WITH ACCESS TO ALL FACILITIES RESTORED.

SURVEY REQUIREMENTS

1. CONTRACTOR SHALL PLACE A VERTICAL PIECE OF 2-INCH PVC PIPE ON TOP OF THE WATER LINE AT ALL TEES, BENDS, FITTINGS, ELEVATION TRANSITIONS, AND EVERY 50 FEET ALONG THE WATER LINE FOR THE PURPOSE OF COLLECTING ELEVATION DATA FOR RECORD DRAWINGS. BOTH ENDS OF THE 2-INCH PVC PIPE SHALL BE TAPED TO PREVENT DIRT AND OTHER DEBRIS FROM CLOGGING THE 2-INCH PIPE BEFORE THE DEPTH CAN BE MEASURED. PIPE SHALL BE INSTALLED PLUMB AND SHALL EXTEND A MINIMUM OF 12-INCHES ABOVE FINISHED GRADE. CONTRACTOR SHALL WRITE A DESCRIPTION OF THE PART THAT IS BEING MARKED (I.E. T.O.P. (TOP OF PIPE), H 90 BEND (HORIZONTAL 90° BEND), ETC.). CONTRACTOR SHALL SURVEY THE ACTUAL LOCATION OF THE WATER LINE IN STATE PLANE COORDINATES. CONTRACTOR SHALL ALLOW THE ENGINEER THE OPPORTUNITY TO SURVEY THE WATER LINE ALSO. CONTRACTOR SHALL REMOVE PVC PIPE AT THE END OF THE PROJECT.

CITY OF ROSWELL STANDARD CONSTRUCTION NOTES

1. DRIVEWAYS SHALL BE CONSTRUCTED OF CONCRETE AND SLOPED PER GEORGIA HIGHWAY STANDARD 9031-J. CURB SHALL NOT BE BROKEN FROM GUTTER. CURB AND GUTTER TO BE REMOVED TO EXISTING CONSTRUCTION JOINT OR NEW JOINTS SAWED.
2. ALL SILT BARRIERS AND CONSTRUCTION ENTRANCE PADS MUST BE PLACED PRIOR TO ANY CLEARING AND/OR GRADING. NO GRADING SHALL BE DONE UNTIL SILT BARRIER INSTALLATION IS COMPLETE.
3. NO ADVERTISING SIGNS, DISPLAYS, OR ANY OTHER STRUCTURES, WHICH ARE DESIGNED, INTENDED, OR USED TO ADVERTISE OR INFORM, ARE PERMITTED INSIDE CITY RIGHT-OF-WAY.
4. ALL CURBED ISLANDS SHALL BE FILLED TO TOP OF CURB WITH TOPSOIL AND GRASSED.
5. ALL OPEN DRAINAGE SWALES MUST BE GRASSED, AND RIPRAP MUST BE PLACED AS REQUIRED TO CONTROL EROSION. A MINIMUM OF 10 SQUARE YARDS OF 40 LB. STONE SHALL BE PLACED AT ALL HEADWALLS OR FLUMES.
6. NO ADDITIONAL DRAINAGE AREAS SHALL BE DIVERTED ONTO CITY RIGHT-OF-WAY.
7. ALL CORRUGATED METAL STORM DRAIN PIPE SHALL BE FULLY BITUMINOUS-COATED GALVANIZED STEEL OR ALUMINIZED TYPE II WITH RE-ROLLED ENDS AND BANDS.
8. THESE CONSTRUCTION DRAWING APPROVALS DO NOT ALLOW ANY WORK ON CITY RIGHT-OF-WAY IN CONNECTION WITH UTILITY LINES (SANITARY SEWER, WATER, POWER, TELEPHONE, GAS, ETC.). CITY OF ROSWELL DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY ENCROACHMENT PERMIT IS REQUIRED FOR ANY WORK PERFORMED WITHIN THE CITY RIGHT-OF-WAY. CONTACT CITY OF ROSWELL DOT, (770) 641-3773, FOR ADDITIONAL INFORMATION.
9. THESE CONSTRUCTION DRAWINGS ARE APPROVED WITH THE UNDERSTANDING THAT ALL EASEMENTS AND RIGHT-OF-WAY ARE GRANTED TO THE CITY OF ROSWELL ALONG ALL ROAD FRONTAGES FOR THE PURPOSE OF SLOPING CUTS AND FILLS AS FOLLOWS:

   0' TO 5' - NOT LESS THAN 3 TO 1 SLOPE
   5' OR MORE - NOT LESS THAN 2 TO 1 SLOPE
10. CONTRACTOR SHALL RE-GRASS TO STATE HIGHWAY DEPARTMENT SPECIFICATIONS ALL CITY RIGHT-OF-WAY AREAS THAT ARE DAMAGED OR DISTURBED DURING WORK AUTHORIZED HEREIN.
11. ALL HANDICAP RAMPS SHALL BE A MINIMUM OF 3 FEET IN WIDTH AND AT A MAXIMUM 12:1 SLOPE.
12. ANY NEW SECTION OF ROADWAY TO BE DEDICATED TO THE CITY MUST BE TESTED FOR THICKNESS OF CRUSHER RUN BASE AND ASPHALT; AND THE ASPHALT MUST BE CORED TO DETERMINE THE PERCENTAGE OF COMPACTION. CORES SHALL BE TAKEN NO LESS THAN THREE HUNDRED FEET (300') APART AT STAGGERED INTERVALS.
13. THE ISSUANCE OF THESE CONSTRUCTION DRAWINGS DOES NOT ASSURE SEWER AVAILABILITY. SEWER SERVICE IS PROVIDED BY FULTON COUNTY, NOT THE CITY OF ROSWELL.
14. FIVE (5) FOOT WIDE SIDEWALK IS REQUIRED ALONG ALL PUBLIC STREETS, AND IN SOME CASES 10' WIDE, WITH 5 FOOT GRASS STRIP. ALL SIDEWALKS WITHIN HISTORIC DISTRICT SHALL BE BRICK.
15. A HORIZONTAL SEPARATION OF AT LEAST 10 FEET MUST BE MAINTAINED BETWEEN THE WATER MAIN AND THE EXISTING OR PROPOSED SEWER. WHEN WATER MAINS CROSS SEWERS, A MINIMUM VERTICAL SEPARATION OF 18 INCHES MUST BE PROVIDED BETWEEN THE TWO (2) PIPES (MEASURED EDGE TO EDGE). AT CROSSINGS, ONE FULL PIPE LENGTH OF WATER PIPE MUST BE LOCATED SO THAT BOTH JOINTS ARE AS FAR FROM THE SEWER AS POSSIBLE.
16. ANY PIPE, SOLDER OR FLUX USED IN THE INSTALLATION OR REPAIR OF THE WATER LINES MUST BE LEAD-FREE.
17. FRONT GATES ARE ALLOWED ON DUMPSTER PADS ONLY WITH PRIOR APPROVAL FROM THE PUBLIC WORKS DEPARTMENT.
18. ALL ROAD AND STORM STRUCTURES SHALL CONFORM TO GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
19. CONSTRUCTION WILL BE ALLOWED MONDAY THROUGH SATURDAY BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM ONLY.
20. SANITARY SEWER AND WATER LINES MUST PASS INSPECTION BEFORE STREETS CAN BE PAVED.
21. BUILDER SHALL BE RESPONSIBLE FOR INSTALLATION OF SIDEWALKS AND THE C.O. WILL NOT BE ISSUED UNTIL SIDEWALK IS INSPECTED AND ACCEPTED.
22. COMPACTION REPORTS SHALL BE FURNISHED TO THE CITY OF ROSWELL ON ALL UTILITY EXCAVATIONS WITHIN ROADWAY.
23. CONTRACTOR MUST NOTIFY LAND DEVELOPMENT INSPECTOR, (770) 641-3707, TWENTY-FOUR (24) HOURS PRIOR TO BEGINNING CONSTRUCTION. IN ADDITION, ALL BACKFLOW PREVENTION DEVICES, VAULTS, BLOCKING AND HYDROSEED EQUIPMENT MUST BE INSPECTED BY THE WATER DIVISION, (770) 641-3707.
24. ALL GATE VALVES SHALL BE EPOXY COATED WITH RESILIENT-SEALED GATES.
25. ALL EXTERIOR LIGHTING SHALL BE PLACED SO AS NOT TO DIRECTLY ILLUMINATE ADJACENT PROPERTY.
26. THE OWNER/DEVELOPER IS RESPONSIBLE TO COORDINATE WITH THE US ARMY CORP OF ENGINEERS CONCERNING PERMITS OR REQUIREMENTS WHEN WETLANDS ARE PROPOSED TO BE DISTURBED ON THE PROPERTY. FAILURE TO REQUEST A DETERMINATION OF PERMIT REQUIREMENT BEFORE DISTURBING ANY WETLANDS COULD RESULT IN PENALTIES BEING IMPOSED BY THE CORPS OF ENGINEERS.
27. BURIAL OF CONSTRUCTION MATERIAL IS NOT PERMITTED WITHIN THE CITY OF ROSWELL.
28. BURNING OF DEBRIS OR CONSTRUCTION MATERIALS IS NOT PERMITTED WITHIN THE CITY OF ROSWELL.
29. ALL WATER LINES DEDICATED TO THE CITY OF ROSWELL SHALL BE CLASS 350 DIP.
30. A CITY OF ROSWELL TRENCHING PERMIT IS REQUIRED PRIOR TO ANY TRENCHING ACTIVITY. CONTACT THE CITY OF ROSWELL DEPARTMENT OF TRANSPORTATION INSPECTOR AT (770) 641-3773 TO OBTAIN A PERMIT (AS PER SECTION 2.2.3, STREET CUTS, OF THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS).
31. ALL ROAD STRIPING WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE PRE-MARKED AND APPROVED BY THE CITY OF ROSWELL TRANSPORTATION DEPARTMENT, 770-641-3773, PRIOR TO FINAL STRIPING.
32. AS-BUILT PLANS OF ALL STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED TO THE CITY OF ROSWELL PRIOR TO ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY. AS-BUILT PLANS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER.

CITY OF ROSWELL DEPARTMENT OF TRANSPORTATION NOTES

1. ALL PAVEMENT CUTS WIDER THAN FOUR (4) FEET SHALL BE REPAIRED BY A STANDARD CITY OF ROSWELL PAVEMENT SECTION, AS PER SECTION 2.2.1.C, PAVING, TABLE 2.11-PAVEMENT THICKNESS, OF THE CITY OF ROSWELL STANDARD CONSTRUCTION SPECIFICATIONS.
2. STREET CUTS
   A. GENERAL
      1) OPEN STREET CUTS ARE NOT PERMITTED WITHOUT APPROVAL FROM THE CITY OF ROSWELL DEPARTMENT OF TRANSPORTATION.
      2) ALL PAVEMENT INCLUDING SIDEWALKS SHALL BE REPAVED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND REFERENCES.
      3) PAVED SIDEWALKS CUT OR BROKEN SHALL BE REPAVED WITH CONCRETE UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. THE WIDTH SHALL EQUAL THE WIDTH OF THE EXISTING SIDEWALK AND THE DEPTH SHALL BE FOUR INCHES. THE CONCRETE SHALL BE CLASS A AND SHALL BE PLACED, FINISHED, CURED AND PROTECTED IN ACCORDANCE WITH GEORGIA STATE HIGHWAY GDOT SPECIFICATIONS.
      4) BEFORE REMOVING PAVEMENT, IT SHALL BE ACCURATELY MARKED WITH CHALKLINE. PAVEMENT SHALL BE NEATLY CUT WITH THE PAVEMENT CUTTER ALONG THE MARKED LINES. SURFACING AND BASE COURSE SHALL HAVE A MINIMUM BEARING ON UNDISTURBED EARTH OUTSIDE OF EXCAVATION LINES FOR PIPELINES, MANHOLES AND OTHER APPURTENANCES OF AT LEAST SIX INCHES.
      5) NO PAVEMENT SHALL BE REMOVED UNTIL COMPLETELY BROKEN AND SEPARATED ALONG MARKED LINES.
      6) ALL BACKFILLING OF EXCAVATED PORTIONS REQUIRING PAVEMENT REPLACEMENT SHALL BE MECHANICALLY TAMPED IN SIX-INCH LAYERS USING HEAVY-DUTY TAMPERS SUCH AS PNEUMATIC JACKHAMMERS WITH TAMPING FOOT ATTACHMENT. EACH LAYER SHALL BE THOROUGHLY TAMPED TO A DENSITY EQUIVALENT TO AT LEAST 95 PERCENT OF MODIFIED AASHTO T-99-49 PROCTOR CURVE.
   B. REPLACEMENT CUTS IN ASPHALT
      1) THE TRENCH SHALL BE BACKFILLED UP TO WITHIN 9½" INCHES OF THE EXISTING PAVEMENT UNLESS OTHERWISE DIRECTED BY THE CITY OF ROSWELL ENGINEER. EIGHT INCHES OF THE REMAINING SECTION SHALL BE PLACED WITH CLASS A, HIGH EARLY STRENGTH CONCRETE.
      2) ALL IRREGULAR EDGES OF PROJECTIONS AND CRACKED SECTIONS SHALL BE REMOVED BEFORE PLACING CONCRETE.
      3) ALL CONCRETE WORK SHALL BE PROTECTED AND CURED IN ACCORDANCE WITH GEORGIA STATE HIGHWAY GDOT SPECIFICATIONS.
      4) THE REMAINING ONE INCH SHALL BE PAVED WITH 9.5-MM OR 12.5-MM SUPER PAVE, AS REQUIRED BY ROSWELL DOT, IN A METHOD SET OUT IN GEORGIA STATE HIGHWAY GDOT SPECIFICATIONS.
      5) OPEN STREET CUTS IN EXCESS OF 150 FEET IN LENGTH SHALL REQUIRE THE ENTIRE STREET WIDTH TO BE OVERLAID.
3. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION BY PERMITTING AT LEAST ONE LANE OF TRAFFIC TO MOVE THROUGH THE CONSTRUCTION SITE. ALL FLAGMEN, WARNING SIGNS, BARRICADES AND LIGHTS NECESSARY TO CONTROL THE TRAFFIC AND PROTECT THE PUBLIC SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT COST TO THE OWNER. TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", 2009 EDITION OR LATER. IF IT BECOMES NECESSARY TO CLOSE A PORTION OF THE ROAD, THE CONTRACTOR SHALL PROVIDE A TRAFFIC ROUTING (DETOUR) PLAN AND SHALL HAVE IT APPROVED BY THE CITY OF ROSWELL; OBTAIN A ROAD CLOSURE PERMIT FROM THE CITY OF ROSWELL; ISSUE A PRESS RELEASE WITH ROAD CLOSURE DATE(S); AND ACCOMMODATE LOCAL RESIDENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SIGNS FOR DIRECTING TRAFFIC ALONG THE DETOUR ROUTE.
4. CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AND SCHOOL BUS SERVICE AT ALL TIMES DURING CONSTRUCTION.

TREE PRESERVATION

1. UNLESS NOTED TO BE REMOVED, CONTRACTOR SHALL PROTECT ALL SPECIMEN TREES (24" AND LARGER HARDWOODS AND 30" AND LARGER SOFTWOODS.) ALL SPECIMEN TREES IDENTIFIED TO BE REMOVED AND ALL NON-SPECIMEN TREES THAT INTERFERE WITH THE INSTALLATION OF THE WATER LINE SHALL BE REMOVED BY THE CONTRACTOR. COST OF REMOVAL SHALL BE INCLUDED IN THE UNIT COST OF PIPE.
2. WHEN DIGGING NEAR TREES, CONTRACTOR SHALL PRUNE ALL EXPOSED ROOTS 1-INCH IN DIAMETER OR LARGER ON THE SIDE OF THE TRENCH ADJACENT TO THE TREES. PRUNING SHALL CONSIST OF MAKING A CLEAN CUT FLUSH WITH THE SIDE OF THE TRENCH TO PROMOTE NEW ROOT GROWTH.
3. CONTRACTOR SHALL PROTECT ALL TREES AND VEGETATION ON SITE EXCEPT AS NOTED ON THE PLANS OR APPROVED BY THE ENGINEER AND/OR CITY OF ROSWELL.
4. PROTECT THE TRUNKS OF ANY TREES BEING PRESERVED WITH STRAPPED ON PLANKING OR SIMILAR PROTECTIVE DEVICES.
5. TREE PROTECTION DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY CLEARING, GRUBBING, OR GRADING.
6. PRUNING OF TREE LIMBS TO PROVIDE CLEARANCE FOR EQUIPMENT AND MATERIALS SHALL BE DONE IN ACCORDANCE WITH STANDARD ARBORICULTURAL PRACTICE (ANSI A300).
7. ROOT SYSTEMS OF SIGNIFICANT TREES, AS INDICATED ON THE PLANS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE FREE-BORED. COST OF FREE-BORING SHALL BE INCLUDED IN THE UNIT COST OF THE PIPE.

GEORGIA REGISTERED No. 25248 PROFESSIONAL ENGINEER SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

L:\Roswell\Millbrook Circle\Dwg\Sheets\GS-Notes And Legend.dwg - 8/23/2017

DATE: AUGUST 2017

PROJECT NUMBER: —

DATE	REVISION	△

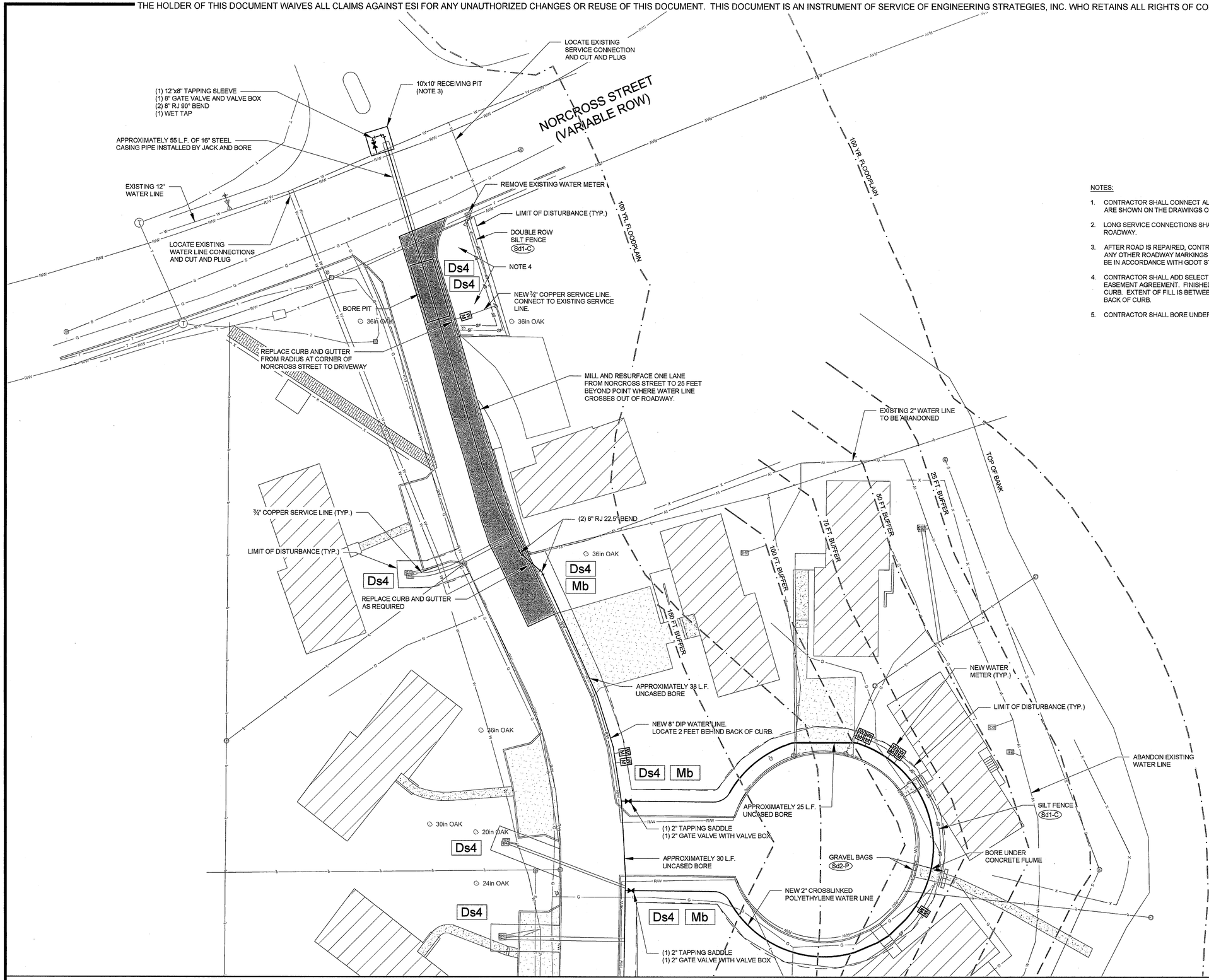
DSGN:
DRWN:
CHCK:

BAR BELOW IS 1" LONG FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" ADJUST SCALES ACCORDINGLY.

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

LEGEND, ABBREVIATIONS, AND NOTES

SHEET NO.
1



N

0 20' 40'

NOTES:

1. CONTRACTOR SHALL CONNECT ALL WATER METERS TO NEW WATER LINE WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT.
2. LONG SERVICE CONNECTIONS SHALL BE INSTALLED IN A 2" PVC CASING PIPE ACROSS ROADWAY.
3. AFTER ROAD IS REPAIRED, CONTRACTOR SHALL RESTRIPE CROSSWALK, TURN LANE, AND ANY OTHER ROADWAY MARKINGS THAT ARE DAMAGED BY CONSTRUCTION. STRIPING SHALL BE IN ACCORDANCE WITH GDOT STANDARD SPECIFICATIONS.
4. CONTRACTOR SHALL ADD SELECT FILL TO ERODED AREA BEHIND CURB AND SOD PER EASEMENT AGREEMENT. FINISHED GRADE SHALL SLOPE 2-PERCENT AWAY FROM BACK OF CURB. EXTENT OF FILL IS BETWEEN NORCROSS ROAD AND DRIVEWAY TO 20 FEET BEHIND BACK OF CURB.
5. CONTRACTOR SHALL BORE UNDER DRIVEWAYS AND WALK WAYS.

GEORGIA REGISTERED No. PROFESSIONAL ENGINEER W. SCOTT HENNESSEE

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

L:\Roswell\Millbrook Circle\Dwg\Sheets\GS - Site Plan.dwg - 8/23/2017

DATE: AUGUST 2017

REVISION	DATE

PROJECT NUMBER: —

DSGN:
DRWN:
CHCK:

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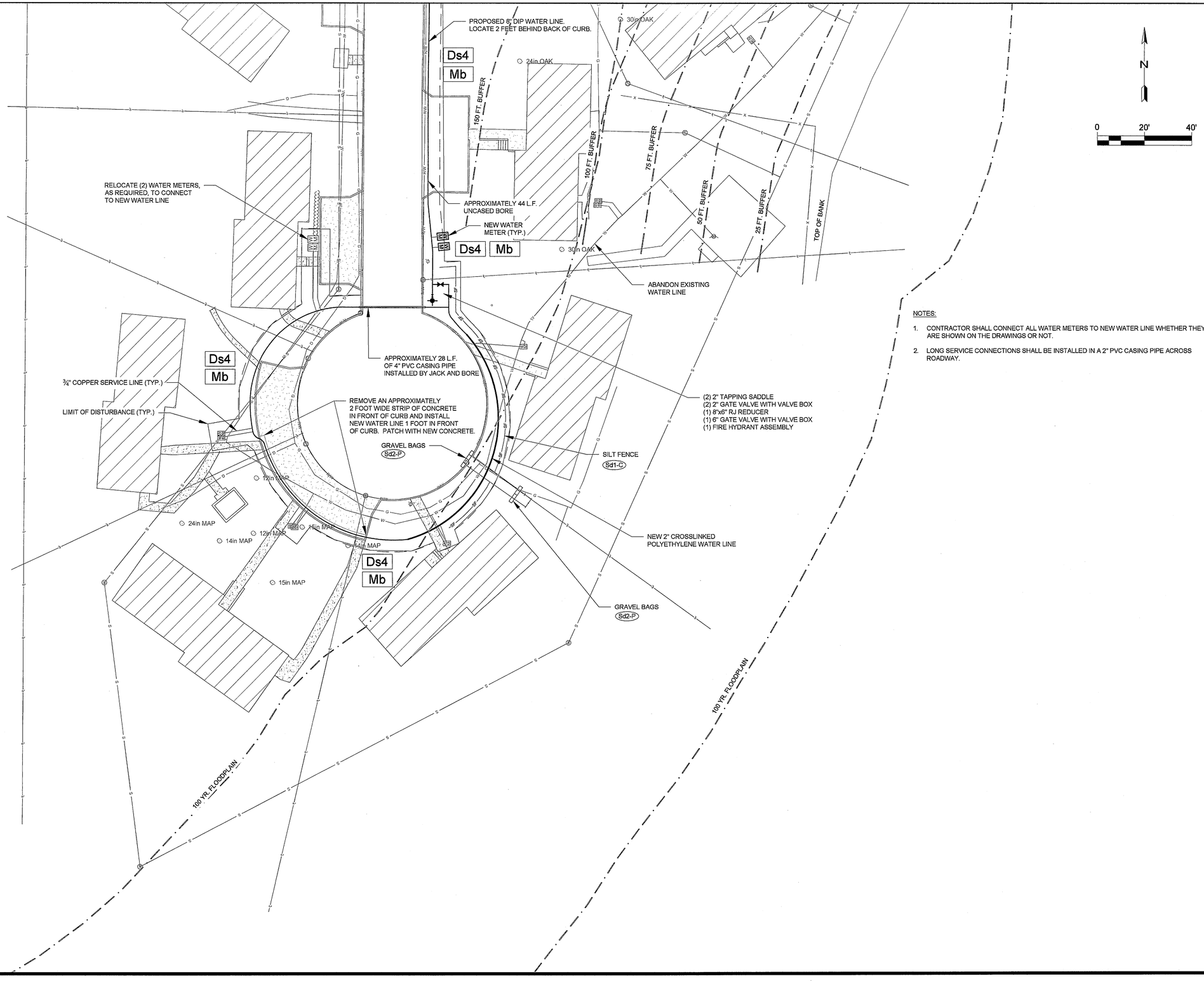
CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

SITE PLAN 1

SHEET NO.
2

MATCHLINE A



NOTES:

1. CONTRACTOR SHALL CONNECT ALL WATER METERS TO NEW WATER LINE WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT.
2. LONG SERVICE CONNECTIONS SHALL BE INSTALLED IN A 2" PVC CASING PIPE ACROSS ROADWAY.

GEORGIA REGISTERED PROFESSIONAL ENGINEER SCOTT HENNESSEE

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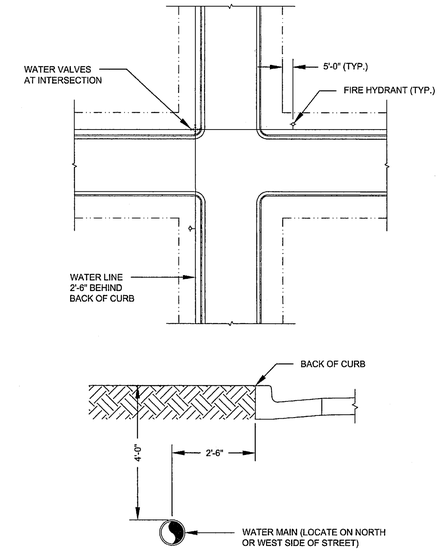
CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

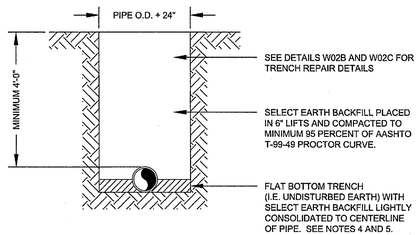
SITE PLAN 2

SHEET NO.
3



CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | TYPICAL WATER LINE LOCATION | REVISED: 12/29/2011 | DETAIL NO. W01

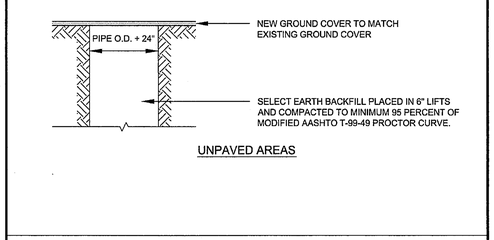


NOTES:

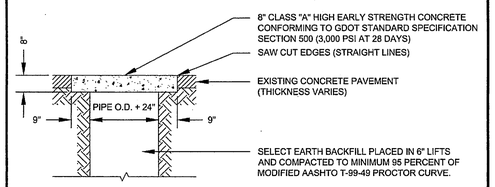
1. DUCTILE IRON PIPE FOR WATER MAINS SHALL BE BEDDED IN ACCORDANCE WITH ANSI/AWWA C150/A21.50 AND ANSI/AWWA C151/A21.51, MINIMUM TYPE 2 LAYING CONDITION. MORE STRINGENT LAYING CONDITIONS SHALL BE USED WHEN REQUIRED BY SERVICE CONDITION.
2. SELECT EARTH BACKFILL SHALL BE EXCAVATED SILTY SAND (SM) AND SILT (ML) MATERIAL THAT IS FREE FROM ROCKS LARGER THAN 3-INCHES IN DIAMETER, ASHES, CINDERS, REFUSE, ORGANIC MATERIAL, FROZEN SOIL, AND OTHER DELETERIOUS MATERIAL.
3. MINIMUM DEPTH OF COVER SHALL BE 4'-0" UNLESS OTHERWISE APPROVED BY THE CITY OF ROSWELL.
4. IF THE BOTTOM OF THE TRENCH IS ROCK, THE TRENCH SHALL BE EXCAVATED 6" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED TO THE BOTTOM OF THE PIPE WITH NO. 57 STABILIZATION STONE.
5. IF THE SOIL IN THE BOTTOM OF THE TRENCH IS DETERMINED TO BE UNSUITABLE, THE TRENCH SHALL BE OVER EXCAVATED TO A DEPTH DETERMINED BY THE CITY OF ROSWELL AND BACKFILLED TO THE BOTTOM OF THE PIPE WITH NO. 57 STABILIZATION STONE.

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | PIPE BEDDING DETAIL | REVISED: 12/29/2011 | DETAIL NO. W02A



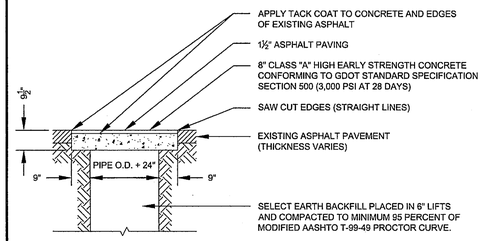
UNPAVED AREAS



CONCRETE PAVEMENT

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | TRENCH REPAIR DETAIL | REVISED: 12/29/2011 | DETAIL NO. W02B



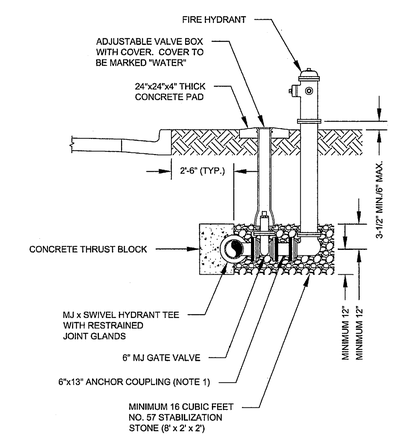
ASPHALT PAVEMENT

NOTES:

1. FOR LONGITUDINAL STREET CUTS IN EXCESS OF 150 FEET, THE ENTIRE ROADWAY SHALL BE MILLED 1½", THE CONCRETE SHALL BE FLUSH WITH THE MILLED PAVEMENT, AND THE ENTIRE STREET SHALL BE OVERLAID WITH 1½" OF ASPHALT PAVEMENT.
2. ASPHALT PAVEMENT SHALL BE 9.5-MM SUPER PAVE FOR LIGHTLY TRAVELED ROADS (MINOR STREETS) OR 12.5-MM SUPER PAVE FOR HEAVILY TRAVELED ROADS (MAJOR ARTERIAL AND COLLECTOR STREETS). COORDINATE WITH CITY OF ROSWELL DEPARTMENT OF TRANSPORTATION.
3. FOR STREET CUTS IN EXISTING ASPHALT PAVEMENT THAT IS SEVEN YEARS OLD OR LESS, MILLING AND RESURFACING SHALL EXTEND 50 FEET ON EACH SIDE OF THE CUT.
4. FOR STREET CUTS IN EXISTING ASPHALT PAVEMENT THAT IS MORE THAN SEVEN YEARS OLD, MILLING AND RESURFACING SHALL EXTEND 25 FEET ON EACH SIDE OF THE CUT.

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | TRENCH REPAIR DETAIL | REVISED: 12/29/2011 | DETAIL NO. W02C

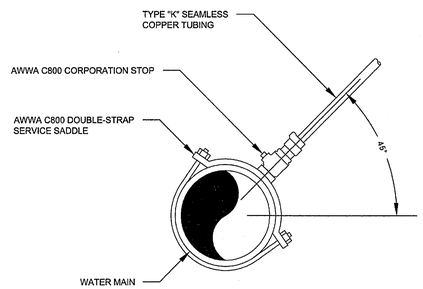


NOTES:

1. LONGER ANCHOR COUPLINGS MAY BE USED WHEN REQUIRED. IF ANCHOR COUPLINGS ARE NOT USED, VALVE SHALL BE RODDED TO THE TEE AND HYDRANT SHALL BE RODDED TO THE VALVE USING A MINIMUM OF TWO (2) THREADED RODS ON EACH CONNECTION. THREADED RODS SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A193, GRADE B8M, CLASS 2; NUTS SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A194, GRADE 8M; AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL FLAT WASHERS.
2. INSTALL MINIMUM 10 MIL PLASTIC SHEET BETWEEN CONCRETE THRUST BLOCK AND WATER LINE PIPE AND FITTINGS.

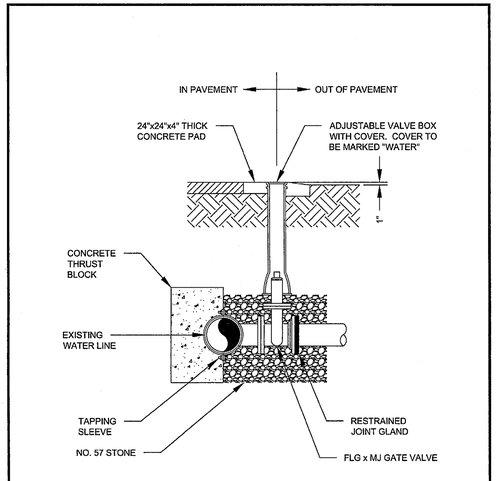
CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | FIRE HYDRANT DETAIL | REVISED: 12/29/2011 | DETAIL NO. W03



CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | SERVICE SADDLE DETAIL | REVISED: 12/29/2011 | DETAIL NO. W04

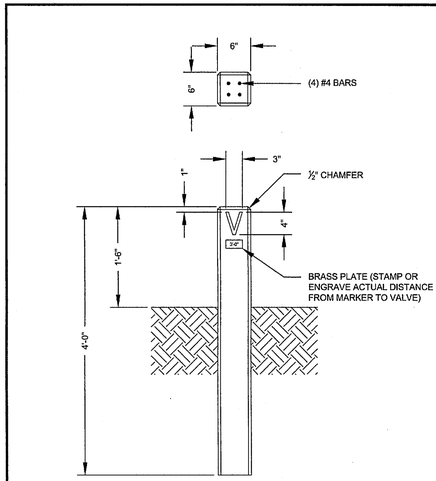


NOTES:

1. INSTALL MINIMUM 10 MIL PLASTIC SHEET BETWEEN CONCRETE THRUST BLOCK AND WATER LINE PIPE AND FITTINGS.
2. MINIMUM TAP SIZE SHALL BE 6".

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | TAPPING SLEEVE DETAIL | REVISED: 12/29/2011 | DETAIL NO. W05



NOTES:

1. PROVIDE VALVE MARKER AT ALL VALVES THAT ARE LOCATED OUTSIDE OF THE PAVEMENT.
2. CONCRETE FOR VALVE MARKERS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility Essential to Life to Source | CONCRETE VALVE MARKER DETAIL | REVISED: 12/29/2011 | DETAIL NO. W06

GEORGIA REGISTERED No. 25248 PROFESSIONAL ENGINEER M. SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

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DATE: AUGUST 2017

PROJECT NUMBER: —

△	REVISION	DATE

DSGN:
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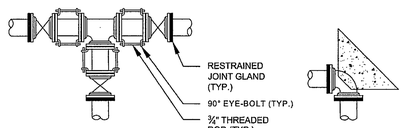
CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

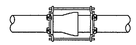
STANDARD DETAILS 1

SHEET NO.
4



FITTING WITH TIE-RODS AND RESTRAINED JOINT GLANDS

FITTING WITH RESTRAINED JOINT GLAND AND THRUST BLOCK



TIE-RODS FROM RESTRAINED JOINT GLAND TO RESTRAINED JOINT GLAND

PUSH-ON JOINT WITH RESTRAINED JOINT GASKET

PIPE DIA. (IN)	ROD SIZE (IN)	MINIMUM # OF RODS
6	⅝"	2
8	⅝"	2
10	⅝"	2
12	⅝"	2
14	⅞"	4
16	⅞"	4

TIE-ROD CHART

NOTES:

1. RESTRAINED JOINT LENGTHS SHALL BE CALCULATED BY THE DESIGN ENGINEER.
2. ALL FITTINGS SHALL HAVE TWO FORMS OF RESTRAINT (I.E. THRUST BLOCK + RESTRAINED JOINT GLANDS, RESTRAINED JOINT GLANDS + THREADED RODS, THRUST BLOCK + THREADED RODS).
3. FITTINGS LOCATED WITHIN 5 FEET OF EACH OTHER SHALL BE TIED TOGETHER WITH THREADED ROD.
4. THREADED RODS AND 90° EYE BOLTS SHALL BE TYPE 316 HARDENED STAINLESS STEEL CONFORMING TO ASTM A193, GRADE B8M, CLASS 2; NUTS SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A194, GRADE 8M; AND WASHERS SHALL BE 316 STAINLESS STEEL FLAT WASHERS.

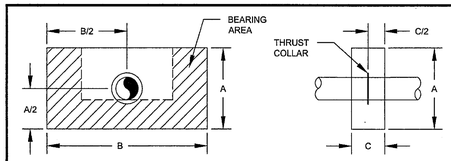
CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility — Essential to Life to Source

VALVE AND FITTING THRUST RESTRAINT

REVISED: 12/29/2011

DETAIL NO. W08



PIPE DIA. (IN)	A DIM.	B DIM.	C DIM.	MINIMUM BEARING AREA (FT²)	TOTAL BLOCK AREA (FT²)	CONC. VOLUME (YD³)	THRUST (LBF)
4	1'-6"	3'-0"	1'-6"	2.04	4.50	0.24	4,072
6	2'-0"	4'-0"	1'-6"	4.21	8.00	0.43	8,413
8	2'-5"	4'-10"	1'-6"	7.24	11.68	0.62	14,473
10	2'-11"	5'-10"	1'-6"	10.89	17.01	0.91	21,773
12	3'-5"	6'-10"	2'-0"	15.40	23.35	1.66	30,791
14	3'-10"	7'-8"	2'-0"	20.68	29.39	2.08	41,367
16	4'-4"	8'-8"	2'-0"	26.75	37.56	2.66	53,502

NOTES:

1. THRUST COLLAR DIMENSIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA.

   WORKING PRESSURE = 150 PSI
   SOIL BEARING CAPACITY = 2,000 PSF
   SAFETY FACTOR = 1.5

   THESE ARE THE MINIMUM DESIGN CRITERIA. IF ACTUAL WORKING PRESSURE IS GREATER THAN 150 PSI OR IF ACTUAL SOIL BEARING PRESSURE IS LESS THAN 2,000 PSF, DIMENSIONS SHALL BE RECALCULATED.
2. THRUST COLLAR CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
3. THRUST COLLAR SHALL BE WELDED ON BY DUCTILE IRON PIPE MANUFACTURER. ALTERNATIVELY, A RESTRAINED JOINT GLAND MAY BE USED.
4. THRUST COLLAR BEARING AREA SHALL BEAR AGAINST UNDISTURBED SOIL. BACKFILL THAT IS PLACED AGAINST THRUST COLLAR (NON-BEARING AREAS) SHALL BE COMPACTED TO MINIMUM 95 PERCENT AASHTO T-99-49 PROCTOR CURVE.

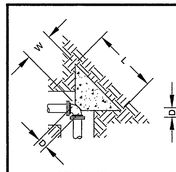
CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility — Essential to Life to Source

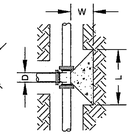
CONCRETE THRUST COLLAR DETAIL

REVISED: 12/29/2011

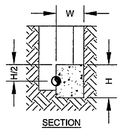
DETAIL NO. W09



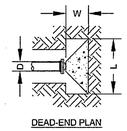
BEND PLAN



TEE PLAN



SECTION



DEAD-END PLAN

NOTES:

1. THRUST BLOCK DIMENSIONS ARE BASED ON THE FOLLOWING DESIGN CRITERIA.

   WORKING PRESSURE = 150 PSI
   SOIL BEARING CAPACITY = 2,000 PSF
   SAFETY FACTOR = 1.5

   THESE ARE THE MINIMUM DESIGN CRITERIA. IF ACTUAL WORKING PRESSURE IS GREATER THAN 150 PSI OR IF ACTUAL SOIL BEARING CAPACITY IS LESS THAN 2,000 PSF, DIMENSIONS SHALL BE RECALCULATED.
2. THRUST BLOCK CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
3. THRUST BLOCK SHALL BEAR AGAINST UNDISTURBED SOIL.
4. A MINIMUM 10 MIL PLASTIC SHEET SHALL BE PLACED BETWEEN CONCRETE AND PIPE.
5. ALL BOLTS SHALL REMAIN ACCESSIBLE. DO NOT COVER WITH CONCRETE.

TEES AND DEAD-ENDS

PIPE DIA. (IN)	D DIM.	L DIM.	H DIM.	W DIM.	CONC. VOLUME (YD³)	THRUST (LBF)
4	0'-6"	2'-2"	1'-1"	10	0.04	4,072
6	0'-8"	3'-0"	1'-6"	1'-2"	0.12	8,413
8	0'-10"	3'-10"	1'-11"	1'-6"	0.25	14,473
10	1'-0"	4'-8"	2'-4"	1'-10"	0.45	21,773
12	1'-2"	5'-8"	2'-10"	2'-3"	0.81	30,791
14	1'-4"	6'-6"	3'-3"	2'-7"	1.22	41,367
16	1'-6"	7'-4"	3'-8"	2'-11"	1.75	53,502

90° BENDS

PIPE DIA. (IN)	D DIM.	L DIM.	H DIM.	W DIM.	CONC. VOLUME (YD³)	THRUST (LBF)
4	0'-6"	2'-6"	15	12	0.07	5,758
6	0'-8"	3'-6"	1'-9"	1'-5"	0.19	11,898
8	0'-10"	4'-8"	2'-4"	1'-11"	0.45	20,468
10	1'-0"	5'-8"	2'-10"	2'-4"	0.82	30,792
12	1'-2"	6'-8"	3'-4"	2'-9"	1.33	43,545
14	1'-4"	7'-8"	3'-10"	3'-2"	2.02	58,502
16	1'-6"	8'-10"	4'-5"	3'-8"	3.10	75,663

45° BENDS

PIPE DIA. (IN)	D DIM.	L DIM.	H DIM.	W DIM.	CONC. VOLUME (YD³)	THRUST (LBF)
4	0'-6"	1'-10"	11	8	0.03	3,116
6	0'-8"	2'-8"	1'-4"	1'-0"	0.08	6,439
8	0'-10"	3'-4"	1'-8"	1'-3"	0.16	11,077
10	1'-0"	4'-2"	2'-1"	1'-7"	0.32	16,664
12	1'-2"	5'-0"	2'-6"	1'-11"	0.55	23,565
14	1'-4"	5'-8"	2'-10"	2'-2"	0.89	31,661
16	1'-6"	6'-6"	3'-3"	2'-6"	1.20	40,949

22½° BENDS

PIPE DIA. (IN)	D DIM.	L DIM.	H DIM.	W DIM.	CONC. VOLUME (YD³)	THRUST (LBF)
4	0'-6"	1'-4"	8	5	0.01	1,559
6	0'-8"	1'-10"	0'-11"	0'-7"	0.02	3,283
8	0'-10"	2'-6"	1'-3"	0'-10"	0.06	5,647
10	1'-0"	3'-0"	1'-6"	1'-0"	0.11	8,495
12	1'-2"	3'-6"	1'-9"	1'-2"	0.18	12,014
14	1'-4"	4'-2"	2'-1"	1'-5"	0.30	16,141
16	1'-6"	4'-8"	2'-4"	1'-7"	0.42	20,875

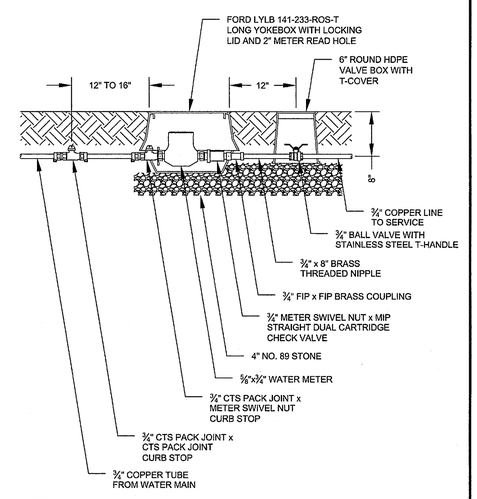
CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility — Essential to Life to Source

CONCRETE THRUST BLOCK DETAIL

REVISED: 12/29/2011

DETAIL NO. W10



NOTES:

1. WATER METER WILL BE PROVIDED AND INSTALLED BY THE CITY OF ROSWELL. CONTRACTOR SHALL PROVIDE ALL OTHER APPURTENANCES.

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL

ROSWELL Water Utility — Essential to Life to Source

¾" WATER METER INSTALLATION

REVISED: 12/29/2011

DETAIL NO. W11

GEORGIA REGISTERED No. 25248 PROFESSIONAL ENGINEER SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

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DATE: AUGUST 2017

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DSGN:
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CHCK:

BAR BELOW IS 1" LONG FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" LONG ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

1"

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

STANDARD DETAILS 2

SHEET NO.

5

CITY OF ROSWELL STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONSTRUCTION PAD SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC STREETS.
2. SILT FENCES AND HAY BALE BARRIERS SHALL BE CLEANED OR REPLACED AND MAINTAINED IN FUNCTIONAL CONDITION UNTIL PERMANENT EROSION CONTROL MEASURES ARE ESTABLISHED.
3. SILT FENCE FABRIC SHALL BE COMPRISED OF GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS SETION 171, TYPE "S," FOR SILT FENCE FABRIC. TYPE "NS" SILT FENCE FABRIC AND CONSTRUCTION MAY BE ALLOWED WITH PRIOR WRITTEN APPROVAL FROM THE LAND DEVELOPMENT INSPECTOR.
4. ALL GRASSING SHALL BE IN ACCORDANCE WITH CHAPTER 6, SECTION III "VEGETATIVE PRACTICES" OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
5. ALL OTHER WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THIS SAME MANUAL.
6. THE CONTRACTOR SHALL FURNISH THE CITY OF ROSWELL ENGINEERING DIVISION WITH A SCHEDULE OF ANTICIPATED STARTING AND COMPLETION DATES FOR EACH SEQUENCE OF LAND DISTURBING ACTIVITY LISTED IN ITEMS ONE THROUGH FIVE ABOVE.
7. EROSION CONTROL DEVICES WILL BE IN PLACE BEFORE SITE DISTURBANCE AND WILL BE PERIODICALLY INSPECTED AND REPAIRED OR RESTORED AS NEEDED TO FUNCTION PROPERLY UNTIL PERMANENT MEASURES ARE ESTABLISHED AND PROJECT IS COMPLETE, I.E. CONSTRUCTION EXITS SHALL BE REDRESSED OR CLEANED AS SILT REDUCES THEIR EFFECTIVENESS.
8. ANY ADDITIONAL CONSTRUCTION OTHER THAN SHOWN ON THIS PLAN WILL REQUIRE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AND PRIOR APPROVAL FROM THE CITY OF ROSWELL ENGINEERING DIVISION.
9. TEMPORARY VEGETATION AND/OR HEAVY MULCH WILL BE USED TO STABILIZE AREAS. IN NO CASE SHALL A SITE BE LEFT BARE FOR MORE THAN SEVEN (7) DAYS.
10. ALL DISTURBED AREAS WILL BE PERMANENTLY LANDSCAPED AND GRASSED AS QUICKLY AS POSSIBLE.
11. ADDITIONAL MEASURES MAY BE REQUIRED TO CONTROL EROSION AS DETERMINED NECESSARY BY CITY INSPECTORS.
12. PERSON RESPONSIBLE FOR EROSION CONTROL MEASURES IS: CHRIS BOYD. EMERGENCY #: (770) 641-3715.
13. EROSION CONTROL MATTING AND BLANKETS SHALL BE USED ON ALL SLOPES EXCEEDING 3:1.
14. ALL APPLICATIONS OF HYDROSEED WILL BE FOLLOWED BY ½" TO 1" MULCH.
15. SITES OVER 5 ACRES MUST PREPARE MULTI-STAGE EROSION CONTROL PLAN.
16. NO CLEARING BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THE APPROVED PLANS SHALL BE ALLOWED.
17. NO LAND DISTURBING ACTIVITY WITHIN ANY TREE SAVE AREA SHALL BE ALLOWED.
18. POLYMERS MUST BE USED ON ALL DISTURBED AREAS INCLUDING PARKING LOTS.
19. THE PROPERTY OWNER AND CONTRACTOR ARE EQUALLY RESPONSIBLE FOR ALL EROSION CONTROL ACTIVITIES.
20. NOTICE IS HEREBY GIVEN THAT ALL EROSION AND SEDIMENT DEVICES AND PRACTICES MUST BE INSTALLED AND MAINTAINED AT ALL TIMES. NO FURTHER NOTICE WILL BE GIVEN. ANY SITE UPON WHICH THE LAND DEVELOPMENT INSPECTOR FINDS ANY DEFICIENCY WILL BE SUBJECT TO AN IMMEDIATE ENFORCEMENT ACTION WITHOUT WARNING.
21. EROSION AND SEDIMENT CONTROL DEVICES MUST BE MAINTAINED IN A SATISFACTORY CONDITION 24 HOURS A DAY, 7 DAYS A WEEK.
22. ALL BEST MANAGEMENT PRACTICES SHALL BE JUDGED NOT ON APPEARANCES BUT PERFORMANCES ONLY.
23. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN QUALIFIED PROFESSIONAL ADVICE WHEN QUESTIONS ARISE CONCERNING DESIGN AND EFFECTIVENESS OF EROSION CONTROL DEVICES, NOT THE CITY OF ROSWELL.
24. EROSION CONTROL DEVICES THAT ARE INSTALLED AS DIRECTED BY THE LAND DEVELOPMENT INSPECTOR BUT NOT SHOWN ON THE APPROVED PLAN AND WHICH ALSO SUBSEQUENTLY FAIL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
25. ALL TEMPORARY AND PERMANENT SEEDING MUST BE PERFORMED AT THE APPROPRIATE SEASON. ADDITIONAL PLANTINGS WILL BE NECESSARY IF A SUFFICIENT STAND OF GRASS FAILS TO GROW.
26. THE LAND DEVELOPMENT INSPECTOR WILL DETERMINE ADEQUATE COVER OF NEW PLANTINGS.
27. TOPSOIL SHALL BE STOCKPILED AND USED TO DRESS FINAL GRADES.
28. NO DISTURBANCE WILL BE ALLOWED WITHIN FLOOD PLAINS OR WETLANDS.
29. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE NECESSARY IF DEEMED BY ON-SITE INSPECTION.
30. SILT FENCING MUST BE MIRAFI 100x FABRIC, OR EQUIVALENT SUBSTITUTE. MARIFAX 100x SPECIFICATIONS: MINIMUM WIDTH OF 36", MULLEN BURST STRENGTH OF 200 P.S.I., TRAPEZOIDAL TEAR STRENGTH OF 65 LBS., EQUIVALENT OPENING SIZE OF #40 U.S. STANDARD SIEVE AND GRAB STRENGTH OF 120 LBS.
31. SILT FENCE SHALL NOT BE PLACED IN STREAM BUFFER OR FLOOD PLAINS.
32. WHEN SILT FENCES BECOME 1/3 FULL OF SEDIMENT, THE SEDIMENT MUST BE REMOVED.

    THE CONTRACTOR SHALL FURNISH WEEKLY REPORTS TO THE CITY, WHICH INDICATES THE DATE, PERSON RESPONSIBLE, AND NOTATION OF ALL DEFICIENCIES AND CORRECTIONS MADE TO ALL EROSION AND SEDIMENT CONTROL DEVICES.
33. **THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.**
34. **EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.**
35. **ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.**
36. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
37. ACCORDING TO THE GEORGIA STORMWATER MANAGEMENT MANUAL (BLUE BOOK) TABLE 2.1.4-2, THE ESTIMATED RUNOFF COEFFICIENT FOR SINGLE FAMILY RESIDENTIAL AREAS IS 0.50. BECAUSE THE CONSTRUCTION OF THIS PROJECT WILL BE IN THE RIGHT-OF-WAY AND IN GRASSY AREAS AND ALL GRASSY AREAS DISTURBED BY TRENCHING ACTIVITIES WILL BE RETURNED TO GRASS AFTER CONSTRUCTION, THE FLOW REGIME UNCHANGED. THE ESTIMATED POST CONSTRUCTION RUNOFF COEFFICIENT IS ALSO 0.50.
38. THE RECEIVING WATER FOR THIS PROJECT IS HOG WALLOW CREEK.
39. PROVIDE BMPs FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. THIS PROJECT IS LOCATED IN LAND LOTS 451 AND 452 IN THE CITY OF ROSWELL, GEORGIA AND CONSISTS OF INSTALLING APPROXIMATELY 525 LINEAR FEET OF 8-INCH DUCTILE IRON PIPE WATER LINE AND APPROXIMATELY 900 LINEAR FEET OF 2-INCH POLYETHYLENE WATER LINE IN AND AROUND MILLBROOK CIRCLE. THE NEW WATER LINE WILL REPLACE AN EXISTING 2-INCH GALVANIZED STEEL WATER LINE. THE NEW WATER LINE WILL TIE INTO AN EXISTING 12-INCH DIP WATER LINE AT THE INTERSECTION OF MILLBROOK CIRCLE AND NORCROSS STREET.
2. THE TOTAL PROJECT AREA IS APPROXIMATELY 36,250 SQUARE FEET (0.83 ACRES). THE TOTAL DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 24,000 SQUARE FEET (0.55 ACRES).
3. PER FEMA FIRM PANEL 13121C0063G DATED SEPTEMBER 18, 2013, PORTIONS OF THIS PROJECT ARE LOCATED WITHIN THE 100-YEAR FLOOD ELEVATION.
4. THERE ARE NO WETLANDS LOCATED WITHIN THE PROJECT LIMITS.
5. THE NAME, ADDRESS, AND PHONE NUMBER OF THE PRIMARY PERMITEE IS:

   CHRIS BOYD
   CITY OF ROSWELL
   (770) 817-6750
6. THE 24-HOUR CONTACT FOR EROSION AND SEDIMENT CONTROL IS:

   CHRIS BOYD
   CITY OF ROSWELL
   (770) 817-6750

TREE PRESERVATION/PROTECTION NOTES

1. ALL LIMITS OF CONSTRUCTION AS INDICATED ON THE DRAWINGS SHALL BE CLEARLY IDENTIFIED BY ORANGE SAFETY FENCE PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE EXCEPT THOSE OPERATIONS NEEDED TO INSTALL EROSION AND SEDIMENT CONTROL MEASURES.
2. ENGINEER SHALL INSPECT SAFETY FENCING PRIOR TO LAND DISTURBANCE.
3. THE CONTRACTOR SHALL PROTECT ALL TREES AND VEGETATION ON THE SITE EXCEPT AS NOTED ON THE PLANS OR APPROVED BY THE CITY OF ROSWELL ENGINEER OR INSPECTOR.
4. ALL TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO CLEARING AND TRENCHING.
5. ORANGE SAFETY FENCE SHALL BE INSTALLED ALONG THE OUTER EDGE OF AND COMPLETELY SURROUNDING THE CRITICAL ROOT ZONES OF ALL SPECIMEN TREES OR STANDS OF TREES, OR OTHERWISE DESIGNATED TREE PROTECTION ZONES PRIOR TO ANY LAND DISTURBANCE.
6. ALL TREE PROTECTION ZONES SHALL BE DESIGNATED WITH "TREE SAVE AREA" SIGNS.
7. WHEN DIGGING NEAR TREES, THE CONTRACTOR SHALL PRUNE ALL EXPOSED ROOTS 1-INCH IN DIAMETER AND LARGER ON THE SIDE OF THE TRENCH ADJACENT TO THE TREES. PRUNING SHALL CONSIST OF MAKING A CLEAN CUT FLUSH WITH THE SIDE OF THE TRENCH TO PROMOTE NEW ROOT GROWTH.
8. PRUNING OF TREE LIMBS TO PROVIDE CLEARANCE FOR EQUIPMENT AND MATERIALS SHALL BE DONE ACCORDING TO STANDARD ARBORICULTURAL PRACTICES.
9. ALL BUFFERS AND TREE SAVE AREAS ARE TO BE CLEARLY IDENTIFIED WITH PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBING ACTIVITY.

CONSTRUCTION SCHEDULE

ACTIVITY	WEEK									
	1	2	3	4	5	6	7	8	9	10
INSTALLATION OF SEDIMENT CONTROL										
INSTALLATION OF PIPELINE										
MAINTENANCE OF EROSION CONTROL										
TEMPORARY AND PERMANENT GRASSING										
CLEAN-UP										

APPROXIMATE START: OCTOBER 2017
APPROXIMATE FINISH: JANUARY 2018

CERTIFICATION

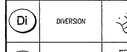
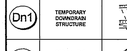
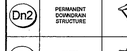
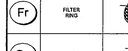
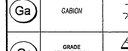
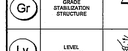
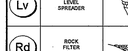
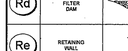
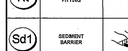
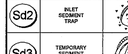
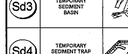
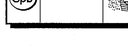
I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION.

Pedro M. Rossello

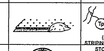
PEDRO M. ROSSELLO, P.E.
LEVEL II CERTIFIED DESIGN PROFESSIONAL #0000019365
EXP. DATE: 12/6/2018

GEORGIA
UNIFORM CODING SYSTEM
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES
GEORGIA SOIL AND WATER CONSERVATION COMMISSION

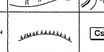
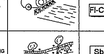
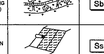
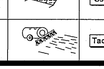
STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT		 (LABEL)	A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A trackway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below, or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE		 (LABEL)	A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and disposable.
Dn2	PERMANENT DOWNDRAIN STRUCTURE		 (LABEL)	A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE		 (LABEL)	Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL		 (LABEL)	A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING		 (LABEL)	A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER		(LABEL)	A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP		 INDICATE	An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN		 (LABEL)	A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that diverts a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER		 (LABEL)	A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM		 (LABEL)	Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING		 (LABEL)	A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a baffling boom, silt barrier, or silt curtain).
Tp	TOPSOILING		 (SHOW STRIPPING AND STORAGE AREAS)	The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION		 (DENOTE TREE CENTERS)	To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative-water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE		 (LABEL)	Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)			Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)			Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)			A permanent vegetative cover using sods on highly erodible or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS			Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM. VEGETATION)			The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS			Substance used to anchor straw or hay mulch by causing the organic material to bind together.

GaSWCC (Amended - 2010)

CERTIFIED EROSION CONTROL DESIGN PROFESSIONAL NUMBER 0000019365

GEORGIA REGISTERED No. 25248 PROFESSIONAL ENGINEER SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

L:\Roswell\Millbrook Circle\Dwg\Sheets\ESC-Notes And Details.dwg - 8/23/2017

DATE: AUGUST 2017

REVISION	DATE

PROJECT NUMBER: —

DSGN:
DRWN:
CHK:

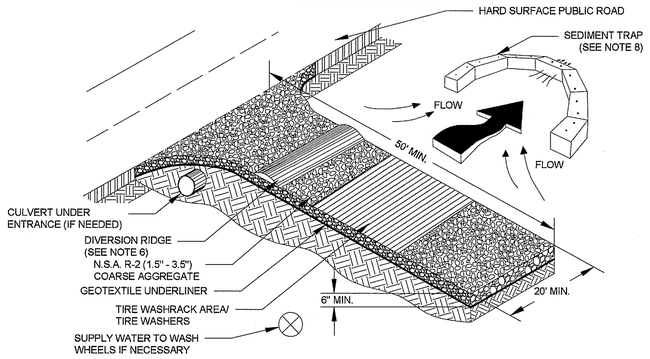
BAR BELOW IS 1" LONG FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" LONG, SCALE ACCORDINGLY.

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

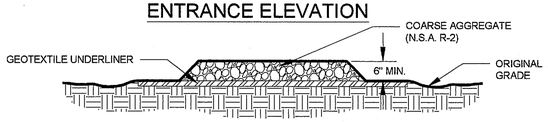
EROSION CONTROL NOTES

SHEET NO.
6

EXIT DIAGRAM



ENTRANCE ELEVATION



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

CRUSHED STONE CONSTRUCTION EXIT

Co

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE CONSTRUCTION PROJECTS

SWCD: City of Roswell, GA

Project Name: Millbrook Circle WM Replacement Address: 100 Millbrook Cir., Roswell, GA 30075

City/County: Roswell/Fulton Date on Plans: August 2017

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
7	Y	1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)
6	Y	2 Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)
	NA	3 Limits of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the EPD District Office. If EPD approves the request to disturb 50 acres or more at any one time, the plan must include at least 4 of the BMPs listed in Appendix 1 of this checklist.* (A copy of the written approval by EPD must be attached to the plan for the plan to be reviewed.)
6	Y	4 The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
6	Y	5 Provide the name, address and phone number of primary permittee.
6	Y	6 Note total and disturbed acreage of the project or phase under construction.
		7 Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.
	NA	8 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
6	Y	9 Description of the nature of construction activity.
Cover	Y	10 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
6	Y	11 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
6	Y	12 Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on page 15 of the permit.
	NA	13 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on page 15 of the permit.*
	NA	14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation."*
6	Y	15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."
	NA	16 Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
	NA	17 Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional.'"
	NA	18 Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a section 404 permit."*
6	Y	19 Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."*
6	Y	20 Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."
6	Y	21 Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
	NA	22 Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of an Biota Impaired Stream Segment must comply with Part III. C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*
	NA	23 If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.*
	NA	24 BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.*
6	Y	25 Provide BMPs for the remediation of all petroleum spills and leaks.
	NA	26 Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.*
	NA	27 Description of the practices that will be used to reduce the pollutants in storm water discharges.*
6	Y	28 Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
	NA	29 Provide complete requirements of inspections and record keeping by the primary permittee.*
	NA	30 Provide complete requirements of sampling frequency and reporting of sampling results.*
	NA	31 Provide complete details for retention of records as per Part IV.F. of the permit.*
	NA	32 Description of analytical methods to be used to collect and analyze the samples from each location.*
	NA	33 Appendix B rationale for NTU values at all outfall sampling points where applicable.*
	NA	34 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*
	NA	35 A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*
2, 3	Y	36 Graphic scale and North arrow.
2, 3	Y	37 Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Map Scale	Ground Slope	Contour Intervals, ft.
1 inch = 100ft or larger scale	Flat 0 - 2%	0.5 or 1
	Rolling 2 - 8%	1 or 2
	Steep 8% +	2,5 or 10

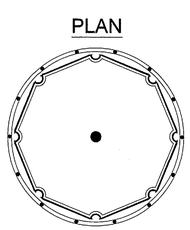
	NA	38 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.org.
	NA	39 Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition.*
2, 3	Y	40 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
2, 3	Y	41 Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
	NA	42 Delineation and acreage of contributing drainage basins on the project site.
	NA	43 Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions.*
6	Y	44 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
	NA	45 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
	NA	46 Soil series for the project site and their delineation.
2, 3	Y	47 The limits of disturbance for each phase of construction.
	NA	48 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMPs and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permitees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasable, a written justification explaining this decision must be included in the plan.
2, 3	Y	49 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
7	Y	50 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
2, 3	Y	51 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.

*If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream the * checklist items would be N/A.

Effective January 1, 2017

TREE PROTECTION - "SNOW" FENCE

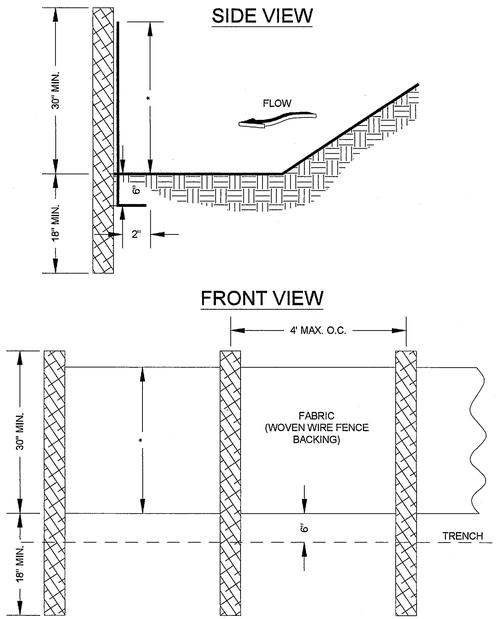
Tr



NOTES:
1. USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"-5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
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. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

SILT FENCE - TYPE SENSITIVE

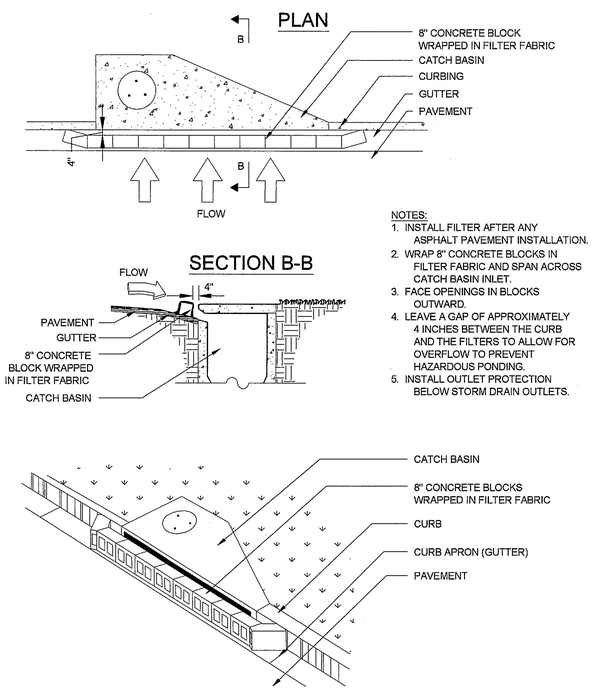
Sd1-S



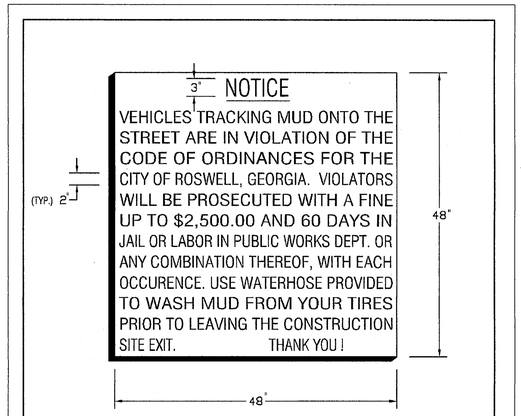
NOTES:
1. USE STEEL POSTS AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. THE HEIGHT OF THE SILT FENCED PURCHASED SHALL BE 38 INCHES.

CURB INLET FILTER "PIGS IN BLANKET"

Sd2-P



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



NOTES :
1. IN ADDITION TO THIS SIGN, A TEMPORARY WATER SUPPLY WITH A WATER HOSE, SHALL BE INSTALLED AT ALL CONSTRUCTION SITE EXITS.
2. SIGN MATERIALS TO BE, NOT LESS THAN 1/2" DURA-PLY PLYWOOD.
3. SIGN LETTERING TO BE " UPPER CASE " TYPICAL.

City of Roswell
ENGINEERING DIVISION
38 Hill St. Ste G-30 Roswell, Ga. 30075 (770-641-3760)

CONSTRUCTION EXIT SIGN

SCALE : 1"= 1'-0"	AutoCAD 2000.dwg
DATE : FEB. 4, 1997	REVISION : 12-09-03
DRAWN : S. HAMBY	DWG. # : 100-001

CERTIFIED EROSION CONTROL DESIGN PROFESSIONAL NUMBER 0000019365

GEORGIA REGISTERED No. 25248 PROFESSIONAL ENGINEER M. SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

L:\Roswell\Millbrook Circle\Dwg\Sheets\ESC-Notes And Details.dwg - 8/23/2017

DATE: AUGUST 2017

DATE	REVISION

PROJECT NUMBER: —

DSGN:
DRWN:
CHCK:

BAR BELOW IS 1" LONG FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" LONG THIS SHEET IS NOT TO SCALES ACCORDINGLY.

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

EROSION CONTROL DETAILS

SHEET NO.
7