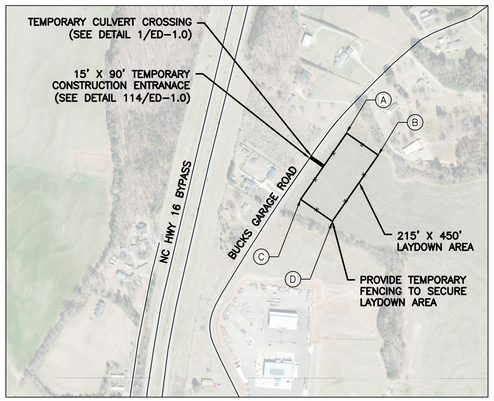
HIGHWAY 16 WATERLINE EXTENSION

CATAWBA COUNTY, NC
CATAWBA COUNTY UTILITIES & ENGINEERING

1 VICINITY MAP
SCALE: 1"=1,000'

SCHEDULE OF DRAWINGS

SHEET	TITLE
COVER	VICINITY MAP & SCHEDULE OF DRAWINGS
C-0.0	GENERAL NOTES, LEGEND,SHEET LAYOUT AND ABBREVIATIONS.
C-1.0	PLAN AND PROFILE STA. 0+00 TO 9+50
C-1.1	PLAN AND PROFILE STA 9+50 TO 19+50
C-1.2	PLAN AND PROFILE STA. 19+50 TO 29+50
C-1.3	PLAN AND PROFILE STA. 29+50 TO 39+50
C-1.4	PLAN AND PROFILE STA. 39+50 TO 49+50
C-1.5	PLAN AND PROFILE STA. 49+50 TO 59+50
C-1.6	PLAN AND PROFILE STA. 59+50 TO 69+50
C-1.7	PLAN AND PROFILE STA. 69+50 TO 79+50
C-1.8	PLAN AND PROFILE STA. 79+50 TO 84+96
SD-1.0	STANDARD DETAILS
SD-1.1	STANDARD DETAILS
MD-1.0	MISCELLANEOUS DETAILS
ED-1.0	EROSION CONTROL DETAILS
ED-1.1	EROSION CONTROL DETAILS



2 LAYDOWN AREA
SCALE: 1"=400'

LAYDOWN AREA NOTES:

1. PROVIDE MIN. 6" OF COMPACTED ABC STONE & NCDOT TYPE 4 GEOTEXTILE FABRIC.
2. FURNISH AND INSTALL TEMPORARY 6' HIGH CHAIN LINK FENCING. SIZE AND DIMENSIONS OF LAYDOWN AREA SHALL BE DETERMINED BY CONTRACTOR FOR NECESSARY OPERATIONS.
3. CONTRACTOR SHALL OBTAIN NCDOT DRIVEWAY PERMIT, IF REQUIRED.
4. GATE SHALL BE LOCKED AT ALL TIMES.
5. CONTRACTOR SHALL REMOVE TEMPORARY FENCE PRIOR TO SUBMITTING FINAL PAY APPLICATION.

LAYDOWN AREA LIMITS			
POINT #	NORTHING	EASTING	DESCRIPTION
A	666373.1894	1383355.5774	FENCE CORNER
B	666248.6775	1383535.7378	FENCE CORNER
C	665999.7061	1383097.4568	FENCE CORNER
D	665875.1942	1383277.6173	FENCE CORNER

NORTH CAROLINA PROFESSIONAL SEAL 035047 04-10-2024 ENGINEER DAVID S. WOLF
SEAL NOT VALID UNLESS SIGNED AND DATED

catawba county
MAKING. LIVING. BETTER.

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Engineering is our profession. Service is our passion.

HIGHFILL PROJ. NO. CAT2101
APRIL 2024

PLOT DATE: 4/25/2024

GENERAL NOTES:

1. EXISTING SURVEY DATA PROVIDED BY MLA DESIGN GROUP, INC. FOR ENGINEERING PURPOSES ONLY, NOT FOR RECORDATION. ELEVATIONS SHOWN ARE BASED ON NAVD88, HORIZONTAL DATUM IN NAD83(2011).

2. THE DRAWINGS DO NOT SHOW ALL HOMES AND BUSINESSES IN THE PROJECT AREAS OR OTHER EXISTING UTILITIES. THE CONTRACTOR IS ADVISED THAT THE AREAS ARE CONGESTED WITH HOMES, BUSINESSES, AND UTILITIES. THE CONTRACTOR SHALL MAKE NECESSARY SITE INVESTIGATIONS TO DETERMINE ACTUAL UTILITY LOCATIONS, OBSTACLES, HOMES, BUSINESSES, ETC. PRIOR TO BIDDING.

3. BUILDING LOCATIONS ARE APPROXIMATE AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. NOT ALL BUILDINGS ARE SHOWN.

4. WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES. NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY CONTRACTOR AT ITS EXPENSE, UNLESS PREVIOUSLY OBTAINED BY THE OWNER AND PROVIDED IN THE CONTRACT DOCUMENTS.

5. THE CONTRACTOR SHALL HAVE A COMPLETE SET OF CONTRACT DOCUMENTS AS WELL AS ALL PERMIT APPROVALS AND EASEMENTS ON THE JOB SITE AT ALL TIMES.

6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

7. DEVIATION FROM THE CONTRACT DOCUMENTS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER OR THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE DEEMED UNACCEPTABLE.

8. AT LEAST FIVE BUSINESS DAYS PRIOR TO COMMENCING CONSTRUCTION, CONTRACTOR SHALL NOTIFY ENGINEER AND APPLICABLE REGULATORY AGENCIES THAT HE IS PREPARED TO COMMENCE.

9. CONTRACTOR SHALL CALL NC ONE CALL FOR UTILITY LOCATIONS PRIOR TO DIGGING.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH DUKE POWER. SUPPORT EXISTING UTILITY POLES AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WORK. COSTS OF SUCH WORK SHALL BE PAID BY CONTRACTOR.

11. BURIED TELEPHONE AND CATV CABLES (FIBER OPTICS AND CONVENTIONAL) ARE KNOWN TO VARY DUE TO INSTALLATION TECHNIQUES. CONTRACTOR SHALL COORDINATE WORK WITH CONFLICTING TELEPHONE AND CATV CABLES AS INCLUDED IN THE PROJECT SCHEDULE AND IT IS THE EXPLICIT RESPONSIBILITY OF CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY COORDINATION.

12. REASONABLE CARE HAS BEEN EXERCISED IN SHOWING THE LOCATION OF EXISTING UTILITIES ON THE PLANS. THE EXACT LOCATION OF ALL EXISTING UTILITIES IS NOT KNOWN IN ALL CASES. THE CONTRACTOR SHALL EXPLORE THE AREA AHEAD OF DITCHING OPERATIONS BY OBSERVATION, ELECTRONIC DEVICES, HAND DIGGING, AND BY PERSONAL CONTACT WITH THE UTILITY COMPANIES TO DETERMINE THE ACTUAL LOCATION OF ALL EXISTING UTILITIES IN AN EFFORT TO AVOID INFLICTING DAMAGE TO THOSE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY RELOCATION COSTS IF REQUIRED FOR CONTRACTOR'S METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS RESULTING FROM DAMAGE TO THE EXISTING UTILITIES ARISING FROM CONSTRUCTION OF THIS PROJECT. SUCH COSTS INCLUDE LOSS OF UTILITY REVENUES. IF NECESSARY, CONTRACTOR SHALL ARRANGE FOR RELOCATION OR TEMPORARY SUPPORT OF EXISTING UTILITIES SUCH AS POLES, CONDUITS, CABLES, WATER AND SEWER MAINS, ETC.

13. CONTRACTOR SHALL MAKE EVERY EFFORT TO PRESERVE PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR SHALL BE REPLACED BY A PROFESSIONAL LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

14. CONTRACTOR SHALL CLEAR AND GRUB THE CONSTRUCTION CORRIDOR TO EASEMENT EXTENTS. CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT TREES THAT WILL NOT BE REMOVED DURING CONSTRUCTION.

15. CONTRACTOR ACTIVITY SHALL BE LIMITED TO STREET RIGHTS-OF-WAY AND CITY/COUNTY EASEMENTS.

16. CONTRACTOR SHALL MAINTAIN AN INGRESS/EGRESS TO EACH PROPERTY AT ALL TIMES. BYPASS PIPE SHALL NOT PROHIBIT ACCESS TO PROPERTIES. PROVIDE FLOW-THROUGH ROAD RAMPS AT ROAD CROSSINGS AND DRIVEWAYS.

17. PRIOR TO DISTURBANCE, CONTRACTOR SHALL VIDEOTAPE SEWER ALIGNMENT INCLUDING EACH DRIVEWAY, SIDEWALK, STRUCTURE, ETC., TO BE DISTURBED. EACH SHALL BE RESTORED TO ITS PRECONSTRUCTION CONDITION OR BETTER. VIDEO SHALL BE SUBMITTED TO ENGINEER PRIOR TO WORK.

18. CONTRACTOR SHALL RESTORE/REPLACE ALL DISTURBED SIGNS, MAILBOXES, STORM DRAINS, ETC. TO ORIGINAL CONDITION AND LOCATION AS SOON AS THE CONSTRUCTION PROGRESSES BEYOND THAT LOCATION. IN NO CIRCUMSTANCES SHALL POSTAL SERVICE BE INTERRUPTED TO PROPERTIES ALONG THE CONSTRUCTION CORRIDOR.

19. ALL ROADSIDE DITCHES DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER AND STABILIZED WITH STRAW AND NET MATTING UNLESS OTHERWISE INDICATED.

20. ALL MATERIAL CLEARED OR DEMOLISHED BY THE CONTRACTOR IN ORDER TO PERFORM THE WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF SITE. NO BURNING WILL BE ALLOWED.

21. GRAVEL DRIVEWAYS SHALL BE RESTORED WITH 6" COMPACTED STONE FOR THE FULL WIDTH.

22. RELATIONSHIP OF SANITARY SEWER TO EXISTING UTILITIES (15A NCAC 02T .0305)

    A) SANITARY SEWER SHALL MAINTAIN MINIMUM VERTICAL SEPARATION OF 18" FROM WATER MAINS, OR A HORIZONTAL MINIMUM SEPARATION OF 10'.

23. RELATIONSHIP OF WATERLINE TO STORM DRAINS (15A NCAC 18C .0906(d)):

    A) MAINTAIN A MINIMUM VERTICAL DISTANCE OF 12" BETWEEN OUTSIDE WALL OF EACH PIPE.

24. CONTRACTOR SHALL CONFINE WORK HOURS FROM 7:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY UNLESS APPROVED BY OWNER.

25. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL, AND ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAG MEN AND WATCHMEN AS NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AS SUPPLEMENTED BY THE NCDOT.

26. CONTRACTOR SHALL NOTIFY HOME AND BUSINESS OWNERS IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION THAT CONSTRUCTION ACTIVITY WILL TAKE PLACE IN THE VICINITY OF THEIR PROPERTY.

27. IF CITY OR STATE DOT ALLOWS EXCAVATED MATERIAL STORAGE ON PAVEMENT, A LAYER OF COARSE SAND, SCREENINGS OR ACCEPTABLE ALTERNATIVE SHALL BE PLACED ON THE PAVEMENT PRIOR TO DEPOSITION OF EXCAVATED MATERIAL.

28. LANE CLOSURES OR CONSTRUCTION SHALL NOT OCCUR ON OPPOSITE SIDES OF A STREET OR INTERSECTION SIMULTANEOUSLY.

29. ALL TRAFFIC SHALL BE RESTORED TO TWO-WAY TRAFFIC AT THE END OF EACH WORK DAY.

30. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM HICKORY AND CATAWBA COUNTY PRIOR TO COMMENCEMENT OF WORK.

31. PAVEMENT CUTS SHALL BE SAW CUT ALONG A STRAIGHT CONTINUOUS EDGE.

32. TRENCH WIDTHS SHALL BE IN STRICT ACCORDANCE WITH THE "TRENCH EXCAVATION LIMITS" AS SHOWN ON THE DRAWINGS.

33. CONTRACTOR SHALL FURNISH AND INSTALL SHEETING REQUIRED FOR THE INSTALLATION OF THE UTILITY. EXCAVATIONS SHALL BE KEPT WITHIN THE DESIGNATED EASEMENT AND RIGHT-OF-WAY WIDTHS. EXCAVATION WITH PAVED AREAS SHALL BE KEPT TO A MINIMUM. SHEETING SHALL BE INSTALLED AS REQUIRED TO PROTECT EXISTING UTILITIES.

34. WHERE POSSIBLE, WHEN INSTALLING SERVICES, CONTRACTOR SHALL MAKE A REASONABLE EFFORT TO PLACE SERVICE LINES UNDER EXISTING CURB AND GUTTER WITHOUT DAMAGE TO CURB AND GUTTER.

35. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING FENCE AS REQUIRED FOR CONSTRUCTION. ADDITIONAL FENCE MATERIALS REQUIRED SHALL BE PROVIDED BY CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

36. TRAFFIC ISLANDS, CURBS AND CONCRETE DRIVEWAYS SHALL BE REPLACED TO THE FIRST EXPANSION JOINT BEYOND THE TRENCH EXCAVATION LIMITS AND TO THE FULL WIDTH. TRAFFIC ISLANDS, CURBS, AND CONCRETE DRIVEWAYS SHALL MATCH EXISTING.

37. REPLACEMENT STORM DRAIN RCP IN NCDOT RIGHT-OF-WAY SHALL BE CLASS IV. REPLACEMENT STORM DRAIN RCP IN CITY/COUNTY RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH CITY/COUNTY STANDARDS SPECIFICATIONS. MINIMUM SIZE FOR REPLACEMENT OF DRIVEWAY PIPES SHALL BE 15".

38. PLACED RIP-RAP SHALL HAVE A MINIMUM DEPTH OF 1.5 TIMES THE MAXIMUM STONE DIAMETER.

39. EMERGENCY VEHICLE ACCESS AND ACCESS TO FIRE HYDRANTS SHALL BE MAINTAINED AT ALL TIMES.

40. ACCESS TO BUSINESS AND RESIDENTIAL SITES SHALL BE MAINTAINED AT ALL TIMES.

41. BORE AND JACK PIT LOCATIONS MAY BE SHOWN ON THE PLANS AND MAY BE SHOWN WITH DIMENSIONS. THE LOCATIONS AND DIMENSIONS SHOWN ARE TO CONVEY GENERAL INTENT OF THE LAYOUT. CONTRACTOR SHALL SIZE AND LOCATE PITS AS REQUIRED FOR WORK AND WITHIN EASEMENTS AND RIGHTS OF WAY SHOWN.

42. IN LOCATIONS WHERE THE WATERLINE IS INSTALLED UNDER A STORM CULVERT AND NEAR THE END OF THE STORM CULVERT, REMOVE THE STORM CULVERT TO THE NEAREST JOINT AND INSTALL WATERLINE. INSTALL STORM CULVERT TO PRE-EXISTING SLOPE. IF THE WATERLINE IS NOT NEAR THE END OF THE STORM CULVERT, INSTALL SHORING UNDER THE STORM CULVERT DURING INSTALLATION OF WATERLINE.

43. WATERLINE PIPES SHALL BE INSTALLED WITH TRACER WIRE AND WARNING TAPE. TERMINATE EACH END OF TRACER WIRE AT VALVE BOX.

44. AREAS DISTURBED DURING CONSTRUCTION OR MAINTENANCE SHALL BE RESTORED OR REMEDIATED IN ACCORDANCE WITH THE NCDOT ROADWAY DESIGN MANUAL, ROADWAY STANDARD DRAWINGS, AND STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, AND THE AASHTO ROADSIDE DESIGN GUIDE.

EROSION CONTROL NOTES:

1. CONTACT NATHALIA QUEEN OF THE CATAWBA COUNTY UTILITIES AND ENGINEERING ADMINISTRATION AT (828) 465-9469 SHOULD ANY EROSION AND SEDIMENT CONTROL ISSUES ARISE DURING LAND DISTURBING ACTIVITY.

2. ALL EROSION CONTROL DEVICES SHALL CONFORM WITH THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

3. CONTRACTOR TO CONTACT THE DEMLR MOORESVILLE REGIONAL OFFICE A MINIMUM OF 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY. THE CONTACT NUMBER IS (704) 663-1699

4. THE ESCAPE OF SEDIMENT FROM THE SEWER ALIGNMENT SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO CONSTRUCTION.

5. CONTRACTOR SHALL USE EROSION CONTROL DEVICES SHOWN AND ANY ADDITIONAL DEVICES NECESSARY TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION.

6. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.

7. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN DAYS OR AFTER EACH RAINFALL EVENT THAT EXCEEDS ONE-HALF INCH. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY. COMBINED SELF-INSPECTION FORM CAN BE FOUND AT THIS LINK: http://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms

8. UPON STABILIZATION OF THE CONSTRUCTION CORRIDOR AND APPROVAL BY ENGINEER, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EROSION CONTROL DEVICES.

9. INSTALL EROSION CONTROL MATTING AS INDICATED ON PLANS. UTILIZE STRAW WITH NETTING. EROSION CONTROL MATTING SHALL BE FURNISHED FOR ALL DITCHES WITH SLOPES GREATER THAN 2%. EVEN IF NOT INDICATED ON PLANS. (SEE 31-06/ED-1.0).

10. CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH (I.E. STABILIZE) ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS OF LAND DISTURBING ACTIVITIES OR SOONER AS OUTLINED BY NPDES GROUND STABILIZATION TABLE LOCATED ON THIS SHEET.

11. CONTRACTOR SHALL PROVIDE A CONSTRUCTION ENTRANCE AND ADDITIONAL EROSION CONTROL DEVICES AS NEEDED, TO BE IMMEDIATELY INSTALLED, FOR ANY MATERIAL LAY DOWN, STAGING AREA, EXCAVATED MATERIAL STORAGE OR ANY OTHER AREAS DISTURBED BY CONSTRUCTION.

    A. DEMOLITION MATERIALS AND STOCKPILES SHALL BE NO CLOSER THAN 50' FROM STORM DRAINS AND STREAMS.

12. PERMANENT GROUNDCOVER WILL BE PROVIDED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR NO MORE THAN 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION.

13. CONCRETE MATERIALS SHALL BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

14. PROVIDE WATTLES AS INLET PROTECTION FOR ALL DRIVEWAY CULVERTS.

15. STRAW WATTLES AND/OR ROCK CHECK DAMS SHALL BE PROVIDED AT OUTLETS OF EACH SECTION OF DISTURBED DITCH LINE THROUGHOUT SITE.

16. ONCE THE TRENCH HAS BEEN EXCAVATED, PROCEED IMMEDIATELY TO PREPARE THE SUBGRADE, PLACE THE BEDDING, INSTALL THE PIPE, AND BACKFILL THE EXCAVATION. EXCAVATING, PIPE LAYING, AND BACKFILLING SHALL MOVE FORWARD AT APPROXIMATELY EQUAL RATES OF PROGRESS. CONTRACTOR SHALL EXCAVATE ONLY AS MUCH TRENCH AS HE CAN COMPLETELY INSTALL PIPE, BACKFILL, COMPACT, AND CLEANUP WITHIN THAT WORKING DAY. STRING OUT ONLY THE AMOUNT OF PIPE THAT CAN BE INSTALLED IN ONE DAY.

17. TRENCHES SHALL NOT BE LEFT OPEN WITHOUT PROPER SUPERVISION DURING WORKING HOURS OR STEEL PLATING COMPLETELY COVERING THE EXCAVATION. PREPARE FOR AND SCHEDULE THE WORK SO THAT TRENCHES ARE NOT LEFT OPEN FOR A LONGER PERIOD OF TIME THAN IS REASONABLY NECESSARY AS DETERMINED BY THE ENGINEER.

PROJECT NOTES:

1. ACCESS SHALL BE ALONG THE EXISTING UTILITY EASEMENTS OR WITHIN EXISTING ROAD RIGHTS-OF-WAY AND WORK SHALL BE MAINTAINED WITHIN THE EASEMENTS AND RIGHTS-OF-WAY UNLESS OTHERWISE APPROVED BY THE INDIVIDUAL PROPERTY OWNERS AND/OR THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NEGOTIATING WITH PROPERTY OWNERS FOR SUCH ALTERNATE ACCESS AND SHALL PAY ANY AND ALL COSTS ASSOCIATED WITH SUCH ALTERNATE ACCESS AS SPECIFIED ABOVE. ALL SUCH NEGOTIATIONS WITH PROPERTY OWNERS SHALL BE IN WRITING, AND COPIES OF THE AGREEMENTS SHALL BE SUBMITTED TO THE ENGINEER AND UTILITY OWNER PRIOR TO USING THE ACCESS.

2. CONTRACTOR SHALL DESIGN AND IMPLEMENT A TRAFFIC CONTROL PLAN PER NCDOT OR CATAWBA COUNTY GUIDELINES AND SUBMIT TO NCDOT, CATAWBA COUNTY, OR CITY OF HICKORY, IF REQUIRED. SEE TRAFFIC CONTROL SHEETS FOR GUIDANCE. WARNING SIGNS, BARRICADES, AND FLAGMEN MUST BE PROVIDED IN ACCORDANCE WITH NCDOT'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD). ACCESS SHALL BE MAINTAINED TO HOMES, RESIDENCES, AND BUSINESSES IN THE AREA AT ALL TIMES.

3. TRAFFIC CONTROL DETAILS, DRAWINGS, OR SPECIFICATIONS ARE NOT INTENDED TO ADDRESS EVERY POSSIBLE SITUATION.

4. ROAD RIGHTS-OF-WAY ARE SHOWN. CONTRACTOR SHALL CONFINE WORK WITHIN EXISTING EASEMENTS. CONTRACTOR SHALL OBTAIN ADDITIONAL CONSTRUCTION EASEMENTS IF NEEDED TO COMPLETE WORK.

LANE CLOSURE NOTES:

1. NORMAL TRAFFIC PATTERNS SHALL BE RESTORED AT END OF EACH WORK DAY.

2. NO UNPROTECTED OPEN TRENCH IS ALLOWED OUTSIDE OF WORKING HOURS.

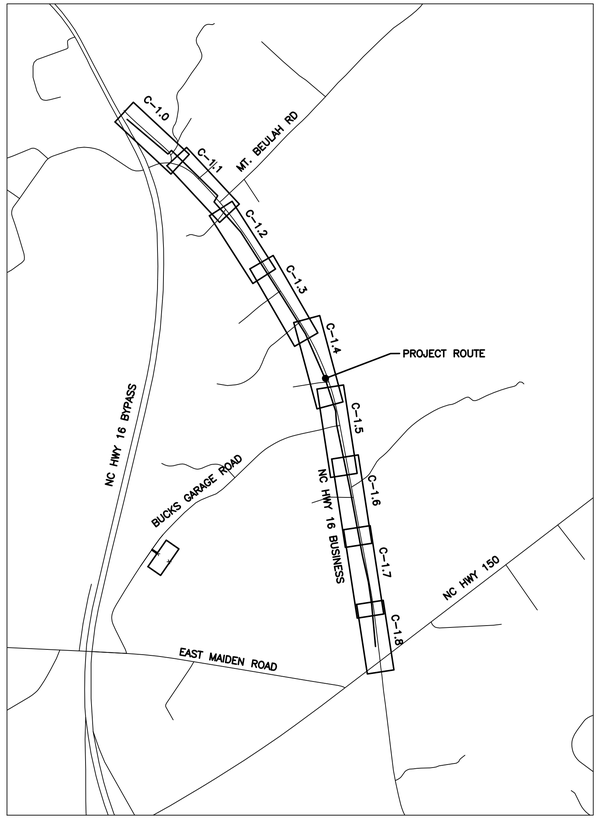
3. ANY OPEN TRENCH THAT DOES NOT HAVE ACTIVE CONSTRUCTION WORK OCCURRING, SHALL BE COVERED BY A STEEL PLATE SUITABLE FOR VEHICLE TRAFFIC.

ABBREVIATIONS:

AWWA – AMERICAN WATER WORKS ASSOCIATION
CL – CENTERLINE
CB – CATCH BASIN
CMP – CORRUGATED METAL PIPE
CONC – CONCRETE
CPP – CORRUGATED PLASTIC PIPE
CT – COURT
DI – DUCTILE IRON
DIP – DUCTILE IRON PIPE
DR – DRIVE
EX – EXISTING
EOP – EDGE OF PAVEMENT
FM – FORCE MAIN
GV – GATE VALVE
HDPE – HIGH DENSITY POLYETHYLENE
HW – HEADWALL
INV – INVERT
IP – IRON PIPE
LSE – LANDSCAPE EASEMENT
LF – LINEAR FEET
MIN – MINIMUM
MH – MANHOLE
MJ – MECHANICAL JOINT
NIC – NOT IN CONTRACT
OC – ON CENTER
NTS – NOT TO SCALE
PE – PLAIN END
PJ – PUSH-ON JOINT
PL – PROPERTY LINE
PP – POWER POLE
PSI – POUNDS PER SQUARE INCH
PV – PLUG VALVE
PVC – POLYVINYL CHLORIDE
PVMT – PAVEMENT
R/W or ROW – RIGHT-OF-WAY
R or RAD – RADIUS
RCP – REINFORCED CONCRETE PIPE
REQ'D – REQUIRED
RD – ROAD
RJ – RESTRAINED JOINT
STA – STATION
SR – SECONDARY ROAD (STATE)
THK – THICK
TOS – TOP OF SLAB
TS&V – TAPPING SLEEVE AND VALVE
TYP. – TYPICAL
U/G – UNDERGROUND
U.N.O. – UNLESS NOTED OTHERWISE
UT – UNDERGROUND TELEPHONE
W/ – WITH
WL – WATER LINE
WWF – WELDED WIRE FABRIC OR FENCE
or LB – POUNDS
5/SD-1 – DETAIL CROSS-REFERENCE (DETAIL 5 ON SHEET SD-1 IN THIS EXAMPLE)

GROUND STABILIZATION*		
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HWQ ZONES)

*"EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION ii.B(2)(B))



1 SHEET LAYOUT
SCALE: 1" = 1,000'

N

LEGEND

SYMBOL (NEW)	SYMBOL (EX.)	DESCRIPTION
		UTILITY PEDESTAL (SIZE/SHAPE VARIES)
		TREE/SHRUB (DIA. & TYPE SOMETIMES NOTED)
		SEWER CLEAN-OUT
100	100	CONTOUR
+ 100	+ 100	SPOT ELEVATION
CL		WOODS LINE, CLEARING LIMIT
S	S SD FO	SEWER, STORMWATER, & FIBER OPTIC MH
		CATCH BASIN/GRILL BASIN
	W	WELL
		POWER OR TELEPHONE POLE
		FIRE HYDRANT ASSEMBLY
	WV	GATE VALVE
	E OHE	UNDERGROUND / OVERHEAD POWER
	UT UT	UNDERGROUND TELEPHONE
	TEL TEL	OVERHEAD TELEPHONE
	G	GAS LINE
	W W	WATER LINE
	SS SS	SEWER LINE
	FM FM	SEWER FORCE MAIN
		STORMWATER PIPE
	FO FO	UNDERGROUND FIBER OPTIC LINE
x x	X X	FENCE
		PROPERTY LINE
		PERMANENT EASEMENT OR R/W
		STRUCTURE OUTLINE (SHAPES VARY)
		TEMPORARY BENCH MARK
		WATER METER
		LIGHT POLE
		PROPERTY OR R/W MONUMENT
		GUY WIRE
		SIGN
		BORE AND JACK OR RECEIVING PIT
		PIPE CASING
		MAILBOX
		TEMPORARY CONSTRUCTION EASEMENT
		WETLANDS BOUNDARY
		SUBSURFACE TEST BORE
		ITEM TO BE REMOVED
		ASPHALT/CONCRETE REMOVAL & RESTORATION
LOD LOD		LIMITS OF DISTURBANCE LINE
CRZ CRZ		CRITICAL ROOT ZONE
TCA TCA		TREE CONSERVATION AREA LINE
		CONCRETE WASHOUT
SF SF		SILT FENCE
TP TP		TREE PROTECTION FENCE
SF/TP SF/TP		COMBINATION SILT FENCE & TREE PROTECTION FENCE
		SILT FENCE OUTLET
		PIPE INLET PROTECTION
		CHECK DAM
		INLET PROTECTION
		WATTLE
		EROSION CONTROL MATTING
		TEMPORARY CONSTRUCTION ENTRANCE
		RIP-RAP BANK STABILIZATION
		STREAM STABILIZATION

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN - ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024
SEAL NOT VALID UNLESS SIGNED AND DATED

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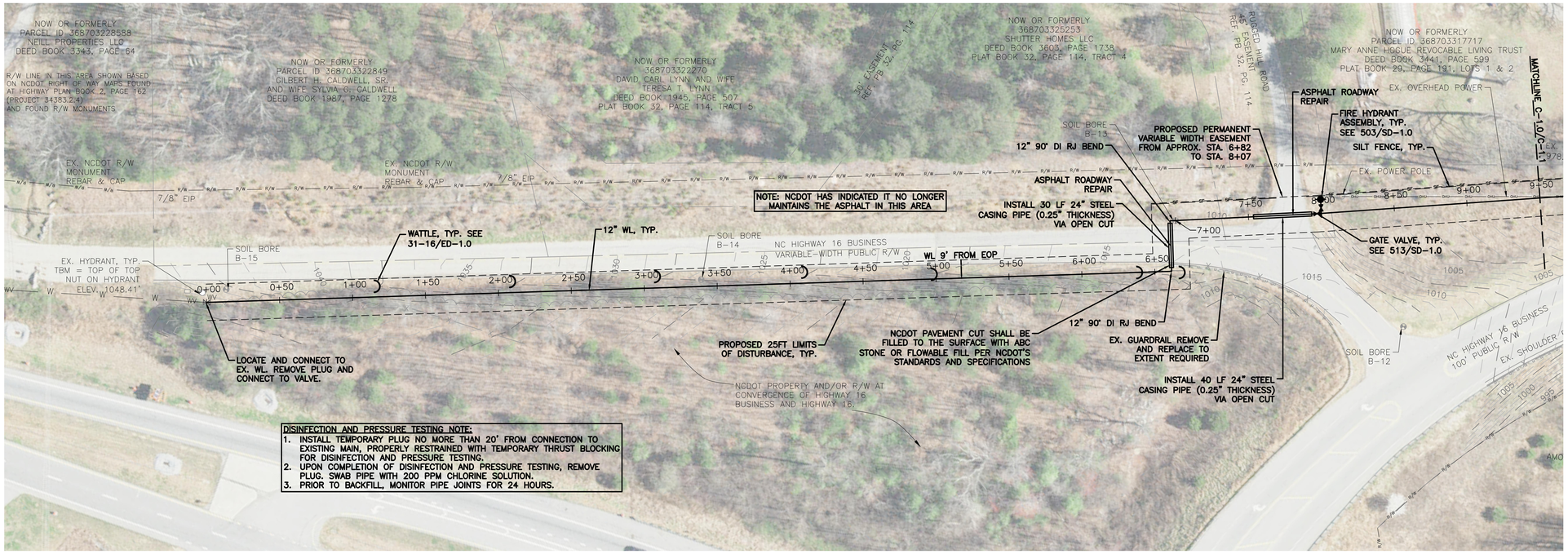
Engineering is our profession. Service is our passion.

HIGHWAY 16 WATERLINE EXTENSION
CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

GENERAL NOTES, LEGEND, SHEET LAYOUT AND ABBREVIATIONS.

PROJECT NO.
CAT2101

C-0.0



1 PLAN – STA. 0+00 TO 9+50

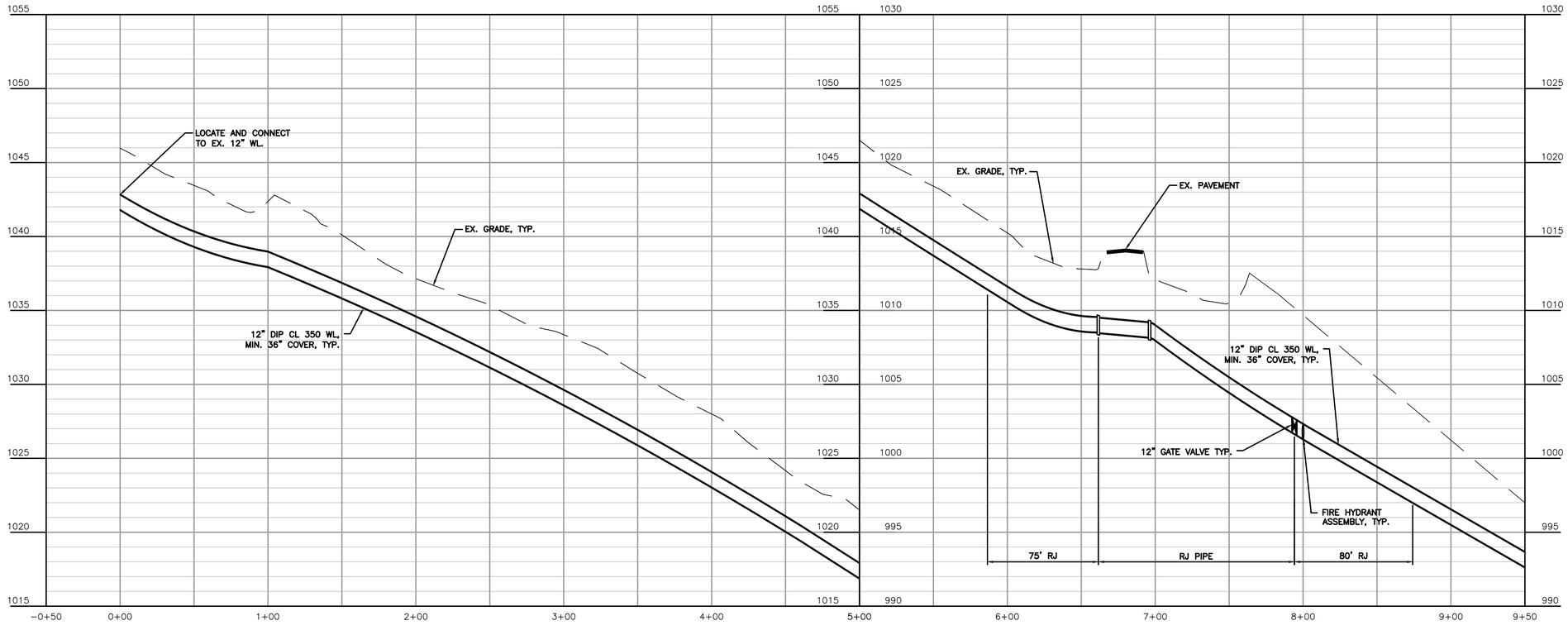
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 0+00 TO 9+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN – ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
OA-10-2024
SEAL NOT VALID UNLESS SIGNED AND DATED

HIGHFILL INFRASTRUCTURE ENGINEERING, P.C.
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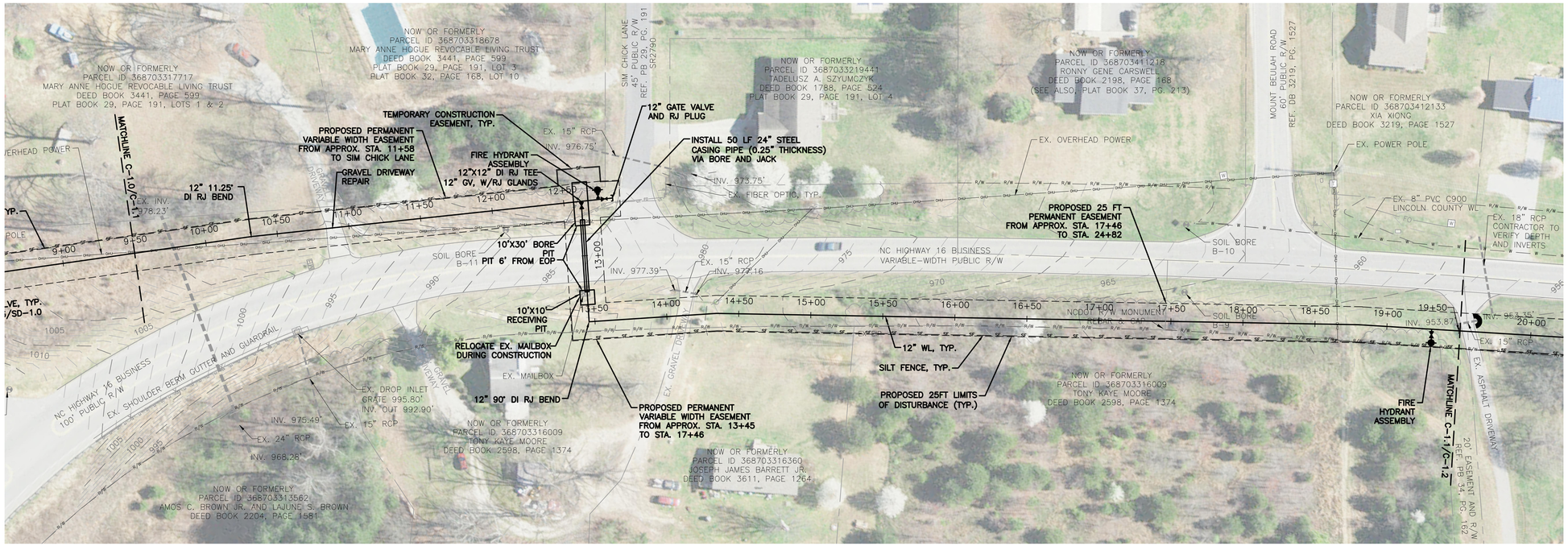
HIGHWAY 16 WATERLINE EXTENSION

CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

PLAN AND PROFILE STA. 0+00 TO 9+50

PROJECT NO.
CAT2101

C-1.0



1 PLAN – STA. 9+50 TO 19+50

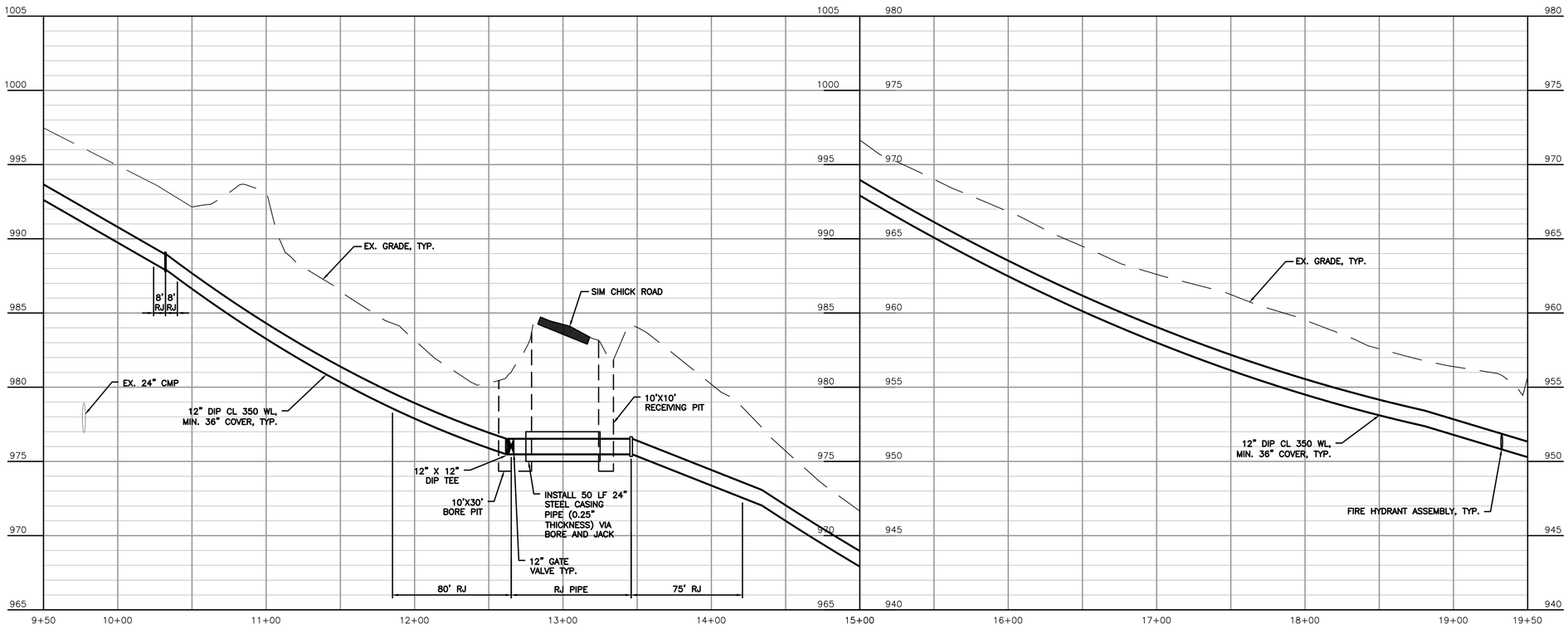
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 9+50 TO 19+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN – ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

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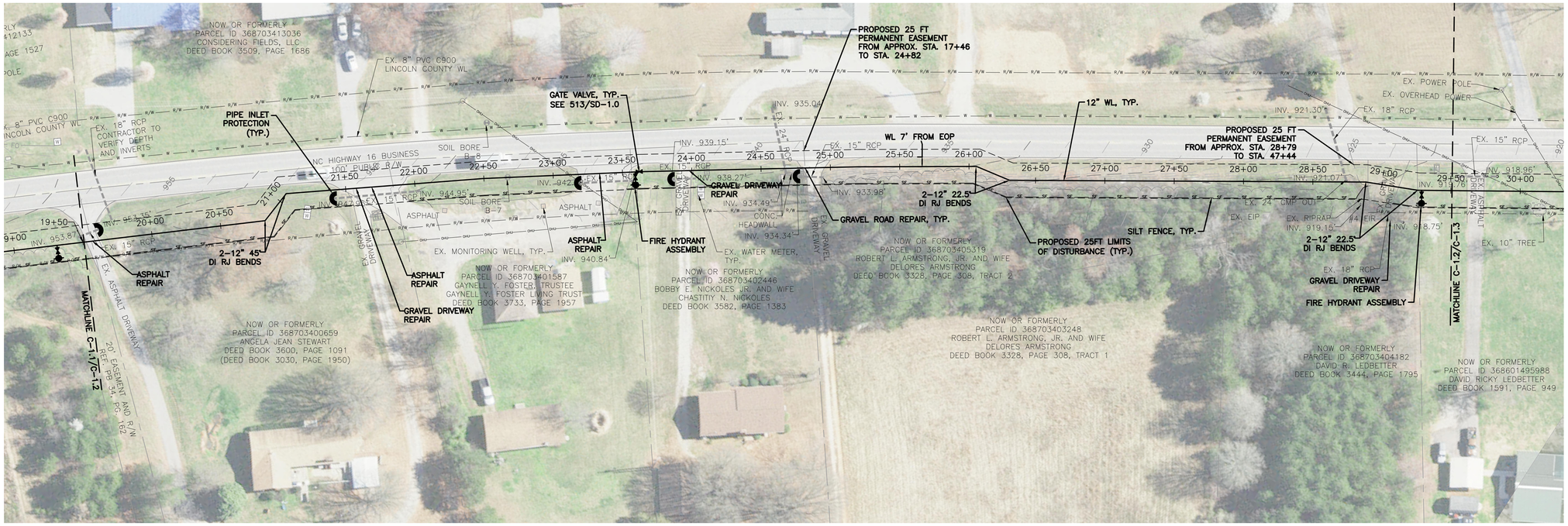
PLAN AND PROFILE STA 9+50 TO 19+50

PROJECT NO.
CAT2101

C-1.1



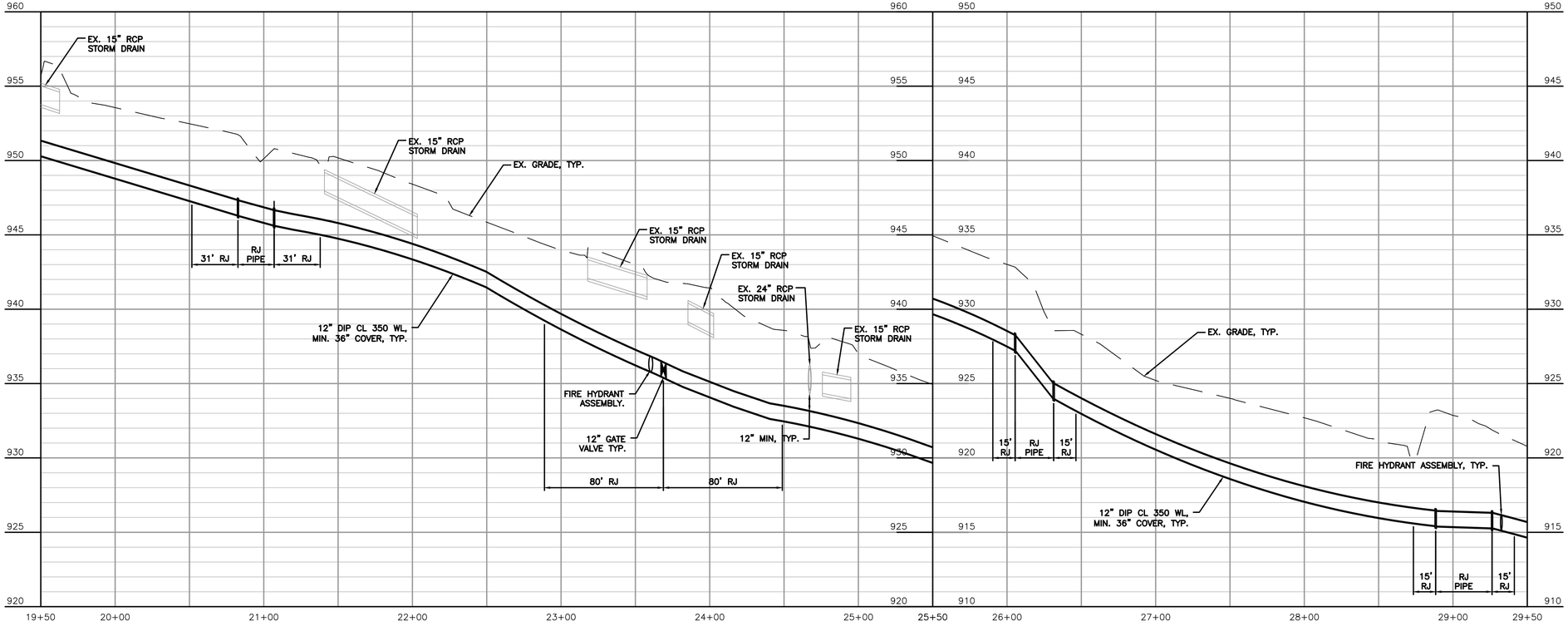
1 PLAN – STA. 19+50 TO 29+50

SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.



2 PROFILE – STA. 19+50 TO 29+50

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

BY	REVISION	DATE
YQ	100% DESIGN – ISSUED FOR BID	4/10/24
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
04-10-2024
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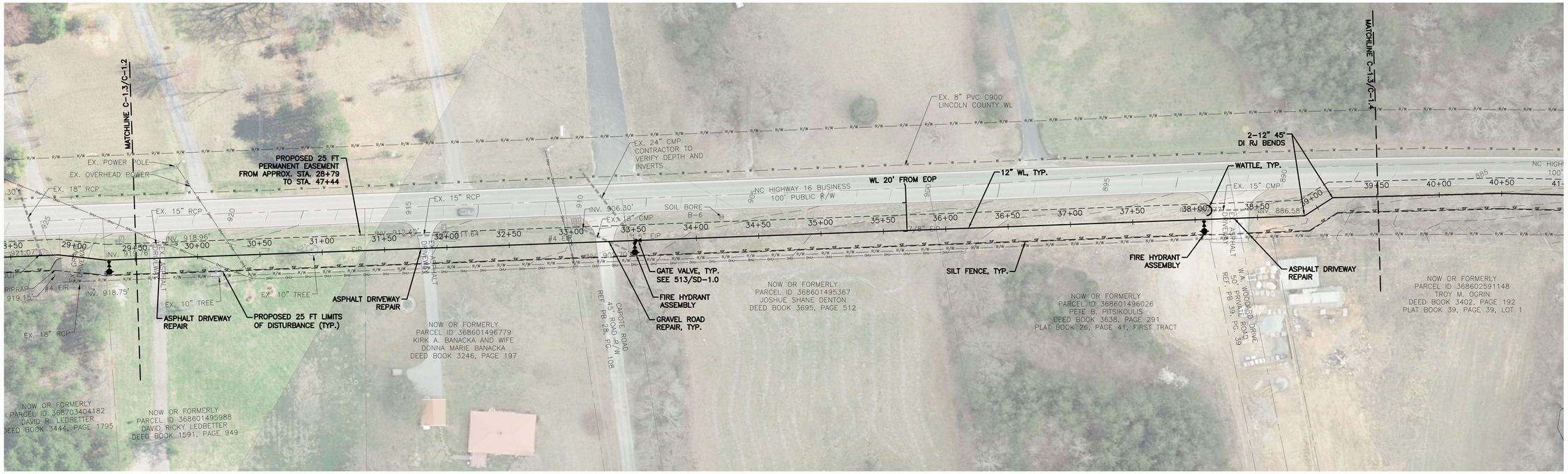
PLAN AND PROFILE STA. 19+50 TO 29+50

PROJECT NO.
CAT2101

C–1.2



1 PLAN – STA. 29+50 TO 39+50

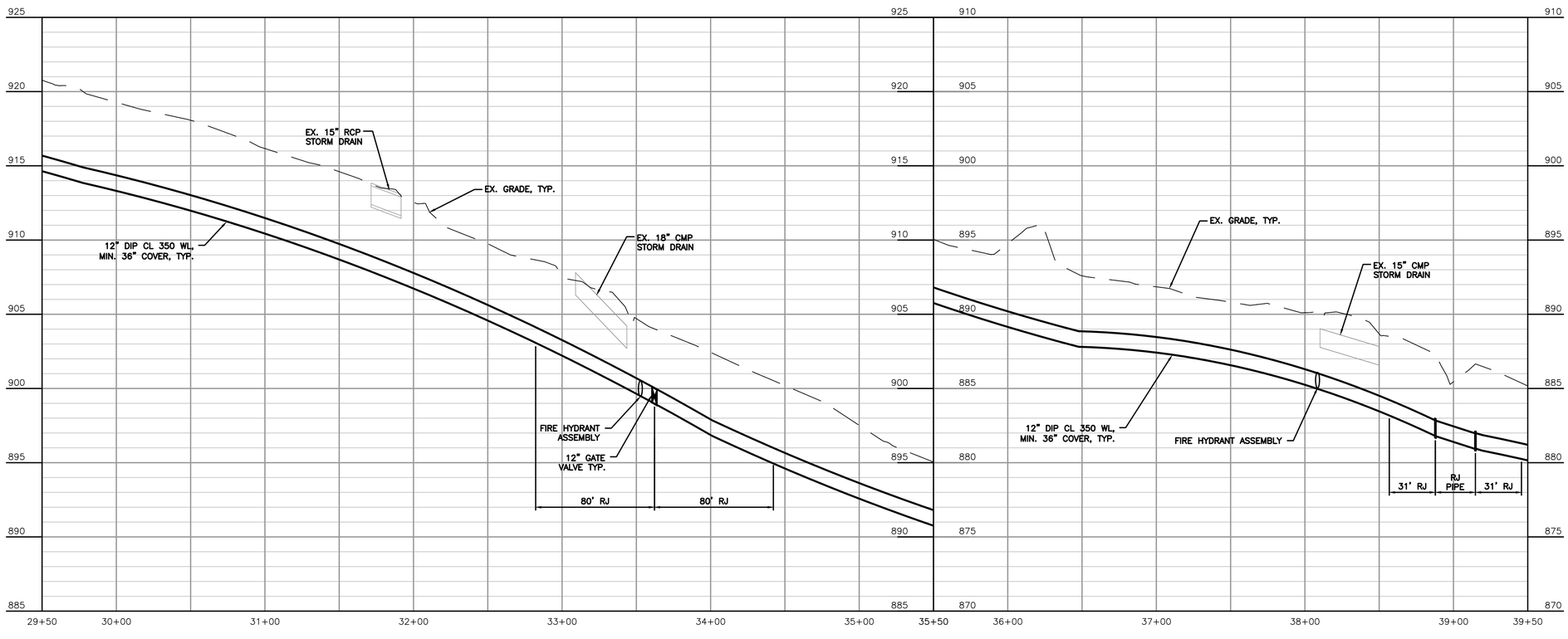
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 29+50 TO 39+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	REVISION	DATE
YQ	100% DESIGN – ISSUED FOR BID	4/10/24
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024

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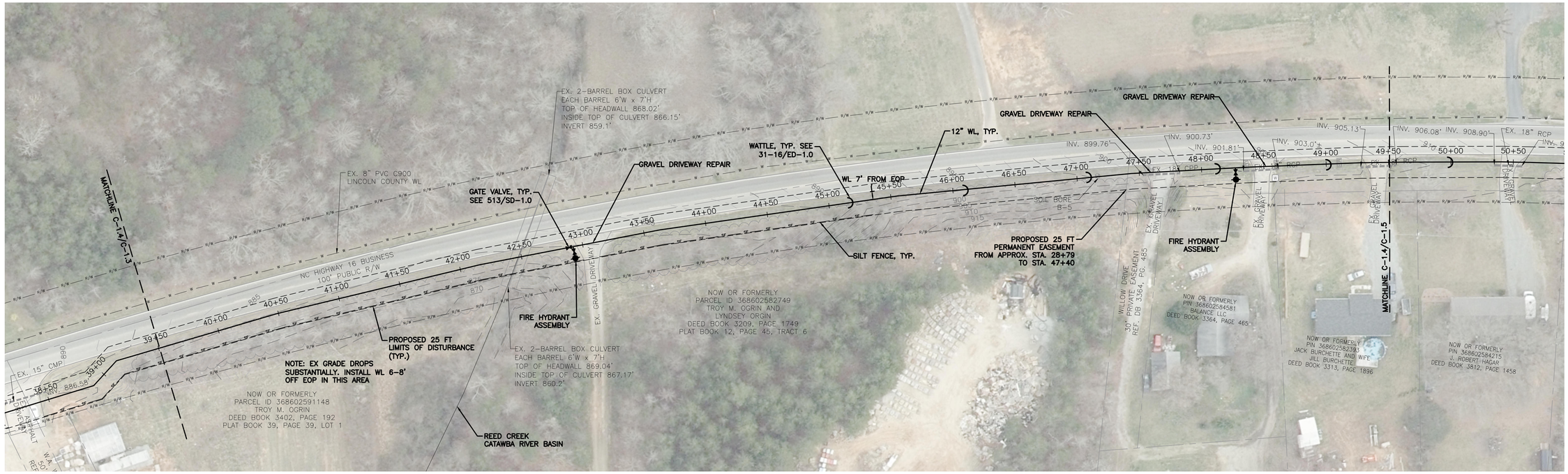
PLAN AND PROFILE STA. 29+50 TO 39+50

PROJECT NO.
CAT2101

C-1.3



1 PLAN – STA. 39+50 TO 49+50

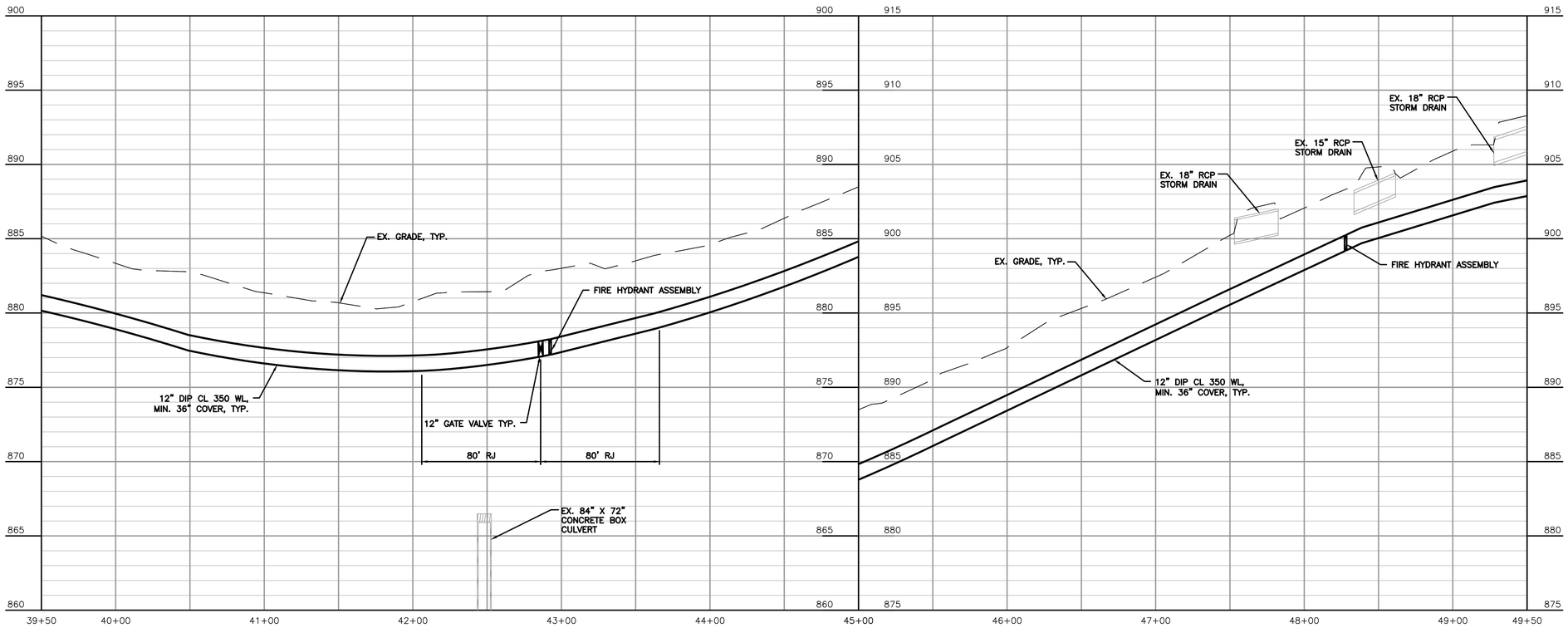
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 39+50 TO 49+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

---	---	YQ	EY
---	---	100% DESIGN – ISSUED FOR BID	REVISION
---	---	4/10/24	DATE

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
04-10-2024
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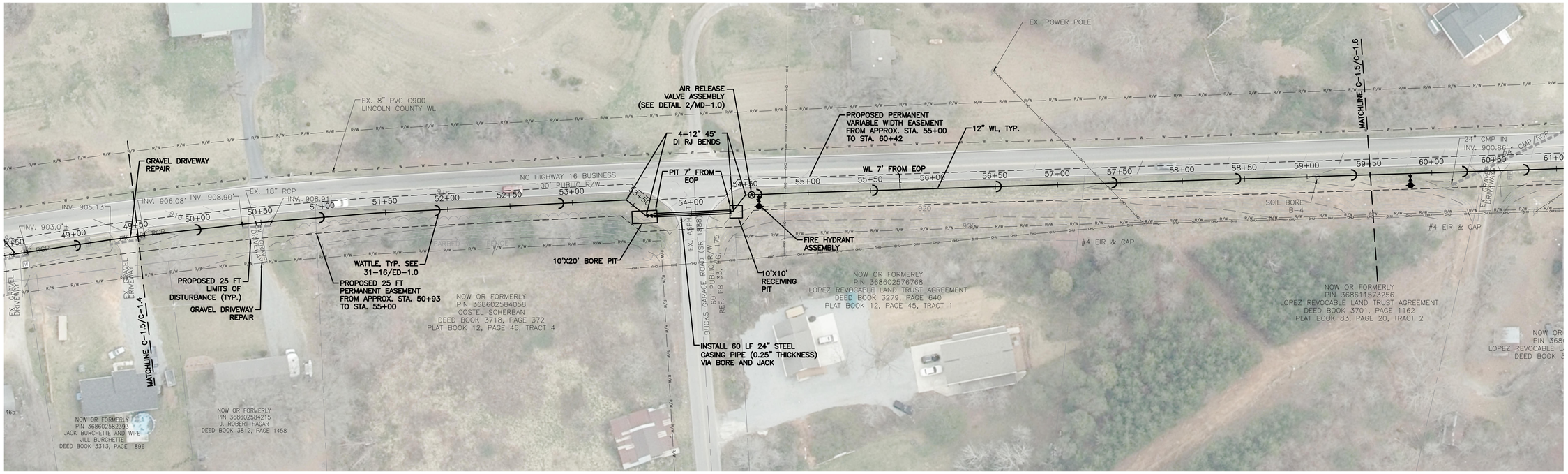
PLAN AND PROFILE STA. 39+50 TO 49+50

PROJECT NO.
CAT2101

C-1.4



1 PLAN – STA. 49+50 TO 59+50

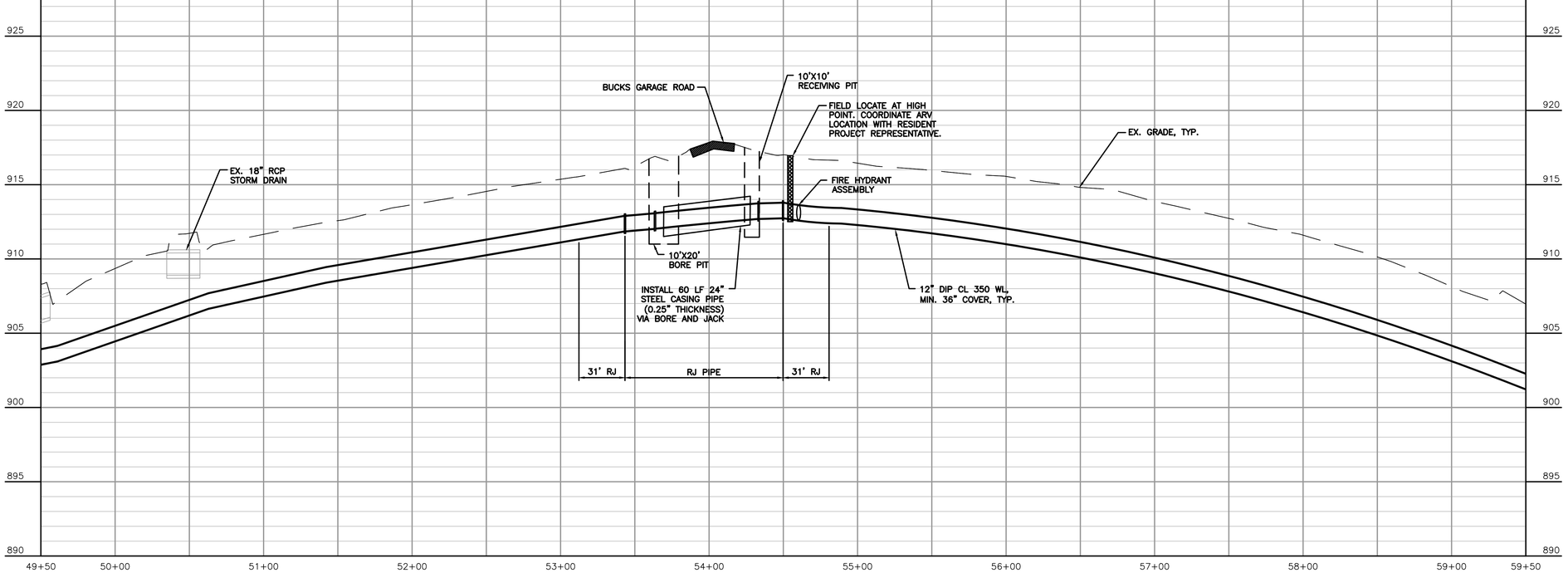
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 49+50 TO 59+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	REVISION	DATE
YQ	100% DESIGN – ISSUED FOR BID	4/10/24
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
04-10-2024
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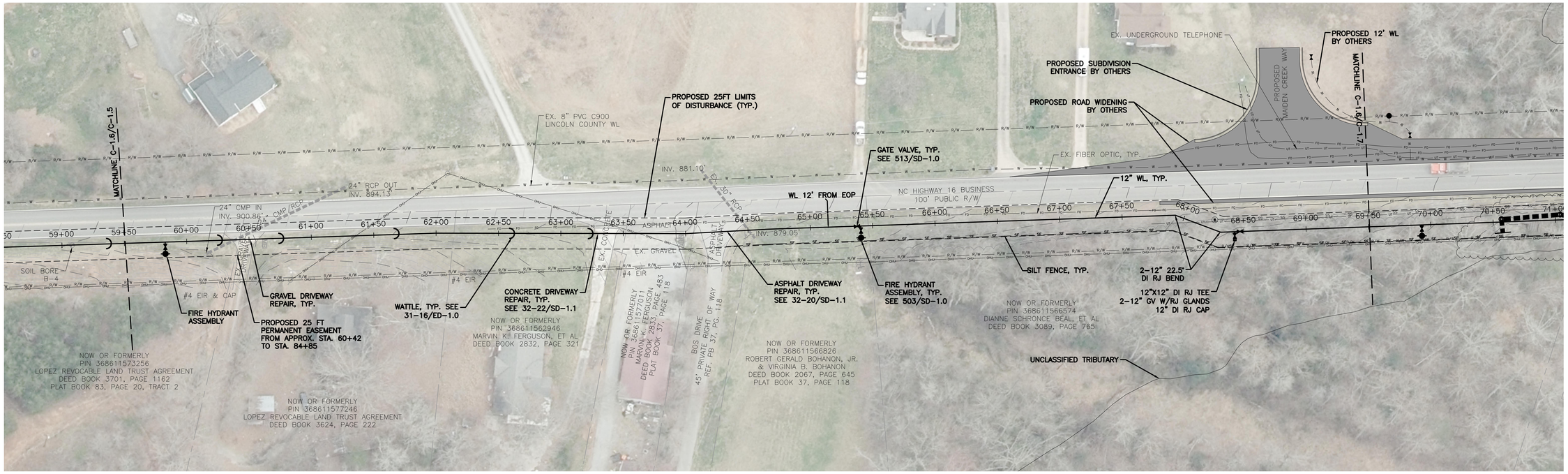
PLAN AND PROFILE STA. 49+50 TO 59+50

PROJECT NO.
CAT2101

C-1.5



1 PLAN – STA. 59+50 TO 69+50

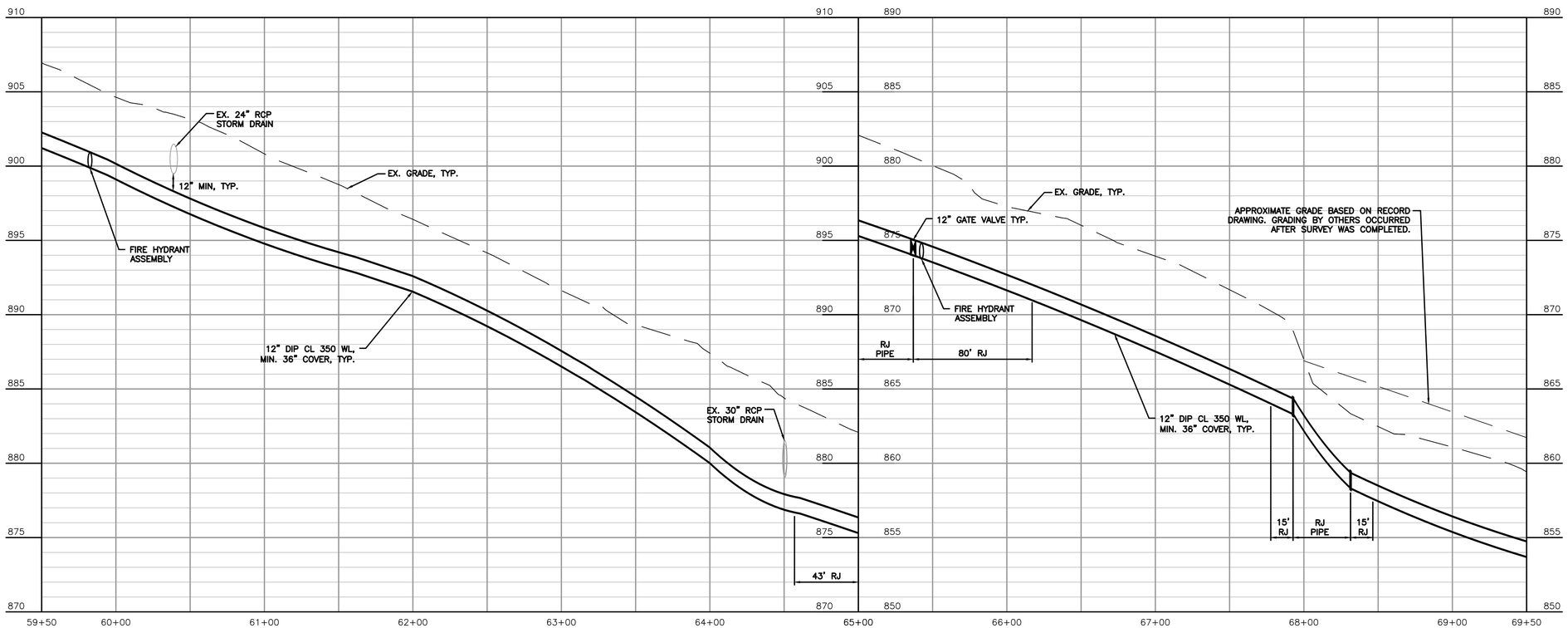
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 59+50 TO 69+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN – ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
04-10-2024

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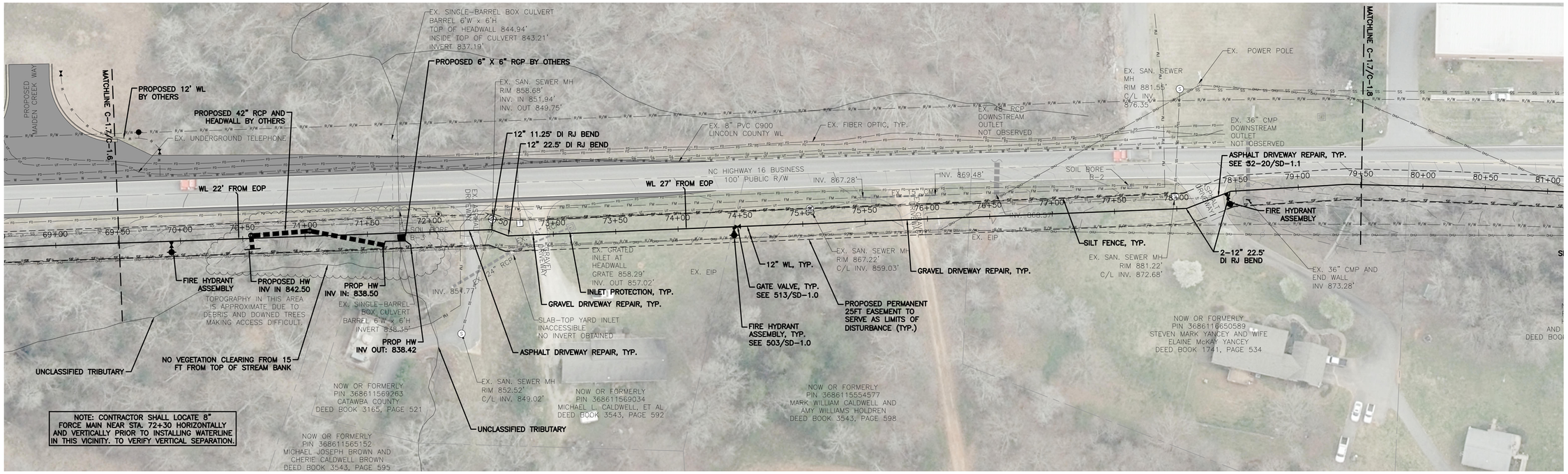
PLAN AND PROFILE STA. 59+50 TO 69+50

PROJECT NO.
CAT2101

C-1.6



1 PLAN – STA. 69+50 TO 79+50

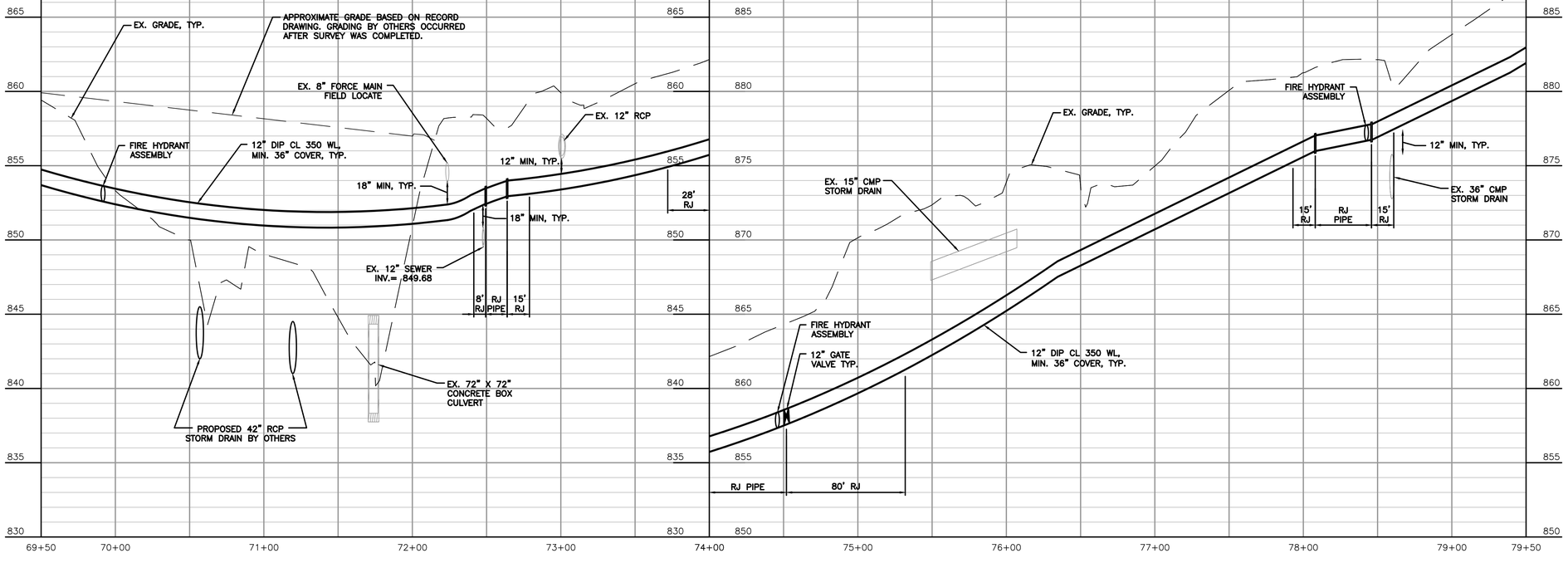
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 69+50 TO 79+50

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	REVISION	DATE
YQ	100% DESIGN – ISSUED FOR BID	4/10/24
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22

PLOT DATE: 4/25/2024

NORTH CAROLINA
PROFESSIONAL
SEAL
035047
ENGINEER
DAVID S. WOLF
04-10-2024

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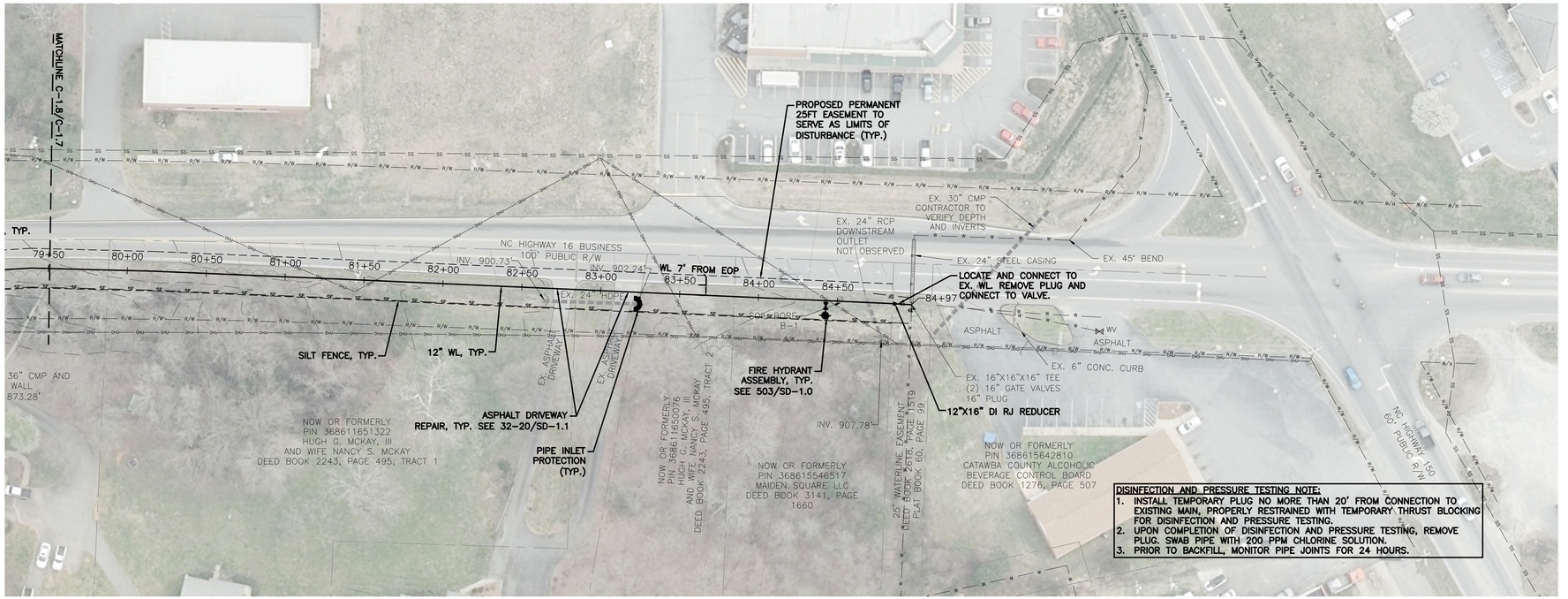
CATAWBA COUNTY, NC

PLAN AND PROFILE STA. 69+50 TO 79+50

PROJECT NO.
CAT2101

C-1.7



1 PLAN – STA. 79+50 TO 84+96

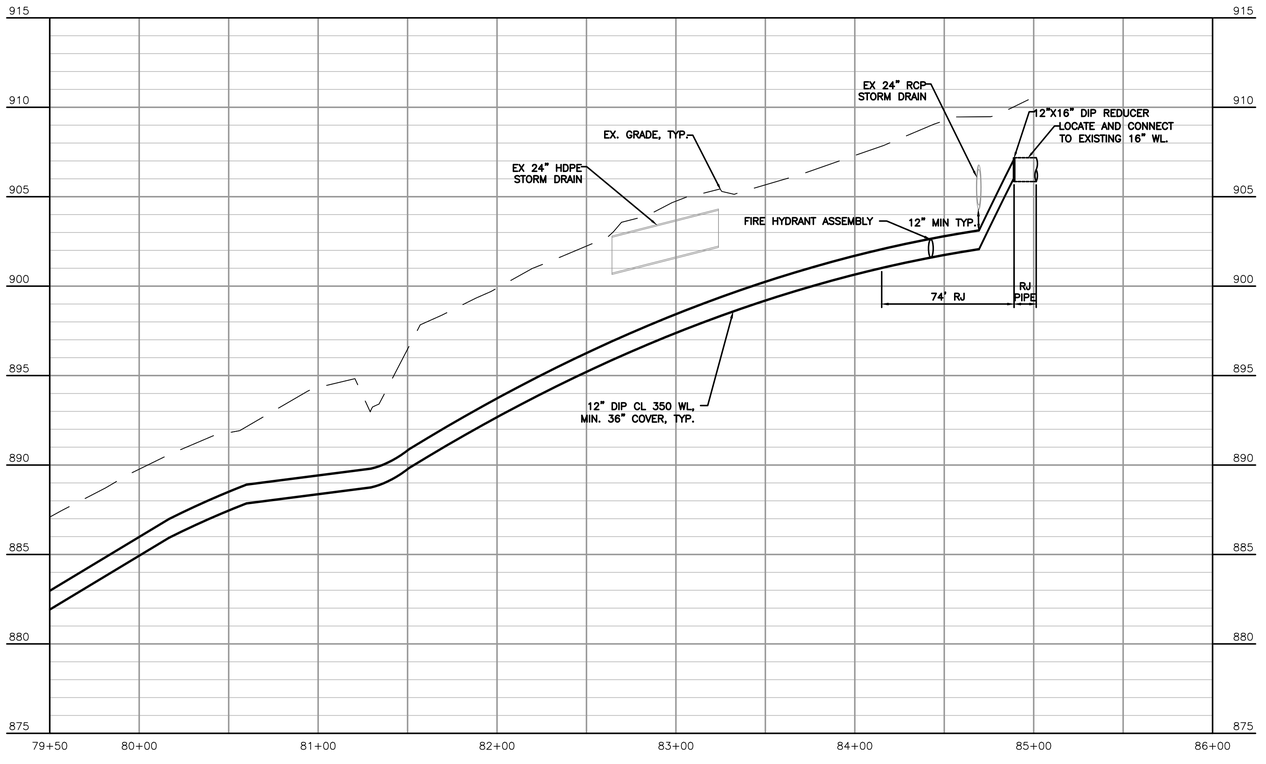
SCALE: 1" = 40'

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.



2 PROFILE – STA. 79+50 TO 84+96

SCALE: 1" = 40'

VERTICAL SCALE: 1" = 4'

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN – ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF
04-10-2024

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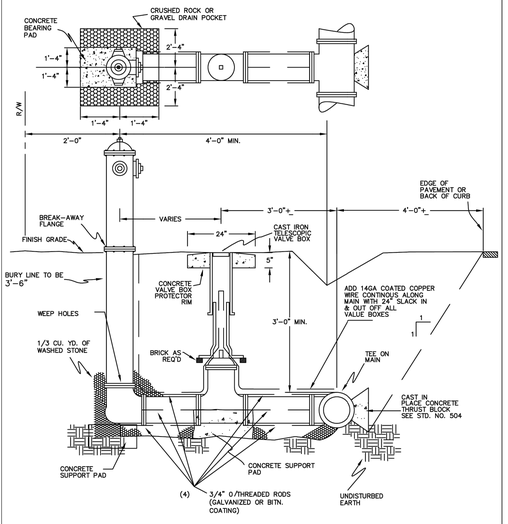
PLAN AND PROFILE STA. 79+50 TO 84+96

PROJECT NO.
CAT2101

C-1.8

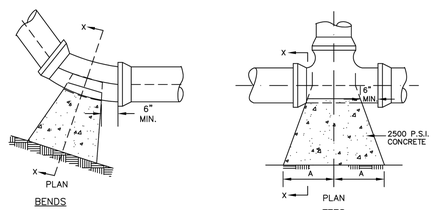


SECTION

NOTES: FIRE HYDRANTS SHALL BE ONE OF THE FOLLOWING THREE TYPES WITH THE 4 1/2" PUMPER NOZZLES BEING NATIONAL STANDARD PIPE THREADS AND 2 (TWO) 2 1/2" HOSE NOZZLES BEING NATIONAL STANDARD THREADS.
A) CENTURION, MANUFACTURED BY MUELLER COMPANY
B) SUPER CENTURION, MANUFACTURED BY MULLER COMPANY
C) MARK-73 TRAFFIC MODEL, MANUFACTURED BY AMERICAN CAST IRON PIPE COMPANY

NOT TO SCALE

HICKORY	CITY OF HICKORY		
	FIRE HYDRANT INSTALLATION DETAIL	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 503



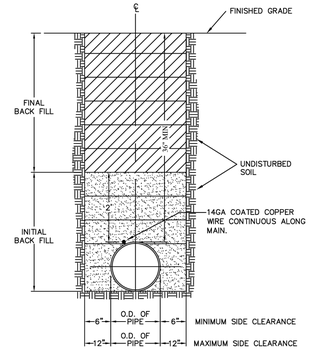
NOTES:
1. DEAD MAN RESTRAINED W/ 2–3/4" ALL THREAD RODS 3" TO 8" AND 4–3/4" ALL THREAD RODS 12" TO 16"

PIPE SIZE	11 1/4° BEND		22 1/2° BEND		45° BEND		90° BEND		TEE	
	A	B	C	D	A	B	A	B	A	B
6	9	10	12	10	16	10	20	10	10	12
8	12	13	16	13	22	13	26	13	13	16
12	16	21	22	21	28	21	32	21	18	24
16	21	27	30	27	36	27	44	27	24	32

ALL DIMENSIONS IN TABLE ARE IN INCHES.
NOTE: WHERE WORKING PRESSURES EXCEED 150 PSI. AWWA STANDARDS SHALL APPLY.

NOT TO SCALE

HICKORY	CITY OF HICKORY		
	THRUST BLOCK FOR WATER MAINS (150 PSI WORKING PRESSURE)	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 504



TYPICAL TRENCH BOTTOM DIMENSIONS FOR: DUCTILE IRON, C-900 PVC, AND CONCRETE PIPE

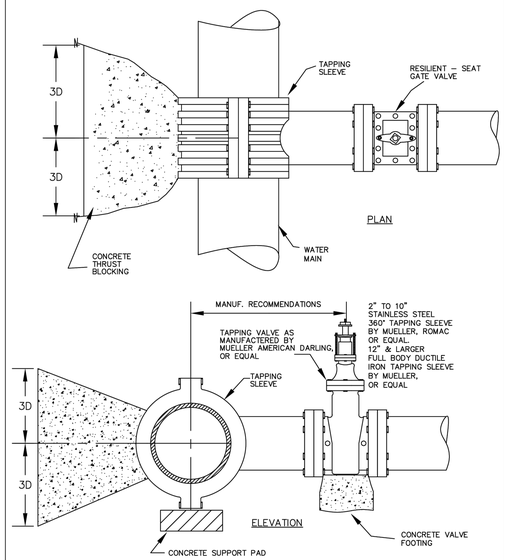
TRENCH DETAIL
CLASS D FLAT SUBGRADE

DEPTH OF BEDDING MATERIAL BELOW PIPE	
D	d (MIN.)
27" & SMALLER	6"
30" – 60"	12"
66" & LARGER	18"

NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 2" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILLED MATERIAL SHALL BE SUITABLE MATERIAL.
4. BACK FILL SHALL BE COMPACTED IN 6" LAYERS IN TRAFFIC AREAS, 12" LAYERS IN NON–TRAFFIC AREAS USING VIBRATORY EQUIPMENT.

NOT TO SCALE

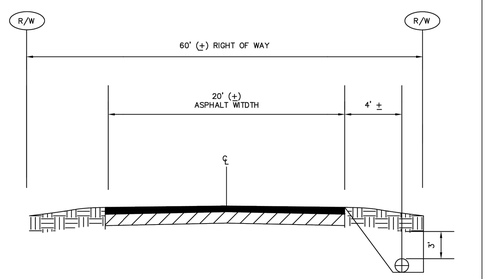
HICKORY	CITY OF HICKORY		
	WATER LINE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 508



NOTES
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTING.
2. SEE STANDARD THRUST BLOCK TABLES, SEE STD. NO. 870 #504 FOR AREA OF CONCRETE REQUIRED.

NOT TO SCALE

HICKORY	CITY OF HICKORY		
	TAPPING SLEEVE & VALVE ASSEMBLY	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 506

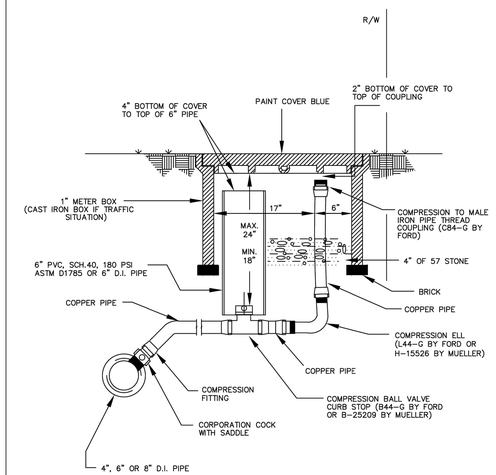


TYPICAL PAVED SECTION
NTS

NOTES
–BACKFILL TO BE PLACED IN 4" TO 6" LAYERS WITH PNEUMATIC TAMP AND THE SHOULDERS TO BE PLACED BACK IN ORIGINAL CONDITIONS.
–SEED AND STRAW TO BE PLACED
–CONCRETE DRIVEWAYS ARE TO BE SMOOTH CUT AND PLACED BACK IN ORIGINAL CONDITION AT COMPLETION OF PROJECT.
–POUR CONCRETE FOR ALL WATER LINE FITTINGS, INCLUDING PLUGS, FIRE HYDRANTS, BENDS, ETC. UNLESS OTHERWISE NOTED IN PLANS.

NOT TO SCALE

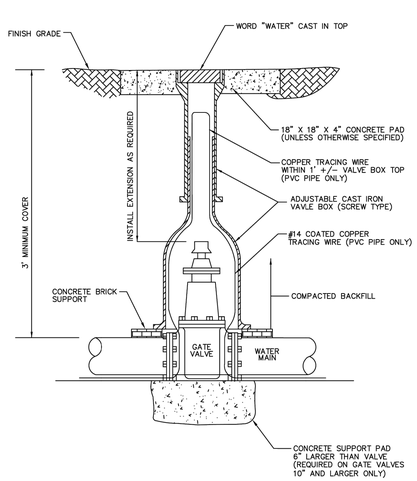
HICKORY	CITY OF HICKORY		
	WATER LINE INSTALLATION IN ROADWAY SHOULDER	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 509



PIPE SIZE	CORP. COCK SIZE
4"	1"
6"	1 1/2"
8"	1 1/2"

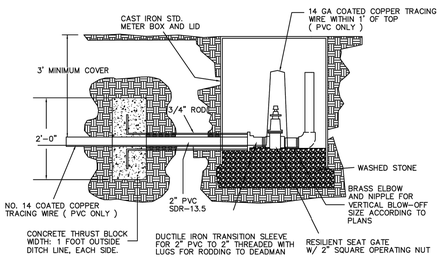
NOT TO SCALE

HICKORY	CITY OF HICKORY		
	AIR BLOW–OFF ASSEMBLY	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 510



NOT TO SCALE

HICKORY	CITY OF HICKORY		
	VERTICAL GATE VALVE ASSEMBLY	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 513



BLOW–OFF DETAIL

NOTE:
1. GLUED JOINTS WILL NOT BE PERMITTED.

NOT TO SCALE

HICKORY	CITY OF HICKORY		
	BLOW–OFF DETAIL	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 514

BY	DATE	REVISION
YQ	4/10/24	100% DESIGN – ISSUED FOR BID
JLL	9/30/22	90% DESIGN FOR REVIEW
JLL	8/22/22	60% DESIGN FOR REVIEW

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024
SEAL NOT VALID UNLESS SIGNED AND DATED

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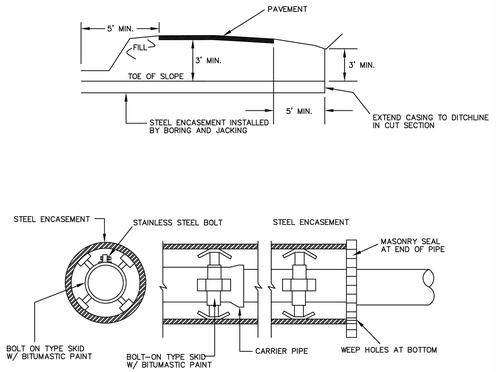
HIGHWAY 16 WATERLINE EXTENSION
CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

STANDARD DETAILS

PROJECT NO.
CAT2101

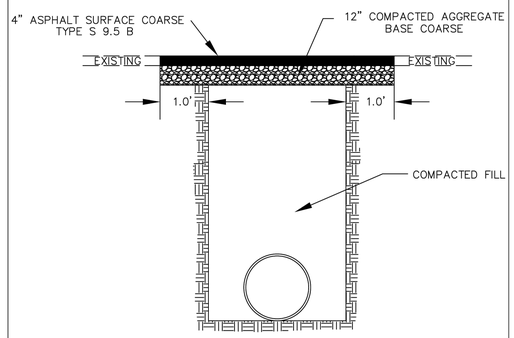
SD–1.0



BORE ENCASEMENT DETAIL

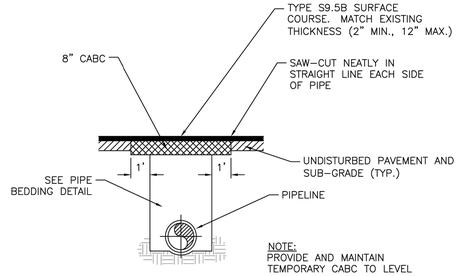
NOT TO SCALE

HICKORY North Carolina Life. Well Crafted.	CITY OF HICKORY		SHEET 1 OF 1
	BORE ENCASEMENT DETAIL	DATE: 2-1-07	STD. NO. 516



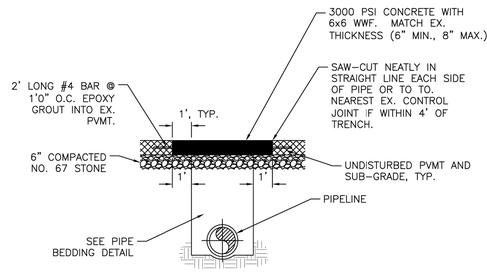
NOT TO SCALE

HICKORY North Carolina Life. Well Crafted.	CITY OF HICKORY		SHEET 1 OF 1
	ROAD PATCH AND REPAIR	DATE: 2-1-07	STD. NO. 519



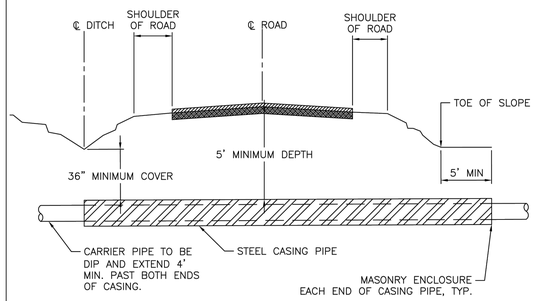
NOTE:
PROVIDE AND MAINTAIN TEMPORARY CABC TO LEVEL TRENCH WITH EX. PVMT UNTIL PAVING IS COMPLETED.

32-20	ASPHALT PAVEMENT REPAIR	
HIEPC DETAIL I.D.	DETAIL TITLE	
	11/1/2016 REVISED DATE	NO SCALE SCALE



NOTE:
PROVIDE AND MAINTAIN TEMPORARY CABC TO LEVEL TRENCH WITH EX. PVMT UNTIL PAVING IS COMPLETED.

32-22	CONCRETE PAVEMENT REPAIR	
HIEPC DETAIL I.D.	DETAIL TITLE	
	11/1/2016 REVISED DATE	NO SCALE SCALE



PIPE SIZE (O.D.)	WALL THICKNESS
4"-12 ¾"	0.188"
16"	0.250"
18"	0.250"
24"	0.250"
30"	0.312"
36"	0.375"
48"	0.500"

NOTE: ALL ENCASEMENTS SHALL EXTEND FROM DITCH LINE TO DITCH LINE IN CUT SECTIONS, 5' BEYOND THE TOE OF SLOPE IN FILL SECTIONS, AND 10' BEYOND THE EDGE OF PAVEMENT IN SECTIONS WITH NO DITCH OR FILL AREA (PER NCDOT)

33-22	BORE & JACK UNDER STATE ROAD (NCDOT)	
HIEPC DETAIL I.D.	DETAIL TITLE	
	11/1/2016 REVISED DATE	NO SCALE SCALE

BY	REVISION	DATE
YQ	100% DESIGN – ISSUED FOR BID	4/10/24
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024

SEAL NOT VALID UNLESS SIGNED AND DATED

HIGHFILL INFRASTRUCTURE ENGINEERING, P.C.

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Winston-Salem, NC 27103
Tel: 336-701-2910
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HIGHWAY 16 WATERLINE EXTENSION
CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

STANDARD DETAILS

PROJECT NO.
CAT2101

SD-1.1

TEE

PIPE RUN DIA.	BRANCH DIA.	PIPE TYPE	MIN. RUN LENGTH (EACH SIDE)	RJ LENGTH (BRANCH)
12"	12"	DIP	20'	70'

BENDS

PIPE DIA.	PIPE TYPE	ANGLE	RJ LENGTH
12"	DIP	11.25°	8'
12"	DIP	22.5°	15'
12"	DIP	45°	31'
12"	DIP	90°	75'

REDUCER

PIPE DIA.	REDUCED DIA.	PIPE TYPE	RJ LENGTH
16"	12"	DIP	74'

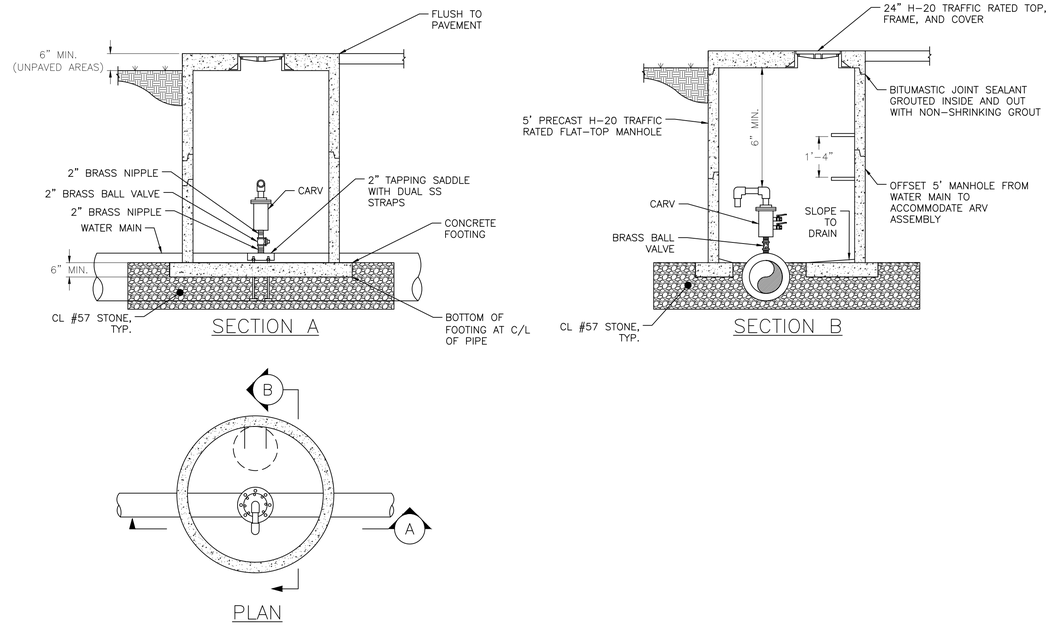
VALVE

PIPE DIA.	PIPE TYPE	RJ LENGTH
12"	DIP	80'

NOTES:

1. RJ LENGTHS ARE BASED ON:
   - TESTING PRESSURE OF 200 PSI, TYPE 3 TRENCH AND A SOIL TYPE SM.
   - ASSUMED BURY DEPTH OF 3.5 FT. (4 FT. ON VERTICAL BENDS).
   - SAFETY FACTOR OF 2.
2. THE CONTRACTOR SHALL NOTIFY ENGINEER IF CONDITIONS DIFFER.
3. OBTAIN GUIDANCE FROM ENGINEER IF ACTUAL BURY DEPTHS ARE LESS.
4. USE DEAD ENDS RESTRAINT LENGTHS FOR VALVES.
5. WHERE FITTINGS AND VALVES ARE IN CLOSE PROXIMITY AND RJ LENGTHS REQUIRED OVERLAP, DETERMINE THE RJ LENGTH REQUIRED FROM EACH AND USE THE HIGHEST (MOST RESTRICTIVE) CONDITION.
6. WHERE REQUIRED RJ LENGTH PASSES THROUGH A CASING PIPE, THE CARRIER PIPE WITHIN THE CASING PIPE DOES NOT COUNT TOWARD THE MINIMUM REQUIRED RJ LENGTH REQUIRED.
7. RJ LENGTHS SHALL BE INSTALLED ON BOTH SIDES OF FITTINGS AND VALVES.

1 DETAIL – REQUIRED RJ LENGTHS



2 DETAIL – COMBINATION AIR/VACUUM VALVE ASSEMBLY
NTS

BY	REVISION	DATE
JLL	90% DESIGN FOR REVIEW	9/30/22
JLL	60% DESIGN FOR REVIEW	8/22/22
YQ	100% DESIGN – ISSUED FOR BID	4/10/24

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024
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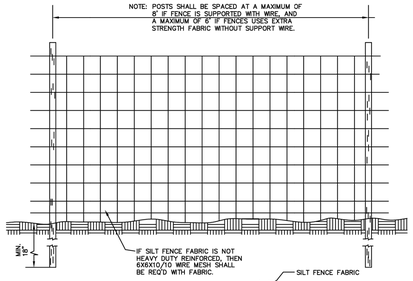
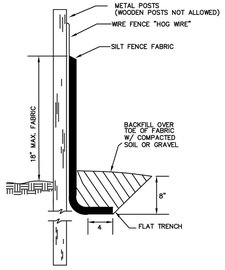
CATAWBA COUNTY, NC

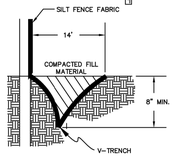
MISCELLANEOUS DETAILS

PROJECT NO.
CAT2101

MD-1.0







ALTERNATE TRENCHING DETAIL

GENERAL NOTES

1) FENCE FABRIC SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.

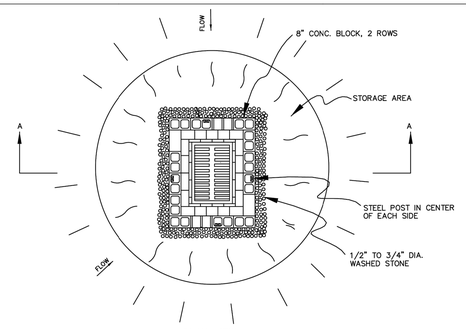
2) SILT FENCE FABRIC SHALL BE SYNTHETIC OR OTHER APPROVED MATERIAL MEETING AN 85% MIN. FILTERING EFFICIENCY AND MIN. 30 LB./ LIN IN TENSILE STRENGTH WITH A MIN 6 MONTH EXPECTED USEABLE CONSTRUCTION LIFE. INSTALL FABRIC IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3) STEEL POST SHALL BE THE SELF-FASTENER ANGLE STEEL TYPE.

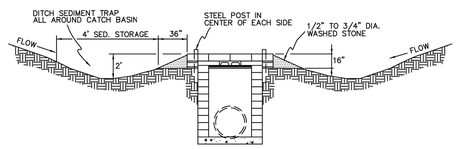
4) BACKFILL OVERTOP OF FABRIC SHALL BE COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR

NOT TO SCALE

CITY OF HICKORY		
TEMPORARY SILT FENCE	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 102



PLAN VIEW



SECTION A-A

GENERAL NOTES:

SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

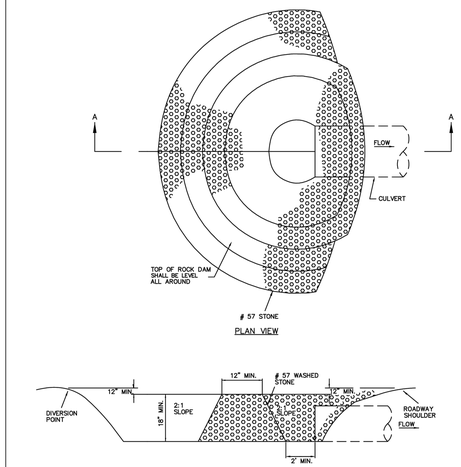
THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.

THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

NOT TO SCALE

CITY OF HICKORY		
BLOCK & GRAVEL DROP INLET PROTECTION	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 104

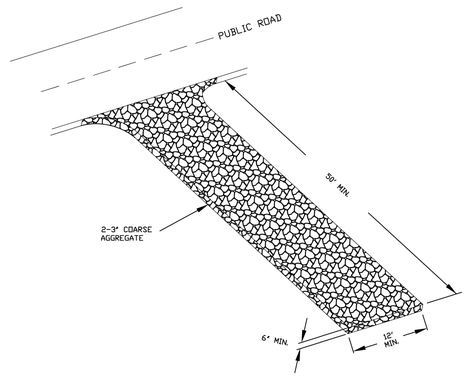


PLAN VIEW

SECTION A-A

NOT TO SCALE

CITY OF HICKORY		
MODIFIED SMALL DRAINAGE AREA ROCK PIPE INLET SEDIMENT TRAP	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 106

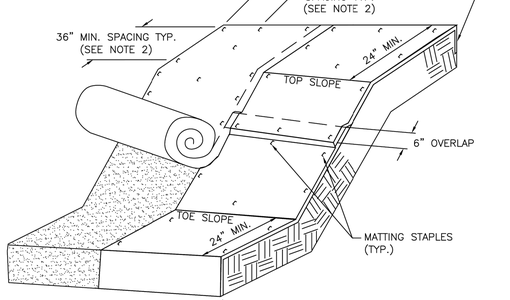


NOTE:
1. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO REMOVE MUD & SOIL BUILDUP AFTER EACH RAIN EVENT AND AS NEEDED WHEN EFFECTIVENESS IS DIMINISHED

2. ABC STONE IS NOT ACCEPTABLE

NOT TO SCALE

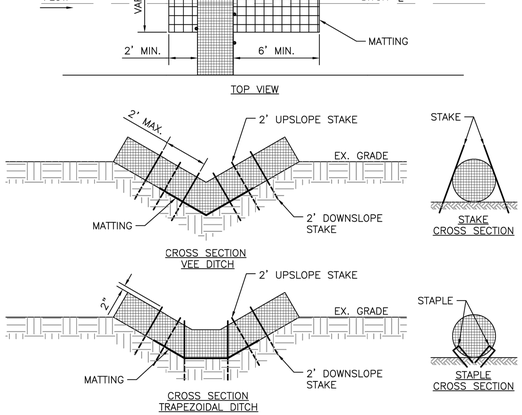
CITY OF HICKORY		
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	DATE: 2-1-07	SHEET 1 OF 1 STD. NO. 114



GENERAL NOTES:

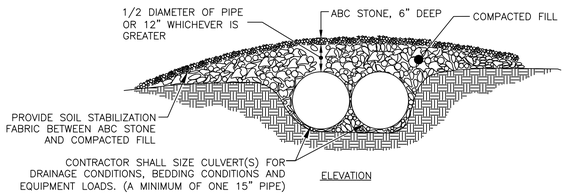
1. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
2. DIMENSIONS SHOWN ARE MINIMUM, MANUFACTURED PRODUCTS MAY HAVE ADDITIONAL REQUIREMENTS THAT MUST BE MET.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLODS, STICKS, GRASS. MAT/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
4. THE DETAIL SHOWN IS FOR SLOPE MATTING, NOT FOR CHANNEL MATTING.

31-06	SLOPE STABILITY W/EROSION CONTROL MATTING	
HIEPC DETAIL I.D.	DETAIL TITLE	
	11/1/2016 REVISED DATE	NO SCALE SCALE



NOTES:
1. USE MIN. 12" DIA. EXCELSIOR WATTLE.
2. USE 2' WOODEN STAKES WITH A 2" X 2" CROSS SECTION.
3. ONLY INSTALL WATTLES TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES.
4. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
5. PROVIDE STAPLES APPROX. EVERY 1 LF ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

31-16	WATTLE	
HIEPC DETAIL I.D.	DETAIL TITLE	
	11/1/2016 REVISED DATE	NO SCALE SCALE



NOTES:
1. PROVIDE INLET AND OUTLET PROTECTION (SEE 106/ED-1.0) FOR ALL TEMPORARY ACCESS CULVERT CROSSINGS.
2. INSPECT, CLEAN, AND REPAIR AS NECESSARY IMMEDIATELY AFTER EACH RAIN EVENT.

1 TEMPORARY CULVERT CROSSING
NO SCALE

NO.	DESCRIPTION	DATE	BY
---	---	---	---
---	---	---	---
---	100% DESIGN - ISSUED FOR BID	4/10/24	YQ
---	90% DESIGN FOR REVIEW	9/30/22	JLL
---	60% DESIGN FOR REVIEW	8/22/22	JLL
---	---	---	---
---	---	---	---
---	REVISION	DATE	BY

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035047 04-10-2024 DAVID S. WOLF
SEAL NOT VALID UNLESS SIGNED AND DATED

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CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

EROSION CONTROL DETAILS

PROJECT NO.
CAT2101

ED-1.0

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

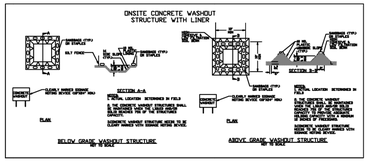
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, 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.



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.

NORTH CAROLINA *Environmental Quality*

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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 (enc 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 wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(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

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---	---	YQ	4/10/24
---	---	JLL	9/30/22
---	---	JLL	8/22/22
---	---	BY	DATE
	100% DESIGN – ISSUED FOR BID		
	90% DESIGN FOR REVIEW		
	60% DESIGN FOR REVIEW		
	REVISION		

PLOT DATE: 4/25/2024

NORTH CAROLINA PROFESSIONAL SEAL 035047 ENGINEER DAVID S. WOLF 04-10-2024

SEAL NOT VALID UNLESS SIGNED AND DATED

HIGHFILL INFRASTRUCTURE ENGINEERING, P.C.

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HIGHWAY 16 WATERLINE EXTENSION
CATAWBA COUNTY UTILITIES & ENGINEERING
CATAWBA COUNTY, NC

EROSION CONTROL DETAILS

PROJECT NO.
CAT2101

ED–1.1