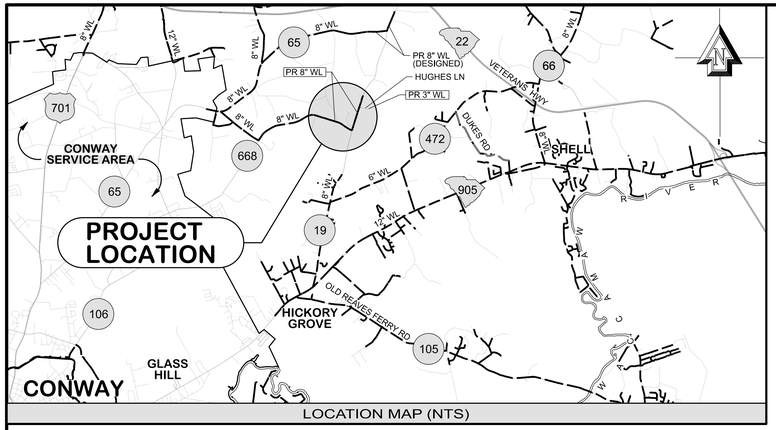
HWY 668 (S26-668) & HWY 19 (S26-19)

- Rural Water Project (#634-56 / #W14-18) -



LOCATION MAP (NTS)

PREPARED BY:

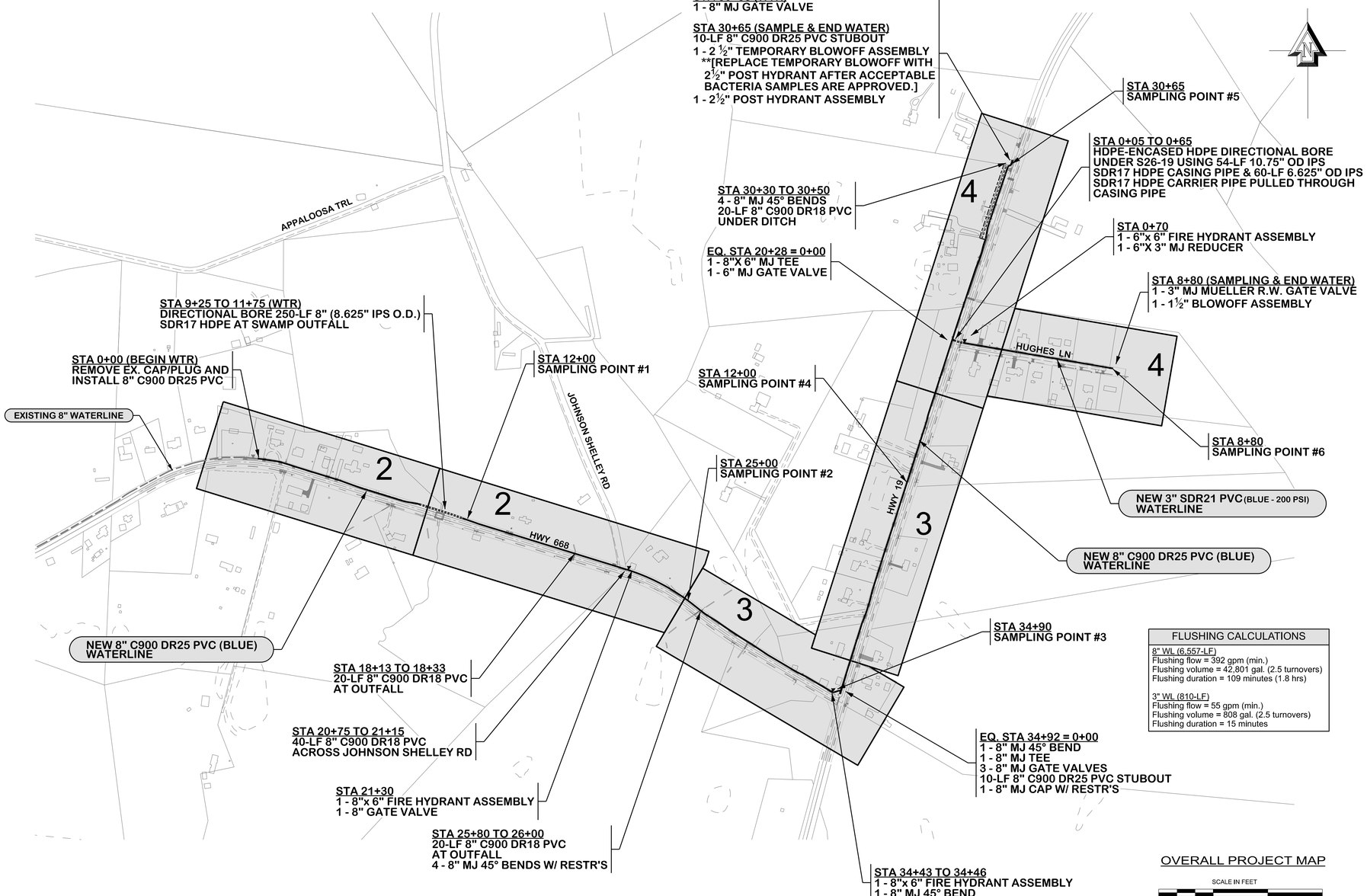
GRAND STRAND WATER & SEWER AUTHORITY
166 JACKSON BLUFF RD.
P.O. BOX 2368 CONWAY, SC 29528-2368
(843) 347-4641 OR 448-1686
(843) 347-4680 (FAX)
E-MAIL: GSWSA.COM

APPROVED BY:

4/15/20

JASON L. POSTON PE #26566

GRAND STRAND WATER & SEWER AUTHORITY



OVERALL PROJECT MAP

SCALE IN FEET

0 100 200 300 600 900

FLUSHING CALCULATIONS
8" WL (6,557-LF) Flushing flow = 392 gpm (min.) Flushing volume = 42,801 gal. (2.5 turnovers) Flushing duration = 109 minutes (1.8 hrs) 3" WL (810-LF) Flushing flow = 55 gpm (min.) Flushing volume = 808 gal. (2.5 turnovers) Flushing duration = 15 minutes

SHEET INDEX:

1. ALL ASPHALT DRIVEWAYS SHALL BE CUT AND REPAIRED PER ROAD AGENCY PERMITS. DRIVEWAYS ARE AVERAGE 15'-20' WIDE ASPHALTIC DRIVES UNLESS SPECIFIED. CUTS IN DRIVEWAYS MUST BE BACKFILLED W/ 8" SABC SO WHEN DUG OUT FOR 2" ASPHALT, 6" SABC BASE WILL REMAIN.

   DIRECTIONAL BORE OR CUT & REPAIR CONCRETE APRONS AS SHOWN IN DETAILS TYPICALLY. APRONS SHALL BE REPAIRED AS DESCRIBED HERE UNLESS SCDOT/COUNTY ENCROACHMENT PERMITS SPECIFY OTHERWISE.

2. MIN. 12" CLEARANCE AT ALL STORM DRAINAGE CROSSINGS. ALL WORK IS TO BE DONE WITHIN SCDOT AND HORRY COUNTY R/W, TYPICALLY SHOWN. ALSO, CENTER 18 OR 20 LF OF DR18 PVC (FOR SEWER FM'S) AND 18 OR 20 LF OF CL50 D.I.P. (FOR WL'S) AS NOTED AT ALL STORM DRAIN CROSSINGS UNLESS SPECIFIED OTHERWISE.

3. CONTRACTOR SHALL MAINTAIN A HORIZONTAL SEPARATION OF 10' MINIMUM BETWEEN SEWER FORCEMAINS AND PARALLEL WATERLINES. IF THIS IS NOT POSSIBLE, THEN AN 18" MINIMUM VERTICAL SEPARATION SHALL BE MAINTAINED WITH THE NEW SEWER FORCEMAIN BEING BELOW THE WATERLINE.

4. ALL VALVES SHALL INCLUDE VALVE BOX, COLLAR AND CONCRETE MARKER UNLESS SPECIFIED BY DETAIL. A VALVE MARKER MAY BE USED TO INDICATE/LOCATE MORE THAN ONE VALVE IF IN THE SAME PROXIMITY. ALL NEW SEWER LINE VALVES SHALL HAVE SPECIAL INTERNAL PROTECTIVE COATING.

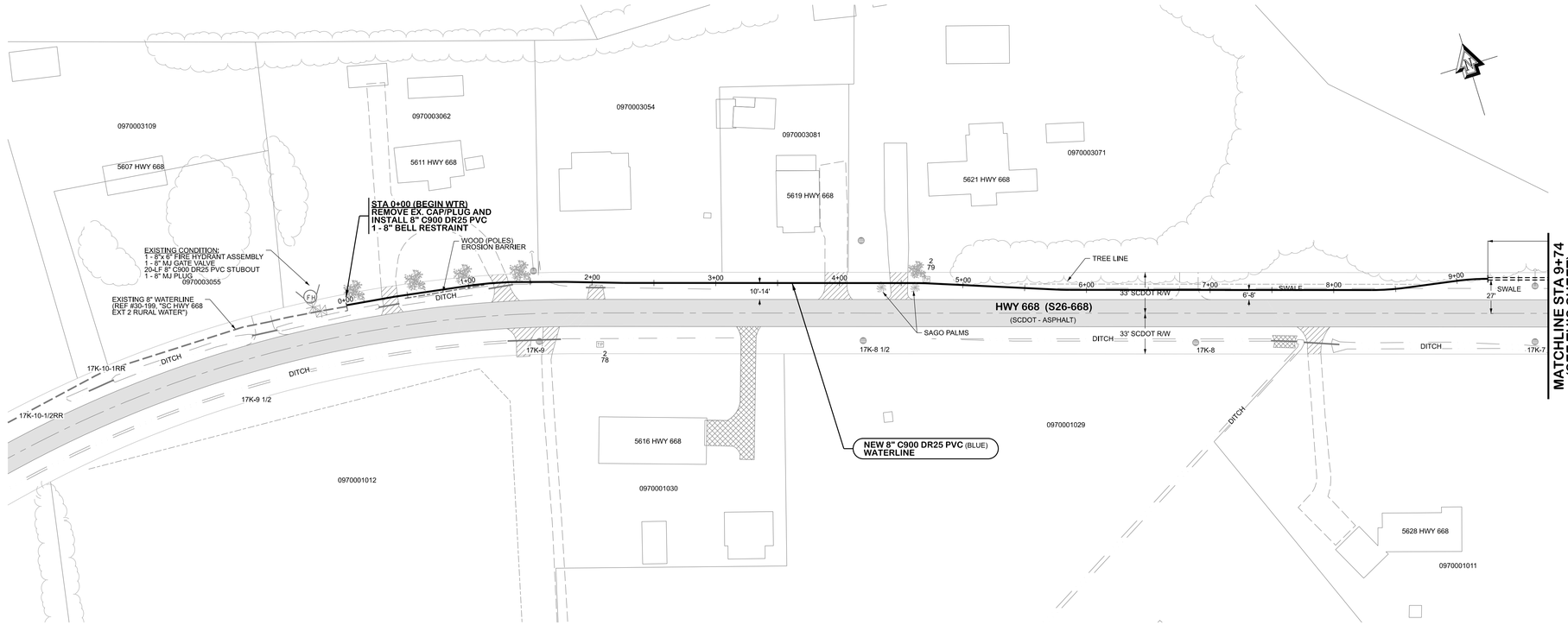
5. ALL FITTINGS SHALL BE RESTRAINED BY GSWSA-APPROVED FITTING RESTRAINTS.

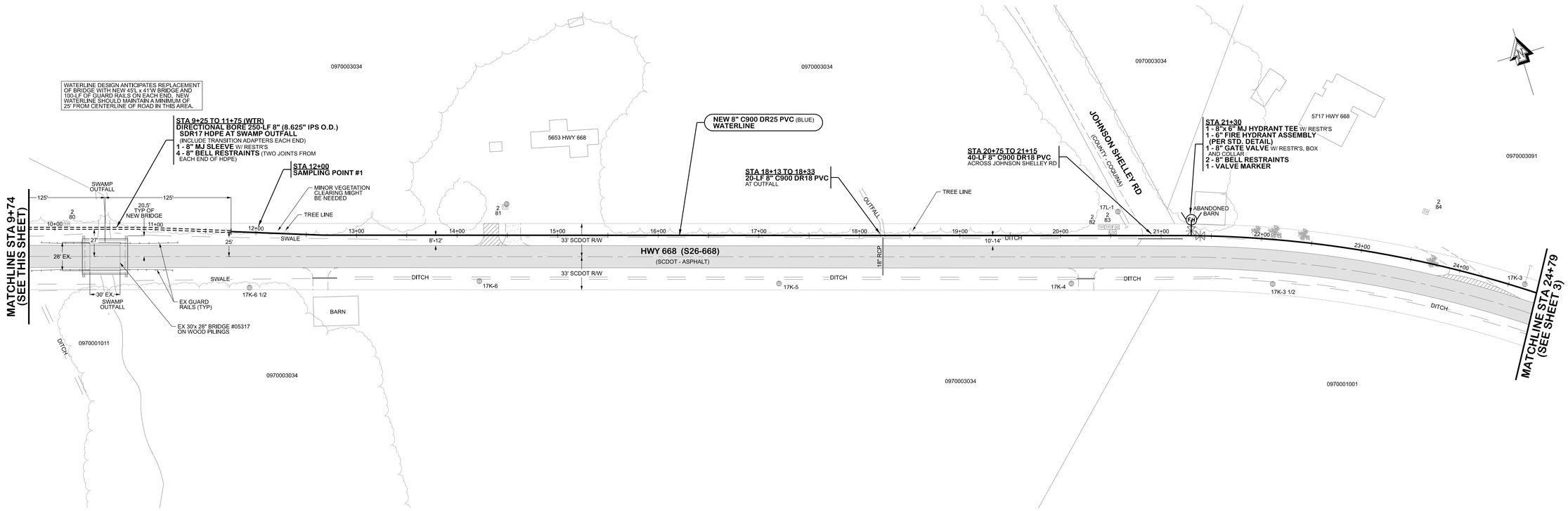
6. EXISTING CABLE DROPS AND WTR/SWR/GAS SERVICES ARE NOT SHOWN ON PLANS. CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITIES FOR FIELD LOCATIONS OF SERVICES. CONTRACTOR SHOULD CONTACT PALMETTO UTILITY PROTECTION SERVICE (PUPS, 1-800-922-0983) FOR FIELD LOCATES PRIOR TO ANY EXCAVATION.

7. FINAL LOCATION AND SIZE OF WATER AND SEWER SERVICES SHALL BE DETERMINED BY GSWSA. LOCATION OF SERVICES SHOWN ON PLANS ARE TENTATIVE AND SUBJECT TO CHANGE. GSWSA SHALL DETERMINE AND STAKE OUT ALL LOCATIONS PRIOR TO CONTRACTOR INSTALLATION..

LEGEND (APPLIES TYPICALLY THROUGHOUT PLAN SHEETS)

DIRT/GRASS DRIVEWAY	SEWER FM AIR RELEASE VALVE
COQUINA/GRAVEL DRIVEWAY	SEWER FM PUMPER CONNECTION ASSEMBLY (PC)
CONCRETE DRIVEWAY	SEWER FM PLUG VALVE
ASPHALT DRIVEWAY	SEWER MANHOLE (M)
REINFORCED CONCRETE PIPE (RCP)	SEWER LIFT STATION (P)
TELEPHONE PEDESTAL (TP)	SEWER S.T.E.P. TANK
T.V. CABLE PEDESTAL (TV)	SEWER GRINDER PUMP STATION (G)
ELECTRIC POWER POLE	WATER FIRE HYDRANT (FH)
U.G. ELECTRIC TRANSFORMER (E)	WATER POST HYDRANT (PH)
GAS MAIN GAS GAS	WATER GATE VALVE
TELEPHONE/TV CABLE C T	WATER/SEWER REDUCER
FIBER OPTIC CABLE FOC	WATER SERVICE METER (W)
CATCH BASIN	CUSTOMER TO RECEIVE WATER AND/OR SEWER SERVICE
WATER WELL HOUSE (W)	





SCALE IN FEET

0 10 20 30 40 50 100 150

HWY 668 (S26-668)

REVISION | BY | DATE

GRAND STRAND WATER & SEWER AUTHORITY
166 JACKSON BLUFF RD.
P.O. BOX 2368
CONWAY, SC 29528-2368
(843) 443-8200 OR 347-4641
(843) 347-4600 FAX
E-MAIL: GSWSA.COM

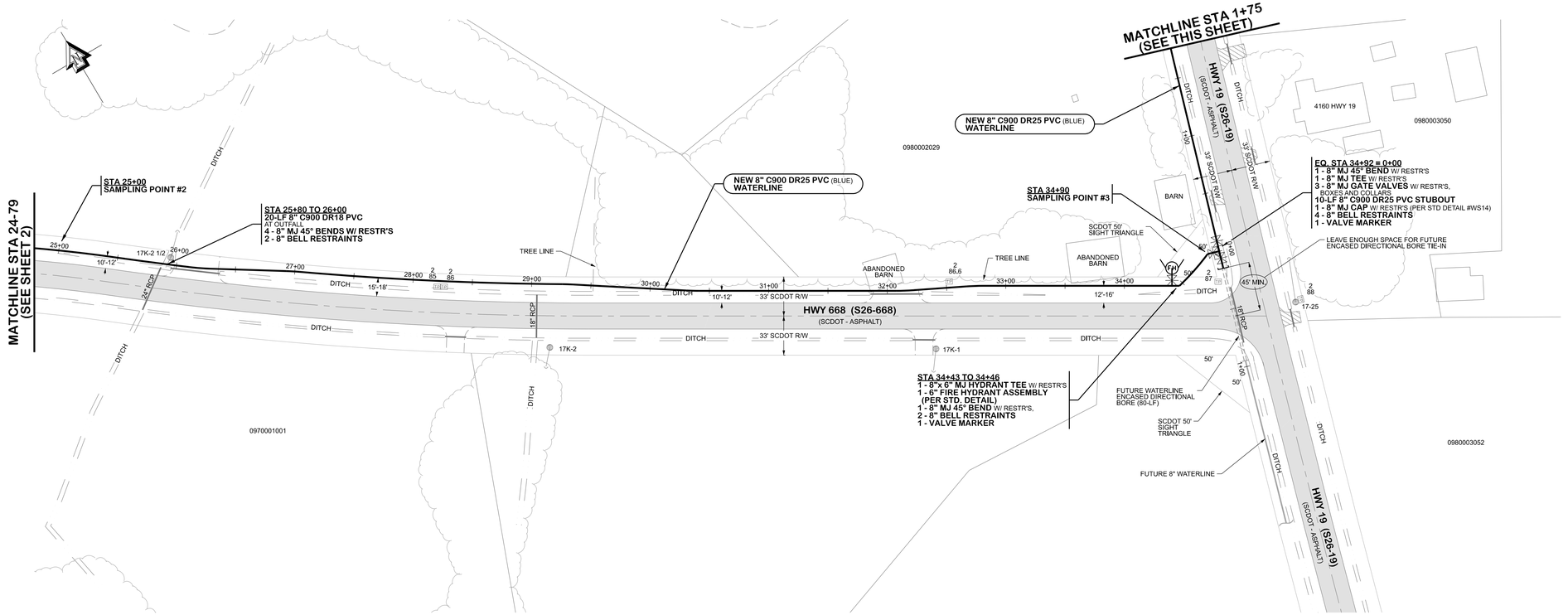
Hwy 668 (S26-668) & Hwy 19 (S26-19) - Rural Water Project (#634-56 / #W14-18)

NORTH CAROLINA PROFESSIONAL ENGINEER No. 26566 JASON L. POSTON

4/15/20

DATE: April 2020 A.D.
SCALE: as shown
FILENAME: ...design - Hwy 668 & Hwy 129 RW14-18.dgn
DESIGNED BY: Ray Thompkins
CHECKED BY: Jason L. Poston
APPROVED BY: JASON L. POSTON, PE #26566

SHEET 2 OF 6



Hwy 668 (S26-668) & Hwy 19 (S26-19)
- Rural Water Project (#634-56 / #W14-18) -

REVISION	BY	DATE

GRAND STRAND WATER & SEWER AUTHORITY
166 JACKSON BLUFF RD.
P.O. BOX 2368
CONWAY, SC 29528-2368
(843) 443-8200 OR 347-4641
FAX (843) 488-6800
E-MAIL: GSWSA.COM

NORTH CAROLINA
PROFESSIONAL ENGINEER
No. 26566
JASON L. POSTON

4/15/20

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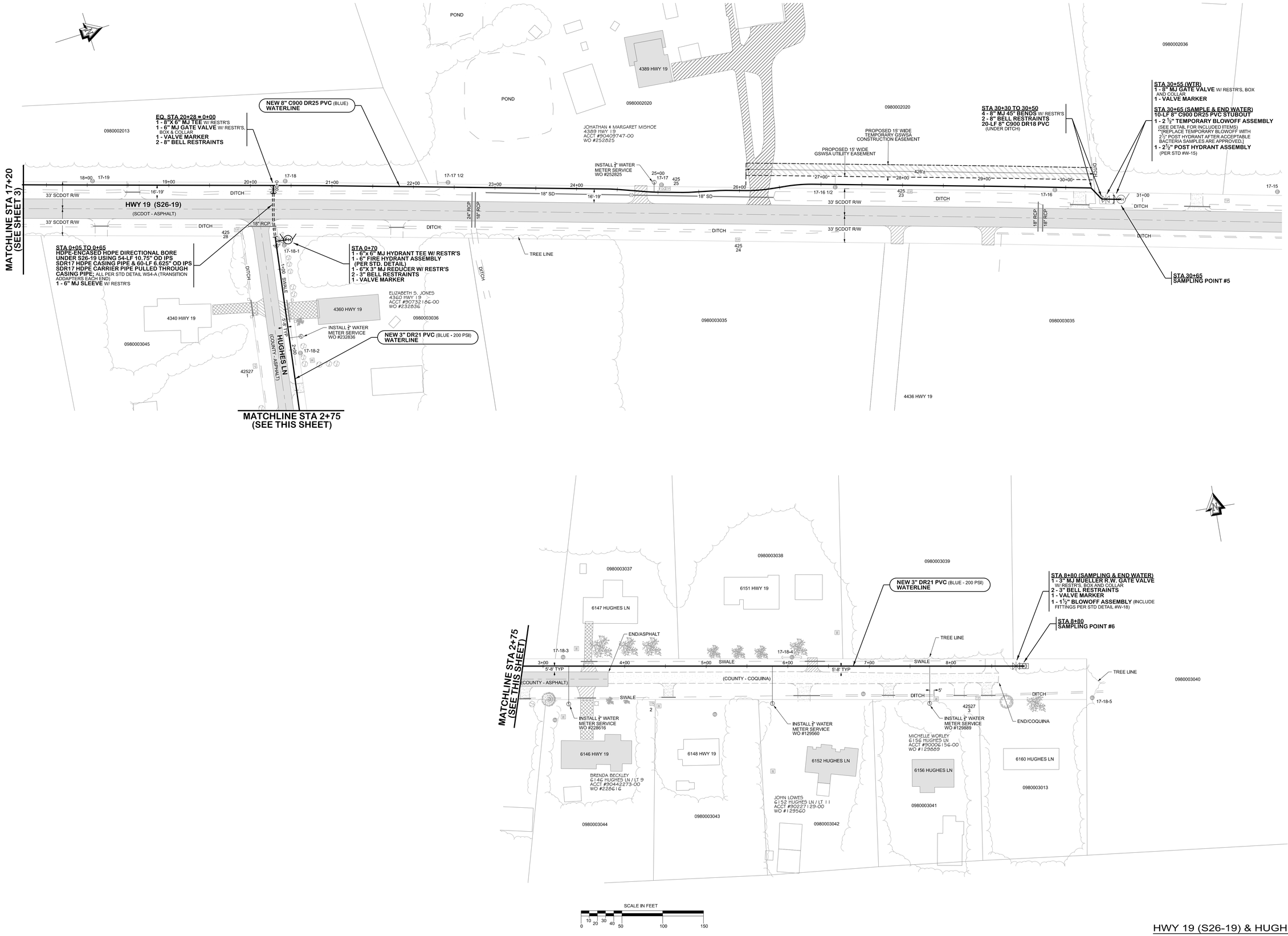
JASON L. POSTON, PE #26566

SHEET **3** OF 6



HWY 19 (S26-19) & HUGHES LN

REVISION	BY	DATE

GRAND STRAND WATER & SEWER AUTHORITY
165 JACKSON BLUFF RD.
P.O. BOX 2368
CONWAY, SC 29528-2368
(843) 443-8200 OR 347-4641
FAX: (843) 488-8151
E-MAIL: GSWSA.COM

Hwy 668 (S26-668) & Hwy 19 (S26-19) - Rural Water Project (#634-56 / #W14-18)

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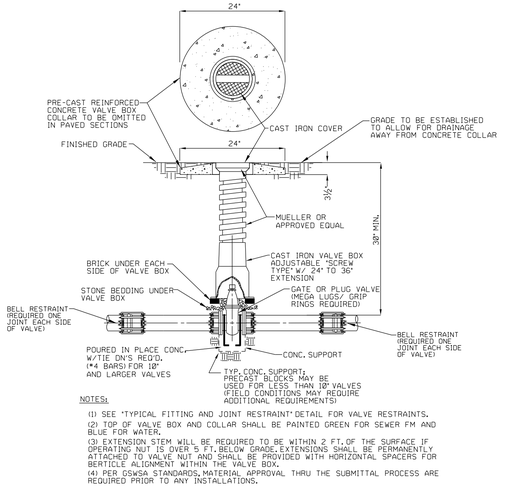
SHEET 4 OF 6

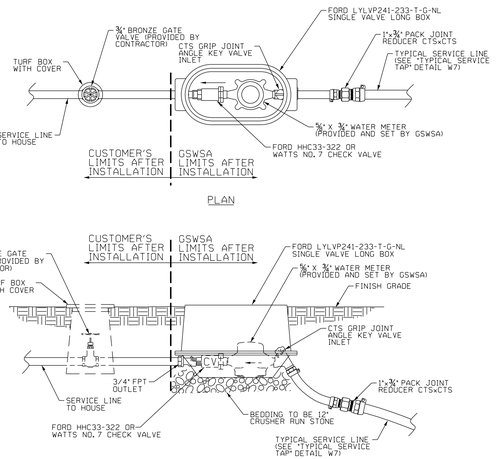


NOTES:

(1) SEE 'TYPICAL FITTING AND JOINT RESTRAINT' DETAIL FOR VALVE RESTRAINTS.
(2) TOP OF VALVE BOX AND COLLAR SHALL BE PAINTED GREEN FOR SEWER FM AND BLUE FOR WATER.
(3) EXTENSION STEM WILL BE REQUIRED TO BE WITHIN 2 FT. OF THE SURFACE IF OPERATING NUT IS OVER 5 FT. BELOW GRADE. EXTENSIONS SHALL BE PERMANENTLY ATTACHED TO VALVE NUT AND SHALL BE PROVIDED WITH HORIZONTAL SPACERS FOR BERTICLE ALIGNMENT WITHIN THE VALVE BOX.
(4) PER GSWSA STANDARDS, MATERIAL APPROVAL THRU THE SUBMITTAL PROCESS ARE REQUIRED PRIOR TO ANY INSTALLATIONS.

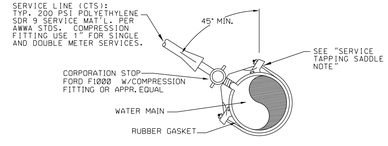
TYPICAL VALVE AND VALVE BOX

WS1



TYPICAL METER BOX 1

W1



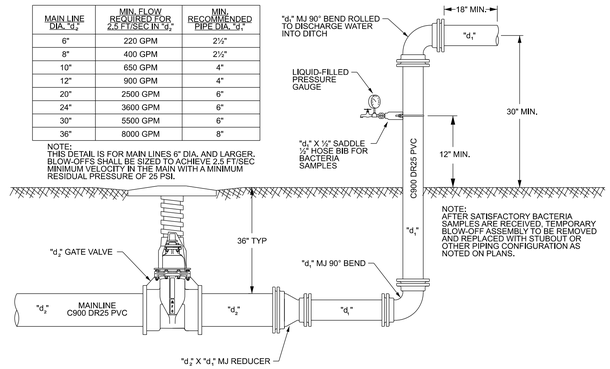
SERVICE TAPPING SADDLE NOTE:
SMITH-BLAIR SINGLE STRAP, NYLON-COATED WITH WIDE SST BANDS NO. 315; OR SMITH-BLAIR DOUBLE STRAP, NYLON-COATED WITH WIDE SST BANDS NO. 317.

TYPICAL SERVICE TAP

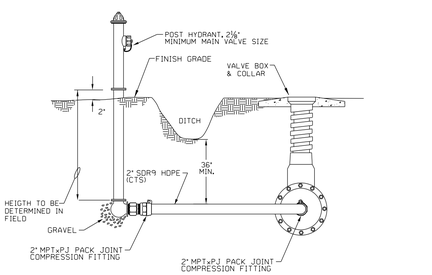
W7

MAIN LINE DIA. "d"	MIN. FLOW REQUIRED FOR 2.5 FT/SEC IN "d"	MIN. RECOMMENDED PIPE DIA. "d"
6"	220 GPM	2½"
8"	400 GPM	2½"
10"	650 GPM	4"
12"	900 GPM	4"
20"	2500 GPM	6"
24"	3600 GPM	6"
30"	5500 GPM	6"
36"	8000 GPM	8"

NOTE:
THIS DETAIL IS FOR MAIN LINES 6" DIA. AND LARGER. BLOW-OFFS SHALL BE SIZED TO ACHIEVE 2.5 FT/SEC MINIMUM VELOCITY IN THE MAIN WITH A MINIMUM RESIDUAL PRESSURE OF 25 PSI.

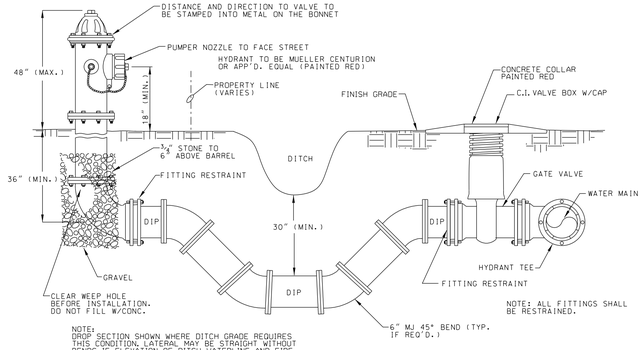


TYPICAL TEMPORARY BLOW-OFF ASSEMBLY FOR FLUSHING & TESTING (APPLIES TO MAINLINES 6" AND LARGER)



TYPICAL POST HYDRANT BLOW-OFF

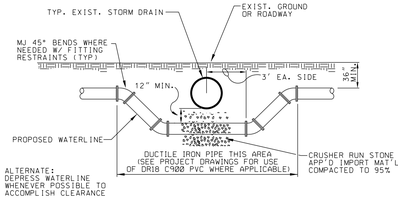
W15



NOTE:
DROP SECTION SHOWN WHERE DITCH GRADE REQUIRES THIS CONDITION. LATERAL MAY BE STRAIGHT WITHOUT BENDS IF ELEVATION OF DITCH, WATERLINE, AND FIRE HYDRANT PROVIDES FOR THE 30" MINIMUM CLEARANCE.

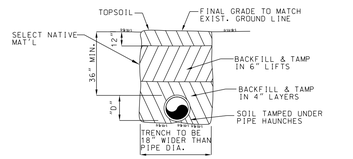
TYPICAL FIRE HYDRANT

W14



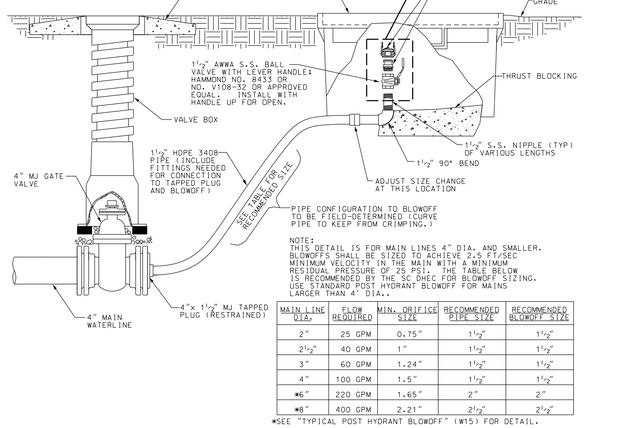
TYPICAL STORM DRAIN CROSSING

W8



TYPICAL PIPE BEDDING DETAIL

WS11



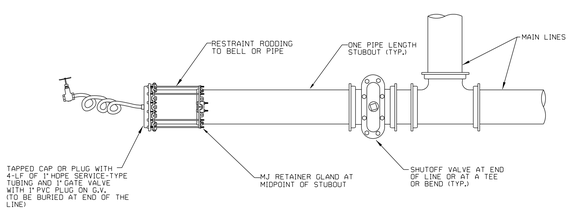
NOTE:
THIS DETAIL IS FOR MAIN LINES 4" DIA. AND SMALLER. BLOWOFFS SHALL BE SIZED TO ACHIEVE 2.5 FT/SEC MINIMUM VELOCITY IN THE MAIN WITH A MINIMUM RESIDUAL PRESSURE OF 25 PSI. THE TABLE BELOW IS RECOMMENDED BY THE SC DHEC FOR BLOWOFF SIZING. USE STANDARD POST HYDRANT BLOWOFF FOR MAINS LARGER THAN 4" DIA..

MAIN LINE DIA.	FLOW REQUIRED	MIN. ORIFICE SIZE	RECOMMENDED PIPE SIZE	RECOMMENDED BLOWOFF SIZE
2"	25 GPM	0.75"	1½"	1½"
2½"	40 GPM	1"	1½"	1½"
3"	60 GPM	1.24"	1½"	1½"
4"	100 GPM	1.5"	1½"	1½"
*6"	220 GPM	1.65"	2"	2"
*8"	400 GPM	2.21"	2½"	2½"

*SEE "TYPICAL POST HYDRANT BLOWOFF" (W15) FOR DETAIL.

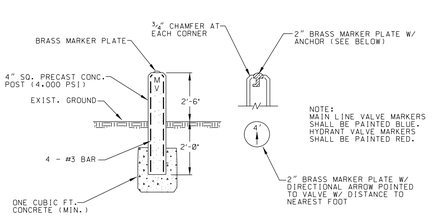
TYPICAL BLOWOFF ASSEMBLY

W18



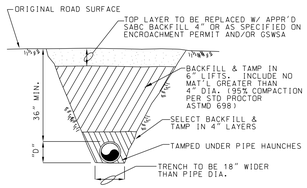
TYPICAL FUTURE WATERLINE OR FORCEMAIN STUBOUT

WS14



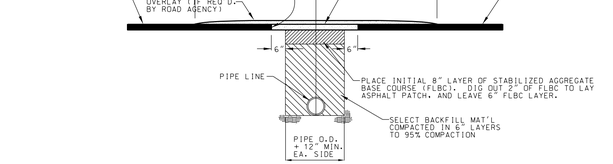
TYPICAL CONCRETE VALVE MARKER

W17



UNPAVED ROADWAY BEDDING DETAIL

WS12



NOTES:
1) PAVEMENT CUT TO EXTEND 6" BEYOND EDGES OF TRENCH AS SHOWN; PAVEMENT SHALL BE CUT TO TRUE LINE AND REMOVED BEFORE TRENCH IS CUT. ALL PAVEMENT REPAIRS TO BE IN ACCORDANCE WITH ROAD AGENCY SPEC'S.
2) ROAD AGENCY MAY REQUIRE A CUT & PATCH OF TRENCH AREA AND AN OVERLAY OF ENTIRE APRON OR ENTRANCE FROM THE EDGE OF THE MAIN ROAD TO THE EDGE OF THE ROAD RIGHT-OF-WAY (SEE ENCROACHMENT PERMIT).
3) WHERE EXISTING PAVEMENT IS INSUFFICIENT THICKNESS TO DEVELOP TIGHT SEAL WITH NEW SURFACE, NEW PAVEMENT SHALL LAP EXISTING SURFACE WITH AT LEAST A 10' OVERLAP ON BOTH SIDES FOR SMOOTH TRANSITION OR AS PER SPEC'S. OF ROAD AGENCY.

OPEN CUT REPAIR FOR LOW VOLUME ASPHALT PAVEMENT

WS9

GRAND STRAND WATER & SEWER AUTHORITY
166 JACKSON BLUFF RD.
P.O. BOX 2368
CONWAY, SC 29528-2368
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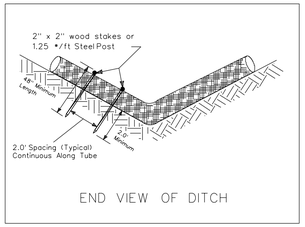
Hwy 668 (S26-668) & Hwy 19 (S26-19) - Rural Water Project (#634-56 / #W14-18)

DATE | BY | REVISION

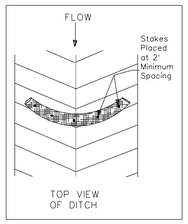
DATE: April 2020 A.D.
SCALE: NTS
FILENAME: ...design - Hwy 668 & Hwy 129 RW14-18.dgn
DESIGNED BY: Ray Thompkins
CHECKED BY: Jason L. Poston
APPROVED BY: JASON L. POSTON, PE #26566

SHEET 5 OF 6

Standard Construction Details



END VIEW OF DITCH



TOP VIEW OF DITCH

EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE IN PLACE PRIOR TO START OF CONSTRUCTION.

2. ALL EXISTING VEGETATED AREAS THAT ARE DISTURBED AS A RESULT OF CONSTRUCTION MUST BE HYDROSEEDED IMMEDIATELY AFTER CONSTRUCTION TO PROVIDE STABILIZATION. ADHERENCE TO THE APPROVED SEEDING SCHEDULE IS MANDATORY. STRAW MATTING / BLANKET SHOULD BE USED TO FURTHER STABILIZE THE SEEDBED AS NECESSARY.

3. ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES MAY BE ADDED AT THE DISCRETION OF THE ENGINEER IF DEEMED NECESSARY. ANY ADDITIONS MUST BE NOTED BY THE CONTRACTOR ON THE FIELD MARK-UPS.

4. NO UTILITY INSTALLATION WILL BE ALLOWED TO CONTINUE PAST 1000 LF WITHOUT COMPLETING SHOULDER AND DITCH LINE GRADING, CLEANUP, AND STABILIZATION.

5. ADHERENCE TO ALL STATE, COUNTY, LOCAL, AND SCDHEC BEST MANAGEMENT PRACTICES IS MANDATORY.

SEDIMENT TUBE

Description
Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch. Straw, pine needle and leaf mulch-filled sediment tubes are not permitted under this specification.
When and Where to Use It:
Install sediment tubes along contours, in drainage conveyance swales, and around inlets to help reduce the effects of soil erosion by energy dissipation and retain sediment.
Materials
Sediment tubes for ditch checks and Type A Inlet Structure Filters exhibit the following properties:
Produced by a Manufacturer experienced in sediment tube manufacturing.
Composed of compacted geotextiles, curled excelsior wood, natural coconut fibers, hardwood mulch or a mix of these materials enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed under this specification.
Utilizes outer netting that consists of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable materials. Diameter ranging from 18-inches to 24-inches.
Curled excelsior wood, or natural coconut rolled erosion control products (RECPs) that are rolled up to create a sediment tube are not allowed under this specification.
Installation:
Install over bare soil, mulched areas or erosion control blankets.
Be composed of geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed.

The minimum diameter should be 18 inches.
Sediment tubes should be staked using wooden stakes (2-inch x 2-inch) or steel posts (standard "u" or "t" sections with a minimum weight of 1.25 pounds per foot) a minimum of 48-inches in length placed on 2-foot centers.

Stakes should be interwined with the outer mesh on the downstream side and driven in the ground to a minimum depth of 1.5 feet leaving less than 1 foot of stake exposed above the sediment tube. Always refer to the Manufacturer's recommendations for the staking detail.
Install all sediment tubes insuring that no gaps exist between the soil and the bottom of the sediment tube. The ends of adjacent sediment tubes should be lapped 6-inch to prevent flow and sediment from passing through the field joint. In no situations should sediment tubes be stacked on top of one another.

Construct a trench that is 20% of the tube diameter to install the tube in.
Avoid damage to sediment tubes while installing them. If the sediment tube becomes damaged during installation, a stake should be placed on both sides of the damaged area terminating the tube segment and a new tube segment should be installed. Should be installed in swales or drainage ditches perpendicular to the flow of water. Sediment tubes should continue up the side slopes a minimum of 1 foot above the design flow depth. Sediment tubes should be spaced according to the following table.

SEDIMENT TUBE SPACING

SLOPE	MAXIMUM SEDIMENT TUB SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

SEDIMENT TUBE

Sediment tube length selected should
minimize the number of sediment tubes needed to span the width of the drainage conveyance.
If the ditch check length (perpendicular to the water flow) is 15 feet, then one 15 foot sediment tube is preferred compared to two overlapping 10 foot sediment tubes.

Sediment tubes for ditch checks should remain in place until fully established vegetation and root systems have completely developed and can survive on their own.

Inspection and Maintenance:

Check dams should be inspected every 7 calendar days and within 24-hours after each storm that produces $\frac{3}{4}$"-inches or more of rain to ensure continued effectiveness.

Large debris, trash, and leaves should be removed.

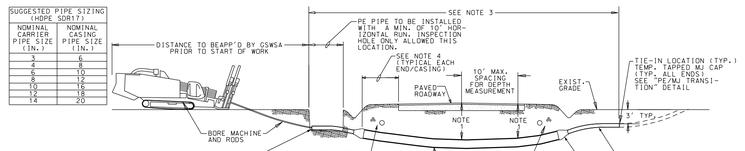
If erosion causes the edges to fall to a height equal
to or below the height of the center, repairs should be made immediately.

Remove accumulated sediment from the upstream side of the sediment tube when
the sediment has reached a height of approximately one-third of the exposed height
of the tube (measured at the center).

Accumulated sediment should be removed prior to removing sediment tubes.

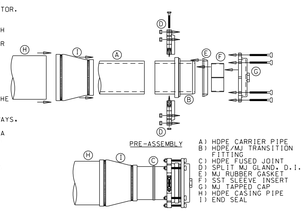
Sediment Tube removal should be completed only after the contributing drainage area has
been completely stabilized. Permanent vegetation should replace areas from which gravel, stone,
sediment tubes, or other materials have been removed.

SUGGESTED PIPE SIZING (HDPE SDR17)	
NOMINAL CARRIER PIPE SIZE (IN.)	NOMINAL CASING PIPE SIZE (IN.)
3	6
4	8
6	10
8	12
10	16
12	18
14	20

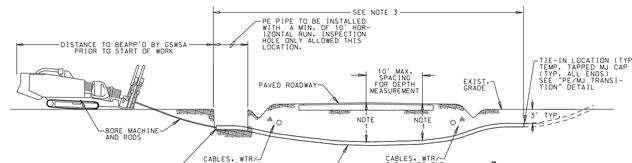


NOTES:
1. AN ELECTRONICALLY-DEVELOPED PROFILE AND PLAN SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL BORE SECTION BY THE DIRECTIONAL BORE CONTRACTOR. THIS SHALL INCLUDE ACCURATE HORIZONTAL AND VERTICAL DIMENSIONS.
2. ALL BORE SECTIONS SHALL BE HYDROSTATICALLY TESTED PER GSWSA STANDARDS BOTH UPON COMPLETION OF THE ABOVE-GROUND FUSION OPERATION AND AGAIN AFTER INSTALLATION. WHICH IS PRIOR TO CONNECTION TO THE MAIN PROJECT WATER/SEWER LINE. A FINAL TEST WILL BE A PART OF THE TOTAL MAIN LINE SYSTEM TEST.
3. LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF P.E. PIPE JOINTS, LOCATION OF BORE MACHINE, AUGER ENTRANCE LOCATION AND TIE-IN POINTS ARE TO BE APPROVED BY GSWSA PRIOR TO ANY START OF WORK OR ORDERING OF MATERIALS.
4. ON CONVENTIONAL HIGHWAYS, A MINIMUM, THE CASING PIPE SHALL EXTEND TO THE SHOULDER BREAK OR 6 FEET BEYOND THE EDGE OF PAVEMENT ON FILL SLOPES, WHICHEVER IS THE GREATER; 3 FEET BEYOND THE DITCH LINE IN CUTS; AND ON CURBED SECTIONS TO THE BACK OF THE SIDEWALK AREA. ON FREEWAYS, EXPRESSWAYS, AND OTHER CONTROLLED ACCESS HIGHWAYS, THE ENCASEMENT WILL BE REQUIRED TO EXTEND TO THE ACCESS CONTROL LINES, TO THE OUTSIDE OF FRONTAGE ROADS, OR A SUFFICIENT DISTANCE TO ALLOW FOR FUTURE HIGHWAY IMPROVEMENTS. EXCEPTIONS TO THE ABOVE DEFINED ENCASEMENT LIMITS MUST BE JUSTIFIED BY THE UTILITY COMPANY AND APPROVED BY THE SCDOT ENGINEER.
5. THE BORE DEVELOPED FOR THE LEAD END OF THE CASING PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION. THE AUGER HEAD SIZE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK. THE LEADING END OF THE CARRIER PIPE SHALL BE PULLED THROUGH WITHOUT THE HDPE/MJ TRANSITION FITTING AND D.I. M.J. RING FLANGE ATTACHED. THE HDPE/MJ TRANSITION FITTING AND D.I. M.J. RING FLANGE FOR SAID LEADING END SHALL BE INSTALLED AFTER THE CARRIER PIPE INSTALLATION WITH THE USE OF A SPLIT D.I. M.J. FLANGE PER THE DETAIL DRAWING.
6. THE MANUFACTURER AND TYPE OF DRILLERS MUD SELECTED FOR USE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK.
7. PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HDPE PIPE.
8. HDPE MJ TRANSITION ADAPTERS TO BE SIZE-ON-SIZE. ANY REQUIRED CHANGE IN PIPE DIAMETER SHALL BE MADE USING DUCTILE IRON (D.I.) MJ FITTING WITH RESTRAINTS. HDPE REDUCERS ARE NOT ALLOWED.
9. HDPE MJ TRANSITION ADAPTER "DR" TO MATCH "DR" OF HDPE BORE PIPE BEING INSTALLED.

TYPICAL HDPE-ENCASED HDPE DIRECTIONAL BORE
WS4-A



PE/MJ TRANSITION ASSEMBLY AND END SEAL



VALVE	RESTRAINED JOINTS
IN LINE VALVES	BELL RESTR'S REQUIRED 1 JOINT EACH SIDE/VALVE (SEE WS1)

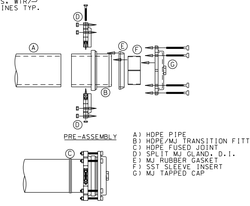
FITTING	RESTRAINED JOINTS
22.5° BEND	1 EACH SIDE
45° BEND	1 EACH SIDE
90° BEND	2 EACH SIDE
TEE	1 EACH SIDE/RUN 2 ON BRANCH

NOTES:
1. TABLE OF NO. OF RESTRAINT'S REQUIRED ARE FOR SIZES THROUGH 12"; FOR LARGER THAN 12" NO. REQUIRED IS TO BE DETERMINED BY GSWSA.
2. PER GSWSA STANDARDS, MATERIAL APPROVAL THRU THE SUBMITTAL PROCESS ARE REQUIRED PRIOR TO ANY INSTALLATIONS.
3. PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HDPE PIPE.

TYPICAL FITTING AND JOINT RESTRAINT
WS3

NOTES:
1. AN ELECTRONICALLY-DEVELOPED PROFILE AND PLAN SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL BORE SECTION BY THE DIRECTIONAL BORE CONTRACTOR. THIS SHALL INCLUDE ACCURATE HORIZONTAL AND VERTICAL DIMENSIONS.
2. ALL BORE SECTIONS SHALL BE HYDROSTATICALLY TESTED PER GSWSA STANDARDS BOTH UPON COMPLETION OF THE ABOVE-GROUND FUSION OPERATION AND AGAIN AFTER INSTALLATION. WHICH IS PRIOR TO CONNECTION TO THE MAIN PROJECT WATER/SEWER LINE. A FINAL TEST WILL BE A PART OF THE TOTAL MAIN LINE SYSTEM TEST.
3. LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF P.E. PIPE JOINTS, LOCATION OF BORE MACHINE, AUGER ENTRANCE LOCATION AND TIE-IN POINTS ARE TO BE APPROVED BY GSWSA PRIOR TO ANY START OF WORK OR ORDERING OF MATERIALS.
4. THIS DETAIL IS ALSO APPLICABLE TO STREAMS, WETLANDS, LARGE STORM DRAINS AND SIMILAR APPLICATIONS FOR DIRECTIONAL BORE WITH POLYETHYLENE PIPE.
5. THE BORE DEVELOPED FOR THE LEAD END OF THE PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION. THE AUGER HEAD SIZE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK. THE LEADING END SHALL BE PULLED THROUGH WITHOUT THE D.I. M.J. RING FLANGE ATTACHED (OR LARGER THAN 6" PIPE INSTALLATIONS). THE D.I. M.J. RING FLANGE FOR SAID LEADING END SHALL BE INSTALLED AFTER THE PIPE INSTALLATION WITH THE USE OF A SPLIT D.I. M.J. FLANGE PER THE DETAIL DRAWING.
6. THE MANUFACTURER AND TYPE OF DRILLERS MUD SELECTED FOR USE SHALL BE APPROVED BY THE AUTHORITY PRIOR TO THE START OF WORK.
7. PIPE BELL RESTRAINTS ARE REQUIRED TO BE INSTALLED ON THE TWO JOINTS (MINIMUM) IMMEDIATELY FOLLOWING THE PE/MJ ADAPTERS ON EACH END OF HDPE PIPE.
8. HDPE MJ TRANSITION ADAPTERS TO BE SIZE-ON-SIZE. ANY REQUIRED CHANGE IN PIPE DIAMETER SHALL BE MADE USING DUCTILE IRON (D.I.) MJ FITTING WITH RESTRAINTS. HDPE REDUCERS ARE NOT ALLOWED.
9. HDPE MJ TRANSITION ADAPTER "DR" TO MATCH "DR" OF HDPE BORE PIPE BEING INSTALLED.

TYPICAL HDPE DIRECTIONAL BORE
WS4



PE/MJ TRANSITION ASSEMBLY

Standard Construction & Erosion Control Details

GRAND STRAND WATER & SEWER AUTHORITY

166 JACKSON BLUFF RD.
P.O. BOX 2368
CONWAY, SC 29528-2368
(843) 443-5200 OR 347-4641
FAX (843) 347-0600
E-MAIL: GSWSA.COM

REVISION	BY	DATE

Hwy 668 (S26-668) & Hwy 19 (S26-19) - Rural Water Project (#634-56 / #W14-18)

4/15/20

DATE: April 2020 A.D.
SCALE: NTS
FILENAME: ...design - Hwy 668 & Hwy 129 RW14-18.dgn
DESIGNED BY: Ray Thompkins
CHECKED BY: Jason L. Poston
APPROVED BY: JASON L. POSTON, PE #26566

SHEET 6 OF 6