

3. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF ZEBULON ENGINEERING DESIGN SPECIFICATIONS AND CONSTRUCTION STANDARDS, AND CITY OF RALEIGH FOR WATER AND SANITARY SEWER.
2. CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4949) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
4. BOUNDARY & EXISTING TOPOGRAPHY SURVEY PROVIDED BY TAYLOR LAND CONSULTING, FEBRUARY 2021.
5. THERE ARE NO PROTECTED WETLANDS WITHIN THE PROJECT SITE.
6. ALL CONSTRUCTION SHALL CONFORM TO A.D.A. STANDARDS
7. PLAN IS SUBJECT TO REVISIONS DURING CONSTRUCTION DRAWING APPROVAL PROCESS.
8. CONSTRUCTION DRAWING APPROVAL IS REQUIRED BEFORE CONSTRUCTION ON THIS PROJECT MAY BEGIN. THE DEVELOPER SHALL BE RESPONSIBLE FOR PAYING ALL APPLICABLE DEVELOPMENT FEES PRIOR TO CONSTRUCTION DRAWING APPROVAL.
9. ALL ROADWAY INFRASTRUCTURE CONSTRUCTION SHALL CONFORM TO THE TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS.
10. CONTRACTOR SHALL CONTACT THE TOWN OF ZEBULON TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING CONSTRUCTION.
11. ALL ROADWAY, SIDEWALK AND STORM DRAINAGE IMPROVEMENTS IN ROW OR DEDICATED PUBLIC EASEMENTS WILL BE REQUIRED TO BE DEDICATED TO THE TOWN OF ZEBULON AT COMPLETION OF THE PROJECT.
12. AS-BUILT SITE PLANS FOR ROADWAY AND UTILITY WORK MUST BE SUBMITTED AND APPROVED PRIOR TO FINAL ACCEPTANCE. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RED-LINE LINE DRAWINGS.
13. DEVELOPER/OWNER IS RESPONSIBLE FOR CONTRACTING WITH THIRD PARTY NCDOT CERTIFIED TESTING FIRM. THE FIRM MUST BE APPROVED BY TOWN OF ZEBULON. MATERIAL TESTING IS REQUIRED FOR ALL ROADWAY WORK. FINAL REPORTING AND CERTIFICATION (SEALED) IS REQUIRED FOR COMPLETION OF THE PROJECT BY THE GEO-TECHNICAL ENGINEER. TESTING IS REQUIRED FOR SUBGRADE, ROADWAY STONE, ASPHALT AND CURB AND GUTTER PER TOWN OF ZEBULON SPECS.
14. ALL CURB AND GUTTER REQUIRES CONCRETE TESTING FOR THE FOLLOWING REQUIREMENTS (SECTION 2.1.1):
  - i. 4" CONCRETE SLUMP
  - ii. TEMPERATURE - 50 AND 90 DEGREES
  - iii. AIR MIXTURE RANGE 3.5% TO 6.5%
  - iv. STRUCTURAL BREAK TEST - 7.14,28 DAYS @ 3,000PSI @ 28 DAYS
  - v. SAMPLES EVERY 1,000 LF OF CURB AND GUTTER TO ENSURE QUALITY
  - vi. MAX WATER-CEMENT RATIO BY WEIGHT: 0.594
  - vii. MINIMUM CEMENT CONTENT (LBS/CY): 602

1. USES SHALL BE LIMITED TO SINGLE FAMILY DETACHED, SINGLE FAMILY ATTACHED, AND PERMITTED ACCESSORY USES.
2. MINIMUM SINGLE FAMILY ATTACHED UNIT SHALL BE A MINIMUM OF 1,200 S.F..
3. MINIMUM DRIVEWAY STEM LENGTH SHALL BE 20'.
4. MACK TODD ROAD – DEDICATE 5' OF RIGHT OF WAY, BUILD  $\frac{1}{2}$  OF THE ULTIMATE 70' RIGHT-OF-WAY SECTION. ROADWAY SECTION WILL INCLUDE 5' WIDE SIDEWALK FOR THE FULL LENGTH OF PROPERTY.
5. PROVIDE A 10' WIDE TYPE A BUFFER ALONG PIN 1795-82-9159 WHERE SINGLE FAMILY ATTACHED UNITS ARE LOCATED ADJACENT TO THE SHARED PROPERTY LINE AS SHOWN ON CONCEPT PLAN.
6. PROVIDE FOUNDATION PLANTS ALONG THE FRONT FACADE OF THE UNITS THAT FRONT ON MACK TODD ROAD IN LIEU OF A STREETSCAPE BUFFER. MINIMUM OF THE FOLLOWING SHALL BE PLANTED: 3 EVERGREEN SHRUBS (12" HEIGHT @ INSTALLATION) PER UNIT AND SHALL BE A PLANT THAN CAN BE MAINTAINED AT 18" HEIGHT WHERE LOCATED IN THE SIGHT TRIANGLE. PLANT SELECTION TO BE DETERMINED AT SITE PLAN. SEE DETAIL ON L-2 FOR TYPICAL EXAMPLE OF FOUNDATION LANDSCAPING.
7. SLAB FOUNDATION SHALL BE PERMITTED.
8. VINYL SIDING SHALL NOT BE PERMITTED BUT VINYL ACCENTS, SUCH AS WINDOWS, DECORATIVE TRIM, AND OTHER ELEMENTS SHALL BE PERMITTED.
9. DEVELOPER SHALL PROVIDE EASEMENT FOR AND CONSTRUCT THE SECTION OF THE CORRIDOR 8 GREENWAY THAT RUNS ALONG THE EAST SIDE OF THE DEVELOPMENT. \*\*
10. NATIVE TREES SHALL BE USED FOR ANY STREET TREE OR BUFFER PLANTING.
11. 50% OF THE REQUIRED OPEN SPACE SHALL BE DEDICATED TO URBAN OPEN SPACE.

STREET	LENGTH
STREET A	0 LF
STREET B	0 LF

TYPE	QUANTITY
STREET LIGHTS	0

SIZE	LENGTH
15"	381 LF
24"	30 LF
TOTAL	411 LF

SIZE	LENGTH
15"	306 LF
18"	40 LF
TOTAL	340 LF

The site plan illustrates the proposed interchange at Mack Todd Rd. / US 64 Business. The plan shows the layout of the interchange, including the proposed and existing structures, parking lots, and surrounding roads. The interchange is located at the intersection of Mack Todd Rd. and US 64 Business. The plan includes a north arrow and a scale bar.

**Proposed Structure:** The proposed structure is a multi-level interchange. It features a main structure with a parking lot on the left side, a central structure with a parking lot, and a right structure with a parking lot. The parking lots are numbered 1 through 10. The main structure is labeled "MTC".

**Existing Structure:** The existing structure is a single-level interchange. It features a main structure with a parking lot on the left side, a central structure with a parking lot, and a right structure with a parking lot. The parking lots are numbered 1 through 10. The main structure is labeled "MTC".

**Surrounding Roads:** The interchange is located at the intersection of Mack Todd Rd. and US 64 Business. The plan shows the layout of the interchange, including the proposed and existing structures, parking lots, and surrounding roads.

**North Arrow:** The north arrow is located in the bottom right corner of the plan. It points towards the top of the page.

**Scale Bar:** The scale bar is located in the bottom left corner of the plan. It indicates a distance of 100 feet.

SCALE: 1"=40'

## ENVIRONMENTAL CONSULTANT SIGNATURE

City of Raleigh Development Approval \_\_\_\_\_

Raleigh Water Review Officer \_\_\_\_\_

## VICINITY MAP NTS

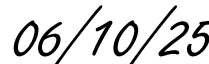
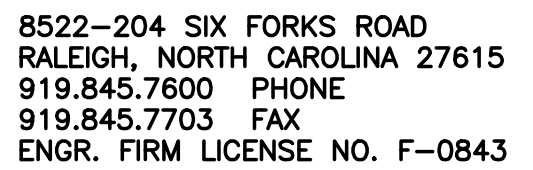
1. DEVELOPMENT NAME:	WADSWORTH RIDGE TOWNHOMES
2. WAKE COUNTY P.I.N.s:	1795-82-7060
3. TOTAL NUMBER OF LOTS:	13 TOWNHOME LOTS
4. TRACT AREA:	2.30 AC
5. ZONING:	PD
6. INSIDE TOWN LIMITS:	YES
7. WATERSHED:	NEUSE RIVER BASIN
8. DISTURBED AREA:	1.7 AC
9. PROPOSED IMPERVIOUS SURFACE	STREETS/SIDEWALKS = 0.28 AC (INCLUDES MAIL KIOSK, PARKING AND 4,000 SF FOR AMENITY AREAS.)
	LOTS = 0.41 AC± (AVG. 1,365 SF/LOT)
	TOTAL = 0.69 AC±
	*SEE SITE PLAN FOR ALLOCATED BUA / LOT.
10. FEMA INFORMATION	THE SITE IS NOT WITHIN A FEMA FLOOD ZONE PER MAPS # 3720179700K - PANEL 1797 EFFECTIVE DATE 07/19/2022
11. OWNER / DEVELOPER:	CAPITAL PROPERTIES OF NORTH CAROLINA LLC 1540 GRAND WILLOW WAY RALEIGH, NC 27614 (919) 779-9664 CONTACT: MICHAEL NEDRIGA
12. CONTACT PERSON	PIEDMONT LAND DESIGN, LLP c/o MIKE SCHNEIDER 8522-204 SIX FORKS ROAD RALEIGH, NORTH CAROLINA 27615 (919) 845-7600 (PHONE) (919) 845-7703 (FAX) MikeS@piedmontlanddesign.com (E-MAIL)

## DRAWING INDEX

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SITE 2	EXISTING CONDITIONS PLAN
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City of Raleigh S-5630  
Public Utilities Department Permit #

## Utilities Department Permit # \_\_\_\_\_



**901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA**

REVISIONS:

1 06 MAY 2025

PER TOWN/COUNTY COMMENTS

2 23 MAY 2025

PER TOWN/COUNTY COMMENTS

3 10 JUNE 2025

PER CITY COMMENTS

DRAWN BY: **MLS**

CHECKED BY: **MLS**

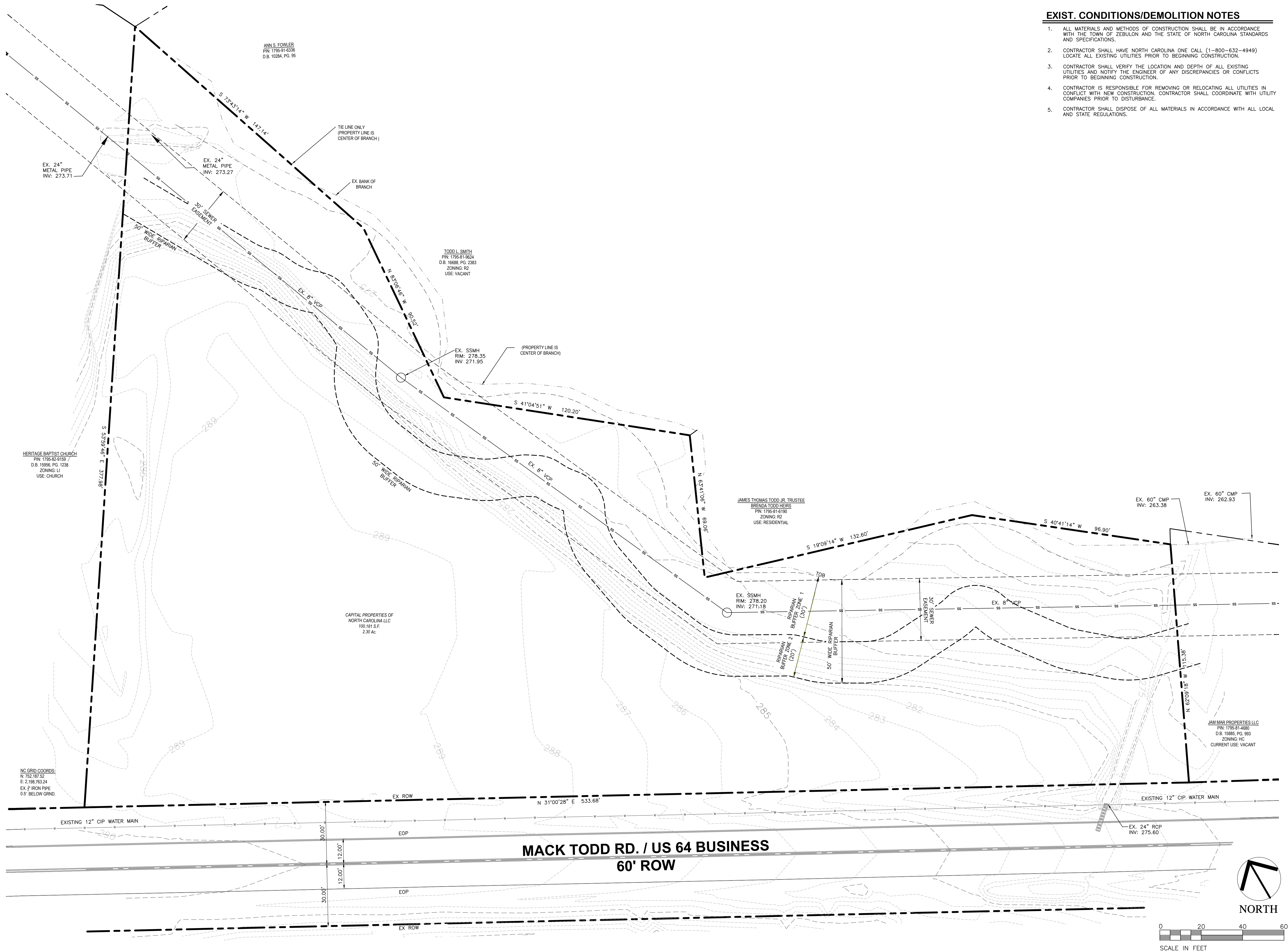
PROJECT: CPMTRZ

# COVER SHEET

DWG. NO. **SITE 1**



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EXIST. CONDITIONS/DEMOLITION NOTES

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ZEBULON AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4949) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR REMOVING OR RELOCATING ALL UTILITIES IN CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO DISTURBANCE.
5. CONTRACTOR SHALL DISPOSE OF ALL MATERIALS IN ACCORDANCE WITH ALL LOCAL AND STATE REGULATIONS.

**PID**  
**PIEDMONTLANDDESIGN PLLC**  
8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843

05/06/25

MADISON RIDGE TOWNHOMES  
901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

REVISIONS:

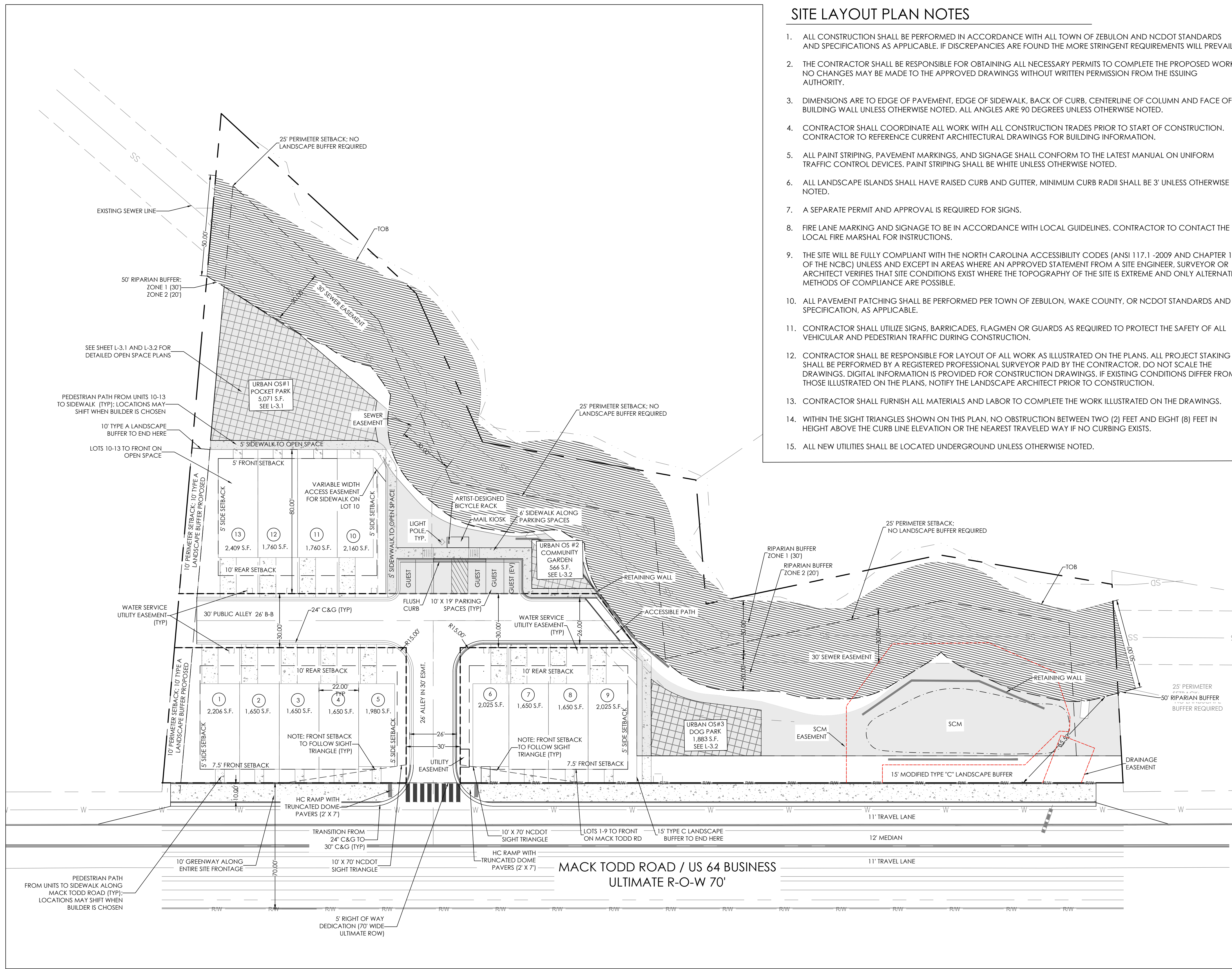
06 MAY 2025  
PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS  
PROJECT: CPMTRZ

EXISTING  
CONDITIONS

DWG. NO. SITE 2





SITE LAYOUT PLAN NOTES

- 1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL TOWN OF ZEBULON AND NCDOT STANDARDS AND SPECIFICATIONS AS APPLICABLE. IF DISCREPANCIES ARE FOUND THE MORE STRINGENT REQUIREMENTS WILL PREVAIL.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO COMPLETE THE PROPOSED WORK. NO CHANGES MAY BE MADE TO THE APPROVED DRAWINGS WITHOUT WRITTEN PERMISSION FROM THE ISSUING AUTHORITY.
- 3. DIMENSIONS ARE TO EDGE OF PAVEMENT, EDGE OF SIDEWALK, BACK OF CURB, CENTERLINE OF COLUMN AND FACE OF BUILDING WALL UNLESS OTHERWISE NOTED. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
- 4. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL CONSTRUCTION TRADES PRIOR TO START OF CONSTRUCTION. CONTRACTOR TO REFERENCE CURRENT ARCHITECTURAL DRAWINGS FOR BUILDING INFORMATION.
- 5. ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAINT STRIPING SHALL BE WHITE UNLESS OTHERWISE NOTED.
- 6. ALL LANDSCAPE ISLANDS SHALL HAVE RAISED CURB AND GUTTER, MINIMUM CURB RADII SHALL BE 3' UNLESS OTHERWISE NOTED.
- 7. A SEPARATE PERMIT AND APPROVAL IS REQUIRED FOR SIGNS.
- 8. FIRE LANE MARKING AND SIGNAGE TO BE IN ACCORDANCE WITH LOCAL GUIDELINES. CONTRACTOR TO CONTACT THE LOCAL FIRE MARSHAL FOR INSTRUCTIONS.
- 9. THE SITE WILL BE FULLY COMPLIANT WITH THE NORTH CAROLINA ACCESSIBILITY CODES (ANSI 117.1 -2009 AND CHAPTER 11 OF THE NCBC) UNLESS AND EXCEPT IN AREAS WHERE AN APPROVED STATEMENT FROM A SITE ENGINEER, SURVEYOR OR ARCHITECT VERIFIES THAT SITE CONDITIONS EXIST WHERE THE TOPOGRAPHY OF THE SITE IS EXTREME AND ONLY ALTERNATE METHODS OF COMPLIANCE ARE POSSIBLE.
- 10. ALL PAVEMENT PATCHING SHALL BE PERFORMED PER TOWN OF ZEBULON, WAKE COUNTY, OR NCDOT STANDARDS AND SPECIFICATION, AS APPLICABLE.
- 11. CONTRACTOR SHALL UTILIZE SIGNS, BARRICADES, FLAGMEN OR GUARDS AS REQUIRED TO PROTECT THE SAFETY OF ALL VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT OF ALL WORK AS ILLUSTRATED ON THE PLANS. ALL PROJECT STAKING SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL SURVEYOR PAID BY THE CONTRACTOR. DO NOT SCALE THE DRAWINGS. DIGITAL INFORMATION IS PROVIDED FOR CONSTRUCTION DRAWINGS. IF EXISTING CONDITIONS DIFFER FROM THOSE ILLUSTRATED ON THE PLANS, NOTIFY THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- 13. CONTRACTOR SHALL FURNISH ALL MATERIALS AND LABOR TO COMPLETE THE WORK ILLUSTRATED ON THE DRAWINGS.
- 14. WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY IF NO CURBING EXISTS.
- 15. ALL NEW UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS OTHERWISE NOTED.

SITE DATA

AREA:	2.30 AC
PIN:	1795-82-7060
EX. USE:	VACANT
PROPOSED USE:	RESIDENTIAL - TOWNHOMES
EX. ZONING:	PD
DENSITY:	5.65 DU/AC
OPEN SPACE REQUIRED:	10% (0.23 AC)
OPEN SPACE PROVIDED:	53% (1.22 AC)
URBAN O.S. REQUIRED:	5% (1/2 OF REQUIRED O.S.) - 0.12 AC
URBAN O.S. PROVIDED:	8,067 S.F. / 0.19 AC
SINGLE FAMILY ATTACHED:	13 UNITS MAX. REAR LOADED UNITS
PERIMETER SETBACKS:	10' AND 25' PERIMETER SETBACK AS NOTED
LOT SETBACKS:	5' FRONT SETBACK FOR LOTS 10-13/7.5' FRONT SETBACK FOR LOTS 1-9 5' SIDE SETBACK 10' REAR SETBACK
PARKING REQUIRED:	2 SPACES PER UNIT - 26 TOTAL 0.25 GUEST SPACE PER UNIT - 4 TOTAL 2 SPACES FOR MAIL KIOSK (1 OF THESE ADA)
PARKING PROVIDED:	2 SPACES PER UNIT (ON LOT) - 26 TOTAL 6 GUEST SPACES 1 REGULAR AND 1 HC SPACE FOR THE MAIL KIOSK
LANDSCAPE BUFFERS:	15' STREET TREE BUFFER ALONG MACK TODD RD. WHERE THERE ARE NO FRONTING LOTS ON MACK TODD RD.
STREAM BUFFERS:	YES
WETLANDS:	NO
FLOODPLAIN:	NO

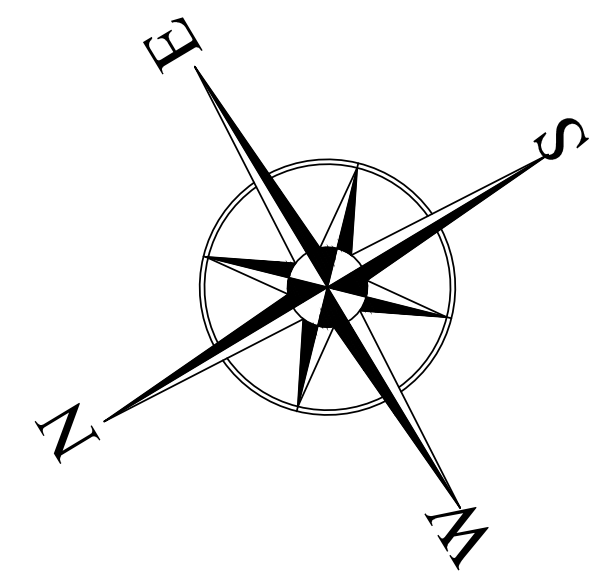
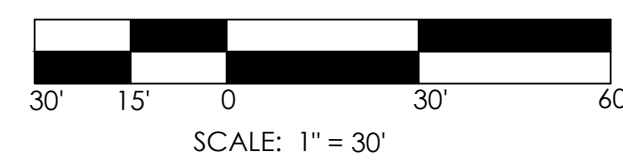
LEGEND

	PROJECT BOUNDARY
	STREAM BUFFER
	OPEN SPACE
	URBAN OPEN SPACE
	SCM

IMPERVIOUS AREA BY LOT

Lot	Allowable Impervious Surface Area (SF)
Lot 1	1,345
Lot 2	1,345
Lot 3	1,345
Lot 4	1,345
Lot 5	1,227
Lot 6	1,227
Lot 7	1,345
Lot 8	1,345
Lot 9	1,345
Lot 10	1,386
Lot 11	1,496
Lot 12	1,496
Lot 13	1,496

1 CONCEPT PLAN  
L-2 SCALE: 1"=30'

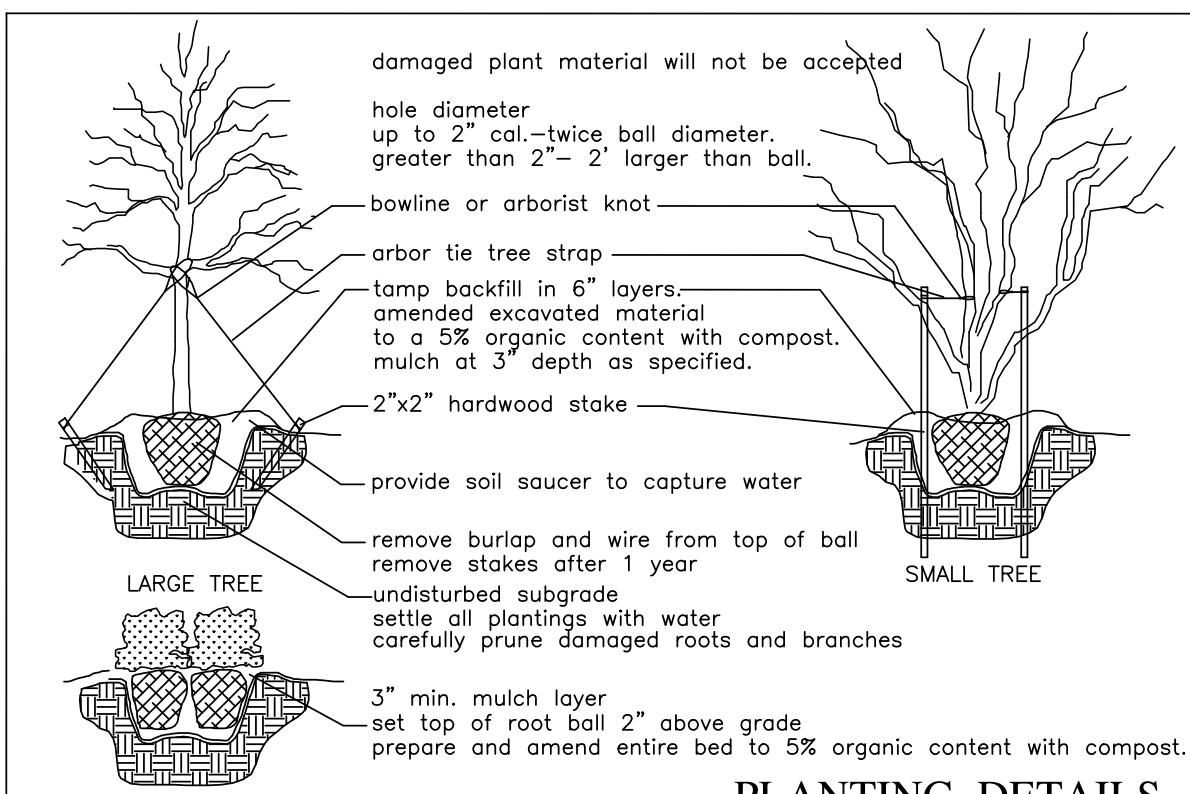
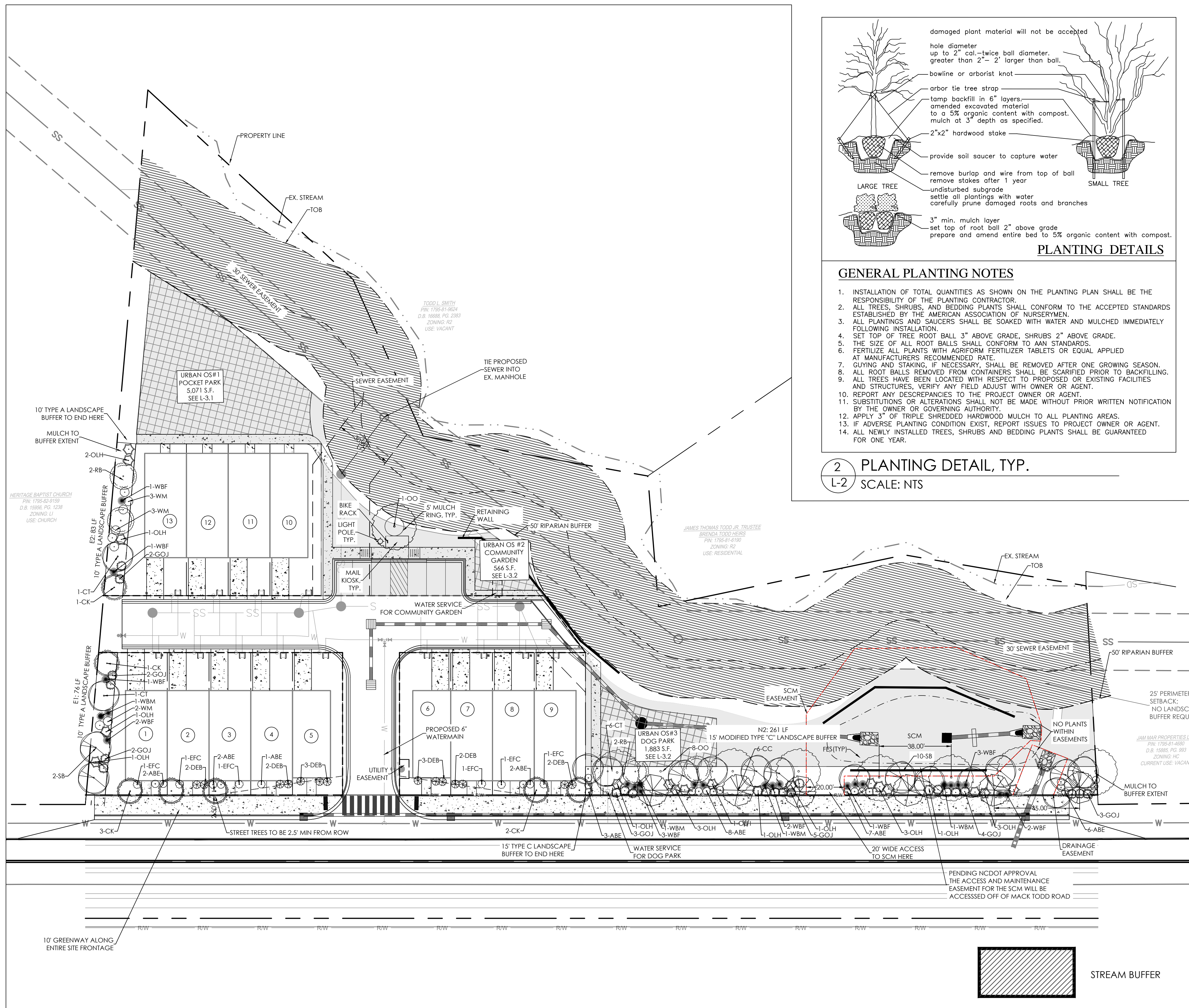


PRELIMINARY  
NOT FOR  
CONSTRUCTION

REVISIONS:

5-27-2025	
6-20-2025	





- ### GENERAL PLANTING NOTES
1. INSTALLATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANTING PLAN SHALL BE THE RESPONSIBILITY OF THE PLANTING CONTRACTOR.
  2. ALL TREES, SHRUBS, AND BEDDING PLANTS SHALL CONFORM TO THE ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSEYMEN.
  3. ALL PLANTINGS AND SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
  4. SET TOP OF TREE ROOT BALL 3" ABOVE GRADE, SHRUBS 2" ABOVE GRADE.
  5. THE SIZE OF ALL ROOT BALLS SHALL CONFORM TO AAN STANDARDS.
  6. FERTILIZE ALL PLANTS WITH AGRIFORM FERTILIZER TABLETS OR EQUAL APPLIED AT MANUFACTURERS RECOMMENDED RATE.
  7. GUYING AND STAKING, IF NECESSARY, SHALL BE REMOVED AFTER ONE GROWING SEASON.
  8. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
  9. ALL TREES HAVE BEEN LOCATED WITH RESPECT TO PROPOSED OR EXISTING FACILITIES AND STRUCTURES, VERIFY ANY FIELD ADJUST WITH OWNER OR AGENT.
  10. REPORT ANY DISCREPANCIES TO THE PROJECT OWNER OR AGENT.
  11. SUBSTITUTIONS OR ALTERATIONS SHALL NOT BE MADE WITHOUT PRIOR WRITTEN NOTIFICATION BY THE OWNER OR GOVERNING AUTHORITY.
  12. APPLY 3" OF TRIPLE SHREDDED HARDWOOD MULCH TO ALL PLANTING AREAS.
  13. IF ADVERSE PLANTING CONDITION EXIST, REPORT ISSUES TO PROJECT OWNER OR AGENT.
  14. ALL NEWLY INSTALLED TREES, SHRUBS AND BEDDING PLANTS SHALL BE GUARANTEED FOR ONE YEAR.

2 PLANTING DETAIL, TYP.  
L-2 SCALE: NTS

## LANDSCAPE SCOPE OF WORK

1. FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED OR INDICATED BY THE DRAWINGS AND SPECIFICATIONS TO COMPLETE THE WORK INCLUDING INSTALLATION OF ALL TREES, SHRUBS, GROUND COVER, ANNUALS, SEED, SOD AND MULCH.
2. MATERIALS AND WORK:  
THE SELECTION OF ALL MATERIALS AND THE EXECUTION OF ALL WORK REQUIRED UNDER THE CONTRACT SHALL BE SUBJECT TO APPROVAL BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT TO REJECT ANY AND ALL MATERIALS AND ANY AND ALL WORK, WHICH IN HIS OPINION, DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT.
3. PLANT MATERIALS:  
ALL PLANT MATERIALS SHALL BE NURSERY GROWN, FRESHLY DUG IN THE FIELD, NATURALLY SHAPED, WELL BRANCHED, FULLY FOLIATED WHEN IN LEAF WITH FULLY DEVELOPED ROOT SYSTEMS. TREES MUST BE SELF-SUPPORTING, WITH STRAIGHT TRUNKS AND LEADERS INTACT. ALL PLANTS MUST BE FREE OF DISEASE, INSECT INFESTATION OR THEIR EGGS AND SHALL HAVE BEEN GROWN IN CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE PROJECT SITE
4. PLANT SIZE:  
SPECIFIED SIZES INDICATES THE MINIMUM ALLOWABLE SIZE AT PLANTING. WHERE CONTAINER AND HEIGHT/SPREADS ARE INDICATED FOR A SINGLE SPECIES, BOTH SIZE REQUIREMENTS SHALL BE MET WHEN ONLY PLANT HEIGHT OR SPREAD ARE INDICATED. CONTAINER SIZE SHALL BE BASED ON "AMERICAN STANDARDS FOR NURSERY STOCK" STANDARDS.
5. ORGANIC MATTER:  
AGED MANURE, COMPOST OR PINE BARK FINES, AT THE OPTION OF THE CONTRACTOR, MATERIAL SHALL BE AIR DRIED, FINELY SHREDDED AND SUITABLE FOR HORTICULTURAL PURPOSES AND SHALL CONTAIN NO MORE THAN 35% MOISTURE CONTENT BY WEIGHT.
6. PINE BARK MULCH:  
ALL PINE BARK MULCH SHALL BE CLEAN, DOUBLE GROUND, FINE TEXTURED NUGGET MULCH WITH MINIMAL AMOUNTS OF SAPWOOD CONTENT.
7. TURF AREAS:  
PRIOR TO ANY SEEDING OR SOD APPLICATION, VERIFY ALL TRENCHING AND LAND DISTURBING ACTIVITIES HAVE BEEN COMPLETED. ENSURE ALL AREAS ARE FREE OF STONES, LARGE SOIL CLOUDS AND ANY OTHER CONSTRUCTION DEBRIS.

## LANDSCAPE CALCULATIONS

**STREET TREES**  
STREET TREES SHALL BE LOCATED WITHIN STREET YARDS AND PLANTED 45-50' ON CENTER, SO THAT TRUNKS ARE AT LEAST 2.5' FROM BACK OF CURB AND EDGE OF PAVEMENT. STREET TREES SHALL BE 8" MIN AND 2.5" CALIPER AT PLANTING.

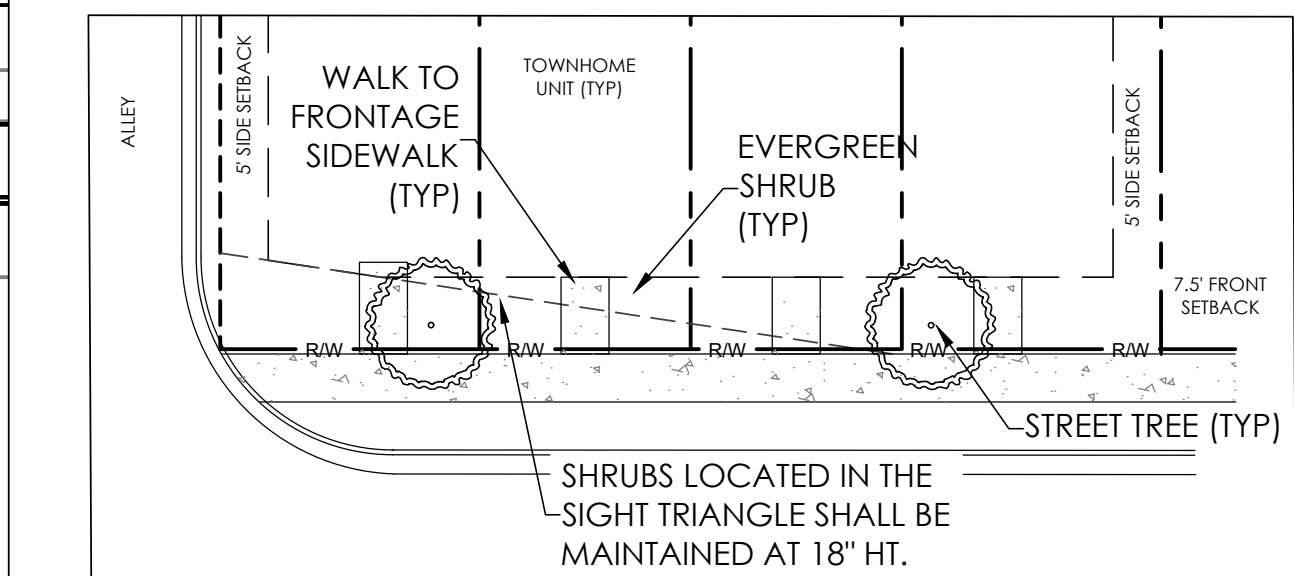
PER PLANNING APPROVAL STREET TREES ARE LOCATED IN FRONT YARDS.

**MACK TODD ROAD**  
LENGTH: 503 LF / 50 LF = 10.1 (11) REQUIRED/PROVIDED  
STREET TREES LOCATED WITHIN DEVELOPMENT PER PLANNING DEPT.

- PERIMETER BUFFERS**
- E1 - 10' TYPE A PERIMETER BUFFER  
LENGTH: 76 LF  
UNDERSTORY TREES: 76 LF / 100 = 0.76 X 4 = 3.04 (4) REQ/PROP.  
SHRUBS: 76 LF / 100 LF = 0.76 X 15 = 11.4 (12) REQ/PROP.  
(50% EVERGREEN = 6/12 REQ/PROP.)
- E2 - 10' TYPE A PERIMETER BUFFER  
LENGTH: 83 LF  
UNDERSTORY TREES: 83 LF / 100 LF = 0.83 X 4 = 3.3 (4) REQ/PROP.  
SHRUBS: 83 LF / 100 LF = 0.83 X 15 = 12.5 (13) REQ/PROP.  
(50% EVERGREEN = 7/13 REQ. 8/13 PROP.)

- STREETSCAPE BUFFERS**
- N1- BUFFER ALTERNATIVE: FOUNDATION PLANTS FRONTING MACK TODD RD  
3 EVERGREEN SHRUBS PER UNIT X 9 UNITS = 27 SHRUBS REQ/PROP.  
NOTE: SHRUBS WITHIN SIGHT TRIANGLE TO BE MAINTAINED AT <18"
- N2 - 15' MODIFIED TYPE C LANDSCAPE BUFFER  
LENGTH: 261 LF  
CANOPY TREES: 261 LF / 100 LF = 2.61 X 3 = 7.8 (8) REQ/PROP.  
UNDERSTORY TREES: 261 LF / 100 LF = 2.61 X 6 = 15.7 (16) REQ/PROP.  
SHRUBS: 261 LF / 100 LF = 2.61 X 25 = 65.3 (66) REQ/PROP.

- PARKING LOT LANDSCAPING**
- ONE CANOPY TREE PER 12 OFF-STREET PARKING SPACES  
NO SPACE MAY BE MORE THAN 50' FROM A CANOPY TREE
- 6 TOTAL PARKING SPACES = 1 TREE REQ/PROP.



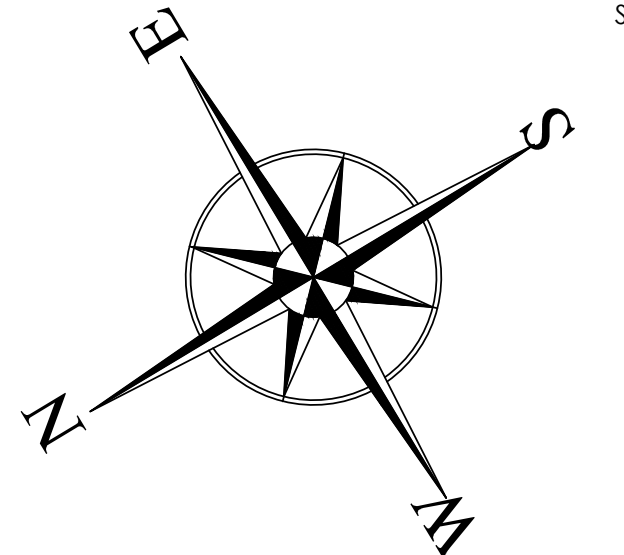
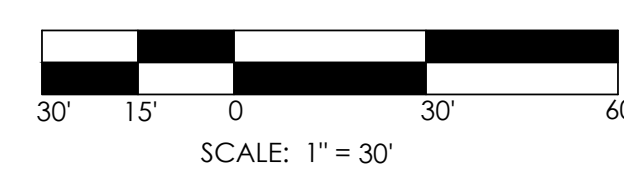
3 FOUNDATION LANDSCAPING TYP.  
L-2 SCALE: 1"=20'

## LANDSCAPE PLAN NOTES

- TOWN OF ZEBULON REQUIREMENTS:**
1. CANOPY TREES SHALL BE MINIMUM 8" HEIGHT AND 2.5" CALIPER AT TIME OF PLANTING AND REACH 40' HEIGHT AND 30' SPREAD AT TIME OF MATURITY.
  2. UNDERSTORY TREES SHALL BE MINIMUM 4" AND 1.5" CALIPER AT TIME OF PLANTING AND MATURE TO 15-40' HEIGHT (20' MAX UNDER POWERLINES).
  3. SHRUBS SHALL BE MINIMUM 3 GAL AND 18" HEIGHT OR SPREAD AT TIME OF PLANTING AND MATURE TO 36" HEIGHT AND 30" SPREAD IN 3 YEARS.
  4. PLANTED AREAS SHALL BE COVERED IN MULCH OR GROUND COVER, OR WHERE SLOPES ARE 15% OR MORE BY GROUND COVER FULLY ESTABLISHED AT COO.
  5. SPECIES SHALL BE NATIVE OR LOCALLY ADAPTED AND SHALL COMPLY WITH SPECIES DIVERSITY REQUIREMENTS IN UDO SECTION 5.6.7-E.
- GENERAL REQUIREMENTS:**
1. ALL PLANT MATERIAL ON THIS SITE MUST MEET MINIMUM TOWN OF ZEBULON UDO REQUIREMENTS FOR SIZE, HEIGHT, AND SPACING. PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES AND IN CONFORMANCE WITH THE GENERAL PLANTING NOTES AND DETAILS WITHIN THIS PLAN SET.
  2. PLANTING STOCK SHALL MEET ALL STANDARDS WITHIN THE LATEST EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK." ALL PLANTS SHALL BE VIGOROUS, HEALTHY MATERIAL FREE FROM PESTS AND DISEASE.
  3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE PROJECT SITE AND FAMILIARIZE WITH ACTUAL FIELD CONDITIONS PRIOR TO BIDDING AND COMMENCING WORK. THE CONTRACTOR SHALL ACCEPT ACTUAL CONDITIONS AT THE SITE AND PERFORM THE WORK SPECIFIED INCLUDING THE FINE GRADING AND INCORPORATION OF TOPSOIL INTO PLANTING AREAS, WITHOUT ADDITIONAL COMPENSATION FOR POSSIBLE VARIATIONS FROM GRADES AND CONDITIONS SHOWN WEATHER SURFACE OR SUBSURFACE. IF FIELD CONDITIONS ARE FOUND TO BE SIGNIFICANTLY DIFFERENT THE CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT OR ENGINEER IMMEDIATELY AND PRIOR TO ORDERING MATERIALS.
  4. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS TO PERFORM THE WORK.
  5. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES ABOVE AND BELOW GROUND AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THEIR ACTIVITIES. CONTRACTOR SHALL NOTIFY NORTH CAROLINA ONE CALL (1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF NORTH CAROLINA ONE CALL. THE CONTRACTOR MAY ALSO NEED TO ENGAGE A PRIVATE UTILITY LOCATING FIRM AT THEIR OWN COST TO EFFICIENTLY HAVE ALL UTILITIES LOCATED.
  6. ANY DAMAGE TO EXISTING IMPROVEMENTS OUTSIDE OF THE PROJECT LIMITS, INCLUDING CURB AND GUTTER, SIDEWALKS, PAVED OR TURF AREAS SHALL BE REPAIRED TO ORIGINAL CONDITIONS BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE DEVELOPER.
  7. PLANT QUANTITIES TO BE VERIFIED BY LANDSCAPE CONTRACTOR. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON PLANS AS COMPARED TO PLANT LIST THE CONTRACTOR SHALL PROVIDE THE QUANTITY SHOWN ON PLANS.
  8. CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT FOR ANY PLANT SUBSTITUTIONS OR MODIFICATIONS TO THE LANDSCAPE PLANS. THIS MAY REQUIRE A MODIFICATION TO THE APPROVED PLANS. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES ON THE PLANS.
  9. ALL ABOVE GROUND MECHANICAL EQUIPMENT, ELECTRICAL TRANSFORMERS, DUMPSTERS, BACKFLOW PREVENTERS, AND VALVE BOXES SHALL BE SCREENED FROM VIEW OF ADJACENT PROPERTIES AND RIGHT-OF-WAY WHILE MAINTAINING REQUIRED ACCESS TO LOCAL CODE STANDARDS AND REQUIREMENTS.
  10. WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTIONS BETWEEN TWO FEET AND EIGHT FEET IN HEIGHT ABOVE THE NEAREST VEHICLE SURFACE OR ADJACENT CURB LINE SHALL BE ALLOWED.
  11. ALL UNPAVED AREAS SHALL BE TOPSOILED AND SEEDED / SODDED OR MULCHED TO THE LIMITS OF CONSTRUCTION BASED ON ACTUAL FIELD CONDITIONS BEYOND THE APPROVED PLANS.
  12. ALL SOD TO BE REBEL FESCUE IV, TURF GEM, LESCO OR EQUAL. ALL SEED TO BE REBEL FESCUE IV, TURF GEM, LESCO OR EQUAL @ 6 LBS. PER 1000 S.F. IN LAWN AREAS 3" TOPSOIL SHALL BE TILLED INTO THE TOP 6" OF GROUND PRIOR TO SEEDING.
  13. SLOPES GREATER THAN 3:1 SHALL REQUIRE HYDRO-SEEDING. SLOPES GREATER THAN 2:1 SHALL BE SODDED WITH CENTIPEDE GRASS. ADDITIONAL STABILIZATION MEASURES MAY BE REQUIRED FOR SLOPES GREATER THAN 3:1 TO ENSURE SOIL STABILIZATION AND ESTABLISHMENT OF PERMANENT GROUND COVER.
  14. INTERIOR MULCH SHALL BE DOUBLE GROUND PINE BARK TO A DEPTH OF 4". PERIMETER LANDSCAPE BUFFERS SHALL BE MULCHED WITH 4" PINE STRAW TO BED LINES SHOWN OR BUFFER LIMITS. BED LINES SHALL CONFORM TO CONFIGURATION SHOWN ON PLANS.
  15. PINE STRAW MULCH TO FILL THE 15' PERIMETER LANDSCAPE BUFFER BETWEEN PLANTINGS. PINE STRAW SHALL NOT BE USED AS MULCH OR GROUND COVER WITHIN TEN FEET OF ANY STRUCTURES CONSISTING OF EXTERIOR COMBUSTIBLE CONSTRUCTION.
  16. CONTRACTOR SHALL LEVEL AND SMOOTH ALL DISTURBED AREAS AND REMOVE ALL ROCKS AND CONSTRUCTION DEBRIS PRIOR TO SEEDING, SOD OR PLANT INSTALLATION.
  17. NOTE THAT WITHIN LANDSCAPED AREAS SURROUNDING BUILDING, THE GRADES SHOWN ON THE GRADING SHEET ARE "TOP OF MULCH" OR "TOP OF TOPSOIL." CONTRACTOR SHALL ENSURE POSITIVE FINISHED DRAINAGE (MIN. 2%) AWAY FROM ALL BUILDINGS AND COORDINATE WITH THE LANDSCAPE PLAN TO LEAVE SUBGRADE LOW ENOUGH TO MAINTAIN THESE SPOTS AS FINISHED GRADE.
  18. OWNER SHALL MAINTAIN ALL PLANT BEDS AND PLANT MATERIAL IN GOOD HEALTH, AND ANY DEAD, UNHEALTHY OR MISSING PLANTS SHALL BE REPLACED WITH THE SAME PLANT MATERIAL ORIGINALLY SPECIFIED ON THIS PLAN.
  19. TREE PLANTING AND SITE LIGHT POLES SHALL BE SEPARATED BY AT LEAST 10'.
  20. TREE PLANTING AND SITE DRIVEWAYS SHALL BE SEPARATED BY AT LEAST 10'.

- FOUNDATION LANDSCAPING NOTES:**
1. THE FOUNDATION LANDSCAPING SHALL INCLUDE THREE SMALL EVERGREEN SHRUBS INSTALLED AT 12" HT. PER UNIT.
  2. PLANT SELECTION DETERMINED AT SITE PLAN.
  3. SHRUBS LOCATED IN THE SIGHT TRIANGLE SHALL BE MAINTAINED AT 18" HT.
  4. FOUNDATION PLANTINGS ARE IN LIEU OF A STREETSCAPE BUFFER.
  5. BUILDINGS SHOWN IN THIS DETAIL ARE ILLUSTRATIVE; ACTUAL BUILDING SHAPE/SIZE MAY VARY.

1 LANDSCAPE PLAN  
L-2 SCALE: 1"=30'



## PLANT LEGEND

<b>TREES</b>	RB	BETULA NIGRA, MULTI STEM RIVER BIRCH	<b>SHRUBS</b>	ABE	ABELIA X GRANDIFLORA 'ROSE CREEK' ROSE CREEK GLOSSY ABELIA
	CC	CARPINUS CAROLINIANA 'CCMTF2' CLARYNETTE (R) AMERICAN HORNBEAM		DEB	BUXUS SEMPERVIRENS 'SUFFRUTICOSA' DWARF ENGLISH BOXWOOD
	RB	CERCIS CANADENSIS EASTERN REDBUD		OLH	HYDRANGEA QUERCIFOLIA 'DOUGHILL' GATSBY STAR (R) OAKLEAF HYDRANGEA
	FT	CHIONANTHUS RETIUS CHINESE FRINGE TREE		EFC	JUNIPERUS VIRGINIANA 'EMERALD FEATHER' (TM) EMERALD FEATHER DWARF EASTERN RED CEDAR
	CK	CORNUS KOUSA 'NATIONAL' NATIONAL CHINESE DOGWOOD		GOJ	JUNIPERUS VIRGINIANA 'GREY OWL' GREY OWL JUNIPER
	SB	MAGNOLIA VIRGINIANA 'GREEN SHADOW' GREEN SHADOW SWEETBAY MAGNOLIA		WBM	ILEX VERTICILLATA 'SOUTHERN GENTLEMAN' MALE WINTERBERRY HOLLY
	OO	QUERCUS LYRATA 'QLFTB' HIGHBEAM (R) OVERCUP OAK		WBF	ILEX VERTICILLATA 'WINTER RED' WINTER RED FEMALE WINTERBERRY HOLLY
	CT	VITEX AGNUS-CASTUS 'SHOAL CREEK' SHOAL CREEK CHASTE TREE		WM	MYRICA CERIFERA WAX MYRTLE

## PLANT SCHEDULE - CODE COMPLIANT PLANTS ONLY

KEY	BOTANICAL NAME	COMMON NAME	HT	CAL.	CONT.	QTY.	%	TYPE	LOCAL	COMMENTS
<b>TREES</b>										
CC	CARPINUS CAROLINIANA 'CCMTF2'	CLARYNETTE @ AMERICAN HORNBEAM	8'	2.5"		6	14%	DEC	NATIVE	FASTIGIATE
RB	CERCIS CANADENSIS	EASTERN REDBUD	6'			4	9%	DEC	NATIVE	
CK	CORNUS KOUSA 'NATIONAL'	NATIONAL CHINESE DOGWOOD	6'			7	16%	DEC	LOCALLY-ADAPTED	
SB	MAGNOLIA VIRGINIANA 'GREEN SHADOW'	GREEN SHADOW SWEETBAY MAGNOLIA	6'			10	23%	SEMI-EVG	NATIVE	
OO	QUERCUS LYRATA 'QLFTB'	HIGHBEAM @ OVERCUP OAK	8'	2.5"		9	20%	DEC	NATIVE	
CT	VITEX AGNUS CASTUS 'SHOAL CREEK'	SHOAL CREEK CHASTE TREE	4'	1.5"		8	18%	DEC	LOCALLY-ADAPTED	MULTI-STEM
<b>SHRUBS</b>										
ABE	ABELIA GRANDIFLORA 'ROSE CREEK'	ROSE CREEK GLOSSY ABELIA	18"		3-GAL	26	22%	EVG	NATIVE	
DEB	BUXUS SEMPERVIRENS 'SUFFRUTICOSA'	DWARF ENGLISH BOXWOOD	18"		3-GAL	14	12%	EVG	LOCALLY-ADAPTED	
OLH	HYDRANGEA QUERCIFOLIA 'DOUGHILL'	GATSBY STAR @ OAKLEAF HYDRANGEA	18"		3-GAL	19	16%	DEC	NATIVE	
EFC	JUNIPERUS VIRGINIANA 'EMERALD FEATHER'	EMERALD FEATHER @ DWARF EASTERN RED CEDAR	18"		3-GAL	6	5%	EVG	NATIVE	
GOJ	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL JUNIPER	18"		3-GAL	21	18%	EVG	NATIVE	
WBM	ILEX VERTICILLATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENTLEMAN MALE WINTERBERRY HOLLY	18"		3-GAL	3	3%	DEC	NATIVE	
WBF	ILEX VERTICILLATA 'WINTER RED'	WINTER RED FEMALE WINTERBERRY HOLLY	18"		3-GAL	21	18%	DEC	NATIVE	
WM	MYRICA CERIFERA	WAX MYRTLE	18"		3-GAL	8	7%	EVG	NATIVE	



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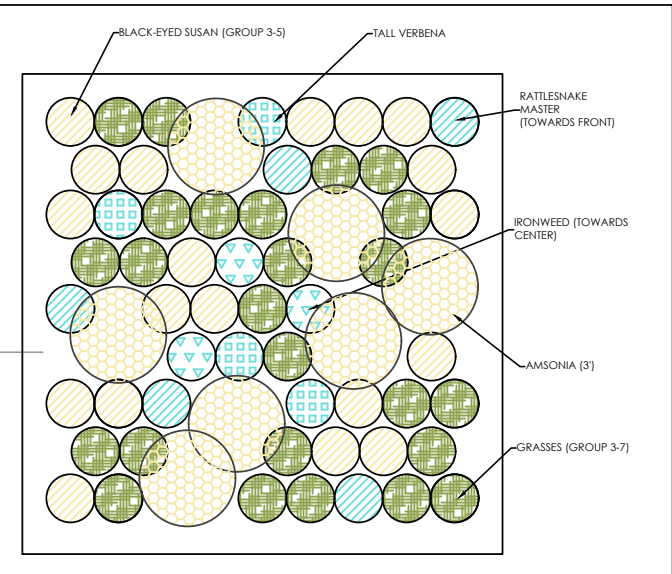
PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	HT.	CONT.	QTY.	TYPE	LOCAL	COMMENTS
<b>TREES</b>								
RBI	BETULA NIGRA 'DURA HEAT'	DURA-HEAT RIVER BIRCH	8'		2	DEC	NATIVE	MULTISTEM
RB	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	6'		1	DEC	NATIVE	
FT	CHIONANTHUS RETUSUS	CHINESE FRINGE TREE	6'		1	DEC		
OO	QUERCUS BICOLOR	SWAMP WHITE OAK	8'		3	DEC	NATIVE	
<b>SHRUBS</b>								
BB	CALLICARPA AMERICANA	BEAUTY BERRY	24"	5-GAL	1	DEC	NATIVE	
BU	CEPHALANTHUS OCCIDENTALIS 'SUGAR SHACK'	BUTTON BUSH	24"	5-GAL	1	DEC	NATIVE	
FG	FICUS CARICA 'BROWN TURKEY'	BROWN TURKEY FIG	24"	5-GAL	2	DEC		
<b>PERENNIALS/GRASSES</b>								
MU	MUHLBERGIA CAPILLARIS	PINK MUHLY GRASS	18"	3-GAL	10		NATIVE	
MM	PHYCNANTHEMUM TENUIFOLIUM	SLENDER LEAF MOUNTAIN MINT	18"	3-GAL	5		NATIVE	
RO	SALVIA ROSMARINUS 'ARP'	ARP ROSEMARY	18"	3-GAL	6			

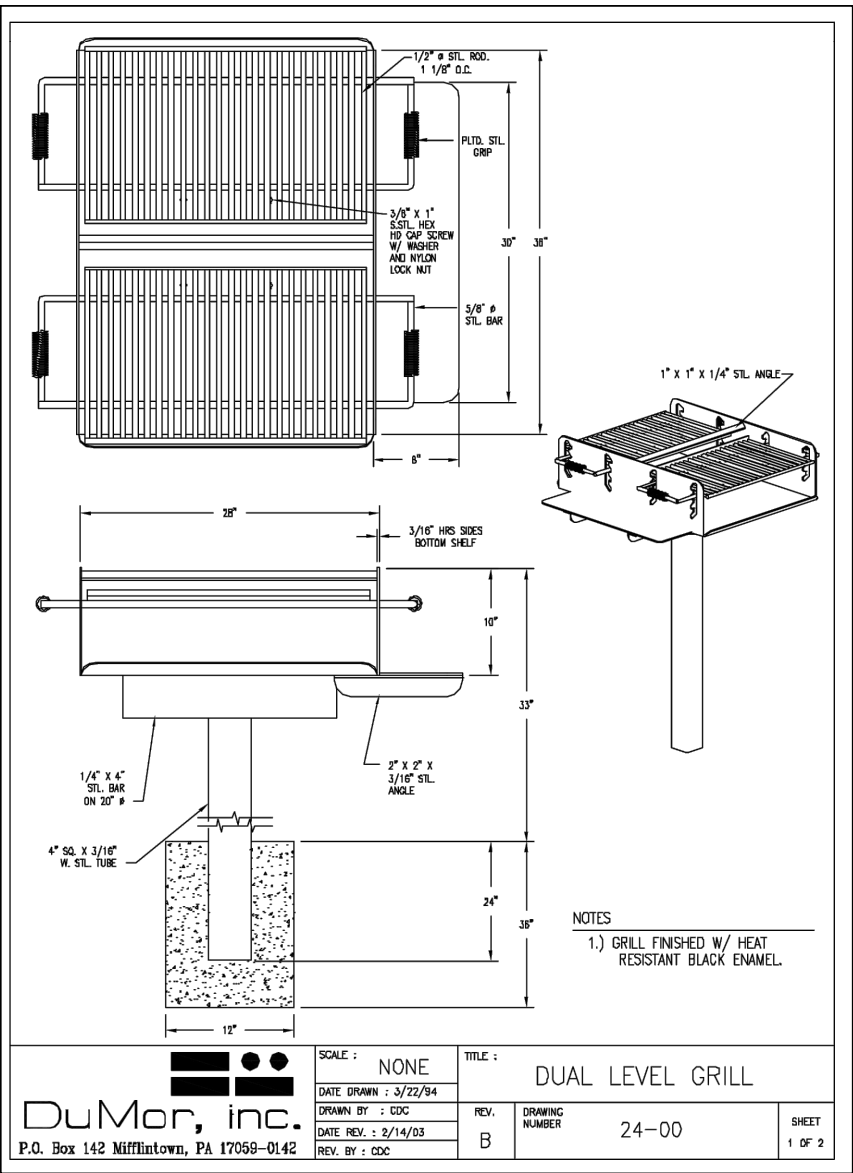
NOTE: OPEN SPACE LANDSCAPING IS SUPPLEMENTAL AND SUBJECT TO CHANGE.

PLANT LEGEND

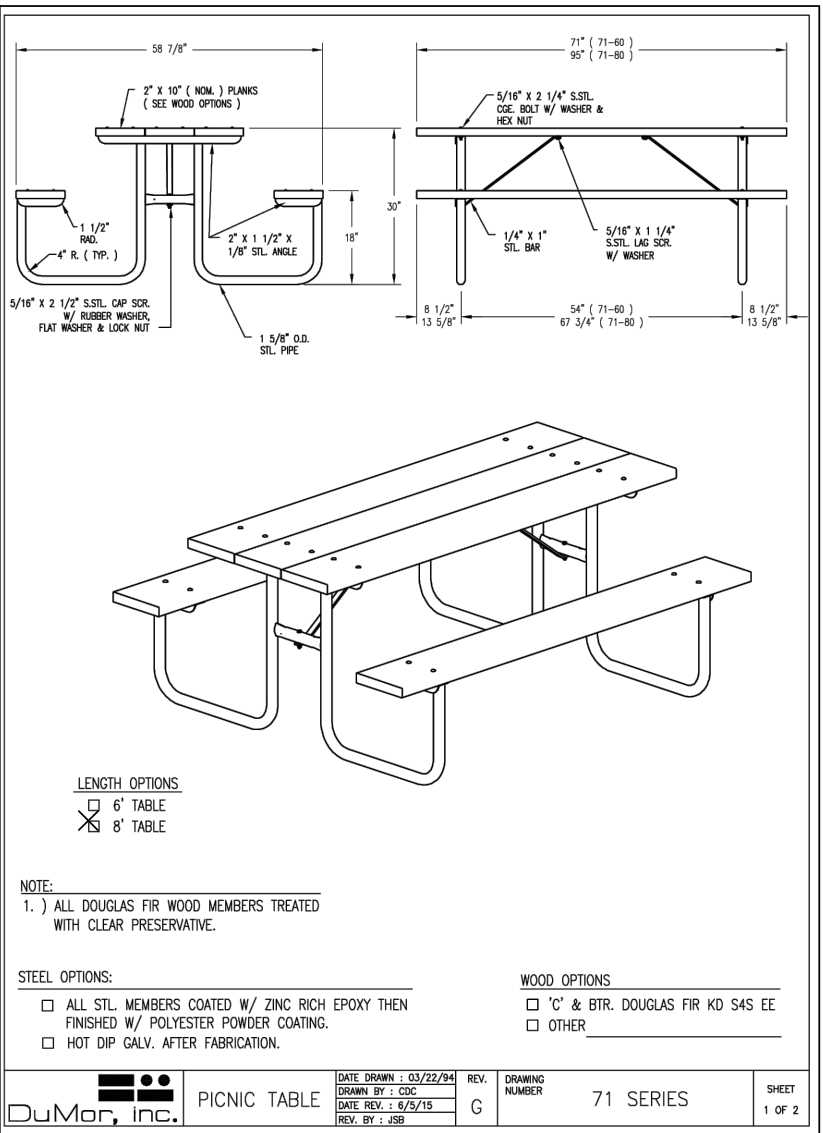
<b>TREES</b>		PERENNIAL MIX: SEE 2/L-3.1 PLANT IN AN OFFSET GRID AS SHOWN
RBI	BETULA NIGRA, MULTI STEM RIVER BIRCH	GRASSES: 30% <ul style="list-style-type: none"><li>NASSELLA TENUISSIMA (MEXICAN FEATHER GRASS)</li><li>SCHENKCHIRUM SCOPARIUM (LITTLE BLUESTEM)</li></ul>
RB	CERCIS CANADENSIS EASTERN REDBUD	MASSING FLOWERS: 40% <ul style="list-style-type: none"><li>RUBICECRA FLUGIDA 'LITTLE SUZY' (BLACK EYED SUSAN)</li></ul>
FT	CHIONANTHUS RETUSUS CHINESE FRINGE TREE	ACCENT FLOWERS: 20% <ul style="list-style-type: none"><li>ANEMONA TABERNAMONTANA (EASTERN BLUESTAR)</li></ul>
QB	QUERCUS BICOLOR SWAMP WHITE OAK	VERBENA ROSEARENSIS (TALL VERBENA)
<b>SHRUBS</b>		ERYNGIUM YUCCIFOLIUM (BATTLESHAKE MASTERS)
BB	CALLICARPA AMERICANA BEAUTY BERRY	VERNONIA NOVEBORACENSIS (IRON WEED)
BU	CEPHALANTHUS OCCIDENTALIS 'SUGAR SHACK' BUTTON BUSH	
FG	FICUS CARICA 'BROWN TURKEY' BROWN TURKEY FIG	
<b>PERENNIALS &amp; GRASSES</b>		
MU	MUHLBERGIA CAPILLARIS PINK MUHLY GRASS	
MM	PHYCNANTHEMUM TENUIFOLIUM SLENDER LEAF MOUNTAIN MINT	
RO	SALVIA ROSMARINUS 'ARP' ROSEMARY	



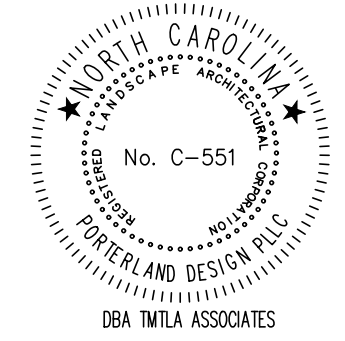
2 L-3.1 SAMPLE POLLINATOR PLANTING



3 L-3.1 DUMOR DUAL LEVEL GRILL NTS



4 L-3.1 DUMOR 6' PICNIC TABLE NTS



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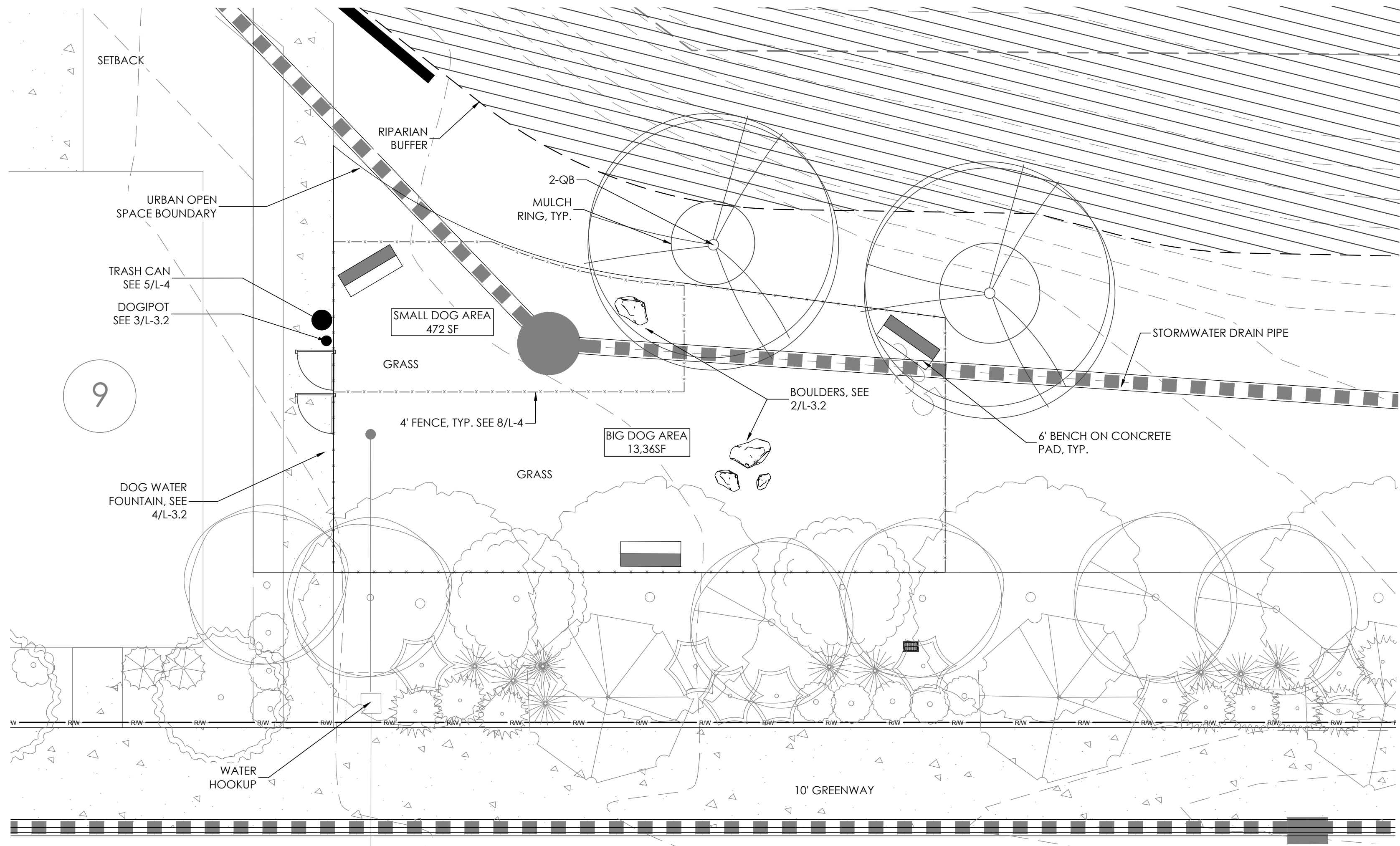
REVISIONS:	
5-27-2025	
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URBAN OPEN SPACE PLAN  
MADISON RIDGE TOWNHOMES  
901 MACK TODD ROAD  
ZEBULON, NC

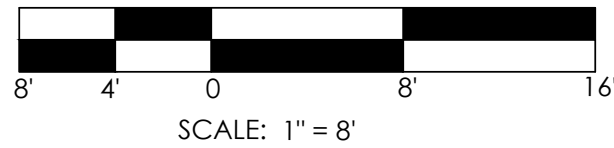
SCALE:  
AS NOTED  
DRAWN BY:  
PMP, MA  
PROJECT #  
23166  
DATE:  
05/05/2025  
SHEET  
L-3.1  
OF 5

NOTE: DETAIL IMAGES FOR REFERENCE; MAY SUBSTITUTE WITH OWNER APPROVED EQUAL.



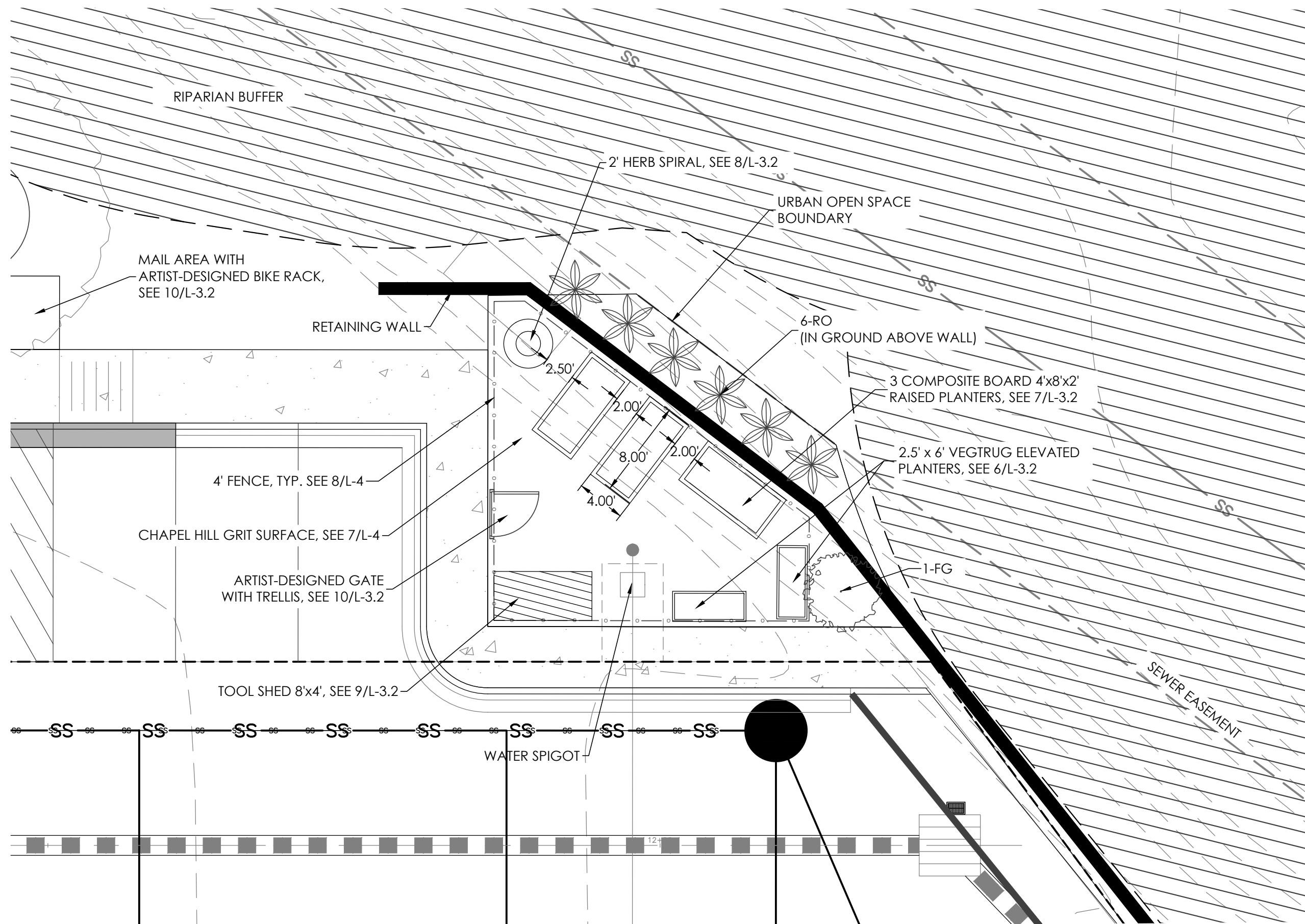


1 URBAN OPEN SPACE #3: DOG PARK  
L-3.2 SCALE: 1" = 8'

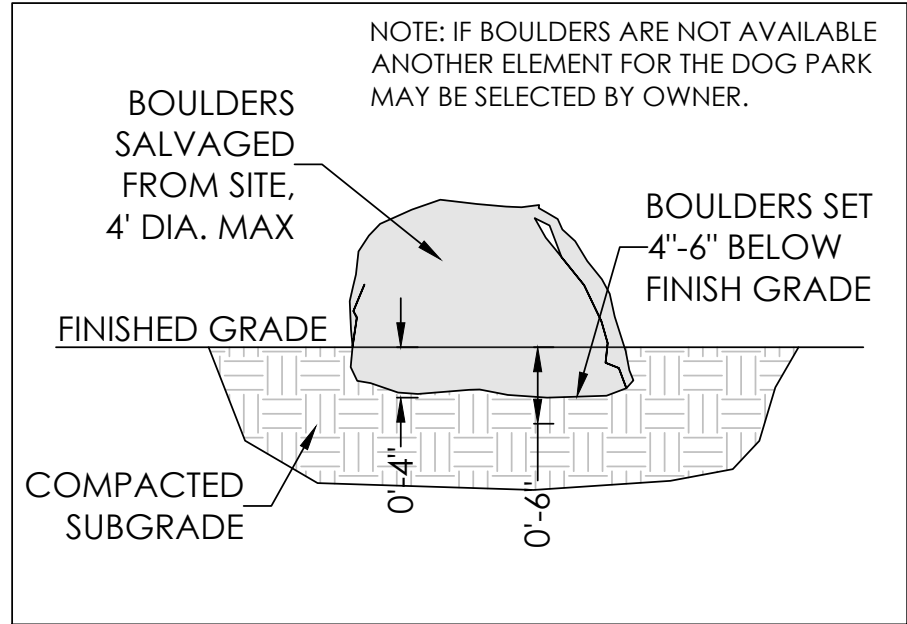
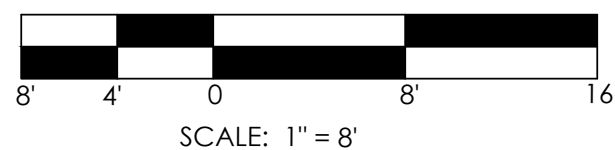


#### PLANT LEGEND

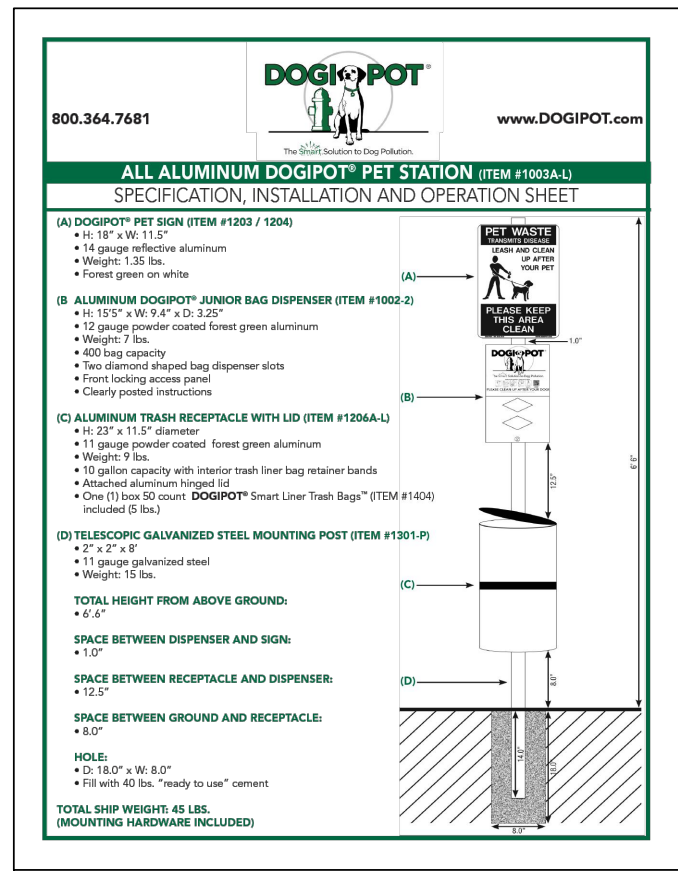
TREES	
RBI	BETULA NIGRA, MULTI STEM RIVER BIRCH
RB	CERCIS CANADENSIS EASTERN REDBUD
FT	CHIONANTHUS RETUSUS CHINESE FRINGE TREE
QB	QUERCUS BICOLOR SWAMP WHITE OAK
SHRUBS	
BB	CALLICARPA AMERICANA BEAUTYBERRY
BU	CEPHALANTHUS OCCIDENTALIS 'SUGAR SHACK' BUTION BUSH
FG	FICUS CARICA 'BROWN TURKEY' BROWN TURKEY FIG
PERENNIALS & GRASSES	
MU	MUHLBERGIA CAPILLARIS PINK MUHLY GRASS
MM	PYCNANTHEMUM TENUIFOLIUM SLENDER LEAF MOUNTAIN MINT
RO	SALVIA ROSMARINUS 'ARP' ROSEMARY



5 URBAN OPEN SPACE #2: COMMUNITY GARDEN  
L-3.2 SCALE: 1" = 8'



2 BOULDER DETAIL  
L-3.2 NTS



3 DOGPOT WASTE BIN  
L-3.2 NTS



4 DOG WATER FOUNTAIN  
L-3.2 NTS



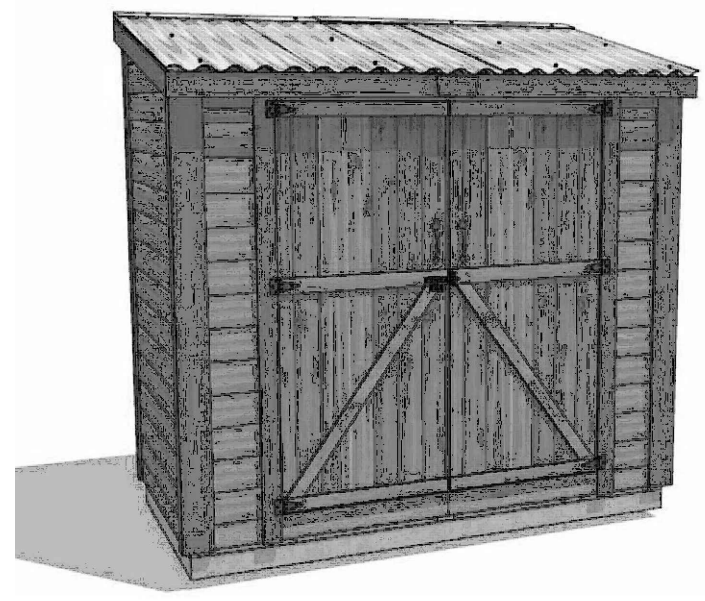
6 4'x8' VEGTRUG PLANTER  
L-3.2 NTS



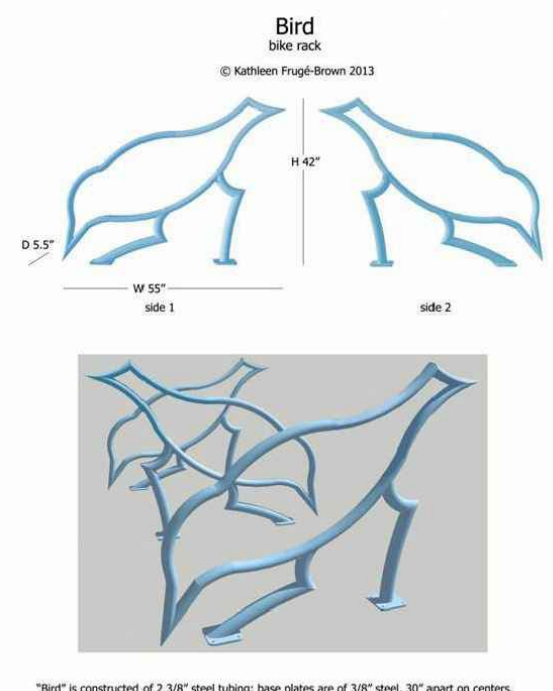
7 4'x8' RAISED BED PLANTER  
L-3.2 NTS



8 HERB SPIRAL PLANTER  
L-3.2 NTS



9 8'x4' WOOD SHED WITH METAL ROOF  
L-3.2 NTS



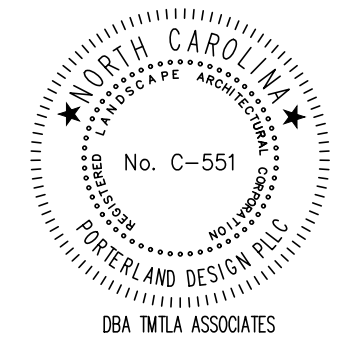
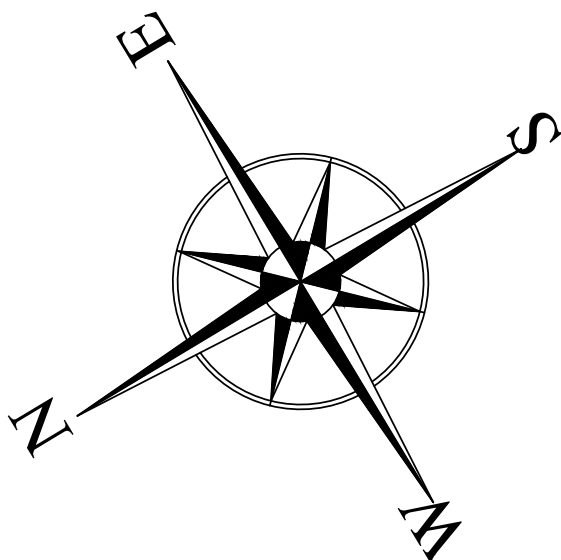
10 ARTIST-DESIGNED BIKE RACK & GATE  
L-3.2 NTS

NOTE: DETAIL IMAGES FOR REFERENCE; MAY SUBSTITUTE WITH OWNER APPROVED EQUAL

#### PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	HT.	CONT.	QTY.	TYPE	LOCAL	COMMENTS
TREES								
RBI	BETULA NIGRA 'DURA HEAT'	DURA-HEAT RIVER BIRCH	8'		2	DEC	NATIVE	MULTISTEM
RB	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY EASTERN REDBUD	6'		1	DEC	NATIVE	
FT	CHIONANTHUS RETUSUS	CHINESE FRINGE TREE	6'		1	DEC	NATIVE	
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	8'		3	DEC	NATIVE	
SHRUBS								
BB	CALLICARPA AMERICANA	BEAUTY BERRY	24"	5-GAL	1	DEC	NATIVE	
BU	CEPHALANTHUS OCCIDENTALIS 'SUGAR SHACK'	BUTTON BUSH	24"	5-GAL	1	DEC	NATIVE	
FG	FICUS CARICA 'BROWN TURKEY'	BROWN TURKEY FIG	24"	5-GAL	2	DEC		
PERENNIALS/GRASSES								
MU	MUHLBERGIA CAPILLARIS	PINK MUHLY GRASS	18"	3-GAL	10		NATIVE	
MM	PYCNANTHEMUM TENUIFOLIUM	SLENDER LEAF MOUNTAIN MINT	18"	3-GAL	5		NATIVE	
RO	SALVIA ROSMARINUS 'ARP'	ARP ROSEMARY	18"	3-GAL	6			

NOTE: OPEN SPACE LANDSCAPING IS SUPPLEMENTAL AND SUBJECT TO CHANGE.

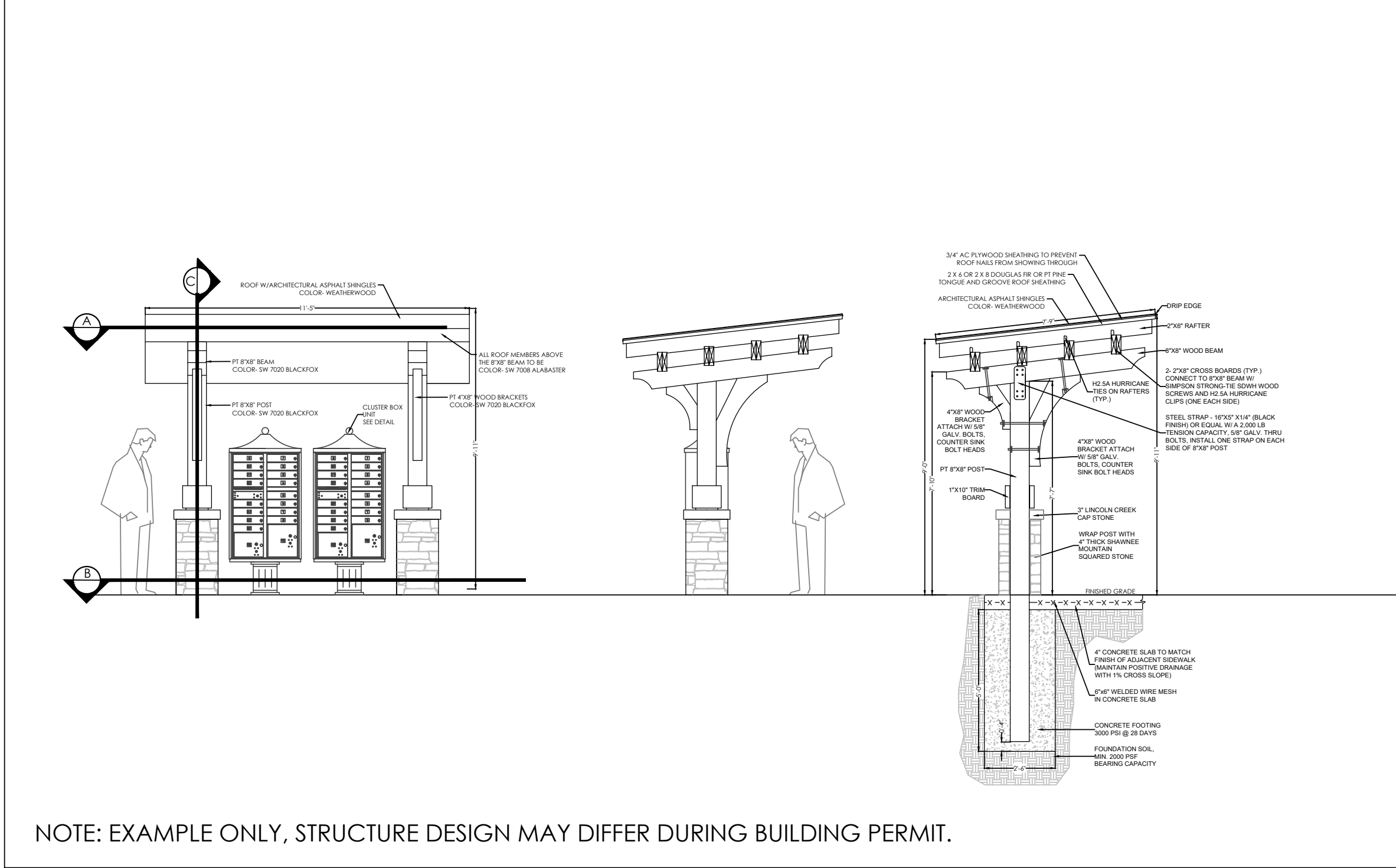


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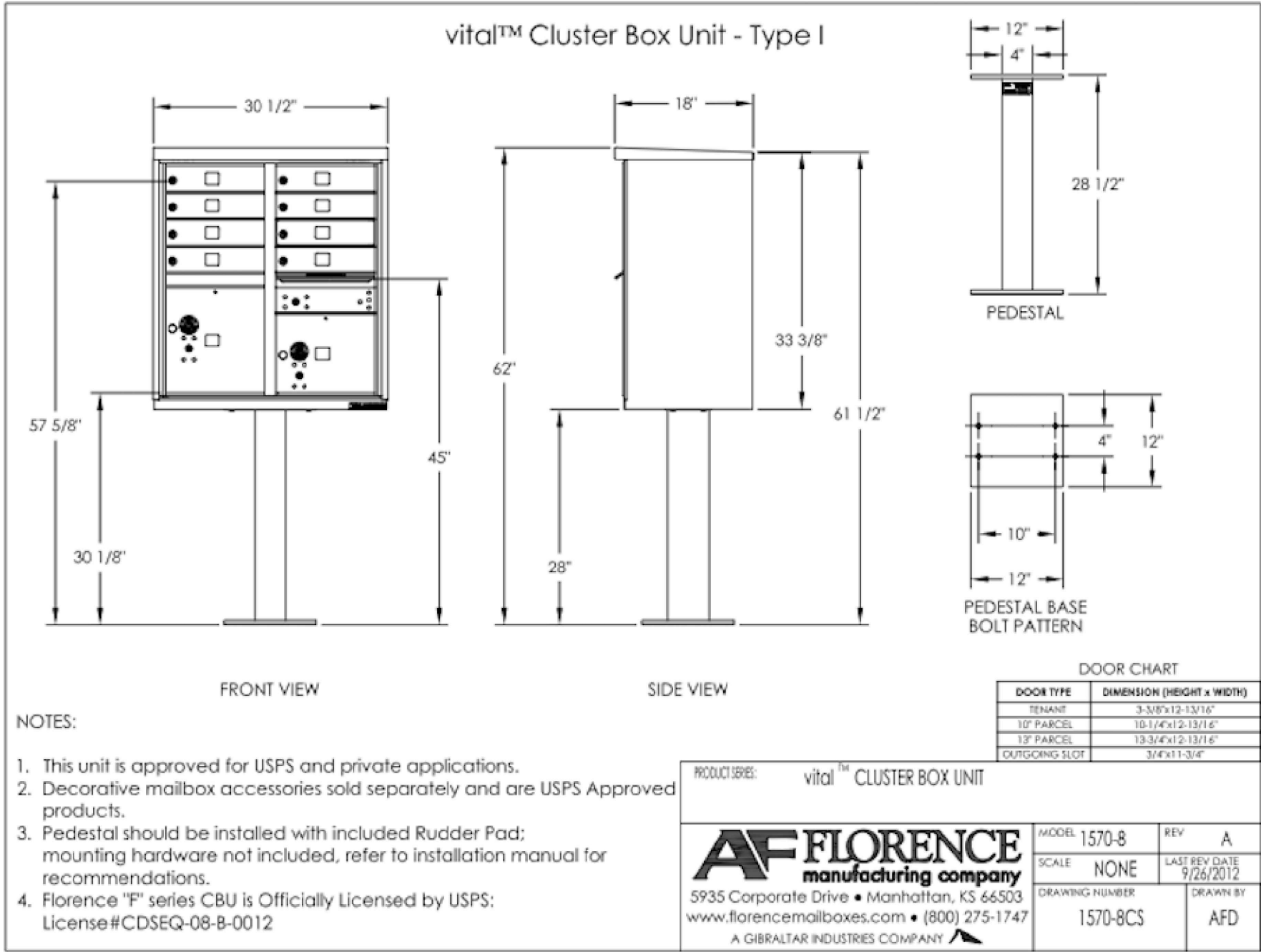
#### REVISIONS:

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6-20-2025	

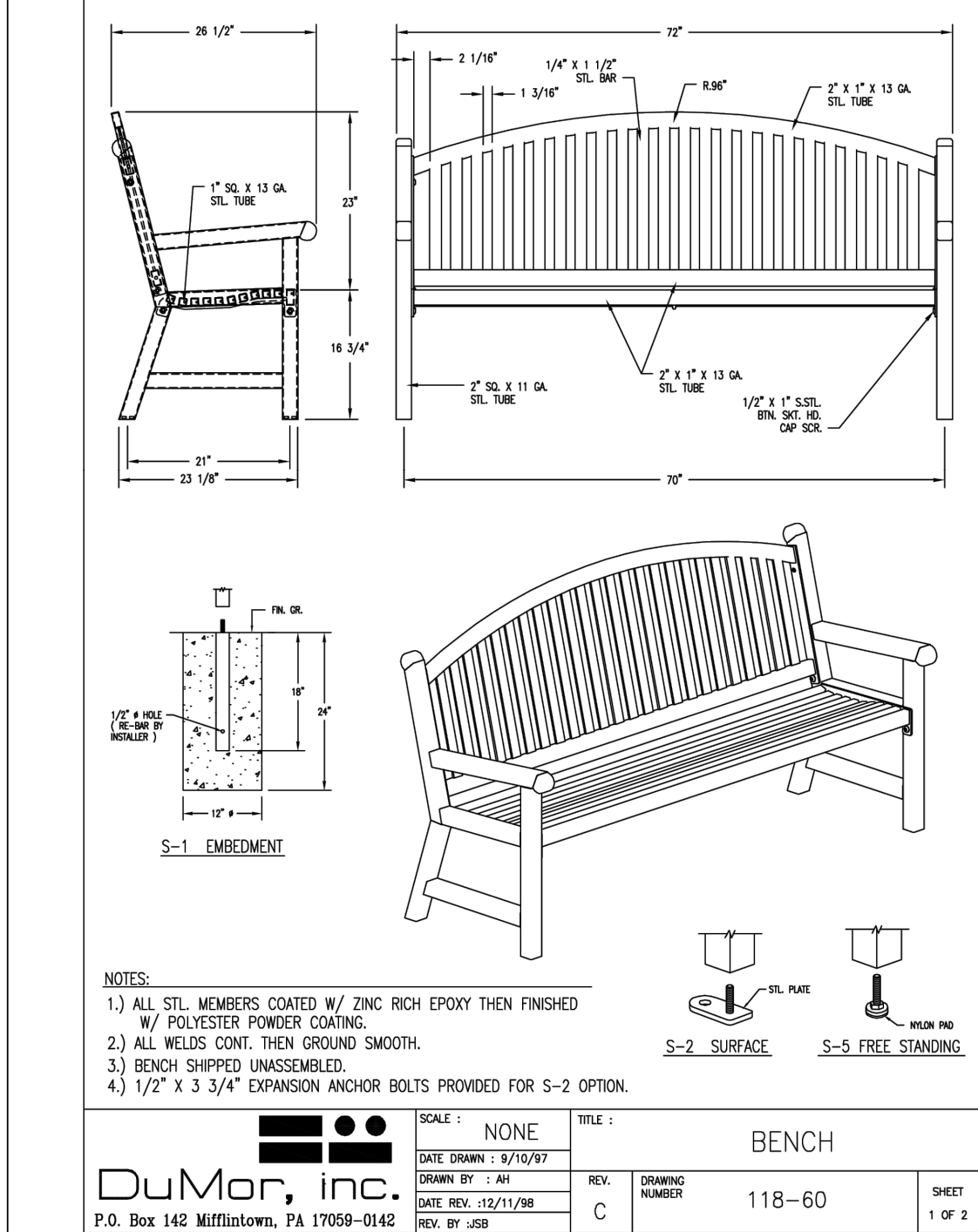




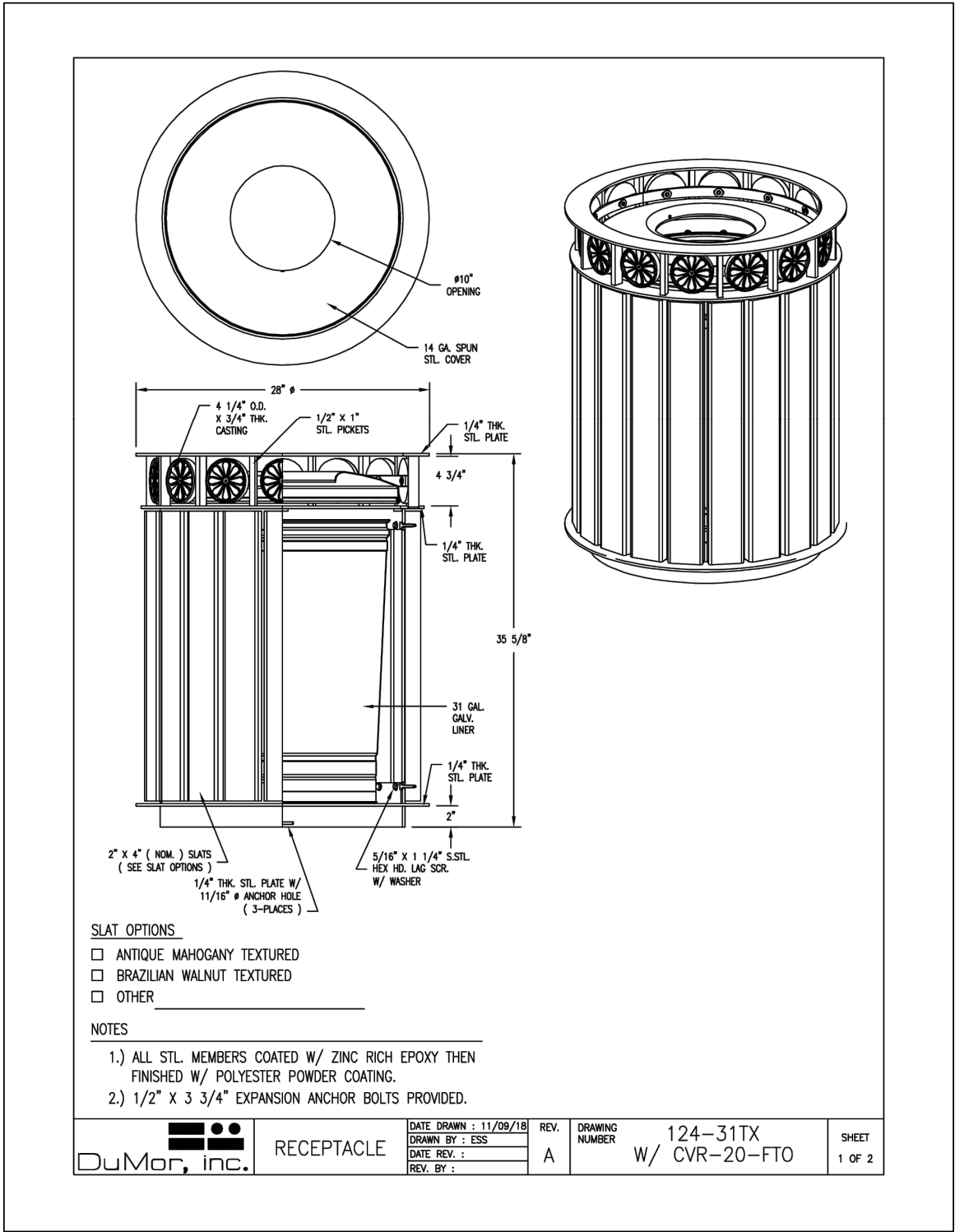
1 MAIL KIOSK WITH SHED ROOF, TYP.  
L-4 SCALE: 1" = 4'



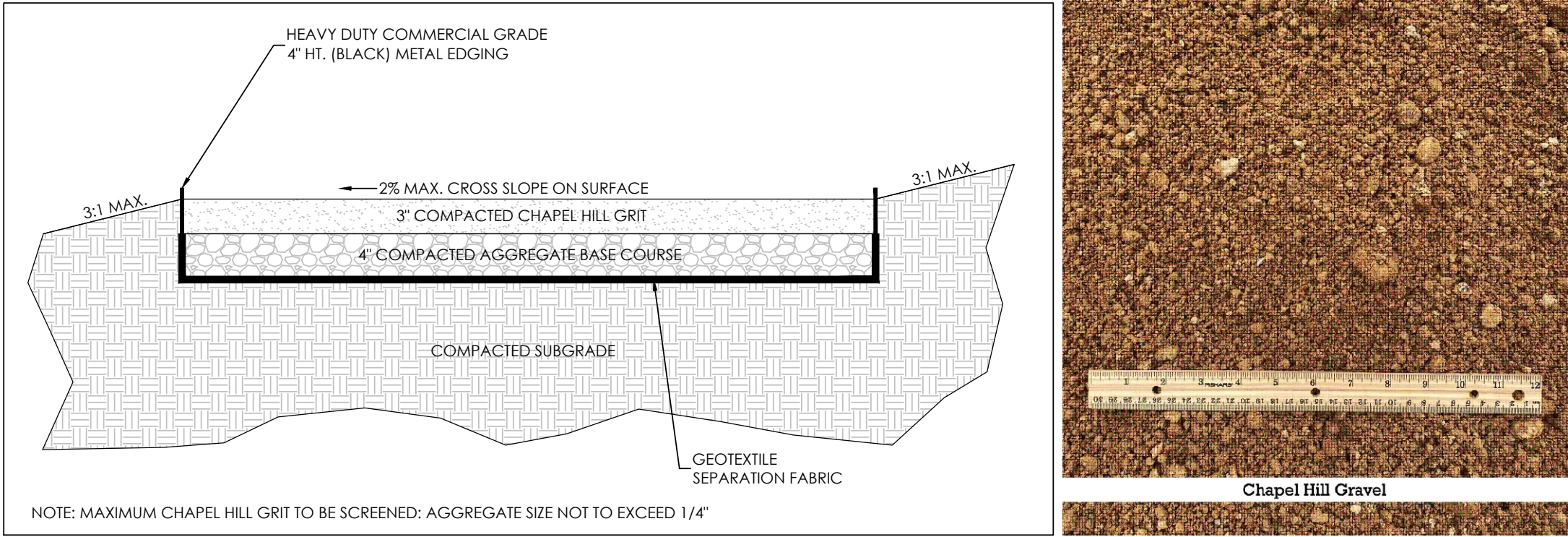
2 CLUSTER BOX UNIT, TYP.  
L-4 NTS



3 6' METAL BENCH, TYP.  
L-4 NTS



5 TRASH CAN, TYP.  
L-4 NTS

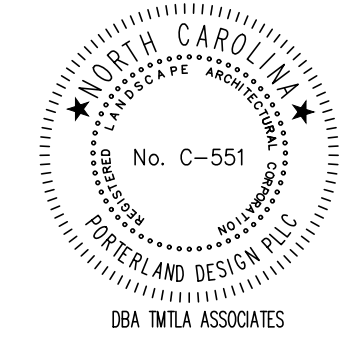


7 CHAPEL HILL GRAVEL SURFACE, TYP.  
L-4 1" = 1'



8 COMMUNITY GARDEN AND DOG PARK FENCE, TYP.  
L-4 NTS

NOTE: DETAIL IMAGES FOR REFERENCE; MAY SUBSTITUTE WITH OWNER APPROVED EQUAL



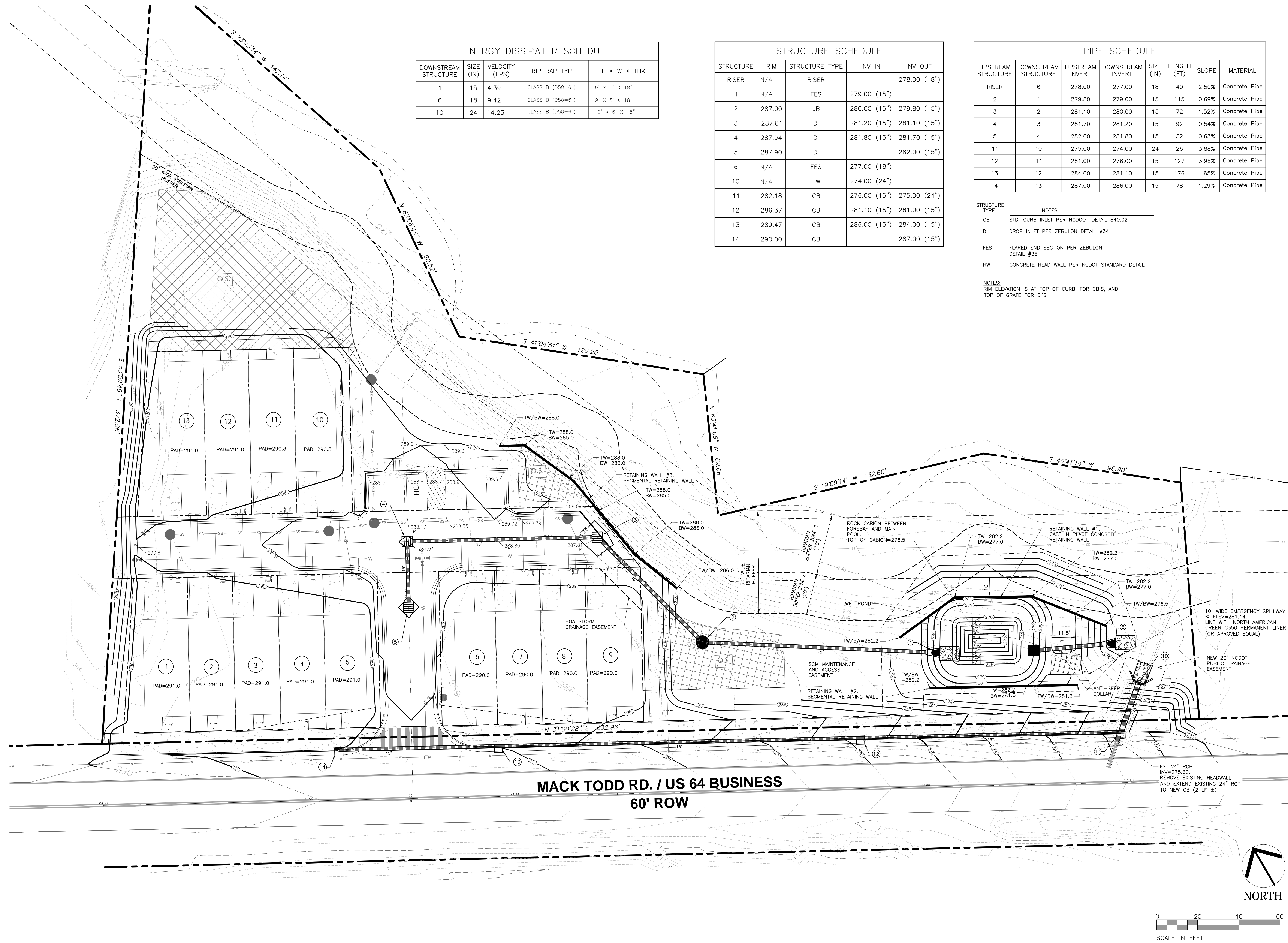
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6-20-2025	

DETAILS  
MADISON RIDGE TOWNHOMES  
901 MACK TODD ROAD  
ZEBULON, NC

SCALE:  
AS NOTED  
DRAWN BY:  
PMP, MA  
PROJECT #  
23166  
DATE:  
05/05/2025  
SHEET  
L-4  
OF 5





ENERGY DISSIPATER SCHEDULE				
DOWNSTREAM STRUCTURE	SIZE (IN)	VELOCITY (FPS)	RIP RAP TYPE	L X W X THK
1	15	4.39	CLASS B (D50=6")	9' X 5' X 18"
6	18	9.42	CLASS B (D50=6")	9' X 5' X 18"
10	24	14.23	CLASS B (D50=6")	12' X 6' X 18"

STRUCTURE SCHEDULE				
STRUCTURE	RIM	STRUCTURE TYPE	INV IN	INV OUT
RISER	N/A	RISER		278.00 (18")
1	N/A	FES	279.00 (15")	
2	287.00	JB	280.00 (15")	279.80 (15")
3	287.81	DI	281.20 (15")	281.10 (15")
4	287.94	DI	281.80 (15")	281.70 (15")
5	287.90	DI		282.00 (15")
6	N/A	FES	277.00 (18")	
10	N/A	HW	274.00 (24")	
11	282.18	CB	276.00 (15")	275.00 (24")
12	286.37	CB	281.10 (15")	281.00 (15")
13	289.47	CB	286.00 (15")	284.00 (15")
14	290.00	CB		287.00 (15")

PIPE SCHEDULE							
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	SIZE (IN)	LENGTH (FT)	SLOPE	MATERIAL
RISER	6	278.00	277.00	18	40	2.50%	Concrete Pipe
2	1	279.80	279.00	15	115	0.69%	Concrete Pipe
3	2	281.10	280.00	15	72	1.52%	Concrete Pipe
4	3	281.70	281.20	15	92	0.54%	Concrete Pipe
5	4	282.00	281.80	15	32	0.63%	Concrete Pipe
11	10	275.00	274.00	24	26	3.88%	Concrete Pipe
12	11	281.00	276.00	15	127	3.95%	Concrete Pipe
13	12	284.00	281.10	15	176	1.65%	Concrete Pipe
14	13	287.00	286.00	15	78	1.29%	Concrete Pipe

STRUCTURE TYPE	NOTES
CB	STD. CURB INLET PER NCDOT DETAIL 840.02
DI	DROP INLET PER ZEBULON DETAIL #34
FES	FLARED END SECTION PER ZEBULON DETAIL #35
HW	CONCRETE HEAD WALL PER NCDOT STANDARD DETAIL

NOTES:  
RIM ELEVATION IS AT TOP OF CURB FOR CB'S, AND  
TOP OF GRATE FOR DI'S

**PID**

**PIEDMONTLANDDESIGN PLLC**

8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843

NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
SEAL  
050856  
MICHAEL L. SCHNEIDER

06/20/2025

MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

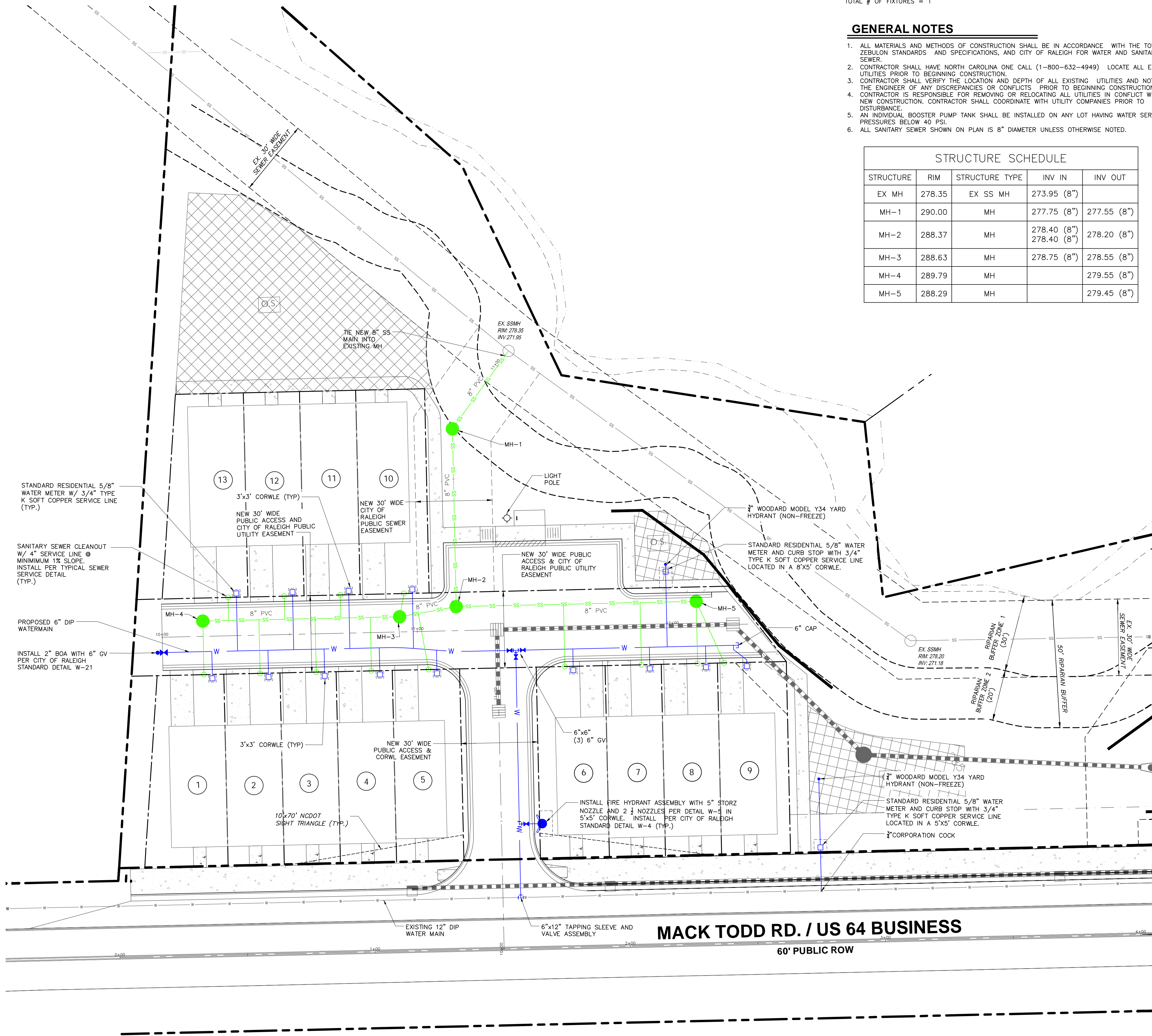
REVISIONS:	
06 MAY 2025	PER TOWN/COUNTY COMMENTS
20 JUNE 2025	PER TOWN/COUNTY COMMENTS

DRAWN BY: **MLS**  
CHECKED BY: **MLS**  
PROJECT: **CPMTRZ**

**GRADING AND DRAINAGE PLAN**



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## LIGHTING NOTES

FIXTURE TYPE: LED MITCHELL SERIES - 75 WATT (WITHOUT BANDING OR RIBBON)  
8.19 FIXTURE, 2.71 POLE (16' FIBERGLASS)  
TOTAL # OF FIXTURES = 1

## GENERAL NOTES

- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS, AND CITY OF RALEIGH FOR WATER AND SANITARY SEWER.
- CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (1-800-632-4949) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING OR RELOCATING ALL UTILITIES IN CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO DISTURBANCE.
- AN INDIVIDUAL BOOSTER PUMP TANK SHALL BE INSTALLED ON ANY LOT HAVING WATER SERVICE PRESSURES BELOW 40 PSI.
- ALL SANITARY SEWER SHOWN ON PLAN IS 8" DIAMETER UNLESS OTHERWISE NOTED.

## STRUCTURE SCHEDULE

STRUCTURE	RIM	STRUCTURE TYPE	INV IN	INV OUT
EX MH	278.35	EX SS MH	273.95 (8")	
MH-1	290.00	MH	277.75 (8")	277.55 (8")
MH-2	288.37	MH	278.40 (8")	278.20 (8")
MH-3	288.63	MH	278.75 (8")	278.55 (8")
MH-4	289.79	MH		279.55 (8")
MH-5	288.29	MH		279.45 (8")

## STANDARD UTILITY NOTES

### STANDARD UTILITY NOTES

JAN2025

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
- Utility separation requirements:
  - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to waterline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
  - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
  - Where it is impossible to obtain proper separation, or anytime a sanitary sewer main passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specification.
  - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
  - Maintain 18" min. vertical separation at all watermain & RGP storm drain crossings; maintain 18" min. vertical separation at all sanitary sewer & RGP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W-41 & S-49).
  - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
- Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
- Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
- Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24-hour advance notice to the City of Raleigh Public Utilities Department.
- SEWER BYPASS PUMPING - A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water Prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.
- 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This included abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure.
- Install water services with meters located at ROW or within a 2'x2' Waterline Easement immediately adjacent. NOTE: it is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
- Inspections of 4" and larger water mains of the private distribution system will be inspected as part of the infrastructure permit.
- Private sewer mains as part of a collection system are permitted and inspected under the private infrastructure permit for sewer.
- Any water or sewer services on private property that will be installed under Construction Drawings may require a Plumbing Utility Permit in the City of Raleigh. Consult with the Engineering Inspection Coordinator during the pre-construction meeting on the necessary permits.
- Install sewer services with cleanouts located at ROW or easement line & spaced per the current NC Plumbing Code.
- Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole.
- All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
- NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.
- Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the SW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 of fog@raleighnc.gov for more information.
- Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
- The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the University of Southern California approval list.
- The device and installation shall meet the guidelines of Appendix A - Guidelines and Requirements of the Cross Connection Program in Raleigh's Service Area.
- The devices shall be installed & tested (both, initial & periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross connection control program, whichever is more stringent. Contact cross\_connection@raleighnc.gov for more information.
- NOTICE for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than \$250,000.00 must undergo the public bidding process.
- Private sub-metering - No resale of water shall occur without the approval of the North Carolina Utility Commission. Sub-metering shall be in accordance with Section 1400 of the "SAFE DRINKING WATER ACT".

## ATTENTION CONTRACTORS

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Inspector at 919-996-3245 or <https://cityworks.raleighnc.gov/pucontractors/> New and schedule a Pre-construction meeting prior to beginning any construction. Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

Failure to notify the Divisions in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, install a downstream plug, have permitted plans on the jobsite, or any other violation of City of Raleigh Standards will result in a fine and possible exclusion from future work in the City of Raleigh.

### Public

#### Water Distribution / Extension System

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh  
Public Utilities Department Permit # W-4223

### Public

#### Sewer Collection / Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

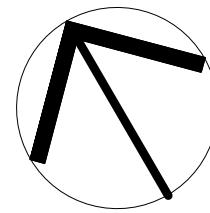
City of Raleigh  
Public Utilities Department Permit # S-5630

#### INFRASTRUCTURE CONSTRUCTION PLAN APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.

PUBLIC UTILITIES



NORTH

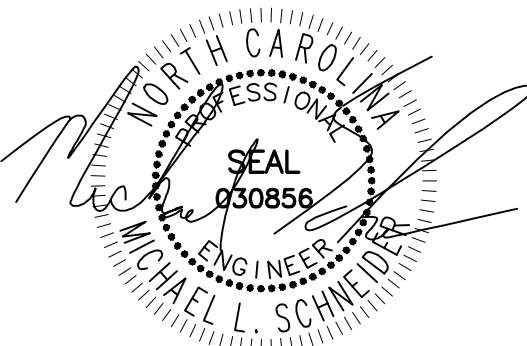
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SCALE IN FEET

# PID

PIDMONTLANDDESIGN PLLC

8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843



05/23/25

MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED:

REVISIONS:

06 MAY 2025  
PER TOWN/COUNTY COMMENTS  
23 MAY 2025  
PER TOWN/COUNTY COMMENTS

DRAWN BY: **MLS**  
CHECKED BY: **MLS**

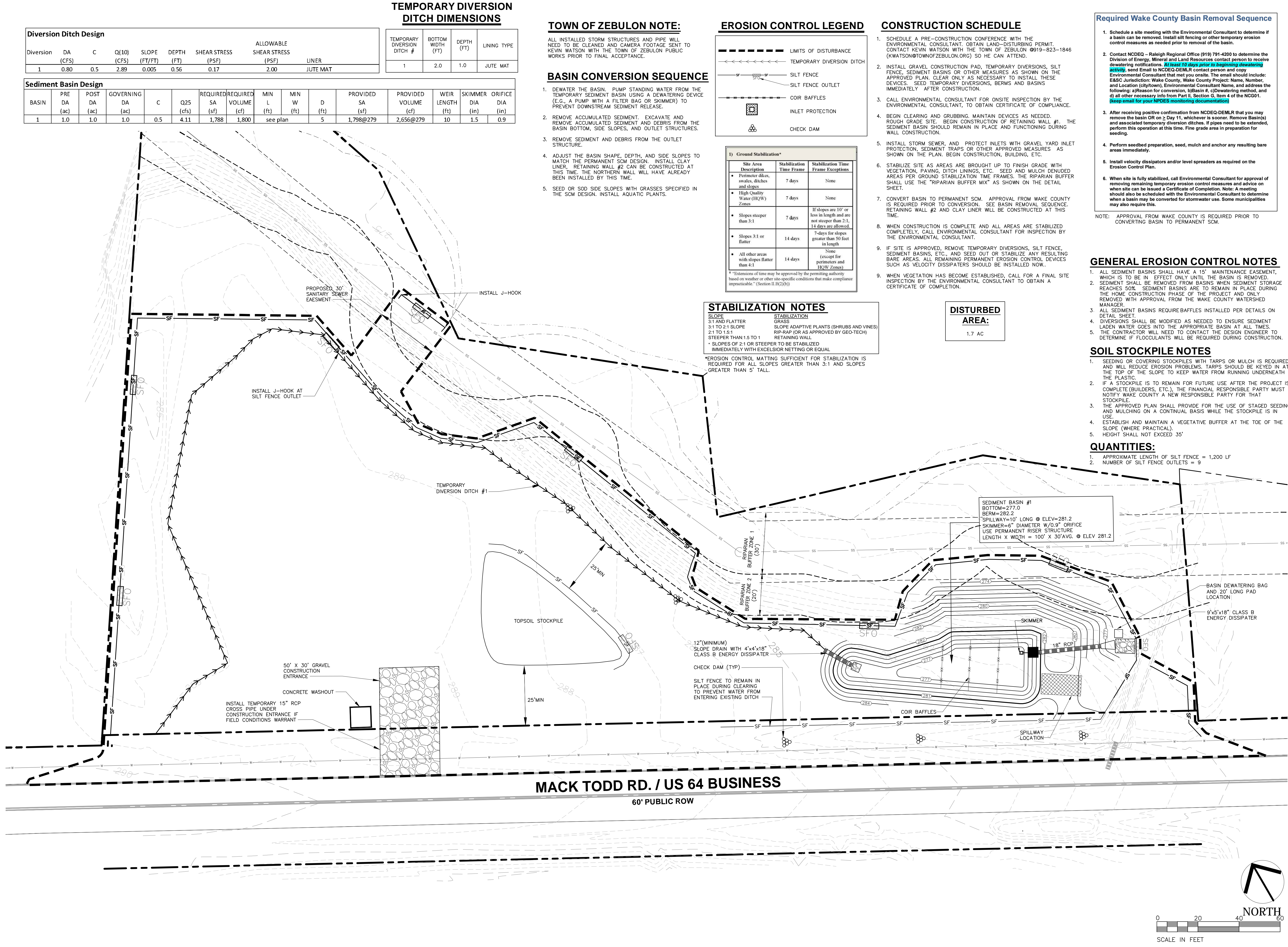
PROJECT: **CPMTRZ**

UTILITY PLAN

DWG. NO. **SITE 5**



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TEMPORARY DIVERSION  
DITCH DIMENSIONS

Diversion Ditch Design								ALLOWABLE		
Diversion	DA	C	Q(10)	SLOPE	DEPTH	SHEAR STRESS		SHEAR STRESS		
(CFS)	(ac)		(CFS)	(FT/FT)	(FT)	(PSF)		(PSF)		LINER
1	0.80	0.5	2.89	0.005	0.56	0.17		2.00		JUTE MAT

Sediment Basin Design															
BASIN	PRE DA (ac)	POST DA (ac)	GOVERNING DA (ac)	C	Q25 (cfs)	REQUIRED SA (sf)	REQUIRED VOLUME (cf)	MIN L (ft)	MIN W (ft)	D (ft)	PROVIDED SA (sf)	PROVIDED VOLUME (cf)	WEIR LENGTH (ft)	SKIMMER DIA (in)	ORIFICE DIA (in)
1	1.0	1.0	1.0	0.5	4.11	1,788	1,800	see plan		5	1,798@279	2,656@279	10	1.5	0.9

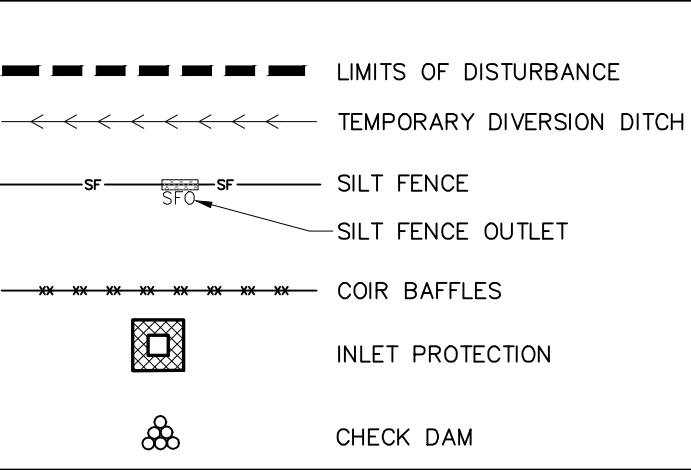
TOWN OF ZEBULON NOTE:

ALL INSTALLED STORM STRUCTURES AND PIPE WILL NEED TO BE CLEANED AND CAMERA FOOTAGE SENT TO KEVIN WATSON WITH THE TOWN OF ZEBULON PUBLIC WORKS PRIOR TO FINAL ACCEPTANCE.

BASIN CONVERSION SEQUENCE

- DEWATER THE BASIN. PUMP STANDING WATER FROM THE TEMPORARY SEDIMENT BASIN USING A DEWATERING DEVICE (E.G., A PUMP WITH A FILTER BAG OR SKIMMER) TO PREVENT DOWNSTREAM SEDIMENT RELEASE.
- REMOVE ACCUMULATED SEDIMENT. EXCAVATE AND REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE BASIN BOTTOM, SIDE SLOPES, AND OUTLET STRUCTURES.
- REMOVE SEDIMENT AND DEBRIS FROM THE OUTLET STRUCTURE.
- ADJUST THE BASIN SHAPE, DEPTH, AND SIDE SLOPES TO MATCH THE PERMANENT SOM DESIGN. INSTALL CLAY LINER, RETAINING WALL #2 CAN BE CONSTRUCTED AT THIS TIME. THE NORTHERN WALL WILL HAVE ALREADY BEEN INSTALLED BY THIS TIME.
- SEED OR SOD SIDE SLOPES WITH GRASSES SPECIFIED IN THE SOM DESIGN. INSTALL AQUATIC PLANTS.

EROSION CONTROL LEGEND



1) Ground Stabilization*		
Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
• Perimeter dikes, swales, ditches and slopes	7 days	None
• High Quality Water (H2W) Zones	7 days	None
• Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
• Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length.
• All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and H2W Zones)

\* Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section II B(2)(b))

STABILIZATION NOTES

- SLOPE 3:1 AND FLATTER GRASS
- SLOPE 3:1 TO 2:1 SLOPE SLOPE ADAPTIVE PLANTS (SHRUBS AND VINES)
- 2:1 TO 1.5:1 RIP-RAP (OR AS APPROVED BY GEO-TECH)
- STEEPER THAN 1.5 TO 1 RETAINING WALL
- \* SLOPES OF 2:1 OR STEEPER TO BE STABILIZED IMMEDIATELY WITH EXCELSIOR NETTING OR EQUAL

\*EROSION CONTROL MATTING SUFFICIENT FOR STABILIZATION IS REQUIRED FOR ALL SLOPES GREATER THAN 3:1 AND SLOPES GREATER THAN 5' TALL.

DISTURBED AREA:  
1.7 AC

Required Wake County Basin Removal Sequence

- Schedule a site meeting with the Environmental Consultant to determine if a basin can be removed. Install silt fencing or other temporary erosion control measures as needed prior to removal of the basin.
- Contact NCDEQ - Raleigh Regional Office (919) 791-4200 to determine the Division of Energy, Mineral and Land Resources contact person to receive dewatering notifications. **At least 10 days prior to beginning dewatering activity**, send Email to NCDEQ-DEMLR contact person and copy Environmental Consultant that met you onsite. The email should include: E&SC Jurisdiction: Wake County, Wake County Project: Name, Number, and Location (city/town), Environmental Consultant Name, and address the following: a) Reason for conversion, b) Basin #, c) Dewatering method, and d) all other necessary info from Part II, Section G, Item 4 of the NC901. **Keep email for your NPDES monitoring documentation**
- After receiving positive confirmation from NCDEQ-DEMLR that you may remove the basin OR on ≥ Day 11, whichever is sooner. Remove Basin(s) and associated temporary diversion ditches. If pipes need to be extended, perform this operation at this time. Fine grade area in preparation for seeding.
- Perform seeded preparation, seed, mulch and anchor any resulting bare areas immediately.
- Install velocity dissipaters and/or level spreaders as required on the Erosion Control Plan.
- When site is fully stabilized, call Environmental Consultant for approval of removing remaining temporary erosion control measures and advice on when site can be issued a Certificate of Completion. Note: A meeting should also be scheduled with the Environmental Consultant to determine when a basin may be converted for stormwater use. Some municipalities may also require this.

NOTE: APPROVAL FROM WAKE COUNTY IS REQUIRED PRIOR TO CONVERTING BASIN TO PERMANENT SCM.

GENERAL EROSION CONTROL NOTES

- ALL SEDIMENT BASINS SHALL HAVE A 15' MAINTENANCE EASEMENT, WHICH IS TO BE IN EFFECT ONLY UNTIL THE BASIN IS REMOVED.
- SEDIMENT SHALL BE REMOVED FROM BASINS WHEN SEDIMENT STORAGE REACHES 50%. SEDIMENT BASINS ARE TO REMAIN IN PLACE DURING THE HOME CONSTRUCTION PHASE OF THE PROJECT AND ONLY REMOVED WITH APPROVAL FROM THE WAKE COUNTY WATERSHED MANAGER.
- ALL SEDIMENT BASINS REQUIRE BAFFLES INSTALLED PER DETAILS ON DETAIL SHEET.
- DIVERSIONS SHALL BE MODIFIED AS NEEDED TO ENSURE SEDIMENT LADEN WATER GOES INTO THE APPROPRIATE BASIN AT ALL TIMES.
- THE CONTRACTOR WILL NEED TO CONTACT THE DESIGN ENGINEER TO DETERMINE IF FLOCCULANTS WILL BE REQUIRED DURING CONSTRUCTION.

SOIL STOCKPILE NOTES

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).
- HEIGHT SHALL NOT EXCEED 35'

QUANTITIES:

- APPROXIMATE LENGTH OF SILT FENCE = 1,200 LF
- NUMBER OF SILT FENCE OUTLETS = 9

# PID

HEMNTIANDSIGN PLLC

8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843

05/23/25

## MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

REVISIONS:

△	06 MAY 2025	PER TOWN/COUNTY COMMENTS
△	23 MAY 2025	PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS  
PROJECT: CPMTRZ

STAGE ONE  
EROSION CONTROL  
PLAN

DWG. NO. SITE 6



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TEMPORARY DIVERSION  
DITCH DIMENSIONS

Diversion Ditch Design

Diversion	DA (CFS)	C	Q(10) (CFS)	SLOPE (FT/FT)	DEPTH (FT)	SHEAR STRESS (PSF)	ALLOWABLE SHEAR STRESS (PSF)	LINER
1	0.80	0.5	2.89	0.005	0.56	0.17	2.00	JUTE MAT

Sediment Basin Design

BASIN	PRE DA (ac)	POST DA (ac)	GOVERNING DA (ac)	C	Q25 (cfs)	REQUIRED SA (sf)	REQUIRED VOLUME (cf)	MIN L (ft)	MIN W (ft)	D (ft)	PROVIDED SA (sf)	PROVIDED VOLUME (cf)	WEIR LENGTH (ft)	SKIMMER DIA (in)	ORIFICE DIA (in)
1	1.0	1.0	1.0	0.5	4.11	1,788	1,800	see plan		5	1,798@279	2,656@279	10	1.5	0.9

TEMPORARY DIVERSION DITCH #	BOTTOM WIDTH (FT)	DEPTH (FT)	LINING TYPE
1	2.0	1.0	JUTE MAT

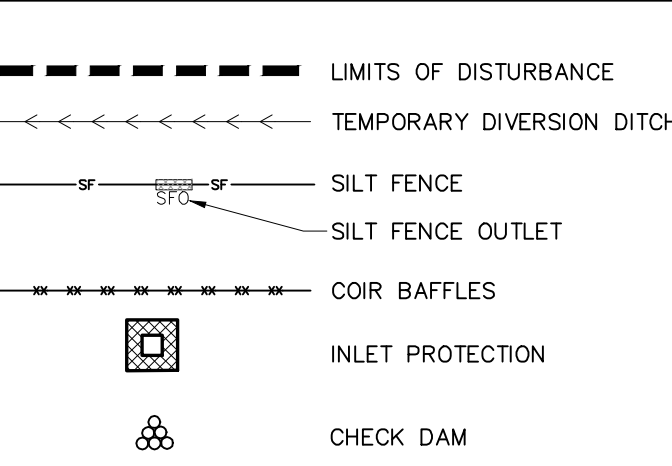
TOWN OF ZEBULON NOTE:

ALL INSTALLED STORM STRUCTURES AND PIPE WILL NEED TO BE CLEANED AND CAMERA FOOTAGE SENT TO KEVIN WATSON WITH THE TOWN OF ZEBULON PUBLIC WORKS PRIOR TO FINAL ACCEPTANCE.

BASIN CONVERSION SEQUENCE

- DEWATER THE BASIN. PUMP STANDING WATER FROM THE TEMPORARY SEDIMENT BASIN USING A DEWATERING DEVICE (E.G., A PUMP WITH A FILTER BAG OR SKIMMER) TO PREVENT DOWNSTREAM SEDIMENT RELEASE.
- REMOVE ACCUMULATED SEDIMENT. EXCAVATE AND REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE BASIN BOTTOM, SIDE SLOPES, AND OUTLET STRUCTURES.
- REMOVE SEDIMENT AND DEBRIS FROM THE OUTLET STRUCTURE.
- ADJUST THE BASIN SHAPE, DEPTH, AND SIDE SLOPES TO MATCH THE PERMANENT SOM DESIGN. INSTALL CLAY LINER, RETAINING WALL #2 CAN BE CONSTRUCTED AT THIS TIME. THE NORTHERN WALL WILL HAVE ALREADY BEEN INSTALLED BY THIS TIME.
- SEED OR SOD SIDE SLOPES WITH GRASSES SPECIFIED IN THE SOM DESIGN. INSTALL AQUATIC PLANTS.

EROSION CONTROL LEGEND



1) Ground Stabilization*		
Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
• Perimeter dikes, swales, ditches and slopes	7 days	None
• High Quality Water (H2/W) Zones	7 days	None
• Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
• Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length.
• All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and H2/W Zones)

\* Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section II.B(2)(b))

STABILIZATION NOTES

**SLOPE**  
3:1 AND FLATTER  
GRASS  
3:1 TO 2:1 SLOPE  
2:1 TO 1.5:1  
STEEPER THAN 1.5 TO 1  
\* SLOPES OF 2:1 OR STEEPER TO BE STABILIZED IMMEDIATELY WITH EXCELSIOR NETTING OR EQUAL

**STABILIZATION**  
GRASS  
SLOPE ADAPTIVE PLANTS (SHRUBS AND VINES)  
RIP-RAP (OR AS APPROVED BY GEO-TECH)  
RETAINING WALL

\*EROSION CONTROL MATTING SUFFICIENT FOR STABILIZATION IS REQUIRED FOR ALL SLOPES GREATER THAN 3:1 AND SLOPES GREATER THAN 5' TALL.

**DISTURBED  
AREA:**  
1.7 AC

CONSTRUCTION SCHEDULE

- SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN LAND-DISTURBING PERMIT. CONTACT KEVIN WATSON WITH THE TOWN OF ZEBULON 0919-823-1846 (KWATSON@TOWNOFZEBULON.ORG) SO HE CAN ATTEND.
- INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL ENVIRONMENTAL CONSULTANT FOR ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT, TO OBTAIN CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE. BEGIN CONSTRUCTION OF RETAINING WALL #1. THE SEDIMENT BASIN SHOULD REMAIN IN PLACE AND FUNCTIONING DURING WALL CONSTRUCTION.
- INSTALL STORM SEWER, AND PROTECT INLETS WITH GRAVEL YARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES. THE RIPARIAN BUFFER SHALL USE THE "RIPARIAN BUFFER MIX" AS SHOWN ON THE DETAIL SHEET.
- CONVERT BASIN TO PERMANENT SOM. APPROVAL FROM WAKE COUNTY IS REQUIRED PRIOR TO CONVERSION. SEE BASIN REMOVAL SEQUENCE. RETAINING WALL #2 AND CLAY LINER WILL BE CONSTRUCTED AT THIS TIME.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR INSPECTION BY THE ENVIRONMENTAL CONSULTANT.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES SUCH AS VELOCITY DISSIPATORS SHOULD BE INSTALLED NOW.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLETION.

Required Wake County Basin Removal Sequence

- Schedule a site meeting with the Environmental Consultant to determine if a basin can be removed. Install silt fencing or other temporary erosion control measures as needed prior to removal of the basin.
- Contact NCDEQ - Raleigh Regional Office (919) 791-4200 to determine the Division of Energy, Mineral and Land Resources contact person to receive dewatering notifications. **At least 10 days prior to beginning dewatering activity**, send Email to NCDEQ-DEMLR contact person and copy Environmental Consultant that met you onsite. The email should include: E&SC Jurisdiction: Wake County, Wake County Project: Name, Number, and Location (city/town), Environmental Consultant Name, and address the following: a) Reason for conversion, b) Basin #, c) Dewatering method, and d) all other necessary info from Part II, Section G, Item 4 of the NCG01. [Keep email for your NPDES monitoring documentation](#)
- After receiving positive confirmation from NCDEQ-DEMLR that you may remove the basin OR on 2 Day 11, whichever is sooner. Remove Basin(s) and associated temporary diversion ditches. If pipes need to be extended, perform this operation at this time. Fine grade area in preparation for seeding.
- Perform seeded preparation, seed, mulch and anchor any resulting bare areas immediately.
- Install velocity dissipators and/or level spreaders as required on the Erosion Control Plan.
- When site is fully stabilized, call Environmental Consultant for approval of removing remaining temporary erosion control measures and advice on when site can be issued a Certificate of Completion. Note: A meeting should also be scheduled with the Environmental Consultant to determine when a basin may be converted for stormwater use. Some municipalities may also require this.

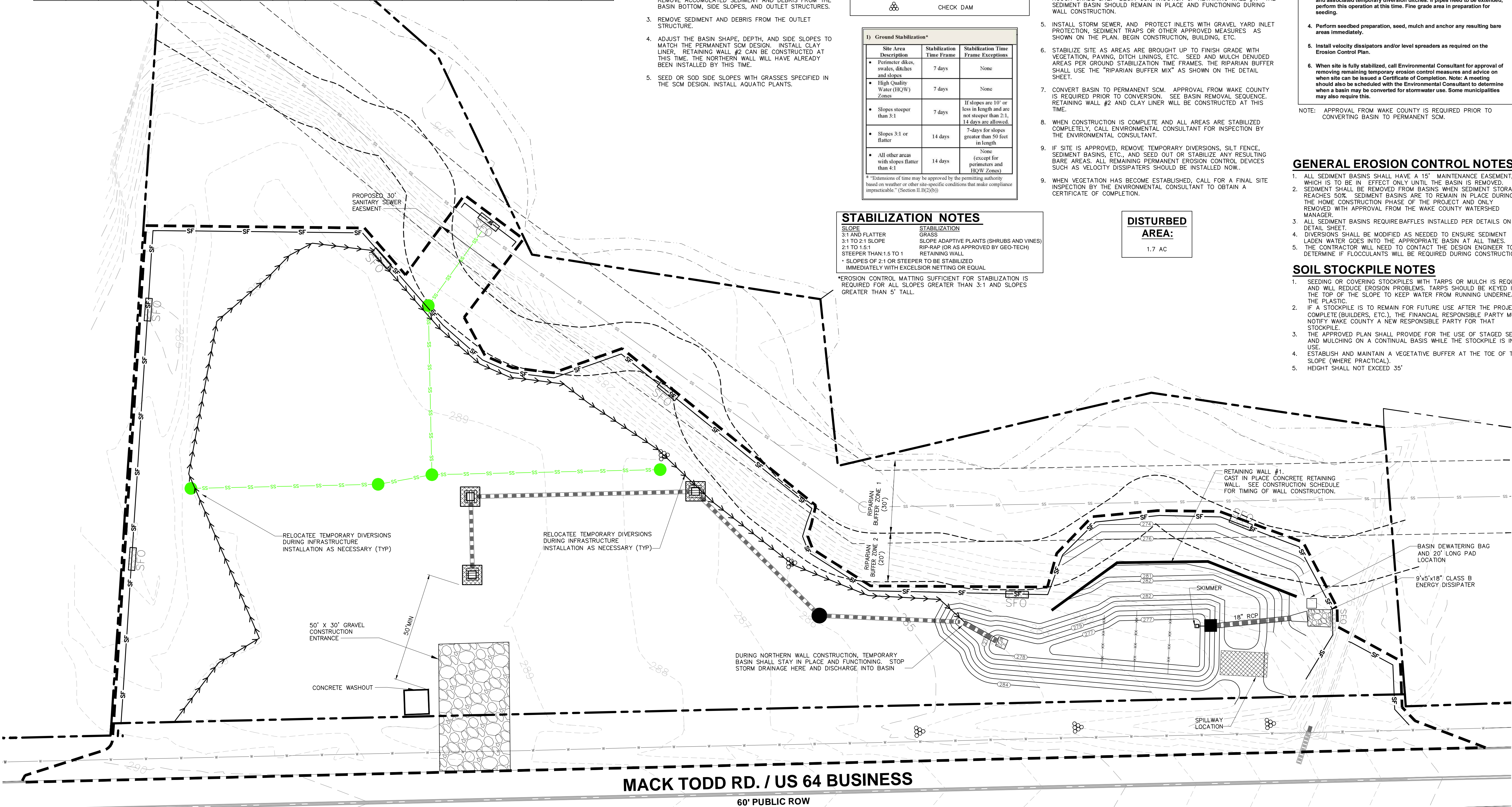
NOTE: APPROVAL FROM WAKE COUNTY IS REQUIRED PRIOR TO CONVERTING BASIN TO PERMANENT SOM.

GENERAL EROSION CONTROL NOTES

- ALL SEDIMENT BASINS SHALL HAVE A 15' MAINTENANCE EASEMENT, WHICH IS TO BE IN EFFECT ONLY UNTIL THE BASIN IS REMOVED.
- SEDIMENT SHALL BE REMOVED FROM BASINS WHEN SEDIMENT STORAGE REACHES 50%. SEDIMENT BASINS ARE TO REMAIN IN PLACE DURING THE HOME CONSTRUCTION PHASE OF THE PROJECT AND ONLY REMOVED WITH APPROVAL FROM THE WAKE COUNTY WATERSHED MANAGER.
- ALL SEDIMENT BASINS REQUIRE BAFFLES INSTALLED PER DETAILS ON DETAIL SHEET.
- DIVERSIONS SHALL BE MODIFIED AS NEEDED TO ENSURE SEDIMENT LADEN WATER GOES INTO THE APPROPRIATE BASIN AT ALL TIMES.
- THE CONTRACTOR WILL NEED TO CONTACT THE DESIGN ENGINEER TO DETERMINE IF FLOCCULANTS WILL BE REQUIRED DURING CONSTRUCTION.

SOIL STOCKPILE NOTES

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).
- HEIGHT SHALL NOT EXCEED 35'



MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

REVISIONS:

23 MAY 2025  
PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS

PROJECT: CPMTRZ

STAGE TWO  
EROSION CONTROL  
PLAN

DWG. NO. SITE 6A



F:\Projects\CPMTRZ\Drawings\Site\CPMTRZ\_Base.dwg -- 6-7 EROSION -- May 28, '25 -- 8:58am

TEMPORARY DIVERSION  
DITCH DIMENSIONS

Diversion Ditch Design

Diversion	DA (CFS)	C	Q(10) (CFS)	SLOPE (FT/FT)	DEPTH (FT)	SHEAR STRESS (PSF)	ALLOWABLE SHEAR STRESS (PSF)	LINER
1	0.80	0.5	2.89	0.005	0.56	0.17	2.00	JUTE MAT

Sediment Basin Design

BASIN	PRE DA (ac)	POST DA (ac)	GOVERNING DA (ac)	C	Q25 (cfs)	REQUIRED SA (sf)	REQUIRED VOLUME (cf)	MIN L (ft)	MIN W (ft)	D (ft)	PROVIDED SA (sf)	PROVIDED VOLUME (cf)	WEIR LENGTH (ft)	SKIMMER DIA (in)	ORIFICE DIA (in)
1	1.0	1.0	1.0	0.5	4.11	1,788	1,800	see plan		5	1,798@279	2,656@279	10	1.5	0.9

TEMPORARY DIVERSION DITCH #	BOTTOM WIDTH (FT)	DEPTH (FT)	LINING TYPE
1	2.0	1.0	JUTE MAT

TOWN OF ZEBULON NOTE:

ALL INSTALLED STORM STRUCTURES AND PIPE WILL NEED TO BE CLEANED AND CAMERA FOOTAGE SENT TO KEVIN WATSON WITH THE TOWN OF ZEBULON PUBLIC WORKS PRIOR TO FINAL ACCEPTANCE.

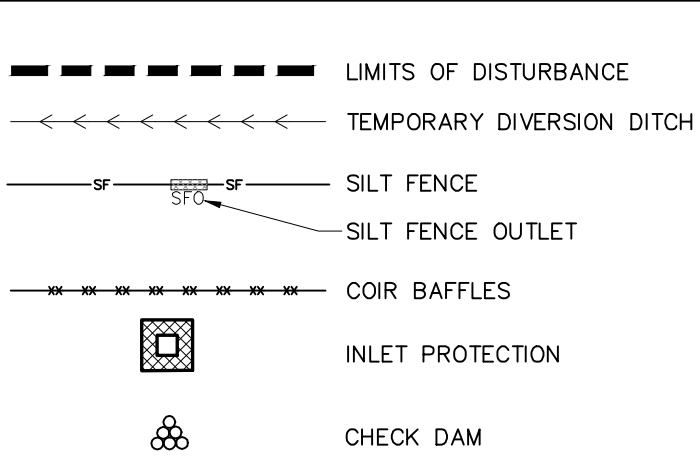
BASIN CONVERSION SEQUENCE

- DEWATER THE BASIN. PUMP STANDING WATER FROM THE TEMPORARY SEDIMENT BASIN USING A DEWATERING DEVICE (E.G., A PUMP WITH A FILTER BAG OR SKIMMER) TO PREVENT DOWNSTREAM SEDIMENT RELEASE.
- REMOVE ACCUMULATED SEDIMENT. EXCAVATE AND REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE BASIN BOTTOM, SIDE SLOPES, AND OUTLET STRUCTURES.
- REMOVE SEDIMENT AND DEBRIS FROM THE OUTLET STRUCTURE.
- ADJUST THE BASIN SHAPE, DEPTH, AND SIDE SLOPES TO MATCH THE PERMANENT SCM DESIGN. INSTALL CLAY LINER, RETAINING WALL #2 CAN BE CONSTRUCTED AT THIS TIME. THE NORTHERN WALL WILL HAVE ALREADY BEEN INSTALLED BY THIS TIME.
- SEED OR SOD SIDE SLOPES WITH GRASSES SPECIFIED IN THE SCM DESIGN. INSTALL AQUATIC PLANTS.

ENERGY DISSIPATER SCHEDULE

DOWNSTREAM STRUCTURE	SIZE (IN)	VELOCITY (FPS)	RIP RAP TYPE	L X W X THK
1	15	4.39	CLASS B (D50=6")	9' X 5' X 18"
6	18	9.42	CLASS B (D50=6")	9' X 5' X 18"
10	24	14.23	CLASS B (D50=6")	12' X 6' X 18"

EROSION CONTROL LEGEND



1) Ground Stabilization\*

Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water (H2O) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length.
All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and H2O Zones)

\* Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable. (Section II.B(2)(b))

STABILIZATION NOTES

SLOPE  
3:1 AND FLATTER  
3:1 TO 2:1 SLOPE  
2:1 TO 1.5:1  
STEEPER THAN 1.5 TO 1  
\* SLOPES OF 2:1 OR STEEPER TO BE STABILIZED IMMEDIATELY WITH EXCELSIOR NETTING OR EQUAL

STABILIZATION  
GRASS  
SLOPE ADAPTIVE PLANTS (SHRUBS AND VINES)  
RETAINING WALL  
RIP-RAP (OR AS APPROVED BY GEO-TECH)

\*EROSION CONTROL MATTING SUFFICIENT FOR STABILIZATION IS REQUIRED FOR ALL SLOPES GREATER THAN 3:1 AND SLOPES GREATER THAN 5' TALL.

DISTURBED  
AREA:

1.7 AC

CONSTRUCTION SCHEDULE

- SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN LAND-DISTURBING PERMIT. CONTACT KEVIN WATSON WITH THE TOWN OF ZEBULON @919-823-1846 (KWATSON@TOWNOFZEBULON.ORG) SO HE CAN ATTEND.
- INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL ENVIRONMENTAL CONSULTANT FOR ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT, TO OBTAIN CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE. BEGIN CONSTRUCTION OF RETAINING WALL #1. THE SEDIMENT BASIN SHOULD REMAIN IN PLACE AND FUNCTIONING DURING WALL CONSTRUCTION.
- INSTALL STORM SEWER, AND PROTECT INLETS WITH GRAVEL YARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES. THE RIPARIAN BUFFER SHALL USE THE "RIPARIAN BUFFER MIX" AS SHOWN ON THE DETAIL SHEET.
- CONVERT BASIN TO PERMANENT SCM. APPROVAL FROM WAKE COUNTY IS REQUIRED PRIOR TO CONVERSION. SEE BASIN REMOVAL SEQUENCE. RETAINING WALL #2 AND CLAY LINER WILL BE CONSTRUCTED AT THIS TIME.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR INSPECTION BY THE ENVIRONMENTAL CONSULTANT.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES SUCH AS VELOCITY DISSIPATERS SHOULD BE INSTALLED NOW..
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLETION.

Required Wake County Basin Removal Sequence

- Schedule a site meeting with the Environmental Consultant to determine if a basin can be removed. Install silt fencing or other temporary erosion control measures as needed prior to removal of the basin.
- Contact NCDEQ - Raleigh Regional Office (919) 791-4200 to determine the Division of Energy, Mineral and Land Resources contact person to receive dewatering notifications. **At least 10 days prior to beginning dewatering activity**, send Email to NCDEQ-DEMLR contact person and copy Environmental Consultant that met you onsite. The email should include: E&SC Jurisdiction: Wake County, Wake County Project: Name, Number, and Location (city/town), Environmental Consultant Name, and address the following: a) Reason for conversion, b) Basin #, c) Dewatering method, and d) all other necessary info from Part II, Section G, Item 4 of the NC901. **Keep email for your NPDES monitoring documentation**
- After receiving positive confirmation from NCDEQ-DEMLR that you may remove the basin OR on 2 Day 11, whichever is sooner. Remove Basin(s) and associated temporary diversion ditches. If pipes need to be extended, perform this operation at this time. Fine grade area in preparation for seeding.
- Perform seeded preparation, seed, mulch and anchor any resulting bare areas immediately.
- Install velocity dissipaters and/or level spreaders as required on the Erosion Control Plan.
- When site is fully stabilized, call Environmental Consultant for approval of removing remaining temporary erosion control measures and advice on when site can be issued a Certificate of Completion. Note: A meeting should also be scheduled with the Environmental Consultant to determine when a basin may be converted for stormwater use. Some municipalities may also require this.

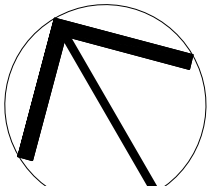
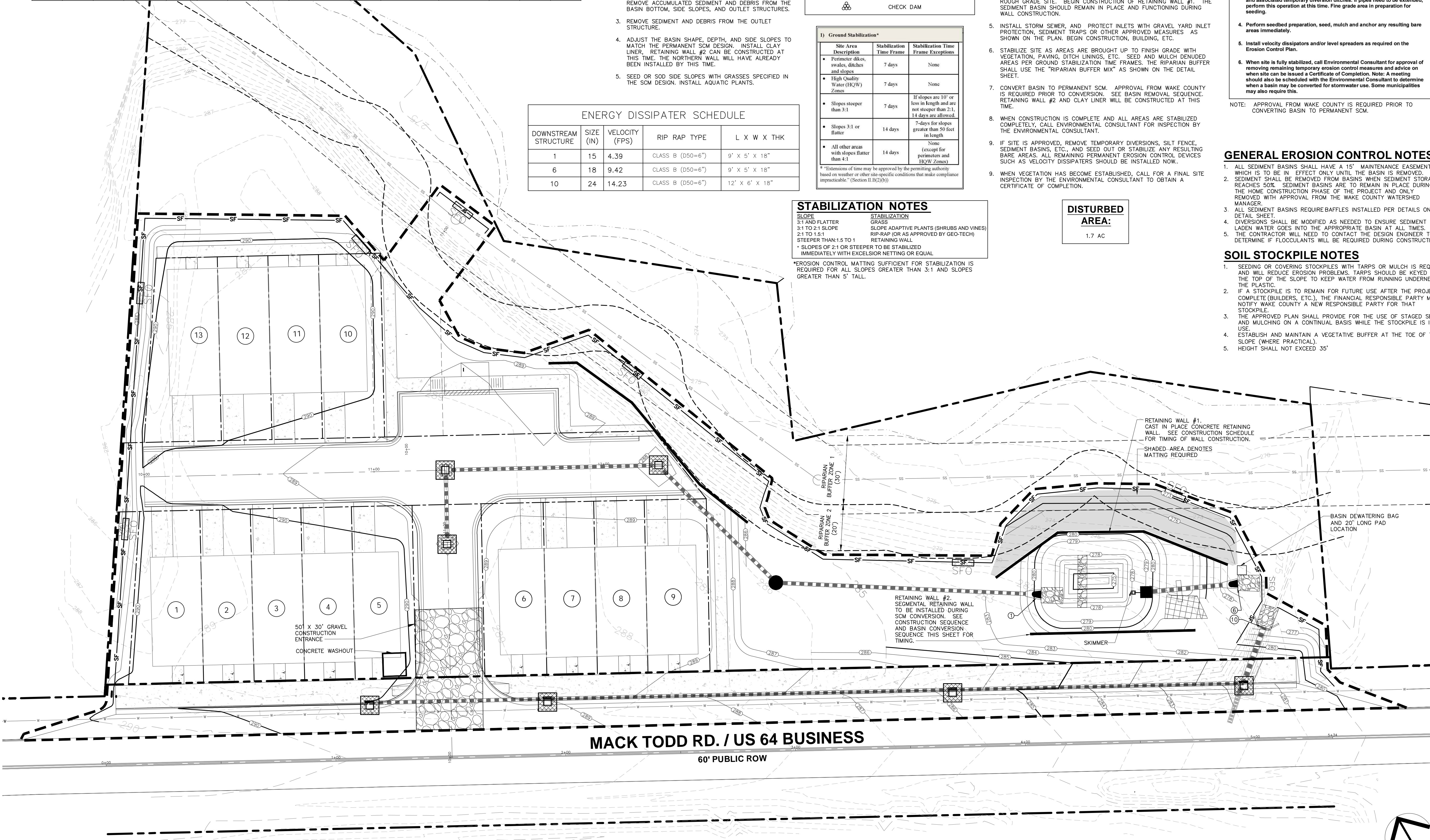
NOTE: APPROVAL FROM WAKE COUNTY IS REQUIRED PRIOR TO CONVERTING BASIN TO PERMANENT SCM.

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NORTH



MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

REVISIONS:

- |   |             |                          |
|---|-------------|--------------------------|
| △ | 06 MAY 2025 | PER TOWN/COUNTY COMMENTS |
| △ | 23 MAY 2025 | PER TOWN/COUNTY COMMENTS |

DRAWN BY: MLS  
CHECKED BY: MLS

PROJECT: CPMTRZ

STAGE THREE  
EROSION CONTROL  
PLAN

DWG. NO. SITE 7

**PID**

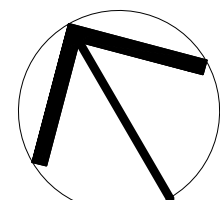
**HEMNTLANDDESIGN PLLC**

8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843

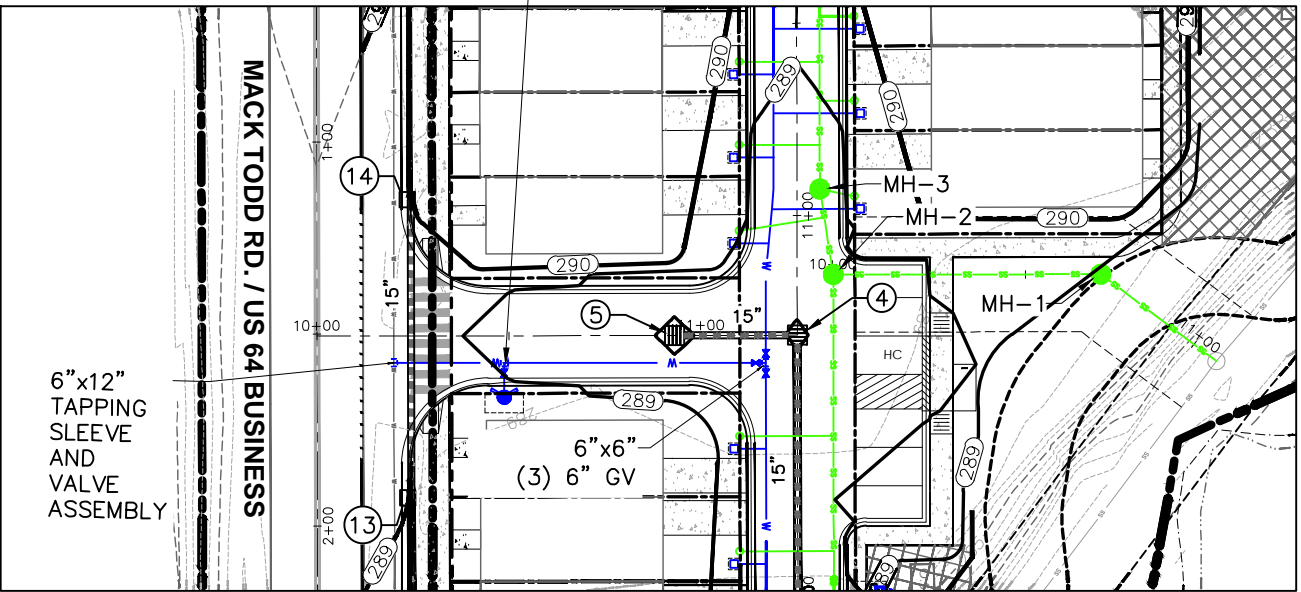
05/23/25

SEAL  
030856  
MICHAEL L. SCHNEIDER  
ENGINEER

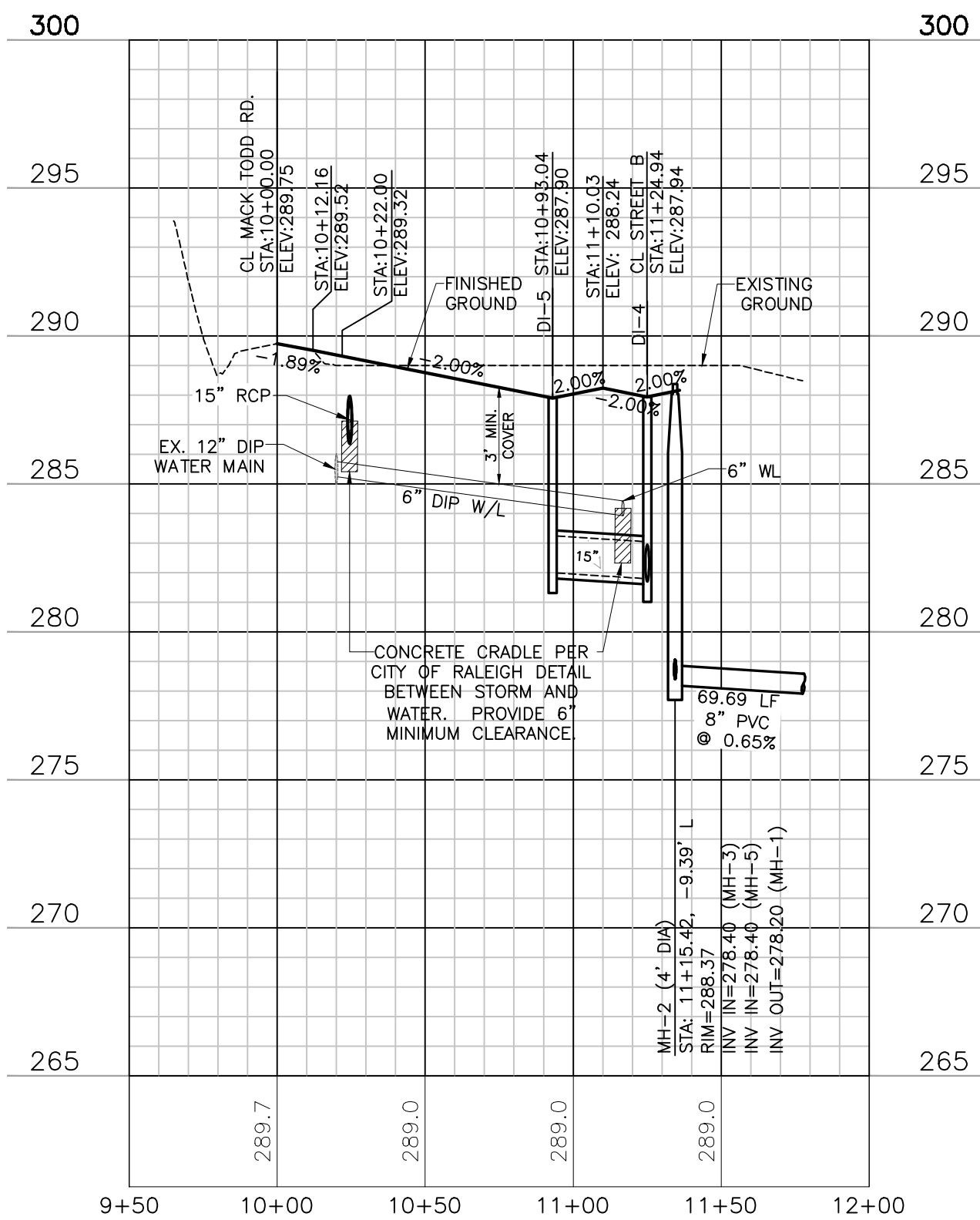




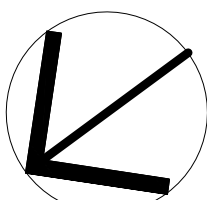
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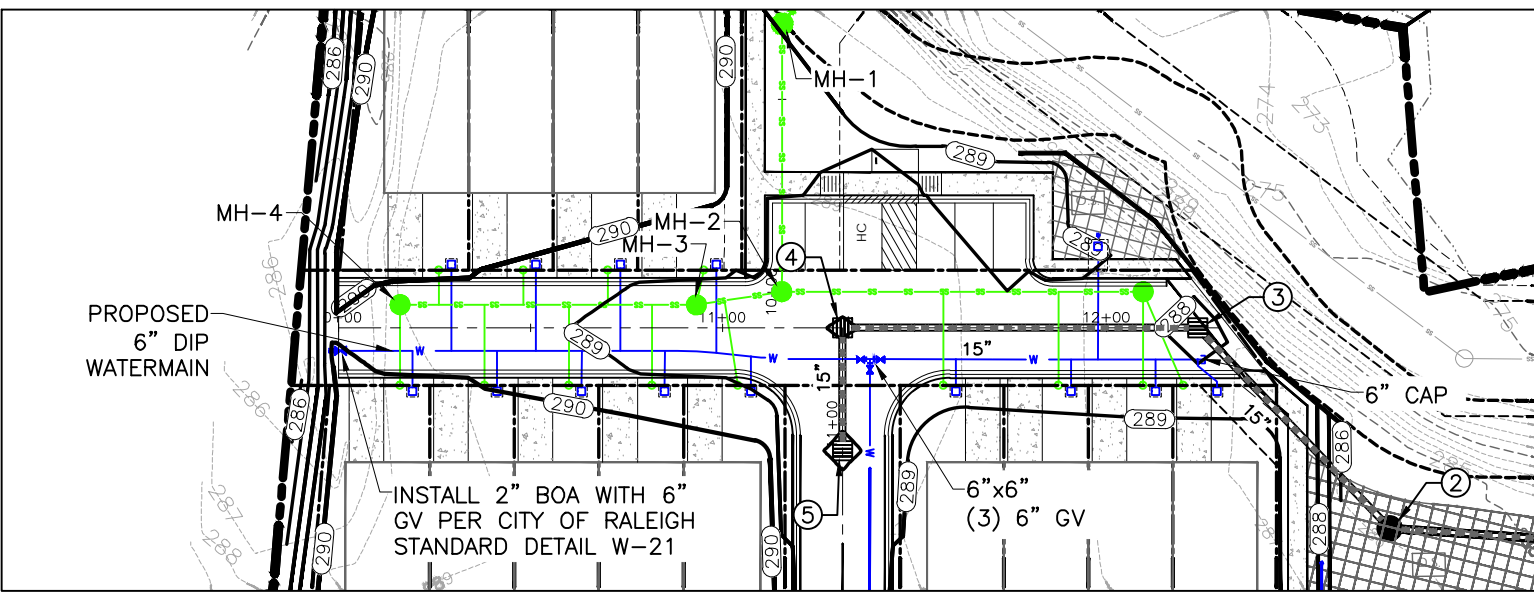
STREET A - PLAN VIEW



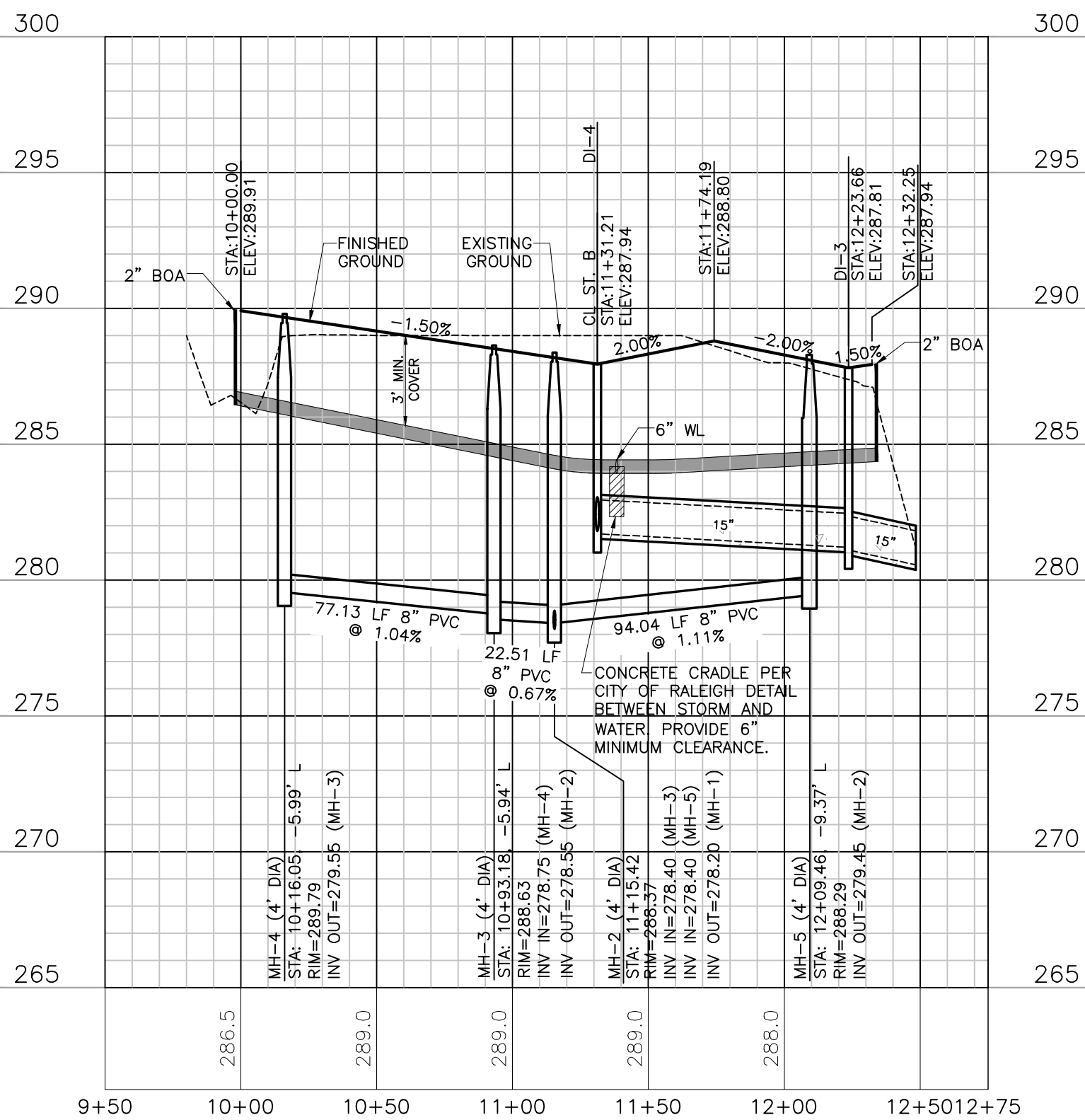
STREET A - PROFILE



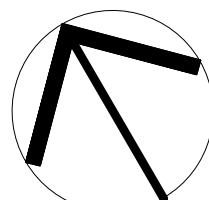
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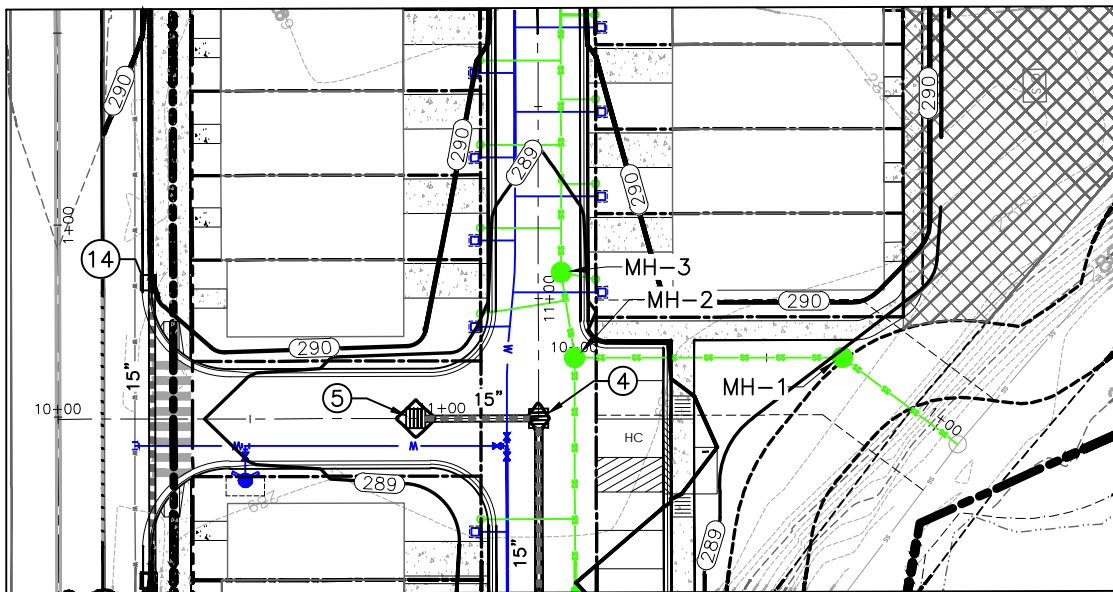
STREET B - PLAN VIEW



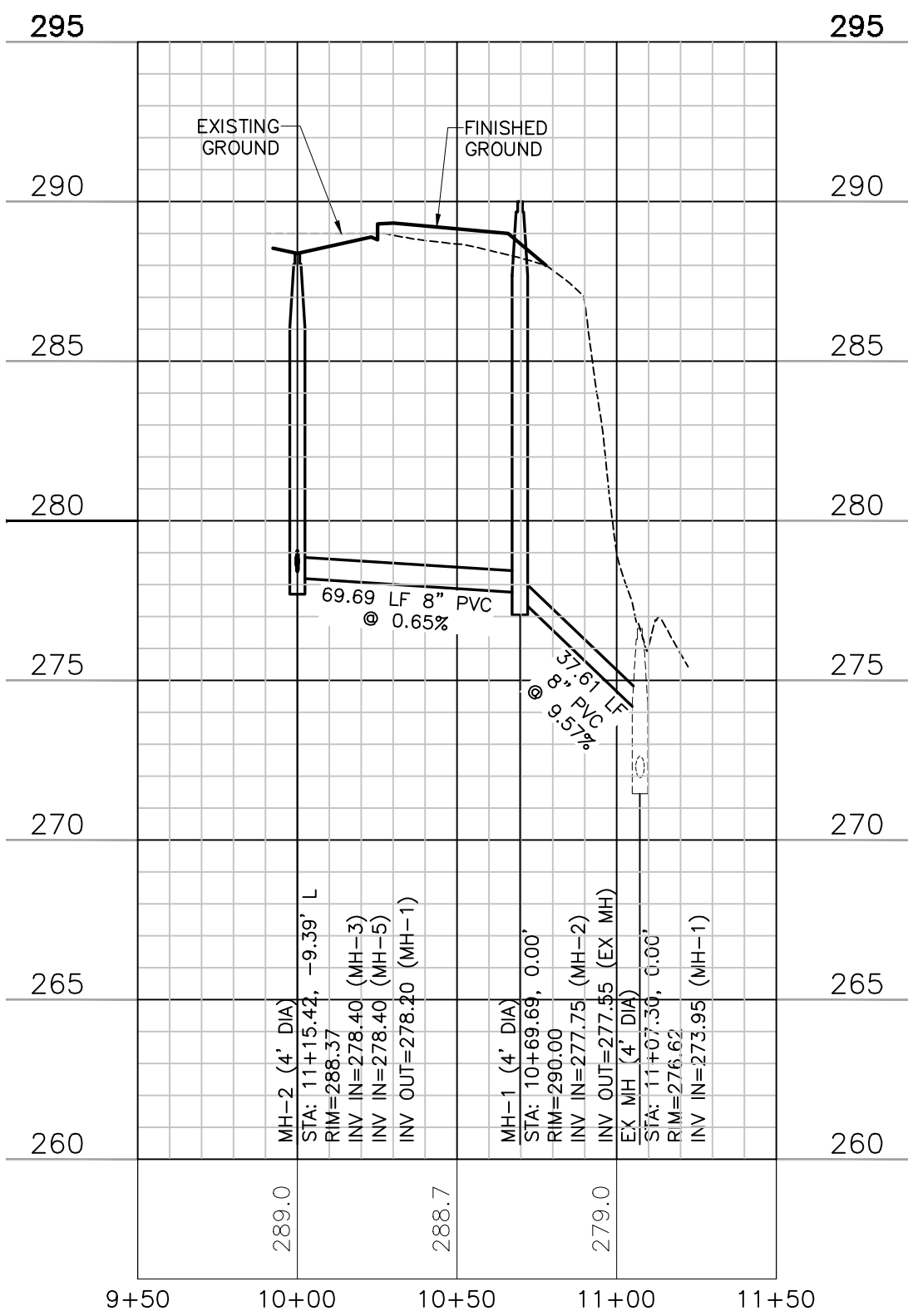
STREET B - PROFILE



NORTH



SANITARY SEWER OUTFALL - PLAN VIEW

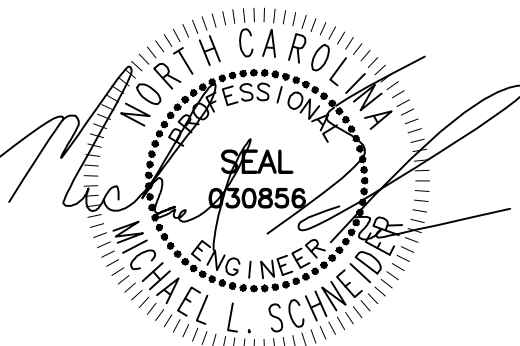


SANITARY SEWER OUTFALL - PROFILE

**PID**

**PIEDMONT DESIGN PLLC**

8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7800 PHONE  
919.845.7703 FAX  
ENGR. FIRM LICENSE NO. F-0843



05/23/25

**MADISON RIDGE TOWNHOMES**

**901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA**

ISSUED: **06 MAY 2025**

REVISIONS:

06 MAY 2025	PER TOWN/COUNTY COMMENTS
23 MAY 2025	PER TOWN/COUNTY COMMENTS

DRAWN BY: **MLS**  
CHECKED BY: **MLS**

PROJECT: **CPMTRZ**

**STREETS A & B,  
AND SS OUTFALL  
PLAN & PROFILES**

DWG. NO. **SITE 8**

**ATTENTION CONTRACTORS**

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Inspector at 919-996-3245 or <https://cityworks.raleighnc.gov/contractors/New> and schedule a Pre-construction meeting prior to beginning any construction. Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

Failure to notify the Divisions in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, install a downstream plug, have permitted plans on the jobsite, or any other violation of City of Raleigh Standards will result in a fine and possible exclusion from future work in the City of Raleigh.

**Public**

**Water Distribution / Extension System**

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh  
Public Utilities Department Permit # W-4223

**Public**

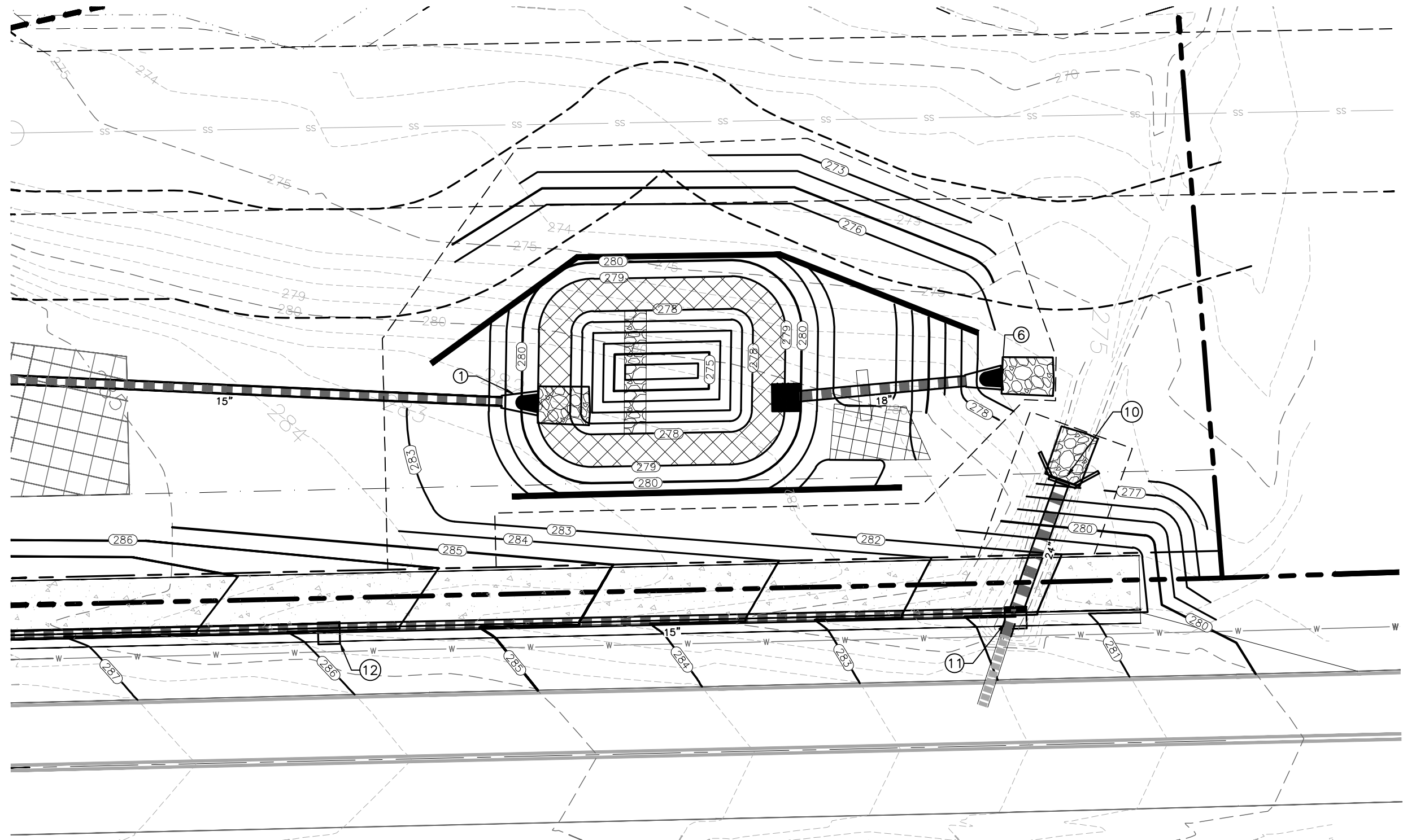
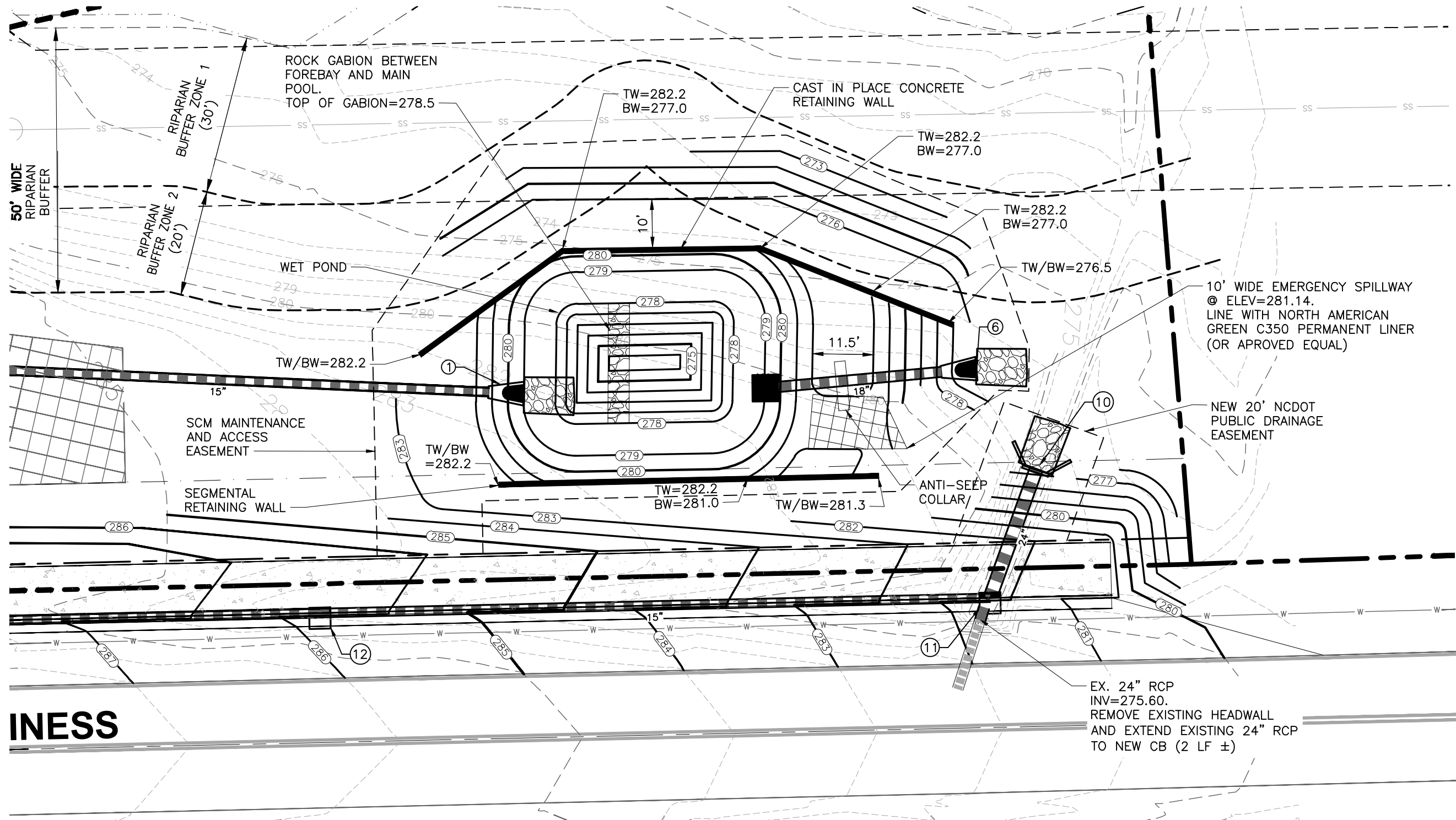
**Sewer Collection / Extension System**

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

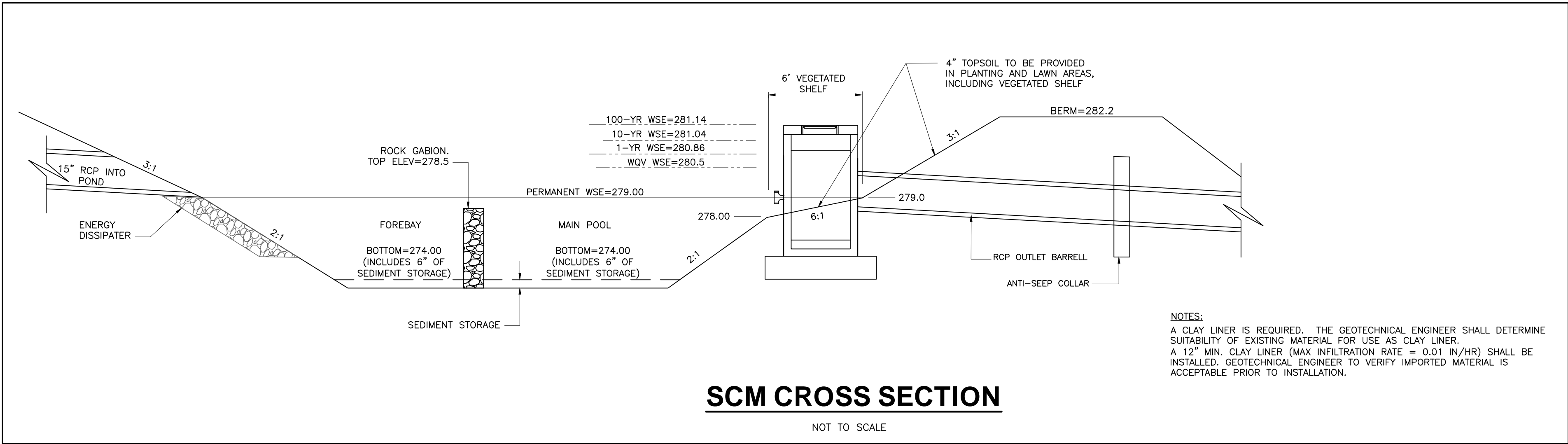
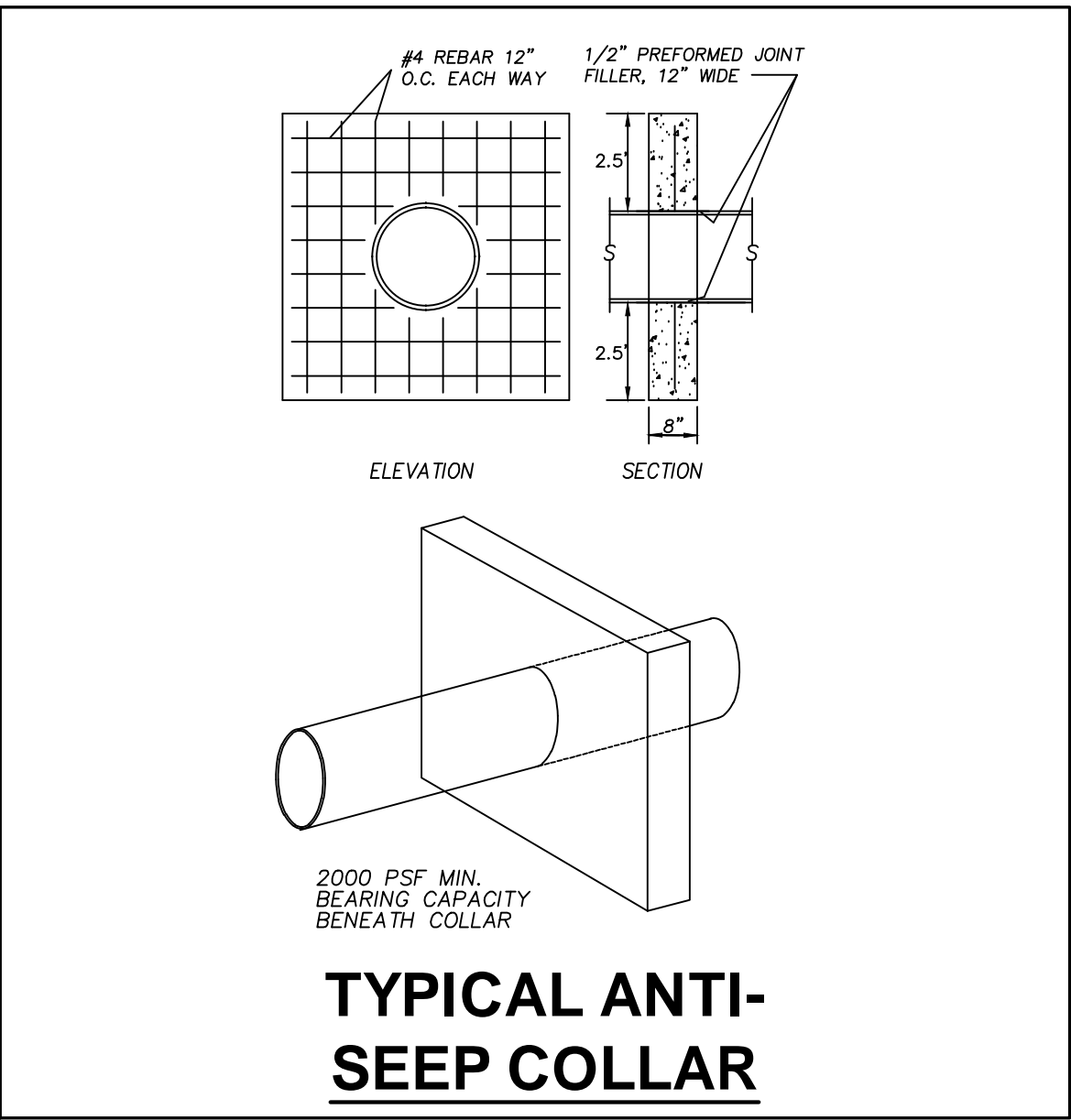
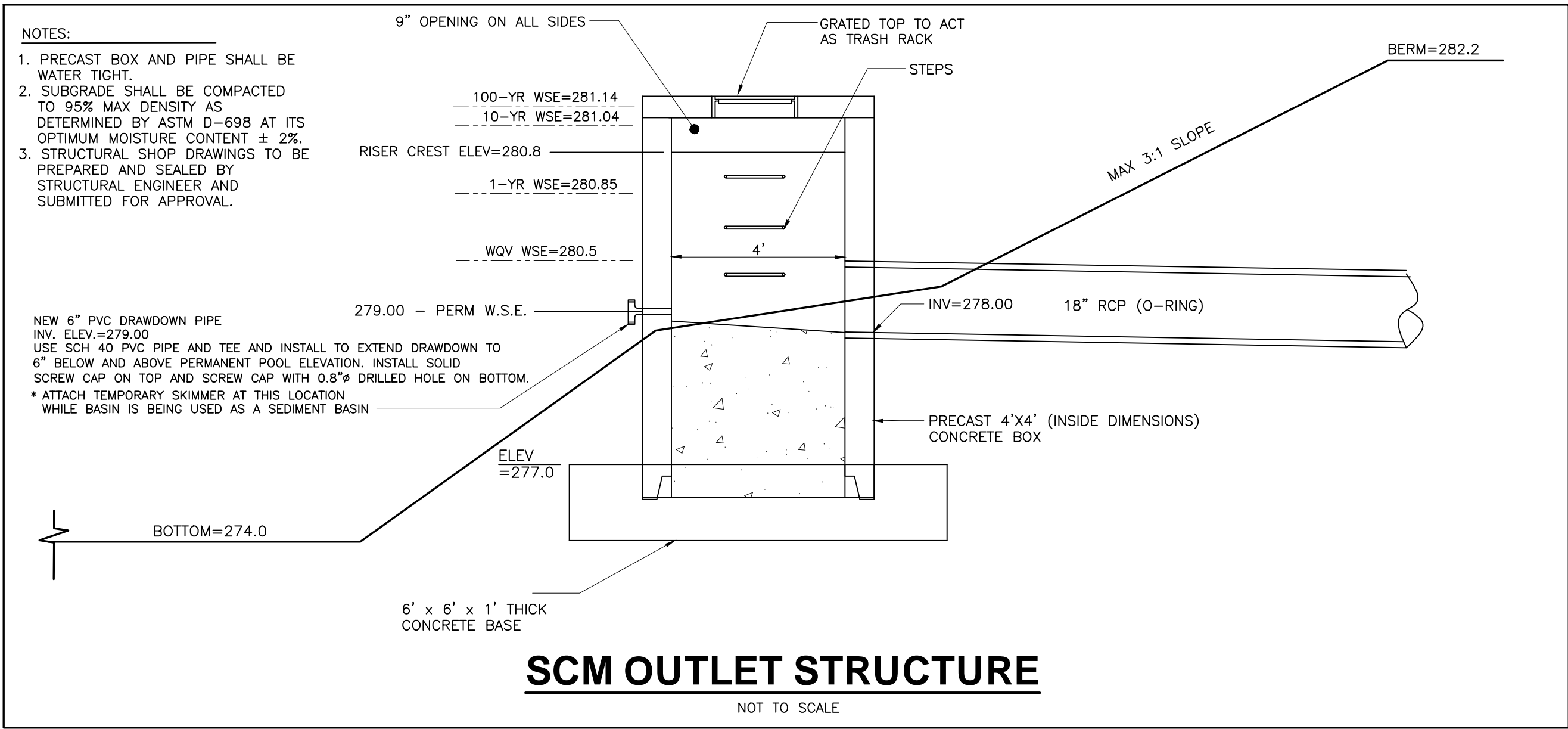
City of Raleigh  
Public Utilities Department Permit # S-5630





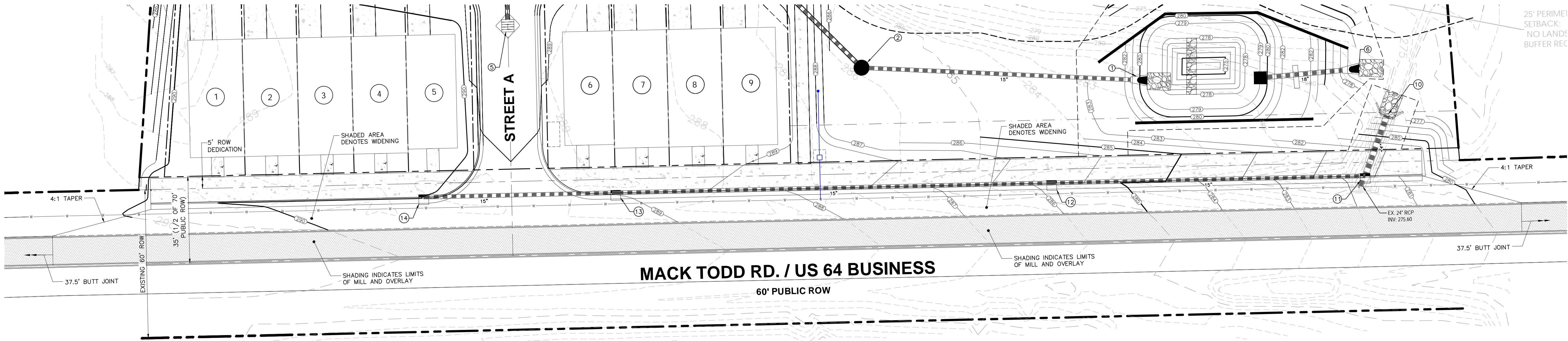


REQUIRED PLANTS BASED ON 746 S.F. = 50 PLANTS / 200 S.F. (746 S.F.) = 187 PLANTS				
PLANT TYPE	QTY	BOTANICAL NAME	COMMON NAME	ROOT SPACING
	62	ASCLEPIAS INCARNATA	SWAMP MILKWEED	2" PLUG 2' O.C.
	62	CAREX TENERA	QUILL SEDGE	2" PLUG 2' O.C.
	63	CHELONE GLABRA	WHITE TURTLEHEAD	2" PLUG 2' O.C.





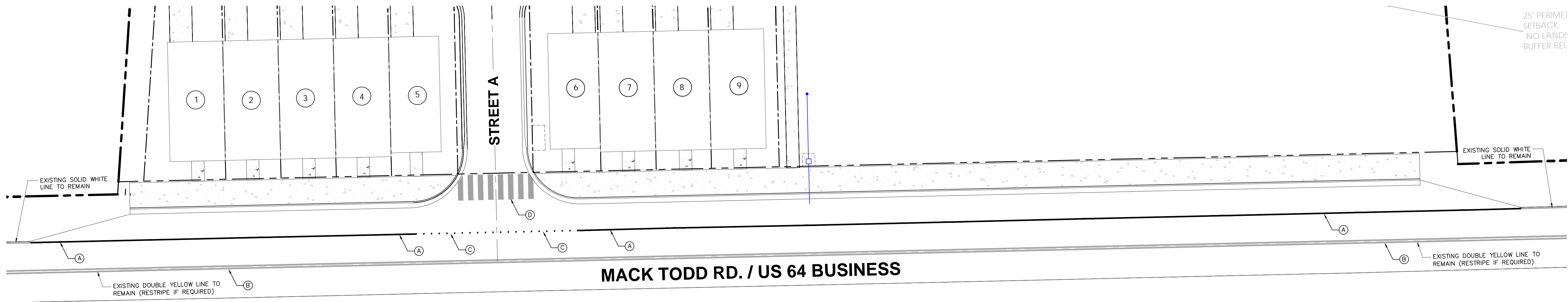
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MACK TODD RD. / US 64 BUSINESS

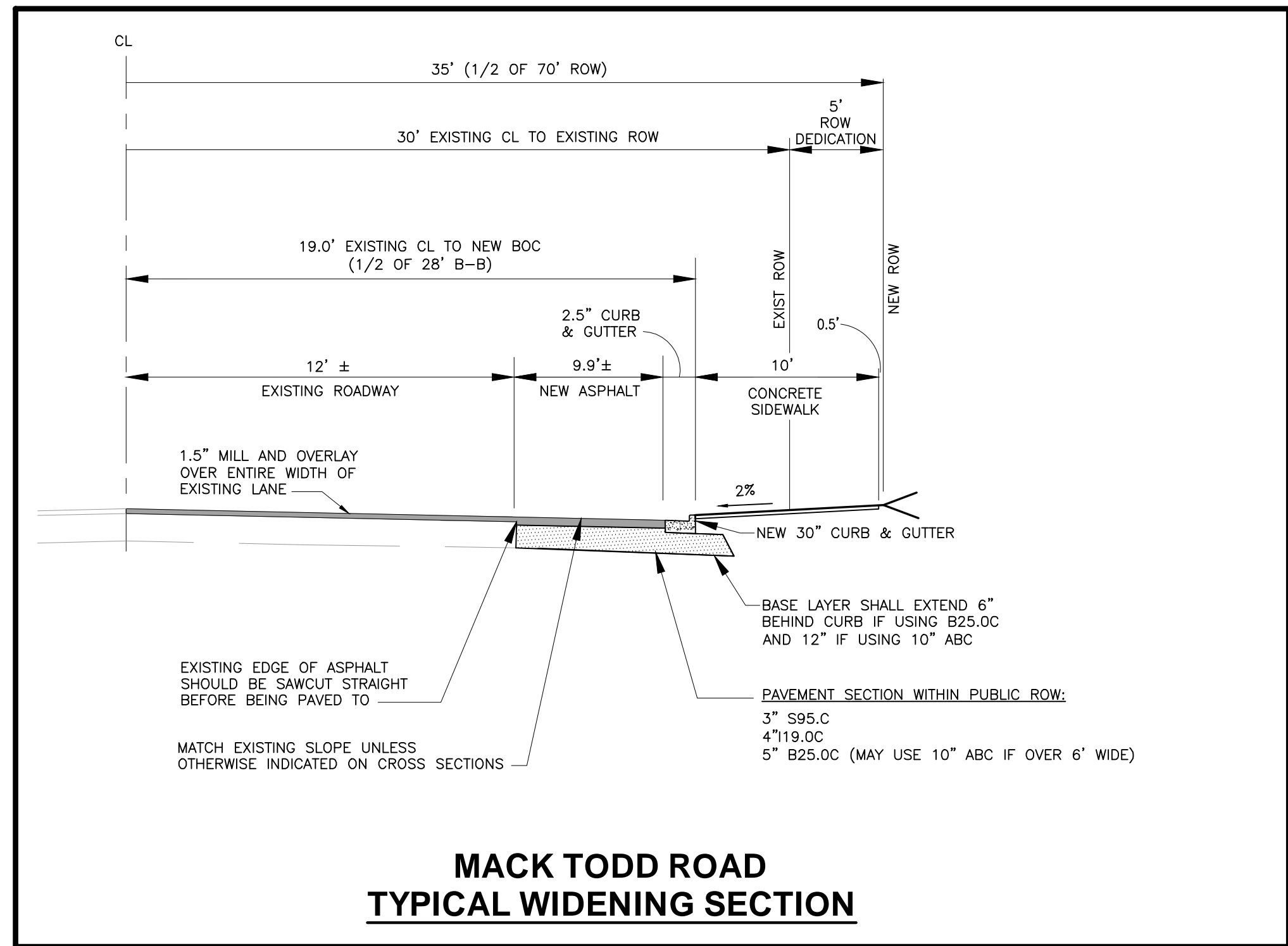
60' PUBLIC ROW

## WIDENING PLAN



MACK TODD RD. / US 64 BUSINESS

## STRIPING PLAN



MACK TODD ROAD  
TYPICAL WIDENING SECTION

### STRIPING NOTES

1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC
2. ALL PAVEMENT MARKINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NCDOT STANDARDS & SPECIFICATIONS
3. PREMARKINGS SHALL BE APPROVED BY ENGINEER & NCDOT DIVISION TRAFFIC ENGINEER PRIOR TO COMPLETION
4. EXISTING STRIPING TO BE MODIFIED AS REQUIRED BY GRINDING.

### STRIPING LEGEND

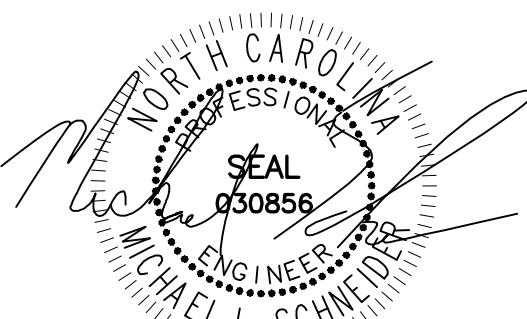
- (A) 4" WIDE WHITE EDGE LINE
- (B) 4" SOLID DOUBLE YELLOW LINES
- (C) 4" WHITE MINI-SKIP LINE (2'-6"/SP)
- (D) 10'x24" WHITE NCDOT HIGH VISIBILITY CROSSWALK (1205.7)



**PID**

PIEDMONT LAND DESIGN PLLC

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05/06/25

MADISON RIDGE TOWNHOMES

901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 06 MAY 2025

REVISIONS:

06 MAY 2025  
PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS

PROJECT: CPMTRZ

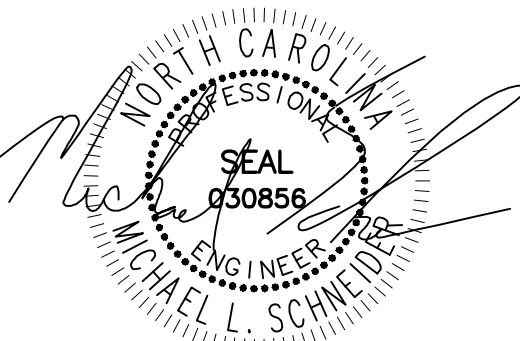
MACK TODD ROAD  
WIDENING PLAN

DWG. NO. SITE 10





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ENGR. FIRM LICENSE NO. F-0843



2/04/25

MADISON RIDGE APARTMENTS

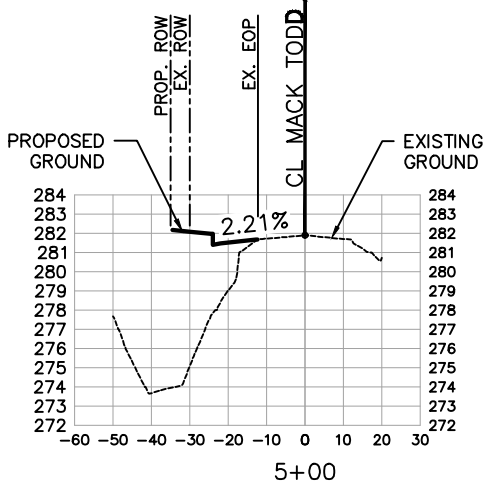
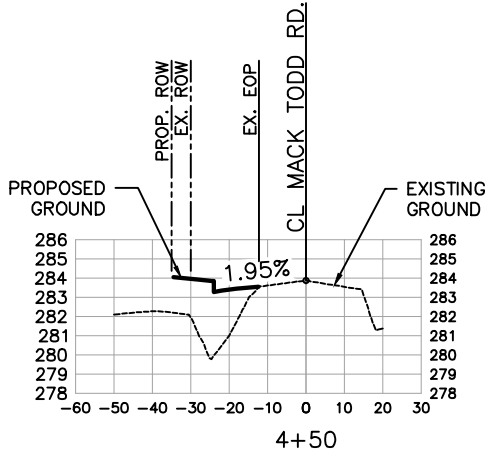
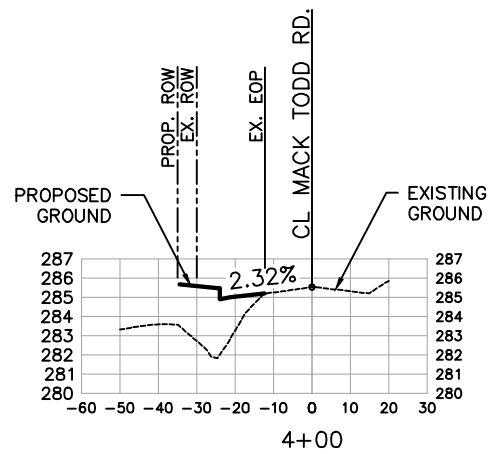
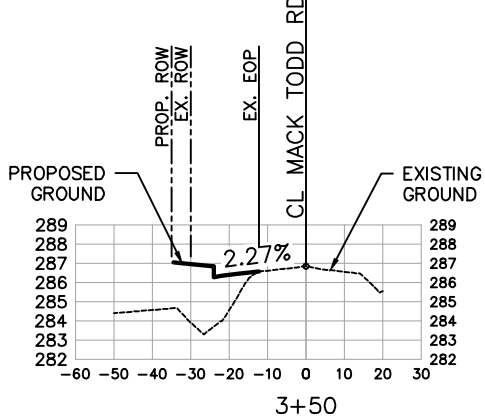
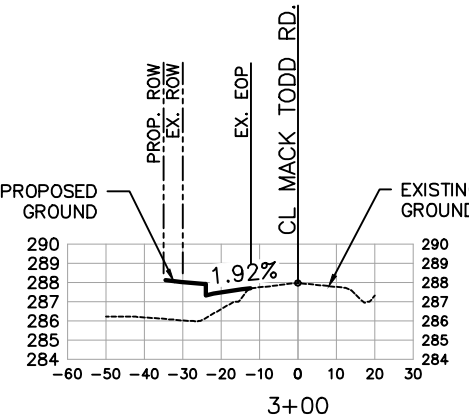
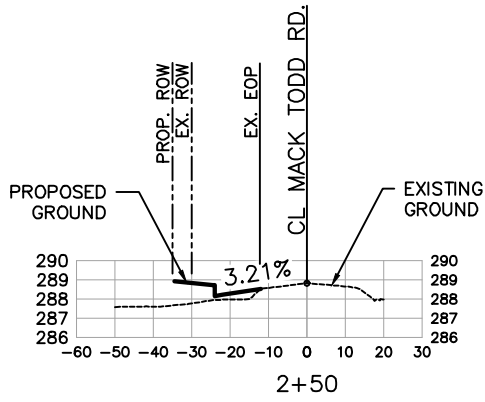
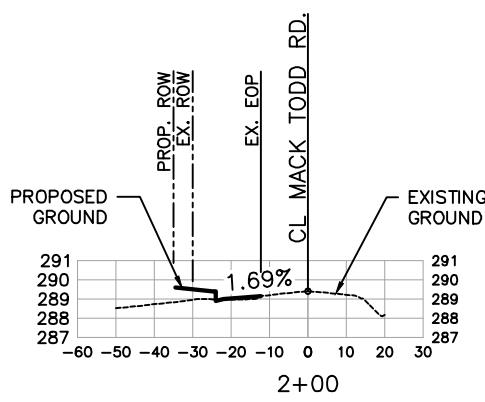
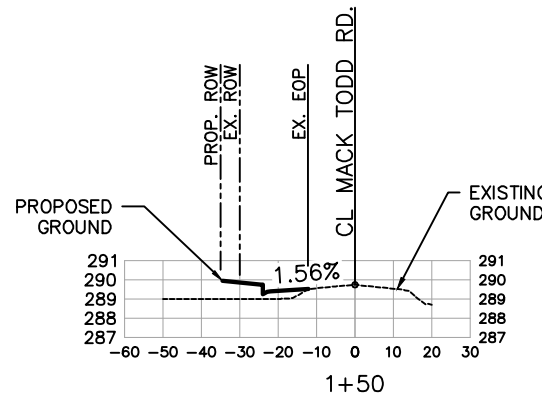
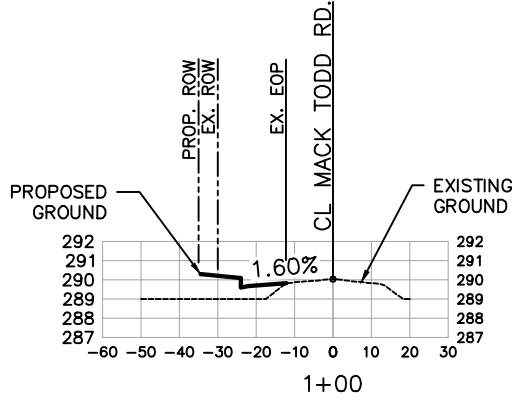
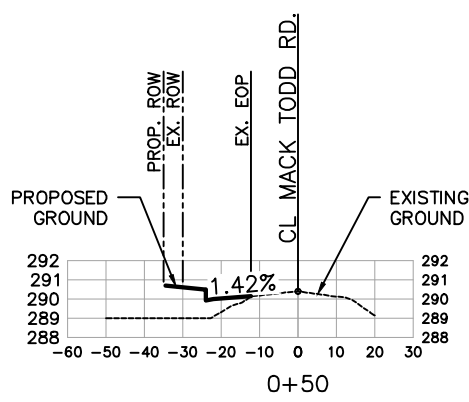
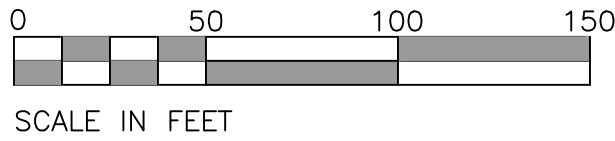
901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 04 FEB 2025

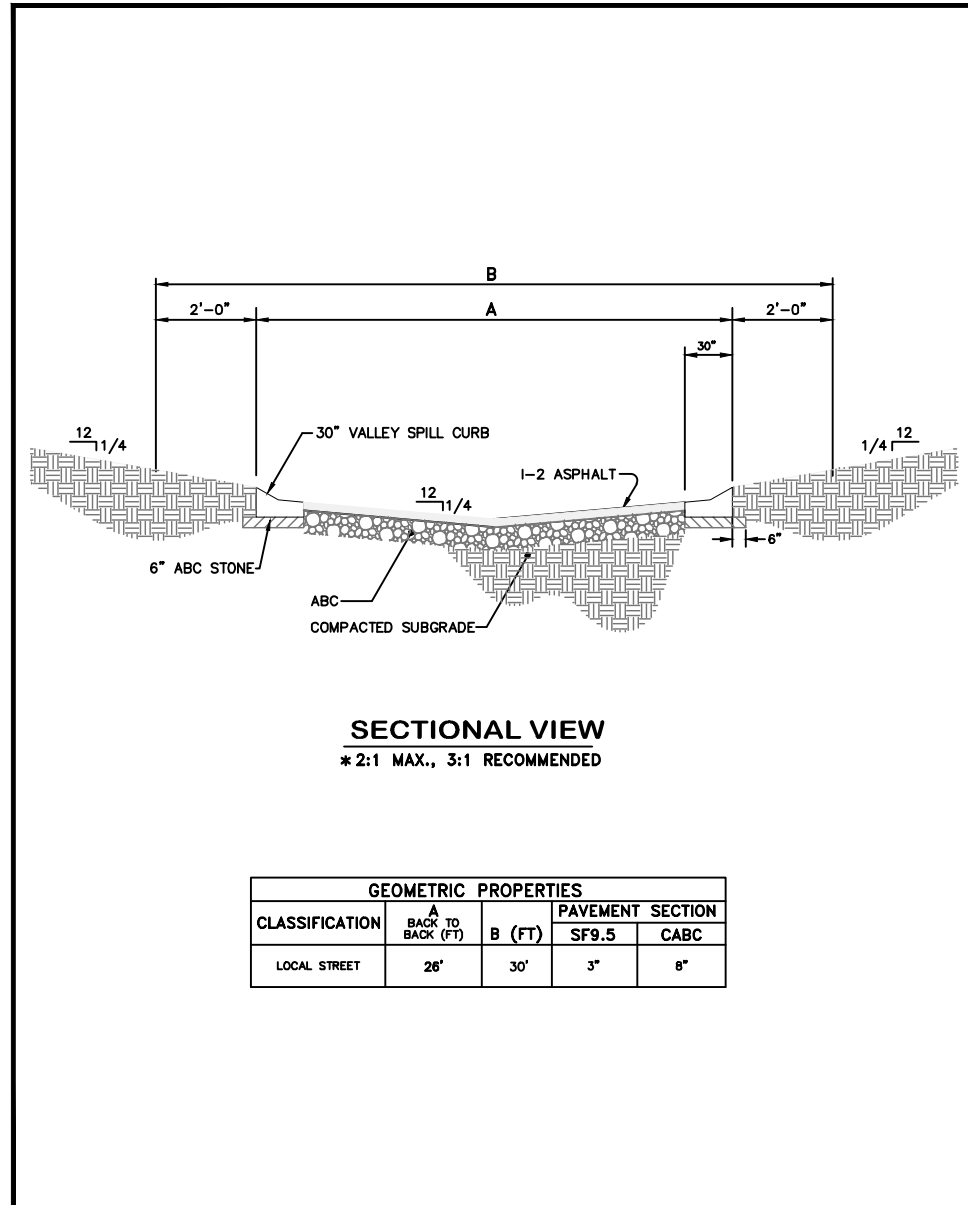
REVISIONS:

DRAWN BY: MLS  
CHECKED BY: MLS  
PROJECT: CPMTRZ

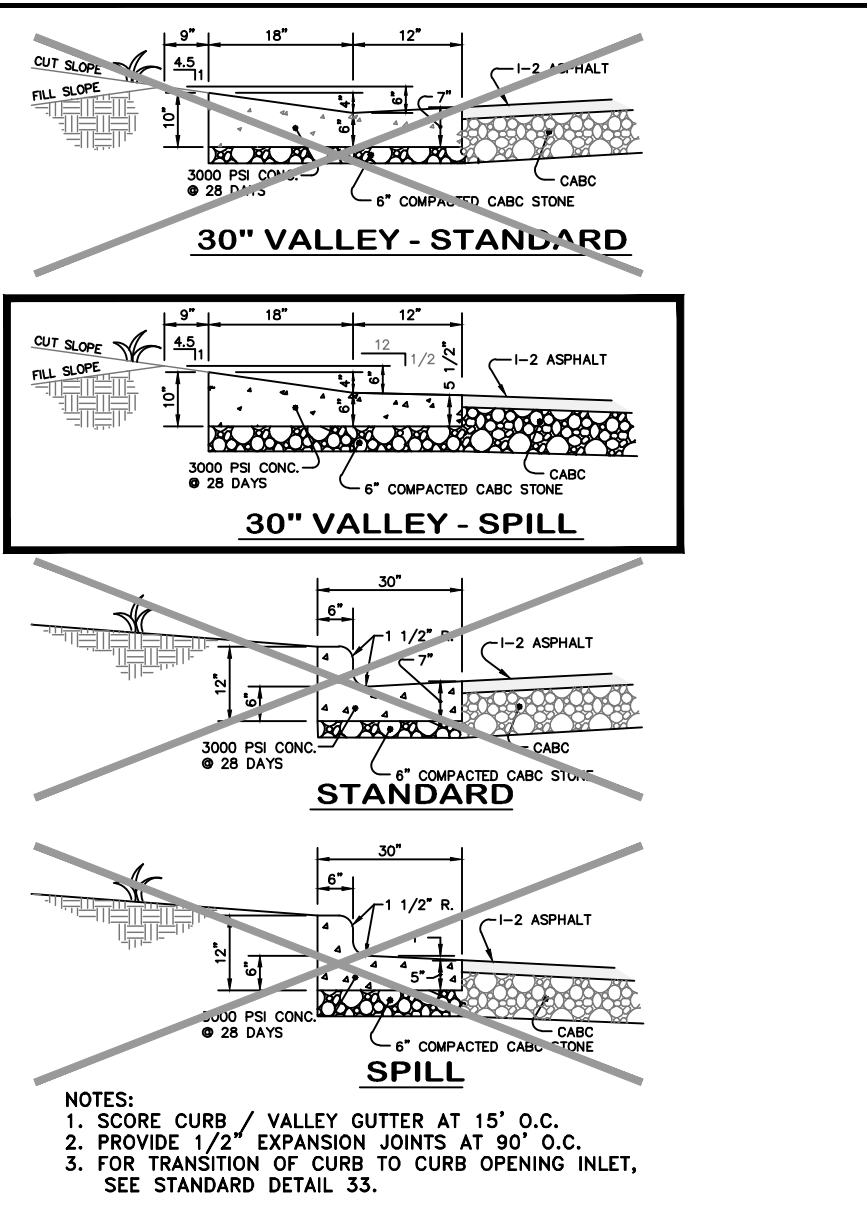
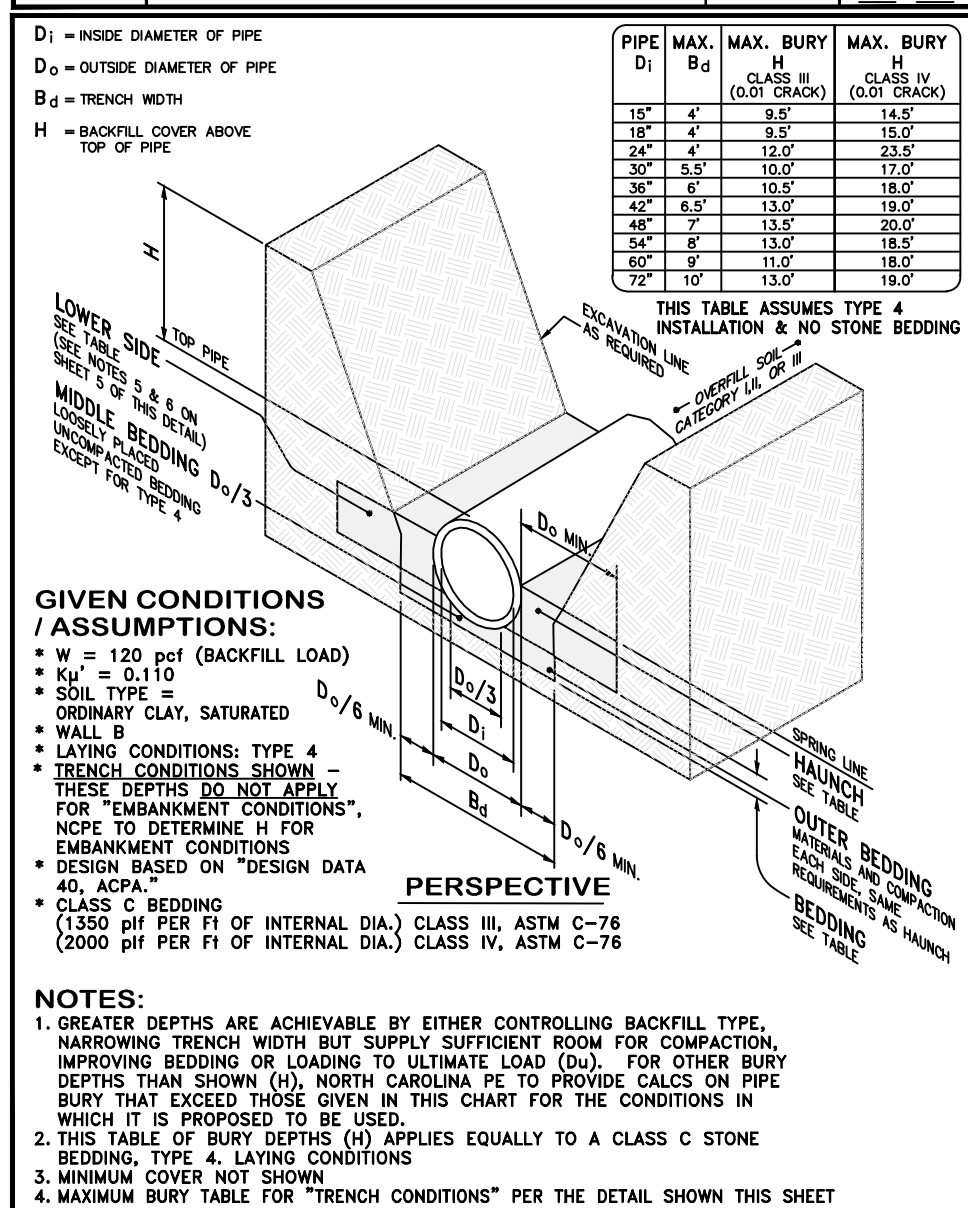
MACK TODD ROAD  
CROSS SECTIONS



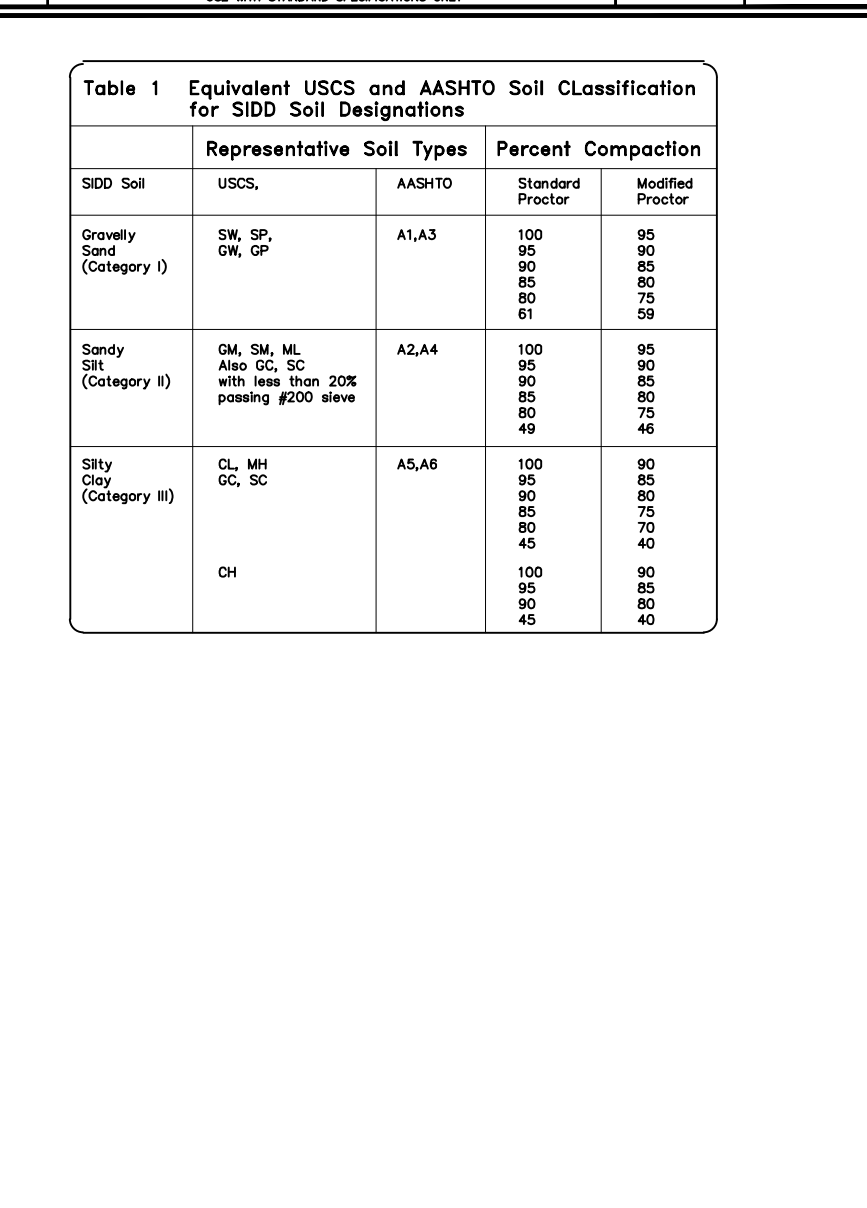




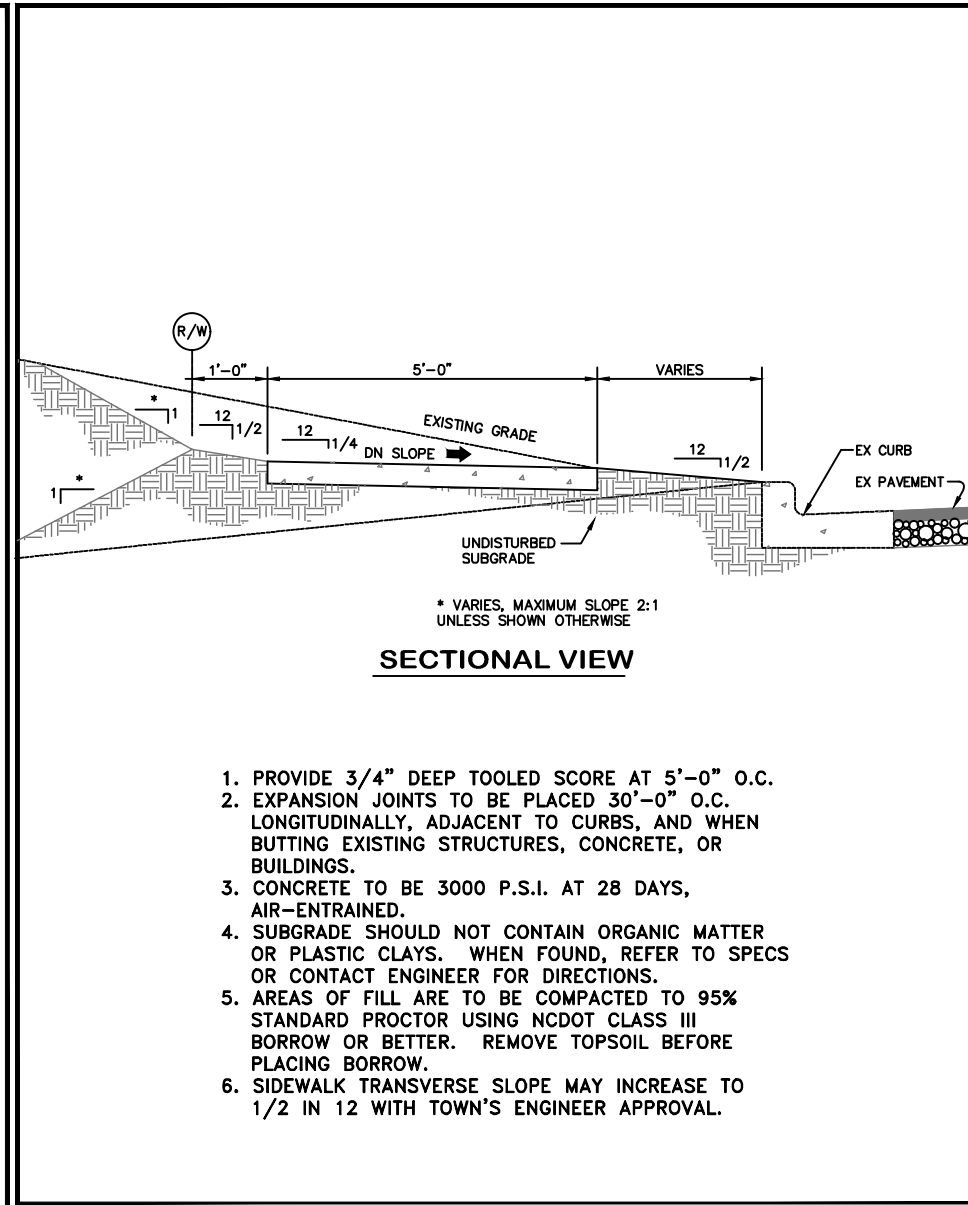
TYPICAL CURB & GUTTER STREET SECTION	SCALE: NOT TO SCALE	DETAIL # 3
DATE: JULY 2010	SHEET # 1 OF 1	



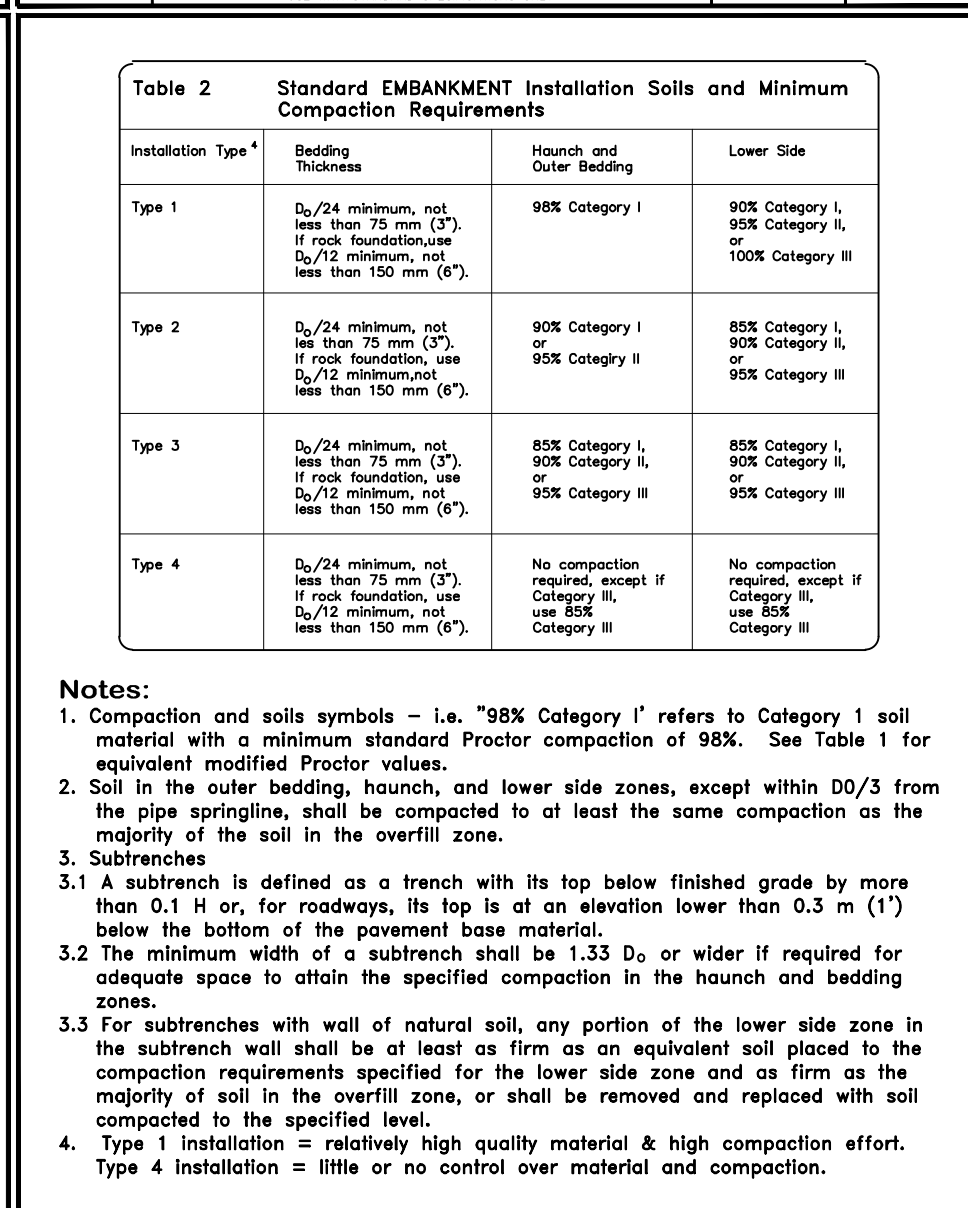
TOWN OF ZEBULON STD. CURB & GUTTER & VALLEY GUTTER DETAIL	SCALE: NOT TO SCALE	DETAIL # 3
DATE: JULY 2010	SHEET # 1 OF 1	



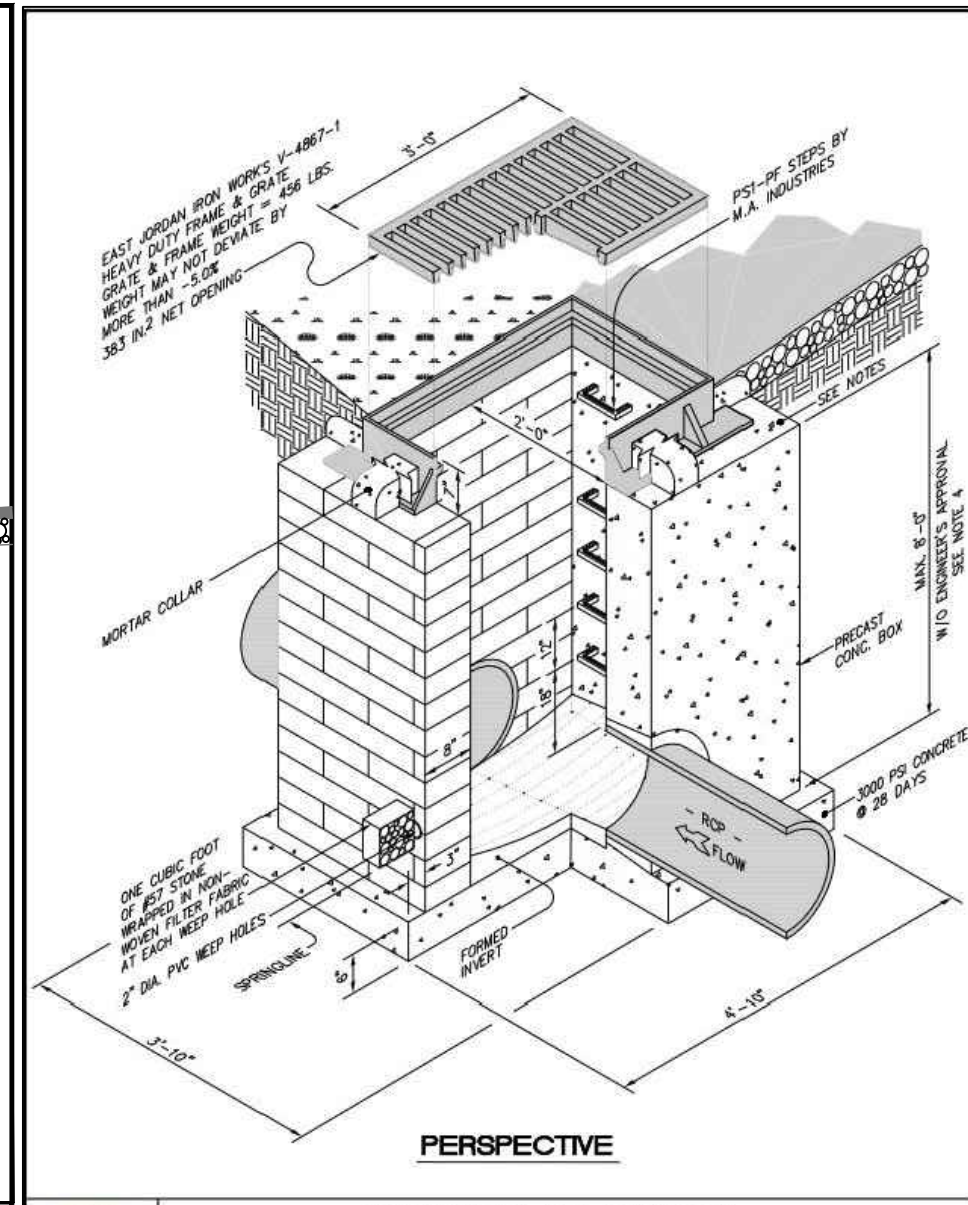
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DATE: JULY 2010	SHEET # 3 OF 3	



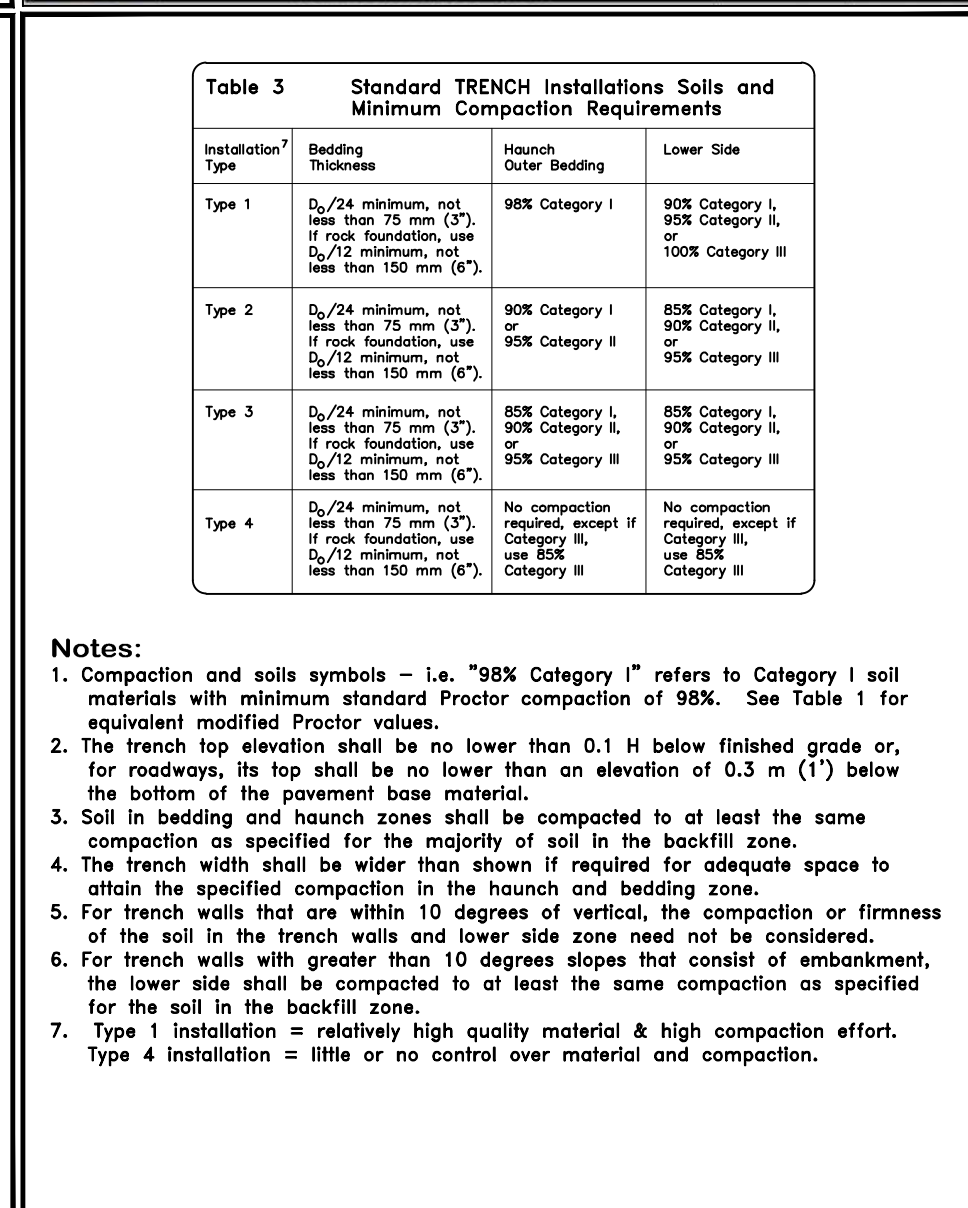
TOWN OF ZEBULON TYP SIDEWALK in CUT or FILL SECTIONS	SCALE: NOT TO SCALE	DETAIL # 13
DATE: JULY 2010	SHEET # 1 OF 1	



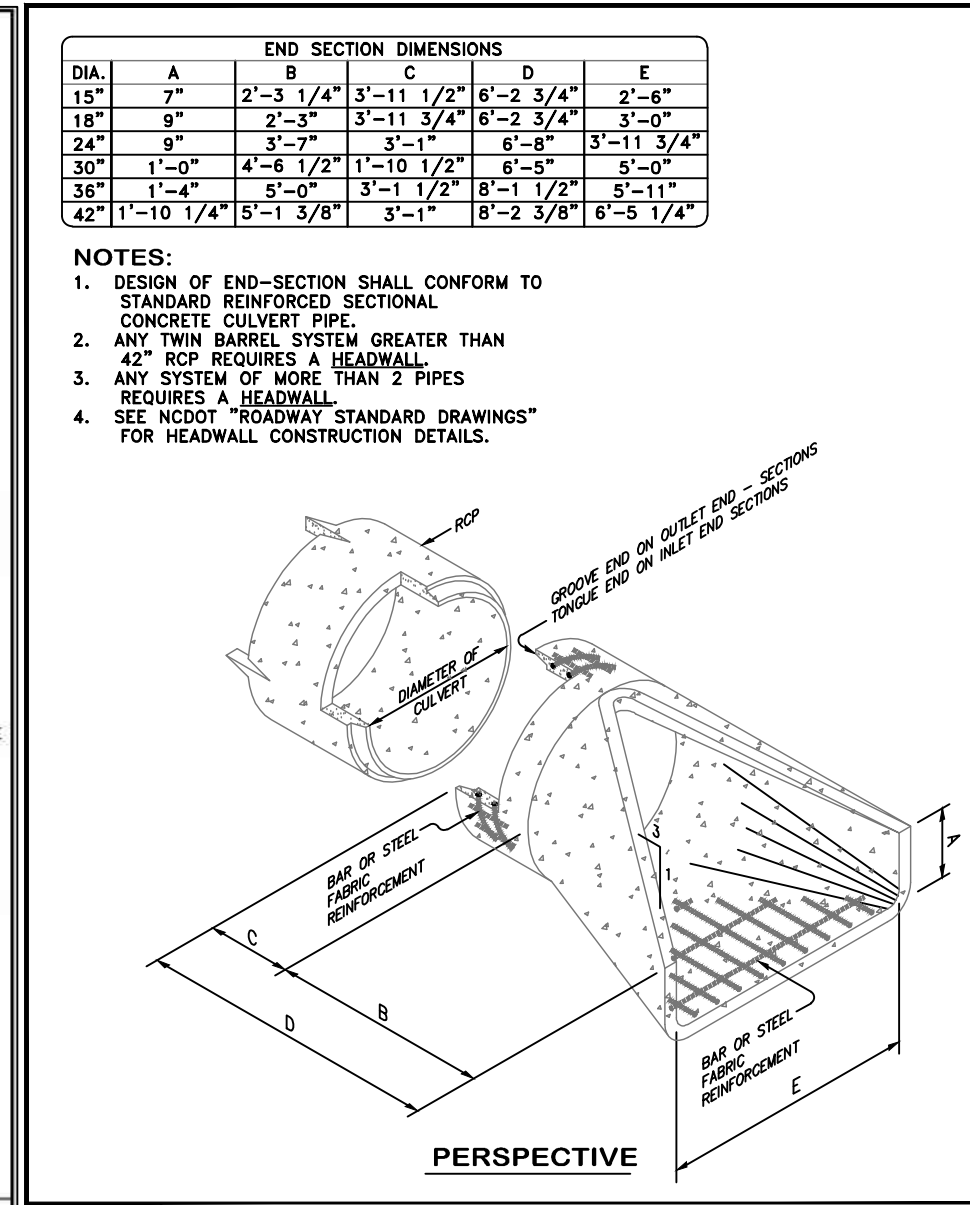
TOWN OF ZEBULON STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)	SCALE: NOT TO SCALE	DETAIL # 3G
DATE: JULY 2010	SHEET # 4 OF 5	



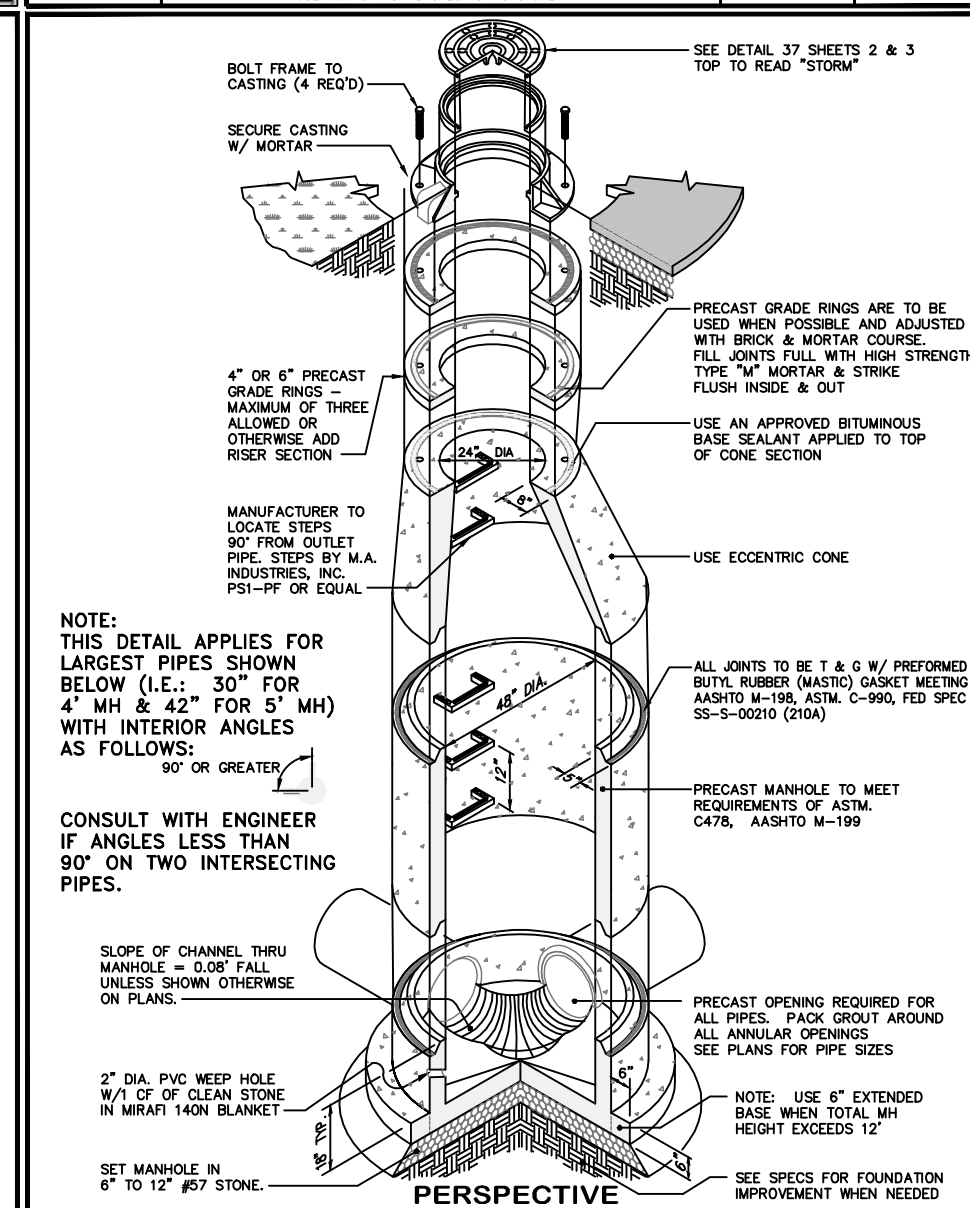
TOWN OF ZEBULON 2x3 DROP INLET	SCALE: NOT TO SCALE	DETAIL # 34
DATE: JULY 2010	SHEET # 1 OF 1	



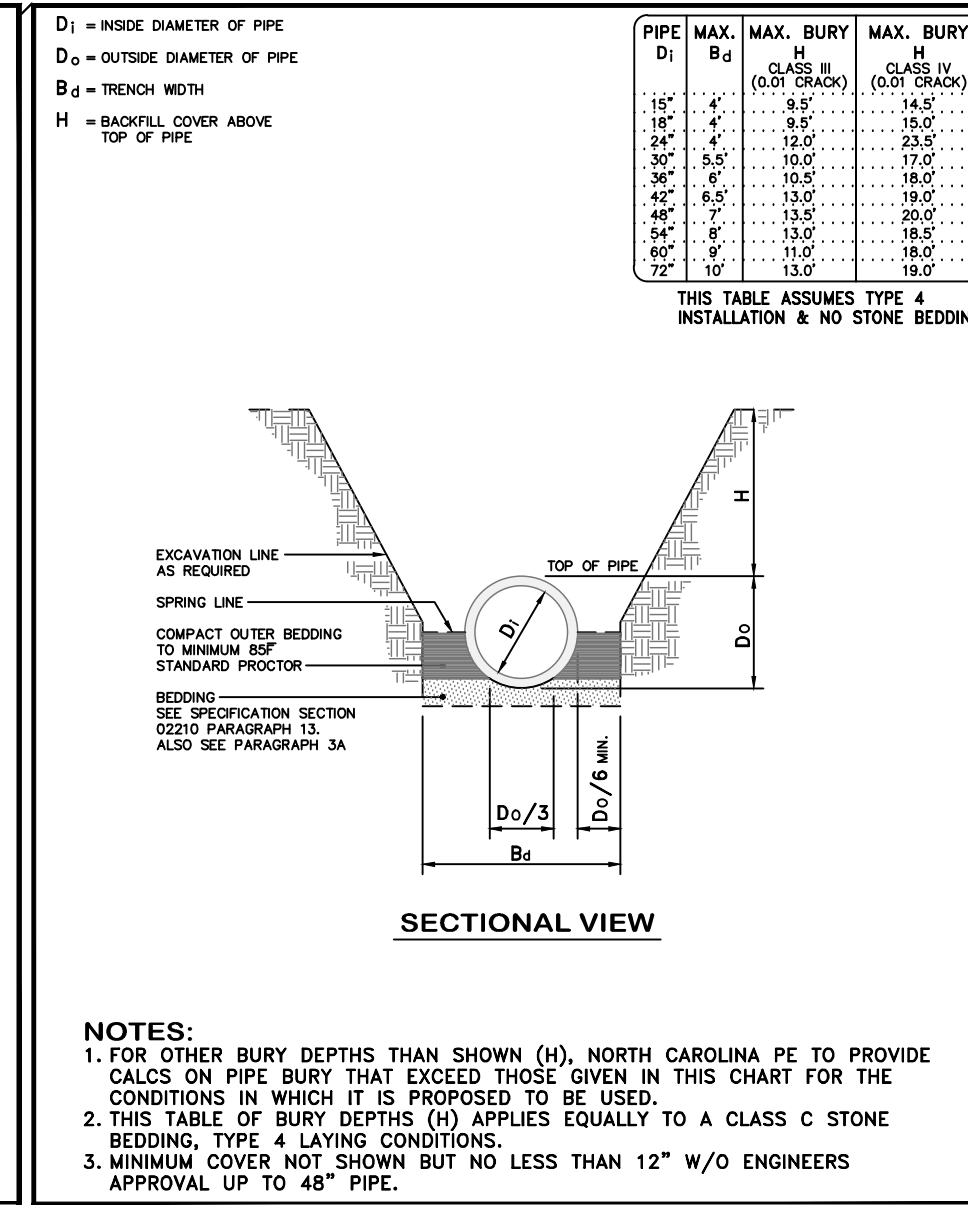
TOWN OF ZEBULON STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)	SCALE: NOT TO SCALE	DETAIL # 3G
DATE: JULY 2010	SHEET # 5 OF 5	



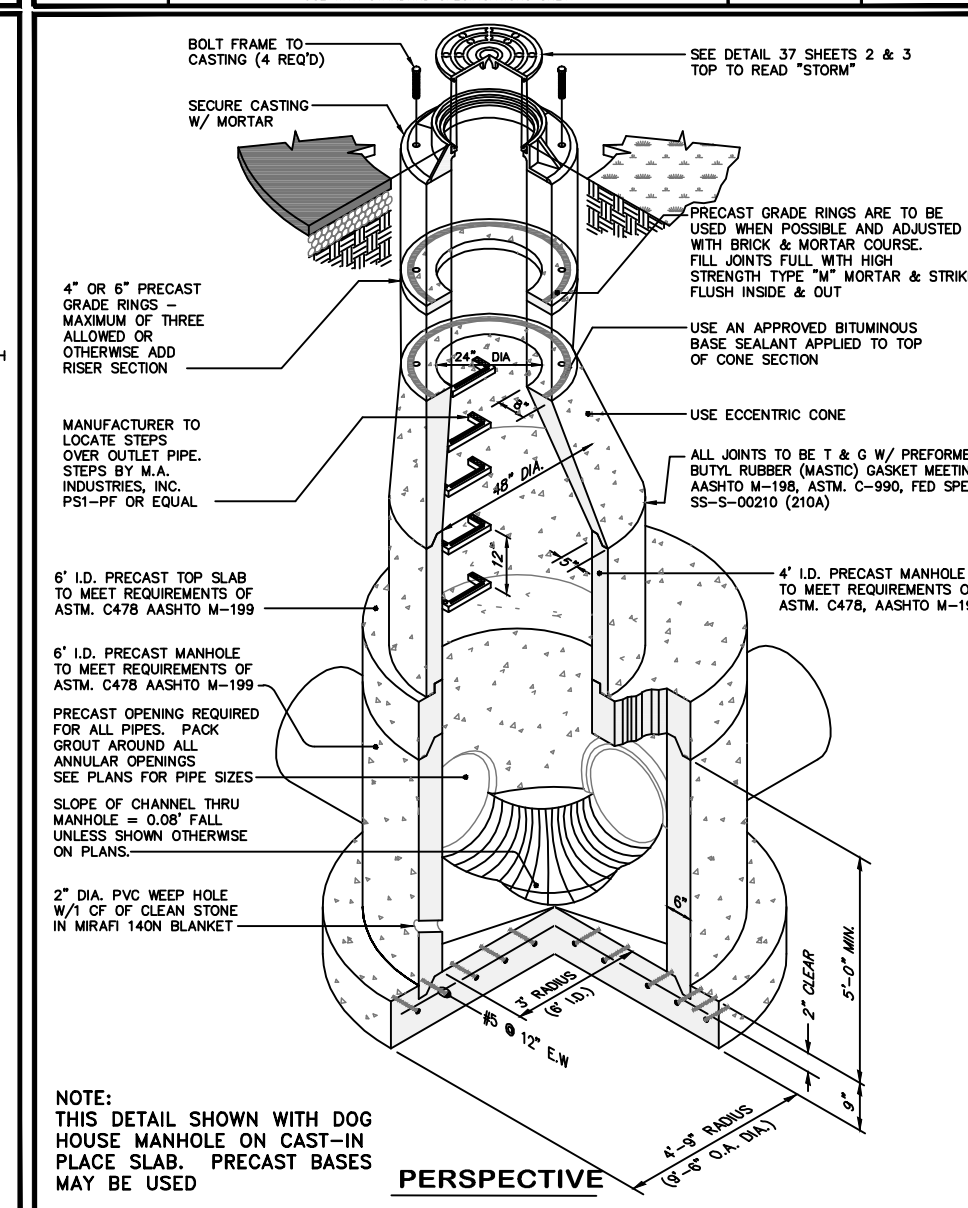
TOWN OF ZEBULON STD. FLARED END SECTIONS DESIGN AID DETAIL	SCALE: NOT TO SCALE	DETAIL # 35
DATE: JULY 2010	SHEET # 1 OF 1	



TOWN OF ZEBULON PRECAST CONCRETE 4' DIA. MH JB	SCALE: NOT TO SCALE	DETAIL # 40
DATE: JULY 2010	SHEET # 1 OF 1	



TOWN OF ZEBULON STD. TRENCH INSTALLATION FOR CONCRETE PIPE (FOR CONTRACTOR'S USE)	SCALE: NOT TO SCALE	DETAIL # 36
DATE: JULY 2010	SHEET # 1 OF 5	



TOWN OF ZEBULON PRECAST CONCRETE 6' DIA. MH JB	SCALE: NOT TO SCALE	DETAIL # 41
DATE: JULY 2010	SHEET # 1 OF 1	

**HEMNTIANDSIGN LLP**  
8522-204 SIX FORKS ROAD  
RALEIGH, NORTH CAROLINA 27615  
919.845.7600 PHONE  
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ENGR. FIRM LICENSE NO. F-0843

**SEAL**  
050856  
MICHAEL SCHMIDT  
05/23/25

**MADISON RIDGE TOWNHOMES**  
901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA

ISSUED: 04 FEB 2025

REVISIONS:
06 MAY 2025
23 MAY/COUNTY COMMENTS
23 MAY 2025
PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS  
PROJECT: CPMTRZ

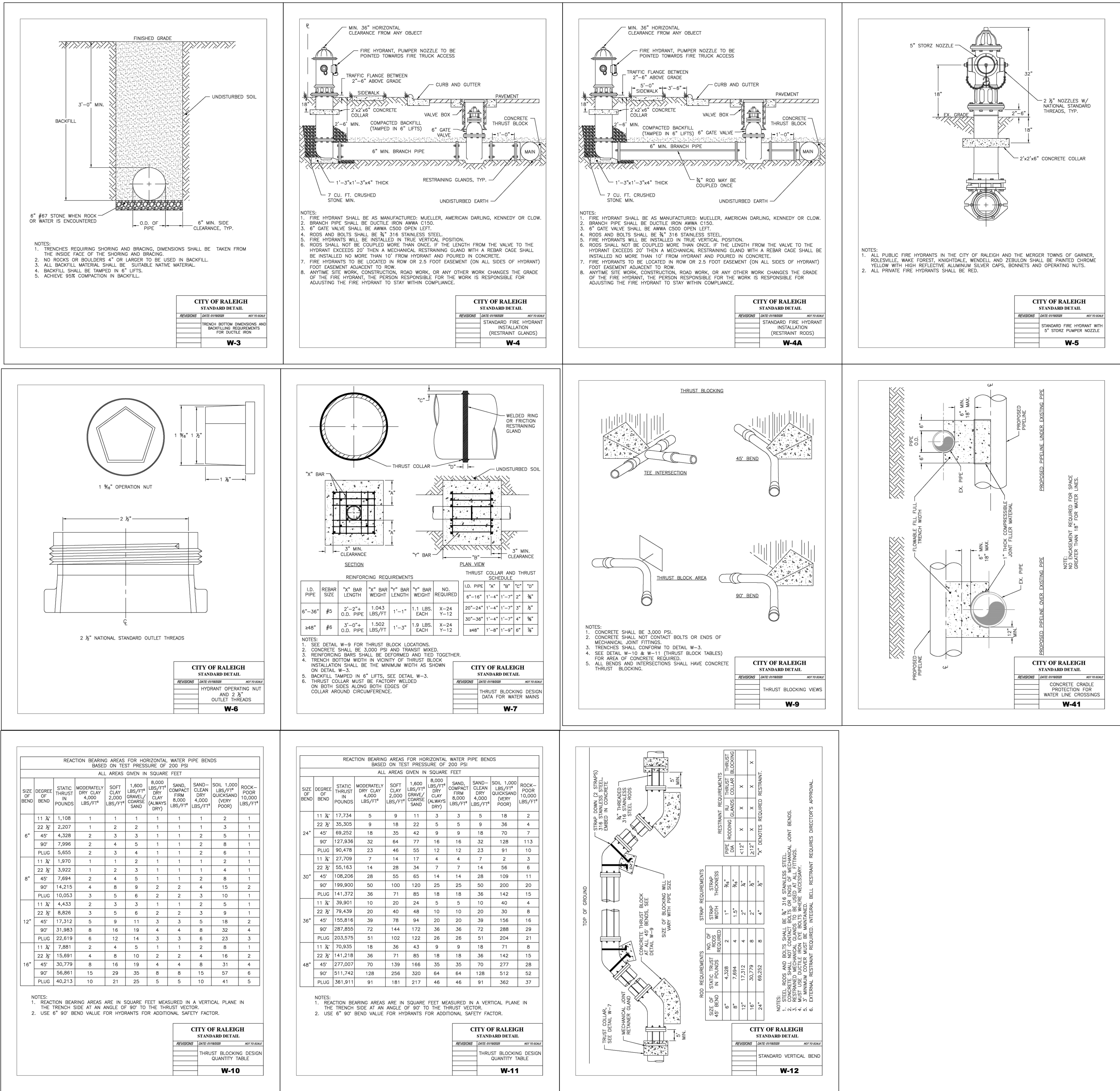
DETAILS

DWG. NO. SITE 12











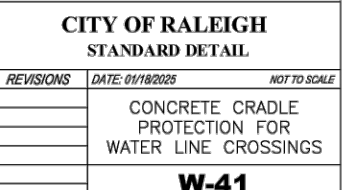
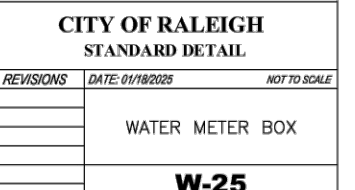
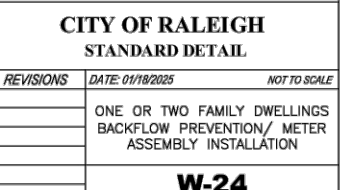
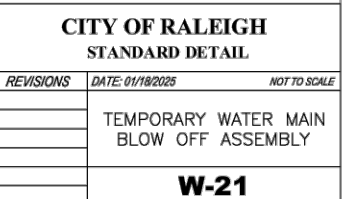
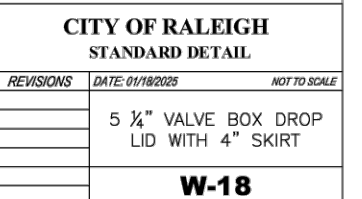
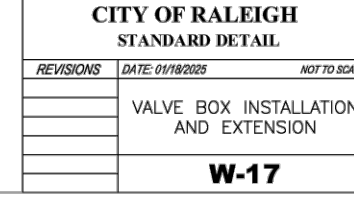
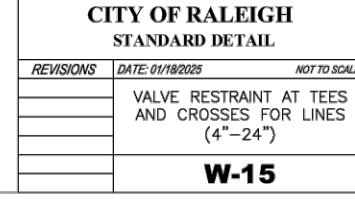
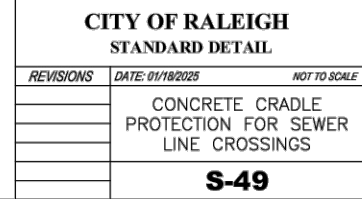
**901 MACK TODD ROAD  
ZEBULON, NORTH CAROLINA**

PER TOWN/COUNTY COMMENTS

2 23 MAY 2025

PER TOWN/COUNTY COMMENTS

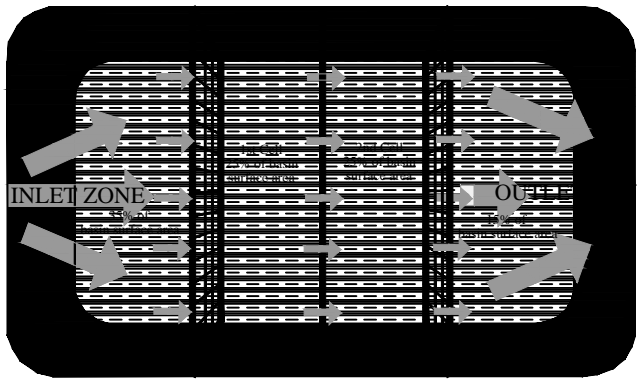
## DETAILS

DWG. NO. **SITE 15**

PUBLIC UTILITIES

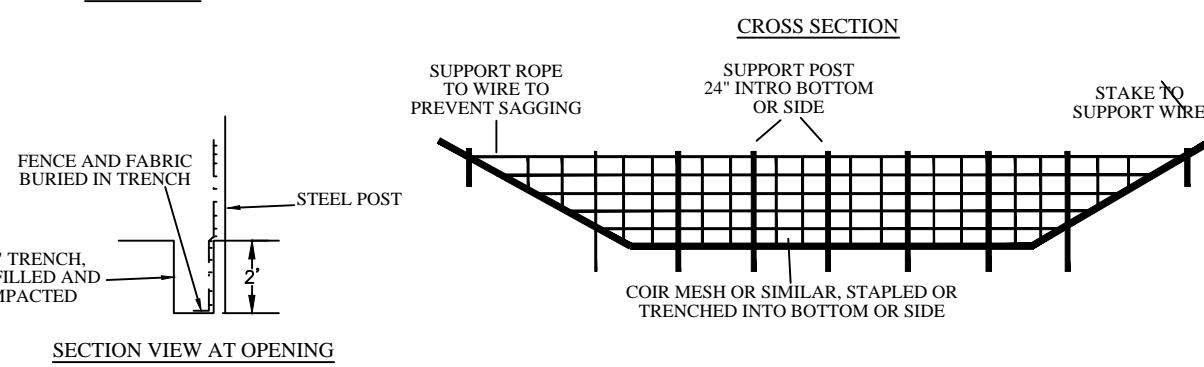


EFFECTIVE: 01/31/08



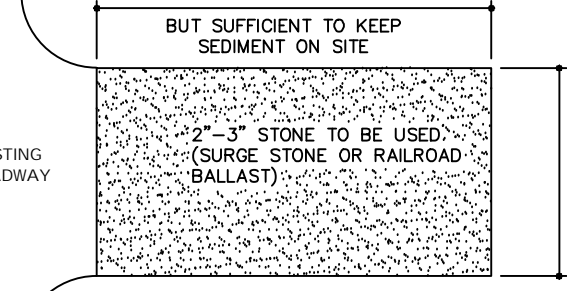
- NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCING AS FOR SILT FENCE.
  2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
  3. PROVIDE 5 BAFFLES USE TWO IF LESS THAN 30 FEET IN LENGTH. PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
  4. BAFFLE SHALL BE 70 GALS CORE EROSION BLANKET.
  5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.

- MAINTENANCE NOTES:
1. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH 1" RAINFALL.
  2. MAINTAIN ACCESS TO BAFFLES AND MAKE ANY REPAIRS IMMEDIATELY.
  3. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL.
  4. AVOID DAMAGING BAFFLES DURING CLEANOUT AND REPLACE IF DAMAGED.
  5. REMOVE BAFFLES AND SEDIMENT DEPOSITS AFTER CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.



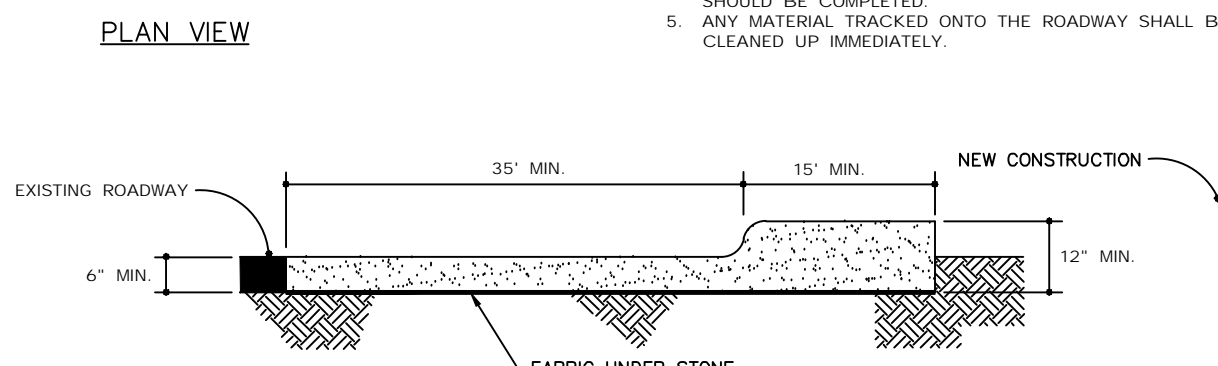
STANDARD BAFFLES DETAIL

EFFECTIVE: 01/31/08



- NOTES:
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
  2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

- MAINTENANCE NOTES:
1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO ADJACENT ROADWAYS.
  2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
  3. REPLENISHMENT OF STONE MAY BE NECESSARY.
  4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
  5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.



STANDARD CONSTRUCTION ENTRANCE

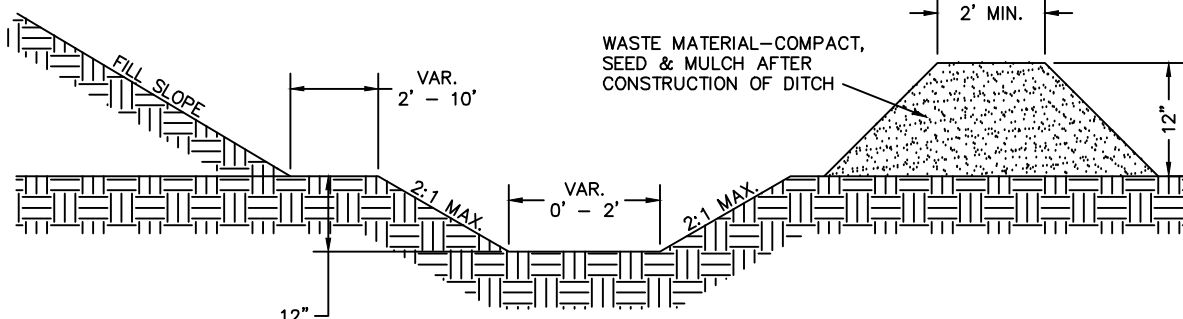
EFFECTIVE: 01/31/08

NOTES:

1. TEMPORARY DIVERSION DITCH TO BE USED TO INTERCEPT FLOW AND/OR DIVERT TO A SEDIMENT CONTROL MEASURE OR BMP.
2. STABILIZE DIVERSION DITCH BERM WITH TEMPORARY SEEDING, MULCH WITH TAC, AND/OR EROSION CONTROL NETTING.

MAINTENANCE NOTES:

1. INSPECT ONCE A WEEK AND AFTER EVERY 1" RAINFALL.
2. SILT SHALL BE REMOVED WHEN DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.
4. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
5. AFTER DRAINAGE AREA IS PERMANENTLY STABILIZED, PLACE WASTE MATERIAL IN DITCH TO BLEND WITH NATURAL GROUND AND STABILIZE.

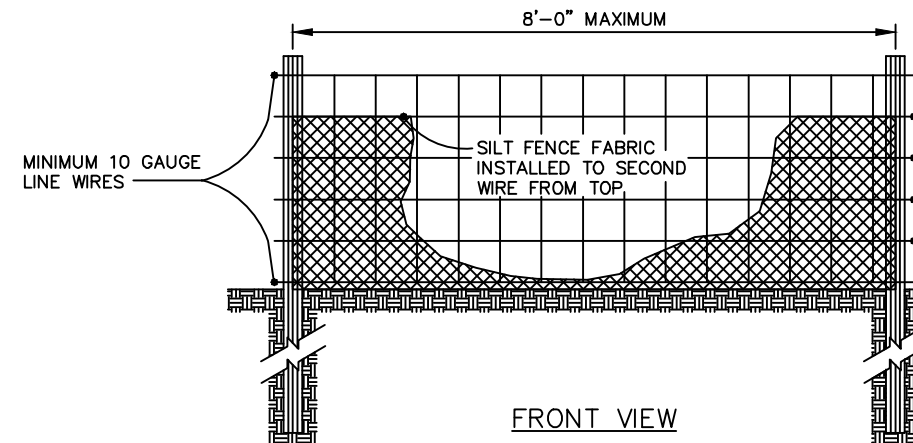


CROSS SECTIONAL VIEW

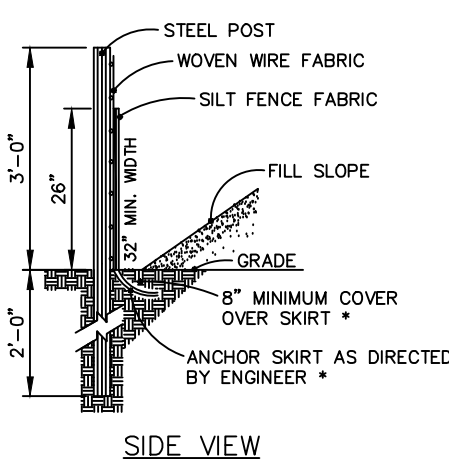


STANDARD TEMPORARY DIVERSION DITCH

EFFECTIVE: 01/31/08



FRONT VIEW



SIDE VIEW

- MAINTENANCE NOTES:
1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER. OVER A 24-HOUR PERIOD, MAKE ANY REPAIRS IMMEDIATELY.
  2. INSPECT THE SILT FENCE TO BE SURE THE BOTTOM OF THE GEOTEXTILE IS KEPT IN PROPERLY.
  3. AT A MINIMUM, REMOVE AND DISPOSE OF ALL SILT ACCUMULATIONS WHEN DEPTH REACHES 1/2 THE HEIGHT OF THE GEOTEXTILE. DO NOT UNDERMINE THE FENCE DURING CLEANOUT.
  4. DISPOSE OF SEDIMENT BY HAULING IT TO AN APPROVED WASTE SITE WITH APPROPRIATE PERMETER PROTECTION.
  5. REMOVE AND REPLACE DETERIORATED OR CLOGGED SILT FENCE.
  6. REPLACE SILT FENCE REMOVED FOR ACCESS AT THE END OF EACH DAY'S OPERATION.
  7. INSTALL ADDITIONAL POSTS OR WIRE BACKING IF FENCE IS SAGGING.



STANDARD TEMPORARY SILT FENCE

EFFECTIVE: 01/31/08

### MMF RIPARIAN BUFFER MIX

Recommended application rate: 20 to 25 lbs. per acre (1 lb./2000 sq.ft.) – \$21.44 per pound

Species	Common Name	Percent
Agrostis hyemalis	Winter bentgrass	0.5%
Agrostis perennans	Upland bentgrass	0.5%
Andropogon gerardii	Big bluestem	15.0%
Andropogon virginicus	Broomsedge	0.5%
Coleaetania anceps	Beaked panicgrass	1.0%
Coreopsis lanceolata	Lanceleaf coreopsis	1.0%
Dichanthelium dichotomiflorum	Fall panicgrass	0.5%
Elymus virginicus	Virginia wildrye	34.0%
Juncus effusus	Soft rush	0.5%
Panicum virgatum	Switchgrass	13.0%
Pycnanthemum tenuifolium	Narrowleaf mountainmint	0.5%
Rudbeckia hirta	Blackeyed susan	0.5%
Schizachyrium scoparium	Little bluestem	10.0%
Solidago speciosa	Showy goldenrod	0.5%
Sorghastrum nutans	Indian grass	7.0%
Tradescantia subaspera	Zigzag spiderwort	1.0%
Tripsacum dactyloides	Eastern gamagrass	12.0%
Zizia aurea	Golden zizia	2.0%
		100%

- MAINTENANCE NOTES:
1. REMOVE SEDIMENT WHEN HALF HEIGHT OF STONE AND CLEAR HARDWARE OF DEBRIS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKING CARE NOT TO DAMAGE OR UNDERCUT HARDWARE DURING SEDIMENT REMOVAL.
  2. REPLACE STONE AS NEEDED.



STANDARD GRAVEL YARD INLET PROTECTION

EFFECTIVE: 01/31/08

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		100%

- MAINTENANCE NOTES:
1. REMOVE SEDIMENT WHEN HALF HEIGHT OF STONE AND CLEAR HARDWARE OF DEBRIS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKING CARE NOT TO DAMAGE OR UNDERCUT HARDWARE DURING SEDIMENT REMOVAL.
  2. REPLACE STONE AS NEEDED.



STANDARD GRAVEL YARD INLET PROTECTION

EFFECTIVE: 01/31/08

Species	Common Name	Percent
Agrostis hyemalis	Winter bentgrass	0.5%
Agrostis perennans	Upland bentgrass	0.5%
Andropogon gerardii	Big bluestem	15.0%
Andropogon virginicus	Broomsedge	0.5%
Coleaetania anceps	Beaked panicgrass	1.0%
Coreopsis lanceolata	Lanceleaf coreopsis	1.0%
Dichanthelium dichotomiflorum	Fall panicgrass	0.5%
Elymus virginicus	Virginia wildrye	34.0%
Juncus effusus	Soft rush	0.5%
Panicum virgatum	Switchgrass	13.0%
Pycnanthemum tenuifolium	Narrowleaf mountainmint	0.5%
Rudbeckia hirta	Blackeyed susan	0.5%
Schizachyrium scoparium	Little bluestem	10.0%
Solidago speciosa	Showy goldenrod	0.5%
Sorghastrum nutans	Indian grass	7.0%
Tradescantia subaspera	Zigzag spiderwort	1.0%
Tripsacum dactyloides	Eastern gamagrass	12.0%
Zizia aurea	Golden zizia	2.0%
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EFFECTIVE: 01/31/08

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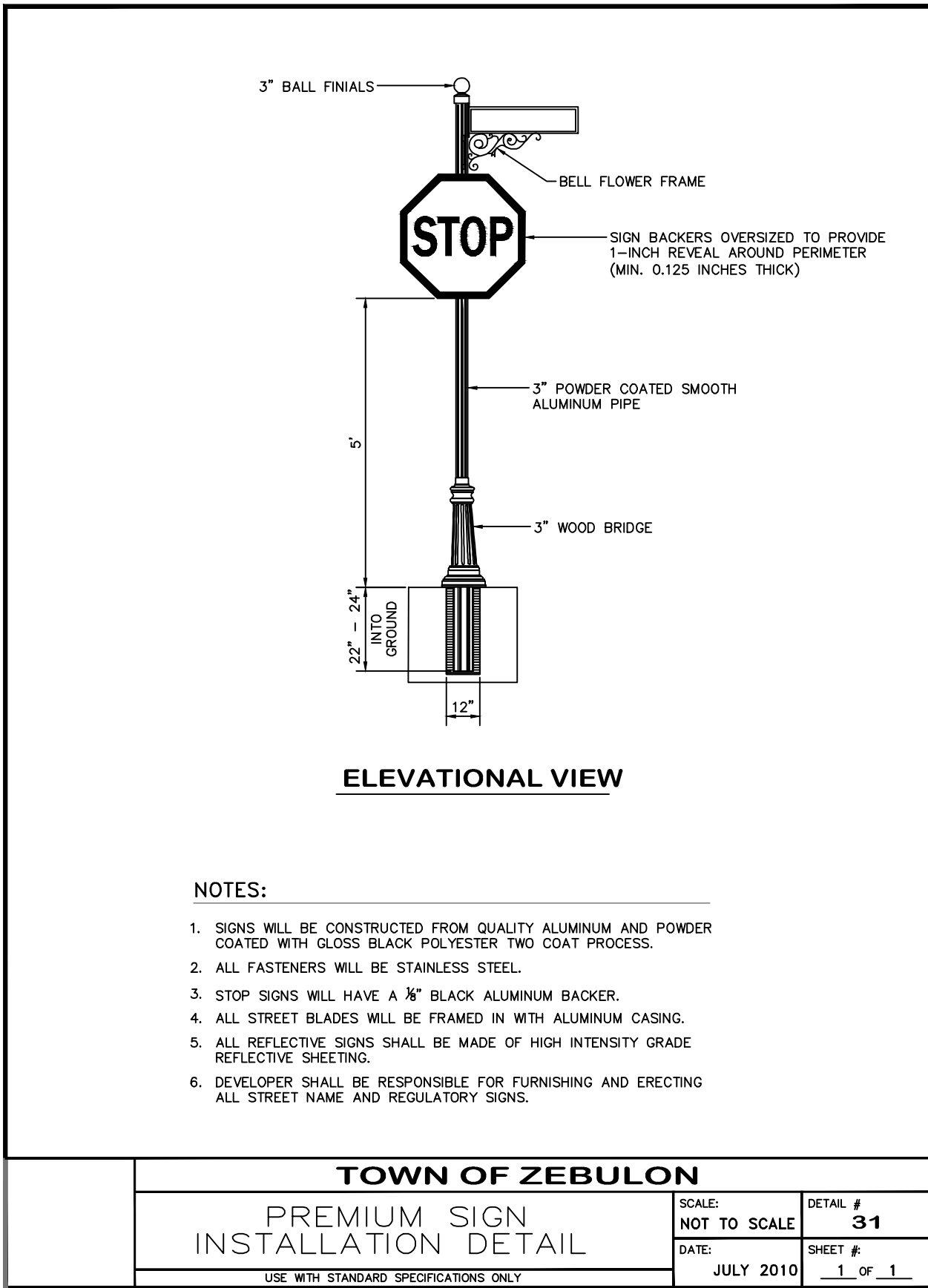
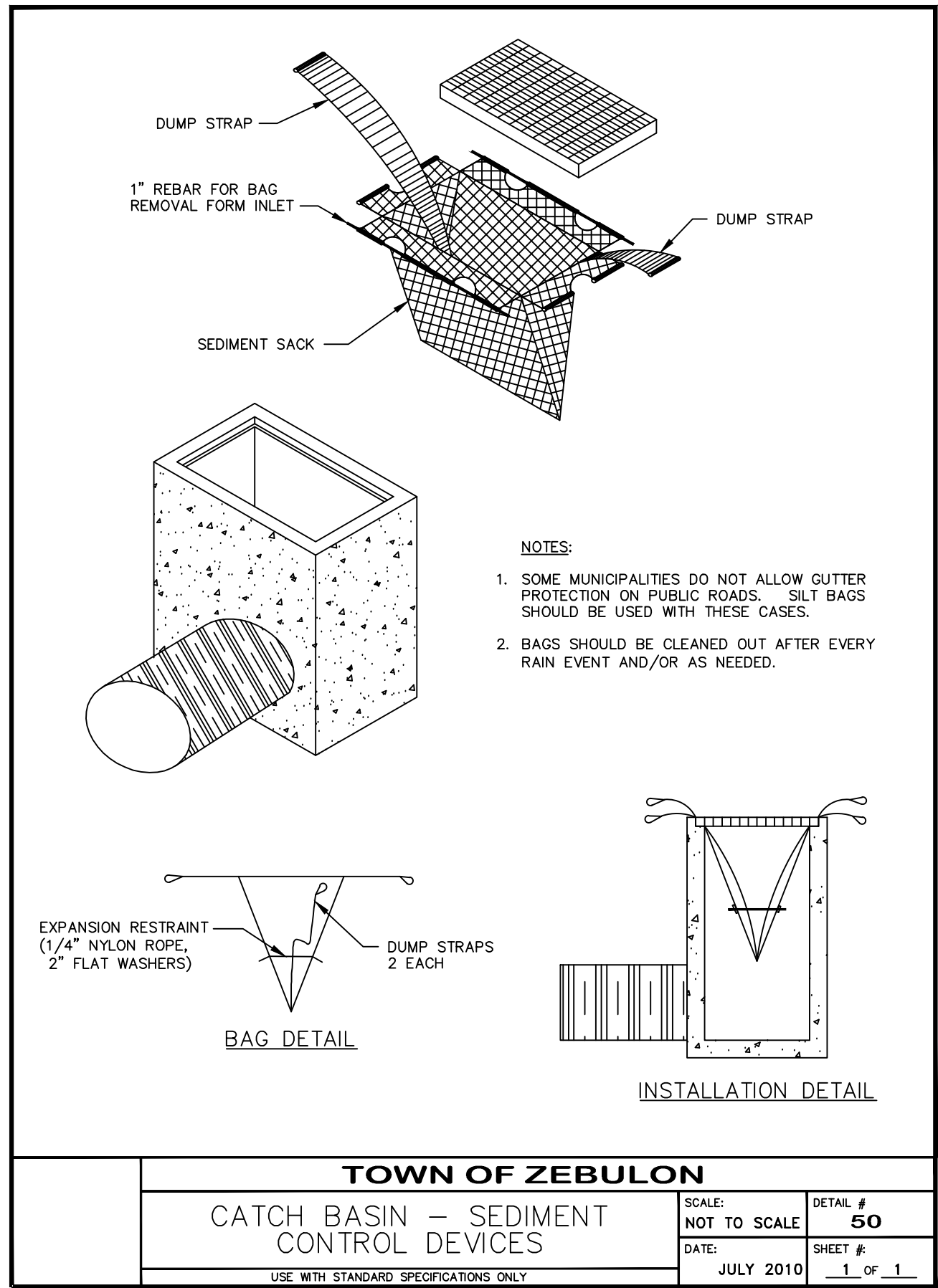


STANDARD GRAVEL YARD INLET PROTECTION

EFFECTIVE: 01/31/08

MMF RIPARIAN BUFFER MIX		
Recommended application rate: 20 to 25 lbs. per acre (1 lb./2000 sq.ft.) – \$21.44 per pound		
Species	Common Name	Percent
Agrostis hyemalis	Winter bentgrass	0.5%
Agrostis perennans	Upland bentgrass	0.5%
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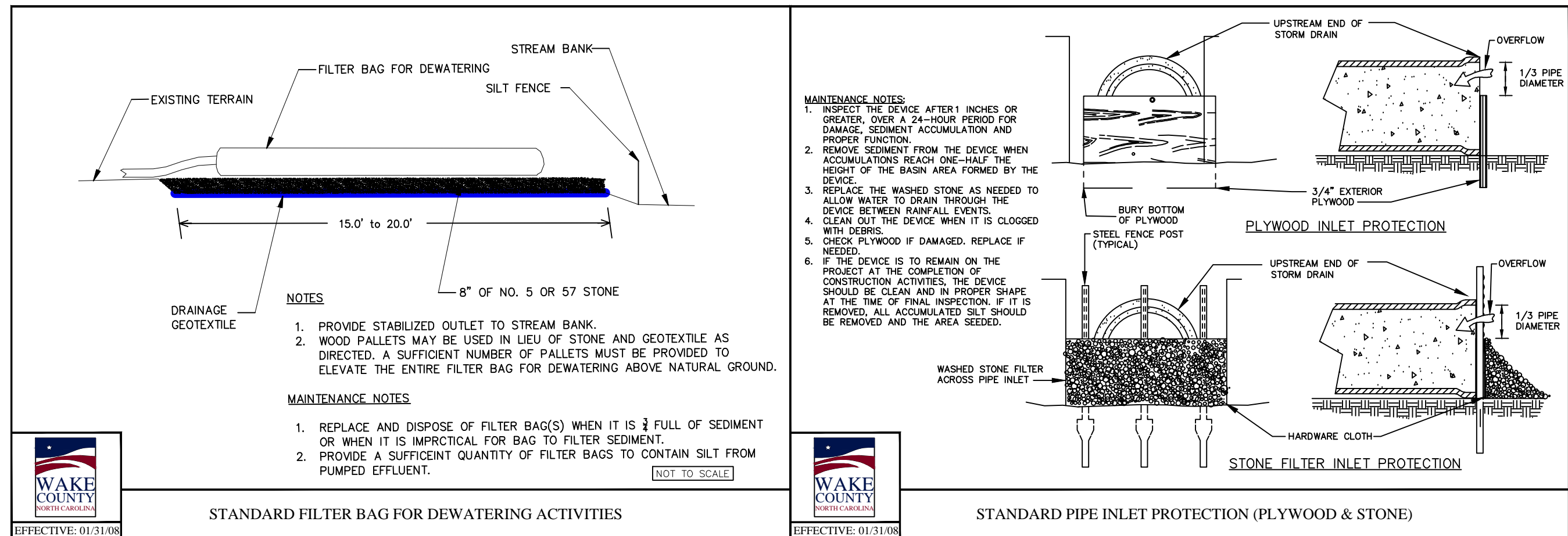
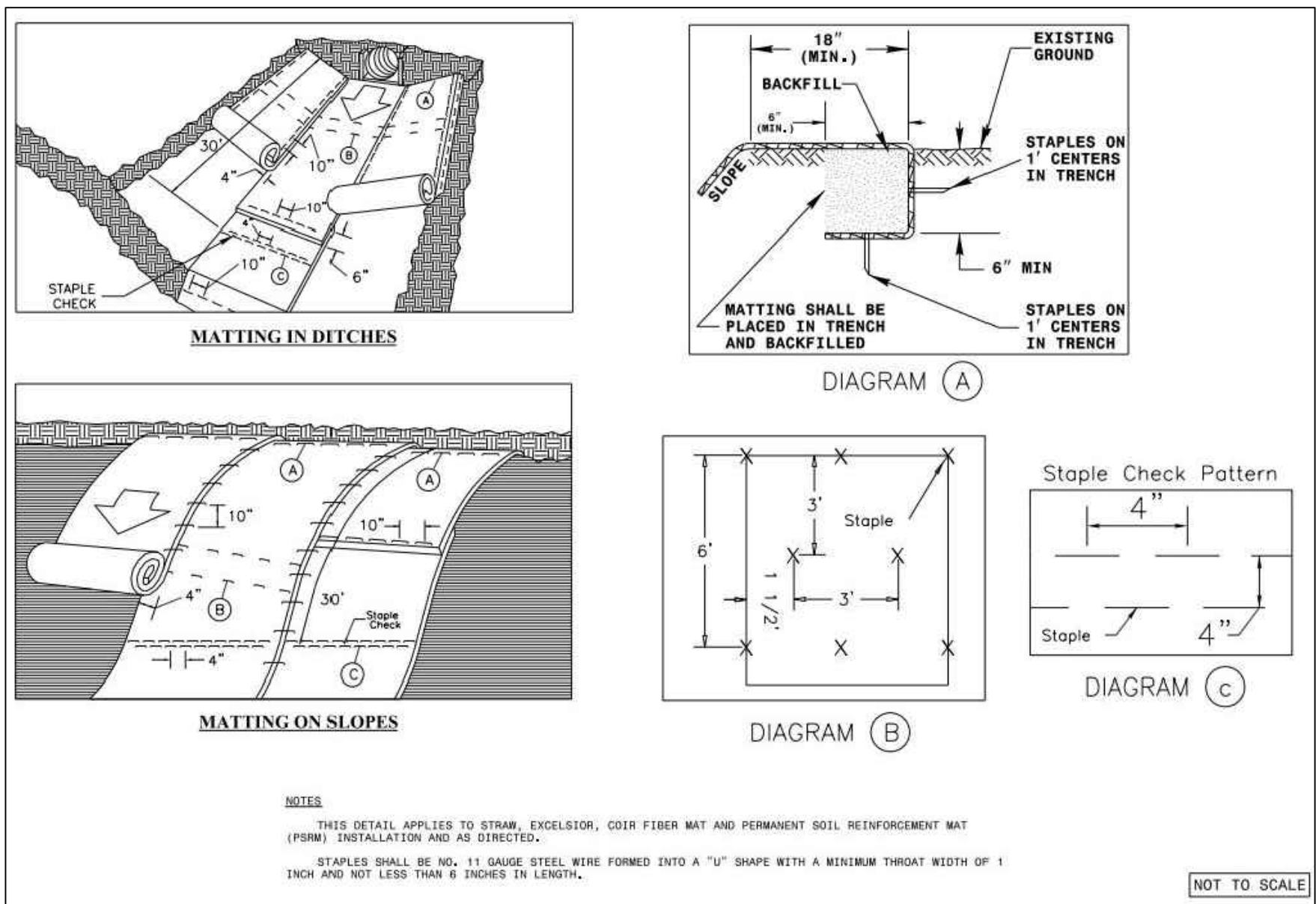
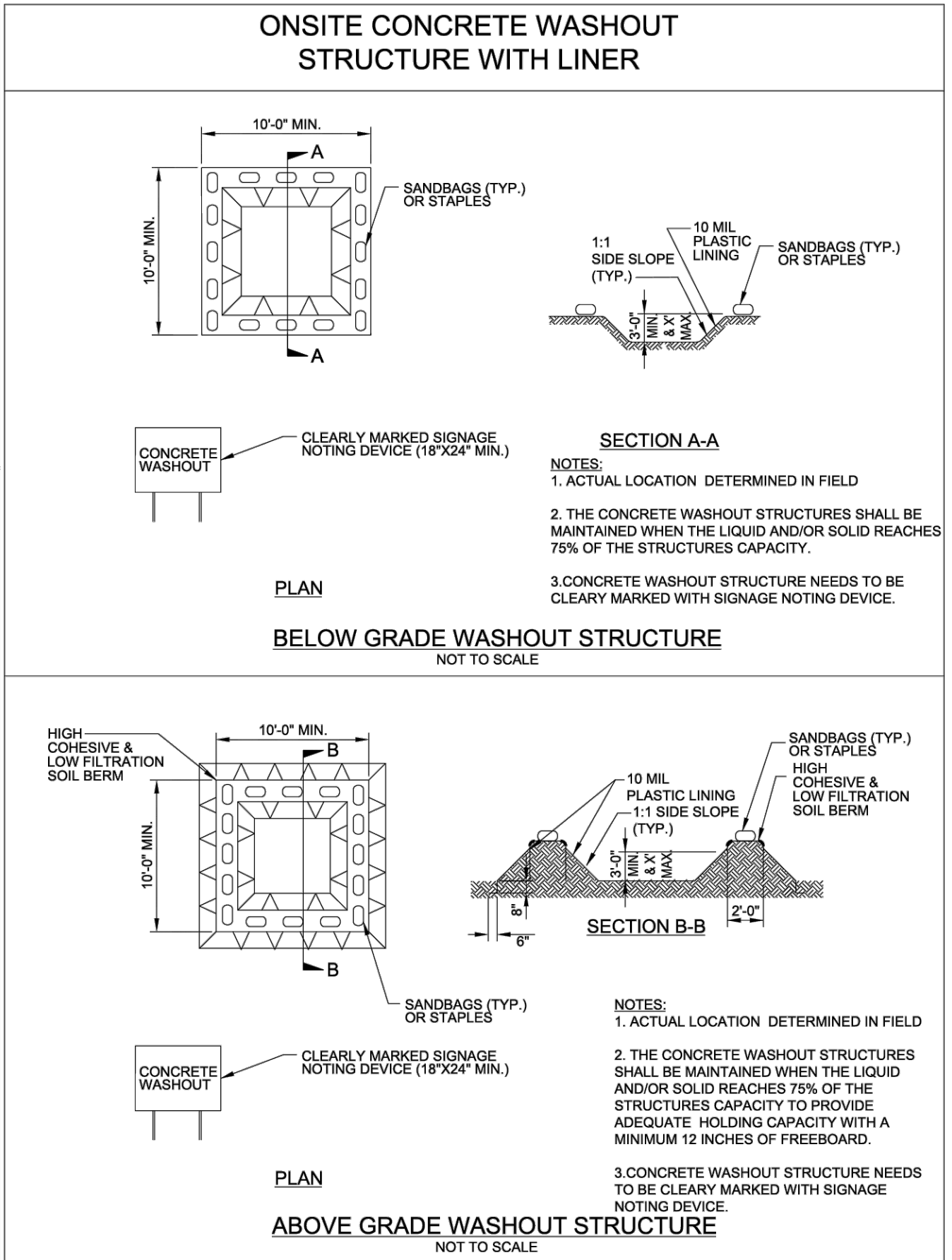
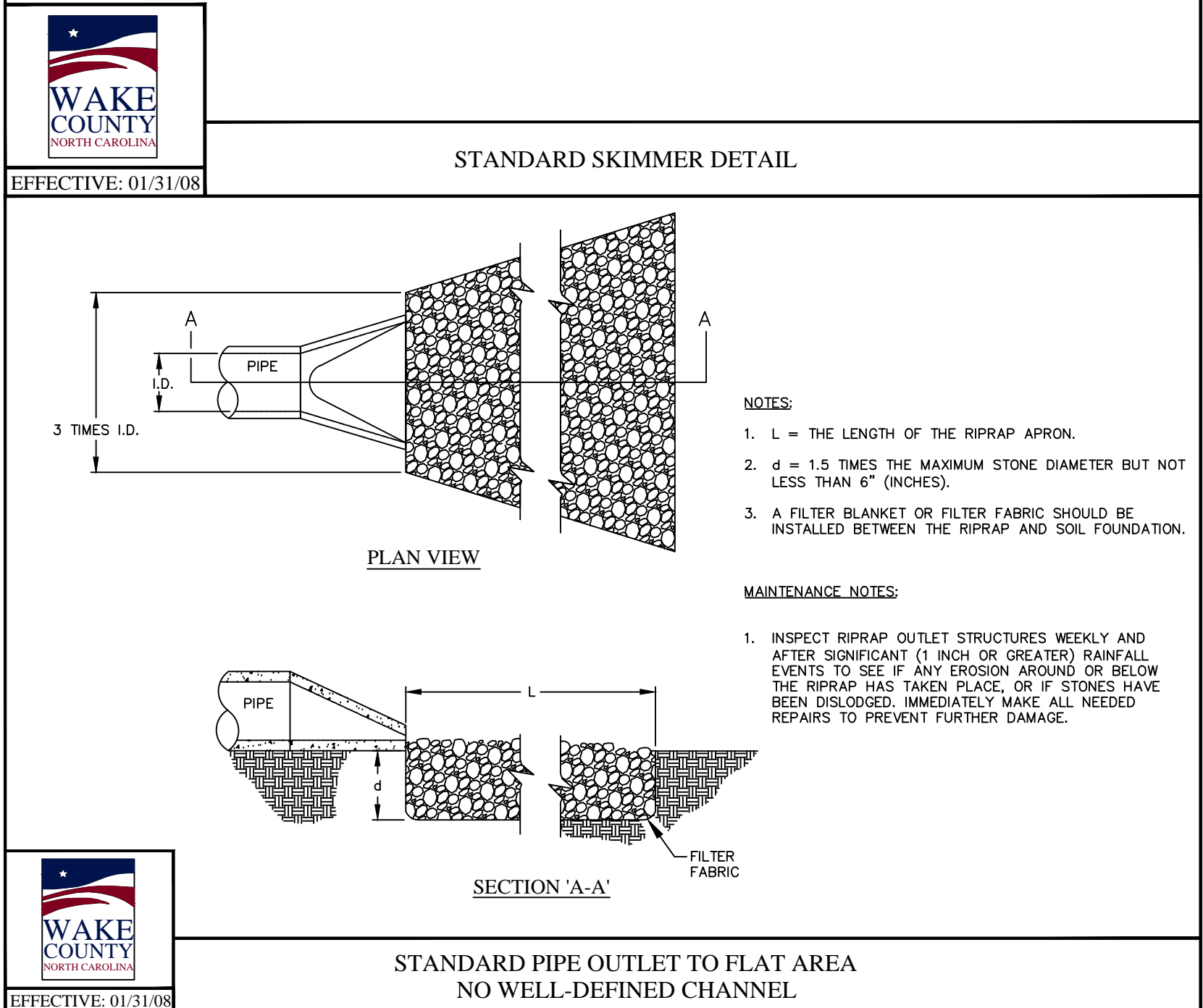
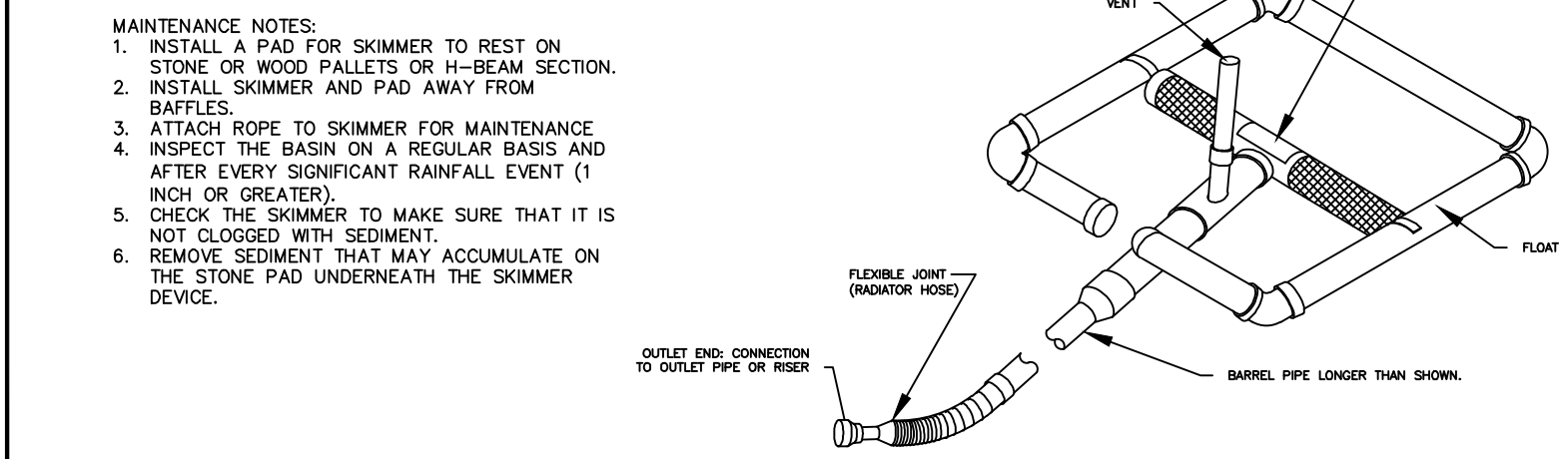




## Decorative Aluminum Poles with V-Loc®

When pairing decorative aluminum poles with TAPCO's V-Loc® anchors, you get both the ease of installation and the safety of an NCHRP 350 approved breakaway anchor system. V-Loc® is the state of the art, reusable breakaway anchor, allowing you to replace posts literally in minutes. It anchors posts for signs, mailboxes and other applications. The V-Loc® anchor socket can be installed in concrete, asphalt or dirt safely by one person in a matter of minutes either by hand or power driver. Once the V-Loc® anchor is installed, you simply insert your post and drive in the patented wedge, locking the post into the anchor without the need for any additional hardware. V-Loc fins require no concrete in soil. It's simple, solid and safe. Each V-Loc includes a locking wedge easily replaced after a vehicle impact. Other diameter post and ground settings are available.

23-VR1 for post with 2 3/8" O.D. (concrete)	034-00012
23-VR3 for post with 2 3/8" O.D. (soil)	034-00014
30-VR1 for post with 3" O.D. (concrete)	034-00116
30-VR3 for post with 3" O.D. (soil)	034-00002
40-VR1 for post with 4" O.D. (concrete)	034-00117
40-VR3 for post with 4" O.D. (soil)	106782





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**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	- 7 days for slopes greater than 50' in length and with slopes steeper than 4:1 - 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones - 10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	- 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones - 10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"><li>Temporary grass seed covered with straw or other mulches and tackifiers</li><li>Hydroseeding</li><li>Rolled erosion control products with or without temporary grass seed</li><li>Appropriately applied straw or other mulch</li><li>Plastic sheeting</li></ul>	<ul style="list-style-type: none"><li>Permanent grass seed covered with straw or other mulches and tackifiers</li><li>Geotextile fabrics such as permanent soil reinforcement matting</li><li>Hydroseeding</li><li>Shrubs or other permanent plantings covered with mulch</li><li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li><li>Structural methods such as concrete, asphalt or retaining walls</li><li>Rolled erosion control products with grass seed</li></ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

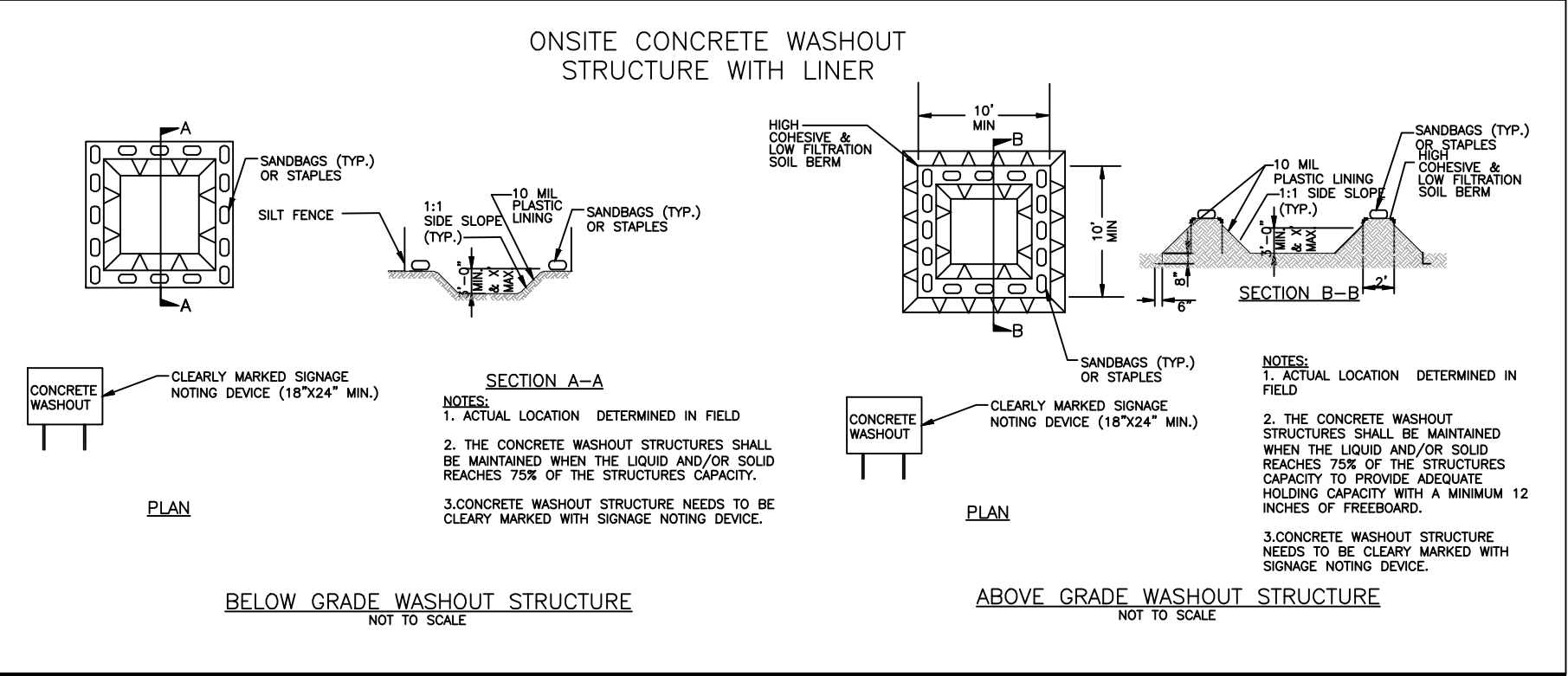
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



**CONCRETE WASHOUTS**

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

**HERBICIDES, PESTICIDES AND RODENTICIDES**

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

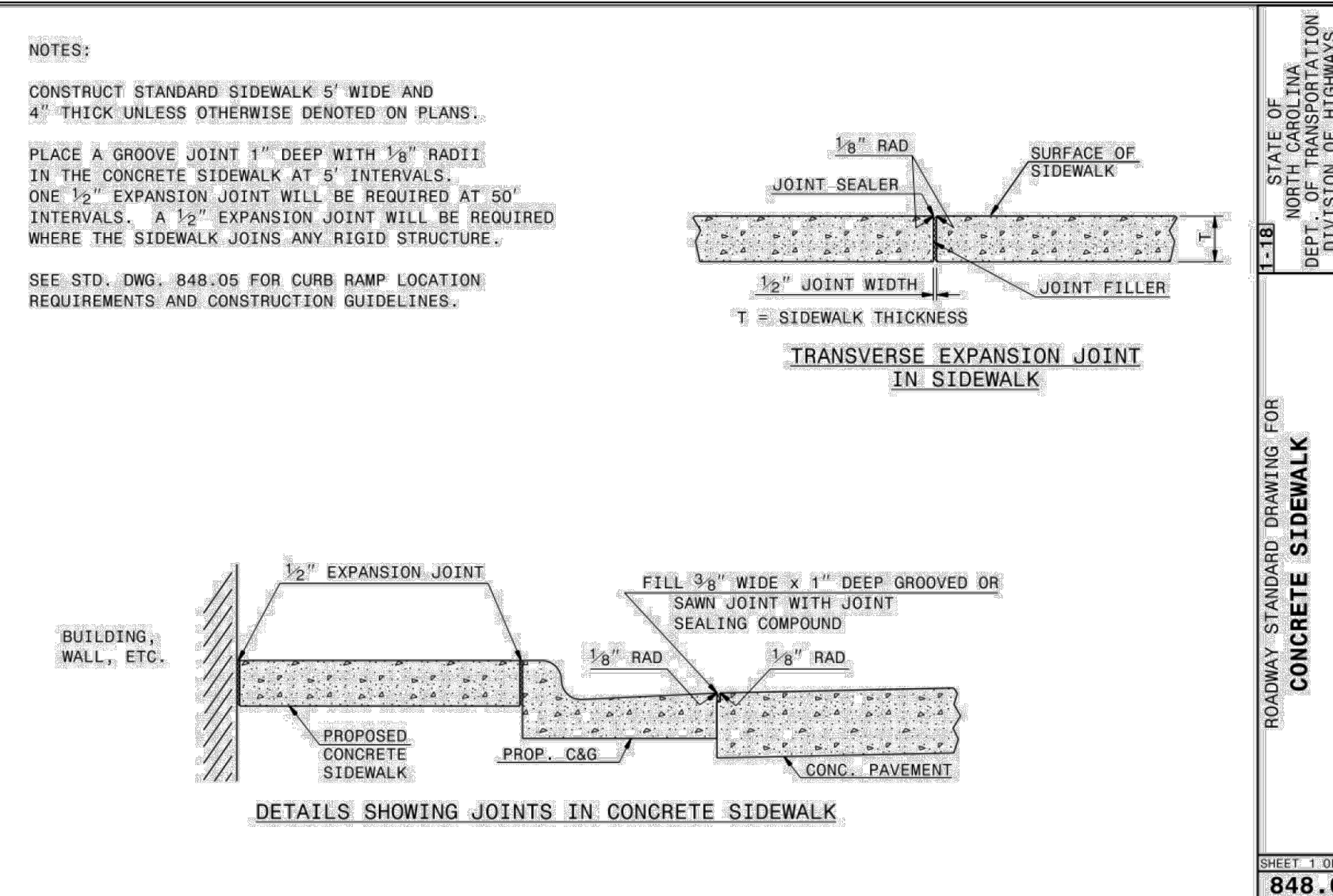
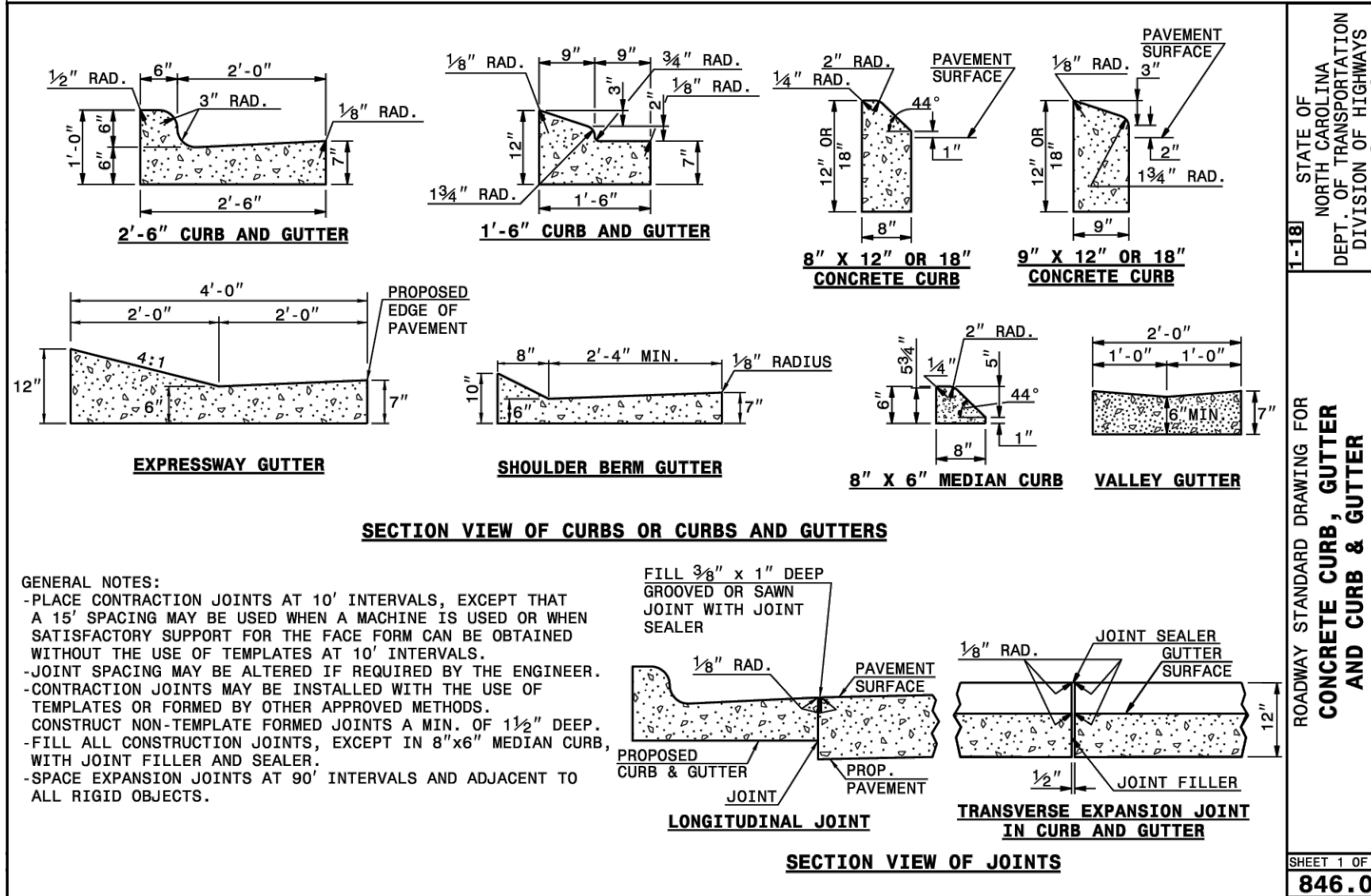
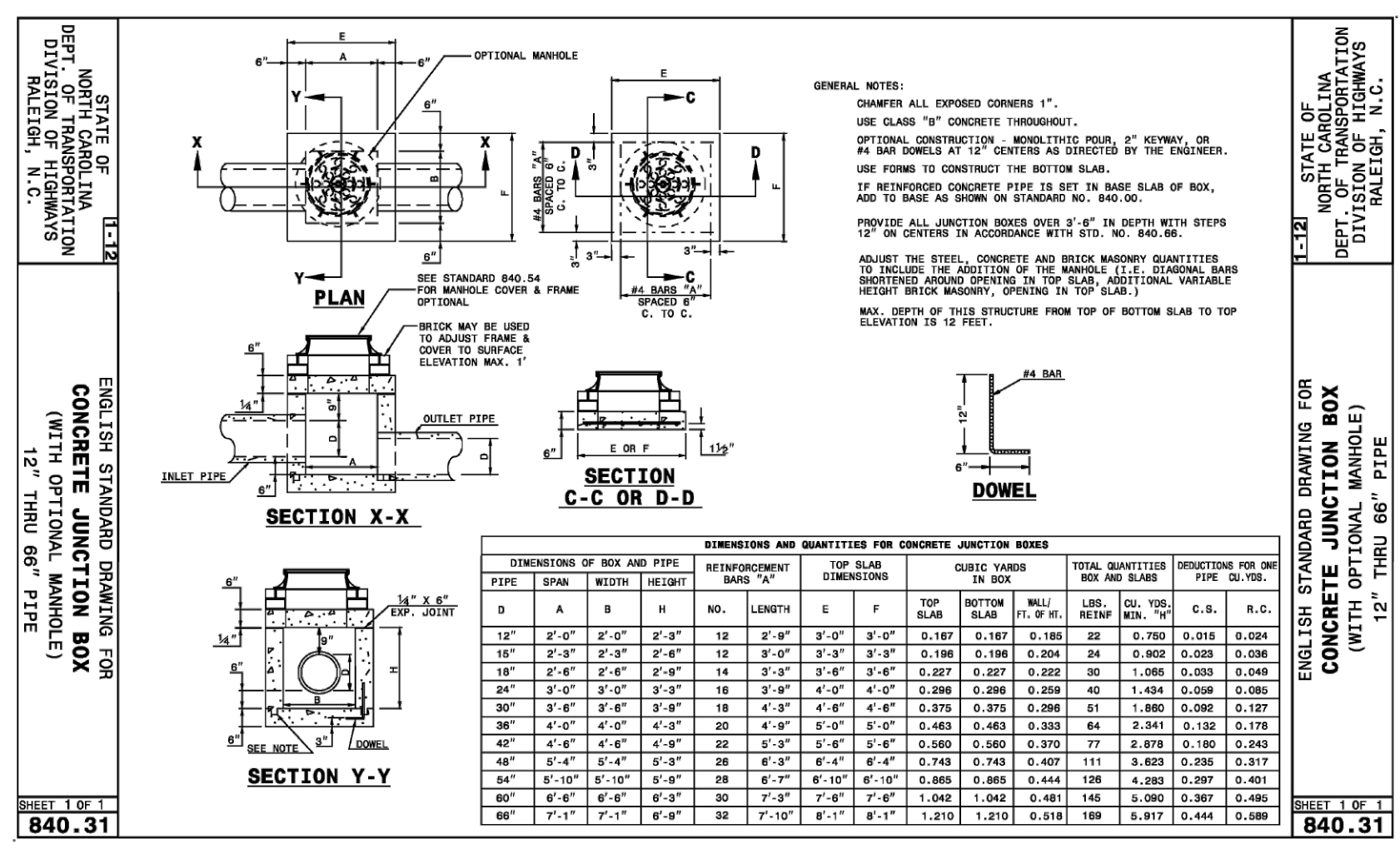
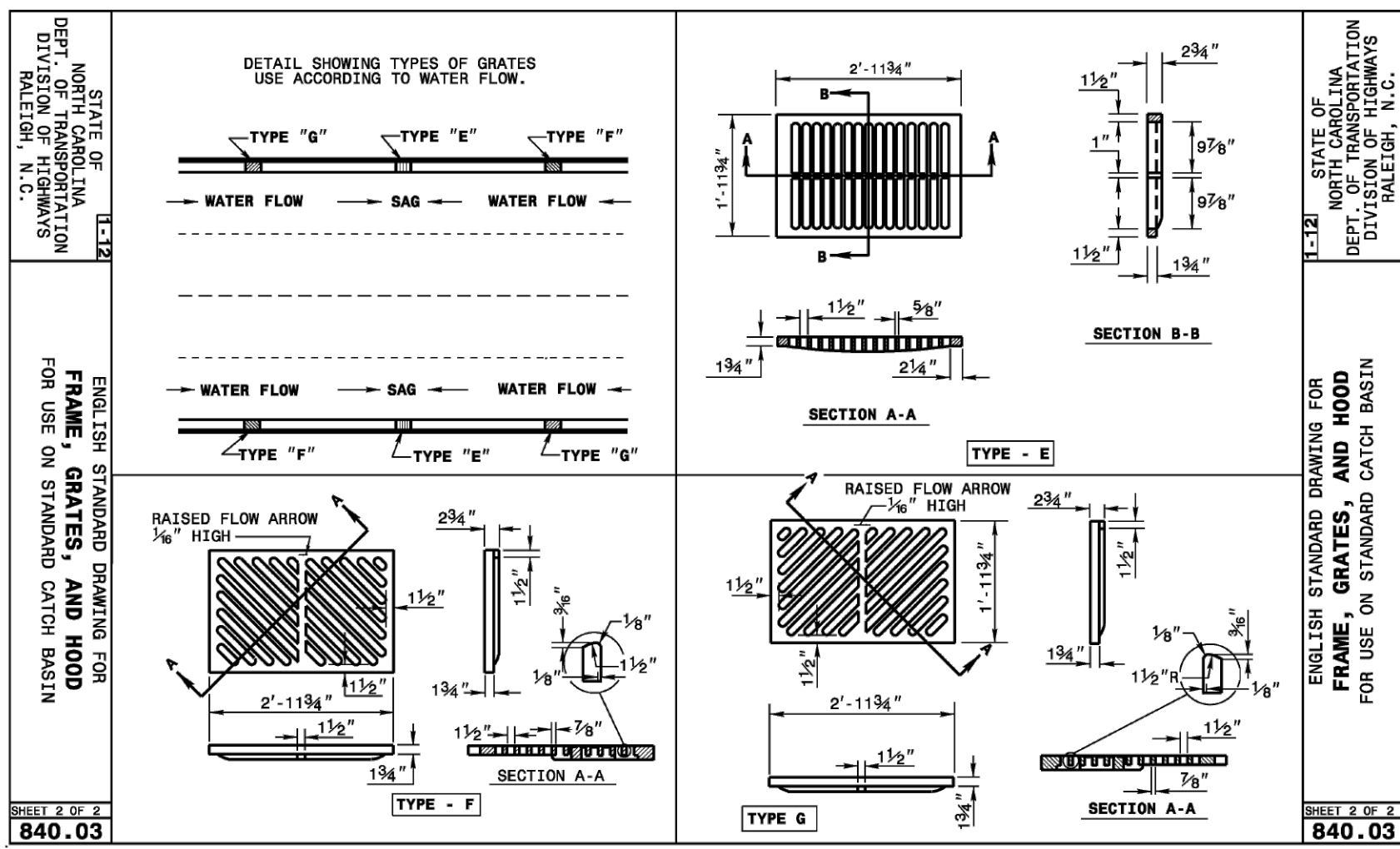
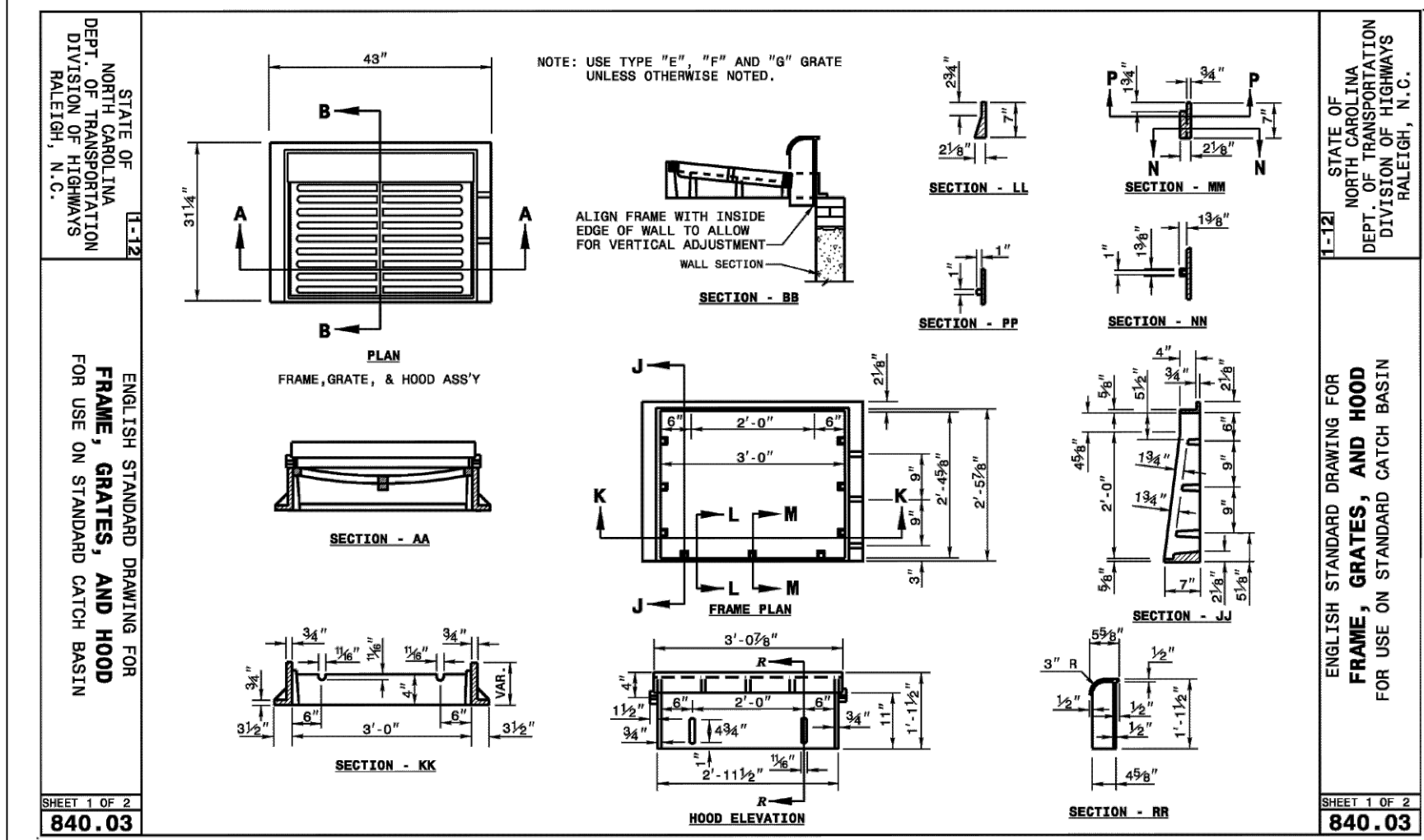
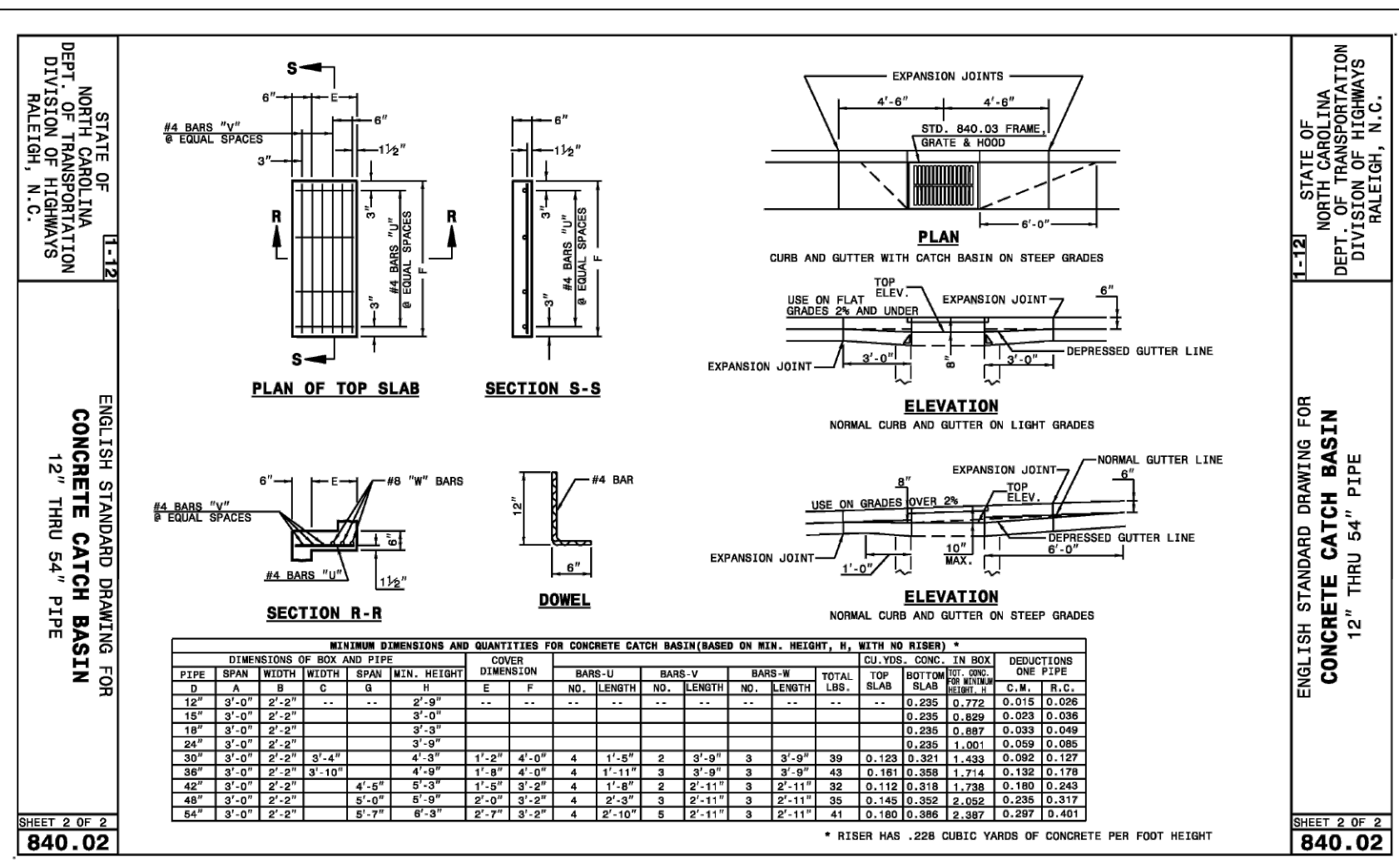
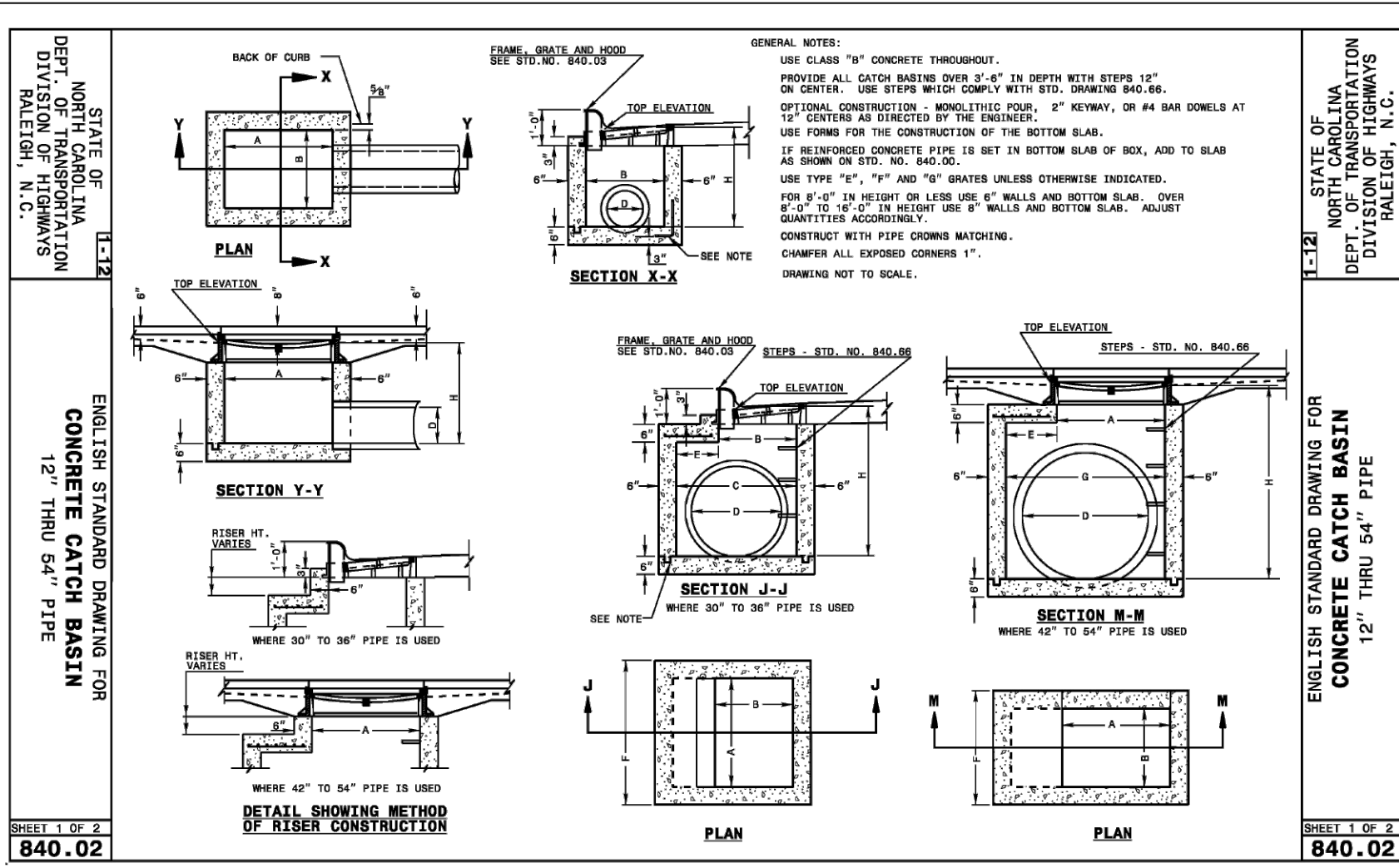
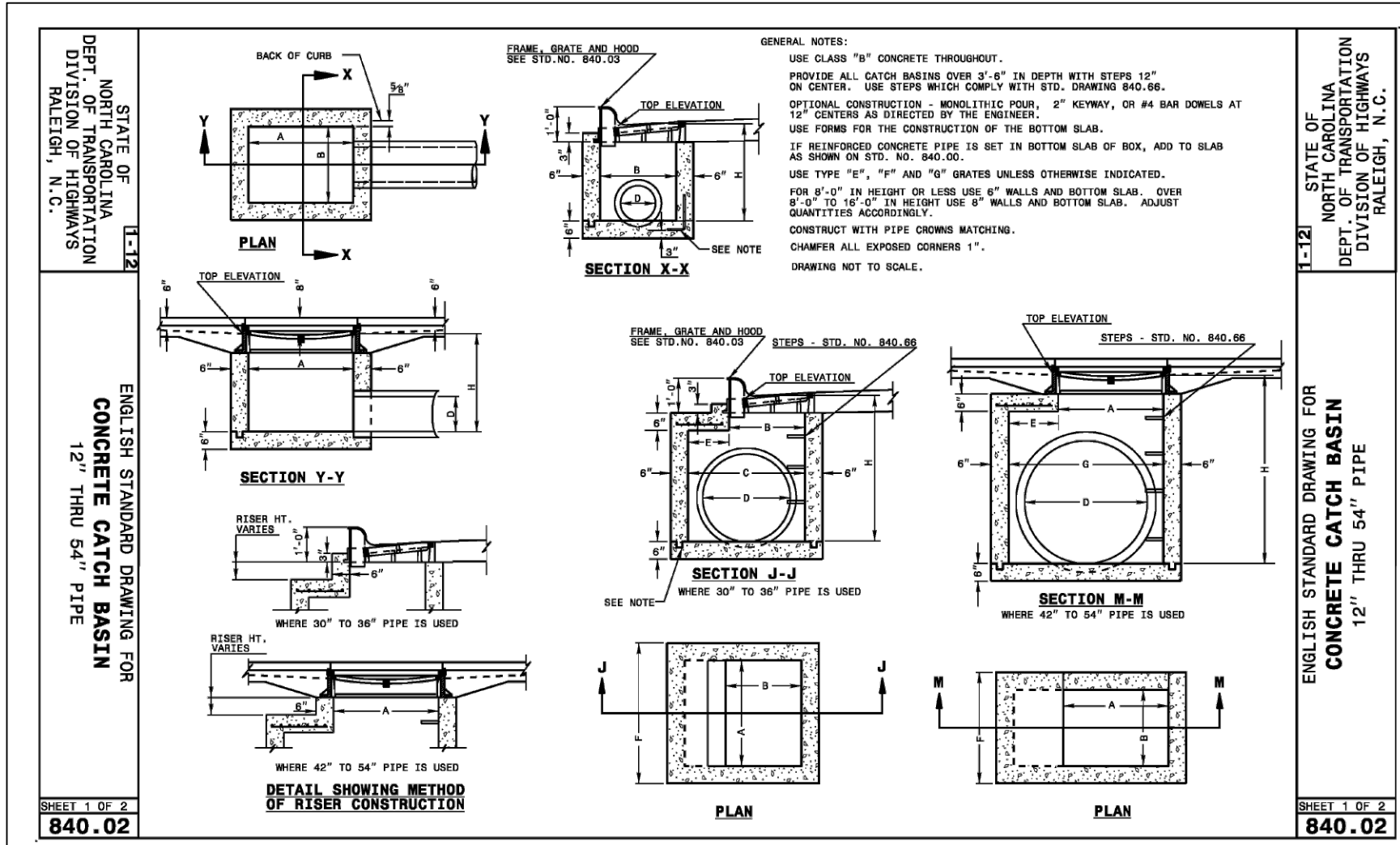
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the <a href="#">NC 303(d) list</a> as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(l)(6).</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

## EFFECTIVE: 04/01/19





ISSUED: 04 FEB 2025

REVISIONS:

23 MAY 2025  
PER TOWN/COUNTY COMMENTS

DRAWN BY: MLS  
CHECKED BY: MLS

PROJECT: CPMTRZ

DETAILS