

# CITY OF WILSON UPPER BLOOMERY SWAMP INTERCEPTOR - PHASE II-A WILSON COUNTY, NORTH CAROLINA APRIL 2023

## CITY OF WILSON

MAYOR: CARLTON L. STEVENS

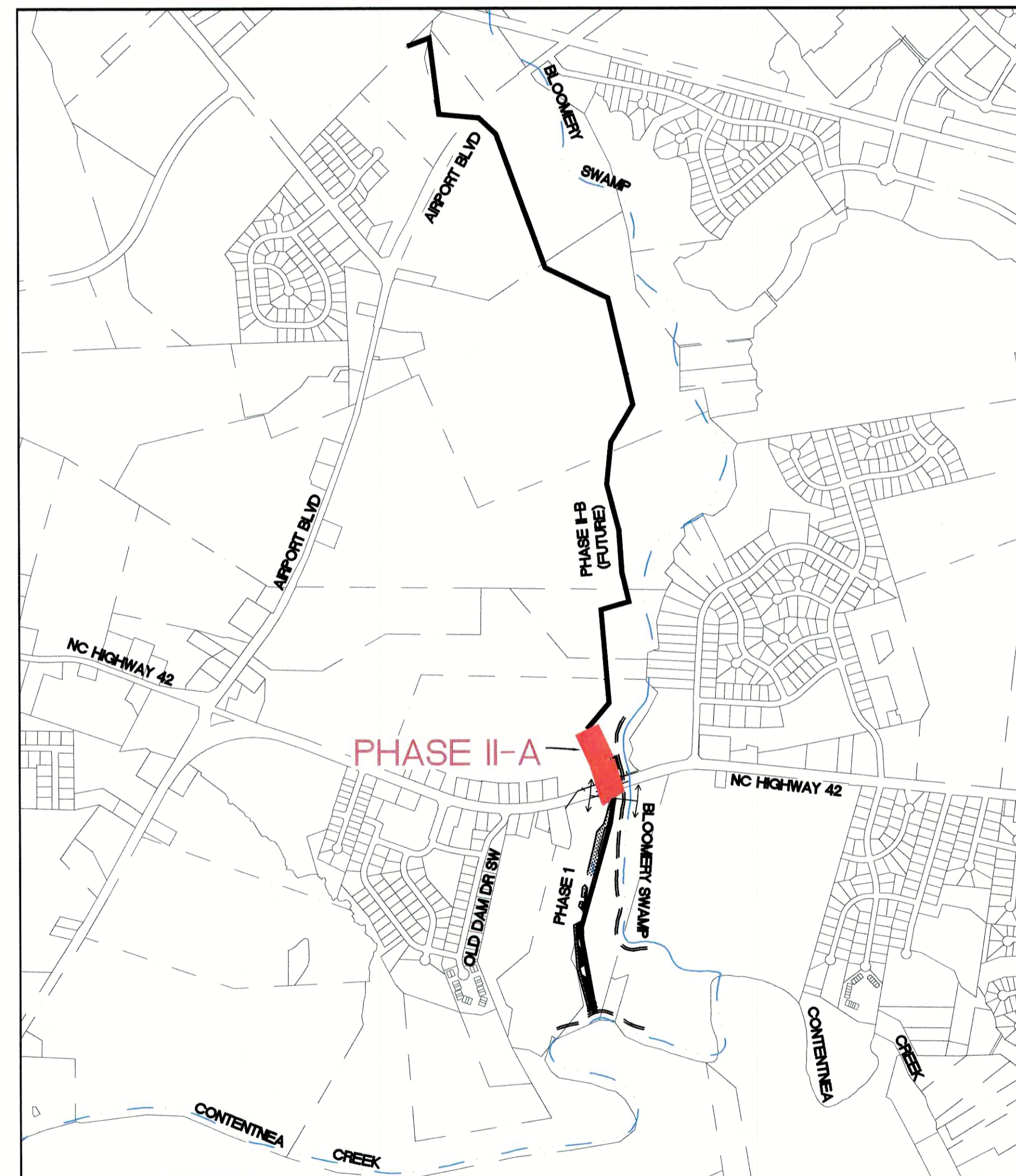
COUNCIL MEMBERS: GILLETTIA MORGAN  
MICHAEL S. BELL  
WILLIAM THOMAS FYLE  
JAMES M. JOHNSON, III  
DONALD I. EVANS  
LOGAN T. LILES  
DERRICK D. CREECH

CITY MANAGER: GRANT GOINGS

DEPUTY CITY MANAGER OPERATIONS  
/PUBLIC SERVICES: HARRY TYSON

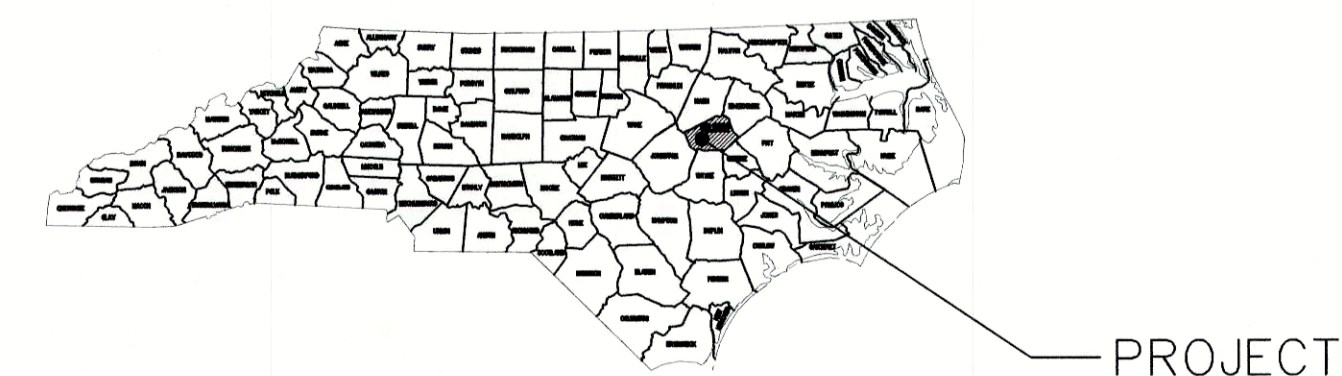
DIRECTOR OF WATER  
RESOURCES: BARRY PARKS

CITY ENGINEER: WILLIAM T. BASS, IV



LOCATION MAP

SCALE 1" = 1000



### GENERAL

#### SHT SHEET TITLE

1. COVER SHEET

#### GRAVITY SEWER PROFILE WITH EROSION CONTROL MEASURES

SH	SHEET TITLE	STATIONING
2.	BLOOMERY SWAMP PLAN & PROFILE	PH 1 (21+15 TO 28+21.54)
3.	LATERAL HIGHWAY 42	

### DETAILS

#### SHT SHEET TITLE

4. DETAIL
5. DETAIL
6. DETAIL
7. DETAIL
8. DETAIL
9. DETAIL

GRAND TOTAL: 9 SHEETS



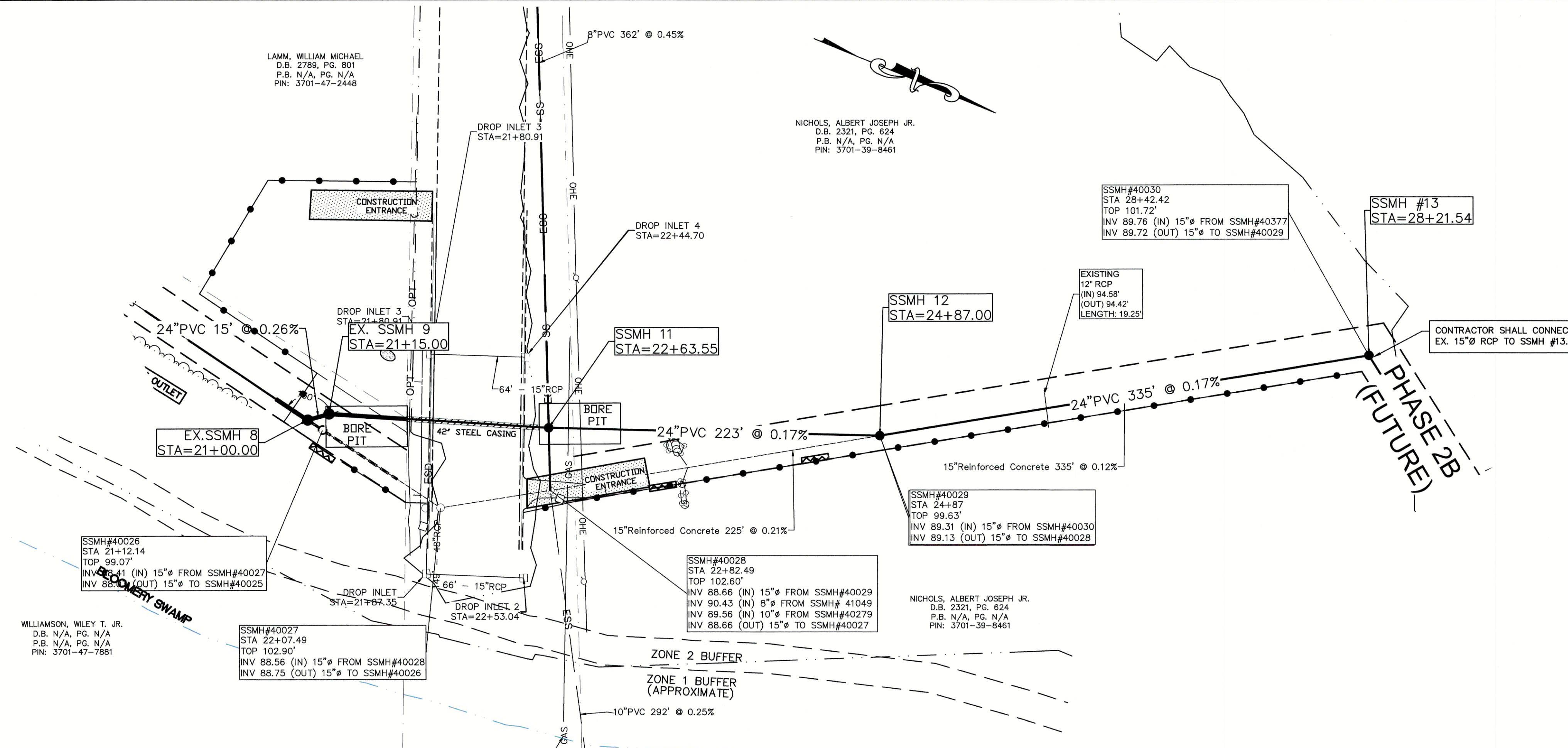
### GREEN ENGINEERING

WATER, WASTEWATER, SURVEYING, PLANNING, PROJECT MANAGEMENT

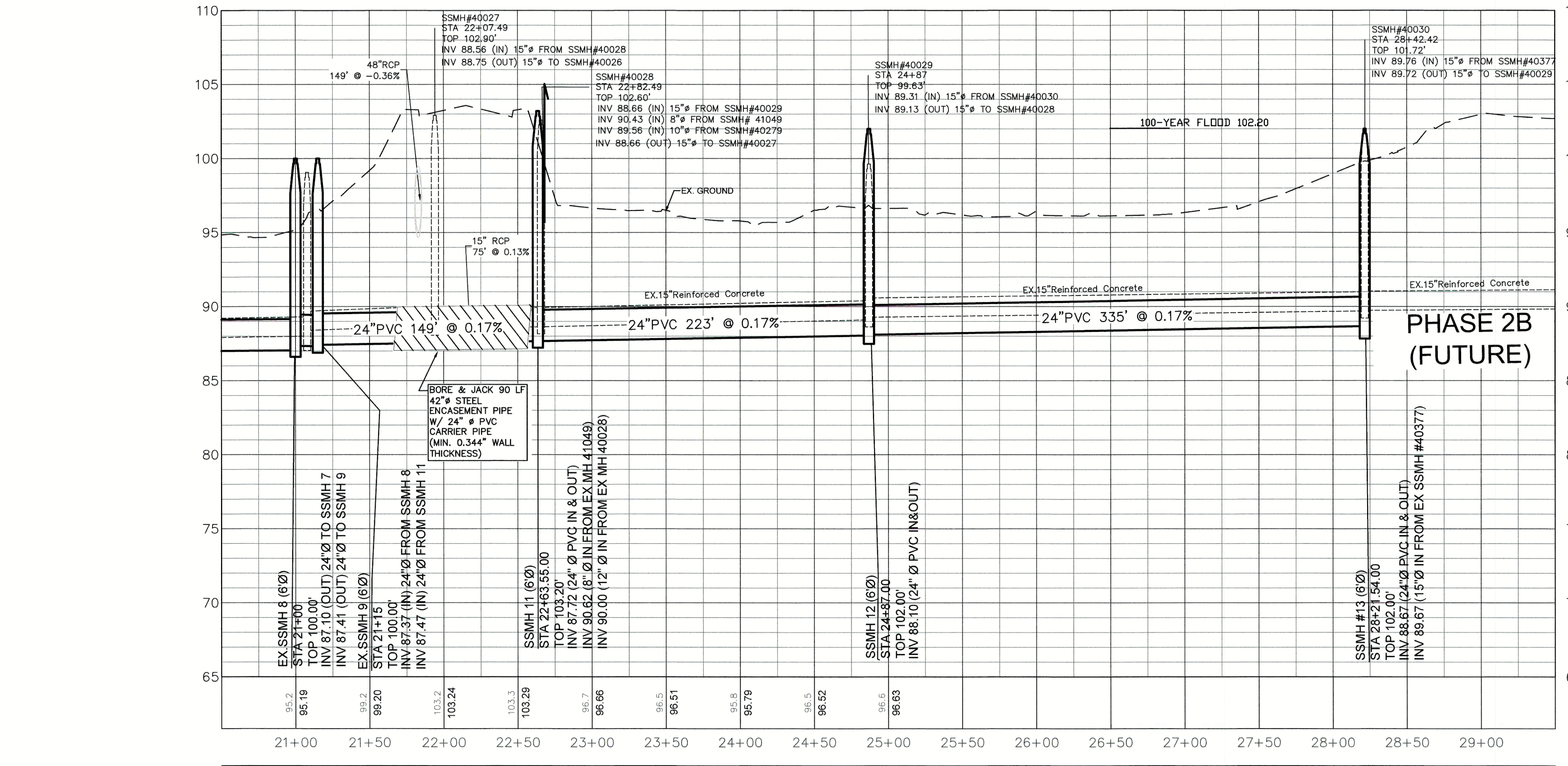
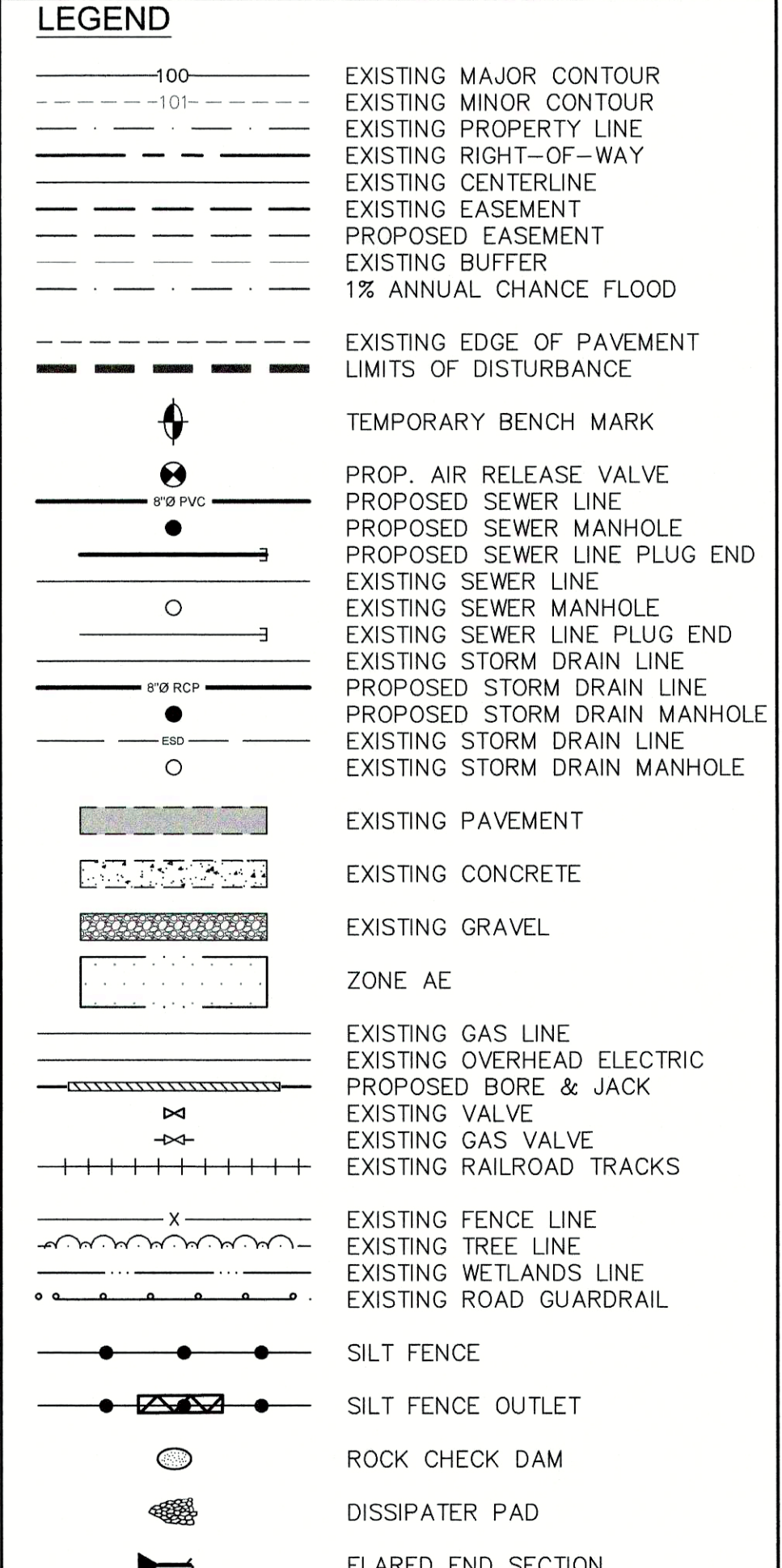
NC FIRM LICENSE: P-0115

303 GOLDSBORO ST. E., P.O. BOX 609 WILSON, N.C. 27893

TEL (252) 237-5365 FAX (252) 243-7489 OFFICE @ GREENENG.COM

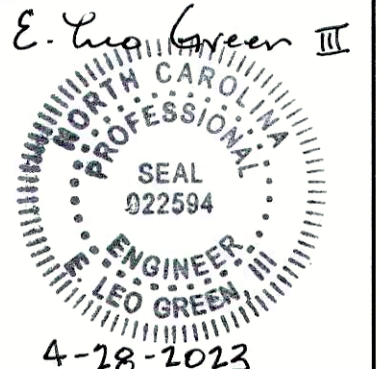


- WETLAND PROTECTION NOTES:**
- PRIOR TO LAND DISTURBANCE, CONTRACTOR SHALL INSTALL PROTECTIVE FENCING (I.E. - ORANGE TREE PROTECTION FENCING) AT BORDER OF ALL WETLANDS AND TEMPORARY UTILITY EASEMENTS. FENCING SHALL REMAIN FOR DURATION OF PROJECT.
  - EROSION CONTROL MEASURES THAT ARE UTILIZED SHALL BE INSTALLED IN A MANNER AS NECESSARY TO COMPLETELY PREVENT DIS-EQUILIBRIUM OF EXISTING WETLAND SPECIES. NO WASTE, SPOILS, SOLIDS, OR FILL OF ANY KIND SHALL BE ALLOWED OUTSIDE OF APPROVED AREAS. THE UTILITY EASEMENTS, AS FLAGGED AT DELINEATED WETLANDS BOUNDARIES.
  - NO PLASTIC MESH OR PLASTIC TWINE BASED EROSION CONTROL MATTING IS ALLOWED ADJACENT TO WETLAND DELINEATED AREAS.
  - TIMBER MATS SHALL BE UTILIZED WHERE NECESSARY TO STABILIZE HEAVY EQUIPMENT ACCESS ALONG DELINEATED EASEMENTS AND TEMPORARY WETLAND BOUNDARIES. HARD MEASURES SHALL NOT BE UTILIZED, EXCEPT IN FEW EXTREME CASES, WHERE SHEET FLOW RUN-OFF CANNOT BE MAINTAINED. NO HARDENING OF WETLAND AREAS ARE ALLOWED.
  - ONCE PROJECT IS COMPLETED, ALL TEMPORARY CONSTRUCTION EASEMENTS SHALL BE RETURNED TO PRE-EXISTING CONSTRUCTION STATE AND RESTORED WITH NATIVE SPECIES. NATIVE WETLAND SEED MIX SHALL BE UTILIZED. NATIVE WETLAND SPECIES CAN BE SOURCED FROM LOCAL NURSERIES AND ESTABLISHED IN THESE AREAS. APPLICATION OF FERTILIZER SHALL BE CONDUCTED AT AGRONOMIC RATES AND SHALL COMPLY WITH ALL FEDERAL AND NORTH CAROLINA STATE REGULATIONS. APPLICATION OF FERTILIZER SHALL ONLY TAKE PLACE WHERE RISK OF SURFACE WATER CONTACT IS MINIMIZED.
- NOTE: IT IS RECOMMENDED THAT ANTI-FLOTATION COLLARS BE INSTALLED AT 2.0' INTERVALS WHERE PIPE COVER IS LESS THAN 6 FEET. (SEE DETAIL ON SHEET 9)



- SEWER NOTES**
- ALL DESIGN & CONSTRUCTION SHALL CONFORM TO THE CITY OF WILSON SPECIFICATIONS, LATEST REVISION.
  - GRAVITY SEWER MUST HAVE A MINIMUM COVER OF FIVE (5) FT IN TRAFFIC AREAS AND THREE (3) FT IN NON-TRAFFIC AREAS PER MANUAL SPECIFICATIONS STANDARDS AND DESIGN.
  - ALL MANHOLES SHALL BE 6' DIA. ECCENTRIC FLAT TOP PRECAST MANHOLE UNLESS OTHERWISE NOTED ON PLANS.
  - PHASE I SHALL END AT SANITARY SEWER MANHOLE No. 8.
- GENERAL NOTES**
- THE LIMITS OF DISTURBANCE WILL INCLUDE THE AREAS CONFINED BY THE PUBLIC ROAD RIGHT-OF-WAYS, AND THE TEMPORARY AND PERMANENT EASEMENTS.
  - CONTRACTOR TO BE RESPONSIBLE FOR REMOVAL & REPLACEMENT OF THESE FACILITIES IF DAMAGED.
- FLOOD NOTES**
- REFERENCE FLOOD INSURANCE RATE MAPS PANEL 3701, MAP NUMBER 37203701000 AND PANEL 3711, MAP NUMBER 37103711000, BOTH DATED APRIL 16, 2013.
  - FLOOD PLAN ELEVATION (1% ANNUAL CHANCE) RANGES FROM 100.00 TO 102.00.
  - THE FLOOD PLAN ELEVATION (1% ANNUAL CHANCE) IS IDENTIFIED AT EACH MANHOLE LOCATION.
  - FLOOD ELEVATIONS REFERENCED ON THIS MAP ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV 88)

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**CITY OF WILSON**  
 UPPER BLOOMERY SWAMP INTERCEPTOR PHASE II-A  
 WILSON COUNTY NORTH CAROLINA

**STATION 21+15.00 TO STATION 28+21.54**

REVISION	DATE	BY

DATE: APRIL 27, 2023

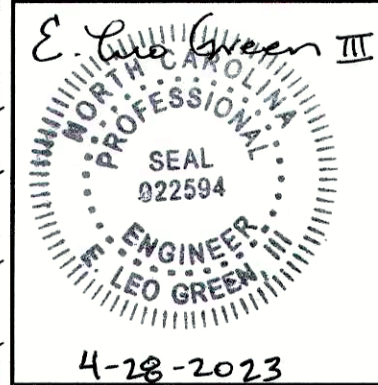
**GRAPHIC SCALES**

0 25 50 100  
 PLAN & PROFILE (HORIZONTAL)  
 0 5 10  
 PROFILE (VERTICAL)

CLIENT CODE: WILSO  
 JOB NUMBER: 23-074  
 FIELD BOOK: XXX  
 CADFILE: 23074-BL\_PH2A.dwg  
 ASCII FILE:  
 LAST MODIFIED: 28-Apr-23  
 MODIFIED BY: GLB

**SHEET NO. 2 OF 9**

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**CITY OF WILSON**  
 UPPER BLOOMERY SWAMP INTERCEPTOR PHASE II-A  
 WILSON COUNTY NORTH CAROLINA

**PLAN AND PROFILE**  
 HWY 42 LATERAL

REVISION	DATE	BY

DATE: APRIL 27, 2023

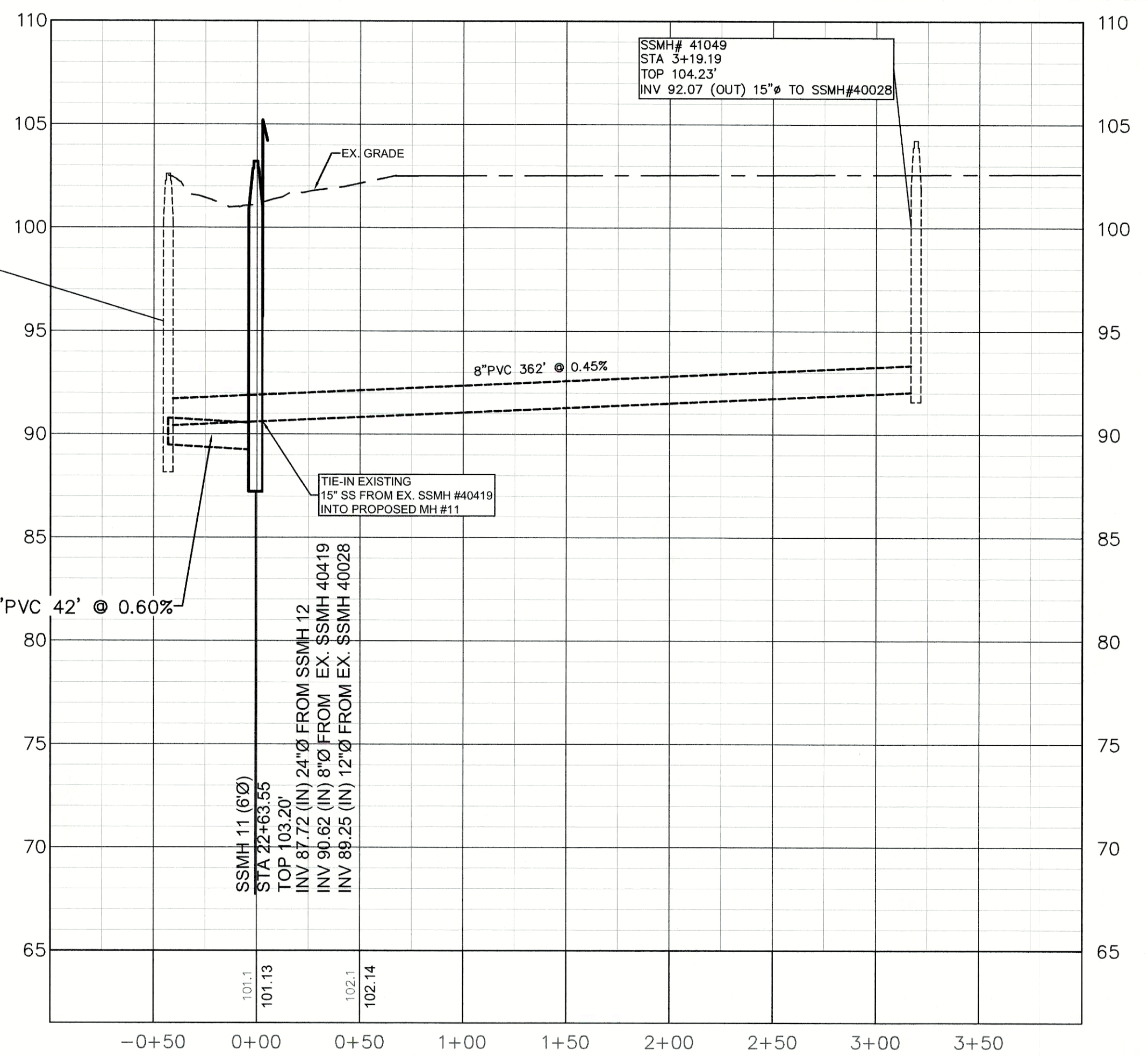
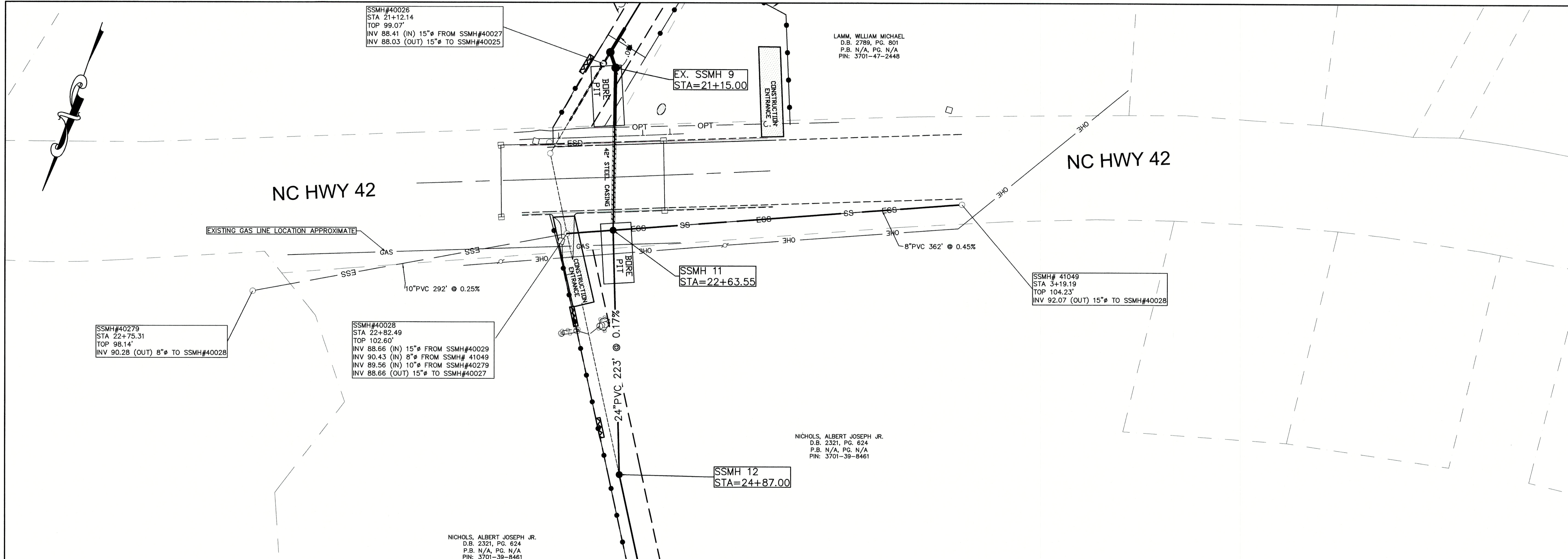
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ASCI FILE:	
LAST MODIFIED: 28-Apr-23	
MODIFIED BY: GLB	

**GRAPHIC SCALES**

PLAN & PROFILE (HORIZONTAL)  
 0 25 50 100

PROFILE (VERTICAL)  
 0 5 10

**SHEET NO. 3 OF 9**



NOTE: CONTRACTOR TO CORE DRILL EX. SSMH #40028 FOR 12" Ø TO SSMH #11.

**LEGEND**

- 100 --- EXISTING MAJOR CONTOUR
- 101 --- EXISTING MINOR CONTOUR
- - - - - EXISTING PROPERTY LINE
- - - - - EXISTING RIGHT-OF-WAY
- - - - - EXISTING CENTERLINE
- - - - - EXISTING EASEMENT
- - - - - PROPOSED EASEMENT
- - - - - EXISTING BUFFER
- - - - - 1% ANNUAL CHANCE FLOOD
- - - - - EXISTING EDGE OF PAVEMENT
- - - - - LIMITS OF DISTURBANCE
- ↑ TEMPORARY BENCH MARK
- ⊙ PROP. AIR RELEASE VALVE
- ⊙ PROPOSED SEWER MANHOLE
- ⊙ PROPOSED SEWER LINE PLUG END
- ⊙ EXISTING SEWER LINE
- ⊙ EXISTING SEWER MANHOLE
- ⊙ EXISTING SEWER LINE PLUG END
- ⊙ EXISTING STORM DRAIN LINE
- ⊙ PROPOSED STORM DRAIN LINE
- ⊙ PROPOSED STORM DRAIN MANHOLE
- ⊙ EXISTING STORM DRAIN LINE
- ⊙ EXISTING STORM DRAIN MANHOLE
- ▨ EXISTING PAVEMENT
- ▨ EXISTING CONCRETE
- ▨ EXISTING GRAVEL
- ▨ ZONE AE
- EXISTING GAS LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED BORE & JACK
- EXISTING VALVE
- EXISTING GAS VALVE
- EXISTING RAILROAD TRACKS
- EXISTING FENCE LINE
- EXISTING TREE LINE
- EXISTING WETLANDS LINE
- EXISTING ROAD GUARDRAIL
- SILT FENCE
- SILT FENCE OUTLET
- ⊙ ROCK CHECK DAM
- ⊙ DISSIPATER PAD
- ⊙ FLARED END SECTION
- ▨ DITCH LINER
- ▨ CONSTRUCTION ENTRANCE

**SEWER NOTES**

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**FLOOD NOTES**

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### SEEDBED PREPARATION:

CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3" DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.

RIP ENTIRE AREA 6" DEEP.

REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.

APPLY AGRICULTURAL LIME AND FERTILIZER UNIFORMLY AND MIX WITH SOIL.

CONTINUE TILLAGE UNTIL A WELL PULVERIZED, REASONABLY UNIFORM SEEDBED IS PREPARED 4" TO 6" DEEP.

SPREAD SEED ON FRESHLY PREPARED SEEDBED AND COVER LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACKER AFTER SEEDING.

MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH BY TACKING WITH ASPHALT OR TACK RACK.

### HYDROSEEDING

SURFACE ROUGHENING IS PARTICULARLY IMPORTANT WHEN HYDROSEEDING, AS A ROUGHENED SLOPE WILL PROVIDE SOME NATURAL COVERAGE FOR LIME, FERTILIZER, AND SEED. THE SURFACE SHOULD NOT BE COMPACTED OR SMOOTH. FINE SEEDBED PREPARATION IS NOT NECESSARY FOR HYDROSEEDING OPERATIONS: LARGE CLODS, STONES, AND IRREGULARITIES PROVIDE CAVITIES IN WHICH SEEDS CAN LODGE.

RATE OF WOOD FIBER (CELLULOSE) APPLICATION SHOULD BE AT LEAST 2,000 LB/ACRE.

APPLY LEGUME INOCULANTS AT FOUR TIMES THE RECOMMENDED RATE WHEN ADDING INOCULANT TO A HYDROSEEDER SLURRY.

IF A MACHINERY BREAKDOWN OF 1/2 TO 2 HOURS OCCURS, ADD 50% MORE SEED TO THE TASK, BASED ON THE PROPORTION OF THE SLURRY REMAINING. THIS SHOULD COMPENSATE FOR DAMAGE TO SEED. BEYOND 2 HOURS, FULL RATE OF NEW SEED MAY BE NECESSARY.

LIME IS NOT NORMALLY APPLIED WITH A HYDRAULIC SEEDER BECAUSE IT IS ABRASIVE. IT CAN BE BLOWN ONTO STEEP SLOPES IN DRY FORM.

### CRIMPING STRAW MULCH

IF CRIMPING IS TO BE USED, APPLY 1/2 THE MULCH, THEN CRIMP, AND INSTALL THE OTHER HALF. CRIMPING CAN BE APPLIED TO AREAS ADJACENT TO ANY SECTION OF THE ROADWAY WHERE TRAFFIC IS TO BE MAINTAINED OR ALLOWED DURING CONSTRUCTION. IN AREAS WITHIN SIX FEET OF THE EDGE OF PAVEMENT, STRAW IS TO BE APPLIED AND THEN CRIMPED. AFTER THE CRIMPING OPERATION IS COMPLETE, AN ADDITIONAL APPLICATION OF STRAW SHALL BE APPLIED AND IMMEDIATELY TACKED WITH A SUFFICIENT AMOUNT OF UNDILUTED EMULSIFIED ASPHALT.

STRAW MULCH SHALL BE OF SUFFICIENT LENGTH AND QUALITY TO WITHSTAND THE CRIMPING OPERATION.

CRIMPING EQUIPMENT INCLUDING POWER SOURCE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER PROVIDING THAT MAXIMUM SPACING OF CRIMPER BLADES SHALL NOT EXCEED 8".

\* REVERT TO SEEDBED PREPARATION FOR WETLAND REPAIR AREAS ON SHEET 2 OF 2 WETLAND IMPACTS FOR SEEDING REQUIREMENTS SPECIFIC TO WETLAND AREAS OF THIS PROJECT.

### SEEDING MAINTENANCE:

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

#### PERMANENT SEEDING

**Summer - March 1 - August 31**

Lime	4,000 lbs/ac
Fertilizer	500 lbs/ac
Bermudagrass (hulled)	35 lbs/ac
Centipede	10 lbs/ac
German/Brown Top Millet Grain	10 lbs/ac
Annual Ryegrass	2 tons/ac
* Straw Mulch	400 GALLON/ACRE
EMULSIFIED ASPHALT TACK	

**Winter - September 1 - February 28**

Lime	4,000 lbs/ac
Fertilizer	500 lbs/ac
Bermudagrass (unhulled)	35 lbs/ac
Tall Fescue	50 lbs/ac
Annual Ryegrass	10 lbs/ac
* Straw Mulch	2 tons/ac
EMULSIFIED ASPHALT TACK	400 GALLON/ACRE

LIME RATE IS PER SANDY SOILS. FOR CLAY SOIL TYPES, ADJUST LIME APPLICATION RATE TO 3 TONS PER ACRE, OR PER SOILS REPORT.

#### TEMPORARY SEEDING

**Summer - March 1 - August 31**

Lime	2 tons/ac
Fertilizer	700 lbs/ac
Brown Top Millet	40 lbs/ac
* Straw Mulch	2 tons/ac
EMULSIFIED ASPHALT TACK	

**Winter - September 1 - February 28**

Lime	2 tons/ac
Fertilizer	700 lbs/ac
Oats	50 lbs/ac
Rye Grain	20 lbs/ac
* Straw Mulch	2 tons/ac
EMULSIFIED ASPHALT TACK	

LIME RATE IS PER SANDY SOILS. FOR CLAY SOIL TYPES, ADJUST LIME APPLICATION RATE TO 3 TONS PER ACRE, OR PER SOILS REPORT.

#### NOTES:

- \* Mulch will be doubled if crimping is the method used.
- Any variation from these specs must have approval of the Stormwater Program Manager or his/her duly authorized agent.

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**CITY of WILSON, N.C.**  
USE WITH THE CITY OF WILSON STANDARD SPECIFICATIONS ONLY

SCALE: Not To Scale  
REVISION DATE: June, 2010

**SEEDING SPECIFICATIONS**

SCALE: Not To Scale  
REVISION DATE: June, 2010

DETAIL # 351.01  
SHEET # 1 of 1

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**CITY of WILSON, N.C.**  
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**TYPICAL SILT FENCE**

SCALE: Not To Scale  
REVISION DATE: June, 2010

DETAIL # 351.01  
SHEET # 2 of 2

**NOTES:**

- Toe in backfill into trench and compact the soil firmly to anchor the bottom of the silt fence so that the runoff is forced to go through the fence. No runoff is to flow under the fence.
- Posts for sediment fences are to be 1.33 lb/LF steel with a minimum length of 5 ft. Make sure that steel posts have projections to facilitate fastening the fabric. Filter fabric may be attached using wire or plastic zip ties that have a minimum 50 lb tensile strength.
- Total drainage area flowing to silt fence may not exceed 1/4 acre per 100 Ft. of fence.
- Silt fences should not be used at pipe outlets or in areas of concentrated flow (creeks, ditches, swales, etc.)
- Construct the silt fence sediment barrier with either Standard Strength or Extra Strength synthetic filter fabrics. If Standard Strength fabric (TerraTex SF 90 or equiv.) is used, wire mesh support is required. If Extra Strength fabric (Mirafix 100X or TerraTex SFD or equiv.) is used, NO support is required.
- Standard Strength fabric (TerraTex SF 90 or equiv.) with 8 ft max post spacing DOES require support by wire mesh fastened securely to the upslope side of the posts. Use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches. Extend the wire mesh support to the bottom of the trench. Fasten wire reinforcement, then fabric on the upslope side of the fence post using wire or plastic zip ties that have a minimum 50 lb tensile strength.
- Extra Strength Filter Fabric (Mirafix 100X or TerraTex SFD or equiv.) with 6 ft max. post spacing DOES NOT require wire mesh support. Securely fasten filter fabric directly to posts. Wire or plastic zip ties that have a minimum 50 lb tensile strength.

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**TYPICAL SILT FENCE**

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DETAIL # 351.01  
SHEET # 2 of 2

**Table 6.14a**  
Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
<b>Organic Mulches</b>			
Straw (ANCHOR STRAW BY TACKING WITH ASPHALT OR NETTING)	1-2 tons	Dry, unchopped, unweathered; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf. Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Wood fiber	0.5-1 tons		
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Sericea lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	
<b>Nets and Mats</b>			
Jute net	Cover area	Heavy, uniform; woven of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 tons	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
<b>Chemical Stabilizers</b>			
Aquatain	follow manufacturer's specifications		Not beneficial to plant growth.
Aerospray			
Curasol AK			
Petrosert SB			
Terra Tack			
Crust 500			
Genaqua 743 M-145			

<sup>1</sup>Refer to Practice No. 6.30, Grass Lined Channels.  
<sup>2</sup>Use of trade names does not imply endorsement of product.

**Maintenance** Inspect all mulches periodically, and after rainstorms to check for rill erosion, dislocation or failure. Where erosion is observed, apply additional mulch. If washout occurs, repair the slope grade, reseed and reinstall mulch. Continue inspections until vegetation is firmly established.

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**CHECK DAM DETAIL**

SCALE: Not To Scale  
REVISION DATE: June, 2010

DETAIL # 354.01  
SHEET # 1 of 2

**PURPOSE**  
To reduce erosion in a drainage channel by reducing the velocity of flow.

**DESIGN CRITERIA**

- Drainage area is limited to one half acre.
- Keep a maximum height of 2 feet at the center of the check dam.
- Keep the center of the check dam at least 9 inches lower than the outer edges of natural ground elevation.
- Keep the side slopes of the check dam at 2:1 or flatter.
- Ensure that the maximum spacing between check dams places the toe of the upstream check dam at the same elevation as the top of the downstream check dam.
- Stabilize outflow areas along channel to resist erosion.
- Use NCDOT Class B stone and line upstream side of the check dam with NCDOT #5 or #57 washed stone.
- Key the stone into the ditch banks and extend it beyond the abutments a minimum of 1.5 feet to avoid washouts from overflow around the dam.

**CONSTRUCTION SPECIFICATIONS**

- Place stone to the lines and dimensions shown in the plans on a filter fabric foundation.
- Keep the center stone section at least 9 inches below the natural ground level where the dam abuts the channel banks.
- Extend stone at least 1.5 feet beyond the ditch banks to keep water from cutting around the ends of the check dam.
- Set spacing between check dams to assure that the elevation at the top of the lower dam is the same as the toe elevation of the upper check dam.
- Protect the channel after the lowest check dam from heavy flow that could cause erosion.
- Make sure that the channel reach above the most upstream check dam is stable.
- Ensure that other areas of the channel, such as culvert entrances below the check dams, are not subject to damage or blockage from displaced stones.

**MAINTENANCE**

- Inspect check dams and channels at least weekly and after each significant (1/2 inch or greater) rainfall event and repair immediately. Clean out sediment, straw, limbs, or other debris that could clog the channel when needed.
- Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the check dam. Correct all damage immediately. If significant erosion occurs between check dams, additional measures can be taken such as, installing a protective rip rap liner in that portion of the channel. (See detail 353.08)
- Remove sediment accumulated behind the check dams as needed to prevent damage to channel vegetation, allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over the check dam. Add stones to check dams as needed to maintain design height and cross section.

**NOTES:**

- Do not use check dams in intermittent or perennial streams.
- Contractor to verify / comply with NCDENR Erosion and Sediment Control Planning and Design Manual (Latest revision), detail 6.83.

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**CHECK DAM DETAIL**

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DETAIL # 354.01  
SHEET # 2 of 2

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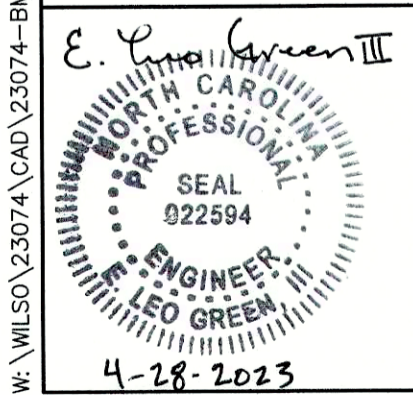
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**SILT FENCE OUTLET RELIEF POINT**

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DETAIL # 351.02  
SHEET # 1 of 1



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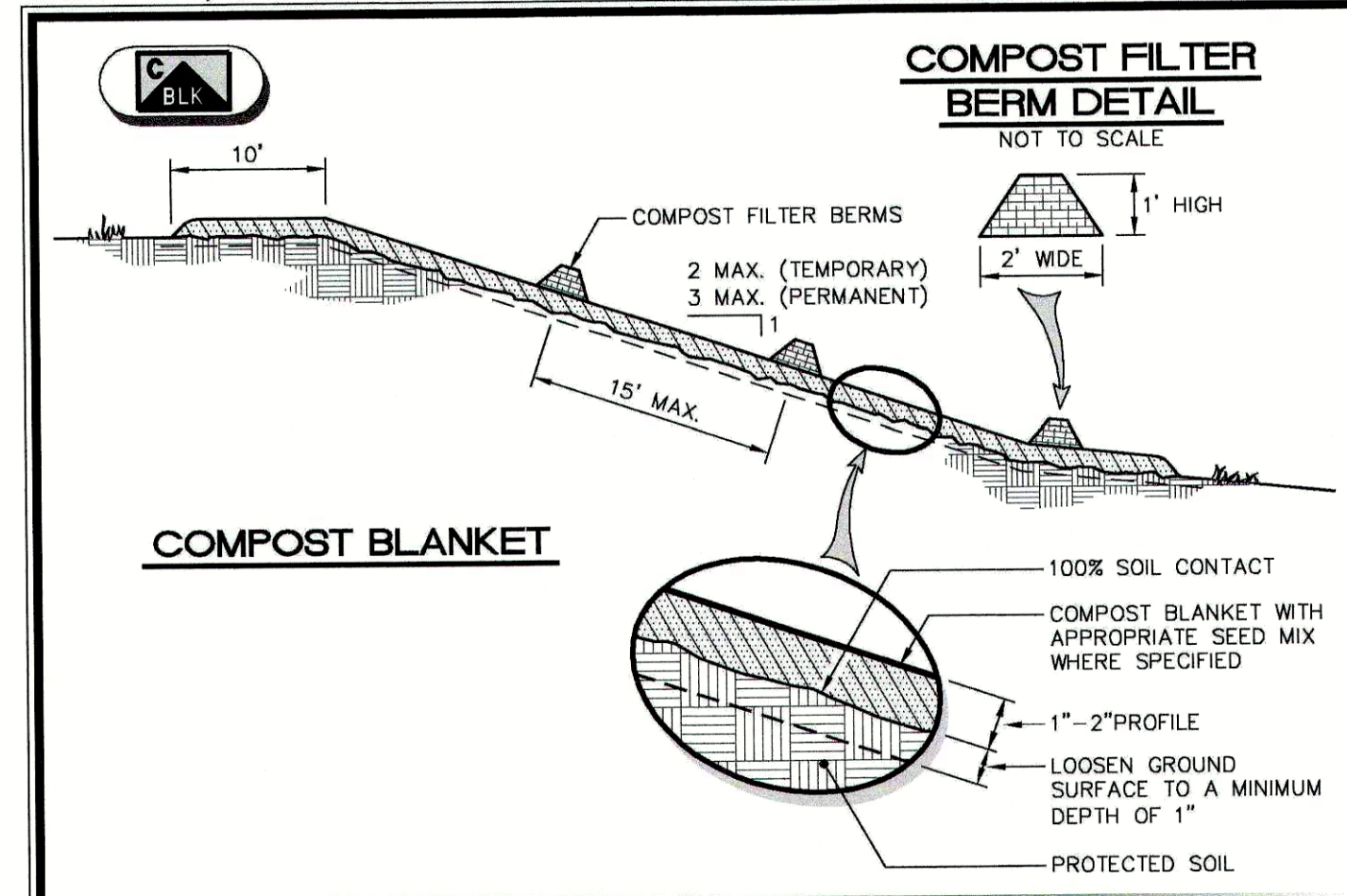
**CITY OF WILSON**  
UPPER BLOOMERY SWAMP INTERCEPTOR PHASE II-A  
WILSON COUNTY  
NORTH CAROLINA

## DETAILS

REVISION	DATE	BY	DATE: APRIL 27, 2023

CLIENT CODE: WILSO  
JOB NUMBER: 23-074  
FIELD BOOK: XXX  
CADFILE: 23074-BM\_PH2A.dwg  
ASCI FILE:  
LAST MODIFIED: 28-Apr-23  
MODIFIED BY: GLB

**SHEET NO. 4 of 9**



- Compost Blanket Notes:**
- See plan view for area of compost blanket.
  - May be used in place of straw mulch or erosion control blanket in areas where access is difficult due to landscaping or other objects or in areas where a smooth turf grass finish is desired.
  - Compost blankets shall only be utilized in areas where sheet flow conditions prevail; shall be prohibited in areas of possible concentrated flow.
  - Soil preparation shall be complete per the specifications outlined in the Narrative covering the applicable project.
  - When turf grass finish is not desired, surface roughening on slopes shall take place prior to application.
  - Compost blanket shall be evenly applied to a depth of specified; generally 1 1/2 to 2 inches thick for vegetated compost surface mulch and 2 to 4 inches thick for unvegetated compost surface mulch.
  - Compost blankets may be applied utilizing pneumatic blower or by hand.
  - Seeding shall be drilled prior to the application of compost or seed may be combined and blown with the pneumatic blower.
  - Where compost filter berms are required or indicated, filter berms shall run parallel to the contour.
  - Compost filter berms shall be applied on slopes spaced at no more than a maximum of 15 feet on centers or as shown on the Erosion Control Plan.
  - Compost filter berms shall be comprised of the same compost material as utilized for the development of the compost blanket.
  - Inspect compost blankets weekly, during and after any rainstorm event.
  - Compost used in the application of the compost blanket shall be compost as defined by the following physical, chemical and biological parameters:

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**COMPOST BLANKET DETAIL & NOTES**  
 SCALE: Not To Scale  
 REVISION DATE: June, 2013  
 DETAIL # 353.07  
 SHEET # 1 of 3

Parameters	Compost for Compost Blanket
pH	5.0 to 8.5
Soluble salts	Maximum 5 mmhos/cm
Moisture Content	30-60%, wet weight basis
Organic Matter Content	25-65%, dry weight basis
Particle Size	3" (75mm), 100% passing, dry weight basis
	1" (25mm), 90-100% passing, dry weight basis
	3/4" (19mm), 65-100% passing, dry weight basis
	1/4" (6.4mm), 0-75% passing, dry weight basis
	Maximum particle length of 6" (152mm)
Stability	8 mg CO <sub>2</sub> -C per g OM per day
Maturity	100%
Percent Emergence Relative Seedling Vigor	100%
Physical Contaminants (man-made inerts)	<1%, dry weight basis
Certification of Products (recommended)	US Composting Council's Seal of Testing (STA) Program

**Construction Specifications**

The following steps shall be taken for the installation of compost blankets for erosion/sediment control. The information shall also be included in the construction sequence on the approved erosion and sediment control plan.

Prepare the soil by removing large clods, rocks, stumps, roots as described in Chapter 6 of the N.C. Erosion and Sedimentation Control Planning and Design Manual.

- Apply the compost blanket to 100% of the area as required on the approved plan.
- The blanket shall cover 100% of the bare or disturbed soil area, whereas, no native soil shall be visible in or through the compost blanket. It shall be applied at the application rates, as specified in Table A. Seed shall be thoroughly mixed with the compost prior to application or surface applied to the compost blanket at time of application at the appropriate rates as prescribed by the approved plan.
  - Compost blankets shall be installed at least 10 ft over and beyond the shoulder of the slope and/or into the edge of existing vegetation to ensure runoff does not undercut the blanket. When installing into the edge of existing vegetation, care must be taken not to disturb the existing root mat.
  - Compost blanket application rates should be designed and specified based on specific site (e.g., soil characteristics, existing vegetation) and climatic conditions, as well as particular project related requirements and calculated storm water runoff.
  - Compost blankets installed on slopes greater than or equal to 4:1 shall be tracked. Blankets on 3:1 slopes shall be tracked and secured with an adequate rolled erosion control product. (See *North Carolina Erosion and Sediment Control Planning and Design Manual*, Practice Standard 6.17 *Roller Erosion Control Products (RECP)* for installation procedure.) Where high winds and wind erosion are expected, RECPs shall be installed over the compost blanket, regardless of slope. All other installation procedures and specifications will be as shown on the approved plan and described in the approved construction sequence. Compost shall be uniformly applied as described in the approved construction sequence with the appropriate equipment. If required, thorough watering may be used to improve settling of the blanket.

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**COMPOST BLANKET DETAIL & NOTES**  
 SCALE: Not To Scale  
 REVISION DATE: June, 2013  
 DETAIL # 353.07  
 SHEET # 2 of 3

Annual Rainfall/Flow Rate	Total Precipitation & Rainfall Erosivity Index	Application Rate For Vegetated <sup>a</sup> Compost Surface Mulch	Application Rate For Unvegetated Compost Surface Mulch
Low	1"-25", 20-90	1"-1 1/2" (25 mm - 37.5mm)	1"-1 1/2" (25 mm - 37.5mm)
Average	26"-50", 91-200	1"-1 1/2" (25 mm - 37.5mm)	1 1/2"-2" (37 mm - 50 mm)
High	51" and above, 201 and above	1"-2" (25 mm - 50 mm)	2"-4" (50mm - 100mm)

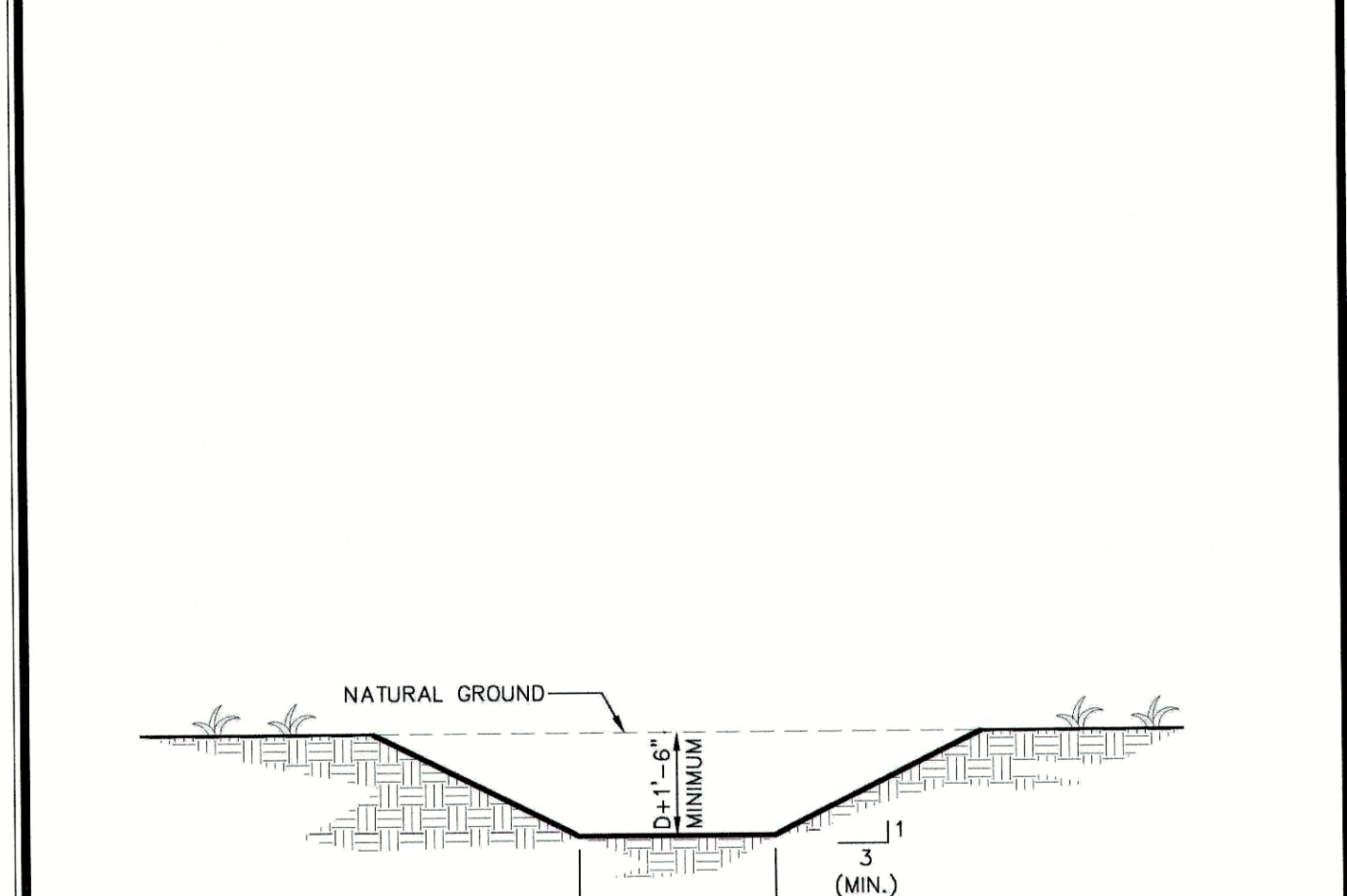
<sup>a</sup> These lower application rates should only be used in conjunction with seeding, and for compost blankets applied during the prescribed planting season for the particular region.

**Maintenance**

Inspect compost blankets weekly and within 24 hours of a rainfall event of 1/2 inch or greater. If failure or damage to the blanket occurs or if vegetation does not establish within the expected germination time of the selected seed type, reapply compost and seed to the affected area to return it to the original condition. Take additional measures as necessary to establish permanent ground cover. Compost blankets shall be inspected until permanent vegetation is established. Rolled Erosion Control Products (RECP) placed over the compost blanket should be repaired if it has been moved or damaged by wind or storm runoff and/or if part of or the whole blanket is not in contact with the soil surface.

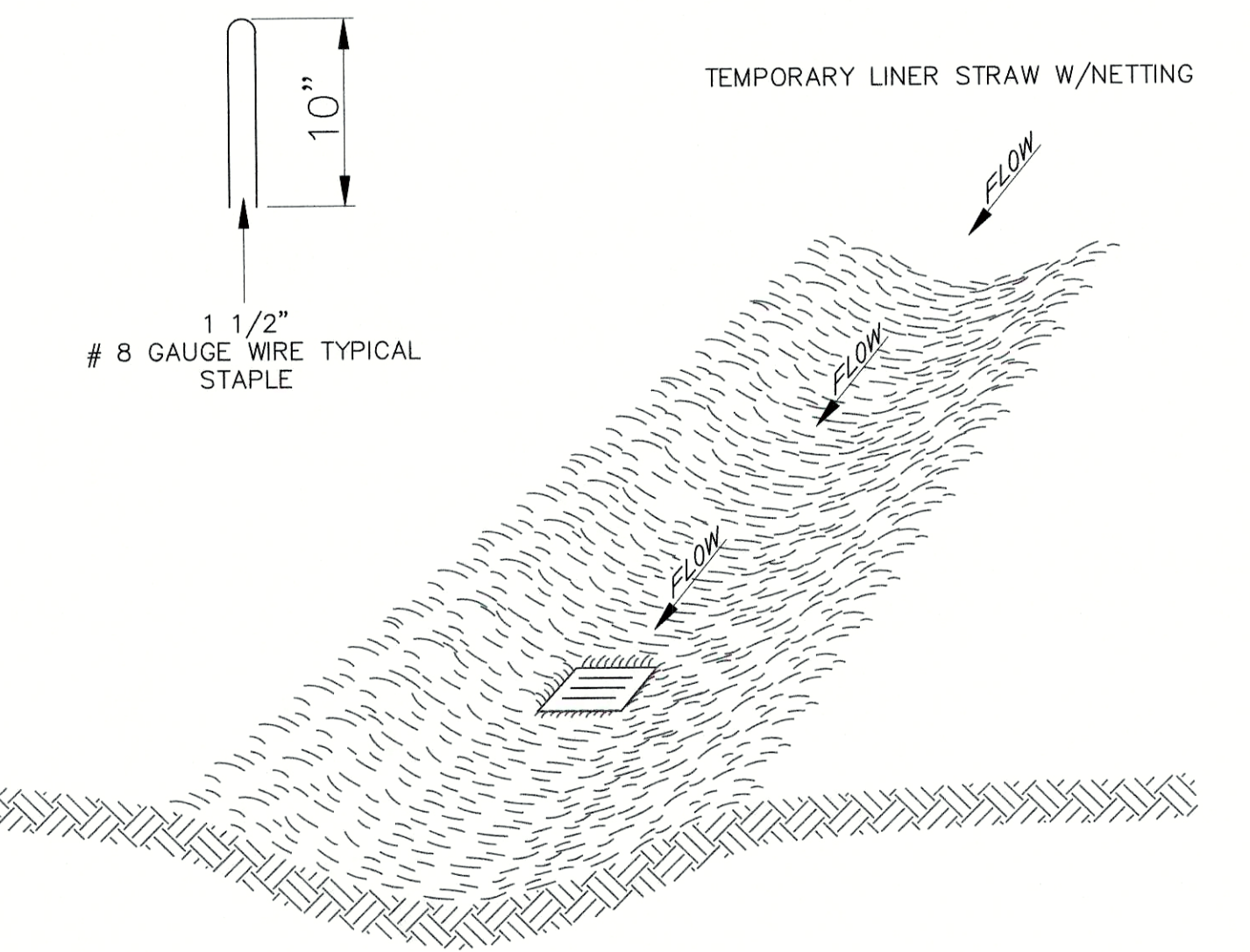
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**COMPOST BLANKET DETAIL & NOTES**  
 SCALE: Not To Scale  
 REVISION DATE: June, 2013  
 DETAIL # 353.07  
 SHEET # 3 of 3

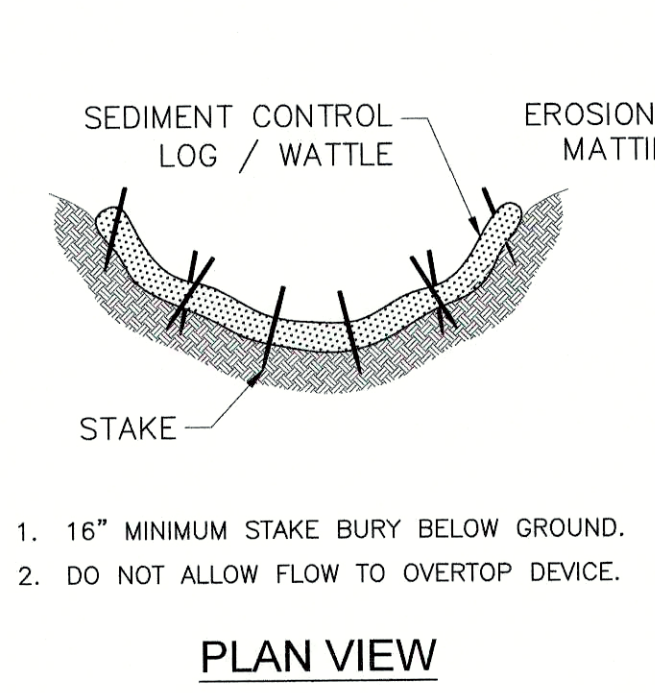


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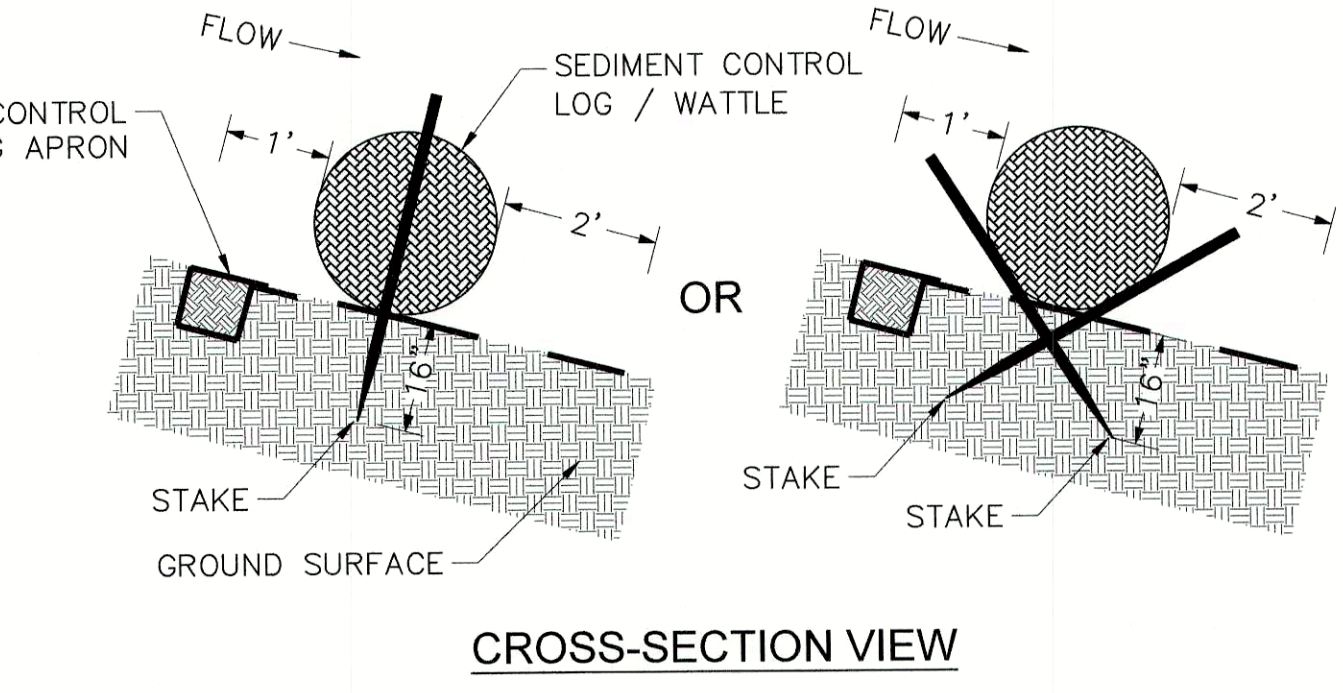
**TYPICAL DRAINAGE CHANNELS**  
 SCALE: Not To Scale  
 REVISION DATE: June, 2010  
 DETAIL # 631.02  
 SHEET # 1 of 1



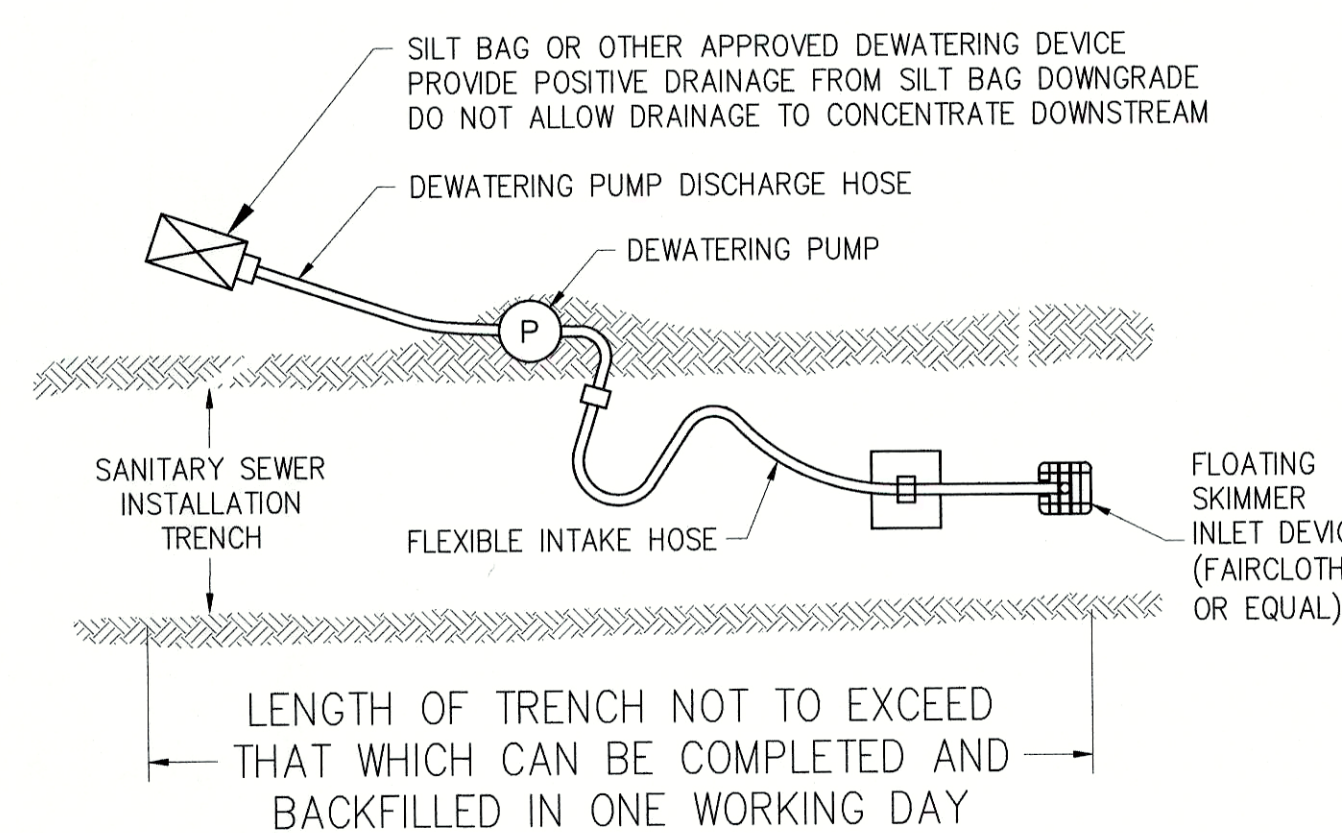
- BURY THE TOP OF THE JUTE STRIPS IN A TRENCH 4 INCHES OR MORE IN DEPTH.
- TAMP THE TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES, 10 INCH SPACING, 4 INCH DOWN FROM TRENCH.
- OVERLAP -- BURY UPPER END OF LOWER STRIP OVERLAP END OF TOP STRIP 4 INCHES AND STAPLE.
- EROSION STOP -- FOLD OF JUTE BURIED IN SLIT TRENCH AND TAMPED, DOUBLE ROW OF STAPLES.
- PLACE STAPLES 1 1/2 TO 6.0 FEET APART AS REQUIRED TO KEEP THE JUTE FIRMLY PRESSED INTO THE SOIL.
- PRESS ENDS OF JUTE 4 INCHES INTO THE SOIL AROUND STRUCTURES AND STAPLE SECURELY.
- INSTALL LINER TO Q10 DEPTH OF FLOW MINIMUM.



- DESIGN CRITERIA**
- TO BE UTILIZED AS A "GREEN" SUBSTITUTE FOR ROCK CHECK DAMS IN DITCHES AND OTHER CHANNELS. NCDENR AND/OR NCDOT APPROVAL REQUIRED.
  - THE DRAINAGE AREA IS LIMITED TO ONE HALF ACRE PER DEVICE. DRAINAGE AREAS MUST BE FREE FROM DEBRIS, ROCKS, CLODS, ETC.
  - GROUND SURFACE SHOULD BE SMOOTH PRIOR TO INSTALLATION TO ENSURE LOG / WATTLE REMAINS IN CONTACT WITH SIDE SLOPES AND CHANNEL.
  - STABILIZE ANY OUTFLOW AREAS ALONG THE CHANNEL TO RESIST EROSION.
  - AT A MINIMUM, UTILIZE 1" x 1" x 24" STAKES TO SECURE THE LOG / WATTLE TO THE GROUND SURFACE.
  - INSTALLATION IN ROCKY, SANDY OR OTHERWISE LOOSE SOIL SHALL REQUIRE LONGER STAKES (GREATER THAN 24") TO BE UTILIZED.
  - PLACE FIBER REINFORCED EROSION CONTROL MATTING AS AN APRON UPSTREAM OF LOG / WATTLE WHEN UTILIZING FOR SLOPE PROTECTION. SECURE MATTING BY ANCHORING TO SLOPE. SECURE LOG / WATTLE TO BLANKET TO ENSURE CONTACT OVER THE LENGTH OF THE INSTALLATION. A MINIMUM OF 1 FT. UPSTREAM APRON AND 2 FT. DOWNSTREAM APRON ARE REQUIRED FOR INSTALLATION FOR SLOPE PROTECTION.
  - SUBSEQUENT DOWNSLOPE LOGS / WATTLES SHOULD BE APPROPRIATELY SPACED TO MINIMIZE VELOCITIES. SEAMS BETWEEN LOGS / WATTLES SHOULD BE OFFSET TO ENSURE MAXIMUM FILTRATION BETWEEN DEVICES. FIGURE A REPRESENTS A PROFILE VIEW FOR SLOPE INSTALLATION.
  - REFERENCE NCDENR EROSION & SEDIMENTATION CONTROL DESIGN MANUAL FOR DESIGN STANDARDS & SPECIFICATIONS REGARDING MAINTENANCE CRITERIA.

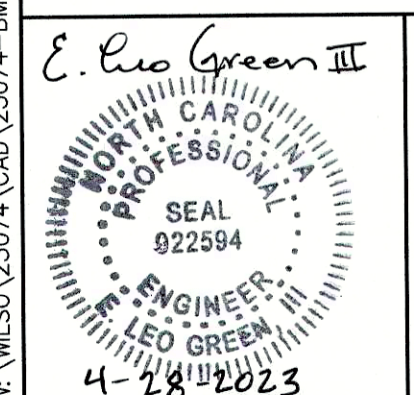


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LENGTH OF TRENCH NOT TO EXCEED THAT WHICH CAN BE COMPLETED AND BACKFILLED IN ONE WORKING DAY

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 UPPER BLOOMERY SWAMP INTERCEPTOR PHASE II-A  
 WILSON COUNTY NORTH CAROLINA

**DETAILS**

REVISION	DATE	BY	DATE: APRIL 27, 2023

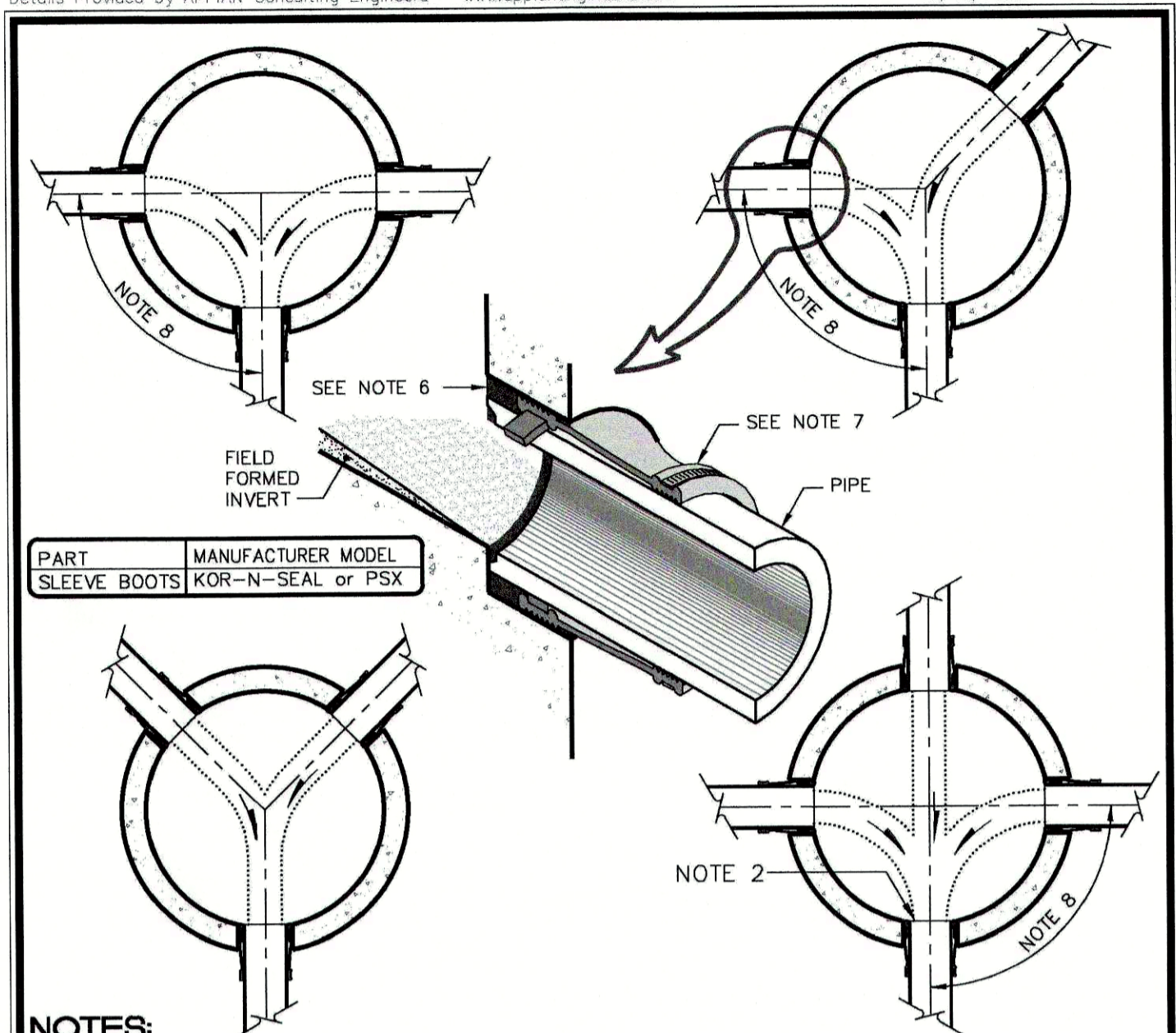
**AS SHOWN**

CLIENT CODE: WILSO  
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 LAST MODIFIED: 28-Apr-23  
 MODIFIED BY: GLB

SHEET NO. 5 OF 9



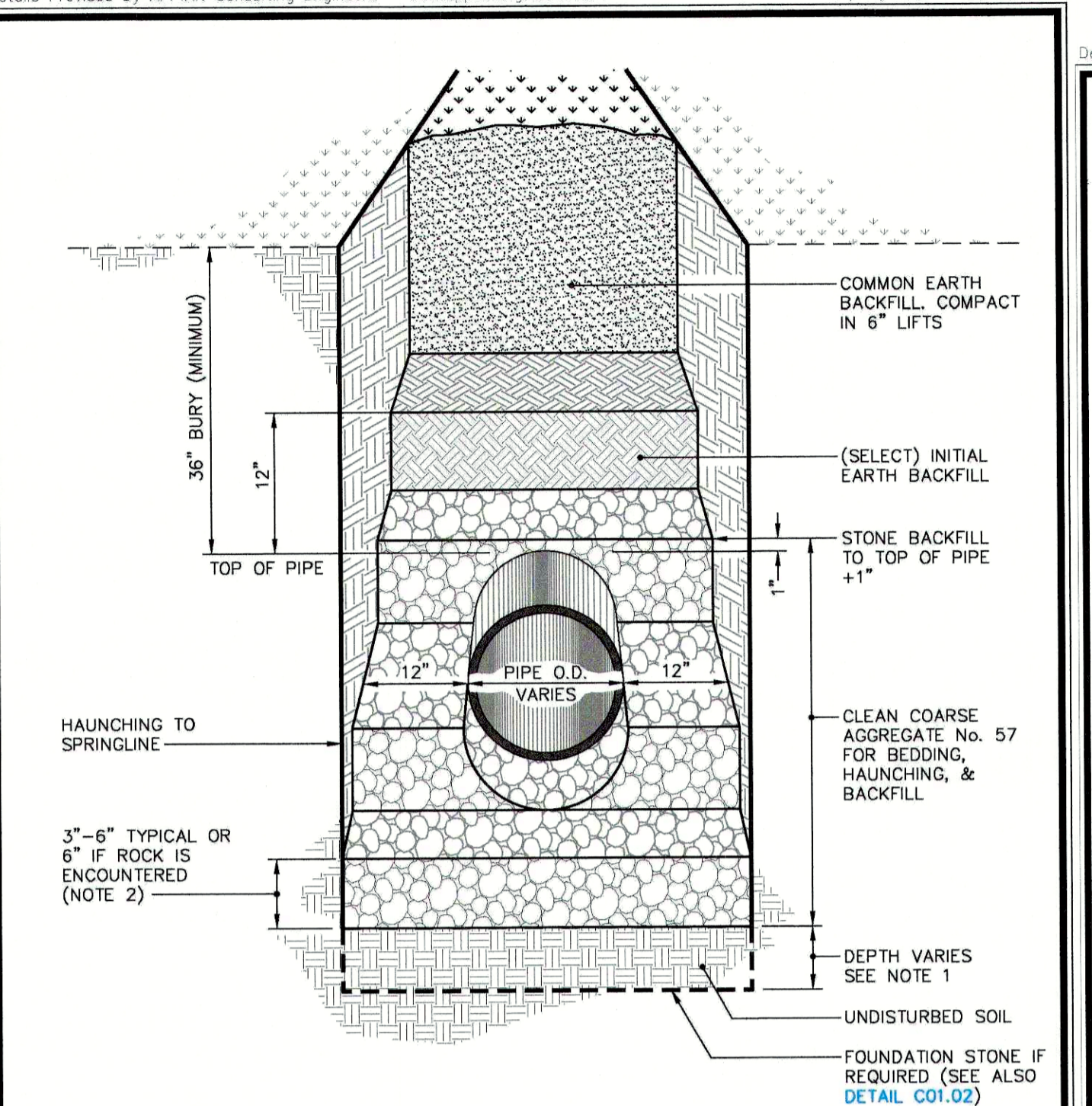




- NOTES:**
1. Concrete shelf should be no lower than the pipe spring line elevation at manhole wall.
  2. Service line entries to have cast in place troughs.
  3. Radius of invert must have enough room to be able to insert air plugs and TV equipment.
  4. Concrete strength to be 4,000 PSI minimum.
  5. Concrete formed invert shall be precast wherever possible. Moorbases are permitted.
  6. Pipes will be grouted inside and out.
  7. Flexible sleeve boots cast in place or installed with stainless steel expander rings as manufactured by Kor-N-Seal or PSX shall be used for pipe connections. Boots shall be secured to pipe using (2) stainless steel bands.
  8. Flow shall not be allowed to restrict other lines. Influent lines shall not enter manholes at less than 90° from effluent line unless otherwise approved by City Engineer or Director of Water Resources.

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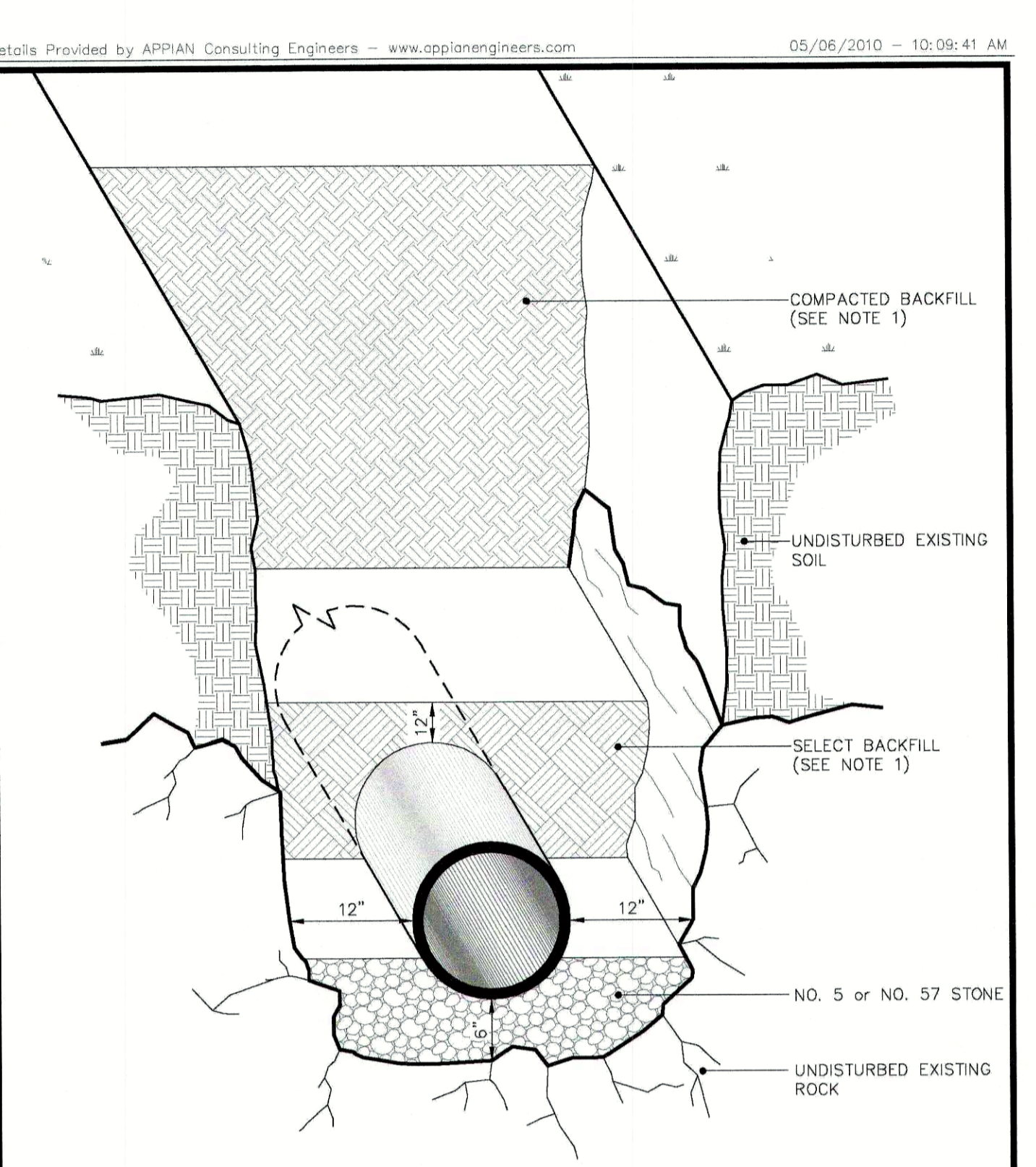
**TYPICAL SEWER INVERT PLANS FOR MANHOLES**  
SCALE: Not To Scale  
DETAIL # 732.01  
REVISION DATE: June, 2013  
SHEET # 1 of 1



- NOTES:**
1. Foundation stone shall be required when soil conditions are unsuitable.
  2. An additional 1 inch depth of bedding material will be required for each additional 2 feet of trench depth in excess of 16 feet up to a maximum of 12 inches.

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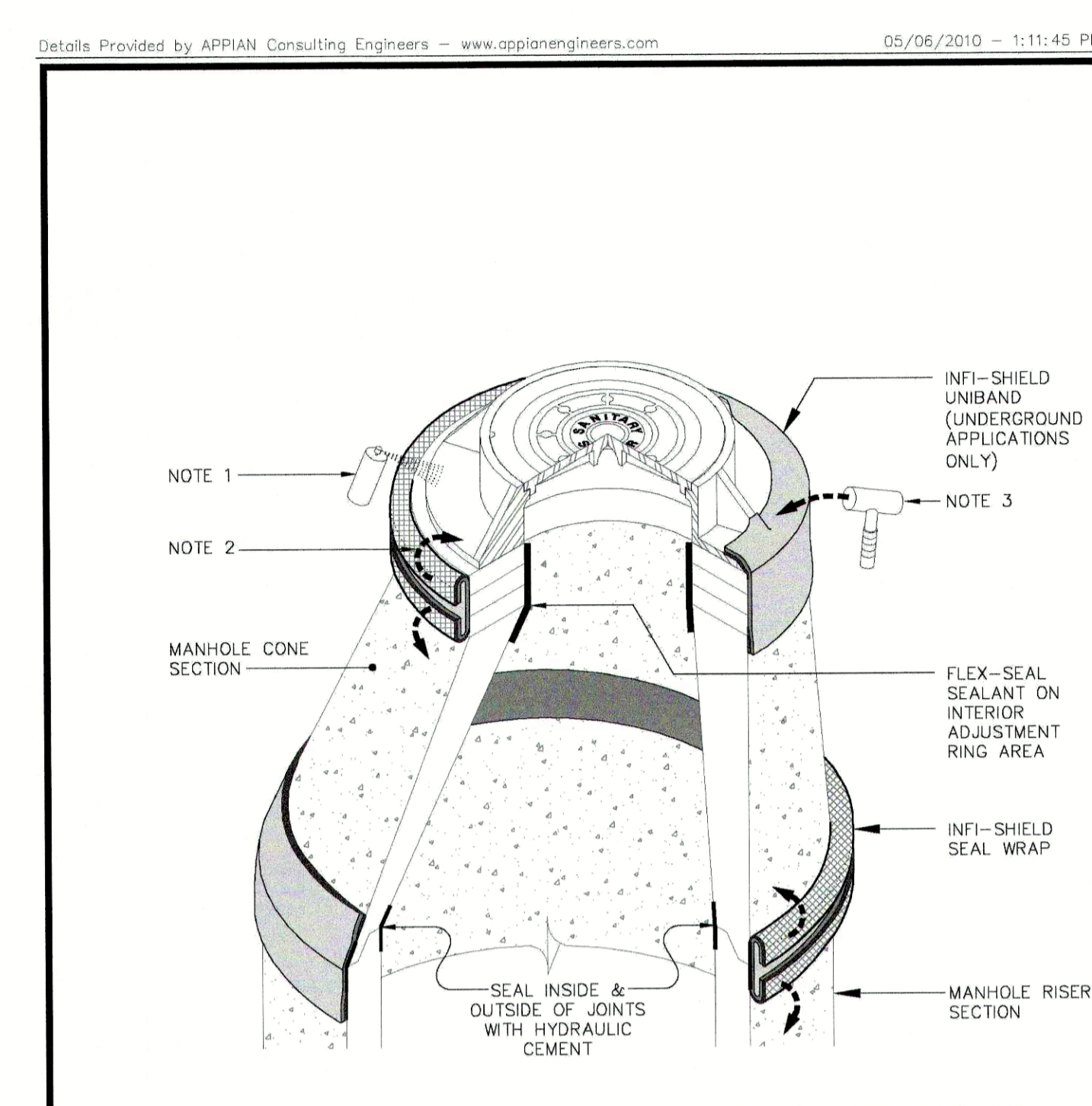
**SANITARY SEWER LINE TRENCH (NON-TRAFFIC AREAS)**  
SCALE: Not To Scale  
DETAIL # 731.01  
REVISION DATE: June, 2010  
SHEET # 1 of 1



- NOTES:**
1. See specification section 02275 Trenching, Backfilling, and Compaction of Utilities for backfill and compaction requirements.

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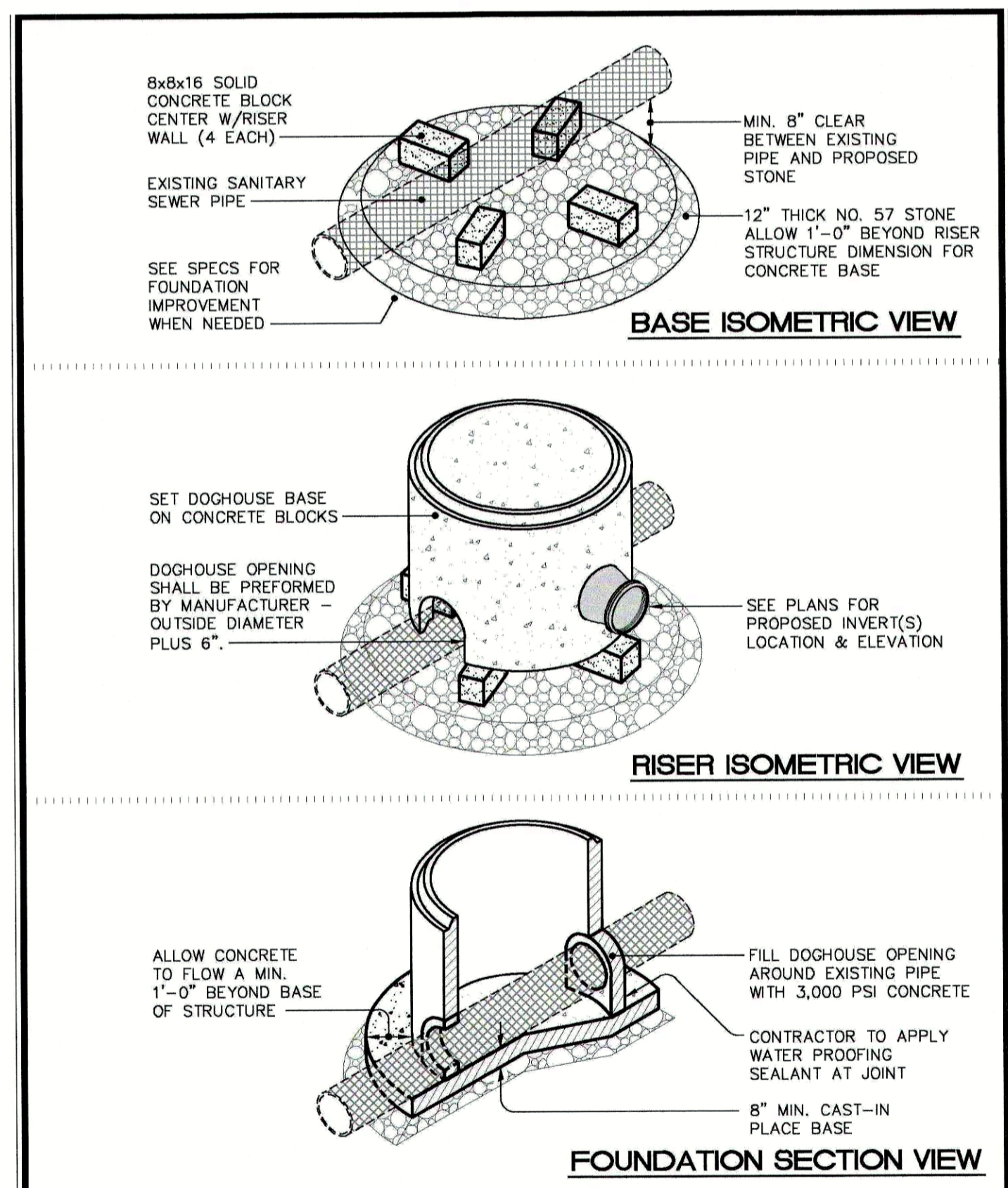
**DETAIL of ROCK EXCAVATION**  
SCALE: Not To Scale  
DETAIL # 732.04  
REVISION DATE: June, 2010  
SHEET # 1 of 1



- INSTALLATION NOTES:**
1. Clean casting frame, riser rings and cone section. Spray primer to areas where attaching non-hardening butyl mastic.
  2. Install the Infi-shield External Seal on the outside surface of the adjustment ring area covering all grade rings. Remove protective tape and fold back on to the structure.
  3. Using a rubber hammer, tap the sealing surface areas.
  4. Ensure lid and casting is clean. Attach inspection tab to manhole lid and backfill.
  5. Contact Sealing Systems Inc. for additional installation instructions @ 800-478-2054.

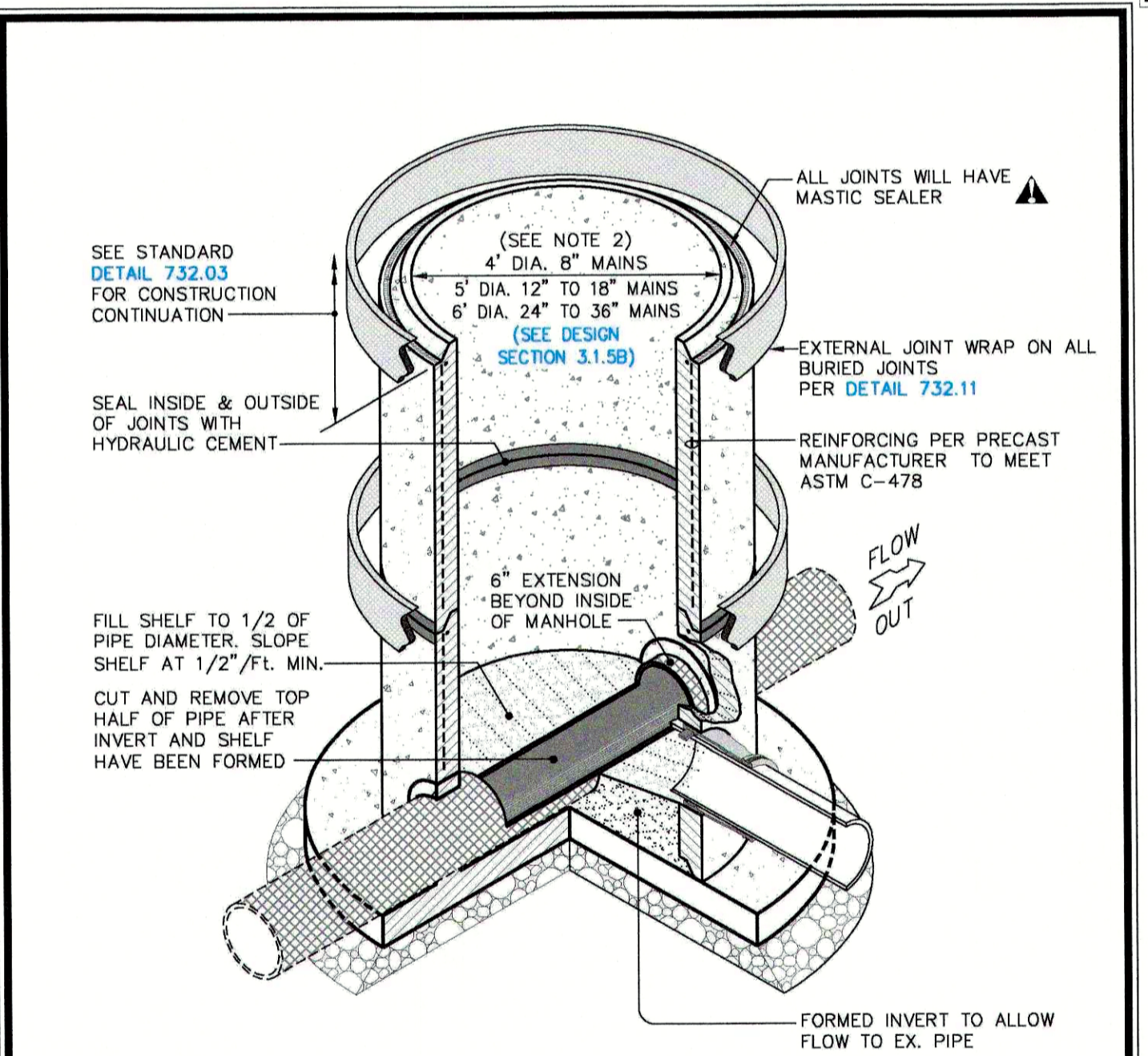
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**INFI-SHIELD EXTERNAL SEALING DETAIL**  
SCALE: Not To Scale  
DETAIL # 732.11  
REVISION DATE: June, 2010  
SHEET # 1 of 1



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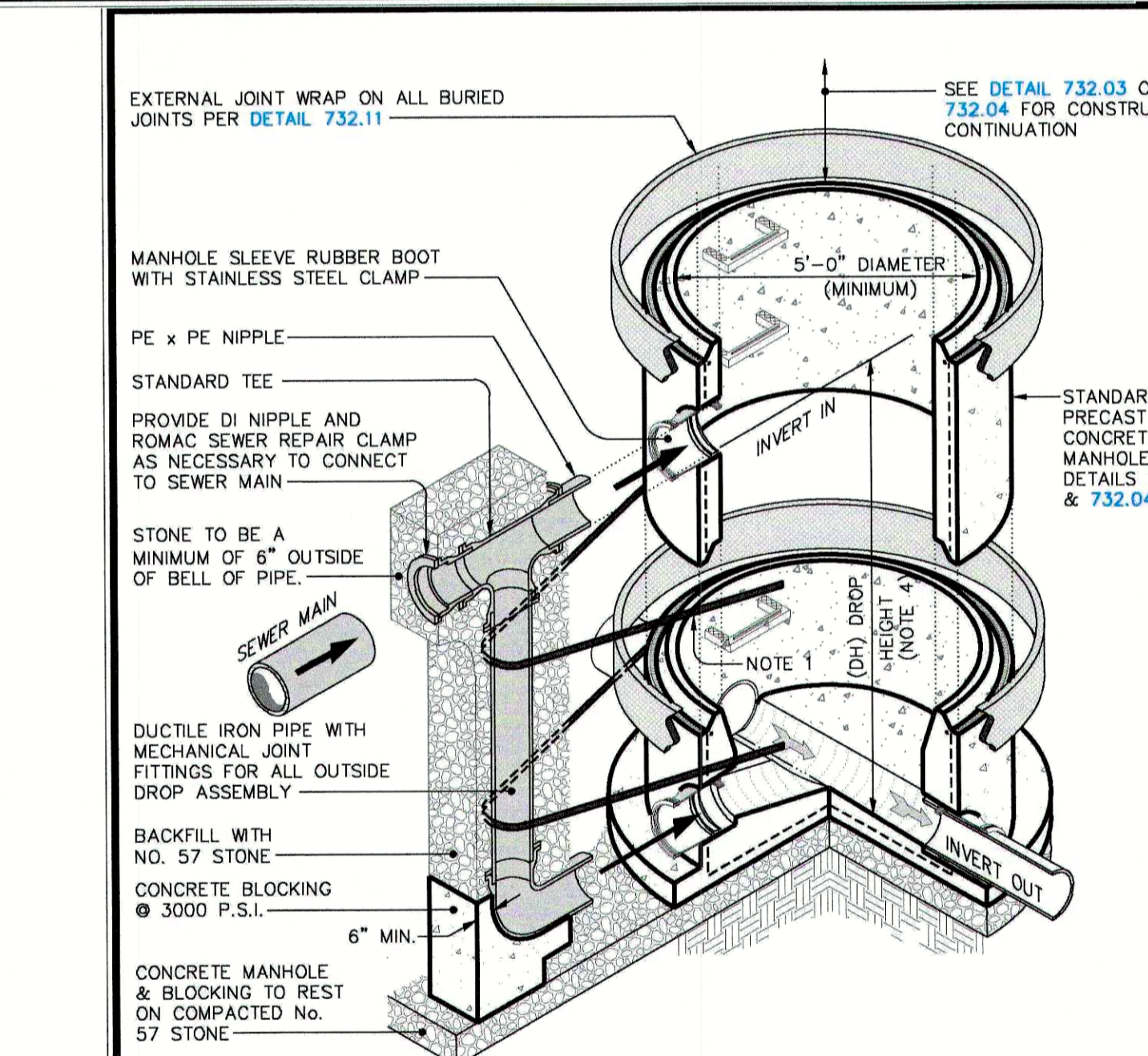
**DOGHOUSE MANHOLE INSTALLATION OVER EXISTING SEWER MAIN**  
SCALE: Not To Scale  
DETAIL # 732.02  
REVISION DATE: June, 2010  
SHEET # 1 of 2



- NOTES:**
1. All service laterals into manhole to be core drilled and booted.
  2. Maximum depth 4' dia. manhole = 12' (see specifications). Use 5' dia. manhole for depth greater than 12'.
  3. Flow of existing main shall be maintained during construction.
  4. This detail to be used when an 8" or larger lateral main necessitates construction of a new manhole.

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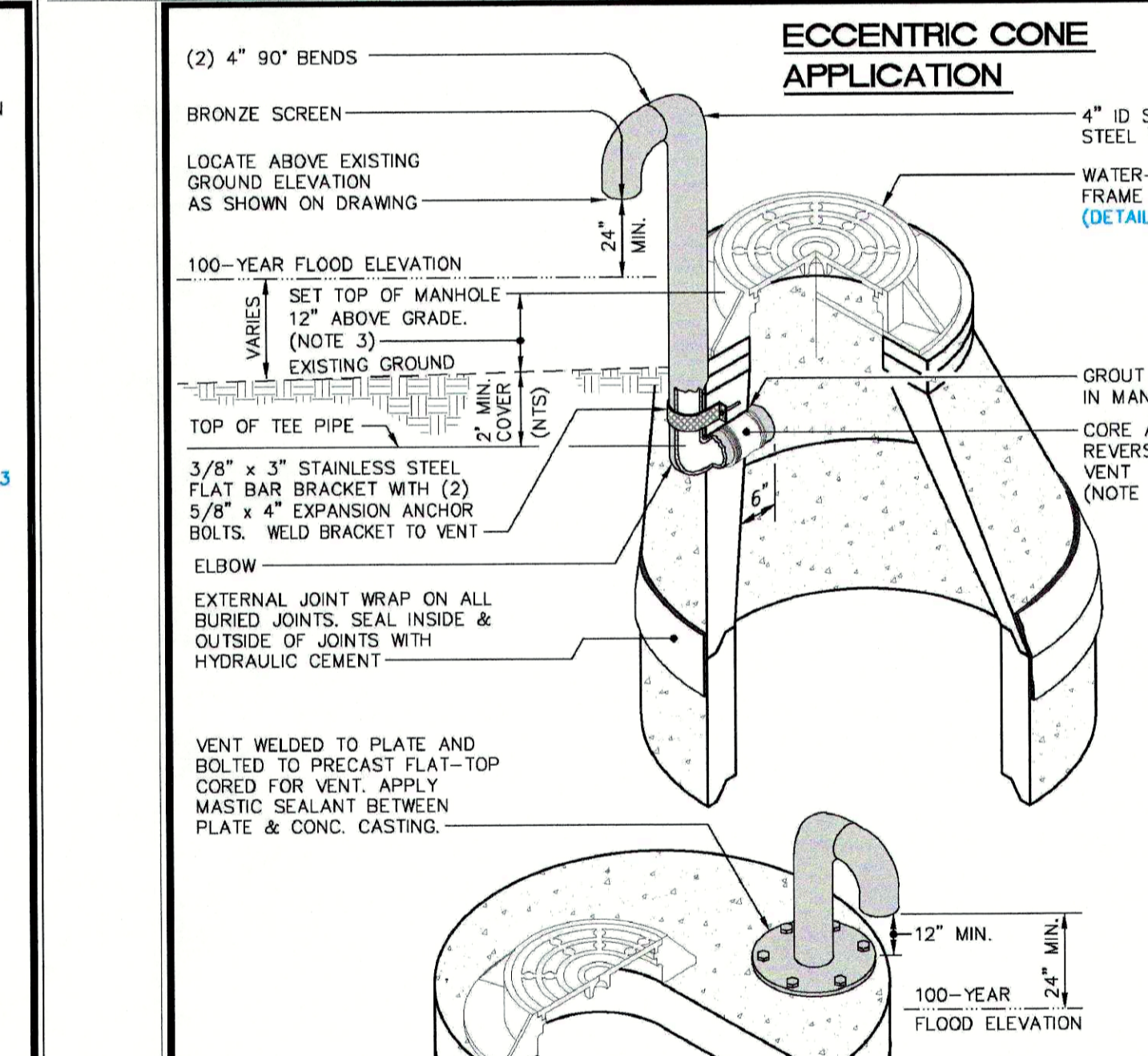
**DOGHOUSE MANHOLE INSTALLATION OVER EXISTING SEWER MAIN**  
SCALE: Not To Scale  
DETAIL # 732.02  
REVISION DATE: April, 2012  
SHEET # 2 of 2



- NOTES:**
1. 1" Stainless steel strapping anchor and stainless steel bolts required every 5 foot section.
  2. Do not cover any bolts or strapping with concrete brick support.
  3. No inside drops allowed unless approved by City Engineer or Director of Water Resources.
  4. An outside drop is required when influent invert is greater than 30" above the invert of effluent line.
  5. For new construction an inside drop is allowed only with approval of City Engineer.

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**STANDARD EXTERIOR DROP MANHOLE**  
SCALE: Not To Scale  
DETAIL # 732.06  
REVISION DATE: July, 2018  
SHEET # 1 of 1



- NOTES:**
1. Locate vent pipe as shown or as directed by City Engineer.
  2. Connect 4" steel vent pipe to manhole with flexible boot.
  3. If height above grade exceeds 24", use eccentric flat top.

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**STANDARD MANHOLE VENTING DETAIL**  
SCALE: Not To Scale  
DETAIL # 732.10  
REVISION DATE: April, 2012  
SHEET # 1 of 1

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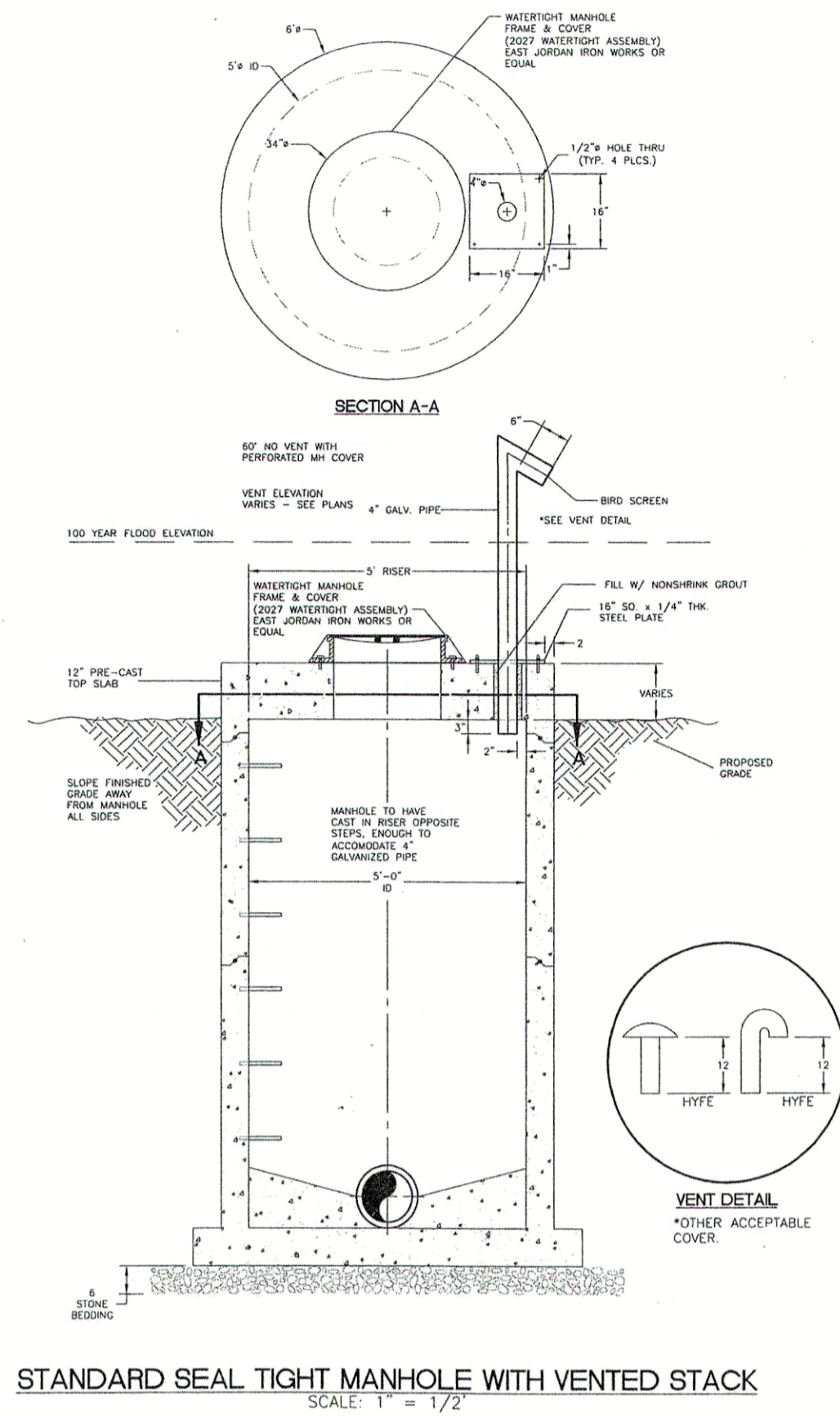
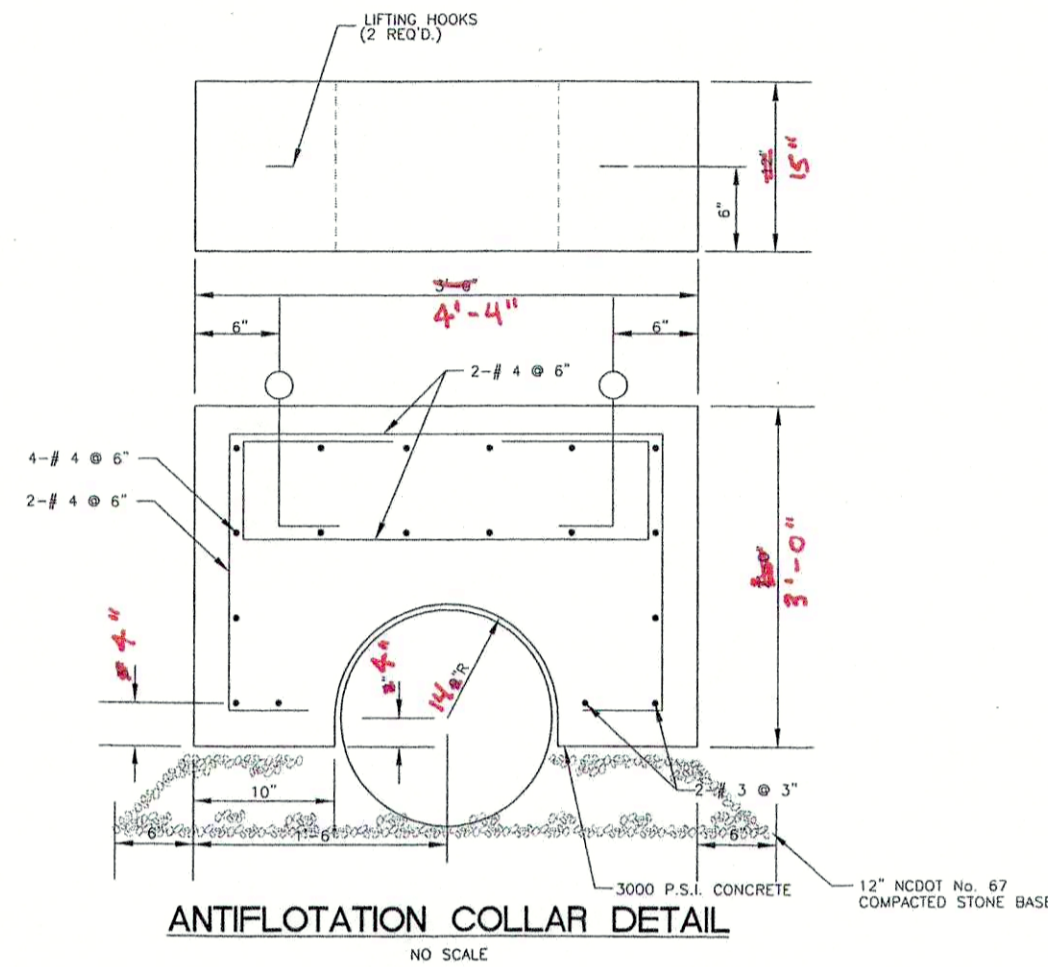
REVISION	DATE	BY	DATE: APRIL 27, 2023

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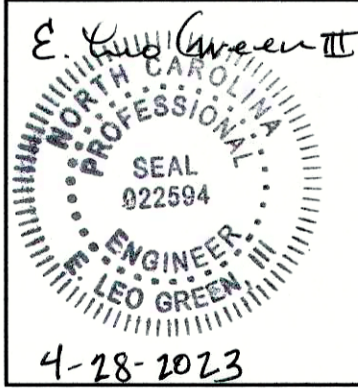
**SHEET NO. 8 OF 9**



TEMPORARY BENCHMARK TABLE			
TBM	TYPE	LOCATION	ELEVATION
1	SPIKE IN 15" PINE	STA 0+00 @ 45' RT	121.87
2	SPIKE IN 12" GUM	STA 10+83 @ 30' RT	120.12
3	SPIKE IN 12" GUM	STA 21+00 @ 60' RT	120.19
4	SPIKE IN POWER POLE	PEBBLE BEACH PUMP STA.	126.06
5	SPIKE IN 18" GUM	STA 34+00 @ 75' LT	121.42
6	SPIKE IN 24" GUM	STA 44+90 @ 90' RT	120.00
7	SPIKE IN 18" POPLAR	STA 64+00 @ 70' LT	134.60
8	SPIKE IN POWER POLE	STA 75+50 @ 130' LT	146.96
9	SPIKE IN 18" GUM	STA 87+00 @ 47' LT	140.99
10	SPIKE IN 18" POPLAR	STA 96+37 @ 25 LT	139.39
11	SQUARE IN HEADWALL	STA 103+73 @ 60 RT	138.82



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SHEET NO. 9 OF 9