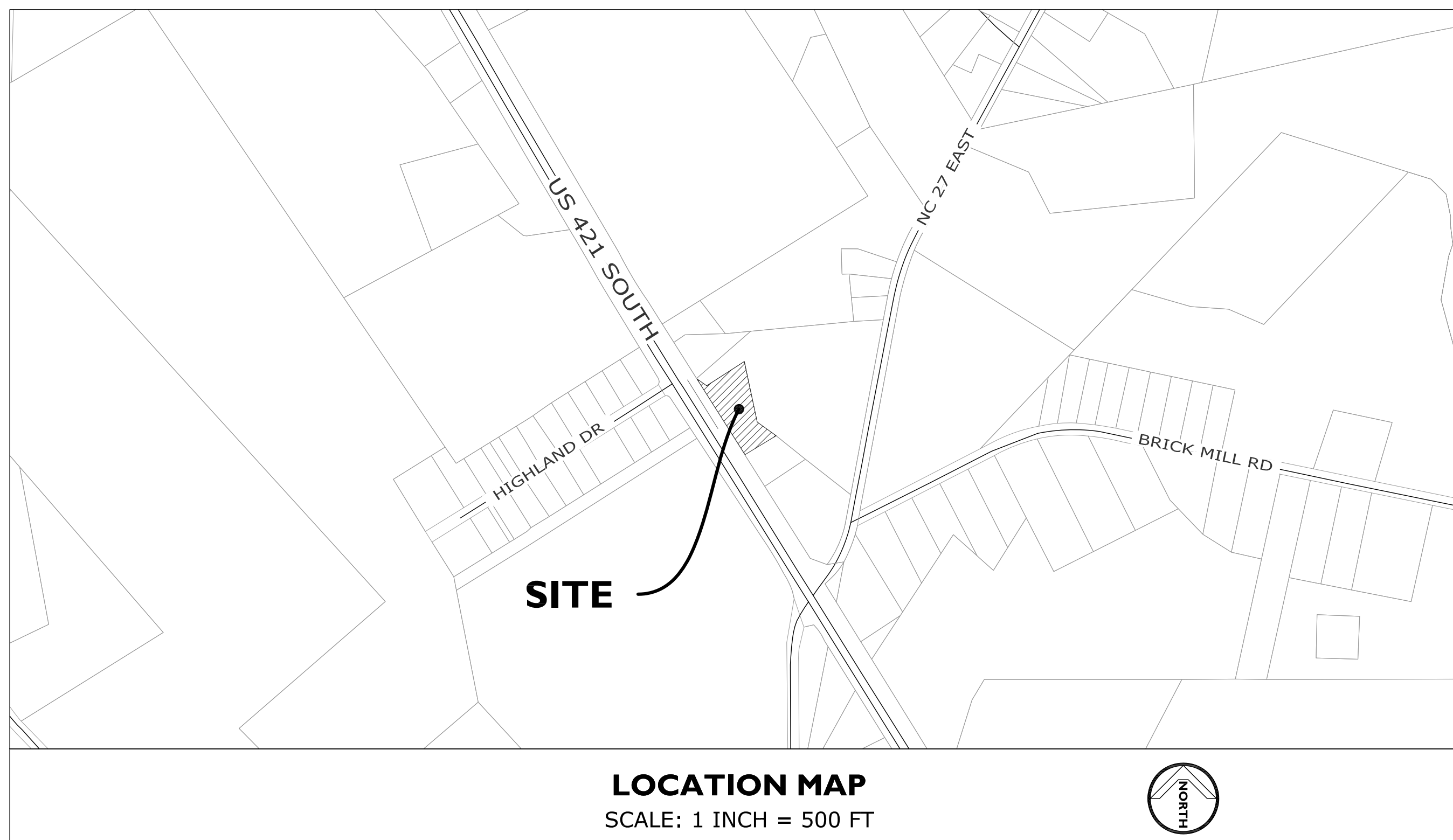


SITE CONSTRUCTION PLANS FOR:

TIRADO TRUCK REPAIR

US 421 SOUTH
HARNETT COUNTY, NORTH CAROLINA
PIN NO. 0589-17-0727



OWNER INFORMATION

LUIS TIRADO
3577 OLD US 421
LILLINGTON, NC 27546
EMAIL: L.ACEVEDO95@GMAIL.COM
TEL: 919-648-3999

SHEET INDEX (12 SHEETS TOTAL)

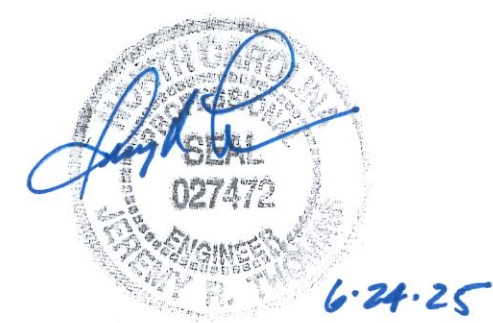
- C1 COVER SHEET
- C2 EXISTING CONDITIONS AND DEMOLITION
- C3 SITE LAYOUT
- C4 GRADING AND STORM DRAINAGE
- C5 SITE UTILITY
- C6 TEMP. EROSION CONTROL
- C7 SANITARY SEWER PLAN / PROFILE
HARNETT REGIONAL WATER STANDARD NOTES
- C8 CONSTRUCTION DETAILS
- C9 STANDARD DRAWINGS - HARNETT REGIONAL WATER
- C10 STANDARD DRAWINGS - NCDOT / NCDEQ
- C11 STANDARD DRAWINGS - NCDEQ
- L-1 LANDSCAPE PLAN



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LEGEND OF ABBREVIATIONS

BC	BACK OF CURB	LP	LIGHT POLE
CB	CATCH BASIN	N/F	NOW OR FORMERLY
CO	CLEAN OUT	P.E.	PERMANENT EASEMENT
CPP	CORRUGATED PLASTIC PIPE	PVC	POLYVINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE	PP	POWER POLE
C & G	CURB & GUTTER	RCP	REINFORCED CONCRETE PIPE
DI	DROP INLET	R/C	RAILROAD CROSSING
DIP	DUCTILE IRON PIPE	R / W	RIGHT OF WAY
EG	EDGE OF GRAVEL	SS OR SAN	SANITARY SEWER
EP	EDGE OF PAVEMENT	SSMH	SANITARY SEWER MANHOLE
EB	ELECTRICAL BOX	T.C.E.	TEMPORARY CONSTRUCTION EASEMENT
EV	ELECTRICAL VAULT	TMH	TELECOMMUNICATION MANHOLE
EL	ELEVATION	TF	TRANSFORMER
ECM	EXISTING CONCRETE MONUMENT	TP	TELEPHONE PEDESTAL
EIP	EXISTING IRON PIN	TS	TOP OF SIDEWALK
EPK	EXISTING PK NAIL	TSP	TRAFFIC SIGNAL POLE
FO	FIBER OPTIC	TW	TOP OF WALL
FOM	FIBER OPTIC MARKER	UC	UNDERGROUND COMMUNICATIONS
FOB	FIBER OPTIC BOX	VB	VALVE BOX
FH	FIRE HYDRANT	WM	WATER METER
GUY	GUY WIRE	WV	WATER VALVE
HP	HIGH POINT	WCR	WHEEL CHAIR RAMP
INV	INVERT	YI	YARD INLET
JB	JUNCTION BOX (STORM)		
IPS	IRON PIN SET		

LEGEND OF SYMBOLS AND LINES

PROPERTY CORNER	○	RIGHT OF WAY	— — — — —
UTILITY POLE	⊙	PROPERTY LINE	— — — — —
LIGHT POLE	⊙	UTILITY EASEMENT	— — — — —
TELEPHONE PEDESTAL	⊙	CENTER LINE	— — — — —
GATE VALVE	⊙	LIMIT OF DISTURBANCE	— — — — —
WATER METER	⊙	UNDERGROUND ELECTRIC LINE	— — — — —
FIRE HYDRANT	⊙	OVERHEAD ELECTRIC LINE	— — — — —
SEWER MANHOLE	⊙	SANITARY SEWER (GRAVITY)	— — — — —
SEWER CLEANOUT	⊙	SANITARY SEWER (FORCEMAIN)	— — — — —
CATCH BASIN	⊙	STORM DRAIN PIPE	— — — — —
YARD INLET / DROP INLET	⊙	WATER LINE	— — — — —
STORM JUNCTION BOX / MH	⊙	GAS LINE	— — — — —
HANDICAP	⊙	COMMUNICATIONS LINE	— — — — —
SPOT ELEVATION	⊙	FIBER OPTIC LINE	— — — — —
SIGN	⊙	FENCE LINE	— — — — —
ALIGNMENT CHANGE	⊙	TREE LINE	— — — — —
PVI	⊙	DRAINAGE FLOW	— — — — —
DELTA	⊙	CURB AND GUTTER	— — — — —
		CURB AND GUTTER (SPILL)	— — — — —
NOTE:		CONCRETE PAVEMENT	— — — — —
EXISTING FEATURES ARE SHOWN SHADED.		ASPHALT PAVEMENT	— — — — —
		GRAVEL SURFACE	— — — — —

AGENCY REVIEW ONLY

JTE Project No. 25-009

File: C:\Users\jthom\OneDrive\Documents\PROJECTS\25-009 TIRADO TRUCK REPAIR\DRAWINGS\SITE - TIRADO TRUCK REPAIR.DWG Print Date: 6/24/2025



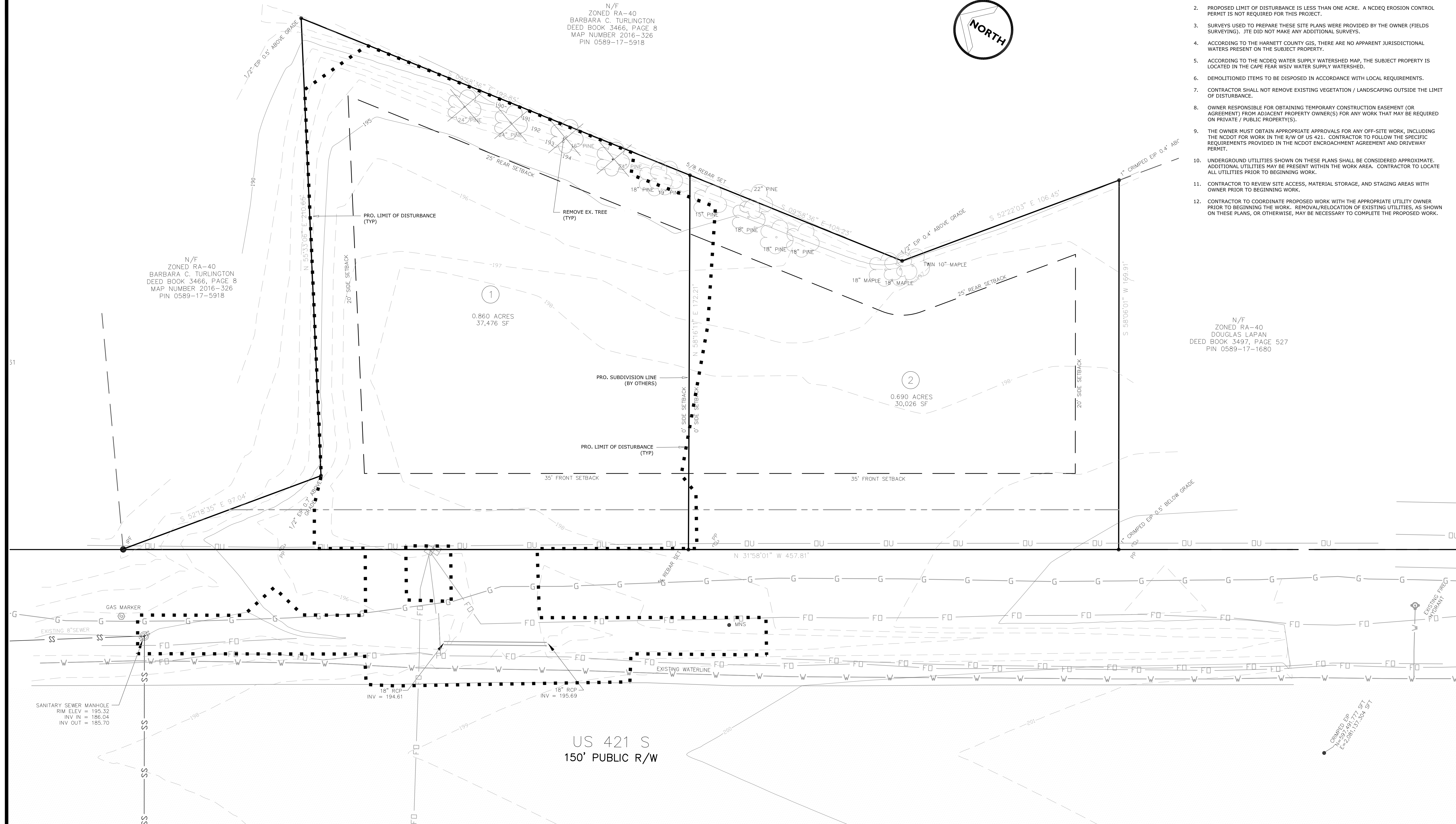
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 BARBARA C. TURLINGTON
 DEED BOOK 3466, PAGE 8
 MAP NUMBER 2016-326
 PIN 0589-17-5918

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 BARBARA C. TURLINGTON
 DEED BOOK 3466, PAGE 8
 MAP NUMBER 2016-326
 PIN 0589-17-5918

NOTES

1. THE PROPERTY IS CURRENTLY ZONED COMMERCIAL (HARNETT COUNTY).
2. PROPOSED LIMIT OF DISTURBANCE IS LESS THAN ONE ACRE. A NCDEQ EROSION CONTROL PERMIT IS NOT REQUIRED FOR THIS PROJECT.
3. SURVEYS USED TO PREPARE THESE SITE PLANS WERE PROVIDED BY THE OWNER (FIELDS SURVEYING). JTE DID NOT MAKE ANY ADDITIONAL SURVEYS.
4. ACCORDING TO THE HARNETT COUNTY GIS, THERE ARE NO APPARENT JURISDICTIONAL WATERS PRESENT ON THE SUBJECT PROPERTY.
5. ACCORDING TO THE NCDEQ WATER SUPPLY WATERSHED MAP, THE SUBJECT PROPERTY IS LOCATED IN THE CAPE FEAR WSIV WATER SUPPLY WATERSHED.
6. DEMOLITIONED ITEMS TO BE DISPOSED IN ACCORDANCE WITH LOCAL REQUIREMENTS.
7. CONTRACTOR SHALL NOT REMOVE EXISTING VEGETATION / LANDSCAPING OUTSIDE THE LIMIT OF DISTURBANCE.
8. OWNER RESPONSIBLE FOR OBTAINING TEMPORARY CONSTRUCTION EASEMENT (OR AGREEMENT) FROM ADJACENT PROPERTY OWNER(S) FOR ANY WORK THAT MAY BE REQUIRED ON PRIVATE / PUBLIC PROPERTY(S).
9. THE OWNER MUST OBTAIN APPROPRIATE APPROVALS FOR ANY OFF-SITE WORK, INCLUDING THE NCDOT FOR WORK IN THE R/W OF US 421. CONTRACTOR TO FOLLOW THE SPECIFIC REQUIREMENTS PROVIDED IN THE NCDOT ENCROACHMENT AGREEMENT AND DRIVEWAY PERMIT.
10. UNDERGROUND UTILITIES SHOWN ON THESE PLANS SHALL BE CONSIDERED APPROXIMATE. ADDITIONAL UTILITIES MAY BE PRESENT WITHIN THE WORK AREA. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.
11. CONTRACTOR TO REVIEW SITE ACCESS, MATERIAL STORAGE, AND STAGING AREAS WITH OWNER PRIOR TO BEGINNING WORK.
12. CONTRACTOR TO COORDINATE PROPOSED WORK WITH THE APPROPRIATE UTILITY OWNER PRIOR TO BEGINNING THE WORK. REMOVAL/RELOCATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, OR OTHERWISE, MAY BE NECESSARY TO COMPLETE THE PROPOSED WORK.

N/F
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 DOUGLAS LAPAN
 DEED BOOK 3497, PAGE 527
 PIN 0589-17-1680



US 421 S
 150' PUBLIC R/W

Project: **TIRADO TRUCK REPAIR**
 US 421 SOUTH
 HARNETT COUNTY, NC

Sheet: **EXISTING CONDITIONS AND DEMOLITION**

AGENCY REVIEW ONLY

Date: 24 JUN 2025
 JTE Project No. 25-009
 Sheet No.: **C2 of 12**

Drawn by: JRT
 Designed by: JRT
 Reviewed by: JRT

Scale: 1" = 20'

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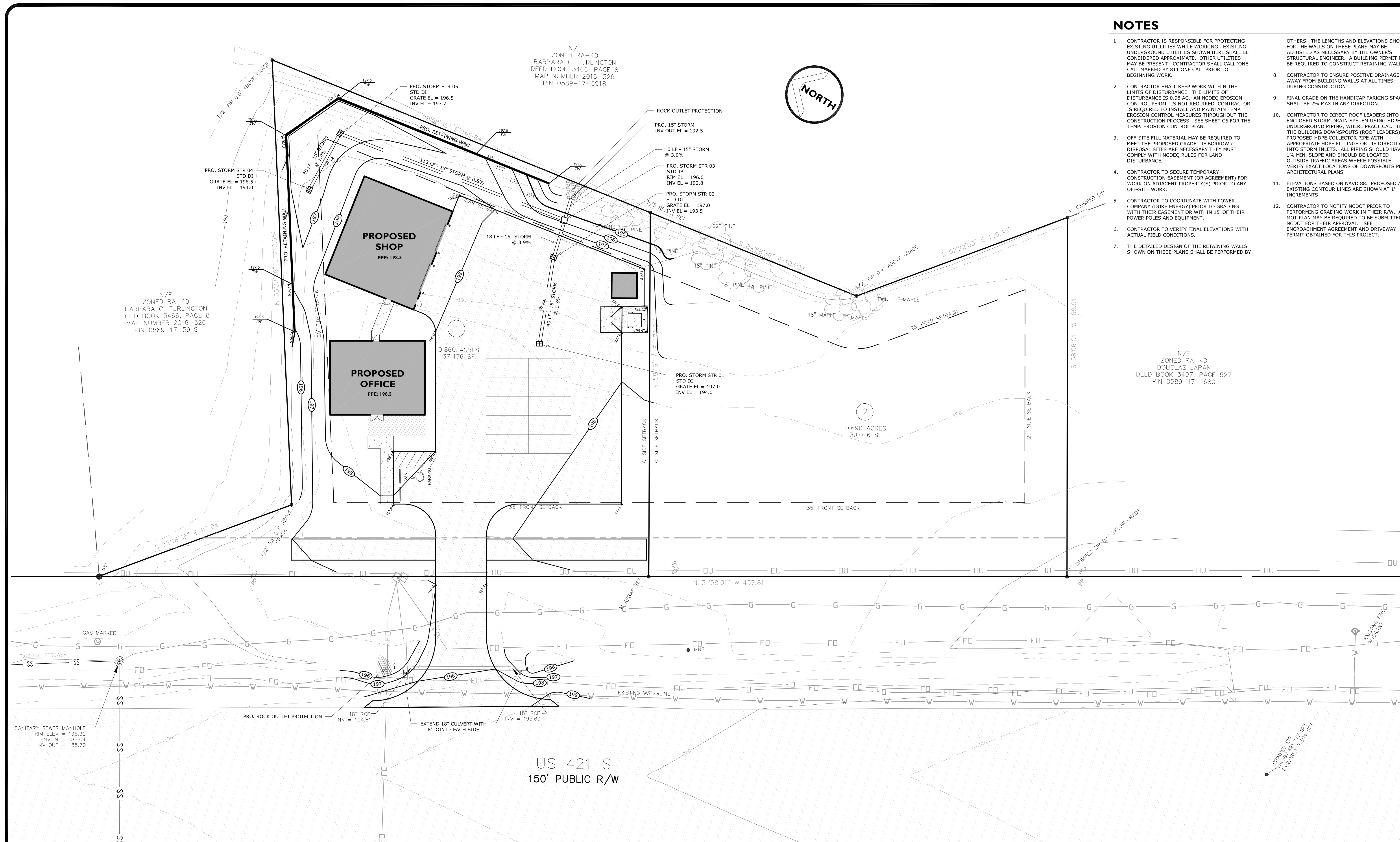
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NOTES

- CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES WHILE WORKING. EXISTING UNDERGROUND UTILITIES SHOWN HERE SHALL BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY BE PRESENT. CONTRACTOR SHALL CALL ONE CALL MARKED BY 811 ONE CALL PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL KEEP WORK WITHIN THE LIMITS OF DISTURBANCE. THE LIMITS OF DISTURBANCE IS 0.98 AC. AN NCDEQ EROSION CONTROL PERMIT IS NOT REQUIRED. CONTRACTOR IS REQUIRED TO INSTALL AND MAINTAIN TEMP. EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PROCESS. SEE SHEET C6 FOR THE TEMP. EROSION CONTROL PLAN.
- OFF-SITE FILL MATERIAL MAY BE REQUIRED TO MEET THE PROPOSED GRADE. IF BORROW / DISPOSAL SITES ARE NECESSARY THEY MUST COMPLY WITH NCDEQ RULES FOR LAND DISTURBANCE.
- CONTRACTOR TO SECURE TEMPORARY CONSTRUCTION EASEMENT (OR AGREEMENT) FOR WORK ON ADJACENT PROPERTY(S) PRIOR TO ANY OFF-SITE WORK.
- CONTRACTOR TO COORDINATE WITH POWER COMPANY (DUKE ENERGY) PRIOR TO GRADING WITH THEIR EASEMENT OR WITHIN 15' OF THEIR POWER POLES AND EQUIPMENT.
- CONTRACTOR TO VERIFY FINAL ELEVATIONS WITH ACTUAL FIELD CONDITIONS.
- THE DETAILED DESIGN OF THE RETAINING WALLS SHOWN ON THESE PLANS SHALL BE PERFORMED BY OTHERS. THE LENGTHS AND ELEVATIONS SHOWN FOR THE WALLS ON THESE PLANS MAY BE ADJUSTED AS NECESSARY BY THE OWNER'S STRUCTURAL ENGINEER. A BUILDING PERMIT MAY BE REQUIRED TO CONSTRUCT RETAINING WALLS.
- CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING WALLS AT ALL TIMES DURING CONSTRUCTION.
- FINAL GRADE ON THE HANDICAP PARKING SPACES SHALL BE 2% MAX IN ANY DIRECTION.
- CONTRACTOR TO DIRECT ROOF LEADERS INTO ENCLOSED STORM DRAIN SYSTEM USING HDPE UNDERGROUND PIPING, WHERE PRACTICAL. TIE THE BUILDING DOWNSPOUTS (ROOF LEADERS) TO PROPOSED HDPE COLLECTOR PIPE WITH APPROPRIATE HDPE FITTINGS OR TIE DIRECTLY INTO STORM INLETS. ALL PIPING SHOULD HAVE 1% MIN. SLOPE AND SHOULD BE LOCATED OUTSIDE TRAFFIC AREAS WHERE POSSIBLE. VERIFY EXACT LOCATIONS OF DOWNSPOUTS PER ARCHITECTURAL PLANS.
- ELEVATIONS BASED ON NAVD 88. PROPOSED AND EXISTING CONTOUR LINES ARE SHOWN AT 1' INCREMENTS.
- CONTRACTOR TO NOTIFY NCDOT PRIOR TO PERFORMING GRADING WORK IN THEIR R/W. A MOT PLAN MAY BE REQUIRED TO BE SUBMITTED TO NCDOT FOR THEIR APPROVAL. SEE ENCROACHMENT AGREEMENT AND DRIVEWAY PERMIT OBTAINED FOR THIS PROJECT.



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MAP NUMBER 2016-326
PIN 0589-17-5918

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BARBARA C. TURLINGTON
DEED BOOK 3466, PAGE 8
MAP NUMBER 2016-326
PIN 0589-17-5918

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DOUGLAS LAPAN
DEED BOOK 3497, PAGE 527
PIN 0589-17-1680

Project: **TIRADO TRUCK REPAIR**
US 421 SOUTH
HARNETT COUNTY, NC

Sheet: **SITE GRADING AND STORM DRAINAGE**

AGENCY REVIEW ONLY

Date: 24 JUN 2025
JTE Project No. 25-009
Sheet No.: **C4** of **12**

Drawn by: JRT
Designed by: JRT
Reviewed by: JRT

Scale: 1" = 20'

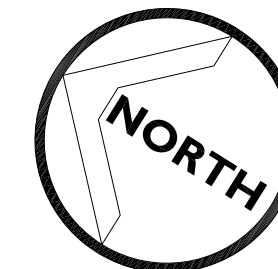
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BARBARA C. TURLINGTON
DEED BOOK 3466, PAGE 8
MAP NUMBER 2016-326
PIN 0589-17-5918

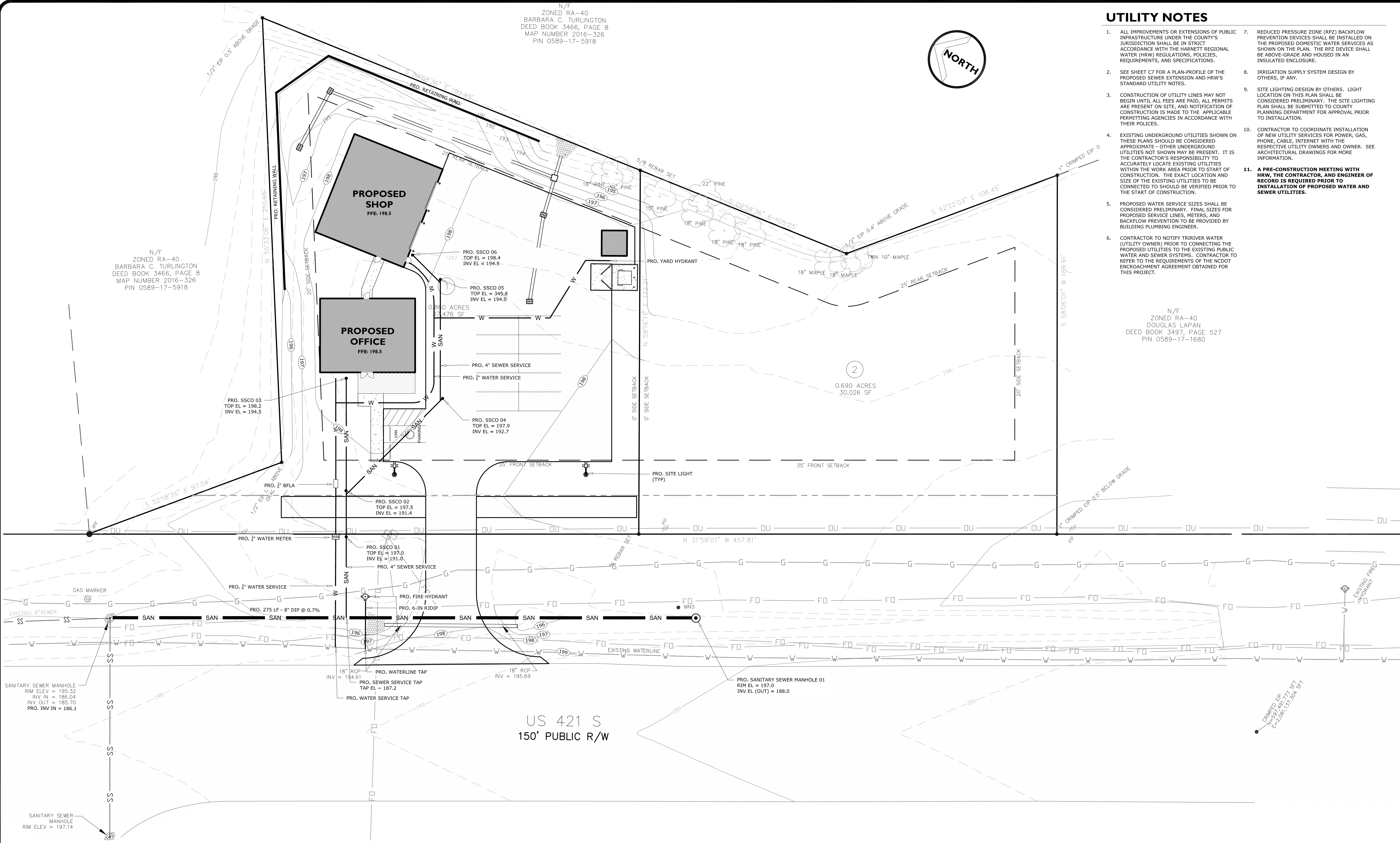


UTILITY NOTES

- ALL IMPROVEMENTS OR EXTENSIONS OF PUBLIC INFRASTRUCTURE UNDER THE COUNTY'S JURISDICTION SHALL BE IN STRICT ACCORDANCE WITH THE HARNETT REGIONAL WATER (HRW) REGULATIONS, POLICIES, REQUIREMENTS, AND SPECIFICATIONS.
- SEE SHEET C7 FOR A PLAN-PROFILE OF THE PROPOSED SEWER EXTENSION AND HRW'S STANDARD UTILITY NOTES.
- CONSTRUCTION OF UTILITY LINES MAY NOT BEGIN UNTIL ALL FEES ARE PAID, ALL PERMITS ARE PRESENT ON SITE, AND NOTIFICATION OF CONSTRUCTION IS MADE TO THE APPLICABLE PERMITTING AGENCIES IN ACCORDANCE WITH THEIR POLICIES.
- EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE - OTHER UNDERGROUND UTILITIES NOT SHOWN MAY BE PRESENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE EXISTING UTILITIES WITHIN THE WORK AREA PRIOR TO START OF CONSTRUCTION. THE EXACT LOCATION AND SIZE OF THE EXISTING UTILITIES TO BE CONNECTED TO SHOULD BE VERIFIED PRIOR TO THE START OF CONSTRUCTION.
- PROPOSED WATER SERVICE SIZES SHALL BE CONSIDERED PRELIMINARY. FINAL SIZES FOR PROPOSED SERVICE LINES, METERS, AND BACKFLOW PREVENTION TO BE PROVIDED BY BUILDING PLUMBING ENGINEER.
- CONTRACTOR TO NOTIFY TRIVIER WATER (UTILITY OWNER) PRIOR TO CONNECTING THE PROPOSED UTILITIES TO THE EXISTING PUBLIC WATER AND SEWER SYSTEMS. CONTRACTOR TO REFER TO THE REQUIREMENTS OF THE NCDOT ENCROACHMENT AGREEMENT OBTAINED FOR THIS PROJECT.
- REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ON THE PROPOSED DOMESTIC WATER SERVICES AS SHOWN ON THE PLAN. THE RPZ DEVICE SHALL BE ABOVE-GRADE AND HOUSED IN AN INSULATED ENCLOSURE.
- IRRIGATION SUPPLY SYSTEM DESIGN BY OTHERS, IF ANY.
- SITE LIGHTING DESIGN BY OTHERS. LIGHT LOCATION ON THIS PLAN SHALL BE CONSIDERED PRELIMINARY. THE SITE LIGHTING PLAN SHALL BE SUBMITTED TO COUNTY PLANNING DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION.
- CONTRACTOR TO COORDINATE INSTALLATION OF NEW UTILITY SERVICES FOR POWER, GAS, PHONE, CABLE, INTERNET WITH THE RESPECTIVE UTILITY OWNERS AND OWNER. SEE ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
- A PRE-CONSTRUCTION MEETING WITH HRW, THE CONTRACTOR, AND ENGINEER OF RECORD IS REQUIRED PRIOR TO INSTALLATION OF PROPOSED WATER AND SEWER UTILITIES.**

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MAP NUMBER 2016-326
PIN 0589-17-5918

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ZONED RA-40
DOUGLAS LAPAN
DEED BOOK 3497, PAGE 527
PIN 0589-17-1680



US 421 S
150' PUBLIC R/W

Project: **TIRADO TRUCK REPAIR**
US 421 SOUTH
HARNETT COUNTY, NC

Sheet: **SITE UTILITY**

Date: 24 JUN 2025
JTE Project No. 25-009
Sheet No.: **C5 of 12**

Drawn by: JRT
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Reviewed by: JRT

Scale: 1" = 20'

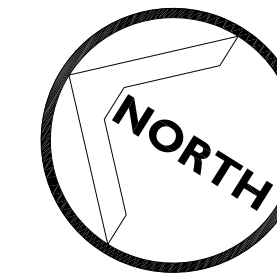
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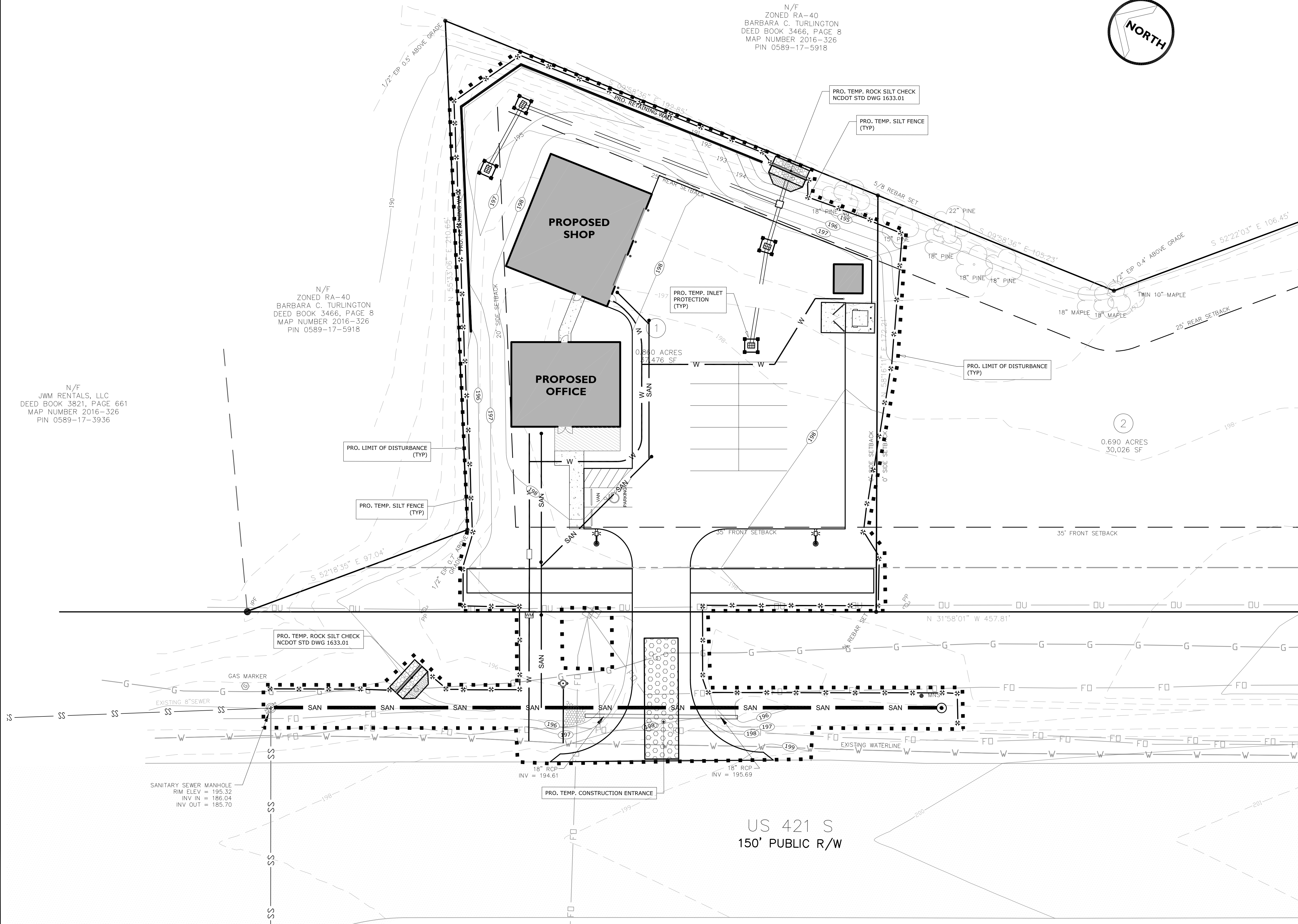
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PIN 0589-17-5918



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MAP NUMBER 2016-326
PIN 0589-17-5918

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JWM RENTALS, LLC
DEED BOOK 3821, PAGE 661
MAP NUMBER 2016-326
PIN 0589-17-3936



NOTES

1. THIS PLAN SHOWS THE TEMP. EROSION CONTROL MEASURES FOR ONE PHASE OF CONSTRUCTION.
2. LIMIT OF DISTURBANCE = 0.98 AC +/-, NCDEQ EROSION CONTROL PERMIT IS NOT REQUIRED.
3. SEE SHEETS C10 AND C11 FOR THE CONSTRUCTION SEQUENCE AND STANDARD DETAILS FOR TEMP. EROSION CONTROL MEASURES.
4. OFF-SITE BORROW / WASTE SITES MUST COMPLY WITH NCDEQ RULES AND REGULATIONS FOR LAND DISTURBANCE.
5. CONTRACTOR MAY NEED TO FIELD ADJUST PROPOSED EROSION CONTROL MEASURES TO FIT ACTUAL FIELD CONDITIONS.
6. CONTRACTOR TO KEEP ALL CONSTRUCTION/STORAGE OPERATIONS WITHIN LIMIT OF DISTURBANCE. ANY DISTURBANCE OUTSIDE THE LIMIT OF DISTURBANCE WILL REQUIRE A MODIFICATION TO THE NCDEQ EROSION CONTROL PERMIT.
7. CUT/FILL SLOPES SHALL BE 2:1 MAXIMUM.
8. THIS PROPERTY IS LOCATED IN THE CAPE FEAR RIVER BASIN. SITE DRAINS TO EAST BUIES CREEK, A CLASS 'WSIV' WATERS, STREAM INDEX 18-18-1.
9. THE MAJORITY SOIL TYPE (ACCORDING TO THE NRCS MAP) WITHIN THE SITE AREA IS No8 (NORFOLK LOAMY SAND), HYDROLOGIC GROUP 'A'.

EROSION CONTROL LEGEND

- TEMP. SILT FENCE
- TEMP. SILT FENCE OUTLET
- TEMP. DIVERSION DITCH
- LIMIT OF DISTURBANCE
- TEMP. INLET PROTECTION
- TEMP. INLET PROTECTION - GUTTERBUDDY
- TEMP. ROCK SILT CHECK TYPE 'A' (NCDOT STD DWG 1633.01)
- TEMP. ROCK PIPE INLET SEDIMENT TRAP TYPE 'B' (NCDOT STD DWG 1635.02)
- TEMP. COIR FIBER WATTLE
- RECP / DITCH LINER / MATTING
- ROCK LINER / PROTECTION
- TEMP. CONSTRUCTION ENTRANCE
- TEMP. DEWATERING PUMP AND SEDIMENT FILTER BAG ON ROCK BED
- TEMP. SKIMMER DEVICE
- TEMP. BAFFLE (FOR SKIMMER BASIN)

Project: **TIRADO TRUCK REPAIR**
US 421 SOUTH
HARNETT COUNTY, NC

Sheet: **TEMP. EROSION CONTROL** AGENCY REVIEW ONLY

Date: 24 JUN 2025
JTE Project No. 25-009
Sheet No.: **C6 of 12**

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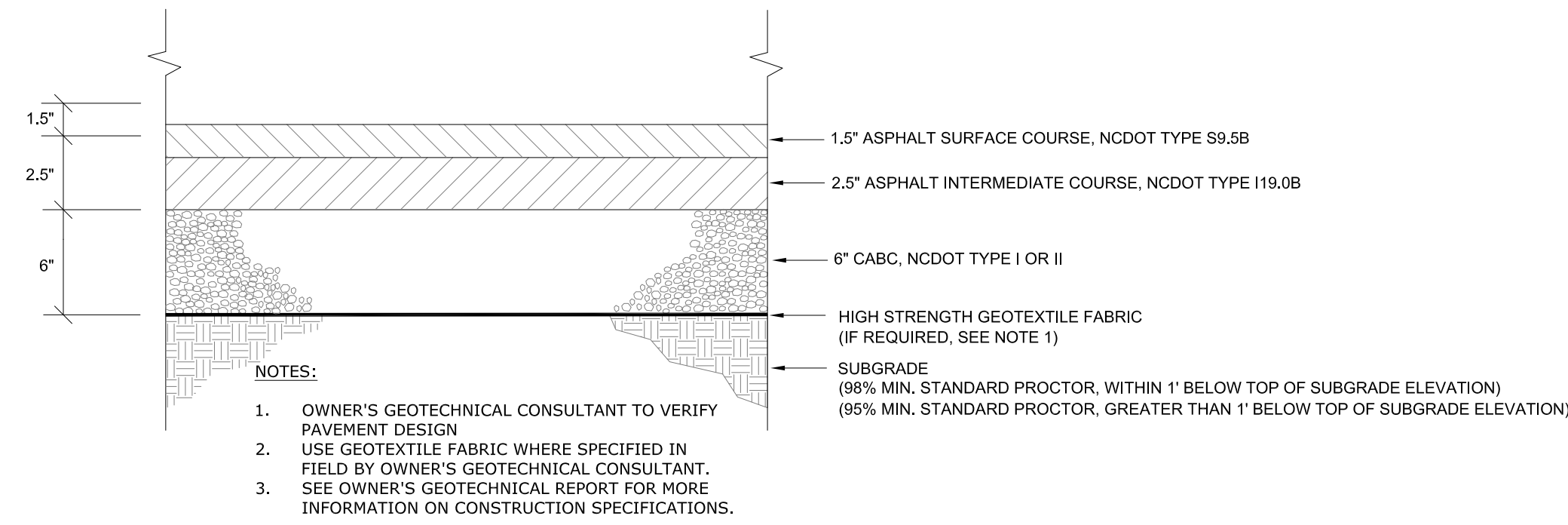
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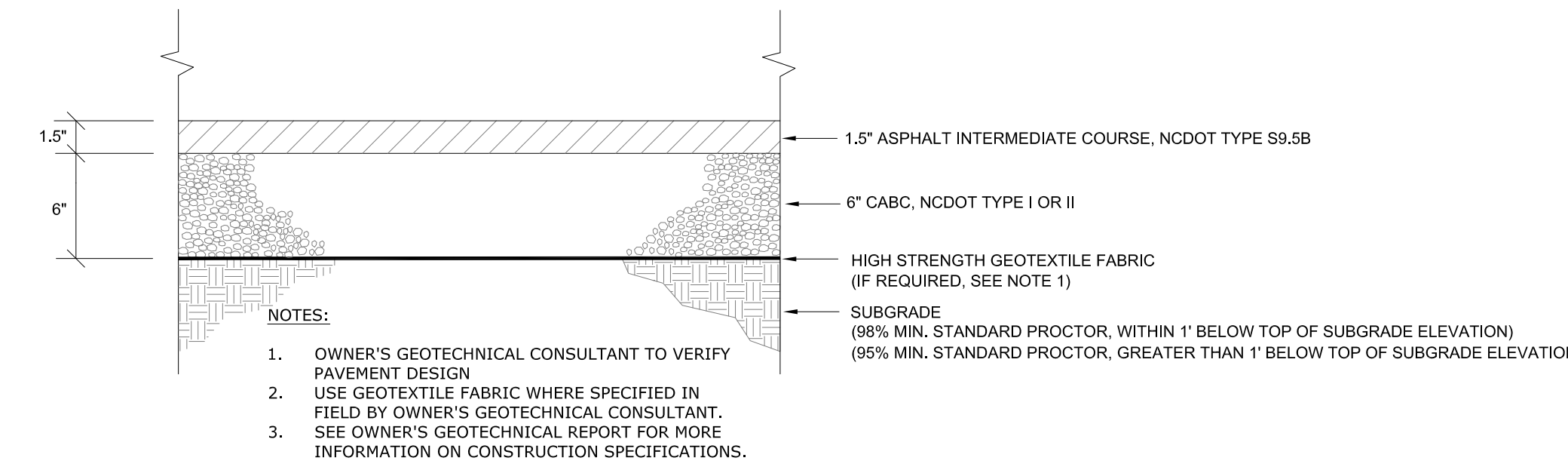
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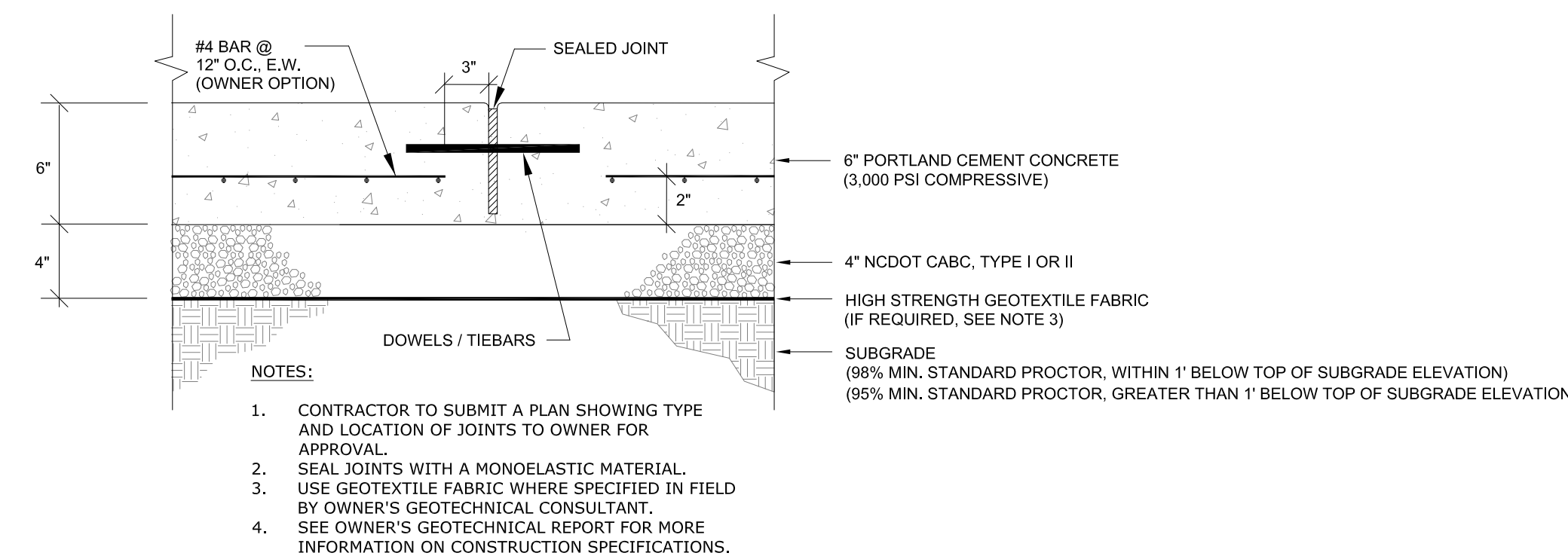
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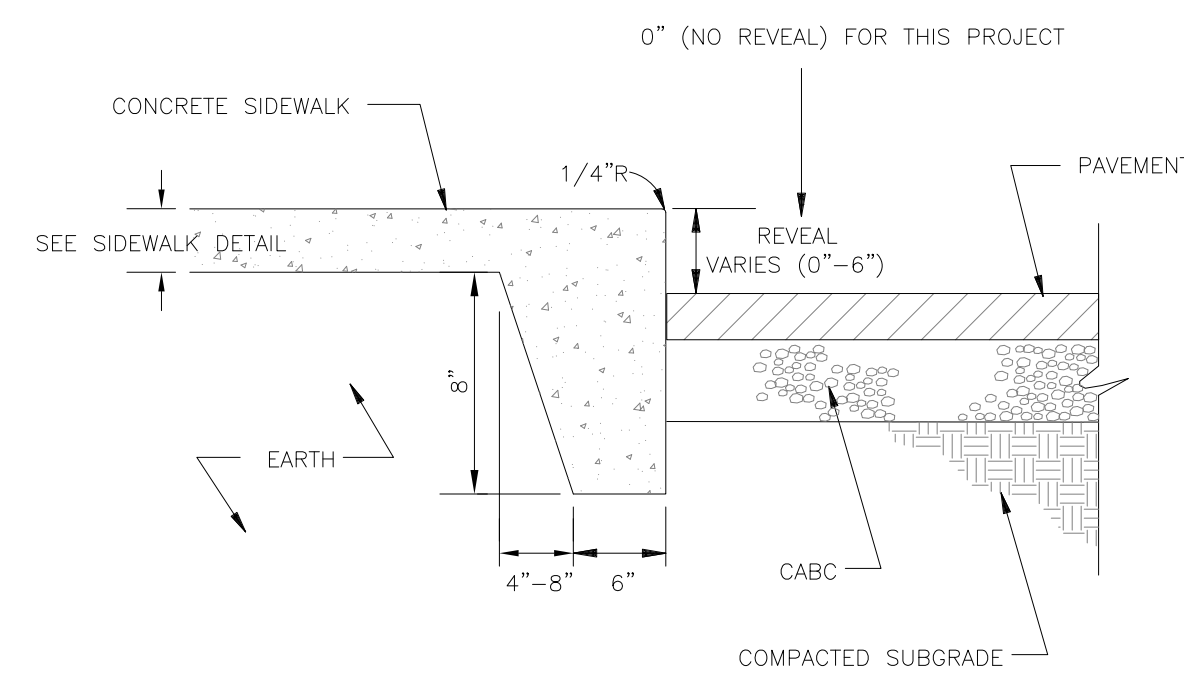
A-8 ASPHALT PAVEMENT (DRIVES AND PARKING)
NTS



B-8 ASPHALT PAVED PATH
NTS



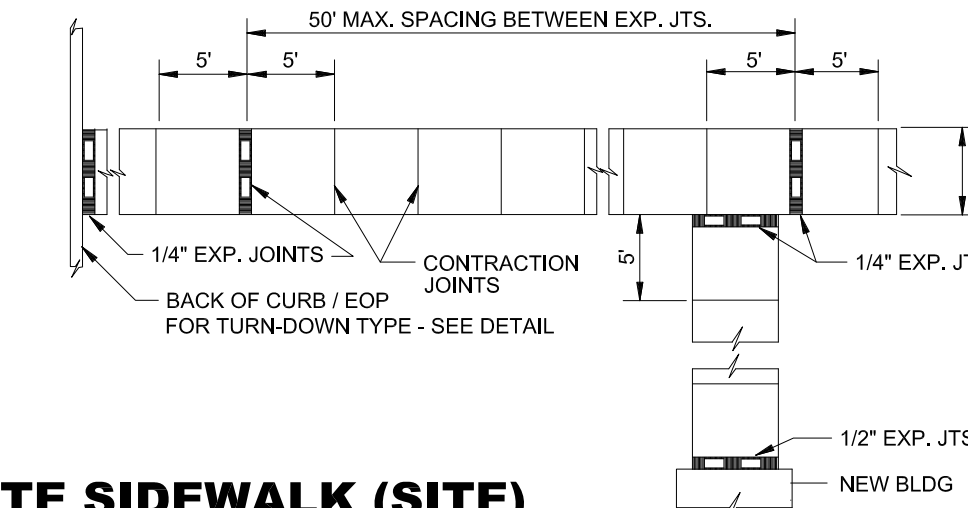
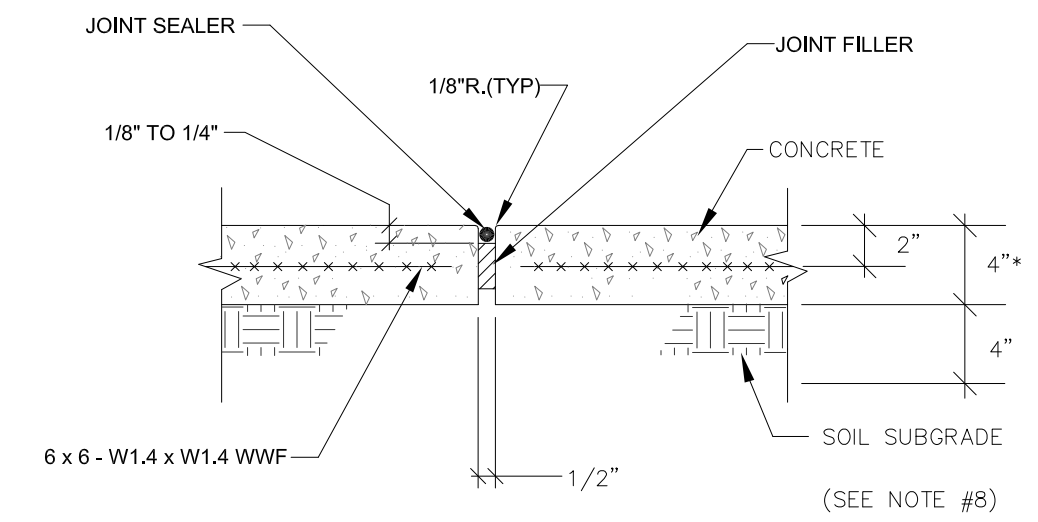
C-8 CONCRETE PAVEMENT
NTS



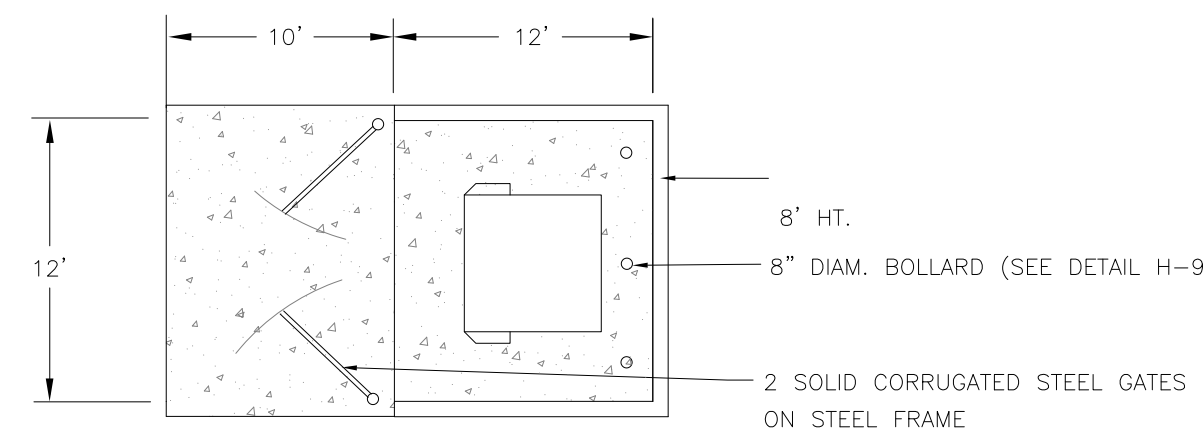
D-8 SIDEWALK W/ 'TURN DOWN' EDGE
NTS

NOTES:

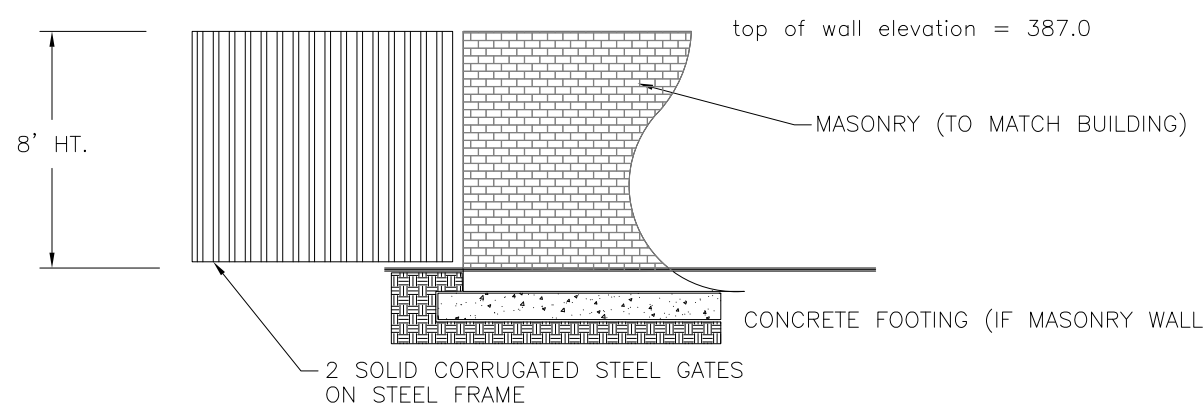
- CONCRETE SHOULD HAVE A MIN. COMPRESSIVE STRENGTH OF 3,000 PSI.
- ALL SIDEWALKS SHALL BE 4" THICK EXCEPT AT TURN DOWN.
- CONTRACTION JOINTS SHALL BE SPACED AT 5'-0" INTERVALS.
- CONTRACTION JOINTS SHALL BE FORMED 1" DEEP AND EDGED WITH 1/8" RADIUS, OR MAY BE SAWCUT 1" DEEP.
- SIDEWALK CROSS SLOPE SHOULD BE 2% MIN. TO AND SLOPE TOWARD PAVED AREAS
- 1/2" EXP. JT. MATERIAL REQUIRED WHERE CONC. SIDEWALK ABUTS ANY RIGID STRUCTURE.
- A LAYER OF 15# BLDG. FELT IS REQUIRED BETWEEN WALK AND ADJACENT PARALLELING CONC. CURB.
- ADD 4" LAYER OF CABC BETWEEN CONCRETE AND SOIL SUBGRADE IN AREAS OF POOR SOILS AND WHERE DIRECTED BY OWNER'S GEOTECHNICAL CONSULTANT.



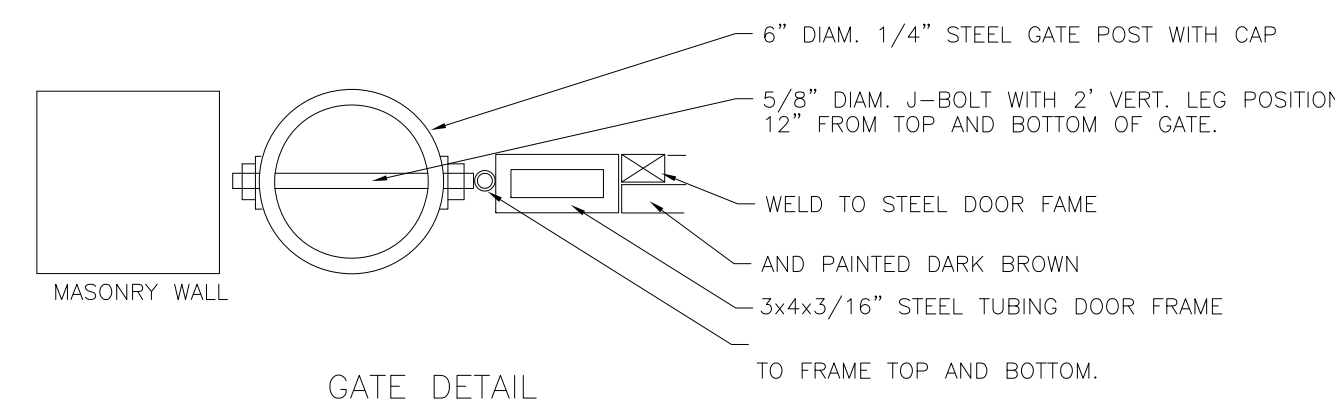
E-8 CONCRETE SIDEWALK (SITE)
NTS



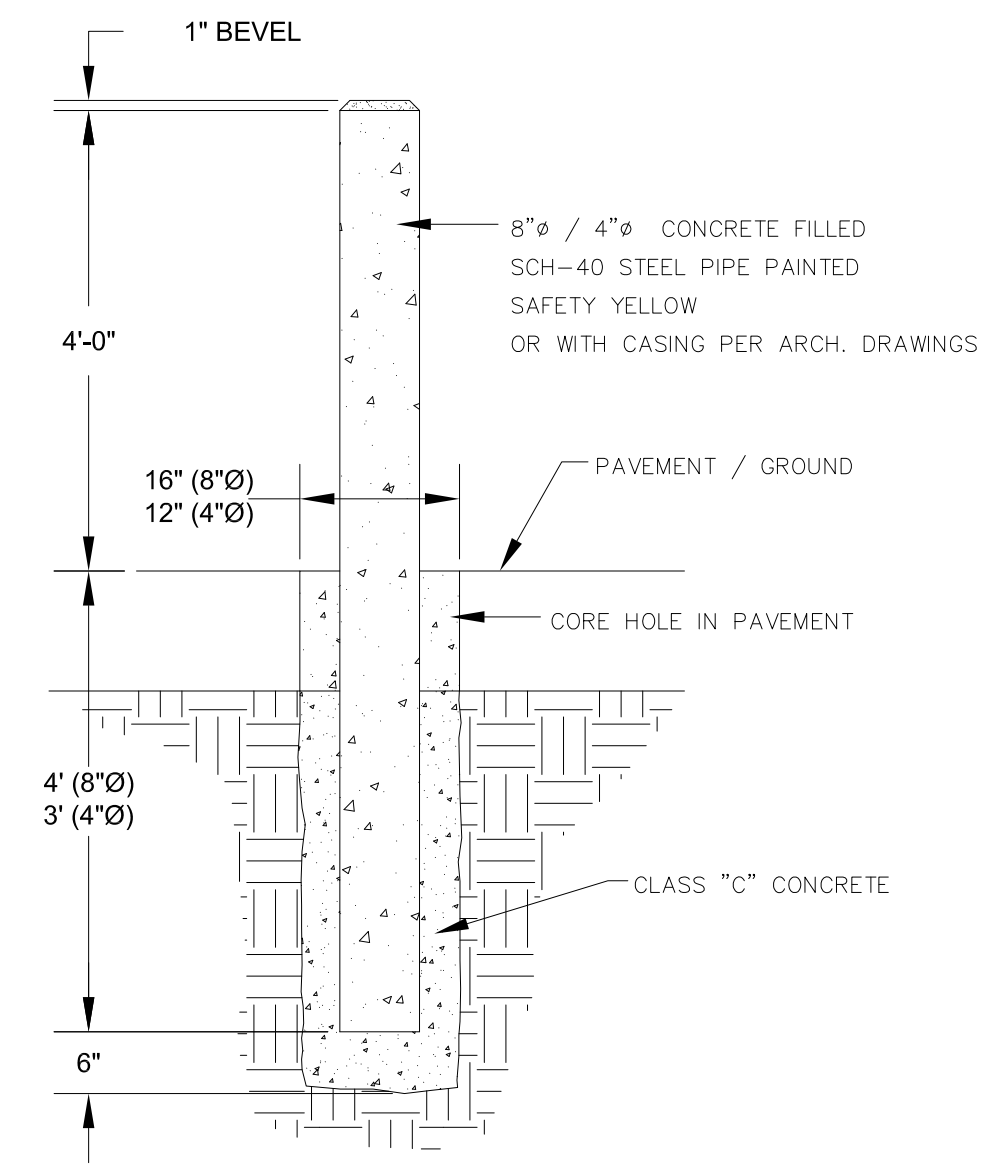
SINGLE DUMPSTER PAD



MASONRY SCREEN

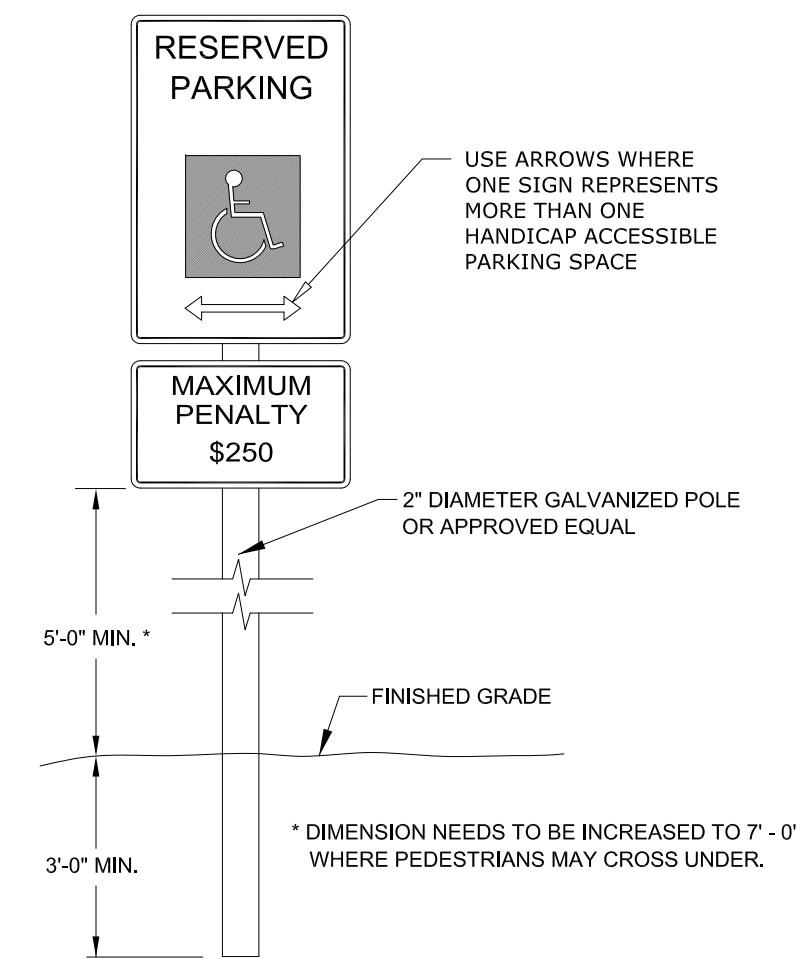


F-8 DUMPSTER AREA
NTS



G-8 BOLLARD
NTS

STANDARD HANDICAP ACCESSIBLE PARKING SIGN



H-8 HANDICAP ACCESSIBLE PARKING SIGN
NTS

Project: **TIRADO TRUCK REPAIR**
US 421 SOUTH
HARNETT COUNTY, NC

Date: 24 JUN 2025
JTE Project No. 25-009
Sheet No.: **C8** of **12**

Drawn by: JRT
Designed by: JRT
Reviewed by: JRT

Scale: NTS

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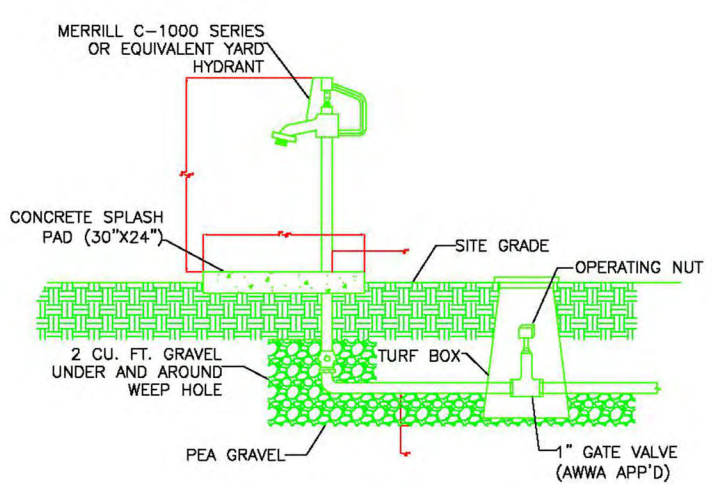


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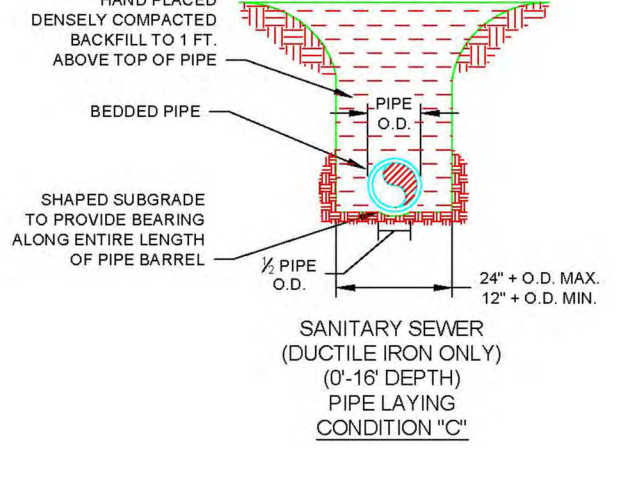
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CONSTRUCTION DETAILS

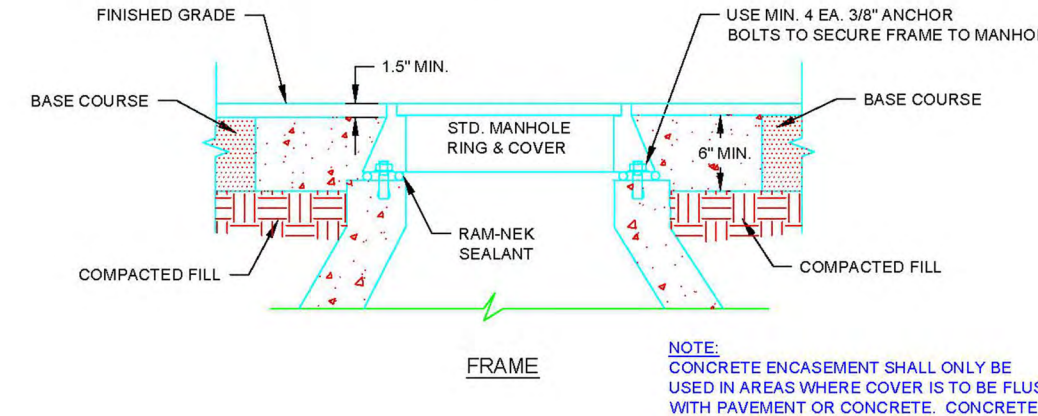
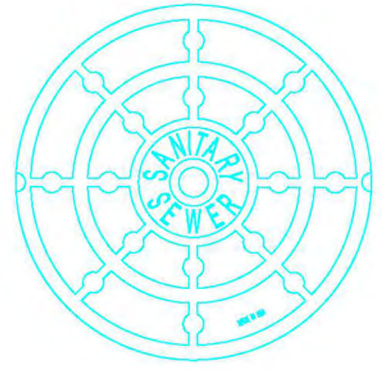
AGENCY REVIEW ONLY



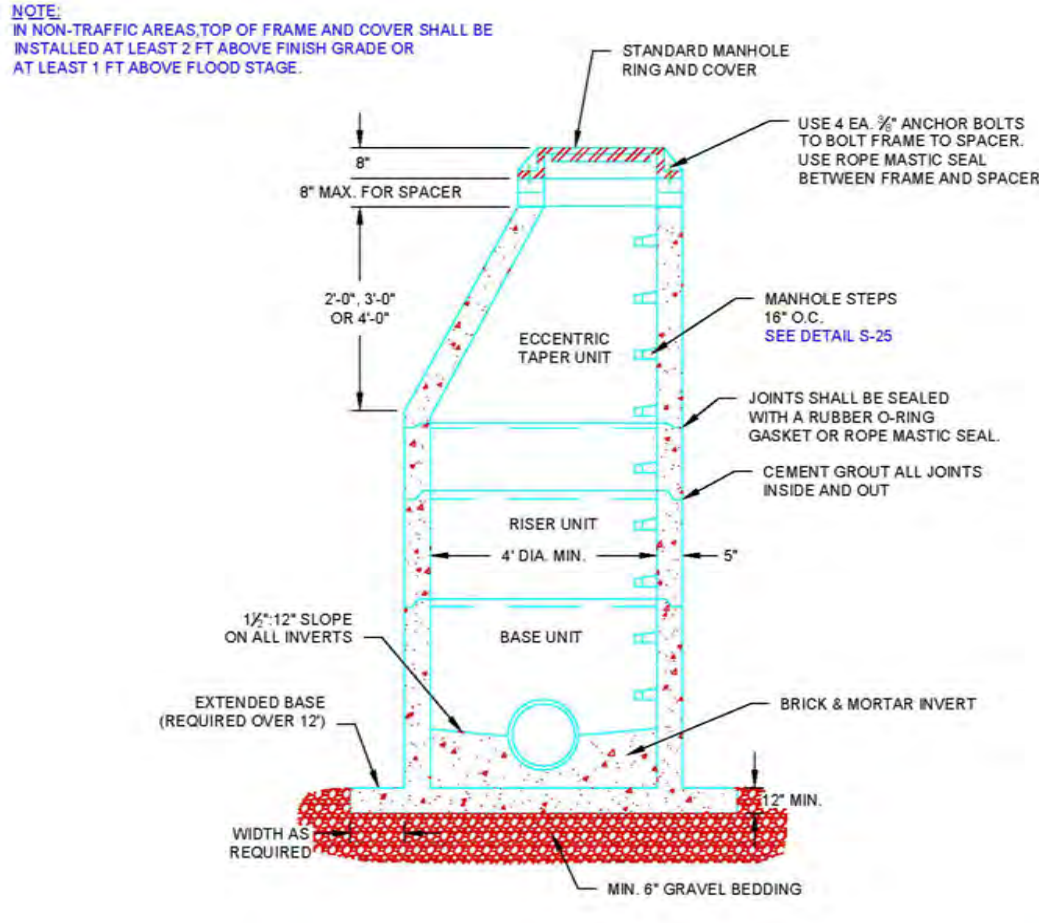
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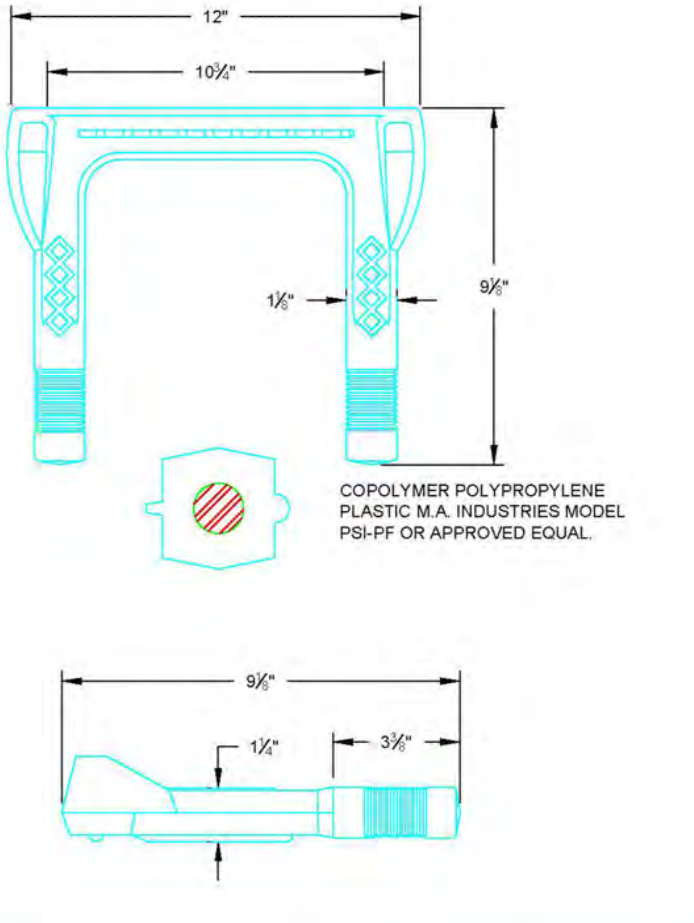
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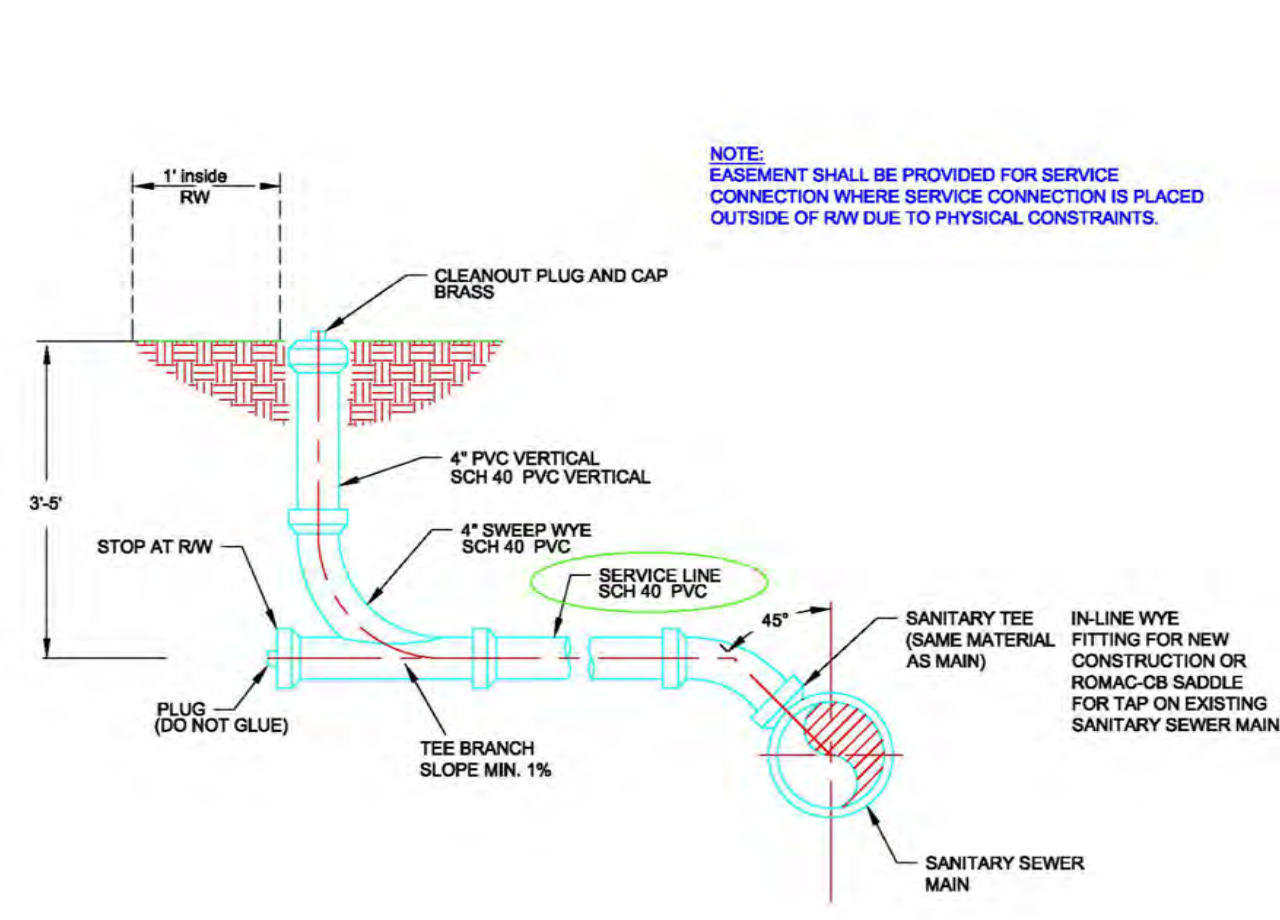
TYPICAL STANDARD MANHOLE FRAME & COVER DETAIL
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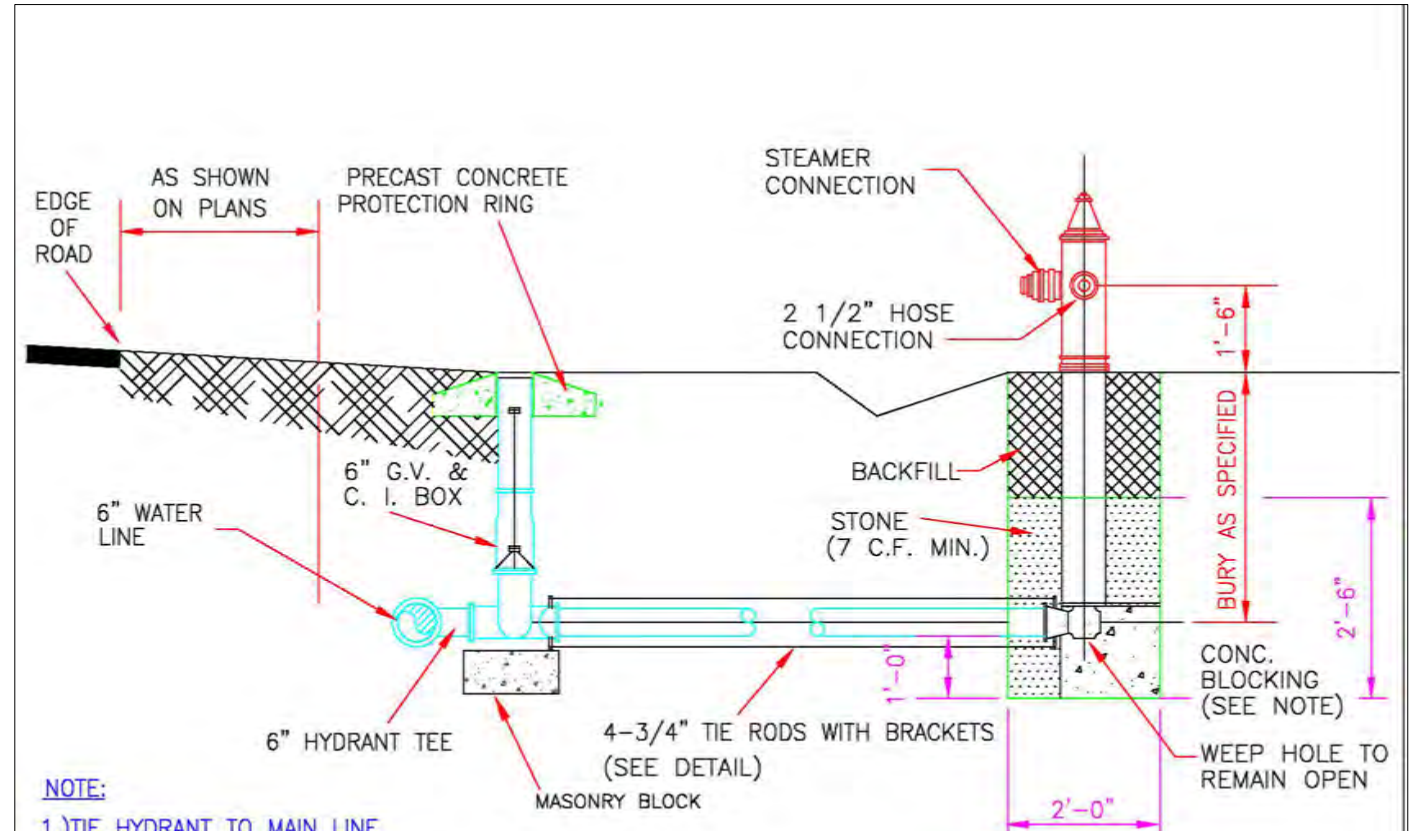
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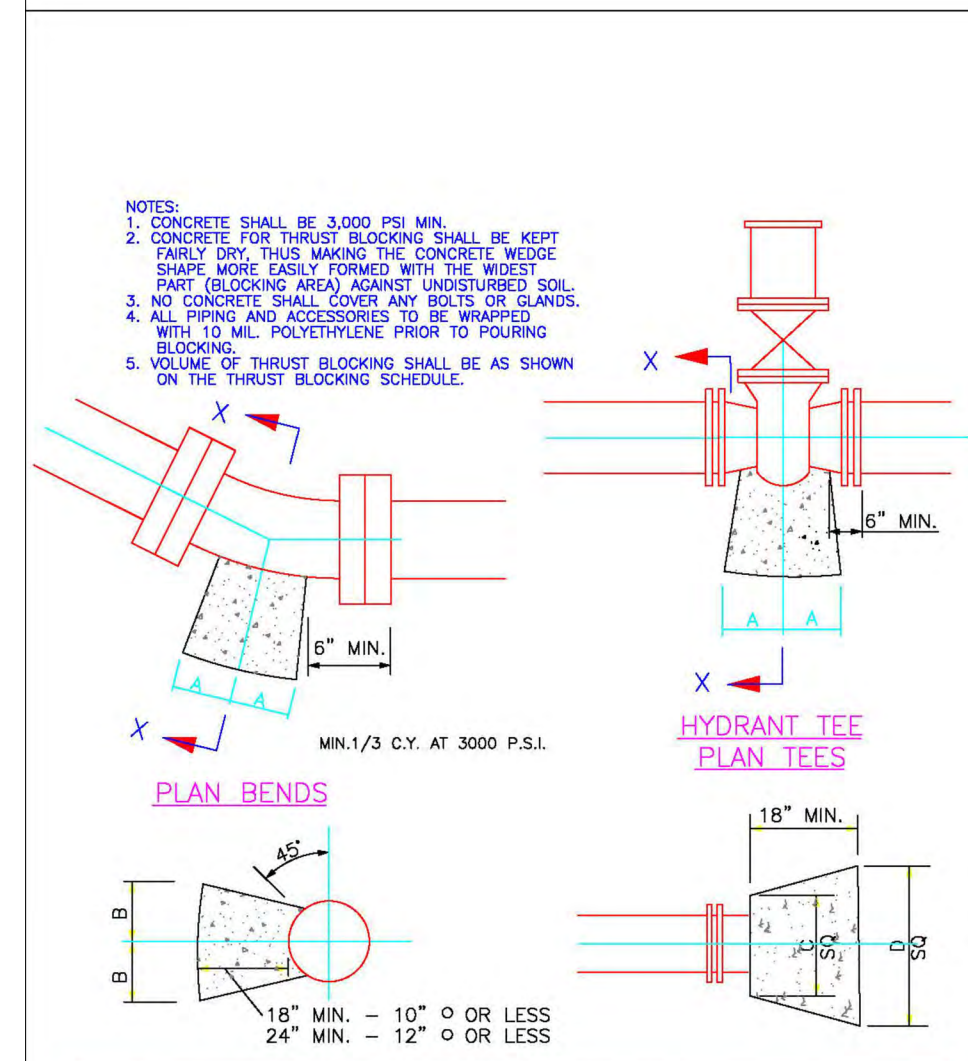
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TYPICAL SEWER SERVICE CONNECTION DETAIL
 NO SCALE



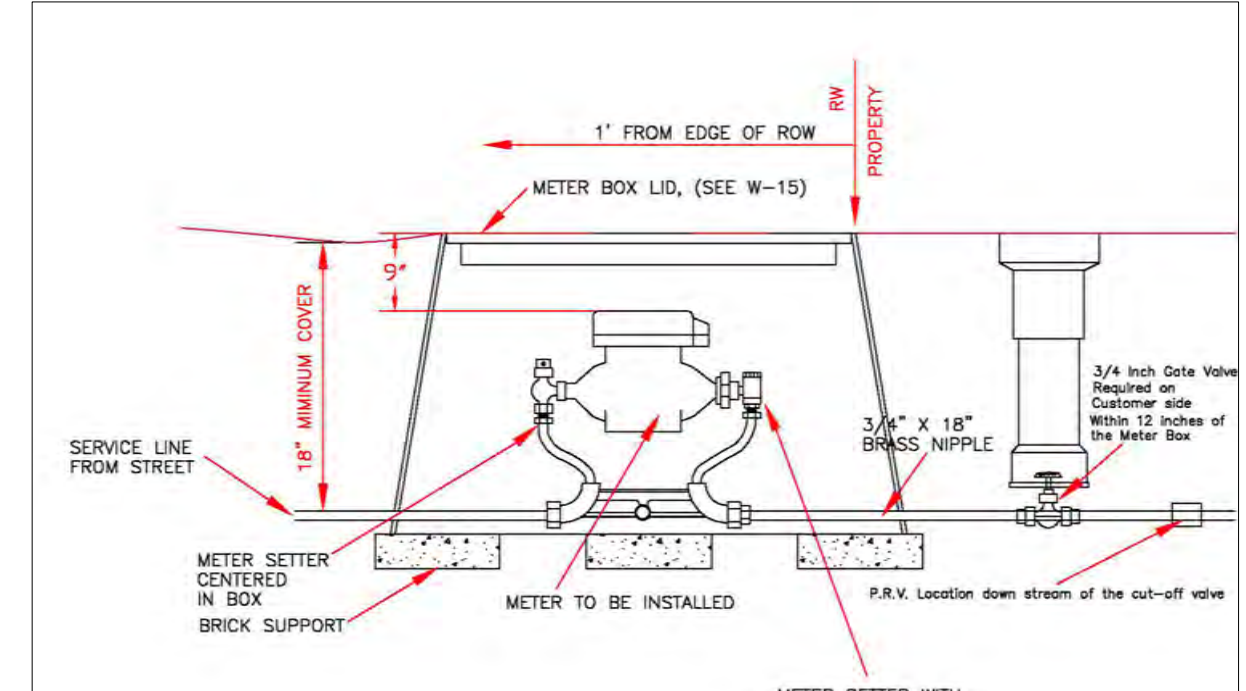
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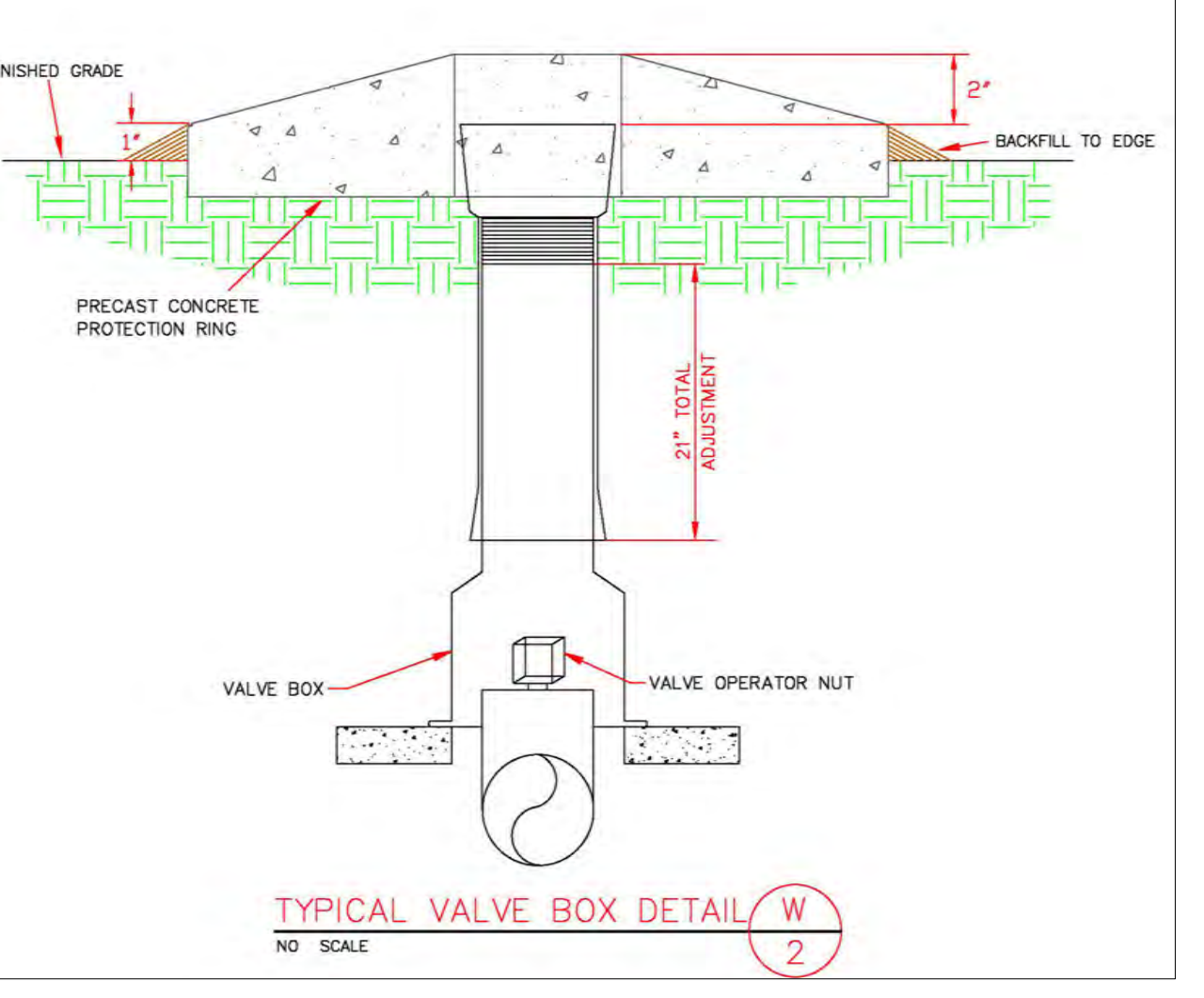
TYPICAL THRUST BLOCK DETAIL
 NO SCALE

LAYING CONDITIONS	DESCRIPTION	PROJECT USE
	EARTH TRENCH WITH COMPACTED BACKFILL	NOT USED.
	AT BOTTOM UNDISTURBED EARTH TRENCH WITH UNDISTURBED EARTH	NOT USED.
	PIPE BEDDED IN SAND, GRANULAR MATERIAL OR GRADED GRAVEL TO THE DEPTH OF 1/8 PIPE DIAMETER, 4\"/>	
	PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL UNDER PIPE, COMPACTED GRANULAR MATERIAL EQUAL TO 4\"/>	

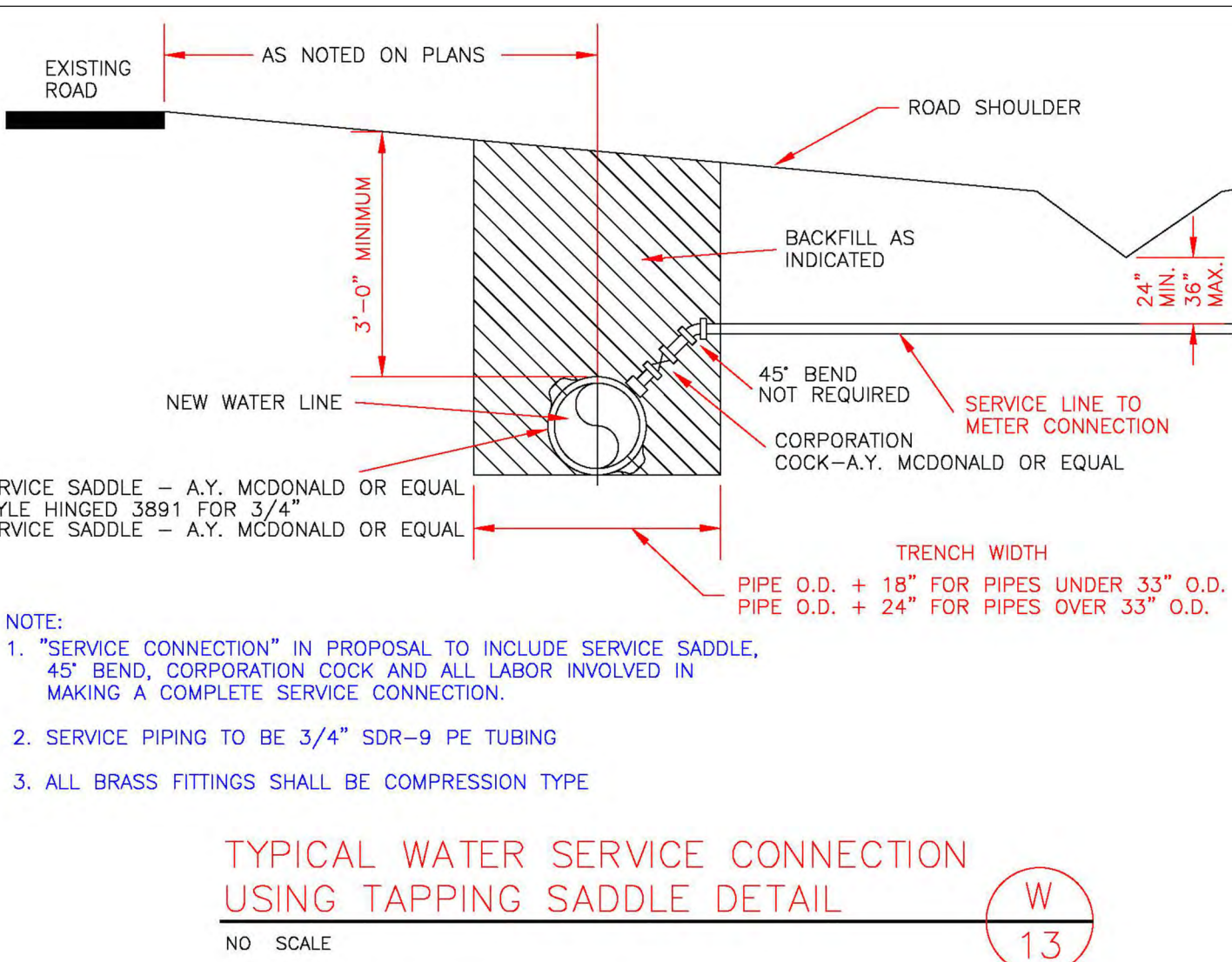
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**TYPICAL 3/4\"/>
 NO SCALE**



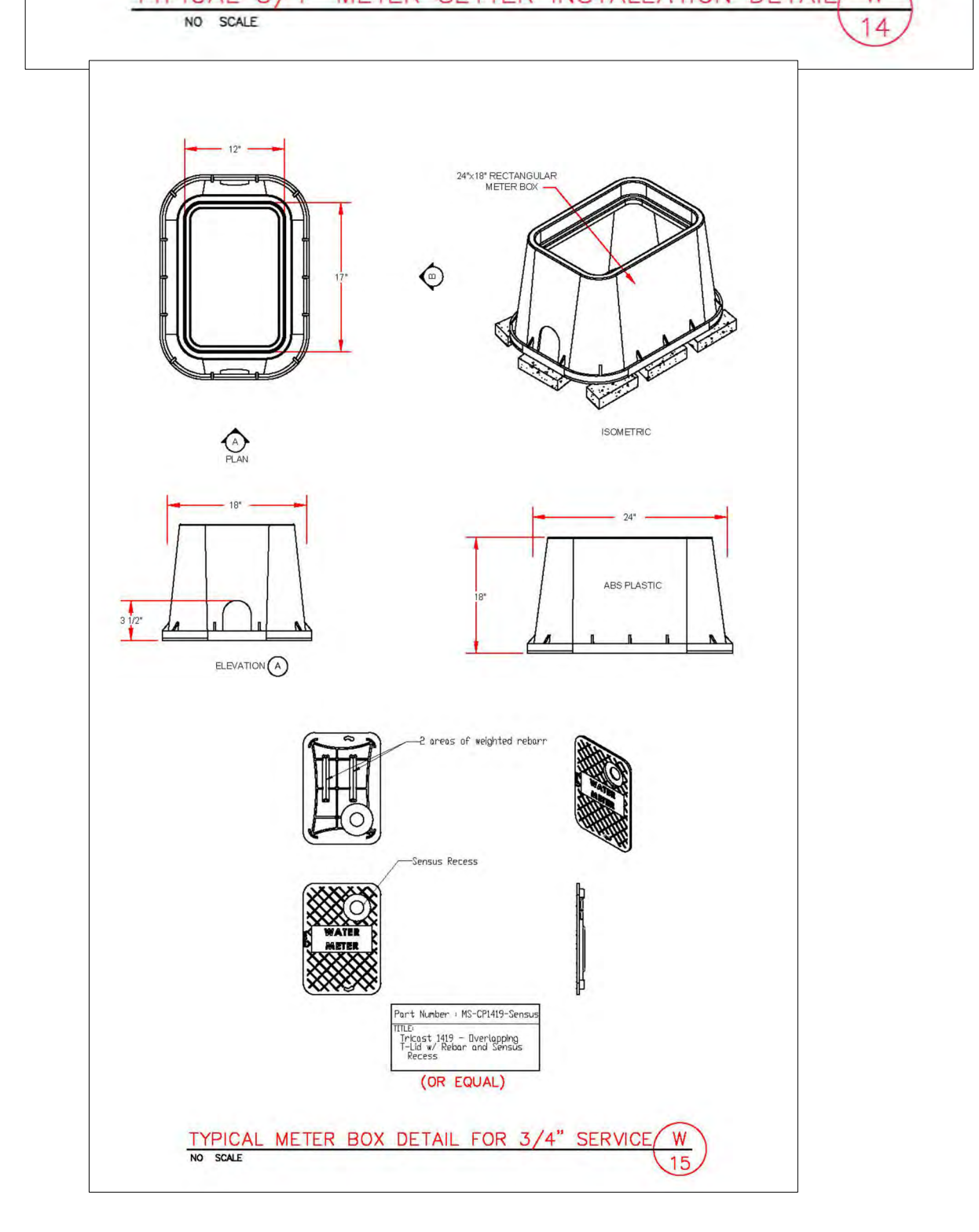
TYPICAL VALVE BOX DETAIL
 NO SCALE



TYPICAL WATER SERVICE CONNECTION USING TAPPING SADDLE DETAIL
 NO SCALE

PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	1 1/4° BEND	TEE	PLUG
4"	8"	12"	8"	8"	8"	8"
6"	10"	12"	8"	8"	8"	8"
8"	12"	15"	10"	8"	8"	8"
10"	14"	18"	12"	8"	10"	11"
12"	16"	20"	14"	8"	12"	14"
14"	18"	22"	16"	10"	14"	16"
16"	20"	24"	18"	12"	16"	18"

TYPICAL THRUST BLOCK DETAIL
 NO SCALE



**TYPICAL METER BOX DETAIL FOR 3/4\"/>
 NO SCALE**

Project: **TIRADO TRUCK REPAIR**
 US 421 SOUTH
 HARNETT COUNTY, NC

Sheet: **STANDARD DRAWINGS - HARNETT REGIONAL WATER**

Date: 24 JUN 2025
 JTE Project No. 25-009
 Sheet No.: **C9 of 12**

Drawn by: JRT
 Designed by: JRT
 Reviewed by: JRT

Scale: NTS

NO.	DATE	DESCRIPTION

J THOMAS ENGINEERING, INC.
 CIVIL ENGINEERING & PLANNING

143 Charlotte Avenue, Suite 104
 Sanford, North Carolina 27330
 (919) 777-6010 phone
 www.jthomasengineering.com
 license no. C-3389

PROFESSIONAL ENGINEER'S SEAL

DATE: _____ PAGE: _____

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

Seeding Mixture

Species	Rate (lb/acre)
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	120
Rye (grain)	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

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. Re-seed, re-fertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

Seeding Mixture

Species	Rate (lb/acre)
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
 Coastal Plain and Piedmont—Aug. 15 - Dec. 31

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. Re-seed, re-fertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

Seeding Mixture

Species	Rate (lb/acre)
Rye (grain)	120

Seeding Dates

Mountains—Aug. 15 - Dec. 15
 Coastal Plain and Piedmont—Aug. 15 - Dec. 31

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.

SEED BED PREPARATION:

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1-1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700 - 1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformity texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

DEQ **TEMPORARY SEEDING** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

Species	Rate
Centipede	5 lb/acre
Indian Woodoats	1.5-2.5 lb/acre*
Virginia Wild Rye	4-6 lb/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates

Coastal and Eastern Piedmont for Centipede- Sept. 1 - May 1
 Wild Rye- Feb 15 - April 1
 Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:

Significant maintenance may be required to obtain desired cover.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

Species	Rate
Indian Woodoats	1.5-2.5 lb/acre*
Virginia Wild Rye	4-6 lb/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates

Mountains - July 15 - Aug 15
 Piedmont - Aug 15 - Oct 15

Maintenance:

Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

Species	Rate
Hard Fescue	15 lb/acre
Switchgrass	2.5-3.5 lb/acre*
Indian Grass	5-7 lb/acre*
Big Bluestem	5-7 lb/acre*
Indian Woodoats	1.5-2.5 lb/acre*
Virginia Wild Rye	4-6 lb/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates

Mountains - Hard Fescue- Aug 1 - June 1
 Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 15
 Piedmont, and Coastal- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 1
 Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

Maintenance:

Hard Fescue is not recommended for slopes > 5%. Prefers shade.

SEED BED PREPARATION:

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformity fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NETS AND MATS*

1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframes table.

2. A North Carolina Department of Agriculture silt trap (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.

3. Use a seeding mix that will produce fast-growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops.

4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

DEQ **PERMANENT SEEDING** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

Subgrade Preparation:

- Prepare the subgrade for riprap and filter to the required lines and grades shown on the plans.
- Compact any fill required in the subgrade to a density approximating that of the surrounding undisturbed material or overfill depression with riprap.
- Remove brush, trees, stumps, and other objectionable material.

Sand and Gravel Filter Blanket:

- Place the filter blanket immediately after the ground foundation is prepared.
- When using gravel, spread filter stone in a uniform layer to the specified depth.
- When more than one layer of filter material is used, spread the layers with minimal mixing.

Synthetic Filter Fabric:

- Place the cloth filter directly on the prepared foundation.
- Overlap the edges by at least 12 inches, and space anchor pins every 3 feet along the overlap.
- Bury the upstream end of the cloth a minimum of 12 inches below ground and bury the lower end of the cloth or over lap with the next section as required.
- If damage occurs while placing riprap, remove the riprap, and repair the sheet by adding another layer of filter material with a minimum overlap of 12 inches around the damaged area. If damage is extensive, remove and replace the entire sheet.
- If placing large stones or machine placing is difficult, a 4 inch layer of fine gravel or sand may be needed to protect the filter cloth.

Maintenance:

In general, once a riprap installation has been properly designed and installed it requires very little maintenance. Riprap should be inspected periodically for scour or dislodged stones. Control of weed and brush growth may be needed in some locations.

Size of Riprap stones

Weight (lb)	Mean Spherical Diameter (ft)	Length (ft)	Rectangular Shape Width/Height (ft)
50	0.8	1.4	0.5
100	1.1	1.8	0.6
150	1.3	2.0	0.7
300	1.6	2.6	0.9
500	1.9	3.0	1.0
1000	2.2	3.7	1.3
1500	2.6	4.7	1.5
2000	2.8	5.4	1.8
4000	3.6	6.0	2.0
6000	4.0	6.9	2.3
8000	4.5	7.6	2.5
20,000	6.1	10.0	3.3

Sizes for Riprap and Erosion Control Stone Specified by NCCDOT

Riprap	Class 1	Class 2	Class A	Class B
5-200 lb	25-250 lb	2"-6"	6"-16"	

Riprap should be a well-graded mixture with 50% by weight larger than the specified design size. Diameter of the largest stone size in the mix should be 1.5 times the d₁₅ with smaller sizes grading down to 1 inch.

Stone Placement:

- Placement of riprap should follow immediately after placement of the filter.
- Place so that riprap forms a dense, well-graded mass of stone with a minimum of voids.
- Place to its full thickness in one operation.
- Do not place by dumping through chutes or other methods that cause segregation of stone sizes.
- Take care not to dislodge underlying base or filter when placing stone.
- The toe of the riprap slope should be keyed to a stable foundation at its base.
- The toe should be excavated to a depth about 1.5 times the design thickness of the riprap and extend horizontally from the slope, as shown above.
- Hand placing may be necessary to achieve the proper distribution of stone sizes to produce a relatively smooth, uniform surface.

DEQ **RIP RAP** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

STAKES AT 2'-6" INTERVALS

OVERLAP CHANNEL 2" TO ALLOW BLANKETS PREPARATION

LONGITUDINAL ANCHOR TRENCH

DESIGN DEPTH

INITIAL CHANNEL ANCHOR TRENCH

TERMINAL SLOPE AND CHANNEL ANCHOR TRENCH

CHECK SLOTS AT 20' INTERVALS

INTERMITTENT CHECK SLOT

LONGITUDINAL ANCHOR TRENCH

SINGLE-LAP SPICED ENDS OR BEGIN NEW ROLL IN AN INTERMITTENT CHECK SLOT

PREPARE SOIL AND APPLY SEED BEFORE INSTALLING BLANKETS, MATS OR OTHER TEMPORARY CHANNEL LINER SYSTEMS

BRING MATERIAL DOWN TO A LEVEL AREA, TURN THE END UNDER 4" AND STAPLE AT 12" INTERVALS

STAPLE OVERLAPS MAX 4" SPRACING

ANCHOR 6"x6" MIN. TRENCH AND STAPLE AT 12" INTERVALS

3" MIN. OVERLAP

6" MIN. OVERLAP

NO. 11 GAUGE, AT LEAST 6 INCH BY 1 INCH STAPLES OR 12 INCH MINIMUM LENGTH WOODEN STAPLES ARE RECOMMENDED FOR ANCHORING.

Check slots to be constructed per manufacturers specifications.

Staking or stapling layout per manufacturers specification.

If there is a berm at the top of slope, anchor up-slope of the berm.

Do not stretch blankets/mats tight, allow the rolls to conform to any irregularities.

For slopes less than 3H:1V, rolls may be placed in horizontal strips.

MAINTENANCE:

- Inspect Rolled Erosion Control Products at least weekly and after each rainfall of 1.0 inch or greater; repair immediately.
- Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
- Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
- If erosion occurs due to poorly controlled drainage, the problem shall be corrected and the eroded area protected.
- Monitor and repair the RECP as necessary until ground cover is established.

DEQ **ROLLED EROSION CONTROL PRODUCTS** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

8" MAX. STANDARD STRENGTH FABRIC WITH WIRE FENCE

6" MAX. EXTRA STRENGTH FABRIC WITHOUT WIRE FENCE

STEEL POST

WIRE FENCE

PLASTIC OR WIRE TIES

WIRE FENCE

STEEL POST

PLASTIC OR WIRE

BACKFILL TRENCH AND COMPACT THOROUGHLY

UPSLOPE

24"

18-24"

8" DOWN & 4" FORWARD ALONG THE TRENCH

CROSS SECTION VIEW

4" MIN.

8" MIN.

Max. Slope Length and Slope for Which Sediment Fence is Applicable

Slope	Slope Length (ft)	Max. Area (ft ²)
<2%	100	10,000
2 to 5%	75	7,500
5 to 10%	50	5,000
10 to 20%	25	2,500
>20%	15	1,500

MAINTENANCE:

- Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately.
- Should the fabric of a sediment fence collapse, tear, decompose, or become ineffective, replace it promptly.
- Remove sediment deposits as necessary to provide adequate storage volume for the next rain and reduce pressure on the fence. Take care to avoid undermining the fence during cleanouts.
- Remove all fencing materials and unstable sediment deposits and bring the area to grade and stabilize it after the contributing drainage area has been properly stabilized.

DEQ **SEDIMENT FENCE** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

Public Road

50' MIN. REACHED A LENGTH SUFFICIENT CANNOT TO RETAIN SEDIMENT ON SITE AND OFF ROADWAYS

6" MIN.

2.5" COURSE AGGREGATE

GEOTEXTILE FABRIC TO BE USED IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE

CONSTRUCTION:

- Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade it.
- Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.
- Provide drainage to carry water to a sediment trap or other suitable outlet.
- Use geotextile fabrics in order to improve stability of the foundation in locations subject to seepage or high water table.

MAINTENANCE:

- Inspect all measures at least weekly and after each rainfall of 1.0 inch or greater. Make any required repairs immediately.
- Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site. This may require periodic topdressing with 2-inch stone.
- Sediment on roadways is to be removed immediately by broom and shovel, either by manual or mechanical means, and not to be washed off where it has the potential to enter a stream, drainage way or storm drain system.

DEQ **TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

Project: **TIRADO TRUCK REPAIR**

US 421 SOUTH
HARNETT COUNTY, NC

Sheet: **STANDARD DRAWINGS - NCDEQ**

AGENCY REVIEW ONLY

Date: 24 JUN 2025

JTE Project No. 25-009

Sheet No.: CII of 12

Drawn by: JRT

Designed by: JRT

Reviewed by: JRT

Scale: NTS

REVISIONS

DATE: _____ PAGE: _____

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Straw	1-2 tons	Dry, unchopped, unweathed; avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood Chips	5-6 tons	Air dry	Treat with 12 lb nitrogen. Apply with mulch blower, chip handle, or by hand. Not for use in fine turf.
Wood Fiber	0.5-1 tons	Air dry	Also referred to as wood cellulose. May be hydroseeded. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handle, or by hand. Do not use asphalt tack.
Corn Stalks	4-6 tons	Cut or shredded to 4-8 inch lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Series Lespedeza seed-bearing stems	1-3 tons	Green or dry; should contain mature seed.	Apply with mulch blower or by hand. Not for use in fine turf.

NETS AND MATS*

Jute net

Cover area

Heavy, uniform, woven of single jute yarn.

Withstands waterflow. Best when used with organic mulch.

Fiberglass net

Cover area

Withstands waterflow. Best when used with organic mulch.

Excelsior (wood fiber net)

Cover area

Withstands waterflow.

Chemical Stabilizers**

Acural Aerospay

Follow Manufacturer's specifications

Quasol AK

Not beneficial to plant growth

Petrotex SB

Not beneficial to plant growth

Terra Tack

Not beneficial to plant growth

Genetack

Not beneficial to plant growth

*Refer to Practice No. 6.30, Grass Lined Channels in the NC DEQ E&S Planning and Design Manual
 **Use of trade names does not imply endorsement of product.

NOTES:

- Select material based on site and practice requirements, availability of material, labor and equipment.
- Before mulching, complete grading, install sediment control practices, and prepare the seedbed. Apply seed before mulching except when seed is applied as part of a hydroseeder slurry containing wood fiber mulch or a hydroseeder slurry is applied over straw.
- APPLICATION OF ORGANIC MULCH
- Spread mulch uniformly by hand, or with a mulch blower.
- When spreading straw mulch by hand, divide the area to be mulched into sections of approximately 1,000 ft², and place 70-90 lb of straw (1/2 to 2 bales) in each section to facilitate uniform distribution.
- After spreading, no more than 25% of the ground surface should be visible.
- In hydroseeding operations a green dye, added to the slurry, assures a uniform application.
- ANCHORING ORGANIC MULCH
- Straw mulch must be anchored immediately after spreading.
- A tractor-driven implement designed to punch mulch into the soil or a mulch anchoring tool provides maximum erosion control with straw. A regular farm disk, weighted and set nearly straight, may substitute, but will not do a job comparable to the mulch anchoring tool. The disk should not be sharp enough to cut the straw. These methods are limited to slopes no steeper than 3:1, where equipment can operate safely.
- Application of liquid mulch binders and tackifiers should be heaviest at the edges of areas and at crests of ridges and banks, to resist wind. Binder should be applied uniformly to the rest of the area. Binders may be applied after mulch is spread, or may be sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is the most effective method.
- Emulsified asphalt should be applied at 0.10 gallons per square yard (10 gal/1,000 ft²). Heavier applications cause straw to "perch" over ruts. Use Rapid setting (RS) or CRIS designated asphalt traffic areas to prevent anchored asphalt from being picked up on shoes and causing damage to ruts, cloths, etc.
- 8-Rye Grain may be used to anchor mulch in tall parterre, and German Millet in spring. Broadcast at 15 lb/acre before applying mulch.
- Lightweight plastic, cotton, jute, wire or paper mats may be stapled over the mulch according to the manufacturer's recommendations.
- For small areas where other methods cannot be used, pegs and twine anchoring can be used. Drive 6-10 inch wooden pegs to within 3 inches of the soil surface, every 4 feet in all directions. Stakes can be driven before or after straw is spread. Secure mulch by stretching twine between pegs in a cross-within-a-square pattern. Turn twine two or more times around each peg.
- CHEMICAL MULCHES
- Chemical mulches cannot be used to bind other mulches, or with wood fiber in a hydroseeded slurry at any time. Follow the manufacturer's recommendations for application.
- FIBERGLASS ROVING
- As a channel lining and other sites of concentrated flow, the roving mat must be further anchored after paving underlayment. It may be secured with stakes placed at intervals no greater than 10 feet along the drainage way, and randomly throughout its width, but not more than 10 feet apart.
- As an option to staking, the roving can be buried to a depth of 5 inches at the upgrade end and at intervals of 50 feet along the length of the channel.
- NETS AND MATS
- Netts alone generally provide little moisture conservation benefits and only limited erosion protection. Therefore, typically use in conjunction with an organic mulch such as straw.
- Except when wood fiber slurry is used, netting should always be installed over the mulch. Wood fiber may be sprayed on top of an installed net.
- Mats, including "excelsior" (wood fiber) blankets, are considered protective mulches and may be used alone.
- Place the matting in firm contact with the soil, and staple securely.

MULCHING

PIPE OUTLET TO FLAT AREA NO WELL-DEFINED CHANNEL

PLAN

SECTION A

PIPE OUTLET TO WELL-DEFINED CHANNEL

PLAN

SECTION AA

MAINTENANCE:

- Compact any fill required in the subgrade to the density of the surrounding undisturbed material. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.
- The riprap and gravel filter mat conform to the specified grading limits shown on the plans.
- Filter cloth, when used, must meet design requirements, and be properly protected from puncturing or tearing during installation. Repair any damage by removing the riprap and placing another piece over the damaged area.
- If the damage is extensive, replace the entire filter cloth.
- All connecting joints should overlap so the top layer is above the downstream layer a minimum of 1 foot.
- The minimum thickness of the riprap should be 1.5 times the maximum stone diameter but not less than 6".
- Riprap may be field stone or rough quarry stone. It should be hard, angular highly weather-resistant and well graded.
- Construct the apron on zero grade with no overfill at the end. Make the top of the riprap at the downstream end level with the receiving area or slightly below it.
- Ensure that the apron is properly aligned with the receiving stream and preferably straight throughout its length. If a curve is needed, place it in the upper section of the apron.

DEQ **MULCHING** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates

DATE: _____ PAGE: _____

OUTLET STABILIZATION STRUCTURE

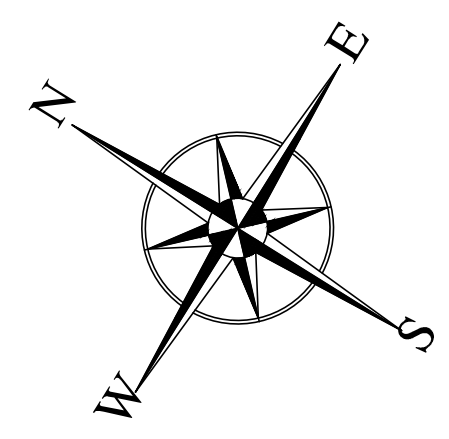
PLAN

SECTION AA

MAINTENANCE:

- Inspect outlet structures at least weekly and after each rainfall of 1.0 inch or greater; repair immediately.
- Check outlets for erosion around or below riprap and for ruts in stone that have disintegrated. Make repairs immediately to prevent future damage.

DEQ **OUTLET STABILIZATION STRUCTURE** Effective Date: 9/1/2023 In accordance with the 2013 Design Manual Updates



N/F
ZONED RA-40
BARBARA C. TURLINGTON
DEED BOOK 3466, PAGE 8
MAP NUMBER 2016-326
PIN 0589-17-5918
EX. ZONING= RA-40

RESIDENTIAL USES / (TRADITIONAL HOUSEHOLD RESIDENTIAL)
SINGLE-FAMILY DWELLINGS
USE GROUP LEVEL-1

N/F
ZONED RA-40
BARBARA C. TURLINGTON
DEED BOOK 3466, PAGE 8
MAP NUMBER 2016-326
PIN 0589-17-5918
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RESIDENTIAL USES / (TRADITIONAL HOUSEHOLD RESIDENTIAL)
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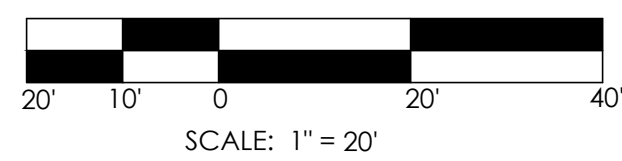
EX. ZONING= COMMERCIAL
COMMERCIAL USES / (VEHICLE SERVICES)
AUTOMOTIVE REPAIR FACILITY
USE GROUP LEVEL-3

REFERENCE DETAIL 2/L-1
FOR TREE AND SHRUB
PLANTING DETAILS

US 421 SOUTH
150' PUBLIC R/W
EX. ZONING= RA-40

RESIDENTIAL USES / (TRADITIONAL HOUSEHOLD RESIDENTIAL)
SINGLE-FAMILY DWELLINGS
USE GROUP LEVEL-1

1
L-1
LANDSCAPE PLAN
SCALE: 1"=20'



PLANT SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	HEIGHT	ROOT	COMMENTS
DECIDUOUS CANOPY TREE							
NS	7	<i>Nyssa sylvatica</i> 'Wildfire'	Wildfire Blackgum	2"	8-10'	B&B	Full, Straight, Single Leader
QN	13	<i>Quercus nuttallii</i>	Nuttall Oak	2"	8-10'	B&B	Full, Straight, Single Leader
EVERGREEN TREE							
JV	2	<i>Juniperus Virginiana</i>	Eastern Red Cedar	-	6' Min.	Cont.	Full, Straight, Single Leader
EVERGREEN SHRUBS							
IV	31	<i>Ilex vomitoria</i>	Yaupon Holly	-	24" Min.	Cont.	Full, Match
LJ	22	<i>Ligustrum japonicum</i> 'Recurvifolium'	Wax Leaf Ligustrum	-	24" Min.	Cont.	Full, Match
LC	30	<i>Loropetalum Chinense</i> 'Zhuzhou Fuschia'	Zhuzhou Fuschia Loropetalum	-	24" Min.	Cont.	Full, Match
MC	30	<i>Myrica cerifera</i>	Wax Myrtle	-	24" Min.	Cont.	Full, Match
OF	18	<i>Osmanthus X Fortunei</i>	Fortune's Osmanthus	-	24" Min.	Cont.	Full, Match

PLANT LEGEND



EX. VEGETATION PICTURE P1



LANDSCAPE CALCULATIONS

UDO SEC. 9.1.8 - REQUIRED BUFFER & SCREENING TYPES
UDO SEC. 9.1.8.A
ALL BUFFER TYPES SHALL INCLUDE:
1. A STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30 FEET APART; AND
2. LOW-GROWING EVERGREEN SHRUBS, EVERGREEN GROUND COVER, OR MULCH COVERING THE BALANCE OF THE BUFFER AREA.

BUFFER N1 - 194 LF. TYPE 'A' LANDSCAPE BUFFER (15' WIDE)
EXISTING BUFFER VEGETATION = 0 LF
PLANTED BUFFER = 194 LF
STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30 FEET APART
194 LF / 30' = 6.4 (7) LARGE MATURING TREES REQUIRED/PROVIDED
ROW OF EVERGREEN SHRUBS PLACED NOT MORE THAN FOUR TO SIX FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST SIX FEET IN HEIGHT WITHIN TWO YEARS OF PLANTING
194 LF / 6' = 32.3 (33) EVERGREEN SHRUBS REQUIRED/PROVIDED
PINE STRAW MULCH COVERING THE BALANCE OF THE BUFFER AREA

BUFFER E1 - 193 LF. TYPE 'A' LANDSCAPE BUFFER (15' WIDE)
EXISTING BUFFER VEGETATION = 29 LF
PLANTED BUFFER = 164 LF
STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30 FEET APART
164 LF / 30' = 5.4 (6) LARGE MATURING TREES REQUIRED/PROVIDED
ROW OF EVERGREEN SHRUBS PLACED NOT MORE THAN FOUR TO SIX FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST SIX FEET IN HEIGHT WITHIN TWO YEARS OF PLANTING
164 LF / 6' = 27.3 (28) EVERGREEN SHRUBS REQUIRED/PROVIDED
PINE STRAW MULCH COVERING THE BALANCE OF THE BUFFER AREA

BUFFER W1 - 187 LF. TYPE 'D' LANDSCAPE BUFFER (15' WIDE)
EXISTING BUFFER VEGETATION = 0 LF
PLANTED BUFFER = 187 LF
STAGGERED ROW OF LARGE MATURING TREES, SPACED NOT MORE THAN 30 FEET APART
187 LF / 30' = 6.2 (7) LARGE MATURING TREES REQUIRED/PROVIDED
ROW OF EVERGREEN SHRUBS, 10 SHRUBS FOR EVERY REQUIRED LARGE MATURING TREE, PLACED NOT MORE THAN FOUR FEET APART WHICH WILL GROW TO FORM A CONTINUOUS HEDGE OF AT LEAST 6 FEET IN HEIGHT WITHIN 2 YEARS OF PLANTING
7 LARGE MATURING TREES X 10 SHRUBS = 70 EVERGREEN SHRUBS REQUIRED/PROVIDED
PINE STRAW MULCH COVERING THE BALANCE OF THE BUFFER AREA

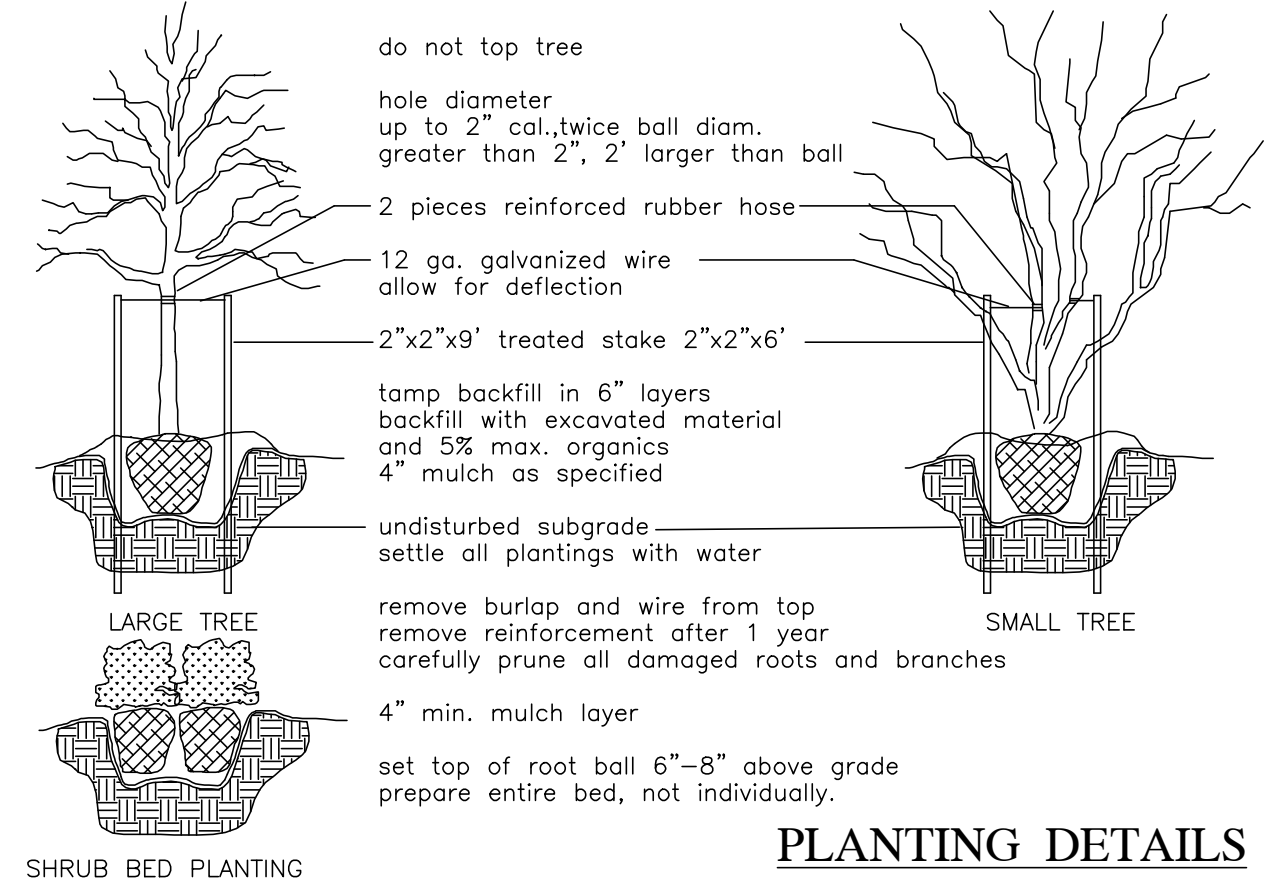
UDO SEC. 9.2.3 - TRASH CONTAINMENT AREAS SCREENING
ALL TRASH CONTAINMENT DEVICES, INCLUDING COMPACTORS AND DUMPSTERS, SHALL BE LOCATED AND DESIGNED SO AS NOT TO BE VISIBLE FROM THE VIEW OF ADJACENT RIGHT(S)-OF-WAY AND PROPERTIES. THE TYPE OF SCREENING USED SHALL BE A CONTINUOUS ROW OF LARGE MATURING EVERGREEN TREES.
2 LARGE MATURING EVERGREEN TREES PROVIDED

LANDSCAPE SCOPE OF WORK

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

LANDSCAPE PLAN NOTES

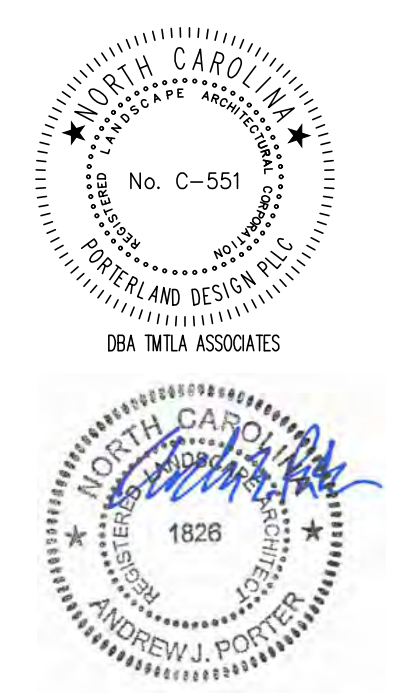
- ALL PLANT MATERIAL ON THIS SITE MUST MEET MINIMUM HARNETT COUNTY UDO REQUIREMENTS FOR SIZE, HEIGHT, AND SPACING. PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES AND IN CONFORMANCE WITH THE GENERAL PLANTING NOTES AND DETAILS WITHIN THIS PLAN SET.
- PLANTING STOCK SHALL MEET ALL STANDARDS WITHIN THE LATEST EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK." ALL PLANTS SHALL BE VIGOROUS, HEALTHY MATERIAL FREE FROM PESTS AND DISEASE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE PROJECT SITE AND FAMILIARIZE WITH ACTUAL FIELD CONDITIONS PRIOR TO BIDDING AND COMMENCING WORK. THE CONTRACTOR SHALL ACCEPT ACTUAL CONDITIONS AT THE SITE AND PERFORM THE WORK SPECIFIED INCLUDING THE FINE GRADING AND INCORPORATION OF TOPSOIL INTO PLANTING AREAS, WITHOUT ADDITIONAL COMPENSATION FOR POSSIBLE VARIATIONS FROM GRADES AND CONDITIONS SHOWN WEATHER SURFACE OR SUBSURFACE. IF FIELD CONDITIONS ARE FOUND TO BE SIGNIFICANTLY DIFFERENT THE CONTRACTOR SHALL NOTIFY THE PROJECT LANDSCAPE ARCHITECT OR ENGINEER IMMEDIATELY AND PRIOR TO ORDERING MATERIALS.
- CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS TO PERFORM THE WORK.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES ABOVE AND BELOW GROUND AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THEIR ACTIVITIES. CONTRACTOR SHALL NOTIFY NORTH CAROLINA ONE CALL (1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF NORTH CAROLINA ONE CALL. THE CONTRACTOR MAY ALSO NEED TO ENGAGE A PRIVATE UTILITY LOCATING FIRM AT THEIR OWN COST TO EFFICIENTLY HAVE ALL UTILITIES LOCATED.
- ANY DAMAGE TO EXISTING IMPROVEMENTS OUTSIDE OF THE PROJECT LIMITS, INCLUDING CURB AND GUTTER, SIDEWALKS, PAVED OR TURF AREAS SHALL BE REPAIRED TO ORIGINAL CONDITIONS BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE DEVELOPER.
- PLANT QUANTITIES TO BE VERIFIED BY LANDSCAPE CONTRACTOR. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE PLANS AS COMPARED TO THE PLANT LIST THE CONTRACTOR SHALL PROVIDE THE QUANTITY SHOWN ON THE PLANS.
- CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE LANDSCAPE ARCHITECT FOR ANY PLANT SUBSTITUTIONS OR MODIFICATIONS TO THE LANDSCAPE PLANS. THIS MAY REQUIRE A MODIFICATION TO THE APPROVED PLANS. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES ON THE PLANS.
- ALL ABOVE GROUND MECHANICAL EQUIPMENT, ELECTRICAL TRANSFORMERS, DUMPSTERS, BACKFLOW PREVENTERS, AND VALVE BOXES SHALL BE SCREENED FROM VIEW OF ADJACENT PROPERTIES AND RIGHT-OF-WAY WHILE MAINTAINING REQUIRED ACCESS TO LOCAL CODE STANDARDS AND REQUIREMENTS.
- WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTIONS BETWEEN TWO FEET AND EIGHT FEET IN HEIGHT ABOVE THE NEAREST VEHICLE SURFACE OR ADJACENT CURB LINE SHALL BE ALLOWED.
- ALL UNPAVED AREAS SHALL BE TOPSOILED AND SEEDED OR MULCHED TO THE LIMITS OF CONSTRUCTION BASED ON ACTUAL FIELD CONDITIONS BEYOND THE APPROVED PLANS.
- ALL SEED TO BE REBEL FESCUE IV, TURF GRM, LESCO OR EQUAL @ 6 LBS. PER 1000 S.F. IN LAWN AREAS 3" TOPSOIL SHALL BE TILLED INTO THE TOP 6" OF GROUND PRIOR TO SEEDING.
- SLOPES GREATER THAN 3:1 SHALL REQUIRE HYDRO-SEEDING. SLOPES GREATER THAN 2:1 SHALL BE SODDED WITH CENTIPEDE GRASS. ADDITIONAL STABILIZATION MEASURES MAY BE REQUIRED FOR SLOPES GREATER THAN 3:1 TO ENSURE SOIL STABILIZATION AND ESTABLISHMENT OF PERMANENT GROUND COVER.
- INTERIOR MULCH SHALL BE DOUBLE GROUND PINE BARK TO A DEPTH OF 4". PERIMETER LANDSCAPE BUFFERS SHALL BE MULCHED WITH 4" PINE STRAW TO BUFFER LIMITS.
- PINE STRAW SHALL NOT BE USED AS MULCH OR GROUND COVER WITHIN TEN FEET OF ANY STRUCTURES CONSISTING OF EXTERIOR COMBUSTIBLE CONSTRUCTION.
- CONTRACTOR SHALL LEVEL AND SMOOTH ALL DISTURBED AREAS AND REMOVE ALL ROCKS AND CONSTRUCTION DEBRIS PRIOR TO SEEDING, SOD OR PLANT INSTALLATION.
- OWNER SHALL MAINTAIN ALL PLANT BEDS AND PLANT MATERIAL IN GOOD HEALTH, AND ANY DEAD, UNHEALTHY OR MISSING PLANTS SHALL BE REPLACED WITH THE SAME PLANT MATERIAL ORIGINALLY SPECIFIED ON THIS PLAN.
- TREE PLANTING AND SITE LIGHTING SHALL BE SEPARATED BY AT LEAST 10 FEET.



GENERAL PLANTING NOTES

- VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE PLANTING CONTRACTOR, AND THE TOTAL QUANTITIES SHALL BE REQUIRED ON THE PLANTING PLAN.
- ALL TREES, SHRUBS, AND BEDDING PLANTS SHALL CONFORM TO THE ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSEYMEN.
- ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
- SET TOP OF ROOT BALL 6"-8" ABOVE GRADE, PREPARE ENTIRE BED, NOT INDIVIDUALLY.
- THE SIZE OF ALL ROOT BALLS SHALL CONFORM TO AAN STANDARDS.
- FERTILIZE ALL PLANTS WITH AGRIFORM FERTILIZER TABLETS OR EQUAL TO BE APPLIED AT MANUFACTURERS RECOMMENDED RATE.
- GUYING, IF NECESSARY, SHALL BE REMOVED AFTER ONE GROWING SEASON.
- ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
- ALL TREES HAVE BEEN LOCATED WITH RESPECT TO PROPOSED OR EXISTING FACILITIES OR STRUCTURES.
- OWNERS SHALL MAINTAIN ALL PLANT BEDS AND PLANT MATERIAL IN GOOD HEALTH, AND ANY DEAD, UNHEALTHY OR MISSING PLANTS SHALL BE REPLACED WITH LOCALLY ADAPTED VEGETATION WHICH CONFORMS TO THE INITIAL PLANTING STANDARDS OF THE LANDSCAPE ORDINANCE.
- REPORT ANY DISCREPANCIES TO THE PROJECT LANDSCAPE ARCHITECT.
- SUBSTITUTIONS OR ALTERATIONS SHALL NOT BE MADE WITHOUT PRIOR WRITTEN NOTIFICATION OF THE PROJECT LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL SHALL BE OF SPECIMEN QUALITY.

2
L-1
TREE & SHRUB PLANTING DETAIL
NTS



2025-06-24
PRELIMINARY
NOT FOR
CONSTRUCTION

REVISIONS:

LANDSCAPE PLAN
TIRADO TRUCK REPAIR
US 421 SOUTH
HARNETT COUNTY, NC

SCALE:
AS NOTED
DRAWN BY:
AJP
PROJECT #
25093
DATE:
6-24-2025
SHEET
L-1
OF