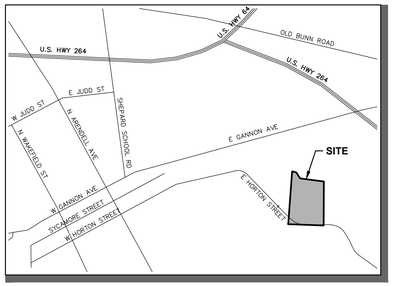
VICINITY MAP N.T.S.



EAST HORTON STREET

CONSTRUCTION PLANS



ATTENTION CONTRACTORS

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

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

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

PUBLIC IMPROVEMENTS

INFRASTRUCTURE IMPROVEMENT QUANTITY	
ITEM	QUANTITY
SEWER STUBS	**1**
WATER STUBS	**1**
L.F. OF 6" WATER MAIN	**3183**
L.F. OF 8" WATER MAIN	0
L.F. OF 12" WATER MAIN	**0**
6" B.O.	0
8" B.O.	**0**
12" B.O.	**0**
# OF FIRE HYDRANT ASSEMBLIES	4
6" GATE VALVES	4
8" GATE VALVES	0
12" GATE VALVES	**0**
L.F. OF 8" SANITARY SEWER	**1957**
L.F. OF 10" SANITARY SEWER	0
L.F. OF 12" SANITARY SEWER	0
TOTAL L.F. OF SANITARY SEWER	**1957**
L.F. OF PUBLIC ROADS	1,150
L.F. OF 5' PUBLIC SIDEWALK	1,734
L.F. OF 5' PUBLIC SIDEWALK (E. HORTON STREET)	0

STORM DRAINAGE QUANTITIES		
PIPE TYPE	HOA LF / QUANTITY	PUBLIC LF / QUANTITY
15" HDPE	0	882
18" HDPE	**0**	**475**
24" HDPE	**0**	**227**
30" HDPE	**0**	**135**
36" HDPE	**0**	**165**

SITE LIGHTING	
DESCRIPTION	QUANTITY
STREET LIGHTING - TOZ	
TOTAL FIXTURES	

SITE IMPERVIOUS CHART	
COVER CONDITION	ACRES
ROADS & PARKING	**0.97 AC.**
SINGLE FAMILY	**4.30 AC.**
SIDEWALK	**0.20 AC.**

IMPERVIOUS NOTE:
IMPERVIOUS SURFACE COVERAGE SHALL NOT EXCEED IMPERVIOUS SHOWN ON THE LOT. IMPERVIOUS SURFACE LIMITS WILL BE STRICTLY ENFORCED INTO PERPETUITY.

LINEAR FEET OF PUBLIC STREETS				
STREET NAME	DESIGNATION	STREET TYPE	ROW WIDTH	LINEAR FOOTAGE
ROAD 'A'	RESIDENTIAL	LOCAL	50'	1,150

CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF ANY EXCAVATION. EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE AND ALL ARE NOT SHOWN.

NOTE: ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL WAKE COUNTY PUBLIC UTILITIES DEPARTMENT AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

811 Know what's below. Call before you dig.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
Raleigh Water Review Officer

OVERALL SITE

150' 0 150' 300'
SCALE: 1"=150' (Horiz.)

ZEBULON, NC
JULY 2025

SITE DATA

TAX MAP & PARCEL NUMBER:	**2705858411**
DEED REFERENCES:	**D.B. 1488, PG. 0022** **D.B. 0705, PG. 0221** **D.B. 0286, PG. 0015**
GROSS AREA:	**26.53 AC.**
NET AREA:	**25.81 AC.**
CURRENT ZONING:	**R2**
PROPOSED NUMBER OF LOTS:	**43**
MAXIMUM DENSITY:	**2.0 UNITS/ACRE**
PROPOSED DENSITY:	**1.7 UNITS/ACRE**
MINIMUM LOT SIZE ALLOWED:	**6,000 SF**
MINIMUM LOT SIZE PROPOSED:	**6,000 SF**
MINIMUM LOT WIDTH ALLOWED:	**30'**
MINIMUM LOT WIDTH PROPOSED:	**50'**
CONSERVATION AREA REQUIRED:	**12.91 ACRES (50.0%)**
CONSERVATION AREA PROPOSED:	**16.46 ACRES (63.8%)**
ACTIVE OPEN SPACE AREA REQUIRED:	**0.65 ACRE (25% OF 10% OF NET PROJECT AREA)**
ACTIVE OPEN SPACE AREA PROPOSED:	**0.67 ACRE**

OWNER
NAME: UPCHURCH, JAMES D., LEE, JIMMY KEITH & JAN RENE LEE CULBRETH
ADDRESS:

DEVELOPER
NAME: CARUSO HOMES
CONTACT: GARRICK WIER
PHONE #: 610-610-9404
EMAIL: GWIER@CARUSOHOMES.COM

CITY OF RALEIGH SITE PERMITTING APPROVAL

Water and Sewer Permits (If applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # _____

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # _____

The City of Raleigh consents to the connection to its public sewer system and extension of the **private sewer collection** system as shown on this plan. The material and constructions methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # N/A

EROSION AND SEDIMENT CONTROL
APPROVED PLAN
DATE_____
PERMIT NO. S-_____
Wake County Environmental Services
Sedimentation & Erosion Control
919-856-7400
ENVIRONMENTAL CONSULTANT SIGNATURE

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT
APPROVED
EROSION CONTROL ☐ S-_____
STORMWATER MGMT. ☐ S-_____
FLOOD STUDY ☐ S-_____
DATE_____
ENVIRONMENTAL CONSULTANT SIGNATURE

CARUSOHOMES

REVIEW DRAWINGS
NOT FOR CONSTRUCTION
07/24/2025

REV.NO.	DESCRIPTIONS	DATE

NORTH CAROLINA PROFESSIONAL SEAL 057953 ENGINEER PATRICK N. HARTMAN 07/24/2025

CIVIL ENGINEER
McKIM&CREED
8020 Tower Point Drive
Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567
NC License# F-1222
www.mckimcreed.com

EAST HORTON STREET
09217-0003
ZEBULON, NC

EROSION CONTROL GENERAL NOTES:

1. HYDROSEED WITH GRASS SEED ON ALL DISTURBED AREAS. SEE SEEDING SCHEDULE FOR SPECIFIC GRASS SEED TYPE. SEEDING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER SEEDBED PREPARATION. HYDROSEED MIXTURE SHALL CONTAIN CELLULOSE MULCH APPLIED AT A RATE OF 2,000 LBS./ACRE, WITH A MAXIMUM OF 50 LBS./100 GAL. OF WATER. IF SEEDING IS DELAYED AFTER MIXING 1/2-2 HOURS ADD AN ADDITIONAL 50% OF SEED MIX, IF DELAY IS LONGER THAN 2 HOURS, BEGIN WITH NEW MIXTURE. ALL SLOPES 2:1 OR GREATER SHALL BE COVERED WITH "CURLEX" BLANKETS. SEE SPECIFICATIONS FOR SEED ESTABLISHMENT REQUIREMENTS.
2. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED ACCORDING TO THE NPDES GROUNDCOVER STABILIZATION TIMEFRAME TABLE PROVIDED ON SHEET C1.2.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAIN EVENT AND AT LEAST ONCE PER WEEK. IF REPAIRS ARE NECESSARY, DEVICES SHOULD BE REBUILT TO MEET PLAN, DETAIL AND SPECIFICATION REQUIREMENTS.
4. ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES MAY NEED TO BE INSTALLED IF DEEMED NECESSARY BY EITHER ENGINEER OR WATERSHED MANAGER.
5. TEMPORARY SEDIMENT CONTROL MEASURES (SILT FENCE, CONSTRUCTION ENTRANCE, ETC..) SHALL BE MAINTAINED UNTIL ALL CONTRIBUTING AREAS ARE GRADED AND STABILIZED.
6. DUST CONTROL ON SITE SHALL BE MINIMIZED BY SPRAYING WATER ON DRY AREAS OF THE SITE. THE USE OF OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION IS STRICTLY PROHIBITED.
7. IF THE MAJORITY OF MUD OR DIRT IS NOT REMOVED FROM CONSTRUCTION TRAFFIC, CONTRACTOR SHALL CONSTRUCT VEHICLE WASH AREAS AT CONSTRUCTION TRAFFIC EXIT POINTS. MUD AND DIRT SHALL BE INTERCEPTED AND TRAPPED BEFORE WASH WATER IS ALLOWED TO BE DISCHARGED OFFSITE. RINSE-OFF WILL NOT BE ALLOWED OUTSIDE THE PROJECT CONSTRUCTION LIMITS.
8. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT REACHES 4-INCHES DEEP.
9. EROSION AND SEDIMENTATION CONTROL MEASURES, STRUCTURES, AND DEVICES SHALL BE SO PLANNED, DESIGNED, AND CONSTRUCTED AS TO PROVIDE PROTECTION FROM THE CALCULATED MAXIMUM PEAK RATE OF RUN-OFF FROM THE 10-YEAR STORM. RUNOFF RATES SHALL BE CALCULATED USING THE PROCEDURES AS OUTLINES IN THE WAKE COUNTY SEDIMENTATION AND EROSION CONTROL ORDINANCE.

SOIL STOCKPILE MAINTENANCE REQUIREMENTS:

1. SEEDING OR COVERING OF STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDER THE PLASTIC.
2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A RESPONSIBLE PARTY FOR THAT STOCKPILE.
3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).
5. STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET TALL.
6. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.

SELF INSPECTION NOTICE:

NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH STAGE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH STAGE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54.1 AND 15A NCAC 4B.0131. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM HTTP://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT-CONTROL/FORMS IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT THIS OFFICE AT (919) 791-4200.

REQUIRED WAKE COUNTY CONSTRUCTION SEQUENCE:

1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.
2. 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.
3. CALL ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
5. 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.
6. 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.
7. WHEN CONSTRUCTION IS COMPETE AND ALL AREAS ARE STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
8. 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 CONTROLS DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
9. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.
10. SEE SHEETS C4.0 AND C5.0 FOR FURTHER CONSTRUCTION SEQUENCING INFORMATION FOR EACH STAGE OF CONSTRUCTION.

LIMITS OF DISTURBANCE NOTES:

1. LIMITS OF DISTURBANCE LINES ARE CLEARING LIMIT LINES WHICH WILL BE FLAGGED FOR A MINIMUM OF ONE PER 50-FT OR CLOSER DEPENDING ON VISIBILITY.
2. SILT FENCE AND TREE PROTECTION FENCE LINES ALSO DELINEATE THE LIMITS OF DISTURBANCE. ALL SILT FENCING OR TREE PROTECTION FENCING SHALL BE INSTALLED INSIDE LIMITS OF DISTURBANCE.
3. TOTAL DISTURBED AREA: **13.0 ACRES**

RALEIGH WATER UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:

   A) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
   B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER
   C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
   D) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
   E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W41 & S-40)
   F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
6. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
7. 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 ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
8. INSTALL ¾" COPPER* WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
9. INSTALL 4" PVC* SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
10. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
11. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION
12. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
13. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION
14. 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 CROSSCONNECTION COORDINATOR FOR EACH DEVICE PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-5923 OR CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION

GENERAL NOTES:

1. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY OWNER IF ANY DISCREPANCIES EXIST PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION WILL 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.
2. CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL AT 1-800-632-4949 AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL".
3. OVERHEAD ELECTRIC LINES MAY EXIST ON THE SITE. CONTRACTOR SHALL CONTACT DUKE ENERGY AT (919) 329-5928 PRIOR TO COMMENCING ANY ACTIVITY WITHIN DUKE ENERGY RIGHT OF WAY OR EASEMENTS.
4. EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON BEST AVAILABLE RECORD DRAWINGS.
5. SOIL UNDER PROPOSED BUILDINGS, PAVED AREAS AND WITHIN SLOPES GREATER THAN 3:1 (H:V) SHALL BE APPROVED, PLACED AND COMPACTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. THESE SOILS SHALL BE COMPACTED TO THE STANDARD PROCTOR MAXIMUM DRY DENSITY UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
6. ALL GRADED AREAS SHALL BE SLOPED SUCH THAT NO AREAS OF STANDING WATER OCCUR AND ALL AREAS POSITIVELY DRAIN TO DRAINAGE STRUCTURES, SWALES OR STORMWATER MANAGEMENT FACILITIES.
7. GRADED SLOPES STEEPER THAN 3:1 OR GREATER THAN 10' IN HEIGHT SHALL BE STABILIZED WITH CURLEX SINGLE NET (CURLEX I) MATTING BY AMERICAN EXCELSIOR COMPANY OR APPROVED EQUAL.
8. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS AND SHALL REPLACE ALL MARKERS REMOVED IF DAMAGED DURING CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR DEWATERING AS NECESSARY THROUGHOUT CONSTRUCTION.
10. CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL PERMIT CONDITIONS, MONITORING AND REPORTING REQUIREMENTS.

Sheet List Table

SHEET #	SHEET TITLE	ORIGINAL ISSUE DATE	REVISION DATE	REVISION NUMBER
C1.0	COVER SHEET	07/24/2025		
C1.1	GENERAL NOTES	07/24/2025		
C1.2	TOWN OF ZEBULON NOTES	07/24/2025		
C1.3	NCDEQ NOTES	07/24/2025		
C2.0	EXISTING CONDITIONS AND DEMOLITION PLAN	07/24/2025		
C2.1	EXISTING CONDITIONS AND DEMOLITION PLAN	07/24/2025		
C2.2	EXISTING CONDITIONS AND DEMOLITION PLAN	07/24/2025		
C2.2	EXISTING CONDITIONS AND DEMOLITION PLAN	07/24/2025		
C2.4	EXISTING CONDITIONS AND DEMOLITION PLAN	07/24/2025		
C3.0	SITE PLAN - OVERALL	07/24/2025		
C3.1	SITE PLAN - ENLARGED	07/24/2025		
C3.2	SITE PLAN - ENLARGED	07/24/2025		
C3.3	SITE PLAN - ENLARGED	07/24/2025		
C4.0	EROSION CONTROL PLAN STAGE 1 - OVERALL	07/24/2025		
C4.1	EROSION CONTROL PLAN STAGE 1 - ENLARGED	07/24/2025		
C4.2	EROSION CONTROL PLAN STAGE 1 - ENLARGED	07/24/2025		
C4.3	EROSION CONTROL PLAN STAGE 1 - ENLARGED	07/24/2025		
C4.4	EROSION CONTROL PLAN STAGE 1 - ENLARGED	07/24/2025		
C5.0	EROSION CONTROL PLAN STAGE 2 - OVERALL	07/24/2025		
C5.1	EROSION CONTROL PLAN STAGE 2 - ENLARGED	07/24/2025		
C5.2	EROSION CONTROL PLAN STAGE 2 - ENLARGED	07/24/2025		
C5.3	EROSION CONTROL PLAN STAGE 2 - ENLARGED	07/24/2025		
C5.4	EROSION CONTROL PLAN STAGE 2 - ENLARGED	07/24/2025		
C7.0	GRADING AND DRAINAGE PLAN - OVERALL	07/24/2025		
C7.1	GRADING AND DRAINAGE PLAN - ENLARGED	07/24/2025		
C7.2	GRADING AND DRAINAGE PLAN - ENLARGED	07/24/2025		
C7.3	GRADING AND DRAINAGE PLAN - ENLARGED	07/24/2025		
C8.0	UTILITY PLAN OVERALL	07/24/2025		
C8.1	UTILITY PLAN - ENLARGED	07/24/2025		
C8.2	UTILITY PLAN - ENLARGED	07/24/2025		
C8.3	UTILITY PLAN - ENLARGED	07/24/2025		
C8.4	SEWER PLAN AND PROFILE	07/24/2025		
C8.4	WATERMAIN EXTENSION PLAN AND PROFILE	07/24/2025		
C8.5	WATERMAIN EXTENSION PLAN AND PROFILE	07/24/2025		
C8.7	DRAINAGE AREA PLAN	07/24/2025		
C8.8	STORM PLAN AND PROFILE	07/24/2025		
C9.1	ROAD A - PLAN AND PROFILE	07/24/2025		
C9.2	ROAD A - PLAN AND PROFILE	07/24/2025		
C9.3	SIGHT DISTANCE PLAN AND PROFILE (60 MPH DESIGN SPEED)	07/24/2025		
C9.4	SIGHT DISTANCE PLAN AND PROFILE (45 MPH DESIGN SPEED)	07/24/2025		
C11.1	ZEBULON DETAILS	07/24/2025		
C11.2	ZEBULON DETAILS	07/24/2025		
C11.3	ZEBULON DETAILS	07/24/2025		
C11.4	ZEBULON DETAILS	07/24/2025		
C12.1	EROSION CONTROL DETAILS	07/24/2025		
C12.2	EROSION CONTROL DETAILS	07/24/2025		
C12.3	EROSION CONTROL DETAILS	07/24/2025		
C13.1	GRADING & DRAINAGE DETAILS	07/24/2025		
C14.1	UTILITY DETAILS	07/24/2025		
C14.2	UTILITY DETAILS	07/24/2025		
C16.0	SCM POND 1 DETAILS	07/24/2025		
C16.1	SCM POND 2 DETAILS	07/24/2025		

GENERAL LEGEND

FEATURE	EXISTING	PROPOSED
PARCEL LINE (PROPOSED)		
PROPERTY LINE (EXISTING/ADJOINING)	PL	
PROJECT BOUNDARY (SITE)		
EASEMENT (OTHER)		
EASEMENT (STORM DRAINAGE)	PDE	PDE
EASEMENT (SIDEWALK)		
EASEMENT (SEWER)		
EASEMENT (TEMP. CONSTRUCTION)		TCE
RAIL ROAD		
RIGHT-OF-WAY (ROAD)	R/W R/W	R/W R/W
BUFFER		
BUILDING SETBACK		
POND / WATER FEATURE		
TOP OF BANK	TB	
BOTTOM OF BANK	BB	
MAJOR TOPO CONTOUR	650	650
MINOR TOPO CONTOUR	648	648
FENCE LINE		
GUARDRAIL		
CREEK/STREAM		
DITCH/SWALE		
ROAD		
TREE LINE		
WETLAND BOUNDARY	WET	
FORCEMAIN	SS	FM
OVERHEAD UTILITY	OE	
SANITARY SEWER	SS	
STORM	SD	
UNDERGROUND FIBER OPTIC	FO	
UNDERGROUND GAS	G	
UNDERGROUND TELEPHONE	TC	
UNDERGROUND WATERLINE	W	W
PEDESTRIAN RAILS		
SANITARY EASEMENT		
TREE SAVE AREA		
COMMON OPEN SPACE (COS)		
EXISTING FEATURE DEMOLITION		
FEMA 100-YR FLOOD ZONE	100Y 100Y	100Y
FEMA FLOODWAY		
FEMA FINGE LINE (Zone-X)		
STREAMSIDE ZONE	ST	ST
UPLAND ZONE	UP	UP
MANAGED USE ZONE	MU	MU
ZONING BOUNDARY	ZL	ZL

WATER LEGEND

FEATURE	EXISTING	PROPOSED
WATER MANHOLE	WMH	
FIRE HYDRANT	FH	
WELL	W	
WATER METER	WM	
HOSE BIB		
WATER VALVE	WV	
AIR RELEASE VALVE		
BLOW OFF VALVE	BO	
REDUCER		
WATER TEES & BENDS		

SANITARY SEWER LEGEND

FEATURE	EXISTING	PROPOSED
SANITARY SEWER MH	SS	SSMH
CLEAN OUT / SEWER LATERAL	CO	CO

STORM AND DRAINAGE LEGEND

FEATURE	EXISTING	PROPOSED
DRAINAGE MH	D	D
DROP INLET		
CATCH BASIN		OR
DOUBLE CATCH BASIN		OR
YARD INLET		
JUNCTION BOX	JB	JB
FLAIRED -END SECTION (FES)		OR
GRAVEL RIPRAP APRON		
HEADWALL		
STORM STRUCTURE NUMBER		A2
SLAB TYPE CATCH BASIN		
PERMANENT DITCH / SWALE		
Tc - SHEET FLOW		
Tc - SHALLOW FLOW		
Tc - CHANNELIZED FLOW		

EROSION CONTROL LEGEND

FEATURE	PROPOSED
SILT FENCE	SF
TREE PROTECTION FENCING	TP
TREE PROTECTION/SILT FENCE	SF+TP
DENUDED LIMITS	
LIMITS OF DISTURBANCE	LOD
TEMPORARY DIVERSION DITCH	TDD
CLEAN WATER DITCH	CWD
DRAINAGE AREA	
DRAINAGE AREA (CATCH BASIN / PIPE)	
TEMPORARY SILT FENCE OUTLET	
TEMPORARY SILT FENCE OUTLET J-HOOK	
TEMPORARY WATTLE CHECK DAM	
TEMPORARY PIPE SLOPE DRAIN	
ROCK CHECK DAM	
HARDWARE CLOTH & GRAVEL INLET PROTECTION	
GRAVEL AND RIP RAP FILTER BERM BASIN	
GRAVEL RIPRAP APRON	
SPILLWAY	
GRAVEL CONSTRUCTION ENTRANCE	
SEDIMENT BASIN	
SEDIMENT BASIN BAFFLE	
TREE SAVE AREA	
SOIL DELINEATION	CeA

REV.NO.	DESCRIPTIONS	DATE

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GENERAL NOTES

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: N/A
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DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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TOWN OF ZEBULON ROADWAY NOTES:

DEFINITIONS:

- ROADWAY SUB-GRADE: THE BASE SOIL ELEVATION DETERMINED BY APPROVED ENGINEERED DRAWINGS PRIOR TO PLACEMENT OF ROADWAY ABC AND ASPHALT.
- ROADWAY STONE GRADE: THE APPROVED COMPACTED ROADWAY SUB-GRADE PLUS THE COMPACTED STONE GRADE PRIOR TO PLACEMENT OF ASPHALT.

•• IN ALL CASES, THE ROADWAY 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 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.

•• ON ROADWAYS DESIGNED FOR LOCAL, DUL-DE-SACS, AND RESIDENTIAL COLLECTORS AREAS MUST MEET ALL THE FOLLOWING REQUIREMENTS:

a. PROOF ROLL STANDARD- A FULLY LOADED TANDEM DUMP TRUCK/MOTOR GRADER 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 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.
b. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL STRUCTURAL FACILITIES ON THE PROJECT SUCH AS BRIDGES, BOX CULVERTS, PIPE CULVERTS. AND UTILITIES FROM DAMAGE FROM PROOF ROLLING EQUIPMENT.
c. PROOF ROLLS ARE REQUIRED AT THE ROADWAY SUB-GRADE CONSTRUCTION PHASE AND ROADWAY STONE CONSTRUCTION PHASE.
d. 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.
e. 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 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.

ROADWAY SUBGRADE TESTING/INSTALLATION REQUIREMENTS

A. REQUIREMENTS: 98% STANDARD PROCTOR ON ALL SOILS EVERY 300'. ALL LOCATIONS TESTED SHALL MEET THE TESTING REQUIREMENTS. AVERAGING OF DENSITY SCORES TO MEET STANDARD IS NOT ALLOWED.
SUCCESSFUL PROOF-ROLLS REQUIRED FOR ALL SUB-GRADE SOILS.

B. FAILURE OF PROOF ROLL TEST OR DENSITY TEST AT ROADWAY SUB-GRADE:

ALL ROADWAY SUB-GRADE MUST PASS A PROOF-ROLL TEST (NO EXCEPTIONS).

ROADWAY SUB GRADE THAT DOES NOT PASS THE PROOF ROLL TEST OR DENSITY TEST WLL REQUIRE REMEDIAL REPAIRS. REPAIR RECOMMENDATIONS FROM GEO-TECHNICAL FIRM CAN BE MADE BY USING SEVERAL METHODS INCLUDING THE USE OF GEO-GRID/STABILIZATON 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.

C. SUCCESSFUL PROOF ROAD TEST AT ROADWAY SUB-GRADE:

IF REPAIRS WERE MADE TO THE ROADWAY 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 MORE SUITABLE SOILS THEN DENSITY TESTINGS REQUIRED TO VERIFY COMPLIANCE OF 98% COMPACTION REQUIREMENT. THE CONTRACTOR/GEO-TECHNICAL FIRM MUST PROVIDE THE TOWN OF ZEBULON INSPECTOR WTH 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 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 PROOF-ROLL ADDITIONAL DENSITY TESTING IS NOT REQUIRED UNDER THESE CONDITIONS.

ROADWAY ABC STONE TESTING/INSTALLATION REQUIREMENTS

A. REQUIREMENTS: 98% STANDARD PROCTOR ON ALL ROADWAY 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 ABC STONE.

B. ROADWAY 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 PROOF-ROLL 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.

C. THE ROADWAY 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.

ASPHALT INSTALLATION REQUIREMENTS: INSTALLATION AND TESTING

A. 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 TWO LAYERS. THE FINAL 1" OVERLAY WILL BE AT THE 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.

B. IF MORE THAN 2.5 INCHES OF SF 9.5 ASPHALT IS REQUIRED, ASPHALT MUST BE PLACED IN TWO LIFTS, THE FIRST LIFT HAVING A THICKNESS OF NOT LESS THAN 1.5 INCHES.

a. SF 9.5A – 1.0 - 1.5 INCHES
b. SF 9.5C – 1.5 - 2.0 INCHES

C. 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.

D. A TACK COAT OF LIQUID ASPHALT IS REQUIRED FOR EXISTING LAYERS OF ASPHALT OR CONCRETE SURFACES TO PROMOTE A BOND BETWEEN OLD PAVEMENT SURFACES AND THE NEW ASPHALT LAYER. PRIOR TO PLACING ASPHALT TACK, THE FOLLOWING CONDITIONS MUST BE MET:

a. EXISTING PAVEMENT SURFACE MUST BE CLEAN.
b. RATE OF APPLICATION MUST COMPLY WITH NCDOT STANDARDS.
c. UNFORMED COVERAGE OVER THE ENTIRE AREAS TO BE PAVED.
d. ALLOW TACK TO THOROUGHLY CURE BEFORE PLACING THE NEW ASPHALT.

H. CORE SAMPLES SHOULD BE SELECTED EVERY 300' OR MINIMUM TWO CORES PER ROADWAY FOR ANALYSIS OF THICKNESS AND DENSITY. ASPHALT PAVEMENT MIX SF9.5 B SHOULD BE COMPACTED TO A MINIMUM OF 92% OF THE MAXIMUM SPECIFIC GRAVITY. ASPHALT PAVEMENT MIX SF9.5 A SHOULD BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM SPECIFIC GRAVITY. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING/CREATING A CHART/MAP OF THE CORED LOCATIONS FOR SUBMITTAL WITH THE TESTING. CORES WILL BE RANDOM TAKEN IN THE LONGITUDINAL DIRECTIONS ACROSS THE ROADWAY BUT NOT WITHIN THE ONE FOOT OF THE EDGE OF PAVEMENT. THE RESULTS OF THE SAMPLES WILL NOT BE AVERAGED AND USED TO VERIFY COMPLIANCE WITH TOWN OF ZEBULON SPECIFICATIONS. CORE SAMPLES SHALL BE TAKEN BY THIRD PARTY NCDOT CERTIFIED TECHNICIANS/FIRMS. ALL COST ASSOCIATED WITH SAMPLES SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER OR CONTRACTOR. (AMENDED AUGUST 31, 2011)

I. GENERAL: TESTING FOR ASPHALT DENSITY IS TO FOLLOW NCDOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES," SECTION 609-9, "FIELD COMPACTION QUALITY MANAGEMENT," LATEST REVISION. ALL OTHER APPLICABLE SECTIONS OF SECTION 609 OF THE NCDOT "STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES" SHALL APPLY RELATING TO QUALITY CONTROL PLAN, MIX DESIGN, CONTROL LIMITS, CORRECTIVE ACTION, EQUIPMENT AND MEASUREMENT UNLESS ONLINE IN SPECIFICATIONS.

TOWN OF ZEBULON UTILITY NOTE:

- ALL WATER AND SEWER UTILITY WORK WILL BE IN ACCORDANCE TO THE CITY OF RALEIGH HANDBOOK OR SPECIAL CONSTRUCTION DETAILS PROVIDED BY ENGINEER OF RECORD.

TOWN OF ZEBULON CURB AND GUTTER NOTES:

- ALL CURB AND GUTTER SHALL BE CONSTRUCTED ACCORDING TO STANDARD DETAILS OF THE TOWN OF ZEBULON STREET AND STORM DRAINAGE STANDARDS & SPECIFICATIONS MANUAL. ALLOWABLE SECTIONS SHALL BE THE STANDARD 30" CURB AND GUTTER (PREFERRED) AND THE 30" VALLEY GUTTER TYPE. CONCRETE VALLEY GUTTER TYPE IS ALLOWED ONLY ON LOCAL AND CUL-DE-SAC STREETS.
- ALL CURB AND GUTTER REQUIRES CONCRETE TESTING FOR THE FOLLOWING REQUIREMENTS:

a. 4" CONCRETE SLUMP
b. TEMPERATURE: 50° AND 90°F
c. AIR MIXTURE RANGE: 3.5% TO 6.5%
d. STRUCTURAL STRENGTH – LAB BREAK TEST – 7, 14, 28 DAYS – 3000 PSI AT 28 DAYS
e. SAMPLES EVERY 1000 LF OF CURB AND GUTTER TO ENSURE QUALITY.
f. MAXIMUM WATER-CEMENT RATIO BY WEIGHT: 0.594
g. MINIMUM CEMENT CONTENT (LBS/CY): 602

- CONCRETE SIDEWALK TESTING IS NOT REQUIRED, UNLESS CONSTRUCTION INSPECTION DETERMINES THAT QUALITY IS INFERIOR AND DOES NOT MEET INDUSTRY STANDARDS. CONTRACTOR MUST MAINTAIN A 4" CONCRETE SLUMP FOR ALL SIDEWALK WORK. AIR TEMPERATURES AT PLACEMENT MUST BE 40° AND RISING. SURFACE TEMPERATURE SHALL BE 50° OR GREATER.

TOWN OF ZEBULON STORMWATER DRAINAGE NOTES:

- ALL STORM DRAINAGE PIPES ARE TO BE CLASS III NCDOT APPROVED RCP WITH 2' COVER MINIMUM OR CLASS IV OR V PIPE IS REQUIRED UNLESS OTHERWISE NOTED.
- THE TOWN OF ZEBULON WILL BE RESPONSIBLE FOR ALL STREET DRAINAGE WITHIN THE RIGHT OF WAY AND DEDICATED PUBLIC DRAINAGE EASEMENTS UNTIL THE STILLING BASIN. ALL STORMWATER DRAINAGE SYSTEMS BEHIND LOTS SHOWN IN EASEMENTS WILL BE OWNED AND MAINTAINED BY THE HOA. ALL BMP/DRY AND WET DETENTION PONDS WILL BE OWNED AND MAINTAINED BY THE HOA.
- PIPE SYSTEMS, CHANNELS, DITCHES, OR RETAINING WALLS LOCATED IN OPEN SPACE AREAS ARE TO BE OWNED AND MAINTAINED BY THE HOA.

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WAKE COUNTY

TOWN OF ZEBULON NOTES

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

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VERTICAL: N/A

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REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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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, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc 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-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 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 of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 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, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. 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 ≥ 1.0 inch in 24 hours	If the stream or wetlind 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.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC 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&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC 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&SC plan.	Initial and date a copy of the approved E&SC 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&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for 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:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. 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.

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) 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).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) 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 Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** 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. • If the stream is named on the NC 303(d) list 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.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours,*** an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** 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 reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

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

NORTH CAROLINA *Environmental Quality*

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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

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

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. 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

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

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

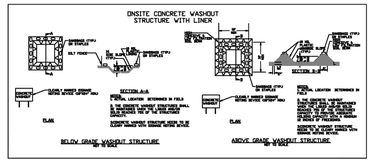
PORTABLE TOILETS

1. 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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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

1. 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.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. 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.

NORTH CAROLINA *Environmental Quality*



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. 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.
3. 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.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
3. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEED SCHEDULE). DO NOT USE LIME OR FERTILIZER ON STREAM BANKS OR IN WETLAND AREAS. MULCH DOES NOT NEED TO BE USED IN WETLAND AREAS.
4. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
5. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
6. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
7. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

PERMANENT SEEDING NOTES:

1. PERMANENT SEEDING, SODDING, OR OTHER MEANS OF STABILIZATION ARE REQUIRED WHEN ALL CONSTRUCTION WORK IS COMPLETED ACCORDING TO THE "SEEDING STABILIZATION TIMEFRAMES" CHART.
2. A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHOULD BE OBTAINED FOR ALL AREAS TO BE SEEDED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND pH ADJUSTING PRODUCTS SHOULD BE INCORPORATED TO THE SOIL.
3. USE A SEEDING MIX OF NON-INVASIVE, NATIVE SPECIES THAT WILL EVENTUALLY PROVIDE A PERMANENT GROUNDCOVER.
4. IMMEDIATE VEGETATIVE COVER WILL ALWAYS REQUIRE ADDITIONAL FERTILIZATION, SOIL TESTS, OVERSEEDING AND MAINTENANCE UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

TEMPORARY SEEDING SPECIFICATION:

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE	RATE (LB/AC)
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES:
MOUNTAINS - ABOVE 2500 FEET, FEB. 15 - MAY 15
BELOW 2500 FEET, FEB. 1 - MAY 1
PIEDMONT - JAN. 1 - MAY 1
COASTAL PLAIN - DEC. 1 - APR. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE:
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SPECIFICATION (CONTINUED):

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE	RATE (LB/AC)
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING DATES
MOUNTAINS - MAY 15 - AUG. 15
PIEDMONT - MAY 1 - AUG. 15
COASTAL PLAIN - APR. 15 - AUG. 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE:
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE	RATE (LB/AC)
RYE (GRAIN)	120

SEEDING DATES:
MOUNTAINS - AUG. 15 - DEC. 15
COASTAL PLAIN AND PIEDMONT - AUG. 15 - DEC. 30

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY A MINIMUM OF 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS) GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE:
REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING SPECIFICATION:

3:1 SLOPES OR FLATTER:

1. APPLY AGRICULTURAL LIME AT THE RATE OF **75 LBS/1000 S.F.
2. APPLY COMMERCIAL FERTILIZER AT THE RATE OF 48 LBS/1000 S.F. FOR 5-10-10 FERTILIZER, 24 LBS/1000 S.F. FOR 10-20-20 FERTILIZER, OR 20 LBS/1000 S.F. FOR 18-24-6 FERTILIZER.
3. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND APPLICATION RATES:

DATE:	TYPE:	PLANTING RATE:
AUG. 15 - NOV. 1	TALL FESCUE	300 LBS/AC OR 7 LBS/1000 S.F.
	RYE GRAIN	120 LBS/AC OR 3 LBS/1000 S.F.
NOV. 1 - MAR. 1*	TALL FESCUE AND	300 LBS/AC OR 7 LBS/1000 S.F.
	ABRUZZI RYE	25 LBS/AC OR 1/2 LB/1000 S.F.
MAR. 1 - APR. 15	TALL FESCUE	300 LBS/AC OR 7 LBS/1000 S.F.
APR. 15 - JUL. 30	HULLED COMMON BERMUDA GRASS	25 LBS/AC OR 1/2 LB/1000 S.F.
JUL. 1 - AUG. 15	TALL FESCUE AND	300 LBS/AC OR 7 LBS/1000 S.F.
	BROWN TOP MILLET	35 LBS/AC OR 3/4 LB/1000 S.F.
	OR SORGHUM SUDAN HYBRIDS	30 LBS/AC OR 3/4 LB/1000 S.F.

4. MULCH WITH STRAW APPLIED AT THE RATE OF 95 LBS/1000 S.F.

* HEAVILY MULCHED DURING JANUARY - MARCH PERIOD.
** CONTRACTOR MAY OBTAIN SOIL TEST TO DETERMINE AMOUNT OF LIME REQUIRED TO OBTAIN A pH RANGE OF 6.5 TO 7.0.
*** SEED TYPE, RATES AND/OR SOIL AMENDMENTS SPECIFIED ABOVE MAY BE MODIFIED AND/OR ELIMINATED IF REQUIRED BY OTHER LOCAL, STATE OR FEDERAL AGENCIES (EG. NRCS, NC COOPERATIVE EXTENSION OFFICE, ETC.). PRIOR TO MODIFICATIONS OR ELIMINATIONS, CONTRACTOR SHALL SUBMIT WRITTEN DOCUMENTATION SUPPORTING THE REQUEST FOR APPROVAL PRIOR TO MAKING MODIFICATION.

SLOPES GREATER THAN 3:1

1. APPLY AGRICULTURAL LIME AT A RATE OF **90 LBS/1000 S.F.
2. APPLY COMMERCIAL FERTILIZER AT THE RATE OF 48 LBS/1000 S.F. FOR 5-10-10 FERTILIZER, 24 LBS/1000 S.F. FOR 10-20-20 FERTILIZER, OR 20 LBS/1000 S.F. FOR 18-24-6 FERTILIZER.
3. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND APPLICATION RATES:

DATE:	TYPE:	PLANTING RATE:
MAR. - JUN. 1	SERICEA LESPEDEZA	50 LBS/AC OR 1 1/2 LBS/1000 S.F.
	RYE GRAIN (SCARIFIED) AND	25 LBS/AC OR 3/4 LBS/1000 S.F.
MAR. - APR. 1	ADD TALL FESCUE	150 LBS/AC OR 3 1/2 LBS/1000 S.F.
JUN. - SEPT. 1***	TALL FESCUE AND	120 LBS/AC OR 2 1/2 LBS/1000 S.F.
	BROWN TOP MILLET	35 LBS/AC OR 3/4 LB/1000 S.F.
	OR SORGHUM SUDAN HYBRIDS	30 LBS/AC OR 3/4 LB/1000 S.F.
SEPT. - MAR. 1	SERICEA LESPEDEZA (UNHULLED - UNSCARIFIED)	70 LBS/AC OR 1 3/4 LBS/1000 S.F.
	TALL FESCUE	120 LBS/AC OR 2 1/2 LBS/1000 S.F.
	MILLET OR SUDAN	20 LBS/AC OR 1/2 LB/1000 S.F.

4. MULCH APPLIED AT THE RATE OF 95 LBS/1000 S.F. AND ANCHOR WITH ASPHALT EMULSION TACK COAT APPLIED AT THE RATE OF 10-15 GAL/1000 S.F. OR 450 GAL/AC.

* TEMPORARY RESEED SEPT. 1 AT RECOMMENDED RATES.
** CONTRACTOR MAY OBTAIN SOIL TEST TO DETERMINE AMOUNT OF LIME REQUIRED TO OBTAIN A pH RANGE OF 6.5 TO 7.0.
*** SEED TYPE, RATES AND/OR SOIL AMENDMANTS SPECIFIED ABOVE MAY BE MODIFIED AND/OR ELIMINATED IF REQUIRED BY OTHER LOCAL, STATE OR FEDERAL AGENCIES (EG. NRCS, NC COOPERATIVE EXTENSION OFFICE, ETC.). PRIOR TO MODIFICATIONS OR ELIMINATIONS, CONTRACTOR SHALL SUBMIT WRITTEN DOCUMENTATION SUPPORTING THE REQUEST FOR APPROVAL PRIOR TO MAKING MODIFICATION.

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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07/24/2025

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

NCDEQ NOTES

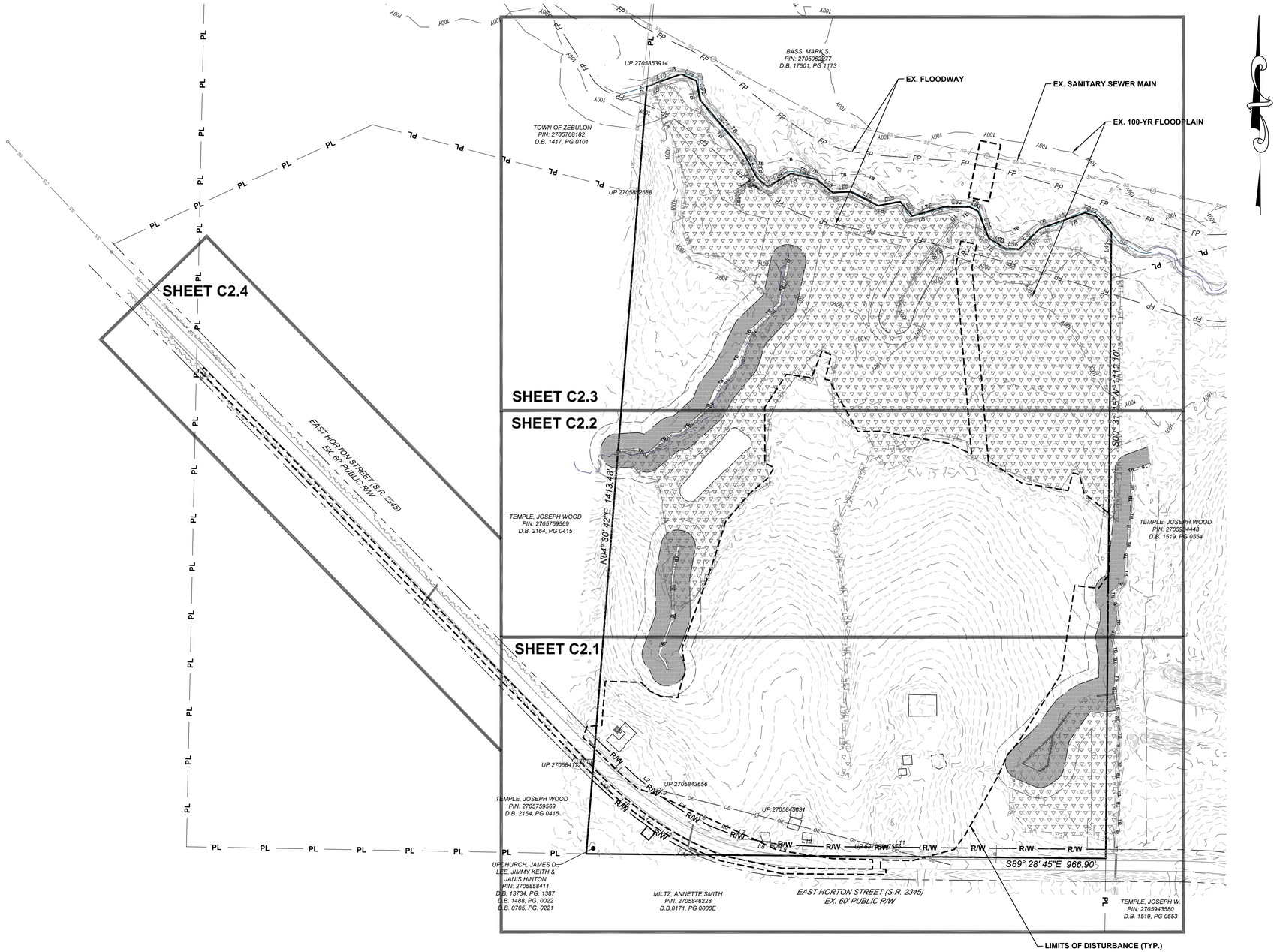
DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C1.3
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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Line Table		
Line #	Direction	Length
L1	S46°23'27"E	103.15'
L2	S50°50'56"E	42.27'
L3	S54°01'13"E	42.50'
L4	S57°35'22"E	42.15'
L5	S62°44'00"E	41.01'
L6	S69°00'56"E	41.11'
L7	S74°58'17"E	41.27'
L8	S80°25'28"E	40.19'
L9	S84°34'36"E	42.91'
L10	S87°22'52"E	43.18'
L11	S89°25'43"E	532.39'
L12	S62°44'00"E	43.84'
L13	S57°35'22"E	46.71'
L14	S54°01'13"E	46.03'
L15	S50°50'56"E	45.49'

Line Table		
Line #	Direction	Length
L16	S47°27'21"E	56.71'
L17	N05°16'19"E	19.68'
L18	N70°12'09"E	67.27'
L19	S66°34'09"E	31.31'
L20	S10°57'04"E	35.90'
L21	S40°27'29"E	114.25'
L22	S28°50'58"E	67.04'
L23	S49°56'16"E	25.45'
L24	N60°27'47"E	49.58'
L25	S76°57'37"E	48.46'
L26	S51°19'02"E	38.76'
L27	N87°56'42"E	33.32'
L28	S63°27'24"E	57.68'
L29	N80°03'12"E	41.73'
L30	S40°40'02"E	34.56'

Line Table		
Line #	Direction	Length
L31	N73°51'41"E	60.00'
L32	S89°50'24"E	49.48'
L33	S63°46'26"E	17.01'
L34	S21°49'12"E	54.14'
L35	S58°45'37"E	36.61'
L36	S86°25'37"E	25.09'
L37	N45°31'11"E	55.15'
L38	N70°57'10"E	88.03'
L39	S72°46'26"E	21.96'
L40	S42°52'20"E	41.40'
L41	N00°31'15"E	52.93'

100' 50' 0 100' 200'
1"=100'

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EXISTING CONDITIONS AND DEMOLITION PLAN - OVERALL

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

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STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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LIMITS OF DISTURANCE (TYP.)

TOP OF BANK OF EXISTING CREEK (TYP.)

30' ZONE 1 RIPARIAN BUFFER (TYP.)

50' NEUSE RIVER AND WATERSHED PROTECTION DISTRICT BUFFER (TYP.)

20' ZONE 1 RIPARIAN BUFFER (TYP.)

MATCHLINE - SEE SHEET C2.2

PROPERTY BOUNDARY

REMOVE EXISTING TREES WITHIN LIMITS OF DISTURBANCE

EX. TREELINE (TYP.)

EXIST. 40'x52' WOOD FRAME BARN (POOR CONDITION) TO BE REMOVED

EXIST. 17'x17' - METAL BARN (POOR CONDITION) TO BE REMOVED

EXIST. RUINS OF WOOD FRAME BARN TO BE REMOVED

EXIST. 12.5' x17' - 2 STY. WOOD FRAME BARN (POOR CONDITION) TO BE REMOVED

EXIST. 2 STY. WOOD FRAME BUILDING (POOR CONDITION) TO BE REMOVED

WELL HEAD

60'

TEMPLE, JOSEPH WOOD
PIN: 2705759569
D.B. 2164, PG 0415

MATCHLINE SEE SHEET C2.4

EX. R/W (NOT SURVEYED)

LIMITS OF DISTURBANCE (TYP.)

UP 2705841771

CONTRACTOR TO COORINDATE WITH UTILITY PROVIDER TO RELOCATE EXISTING UTILITY POLE

UP 2705843656

UP 2705845631

(3) EXIST. WOOD FRAME BARNS (POOR CONDITION) TO BE REMOVED

REMOVE EXISTING DEBRIS PILE

CONTRACTOR TO COORINDATE WITH UTILITY PROVIDER TO RELOCATE EXISTING UTILITY POLE

EX. R/W

UP 5270584755

EXIST. 18'x18' - 2 STY. WOOD FRAME BARN (POOR CONDITION)

15" RCP

18" CMP

24" RCP

EX. EDGE OF PAVEMENT (TYP.)

S89° 28' 45"E 966.90'

EAST HORTON STREET (S.R. 2345)
EX. 60' PUBLIC R/W

EX. INTERMITTENT CREEK

EX. WETLANDS

20'

30'

TEMPLE, JOSEPH WOOD
PIN: 2705934448
D.B. 1519, PG 0554

TEMPLE, JOSEPH WOOD
PIN: 2705759569
D.B. 2164, PG 0415

UPCHURCH, JAMES D., LEE, JIMMY KEITH & JANIS HINTON
PIN: 2705858411
D.B. 13734, PG. 1387
D.B. 1488, PG. 0022
D.B. 0705, PG. 0221

MILTZ, ANNETTE SMITH
PIN: 2705846228
D.B.0171, PG 0000E

TEMPLE, JOSEPH W.
PIN: 2705943580
D.B. 1519, PG 0553

1"=40'

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EXISTING CONDITIONS AND DEMOLITION PLAN

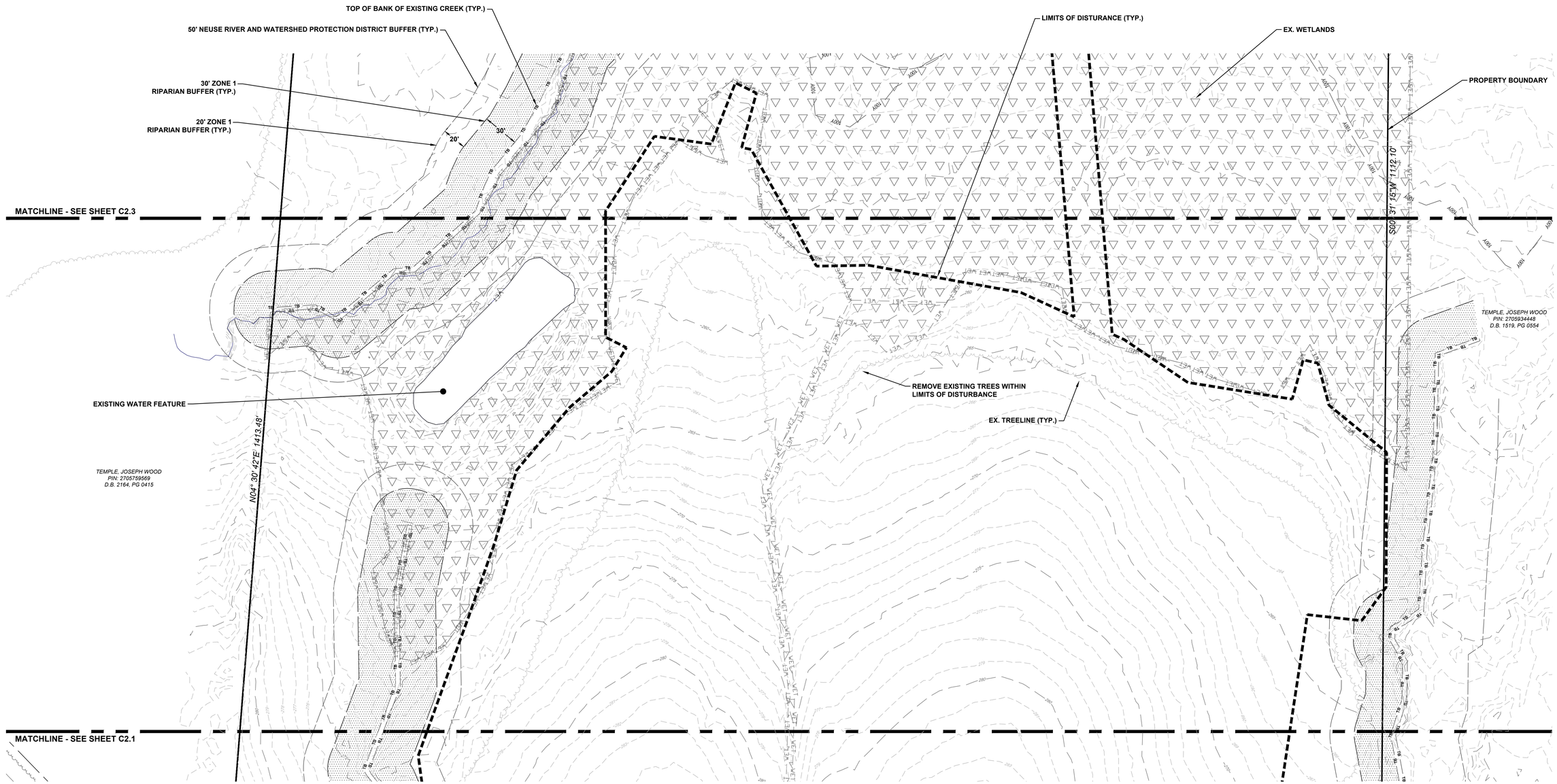
DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C2.1
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

I:\09217\0003\ENG\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C2.0 EX COND PLAN.DWG ---- 07/25/2025 11:10:13



40' 20' 0 40' 80'
1"=40'

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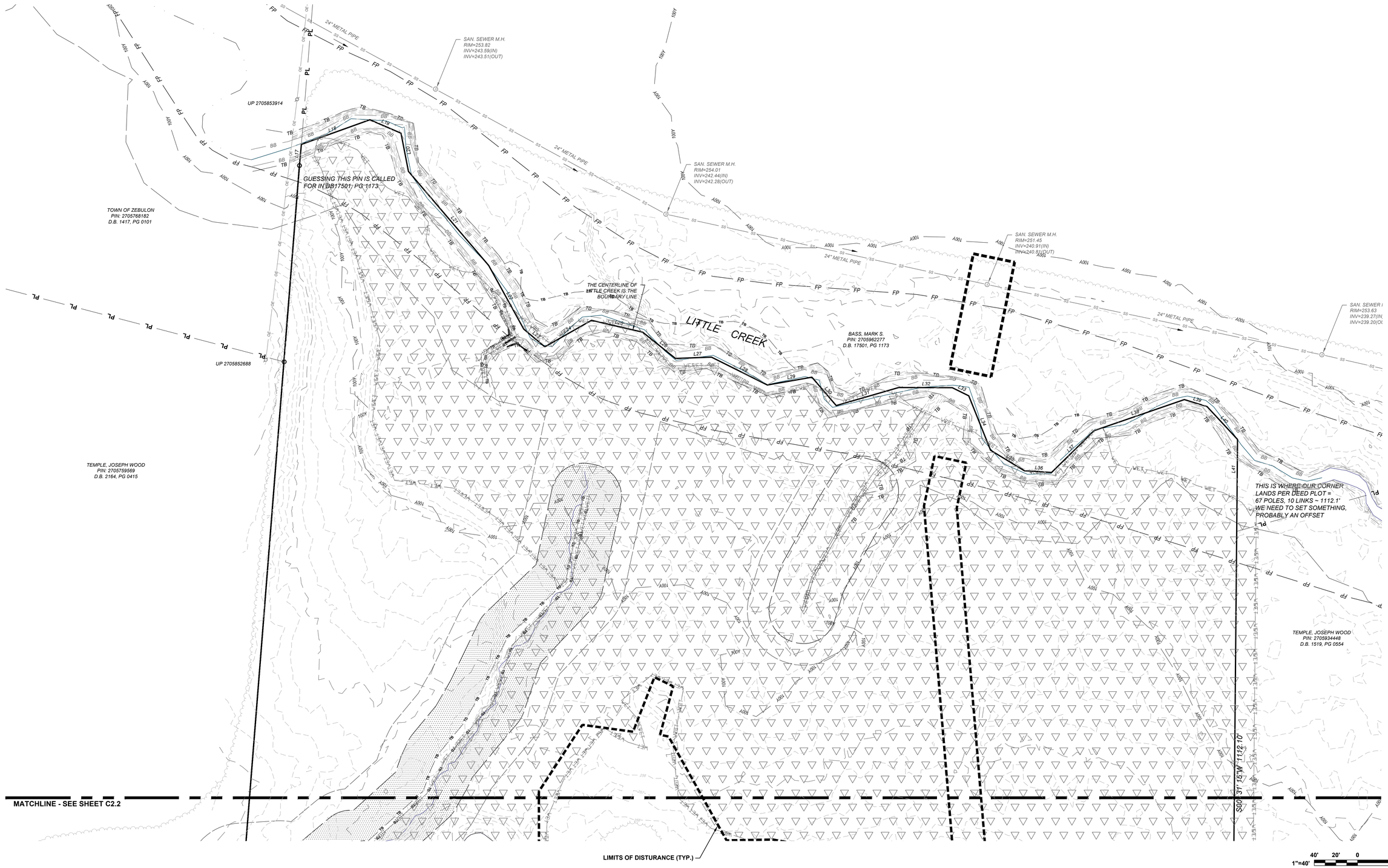
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C2.2
DRAWING NUMBER
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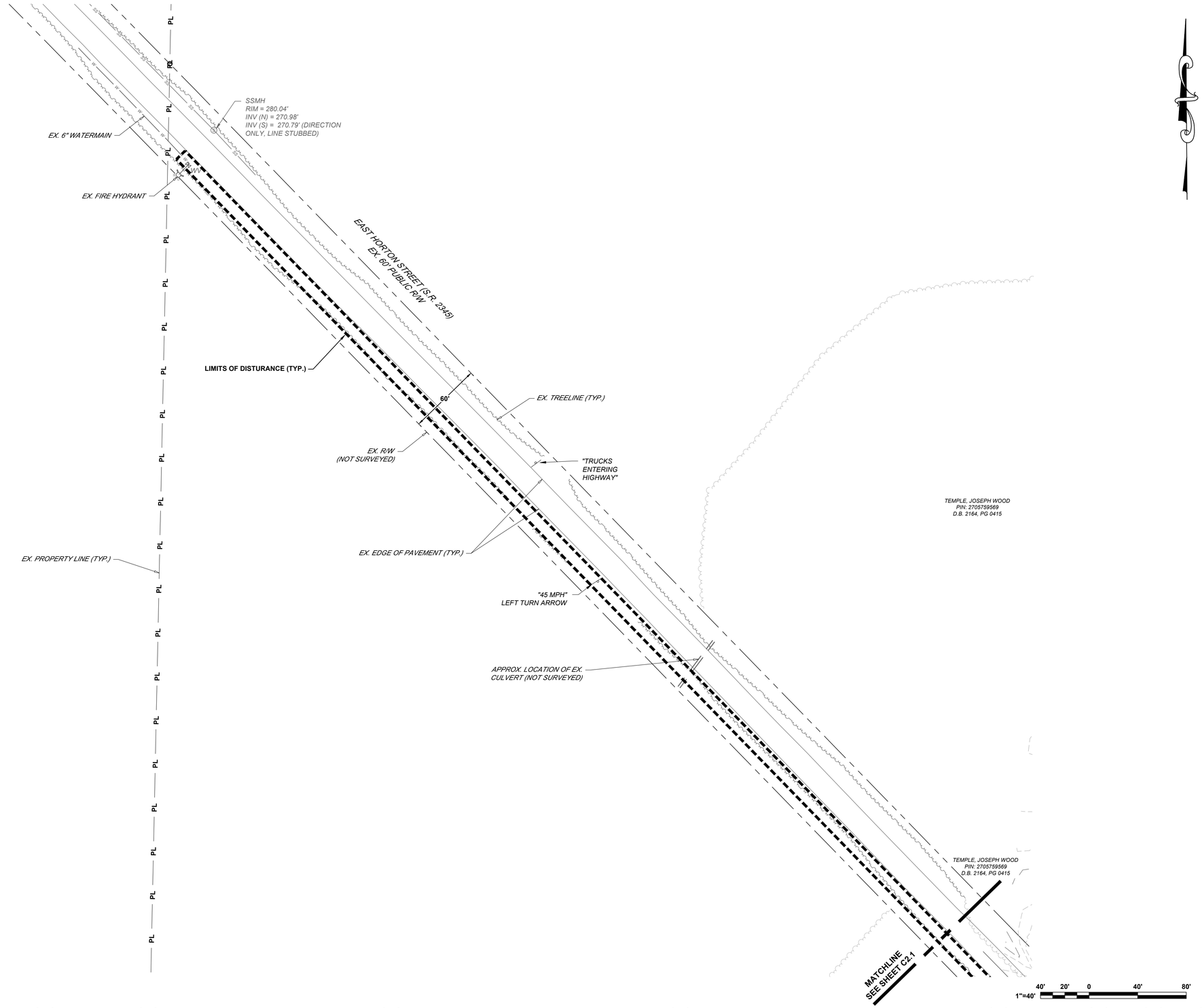
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VERTICAL: N/A

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DRAWING NUMBER

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NORTH CAROLINA PROFESSIONAL ENGINEER
07/24/2025
SEAL
057953
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WAKE COUNTY

EXISTING CONDITIONS AND DEMOLITION PLAN

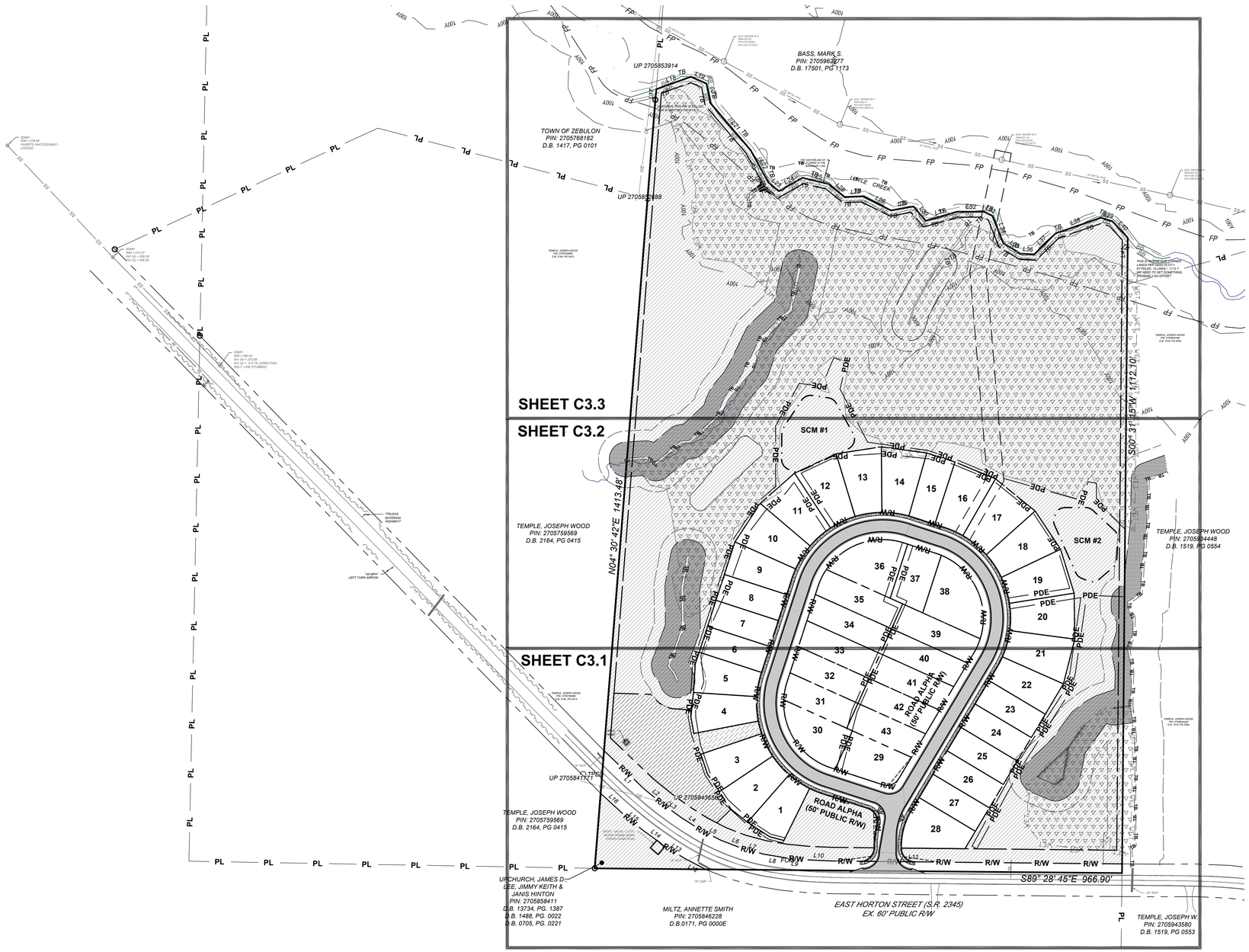
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SCALE
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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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CITY OF RALEIGH DEVELOPMENT APPROVAL

_____
RALEIGH WATER REVIEW OFFICER

SITE PERMITTING APPROVAL

WATER AND SEWER PERMITS (IF APPLICABLE)

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC SEWER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT # _____

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC WATER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT #_____

SITE DATA

SITE AREA:	**25.81 ACRES**
CURRENT ZONING:	**R2**
PROPOSED NUMBER OF LOTS:	**43**
MAXIMUM DENSITY:	**2.0 UNITS/ACRE**
PROPOSED DENSITY:	**1.7 UNITS/ACRE**
MINIMUM LOT SIZE ALLOWED:	**6,000 SF**
MINIMUM LOT SIZE PROPOSED:	**6,000 SF**
MINIMUM LOT WIDTH ALLOWED:	**30'**
MINIMUM LOT WIDTH PROPOSED:	**50'**
CONSERVATION AREA REQUIRED:	**12.91 ACRES (50.0%)**
CONSERVATION AREA PROPOSED:	**16.46 ACRES (63.8%)**
DIMENSIONAL STANDARDS:	
MINIMUM STREET SETBACK:	**20'**
MINIMUM SIDE SETBACK:	**5'**
MINIMUM REAR SETBACK:	**5'**
MAXIMUM BUILDING HEIGHT:	**35' / 3 STORIES**

NOTE: TRASH RECEPTACLES WILL BE STORED IN GARAGES AND WILL BE REQUIRED AS PART OF HOA COVENANTS

REFER TO SHEET C2.0 FOR EXISTING BOUNDARY BEARINGS AND DISTANCE AND ADJOINING OWNER INFORMATION

1"=100' 100' 50' 0 100' 200'

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

SITE PLAN - OVERALL

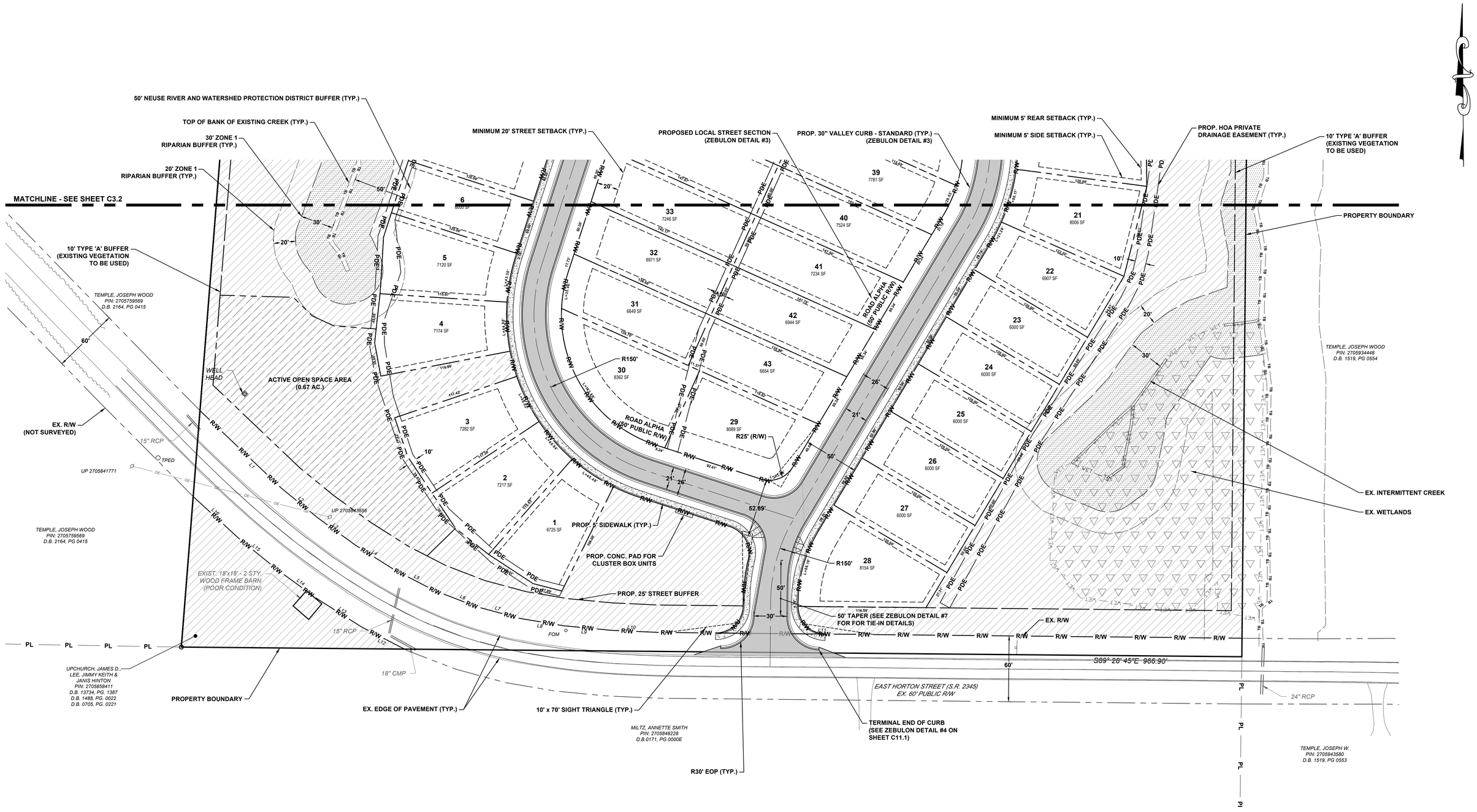
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

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VERTICAL: N/A

C3.0
DRAWING NUMBER
REVISION

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40' 20' 0 40' 80'
1"=40'

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SITE PLAN - ENLARGED

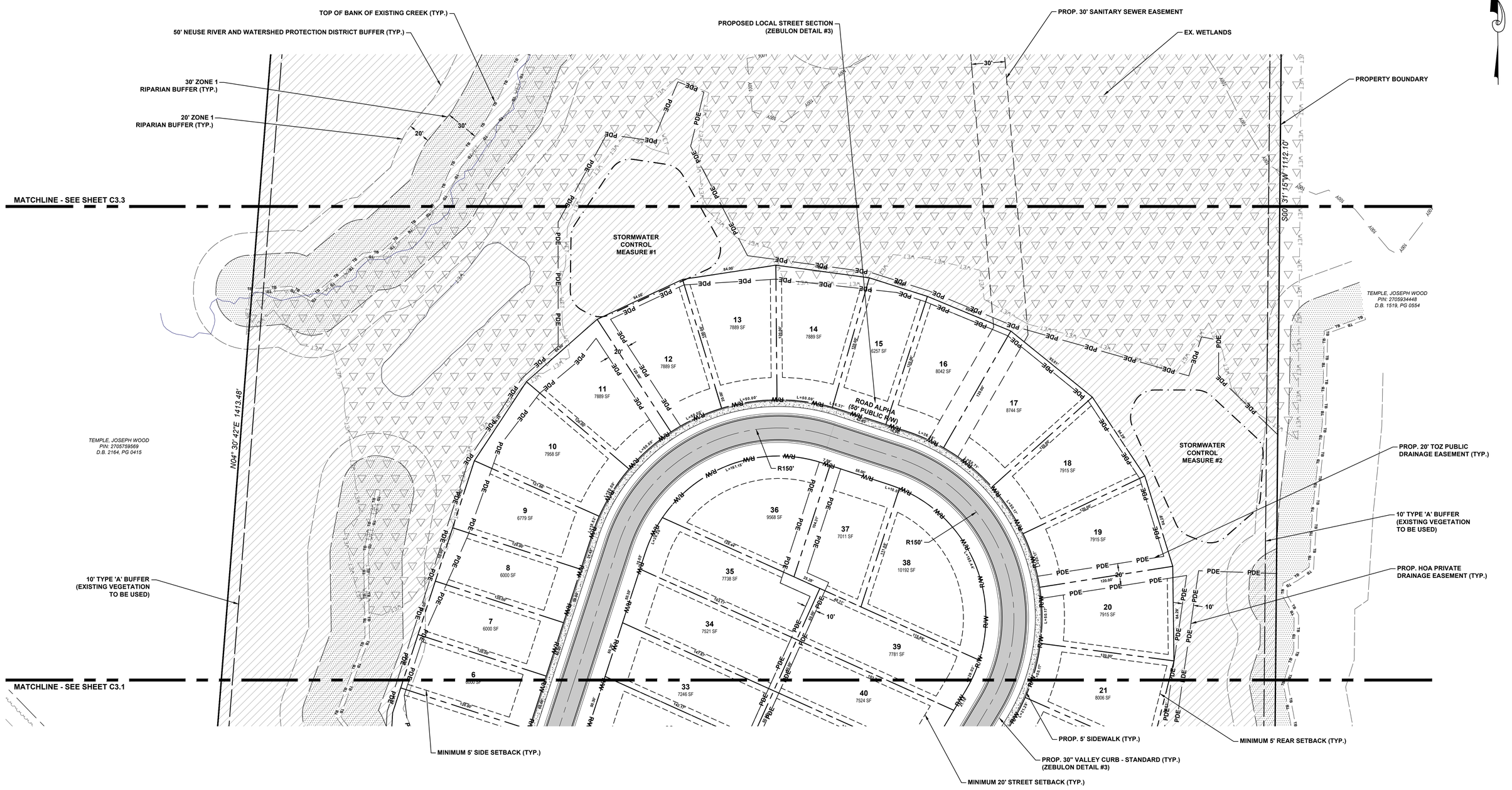
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SCALE
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C3.1
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1"=40'

40' 20' 0 40' 80'

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SITE PLAN - ENLARGED

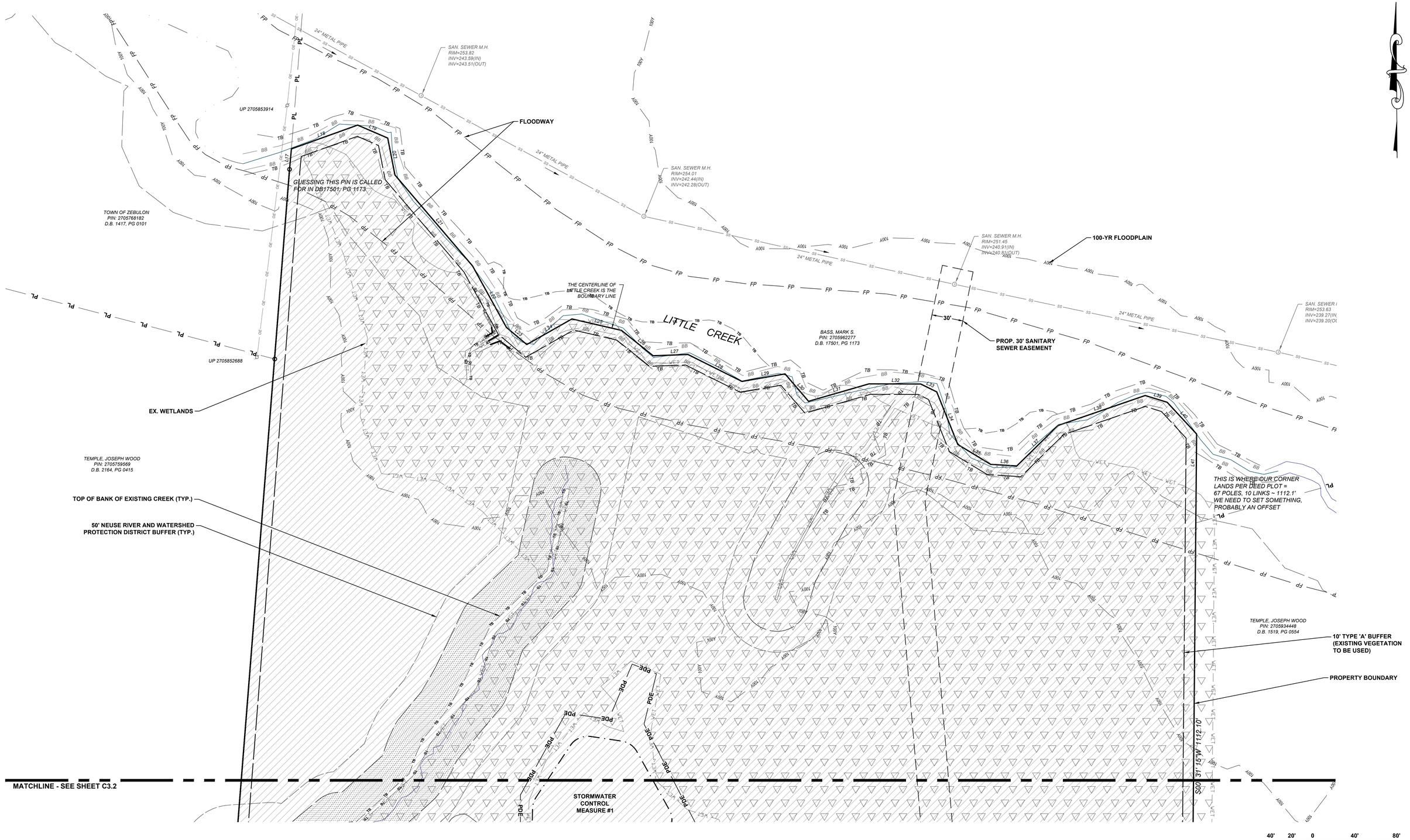
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VERTICAL: N/A

C3.2
DRAWING NUMBER
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WAKE COUNTY

SITE PLAN - ENLARGED

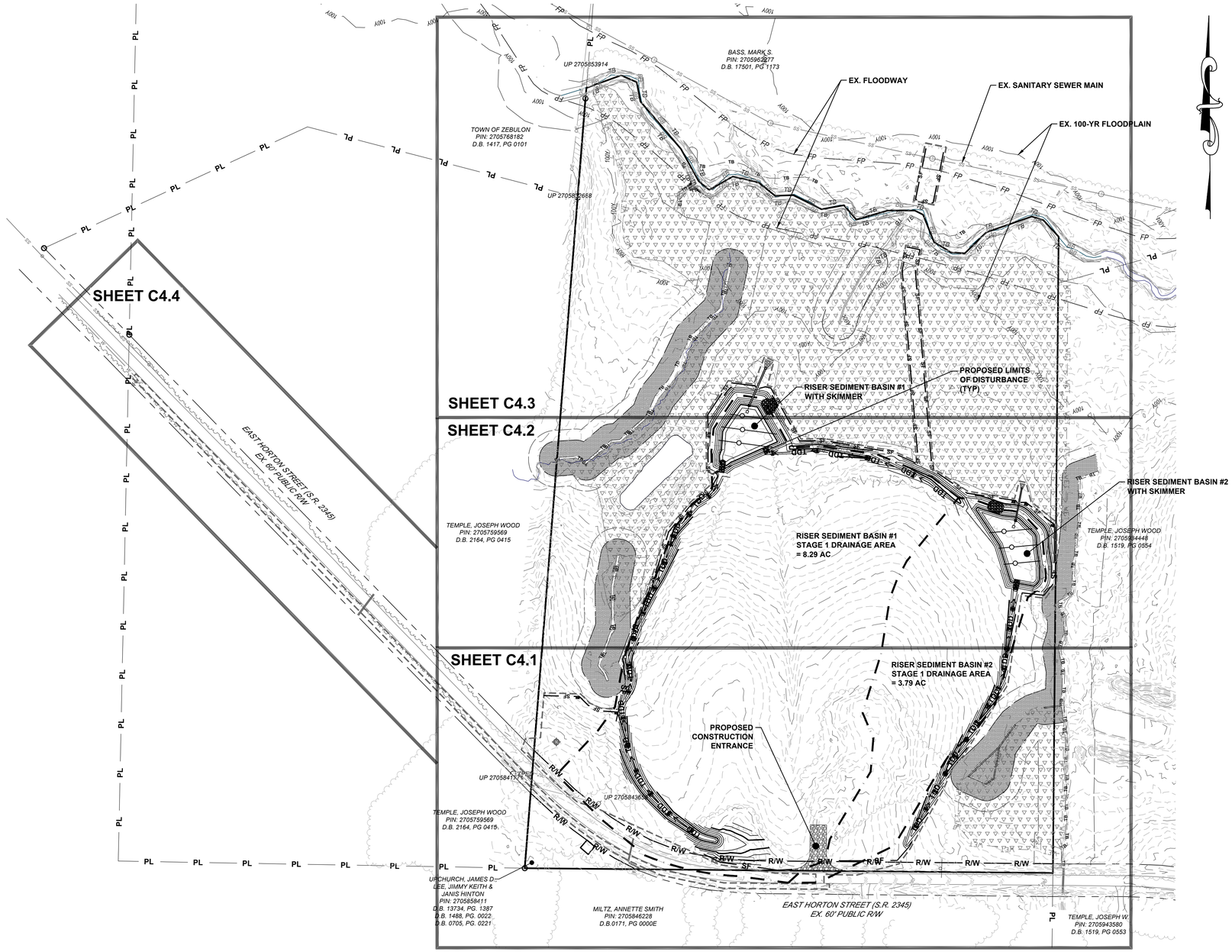
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C3.3
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STAGE 1 CONSTRUCTION SEQUENCE:

1. THE INTENT OF THE CONSTRUCTION SEQUENCE IS TO PROVIDE THE CONTRACTOR WITH A GENERAL GUIDE FOR CONSTRUCTION PURPOSES. THIS SEQUENCE IS NOT INTENDED TO OUTLINE ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WAKE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE.
3. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY.
4. IF IT IS DETERMINED DURING CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE, DESPITE PROPER IMPLEMENTATION AND MAINTENANCE, THE CONTRACTOR IS OBLIGATED TO TAKE ADDITIONAL CORRECTIVE ACTION. CONTACT WAKE COUNTY WATERSHED MANAGER KARYN PAGEAU, AND ENGINEER WITH ANY ADDITIONAL MEASURES NEEDED.
5. CONTRACTOR SHALL ESTABLISH GROUNDCOVER ON DISTURBED AREAS WITHIN THE NUMBER OF CALENDAR DAYS AFTER COMPLETION OF GRADING PER THE NPDES GROUNDCOVER STABILIZATION TIMEFRAME TABLE THIS SHEET.
6. CONTRACTOR SHALL ARRANGE PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVE, ENGINEER AND WAKE COUNTY WATERSHED MANAGER, KARYN PAGEAU AND SHALL OBTAIN A LAND DISTURBING PERMIT.
7. CONTRACTOR TO POST EROSION CONTROL PERMIT PROMINENTLY ON SITE AT ALL TIMES.
8. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES TO AVOID CONFLICT DURING INSTALLATION OF EROSION CONTROL MEASURES AND STORM DRAINAGE. CONTRACTOR IS TO CALL 1-800-632-4949 FOR "NC ONE CALL" TO HAVE UTILITIES LOCATED.
9. CONTRACTOR TO HAVE A PROFESSIONAL LAND SURVEYOR FLAG PROPERTY LINES, EASEMENTS, LANDSCAPE BUFFERS, STREAM BUFFERS, TREE PROTECTION AREAS AND LIMITS OF DISTURBANCE.
10. INSTALL TEMPORARY CONSTRUCTION ENTRANCE, TEMPORARY DIVERSION DITCHES AND SILT FENCE AS SHOWN ON PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED AND PROVIDE ROLLED EROSION CONTROL PRODUCT FOR TEMPORARY DIVERSIONS, BERMS AND BASIN SLOPES IMMEDIATELY AFTER CONSTRUCTION. PROVIDE SEED AND ANCHORED MULCH DOWNSTREAM OF BASINS AND DIVERSIONS ALONG SITE PERIMETER UPSTREAM OF SILT FENCE AT THE LIMITS OF DISTURBANCE.
11. CONSTRUCT RISER BARREL SEDIMENT BASINS #1 AND #2 TO THE REQUIRED DIMENSIONS AND ELEVATIONS AS DETAILED IN THESE PLANS. GRUB ONLY AS NECESSARY TO INSTALL THE BASINS AND STOCKPILE OR PLACE MATERIAL EXCAVATED FROM BASIN INSTALLATION. INSTALL BAFFLES PER PLAN. SEED AND MULCH SIDE SLOPES OF SEDIMENT BASINS UPON COMPLETION. INSTALL BIODEGRADABLE MATTING ON SIDE SLOPES OF BASINS IF NECESSARY TO ESTABLISH COVER.
12. CONTACT WAKE COUNTY WATERSHED MANAGER, KARYN PAGEAU, AND ENGINEER UPON COMPLETION OF INITIAL EROSION CONTROL MEASURES TO OBTAIN A CERTIFICATE OF COMPLIANCE.
13. ONCE SEDIMENT BASINS AND DIVERSION DITCHES HAVE BEEN INSTALLED AND APPROVED, TIMBER, CLEAR & GRUB WITHIN DELINEATED DRAINAGE AREAS ASSOCIATED WITH THE INSTALLED SEDIMENT BASINS.
14. CONTRACTOR SHALL STRIP TOPSOIL AND STOCKPILE ON SITE. CONTRACTOR SHALL REMOVE ALL ROOT MATTER AND ORGANICS FROM WITHIN THE CLEARING LIMITS.
15. MAINTAIN AND PROTECT EXISTING UTILITIES AT ALL TIMES. MAINTAIN DIVERSION DITCHES, BASINS, SILT FENCE AND OTHER EROSION CONTROL MEASURES UNTIL THEY ARE APPROVED TO BE REMOVED.
16. PERFORM SEEDING AND MULCHING AS REQUIRED IN ACCORDANCE WITH THE TEMPORARY AND PERMANENT SEEDING SCHEDULES LOCATED ON THIS SHEET.
17. AREAS NOT IN ACTIVE CUT AND FILL SHALL RECEIVE TEMPORARY SEEDING IN ACCORDANCE WITH THE SEEDING SCHEDULES IN THESE PLANS.

EROSION CONTROL LEGEND

FEATURE	PROPOSED
SILT FENCE	SF
TREE PROTECTION FENCING	TP
TREE PROTECTION/SILT FENCE	SF TP
LIMITS OF DISTURBANCE	
TEMPORARY DIVERSION DITCH	TDD
CLEAN WATER DITCH	CWD
DRAINAGE AREA	
DRAINAGE AREA (CATCH BASIN / PIPE)	
TEMPORARY SILT FENCE OUTLET	
TEMPORARY SILT FENCE OUTLET J-HOOK	
TEMPORARY WATTLE CHECK DAM	
TEMPORARY PIPE SLOPE DRAIN	
ROCK CHECK DAM	
HARDWARE CLOTH & GRAVEL INLET PROTECTION	
GRAVEL AND RIP RAP FILTER BERM BASIN	
GRAVEL RIPRAP APRON	
SPILLWAY	
GRAVEL CONSTRUCTION ENTRANCE	
SEDIMENT BASIN	
SEDIMENT BASIN BAFFLE	
SOIL DELINEATION	CeA

100' 50' 0 100' 200'
1"=100'

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ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 1 - OVERALL

DATE:	JULY 2025
MCE PROJ. #	09217-0003
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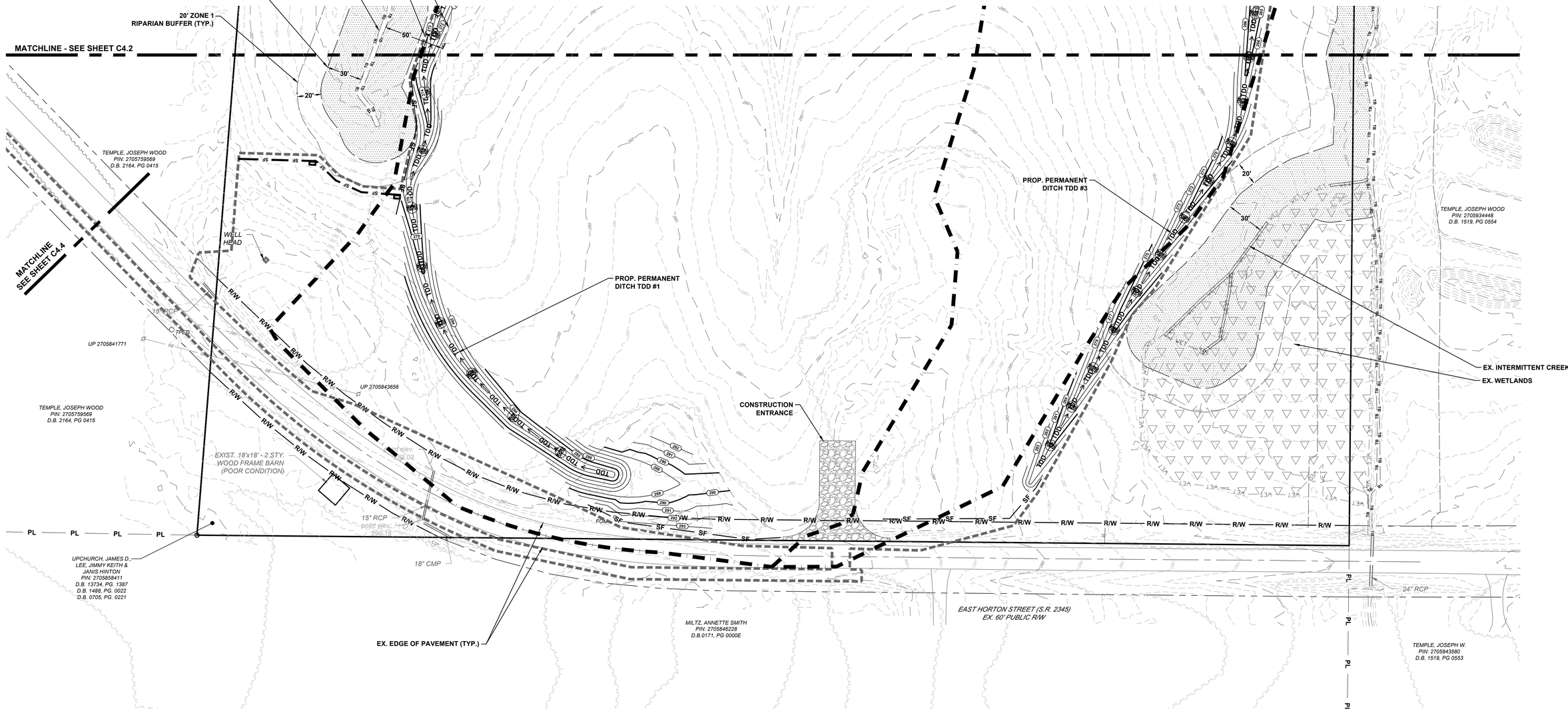
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VERTICAL: N/A

C4.0
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1"=40' — 40' 20' 0 40' 80'

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EROSION CONTROL PLAN STAGE 1 - ENLARGED

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SCALE
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PROP. RIPRAP APRON (TYP)

PROP. OUTLET PIPE SEE DETAILS (TYP)

PROP. RISER (SEE DETAILS)

TOP OF BANK OF EXISTING CREEK (TYP.)

50' NEUSE RIVER AND WATERSHED PROTECTION DISTRICT BUFFER (TYP.)

30' ZONE 1 RIPARIAN BUFFER (TYP.)

20' ZONE 1 RIPARIAN BUFFER (TYP.)

PROP. SKIMMER (SEE DETAILS)

RISER SEDIMENT BASIN #1 SEE SHEET C12.3 FOR DETAILS

PROP. EMERGENCY SPILLWAY (SEE DETAILS)

SUPER SILT FENCE (TYP.) ALONG WETLANDS

LIMITS OF DISTURANCE (TYP.)

EX. WETLANDS

PROPERTY BOUNDARY

MATCHLINE - SEE SHEET C4.3

PROP. RIPRAP APRON (TYP)

PROP. OUTLET PIPE SEE DETAILS (TYP)

PROP. RISER (SEE DETAILS)

PROP. SKIMMER (SEE DETAILS)

PROP. EMERGENCY SPILLWAY (SEE DETAILS)

TEMPLE, JOSEPH WOOD
PIN: 2705934448
D.B. 1519, PG 0554

PROP. PERMANENT DITCH TDD #2

RISER SEDIMENT BASIN #2 SEE SHEET C12.3 FOR DETAILS

TEMPLE, JOSEPH WOOD
PIN: 2705759569
D.B. 2164, PG 0415

PROP. PERMANENT DITCH TDD #1

PROP. PERMANENT DITCH TDD #3

MATCHLINE - SEE SHEET C4.1

1"=40'

40' 20' 0 40' 80'

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057953 PATRICK N. HARTMAN 07/24/2025

McKIM&CREED

8020 Tower Point Drive
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Phone: (704) 841-2588, Fax: (704) 841-2567

NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 1 - ENLARGED

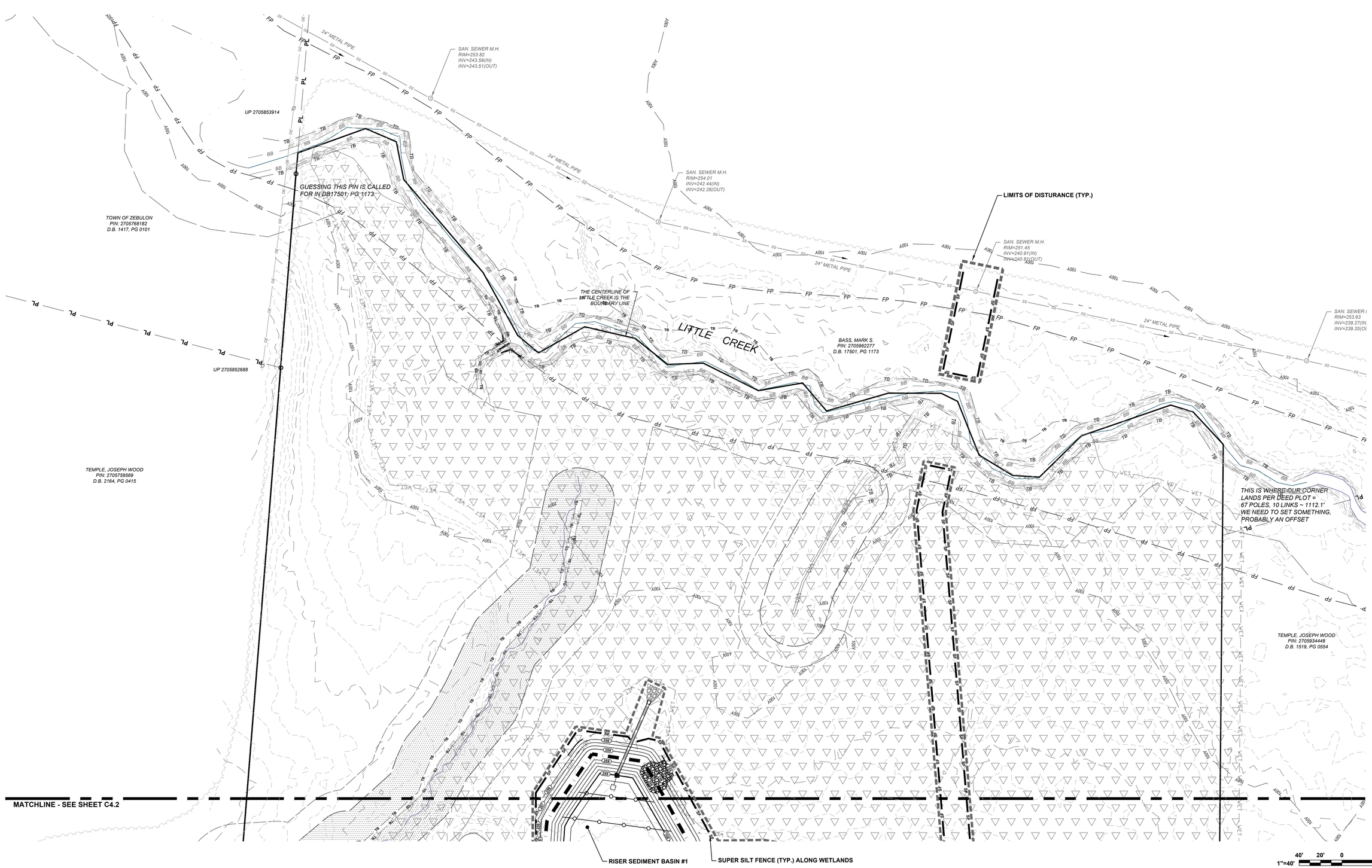
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C4.2
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 1 - ENLARGED

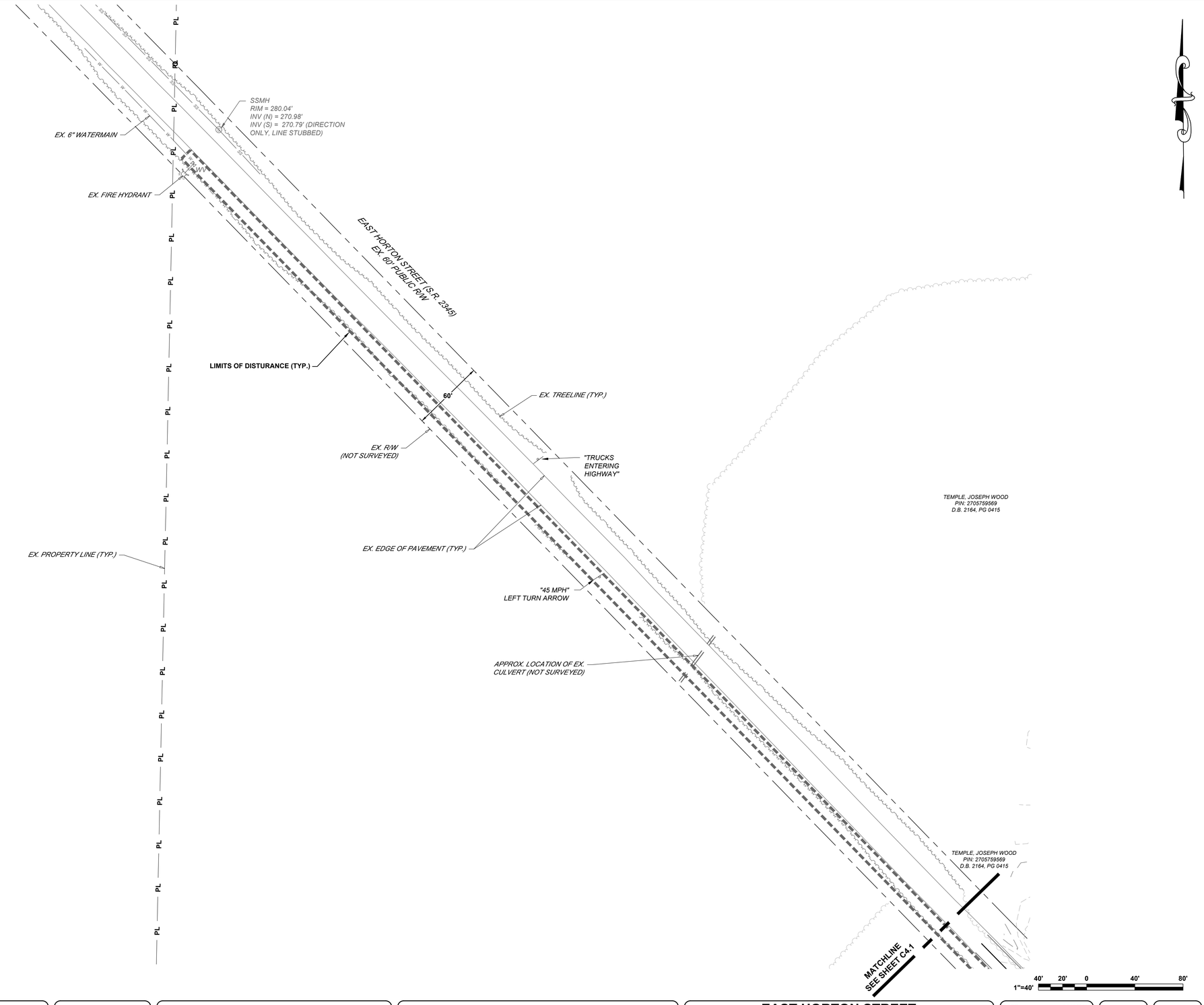
DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C4.3
DRAWING NUMBER
REVISION

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NORTH CAROLINA PROFESSIONAL
07/24/2025
SEAL
057953
ENGINEER
PATRICK N. HARTMAN

McKIM & CREED

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 1 - ENLARGED

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DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C4.4
DRAWING NUMBER

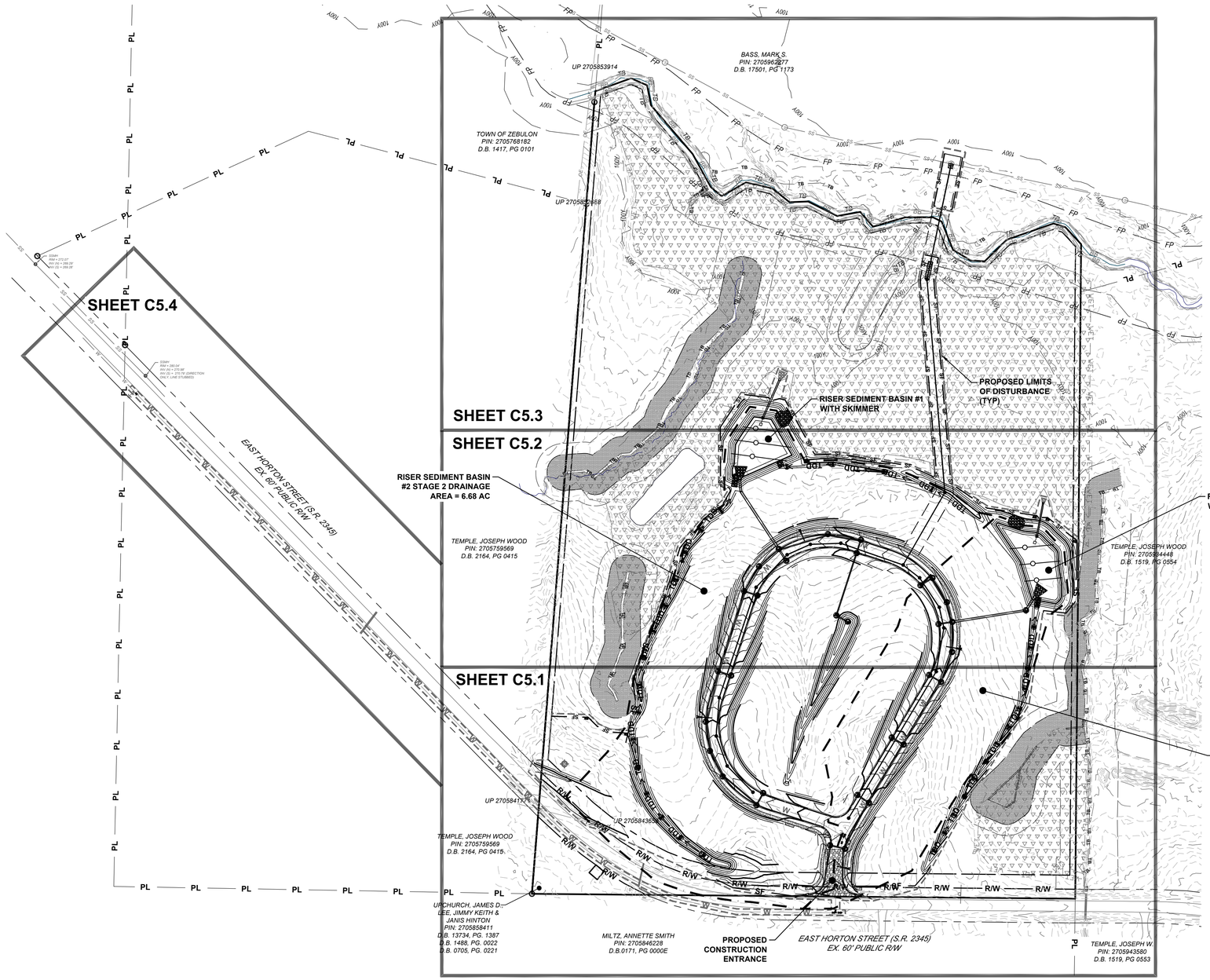
REVISION

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STAGE 2 CONSTRUCTION SEQUENCE:

1. THE INTENT OF THE CONSTRUCTION SEQUENCE IS TO PROVIDE THE CONTRACTOR WITH A GENERAL GUIDE FOR CONSTRUCTION PURPOSES. THIS SEQUENCE IS NOT INTENDED TO OUTLINE ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WAKE COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE.
3. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY.
4. IF IT IS DETERMINED DURING CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE, DESPITE PROPER IMPLEMENTATION AND MAINTENANCE, THE CONTRACTOR IS OBLIGATED TO TAKE ADDITIONAL CORRECTIVE ACTION. CONTACT WAKE COUNTY WATERSHED MANAGER KARYN PAGEAU, AND ENGINEER WITH ANY ADDITIONAL MEASURES NEEDED.
5. CONTRACTOR TO POST EROSION CONTROL PERMIT PROMINENTLY ON SITE AT ALL TIMES.
6. CONTRACTOR SHALL MAINTAIN ALL EXISTING STAGE 1 EROSION CONTROL MEASURE UNTIL NEW DOWNSTREAM MEASURES HAVE BEEN INSTALLED AND ARE OPERATIONAL.
7. ADJUST EXISTING TEMPORARY DIVERSION DITCH ROUTING TO REMAIN AND INSTALL NEW TEMPORARY DIVERSION DITCH ROUTING TO DIRECT RUNOFF INTO THE EXISTING RISER BARREL SEDIMENT BASINS AS SHOWN IN THESE PLANS.
8. ONCE STAGE 2 DIVERSIONS HAVE BEEN REROUTED AND INSTALLED, THE CONTRACTOR SHALL BEGIN ROUGH GRADING THE UPSTREAM AREAS PER THE PROPOSED CONTOUR SHOWN IN THESE PLANS.
9. AS CONTRACTOR REACHED FINAL GRADES, TEMPORARY AND PERMANENT SEEDING SHALL BE APPLIED PER THE SPECIFICATIONS SHOWN IN THESE PLANS.
10. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL REMOVAL IS APPROVED BY WAKE COUNTY.
11. CONTRACTOR SHALL INSTALL PERMANENT PIPING AND STORM DRAINAGE STRUCTURES AS GRADING ALLOWS.



EROSION CONTROL LEGEND

FEATURE	PROPOSED
SILT FENCE	SF
TREE PROTECTION FENCING	TP
TREE PROTECTION/SILT FENCE	SF TP
LIMITS OF DISTURBANCE	
TEMPORARY DIVERSION DITCH	TDD
CLEAN WATER DITCH	CWD
DRAINAGE AREA	
DRAINAGE AREA (CATCH BASIN / PIPE)	
TEMPORARY SILT FENCE OUTLET	
TEMPORARY SILT FENCE OUTLET J-HOOK	
TEMPORARY WATTLE CHECK DAM	
TEMPORARY PIPE SLOPE DRAIN	
ROCK CHECK DAM	
HARDWARE CLOTH & GRAVEL INLET PROTECTION	
GRAVEL AND RIP RAP FILTER BERM BASIN	
GRAVEL RIPRAP APRON	
SPILLWAY	
GRAVEL CONSTRUCTION ENTRANCE	
SEDIMENT BASIN	
SEDIMENT BASIN BAFFLE	
SOIL DELINEATION	CeA

1"=100' — 100' 50' 0 100' 200'

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 2 - OVERALL

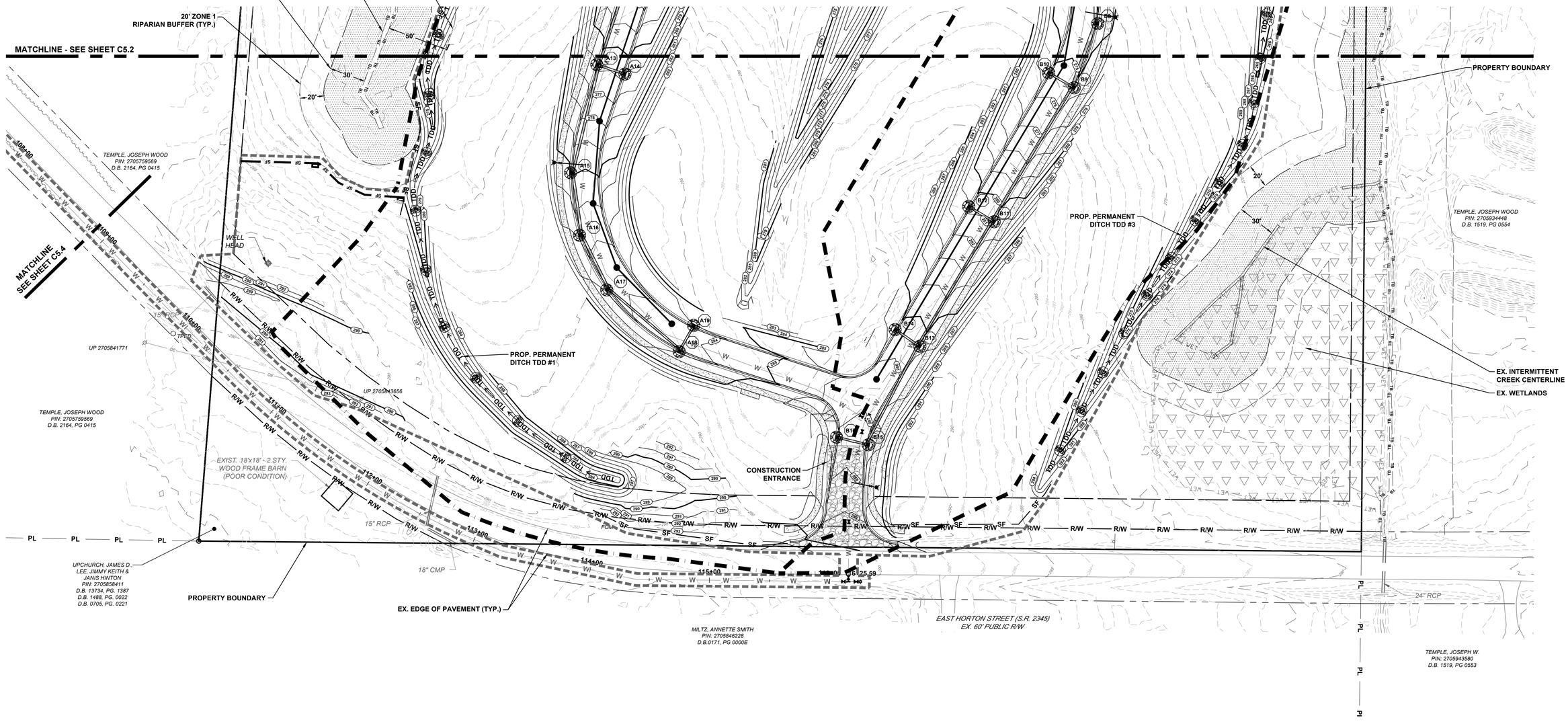
DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

C5.0
DRAWING NUMBER
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STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 2 - ENLARGED

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.1
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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PROP. RIPRAP APRON (TYP)

PROP. OUTLET PIPE SEE DETAILS (TYP)

PROP. RISER (SEE DETAILS)

TOP OF BANK OF EXISTING CREEK (TYP.)

50' NEUSE RIVER AND WATERSHED PROTECTION DISTRICT BUFFER (TYP.)

PROP. SKIMMER (SEE DETAILS)

RISER SEDIMENT BASIN #1 SEE SHEET C12.3 FOR DETAILS

PROP. EMERGENCY SPILLWAY (SEE DETAILS)

SUPER SILT FENCE (TYP.) ALONG WETLANDS

EX. WETLANDS

PROPERTY BOUNDARY

30' ZONE 1 RIPARIAN BUFFER (TYP.)

20' ZONE 1 RIPARIAN BUFFER (TYP.)

MATCHLINE - SEE SHEET C5.3

S00° 31' 15"W 1112.10'

PROP. RIPRAP APRON (TYP)

PROP. OUTLET PIPE SEE DETAILS (TYP)

PROP. RISER (SEE DETAILS)

PROP. SKIMMER (SEE DETAILS)

PROP. EMERGENCY SPILLWAY (SEE DETAILS)

TEMPLE, JOSEPH WOOD
PIN: 2705934448
D.B. 1519, PG 0554

PROP. PERMANENT DITCH TDD #2

RISER SEDIMENT BASIN #2 SEE SHEET C12.3 FOR DETAILS

TEMPLE, JOSEPH WOOD
PIN: 2705759569
D.B. 2164, PG 0415

N04° 30' 42"E 1413.48'

PROP. PERMANENT DITCH TDD #1

PROP. PERMANENT DITCH TDD #3

MATCHLINE - SEE SHEET C5.1

1"=40'

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NC License# F-1222

CARUSOHOMES

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ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 2 - ENLARGED

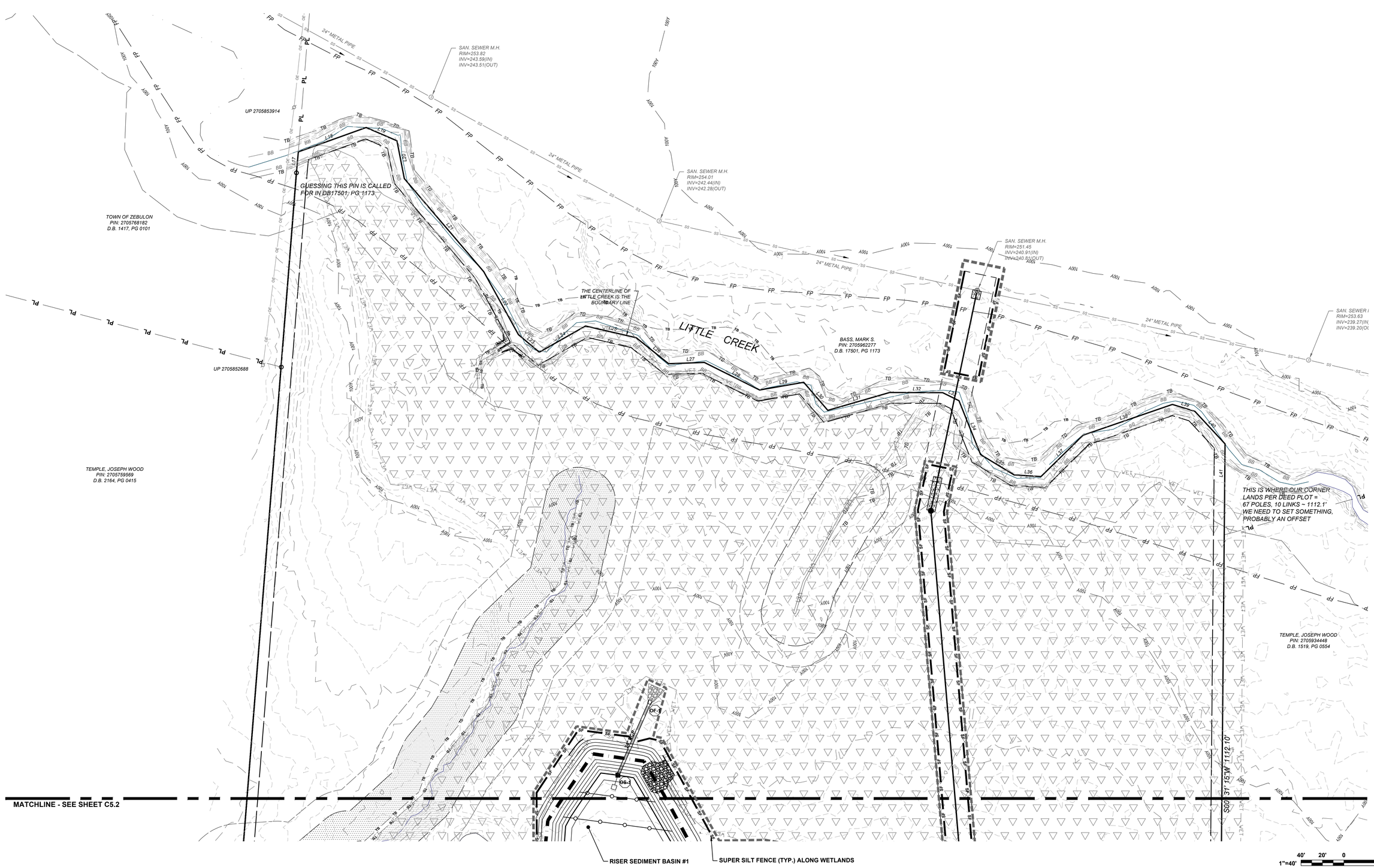
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MCE PROJ. #	09217-0003
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CHECKED	PH
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HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.2
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NORTH CAROLINA PROFESSIONAL
07/24/2025
SEAL
057953
ENGINEER
PATRICK N. HARTMAN

McKIM&CREED

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Charlotte, North Carolina 28227
Phone: (704) 841-2588, Fax: (704) 841-2567

NC License# F-1222

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EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

EROSION CONTROL PLAN STAGE 2 - ENLARGED

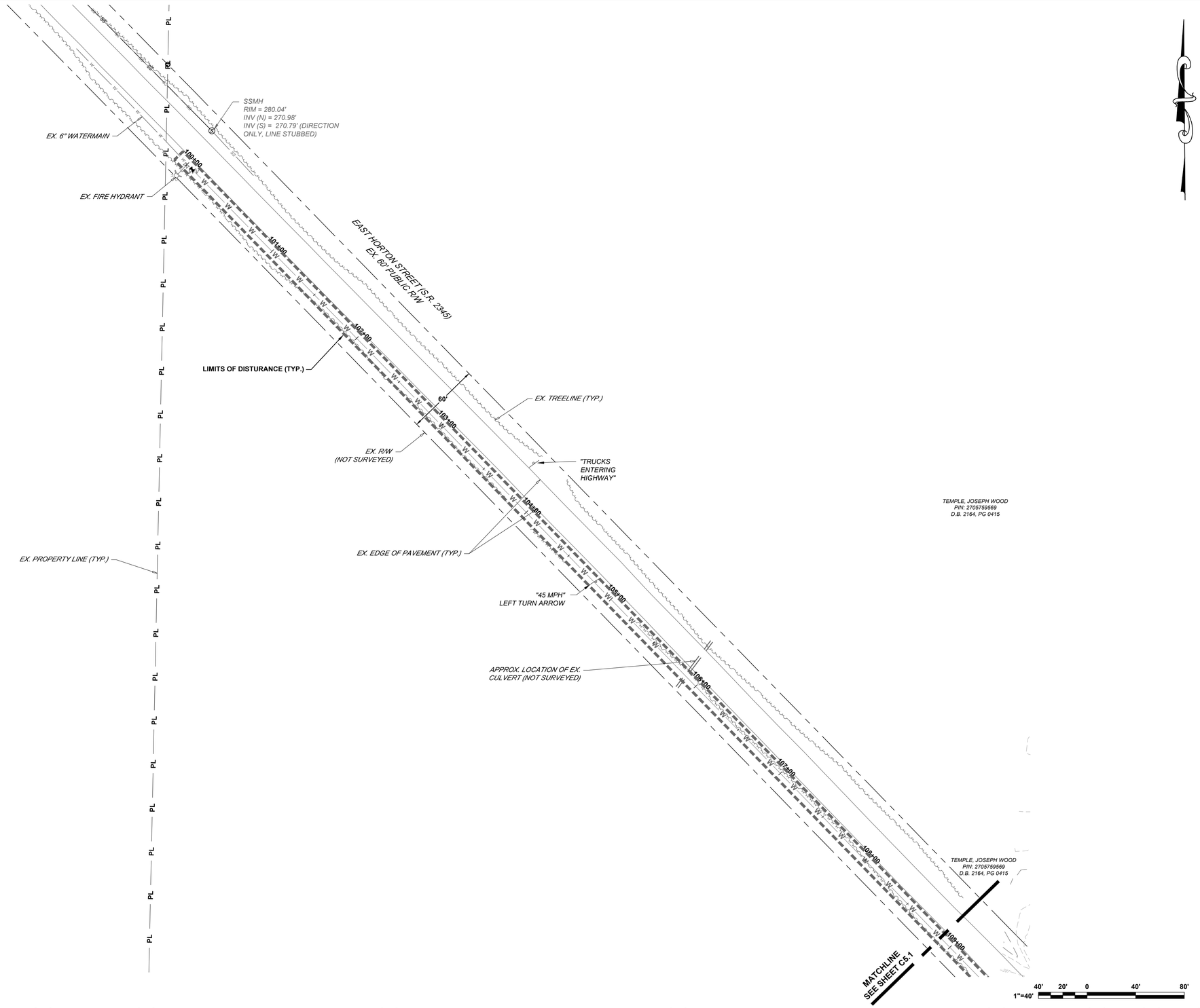
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DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.3
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REVISION

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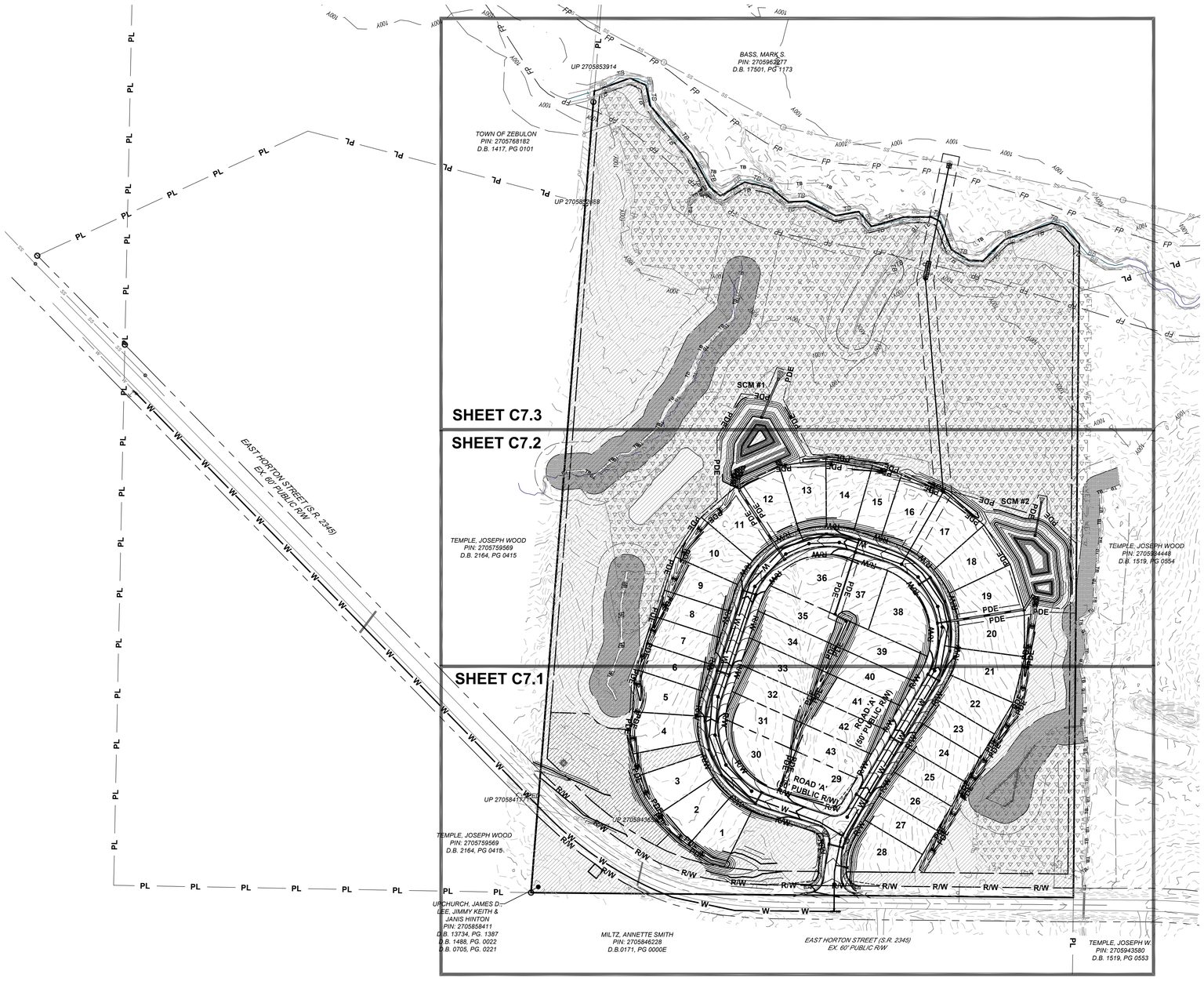
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PROJ. MGR.	PH

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HORIZONTAL: 1" = 40'
VERTICAL: N/A

C5.4
DRAWING NUMBER
REVISION

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100' 50' 0 100' 200'
1"=100'

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

GRADING AND DRAINAGE PLAN - OVERALL

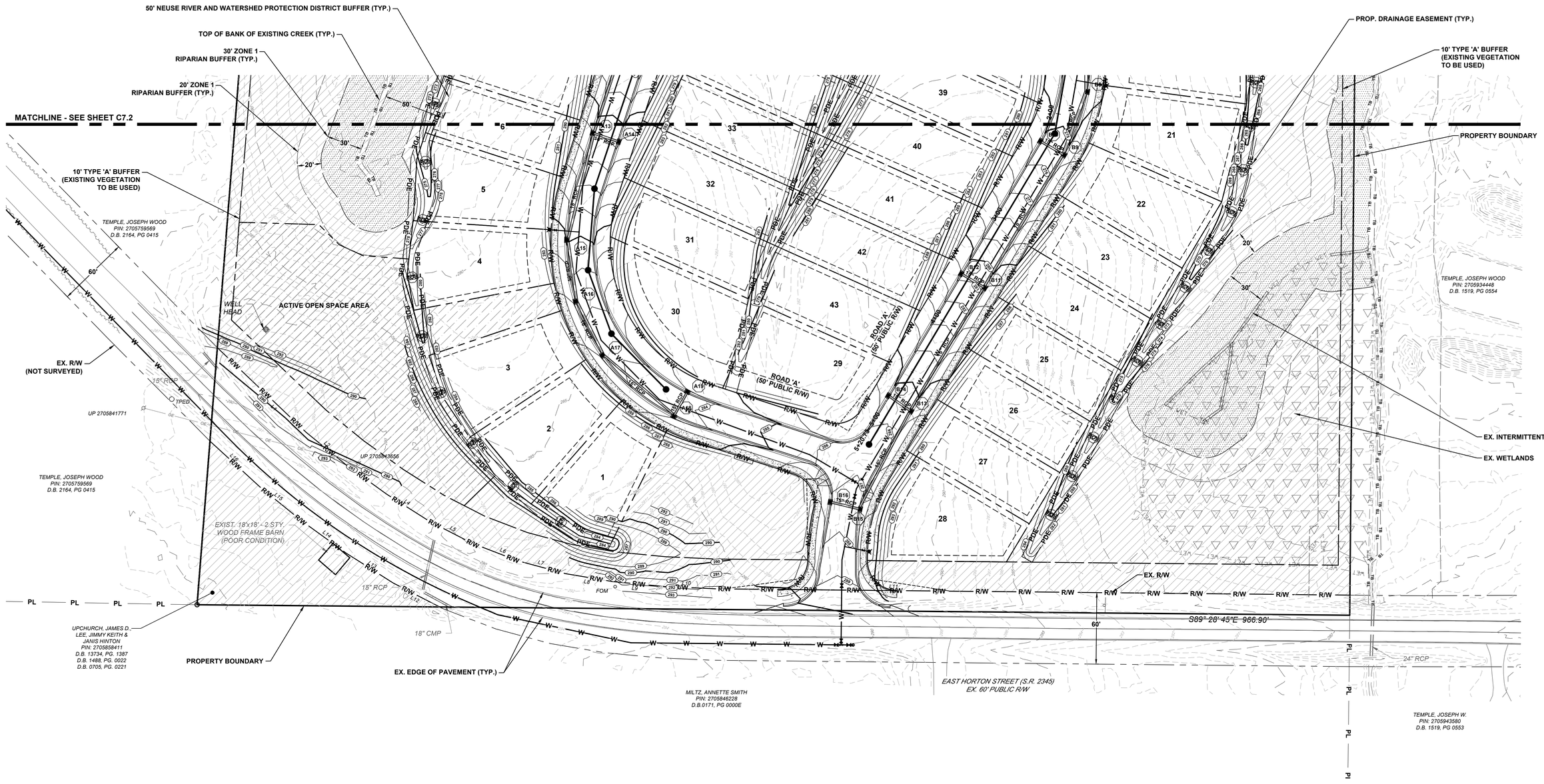
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MCE PROJ. #	09217-0003
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DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

C7.0
DRAWING NUMBER
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07/24/2025
SEAL
057953
ENGINEER
PATRICK N. HARTMAN

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ZEBULON, NC
WAKE COUNTY

GRADING AND DRAINAGE PLAN - ENLARGED

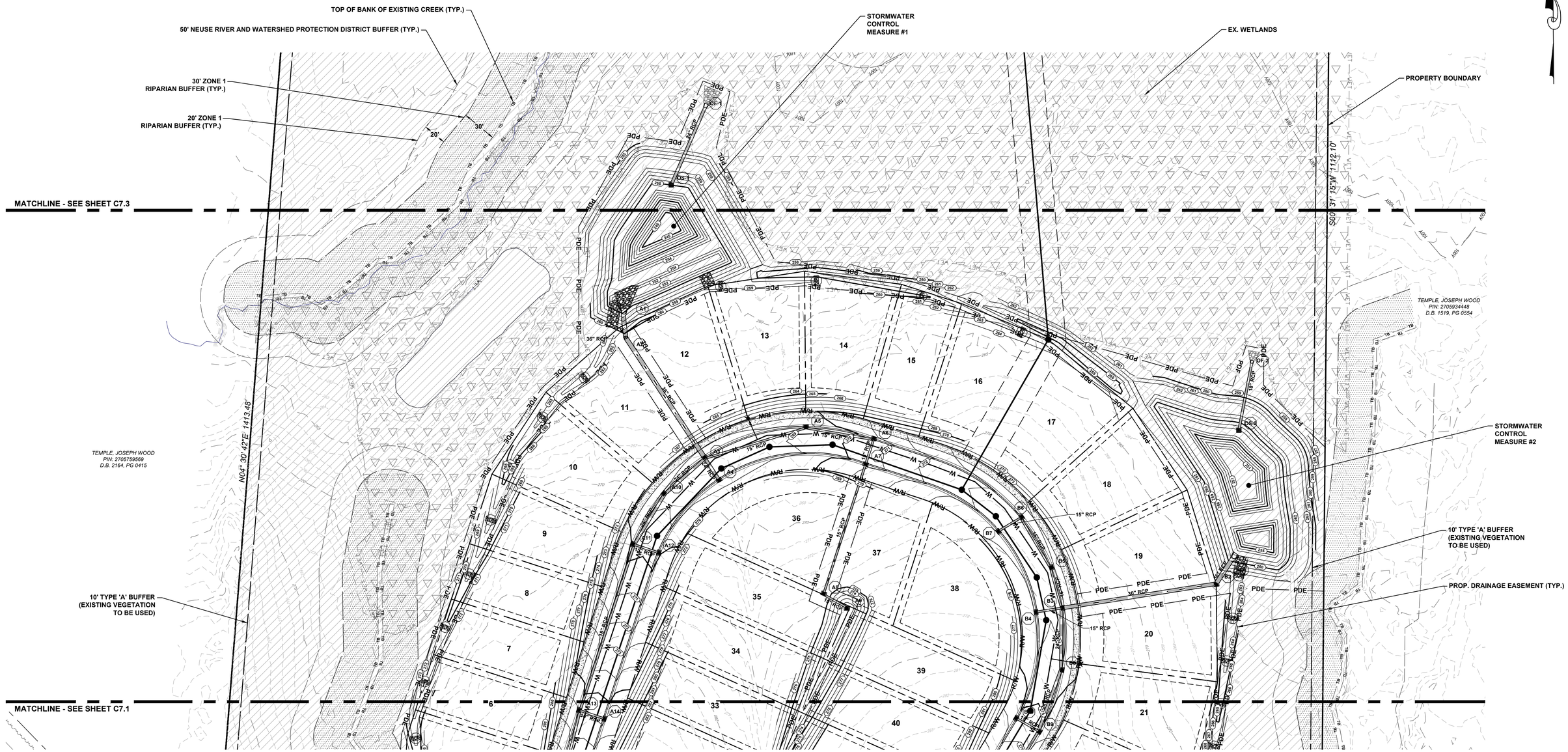
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DRAWN	JLM
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CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C7.1
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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1"=40' 40' 20' 0 40' 80'

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ZEBULON, NC
WAKE COUNTY

GRADING AND DRAINAGE PLAN - ENLARGED

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: N/A

C7.2
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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WAKE COUNTY

GRADING AND DRAINAGE PLAN - ENLARGED

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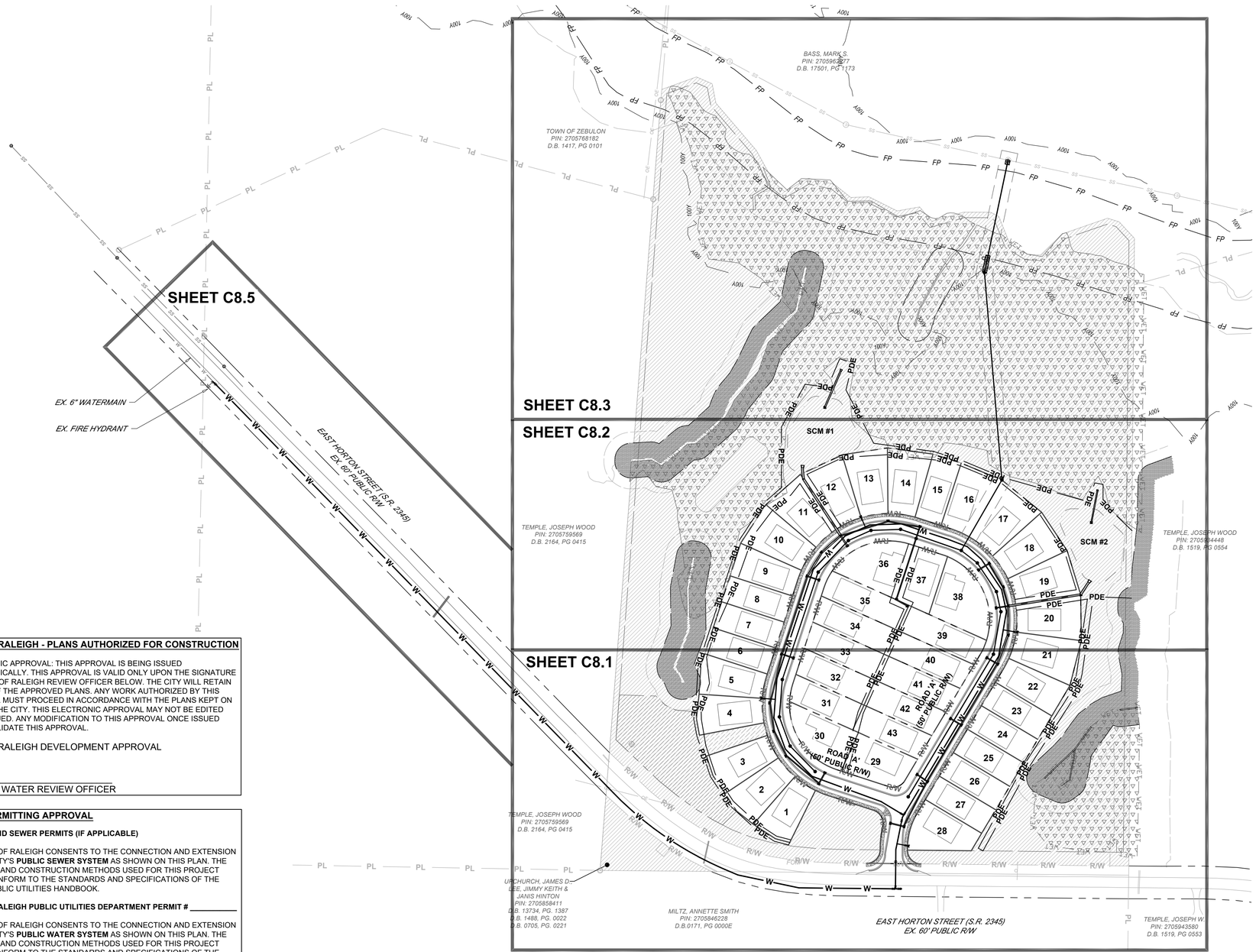
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VERTICAL: N/A

C7.3
DRAWING NUMBER

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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CITY OF RALEIGH DEVELOPMENT APPROVAL

_____

RALEIGH WATER REVIEW OFFICER

SITE PERMITTING APPROVAL

WATER AND SEWER PERMITS (IF APPLICABLE)

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC SEWER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT # _____

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S **PUBLIC WATER SYSTEM** AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PERMIT #_____

RALEIGH WATER UTILITY NOTES:

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:
   a) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL
   b) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18'' ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER
   c) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
   d) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
   e) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
   f) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
6. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
7. 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 ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
8. INSTALL ¾" COPPER* WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
9. INSTALL 4" PVC* SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
10. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
11. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION
12. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
13. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION
14. 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
15. NOTICE FOR PROJECTS WITH REPLACED OR OVERSIZED MAINS: IF THE CITY'S REIMBURSEMENT FOR AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT PROJECT IS $250,000 OR GREATER - THE PROJECT MUST BE PUBLICLY BID

811 Know what's below. Call before you dig.

1"=100' — 100' 50' 0 100' 200'

REV.NO.	DESCRIPTIONS	DATE
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057953 PATRICK N. HARTMAN 07/24/2025

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

UTILITY PLAN OVERALL

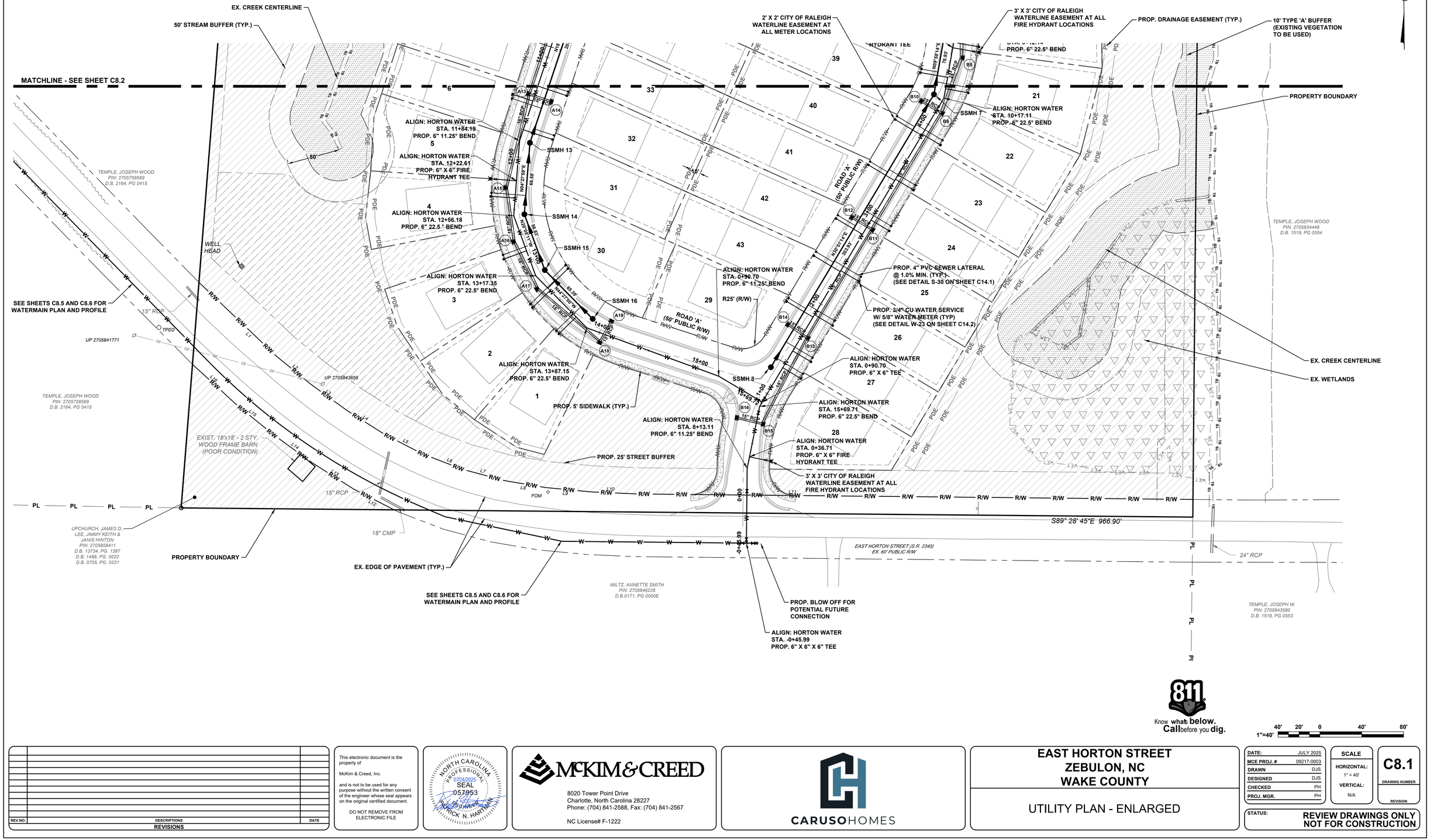
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MCE PROJ. #	09217-0003
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DESIGNED	DJS
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

C8.0
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

I:\09217\0003\ENG\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C8.0 UTILITY PLAN.DWG ---- 07/25/2025 11:14:33



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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

UTILITY PLAN - ENLARGED

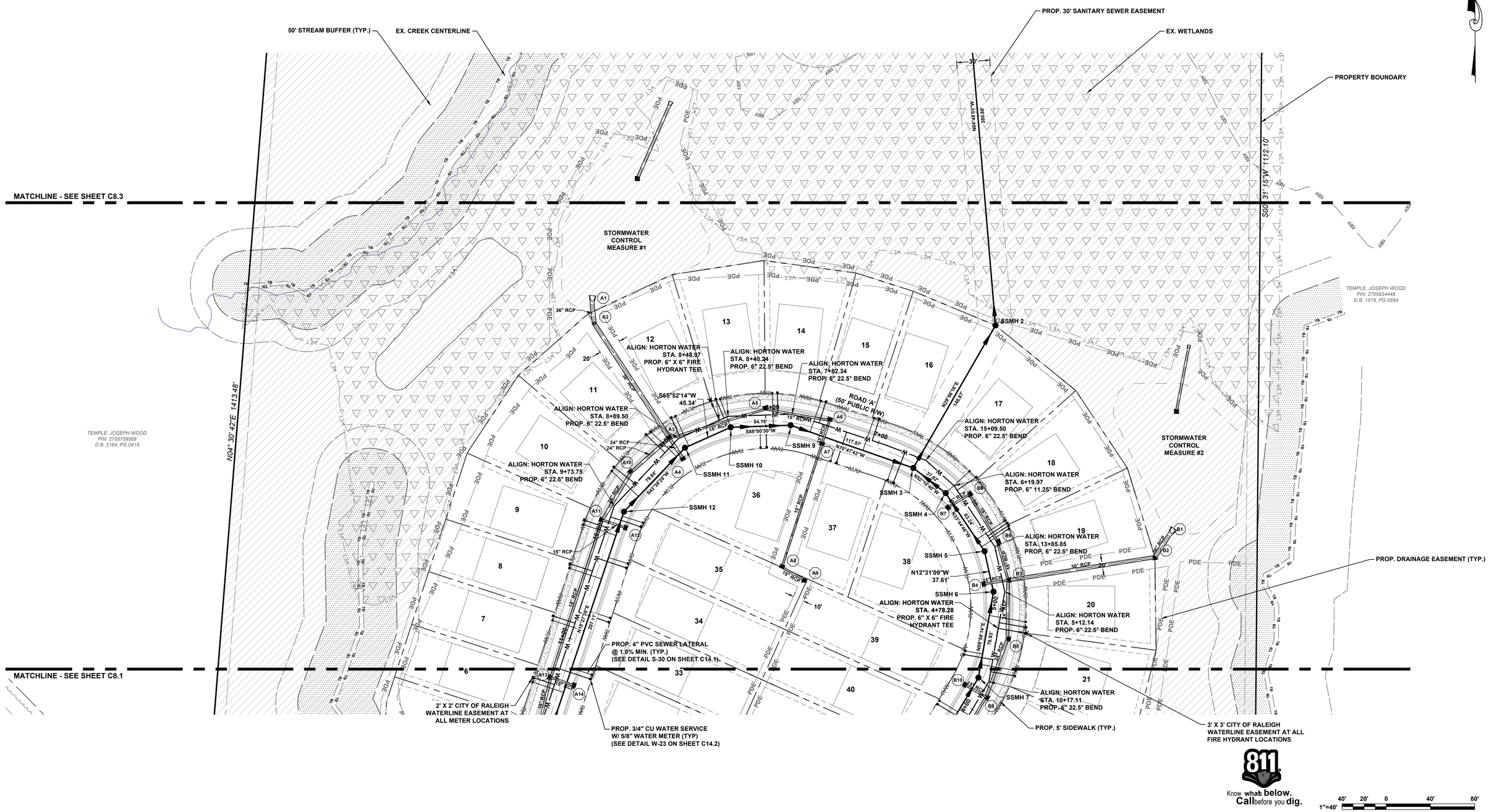
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DESIGNED	DJS
CHECKED	PH
PROJ. MGR.	PH

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HORIZONTAL: 1" = 40'
VERTICAL: N/A

C8.1
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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CARUSOHOMES

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ZEBULON, NC
WAKE COUNTY

UTILITY PLAN - ENLARGED

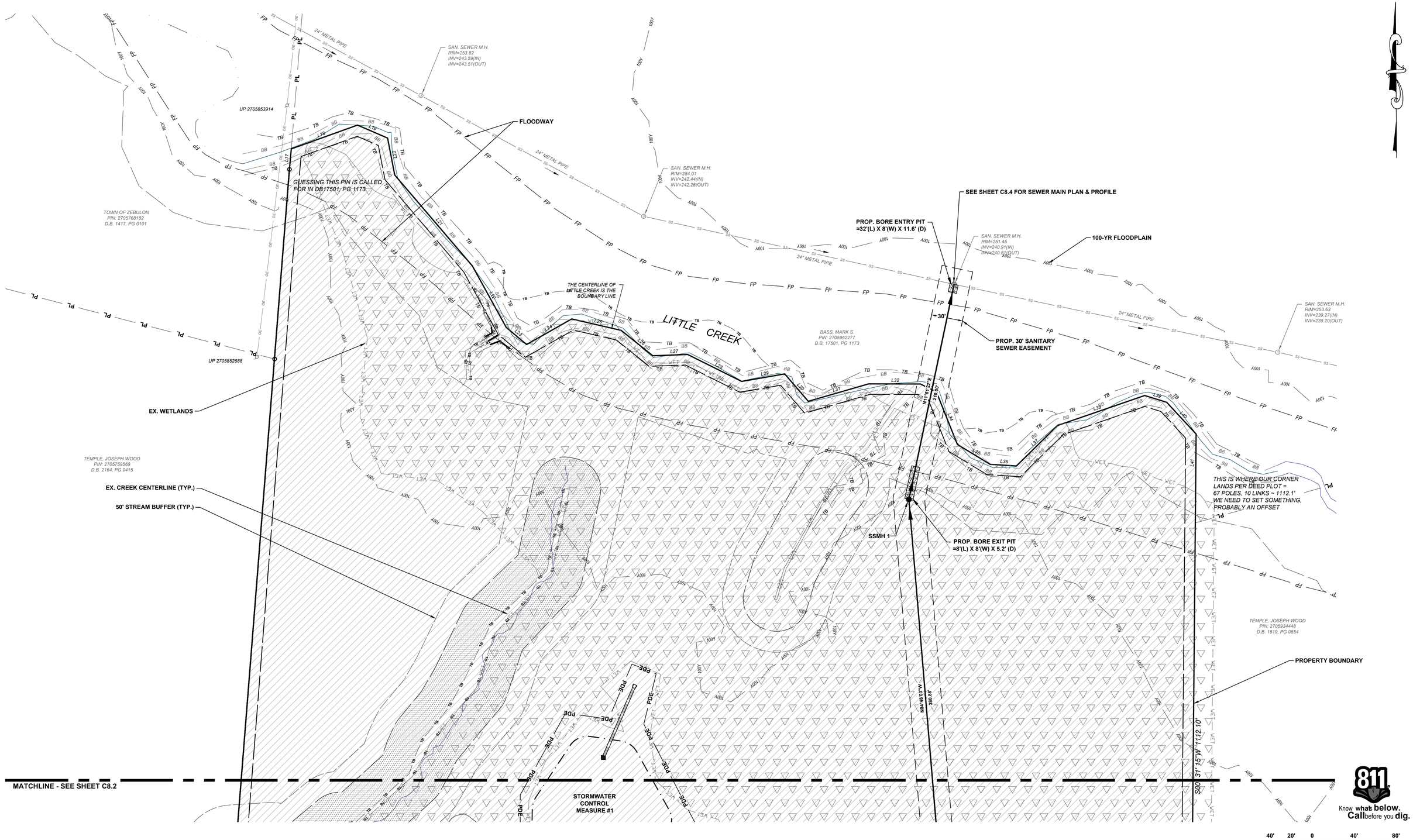
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CHECKED	PH
PROJ. MGR.	PH

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VERTICAL: N/A

C8.2
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REVISION

STATUS: **REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION**

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CARUSOHOMES

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ZEBULON, NC
WAKE COUNTY

UTILITY PLAN - ENLARGED

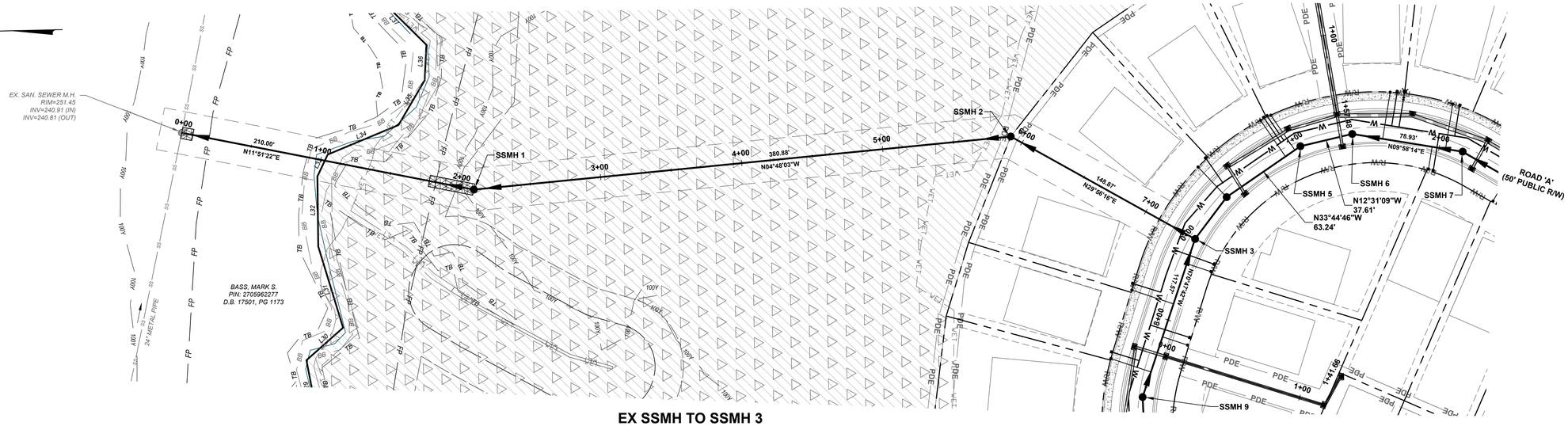
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VERTICAL: N/A

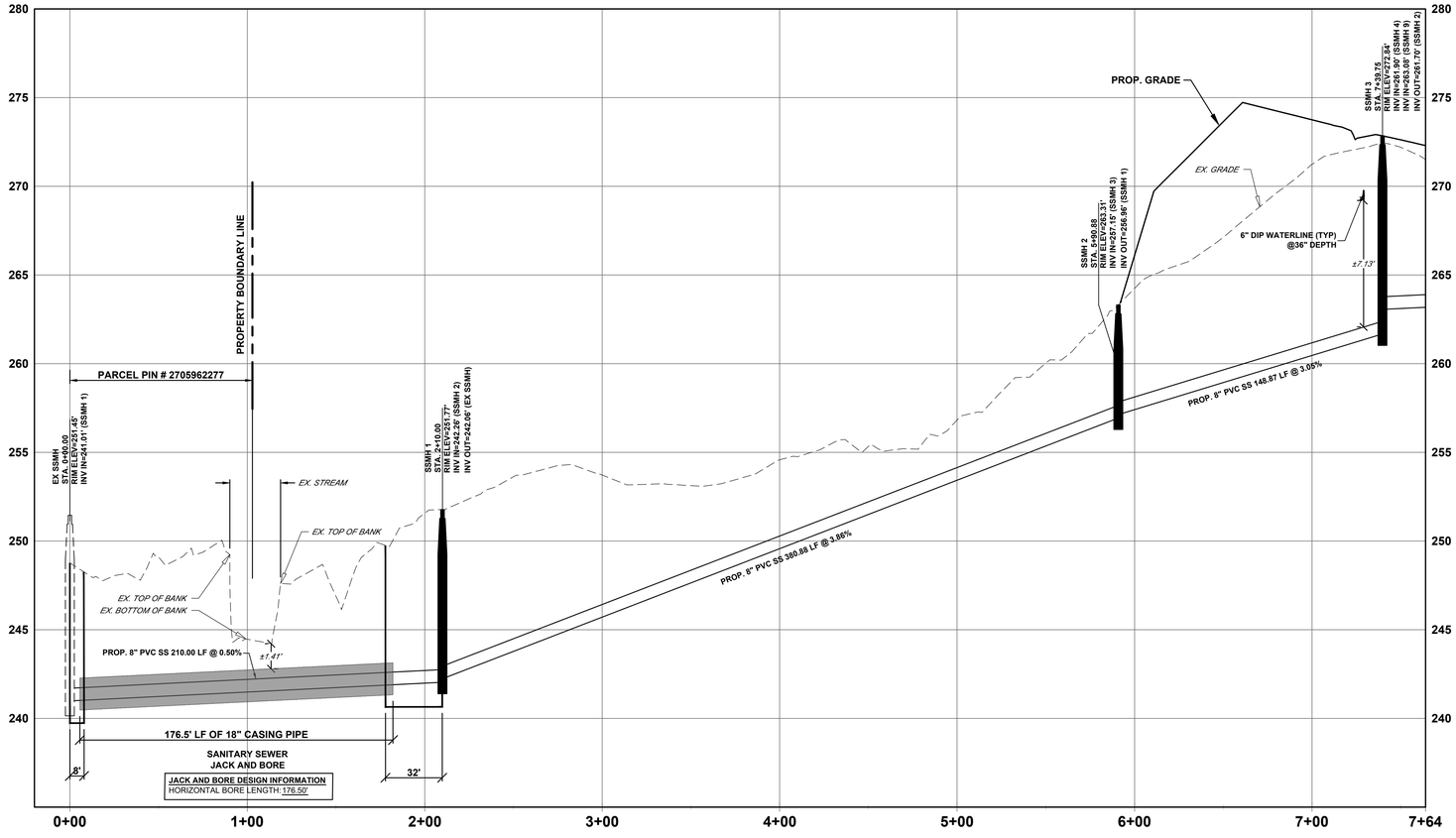
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EX SSMH TO SSMH 3
PLAN AND PROFILE
STA: 0+00 TO STA 9+00



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1"=40' (HORIZ.)
1"=4' (VERT.)

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CARUSOHOMES

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WAKE COUNTY

SEWER PLAN AND PROFILE

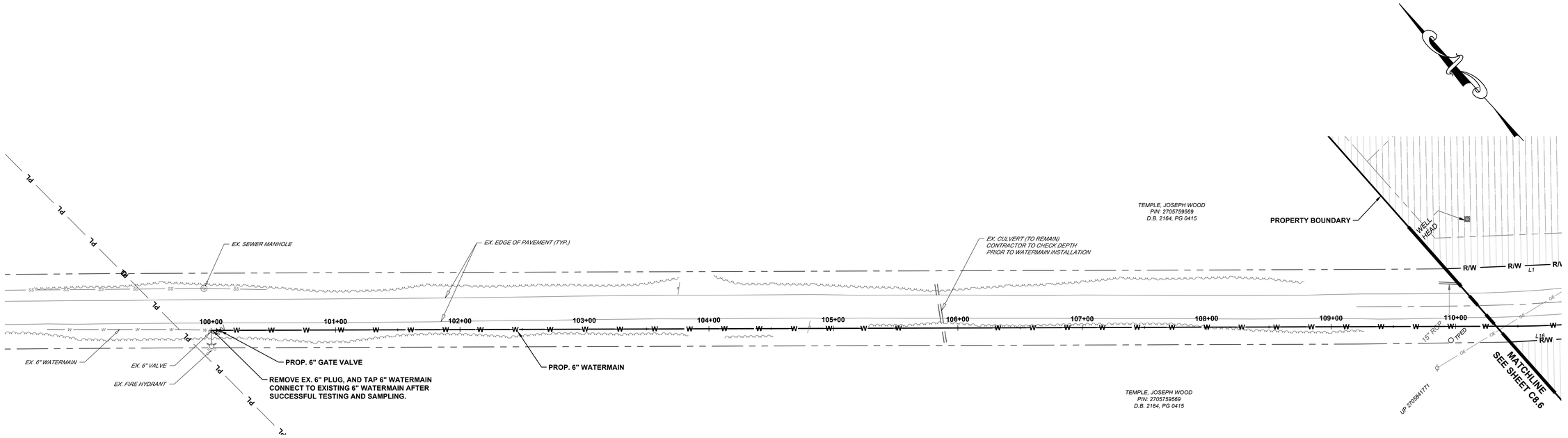
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VERTICAL: 1" = 4'

C8.4
DRAWING NUMBER
REVISION

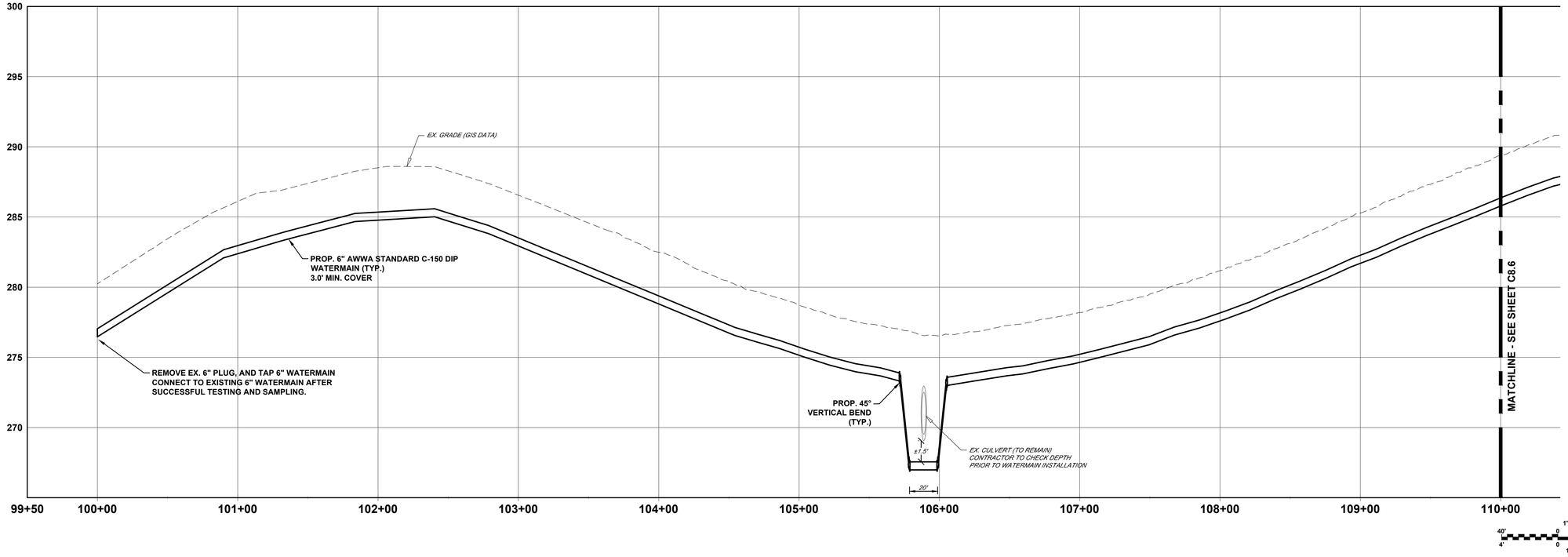
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NOTE: CONTRACTOR TO VERIFY ALL BENDS AND FITTINGS FOR THE 6" WATERMAIN. CONTRACTOR TO ADJUST AS NECESSARY.

WATERMAIN EXTENSION
PLAN AND PROFILE
STA: 100+00 TO STA 110+00



1"=40' (HORIZ.)
1"=4' (VERT.)

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

WATERMAIN EXTENSION PLAN AND PROFILE

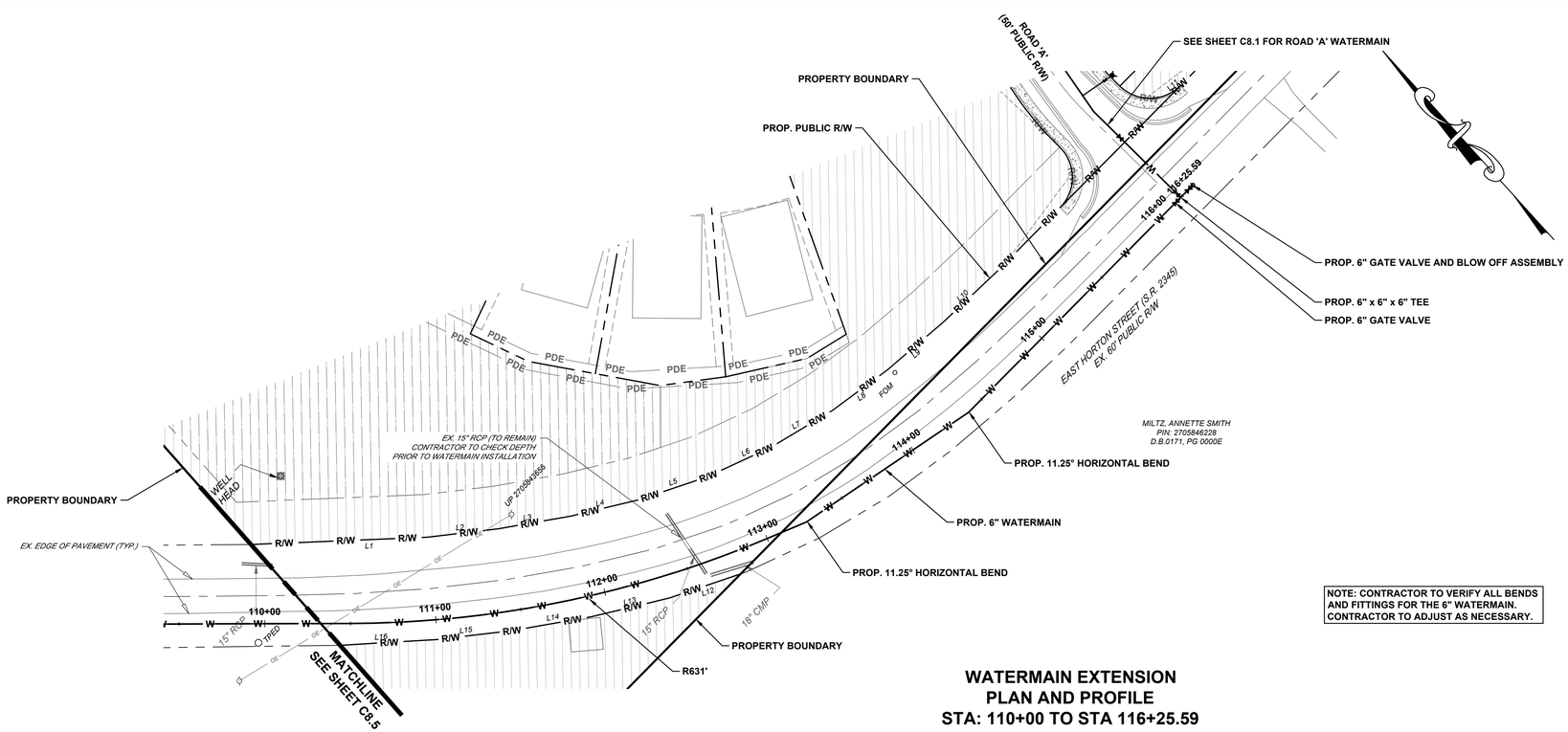
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C8.5
DRAWING NUMBER
REVISION

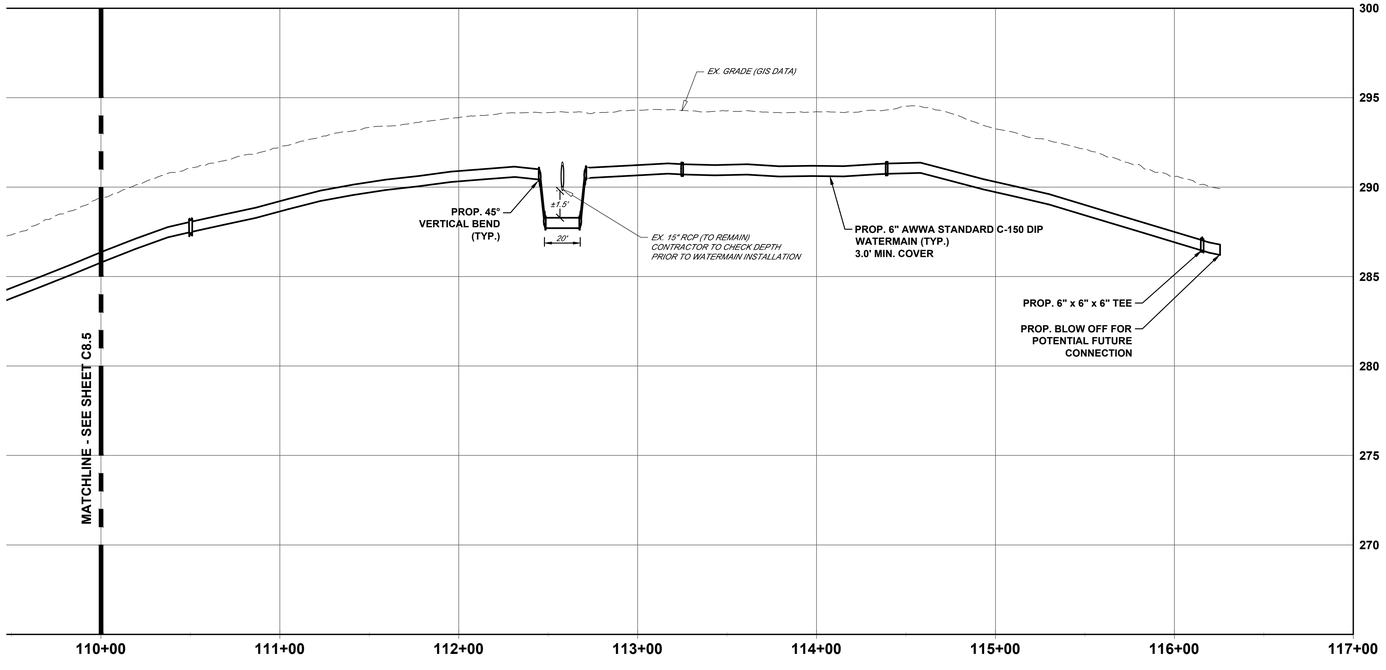
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NOTE: CONTRACTOR TO VERIFY ALL BENDS AND FITTINGS FOR THE 6" WATERMAIN. CONTRACTOR TO ADJUST AS NECESSARY.

WATERMAIN EXTENSION
PLAN AND PROFILE
STA: 110+00 TO STA 116+25.59



1"=40' (HORIZ.)
1"=4' (VERT.)

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WAKE COUNTY

WATERMAIN EXTENSION PLAN AND PROFILE

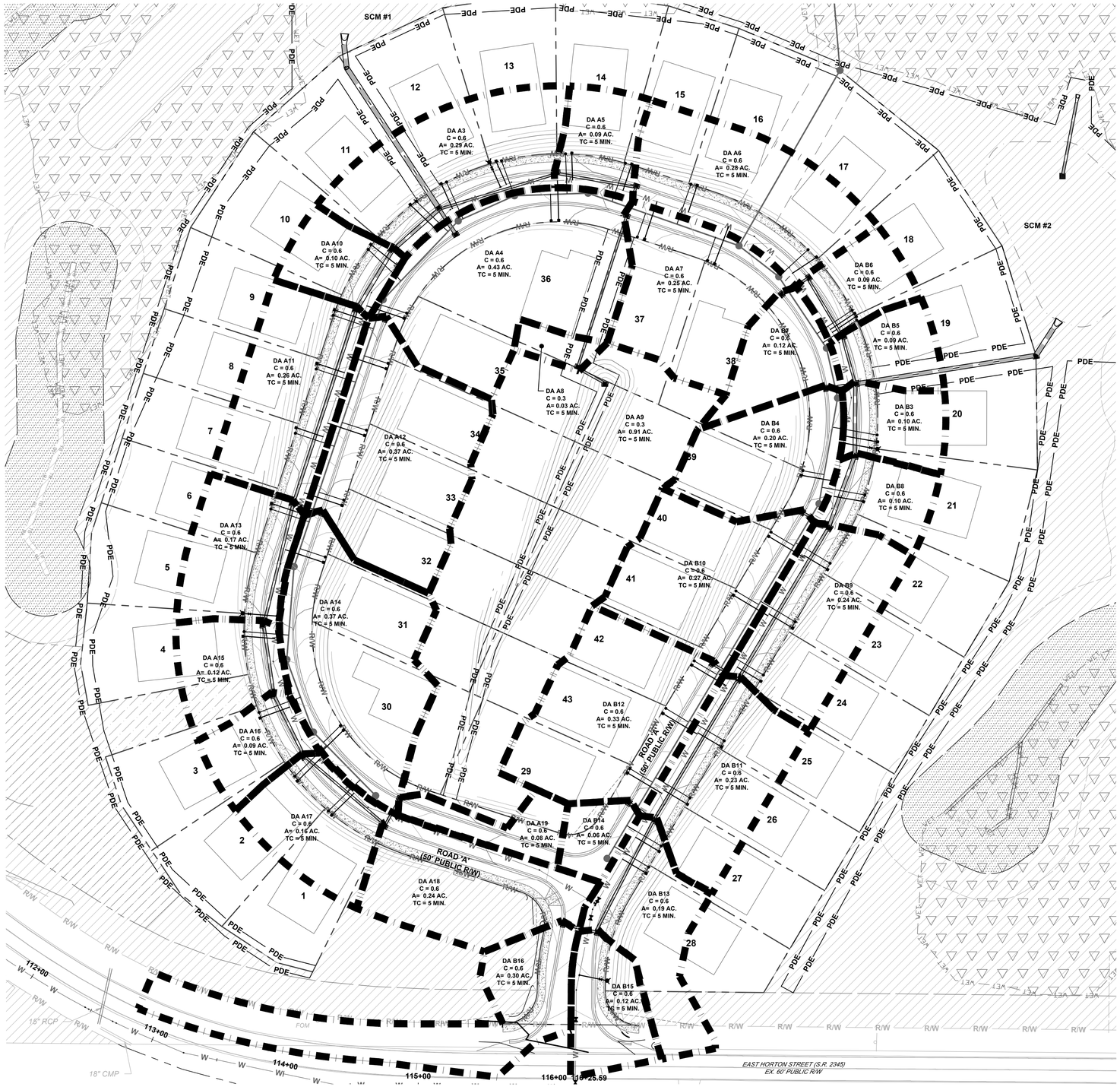
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C8.6
DRAWING NUMBER
REVISION

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1"=100'

100' 50' 0 100' 200'

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

DRAINAGE AREA PLAN

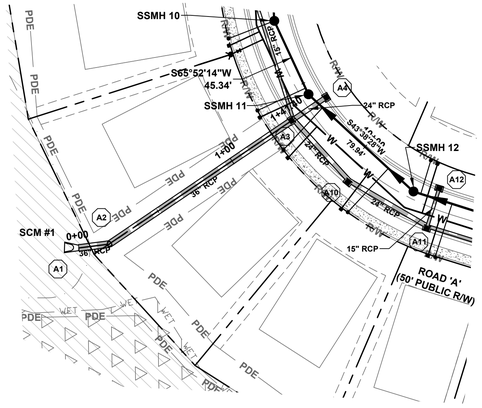
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MCE PROJ. #	09217-0003
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DESIGNED	DJS
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 100'
VERTICAL: N/A

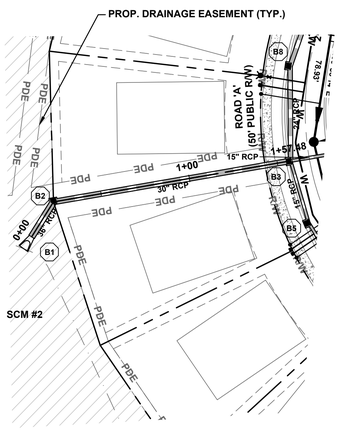
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REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

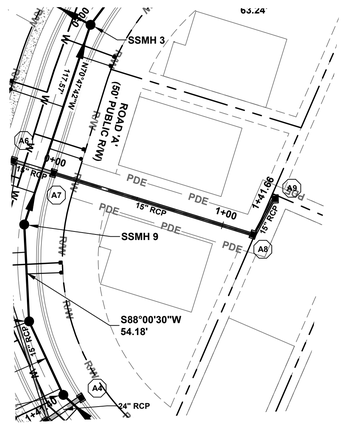
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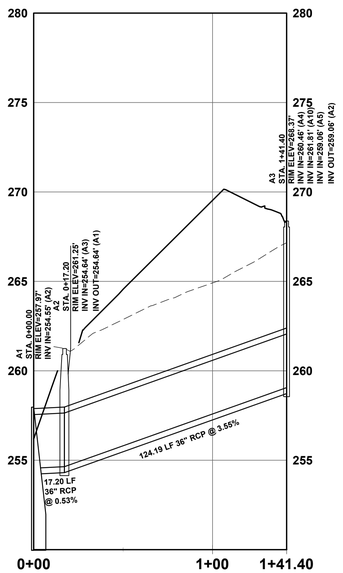
A1 TO A3
PLAN AND PROFILE
STA: 0+00 TO STA 1+41.40

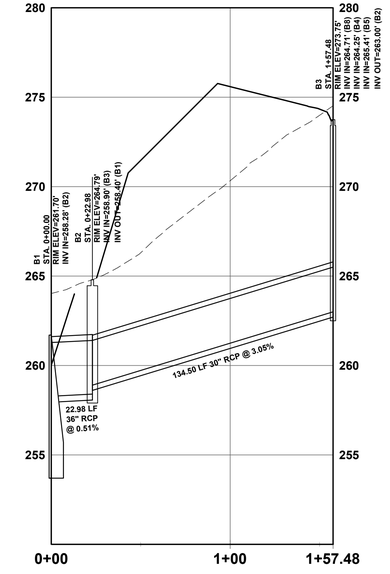


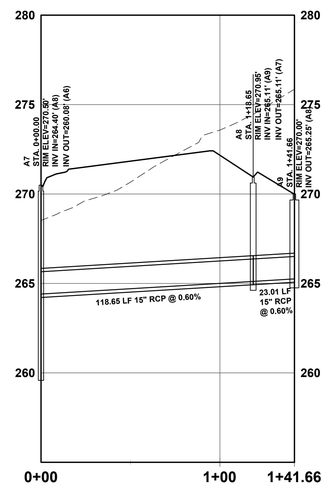
B1 TO B3
PLAN AND PROFILE
STA: 0+00 TO STA 1+57.48



A7 TO A9
PLAN AND PROFILE
STA: 0+00 TO STA 1+41.66







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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

STORM PLAN AND PROFILE

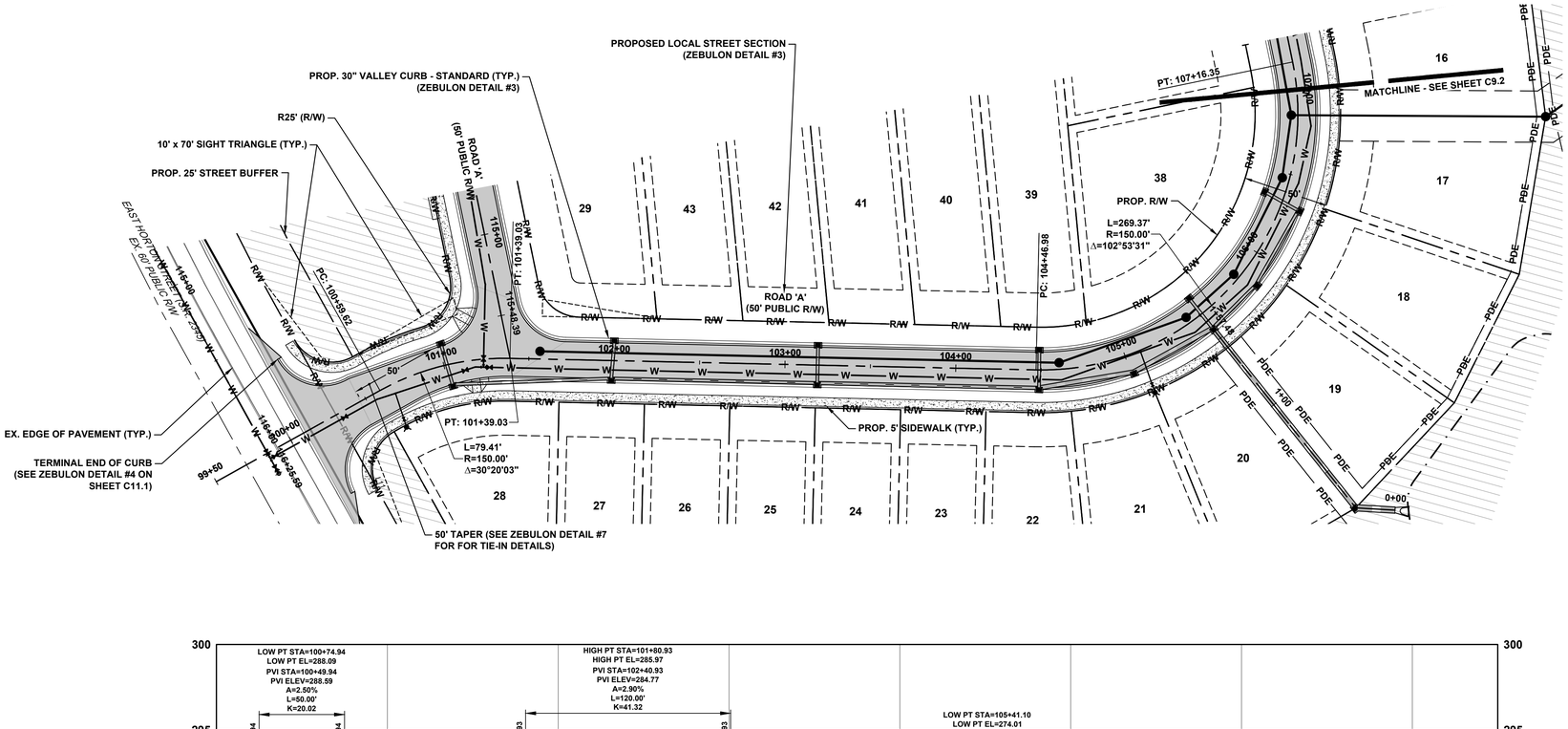
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PROJ. MGR.	PH

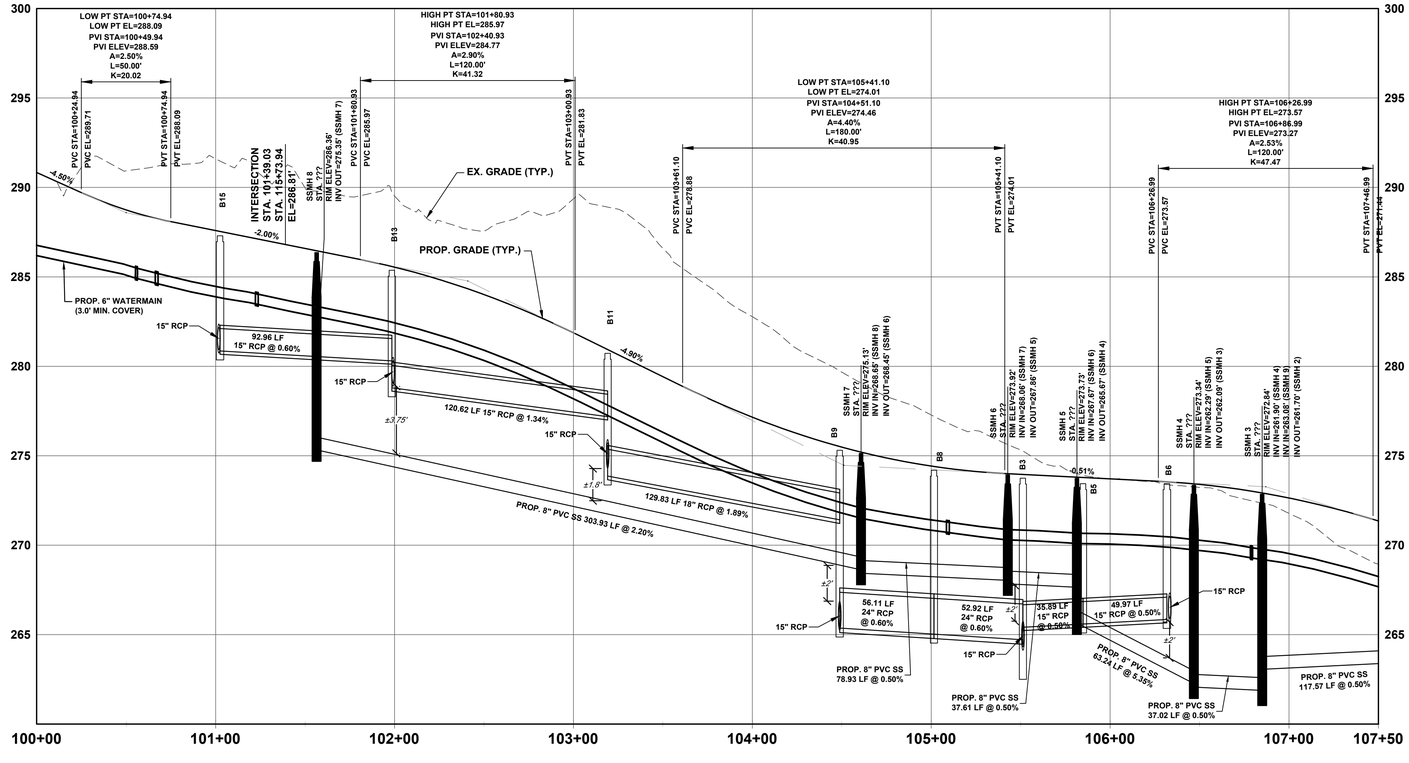
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HORIZONTAL: 1" = 40'
VERTICAL: 1" = 40'

C8.8
DRAWING NUMBER
REVISION

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I:\09217\0003\ENG\80-DRAWINGS\81_PRODUCTION_SHEETS\2_WORKING_DWGS\C8.8 STORM PROFILES.DWG ---- 07/25/2025 11:17:31





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	REVISIONS	

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NORTH CAROLINA PROFESSIONAL 07/24/2025 SEAL 057953 ENGINEER PATRICK N. HARTMAN

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

ROAD A - PLAN AND PROFILE

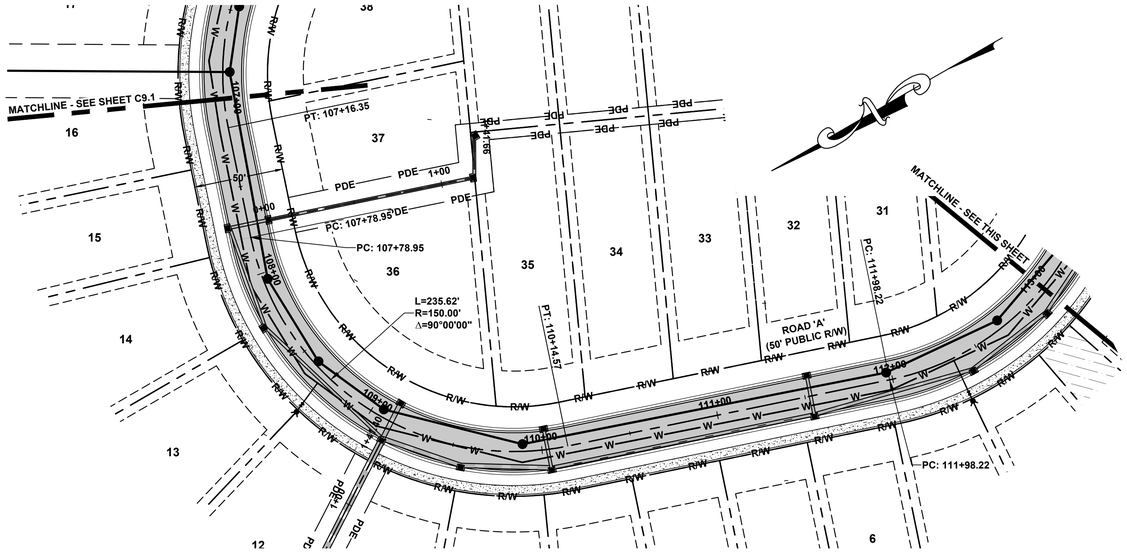
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

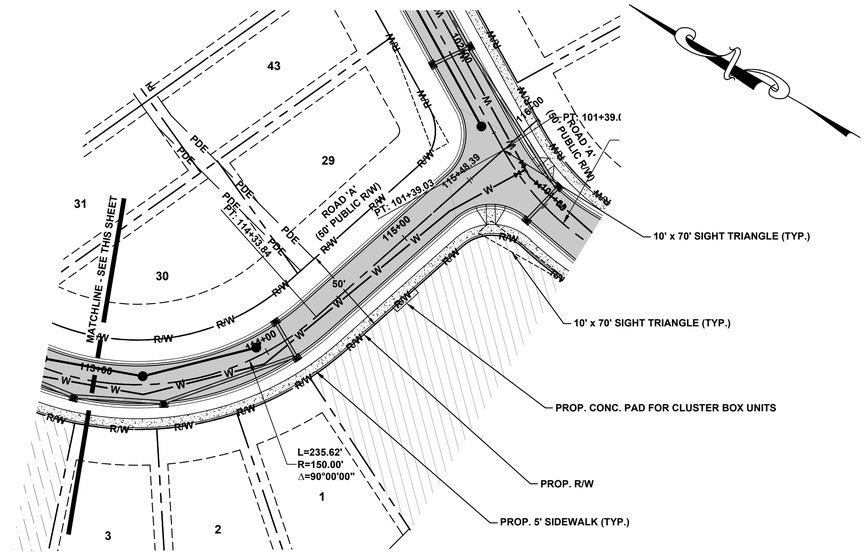
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HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

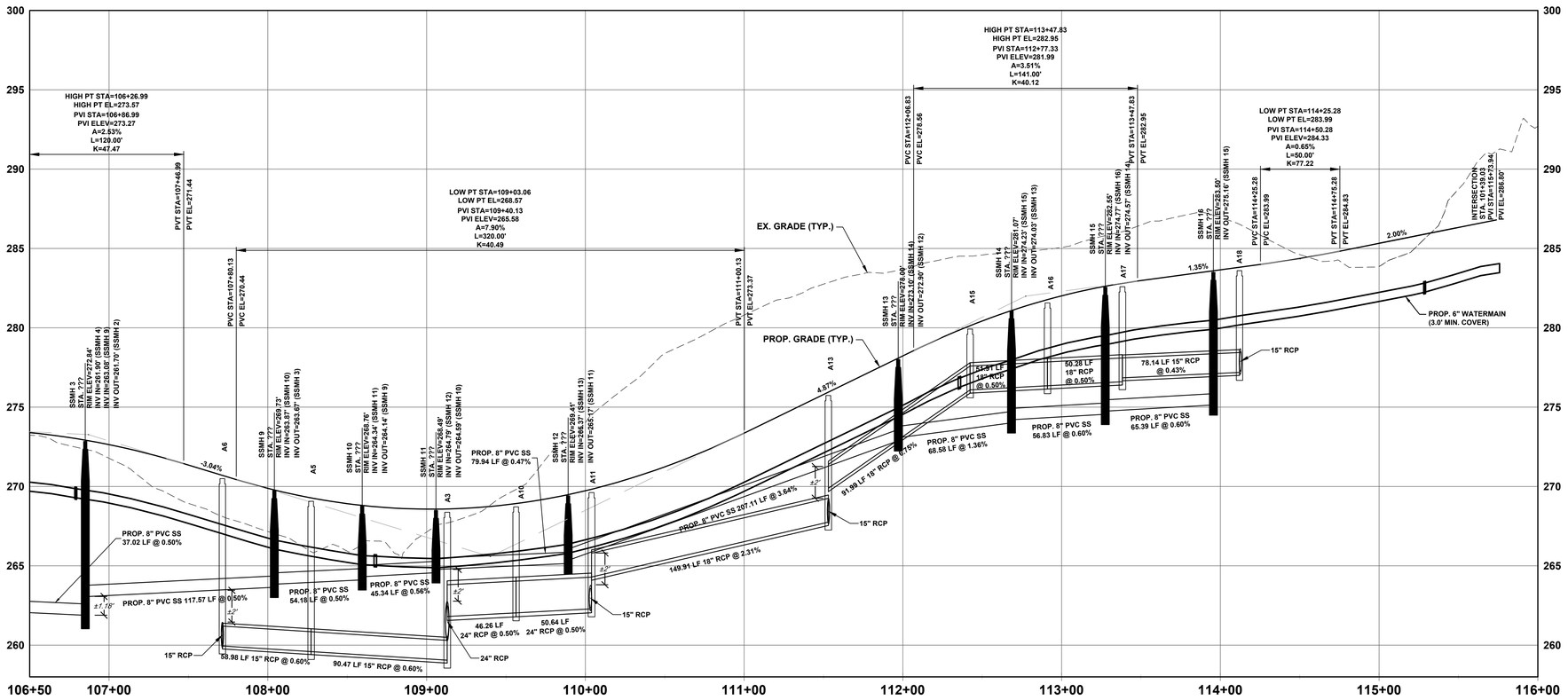
C9.1
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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ZEBULON, NC
WAKE COUNTY

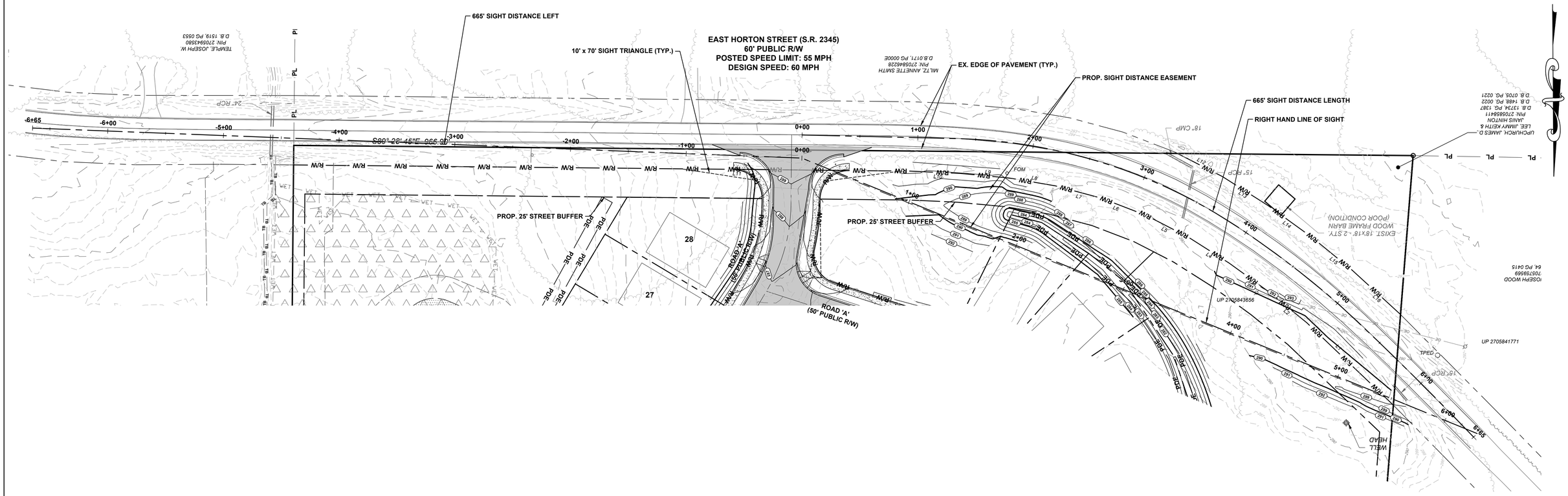
ROAD A - PLAN AND PROFILE

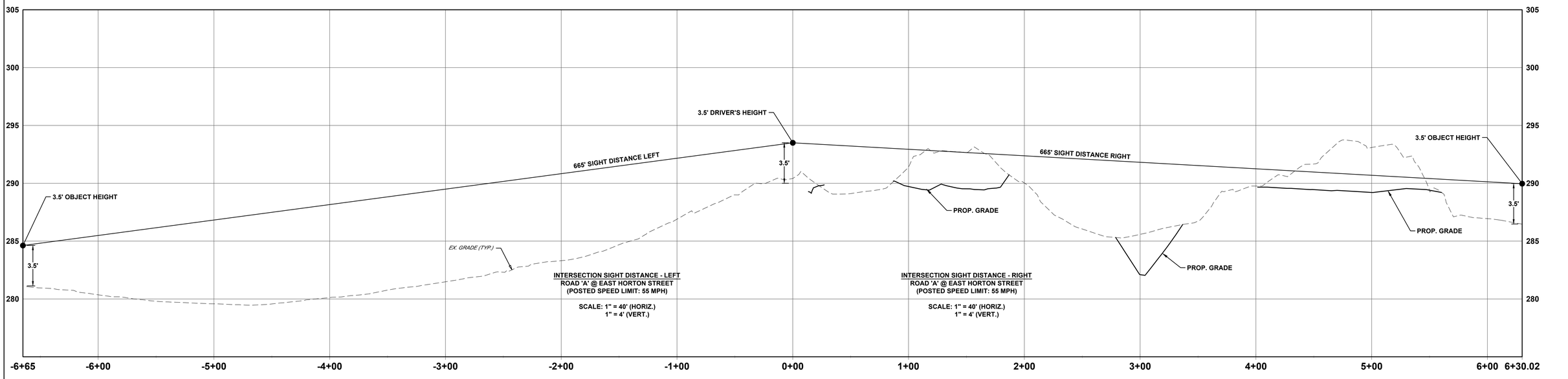
DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C9.2
DRAWING NUMBER
REVISION

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INTERSECTION SIGHT DISTANCE - LEFT
ROAD 'A' @ EAST HORTON STREET
(POSTED SPEED LIMIT: 55 MPH)

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

INTERSECTION SIGHT DISTANCE - RIGHT
ROAD 'A' @ EAST HORTON STREET
(POSTED SPEED LIMIT: 55 MPH)

SCALE: 1" = 40' (HORIZ.)
1" = 4' (VERT.)

1"=40' 40' 20' 0 40' 80'

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

SIGHT DISTANCE - PLAN AND PROFILE (60 MPH DESIGN SPEED)

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

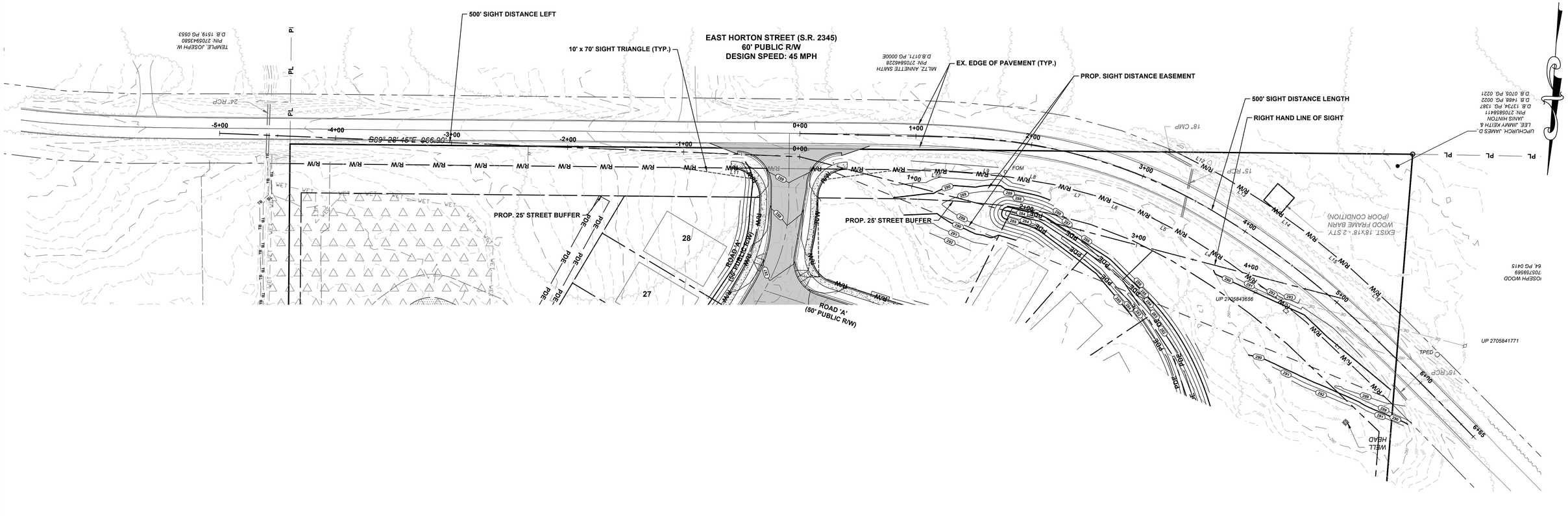
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VERTICAL: 1" = 4'

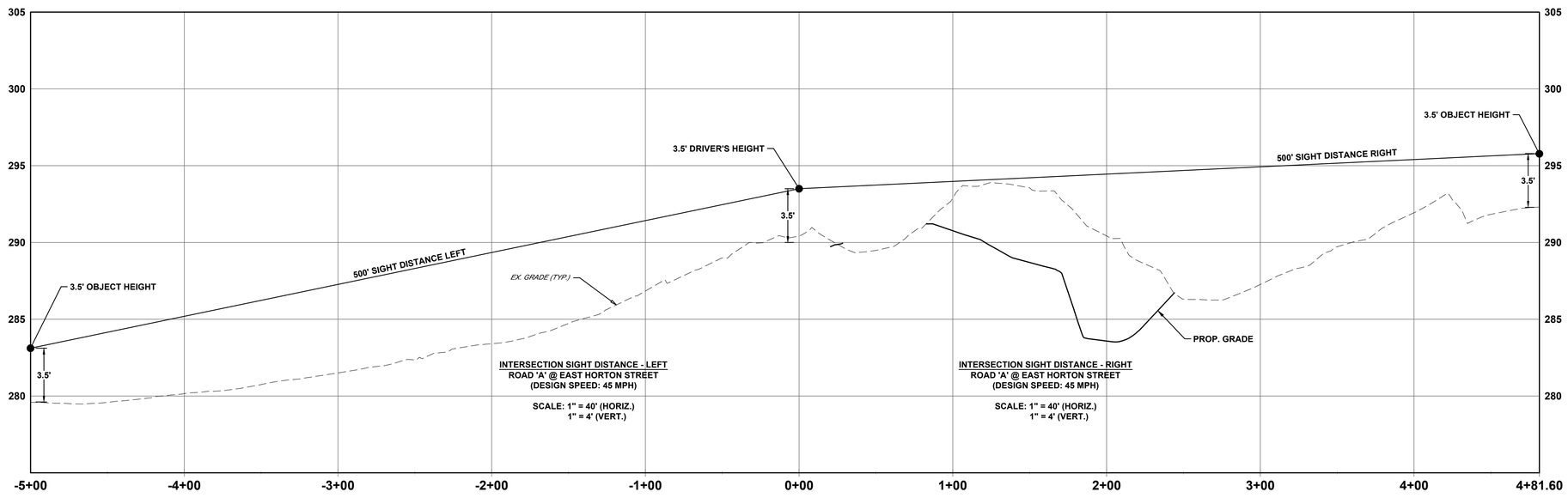
C9.3
DRAWING NUMBER

REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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40' 20' 0 40' 80'
1"=40'

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

SIGHT DISTANCE - PLAN AND PROFILE (45 MPH DESIGN SPEED)

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

C9.4
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

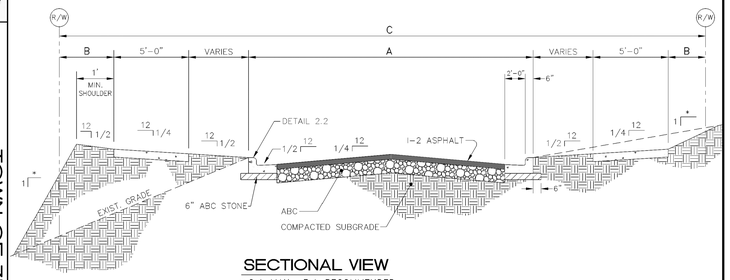
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TOWN OF ZEBULON

TYPICAL CURB & GUTTER STREET STANDARDS

USE WITH STANDARD SPECIFICATIONS ONLY

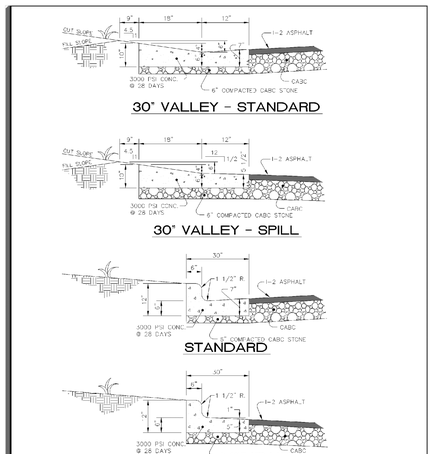
SCALE: NOT TO SCALE	DETAIL #: 1
DATE: JULY 2010	SHEET #: 1 OF 1



SECTIONAL VIEW

* 2:1 MAX., 3:1 RECOMMENDED

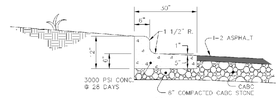
GEOMETRIC PROPERTIES					
CLASSIFICATION	A BACK TO BACK (FT)	B BACK TO BACK (FT)	PAVEMENT SECTION SF9.5	PAVEMENT SECTION CABC	C (ft)
CUL-DE-SAC	26'	N/A	3"	8"	50'
LOCAL STREET	26'	1' FROM R/W	3"	8"	50'
RESIDENTIAL COLLECTOR	35'	1' FROM R/W	4"	8"	60'
THOROUGHFARE	PER THOROUGHFARE PLAN	VARIES	SEE NCDOT STANDARDS	SEE NCDOT STANDARDS	SEE NCDOT STANDARDS



30° VALLEY - STANDARD

30° VALLEY - SPILL

STANDARD



SPILL

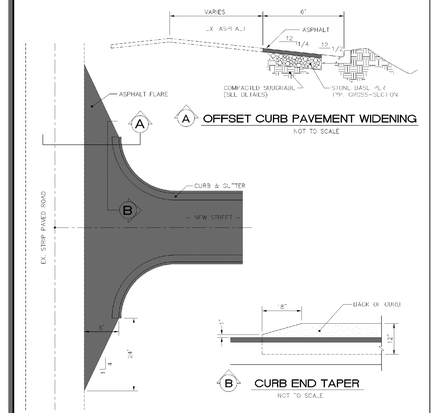
NOTES:
1. SCORE CURB / VALLEY GUTTER AT 15' O.C.
2. PROVIDE 1/2" EXPANSION JOINTS AT 90' O.C.
3. FOR TRANSITION OF CURB TO CURB OPENING INLET, SEE STANDARD DETAIL 33.

TOWN OF ZEBULON

STD. CURB & GUTTER & VALLEY GUTTER DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 3
DATE: JULY 2010	SHEET #: 1 OF 1

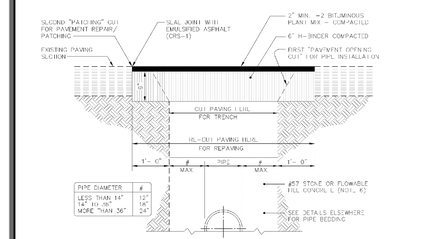


TOWN OF ZEBULON

TERMINAL END OF CURB at SHOULDER SECTIONS

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 4
DATE: JULY 2010	SHEET #: 1 OF 1



SECTIONAL VIEW

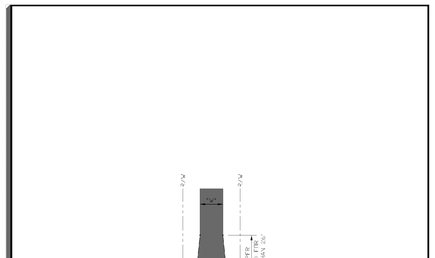
NOTES:
1. PAVEMENT REPAIRS SHALL HAVE 6" COMPACTED H-BINDER AND 2" TOPPING OF SF9.5B.
2. TRENCH IS TO BE BACK FILLED IN 6" LIFTS AND COMPACTED TO 98% STANDARD DENSITY AS DETERMINED BY AASHTO TEST METHOD T-99 OR ASTM D-698 BEFORE PAVEMENT REPAIRS ARE MADE.
3. COMPACTION TEST MAY BE REQUIRED AT REQUEST OF INSPECTOR.
4. ALL EXISTING PAVED STREETS AND SECONDARY ROADS WHICH ARE OPEN CUT TO INSTALL SEWER OR WATER PIPE, MUST BE REPAIRED ACCORDING TO THIS DETAIL.
5. CABC BACKFILL IS NOT ALLOWED IN ANY PART OF TRENCH WITHIN PAVEMENT.
6. FIBER OPTIC & GAS: #57 STONE OR FLOWABLE FILL CONCRETE (MINIMUM 50 PSI) BUT MIN. 6" COMPACTED CLASS II OR III (DEFINITION IN SECTION 02210 - PARAGRAPH 3B OF SPECS) FILL OVER TOP OF FIBER OPTIC CABLE OR GAS PIPE.

TOWN OF ZEBULON

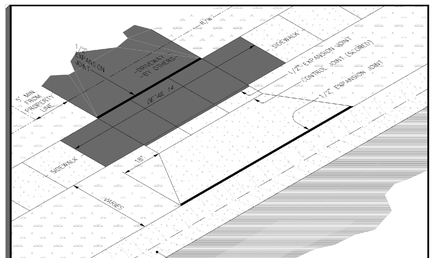
FULL DEPTH ASPHALT REPAIR DETAIL FOR UTILITY CUTS

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 6
DATE: JULY 2010	SHEET #: 1 OF 1

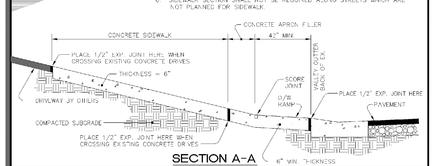


PLAN VIEW



PERSPECTIVE

NOTES:
1. RESIDENTIAL DRIVEWAY TO BE 10' TO 24' IN WIDTH.
2. COMMERCIAL AND INDUSTRIAL DRIVEWAYS TO BE A MAXIMUM OF 36' WIDE.
3. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS AIR ENTRAINED.
4. CURB SHALL BE TAPERED TO FINISH FLUSH WITH SIDEWALK.
5. BEGINNING RADIUS SHALL NOT ENCROACH ON ADJACENT PROPERTIES BASED ON A PROJECTION OF PROPERTY LINE FROM THE RIGHT-OF-WAY TO THE CURB LINE.
6. SIDEWALK SECTION SHALL NOT BE REQUIRED ALONG STREETS WHICH ARE NOT PLANNED FOR SIDEWALK.



SECTION A-A

TOWN OF ZEBULON

TIE-IN OF STREETS at DOT SHOULDER ROADS - STREETS

USE WITH STANDARD SPECIFICATIONS ONLY

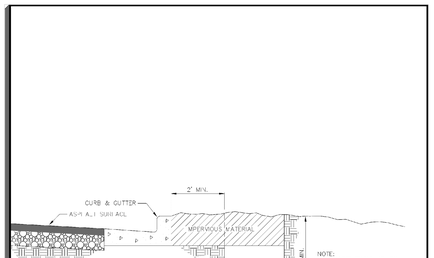
SCALE: NOT TO SCALE	DETAIL #: 7
DATE: JULY 2010	SHEET #: 1 OF 1

TOWN OF ZEBULON

FLARED DRIVEWAY ENTRANCE TO VALLEY GUTTER

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 9
DATE: JULY 2010	SHEET #: 1 OF 1



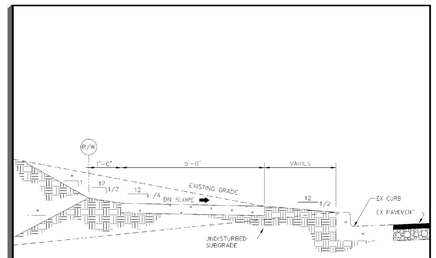
SECTIONAL VIEW

TOWN OF ZEBULON

STD. SUBDRAIN BEHIND CURB & GUTTER

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 11
DATE: JULY 2010	SHEET #: 1 OF 1



* VARIES, MAXIMUM SLOPE 2:1 UNLESS SHOWN OTHERWISE

SECTIONAL VIEW

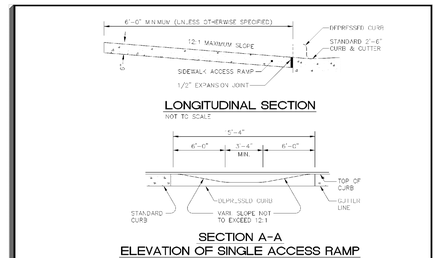
1. PROVIDE 3/4" DEEP TOOLED SCORE AT 5'-0" O.C.
2. EXPANSION JOINTS TO BE PLACED 30'-0" O.C. LONGITUDINALLY, ADJACENT TO CURBS, AND WHEN BUTTING EXISTING STRUCTURES, CONCRETE, OR BUILDINGS.
3. CONCRETE TO BE 3000 P.S.I. AT 28 DAYS, AIR-ENTRAINED.
4. SUBGRADE SHOULD NOT CONTAIN ORGANIC MATTER OR PLASTIC CLAYS. WHEN FOUND, REFER TO SPECS OR CONTACT ENGINEER FOR DIRECTIONS.
5. AREAS OF FILL ARE TO BE COMPACTED TO 95% STANDARD PROCTOR USING NCDOT CLASS III BORROW OR BETTER. REMOVE TOPSOIL BEFORE PLACING BORROW.
6. SIDEWALK TRANSVERSE SLOPE MAY INCREASE TO 1/2 IN 12 WITH TOWN'S ENGINEER APPROVAL.

TOWN OF ZEBULON

TYP SIDEWALK in CUT or FILL SECTIONS

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 13
DATE: JULY 2010	SHEET #: 1 OF 1

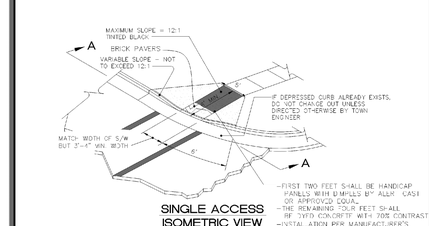


LONGITUDINAL SECTION

NOT TO SCALE

SECTION A-A
ELEVATION OF SINGLE ACCESS RAMP

NOT TO SCALE



SINGLE ACCESS ISOMETRIC VIEW

TOWN OF ZEBULON

SINGLE HANDICAP RAMP DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE	DETAIL #: 20
DATE: JULY 2010	SHEET #: 1 OF 1

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EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

ZEBULON DETAILS

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

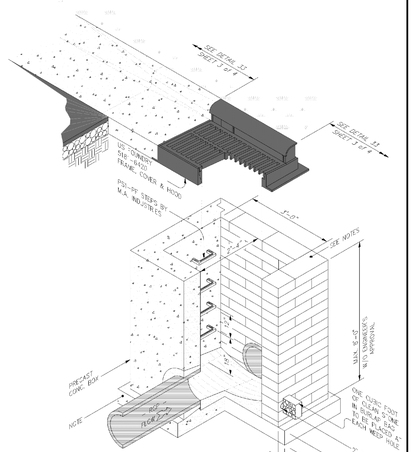
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VERTICAL:	N/A

C11.1
DRAWING NUMBER

REVISION

STATUS: **REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION**

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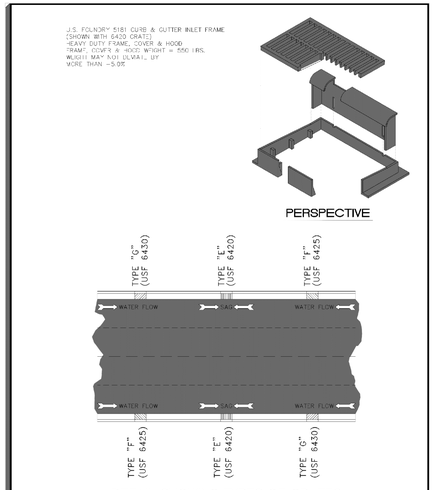
PERSPECTIVE

TOWN OF ZEBULON

STD. C&G INLET W/HOOD DETAIL

SCALE: NOT TO SCALE | DETAIL # 33
DATE: JULY 2010 | SHEET # 1 OF 4

USE WCH STANDARD SPECIFICATIONS ONLY

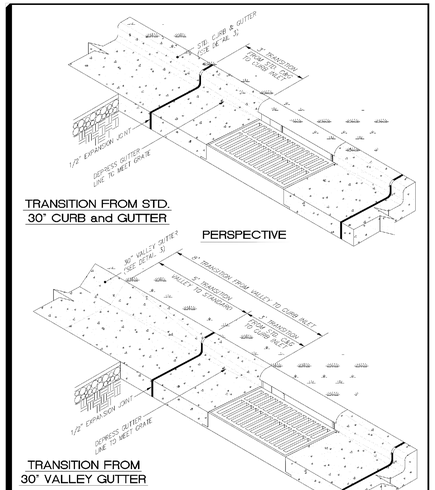


TOWN OF ZEBULON

STD. C&G INLET W/HOOD DETAIL

SCALE: NOT TO SCALE | DETAIL # 33
DATE: JULY 2010 | SHEET # 2 OF 4

USE WCH STANDARD SPECIFICATIONS ONLY

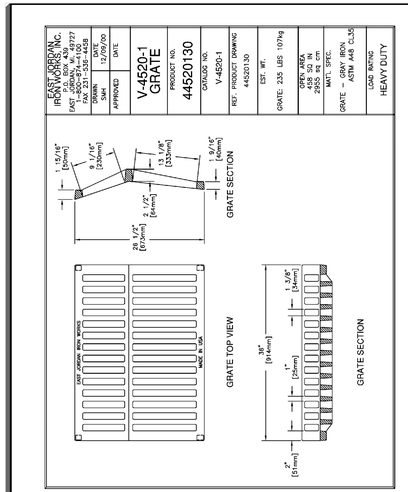


TOWN OF ZEBULON

STD. TRANSITION FROM INLET TO STD. C&G / VALLEY GUTTER

SCALE: NOT TO SCALE | DETAIL # 33
DATE: JULY 2010 | SHEET # 3 OF 4

USE WCH STANDARD SPECIFICATIONS ONLY



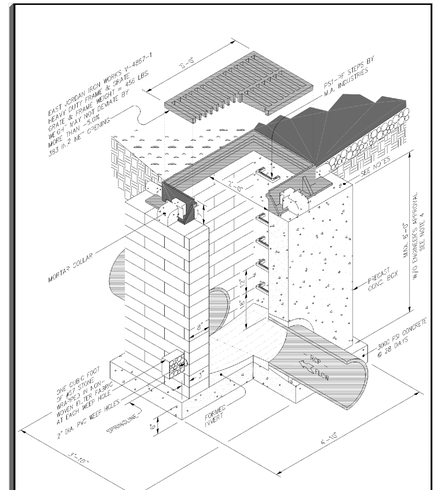
NOTE: USE EAST JORDAN IRON WORKS V-4520-1 GRATE OR EQUIVALENT BY US FOUNDRY.

TOWN OF ZEBULON

DETAIL FOR STORM DRAIN WITH DRIVEWAY CONFLICT

SCALE: NOT TO SCALE | DETAIL # 33
DATE: JULY 2010 | SHEET # 4 OF 4

USE WCH STANDARD SPECIFICATIONS ONLY

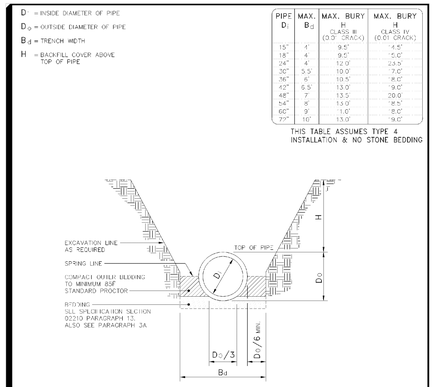


TOWN OF ZEBULON

2'x3' DROP INLET

SCALE: NOT TO SCALE | DETAIL # 34
DATE: JULY 2010 | SHEET # 1 OF 1

USE WCH STANDARD SPECIFICATIONS ONLY



PIPE D_i	MAX. B_d	MAX. BURY H CLASS III (0.3" CRACK)	MAX. BURY H CLASS IV (0.01 CRACK)
15"	4'	9.5'	4.5'
18"	4'	9.5'	5.0'
24"	4'	12.0'	23.5'
30"	5.5'	10.0'	7.0'
36"	6'	10.5'	8.0'
42"	6.5'	13.0'	9.0'
48"	7'	13.5'	20.0
54"	8'	13.0'	8.5'
60"	9'	1.0'	8.0'
72"	10'	13.0'	9.0'

THIS TABLE ASSUMES TYPE 4 INSTALLATION & NO STONE BEDDING

SECTIONAL VIEW

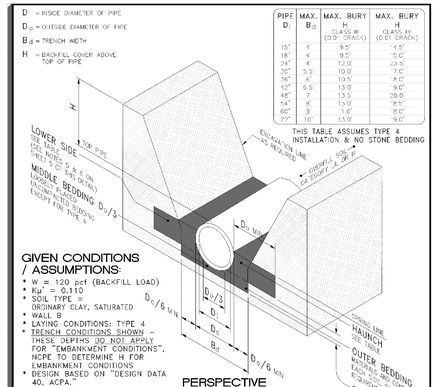
NOTES:
1. FOR OTHER BURY DEPTHS THAN SHOWN (H), NORTH CAROLINA PE TO PROVIDE CALCS ON PIPE BURY THAT EXCEED THOSE GIVEN IN THIS CHART FOR THE CONDITIONS IN WHICH IT IS PROPOSED TO BE USED.
2. THIS TABLE OF BURY DEPTHS (H) APPLIES EQUALLY TO A CLASS C STONE BEDDING, TYPE 4 LAYING CONDITIONS.
3. MINIMUM COVER NOT SHOWN BUT NO LESS THAN 12" W/O ENGINEERS APPROVAL UP TO 48" PIPE.

TOWN OF ZEBULON

STD. TRENCH INSTALLATION FOR CONCRETE PIPE (FOR CONTRACTOR'S USE)

SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 1 OF 5

USE WCH STANDARD SPECIFICATIONS ONLY



PIPE D_i	MAX. B_d	MAX. BURY H CLASS III (0.3" CRACK)	MAX. BURY H CLASS IV (0.01 CRACK)
15"	4'	9.5'	4.5'
18"	4'	9.5'	5.0'
24"	4'	12.0'	23.5'
30"	5.5'	10.0'	7.0'
36"	6'	10.5'	8.0'
42"	6.5'	13.0'	9.0'
48"	7'	13.5'	20.0
54"	8'	13.0'	8.5'
60"	9'	1.0'	8.0'
72"	10'	13.0'	9.0'

THIS TABLE ASSUMES TYPE 4 INSTALLATION & NO STONE BEDDING

GIVEN CONDITIONS / ASSUMPTIONS:
* W = 120 pcf (BACKFILL LOAD)
* $K\mu'$ = 0.110
* SOIL TYPE = ORDINARY CLAY, SATURATED
* WALL B
* LAYING CONDITIONS: TYPE 4
* TRENCH CONDITIONS SHOWN – THESE DEPTHS DO NOT APPLY FOR "EMBANKMENT CONDITIONS", NCPE TO DETERMINE H FOR EMBANKMENT CONDITIONS
* DESIGN BASED ON "DESIGN DATA 40, ACPA."
* CLASS C BEDDING (1350 plf PER FI OF INTERNAL DIA.) CLASS III, ASTM C-76 (2000 plf PER FI OF INTERNAL DIA.) CLASS IV, ASTM C-76

NOTES:
1. GREATER DEPTHS ARE ACHIEVABLE BY EITHER CONTROLLING BACKFILL TYPE, NARROWING TRENCH WIDTH BUT SUPPLY SUFFICIENT ROOM FOR COMPACTION, IMPROVING BEDDING OR LOADING TO ULTIMATE LOAD (Du). FOR OTHER BURY DEPTHS THAN SHOWN (H), NORTH CAROLINA PE TO PROVIDE CALCS ON PIPE BURY THAT EXCEED THOSE GIVEN IN THIS CHART FOR THE CONDITIONS IN WHICH IT IS PROPOSED TO BE USED.
2. THIS TABLE OF BURY DEPTHS (H) APPLIES EQUALLY TO A CLASS C STONE BEDDING, TYPE 4, LAYING CONDITIONS
3. MINIMUM COVER NOT SHOWN
4. MAXIMUM BURY TABLE FOR "TRENCH CONDITIONS" PER THE DETAIL SHOWN THIS SHEET

TOWN OF ZEBULON

STD. TRENCH INSTALLATION FOR CONCRETE PIPE (FOR ENGINEER'S USE)

SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 2 OF 5

USE WCH STANDARD SPECIFICATIONS ONLY

Table 1 Equivalent USCS and AASHTO Soil CLassification for SIDD Soil Designations

	Representative Soil Types		Percent Compaction	
SIDD Soil	USCS,	AASHTO	Standard Proctor	Modified Proctor
Gravelly Sand (Category I)	SW, SP, GW, GP	A1,A3	100 95 90 85 80 67	95 90 85 80 75 59
Sandy Silt (Category II)	GM, SM, ML Also GC, SC with less than 20% passing #200 sieve	A2,A4	100 95 90 85 80 49	95 90 85 80 75 46
Silty Clay (Category III)	CL, MH GC, SC	A5,A6	100 95 90 85 80 45	90 85 80 75 70 40
	OH		100 95 90 85 80 45	90 85 80 75 70 40

TOWN OF ZEBULON

STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)

SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 3 OF 5

USE WCH STANDARD SPECIFICATIONS ONLY

Table 2 Standard EMBANKMENT Installation Soils and Minimum Compaction Requirements

Installation Type*	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	D_O/24 minimum, not less than 75 mm (3"). If rock foundation use D_O/12 minimum, not less than 150 mm (6").	98% Category I	90% Category I, 95% Category II, or 100% Category III
Type 2	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	90% Category I or 95% Category I	85% Category I, 90% Category II, or 95% Category II
Type 3	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	85% Category I, 90% Category II, or 95% Category III	85% Category I, 90% Category II, or 95% Category II
Type 4	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	No compaction required, except if Category II, use 85% Category II	No compaction required, except if Category II, use 85% Category II

Notes:
1. Compaction and soils symbols – i.e. "98% Category I" refers to Category 1 soil material with a minimum standard Proctor compaction of 98%. See Table 1 for equivalent modified Proctor values.
2. Soil in the outer bedding, haunch, and lower side zones, except within D_O/3 from the pipe springline, shall be compacted to at least the same compaction as the majority of the soil in the overfill zone.
3. Subtrenches
3.1 A subtrench is defined as a trench with its top below finished grade by more than 0.1 H or, for roadways, its top is at an elevation lower than 0.3 m (1') below the bottom of the pavement base material.
3.2 The minimum width of a subtrench shall be 1.33 D_O or wider if required for adequate space to attain the specified compaction in the haunch and bedding zones.
3.3 For subtrenches with wall of natural soil, any portion of the lower side zone in the subtrench wall shall be at least as firm as an equivalent soil placed to the compaction requirements specified for the lower side zone and as firm as the majority of soil in the overfill zone, or shall be removed and replaced with soil compacted to the specified level.
4. Type 1 installation = relatively high quality material & high compaction effort. Type 4 installation = little or no control over material and compaction.

TOWN OF ZEBULON

STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)

SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 4 OF 5

USE WCH STANDARD SPECIFICATIONS ONLY

Table 3 Standard TRENCH Installations Soils and Minimum Compaction Requirements

Installation* Type	Bedding Thickness	Haunch Outer Bedding	Lower Side
Type 1	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	98% Category I	90% Category I, 95% Category II, or 100% Category III
Type 2	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	90% Category I or 95% Category II	85% Category I, 90% Category II, or 95% Category III
Type 3	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	85% Category I, 90% Category II, or 95% Category III	85% Category I, 90% Category II, or 95% Category III
Type 4	D_O/24 minimum, not less than 75 mm (3"). If rock foundation, use D_O/12 minimum, not less than 150 mm (6").	No compaction required, except if Category II, use 85% Category II	No compaction required, except if Category II, use 85% Category II

Notes:
1. Compaction and soils symbols – i.e. "98% Category I" refers to Category 1 soil materials with minimum standard Proctor compaction of 98%. See Table 1 for equivalent modified Proctor values.
2. The trench top elevation shall be no lower than 0.1 H below finished grade or, for roadways, its top shall be no lower than an elevation of 0.3 m (1') below the bottom of the pavement base material.
3. Soil in bedding and haunch zones shall be compacted to at least the same compaction as specified for the majority of soil in the backfill zone.
4. The trench width shall be wider than shown if required for adequate space to attain the specified compaction in the haunch and bedding zones.
5. For trench walls that are within 10 degrees of vertical, the compaction or firmness of the soil in the trench walls and lower side zone need not be considered.
6. For trench walls with greater than 10 degrees slopes that consist of embankment, the lower side shall be compacted to at least the same compaction as specified for the soil in the backfill zone.
7. Type 1 installation = relatively high quality material & high compaction effort. Type 4 installation = little or no control over material and compaction.

TOWN OF ZEBULON

STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)

SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 5 OF 5

USE WCH STANDARD SPECIFICATIONS ONLY

REV.NO.	DESCRIPTIONS	DATE

REVISIONS

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

ZEBULON DETAILS

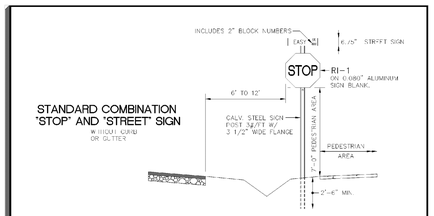
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MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	PH
PROJ. MGR.	PH

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C11.2
DRAWING NUMBER
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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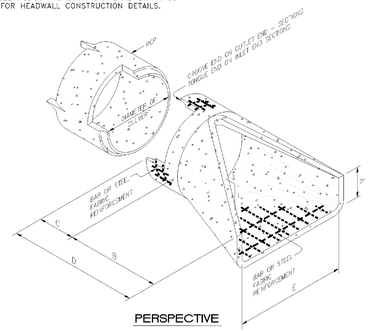


NOTES:
1. STREET NAME SIGNS SHALL BE A MINIMUM OF EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C. SERIES LETTERING IN HIGH INTENSITY SILVER & HIGH INTENSITY GREEN BACKGROUND (2" LETTERS FOR BLOCK NUMBERS)
2. ALL REFLECTIVE SIGNS SHALL BE MADE OF HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
3. ALL SIGNS PLACED IN RIGHT-OF-WAY WILL BE APPROVED BY TOWN'S PUBLIC WORKS DIRECTOR.
4. ERECT STREET SIGNS PLUMB.
5. DEVELOPER SHALL BE RESPONSIBLE FOR FURNISHING & ERECTING ALL STREET NAME & REGULATORY SIGNS.
6. ALL HARDWARE MUST BE GALVANIZED.

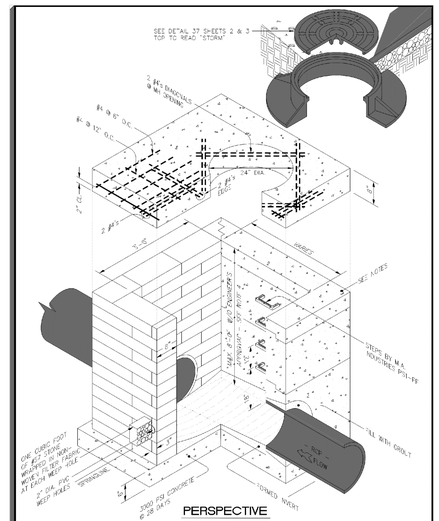
TOWN OF ZEBULON		
STANDARD SIGN INSTALLATION DETAIL	SCALE: NOT TO SCALE	DETAIL # 30
USE WITH STANDARD SPECIFICATIONS ONLY	DATE: JULY 2010	SHEET # 1 OF 1

END SECTION DIMENSIONS					
DIA.	A	B	C	D	E
15"	7"	2'-3 1/4"	3'-11 1/2"	6'-2 3/4"	2'-6"
18"	9"	2'-3"	3'-11 3/4"	6'-2 3/4"	3'-0"
24"	9"	3'-7"	3'-1"	6'-8"	3'-11 3/4"
30"	1'-0"	4'-6 1/2"	1'-10 1/2"	6'-5"	5'-0"
36"	1'-4"	5'-0"	3'-1 1/2"	8'-1 1/2"	5'-11"
42"	1'-10 1/4"	5'-1 3/8"	3'-1"	8'-2 3/8"	6'-5 1/4"

NOTES:
1. DESIGN OF END-SECTION SHALL CONFORM TO STANDARD REINFORCED SECTIONAL CONCRETE CULVERT PIPE.
2. ANY TWIN BARREL SYSTEM GREATER THAN 42" RCP REQUIRES A HEADWALL.
3. ANY SYSTEM OF MORE THAN 2 PIPES REQUIRES A HEADWALL.
4. SEE NCDOT "ROADWAY STANDARD DRAWINGS" FOR HEADWALL CONSTRUCTION DETAILS.



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


SEE DETAIL 37 SHEETS 2 & 3 TOP TO READ "STORM"
2 BARS DIAGONALS @ MID SPACING
#4 @ 12" O.C.
#4 @ 6" O.C.
2" CLR
3'-0"
2'-0"
SEE NOTES
MAX. 5'-0" W/O ENGINEER'S APPROVAL SEE NOTE 4
#4 @ 6" O.C.
#4 @ 12" O.C.
2" CLR
2'-0"
3'-0"

TOWN OF ZEBULON

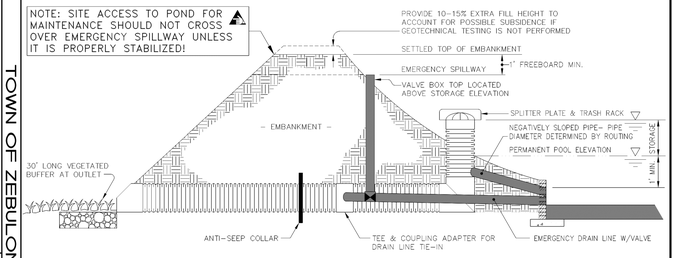
TYPICAL SPILLWAY DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE | DETAIL # 42

DATE: JULY 2010 | SHEET # 1 OF 1

NOTE: SITE ACCESS TO POND FOR MAINTENANCE SHOULD NOT CROSS OVER EMERGENCY SPILLWAY UNLESS IT IS PROPERLY STABILIZED!



SECTIONAL VIEW

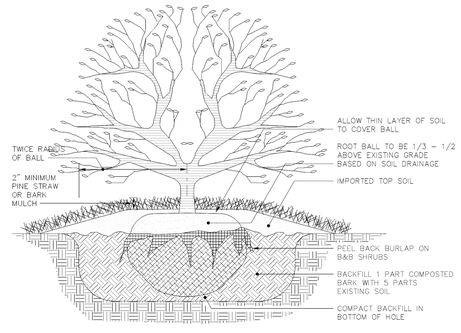
TOWN OF ZEBULON

TYPICAL SHRUB PLANTING DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

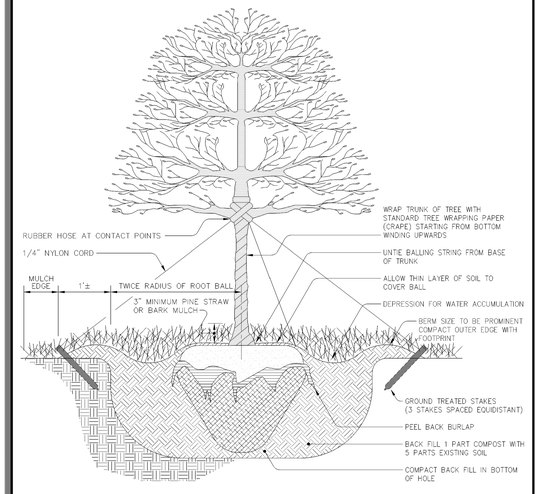
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DATE: JULY 2010 | SHEET # 1 OF 1



SECTIONAL VIEW

NOTE:
PRUNE LOWER BRANCHES OF TREE BACK TO MAIN TRUNK SO THAT REMAINING HEAD IS APPROX. 1/2 OF TOTAL TREE HEIGHT



SECTIONAL VIEW

TOWN OF ZEBULON

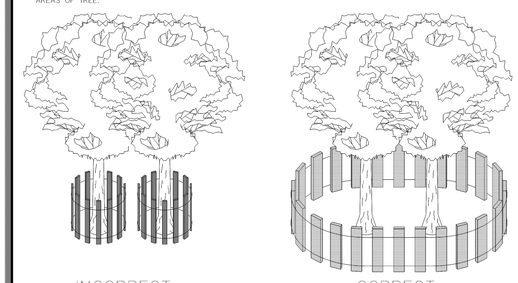
TYPICAL TREE STAKING and PLANTING DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

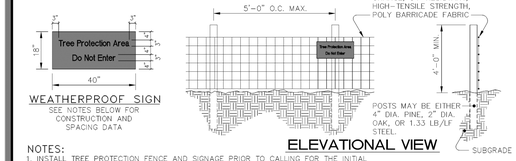
SCALE: NOT TO SCALE | DETAIL # 44

DATE: JULY 2010 | SHEET # 1 OF 1

NOTES:
IN SPITE OF PRECAUTIONS, SOME DAMAGE TO TREES MAY OCCUR.
IN SUCH CASES REPAIR ANY DAMAGE TO CROWN, TRUCK OR ROOT SYSTEM IMMEDIATELY.
- REPAIR ROOTS BY CUTTING OFF THE DAMAGED AREAS AND PAINT THEM WITH TREE PAINT. SPREAD PEAT MOSS OR MOIST TOPSOIL OVER EXPOSED ROOTS.
- REPAIR DAMAGE TO BARK BY TRIMMING AROUND THE DAMAGED AREA AS SHOWN IN DETAIL 45 TAPER THE CUT TO PROVIDE DRAINAGE AND PAINT WITH TREE PAINT.
- CUT OFF ALL DAMAGED TREE LIMBS ABOVE THE TREE COLLAR AT THE TRUNK OR MAIN BRANCH. USE THREE SEPARATE CUTS AS SHOWN IN DETAIL 45 TO AVOID PEELING BARK FROM HEALTHY AREAS OF TREE.



BARRIER SHOULD BE INSTALLED AT THE DRIP LINE OF TREE BRANCHES



WEATHERPROOF SIGN
SEE NOTES BELOW FOR CONSTRUCTION AND SPACING DATA

POSTS MAY BE EITHER 4" DIA. PINE, 2" DIA. OAK, OR 1.33 LB/LF STEEL.

ELEVATIONAL VIEW

NOTES:
1. INSTALL TREE PROTECTION FENCE AND SIGNAGE PRIOR TO CALLING FOR THE INITIAL ON SITE INSPECTION BY THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
3. LETTERS ARE TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
4. SIGNS ARE TO BE PLACED NO GREATER THAN 200' ON CENTER.
5. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AREAS AND 200' ON CENTER THEREAFTER.
6. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
7. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
8. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
9. ADDITIONAL SIGNS MAY BE REQUIRED BY TOWN OF ZEBULON PUBLIC WORKS DEPT. BASED ON ACTUAL FIELD CONDITIONS.

TOWN OF ZEBULON

STANDARD TREE PROTECTION DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE | DETAIL # 46

DATE: JULY 2010 | SHEET # 1 OF 1

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CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

ZEBULON DETAILS

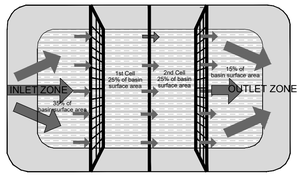
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REVISION

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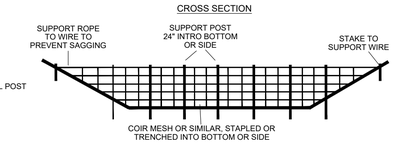


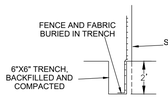
PLAN VIEW

NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.

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

CROSS SECTION

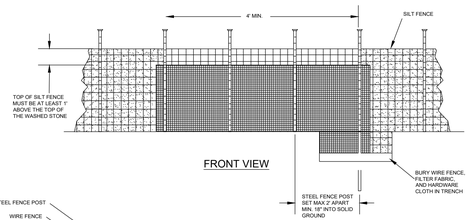




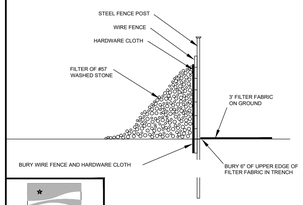
SECTION VIEW AT OPENING

EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



FRONT VIEW



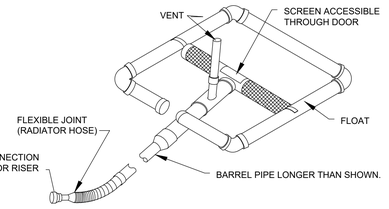
SECTION VIEW

MAINTENANCE NOTES:
1. INSPECT THE DEVICE PERIODICALLY AND AFTER 1 INCH RAINFALL OVER 24 HOUR PERIOD FOR DAMAGE AND SEDIMENT ACCUMULATION TO CONFIRM THE DEVICE IS FUNCTIONING PROPERLY.
2. AT A MINIMUM, REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH ONE-HALF THE HEIGHT OF THE SEDIMENT CONTROL STONE.
3. REPLACE OR CLEAN THE SEDIMENT CONTROL STONE AS NEEDED TO ALLOW WATER TO DRAIN THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
4. REPAIR AREAS WHERE OUTLET BECOMES UNDERMINED DUE TO CONCENTRATED FLOWS.

EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET

MAINTENANCE NOTES:
1. INSTALL A PAD FOR SKIMMER TO REST ON STONE OR WOOD PALLETS OR H-BEAM SECTION.
2. INSTALL SKIMMER AND PAD AWAY FROM BAFFLES.
3. ATTACH ROPE TO SKIMMER FOR MAINTENANCE
4. INSPECT THE BASIN ON A REGULAR BASIS AND AFTER EVERY SIGNIFICANT RAINFALL EVENT (1 INCH OR GREATER).
5. CHECK THE SKIMMER TO MAKE SURE THAT IT IS NOT CLOGGED WITH SEDIMENT.
6. REMOVE SEDIMENT THAT MAY ACCUMULATE ON THE STONE PAD UNDERNEATH THE SKIMMER DEVICE.

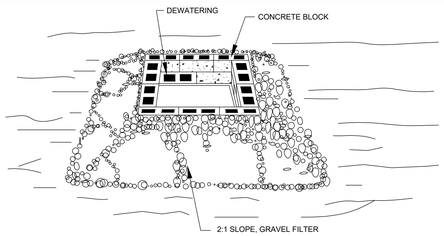


EFFECTIVE: 01/31/08

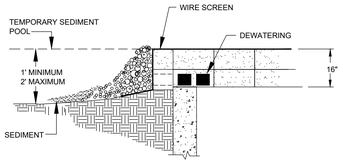
STANDARD SKIMMER DETAIL

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2 INCHES BELOW THE CREST OF THE STORM DRAIN. PLACE THE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO SUBSEQUENT ROWS BY PLACING 2x4 WOOD STUDS THROUGH BLOCK OPENINGS.
2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2 INCH OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.
3. USE CLEAN GRAVEL, 3/4 TO 1/2 INCH IN DIAMETER, PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.

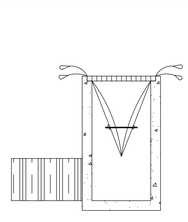


MAINTENANCE NOTES:
1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH 1" RAIN EVENT.
2. REMOVE SEDIMENT WHEN VOLUME OF THE BASIN IS REDUCED BY ONE-HALF.
3. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.

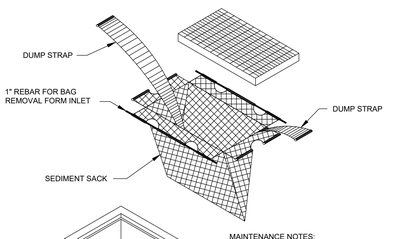


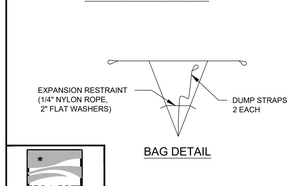
EFFECTIVE: 01/31/08

STANDARD BLOCK & GRAVEL DROP INLET PROTECTION



INSTALLATION DETAIL



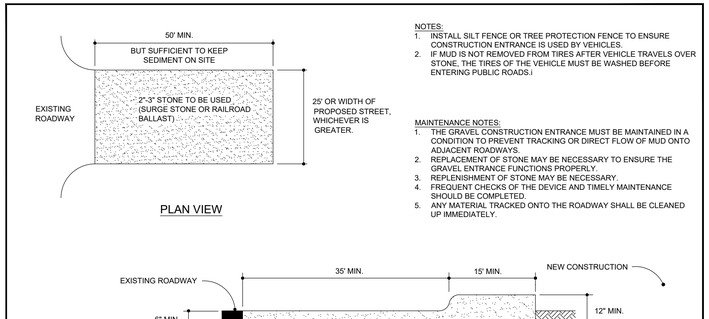


BAG DETAIL

MAINTENANCE NOTES:
1. INSPECT BAG **AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD**.
2. FOLLOW ROAD SAFETY WHILE PERFORMING MAINTENANCE.
3. REPLACE BAG WHEN THEY BECOME CONTAMINATED WITH SEDIMENT AND CONSTRUCTION DEBRIS.
4. WHEN MAINTAINING AND REMOVING INLET PROTECTION DEVICES, EXERCISE CARE TO MINIMIZE SEDIMENT FALLING INTO THE INLET. IMMEDIATELY REMOVE ALL MATERIAL THAT HAS FALLEN INTO INLETS. DEPOSIT SEDIMENT REMOVED FROM THE DEVICE IN A SUITABLE AREA AND STABILIZE.

EFFECTIVE: 01/31/08

STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE



PLAN VIEW

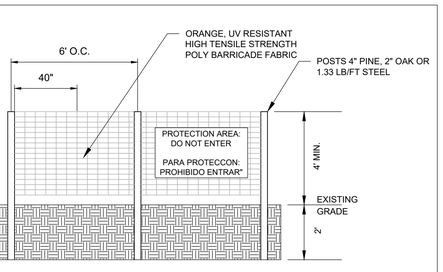
NOTES:
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

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

CROSS SECTION

EFFECTIVE: 01/31/08

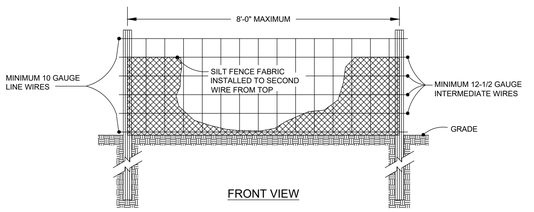
STANDARD CONSTRUCTION ENTRANCE



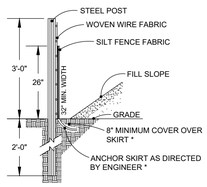
1. WARNING SIGNS TO BE MADE OF DURABLE WATERPROOF PLASTIC.
2. ALL LETTERS TO BE AT LEAST 3" HIGH, CLEARLY LEGIBLE AND SPACED APPROPRIATELY.
3. SIGNS TO PLACES AT EACH END OF LINER PROTECTION AREA AND 200' ON CENTER (MAX.) THEREAFTER FOR PROTECTION AREA LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA AND/OR SIDE.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. FABRIC MUST BE ATTACHED TO APPROVED POSTS ONLY. DO NOT ATTACH TO TREES.
5. ADDITIONAL FENCING MAY BE REQUIRED BASED ON FIELD CONDITIONS.
6. FAILURE TO MAINTAIN PROTECTION FENCING MAY RESULT IN CIVIL PENALTIES.

TREE PROTECTION FENCE

NTS



FRONT VIEW

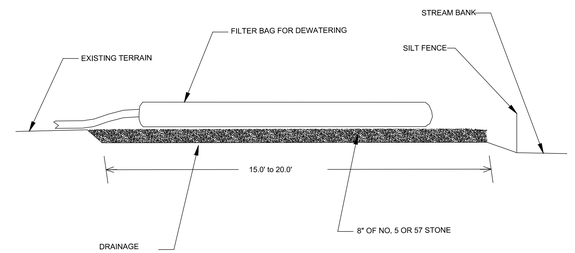


SIDE VIEW

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

EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE



NOTES
1. PROVIDE STABILIZED OUTLET TO STREAM BANK.
2. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

MAINTENANCE NOTES
1. REPLACE AND DISPOSE OF FILTER BAG(S) WHEN IT IS ¾ FULL OF SEDIMENT OR WHEN IT IS IMPRACTICAL FOR BAG TO FILTER SEDIMENT.
2. PROVIDE A SUFFICIENT QUANTITY OF FILTER BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT.

NOT TO SCALE

EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES

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CARUSOHOMES

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WAKE COUNTY

EROSION CONTROL DETAILS

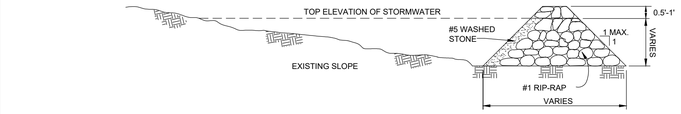
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DESIGNED	PH
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PROJ. MGR.	PH

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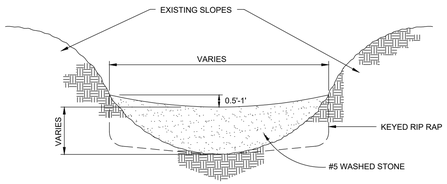
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SIDE VIEW



FRONT VIEW

CONSTRUCTION NOTES:

1. HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.
2. KEY RIP RAP INTO THE DAM FOR STABILIZATION.

MAINTENANCE NOTES:

1. INSPECT CHECK DAMS WEEKLY AND AFTER EVERY RAINFALL EVENT OF 1" OR MORE.
2. REMOVE SEDIMENT AND DEBRIS AS NEEDED.
3. MAINTAIN FLOW THROUGH THE CHECK DAM.



STEP SEQUENCE

NOTE:
REMOVE SEDIMENT ACCUMULATION FROM BEHIND CHECK DAMS TO PREVENT DAMAGE TO CHANNEL VEGETATION. FLOW SHOULD BE MAINTAINED THROUGH THE DAM.

EFFECTIVE: 01/31/08

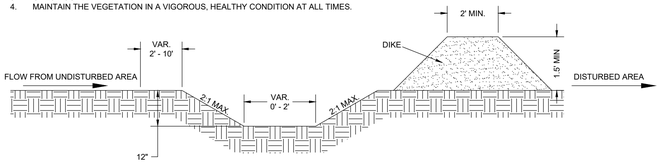
STANDARD CHECK DAM

NOTES:

1. DIVERSION TO BE USED UPSLOPE OF A CONSTRUCTION SITE TO PREVENT STORM RUNOFF FROM ENTERING THE DISTURBED AREA.
2. IMMEDIATELY LINE AND STABILIZE BEFORE ANY DOWNSLOPE GRADING BEGINS (STABILIZATION MUST OCCUR BEFORE ISSUANCE OF A CERTIFICATE OF COMPLIANCE). STABILIZATION METHOD IS BASED ON VELOCITY OF OFFSITE DRAINAGE.
3. DIVERSIONS SHOULD ONLY BE USED FOR DRAINAGES 5 ACRES OR LESS.
4. ANY SEDIMENT LADEN WATER PRIOR TO STABILIZATION OF THE DIVERSION MUST BE DIVERTED INTO AN APPROVED EROSION AND SEDIMENT CONTROL BMP. CLEAN WATER SHOULD EMPTY INTO AN APPROVED OUTLET DEVICE.

MAINTENANCE NOTES:

1. INSPECT AFTER EVERY RAINFALL DURING THE CONSTRUCTION OPERATION.
2. IMMEDIATELY REMOVE ANY OBSTRUCTIONS FROM THE FLOW AREA, AND REPAIR DIVERSION RIDGE.
3. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.
4. MAINTAIN THE VEGETATION IN A VIGOROUS, HEALTHY CONDITION AT ALL TIMES.



CROSS SECTIONAL VIEW

EFFECTIVE: 01/31/08

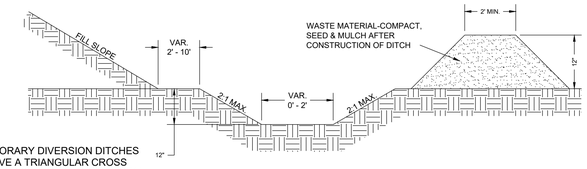
STANDARD CLEAN WATER DIVERSION

NOTES:

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

MAINTENANCE NOTES:

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



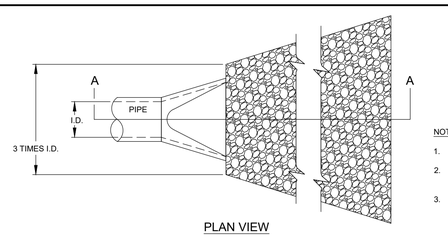
ALL TEMPORARY DIVERSION DITCHES SHALL HAVE A TRIANGULAR CROSS SECTION AND 3:1 SIDE SLOPES. TOTAL DEPTH OF THE DITCH IS NOTED ON THE TABLE, BELOW.

CROSS SECTIONAL VIEW

1. RECPs MUST MEET THE FOLLOWING MINIMUM PERMISSIBLE SHEAR SPECIFICATIONS:
   a. STRAW W/NET - 1.45 LB/FT^2
   b. SYNTHETIC MATTING - 2.00 LB/FT^2

EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH



PLAN VIEW

SECTION 'A-A'

NOTES:

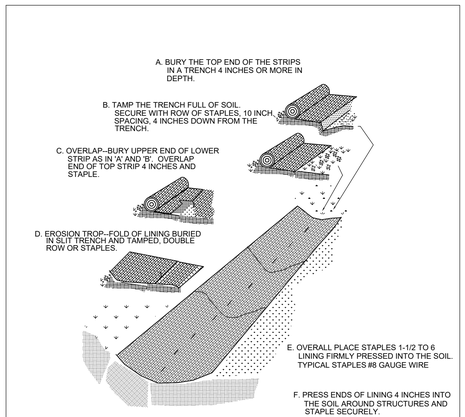
1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

MAINTENANCE NOTES:

1. INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1 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.

EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL



LINER INSTALLATION IN SWALES/DITCHES

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EROSION CONTROL DETAILS

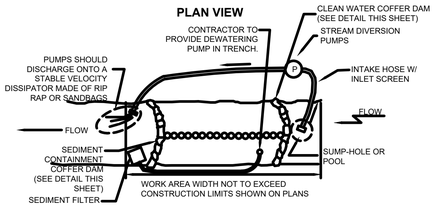
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PUMP-AROUND PRACTICE:
TEMPORARY MEASURE FOR DEWATERING STREAM CROSSING SITES.

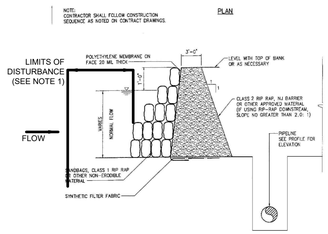
DESCRIPTION:
THE WORK SHOULD CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING PUMPS TO ENSURE ADEQUATE CAPACITY TO KEEP FLOW FROM ENTERING WORK AREA.

IMPLEMENTATION SEQUENCE:
SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CONSTRUCTION SHOULD BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL).

1. INSTALL SCOUR HOLE AND FILTER BAGS WHERE SHOWN ON PLANS.
2. COFFER DAMS SHOULD BE SITUATED AT THE ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND WATER ON THE UPSIDE OF THE DAM AREA SHOULD BE PUMPED AROUND THE WORK AREA.
3. THE PUMP SHOULD DISCHARGE INTO THE FILTER BAGS AND SCOUR HOLES..
4. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A TEMPORARY WOOD CHIP DEWATERING BASIN, FILTER BAG OR OTHER APPROVED SEDIMENT FILTERING MEASURE.
5. AFTER THE CULVERT IS INSTALLED AND THE SLOPES HAVE BEEN STABILIZED, THE PUMP INTAKE HOSES, SCOUR HOLES AND FILTER BAGS SHOULD BE REMOVED AND THEN THE COFFER DAMS SHOULD BE REMOVED.
6. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A COFFER DAM AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STREAM PUMP AROUND.

TEMPORARY PUMP AROUND DETAIL

NTS

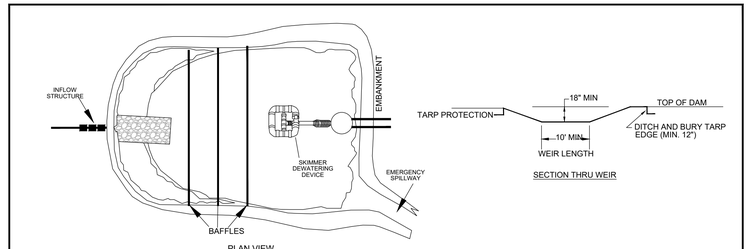


NOTES:

1. CONTRACTOR SHALL INSTALL COFFER DAMS WITH ENOUGH SEPARATION FROM THE PROJECT CONSTRUCTION LIMITS OF DISTURBANCE TO PLACE PUMP INTAKE AND DISCHARGE HOSES, DISSIPATORS AND SEDIMENT FILTER STRUCTURES.
2. TEMPORARY PRE-FABRICATED COFFER DAMS SUCH AS PORT-A-DAM AND OTHERS MAY BE USED IN SUBSTITUTION TO THE SANDBAG/RIP-RAP DAM WITH PRIOR APPROVAL BY THE OWNER AND ENGINEER.

TEMPORARY COFFER DAM DETAIL

NTS



NOTES:
1) THE TARP USED TO PROTECT THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPAULINS OR EQUIVALENT FOR U.V. RESISTANCE.
2) PROVIDE A MINIMUM OF THREE POROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
3) BAFFLE MATERIAL MUST BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR A SILT FENCE.
4) DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
5) POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.

MAINTENANCE NOTES:
1) INSPECT THE BASIN AND RISER ON A REGULAR BASIS AND AFTER EVERY SIGNIFICANT RAINFALL EVENT (1 INCH OR GREATER).
2) BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF-FULL.
3) MOST OF THE SEDIMENT WILL ACCUMULATE IN THE FIRST BAY, SO THIS SHOULD BE READILY AVAILABLE FOR MAINTENANCE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/15

STANDARD SKIMMER ATTACHED TO PERMANENT RISER

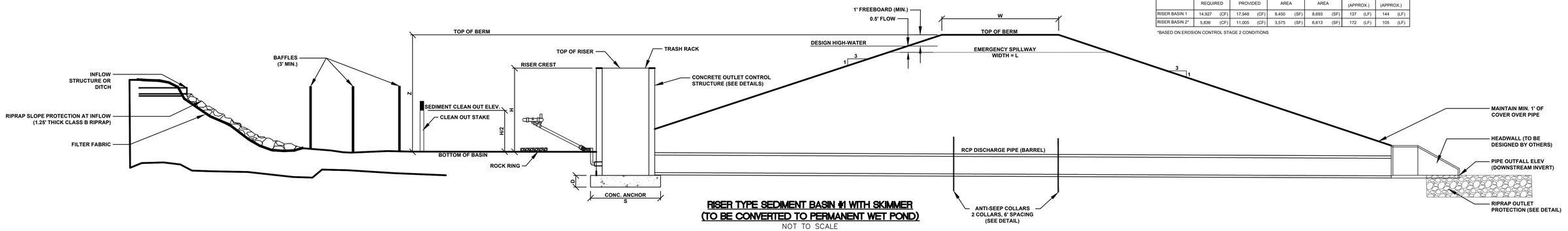
DATA BLOCK

BASIN	BOTTOM ELEVATION (FEET)	CLEANOUT DEPTH H/2 (FEET)	Z (FEET)	W (FEET)	S (FEET)	D (FEET)	H (FEET)	L (FEET)	SKIMMER PIPE DIAM. (IN)	SKIMMER ORIFICE DIAM. (IN)	RISER DIM. (FEET)	BARREL DIAM. (FEET)	BARREL LENGTH (FEET)	BARREL SLOPE (FT/FT)	BARREL UPSTREAM INVERT	BARREL DOWNSTREAM INVERT
RISER BASIN 1	254.00	1.25	5.0	10.0	5x5	1.0	2.5	20	2.5	2.4	4X4	2.0	80	0.0050	253.60	253.20
RISER BASIN 2	257.50	1.00	4.5	10.0	5X5	1.0	2.0	20	2.5	1.9	4X4	1.5	55	0.0050	256.97	256.70

DESIGN CRITERIA BLOCK

	SEDIMENT STORAGE REQUIRED	SEDIMENT STORAGE PROVIDED	REQUIRED SURFACE AREA	PROVIDED SURFACE AREA	AVERAGE LENGTH (APPROX.)	AVERAGE WIDTH (APPROX.)
RISER BASIN 1	14,927 (CF)	17,948 (CF)	8,450 (SF)	8,693 (SF)	137 (LF)	144 (LF)
RISER BASIN 2*	5,836 (CF)	11,005 (CF)	3,575 (SF)	6,613 (SF)	172 (LF)	105 (LF)

*BASED ON EROSION CONTROL STAGE 2 CONDITIONS



RISER TYPE SEDIMENT BASIN #1 WITH SKIMMER (TO BE CONVERTED TO PERMANENT WET POND)

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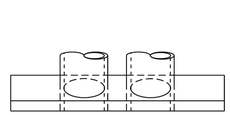
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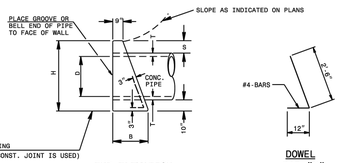
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

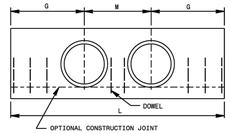
SHEET 1 OF 3
838.01





END ELEVATION

DOWEL
BAR-"X"



ELEVATION

DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE																		
LOC.	PIPE	SINGLE PIPE							DOUBLE PIPE									
	DIA.	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"			
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"Y"	
G	QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5			
M	QTY.	-	-	-	-	-	-	2	-	-	1	1	2	2	2	2	3	2
O	QTY.	2	2	3	3	4	4	5	2	2	3	3	4	4	5			
TOTAL LBS.		9	9	14	14	19	55	65	12	12	19	19	23	77	92			

DIMENSIONS AND CONCRETE QUANTITIES										
USING CONCRETE PIPE										
	COMMON DIMENSIONS					SINGLE PIPE		DOUBLE PIPE		
D	H	B	G	T	S	L	YD³	M	L	YD³
15"	3'-3"	1'-8"	2'-8"	2¼"	9½"	5'-6"	0.7	2'-2"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	2½"	10"	6'-4"	1.0	2'-7"	8'-11"	1.3
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4¼"	11½"	9'-2"	2.3	4'-3"	13'-5"	3.1
36"	5'-8"	2'-8"	5'-6"	4¾"	11½"	11'-0"	3.4	5'-0"	16'-0"	4.5
42"	6'-0"	3'-1"	6'-4"	5¼"	11½"	12'-8"	4.5	5'-10"	18'-6"	6.0
48"	6'-9"	3'-5"	7'-2"	5¾"	11½"	14'-4"	6.0	6'-8"	21'-0"	8.0

*SEE SHEET 3

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

SHEET 2 OF 3
838.01

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

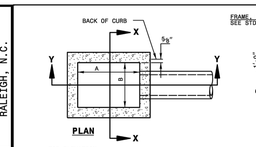
USE CLASS "B" CONCRETE.

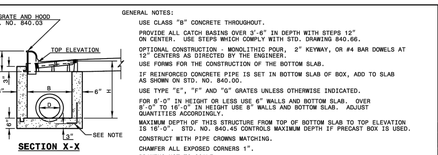
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

SHEET 3 OF 3
838.01





GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

MAXIMUM DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 16'-0". STD. NO. 840.45 CONTROLS MAXIMUM DEPTH IF PRECAST BOX IS USED.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

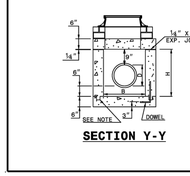
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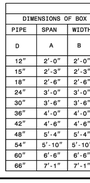
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

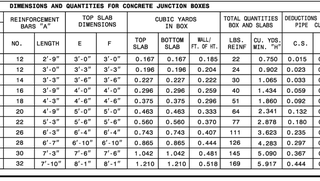
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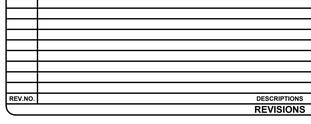
ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

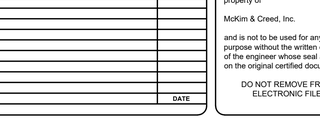
SHEET 1 OF 2
840.02











MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *																	
DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL LBS.	CU.YDS. CONC. IN BOX		DEDUCTIONS FOR ONE PIPE
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	WALL (SEE NOTE BELOW)	C.Y.	R.C.
D	A	B	C	D	H	E	F												
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			3'-0"													0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"													0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"													0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.178
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

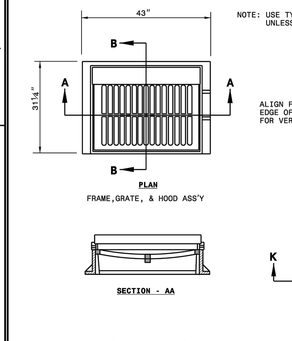
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

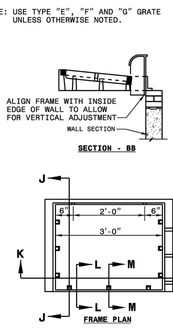
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

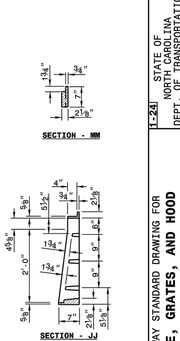
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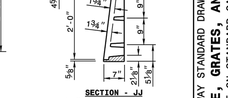
ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE

SHEET 2 OF 2
840.02







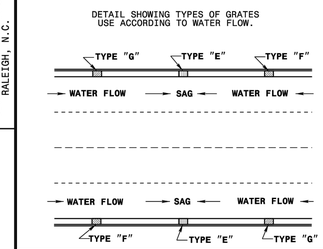


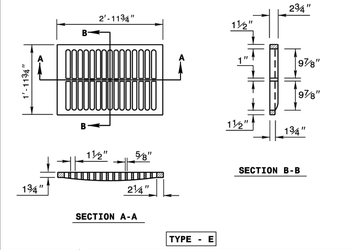
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

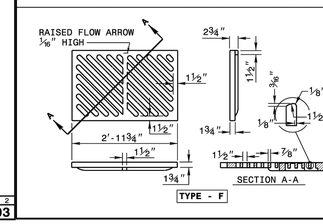
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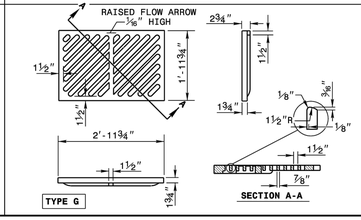
ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2
840.03







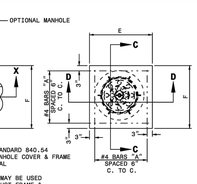


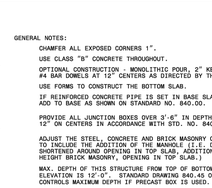
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
12" THRU 66" PIPE

SHEET 1 OF 1
840.31





GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

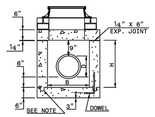
IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12'-0". STANDARD DRAWING 840.45 OR 840.46 CONTROLS MAXIMUM DEPTH IF PRECAST BOX IS USED.





DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES													
DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. WIN. "H"	C.S.	R.C.
D	A	B	H	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. WIN. "H"	C.S.	R.C.
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.015	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.065	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	0.132	0.178
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-0"	5'-0"	5'-3"	24	5'-9"	6'-0"	6'-0"	0.667	0.667	0.407	92	3.457	0.235	0.317
54"	5'-6"	5'-6"	5'-9"	26	6'-3"	6'-6"	6'-6"	0.783	0.783	0.444	108	4.077	0.297	0.401
60"	6'-0"	6'-0"	6'-3"	28	6'-9"	7'-0"	7'-0"	0.907	0.907	0.481	125	4.737	0.367	0.495
66"	6'-6"	6'-6"	6'-9"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.518	144	5.438	0.444	0.599
72"	7'-0"	7'-0"	7'-3"	32	7'-9"	8'-0"	8'-0"	1.185	1.185	0.556	164	6.180	0.528	0.713
78"	7'-6"	7'-6"	7'-9"	34	8'-3"	8'-6"	8'-6"	1.338	1.338	0.593	185	6.963	0.620	0.836
84"	8'-0"	8'-0"	8'-3"	36	8'-9"	9'-0"	9'-0"	1.500	1.500	0.630	208	7.787	0.720	0.970

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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07/24/2025

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NC License# P-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

GRADING & DRAINAGE DETAILS

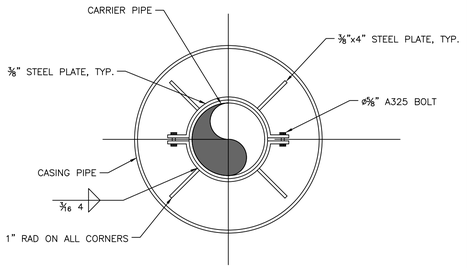
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CHECKED	PEH
PROJ. MGR.	PH

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

C13.1
DRAWING NUMBER
REVISION

STATUS: **REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION**

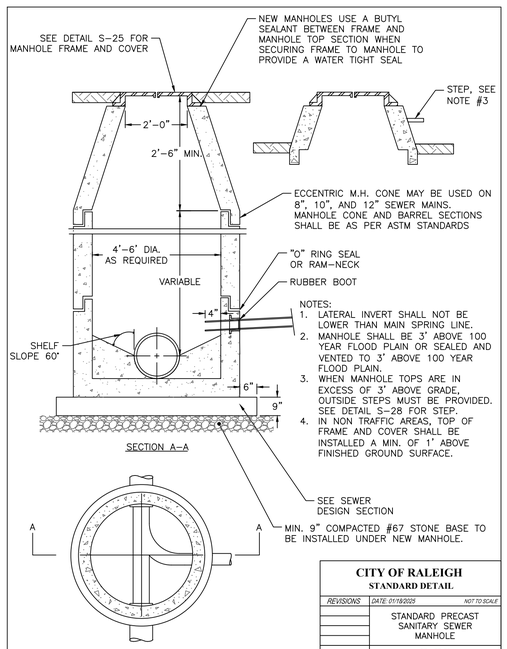
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NOTE:
USE A MINIMUM OF TWO SPIDERS PER PIPE JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

CITY OF RALEIGH
STANDARD DETAIL

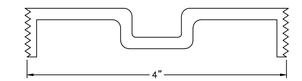
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	PIPE ALIGNMENT GUIDE	
	S-39	



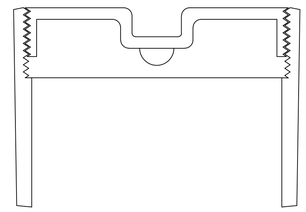
NOTES:
1. LATERAL INVERT SHALL NOT BE LOWER THAN MAIN SPRING LINE.
2. MANHOLE SHALL BE 3' ABOVE 100 YEAR FLOOD PLAIN OR SEALED AND VENTED TO 3' ABOVE 100 YEAR FLOOD PLAIN.
3. WHEN MANHOLE TOPS ARE IN EXCESS OF 3' ABOVE GRADE, OUTSIDE STEPS MUST BE PROVIDED. SEE DETAIL S-28 FOR STEP.
4. IN NON TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED A MIN. OF 1' ABOVE FINISHED GROUND SURFACE.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD PRECAST SANITARY SEWER MANHOLE	
	S-20	



STANDARD 4" BRONZE CLEANOUT PLUG

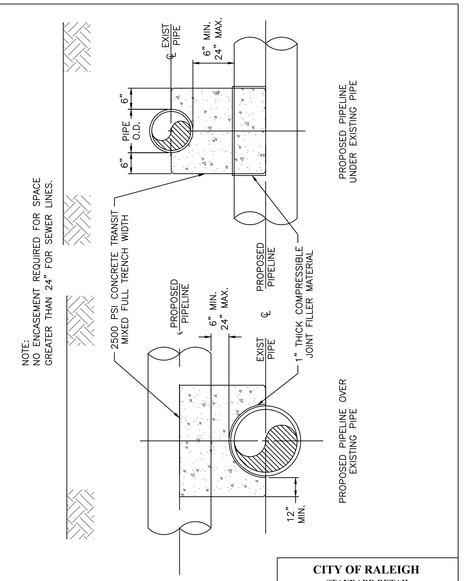


CLEANOUT FERRULE WITH PLUG

STYLES ACCEPTED:
INVERTED NUT
RAISED NUT

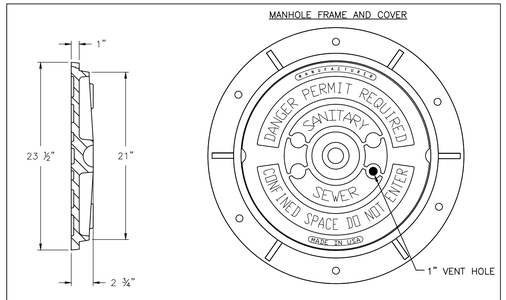
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	4" CLEANOUT PLUG	
	S-34	

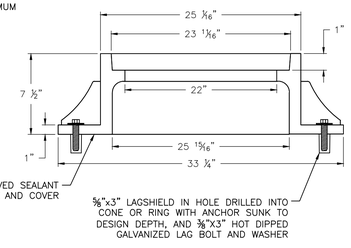


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS	
	S-49	



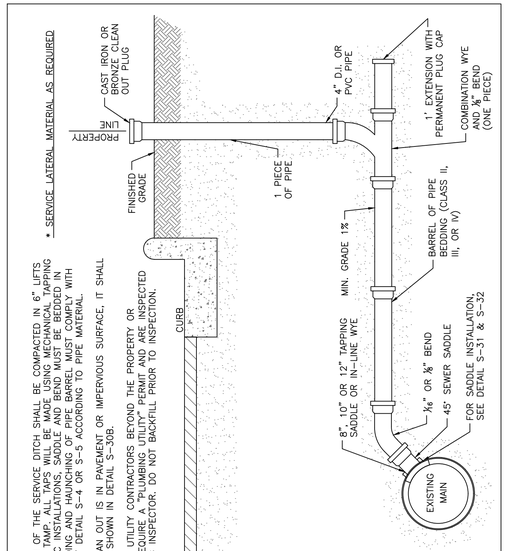
COVER 120 LBS. MINIMUM



NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3. COVER SHALL WEIGH A MIN. OF 120 LBS.
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH
STANDARD DETAIL

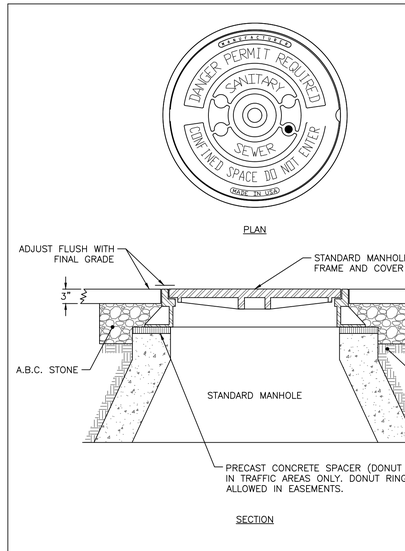
REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD MANHOLE COVER	
	S-25	



NOTES:
1. THE FULL LENGTH OF THE SERVICE DITCH SHALL BE COMPACTED IN 6" LIFTS WITH MECHANICAL TAMPERS. WILL BE MADE USING MECHANICAL TAPPING MACHINE. FOR PVC INSTALLATIONS, SADDLE AND BEND MUST BE BEDDED IN #67 STONE. BEDDING AND HAUNCHING OF PIPE BARREL MUST COMPLY WITH REQUIREMENTS OF DETAIL S-4 OR S-5 ACCORDING TO PIPE MATERIAL.
2. WHEN SEWER CLEAN OUT IS IN PAVEMENT OR IMPERVIOUS SURFACE, IT SHALL BE INSTALLED AS SHOWN IN DETAIL S-30B.
3. INSTALLATIONS BY UTILITY CONTRACTORS BEYOND THE PROPERTY OR EASEMENT LINE REQUIRE A "PLUMBING UTILITY" PERMIT AND ARE INSPECTED BY THE PLUMBING INSPECTOR. DO NOT BACKFILL PRIOR TO INSPECTION.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	TYPICAL SANITARY SEWER LATERAL CONNECTION	
	S-30	

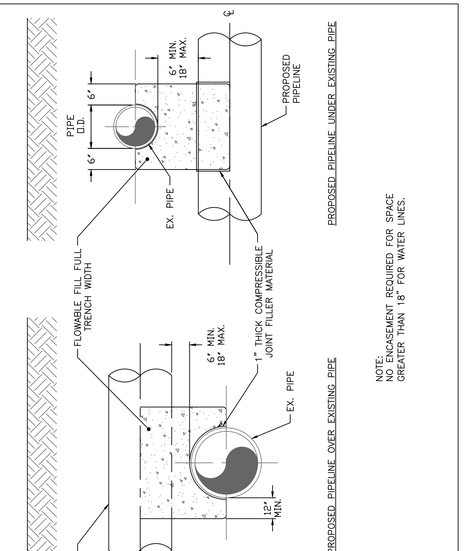


PLAN

SECTION

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN FRAME SURFACE	
	S-29	



CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2025	NOT TO SCALE
	CONCRETE CRADLE PROTECTION FOR WATER LINE CROSSINGS	
	W-41	

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ZEBULON, NC
WAKE COUNTY

UTILITY DETAILS

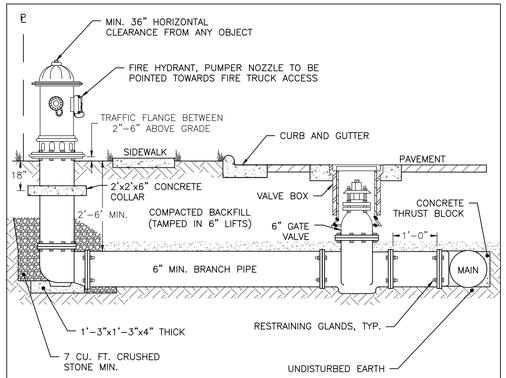
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PROJ. MGR.	PH

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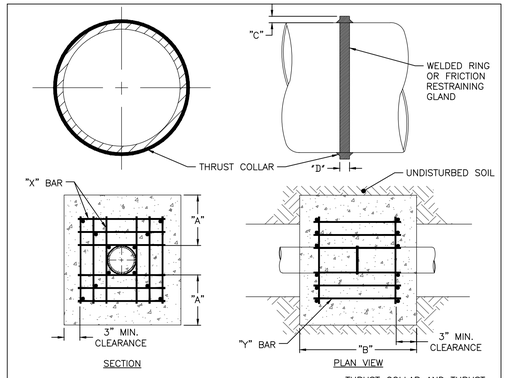
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NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY OR CLOW.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150.
3. 6" GATE VALVE SHALL BE AWWA C500 OPEN LEFT.
4. RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
6. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
7. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2.5 FOOT EASEMENT (ON ALL SIDES OF HYDRANT) FOOT EASEMENT ADJACENT TO ROW.
8. ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	STANDARD FIRE HYDRANT INSTALLATION (RESTRAINT GLANDS)	
	W-4	



SECTION PLAN VIEW

REINFORCING REQUIREMENTS

I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6"–36"	#5	2'–2"+ O.D. PIPE	1.043 LBS/FT	1'–1"	1.1 LBS. EACH	X–24 Y–12
≥48"	#6	3'–0"+ O.D. PIPE	1.502 LBS/FT	1'–3"	1.9 LBS. EACH	X–24 Y–12

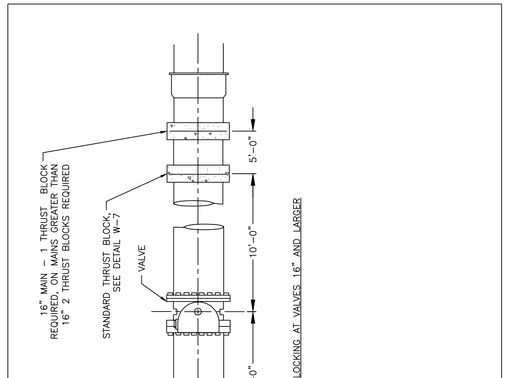
THRUST COLLAR AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"	"D"
6"–16"	1'–4"	1'–7"	2"	⅜"
20"–24"	1'–4"	1'–7"	3"	½"
30"–36"	1'–4"	1'–7"	4"	⅝"
≥48"	1'–8"	1'–9"	6"	⅞"

NOTES:
1. SEE DETAIL W–9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3,000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON DETAIL W–3.
5. BACKFILL TAMPED IN 6" LIFTS, SEE DETAIL W–3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

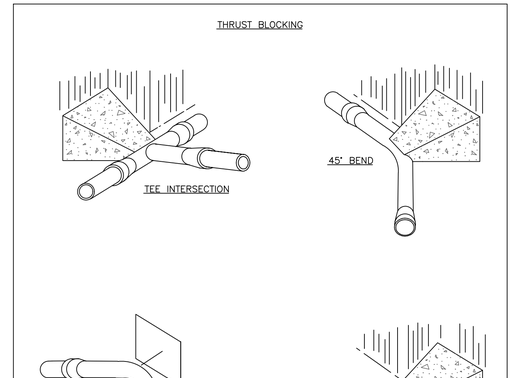
CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	THRUST BLOCKING DESIGN DATA FOR WATER MAINS	
	W-7	



CITY OF RALEIGH
STANDARD DETAIL

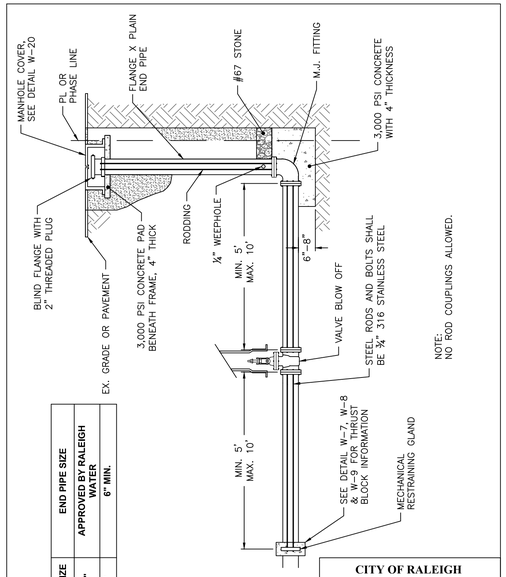
REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	STANDARD THRUST BLOCKING INSTALLATION FOR 16" AND LARGER VALVES AND DEAD END MAINS	
	W-8	



NOTES:
1. CONCRETE SHALL BE 3,000 PSI.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. TRENCHES SHALL CONFORM TO DETAIL W–3.
4. SEE DETAIL W–10 & W–11 (THRUST BLOCK TABLES) FOR AREA OF CONCRETE REQUIRED.
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH
STANDARD DETAIL

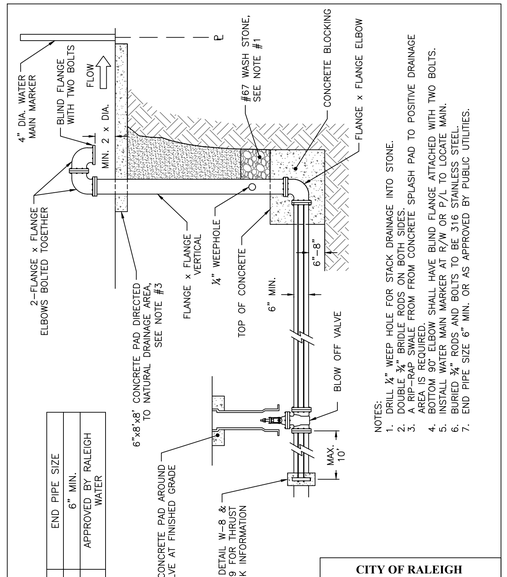
REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	THRUST BLOCKING VIEWS	
	W-9	



MAIN SIZE	END PIPE SIZE APPROVED BY RALEIGH WATER
6"–12"	6" MIN.
≥16"	

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	TEMPORARY WATER MAIN BLOW OFF ASSEMBLY	
	W-21	

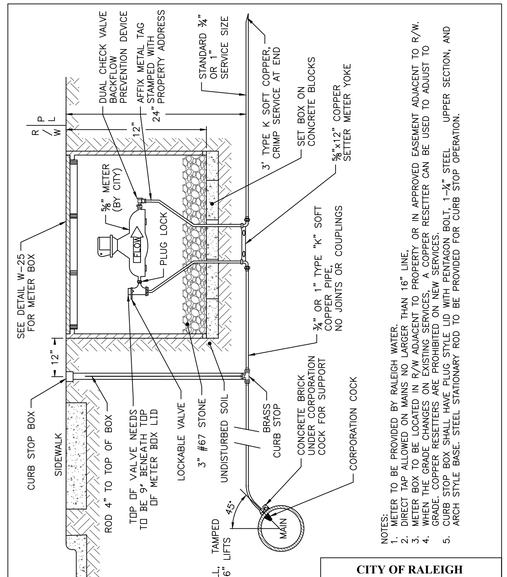


NOTES:
1. DRILL ¼" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. DOUBLE ¼" BRIDLE RODS ON BOTH SIDES.
3. A RECTANGULAR SHAPE FROM CONCRETE SPLASH PAD TO POSITIVE DRAINAGE AREA IS REQUIRED.
4. BOTTOM 90° ELBOW SHALL HAVE BLIND FLANGE ATTACHED WITH TWO BOLTS.
5. INSTALL WATER MAIN MARKER AT R/W OR P/L TO LOCATE MAIN.
6. CONCRETE PAD SHALL BE 3,000 PSI AND TRANSIT MIXED.
7. END PIPE SIZE 6" MIN. OR AS APPROVED BY PUBLIC UTILITIES.

MAIN SIZE	END PIPE SIZE APPROVED BY RALEIGH WATER
6"–12"	6" MIN.
≥16"	

CITY OF RALEIGH
STANDARD DETAIL

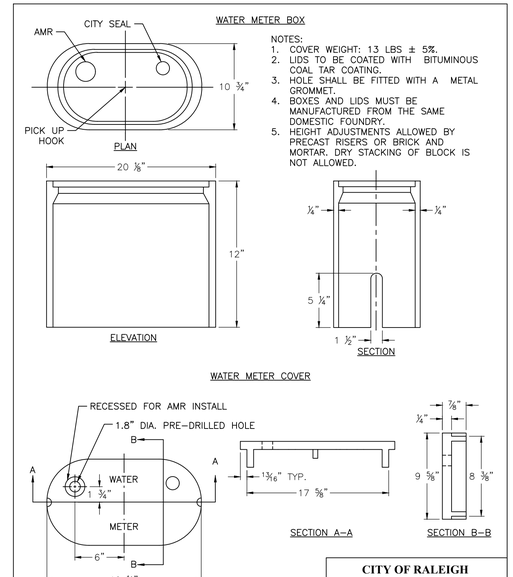
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	PERMANENT WATER MAIN BLOW OFF ASSEMBLY	
	W-22	



NOTES:
1. METER TO BE PROVIDED BY RALEIGH WATER.
2. DIRECT TAP ALLOWED ON MAINS NO LARGER THAN 16" LINE.
3. METER BOX TO BE LOCATED IN R/W ADJACENT TO PROPERTY OR IN APPROVED EASEMENT ADJACENT TO R/W.
4. WHERE THE GRADE CHANGES ACROSS SERVICES, A COPPER RESETTER CAN BE USED TO ADJUST TO GRADE. COPPER RESETTERS ARE PROHIBITED ON NEW SERVICES.
5. CURB STOP BOX SHALL HAVE PLUG STYLE LID WITH PENTAGON BOLT, 1–¼" STEEL ARCH STYLE BASE. STEEL STATIONARY ROD TO BE PROVIDED FOR CURB STOP OPERATION.

CITY OF RALEIGH
STANDARD DETAIL

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	STANDARD ¾" & 1" WATER SERVICE INSTALLATION	
	W-23	



NOTES:
1. COVER WEIGHT: 13 LBS ± 5%.
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING.
3. HOLE SHALL BE FITTED WITH A METAL GROMMET.
4. BOXES AND LIDS MUST BE MANUFACTURED FROM THE SAME DOMESTIC FOUNDRY.
5. HEIGHT ADJUSTMENTS ALLOWED BY PRECAST RISERS OR BRICK AND MORTAR. DRY STACKING OF BLOCK IS NOT ALLOWED.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS	DATE: 01/19/2023	NOT TO SCALE
	WATER METER BOX	
	W-25	

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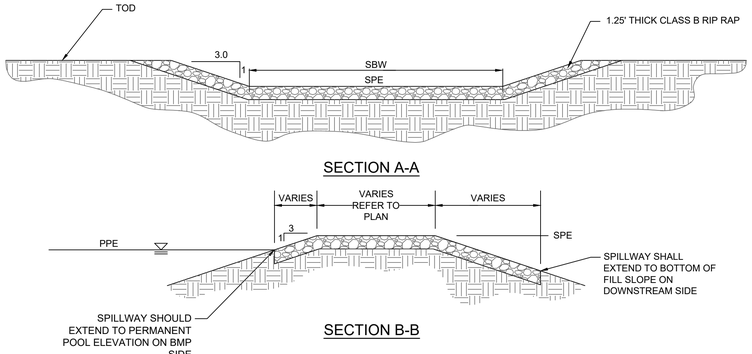
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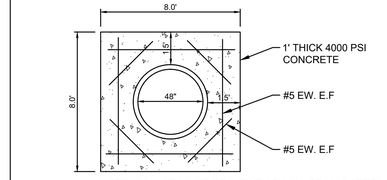
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EMERGENCY SPILLWAY DETAIL

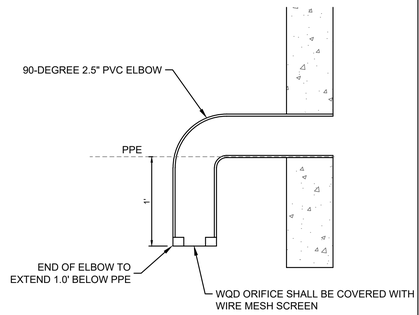
N.T.S.



NOTE: COLLAR MUST PROJECT 1.5' MIN. FROM BARREL

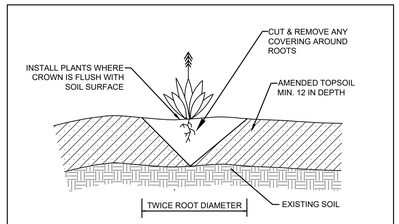
ANTI-SEEP COLLAR DETAIL

N.T.S.



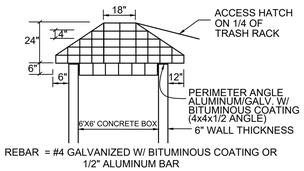
WET POND #2 - WATER QUALITY ORIFICE

NTS



GENERAL PLANTING DETAIL

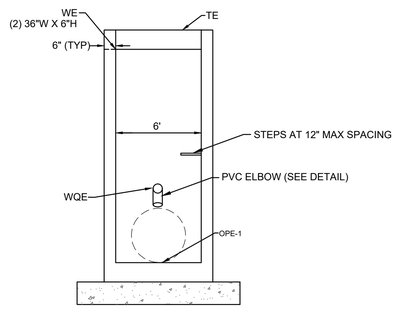
NTS



REBAR = #4 GALVANIZED W/ BITUMINOUS COATING OR 1/2" ALUMINUM BAR

TRASH RACK

NTS



WET POND #2 - OUTLET CONTROL STRUCTURE

NTS

WET POND #2 PLANTING SCHEDULE

SPECIES	LOCATION	QUANTITY	COMMON NAME	SPACING	CONT. SIZE
QS	SHALLOW WATER	41	QUILL SEDGE	1.5' O.C.	4 CU-IN
LL	SHALLOW WATER	41	LONGLEAF LOBELIA	1.5' O.C.	4 CU-IN
SM	SHALLOW WATER	40	SEASHORE MALLOW	1.5' O.C.	4 CU-IN
SW	SHALLOW LAND	43	SWAMP MILKWEED	1.5' O.C.	4 CU-IN
WT	SHALLOW LAND	43	WHITE TURTLEHEAD	1.5' O.C.	4 CU-IN
ST	SHALLOW LAND	44	STARRUSH WHITETOP	1.5' O.C.	4 CU-IN

PLANTING LEGEND

SHALLOW WATER

SHALLOW LAND

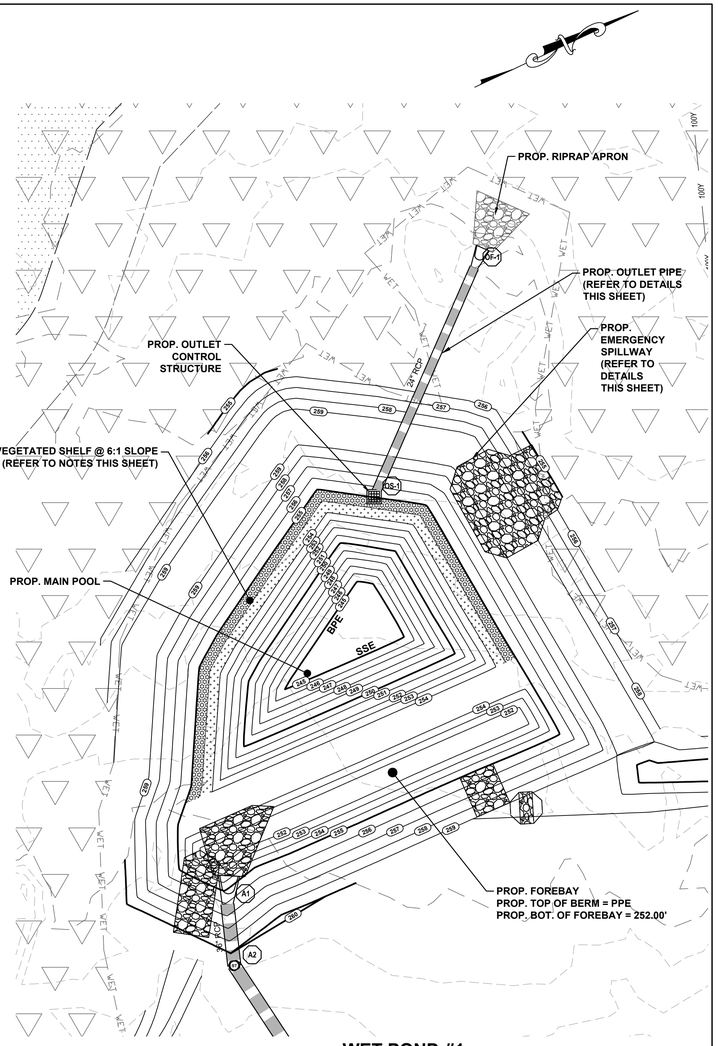
PLANTING NOTES:

SHALLOW WATER PLANTING REQUIREMENTS
488 SF PLANTED AT 50 PLANTS PER 200 SF = 122 PLANTS REQUIRED

SHALLOW LAND PLANTING REQUIREMENTS
519 SF PLANTED AT 50 PLANTS PER 200 SF = 130 PLANTS REQUIRED

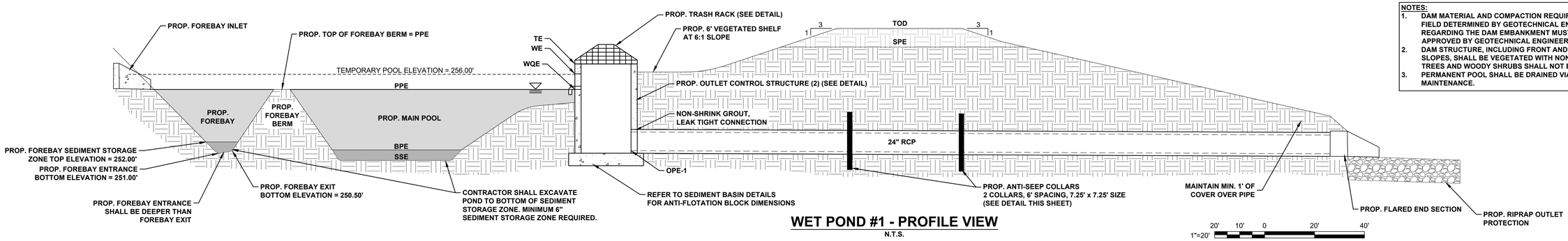
WET POND #2 ELEVATION INFORMATION

PERMANENT POOL ELEVATION	PPE	254.50'
BOTTOM OF MAIN POOL ELEVATION	BPE	245.00'
BOTTOM OF SEDIMENT STORAGE ZONE	SSE	244.50'
TOP OF DAM ELEVATION	TOD	259.00'
EMERGENCY SPILLWAY BOTTOM WIDTH	SBW	20'
EMERGENCY SPILLWAY BOTTOM ELEVATION	SPE	257.50'
OUTLET PIPE UPSTREAM INVERT ELEVATION	OPE-1	253.60'
OUTLET PIPE DOWNSTREAM INVERT ELEVATION	OPE-2	253.20'
OUTLET PIPE LENGTH	OPL	80'
OUTLET PIPE SLOPE	OPS	0.50%
WATER QUALITY ORIFICE DIAMETER	WQD	1.5"
WATER QUALITY ORIFICE INVERT ELEVATION	WQE	254.50'
WEIR ELEVATION	WE	256.00'
TOP OF OUTLET CONTROL STRUCTURE ELEVATION	TE	256.50'



WET POND #1 PLAN VIEW

SCALE: 1" = 20'



WET POND #1 - PROFILE VIEW

N.T.S.

20' 10' 0 20' 40'
1"=20'

NOTES:

1. DAM MATERIAL AND COMPACTION REQUIREMENTS ARE TO BE FIELD DETERMINED BY GEOTECHNICAL ENGINEER. ALL WORK REGARDING THE DAM EMBANKMENT MUST BE MONITORED AND APPROVED BY GEOTECHNICAL ENGINEER.
2. DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS; TREES AND WOODY SHRUBS SHALL NOT BE ALLOWED.
3. PERMANENT POOL SHALL BE DRAINED VIA PUMP FOR MAINTENANCE.

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WAKE COUNTY

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CHECKED	
PROJ. MGR.	PH

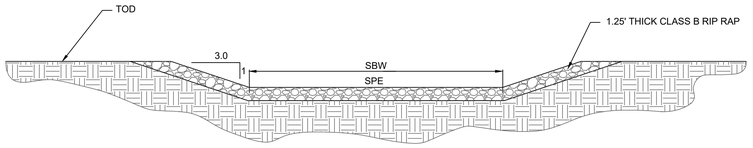
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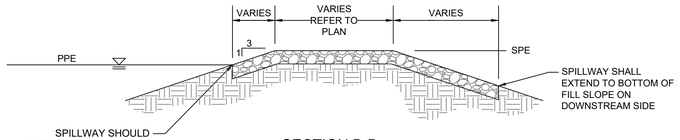
REVISION

STATUS: REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION

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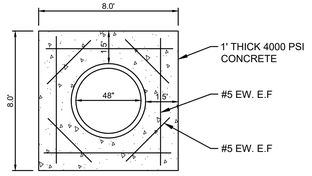
SECTION A-A



SECTION B-B

EMERGENCY SPILLWAY DETAIL

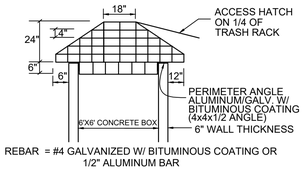
N.T.S.



NOTE: COLLAR MUST PROJECT 1.5' MIN. FROM BARREL

ANTI-SEEP COLLAR DETAIL

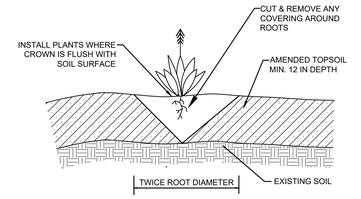
N.T.S.



REBAR = #4 GALVANIZED W/ BITUMINOUS COATING OR 1/2" ALUMINUM BAR

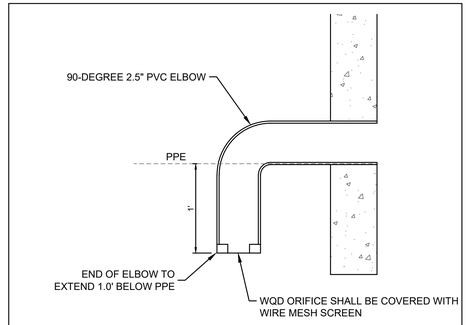
TRASH RACK

NTS



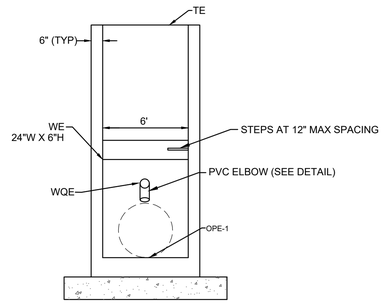
GENERAL PLANTING DETAIL

NTS



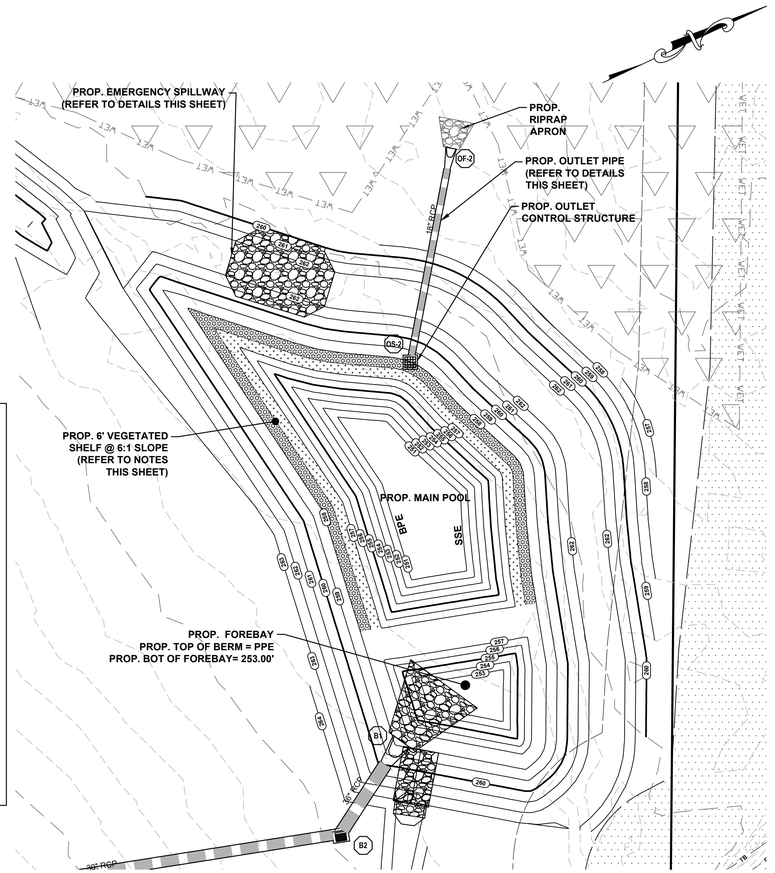
WET POND #2 - WATER QUALITY ORIFICE

NTS



WET POND #2 - OUTLET CONTROL STRUCTURE

NTS



WET POND #2
PLAN VIEW
SCALE: 1" = 20'

WET POND #2 PLANTING SCHEDULE

SPECIES	LOCATION	QUANTITY	COMMON NAME	SPACING	CONT. SIZE
QS	SHALLOW WATER	55	QUILL SEDGE	1.5' O.C.	4 CU-IN
LL	SHALLOW WATER	55	LONGLEAF LOBELIA	1.5' O.C.	4 CU-IN
SM	SHALLOW WATER	55	SEASHORE MALLOW	1.5' O.C.	4 CU-IN
SW	SHALLOW LAND	60	SWAMP MILKWEED	1.5' O.C.	4 CU-IN
WT	SHALLOW LAND	60	WHITE TURTLEHEAD	1.5' O.C.	4 CU-IN
ST	SHALLOW LAND	60	STARRUSH WHITETOP	1.5' O.C.	4 CU-IN

PLANTING LEGEND

SHALLOW WATER

SHALLOW LAND

PLANTING NOTES:

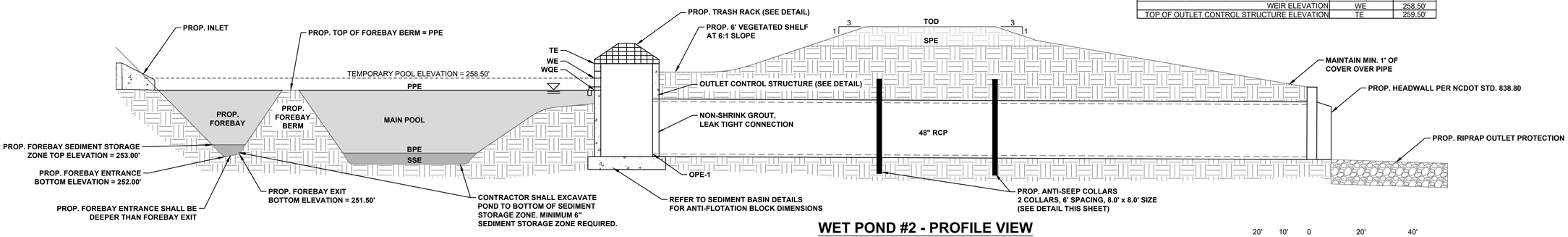
SHALLOW WATER PLANTING REQUIREMENTS
661 SF PLANTED AT 50 PLANTS PER 200 SF = 165 PLANTS REQUIRED

SHALLOW LAND PLANTING REQUIREMENTS
718 SF PLANTED AT 50 PLANTS PER 200 SF = 180 PLANTS REQUIRED

WET POND #2 ELEVATION INFORMATION

PERMANENT POOL ELEVATION	PPE	257.50'
BOTTOM OF MAIN POOL ELEVATION	BPE	251.00'
BOTTOM OF SEDIMENT STORAGE ZONE	SSE	250.50'
TOP OF DAM ELEVATION	TOD	262.00'
EMERGENCY SPILLWAY BOTTOM WIDTH	SBW	20'
EMERGENCY SPILLWAY BOTTOM ELEVATION	SPE	260.50'
OUTLET PIPE UPSTREAM INVERT ELEVATION	OPE-1	256.97'
OUTLET PIPE DOWNSTREAM INVERT ELEVATION	OPE-2	256.70'
OUTLET PIPE LENGTH	OPL	55'
OUTLET PIPE SLOPE	OPS	0.50%
WATER QUALITY ORIFICE DIAMETER	WQD	1.25"
WATER QUALITY ORIFICE INVERT ELEVATION	WQE	257.50'
WEIR ELEVATION	WE	258.50'
TOP OF OUTLET CONTROL STRUCTURE ELEVATION	TE	259.50'

NOTES:
1. **DAM MATERIAL AND COMPACTION REQUIREMENTS ARE TO BE FIELD DETERMINED BY GEOTECHNICAL ENGINEER. ALL WORK REGARDING THE DAM EMBANKMENT MUST BE MONITORED AND APPROVED BY GEOTECHNICAL ENGINEER.**
2. **DAM STRUCTURE, INCLUDING FRONT AND BACK EMBANKMENT SLOPES, SHALL BE VEGETATED WITH NON-CLUMPING TURF GRASS; TREES AND WOODY SHRUBS SHALL NOT BE ALLOWED.**
3. **PERMANENT POOL SHALL BE DRAINED VIA PUMP FOR MAINTENANCE.**



WET POND #2 - PROFILE VIEW

N.T.S.

20' 10' 0 20' 40'
1"=20'

REV.NO.	DESCRIPTIONS	DATE
	REVISIONS	

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NC License# F-1222

CARUSOHOMES

EAST HORTON STREET
ZEBULON, NC
WAKE COUNTY

SCM POND 2 DETAILS

DATE:	JULY 2025
MCE PROJ. #	09217-0003
DRAWN	JLM
DESIGNED	PH
CHECKED	
PROJ. MGR.	PH

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

C16.1
DRAWING NUMBER
REVISION

STATUS: **REVIEW DRAWINGS ONLY NOT FOR CONSTRUCTION**