

# ZEBULON ANIMAL HOSPITAL

## SITE PLAN SUBMITTAL

PROJECT ID: 1130505

1620 N. ARENDELL AVE.  
ZEBULON, NC

OCTOBER 2, 2023

REVISED: NOVEMBER 20, 2023

REVISED: JANUARY 5, 2024

REVISED: FEBRUARY 1, 2024

### CONTACT INFORMATION

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### ATTENTION CONTRACTORS

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the **Public Utilities Department** at (919) 996-4540 at least **twenty four hours** prior to beginning any of their construction.

**Failure** to notify both **City Departments** 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**.



VICINITY MAP



NTS

### HEAVY COMMERCIAL (HC) DISTRICT DIMENSIONAL STANDARDS FOR NON-RESIDENTIAL DEVELOPMENT

STANDARD	REQUIRED	PROVIDED
MINIMUM LOT AREA (SQUARE FEET)	6,000	48,650
MINIMUM LOT WIDTH (LINEAR FEET)	50	193
MINIMUM STREET SETBACK (FEET)	30	30
MINIMUM SIDE SETBACK (FEET)	0, 5 IF PROVIDED	
MINIMUM REAR SETBACK (FEET)	0 IF ABUTTED BY AN ALLEY; OTHERWISE 25	25
MAXIMUM BUILDING HEIGHT (FEET)	50; HEIGHT MAY INCREASE BY 2 FEET FOR EACH ADDITIONAL FOOT OF SETBACK UP TO 100 FEET IN HEIGHT	26'-2"
MINIMUM SPACING BETWEEN PRINCIPAL BUILDINGS ON THE SAME LOT (FEET)	25	N/A

### UTILITY ALLOCATION POLICY COMPLIANCE

BASE POINTS:  
SINGLE USE OFFICE - 30 POINTS

BONUS POINTS:  
CATEGORY 1 - NON-CONFORMITY ABATEMENT AND PUBLIC INFRASTRUCTURE IMPROVEMENTS (0)

CATEGORY 2 - GREEN DEVELOPMENT STANDARDS/BUILDING AND SITE DESIGN (10)

- SECTION 2B - PARKING
  - EV CHARGING STATION (TWO PORT) - 5 POINTS (SEE SHEET L200)
- SECTION 2C - STORMWATER SCMS (MAX 10)
  - BIORETENTION - 5 POINTS. (SEE SHEET L300)

CATEGORY 3 - OUTDOOR ENHANCEMENT (12)

- SECTION 3A - OUTDOOR ENHANCEMENT (MAX 12)
  - PLANTING POLLINATOR GARDEN - 3 POINTS (SEE SHEET L400)
  - INSTALLATION OF NATIVE SHADE TREE SPECIES - 9 POINTS (SEE SHEET L400)

CATEGORY 4 - AMENITIES (8)

- SECTION 4G - ADDITIONAL URBAN OPEN SPACE ENHANCEMENTS (WITHIN NON-RESIDENTIAL ZONING DISTRICTS) - MAX 10 POINTS
  - FOUNTAIN (DECORATIVE) - 2 POINTS (SEE SHEET L200)
  - CANOPY INCLUDING FIXED PERMANENT SEATING - 2 POINTS (SEE SHEET L200)
  - DRINKING FOUNTAIN WITH PET FOUNTAIN - 2 POINTS (SEE SHEET L200)
  - LITTLE FREE LIBRARY - 1 POINT (SEE SHEET L200)
  - ALL WEATHER BULLETIN BOARD - 1 POINT (SEE SHEET L200)

CATEGORY 5 - AFFORDABLE HOUSING - MAX 10 POINTS (0)

CATEGORY 6 - OTHER - MAX 5 POINTS (0)

### POINT SUMMARY:

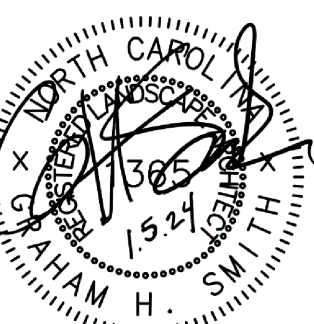
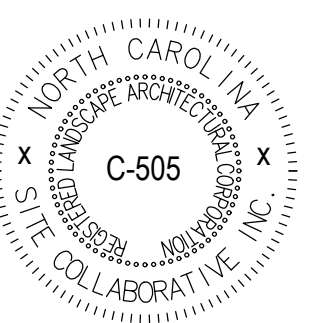
BASE	30 POINTS
CATEGORY 1	0 POINTS
CATEGORY 2	10 POINTS
CATEGORY 3	12 POINTS
CATEGORY 4	8 POINTS
CATEGORY 5	0 POINTS
CATEGORY 6	0 POINTS
<b>TOTAL</b>	<b>60 POINTS</b>

### SHEET INDEX

L000	COVER
L001	ZONING CONDITIONS AND TOWN OF ZEBULON STANDARD NOTES
L100	EXISTING CONDITIONS
L200	LAYOUT AND HARDSCAPE PLAN
L201	HARDSCAPE LEGEND
L202	HARDSCAPE DETAILS
L203	HARDSCAPE DETAILS
L300	GRADING PLAN
L400	PLANTING PLAN
L401	PLANT SCHEDULE AND NOTES
L402	PLANTING DETAILS
UP1	UTILITY PLAN
DA1	PRE-DEVELOPMENT DRAINAGE AREAS
DA2	POST-DEVELOPMENT DRAINAGE AREAS
SW1	STORMWATER PLAN
SW2	BIORETENTION CELL PLANS
SE1	SEDIMENTATION AND EROSION CONTROL PLAN
DT1	SITE DETAILS
DT2	SEDIMENTATION AND EROSION CONTROL DETAILS
DT3	SEDIMENTATION AND EROSION CONTROL NCG01

### SITE DATA SUMMARY

EXISTING DATA	
PROJECT NAME	ZEBULON ANIMAL HOSPITAL
STREET ADDRESS	1620 N. ARENDELL AVENUE, ZEBULON, NC
ZONING	R2
PIN	1796922199
REAL ID NUMBER	0030585
DEED BOOK / DEED PAGE	DB 2050, PG 630
LAND USE	SINGLE FAMILY RESIDENTIAL
LOT AREA	1.12 AC (48,650 SF)
PROPOSED DATA	
ZONING	HEAVY COMMERCIAL CONDITIONAL (HC-C)
PROPOSED USE	VETERINARY CLINIC
R/W DEDICATION	N/A
NET LOT AREA	1.12 AC (48,650 SF)
OPEN SPACE SET-ASIDE REQUIRED	1,459.50 SF (3% OF SITE)
OPEN SPACE SET-ASIDE PROVIDED	4,400 SF (9.04% OF SITE)
PARKING SUMMARY	
PARKING REQUIRED (4 PER DOCTOR)	12 OR 16 SPACES (3 OR 4 DOCTORS)
PARKING PROVIDED	32 SPACES (INCLUDING 1 STD, 1 VAN ACCESSIBLE ADA SPACE)
LOT COVERAGE	
EXISTING LOT COVERAGE	4,010 SF (0.09 AC) (8.24%)
LOT COVERAGE PROPOSED	24,939 SF (0.57 AC) (51%)
LOT COVERAGE ALLOWED	80% OF LOT AREA
CALCULATED LOT COVERAGE ALLOWED	0.8 X 48,650 SF = 38,920 SF (0.89 AC)
NET CHANGE IN LOT COVERAGE	+ 20,929 SF (0.48 AC)



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ZEBULON ANIMAL HOSPITAL  
ZAH REALTY, LLC  
1620 N. ARENDELL AVE., ZEBULON, NC

PROJECT NUMBER:  
22091

PROJECT PHASE:  
SITE PLAN  
SUBMITTAL  
DATE: 10.02.2023  
REVISED: 11.20.2023  
REVISED: 1.5.2024  
REVISED: 2.1.2024

SHEET TITLE:  
COVER

SHEET NUMBER:

L000

**ZONING CONDITIONS**

- Use of the property shall be limited to Veterinary Clinic. Such use will comply with section 4.3.5.RR of the Town Zebulon Unified Development Ordinance, except that outdoor exercise area may be located closer than 200 feet from a lot in a residential zone, provided that it is enclosed by a six-foot tall opaque fence as shown on sheet L400 Planting Plan of the Zebulon Animal Hospital Conditional Zoning Plan Dated June 1, 2023.
- In order to accommodate the shallow lot width, the 40-wide buffers required along the residentially zoned properties have been reduced; however, in these locations a six-foot tall opaque fence and enhanced landscaping will be provided as shown on Sheet L400 Planting Plan Zebulon Animal Hospital Conditional Zoning Plan Dated June 1, 2023. Except as noted in Condition Three (3).

**TOWN OF ZEBULON STANDARD CONSTRUCTION NOTES**

- ALL ROADWAY AND GREENWAY INFRASTRUCTURE CONSTRUCTION SHALL CONFORM TO THE TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A TRAFFIC CONTROL PLAN TO THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR FOR APPROVAL. THE GOAL IS NOT TO RESTRICT TRAFFIC DURING PEAK BUSINESS HOURS OF 6:00 AM AND UNTIL 8:00 AM AND 4:30 TO 6:30 PM MONDAY THROUGH FRIDAY.
- ALL TRAFFIC CONTROL SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- ALL FLAGGING OPERATIONS WITHIN THE TOZ ROW REQUIRE QUALIFIED AND TRAINED WORK ZONE FLAGGERS. THE CONTRACTOR SHALL PROVIDE ALL BARRICADES, SIGNS, ETC., TO PROTECT AND SECURE THE CONSTRUCTION AREA, EQUIPMENT, AND MATERIALS FROM THE PUBLIC.
- ALL EXISTING ROADWAYS, DRIVEWAYS, CURB AND GUTTER, SIDEWALK, SIGNAGE OR DRAINAGE STRUCTURES THAT ARE DAMAGED DURING THE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION. THE CONTRACTOR SHALL KEEP THE ROADWAY CLEAN OF DIRT AND DEBRIS AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT. EXCAVATION MATERIAL SHALL NOT BE PLACED ON THE ROADWAY AT ANY TIME. EXCAVATIONS SHALL NOT BE LEFT OPEN OR UNSAFE DURING OVERNIGHT HOURS.
- AT THE END OF EACH WORKING DAY, EQUIPMENT SHALL BE PARKED A MINIMUM OF 15' FROM THE BACK OF THE CURB TO ENSURE SAFETY OF THE VEHICLE TRAFFIC.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF OTHER UTILITIES WITHIN THE PROJECT SCOPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING OTHER UTILITIES OWNERS AND PROVIDE PROTECTION AND SAFEGUARDS TO PREVENT DAMAGE OF INTERRUPTION TO EXISTING FACILITIES AND TO MAINTAIN ACCESSIBILITY TO EXISTING UTILITIES.
- CONTRACTOR SHALL CONTRACT JASON BROWN AT 919-795-5640 WITH THE TOWN OF ZEBULON TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROVIDE A MINIMUM OF 72 HOURS OF NOTICE TO THE TOWN PRIOR TO BEGINNING CONSTRUCTION.
- ALL ROADWAY, GREENWAY, 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.
- AS-BUILT SITE PLANS FOR ROADWAY, GREENWAY AND UTILITY WORK MUST BE SUBMITTED AND APPROVED PRIOR TO FINAL ACCEPTANCE. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING REDLINE LINE DRAWINGS.
- DEVELOPER/OWNER IS RESPONSIBLE FOR CONTRACTING WITH THIRD PARTY NCDOT CERTIFIED TESTING FIRM. TOWN OF ZEBULON MUST APPROVE THE FIRM IN ADVANCE. MATERIAL TESTING IS REQUIRED FOR ALL ROADWAY AND GREENWAY TRAIL WORK. FINAL REPORTING AND SEALED CERTIFICATION IS REQUIRED AT COMPLETION OF THE PROJECT BY THE GEO-TECHNICAL ENGINEER. TESTING IS REQUIRED FOR SUBGRADE, ROADWAY/GREENWAY STONE, AND ASPHALT, CURB, AND GUTTER PER TOWN OF ZEBULON SPECS.
- AT THE COMPLETION OF THE PROJECT, THE DEVELOPER SHALL PROVIDE THE TOWN A ONE-YEAR WARRANTY ON ALL IMPROVEMENTS DEDICATED TO THE TOWN OF ZEBULON.

**TOWN OF ZEBULON STANDARD CONSTRUCTION NOTES:  
CONCRETE**

- ALL DEDICATED CONCRETE SIDEWALK REQUIRES CONCRETE TESTING FOR THE FOLLOWING REQUIREMENTS - SECTION 2.1.1
- 4" CONCRETE SLUMP
- TEMPERATURE - 50 AND 90 DEGREES
- AIR MIXTURE RANGE 3.5% TO 6.5%
- STRUCTURAL STRENGTH BREAK TEST - 7, 14, 28 DAYS @ 3000 PSI @ 28 DAYS
- SAMPLES EVERY 1000 LF OF CURB AND GUTTER TO ENSURE QUALITY
- MAX WATER -CEMENT RATIO BY WEIGHT: 0.594
- MINIMUM CEMENT CONTENT (LBS/CY): 602
- CONCRETE SIDEWALK TESTING IS NOT REQUIRED, UNLESS CONSTRUCTION INSPECTOR DETERMINES THAT THE QUALITY IS INFERIOR AND DOES NOT MEET INDUSTRY STANDARDS. CONTRACTOR MUST MAINTAIN A 4-INCH SLUMP FOR ALL SIDEWALK WORK. AIR TEMPERATURES AT PLACEMENT MUST BE 40 DEGREES AND RISING. SURFACE TEMPERATURES SHALL BE 50 DEGREES OR GREATER. (SECTION 2.2.2 E)

**TOWN OF ZEBULON STANDARD CONSTRUCTION NOTES:  
STORM DRAINAGE INFRASTRUCTURE**

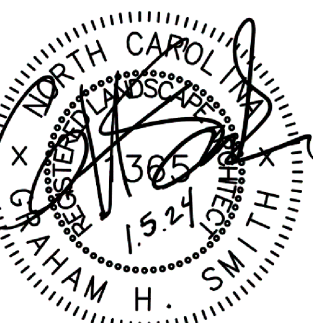
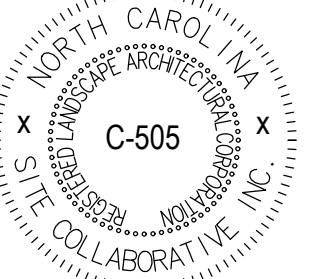
- ALL STORMWATER SYSTEM DRAINAGE WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER LESS THE AREA IS IN A PUBLIC DEDICATED DRAINAGE EASEMENT

**TOWN OF ZEBULON STANDARD CONSTRUCTION NOTES:  
ROADWAY/GREENWAY SUBGRADE, ROADWAY ABC AND ASPHALT**

- ROADWAY/GREENWAY SUB-GRADE: THE BASE SOIL ELEVATION DETERMINED BY APPROVED ENGINEERED DRAWINGS PRIOR TO PLACEMENT OF ROADWAY ABC AND ASPHALT.
- ROADWAY/GREENWAY STONE GRADE: THE APPROVED COMPACTED ROADWAY SUB-GRADE PLUS THE COMPACTED STONE GRADE PRIOR TO PLACEMENT OF ASPHALT
- IN ALL CASES, THE ROADWAY/GREENWAY SUB-GRADE MUST PASS A PROOF-ROLL TEST BEFORE PLACEMENT OF STONE. THE DEVELOPER/OWNER/CONTRACTOR SHOULD PROVIDE THIRD PARTY NCDOT CERTIFIED GEOTECHNICAL FIRM TO PERFORM DENSITY TESTING OF SUB-GRADE EVERY 300 FEET AND ROADWAY/GREENWAY ABC EVERY 150 FEET VIA A NUCLEAR GAUGE. THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR WILL SELECT VARIOUS LOCATIONS OF THE DENSITY TESTING. IT IS RECOMMENDED THAT TESTING BE PERFORMED AT FILL LOCATIONS OR UTILITY CUTS. A TOWN OF ZEBULON CONSTRUCTION INSPECTOR MUST BE PRESENT DURING ALL TESTING. ALL TEST RESULTS SHALL BE SUBMITTED TO AND APPROVED BY THE TOWN OF ZEBULON PUBLIC WORKS DIRECTOR BEFORE ROADWAY STONE IS INSTALLED.
- PROOF ROLL STANDARD- A FULLY LOADED DUMP TRUCK/MOTOR GRADER THAT HAS A MINIMUM GROSS WEIGHT OF AT LEAST 40,000 POUNDS (20 TONS) UNDER THE OBSERVATION OF THE TOWN OF ZEBULON REPRESENTATIVE. NO OTHER METHOD WILL BE ACCEPTED. ALL AREAS OF THE ROADWAY/GREENWAY SUB-GRADE OR ROADWAY STONE SHALL BE COVERED BY THE WHEELS OF THE PROOF-ROLLER OPERATING AT WALKING SPEED (TWO TO THREE MILES PER HOUR) OR 225 TO 300 FEET PER MINUTE.
- IT IS THE CONTRACTOR RESPONSIBILITY TO PROTECT ALL STRUCTURAL FACILITIES ON THE PROJECT SUCH AS BRIDGES, BOX CULVERTS, PIPE CULVERTS, AND UTILITIES FROM DAMAGE FROM PROOF ROLLING EQUIPMENT
- PROOF ROLLS ARE REQUIRED AT THE ROADWAY/GREENWAY SUB-GRADE CONSTRUCTION PHASE AND ROADWAY/GREENWAY STONE CONSTRUCTION PHASE
- ANY AND ALL AREAS, WHICH RUT OR PUMP EXCESSIVELY UNDER THE WHEELS OF THE PROOF-ROLLER SHALL BE REPAIRED BY THE DEVELOPER/CONTRACTOR BEFORE ROADWAY STONE OR ASPHALT IS INSTALLED
- PROOF ROLL AREAS AGAIN FOLLOWING THE COMPLETION OF THE NECESSARY CORRECTIONS. ALL COST ASSOCIATED WITH THE PROOF ROLLING PROCESS IS THE RESPONSIBILITY OF DEVELOPER/OWNER OR CONTRACTOR
- THE TOWN SHALL NOT BE RESPONSIBLE FOR ENSURING PROPER GRADES AND ALIGNMENT OF ROADWAY/GREENWAY AND CURB AND GUTTER. IF THE ALIGNMENT AND GRADES ARE INCORRECT, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER/OWNER TO MAKE CORRECTIVE REPAIRS AT THEIR OWN EXPENSE.
- REQUIREMENTS: 98% STANDARD PROCTOR ON ALL SOILS EVERY 300'. ALL LOCATIONS TESTED SHALL MEET THE 98% TESTING REQUIREMENTS. AVERAGING OF DENSITY SCORES TO MEET STANDARD IS NOT ALLOWED.
- SUCCESSFUL PROOF-ROLLS REQUIRED FOR ALL SUB-GRADE SOILS. ALL ROADWAY SUBGRADE MUST PASS A PROOF-ROLL TEST (NO EXCEPTIONS).
- ROADWAY/GREENWAY SUB GRADE THAT DOES NOT PASS THE PROOF ROLL TEST OR DENSITY TEST WILL REQUIRE REMEDIAL REPAIRS. REPAIR RECOMMENDATIONS FROM GEO-TECHNICAL FIRM CAN BE MADE BY USING SEVERAL METHODS INCLUDING THE USE OF GEO-GRID/STABILIZATION FABRIC AND ADDITIONAL ABC STONE, CEMENT STABILIZATION, LIME STABILIZATION OR REPLACEMENT OF UNSUITABLE SOILS WITH DRIER/MORE SUITABLE SOILS. REGARDLESS OF THE METHOD CHOSEN BY THE CONTRACTOR, GEOTECHNICAL FIRM, DEVELOPER OR OWNER FOR REMEDIAL REPAIRS; A SUCCESSFUL PROOF-ROLL MUST BE OBTAINED PRIOR TO PLACEMENT OF ABC STONE CAN BEGIN.
- REPAIRS WERE MADE TO THE ROADWAY/GREENWAY SUB GRADE INVOLVE USING GEO-GRID/STABILIZATION FABRIC AND ADDITIONAL STONE; NO DENSITY ADDITIONAL TESTING IS REQUIRED. IF REPAIRS TO THE ROADWAY SUB GRADE INVOLVE UNDERCUTTING UNSUITABLE SOILS AND REPLACEMENT WITH OTHER SOILS THAT ARE MORE SUITABLE THEN DENSITY TESTING IS REQUIRED TO VERIFY COMPLIANCE OF 98% COMPACTION REQUIREMENT. THE CONTRACTOR/GEO-TECHNICAL FIRM MUST PROVIDE THE TOWN OF ZEBULON INSPECTOR WITH DENSITY TEST RESULTS PRIOR TO PLACEMENT OF ABC STONE WERE REQUIRED. ALL COST OF DENSITY TESTING SHALL BE BY THE DEVELOPER OR OWNER.
- NOTE: IF THE ROADWAY/GREENWAY SUB-GRADE IS EXPOSED TO PRECIPITATION (RAIN, SNOW, ICE, ETC.) GREATER THAN A 1/10 OF INCH BEFORE IT IS COVERED WITH ABC STONE, THE EXPOSED SUB-GRADE MUST PASS AN ADDITIONAL PROOFROLL. ADDITIONAL DENSITY TESTING IS NOT REQUIRED UNDER THESE CONDITIONS.
- REQUIREMENTS: 98% STANDARD PROCTOR ON ALL ROADWAY/GREENWAY ABC EVERY 150'. ALL LOCATIONS TESTED SHALL MEET THE 98% TESTING REQUIREMENTS. AVERAGING OF DENSITY SCORES TO MEET STANDARD IS NOT ALLOWED. SUCCESSFUL PROOF-ROLLS REQUIRED FOR ALL ROADWAY/GREENWAY ABC STONE.
- ROADWAY/GREENWAY ABC STONE MUST BE INSTALLED PER TOWN OF ZEBULON MINIMUM REQUIREMENTS AND/OR APPROVED ENGINEERING ROADWAY DRAWINGS. ROADWAY ABC STONE SHALL BE INSTALLED IN COMPACTED LIFTS PER MANUFACTURE EQUIPMENT RECOMMENDATIONS. A MINIMUM OF SIX INCHES OF COMPACTED ABC STONE SHALL BE INSTALLED UNDER CURB AND GUTTER. ALL ROADWAYS WILL HAVE A MINIMUM OF EIGHT INCHES OF COMPACTED ABC STONE. THE PLACEMENT OF ROADWAY ABC STONE IS REQUIRED TO PASS A PROOFROLL AND PASS DENSITY TESTING OF 98% MINIMUM EVERY 150' FEET. THE ZEBULON CONSTRUCTION INSPECTOR MUST HAVE DENSITY TESTING RESULTS PRIOR TO START OF PAVING. THE ROADWAY STONE CROSS-SLOPE, FROM CROWN TO CURB, SHALL BE CHECKED WITH A STRING LINE PRIOR TO THE PLACEMENT OF ASPHALT.
- THE ROADWAY/GREENWAY STONE SHALL BE PROOF ROLLED JUST PRIOR TO THE PLACEMENT OF ASPHALT. IF A SECTION OF ROADWAY FAILS PRIOR TO PLACEMENT OF ASPHALT AFTER ALL OTHER SUCCESSFUL TESTS; ADDITIONAL ASPHALT AT THE DIRECTION OF THE CONSTRUCTION INSPECTOR MAY BE ALLOWED. ONE INCH OF ASPHALT MAY BE SUBSTITUTED FOR EVERY TWO INCHES OF STONE.
- NOTE: IF THE ROADWAY/GREENWAY ABC IS EXPOSED TO PRECIPITATION (RAIN, SNOW, ICE, ETC.) GREATER THAN 1/10 INCH BEFORE IT IS COVERED WITH ABC STONE, THE EXPOSED SUB-GRADE MUST PASS AN ADDITIONAL PROOF-ROLL. ADDITIONAL DENSITY TESTING IS NOT REQUIRED UNDER THESE CONDITIONS.
- ASPHALT PLACEMENT SHOULD BE IN ACCORDANCE WITH ENGINEERING DRAWINGS, SIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL INSTALL ASPHALT IN MULTIPLE LAYERS/LIFTS. THE FINAL 1" OR 1.5" OVERLAY WILL BE AT THE 80% BUILDING PERMIT LEVEL FOR EACH PHASE OR AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR. ASPHALT CORES WILL BE TAKEN AT BOTH OVERLAYS TO INSURE COMPLIANCE WITH ENGINEERING DRAWINGS FOR THICKNESS AND DENSITY.

Mix Type	Single Lift Depths - min/max	Max layer total depths	Density
SF4.75A	0.5-1.0 inches	2" Depth	85%
SF9.5C & D	1.5-2.0 inches	3" Depth	92%
SF9.5B	1.0-1.5 inches	3" Depth	90%
I-19.0C	2.5-4.0 inches	4" Depth	92%
B25.0C	3.0-5.5 inches	No limit	92%

- ASPHALT MIXTURES SHALL NOT BE PLACED DURING RAINY WEATHER. WHEN SUBGRADE OR COURSE IS FROZEN, OR WHEN THE MOISTURE ON THE SURFACE TO BE PAVED WOULD PREVENT A PROPER BOND. ASPHALT MATERIAL MUST NOT BE PLACED WHEN THE AIR TEMPERATURE MEASURED IN THE SHADE AWAY FROM ARTIFICIAL HEAT AT THE LOCATION OF THE PAVING OPERATION AND THE ROAD SURFACE TEMPERATURE IN THE SHADE AT THE PAVING SITE IS BELOW 40 DEGREES AIR TEMPERATURE AND 50 DEGREES MINIMUM SURFACE TEMPERATURE.
- ASPHALT CORE SAMPLES SHOULD BE SELECTED EVERY 300' FEET OR MINIMUM OF TWO CORES PER ROADWAY FOR ANALYSIS OF THICKNESS AND DENSITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING/CREATING A CHART/MAP IF THE CORED LOCATIONS FOR SUBMITTAL WITH THE TESTING. CORES WILL BE RANDOMLY TAKEN ALONG THE LONGITUDINAL DIRECTIONS ACROSS THE ROADWAY/GREENWAY BUT NOT WITHIN ONE FOOT OF THE EDGE OF PAVEMENT. THE RESULTS OF SAMPLES GREATER THAN 10 FEET APART WILL NOT BE AVERAGE AND USED TO VERIFY COMPLIANCE WITH THE TOWN OF ZEBULON SPECIFICATIONS. (SECTION 2.6.H)



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**ZEBULON ANIMAL HOSPITAL**  
**ZAH REALTY, LLC**  
**1620 N. ARENDELL AVE., ZEBULON, NC**

PROJECT NUMBER:  
22091

PROJECT PHASE:  
SITE PLAN  
SUBMITTAL

DATE: 10.02.2023  
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SHEET TITLE:  
ZONING  
CONDITIONS &  
TOWN OF ZEBULON  
STANDARD NOTES

SHEET NUMBER:

L001

EXISTING CONDITIONS LEGEND	
KEY	DESCRIPTION
— W — W —	EXISTING WATERLINE
— SS —	EXISTING SANITARY SEWER
— · · · —	EXISTING OVERHEAD ELECTRIC
— G — G —	EXISTING GAS MAIN
— S — S —	EXISTING STORM SEWER
⊗	EXISTING FIRE HYDRANT
⊕	EXISTING WATER VALVE

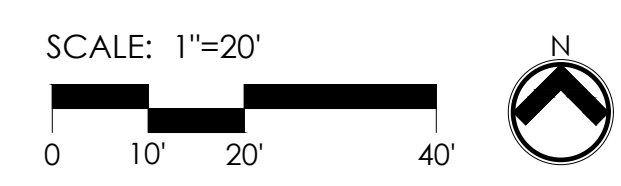
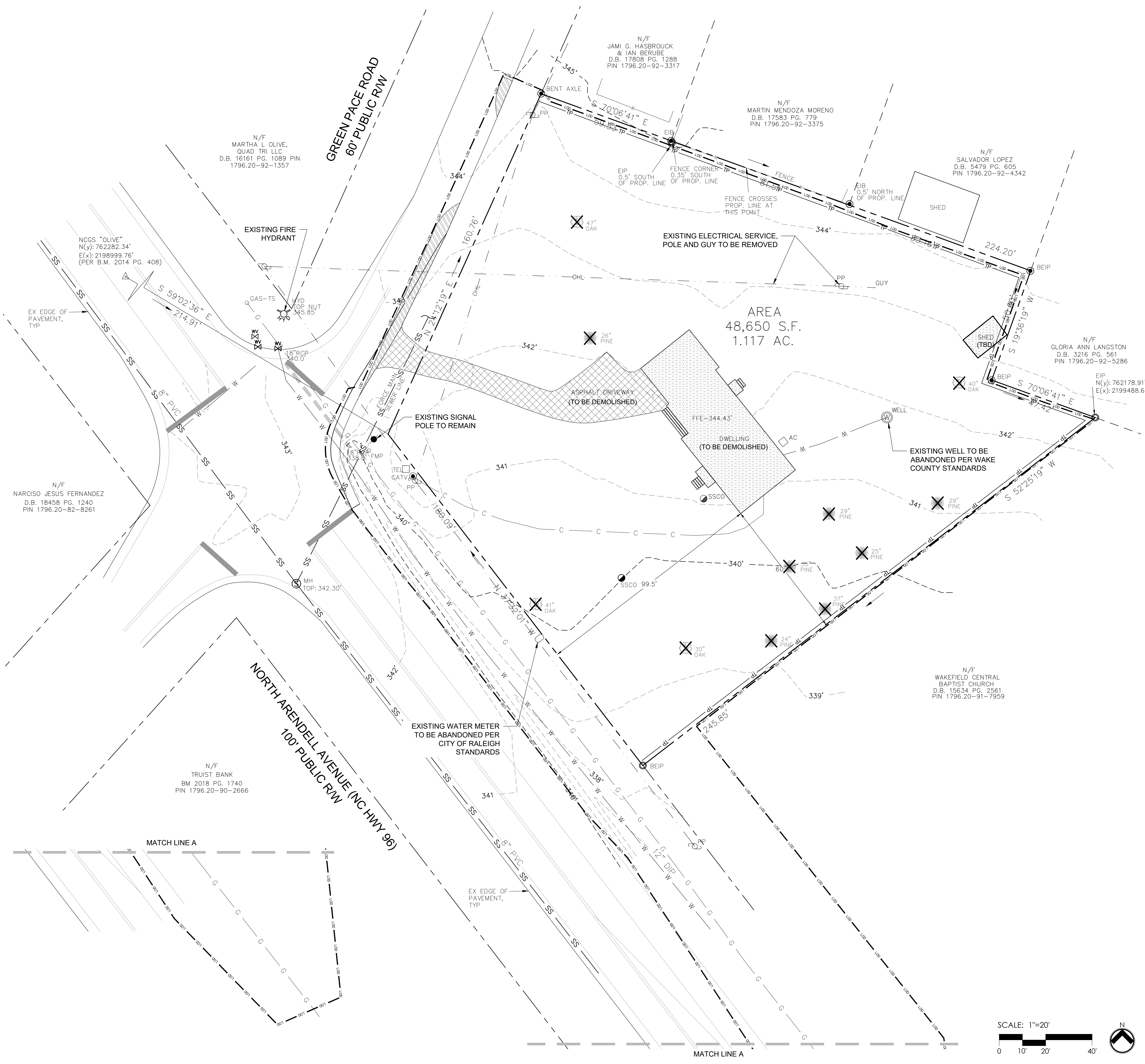
**EXISTING CONDITIONS NOTES**

- EXISTING CONDITIONS SURVEY PROVIDED BY CMP PROFESSIONAL LAND SURVEYORS, WAKE FOREST, NC. DATED MARCH 22, 2023.
- PROJECT PROPERTY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS REFERENCED BY FEMA FLOOD INSURANCE RATE MAP NO. 3720179600K, EFFECTIVE DATE JULY 19, 2022.
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

DEMOLITION LEGEND	
KEY	DESCRIPTION
	EXISTING ASPHALT AND SUBBASE TO BE REMOVED
	EXISTING DRIVEWAY AND SUBBASE TO BE REMOVED
	EXISTING STRUCTURE AND FOUNDATION TO BE REMOVED
⊗	EXISTING TREE OR SHRUB TO BE REMOVED. GRIND STUMP TO 12" BELOW GRADE.
— TP —	TREE PROTECTION FENCE
— LOD — LOD —	LIMITS OF DISTURBANCE

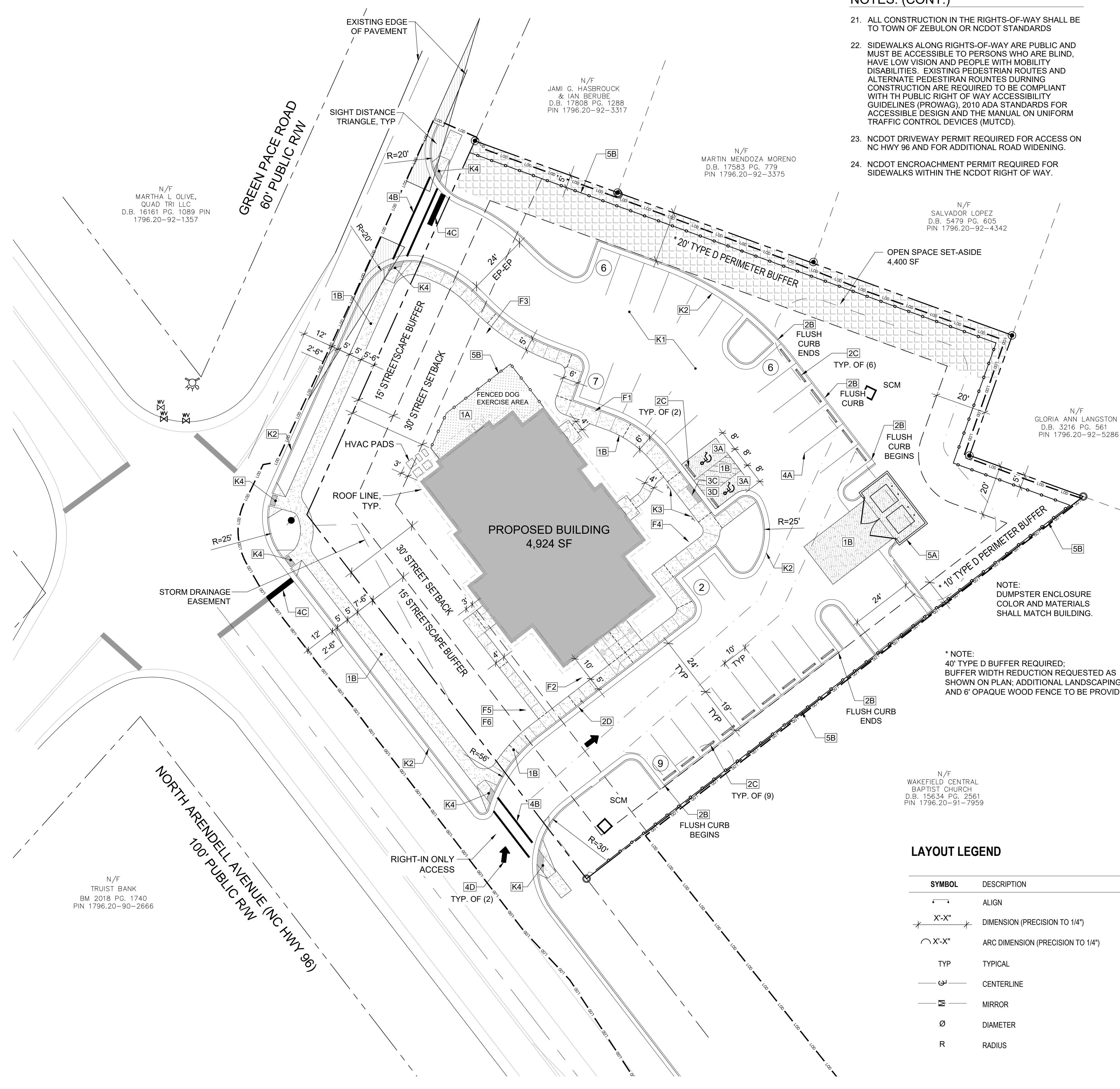
**DEMOLITION NOTES**

- THE CONTRACTOR SHALL NOTIFY THE N.C. ONE CALL CENTER AT 811 OR 1-800-632-4949 PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL GOVERNING PUBLIC UTILITIES DEPARTMENT PRIOR TO STARTING WORK.
- ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE LOCAL GOVERNING MUNICIPALITY OR THE STATE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
- THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE LOCAL GOVERNING MUNICIPALITY TRANSPORTATION DEPARTMENT AND/OR STATE TRANSPORTATION DEPARTMENT.
- LANE CLOSURE, TRAFFIC CONTROL PLAN, OR PEDESTRIAN CONTROL PLAN TO BE COORDINATED WITH APPROPRIATE STAFF OF THE LOCAL GOVERNING MUNICIPALITY AND/OR STATE DEPARTMENT OF TRANSPORTATION PRIOR TO ANY CONSTRUCTION IN PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.
- CONTRACTOR SHALL REFER TO CIVIL SHEETS FOR SANITARY SEWER AND WATER REMOVALS AND RELOCATIONS.
- RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).
- WHERE UTILITIES (TO BE REMOVED) IMPACT THE FOOTPRINT OF THE NEW BUILDING, CONTRACTOR SHALL EXCAVATE AND REMOVE AN ADDITIONAL 2 FEET OF SOILS TO EITHER SIDE OF PIPE, AND 1 FOOT BELOW TO REMOVE UNSUITABLE SOILS, IF UNSUITABLE SOILS EXIST.
- CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE.
- ELECTRICAL OR GAS UTILITY SERVICES TO BE REMOVED SHALL BE REMOVED AND RELOCATED (AS INDICATED) BY THE UTILITY PROVIDER. CONTRACTOR SHALL SCHEDULE AND COORDINATE THIS WORK WITH THE APPROPRIATE SERVICE PROVIDER. ALL SERVICES SHOULD BE RE-INSTALLED PRIOR TO THE INSTALLATION OF PAVEMENT, SIDEWALKS, CURB AND GUTTER, OR OTHER PERMANENT FEATURES.
- REMOVE EXISTING CONCRETE (WHERE REQUESTED) TO FIRST COLD JOINT OR SAWCUT JOINT TO OBTAIN A CLEAN EDGE FOR NEW CONSTRUCTION. SAWCUT EXISTING ASPHALT DRIVE AT LIMITS OF NEW CURBING TO OBTAIN A CLEAN EDGE.
- CONTRACTOR SHALL RESTORE THE LAYDOWN AND STAGING AREA TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.
- CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL. COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS, GEOTECHNICAL REPORT, AND SITE PLAN.
- ALL FENCING TO BE REMOVED SHALL BE REMOVED AT NEXT NEAREST POLE.
- ALL GRAVEL TO BE REMOVED (SURFACE OR SUBSURFACE) SHALL BE STOCKPILED AND REUSED ON SITE WHERE POSSIBLE.
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED.
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.
- ALL TREES TO BE REMOVED SHALL BE GROUND DOWN TO A MINIMUM DEPTH OF 12" BELOW PROPOSED FINISH GRADE.
- ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING DEMOLITION AND CONSTRUCTION.
- CONTRACTOR SHALL NOT STOCKPILE SOILS OR CONSTRUCTION EQUIPMENT WITHIN ROOT ZONES OF EXISTING TREES TO REMAIN. ANY DAMAGED TREES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.



MATCH LINE A

MATCH LINE A



**NOTES: (CONT.)**

- ALL CONSTRUCTION IN THE RIGHTS-OF-WAY SHALL BE TO TOWN OF ZEBULON OR NCDOT STANDARDS
- SIDEWALKS ALONG RIGHTS-OF-WAY ARE PUBLIC AND MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION AND PEOPLE WITH MOBILITY DISABILITIES. EXISTING PEDESTRIAN ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION ARE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- NCDOT DRIVEWAY PERMIT REQUIRED FOR ACCESS ON NC HWY 96 AND FOR ADDITIONAL ROAD WIDENING.
- NCDOT ENCROACHMENT PERMIT REQUIRED FOR SIDEWALKS WITHIN THE NCDOT RIGHT OF WAY.

**GENERAL SITE NOTES**

- ALL PAVEMENTS TO SLOPE POSITIVELY AWAY FROM ALL BUILDINGS. PONDING OF WATER IS PROHIBITED.
- ALL DIMENSIONS ARE TO BACK OF CURB OR EDGE OF SIDEWALK UNLESS OTHERWISE NOTED.
- ALL CURB RADII ARE 4'-6" AT BACK OF CURB UNLESS OTHERWISE NOTED.
- PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS AS SHOWN IN PLANS. IF NOT SHOWN ON PLANS, SCORE JOINT - MAX SPACING @ 10', EXPANSION JOINT MAX SPACING @ 50'.
- THROUGHOUT PROJECT SITE, ALL DIMENSIONS TO BE FIELD VERIFIED. NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCY. ALL DIMENSIONS ARE TO OUTSIDE FACE OF BUILDING, TO CENTERLINE, CENTER TO CENTER ON STRIPES, AND/OR FACE OF CURB, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR, AT ALL TIMES, MUST KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE CONTRACTOR, THE CONTRACTOR'S EMPLOYEES OR THE CONTRACTOR'S SUBCONTRACTOR. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
- IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE ONLY WITH THE EXPRESSED WRITTEN PERMISSION OF THE OWNER.
- LANDSCAPE ARCHITECT AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
- EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD DATA PROVIDED TO LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES, UNDERGROUND LINES, AND STRUCTURES AS NECESSARY TO AVOID DAMAGING OR DESTROYING EXISTING SERVICES.
- CONTRACTOR SHALL NOTIFY THE NORTH CAROLINA ONE CALL CENTER AT 811 OR 1-800-832-4343 PRIOR TO STARTING WORK. ALL UTILITIES SHALL BE MARKED PRIOR TO STARTING WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE, AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT AND FOR THE RELOCATION OF ANY UTILITY SERVICES REQUIRED TO COMPLETE ANY PORTION OF THESE CONSTRUCTION PLANS.
- CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD ANY FIELD CHANGES, ALONG WITH ANY PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER AT THE END OF THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMITS AS ISSUED, AND ANY AND ALL APPLICABLE STATE, COUNTY AND LOCAL CODES.
- EXISTING IMPROVEMENTS DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED OR RESTORED TO THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER OF THE IMPROVEMENTS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, AND/OR ANY OTHER REQUIREMENTS WHICH MUST BE MET UNDER CONTRACT.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR DETAILS OF BUILDINGS AND BUILDING DIMENSIONS.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION OF ALL UNDERGROUND UTILITIES FOR THIS PROJECT WITH THE OWNER'S REPRESENTATIVE PER ALL APPLICABLE REGULATIONS.
- CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON SITE AND UTILITY PROVIDERS DURING CONSTRUCTION TO ENSURE SMOOTH TRANSITION BETWEEN DISCIPLINES.
- ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.
- THIS SITE SHALL BE FULLY COMPLIANT WITH THE CURRENT EDITION OF THE NORTH CAROLINA ACCESSIBILITY CODES (ANSI 117.1 AND CHAPTER 11 OF THE NCCCO) UNLESS AND EXCEPT IN AREAS WHERE AN APPROVED STATEMENT FROM A SITE ENGINEER, SURVEYOR OR LANDSCAPE ARCHITECT VERIFIES THAT SITE CONDITIONS EXIST WHERE THE TOPOGRAPHY OF THE SITE IS EXTREME AND ONLY ALTERNATE METHODS OF COMPLIANCE ARE POSSIBLE.

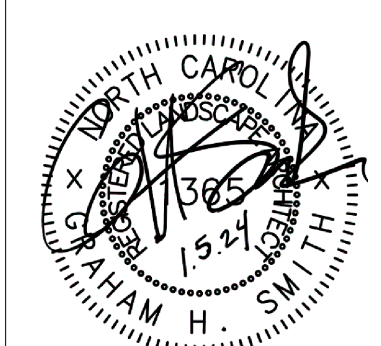
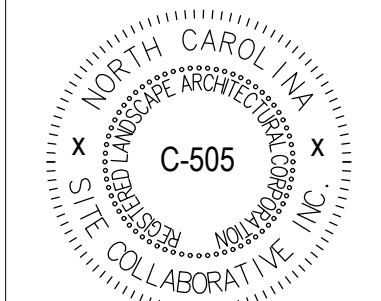
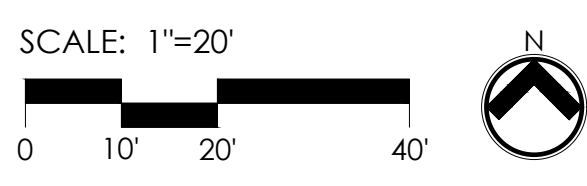
**HARDSCAPE LEGEND**

REFER TO SHEET L201 FOR FULL LEGEND

SYMBOL	PROPOSED SITE ITEM	DETAILSHEET
[Symbol]	1A ARTIFICIAL TURF	7/L202
[Symbol]	1B C.I.P. CONCRETE PAVING	2/L202
[Symbol]	2B 6" WIDE FLUSH CONCRETE CURB	6/L202
[Symbol]	2C CONCRETE WHEELSTOP	3/L202
[Symbol]	2D "DO NOT ENTER" SIGN	
[Symbol]	3A ADA PARKING	1/L203
[Symbol]	3C ADA DETECTABLE WARNING SURFACE	2/L203
[Symbol]	3D ADA RAMP	4/L203
[Symbol]	4A 4" THERMOPLASTIC PARKING STRIPE	
[Symbol]	4B CROSSWALK, THERMOPLASTIC PAINT	1/L204
[Symbol]	4C STOP BAR, THERMOPLASTIC PAINT	2/L204
[Symbol]	4D DIRECTIONAL ARROW, THERMOPLASTIC PAINT	
[Symbol]	5A DUMPSTER ENCLOSURE WITH GATE	3/L203
[Symbol]	5B 6' HT. OPAQUE FENCE	1/L202

**LAYOUT LEGEND**

SYMBOL	DESCRIPTION
[Symbol]	ALIGN
[Symbol]	X'-X" DIMENSION (PRECISION TO 1/4")
[Symbol]	ARC DIMENSION (PRECISION TO 1/4")
TYP	TYPICAL
[Symbol]	CENTERLINE
[Symbol]	MIRROR
Ø	DIAMETER
R	RADIUS



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**ZEBULON ANIMAL HOSPITAL**  
ZAH REALTY, LLC  
1620 N. ARENDELL AVE., ZEBULON, NC

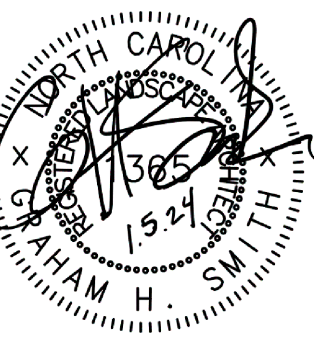
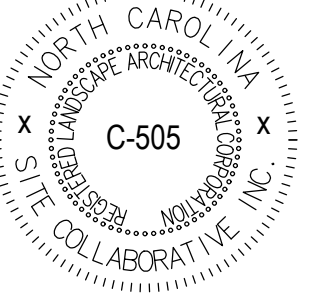
PROJECT NUMBER:  
22091

PROJECT PHASE:  
SITE PLAN  
SUBMITTAL

DATE: 10.02.2023  
REVISED: 11.20.2023  
REVISED: 1.5.2024  
REVISED: 2.1.2024

SHEET TITLE:  
LAYOUT AND  
HARDSCAPE PLAN

SHEET NUMBER:  
L200



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**HARDSCAPE LEGEND**

SYMBOL	PROPOSED SITE ITEM	DETAIL/SHEET	MANUFACTURER	MODEL #	COLOR	FINISH	NOTE
	1A ARTIFICIAL TURF	7/L202					
	1B C.I.P. CONCRETE PAVING	2/L202	LOCAL BATCH PLANT	N/A	NATURAL GRAY	MED. BROOM FINISH	
	2B 6" WIDE FLUSH CONCRETE CURB	6/L202	LOCAL BATCH PLANT	N/A	NATURAL GRAY	MED. BROOM FINISH	
	2C CONCRETE WHEELSTOP	3/L202	LOCAL SUPPLIER	CODE COMPLIANT	NATURAL GRAY		
	2D "DO NOT ENTER" SIGN		LOCAL SUPPLIER	MUTCD R5-1, 18"			HIGH INTENSITY, PRISMATIC REFLECTIVE SHEETING
	3A ADA PARKING	1/L203	LOCAL SUPPLIER	CODE COMPLIANT	CODE COMPLIANT		
	3C ADA DETECTABLE WARNING SURFACE	2/L203	WASAU TILE (715.259.3121), OAE	A-90, 24" X 24"	A-90, SRI 03	TRUNCATED DOMES, ADA COMPLIANT	
	3D ADA RAMP	4/L203	LOCAL BATCH PLANT	N/A	NATURAL	MED. BROOM FINISH	
	4A 4" THERMOPLASTIC PARKING STRIPE		LOCAL SUPPLIER				
	4B CROSSWALK, THERMOPLASTIC PAINT	1/L204	LOCAL SUPPLIER				
	4C STOP BAR, THERMOPLASTIC PAINT	2/L204	LOCAL SUPPLIER				
	4D DIRECTIONAL ARROW, THERMOPLASTIC PAINT		LOCAL SUPPLIER				
	5A DUMPSTER ENCLOSURE WITH GATE	3/L203	LOCAL SUPPLIER		TO MATCH ARCHITECTURE	TBD	
	5B 6' HT. OPAQUE FENCE	1/L202	LOCAL SUPPLIER		TBD	TBD	
<b>SYMBOL SITE FURNITURE</b>							
	F1 2 PORT EV CHARGING STATION		BOSCH, OAE	EL-50650-GNTD-A	N/A	N/A	INSTALLATION BY QUALIFIED LICENSED ELECTRICIAN
	F2 DECORATIVE FOUNTAIN		TBD				
	F3 CANOPY WITH PERMANENT SEATING		TBD				
	F4 DRINKING FOUNTAIN WITH PET FOUNTAIN		TBD				
	F5 LITTLE FREE LIBRARY		TBD				
	F6 ALL-WEATHER BULLETIN BOARD		TBD				
<b>SYMBOL BY OTHER CONSULTANTS</b>							
	K1 ASPHALT PAVING	PER CIVIL					
	K2 STANDARD CURB & GUTTER	PER CIVIL					
	K3 HANDICAP SIGN	PER CIVIL					
	K4 SINGLE HANDICAP RAMP	PER CIVIL					
<b>SYMBOL OTHER</b>							
	PA PLANTING AREA						
	TYP. TYPICAL						
	EXPANSION JOINT	4/L202					
	SCORE JOINT	4/L202					
	OPEN SPACE SET-ASIDE						
	10'x70' SIGHT TRIANGLE						

ZEBULON ANIMAL HOSPITAL  
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SHEET TITLE:  
 HARDSCAPE  
 LEGEND

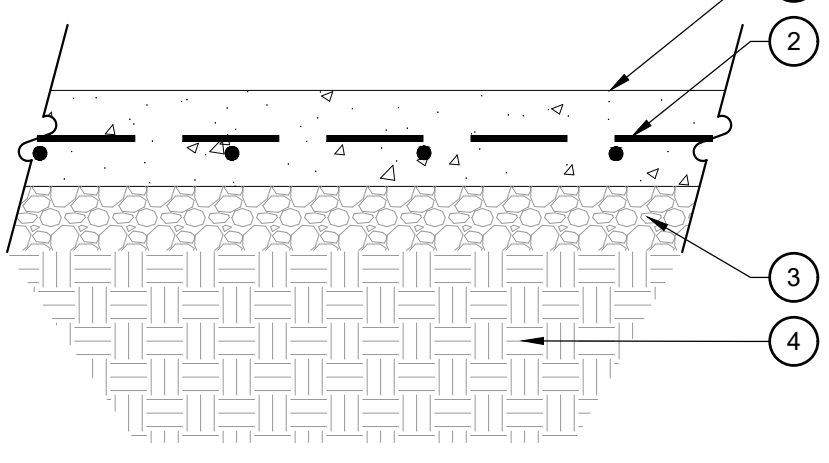
SHEET NUMBER:  
 L201

**LEGEND**

1. CAST-IN-PLACE CONCRETE, COLOR AND FINISH PER HARDSCAPE LEGEND
2. #4 REBAR, REINFORCEMENT PER TABLE BELOW
3. AGGREGATE BASE COURSE, THICKNESS PER TABLE BELOW
4. PREPARED SUBGRADE PER TOWN OF ZEBULON STANDARDS OR GEOTECHNICAL REPORT

**NOTES**

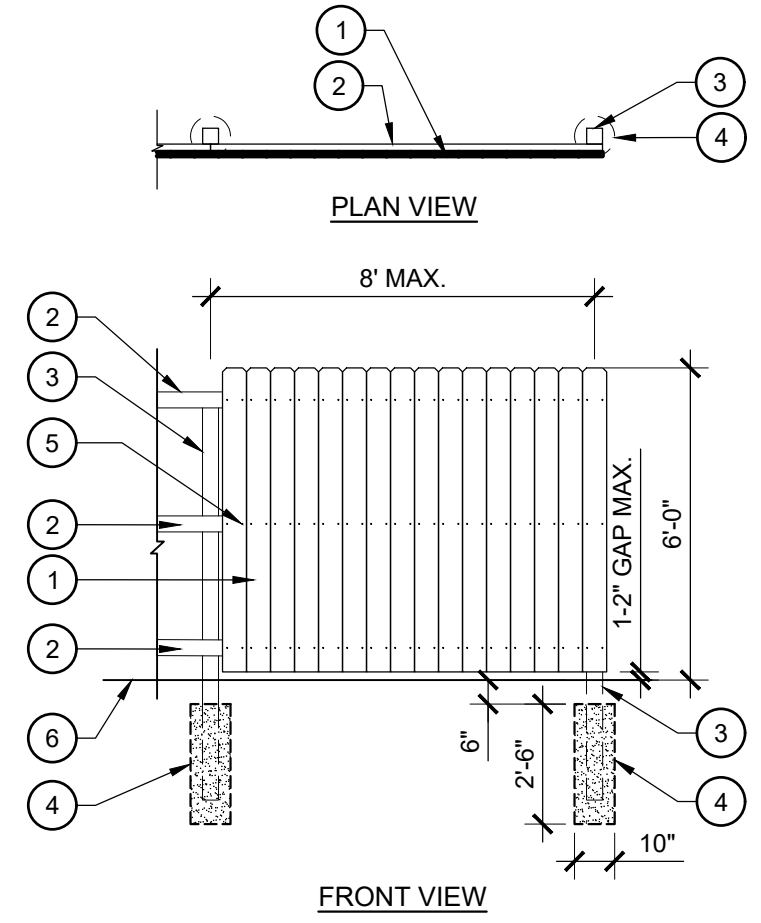
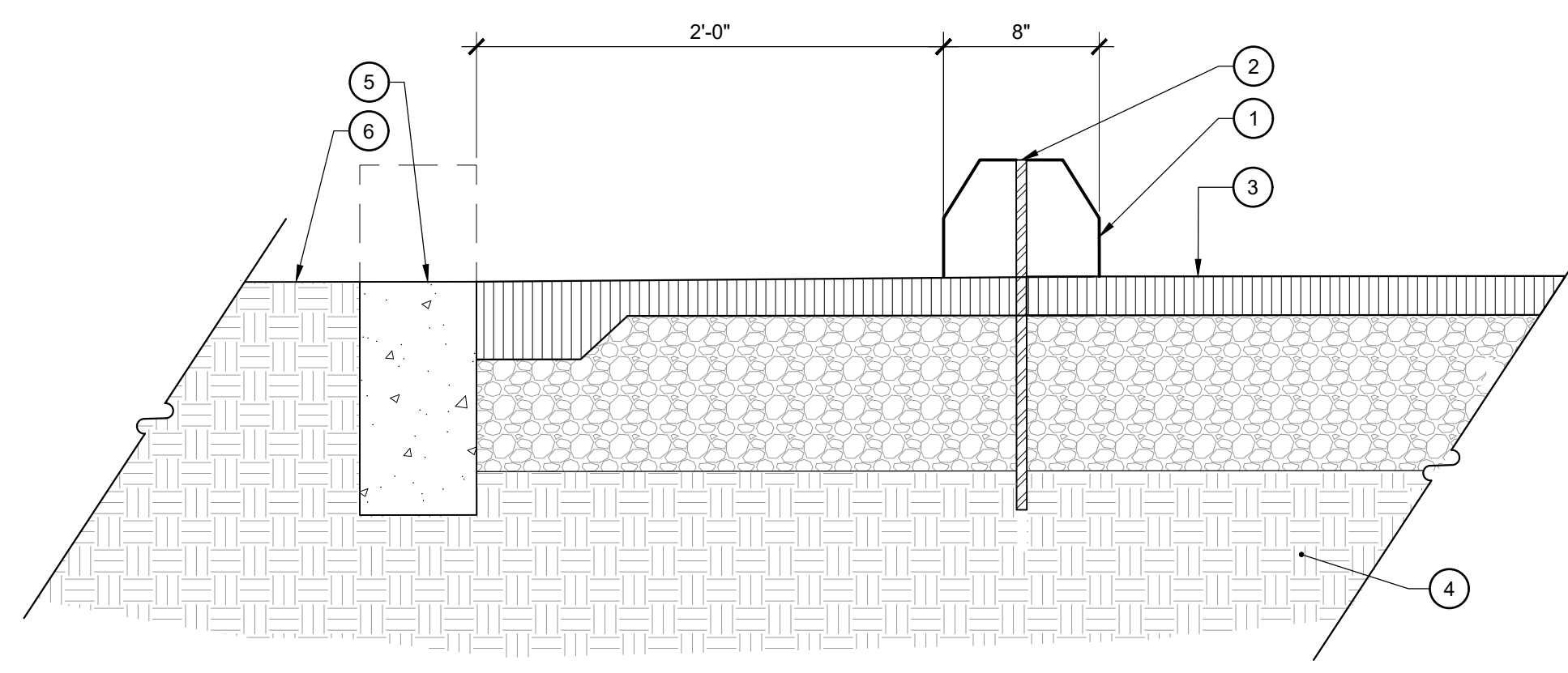
- A. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT TO REVIEW FORMS PRIOR TO POURING FOR NON-DEDICATED APPLICATIONS. IF NO GEOTECHNICAL REPORT IS AVAILABLE, COMPACT SUBGRADE TO 98% STANDARD MAXIMUM DRY DENSITY (MDD) +/- 3% OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698.



PAVEMENT TYPE	ABC	REINFORCEMENT	CONCRETE
Pedestrian Sidewalks	4"	None	4"
Dumpster Enclosure	4"	#4 @ 12" o.c., b.w.	8"

**LEGEND**

1. PRECAST CONCRETE WHEELSTOP, TYP.
2. 5/8" DIA. REIN. BAR 18" LONG 2 PER WHEEL STOP - TYP.
3. PAVING, TYP. - PER HARDSCAPE PLANS
4. EXISTING SUBGRADE
5. 6" FLUSH CURB OR RAISED PER HARDSCAPE PLANS
6. FINISH GRADE



**LEGEND**

1. 1" X 6" VERTICAL PICKET
2. 2" X 4" WOOD FRAMING
3. 4" X 4" WOOD POST
4. 3000 PSI CONCRETE FOOTING
5. GALVANIZED NAIL
6. FINISH GRADE

**NOTES**

- A. ALL LUMBER DIMENSIONS NOMINAL
- B. ALL LUMBER TO BE PRESSURE TREATED.
- C. INSTALL FENCE SO THAT FRONT VIEW FACES ADJACENT LOT.

**1** 6" OPAQUE FENCE  
SCALE: 1-1/2" = 1'-0"

**2** CONCRETE PAVING  
SCALE: 1" = 1'-0"

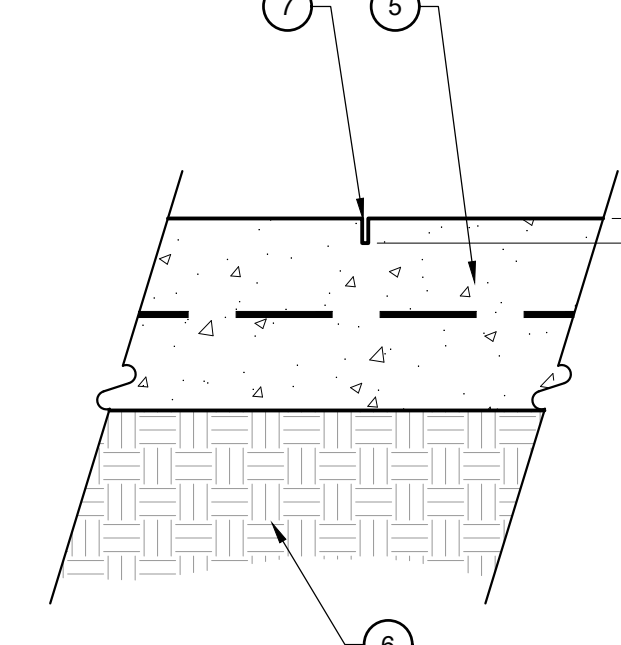
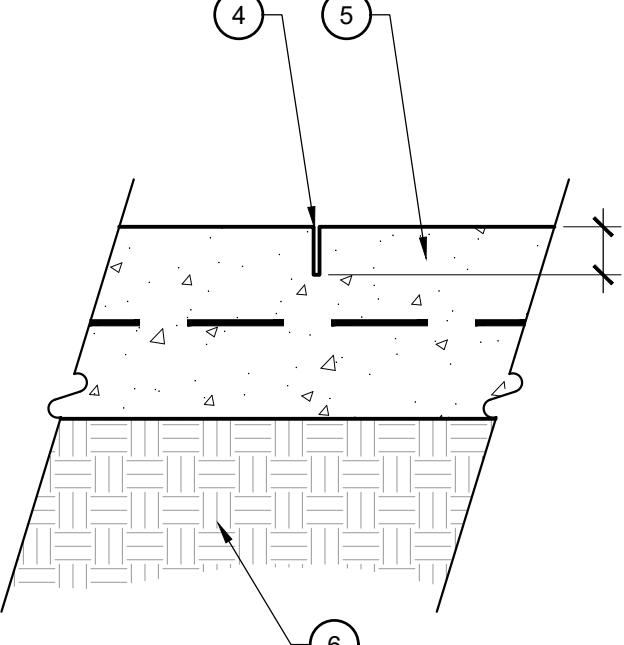
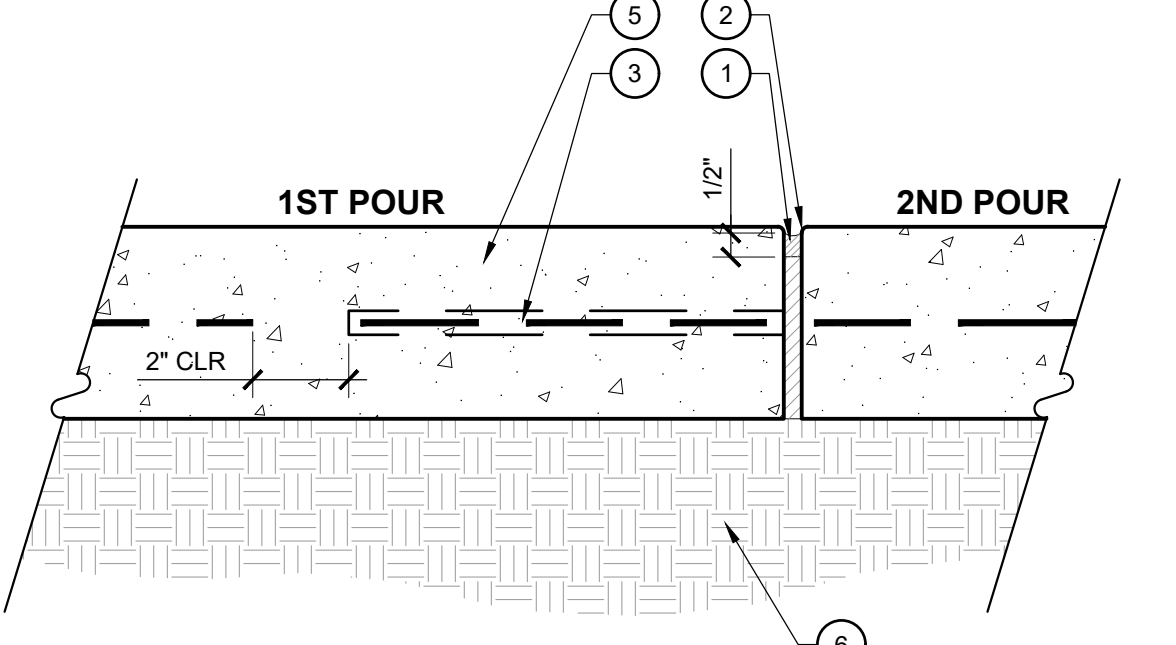
**3** CONCRETE WHEEL STOP  
SCALE: 1-1/2" = 1'-0"

**LEGEND**

1. 3/8" EXPANSION JOINT W/ SEALANT DUSTED WITH DOUBLE-WASHED CONCRETE SAND WHILE WET PER SPECIFICATIONS; SAND COLOR TO MATCH COLOR OF ADJACENT CONCRETE COLOR
2. 1/8" RADIUS TOOLED EDGE
3. #4 18" STEEL DOWEL @ 18" O.C., CENTERED IN SLAB, SLEEVE ONE SIDE
4. 1/8" WIDE SAWCUT JOINT
5. C.I.P. CONCRETE PAVING PER DETAIL
6. BASE AND SUBGRADE PREPARATION PER TOWN OF ZEBULON STANDARDS OR GEOTECHNICAL REPORT
7. DECORATIVE SAWCUT JOINT, 1/8" WIDE

**NOTES**

- A. PROVIDE EXPANSION JOINTS WHERE INDICATED ON THE DRAWINGS, AND WHERE PAVING ABUTS WALLS, CURBS, STEPS, RAMPS AND OTHER VERTICAL APPURTENANCES. OMIT DOWELS WHERE ABUTTING WALLS, BUILDINGS, AND CURBS.
- B. ALL TOOLED EDGES OF EXPANSION JOINTS SHALL BE 1/4" RADIUS MAX.
- C. PROVIDE COLD JOINTS BETWEEN DIFFERENT CONCRETE PAVING TYPES.



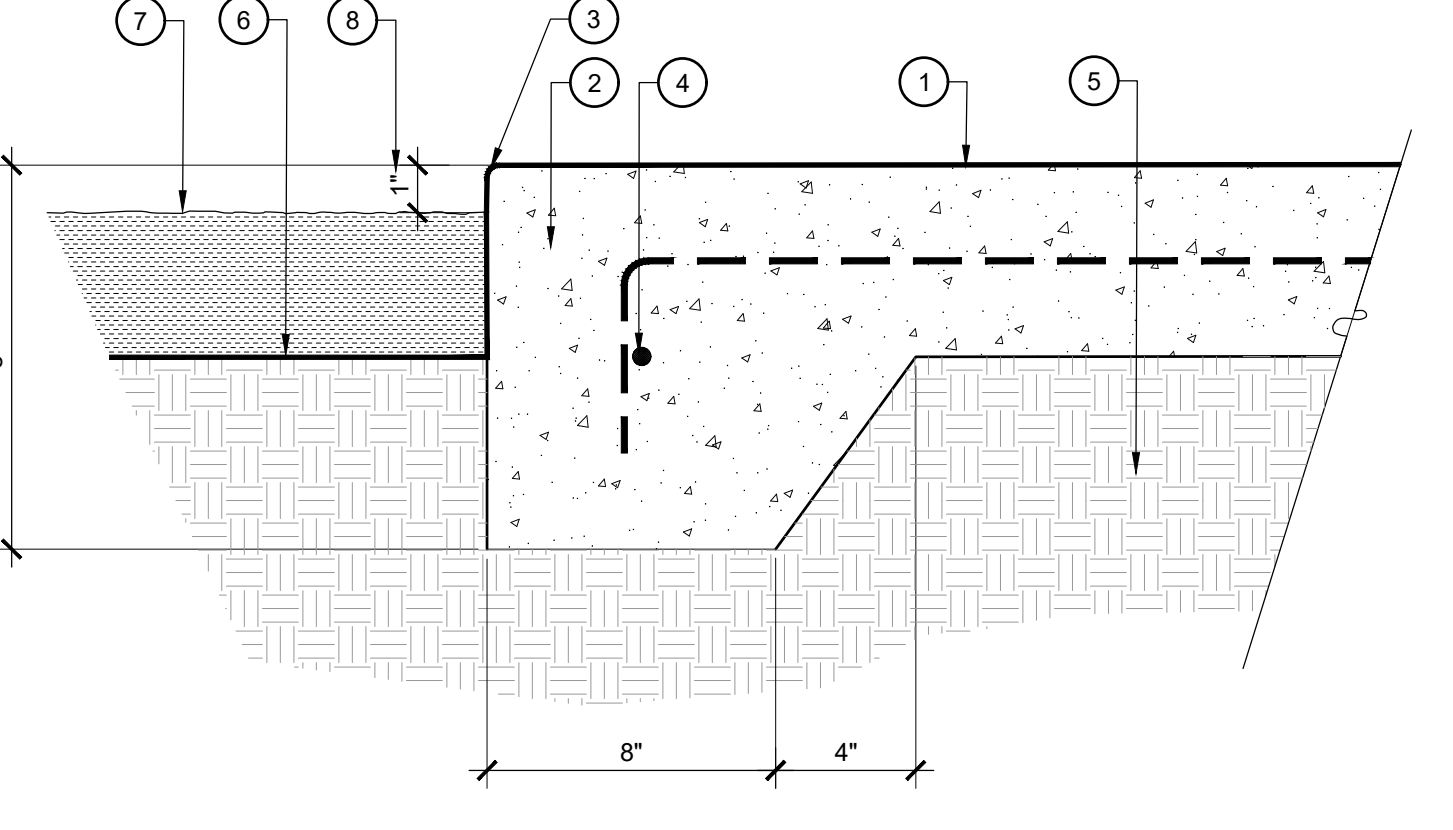
**EXPANSION JOINT**

**SAWCUT JOINT**

**DECORATIVE SAWCUT JOINT**

**4** CONCRETE PAVING JOINTS  
SCALE: 1-1/2" = 1'-0"

**5** CONCRETE THICKENED EDGE  
SCALE: 3" = 1'-0"

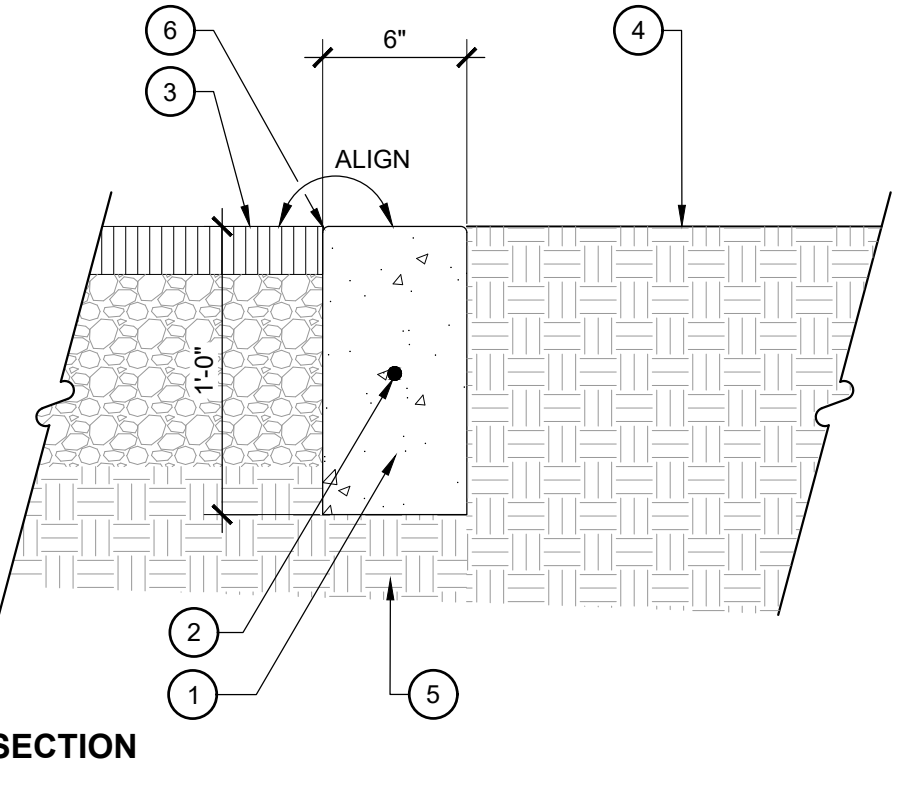


**LEGEND**

1. CONCRETE PAVING PER DETAIL
2. THICKENED EDGE
3. 1/8" RADIUS TOOLED EDGE
4. #3 BAR CONTINUOUS, 48" LAPPED AND WIRED
5. COMPACTED SUBGRADE AND BASE
6. REQUIREMENTS PER TOWN OF ZEBULON STANDARDS OR GEOTECHNICAL REPORT
7. FINISH GRADE AT PLANTING
8. 1" GAP NOT REQUIRED WHEN ADJACENT TO ASPHALT PAVING

**NOTES**

- A. THICKENED EDGE REQUIRED WHEREVER CONCRETE PAVING IS ADJACENT TO ASPHALT, AREAS OF AT-GRADE PLANTING, LAWN, OR DECOMPOSED GRANITE
- B. FOR NON-DEDICATED APPLICATIONS, IF NO GEOTECHNICAL REPORT AVAILABLE COMPACT SUBGRADE TO 98% STANDARD MAXIMUM DRY DENSITY (MDD) +/- 3% OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698



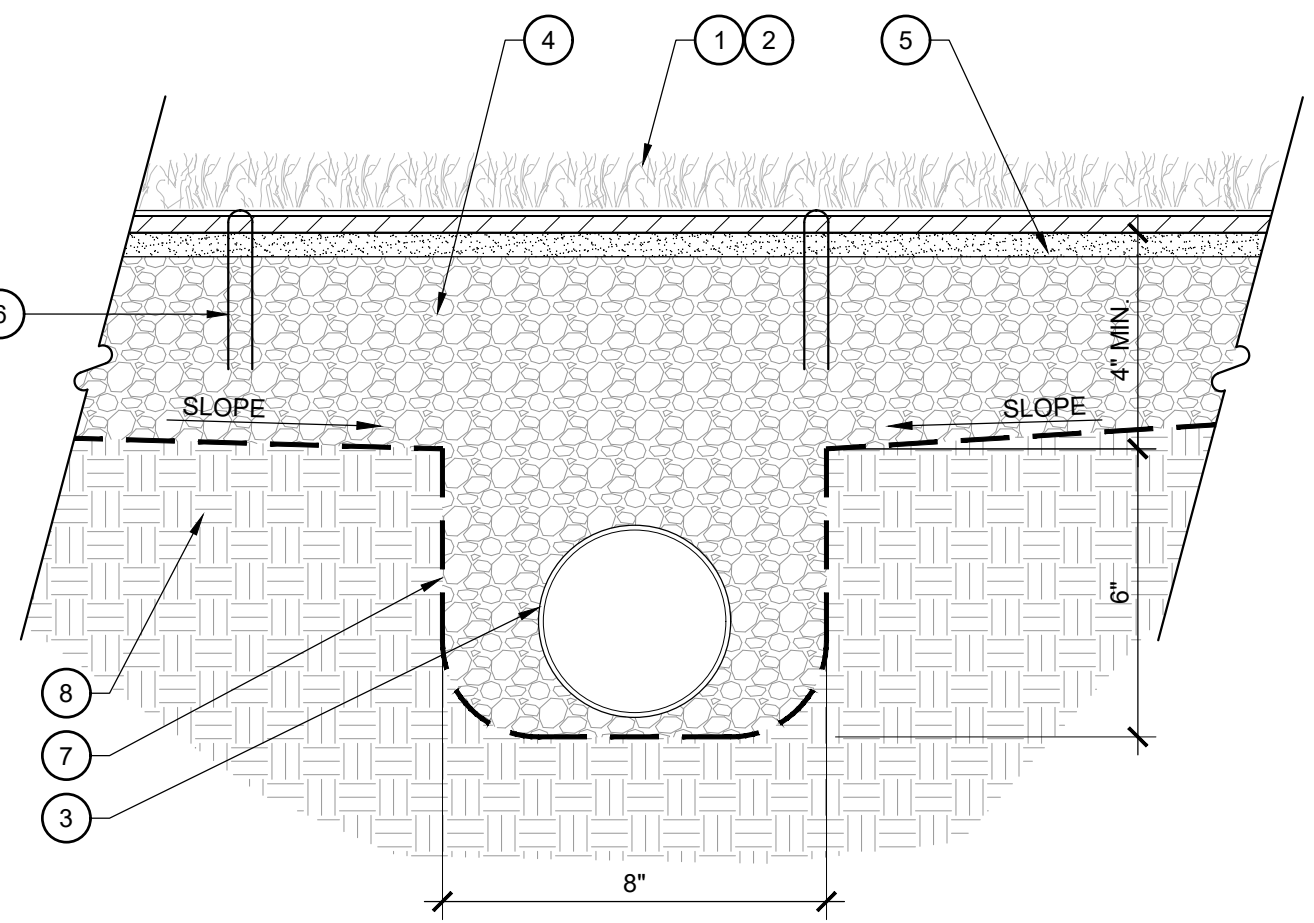
**LEGEND**

1. CONCRETE PER HARDSCAPE LEGEND
2. #4 REBAR HORIZ. CONTINUOUS, 12" MIN. LAP AT SPLICE
3. ASPHALT PAVING PER CIVIL PLANS
4. ADJACENT FINISH GRADE PER PLANS
5. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
6. 1/4" RADIUS AT ALL EXPOSED EDGES

**NOTE**

- A. IF NO GEOTECHNICAL REPORT IS AVAILABLE COMPACT SUBGRADE TO 98% STANDARD MAXIMUM DRY DENSITY (MDD) +/- 3% OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698.
- B. PROVIDE EXPANSION JOINT 30' O.C. THROUGH LENGTH OF CURB AND WHEN ADJACENT TO CONCRETE PAVING.

**SECTION**



**LEGEND**

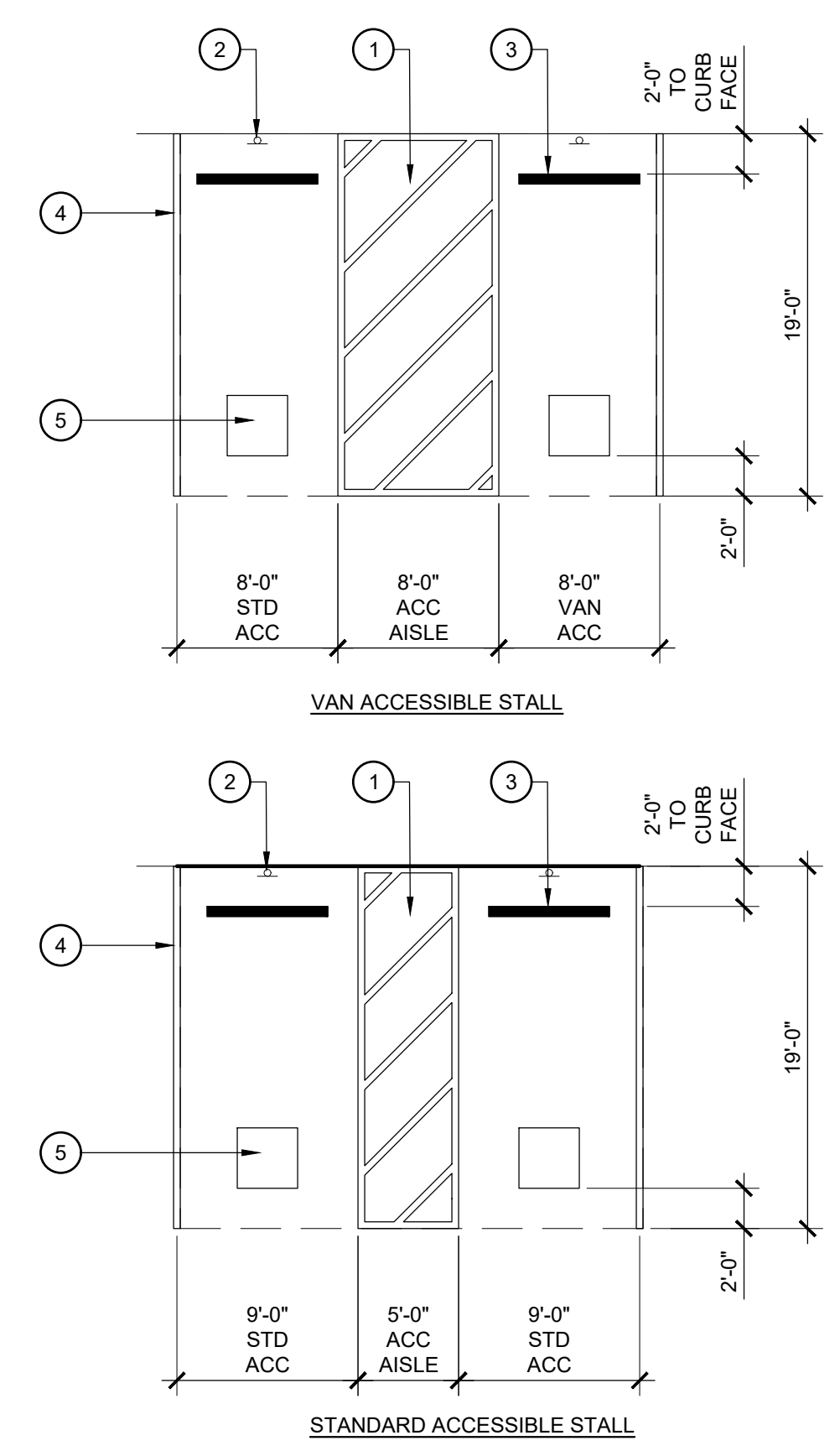
1. ARTIFICIAL TURF PER CONSTRUCTION SCHEDULE
2. INFILL AND BRUSH ARTIFICIAL TURF WITH ENVIROFILL. ENSURE TURF BLADES DO NOT LAY FLAT
3. 4" DIA. CORRUGATED PERFORATED PIPE. CONNECT TO NEAREST STORM DRAIN LINE
4. #57 COMPACTED WASHED AGGREGATE BASE COURSE
5. 1/2" ASTM C33 SAND SETTING BED
6. 6" ARTIFICIAL TURF STAPLE, ONE (1) PER 1 SQ.FT.
7. GEOTEXTILE FILTER FABRIC, MIRAFI OR EQUAL
8. COMPACTED SUBGRADE TO 98% STANDARD MAXIMUM DRY DENSITY (MDD) +/- 3% OPTIMUM MOISTURE AS DETERMINED BY ASTM D-693, OR PER GEOTECHNICAL REPORT

**NOTES**

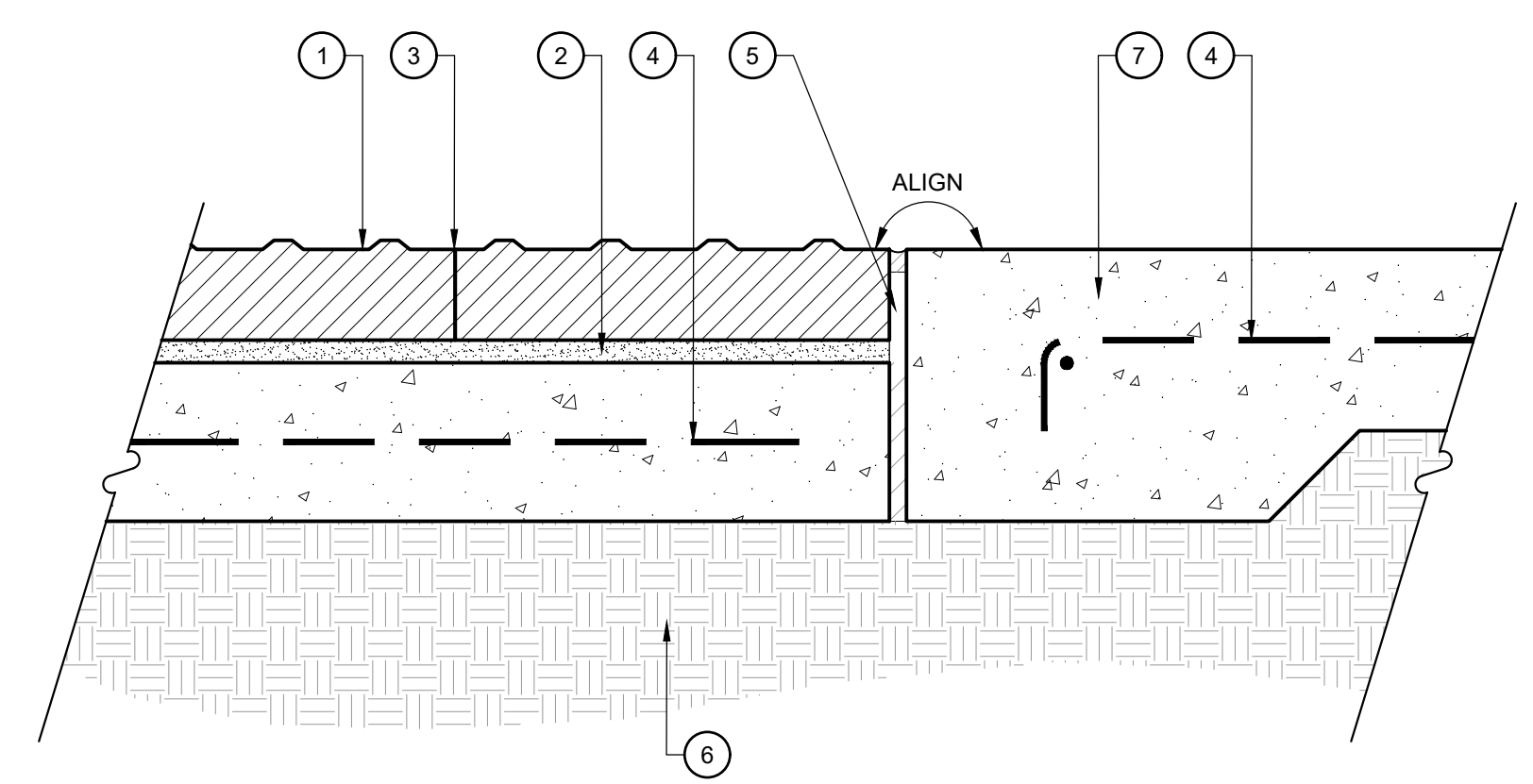
- A. INSTALL ARTIFICIAL TURF PER MANUFACTURER'S RECOMMENDATIONS
- B. COORDINATE DRAIN PIPE LAYOUT WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION

**6** 6" FLUSH CURB  
SCALE: 1-1/2" = 1'-0"

**7** ARTIFICIAL TURF  
SCALE: 1-1/2" = 1'-0"



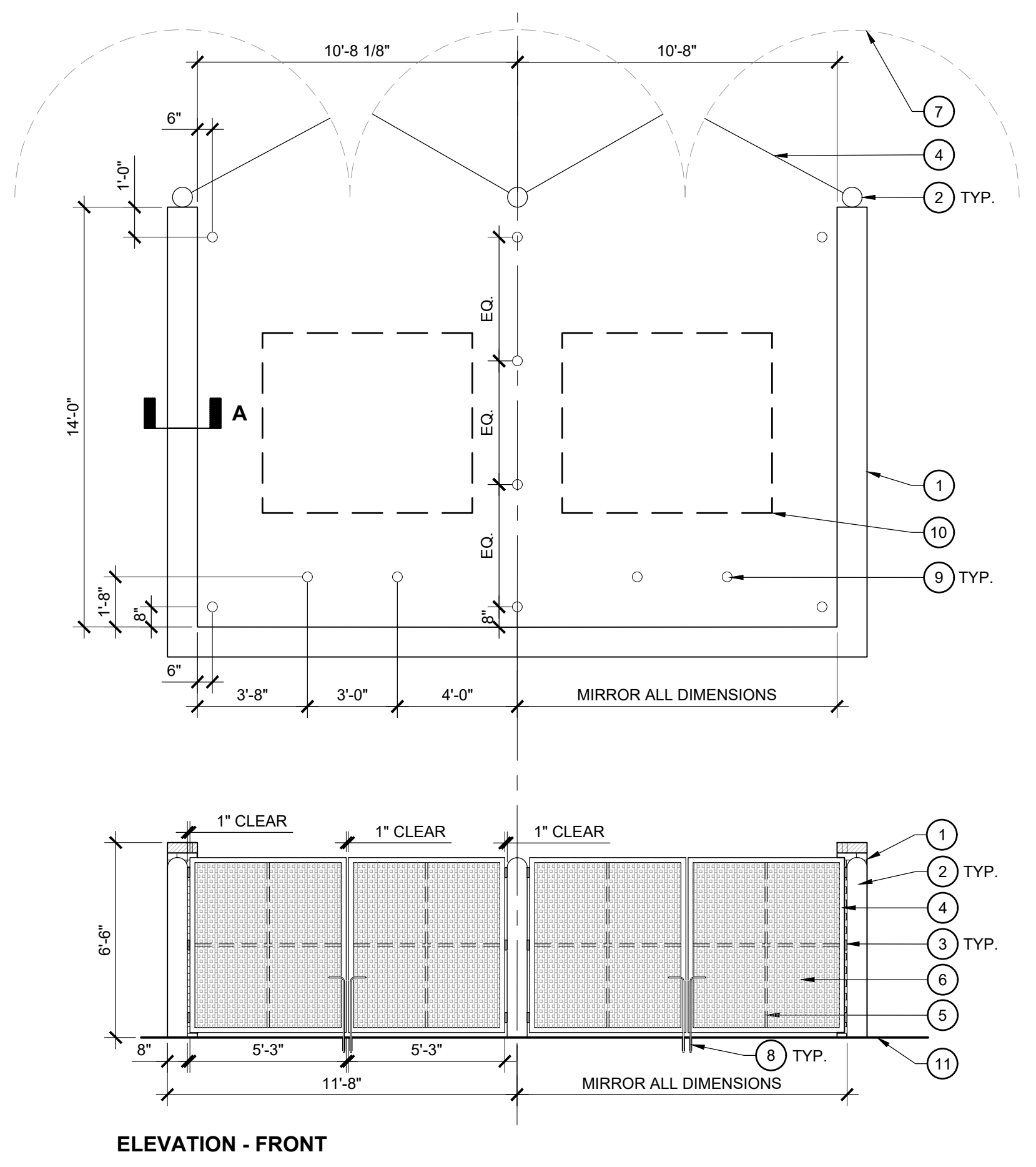
- LEGEND**
1. ACCESSIBLE AISLE TO BE CLEAR OF ALL OBSTRUCTIONS
  2. ACCESSIBLE SIGN. SEE HARDSCAPE PLAN FOR LOCATION
  3. CONCRETE WHEELSTOP
  4. 4" WIDE WHITE STRIPE
  5. 36" X 36" INTERNATIONAL SIGN OF ACCESSIBILITY EMBLEM
- NOTES**
- A. CONTRACTOR SHALL VERIFY A MAX. SLOPE OF 2% IN ALL DIRECTIONS. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO INSTALLATION



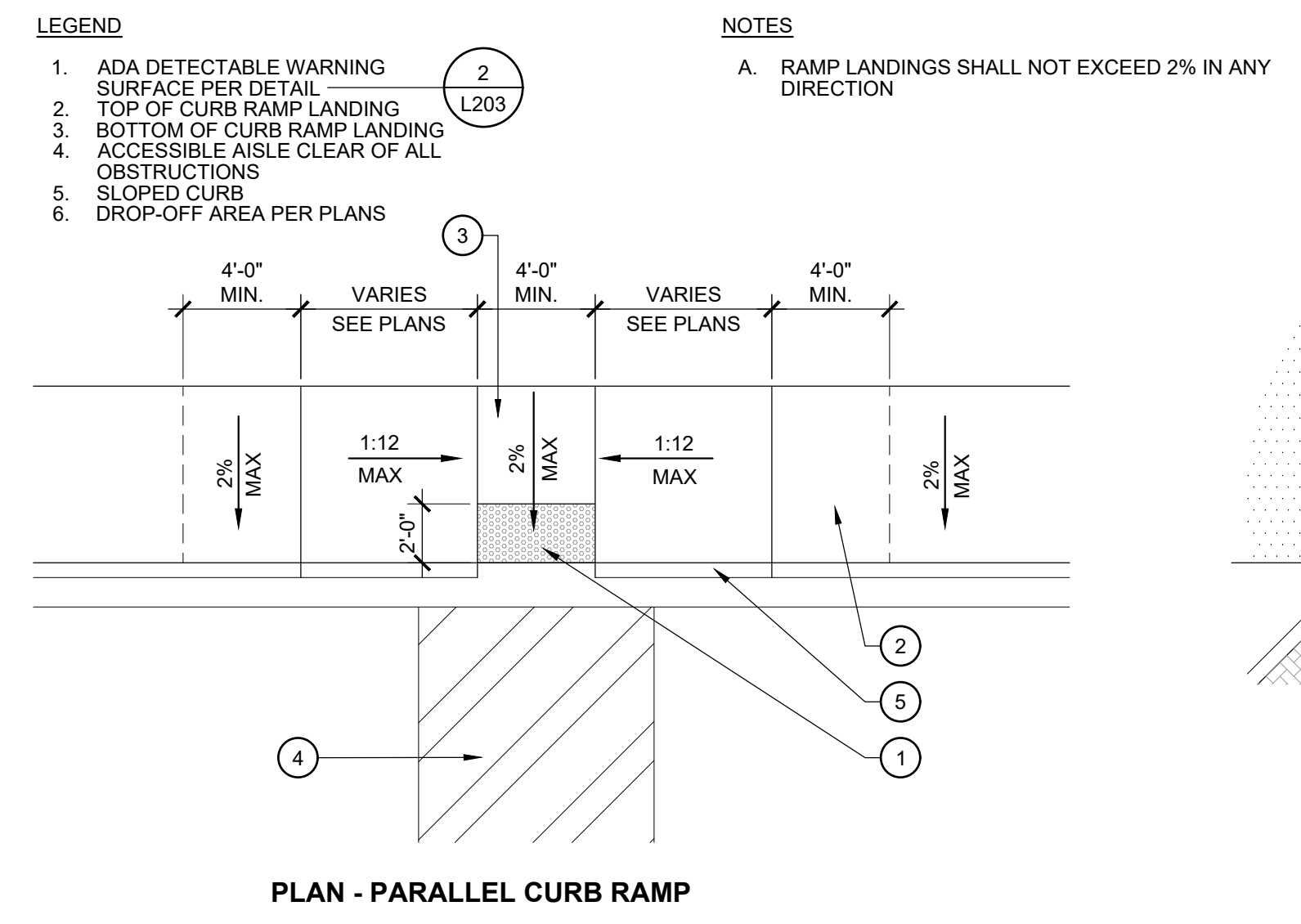
- LEGEND**
1. PRECAST CONCRETE DETECTABLE WARNING PAVERS PER HARDSCAPE LEGEND
  2. MORTAR SETTING BED PER MANUFACTURER'S RECOMMENDATION
  3. BUTT JOINT BETWEEN PAVERS
  4. CONCRETE REINFORCEMENT PER GEOTECHNICAL REPORT
  5. EXPANSION JOINT PER DETAIL
  6. BASE AND SUBGRADE PREPARATION PER TOWN OF ZEBULON STANDARDS OR GEOTECHNICAL REPORT
  7. CONCRETE THICKENED EDGE PER DETAIL
- NOTES**
- A. REFER TO HARDSCAPE PLAN AND LEGEND FOR LAYOUT AND PATTERN OF PAVERS.  
B. CONTRACTOR SHALL SUBMIT PAVES SAMPLE TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING AND INSTALLATION.  
C. FINISH SURFACE OF DETECTABLE WARNING PAVERS SHALL BE LEVEL WITH ADJACENT PAVING.

1 ADA PARKING  
SCALE: 1/8" = 1'-0"

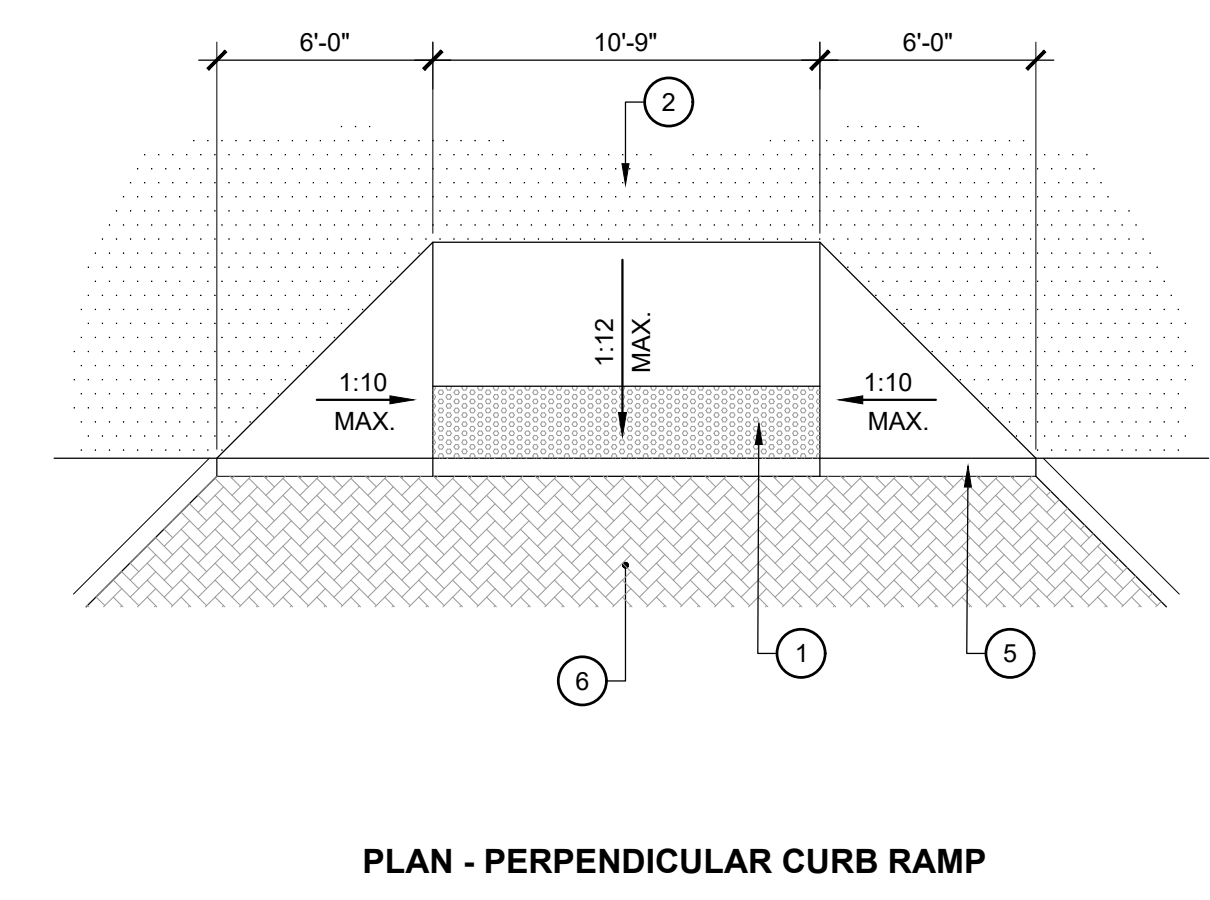
2 ADA DETECTABLE WARNING SURFACE  
SCALE: 1-1/2" = 1'-0"



- LEGEND**
1. CMU BLOCK WALL WITH BRICK CLADDING, BRICK TO MATCH ARCHITECTURE
  2. 8" DIA. GALVANIZED STEEL GATE POST
  3. HEAVY DUTY GALVANIZED STEEL GATE HINGES, THREE (3) AT EACH GATE EQUALLY SPACED
  4. 2"X2" SQ. GALVANIZED H.S.S. EXTERIOR SUPPORT GATE FRAME
  5. 1"X1" SQ. GALVANIZED H.S.S. INTERIOR SUPPORT GATE FRAME
  6. STANDING SEAM METAL PANEL WELDED TO H.S.S. FRAME
  7. GATE HINGES SHALL ALLOW FOR 180° SWING
  8. 1/2" DIA. SOLID STOCK STEEL DROP ROD
  9. 4" DIA. HOLLOW CORE GALVANIZED STEEL BOLLARD, EMBED INTO PAVEMENT AND FILL SOLID WITH GROUT
  10. 8 YARD DUMPSTER BY OTHERS (SHOWN FOR REFERENCE ONLY)
  11. FINISH SURFACE
- NOTES**
- A. ALL MOUNTING HARDWARE TO BE GALVANIZED STEEL.  
B. PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION.  
C. ALL BRICK TO MATCH ARCHITECTURE.

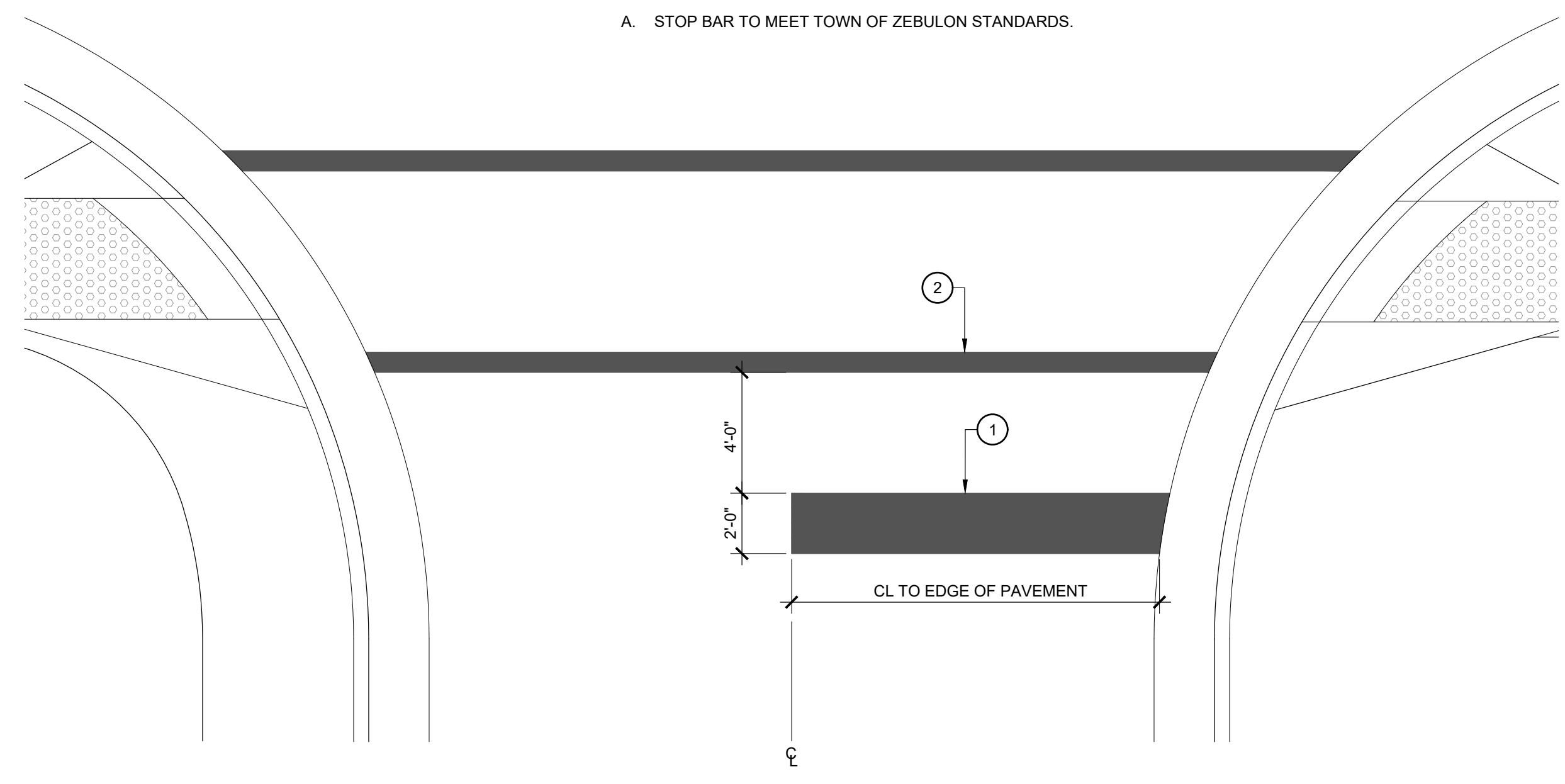


4 ADA RAMP  
SCALE: 3/16" = 1'-0"



- LEGEND**
1. 24" WHITE, THERMOPLASTIC PAINT
  2. CROSSWALK PER SITE PLAN

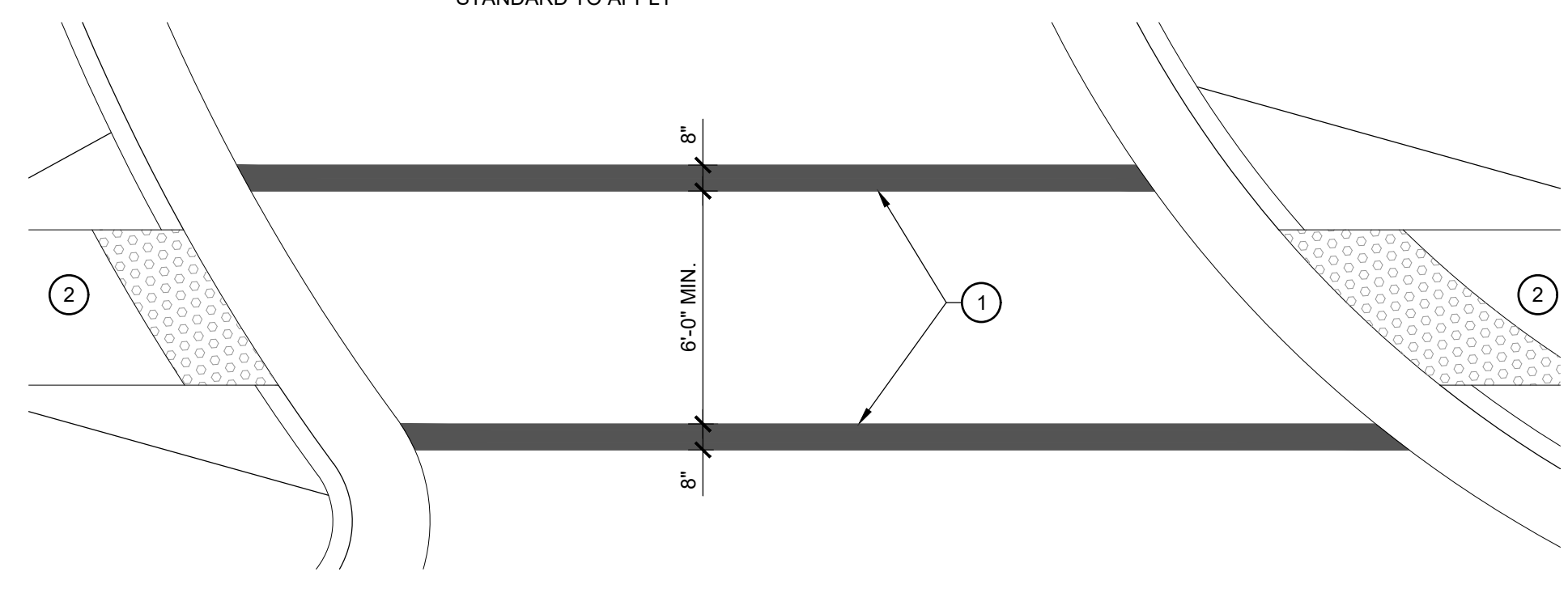
- NOTES**
- A. STOP BAR TO MEET TOWN OF ZEBULON STANDARDS.



**2 STOP BAR**  
 SCALE: 1/4" = 1'-0"

- LEGEND**
1. 8" WHITE, THERMOPLASTIC PAINT
  2. SIDEWALK PER SITE PLAN

- NOTES**
- A. CROSSWALK TO MEET ALL NCDOT AND TOWN OF ZEBULON STANDARDS. MOST STRINGENT STANDARD TO APPLY



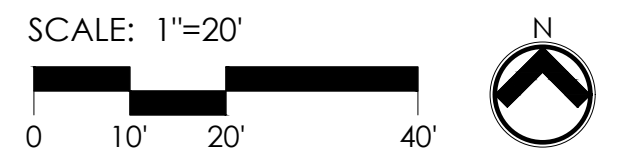
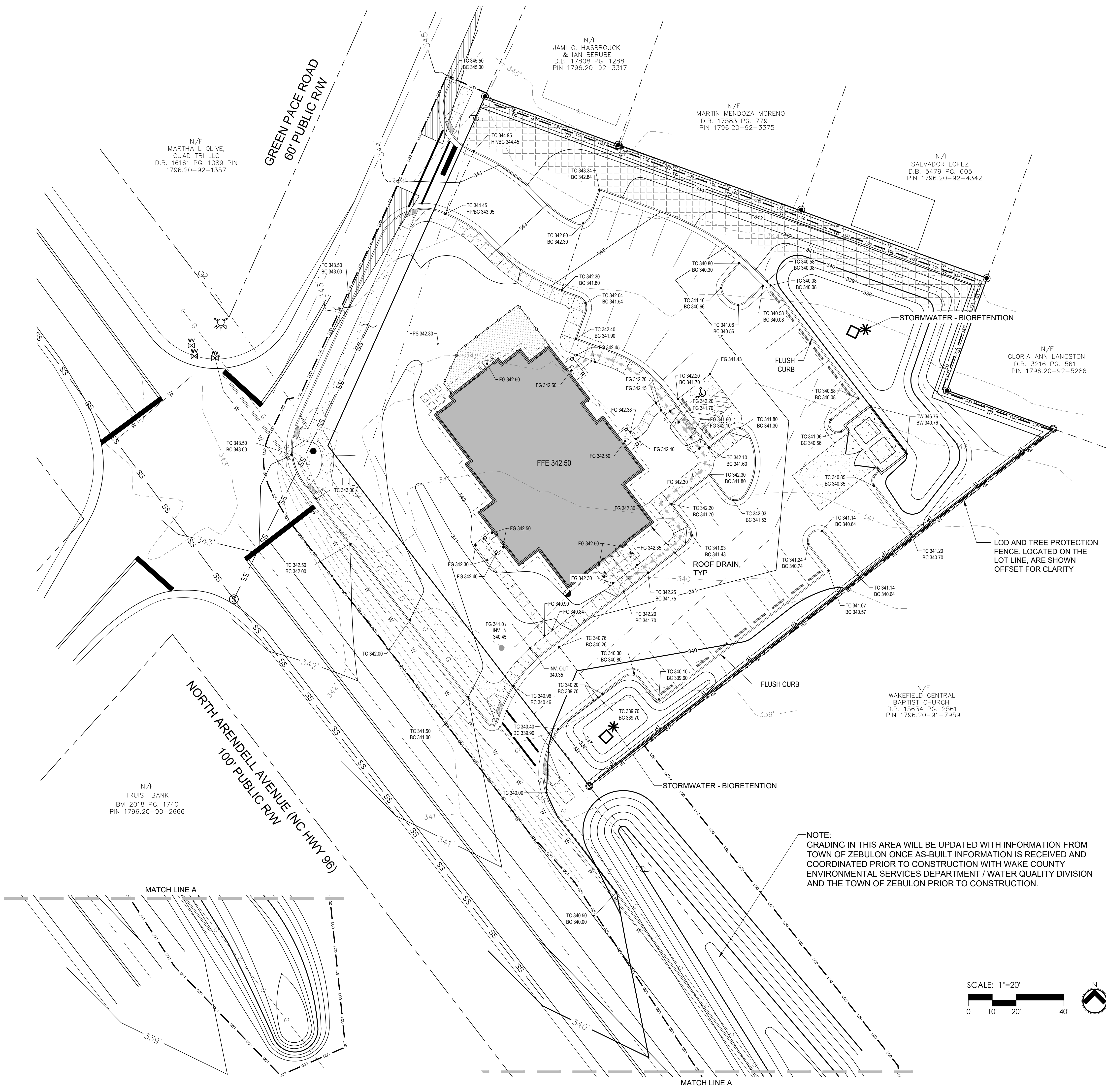
**1 CROSSWALK**  
 SCALE: 1/4" = 1'-0"



**GRADING NOTES**

- CONTRACTOR TO FIELD VERIFY ALL INFORMATION AND REPORT ANY DISCREPANCIES TO LANDSCAPE ARCHITECT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- ALL PAVEMENTS TO SLOPE POSITIVELY AWAY FROM ALL BUILDINGS. PONDING OF WATER IS PROHIBITED.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL METHODS DURING CONSTRUCTION, AND THE OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL PERMANENT EROSION CONTROL METHODS AFTER CONSTRUCTION IS COMPLETE, IF ANY PERMANENT METHODS ARE REQUIRED.
- CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES SHALL CONFORM TO THE STANDARDS SET FORTH IN THE CITY OF RALEIGH EROSION AND SEDIMENT CONTROL MANUAL.
- INSPECTOR REFERS TO AUTHORIZED REGULATORY AGENCY SEDIMENTATION AND EROSION CONTROL INSPECTOR OR HIS/HER REPRESENTATIVE. FIELD INSPECTIONS MAY REQUIRE ADDITIONAL SEDIMENTATION AND EROSION CONTROL MEASURES AS DEEMED NECESSARY BY THE INSPECTOR, CLIENT, AND/OR CLIENT'S REPRESENTATIVES.
- WHEN HAND PLANTING, MULCH (HAY OR STRAW) SHOULD BE UNIFORMLY SPREAD OVER SEEDED AREA WITHIN 24 HOURS OF SEEDING.
- DURING UNSUITABLE GROWING SEASONS, MULCH WILL BE USED AS A TEMPORARY COVER ON SLOPES THAT ARE 4:1 OR STEEPER, MULCH WILL BE ANCHORED.
- EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. PLEASE CALL THE REGULATORY AUTHORITY FOR AN INSPECTION.
- INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES EVERY 7 DAYS AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) AND DOCUMENT WITH INSPECTION REPORTS.
- EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- LOCATE STOCKPILES UPSLOPE FROM EROSION CONTROL MEASURES. ALL SOIL STOCK PILES SHALL HAVE APPROPRIATE EROSION CONTROL PER THE LATEST VERSION OF THE CITY OF RALEIGH EROSION AND SEDIMENT CONTROL MANUAL INCLUDING SEEDING AND SILT FENCE AROUND THE BASE OF THE STOCK PILE.

GRADING LEGEND	
KEY	DESCRIPTION
FG	FINISH GRADE
MG	MEET EXISTING GRADE
HP	HIGH POINT
HPS	HIGH POINT OF SWALE
LP	LOW POINT
BS	BOTTOM OF STAIRS
TS	TOP OF STAIRS
BR	BOTTOM OF RAMP
TR	TOP OF RAMP
BC	BOTTOM OF CURB
TC	TOP OF CURB
BW	BOTTOM OF WALL
TW	TOP OF WALL
— — — — —	ACCESSIBLE ROUTE
— TP —	TREE PROTECTION FENCE
— LOD —	LIMITS OF DISTURBANCE



N/F  
MARTHA L OLIVE,  
QUAD TRI LLC  
D.B. 16161 PG. 1089 PIN  
1796.20-92-1357

N/F  
JAMI G. HASBROUCK  
& IAN BERUBE  
D.B. 17808 PG. 1288  
PIN 1796.20-92-3317

N/F  
MARTIN MENDOZA MORENO  
D.B. 17583 PG. 779  
PIN 1796.20-92-3375

N/F  
SALVADOR LOPEZ  
D.B. 5479 PG. 605  
PIN 1796.20-92-4342

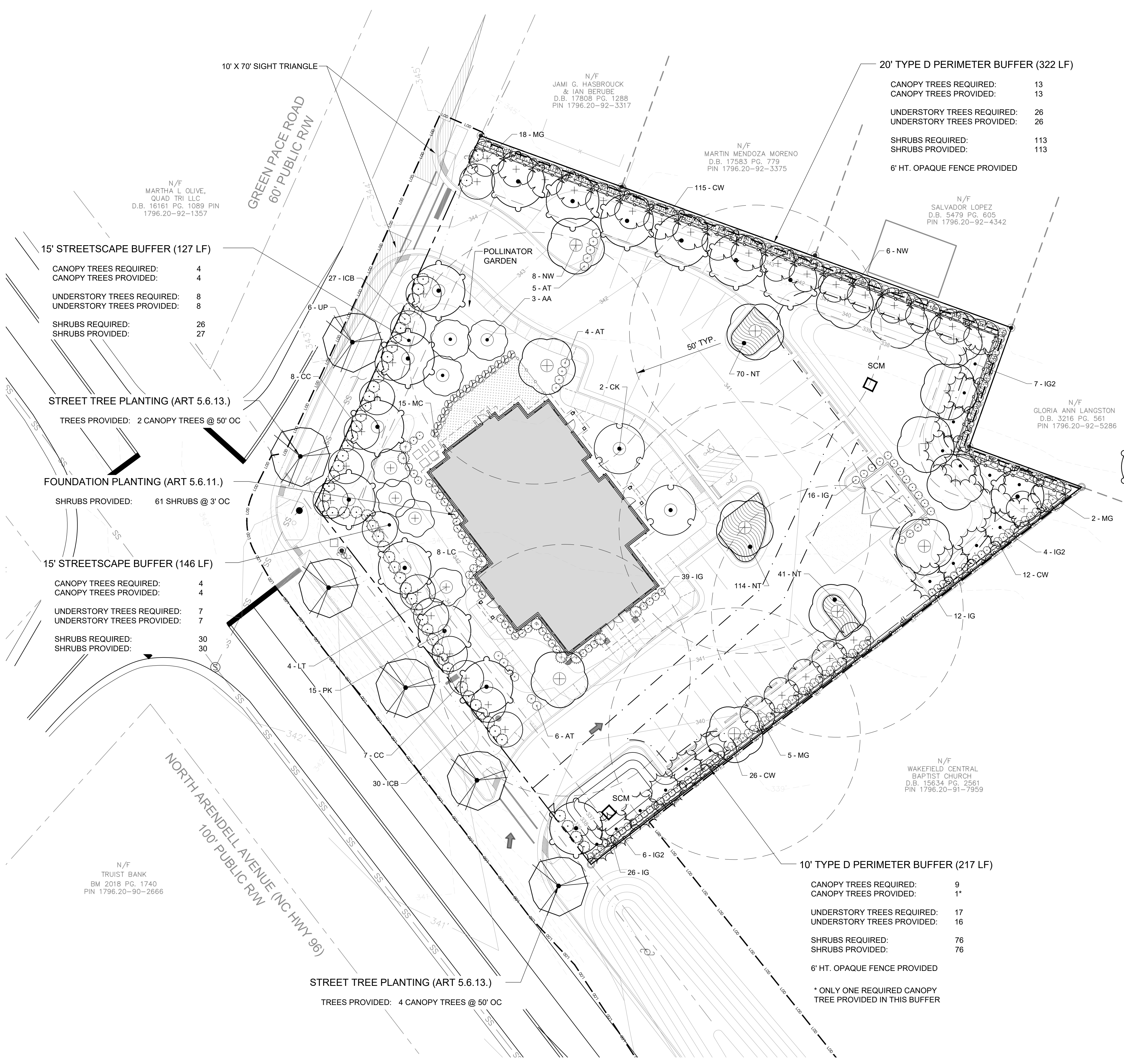
N/F  
GLORIA ANN LANGSTON  
D.B. 3216 PG. 561  
PIN 1796.20-92-5286

N/F  
WAKEFIELD CENTRAL  
BAPTIST CHURCH  
D.B. 15634 PG. 2561  
PIN 1796.20-91-7959

N/F  
TRUIST BANK  
BM 2018 PG. 1740  
PIN 1796.20-90-2666

MATCH LINE A

MATCH LINE A



20' TYPE D PERIMETER BUFFER (322 LF)

CANOPY TREES REQUIRED: 13  
CANOPY TREES PROVIDED: 13  
UNDERSTORY TREES REQUIRED: 26  
UNDERSTORY TREES PROVIDED: 26  
SHRUBS REQUIRED: 113  
SHRUBS PROVIDED: 113  
6' HT. OPAQUE FENCE PROVIDED

**PLANT SCHEDULE**

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME
	AA	3	Acer x freemanii 'Armstrong'	Armstrong Freeman Maple
	CC	15	Cercis canadensis 'NC2016-2'	Flame Thrower® Eastern Redbud
	CK	2	Cladrastis kentukea	American Yellowwood
	IG2	17	Ilex opaca 'Tinga'	Tinga American Holly
	LT	4	Liriodendron tulipifera 'Arnold'	Arnold Tulip Poplar
	MG	25	Magnolia grandiflora 'Kay Parris'	Kay Parris Southern Magnolia
	NW	14	Nyssa sylvatica 'Wildfire'	Black Gum
	PK	15	Pistacia chinensis 'Keith Davey'	Keith Davey Chinese Pistache
	UP	6	Ulmus parvifolia	Lacebark Elm
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME
	AT	15	Azalea encore 'Autumn Sundance' TM	'Autumn Sundance' Encore Azalea
	CW	153	Camellia sasanqua 'Green 02-004'	October Magic® White Shi-Shi Camellia
	ICB	57	Ilex cornuta 'Dwarf Burford'	Dwarf Burford Holly
	IG	93	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly
	LC	8	Loropetalum chinense rubrum 'Fire Dance'	Fire Dance Fringe Flower
	MC	15	Myrica cerifera	Wax Myrtle
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME
	NT	913	Nassella tenuissima	Mexican Feather Grass

10' TYPE D PERIMETER BUFFER (217 LF)

CANOPY TREES REQUIRED: 9  
CANOPY TREES PROVIDED: 1\*  
UNDERSTORY TREES REQUIRED: 17  
UNDERSTORY TREES PROVIDED: 16  
SHRUBS REQUIRED: 76  
SHRUBS PROVIDED: 76  
6' HT. OPAQUE FENCE PROVIDED

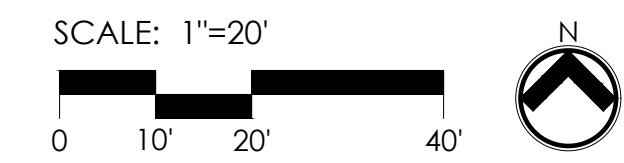
\* ONLY ONE REQUIRED CANOPY TREE PROVIDED IN THIS BUFFER

**LANDSCAPE REQUIREMENTS:**

**PARKING LOT**  
1 CANOPY TREE PER 12 PARKING SPACES  
NO PARKING SPACE MORE THAN 50' FROM CANOPY TREE  
EVERGREEN SHRUBS A 3' OC REQUIRED AROUND PERIMETER

**TYPE D PERIMETER BUFFER**  
4 CANOPY TREES REQUIRED PER 100 LINEAR FEET  
8 UNDERSTORY TREES REQUIRED PER 100 LINEAR FEET  
35 EVERGREEN SHRUBS REQUIRED PER 100 LINEAR FEET  
75% OF UNDERSTORY TREES SHALL BE EVERGREEN

NOTE:  
LANDSCAPING IN THE VICINITY OF THE BIORETENTION PONDS ARE COMPLIANT WITH THE NCDEQ STORMWATER DESIGN MANUAL APPROVED LIST OF TREES AND SHRUBS.



PLANT SCHEDULE

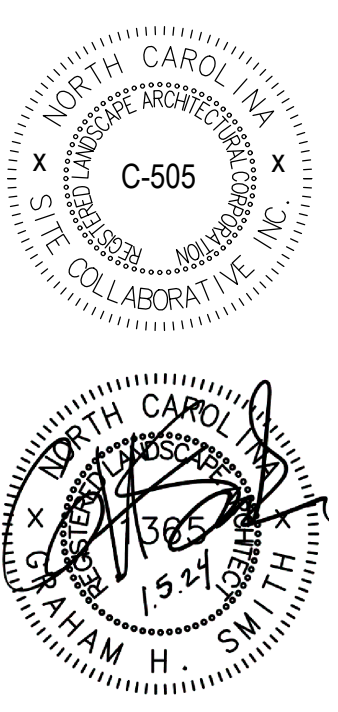
TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	B&B OR CONT.	SPACING (O.C.)	REMARKS
	AA	3	Acer x freemanii 'Armstrong'	Armstrong Freeman Maple	2 1/2"	8'	B&B	AS SHOWN	UTILITY ALLOCATION POLICY COMPLIANCE - CATEGORY 3
	CC	15	Cercis canadensis 'NC2016-2'	Flame Thrower® Eastern Redbud	1 1/2"	4'	CONTAINER	AS SHOWN	
	CK	2	Cladrastis kentukea	American Yellowwood	2 1/2"	8'	B&B	AS SHOWN	UTILITY ALLOCATION POLICY COMPLIANCE - CATEGORY 3
	IG2	17	Ilex opaca 'Tinga'	Tinga American Holly	1 1/2"	6'	B&B	AS SHOWN	
	LT	4	Liriodendron tulipifera 'Arnold'	Arnold Tulip Poplar	2 1/2"	8'	B&B	AS SHOWN	UTILITY ALLOCATION POLICY COMPLIANCE - CATEGORY 3
	MG	25	Magnolia grandiflora 'Kay Parris'	Kay Parris Southern Magnolia	1 1/2"	6'	B&B	AS SHOWN	
	NW	14	Nyssa sylvatica 'Wildfire'	Black Gum	2 1/2"	8'	B&B	AS SHOWN	
	PK	15	Pistacia chinensis 'Keith Davey'	Keith Davey Chinese Pistache	2 1/2"	8'	B&B	AS SHOWN	
	UP	6	Ulmus parvifolia	Lacebark Elm	2 1/2"	8'	B&B	AS SHOWN	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	SPREAD	SPACING (O.C.)	REMARKS
	AT	15	Azalea encore 'Autumn Sundance'™	'Autumn Sundance' Encore Azalea	3 GAL.	18" MIN.	18" MIN.	AS SHOWN	
	CW	153	Camellia sasanqua 'Green 02-004'	October Magic® White Shi-Shi Camellia	3 GAL.	18" MIN.	18" MIN.	AS SHOWN	
	ICB	57	Ilex cornuta 'Dwarf Burford'	Dwarf Burford Holly	3 GAL.	18" MIN.	18" MIN.	AS SHOWN	
	IG	93	Ilex glabra 'Shamrock'	Shamrock Inkberry Holly	3 GAL.	18" MIN.	18" MIN.	AS SHOWN	
	LC	8	Loropetalum chinense rubrum 'Fire Dance'	Fire Dance Fringe Flower	5 GAL.	24" MIN.	24" MIN.	AS SHOWN	
	MC	15	Myrica cerifera	Wax Myrtle	3 GAL.	18" MIN.	18" MIN.	AS SHOWN	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	SPREAD	SPACING (O.C.)	REMARKS
	NT	913	Nassella tenuissima	Mexican Feather Grass	FLAT				

PLANTING NOTES

- ROUGH GRADING TO BE COMPLETED PRIOR TO THE START OF PLANT INSTALLATION. SUBSTANTIAL COMPLETION SIGN-OFF BY LANDSCAPE ARCHITECT CONTRACTOR TO ENSURE NO CHANNELIZED FLOWS AROUND THE SITE.
- CONTRACTOR RESPONSIBLE FOR LOCATING ALL UTILITIES AND UNDERGROUND IMPEDIMENTS PRIOR TO BEGINNING PLANTING.
- ALL WEEDS, NON-NATIVE INVASIVE SPECIES, AND EXOTIC SPECIES LOCATED WITHIN THE PROJECT CONTRACTOR LIMITS SHALL BE ELIMINATED PRIOR TO PLANTING BED CREATION, PLANTING, AND SEEDING/SODDING OPERATIONS.
- PLANTING SHOULD OCCUR IMMEDIATELY AFTER CONSTRUCTION TO STABILIZE AREAS OF BARE SOIL.
- IT SHALL BE NOTED THAT ALL SECTIONS OF THE SITE THAT ARE SLOPED 3:1 OR HIGHER WILL BE COVERED WITH EROSION CONTROL STABILIZATION COIR FABRIC (WITH 1" SQUARE OPENINGS) PRIOR TO PLANTING TO ENSURE IMMEDIATE STABILIZATION. LANDSCAPE CONTRACTOR SHALL CUT FABRIC AT EACH PLANT LOCATION AND PLACE PLANTS ACCORDING TO PLAN. ALL FABRIC SHALL BE RE-STAKED PER ENGINEERS ORIGINAL DRAWINGS IMMEDIATELY AFTER PLANTING.
- PLANTS ARE TO BE PURCHASED BY BOTANICAL NAMES. THEY SHALL BE REPRESENTATIVE OF THEIR SPECIES, MEET ALL NOTED CONDITIONS OF SPECIFICATIONS, AND SHALL BE IN VIGOROUS GROWING CONDITION MEETING ANSI STANDARD Z60.
- LANDSCAPE ARCHITECT OR OWNER MAINTAINS RIGHT TO REJECT ANY PLANT DUE TO AESTHETICS OR STRUCTURAL DEFICIENCY AT ANY TIME.
- CONTRACTOR RESPONSIBLE FOR FURNISHING AND INSTALLING ALL PLANTS SHOWN ON PLANS IN LOCATIONS SHOWN. QUANTITIES GIVEN ON THE PLANT LEGEND ARE FOR CONTRACTOR'S CONVENIENCE ONLY. IF DISCREPANCIES OCCUR, THE PLANS SHALL OVERRULE THE PLANT LEGEND. CONTRACTOR SHALL LOCATE ALL PLANTS AWAY FROM KNOWN PERMANENT FIXTURES. IF CONFLICT ARISES WITH PLAN, CONTRACTOR SHALL NOTIFY PROJECT MANAGER OR DESIGNEE PRIOR TO PROCEEDING.
- ALL PLANT MATERIAL SHALL CONFORM TO OR EXCEED THE AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIAL SHALL BE FREE OF ALL PESTS, DISEASES, AND CANKERS, IN HEALTHY CONDITION, AND FREE OF MECHANICAL DAMAGE AT THE TIME OF PLANTING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE A HEALTHY AND VIABLE PLANT AND THE PLANT SHALL BE REJECTED IF DEEMED UNHEALTHY OR UNFIT AT ANY TIME DURING THE CONTRACT OR WARRANTY DURATION.
- IF ANY PLANT/MATERIAL SUBSTITUTIONS ARE REQUESTED BY CONTRACTOR, THEN NOTICE SHALL BE GIVEN TO PROJECT MANAGER OR DESIGNEE AT MINIMUM SEVENTY-TWO (72) HOURS (NOT INCLUDING WEEKENDS) PRIOR TO DESIRED ORDERING DATE/TIME. WHEN SUBSTITUTIONS ARE REQUESTED BY CONTRACTOR, SUGGESTED ACCEPTABLE REPLACEMENTS SHALL ALSO BE PRESENTED AT TIME FOR FULL AND COMPLETE REVIEW BY LANDSCAPE ARCHITECT OR OWNER.
- BALLED AND BURLAPPED PLANTS/TREES TO BE PLANTED PRIOR TO CONTAINER OR BEDDING PLANTS.
- BALLED AND BURLAPPED MATERIAL SHALL COMPLY WITH THE FOLLOWING GUIDELINES:
  - TREES DESIGNATED B&B SHALL BE PROPERLY DUG WITH FIRM, NATURAL BALLS OF SOIL RETAINING AS MANY FIBROUS ROOTS AS POSSIBLE, IN SIZES AND SHAPES AS SPECIFIED IN THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1.
  - ROOT BALLS SHALL BE FIRMLY WRAPPED WITH NONSYNTHETIC, ROTTABLE BURLAP AND SECURED WITH NAILS AND HEAVY, NONSYNTHETIC TWINE.
  - ROOT COLLAR SHALL BE APPARENT AT SURFACE OF BALL, OR THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING EXCESS SOIL FROM THE TOP OF THE ROOTBALL.
  - REMOVE ALL BURLAP, LACING, AND WIRE BASKET FROM AT LEAST THE TOP 1/2 OF THE ROOTBALL AND DISCARD FROM PLANTING HOLE.
  - DO NOT MANEUVER BY TRUNK. HANDLE BY ROOT BALL ONLY.
- CONTAINERIZED PLANTS SHALL COMPLY WITH THE FOLLOWING GUIDELINES:
  - MATERIAL SHALL HAVE FIRM, NATURAL BALLS OF SOIL RETAINING AS MANY FIBROUS ROOTS AS POSSIBLE, IN SIZES AND SHAPES AS SPECIFIED IN THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1
  - ROOT COLLAR SHALL BE APPARENT AT SURFACE OF BALL, OR THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING EXCESS SOIL FROM THE TOP OF THE ROOTBALL.
  - REMOVE CONTAINER PRIOR TO PLANTING.
- TREES TO BE STAKED WILL BE DESIGNATED BY THE LANDSCAPE ARCHITECT. TREE STAKING FOR CANOPY AND LARGE EVERGREEN TREES SHALL NOT EXCEED 90 DAYS.
- PLANT BED PREPARATION:
  - ALL PLANT BEDS ARE TO RECEIVE A MINIMUM OF 4" OF APPROVED TOPSOIL TILLED IN TO A DEPTH OF 8" TO ENSURE INTEGRATION WITH EXISTING SOIL.
  - APPROVED TOPSOIL IS TO BE PREFERABLY FROM ON-SITE STOCKPILE FROM STRIPPING OPERATIONS - SEE EROSION AND SEDIMENT CONTROL PLANS.
  - IF ON-SITE TOPSOIL IS NOT AVAILABLE, CONTRACTOR SHALL PROVIDE TO SITE ACCORDINGLY.
- ALL MULCH TO BE CERTIFIED TO BE FREE OF WEEDS, NON-NATIVE INVASIVE SPECIES AND THEIR LARVAE. MULCH SAMPLE SUBMITTAL SHALL BE PROVIDED TO LANDSCAPE ARCHITECT BEFORE SITE DELIVERY.

SEEDING/SODDING NOTES

- ROUGH GRADING TO BE COMPLETED PRIOR TO THE START OF PLANT INSTALLATION. SUBSTANTIAL COMPLETION SIGN-OFF BY LANDSCAPE ARCHITECT CONTRACTOR TO ENSURE NO CHANNELIZED FLOWS AROUND THE SITE.
- ALL SEEDED/SODDED AREAS SHALL BE FINISHED GRADE AT THE THICKNESS OF THE SOD.
- NO SEEDED/SODDED AREAS SHALL BE SODDED UNTIL ALL OTHER CONSTRUCTION ACTIVITIES, INCLUDING PLANTING AND MULCHING HAVE OCCURRED AND LANDSCAPE ARCHITECT HAVE REVIEWED THE FINAL GRADING.
- SOD AREAS WILL BE ACCEPTED WHEN IN COMPLIANCE WITH ALL THE FOLLOWING CONDITIONS:
  - ROOTS ARE THOROUGHLY KNIT TO THE SOIL
  - ABSENCE OF VISIBLE JOINTS
  - ALL AREAS SHOW A UNIFORM STAND OF SPECIFIED GRASS IN HEALTHY CONDITION
  - AT LEAST 30 DAYS HAVE ELAPSED SINCE THE COMPLETION OF WORK UNDER THIS SECTION.
- QUALITY GUARANTEE:
  - SOD SHALL BE UNIFORM IN COLOR, LEAF TEXTURE, LEAF AND ROOT DENSITY, AND FREE FROM WEED, DISEASES, AND OTHER VISIBLE IMPERFECTIONS AT TIME OF FINAL ACCEPTANCE. GUARANTEE DOES NOT COVER DAMAGE AS A RESULT OF FERTILIZERS, PESTICIDES, OR OTHER APPLICATIONS NOT SUPERVISED BY THE CONTRACTOR OR AS A RESULT OF ACTS OF GOD OR VANDALISM.
  - SEED SHALL BE UNIFORM IN COLOR, LEAF TEXTURE, LEAF AND ROOT DENSITY, AND FREE FROM WEED, DISEASES, AND OTHER VISIBLE IMPERFECTIONS AT TIME OF FINAL ACCEPTANCE. GUARANTEE DOES NOT COVER DAMAGE AS A RESULT OF FERTILIZERS, PESTICIDES, OR OTHER APPLICATIONS NOT SUPERVISED BY THE CONTRACTOR OR AS A RESULT OF ACTS OF GOD OR VANDALISM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE SEED/SOD IS PROPERLY IRRIGATED DURING THE GROW-IN PERIOD AND SHALL BE RESPONSIBLE IF THE SOD SUFFERS IRREPARABLE HARM.
- SEED/SOD IS SUBJECT TO INSPECTION AND ACCEPTANCE. LANDSCAPE ARCHITECT AND/OR CLIENT RESERVES THE RIGHT TO REJECT AT ANY TIME OR PLACE PRIOR TO ACCEPTANCE, ANY WORK AND SOD WHICH IN THE LANDSCAPE ARCHITECTS OPINION FAILS TO MEET THESE SPECIFICATIONS REQUIREMENTS.
- SOD STANDARDS:
  - GENERAL: HEALTHY, THICK TURF HAVING UNDERGONE A PROGRAM OF REGULAR FERTILIZATION, MOWING AND WEED CONTROL, FREE OF OBJECTABLE WEEDS; UNIFORM IN GREEN COLOR, LEAF TEXTURE AND DENSITY; HEALTHY, VIGOROUS ROOT SYSTEM; INSPECTED AND FOUND FREE OF DISEASE, NEMATODES, PEST AND PEST LARVAE BY THE ENTOMOLOGIST OF THE STATE DEPARTMENT OF AGRICULTURE.
  - EACH PIECE OF SOD: SANDY-LOAM SOIL BASE THAT WILL NOT BREAK, CRUMBLE OR TEAR DURING SOD INSTALLATION.
  - THICKNESS: MINIMUM 3/4" THICK, EXCLUDING THE TOP GROWTH THATCH.
  - THATCH: NOT TO EXCEED 1/2" UNCOMPRESSED.
  - SIZE: CUT IN STRIPS 18" WIDE NO MORE THAN 24 HOURS PRIOR TO DELIVERY.
- SOD DELIVERY, STORAGE AND HANDLING GUIDELINES ARE AS FOLLOWS:
  - SOD SHALL BE DELIVERED ON PALLETS PROPERLY LOADED ON VEHICLES AND WITH ROOT SYSTEM PROTECTED FROM EXPOSURE TO SUN, WIND, AND HEAT IN ACCORDANCE WITH STANDARD PRACTICE AND LABELED WITH BOTANICAL AND COMMON NAME OF EACH GRASS SPECIES IN ACCORDANCE WITH FEDERAL SEED ACT. SOD THAT HAS BEEN DAMAGED BY POOR HANDLING OR IMPROPER STORAGE IS SUBJECT TO REJECTION BY THE LANDSCAPE ARCHITECT OR OWNER.
  - PROTECT FROM DEHYDRATION, CONTAMINATION, FREEZING AND HEATING AT ALL TIMES. KEEP STORED SOD MOIST AND UNDER SHADE OR COVERED WITH MOISTENED BURLAP.
  - DO NOT DROP SOD ROLLS FROM CARTS, TRUCKS OR PALLETS.
  - DO NOT DELIVER MORE SOD THAN CAN BE INSTALLED WITHIN 36 HOURS.
  - DO NOT STACK SOD MORE THAN 2 FEET DEEP.
- SEED/SODDED BED PREPARATION:
  - ALL DEBRIS, ROCKS, ETC. LARGER THAN .5" ARE TO BE REMOVED PRIOR TO SEEDING/SODDING OR PLANTING.
  - ALL AREAS TO BE SEEDED/SODDED ARE TO RECEIVE A MINIMUM OF 2" OF APPROVED TOPSOIL TILLED INTO A DEPTH OF 4" TO ENSURE INTEGRATION WITH EXISTING SOIL.
  - APPROVED TOPSOIL IS TO BE PREFERABLY FROM ON-SITE STOCKPILE FROM STRIPPING OPERATIONS - SEE EROSION AND SEDIMENT CONTROL PLANS.
  - IF ON-SITE TOPSOIL IS NOT AVAILABLE, CONTRACTOR SHALL PROVIDE TO SITE ACCORDINGLY.



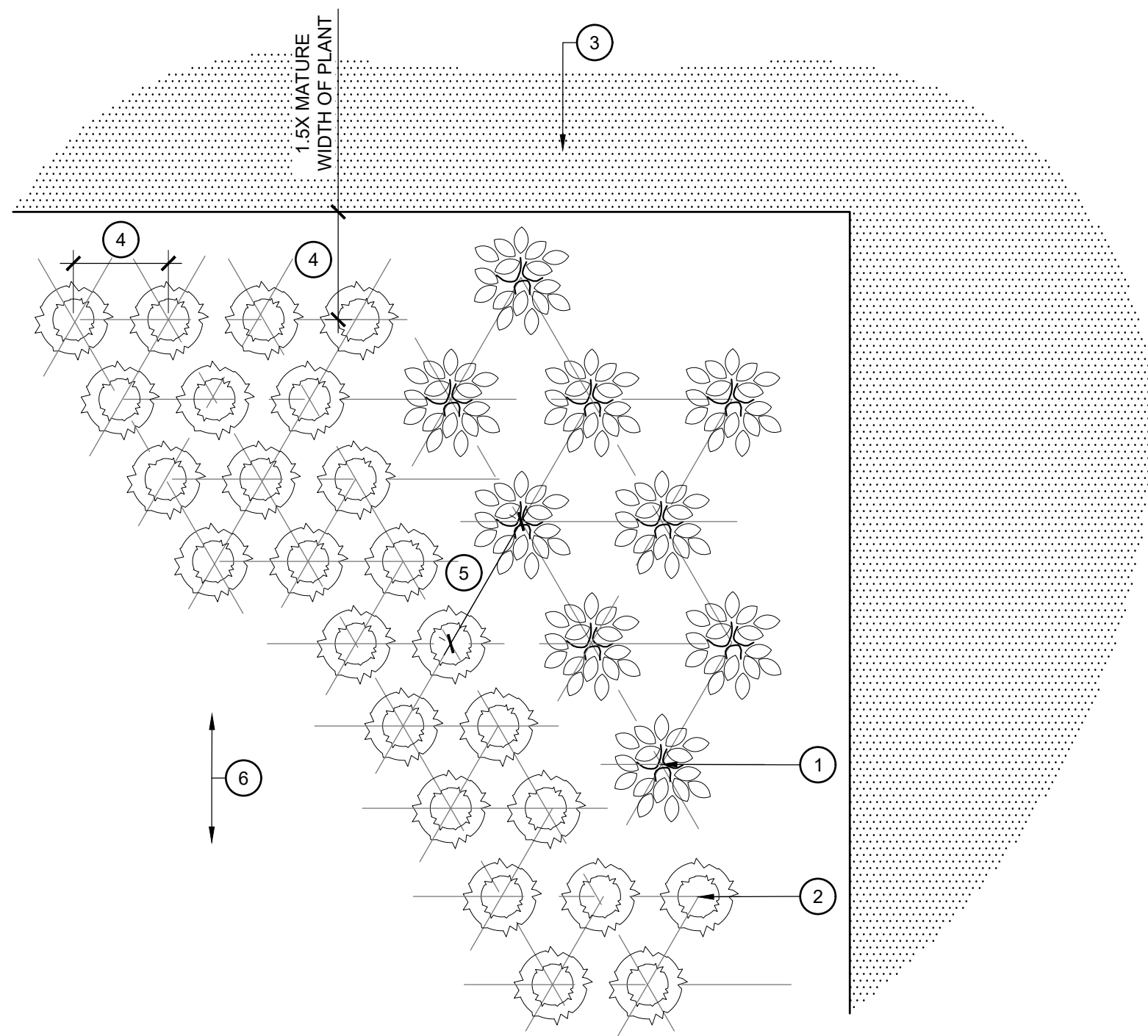
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ZEBULON ANIMAL HOSPITAL  
ZAH REALTY, LLC  
1620 N. ARENDELL AVE., ZEBULON, NC

PROJECT NUMBER:  
22091  
PROJECT PHASE:  
SITE PLAN  
SUBMITTAL  
DATE: 10.02.2023  
REVISED: 11.20.2023  
REVISED: 1.5.2024  
REVISED: 2.1.2024

SHEET TITLE:  
PLANT SCHEDULE  
AND NOTES

SHEET NUMBER:  
L401

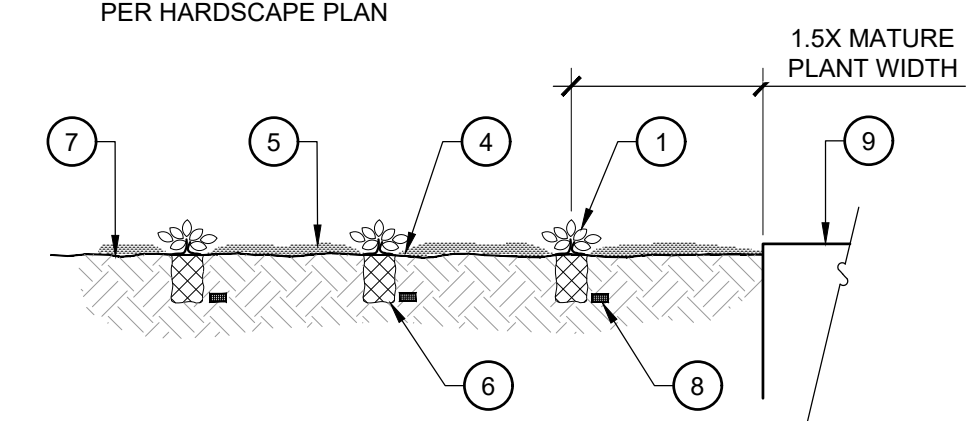


PLAN VIEW

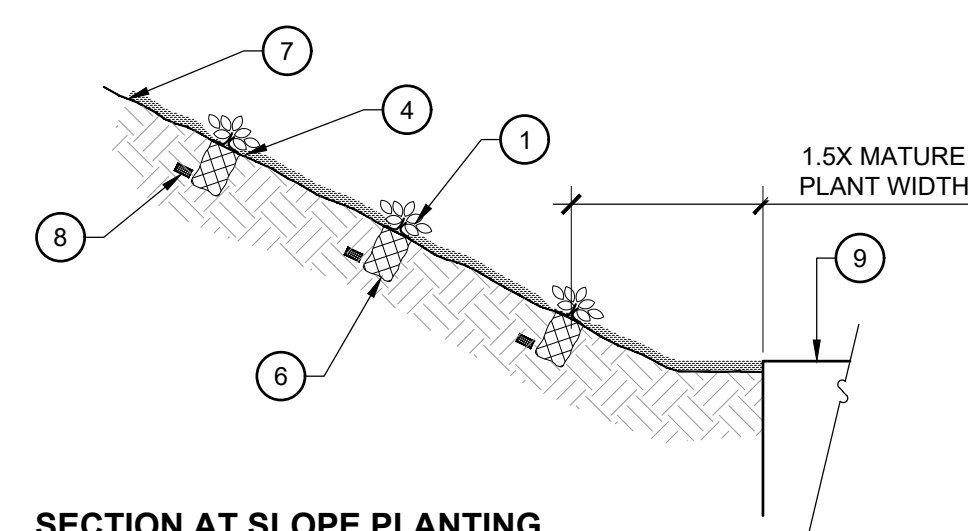
1 PLANT SPACING  
SCALE: 1" = 1'-0"

LEGEND

1. GROUND COVER PLANT
2. TRIANGULAR SPACING (TYP.), UNLESS OTHERWISE SPECIFIED
3. SPACING INDICATED PER PLANTING LEGEND
4. SET ROOTCROWN ABOVE FINISH GRADE
5. MULCH PER SPECIFICATIONS
6. ROOTBALL
7. FINISH GRADE
8. PLANT FERTILIZER PER SPECIFICATIONS. INSTALL SO THAT THEY DO NOT TOUCH ROOTBALL
9. ADJACENT FINISHED SURFACE PER HARDSCAPE PLAN



SECTION AT FLAT AREAS

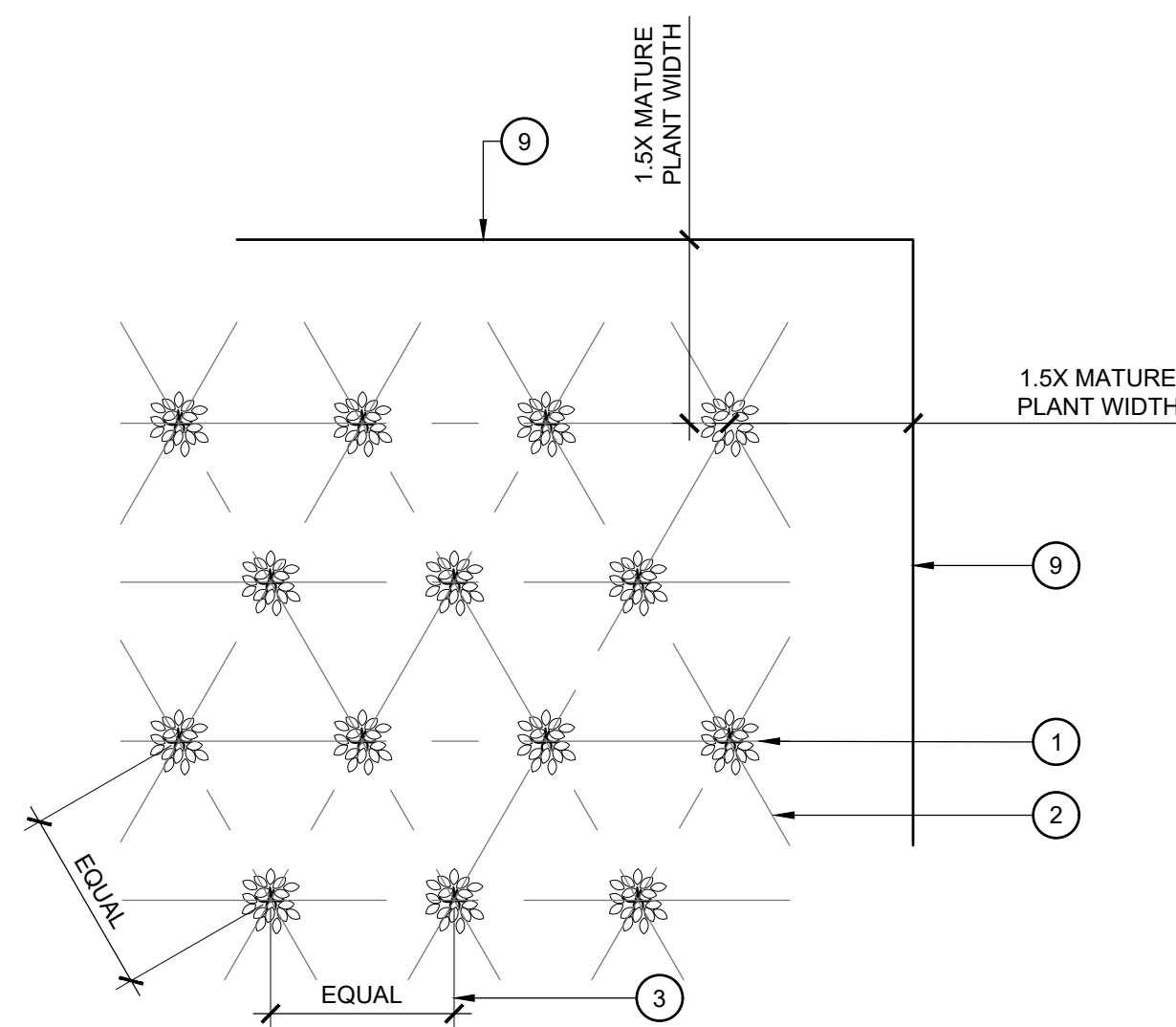


SECTION AT SLOPE PLANTING

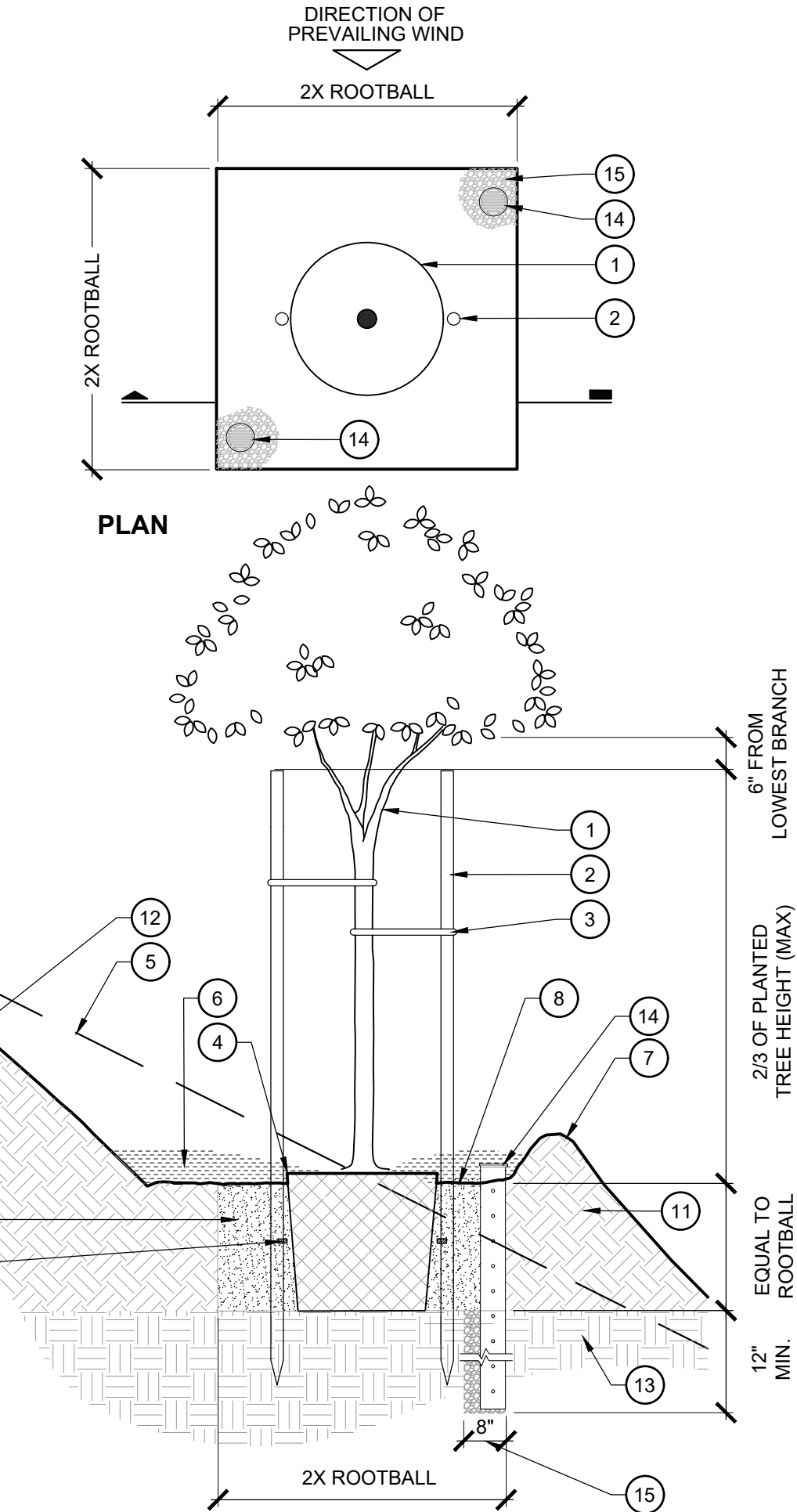
4 GROUND COVER PLANTING  
SCALE: 1" = 1'-0"

LEGEND

1. PLANT TYPE 1
2. PLANT TYPE 2
3. ADJACENT PAVING, WALL, OR OTHER OBSTRUCTION
4. ON CENTER SPACING BETWEEN INDIVIDUAL PLANTS; DISTANCE VARIES PER PLANT TYPE, REFER TO LEGEND
5. WHERE DISTINCT PLANT TYPES ARE ADJACENT, PROVIDE THE GREATER O.C. SPACING DISTANCE
6. ORIENTATION OF TRIANGULAR SPACING TO SLOPES



PLAN VIEW



SECTION

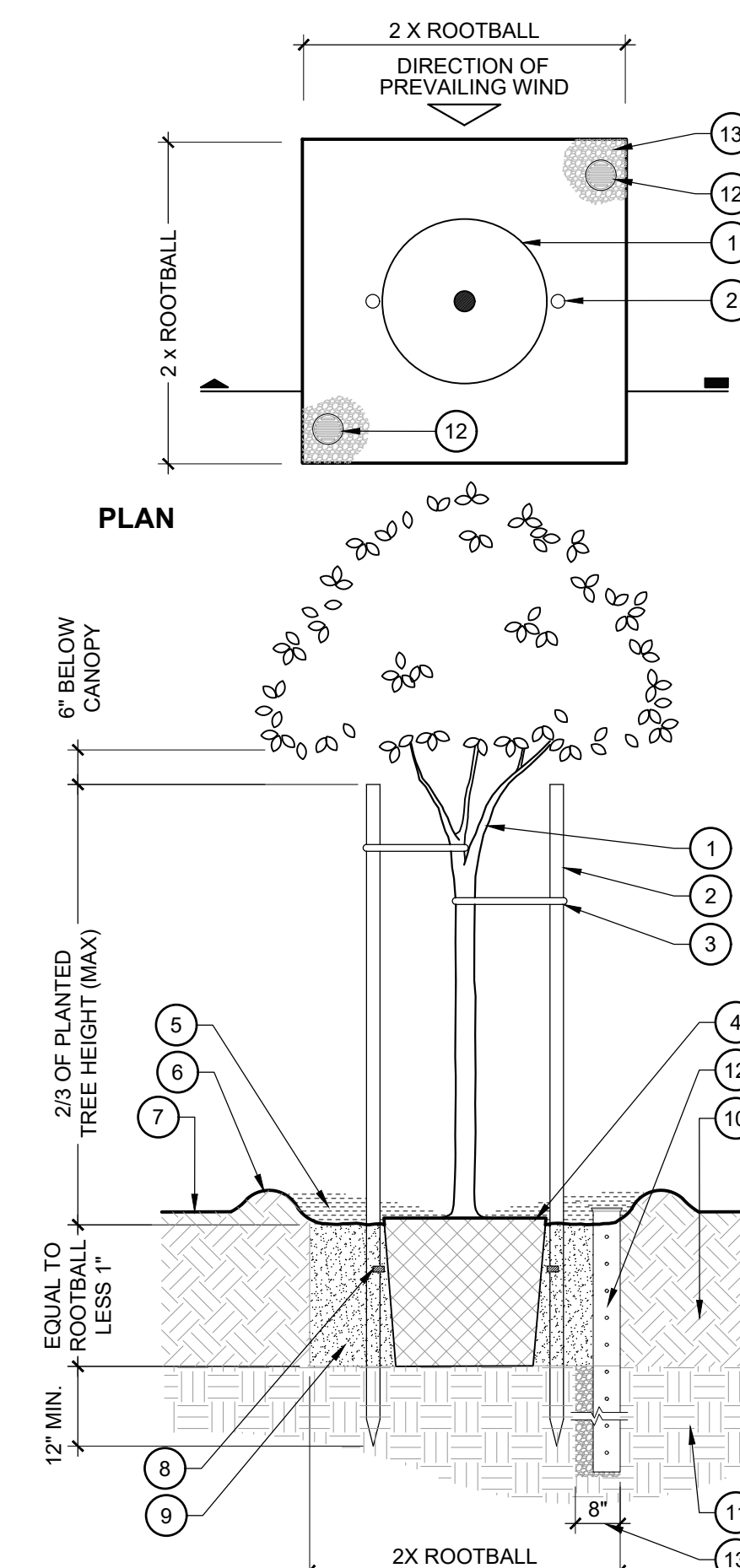
2 SLOPE TREE PLANTING  
SCALE: 1/2" = 1'-0"

LEGEND

1. TREE AND ROOTBALL PER PLAN
2. TREE STAKES PER SPECIFICATIONS
3. TREE TIES PER SPECIFICATIONS
4. SET ROOTBALL AT 2" ABOVE FINISH GRADE AT EXISTING SLOPE LEVEL
5. LINE OF SLOPE BEYOND/OR EXISTING SLOPE
6. MULCH PER SPECIFICATIONS
7. 4" HIGH EARTH BERM AT EDGE OF PLANT PIT, FIRMLY COMPACTED
8. PLANT FERTILIZER PER SPECIFICATIONS. INSTALL SO THAT THEY DO NOT TOUCH ROOTBALL
9. PLANTING BACKFILL MIX PER SPECIFICATIONS
10. RIPPED AND RECOMPACTED SOIL AMENDED PER SPECIFICATIONS
11. LAYBACK SLOPE BEHIND PLANT PIT AS NEEDED TO PREVENT SOIL SLUFFING.
12. EXISTING UNDISTURBED SOIL
13. 4" DIAMETER AERATION/BREATHER TUBES WITH GRATE CAPS PER SPECIFICATIONS. WRAP PIPE IN FILTER FABRIC SOCK, KNOTTED AT THE TOP. LEAVE AERATION TUBE HOLLOW. ONLY REQUIRED IF PERCOLATION TESTS FAIL - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
14. 8" DIA. AUGER DRAINAGE SUMP BACKFILLED WITH 3/4" CRUSHED ROCK ONLY REQUIRED IF PERCOLATION TESTS FAIL - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

NOTES

- A. THIS DETAIL USED FOR SLOPES AT 2:1 AND GREATER
- B. REFER TO PLANTING SPECIFICATION FOR ADDITIONAL INFORMATION
- C. KEEP MULCH 12" AWAY FROM STEMS AND TAPER AT ROOTBALL
- D. TAPER MULCH TO 2" DEPTH AT FLATWORK
- E. SET ROOTBALL ON COMPACTED SOIL



SECTION

3 LEVEL TREE PLANTING  
SCALE: 1/2" = 1'-0"

LEGEND

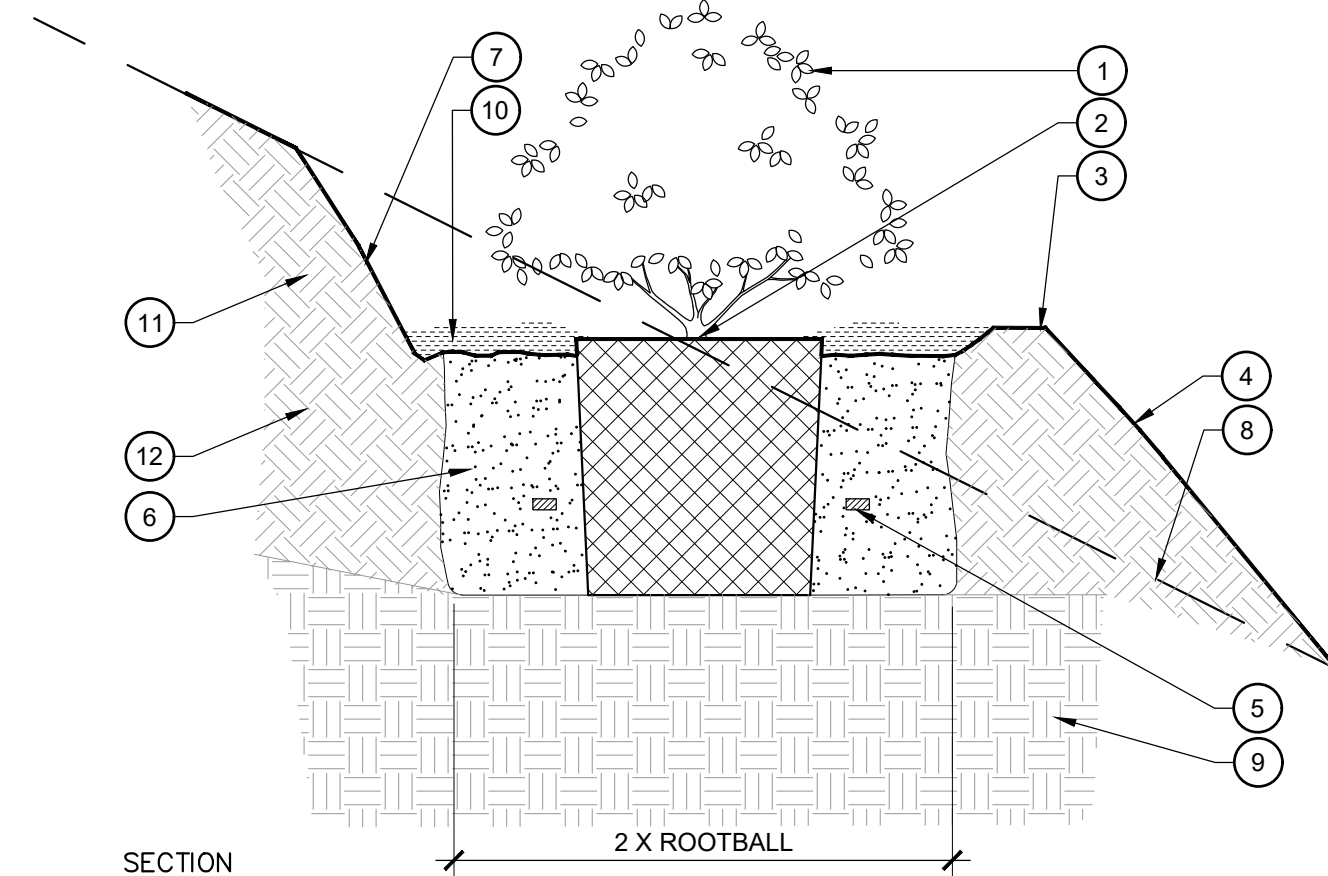
1. TREE AND ROOTBALL PER PLAN
2. TREE STAKES PER SPECIFICATIONS
3. TREE TIES PER SPECIFICATIONS
4. SET ROOTBALL AT 2" ABOVE FINISH GRADE AT EXISTING SLOPE LEVEL
5. MULCH PER SPECIFICATIONS
6. 4" HIGH EARTH BERM AT EDGE OF PLANT PIT, FIRMLY COMPACTED
7. FINISHED GRADE
8. PLANT FERTILIZER PER SPECIFICATIONS. INSTALL SO THAT THEY DO NOT TOUCH ROOTBALL
9. PLANTING BACKFILL MIX PER SPECIFICATIONS
10. RIPPED AND RECOMPACTED SOIL AMENDED PER SPECIFICATIONS
11. EXISTING UNDISTURBED SOIL
12. 4" DIAMETER AERATION/BREATHER TUBES WITH GRATE CAPS PER SPECIFICATIONS. WRAP PIPE IN FILTER FABRIC SOCK, KNOTTED AT THE TOP. LEAVE AERATION TUBE HOLLOW. ONLY REQUIRED IF PERCOLATION TESTS FAIL - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
13. 8" DIA. AUGER DRAINAGE SUMP BACKFILLED WITH 3/4" CRUSHED ROCK ONLY REQUIRED IF PERCOLATION TESTS FAIL - REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

NOTES

- A. REFER TO PLANTING SPECIFICATION FOR ADDITIONAL INFORMATION
- B. KEEP MULCH 12" AWAY FROM STEMS AND TAPER AT ROOTBALL
- C. TAPER MULCH TO 2" DEPTH AT FLATWORK
- D. SET ROOTBALL ON COMPACTED SOIL

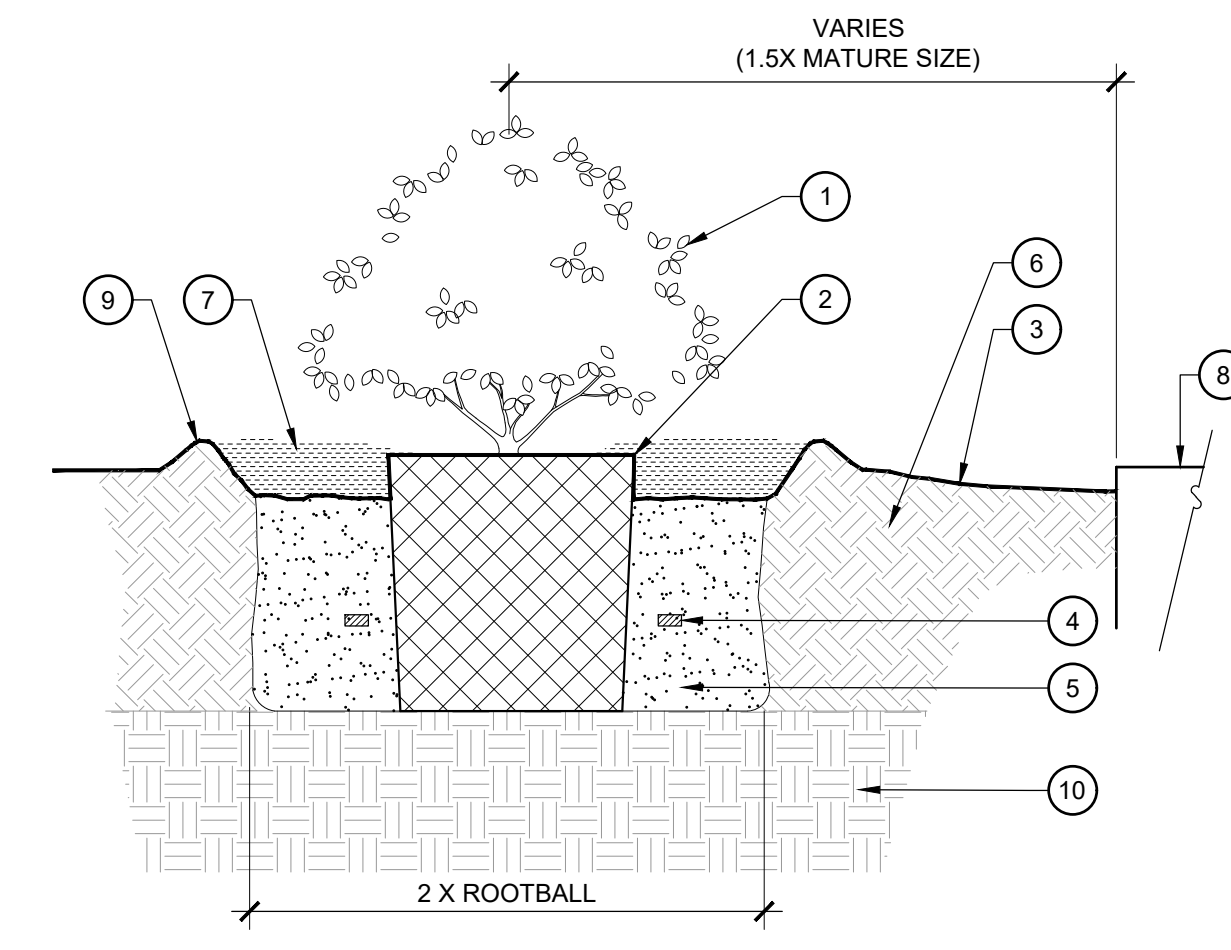
LEGEND

1. SHRUB PER PLANS
2. SET ROOTBALL CROWN 1" ABOVE FINISH GRADE
3. 6" TALL EARTH BERM @ EDGE OF PLANT PIT
4. FINISH GRADE
5. PLANT FERTILIZER PER SPECIFICATIONS. INSTALL SO THAT THEY DO NOT TOUCH ROOTBALL
6. AMENDED BACKFILL MIX PER SPECIFICATIONS
7. LAYBACK SLOPE BEHIND PLANT PIT
8. LINE OF SLOPE BEYOND
9. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
10. MULCH PER SPECIFICATIONS
11. KEEP MULCH 4" - 6" FROM TRUNK, STEMS, AND TAPER AT ROOTBALL
12. AMENDED PLANTING SOIL PER SPECIFICATIONS



SECTION

5 SLOPE SHRUB PLANTING  
SCALE: 1" = 1'-0"



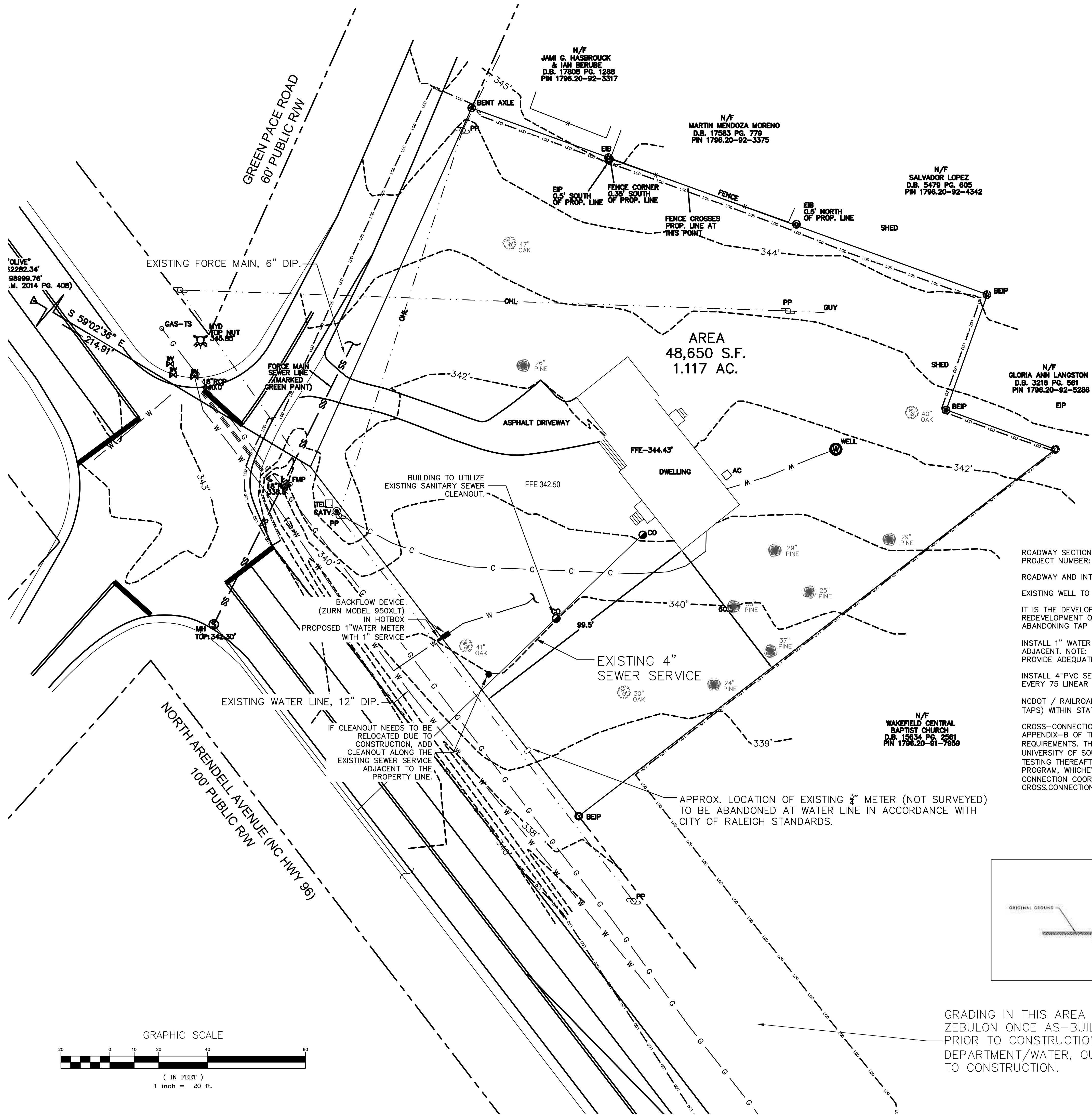
SECTION

6 LEVEL SHRUB PLANTING  
SCALE: 1" = 1'-0"

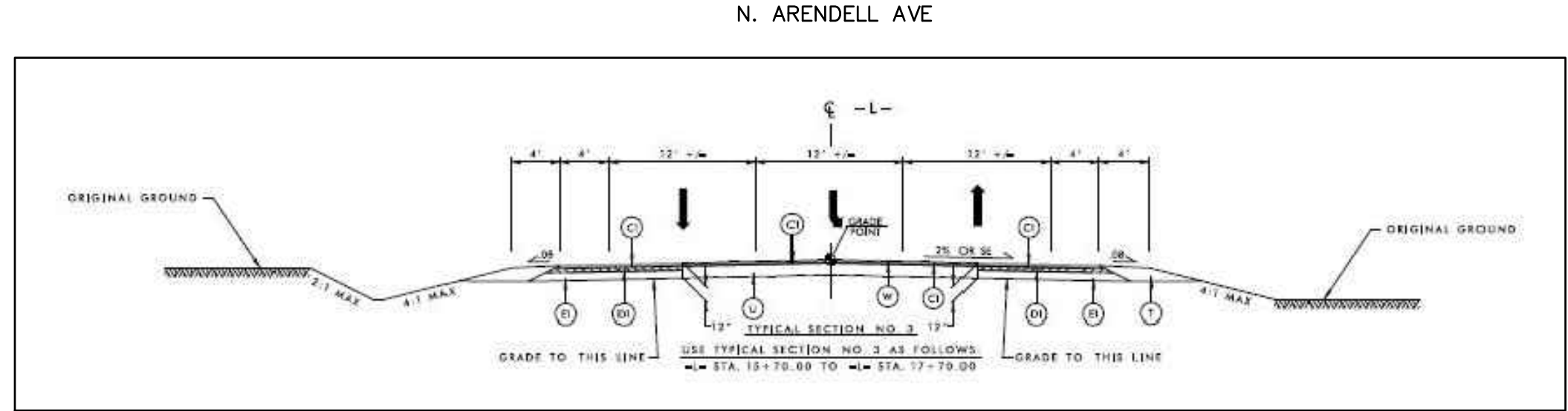
LEGEND

1. SHRUB PER PLANS
2. SET ROOTBALL CROWN 1" ABOVE FINISH GRADE
3. FINISH GRADE
4. PLANT FERTILIZER PER SPECIFICATIONS. INSTALL SO THAT THEY DO NOT TOUCH ROOTBALL
5. AMENDED BACKFILL MIX PER SPECIFICATIONS
6. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
7. MULCH PER SPECIFICATIONS; KEEP MULCH 4" - 6" FROM TRUNK, STEMS, AND TAPER AT ROOTBALL
8. ADJACENT FINISHED SURFACE PER HARDSCAPE PLAN
9. 4" TALL EARTH BERM @ EDGE OF PLANT PIT, FIRMLY COMPACTED
10. AMENDED PLANTING SOIL PER SPECIFICATIONS

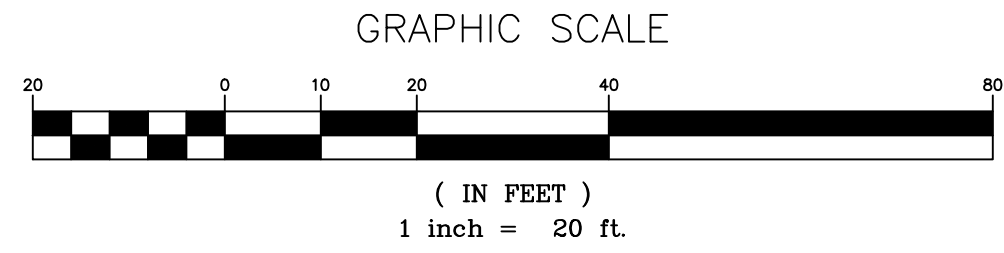
**ATTENTION CONTRACTORS**  
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.  
  
Failure to notify both City Departments 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.



ROADWAY SECTIONS, ELEVATIONS, AND STATIONS FOR THE ROADWAY EXISTING CONDITIONS DESIGNED BY VOLKERT INC. FOR STATE PROJECT NUMBER: 1086100.160.  
ROADWAY AND INTERSECTION IMPROVEMENTS TO BE CONSTRUCTED BY OTHERS.  
EXISTING WELL TO NOT BE CONNECTED TO BUILDING. WELL CAN BE USED FOR IRRIGATION.  
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 INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM R.O.W. OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.  
INSTALL 1" WATER SERVICES WITH METER 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.  
INSTALL 4" PVC SEWER SERVICE @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT R.O.W. OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.  
NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD R.O.W. PRIOR TO CONSTRUCTION  
CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FROM THE RW CROSS-CONNECTION COORDINATOR FOR EACH DEVICE PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-5923 OR CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.



GRADING IN THIS AREA WILL BE UPDATED WITH INFORMATION FROM TOWN OF ZEBULON ONCE AS-BUILT INFORMATION IS RECEIVED AND COORDINATED PRIOR TO CONSTRUCTION WITH WAKE COUNTY ENVIRONMENTAL SERVICES DEPARTMENT/WATER, QUALITY DIVISION AND THE TOWN OF ZEBULON PRIOR TO CONSTRUCTION.



**ZEBULON ANIMAL HOSPITAL**  
DVM SERVICES REALTY, LLC

PROJECT NUMBER:  
PROJECT PHASE:  
DATE: 01.08.2024  
SHEET TITLE: EXISTING CONDITIONS AND PROPOSED UTILITY PLAN  
SHEET NUMBER: UP1

ZEBULON ANIMAL HOSPITAL  
DVM SERVICES REALTY, LLC

PROJECT NUMBER:

PROJECT PHASE:

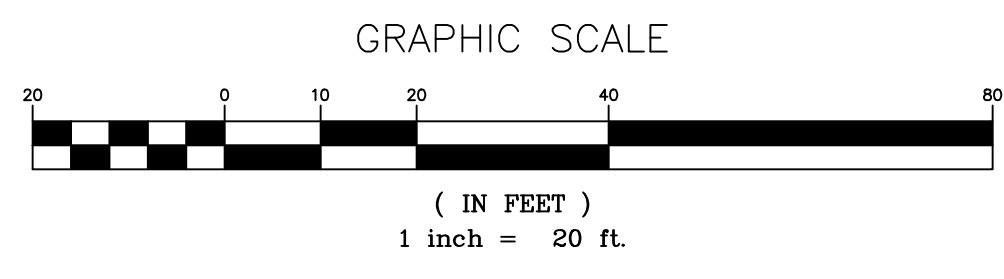
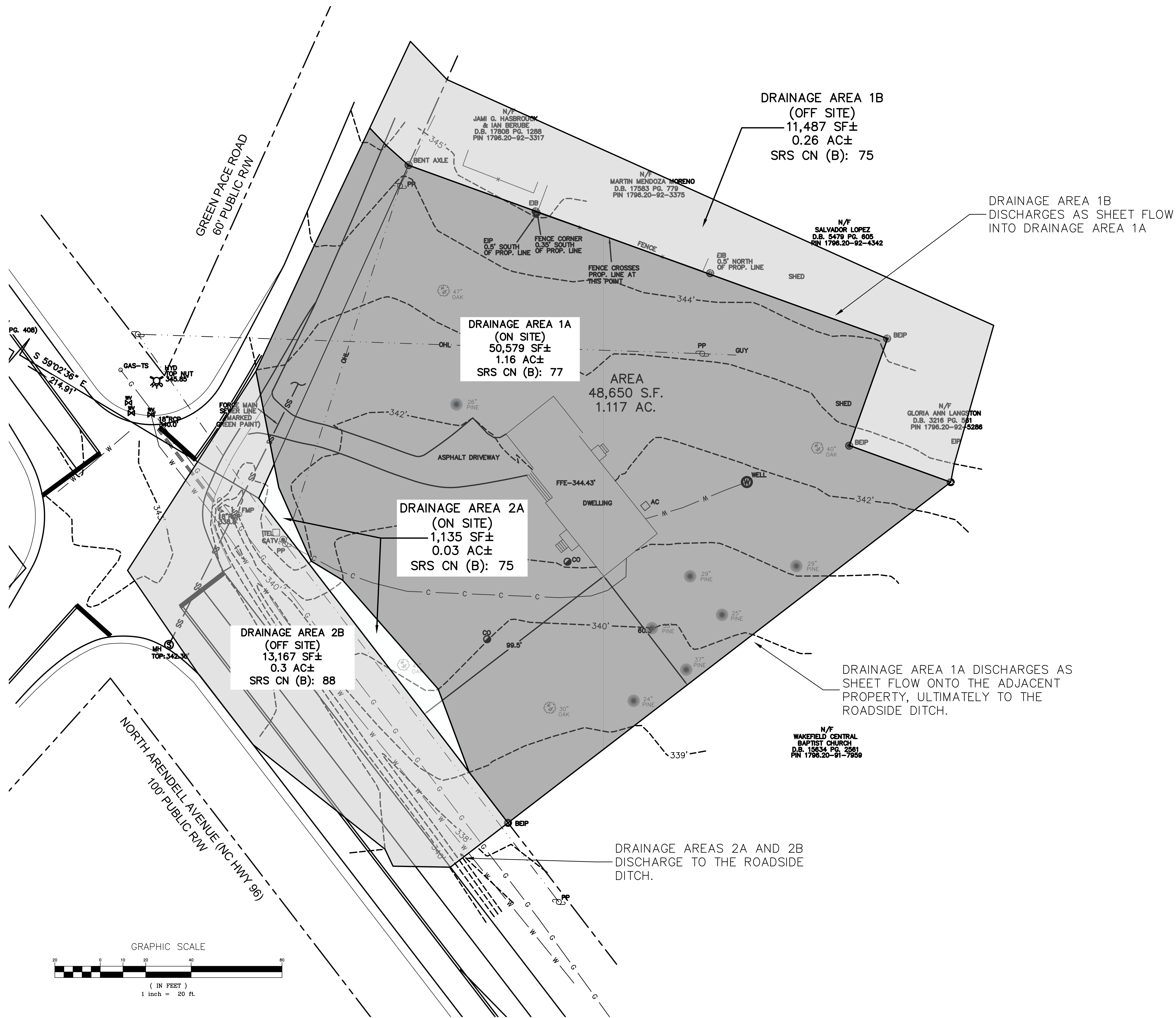
DATE: 01.08.2024

SHEET TITLE:

DRAINAGE AREAS  
PRE-DEVELOPMENT

SHEET NUMBER:

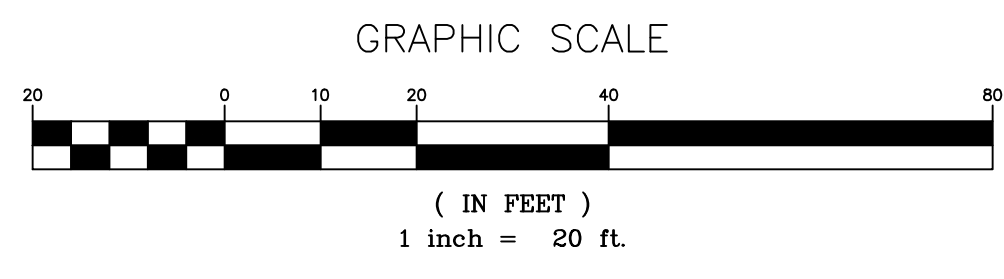
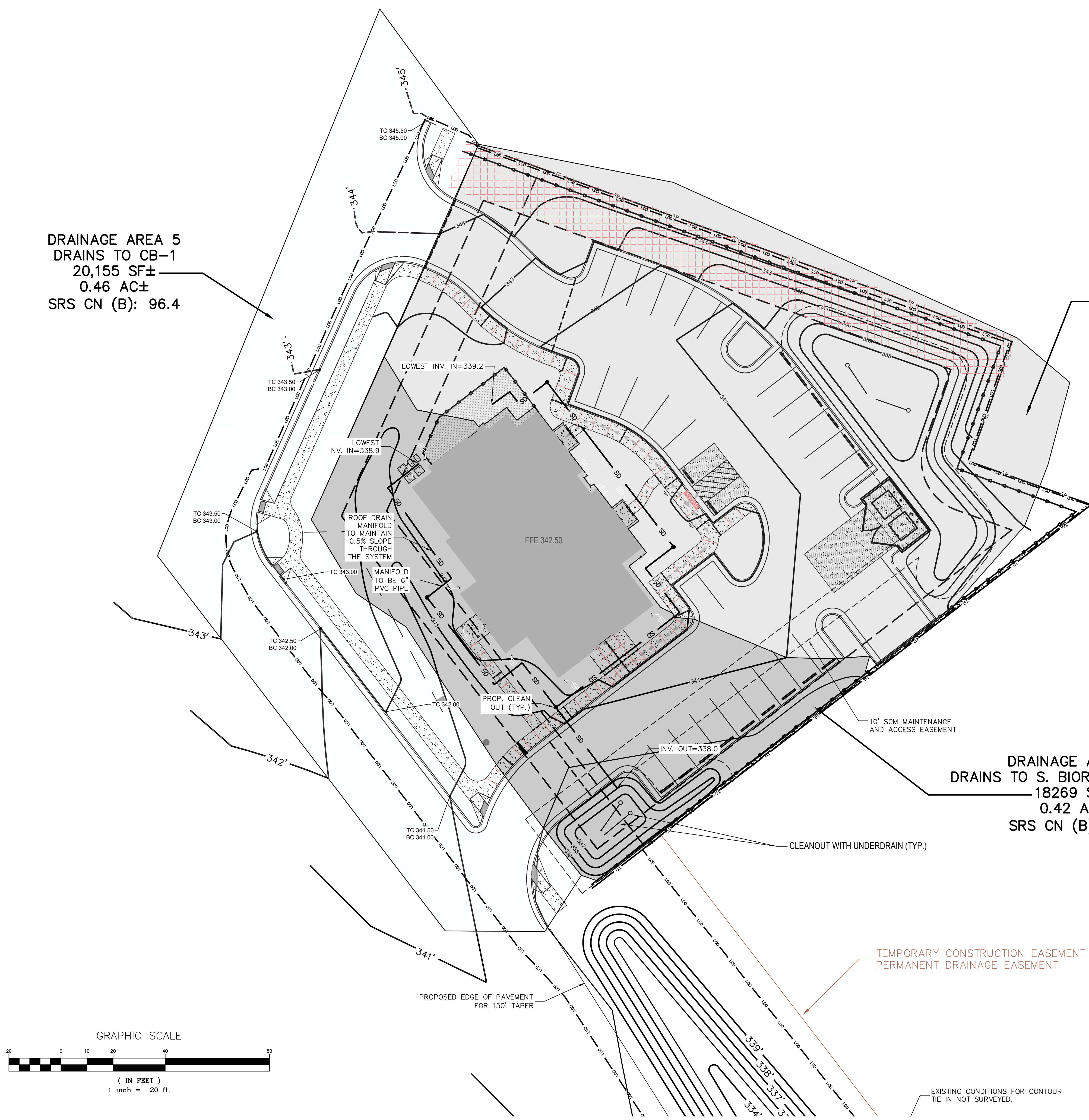
DA1



DRAINAGE AREA 5  
DRAINS TO CB-1  
20,155 SF±  
0.46 AC±  
SRS CN (B): 96.4

DRAINAGE AREA 3  
DRAINS TO N. BIORETENTION CELL  
30,673 SF±  
0.7 AC±  
SRS CN (B): 83.5

DRAINAGE AREA 4  
DRAINS TO S. BIORETENTION CELL  
18,269 SF±  
0.42 AC±  
SRS CN (B): 80.9



EXISTING CONDITIONS FOR CONTOUR  
TIE IN NOT SURVEYED.

**STORM DRAIN SCHEDULE (10-YEAR STORM)**

n = 0.013

FROM	TO	PIPE RUN	INLET AREA (SF)	INLET AREA (ACRES)	A TOTAL AREA (ACRES)	INLET TIME (MIN)	PIPE TIME (MIN)	TO TIME OF CONC (MIN)	I INTENSITY (IN/HR)	Cc COEFF	Cc RUNOFF COEFF	Q10 DSCHRG (CFS)	SLOPE (FT/FT)	Dtheo (INCHES)	SIZE (INCHES)	VuII (FT/SEC)	QvII (CFS)	LENGTH PIPE (FT)	SEGMENT TIME (MIN)	UPPER INVERT	LOWER INVERT
<b>LINE A</b>																					
EX RCP	MH-4	LA-5	110207	2.53	2.53	5.0	0.0	5.0	8.03	0.50	0.50	10.2	0.0046	20.5	24	4.9	15.3	69.0	0.2	340.30	339.98
MH-4	MH-3	LA-4	0	0.00	2.53	5.0	0.0	5.0	8.03	0.90	0.90	18.3	0.0096	22.3	24	7.0	22.2	24.0	0.1	339.98	339.75
MH-3	MH-2	LA-3	0	0.00	2.53	5.0	0.0	5.0	8.03	0.90	0.90	18.3	0.0068	23.8	24	5.9	18.6	132.6	0.4	339.75	338.85
MH-2	CB-1	LA-2	0	0.00	2.53	5.0	0.0	5.0	8.03	0.90	0.90	18.3	0.0043	25.9	30	5.5	26.9	47.0	0.1	335.60	335.40
CB-1	FES-1	LA-1	20155	0.46	2.99	5.0	0.0	5.0	8.03	0.90	0.56	13.5	0.0080	20.6	30	7.5	36.7	25.0	0.1	335.40	335.20
<b>LINE B</b>																					
OS-2	CB-1	LB-1	14310	0.33	0.33	5.0	0.0	5.0	7.20	0.73	0.73	1.7	0.0129	8.7	18	6.7	11.9	31.0	0.1	335.50	335.10
<b>LINE C</b>																					
OS-1	MH-1	LC-2	33360	0.77	1.09	5.0	0.0	5.0	7.20	0.76	0.75	5.9	0.0044	16.9	18	3.9	7.0	91.0	0.4	336.51	336.11
MH-1	MH-2	LC-1	0	0.00	1.09	5.0	0.0	5.0	7.20	0.90	0.75	5.9	0.0037	17.5	18	3.6	6.4	136.5	0.6	336.11	335.60

\*ALL PIPES CLASS III RCP  
\*LINE A SIZED FOR 25YR STORM  
\*PIPE RUN LA-5 ACCOUNTS FOR THE 65LF 24" DIAMETER RCP INSTALLED DURING THE SIGNALIZATION PROJECT AND 4LF EXTENSION AS PART OF THIS PROJECT.  
\*UPSTREAM DRAINAGE AREAS FOR PIPE LA-5 PROVIDED BY VOLKERT ENGINEERING VIA "DRAINAGE AND HYDROLOGY & HYDRAULICS REPORT" PREPARED FOR THE SIGNALIZATION PROJECT.  
\*LINES B & C PIPES SIZED BY 'Q' VALUES OF BIORETENTION CELL OUTFLOWS

**PRELIMINARY PEAK FLOW REDUCTION**

RETURN EVENT (YEARS)	PREDEVELOPED PEAK RUN-OFF (CFS)	POST DEVELOPED PEAK RUN-OFF (CFS)	REDUCTION (%)
1	3.39	0.60	82.3%
2	4.66	1.44	69.1%
10	9.22	5.05	45.2%
25	11.34	6.68	41.1%

\* Note - 1 year post dev. peak run-off must not exceed 1 year pre-dev. peak run-off and 10 year and 25 year post dev. peak run-off must be 10% less than 10 year and 25 year pre-dev. peak run-off

**STAGE-STORAGE (NORTH BIORETENTION CELL)**

ELEVATION (FEET)	AREA (FT²)	VOLUME (FT³)
338	1200.0	0.0
339	2305.0	1752.5
340	3420.0	4615.0

**STAGE-STORAGE (SOUTH BIORETENTION CELL)**

ELEVATION (FEET)	AREA (FT²)	VOLUME (FT³)
337	355.0	0.0
338	694.0	1752.5
339	1167.0	1451.3

NCEM Atlas 14, Volume 2, Version 3  
Location name: Zebulon, North Carolina, USA  
Latitude: 35.8424° Longitude: -78.3275°  
Elevation: 342 ft  
\*Source: ESRI, Trane  
\*Revised: 1/2008

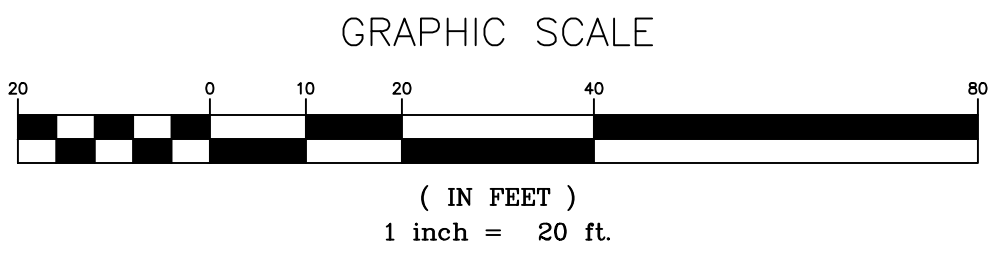
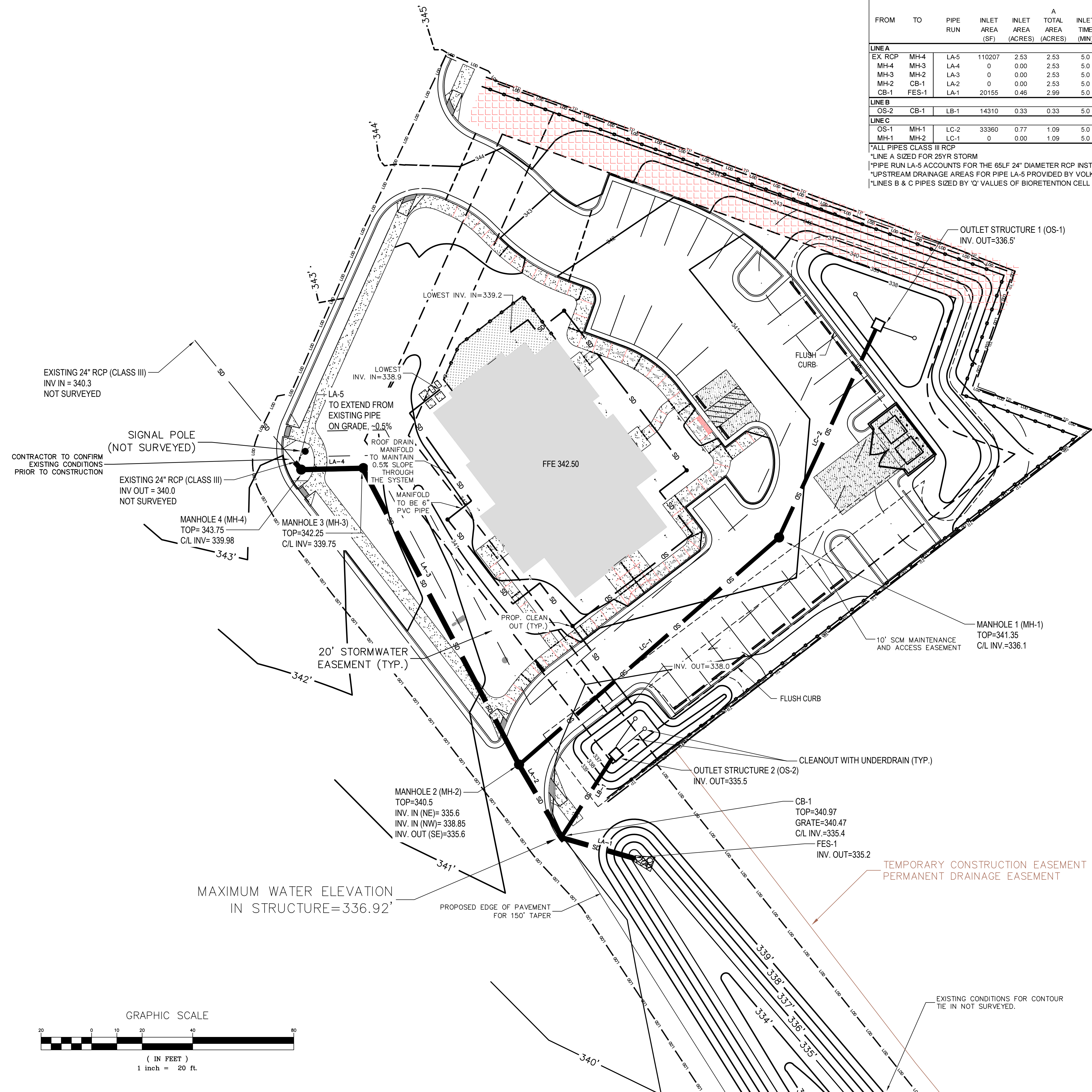
**POINT PRECIPITATION FREQUENCY ESTIMATES**  
© M. Bonin, D. Mark, B. Lin, T. Parsycki, M. Yala, and D. Riley  
NOAA National Weather Service, Silver Spring, Maryland  
PF: tabular | PF: graphical | Maps & aerials

**PF tabular**

**PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)<sup>1</sup>**

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.85 (4.43-5.33)	5.60 (5.14-6.14)	6.36 (5.82-6.90)	7.20 (6.57-7.87)	8.03 (7.30-8.77)	8.72 (7.92-9.53)	9.34 (8.45-10.21)	9.96 (8.98-10.95)	10.5	11.1
10-min	3.88 (3.44-4.35)	4.49 (4.04-4.91)	5.09 (4.65-5.51)	5.78 (5.34-6.20)	6.40 (5.96-6.82)	6.96 (6.52-7.38)	7.42 (7.00-7.84)	7.85 (7.42-8.27)	8.33	8.77
15-min	3.23 (2.85-3.55)	3.76 (3.44-4.12)	4.30 (3.94-4.65)	4.86 (4.51-5.19)	5.41 (5.07-5.73)	5.86 (5.52-6.18)	6.25 (5.91-6.57)	6.60 (6.27-6.92)	6.99	7.34
30-min	2.21 (2.02-2.43)	2.60 (2.38-2.84)	3.05 (2.79-3.34)	3.52 (3.21-3.85)	4.00 (3.64-4.37)	4.41 (3.99-4.82)	4.79 (4.35-5.22)	5.14 (4.68-5.61)	5.56	5.94
60-min	1.38 (1.25-1.52)	1.63 (1.49-1.78)	1.96 (1.79-2.14)	2.29 (2.12-2.45)	2.67 (2.48-2.87)	2.99 (2.79-3.19)	3.30 (3.09-3.50)	3.60 (3.38-3.81)	3.99	4.34
2-hr	0.807 (0.731-0.883)	0.955 (0.870-1.05)	1.16 (1.05-1.28)	1.38 (1.25-1.51)	1.63 (1.47-1.79)	1.83 (1.67-2.00)	2.09 (1.90-2.28)	2.32 (2.12-2.51)	2.63	2.92
3-hr	0.669 (0.616-0.722)	0.874 (0.792-0.956)	1.083 (0.985-1.18)	1.28 (1.16-1.40)	1.51 (1.37-1.65)	1.73 (1.58-1.88)	1.96 (1.79-2.12)	2.19 (2.01-2.36)	2.42	2.65
6-hr	0.342 (0.311-0.378)	0.465 (0.427-0.503)	0.605 (0.552-0.658)	0.741 (0.682-0.799)	0.883 (0.818-0.948)	1.03 (0.959-1.10)	1.18 (1.10-1.26)	1.33 (1.24-1.41)	1.48	1.63
12-hr	0.200 (0.185-0.215)	0.277 (0.257-0.297)	0.361 (0.336-0.386)	0.449 (0.419-0.479)	0.541 (0.506-0.576)	0.636 (0.596-0.676)	0.734 (0.688-0.780)	0.834 (0.782-0.886)	0.936	1.04
24-hr	0.118 (0.105-0.131)	0.163 (0.147-0.180)	0.213 (0.192-0.234)	0.267 (0.242-0.292)	0.325 (0.296-0.354)	0.387 (0.354-0.420)	0.453 (0.416-0.490)	0.522 (0.479-0.565)	0.594	0.670
2-day	0.088 (0.082-0.094)	0.119 (0.112-0.126)	0.154 (0.145-0.163)	0.195 (0.181-0.209)	0.241 (0.221-0.261)	0.291 (0.267-0.315)	0.344 (0.316-0.372)	0.401 (0.368-0.434)	0.461	0.524
3-day	0.048 (0.045-0.052)	0.065 (0.061-0.070)	0.085 (0.079-0.091)	0.108 (0.101-0.115)	0.136 (0.126-0.146)	0.169 (0.156-0.182)	0.206 (0.189-0.223)	0.246 (0.224-0.268)	0.289	0.334
4-day	0.038 (0.036-0.041)	0.051 (0.048-0.054)	0.066 (0.062-0.070)	0.084 (0.079-0.089)	0.106 (0.100-0.112)	0.133 (0.125-0.141)	0.164 (0.154-0.174)	0.199 (0.186-0.212)	0.238	0.281
7-day	0.026 (0.025-0.027)	0.035 (0.034-0.036)	0.045 (0.043-0.047)	0.057 (0.054-0.060)	0.072 (0.068-0.076)	0.090 (0.084-0.096)	0.111 (0.104-0.118)	0.136 (0.128-0.144)	0.164	0.196
10-day	0.020 (0.019-0.021)	0.027 (0.026-0.028)	0.035 (0.033-0.037)	0.044 (0.042-0.046)	0.055 (0.052-0.058)	0.069 (0.065-0.073)	0.086 (0.081-0.091)	0.105 (0.100-0.110)	0.126	0.150
20-day	0.013 (0.012-0.014)	0.016 (0.015-0.017)	0.021 (0.020-0.022)	0.026 (0.024-0.028)	0.032 (0.030-0.034)	0.040 (0.037-0.043)	0.050 (0.046-0.054)	0.062 (0.058-0.066)	0.076	0.092
30-day	0.011 (0.010-0.011)	0.013 (0.012-0.014)	0.017 (0.016-0.018)	0.021 (0.020-0.022)	0.026 (0.024-0.028)	0.032 (0.030-0.034)	0.040 (0.037-0.043)	0.050 (0.046-0.054)	0.062	0.076
45-day	0.009 (0.008-0.010)	0.011 (0.010-0.011)	0.014 (0.013-0.015)	0.018 (0.017-0.019)	0.022 (0.021-0.023)	0.028 (0.026-0.030)	0.035 (0.033-0.037)	0.044 (0.041-0.047)	0.054	0.065
60-day	0.008 (0.007-0.009)	0.010 (0.009-0.011)	0.013 (0.012-0.014)	0.016 (0.015-0.017)	0.020 (0.019-0.021)	0.025 (0.024-0.026)	0.031 (0.029-0.033)	0.038 (0.036-0.041)	0.046	0.055

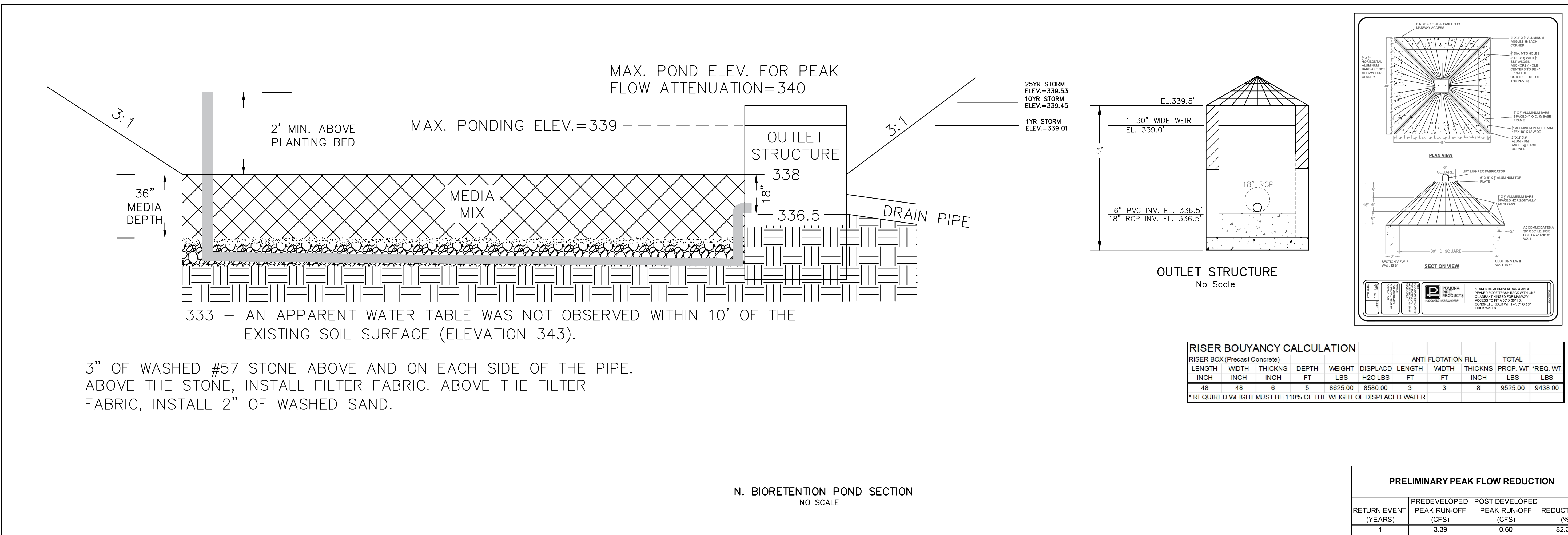
<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parentheses are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates for a given duration and average recurrence interval will be greater than the upper bound or less than the lower bound is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information. [Back to top](#)



**ZEBULON ANIMAL HOSPITAL**  
DVM SERVICES REALTY, LLC

PROJECT NUMBER:  
PROJECT PHASE:  
DATE: 01.08.2024





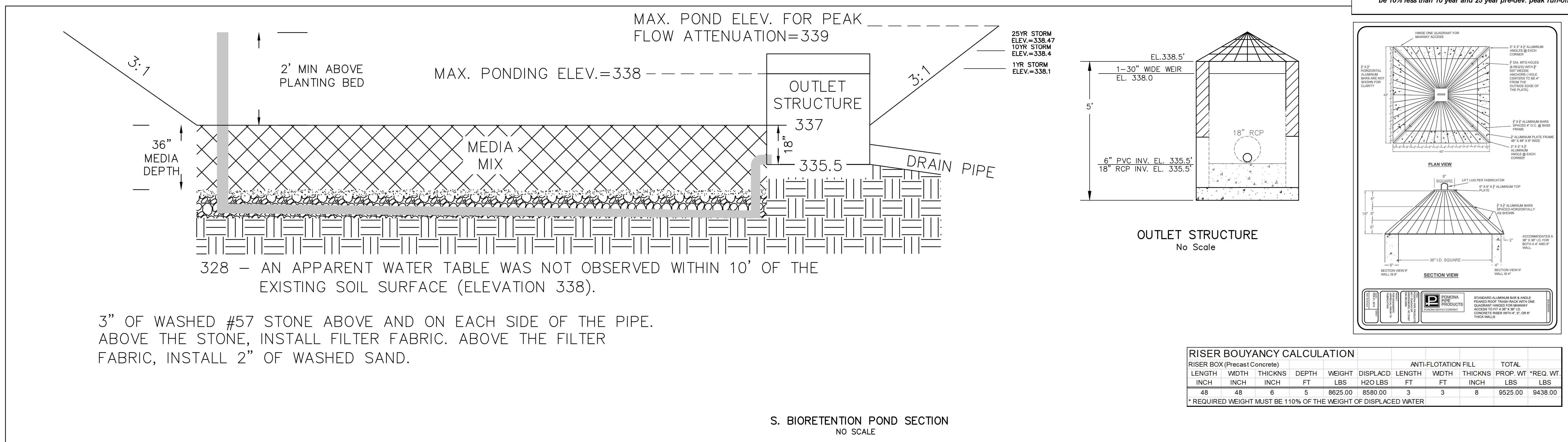
N. BIORETENTION POND SECTION  
NO SCALE

NOTE: BIORETENTION CELL DRAWDOWN IN ACCORDANCE WITH N.C.D.E.Q. M.D.C. FOR MEDIA MIX.

PRELIMINARY PEAK FLOW REDUCTION

RETURN EVENT (YEARS)	PREDEVELOPED		POST DEVELOPED		REDUCTION (%)
	PEAK RUN-OFF (CFS)	PEAK RUN-OFF (CFS)	PEAK RUN-OFF (CFS)	PEAK RUN-OFF (CFS)	
1	3.39	0.60	82.3%		
2	4.66	1.44	69.1%		
10	9.22	5.05	45.2%		
25	11.34	6.68	41.1%		

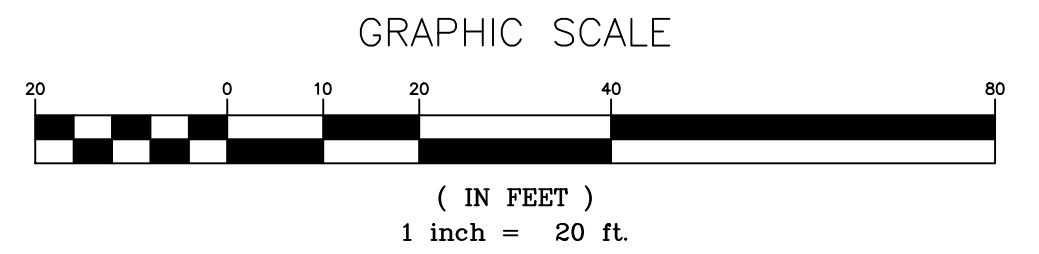
\* Note - 1 year post dev. peak run-off must not exceed 1 year pre-dev. peak run-off and 10 year and 25 year post dev. peak run-off must be 10% less than 10 year and 25 year pre-dev. peak run-off



S. BIORETENTION POND SECTION  
NO SCALE

NOTE: MEDIA MIX SHALL BE A HOMOGENEOUS SOIL MIX ENGINEERED MEDIA BLEND WITH APPROXIMATE VOLUMES OF:  
(A) 75-85 PERCENT MEDIUM TO COARSE WASHED SAND (ASTM C33, AASHTO M 6/M 80, ASTM C330, AASHTO M195, OR EQUIVALENT)  
(B) 8-15 PERCENT FINES (SILT AND CLAY)  
(C) 5-15 PERCENT ORGANIC MATTER (SUCH AS PINE BARK FINES)

NOTE: PLANTINGS FOR THE BIORETENTION CELLS SHALL ACHIEVE A MINIMUM OF 75 PERCENT PLANT COVERAGE AT FIVE YEARS AFTER PLANTING. IF SOD IS USED, THEN IT SHALL BE A NON-CLUMPING, DEEP-ROOTED SPECIES.

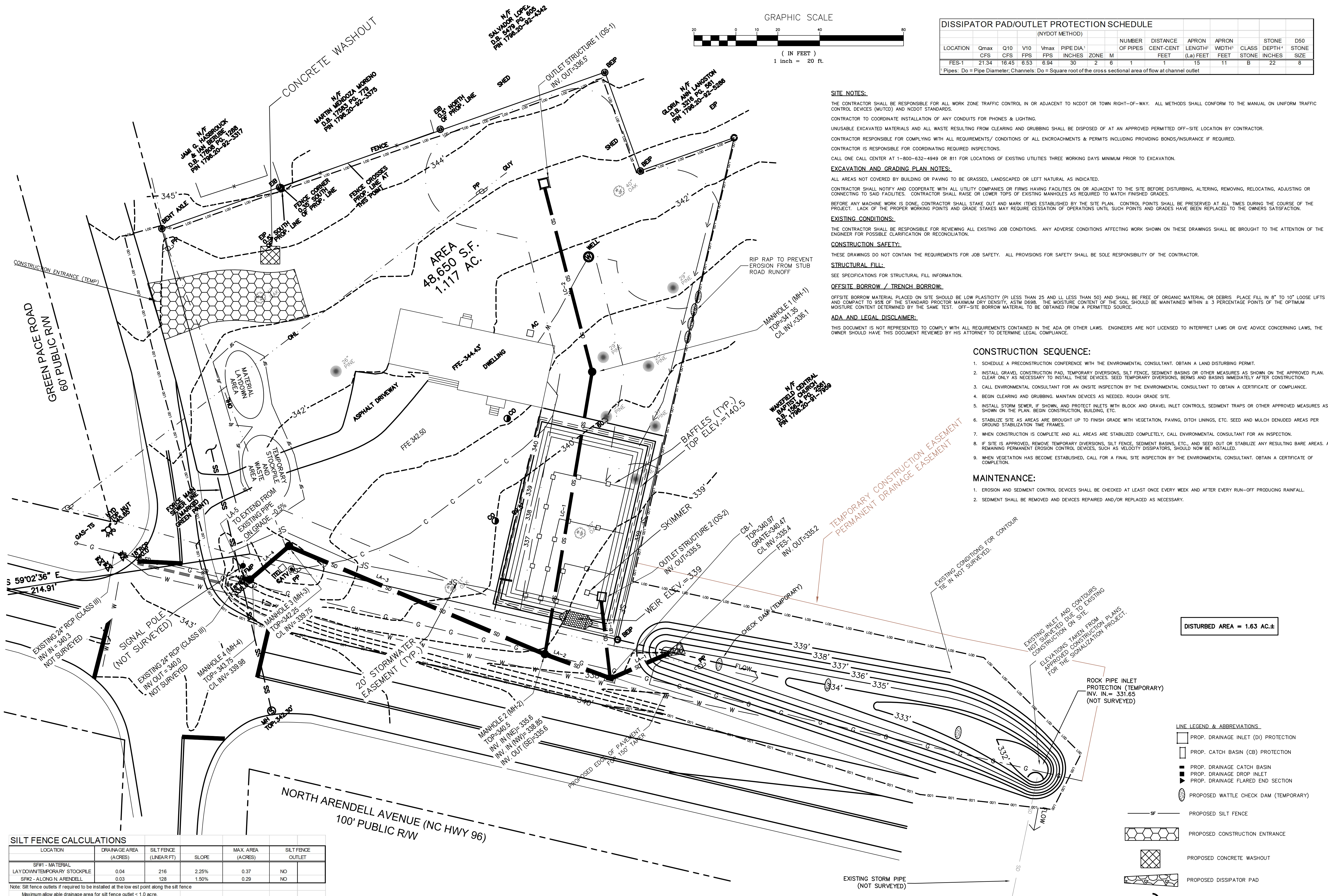


DISSIPATOR PAD/OUTLET PROTECTION SCHEDULE												
(NYDOT METHOD)												
LOCATION	Qmax	Q10	V10	Vmax	PIPE DIA'	NUMBER OF PIPES	DISTANCE CENT-CENT FEET	APRON LENGTH' (La)	APRON WIDTH' (Lb)	CLASS	STONE DEPTH' INCHES	D50 STONE SIZE
FES-1	21.34	16.45	6.53	6.94	30	2	6	1	15	11	B	22

Pipes: Do = Pipe Diameter; Channels: Do = Square root of the cross sectional area of flow at channel outlet

**SITE NOTES:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC CONTROL IN OR ADJACENT TO NCDOT OR TOWN RIGHT-OF-WAY. ALL METHODS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.  
CONTRACTOR TO COORDINATE INSTALLATION OF ANY CONDUITS FOR PHONES & LIGHTING.  
UNUSABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF AT AN APPROVED PERMITTED OFF-SITE LOCATION BY CONTRACTOR.  
CONTRACTOR RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS / CONDITIONS OF ALL ENCROACHMENTS & PERMITS INCLUDING PROVIDING BONDS/INSURANCE IF REQUIRED.  
CONTRACTOR IS RESPONSIBLE FOR COORDINATING REQUIRED INSPECTIONS.  
CALL ONE CALL CENTER AT 1-800-632-4949 OR 811 FOR LOCATIONS OF EXISTING UTILITIES THREE WORKING DAYS MINIMUM PRIOR TO EXCAVATION.  
**EXCAVATION AND GRADING PLAN NOTES:**  
ALL AREAS NOT COVERED BY BUILDING OR PAVING TO BE GRASSED, LANDSCAPED OR LEFT NATURAL AS INDICATED.  
CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING OR CONNECTING TO SAID FACILITIES. CONTRACTOR SHALL RAISE OR LOWER TOPS OF EXISTING MANHOLES AS REQUIRED TO MATCH FINISHED GRADES.  
BEFORE ANY MACHINE WORK IS DONE, CONTRACTOR SHALL STAKE OUT AND MARK ITEMS ESTABLISHED BY THE SITE PLAN. CONTROL POINTS SHALL BE PRESERVED AT ALL TIMES DURING THE COURSE OF THE PROJECT. LACK OF THE PROPER WORKING POINTS AND GRADE STAKES MAY REQUIRE CESSATION OF OPERATIONS UNTIL SUCH POINTS AND GRADES HAVE BEEN REPLACED TO THE OWNERS SATISFACTION.  
**EXISTING CONDITIONS:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL EXISTING JOB CONDITIONS. ANY ADVERSE CONDITIONS AFFECTING WORK SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR POSSIBLE CLARIFICATION OR RECONCILIATION.  
**CONSTRUCTION SAFETY:**  
THESE DRAWINGS DO NOT CONTAIN THE REQUIREMENTS FOR JOB SAFETY. ALL PROVISIONS FOR SAFETY SHALL BE SOLE RESPONSIBILITY OF THE CONTRACTOR.  
**STRUCTURAL FILL:**  
SEE SPECIFICATIONS FOR STRUCTURAL FILL INFORMATION.  
**OFFSITE BORROW / TRENCH BORROW:**  
OFFSITE BORROW MATERIAL PLACED ON SITE SHOULD BE LOW PLASTICITY (PI LESS THAN 25 AND LL LESS THAN 50) AND SHALL BE FREE OF ORGANIC MATERIAL OR DEBRIS. PLACE FILL IN 8" TO 10" LOOSE LIFTS AND COMPACT TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698. THE MOISTURE CONTENT OF THE SOIL SHOULD BE MAINTAINED WITHIN ± 3 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT DETERMINED BY THE SAME TEST. OFF-SITE BORROW MATERIAL TO BE OBTAINED FROM A PERMITTED SOURCE.  
**ADA AND LEGAL DISCLAIMER:**  
THIS DOCUMENT IS NOT REPRESENTED TO COMPLY WITH ALL REQUIREMENTS CONTAINED IN THE ADA OR OTHER LAWS. ENGINEERS ARE NOT LICENSED TO INTERPRET LAWS OR GIVE ADVICE CONCERNING LAWS. THE OWNER SHOULD HAVE THIS DOCUMENT REVIEWED BY HIS ATTORNEY TO DETERMINE LEGAL COMPLIANCE.

- CONSTRUCTION SEQUENCE:**
- SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND DISTURBING PERMIT.
  - 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 AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
  - BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
  - INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, 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.
  - WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
  - 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 NOW BE INSTALLED.
  - WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.
- MAINTENANCE:**
- EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CHECKED AT LEAST ONCE EVERY WEEK AND AFTER EVERY RUN-OFF PRODUCING RAINFALL.
  - SEDIMENT SHALL BE REMOVED AND DEVICES REPAIRED AND/OR REPLACED AS NECESSARY.



**SILT FENCE CALCULATIONS**

LOCATION	DRAINAGE AREA (ACRES)	SILT FENCE (LINEAR FT)	SLOPE	MAX. AREA (ACRES)	SILT FENCE OUTLET
SF#1 - MATERIAL LAYDOWN/TEMPORARY STOCKPILE	0.04	216	2.25%	0.37	NO
SF#2 - ALONG N. ARENDELL	0.03	128	1.50%	0.29	NO

Note: Silt fence outlets if required to be installed at the low est point along the silt fence  
Maximum allowable drainage area for silt fence outlet < 1.0 acre.

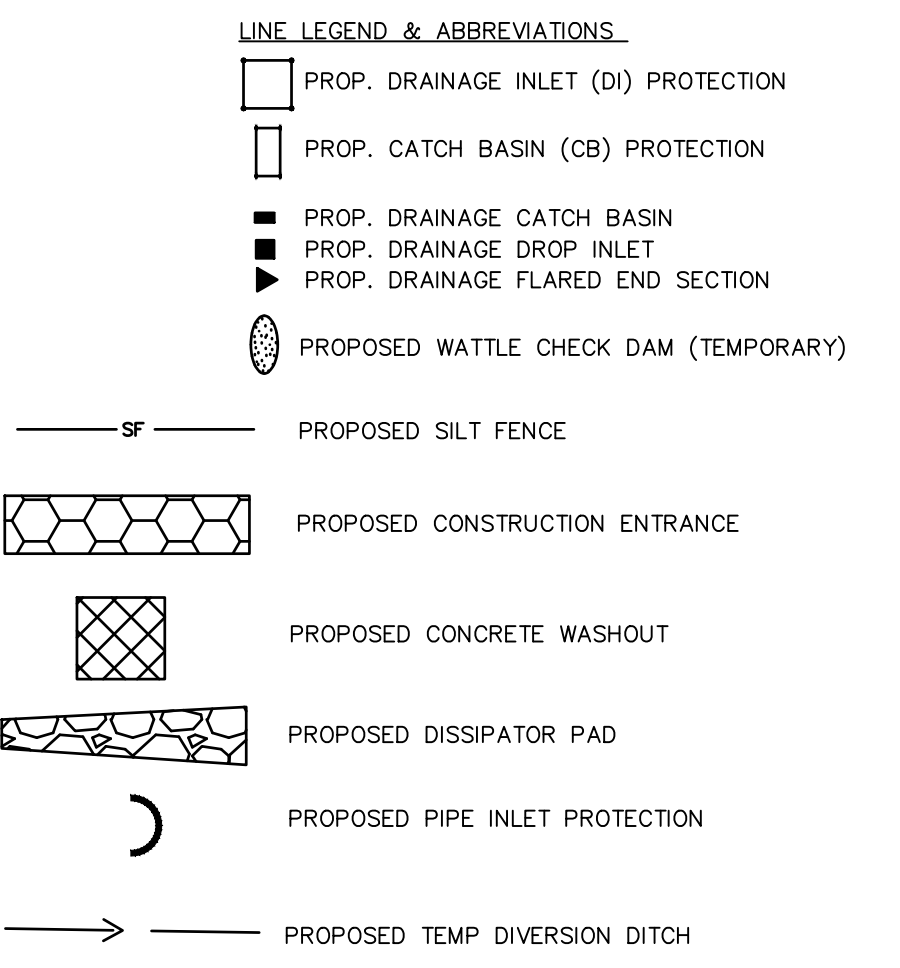
**SKIMMER SEDIMENT BASIN SCHEDULE**

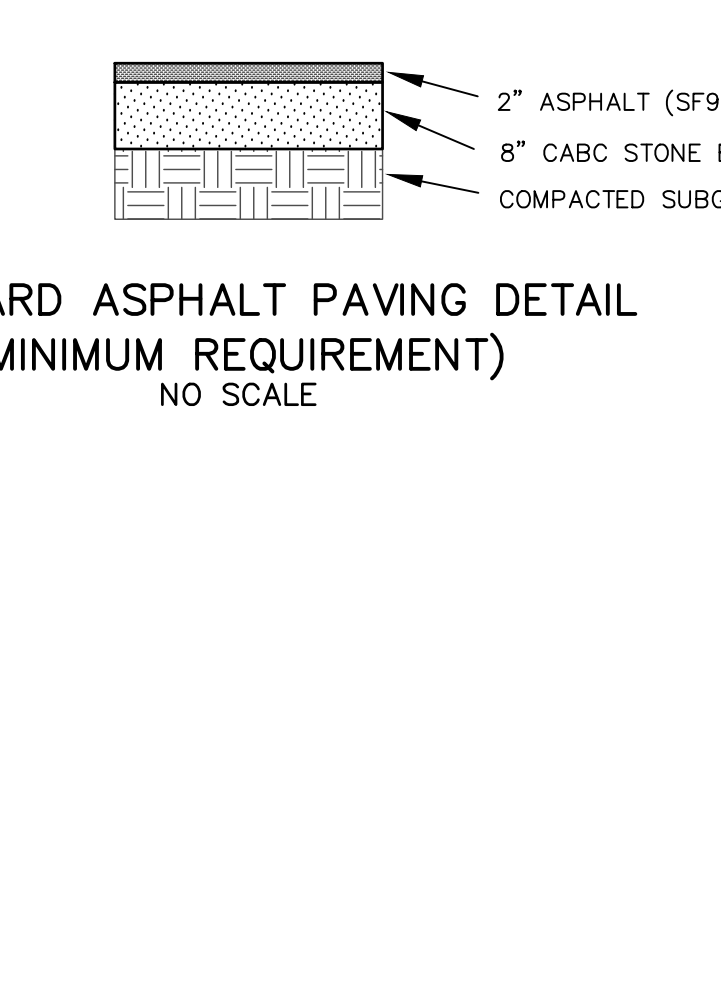
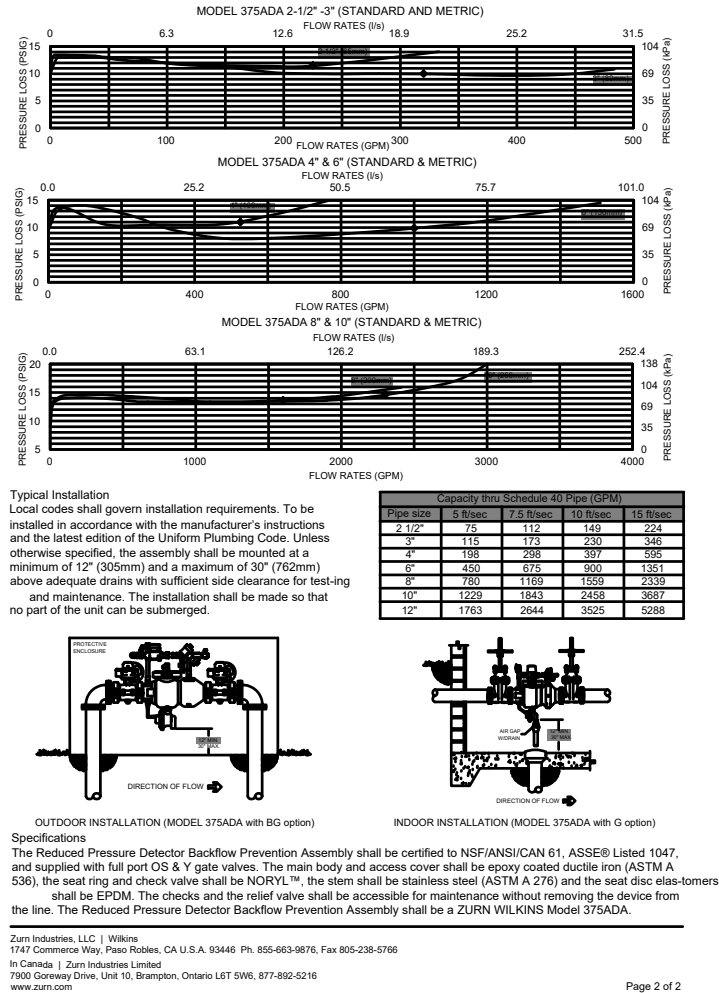
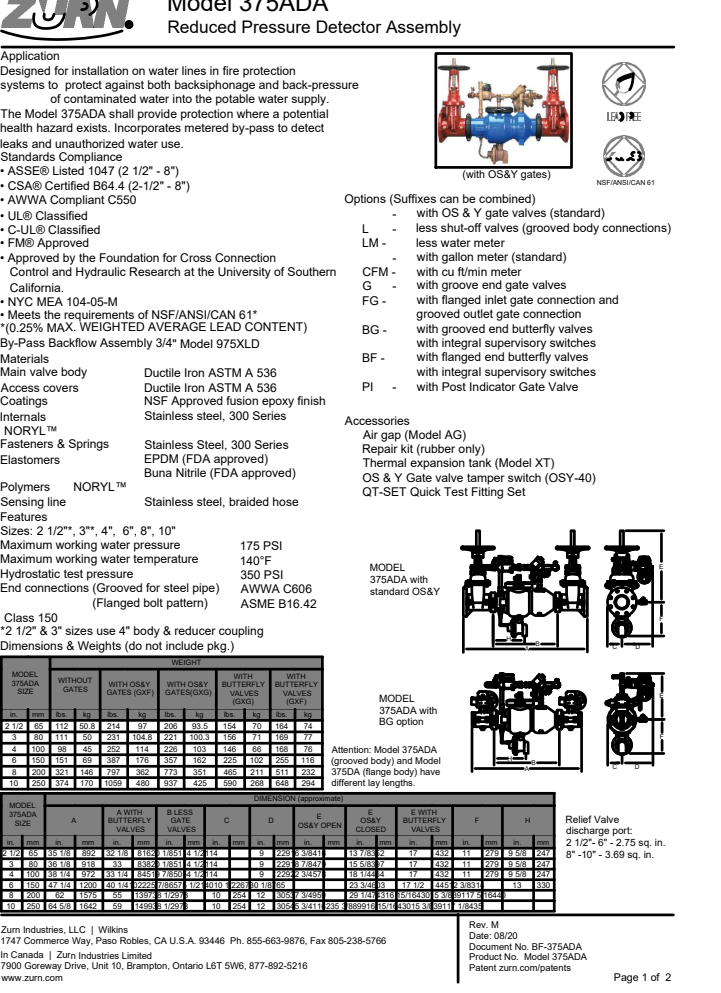
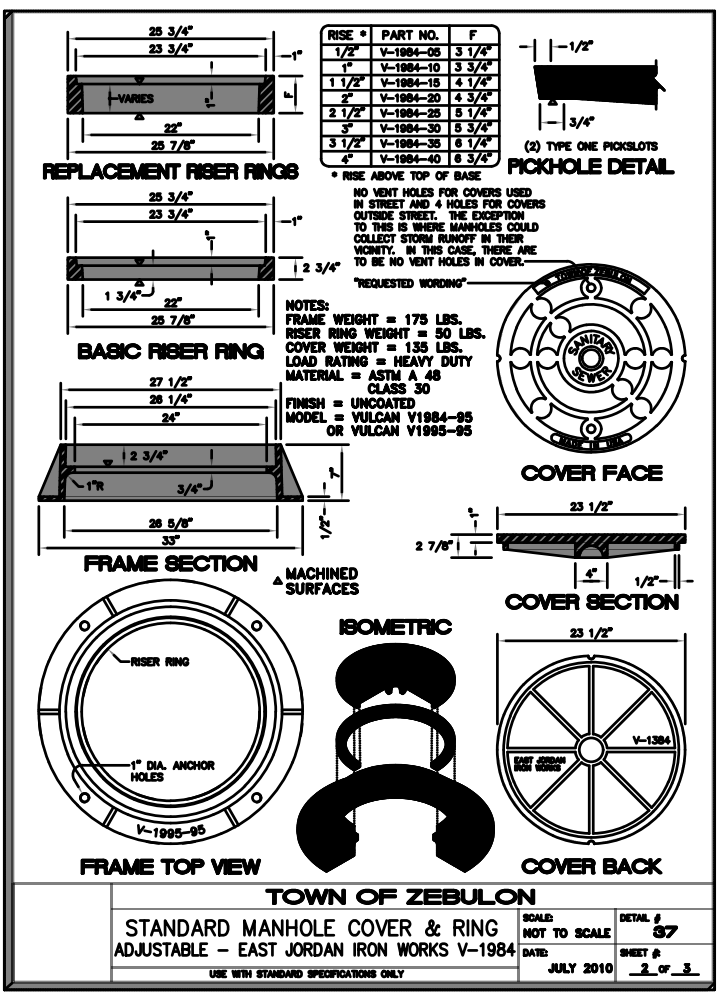
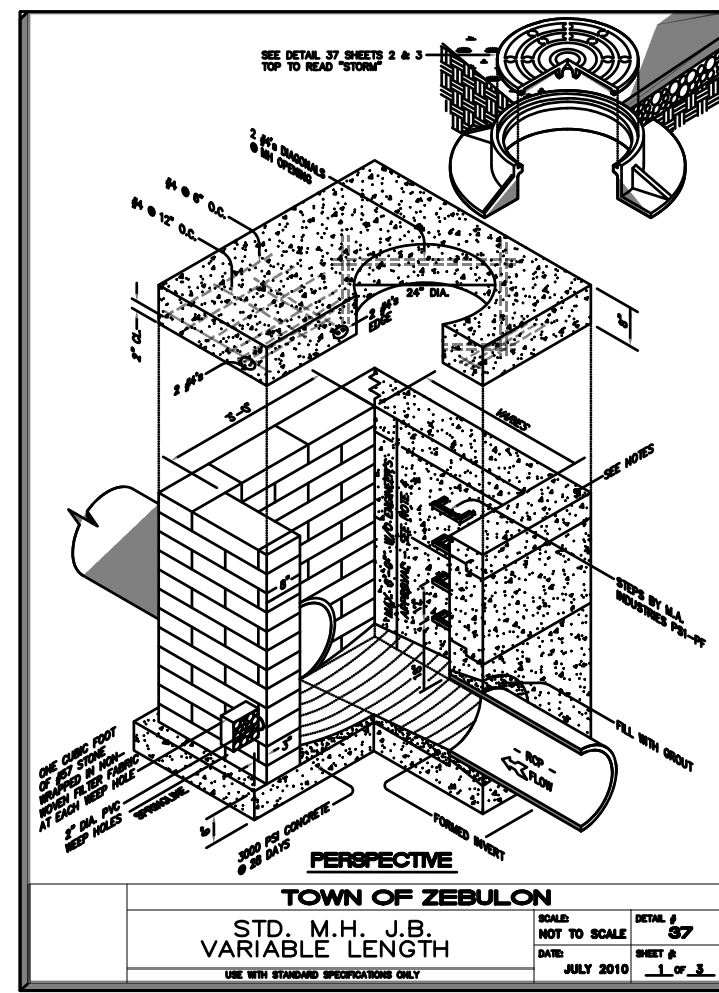
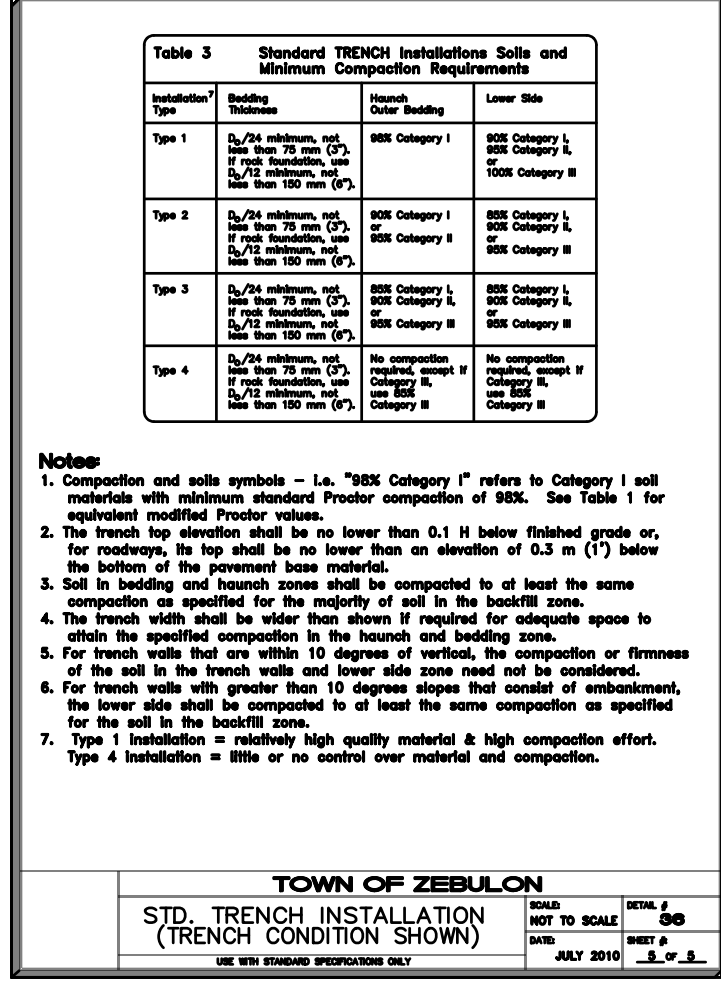
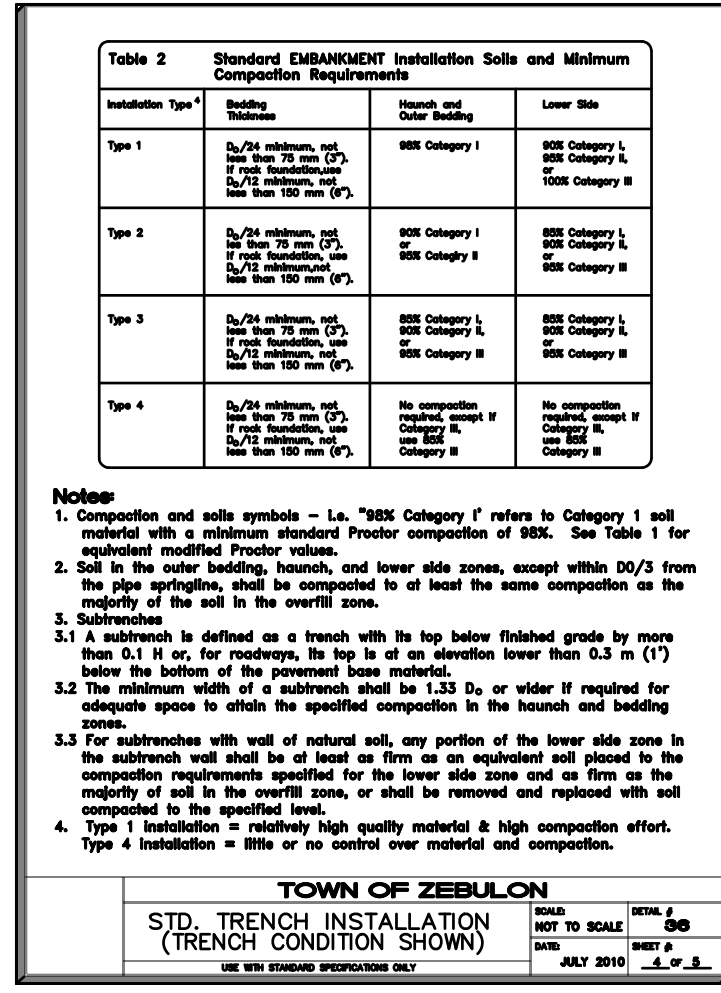
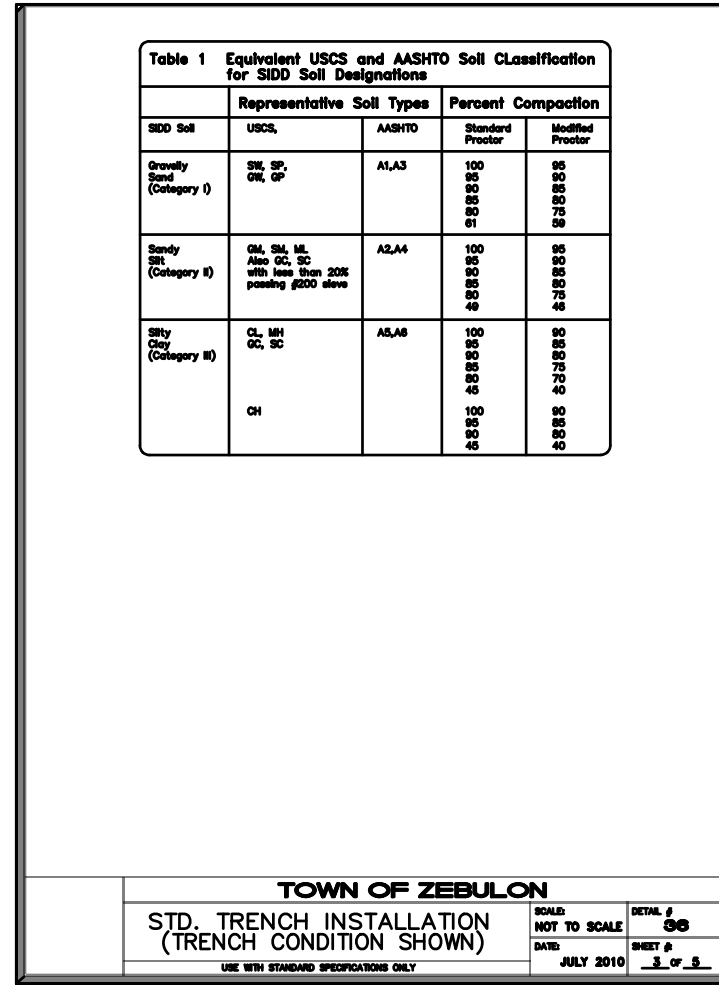
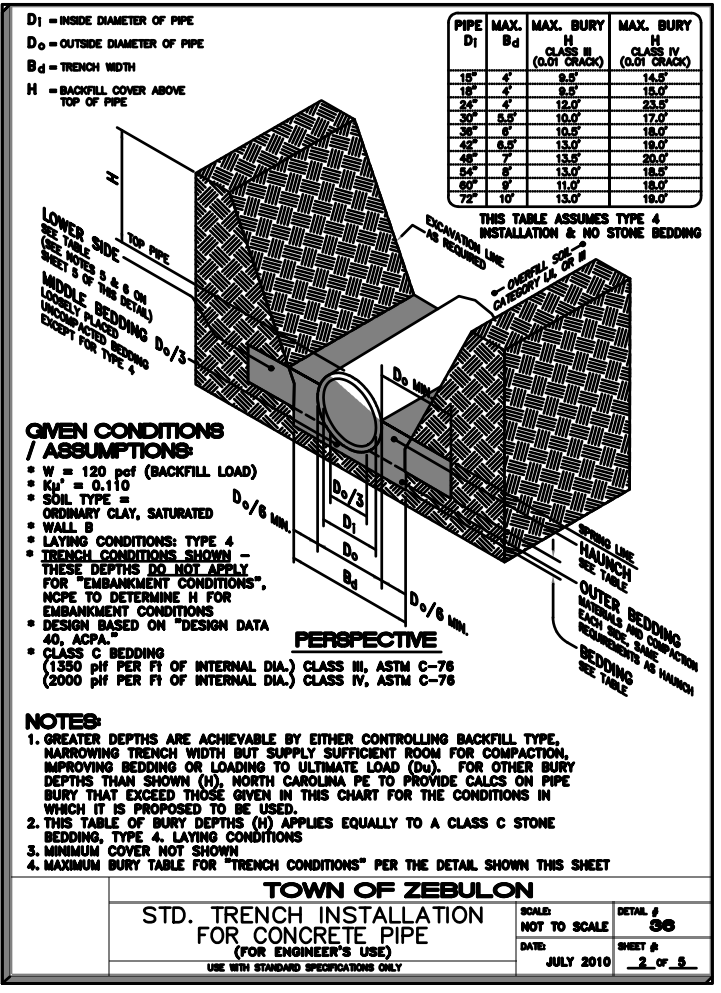
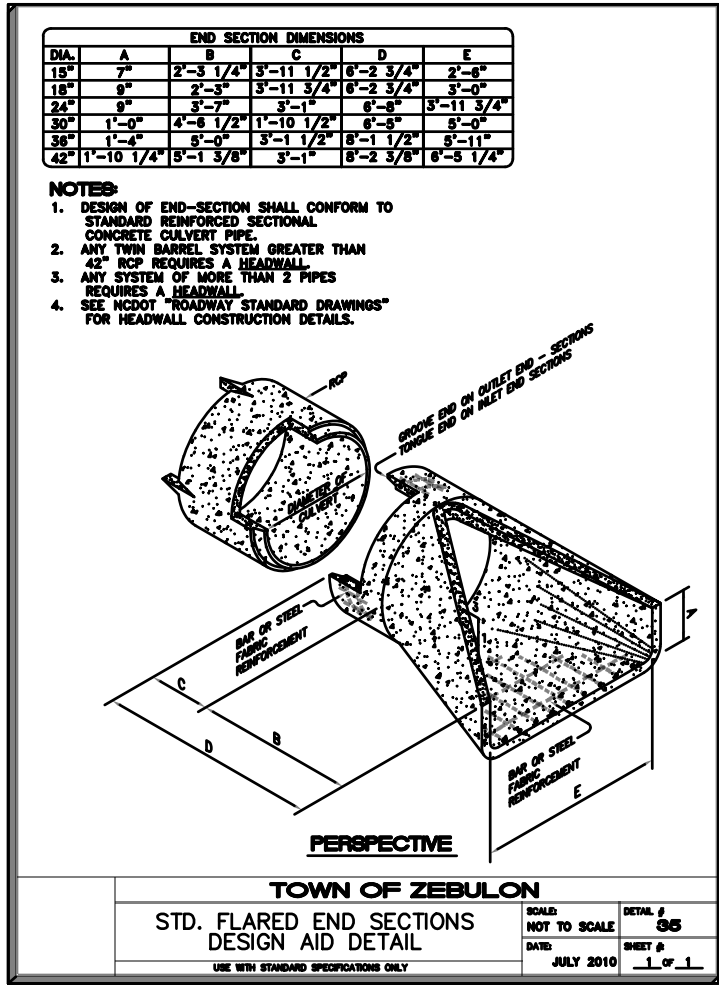
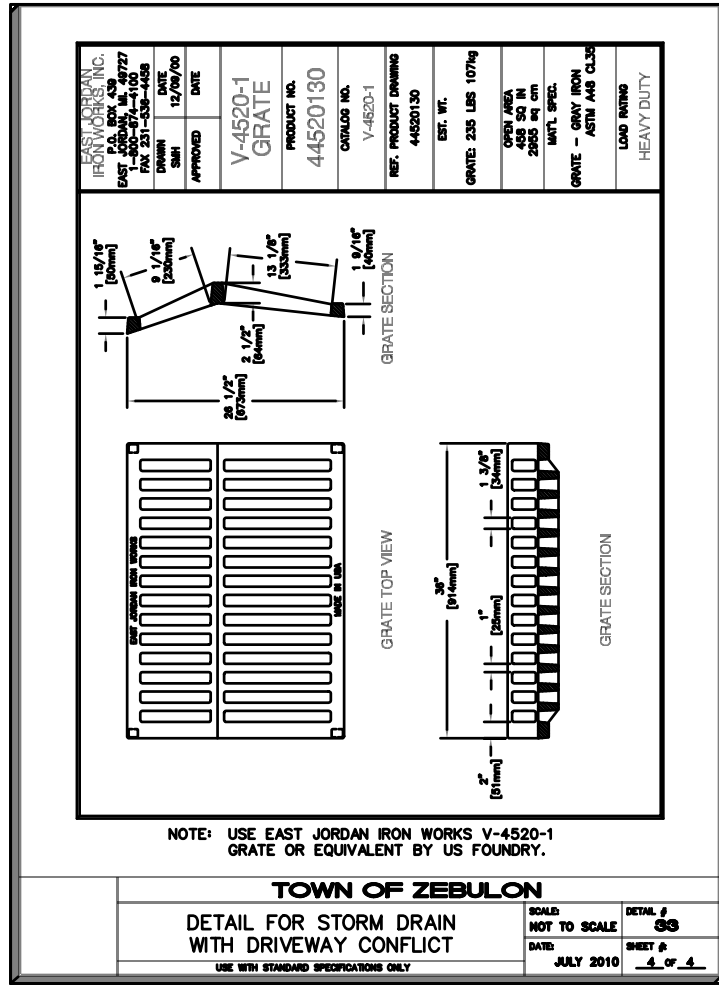
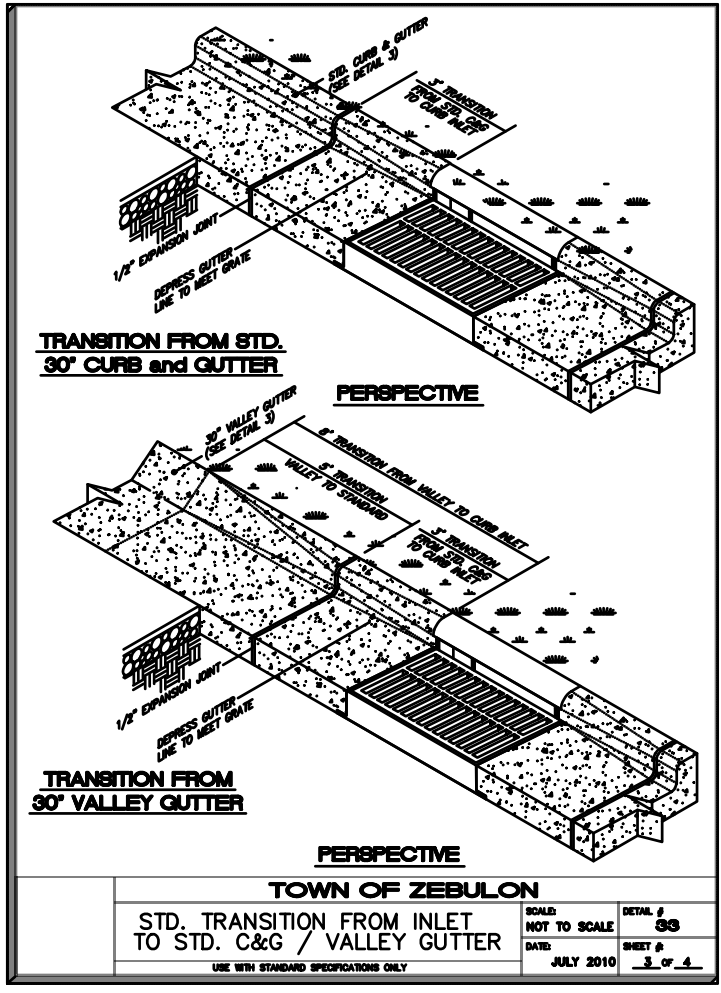
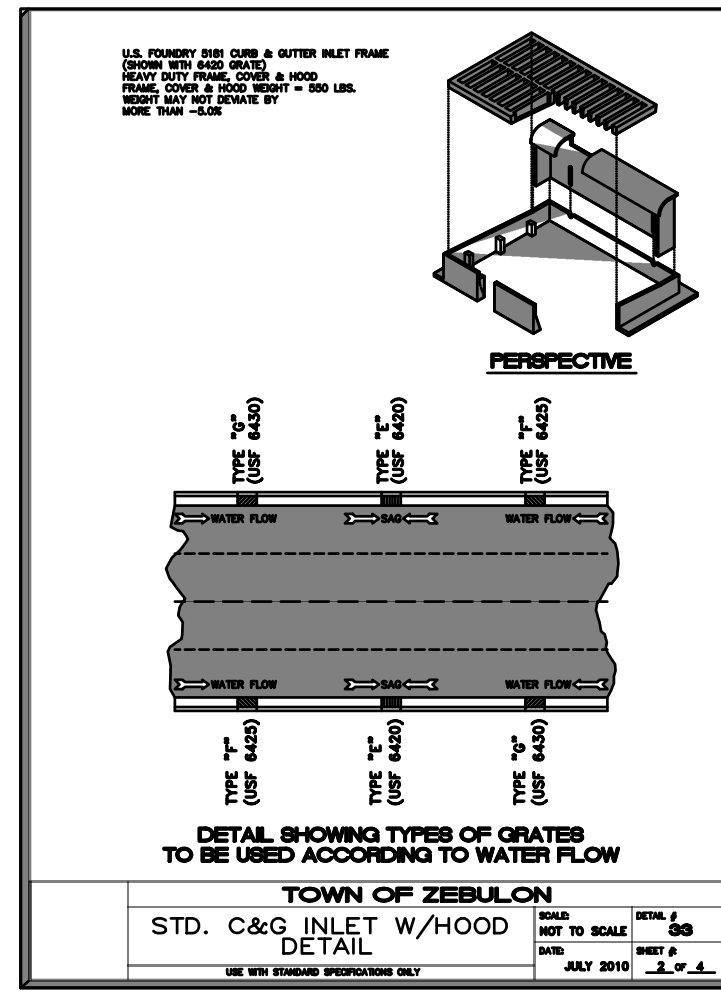
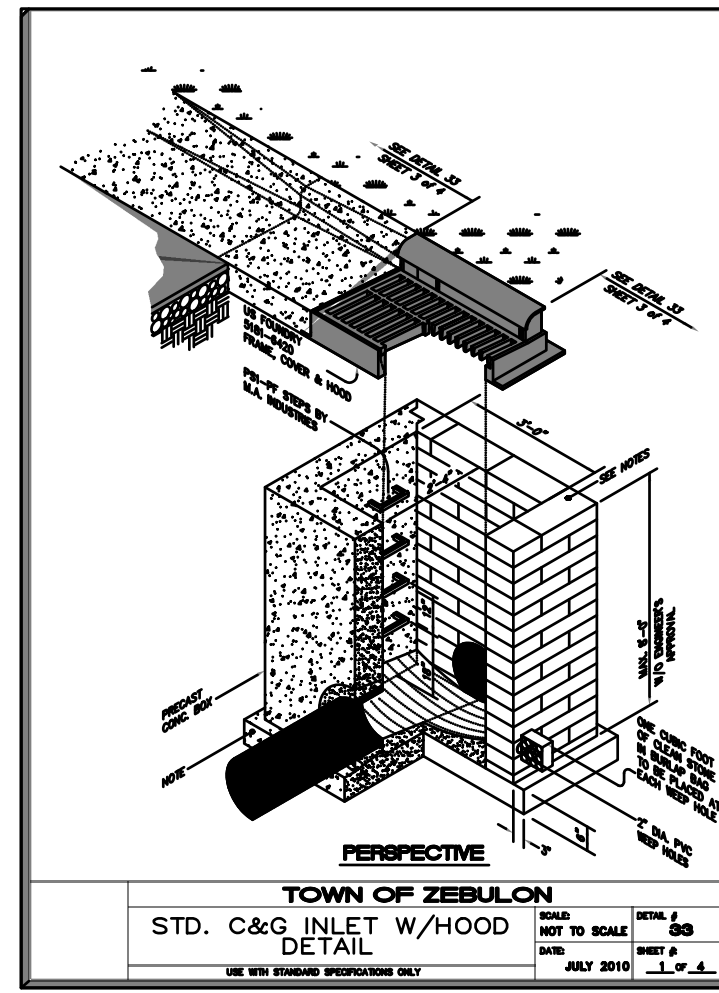
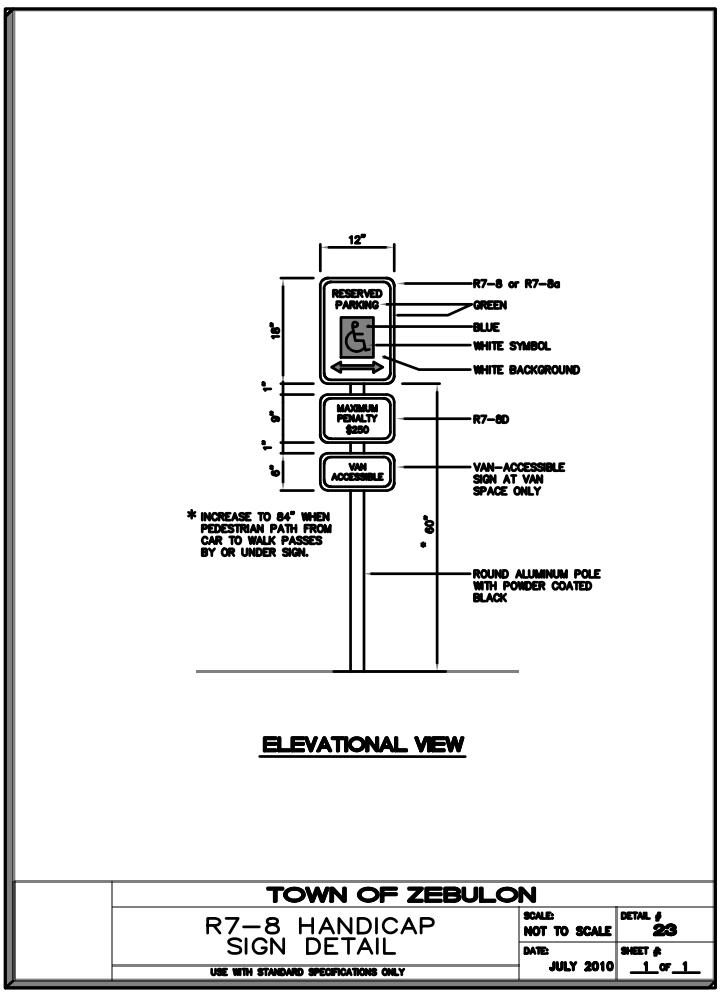
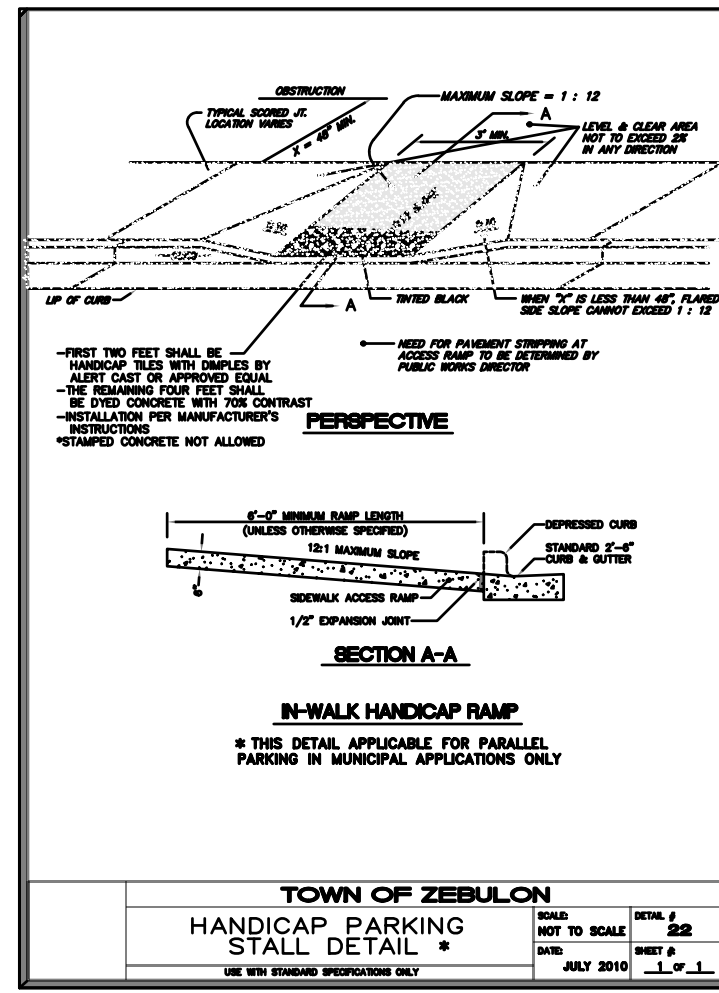
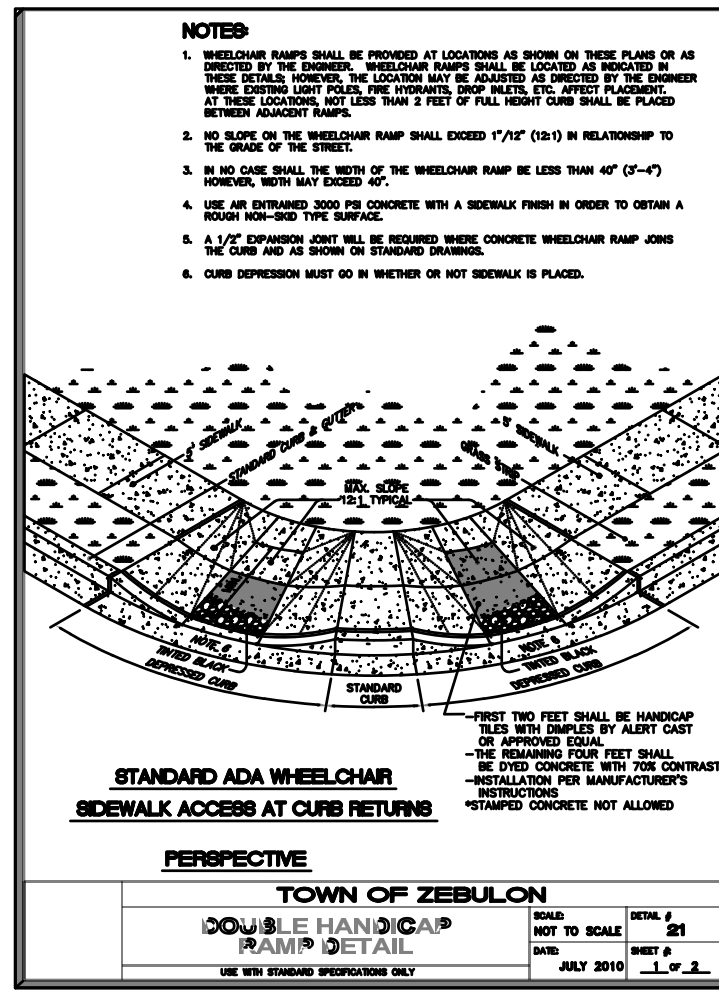
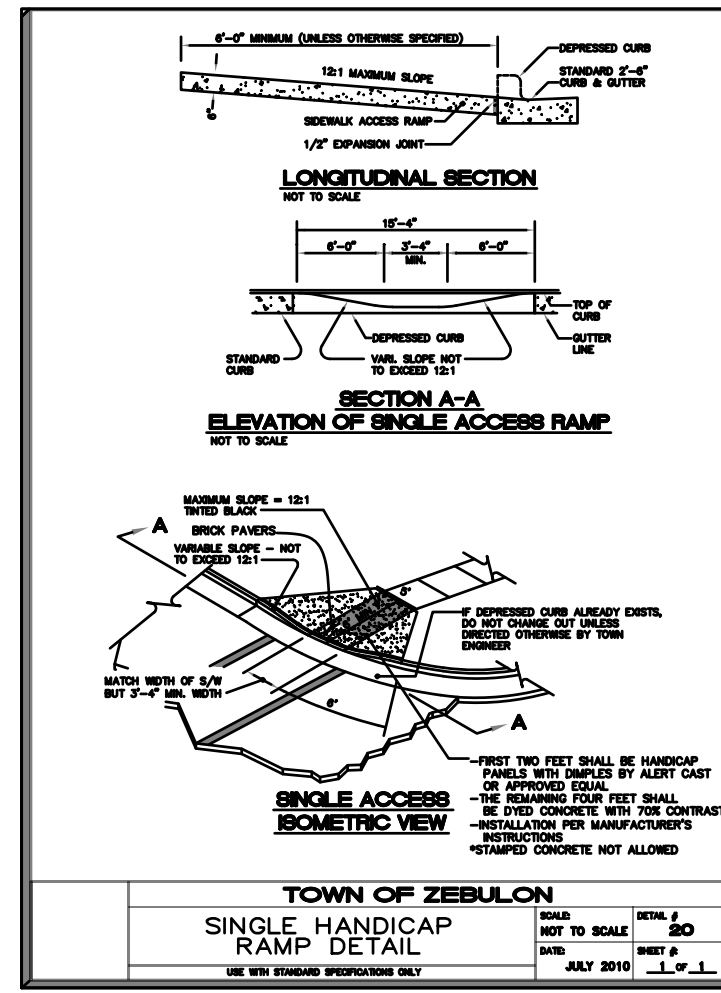
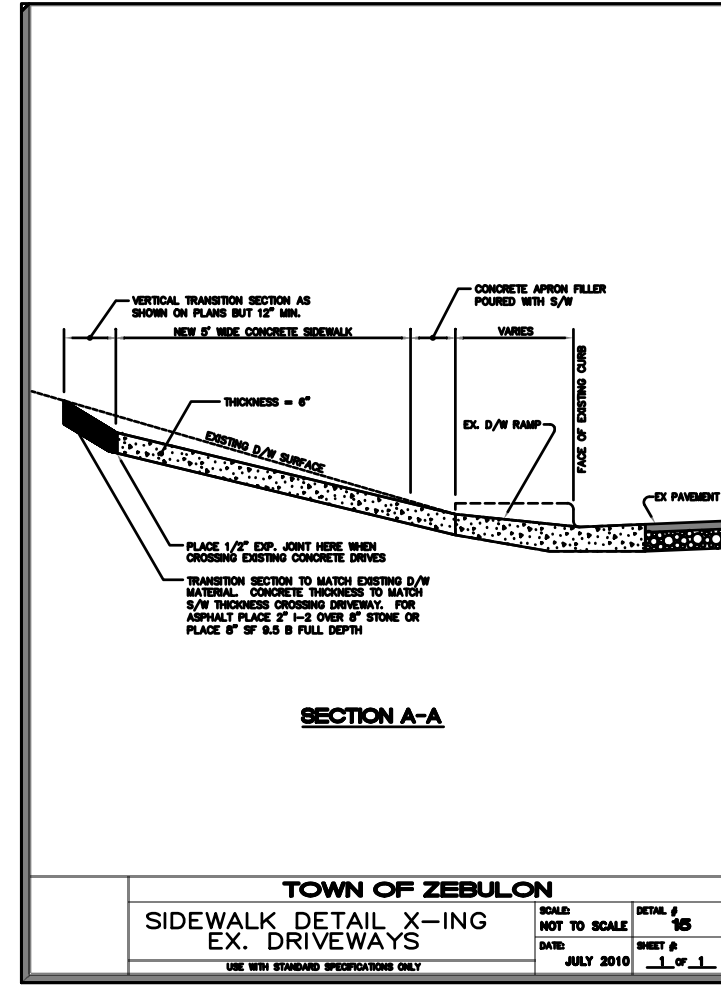
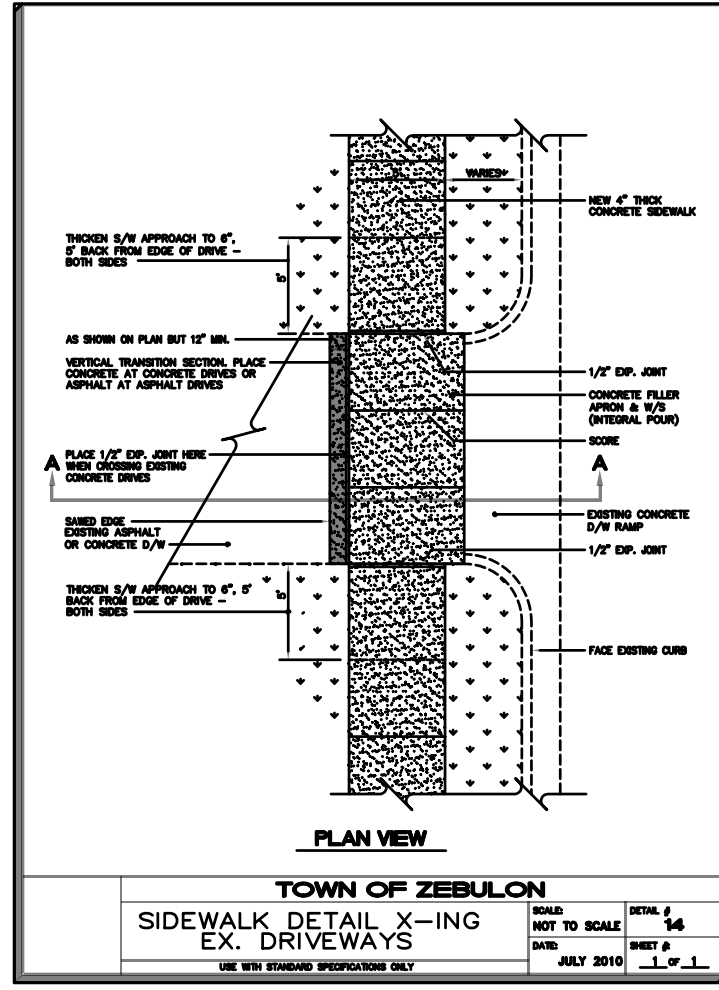
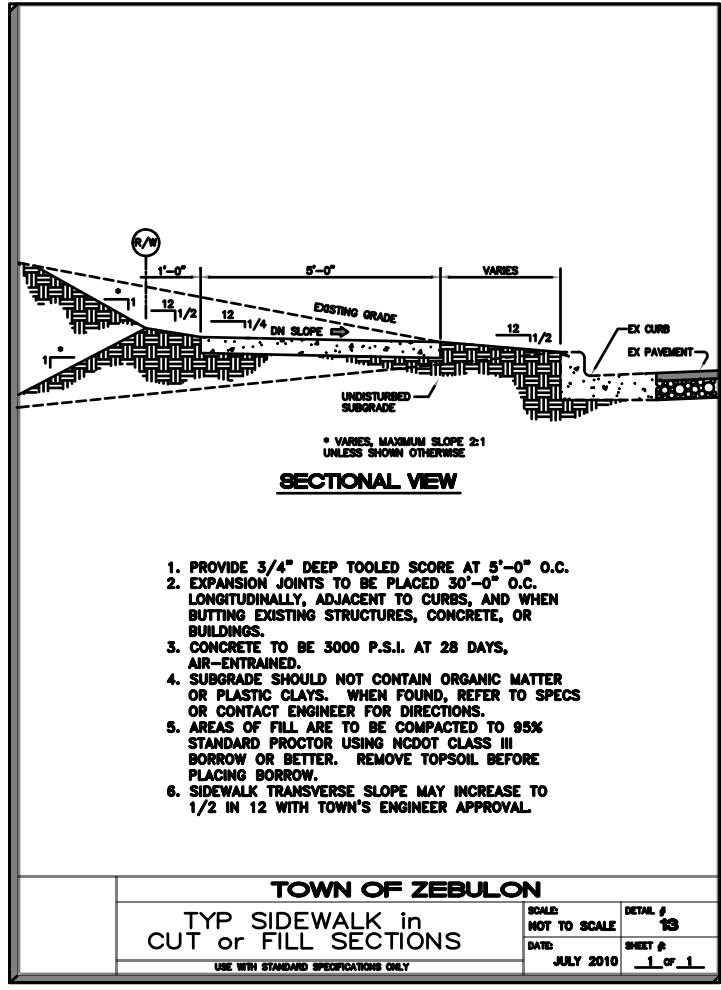
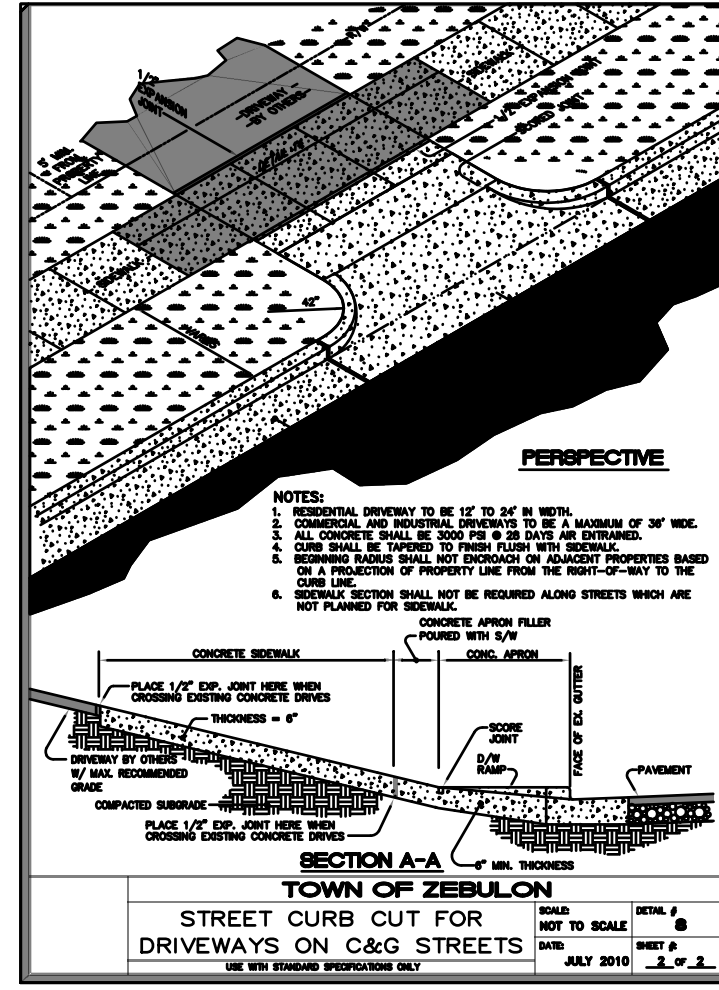
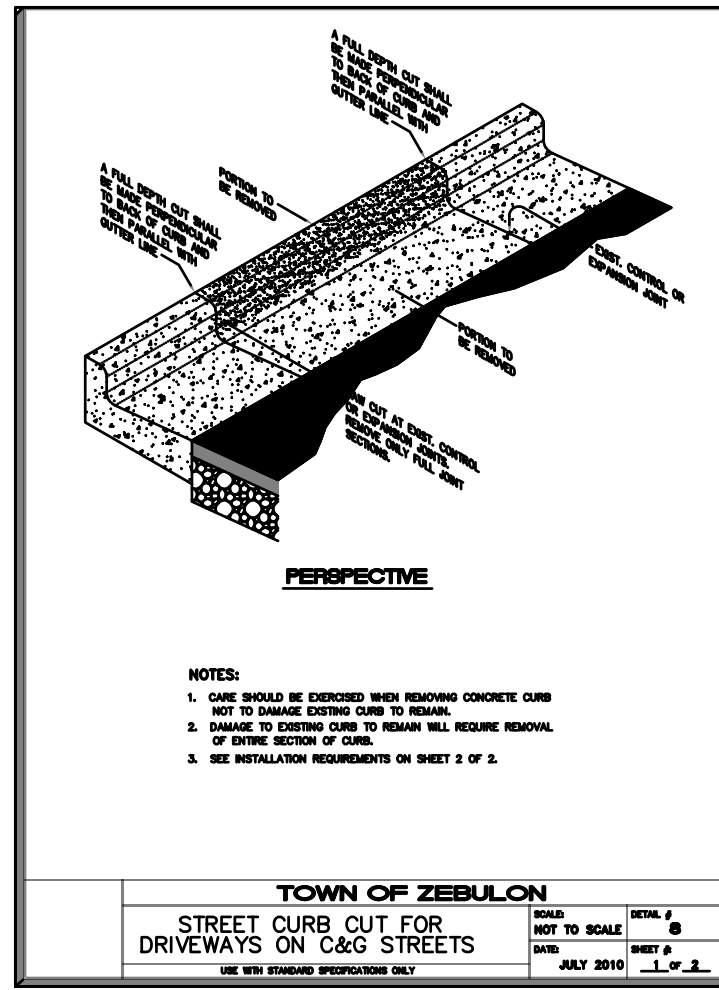
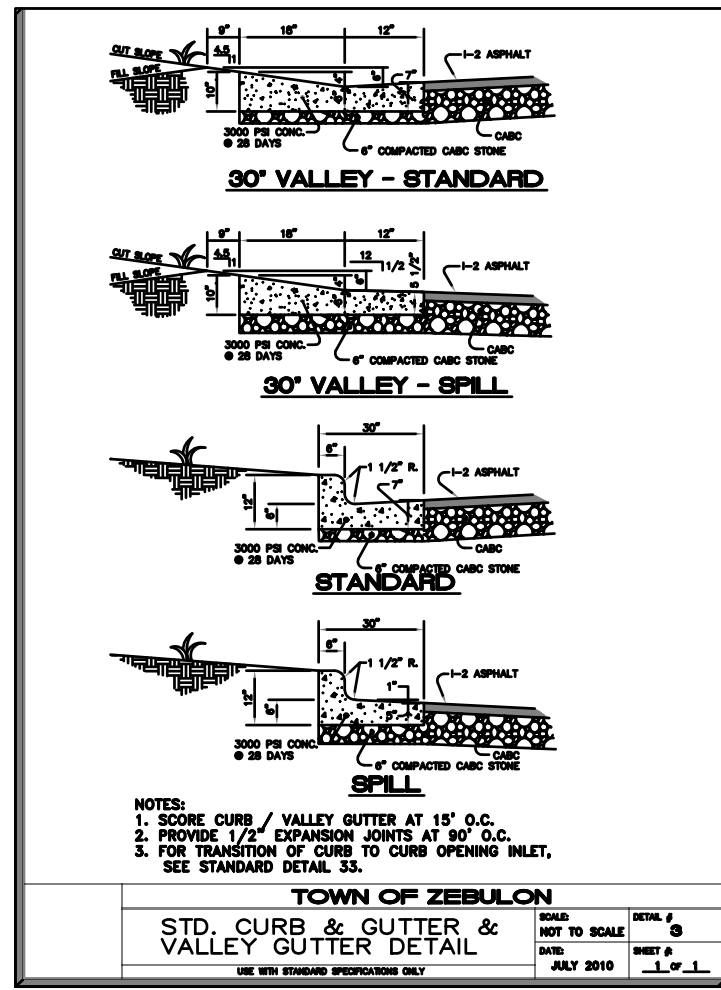
SKIMMER	TOTAL AREA	DISTURBED	Tc	Cc	I	REQ INHR	REQ SQ.FT	REQ CF	REQ FT	WEIR LENGTH	BAFFLES	PROP SURFACE	PROP SIDE SLOPE	PROP BOTTOM VOLUME	SKIMMER SIZE	ORIFICE SIZE	DEWATERING TIME						
SB#	ACRES	ACRES	MIN	COEFF	INHR	CFS	SQ.FT	CF	FT	FT	REQ	SQ.FT	FT/FT	SQ.FT	IN	IN	DAYS						
1	1.16	1.16	5	0.75	7.20	6.26	2725	2088	74	37	2.0	10	YES	2725	2.1	1903	4603	18	37	55	1.5	0.75	4.5

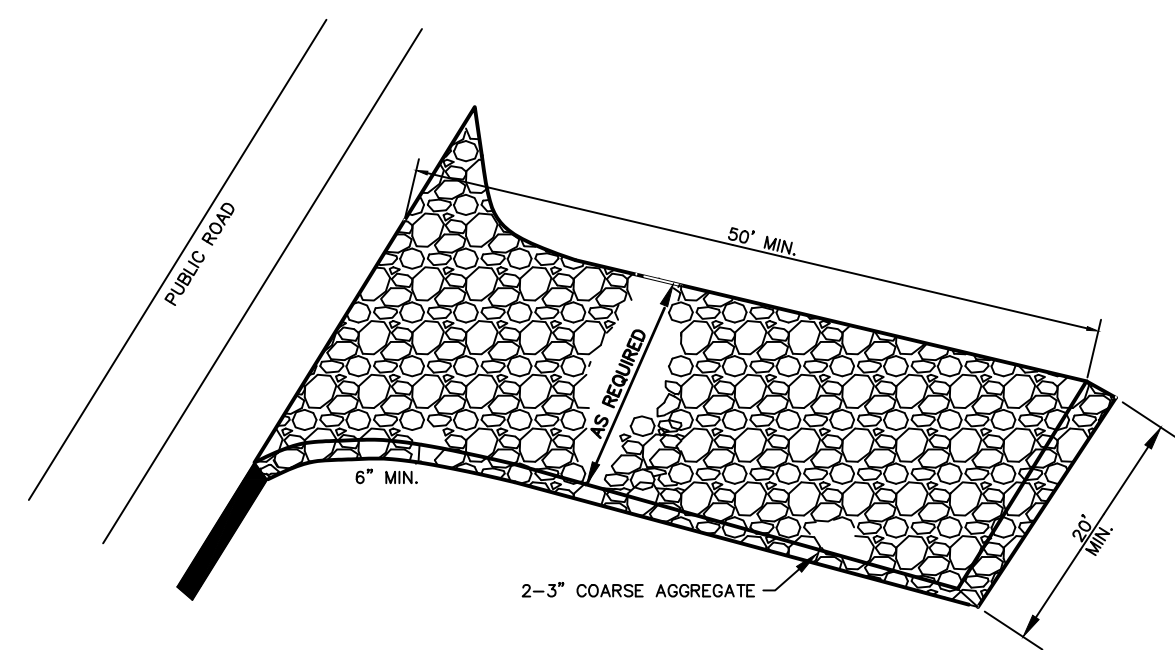
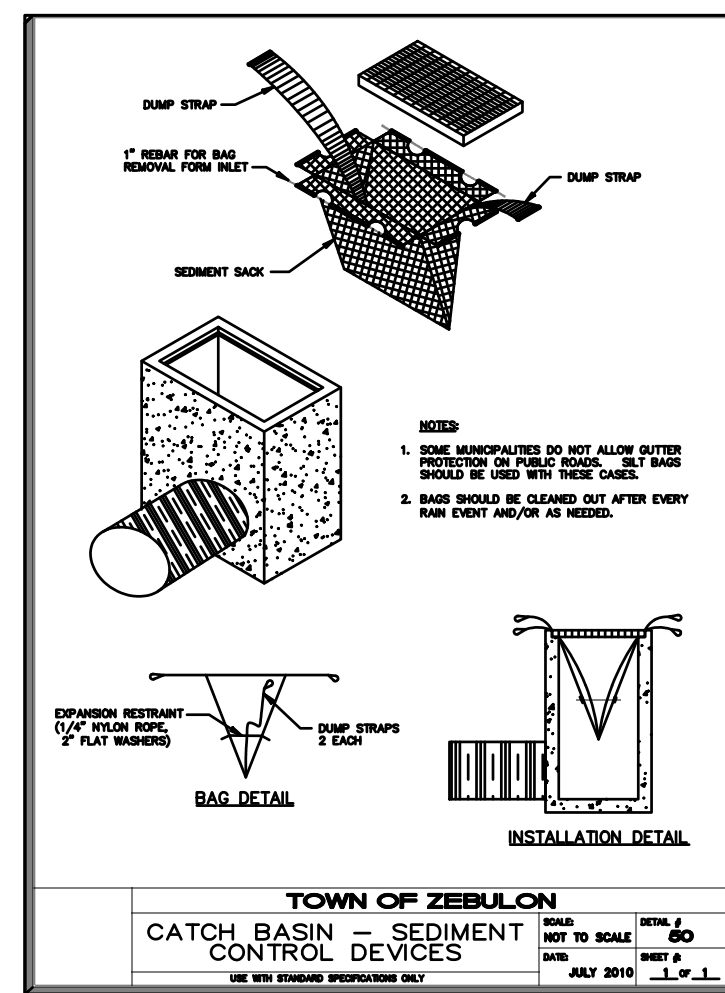
MINIMUM WEIR WIDTH = 10 FT  
MINIMUM SURFACE AREA = 435 SF/CFS Q10  
MINIMUM VOLUME = 1800 CU FT/DISTURBED ACRE

**DITCH CALCULATIONS**  
10-YEAR DESIGN STORM

LOCATION	DRAINAGE AREA SQ.FT.	DRAINAGE AREA ACRES	COEFFICIENT	RUNOFF INHR	RAINFALL INHR	REQUIRED FLOW Q	DITCH SLOPE S	BOTTOM FLOW DEPTH d	SIDE FLOW DEPTH y	WETTED PERIMETER P	HYDRAULIC RADIUS R	MANNING VEL. V	ACTUAL CAPACITY Q	TOP WIDTH W	SHEAR STRESS (lbs/sq.ft.)	PERM LINER	TEMP LINER	TEMPORARY LINER TYPE	
SWALF#1 - TO SKIMMER BASIN	8195	0.19	0.15	7.20	0.20	0.0222	0	0.16	3	0.08	1.01	0.08	2.65	0.20	0.96	0.22	NO	YES	STRAW W/ NET







**CONSTRUCTION SPECIFICATION:**

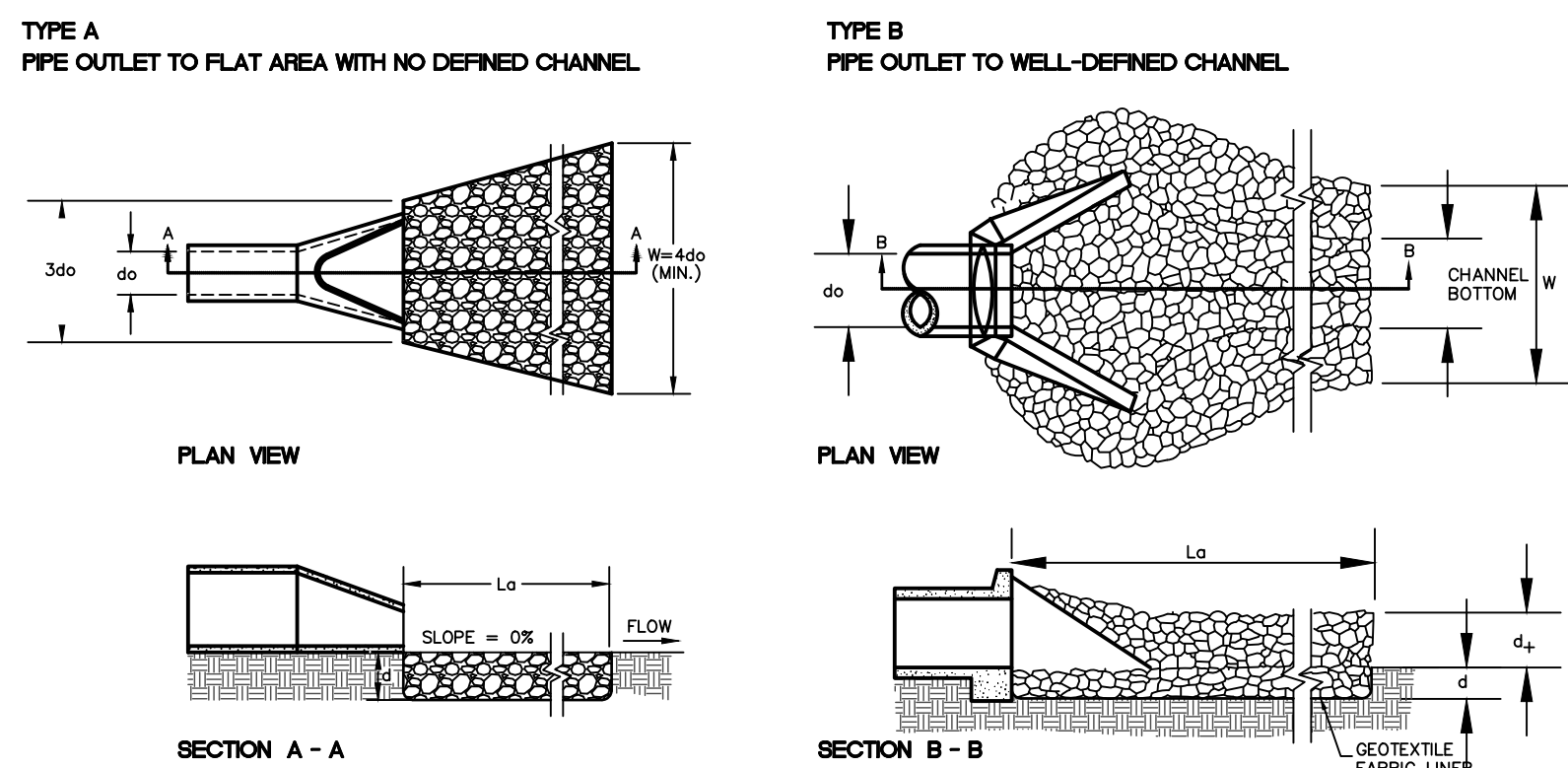
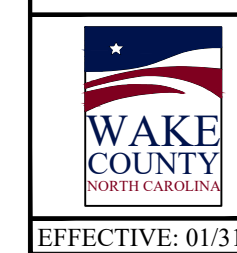
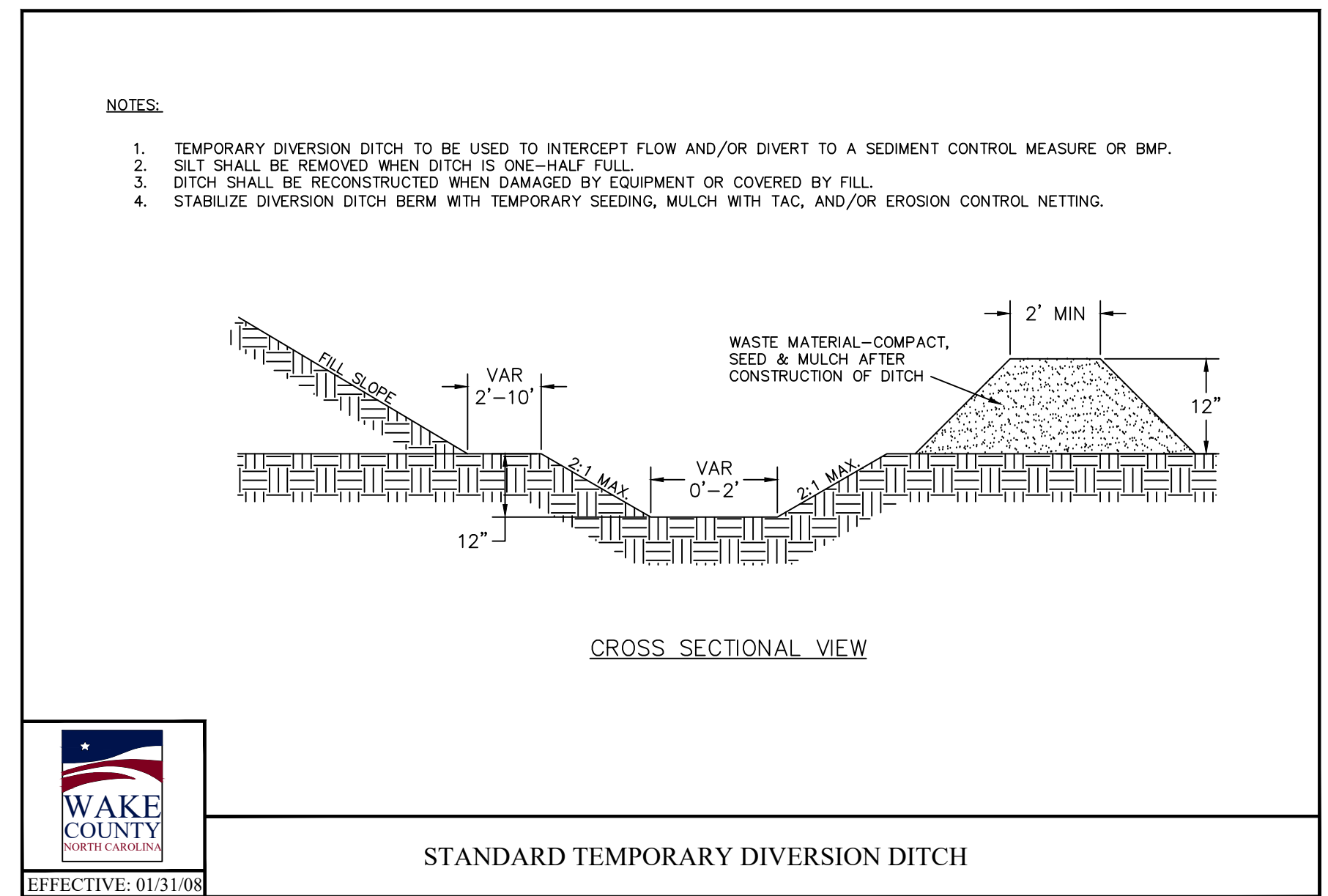
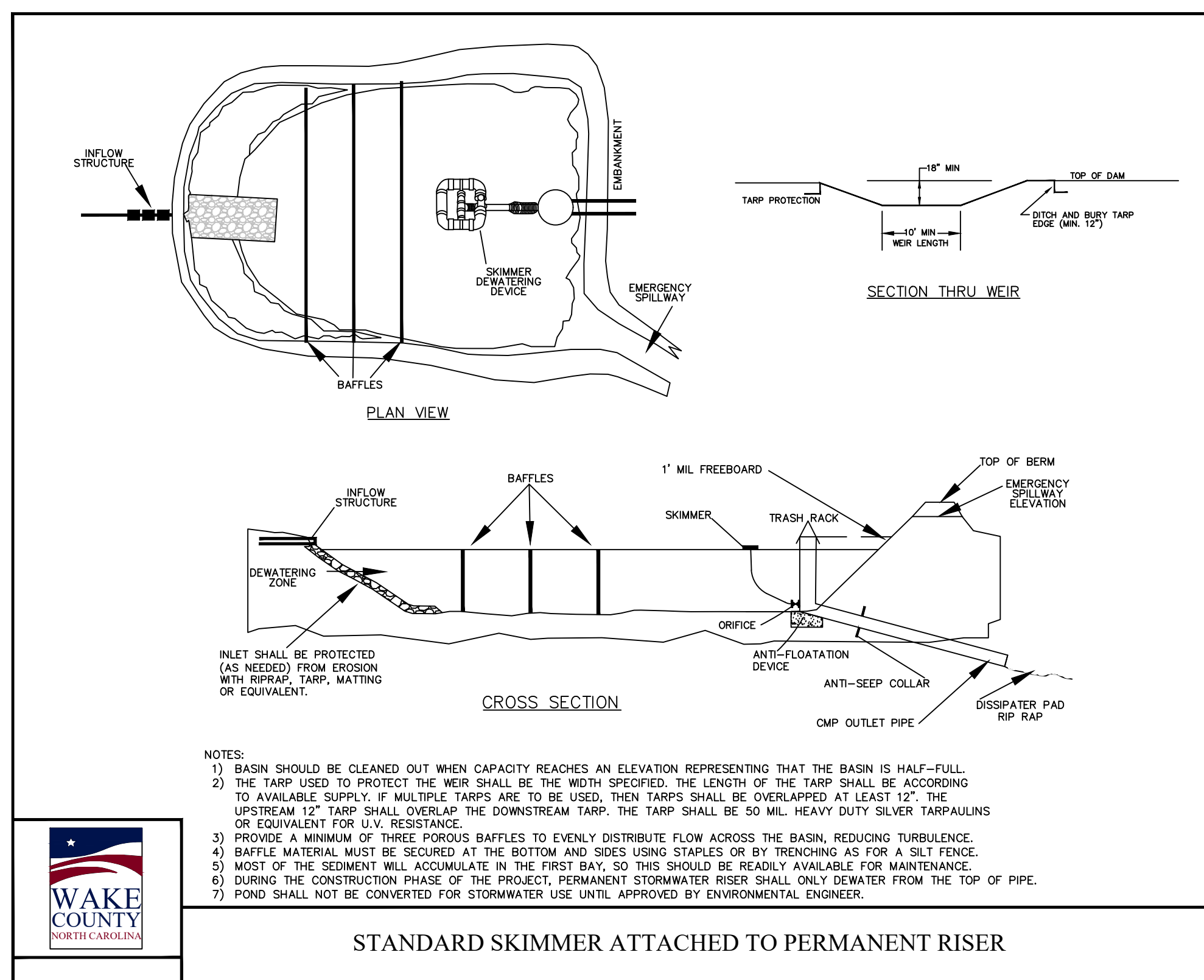
1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAB TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

**MAINTENANCE:**

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-3 INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

FOR CROSSINGS OVER CHANNELS/DITCH, INSPECT BLOCKAGE, EROSION OF ABUTMENTS, CHANNEL SCOUR, RIPRAP DISPLACEMENT, OR PIPING. MAKE ALL REPAIRS IMMEDIATELY TO PREVENT FURTHER DAMAGE TO THE INSTALLATION.

**CONSTRUCTION ENTRANCE**  
NO SCALE



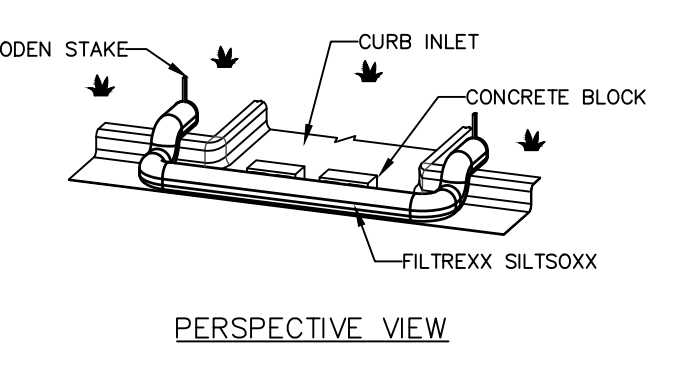
**CONSTRUCTION SPECIFICATION:**

1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
3. FILTER CLOTH, WHEN USED MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP SO THE TOP LAYER IS ABOVE THE DOWNSTREAM LAYER A MINIMUM OF 1 FOOT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH.
4. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.
5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
6. RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD ANGULAR, HIGHLY WEATHER-RESISTANT AND WELL GRADED.
7. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERTOPPING AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
8. ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON.
9. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

**MAINTENANCE:**

INSPECT RIPRAP-OUTLET STRUCTURE WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER RAINFALL EVENTS) TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

**DISSIPATOR PAD/OUTLET PROTECTION**  
NO SCALE



**NOTES:**

1. INSTALL FILTERREXX SILTSOXX IN FRONT OF CURB OPENING TO A MINIMUM OF 12" BEYOND THE OPENING, EACH SIDE.
2. ANCHOR THE FILTERREXX SILTSOXX BEHIND THE CURB WITH A WOODEN STAKE. STAKES SHALL BE ANCHORED A MINIMUM OF 12" INTO SOIL.
3. STANDARD INLET PROTECTION FOR CURB INLET PROTECTION AND CURB SEDIMENT CONTAINMENT WILL USE 8" DIAMETER INLET PROTECTION. DURING CURB INSTALLATION, INLET PROTECTION SHALL BE COMPACTED TO BE SLIGHTLY SHORTER THAN CURB HEIGHT.
4. IF INLET PROTECTION BECOMES CLOGGED WITH DEBRIS AND SEDIMENT, THEY SHALL BE MAINTAINED SO AS TO ASSURE PROPER DRAINAGE AND WATER FLOW INTO THE STORM DRAIN. IN SEVERE STORM EVENTS, OVERFLOW OF THE INLET PROTECTION MAY BE ACCEPTABLE TO KEEP THE AREA FROM FLOODING.
5. CURB AND DRAIN INLET PROTECTION SHALL BE POSITIONED SO AS TO PROVIDE A PERMEABLE PHYSICAL BARRIER TO THE DRAIN ITSELF, ALLOWING SEDIMENT TO COLLECT ON THE OUTSIDE OF THE INLET PROTECTION.
6. CONCRETE BLOCKS SHALL BE USED A SPACER TO KEEP THE FILTERREXX SILTSOXX FROM BLOCKING THE CURB OPENING. CONCRETE BLOCKS SHALL BE USED AT BOTH ENDS OF THE OPENING AND EVERY 4'.

**FILTERREXX SILTSOXX CURB CUT INLET PROTECTION**

**CONSTRUCTION SPECIFICATION:**

1. MATERIALS USED IN THE COMPOST SOCK MUST MEET THE SPECIFICATIONS OUTLINED IN THE NO EROSION CONTROL AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR COMPOST SOCKS AND COMPOST BLANKETS.
2. COMPOST SOCKS SHOULD BE LOCATED AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN.
3. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLOGS, AND OTHER DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF THE COMPOST SOCK.
4. COMPOST SOCKS SHOULD BE INSTALLED PARALLEL TO THE TOE OF A GRADED SLOPE. A MINIMUM OF 10 FEET BEYOND THE TOE OF THE SLOPE. SOCKS LOCATED BELOW FLAT AREAS SHOULD BE LOCATED AT THE EDGE OF THE LAND-DISTURBANCE. THE ENDS OF THE SOCKS SHOULD BE TURNED SLIGHTLY UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE END OF THE SOCKS.
5. FILL SOCK NETTING UNIFORMLY WITH COMPOST TO THE DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
6. OAK OR OTHER DURABLE HARDWOOD STAKES 2" x 2" IN CROSS SECTION SHOULD BE DRIVEN VERTICALLY PLUMB, THROUGH THE CENTER OF THE COMPOST SOCK. STAKES SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 4 FEET OR A MAXIMUM INTERVAL OF 8 FEET IF THE SOCK IS PLACED IN A 4 INCH TRENCH. THE STAKES SHOULD BE DRIVEN TO A MINIMUM DEPTH OF 12 INCHES, WITH A MINIMUM OF 3 INCHES PROTRUDING ABOVE THE COMPOST SOCK.
7. IN THE EVENT STAKING IS NOT POSSIBLE (i.e. WHEN SOCKS ARE USED ON PAVEMENT) HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SOCK TO HOLD IT IN PLACE DURING RUNOFF EVENTS.
8. IF THE COMPOST SOCK IS TO BE LEFT AS PART OF THE NATURAL LANDSCAPE, IT MAY BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION USING THE SEEDING SPECIFICATION IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
9. COMPOST SOCKS ARE NOT TO BE USED IN PERENNIAL OR INTERMITTENT STREAMS.

**MAINTENANCE:**

INSPECT COMPOST SOCKS WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE, THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OF A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY ESTABLISHED.

**DISPOSAL/RECYCLING:**

COMPOST MEDIA IS A COMPOSTED ORGANIC PRODUCT RECYCLED AND MANUFACTURED FROM LOCALLY GENERATED ORGANIC, NATURAL, AND BIOLOGICALLY BASED MATERIALS. ONCE ALL SOIL HAS BEEN STABILIZED AND CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THE COMPOST MEDIA MAY BE DISPERSED WITH A LOADER, RAKE, BULLDOZER OR SIMILAR DEVICE AND MAY BE INCORPORATED INTO THE SOIL AS AN AMENDMENT OR LEFT ON THE SOIL SURFACE TO AID IN PERMANENT SEEDING OR LANDSCAPING. LEAVING THE COMPOST MEDIA ON SITE REDUCES REMOVAL AND DISPOSAL COSTS COMPARED TO OTHER SEDIMENT CONTROL DEVICES. THE MESH NETTING MATERIAL WILL BE EXTRACTED FROM THE MEDIA AND DISPOSED OF PROPERLY. THE PHOTODEGRADABLE MESH NETTING MATERIAL WILL DEGRADE IN 2 TO 5 YEARS IF LEFT ON SITE. BIODEGRADABLE MESH NETTING MATERIAL IS AVAILABLE AND DOES NOT NEED TO BE EXTRACTED AND DISPOSED OF, AS IT WILL COMPLETELY DECOMPOSE IN APPROXIMATELY 6 TO 12 MONTHS. USING BIODEGRADABLE COMPOST SOCKS COMPLETELY ELIMINATES THE NEED AND COST OF REMOVAL AND DISPOSAL.

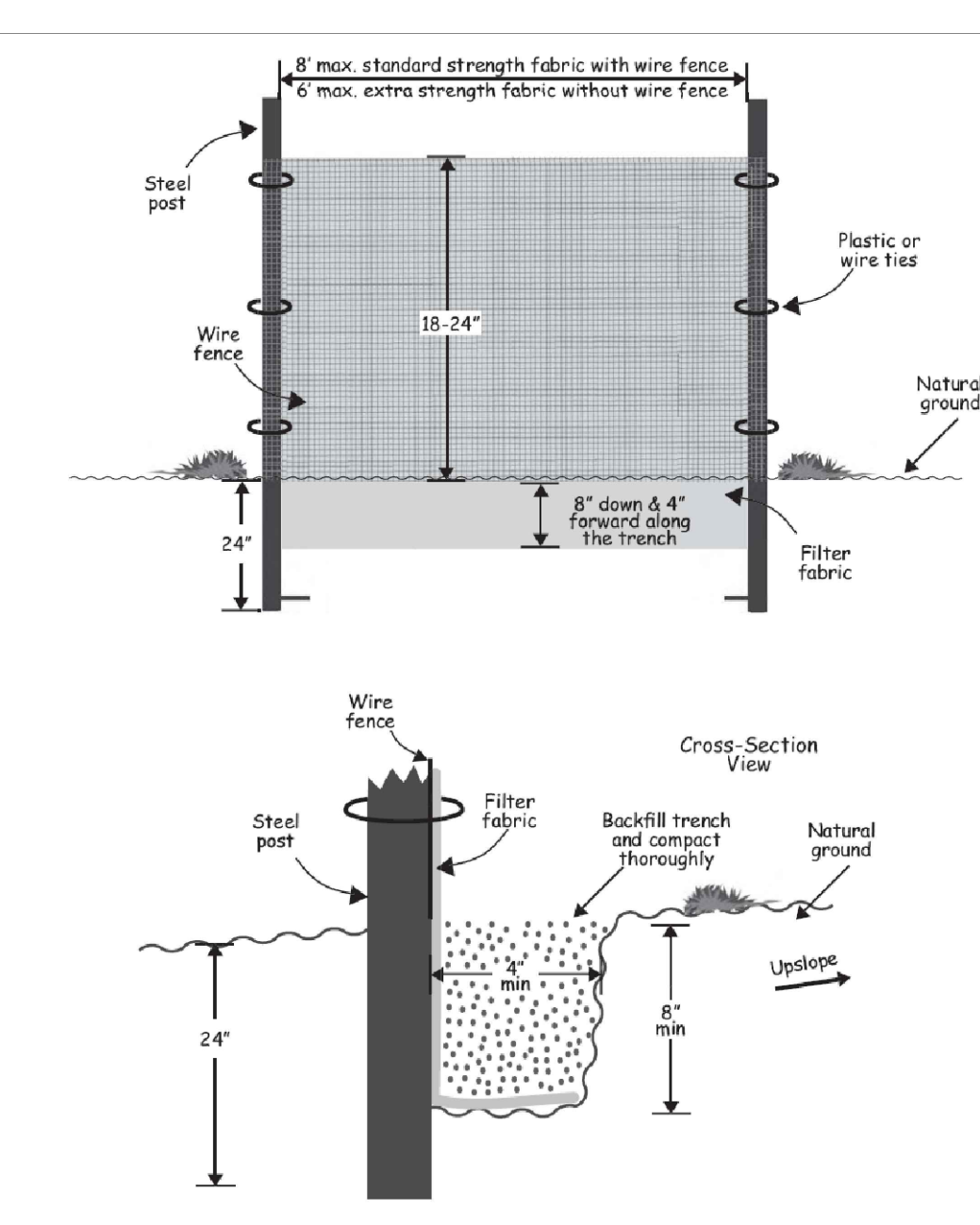


Figure 6.62a Installation detail of a sediment fence.

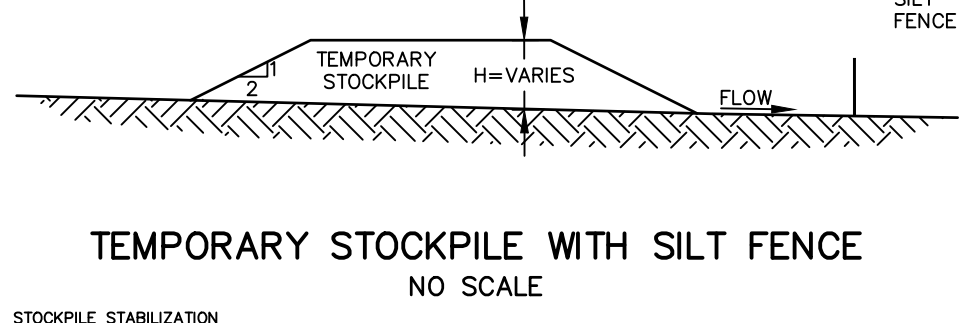
**SILT FENCE DETAIL**  
NO SCALE

**INSTALLATION SPECIFICATION:**

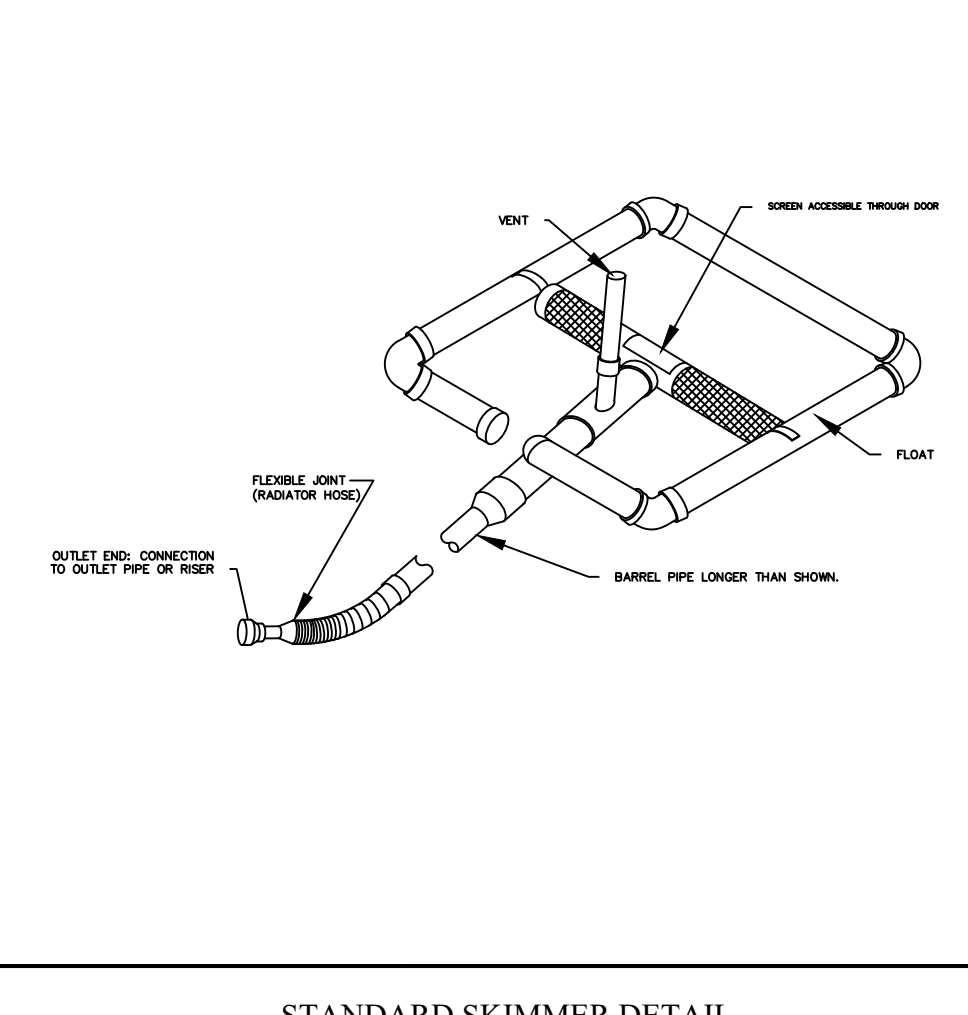
1. THE BASE OF BOTH END POSTS SHOULD BE AT LEAST ONE FOOT HIGHER THAN THE MIDDLE OF THE FENCE. CHECK WITH A LEVEL IF NECESSARY.
2. INSTALL POSTS 4 FEET APART IN CRITICAL AREAS AND 6 FEET APART ON STANDARD APPLICATIONS.
3. INSTALL POSTS 2 FEET DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC. ENABLING POSTS TO SUPPORT THE FABRIC FROM UPSTREAM WATER PRESSURE.
4. INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FABRIC.
5. ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8 INCHES OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
6. WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. NO MORE THAN 24 INCHES OF A 36 INCH FABRIC IS ALLOWED ABOVE GROUND LEVEL.
8. THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION.
9. COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQUARE INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF 4 TRIPS.

**MAINTENANCE:**

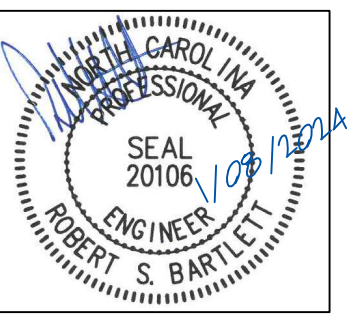
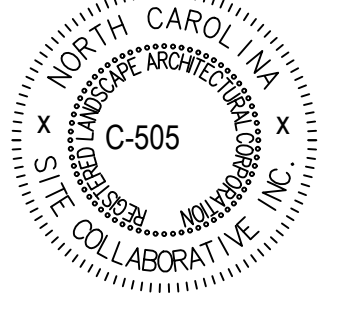
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. SEDIMENTS BEHIND THE FENCE MUST NOT BE ALLOWED TO GO BEYOND 1/3 OF THE FENCE HEIGHT. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNUSABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



STOCKPILE STABILIZATION  
STOCKPILES OF SOIL AND OTHER BUILDING MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES TO REMAIN IN PLACE FOR 30 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

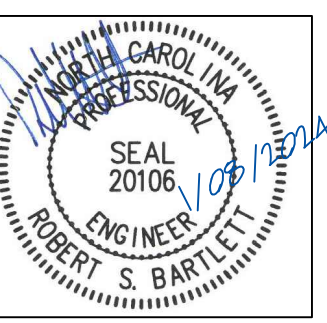
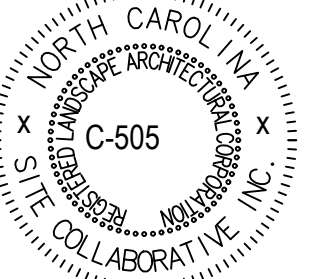


**STANDARD SKIMMER DETAIL**



**ZEBULON ANIMAL HOSPITAL**  
DVM SERVICES REALTY, LLC

PROJECT NUMBER:  
PROJECT PHASE:  
DATE: 01.08.2024  
SHEET TITLE:  
**SEDIMENTATION AND EROSION CONTROL DETAILS**  
SHEET NUMBER:  
DT2



**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**

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 -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
(d) Slopes 3:1 to 4:1	14	-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>Roll-on 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>Roll-on 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 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.

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**  
Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-measuring device approved by the Division.
(2) E&S Measure	At least once per 7 calendar days and within 24 hours of a rain event 2.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event 2.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event 2.0 inch in 24 hours	1. Visible sedimentation in found outside site limits, then a record of the following shall be made: a. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event 2.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item 2(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**

**1. E&S Plan Documentation**  
The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&S Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S Plan.	Initial and date each E&S Measure on a copy of the approved E&S Plan or complete, date and sign an inspection report that lists each E&S Measure shown on the approved E&S Plan. This documentation is required upon the initial installation of the E&S Measures or if the E&S Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S Plan.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&S Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S Measures.	Initial and date a copy of the approved E&S Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation**  
In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that must be reported**  
Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 113.0.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 145-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**  
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 Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrences	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 <i>NC 303(d) list</i> 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 3(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> <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>
(c) Anticipated 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>
(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 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(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(i)(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(i)(6)].</li> <li>Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>