

LEGEND

PROPOSED VAULT EXISTING VAULT			
PROPOSED VAULT UPGRA	٨DE		
CUT AND RESTORE VAULT UPGRADE			
PULL THRU EXISTING			
SPLICE POINT		\bigcup	
LOCATE POST		LP	
100' COIL		(100')	
50' COIL		(50')	
WATER METER		(W)	
WATER VALVE		W	
FIRE HYDRANT		$\sqrt{2}$	
MANHOLE		MH	
GAS METER		G	
GAS VALVE		G	
RR CONTROL BOX		R	
EXISTING PED		Ρ	
CULVERT	\succ		
DITCH LINE	~~~~	~~~~~	\sim

CONTACTS

DESIGN

UTILITY DESIGN SPECIALISTS PM: ROSS BRADLEY CONTACT: (704) 685-6292

CONSTRUCTION CONTRACTOR TBD

GOVERNMENT CONTACTS

NCDOT DIVISION 10 MECKLENBURG COUNTY CONTACT: (704) 983-4400

CITY OF CHARLOTTE 600 E. 4th ST. CHARLOTTE, NC 28202 SHANE HELMS EMAIL: SHANE.HELMS@CHARLOTTENC.GOV CONTACT: (980) 722-8058

<u>MCNC</u>

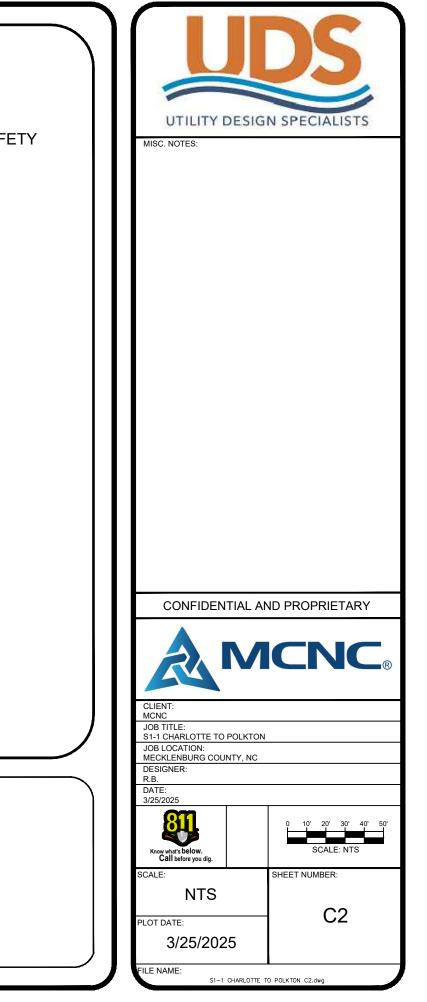
ENGINEER: MIKE WEAVER CONTACT: (919) 819-5809 EMAIL: MWEAVER@MCNC.ORG

<u>SAFETY</u>

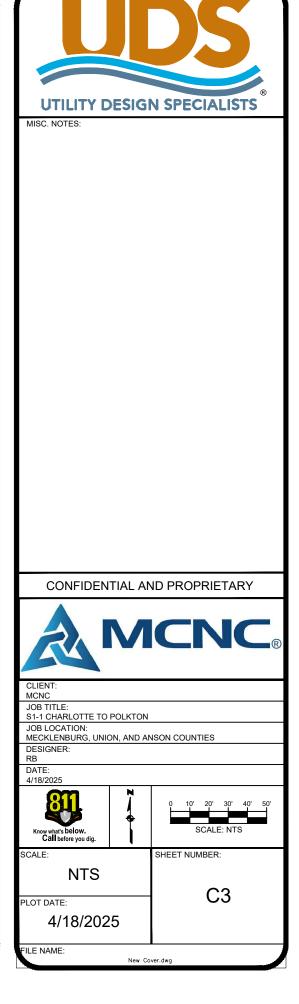
N. C. DEPARTMENT OF PUBLIC SAFETY CONTACT: (919) 710-8885

SCOPE OF WORK

Install approximately 254,182' (1) 864ct FOC through existing .75" HDPE. Place (23) 30x48x36 tier 22 HH's at splice locations specified in site plans. Replace (93) existing HH's at locations specified in site plans, upgrading with 30x48x36 tier 22 HH's as per drawing detail. Perform HH clean up/pea gravel base and earth restoration. Place fiber slack loops, marker posts, and cable tags per drawing details. Perform fiber splicing and testing required per contract agreement.

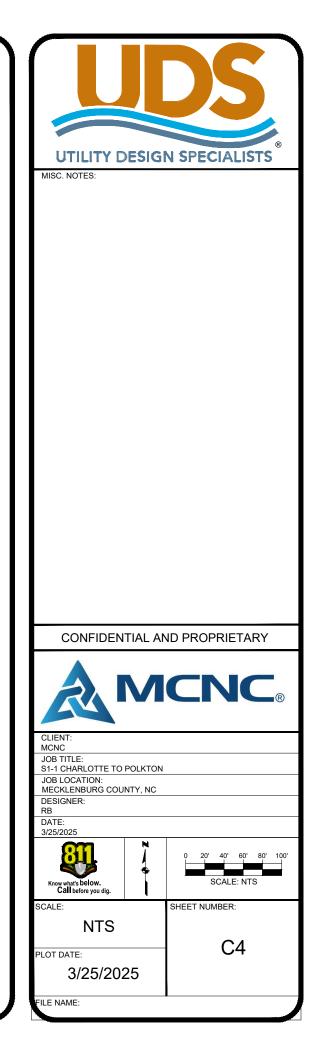


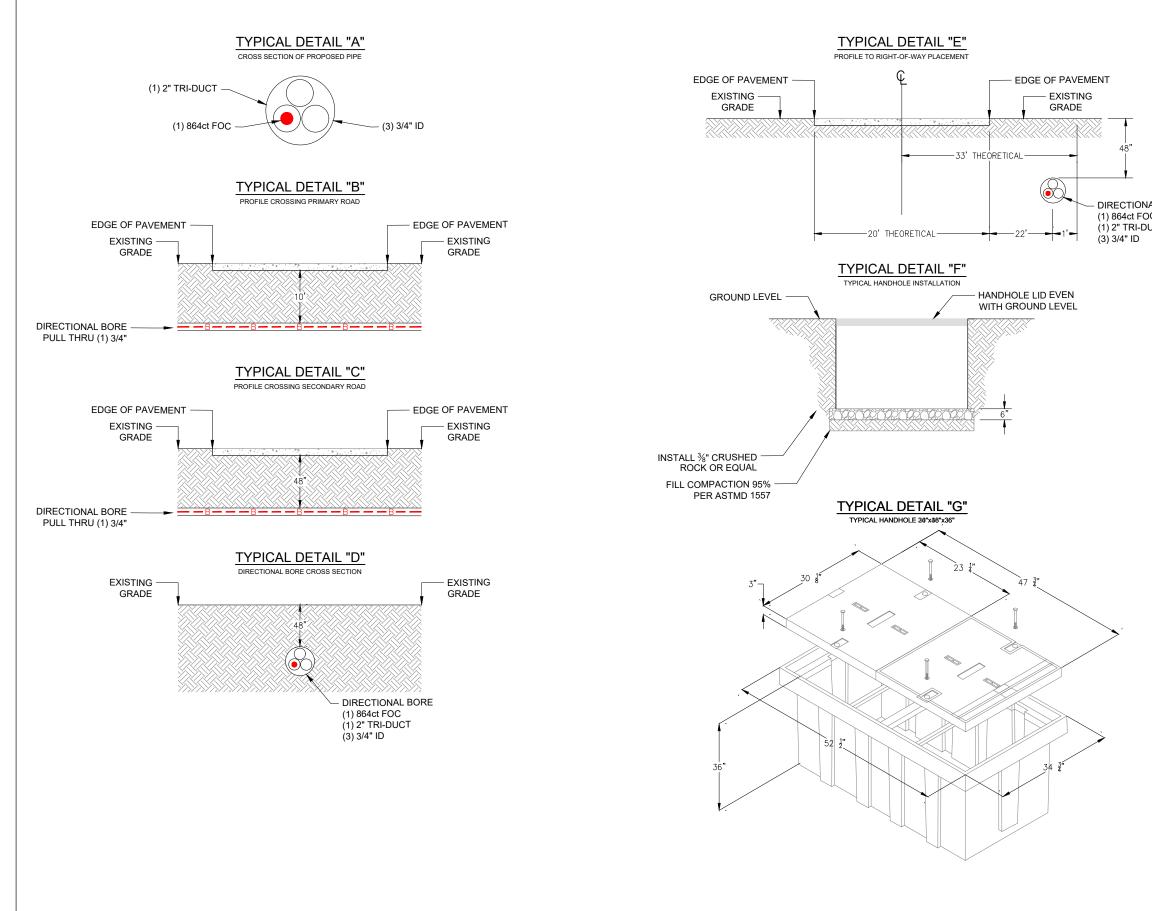
BILL OF MATERIALS					
DESCRIPTION	UNIT	QUANTITY			
Prysmian 864F Jetted FlexRibbon microduct cable 12.7mm					
30x48x36 TIER 22 HH FOR UPGRADE	EACH	65			
30x48x36 TIER 22 HH FOR SPLICE	EACH	13			
FOSC-450D SPLICE CASE	EACH	13			
S1-1-CMECK-R1 (REEL)	FOOT	19,643'			
S1-1-CMECK-R2 (REEL)	FOOT	19,773'			
S1-1-CMECK-R3 (REEL)	FOOT	20,014'			
S1-1-CMECK-R4 (REEL)	FOOT	19,981'			
S1-1-CUNI-R5 (REEL)	FOOT	20,024'			
S1-1-CUNI-R6 (REEL)	FOOT	19,807'			
S1-1-CUNI-R7 (REEL)	FOOT	19,777'			
S1-1-CUNI-R8 (REEL)	FOOT	19,834'			
S1-1-CUNI-R9 (REEL)	FOOT	19,798'			
S1-1-CUNI-R10 (REEL)	FOOT	19,961'			
S1-1-CUNI-R11 (REEL)	FOOT	19,814'			
S1-1-CUNI-R12 (REEL)	FOOT	19,838'			
S1-1-CANSN-R13 (REEL)	FOOT	19,956'			
S1-1-CANSN-R14 (REEL)	FOOT	9,762' (19,220			
TOTAL REELS	EACH	14			
LOCATE POSTS	EACH	13			
CUT AND RESTORE CONCRETE	SQ FT	175			



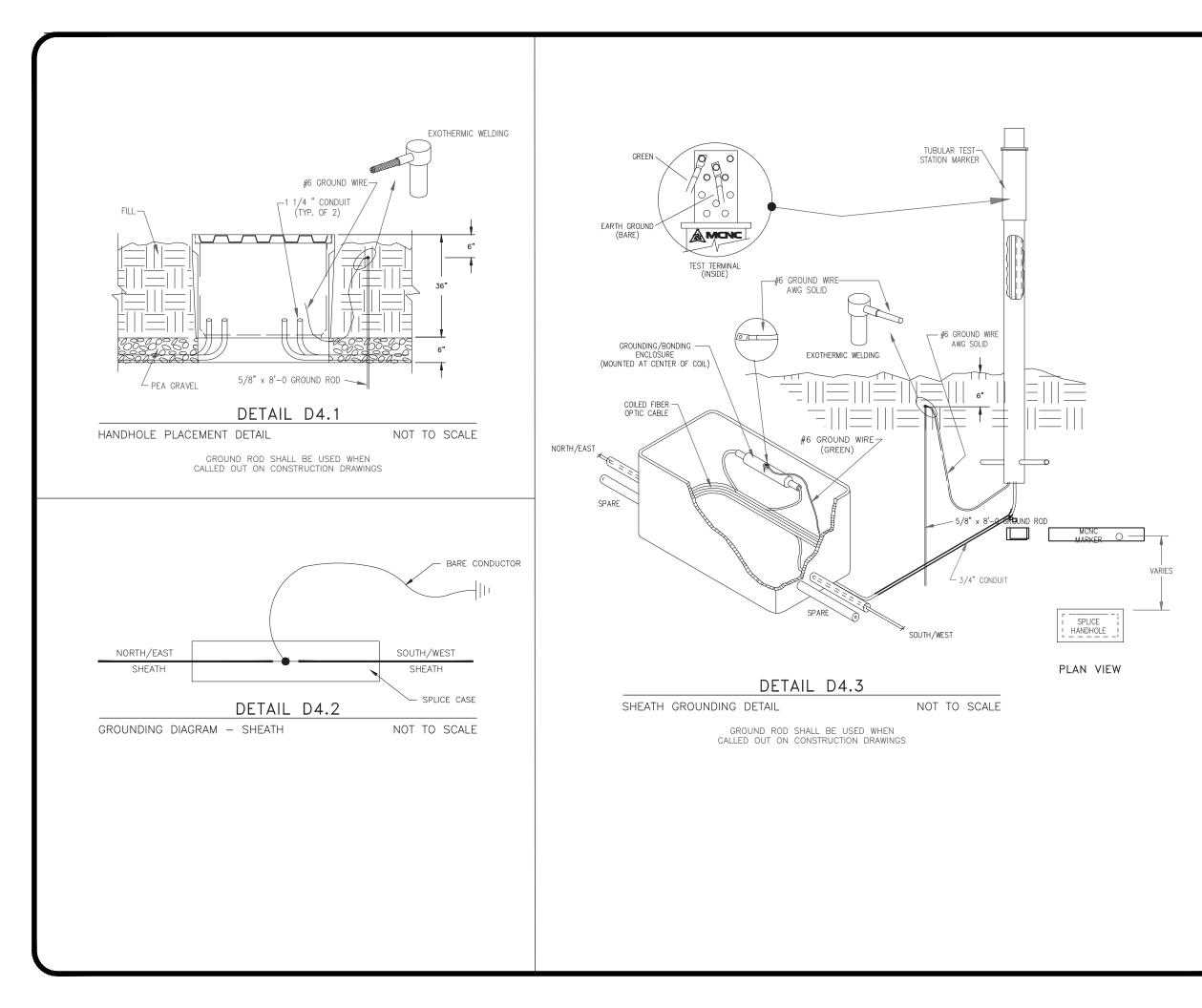
GENERAL NOTES

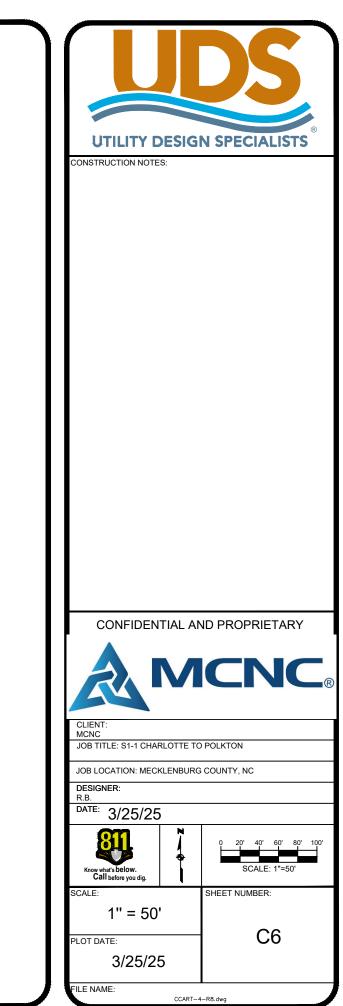
- All work shall comply with local, state, and federal regulations, as well as industry standards for safety and quality.
- Coordination with local agencies, utility companies, and property owners shall take place prior to construction to ensure compliance with ROW usage and construction requirements.
- A traffic management plan shall be practiced at all times, when necessary, to ensure the safety of workers, motorists, and pedestrians during construction.
- All work zones shall be clearly marked with proper signage and clear traffic flow patterns.
- Erosion control measures shall be implemented to prevent sediment runoff and contamination of nearby water bodies.
- Proper depth, width, and alignment shall be ensured when excavation is required for installation of underground pipe, conduit, appurtenances, etc. Shoring and bracing techniques that mitigate the risk of "cave-ins" in excavated areas shall be used.
- All ROW surfaces shall be restored to their original condition or as specified in the jurisdictional documentation included in the approved permit package. Trenches, bore pits, and other disturbed ground/landscape shall be backfilled using approved materials, compacting layers to achieve required compaction density.
- Only properly tested industry-standard equipment, tools, and materials shall be used during the installation of aerial and/or buried telecommunications lines. Conduit, pipe, cables and hardware shall be installed according to manufacturer recommendations, minimizing bends and tension.
- Regular contractor safety meetings shall be conducted prior to the commencement of construction and during the entirety of the construction phase. PPE shall be provided by the contractor and the contractor will ensure adherence to safety protocols at all times.
- The contractor shall maintain a well-developed emergency response plan and communicate the plan to all workers. This plan shall include an outlined plan of procedures in the event of accidents, incidents, and unforeseen circumstances.
- A quality control program shall be in place to monitor and verify construction activities throughout the duration of the project. Regular inspections will be conducted to ensure design, specifications, and industry standard compliance at all times.
- The contractor shall be responsible for the timely and safe completion of all construction activities within the designated work area.

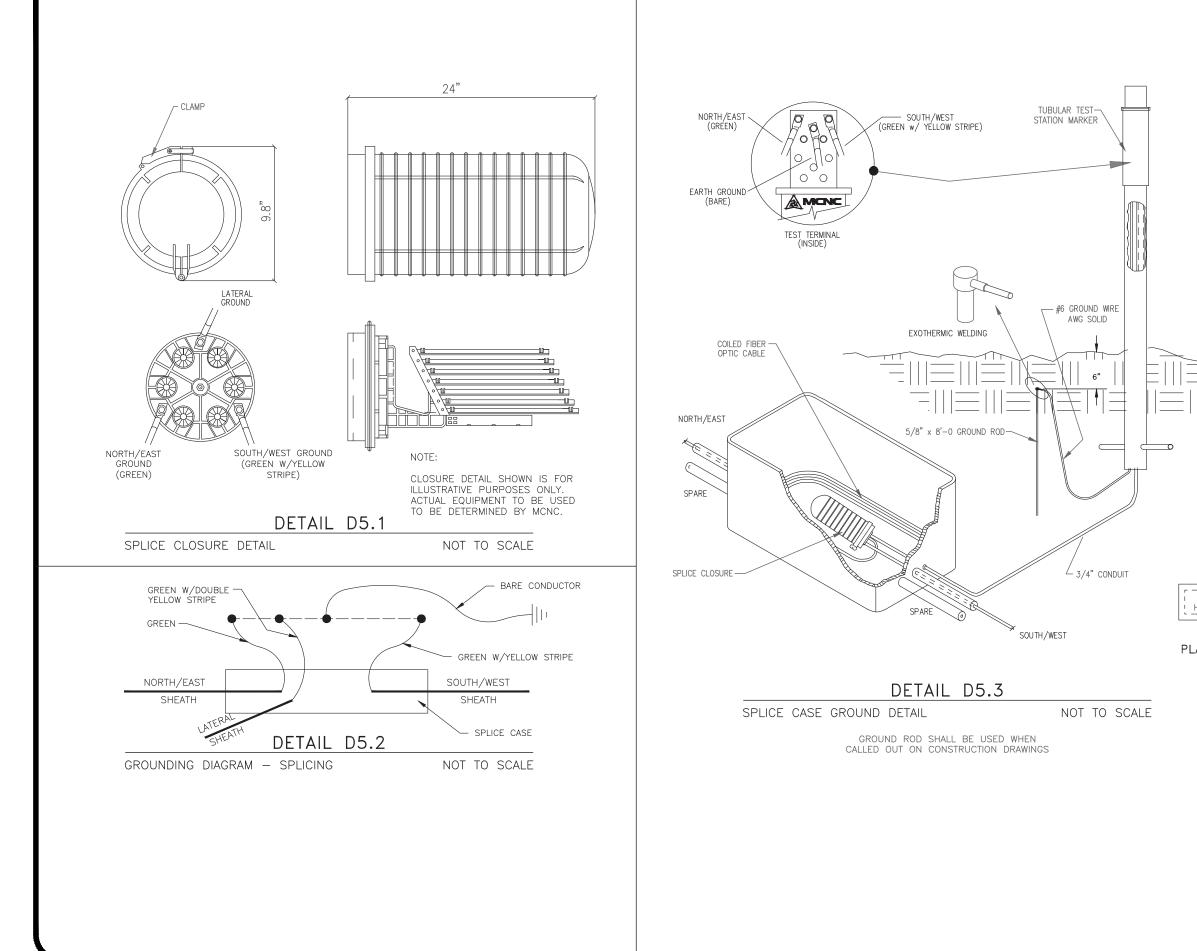


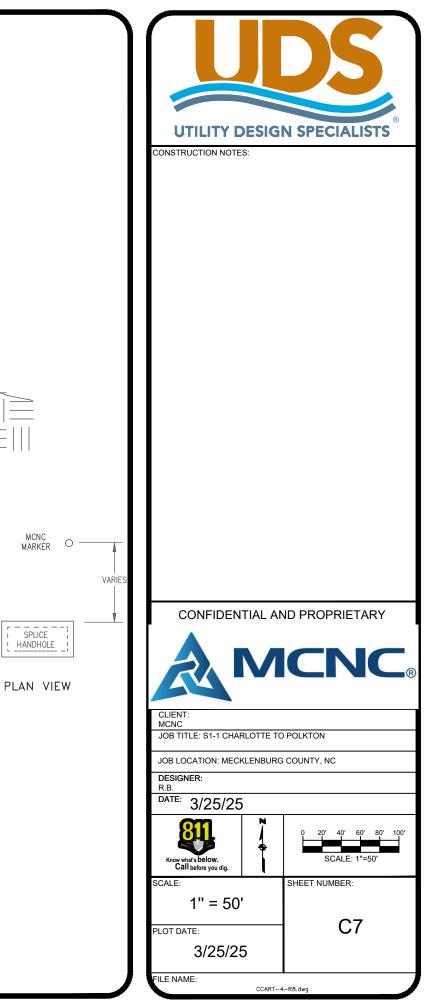


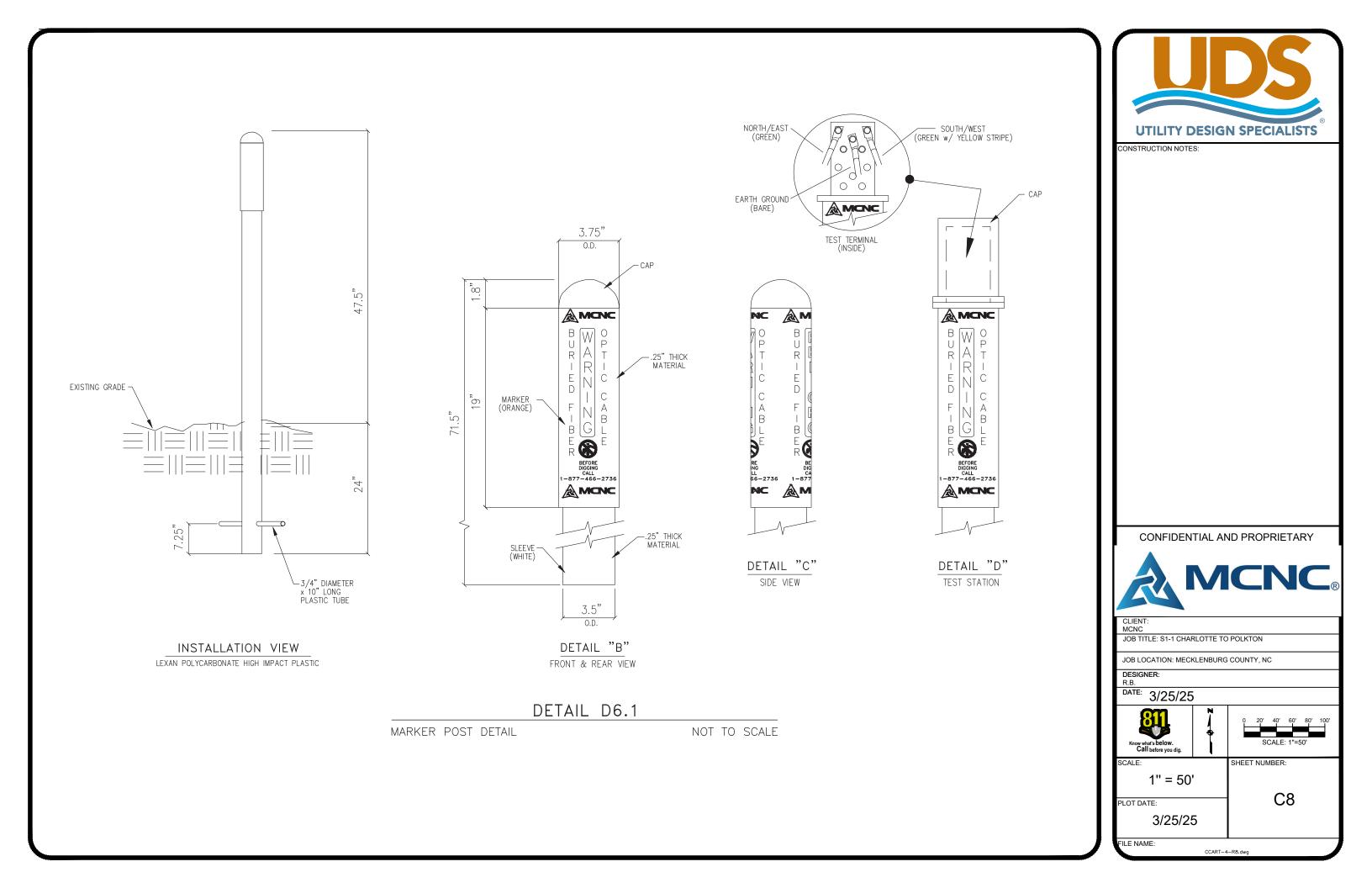
	UTILITY DESIGN SPECIALISTS
AL BORE IC UCT	
	CONFIDENTIAL AND PROPRIETARY
	CLIENT: MCNC JOB TITLE: S1-1 CHARLOTTE TO POLKTON JOB LOCATION:
	MECKOLENBURG COUNTY, NC DESIGNER: R.B. DATE: 3/25/2025 Know what's below. Call before you dig.
	SCALE: SHEET NUMBER: NTS PLOT DATE: C5 3/25/2025 FILE NAME: S1-1 CHARLOTE TO POLKTON C2.dwg



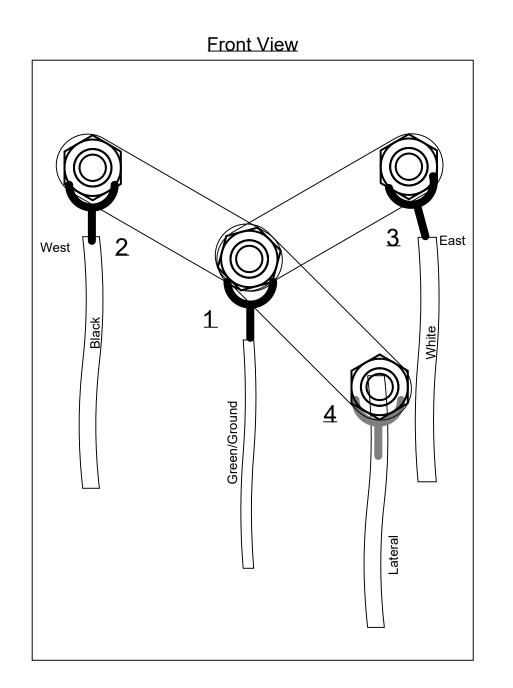


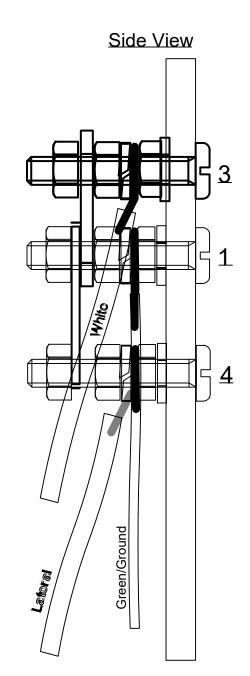


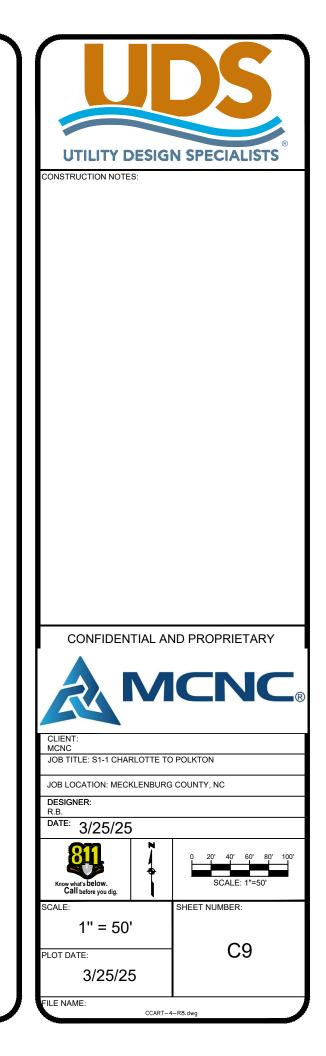




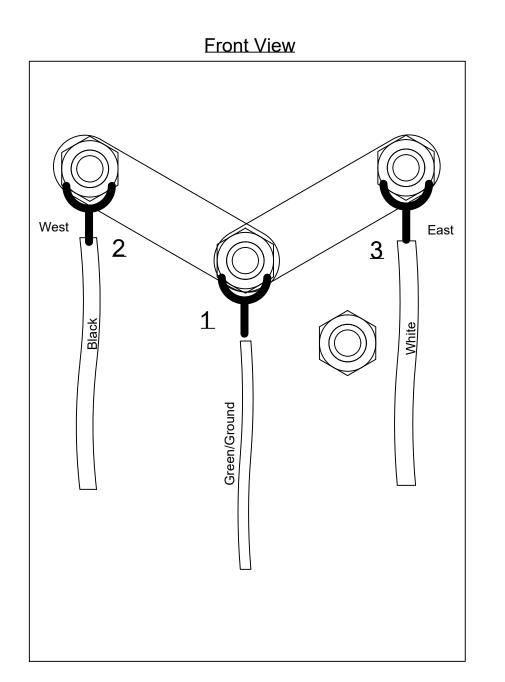
Test Station Wiring with Lateral Bridge

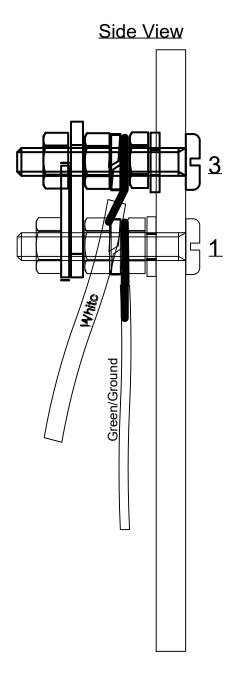


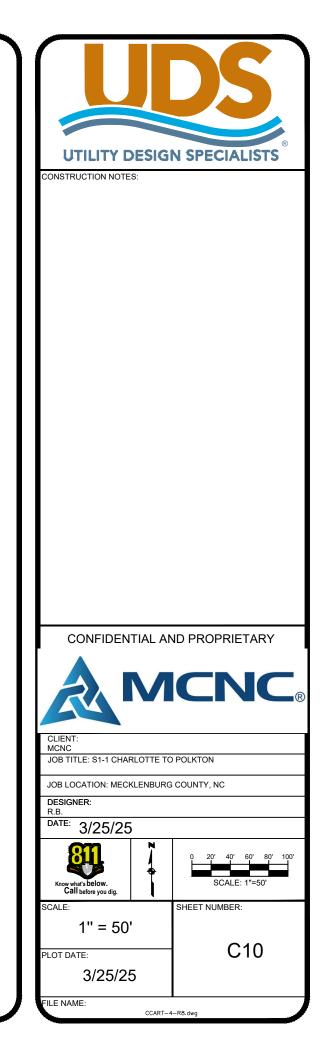


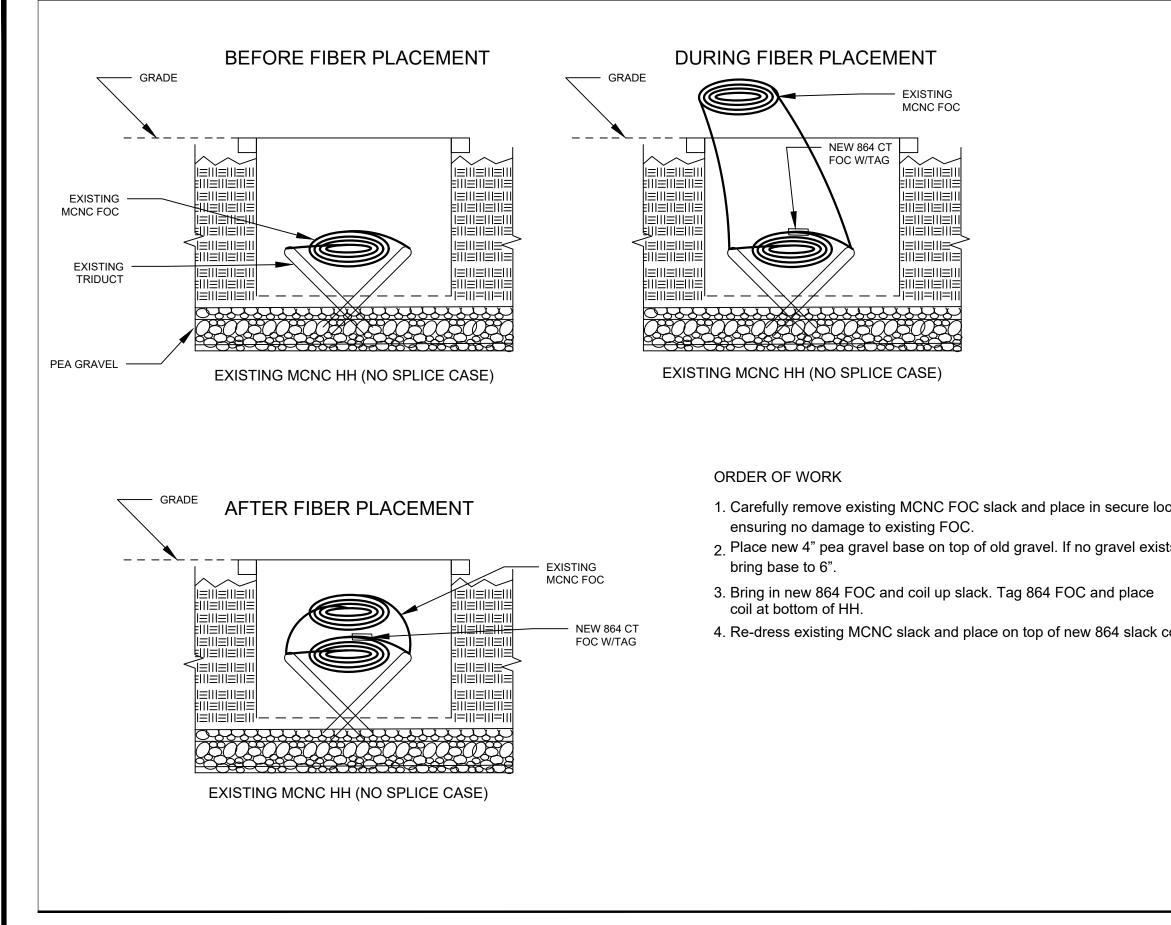


Test Station Wiring

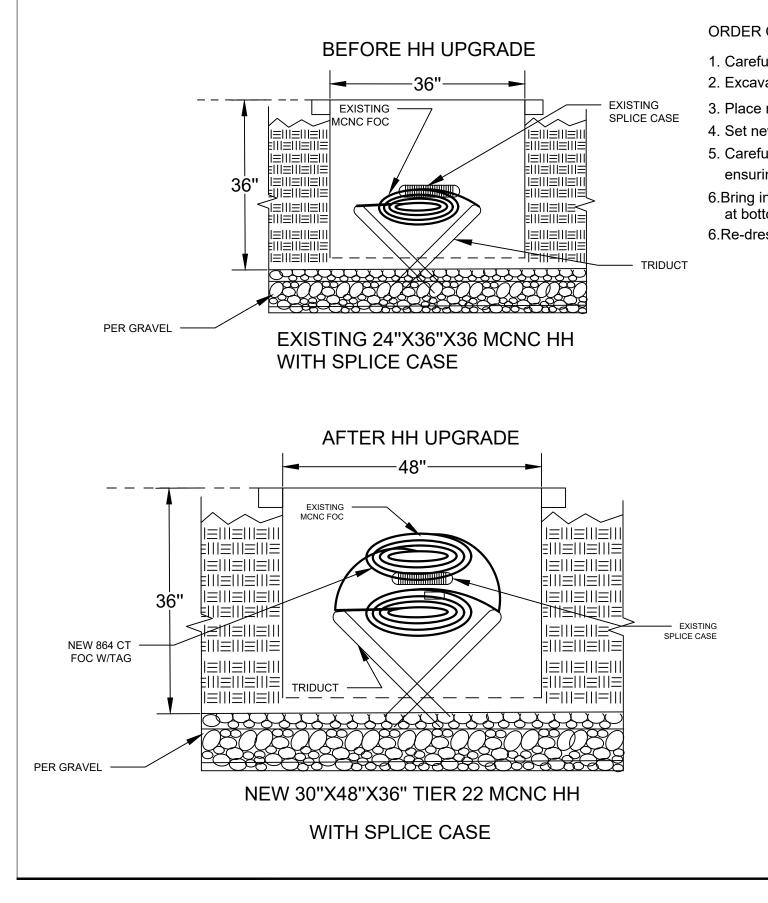






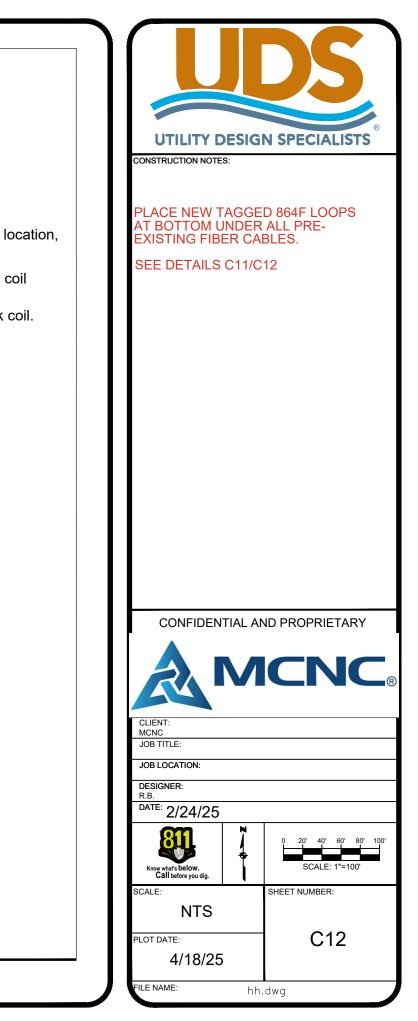


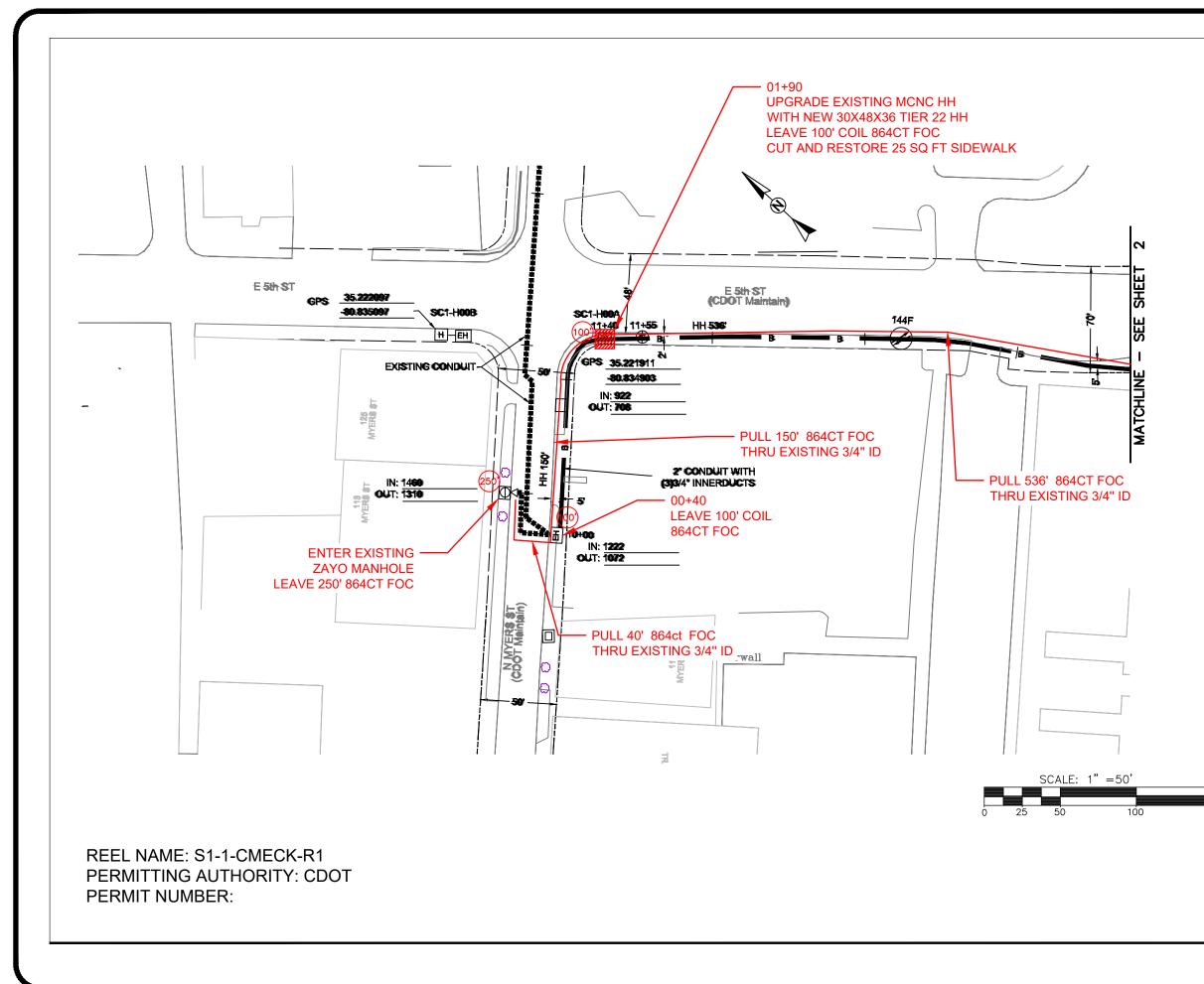
	UTILITY DESIGN SPECIALISTS
	CONSTRUCTION NOTES: PLACE NEW TAGGED 864F LOOPS AT BOTTOM UNDER ALL PRE- EXISTING FIBER CABLES. SEE DETAILS C11/C12
cation, s,	CONFIDENTIAL AND PROPRIETARY
oil.	CLIENT: MCNC JOB TITLE: JOB LOCATION: DESIGNER: R.B.
	DATE: 2/24/25
	4/18/25 FILE NAME: hh.dwg

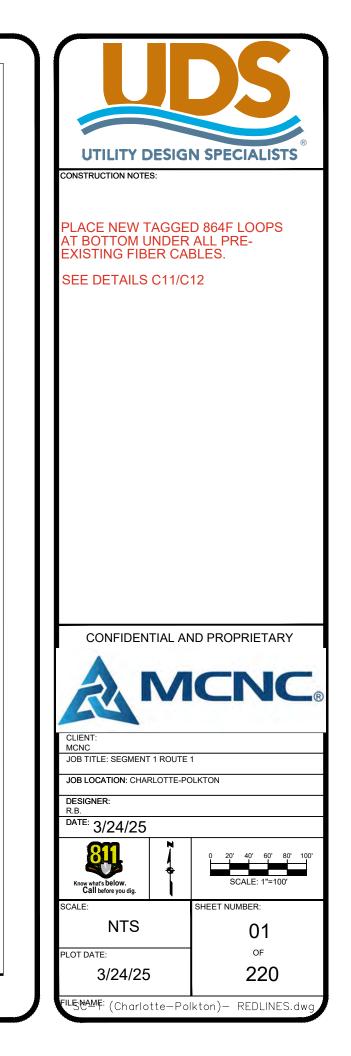


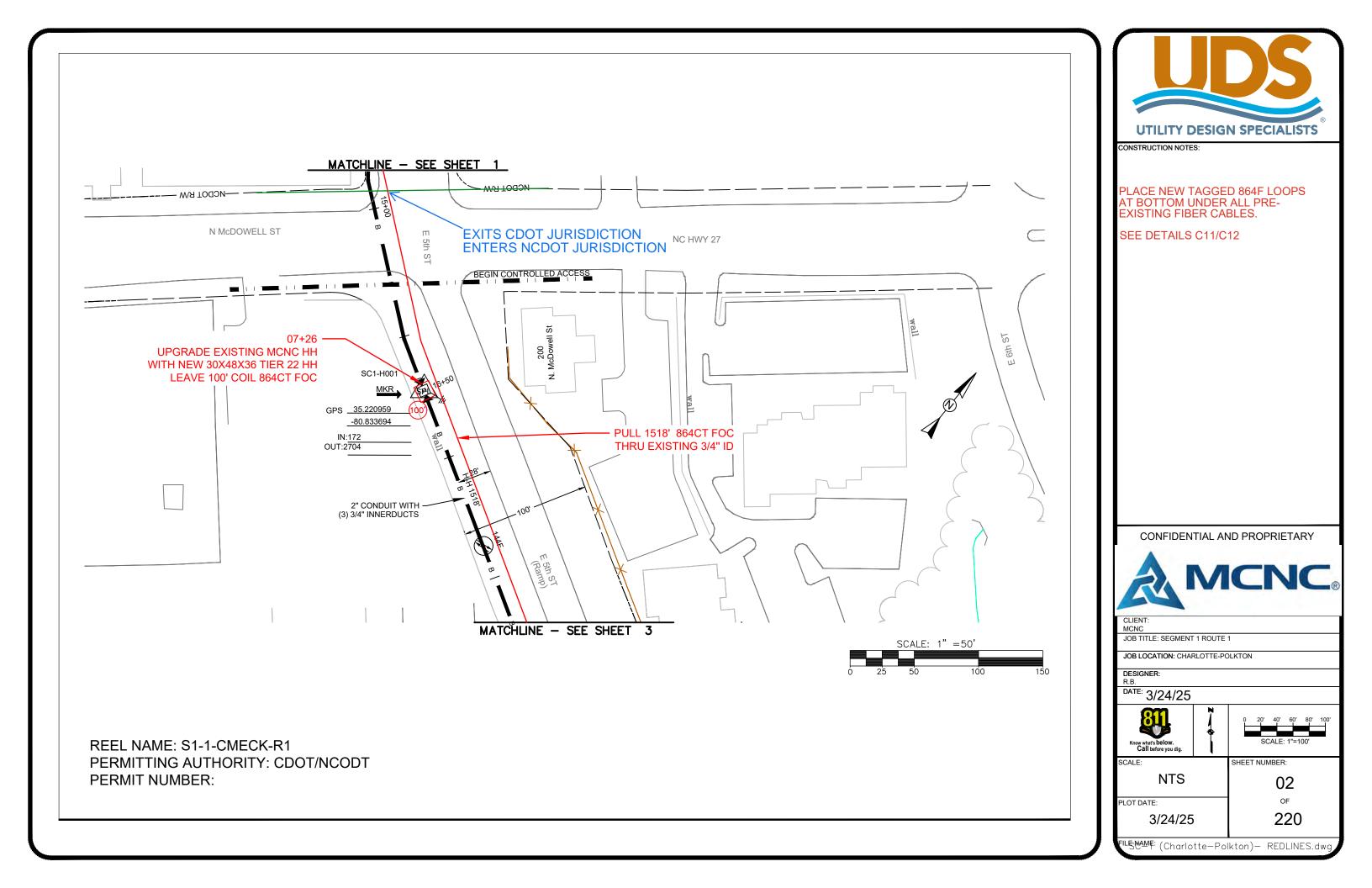
ORDER OF WORK

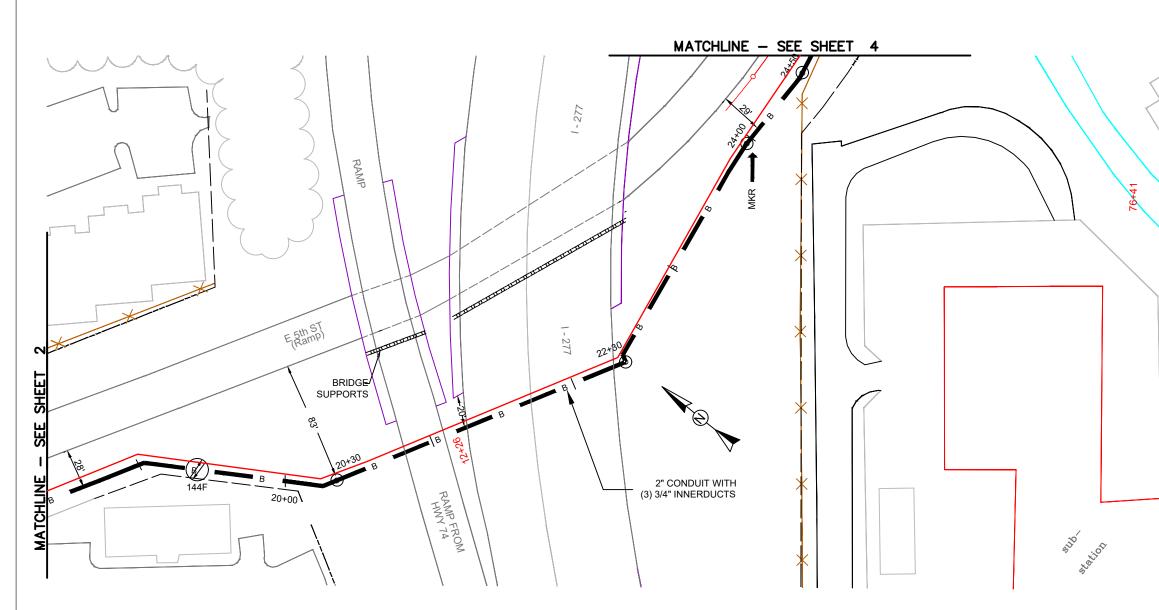
- 1. Carefully remove existing 24x36x36 MCNC HH.
- 2. Excavate earth to fit new 30x48x36 tier 22 MCNC HH.
- 3. Place new pea gravel, ensuring 6" base.
- 4. Set new 30x48x36 tier MCNC HH in place.
- 5. Carefully remove existing MCNC FOC slack and place in secure location, ensuring no damage to existing FOC.
- 6.Bring in new 864 FOC and coil up slack. Tag 864 FOC and place coil at bottom of HH.
- 6.Re-dress existing MCNC slack and place on top of new 864 slack coil.

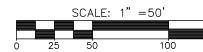




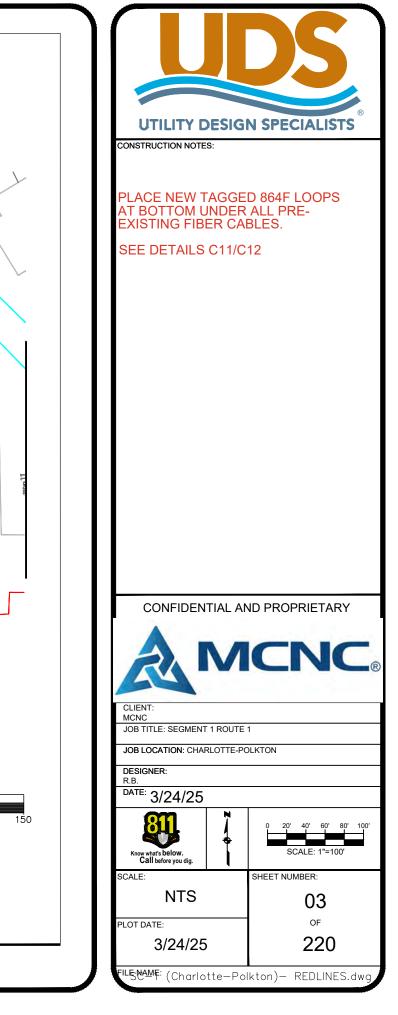


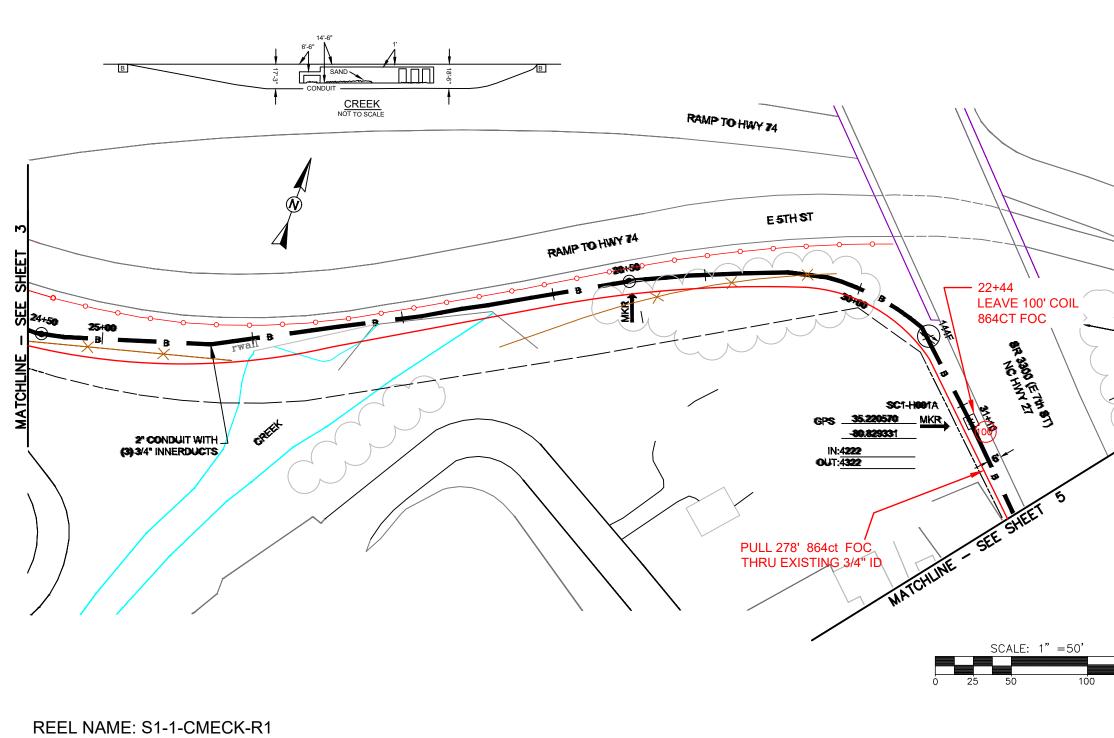




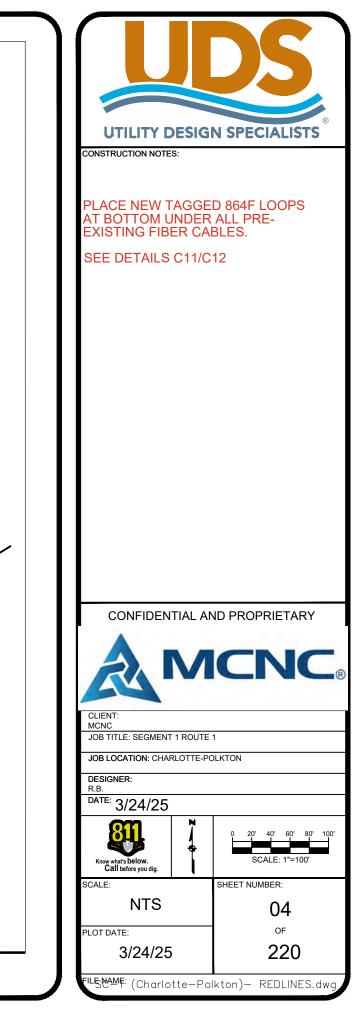


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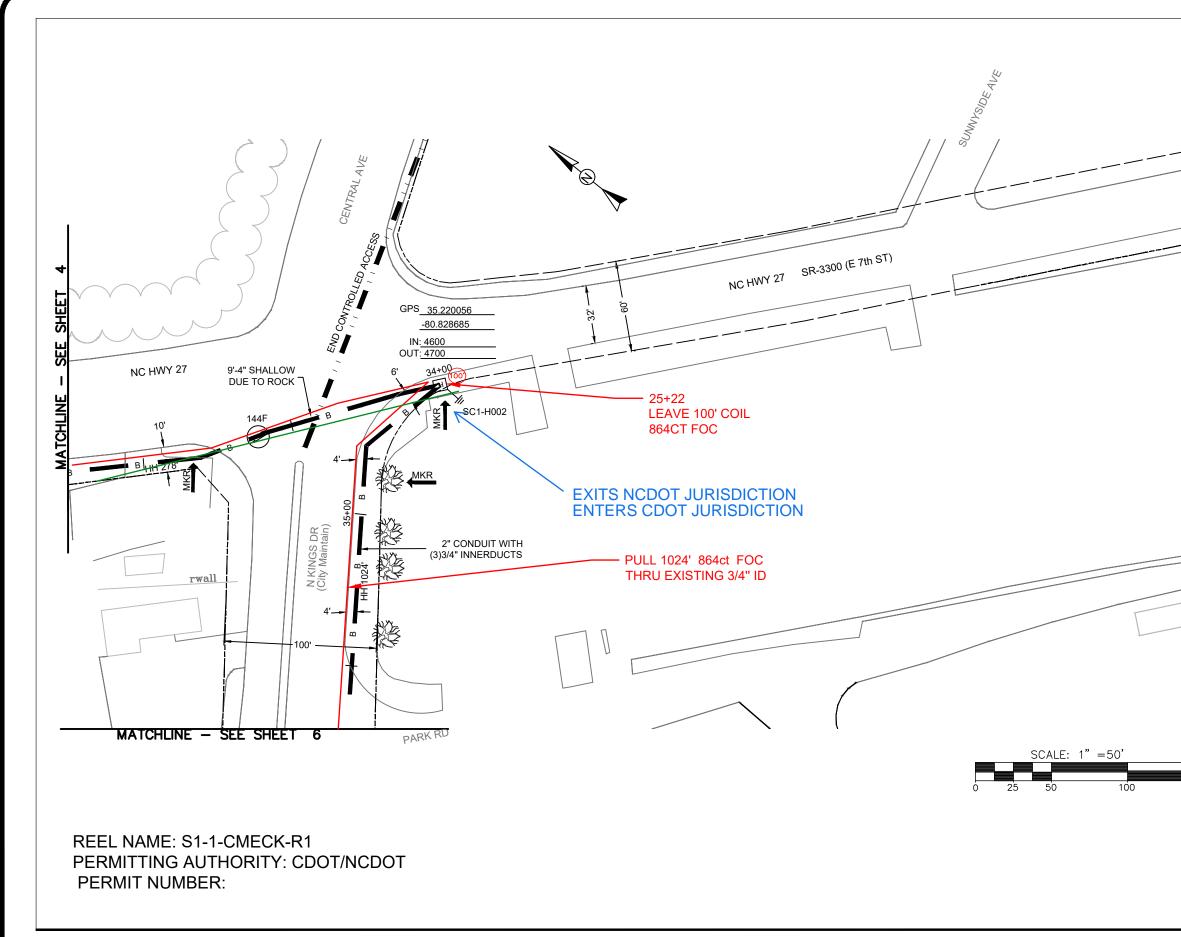


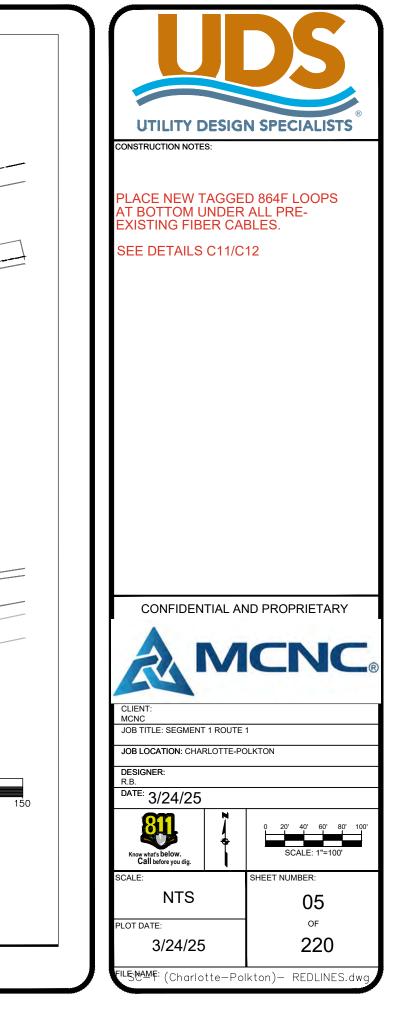


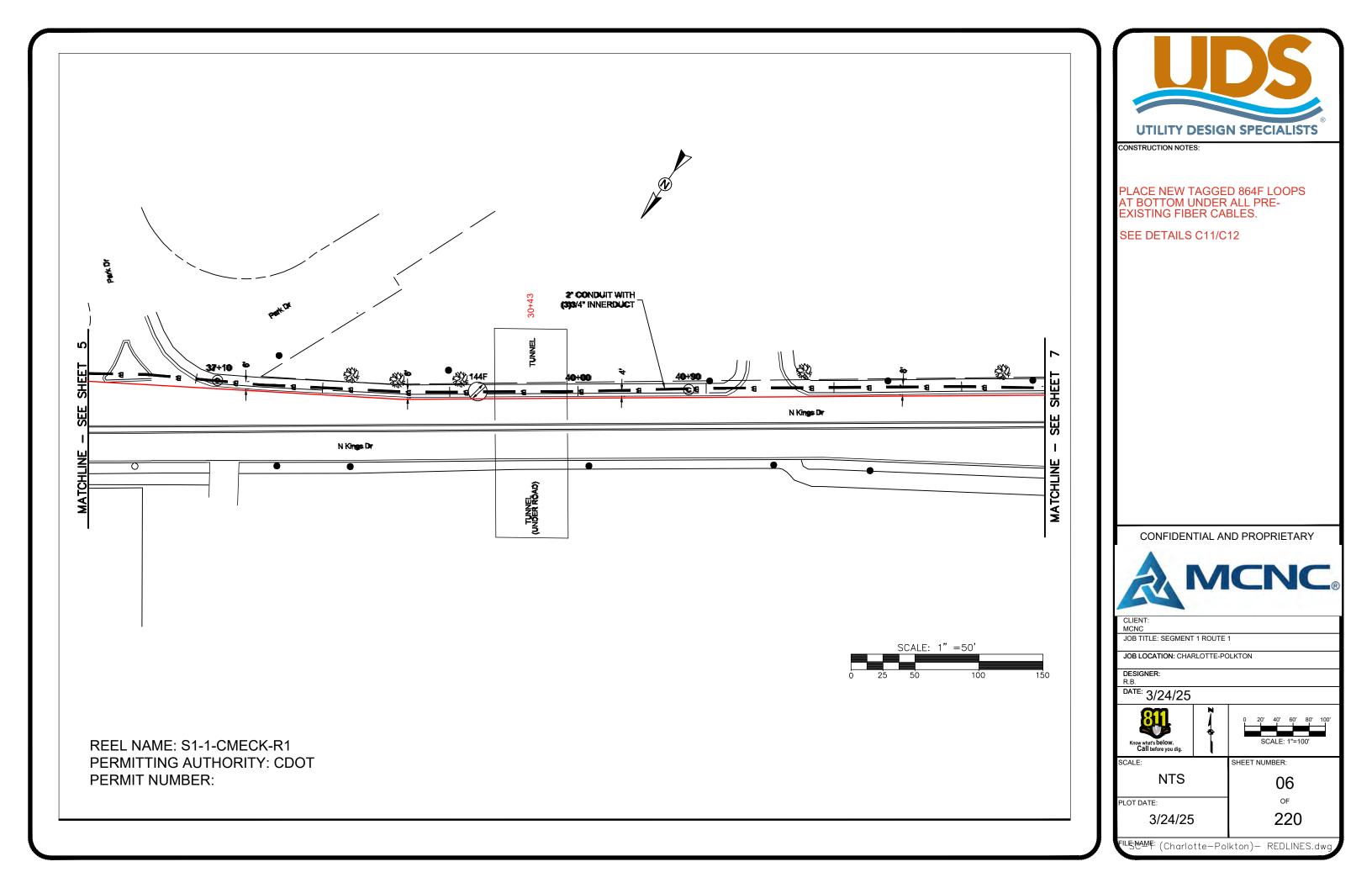
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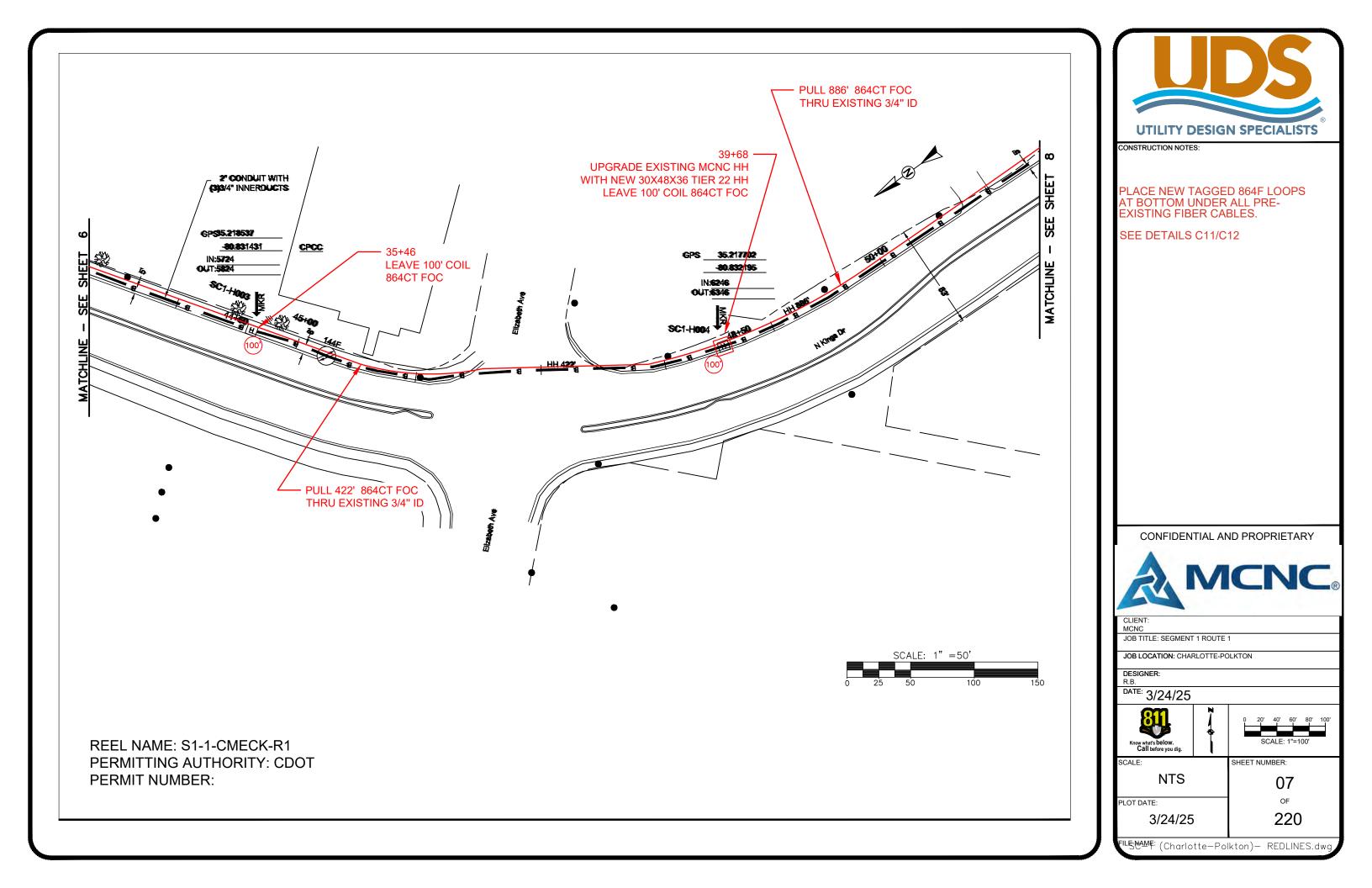


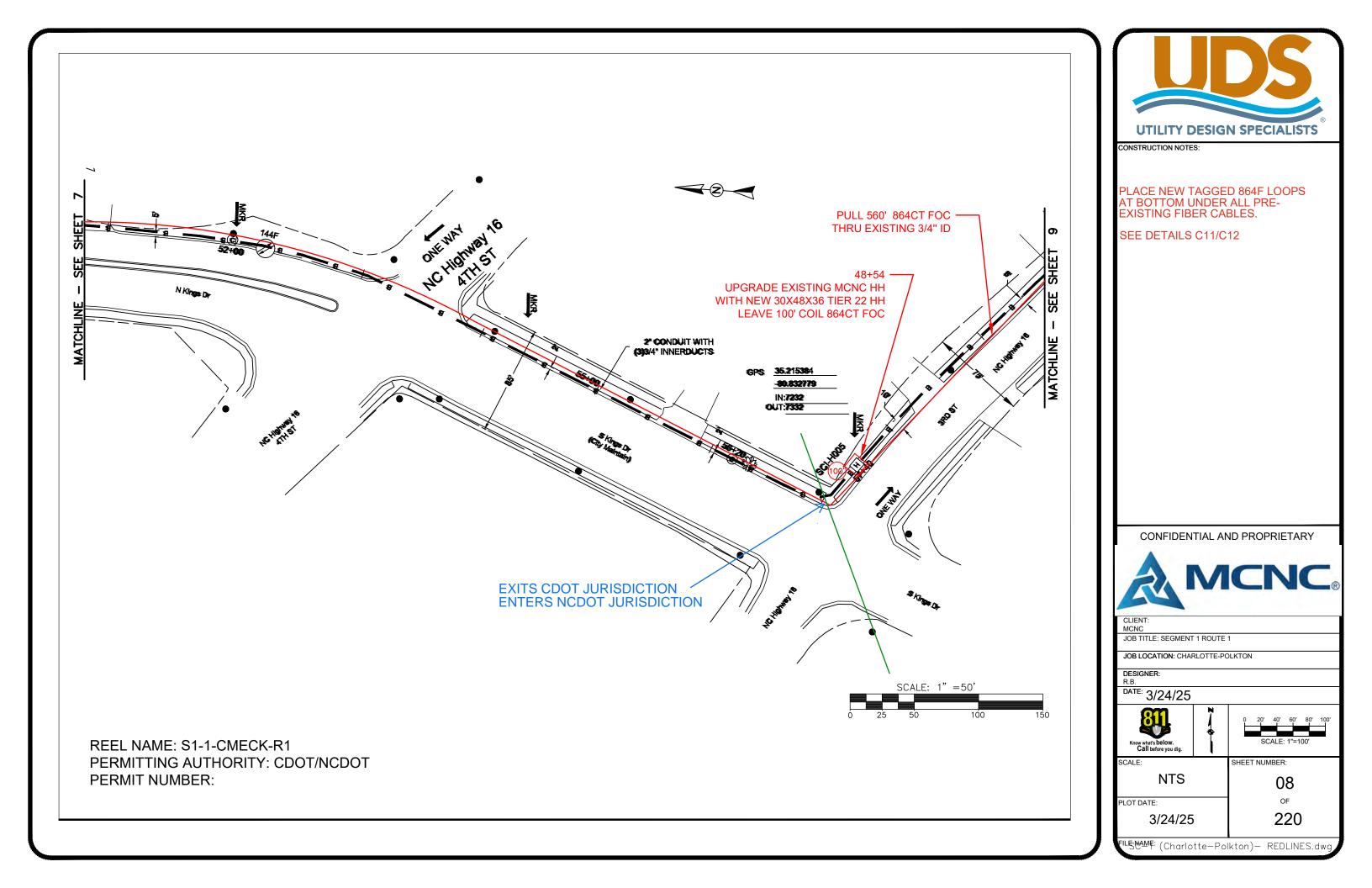
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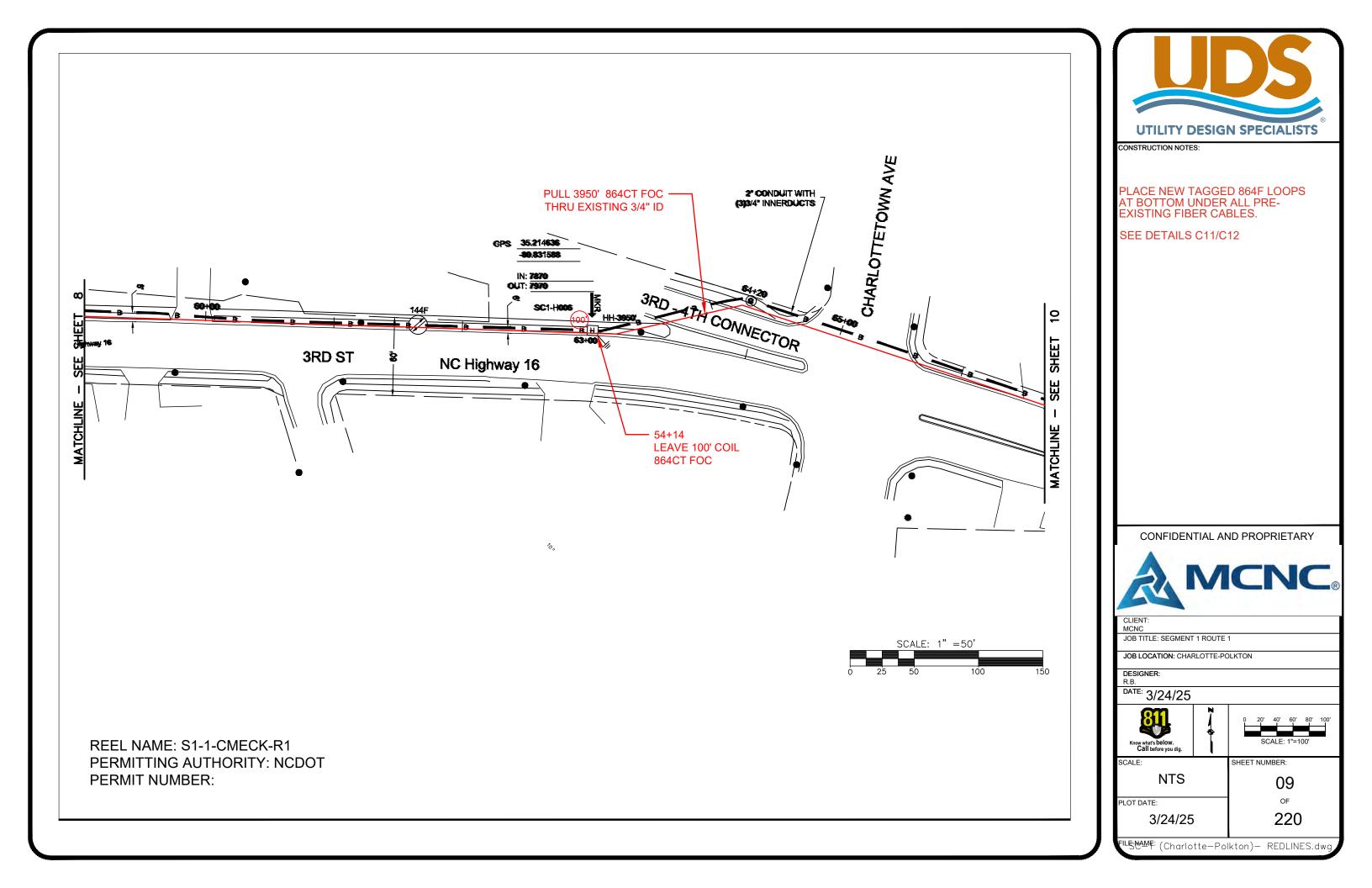


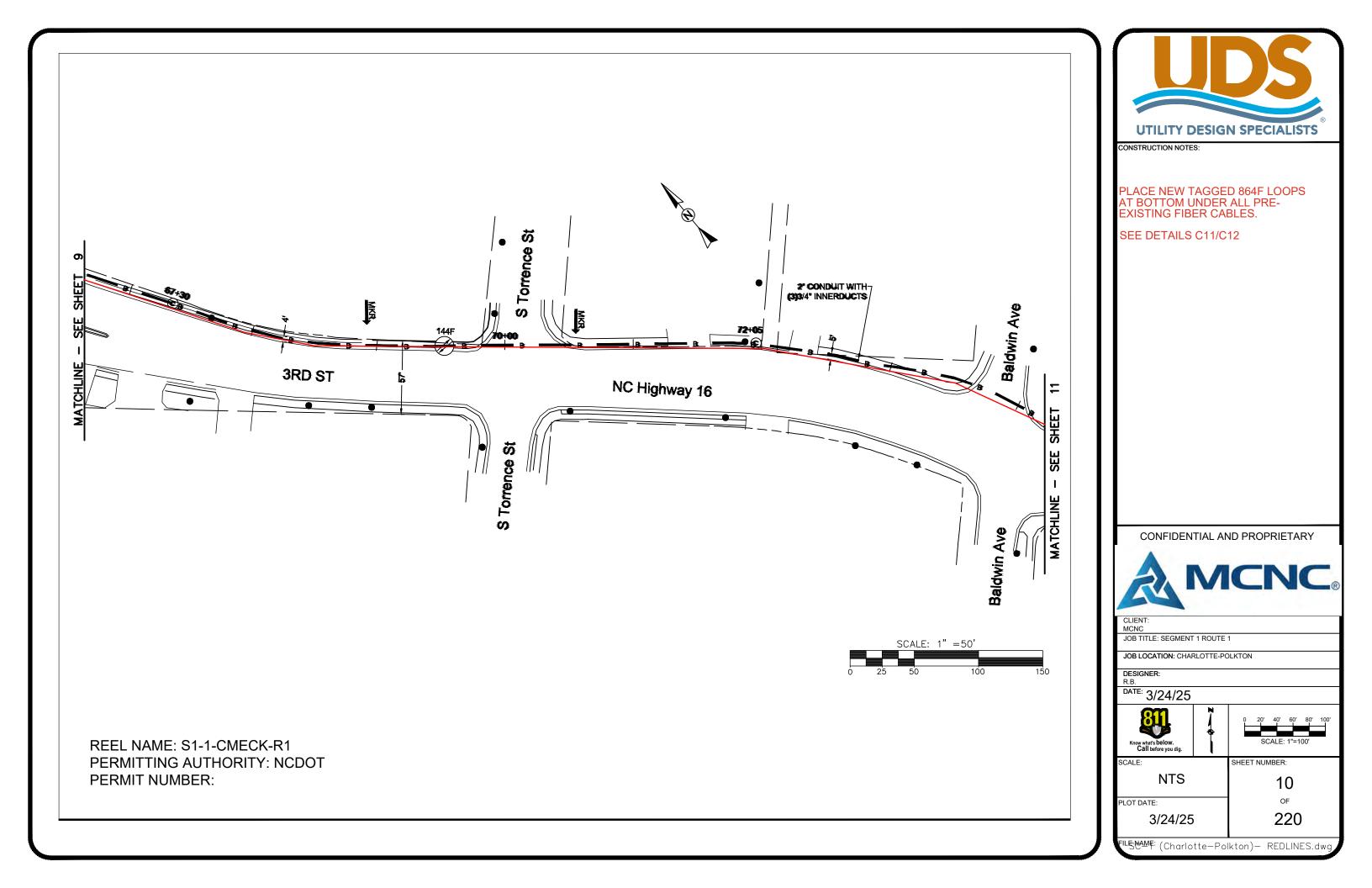


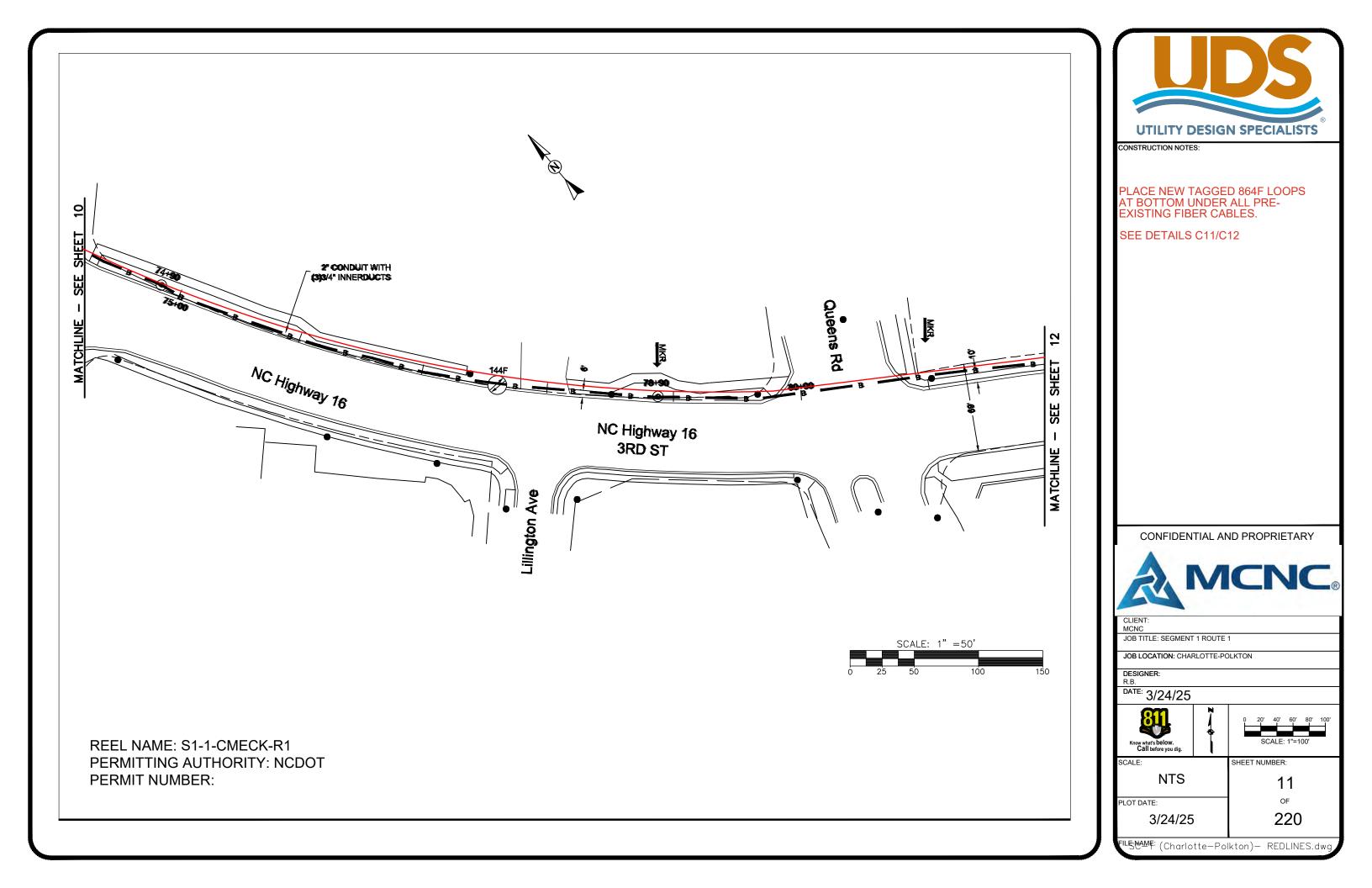


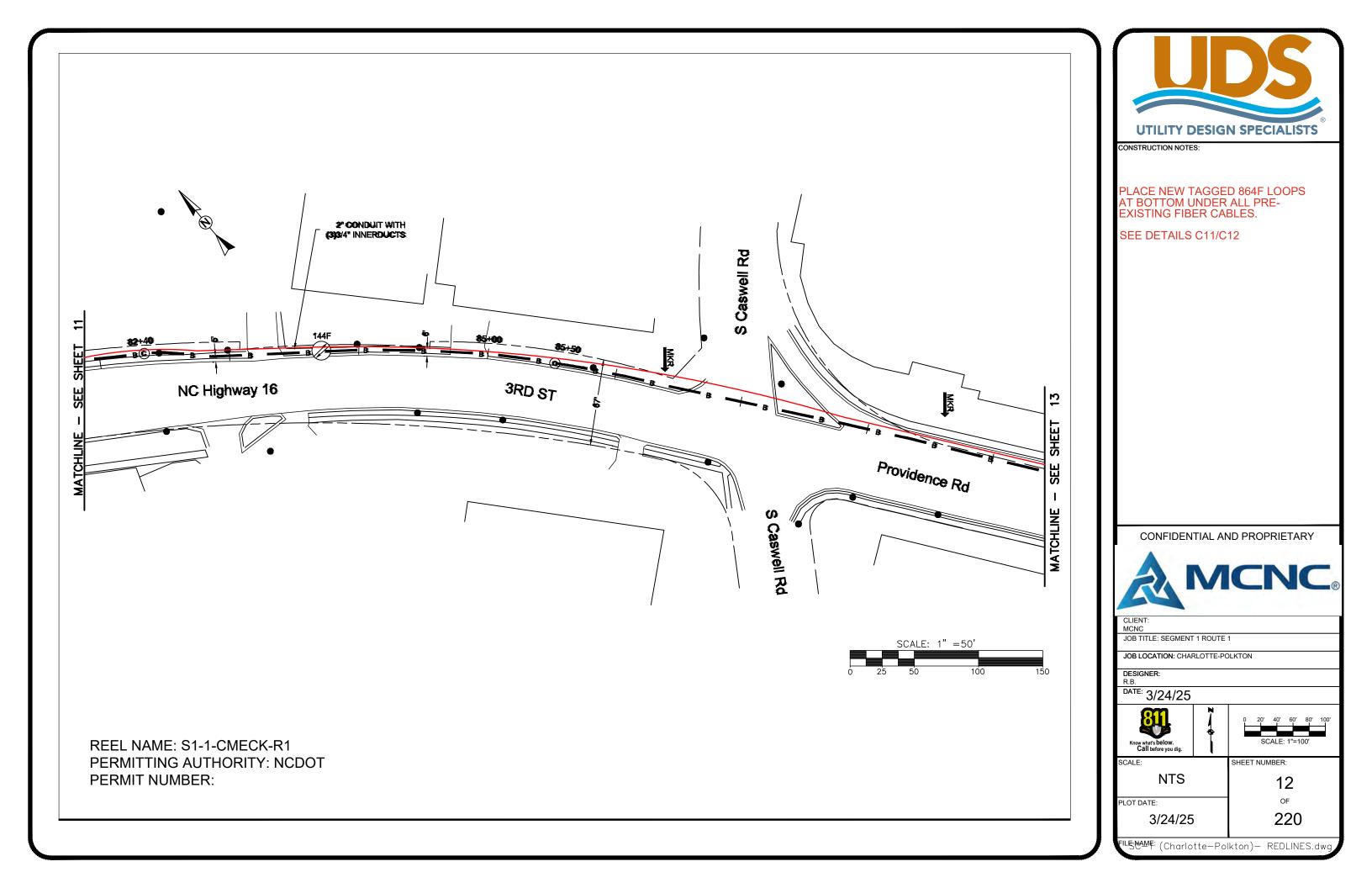


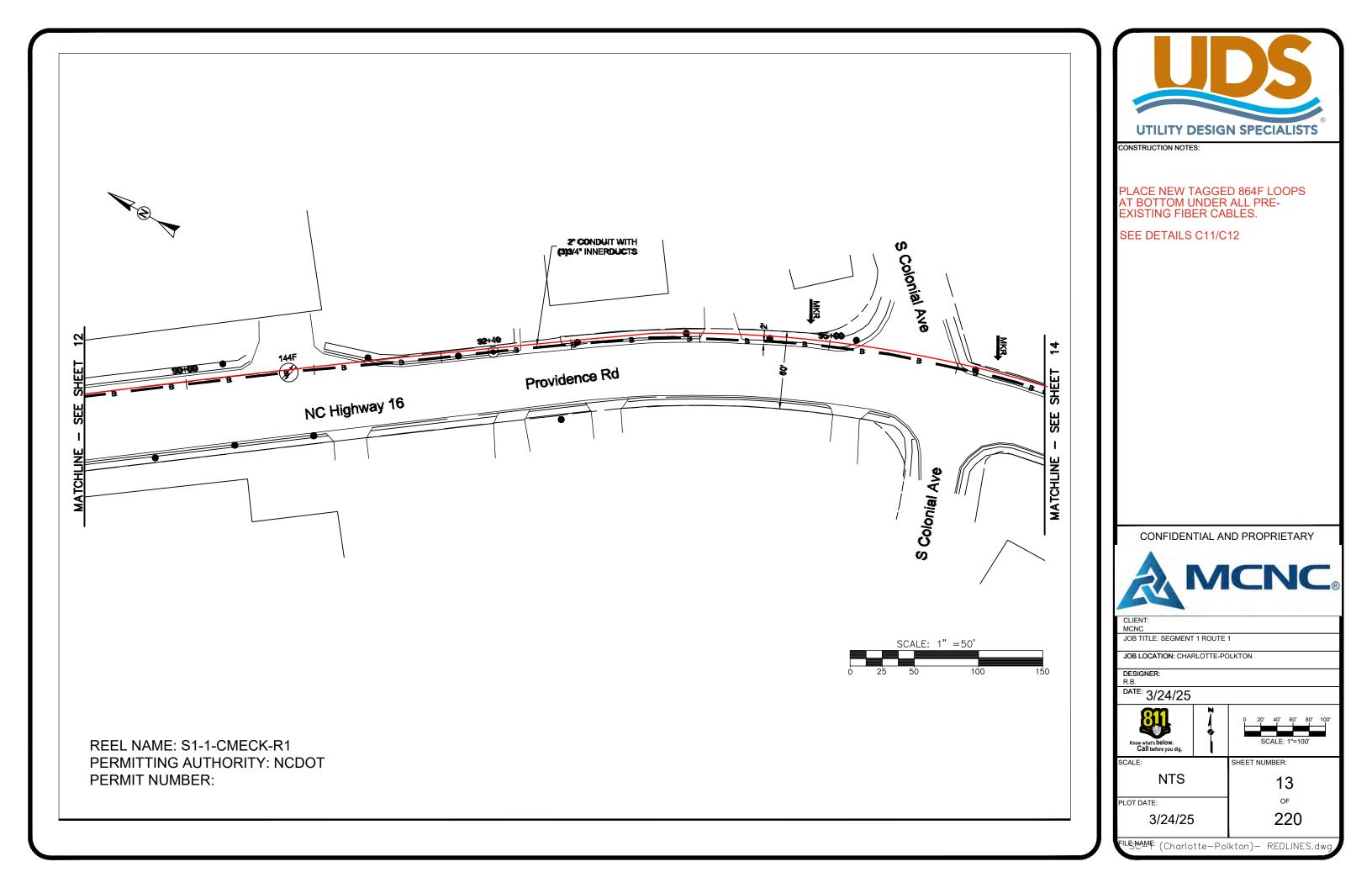


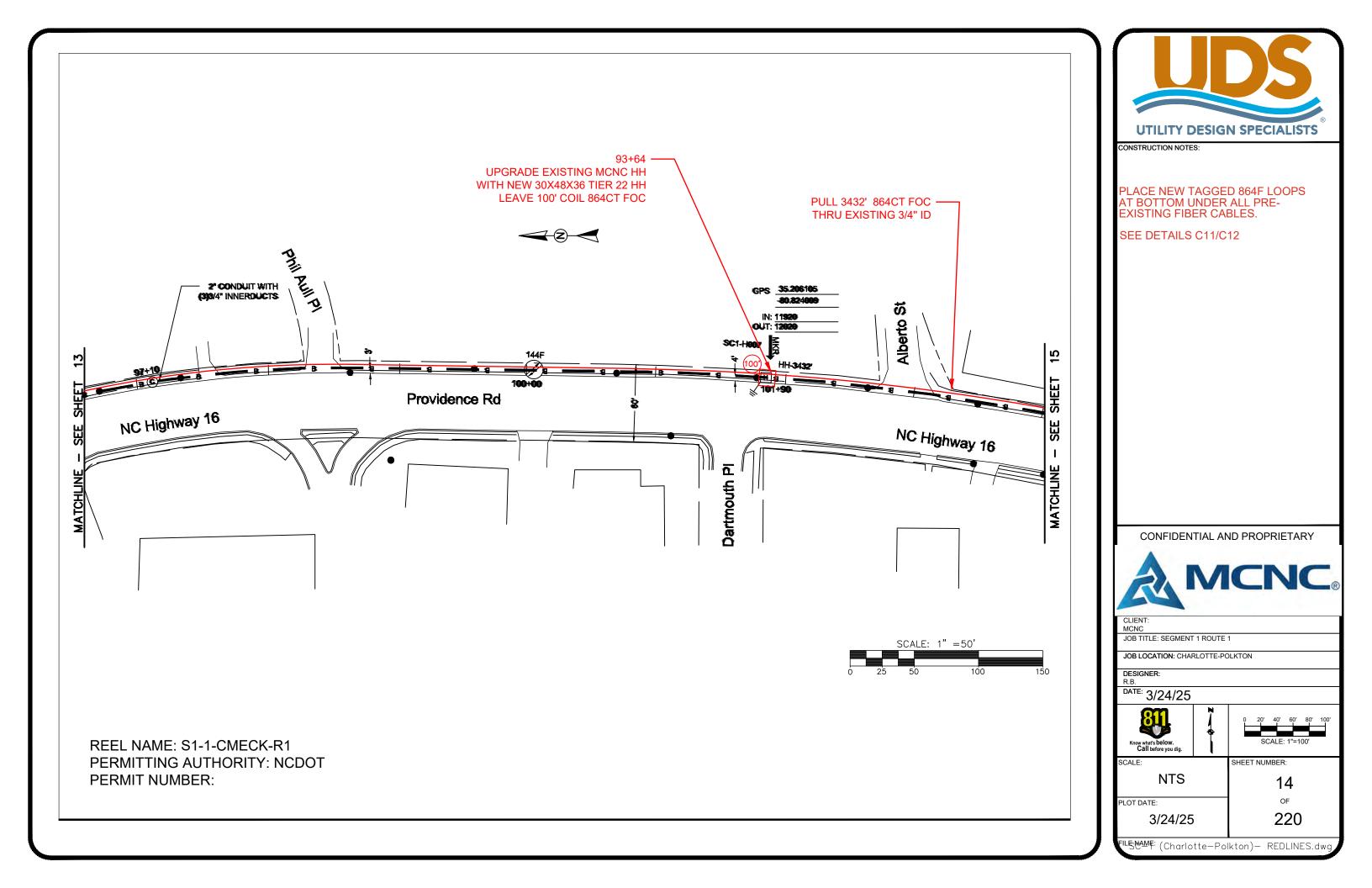






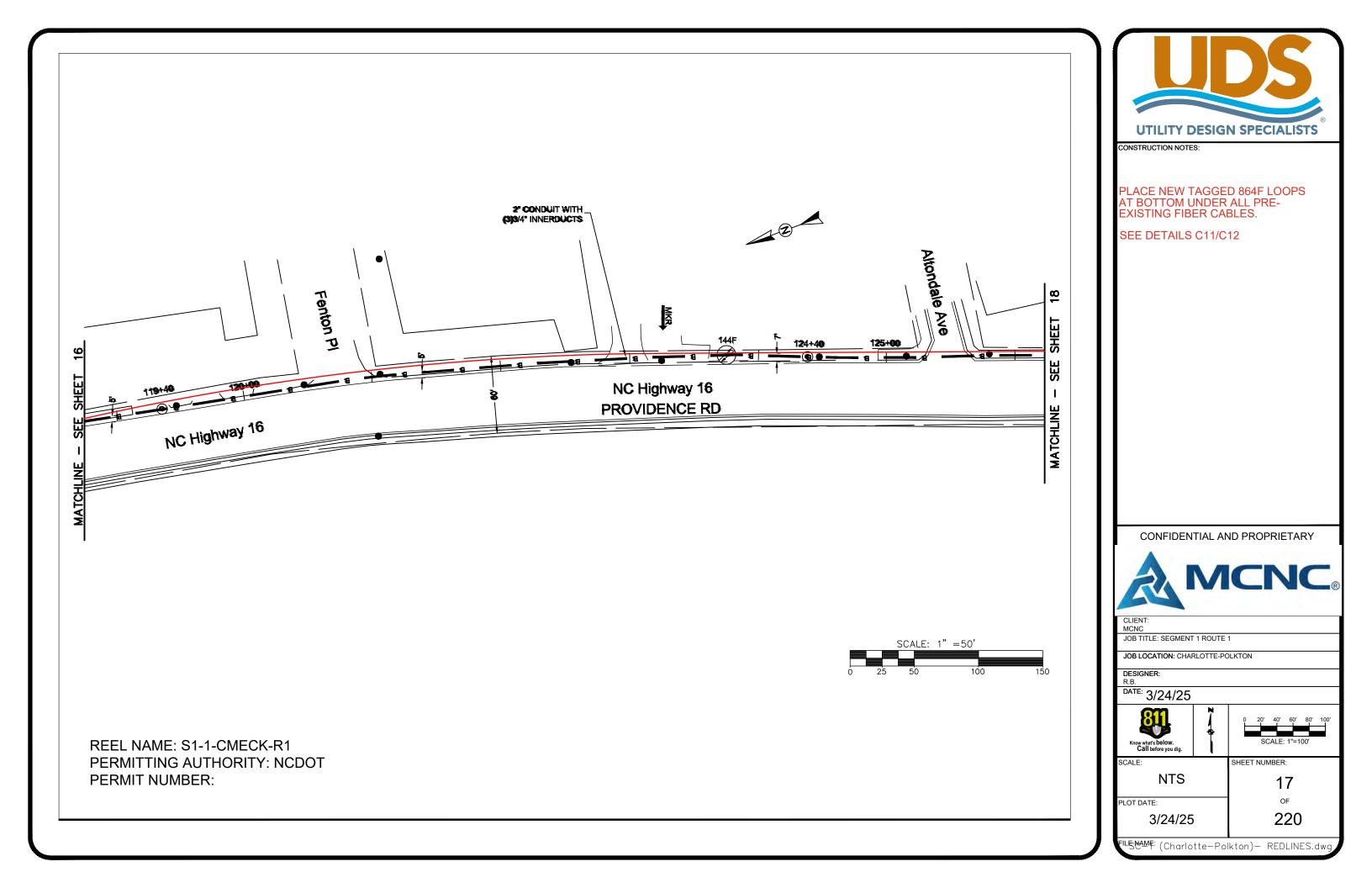


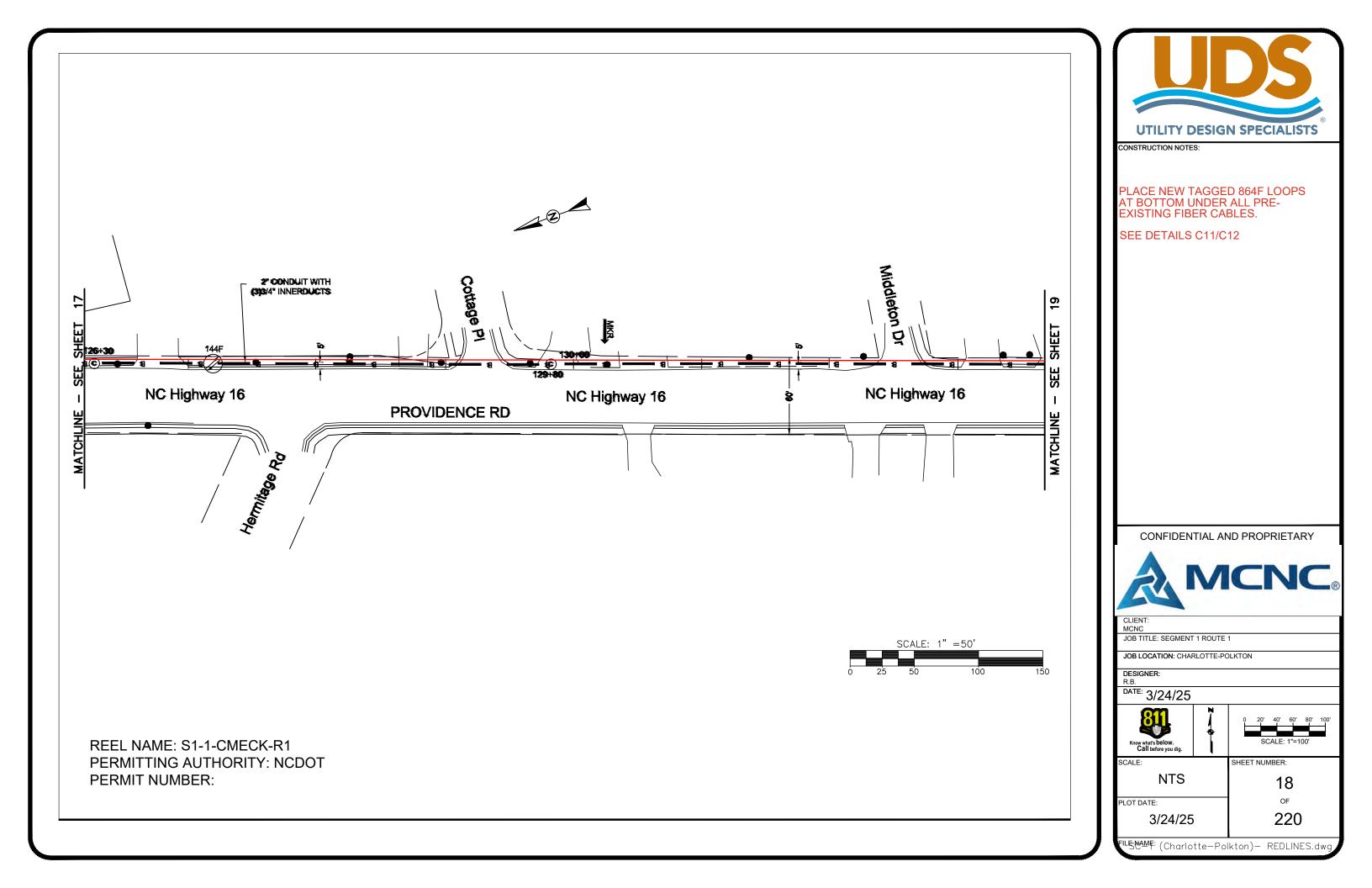


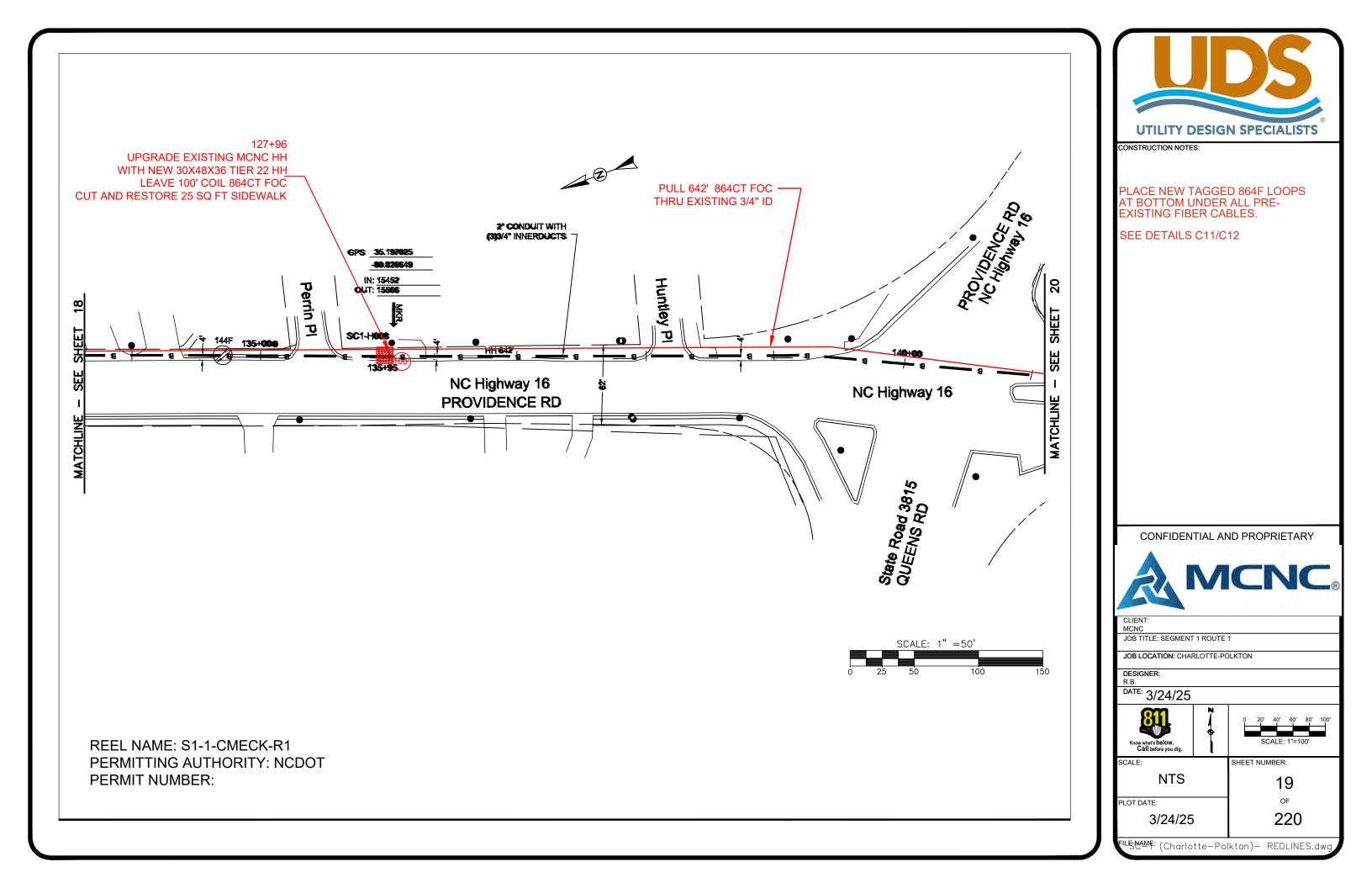


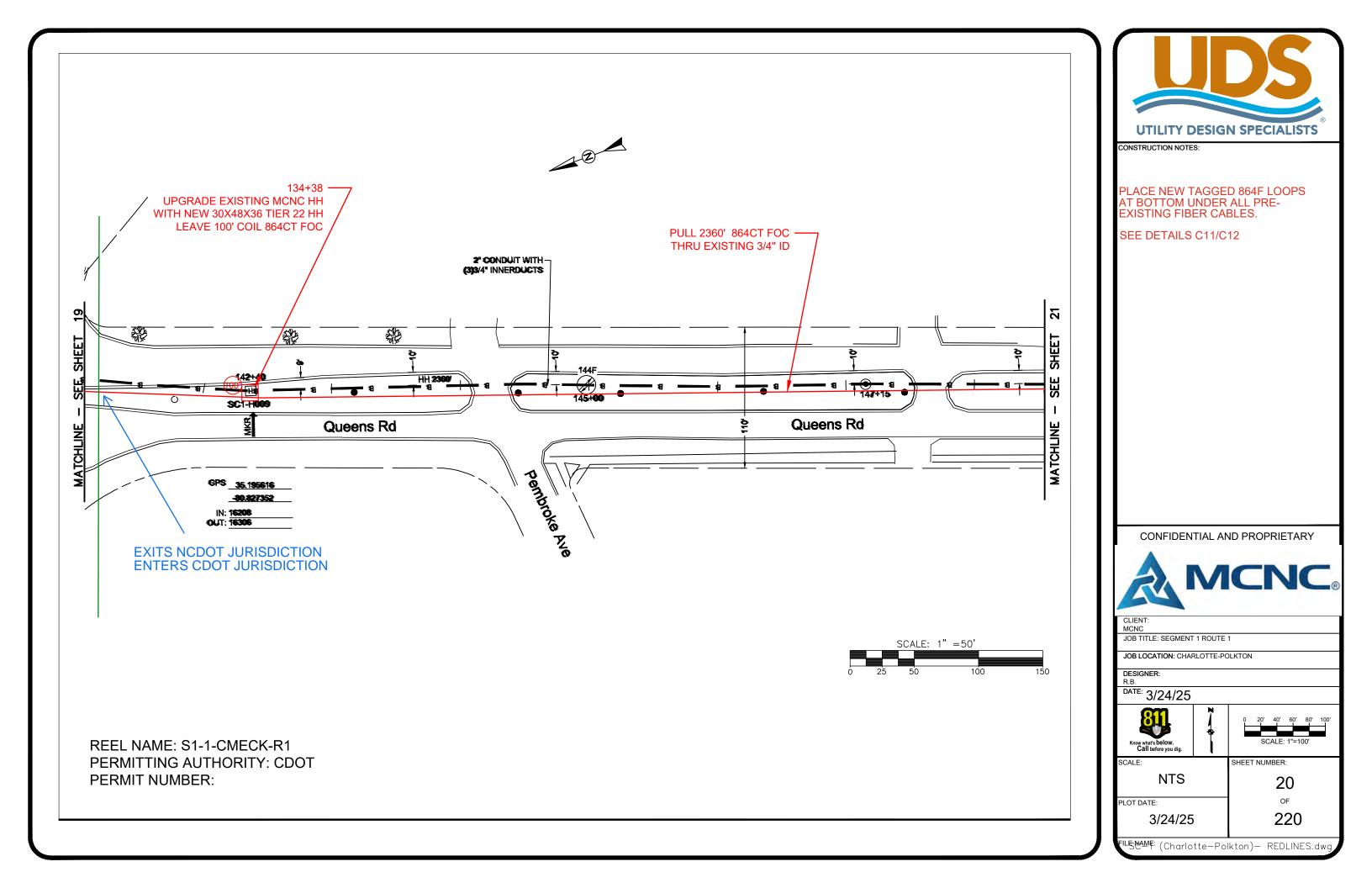


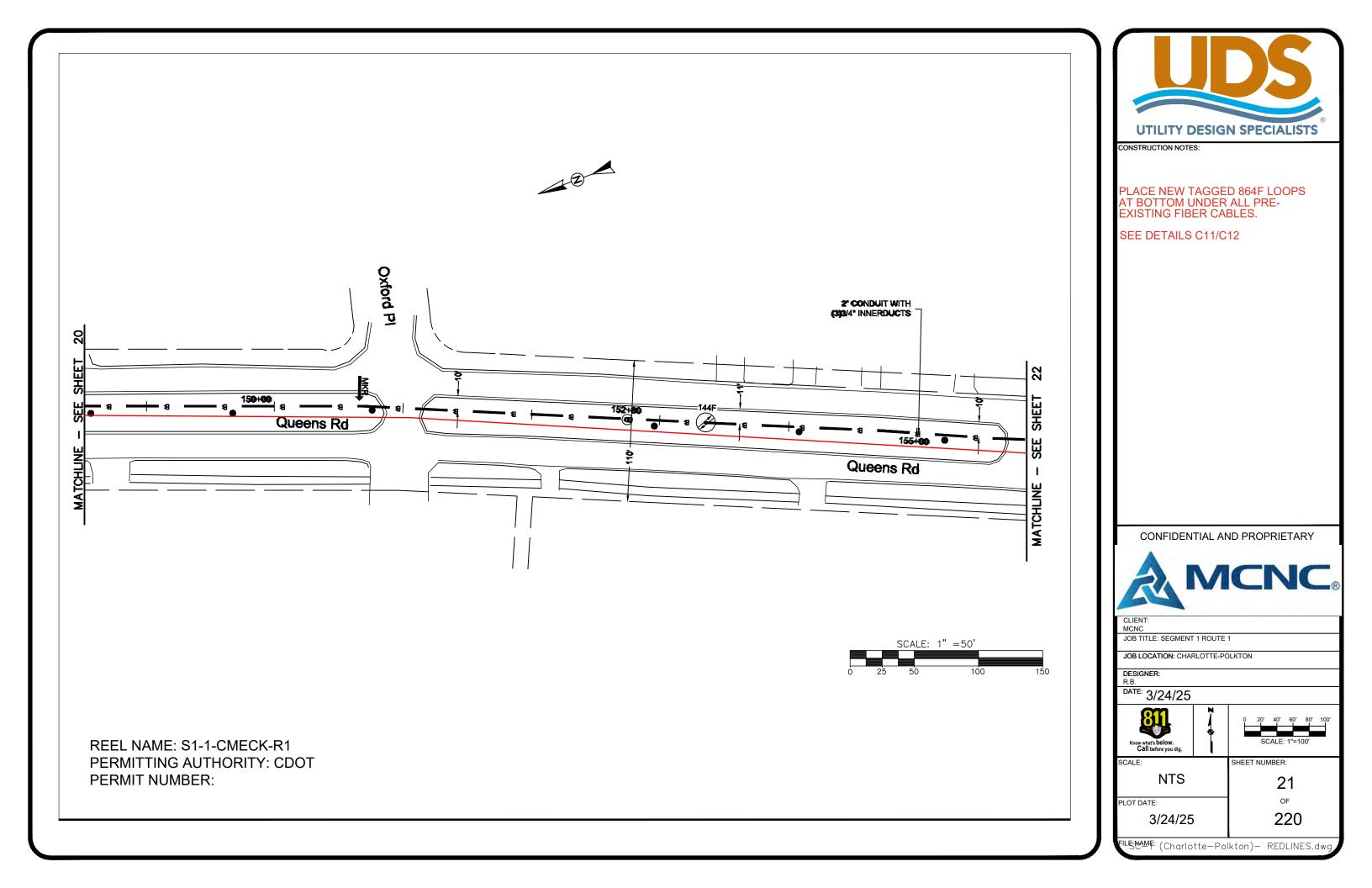


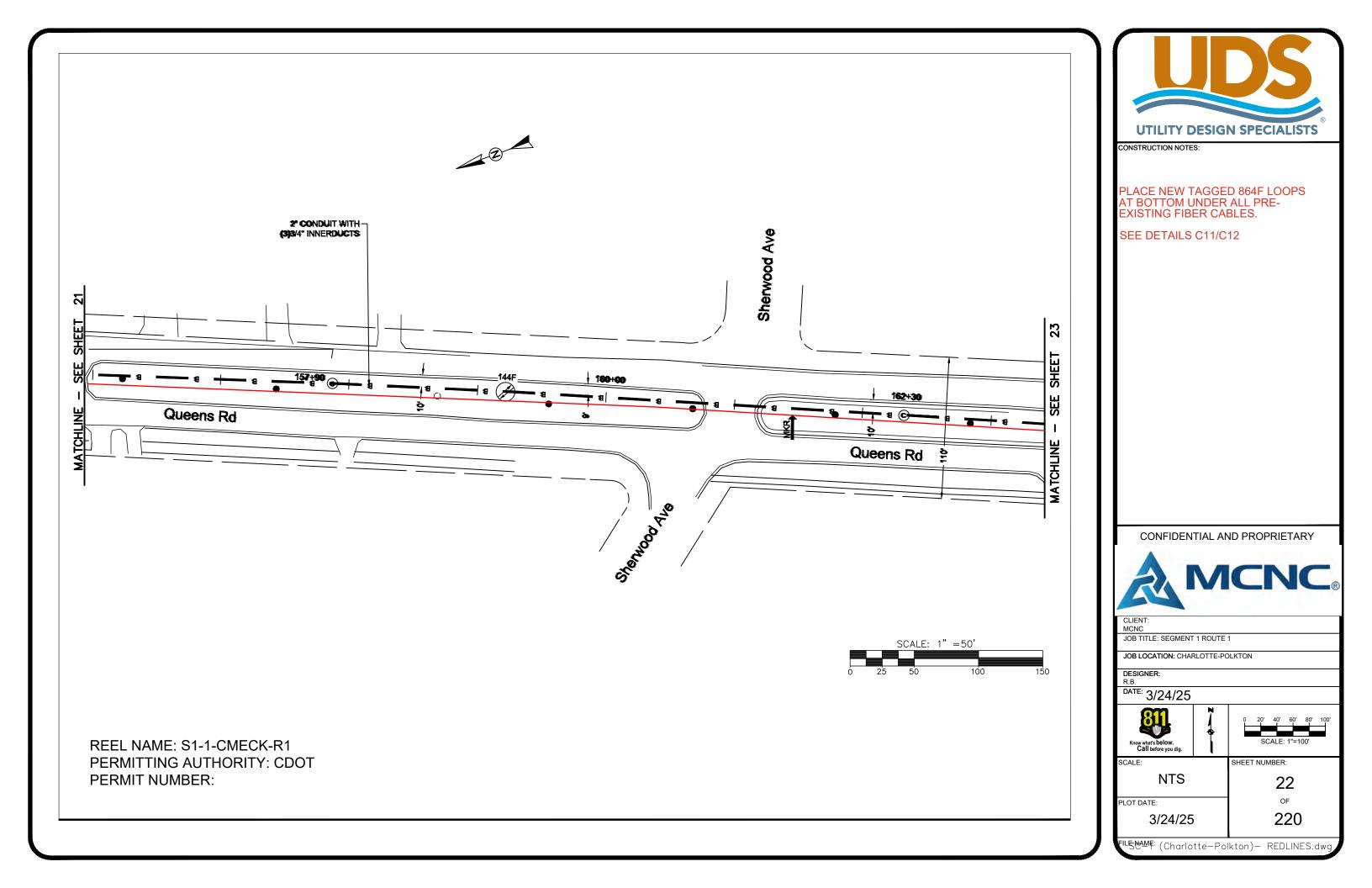


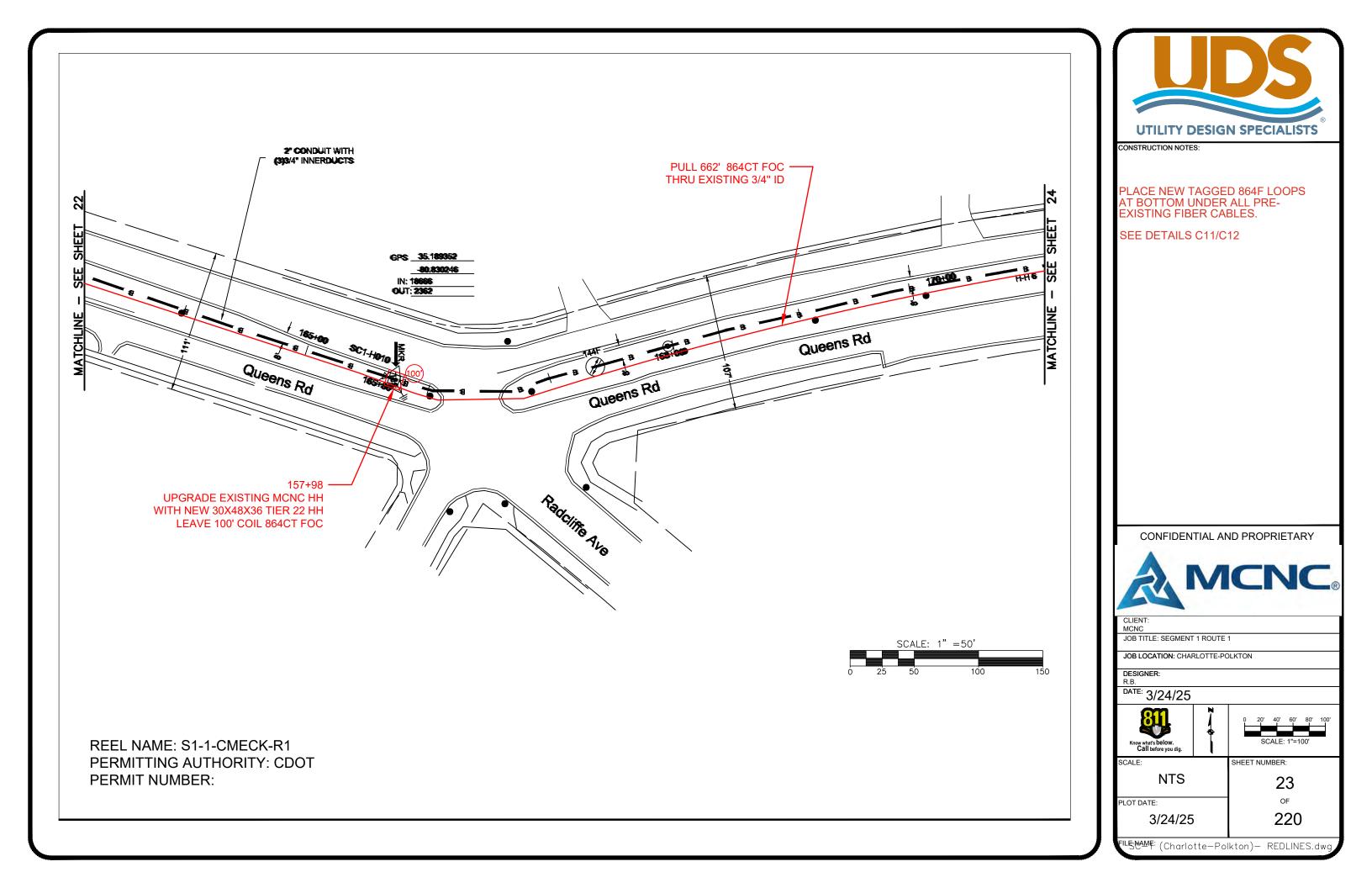


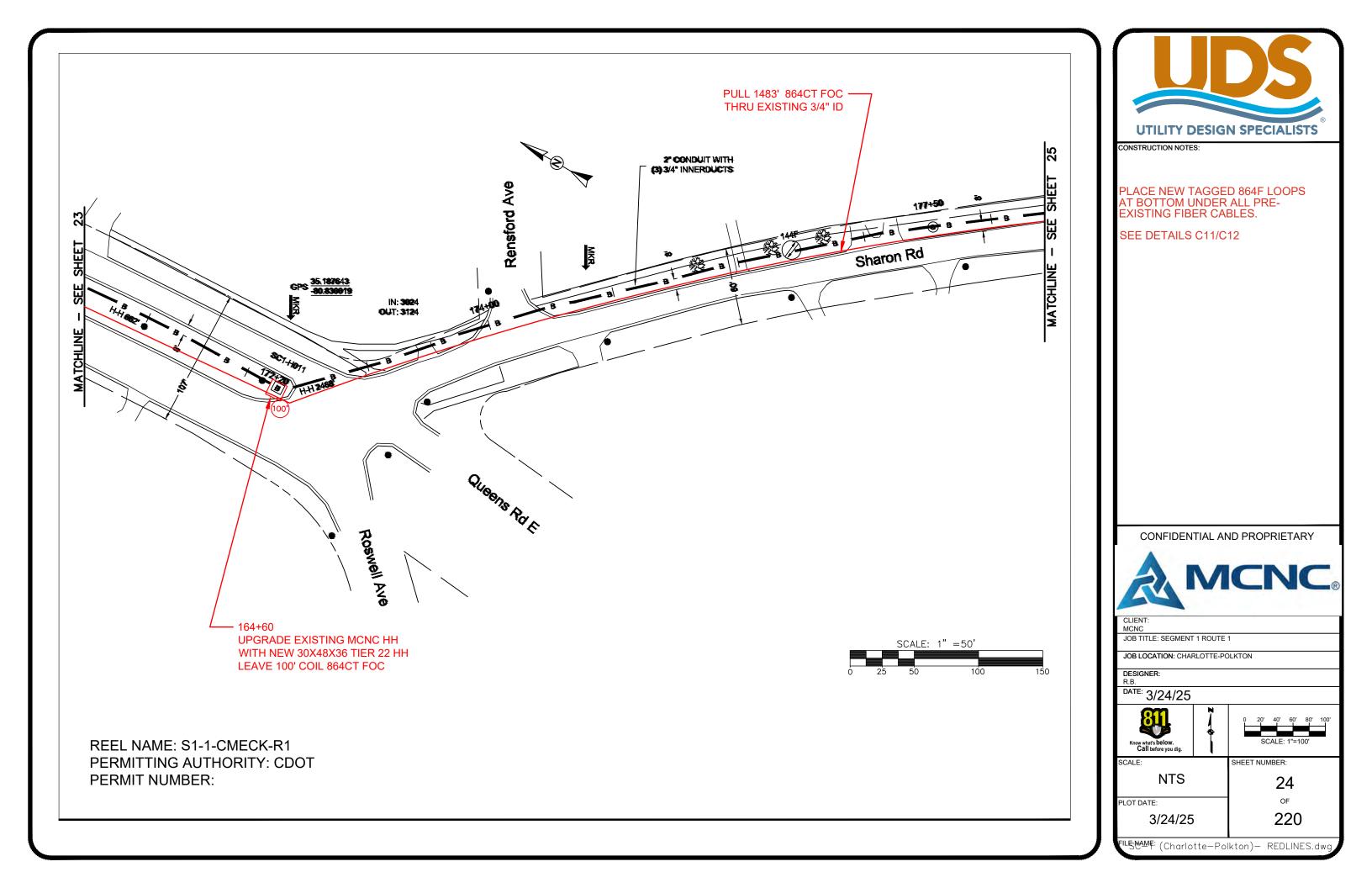


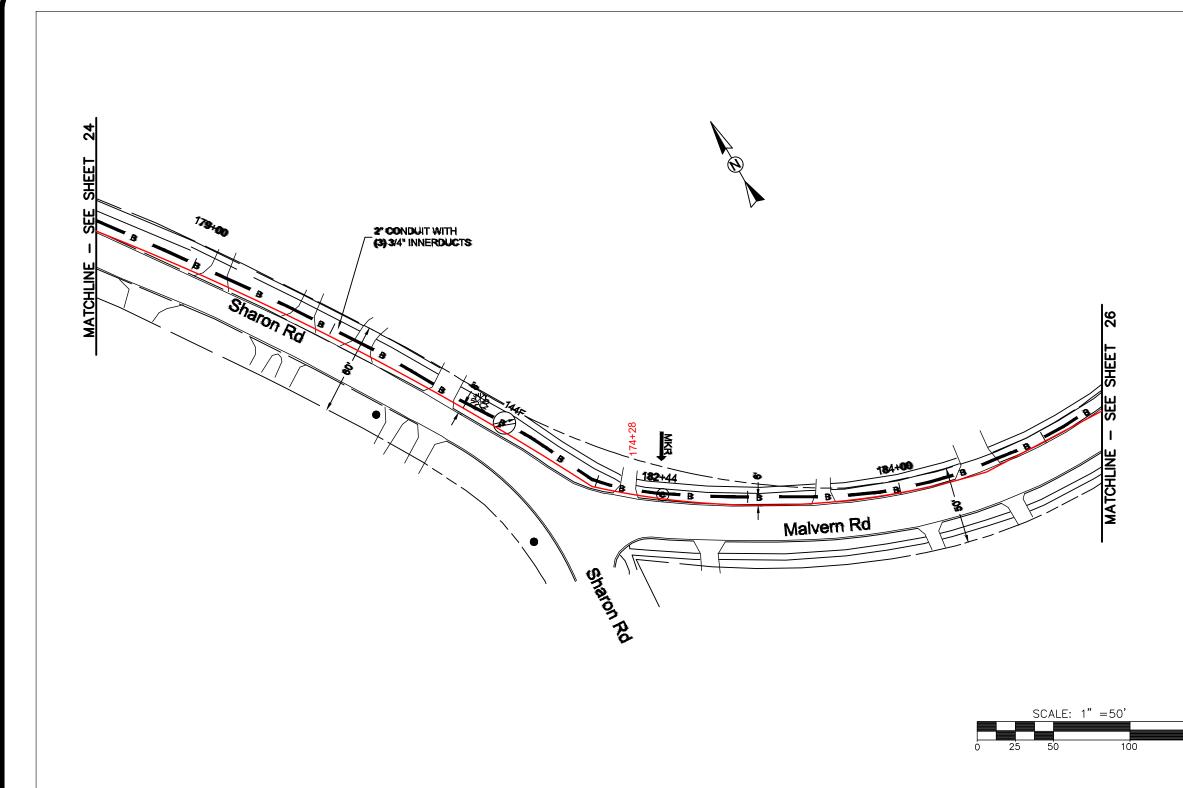




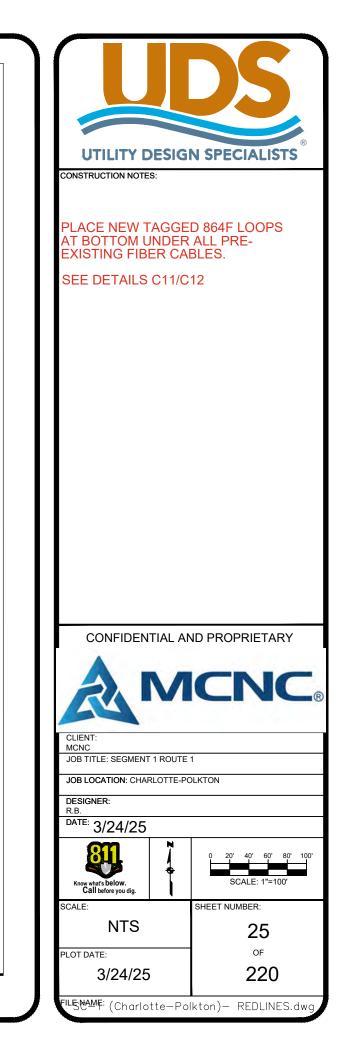




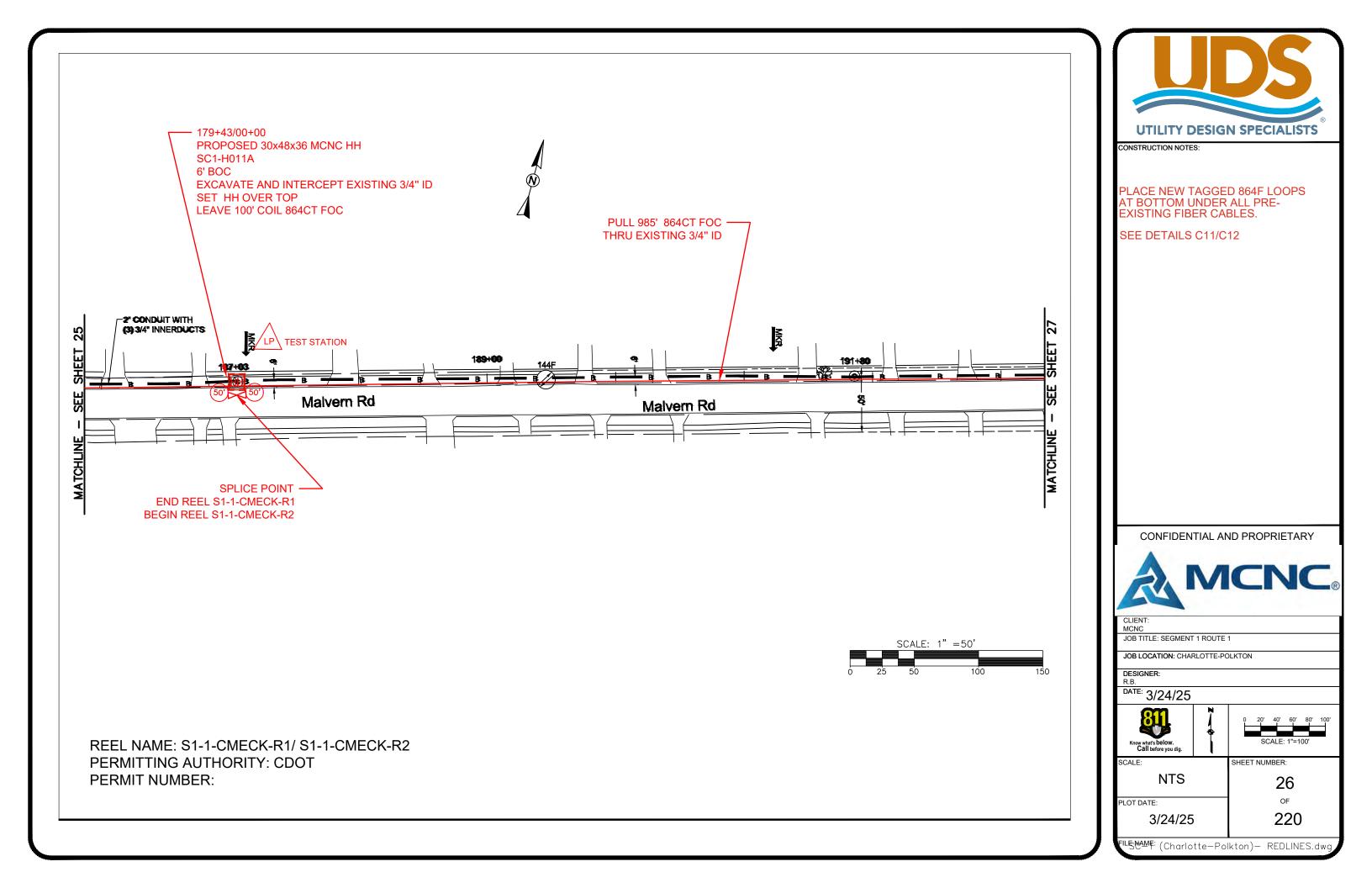




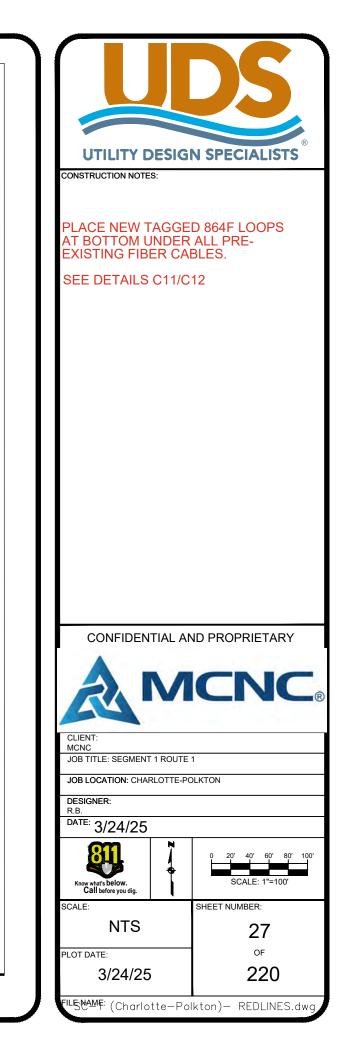
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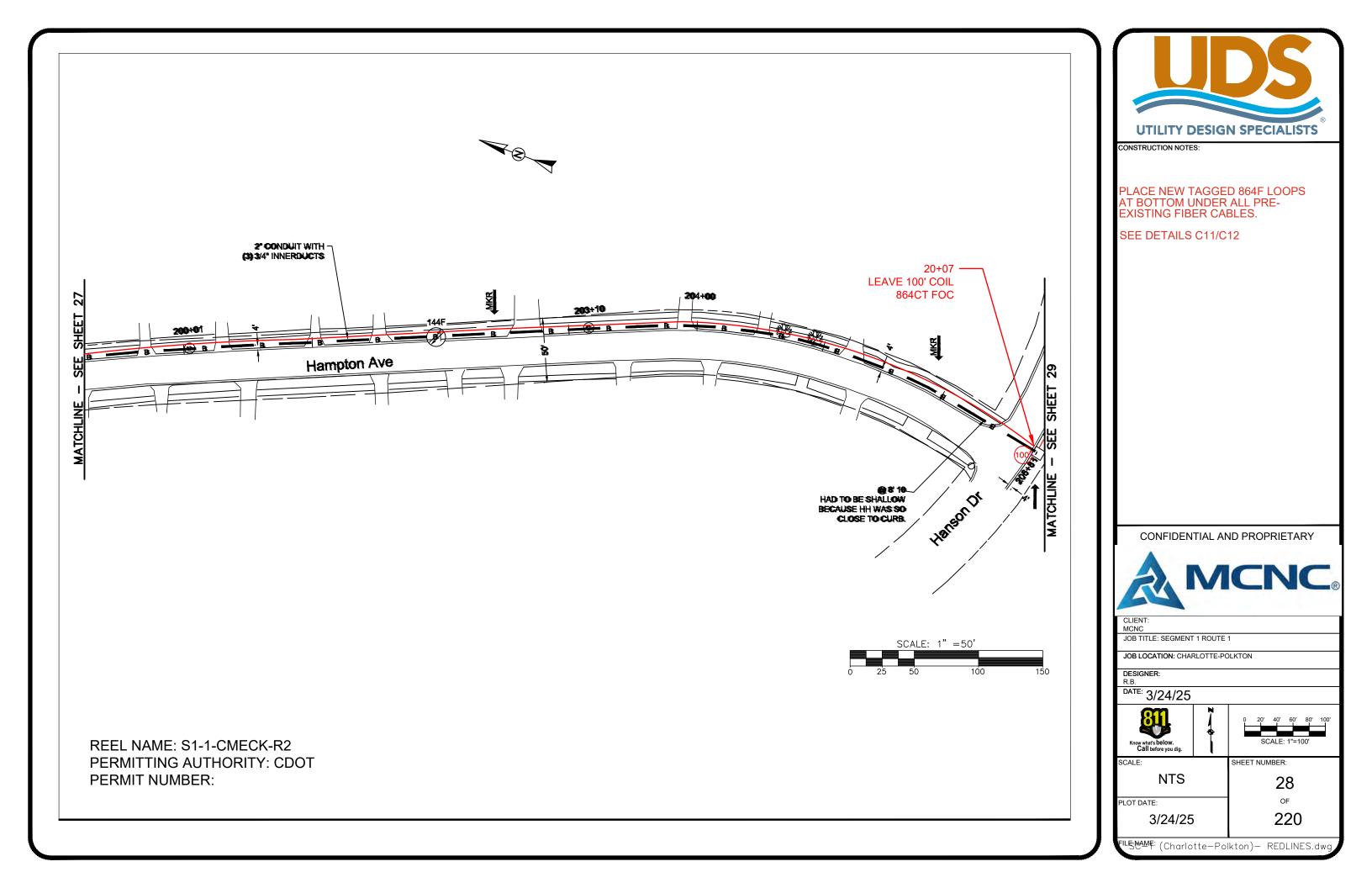
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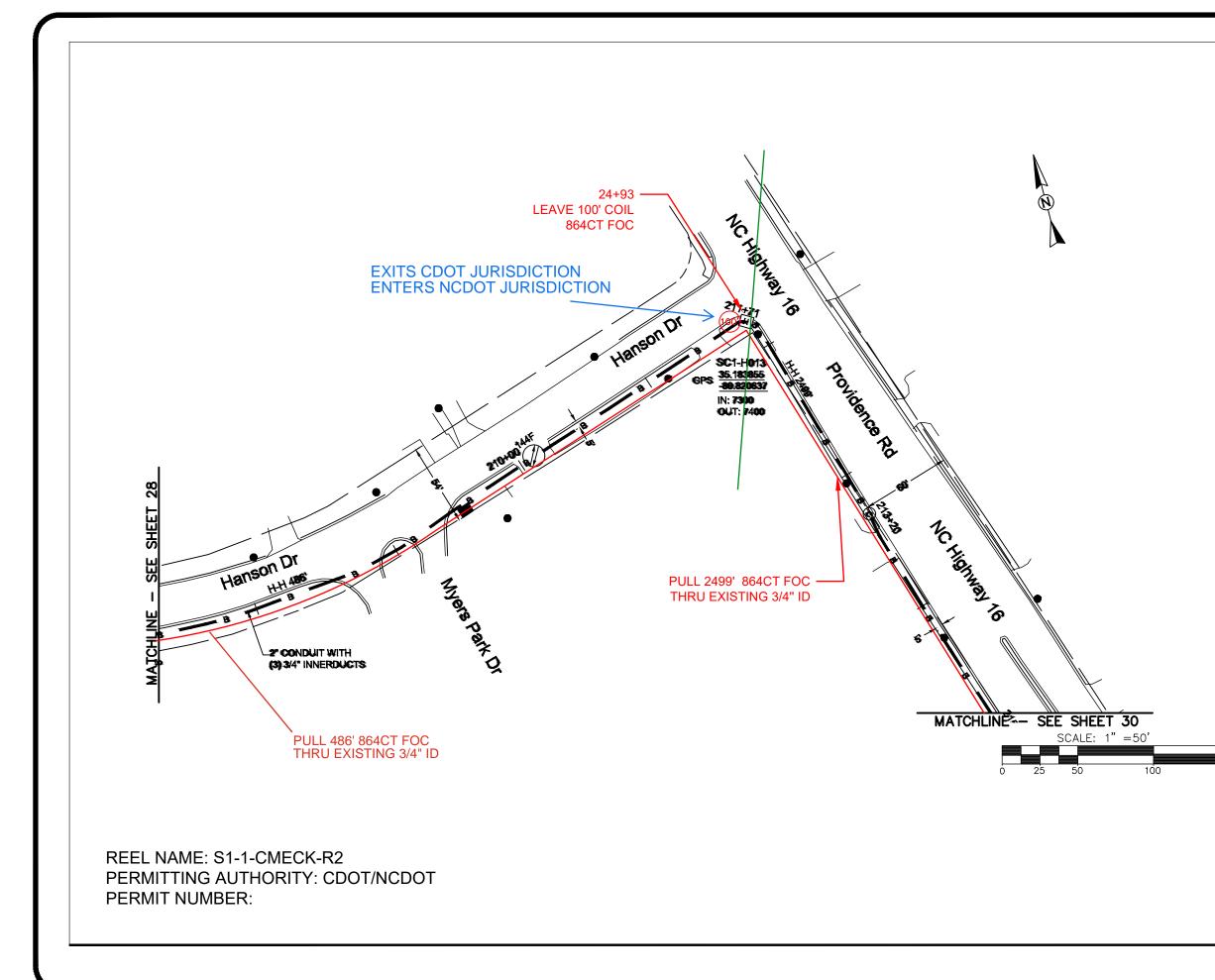


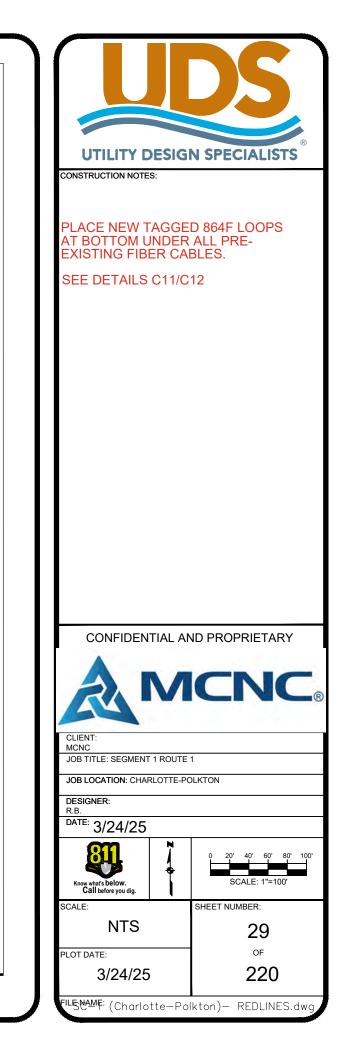
09+85 UPGRADE EXISTING MCNC HH WITH NEW 30X48X36 TIER 22 HH LEAVE 100' COIL 864CT FOC Hampton Ave 2" CONDUIT WITH (3) 3/4" INNERDUCTS -9' SHALLOW DUE TO ROCK 26 194+00 SHEET 196+60 SC1-H012 MKR <u>35.186187</u> -80.823238 GPS Malvern Rd SEE 8 IN: 5592 OUT: 5692 MATCHLINE PULL 1022' 864CT FOC THRU EXISTING 3/4" ID MATCHLINE - SEE SHEET 28 SCALE: 1" =50' 25 50 100 REEL NAME: S1-1-CMECK-R2 PERMITTING AUTHORITY: CDOT PERMIT NUMBER:

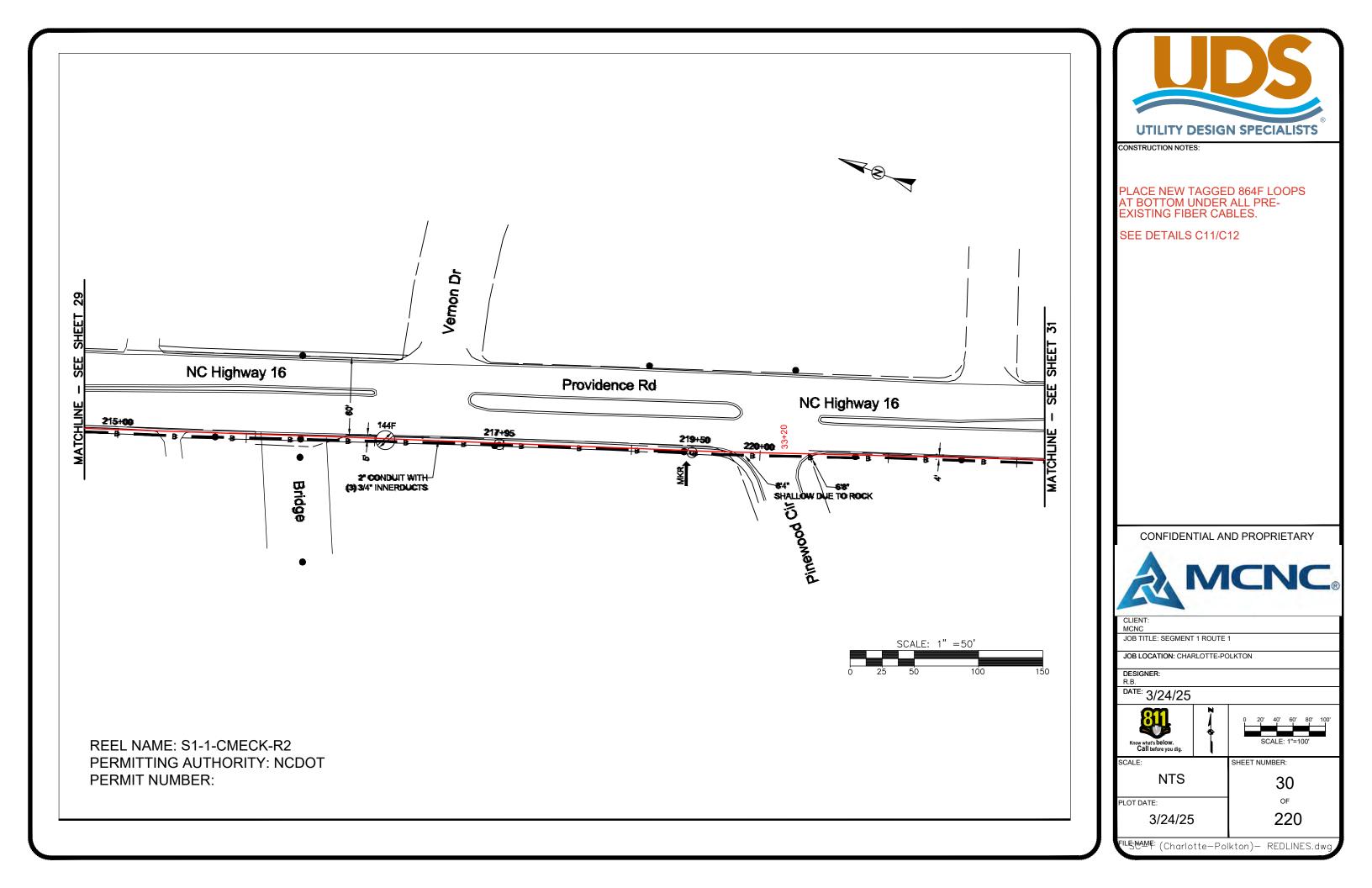


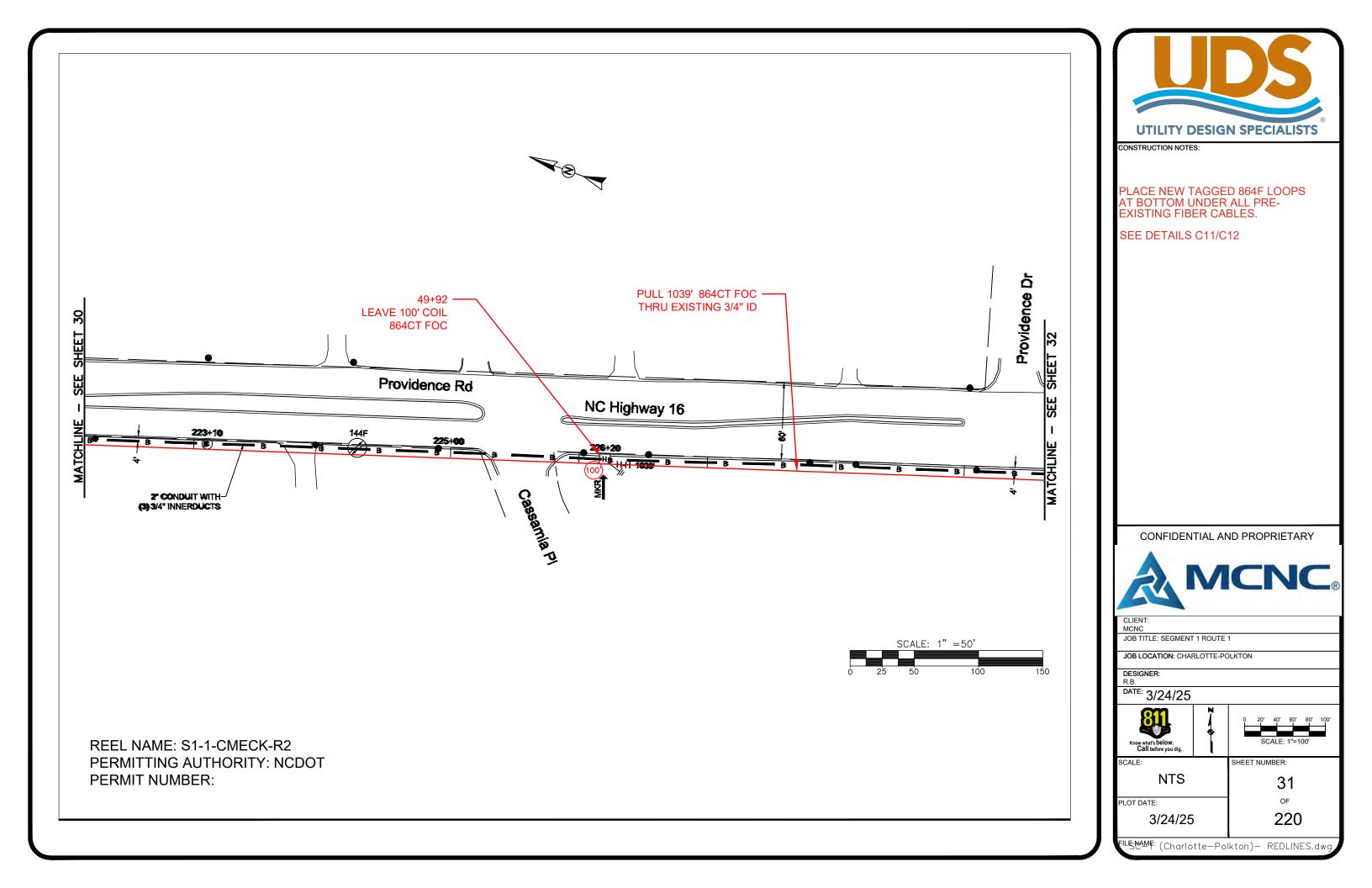
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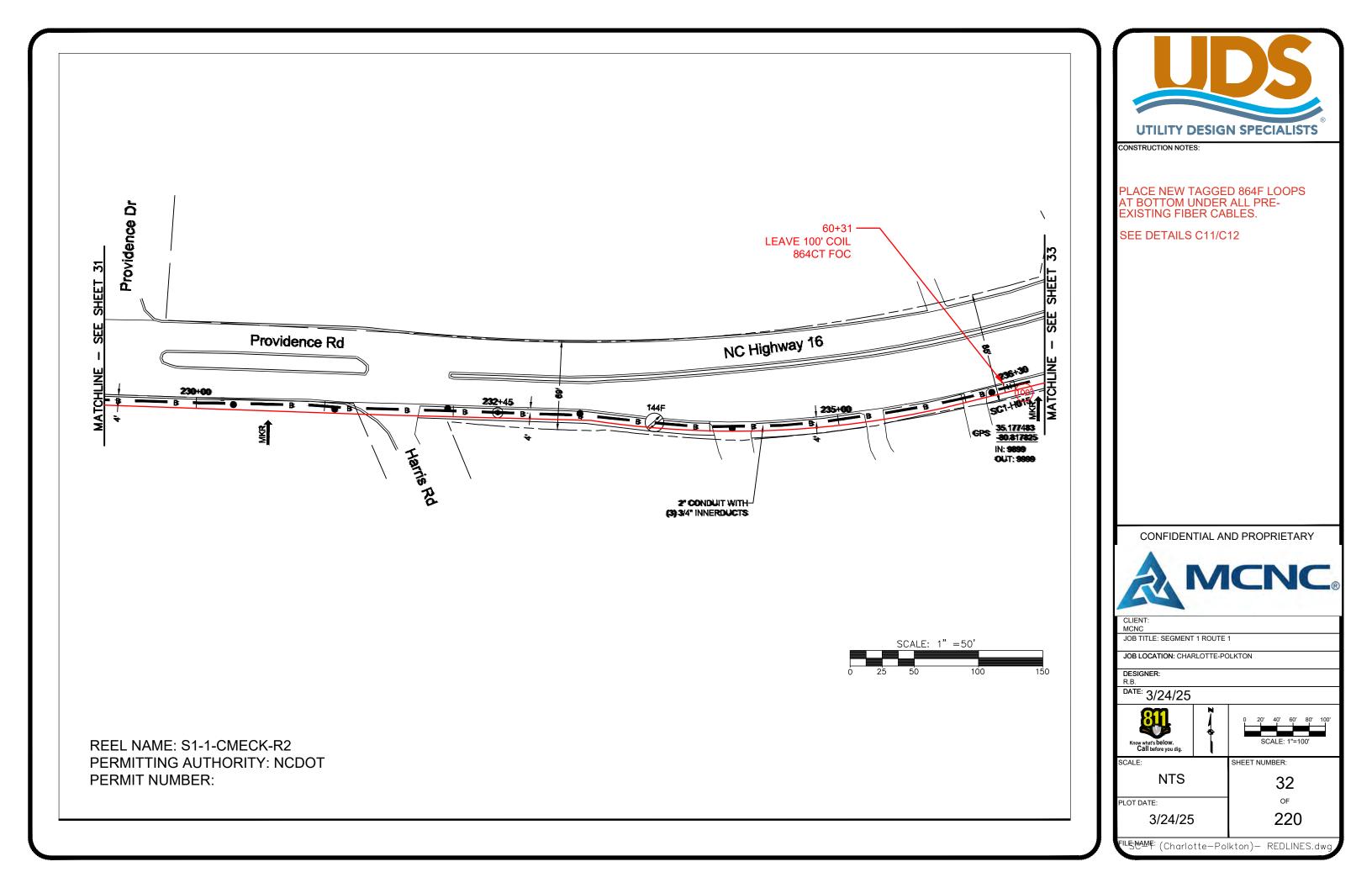


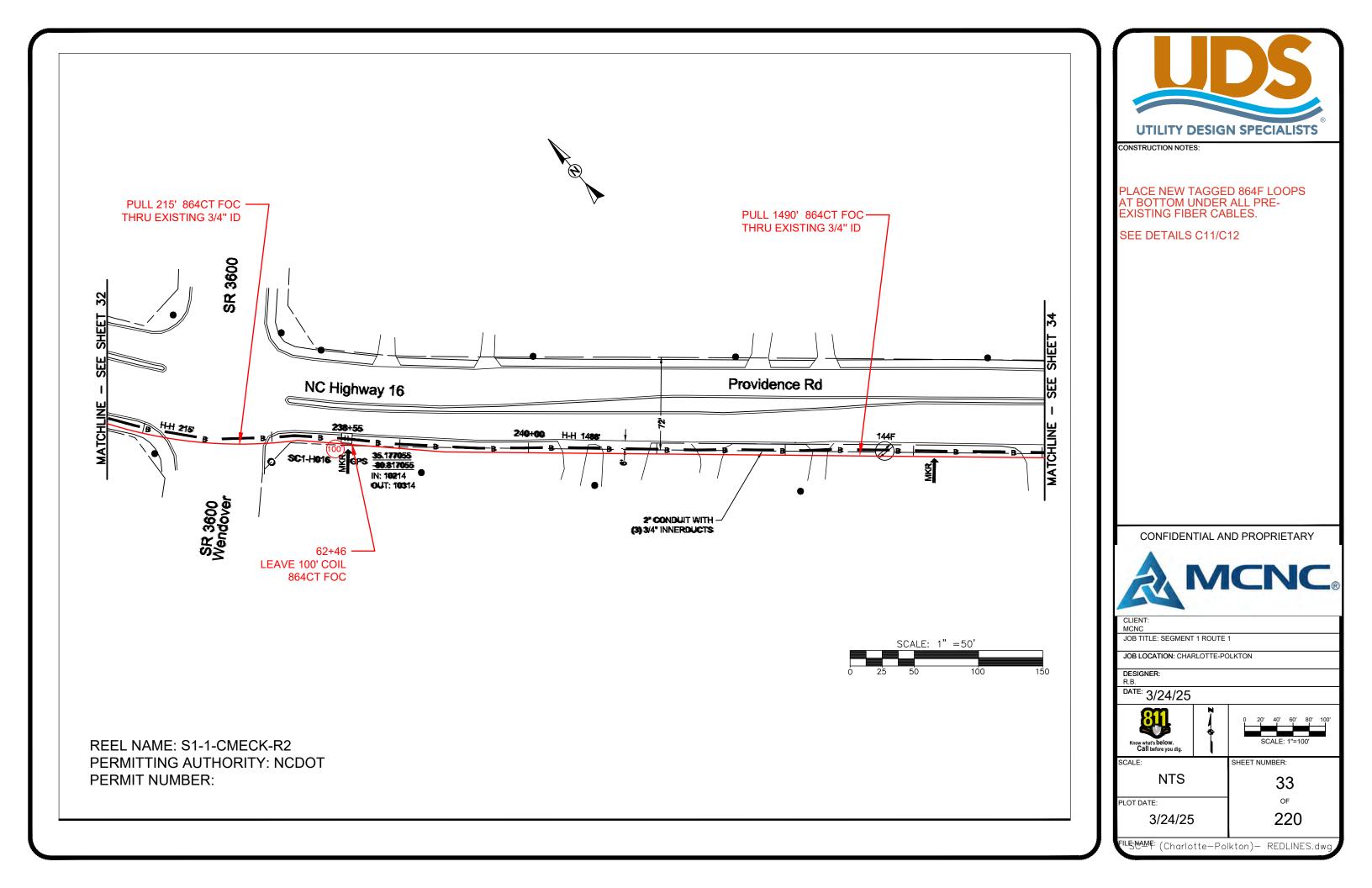


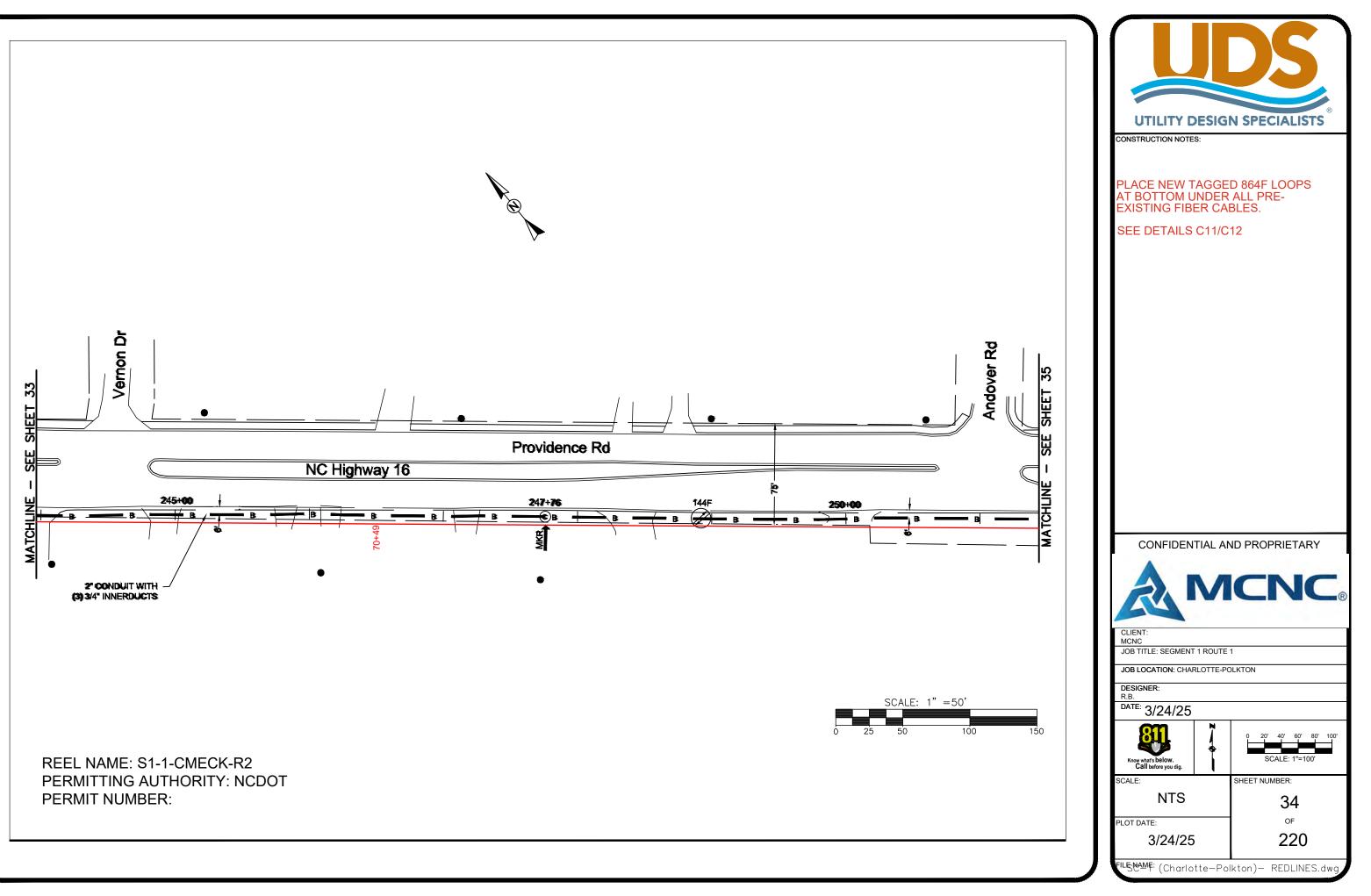


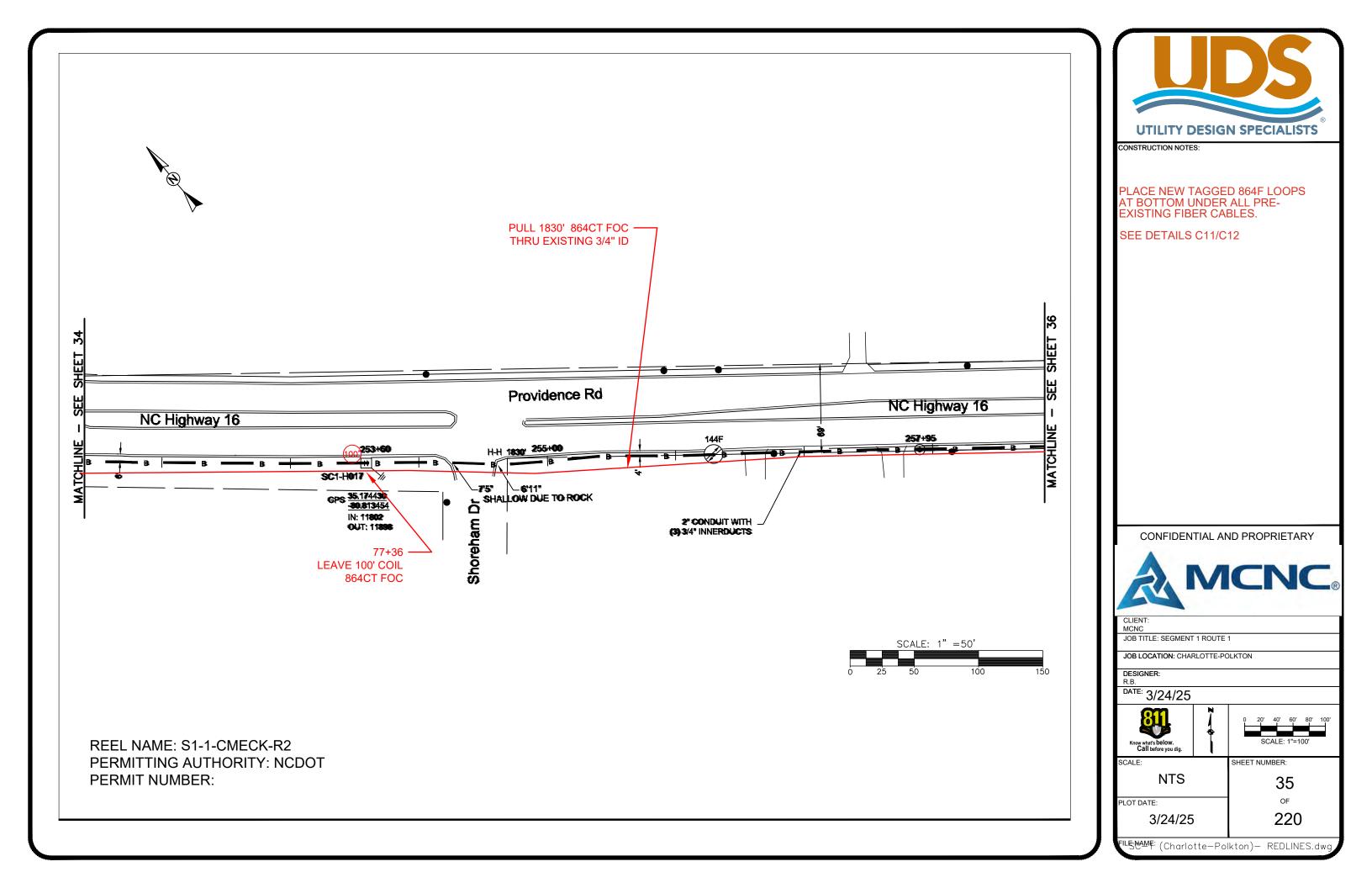


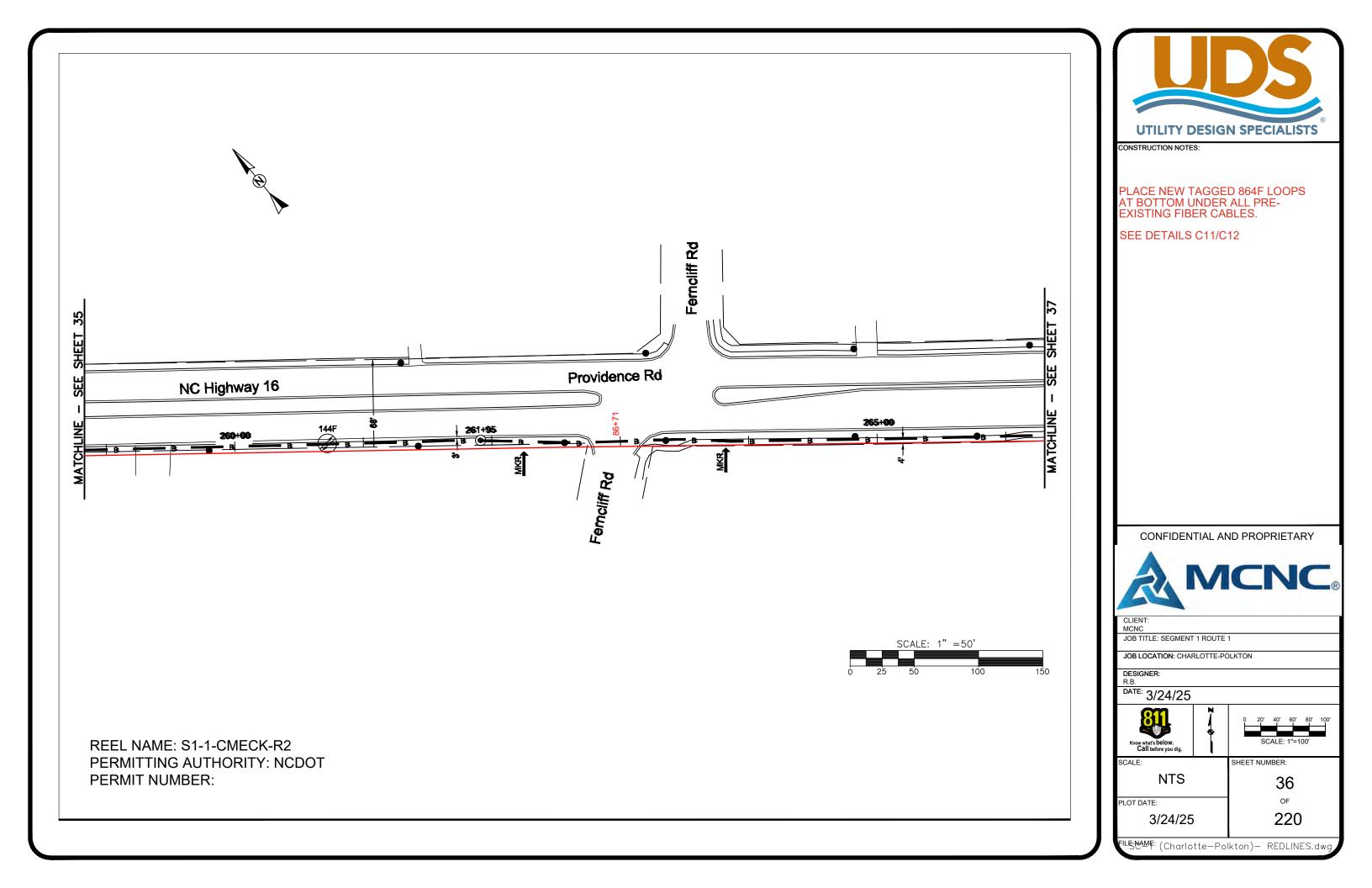


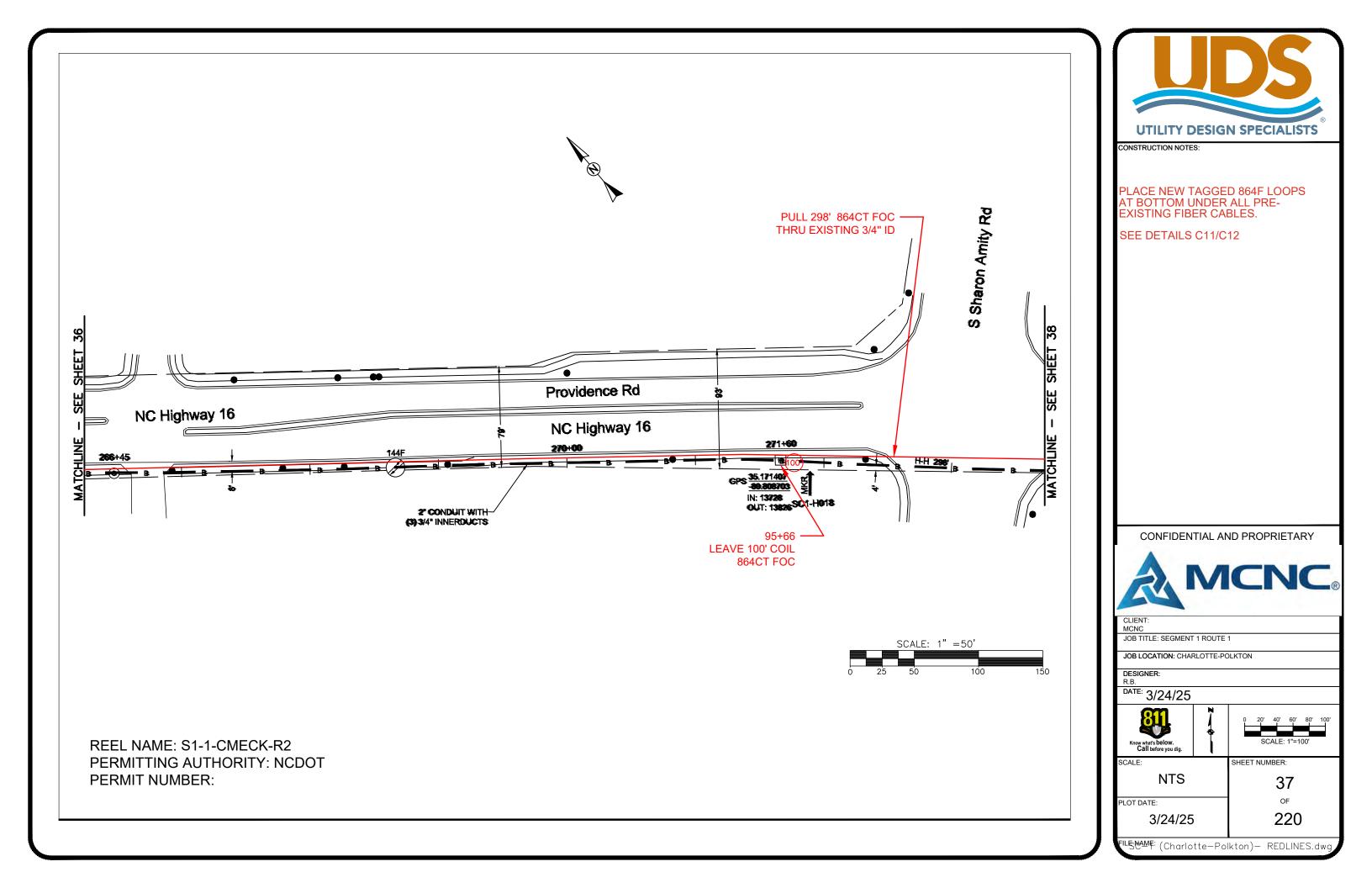


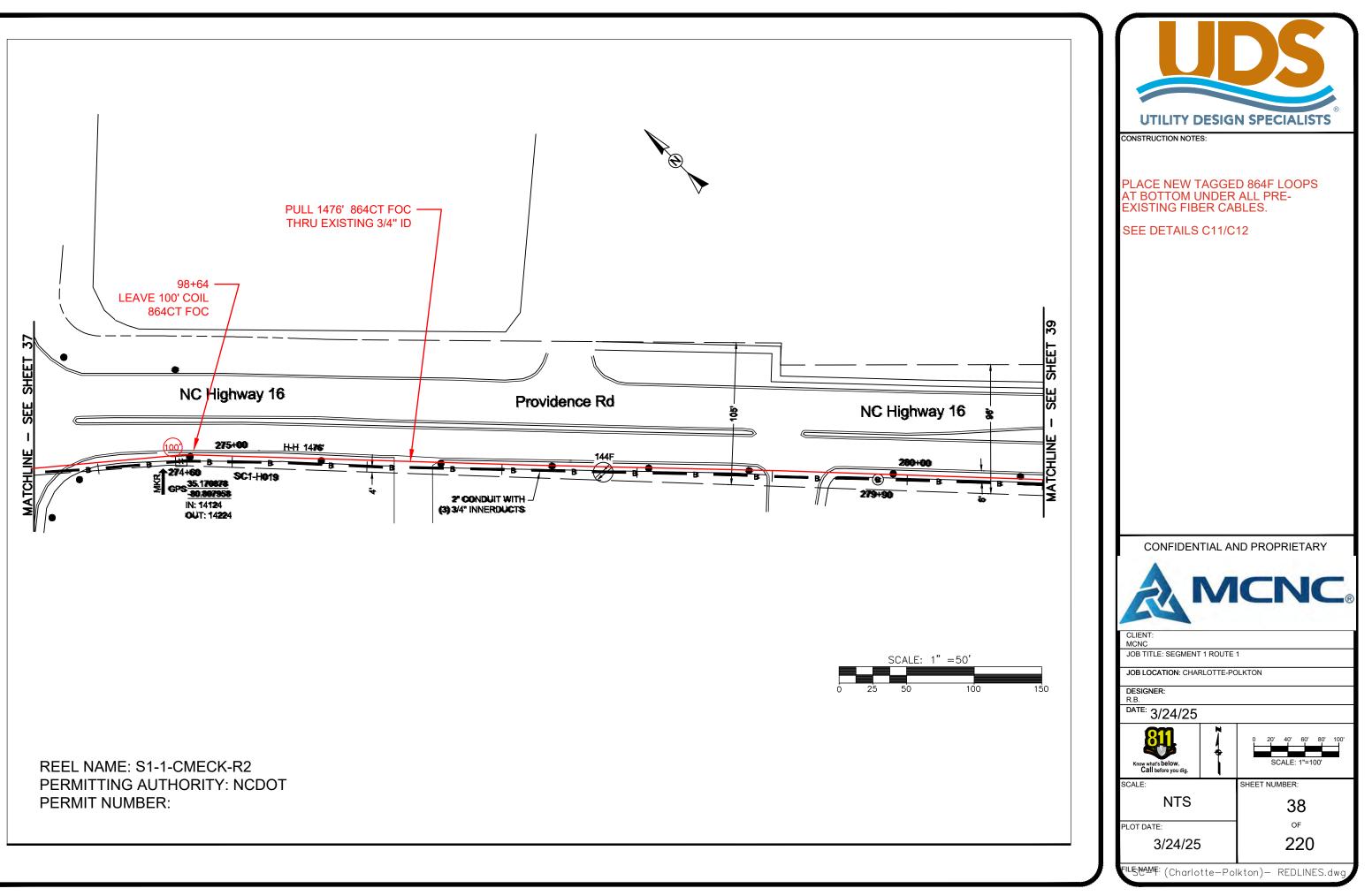


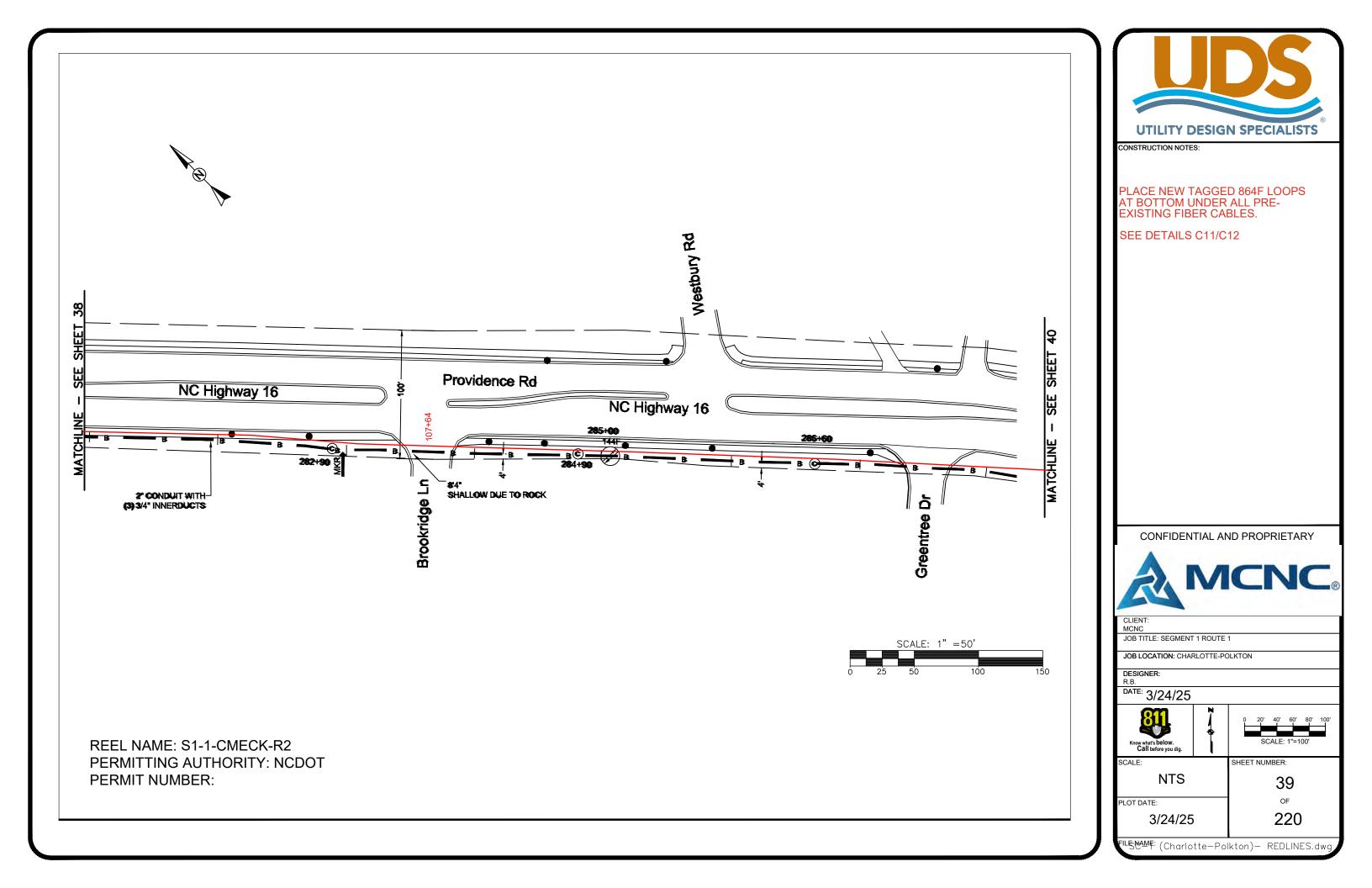


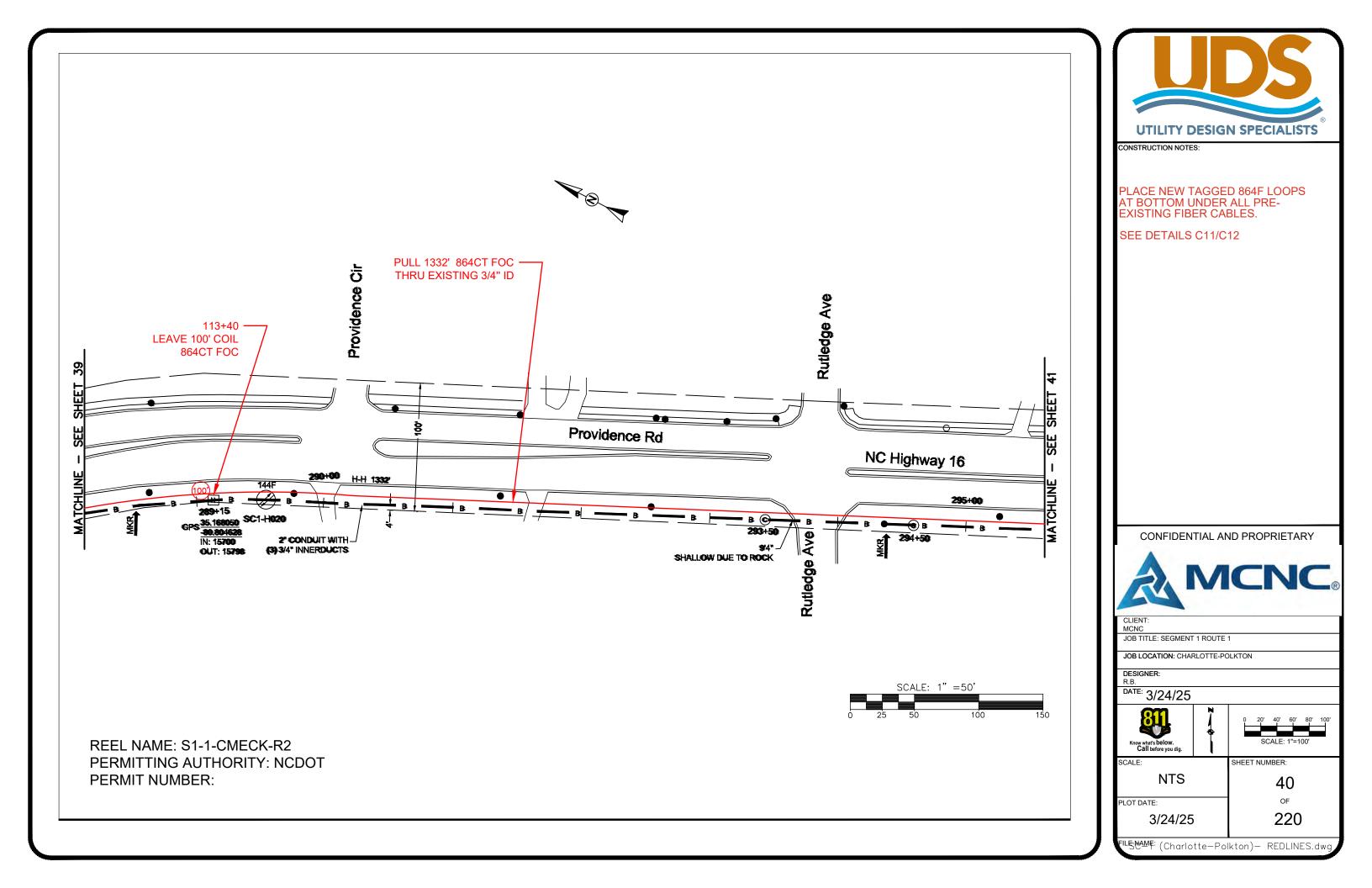


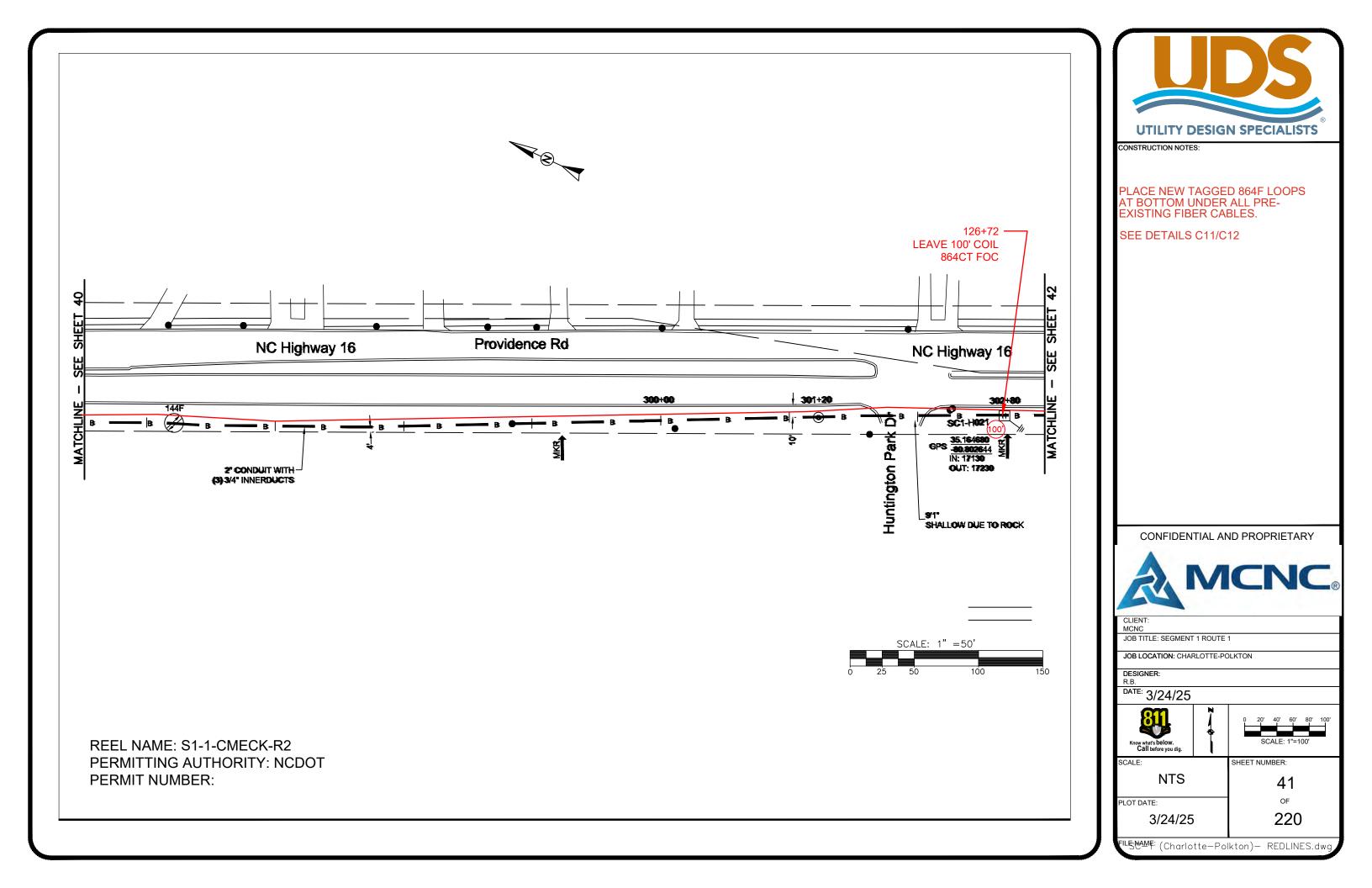


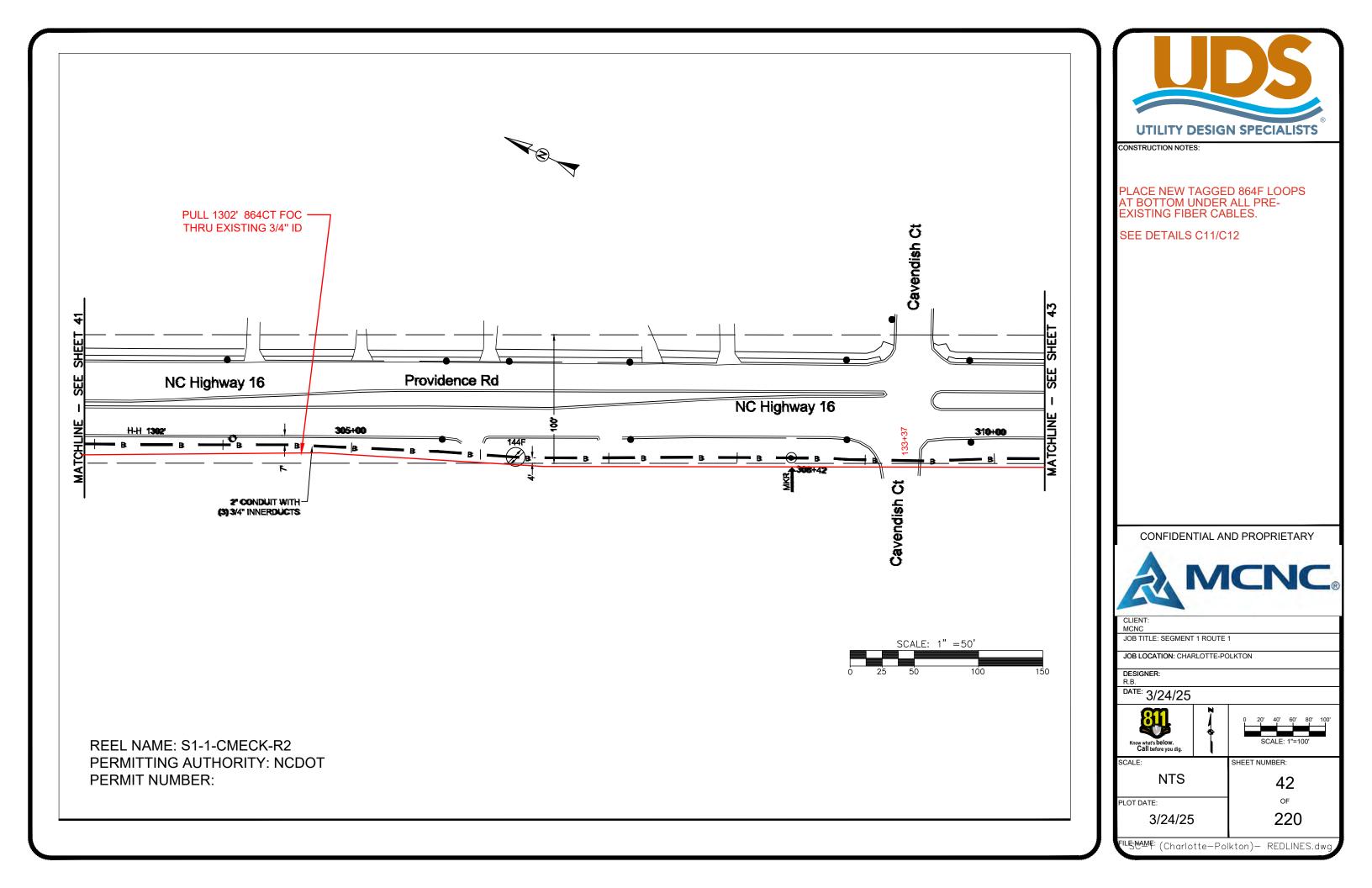


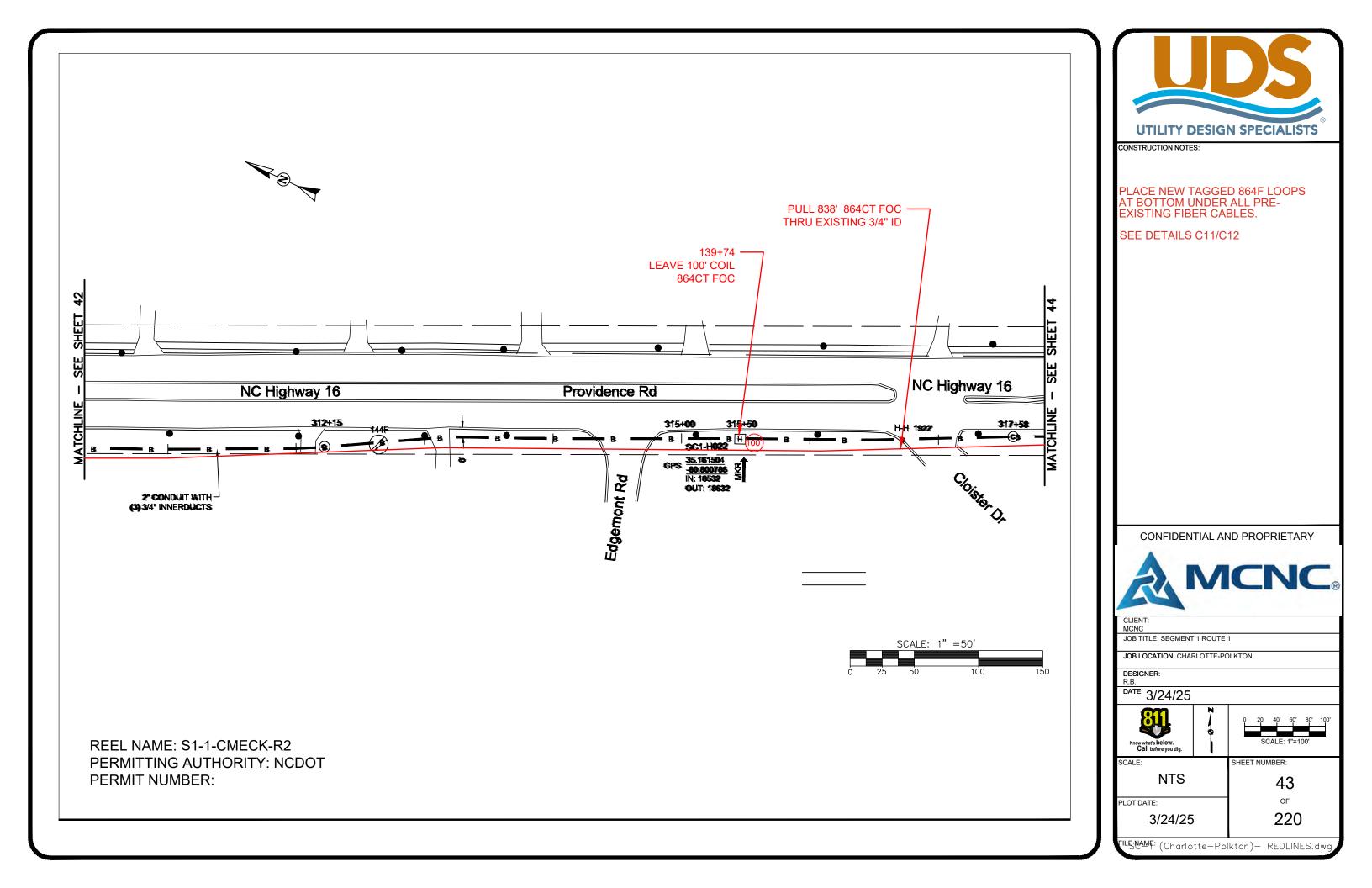


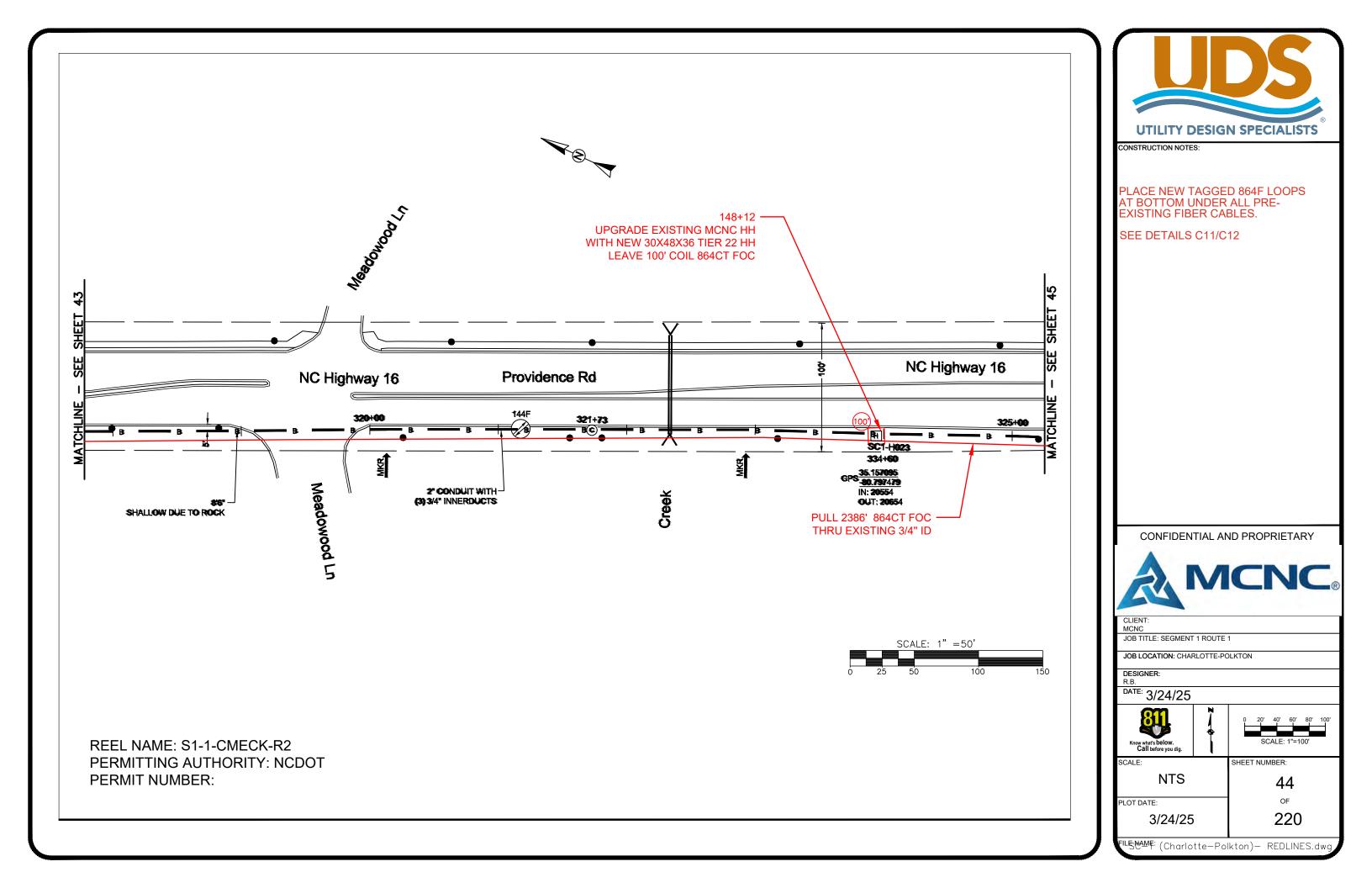


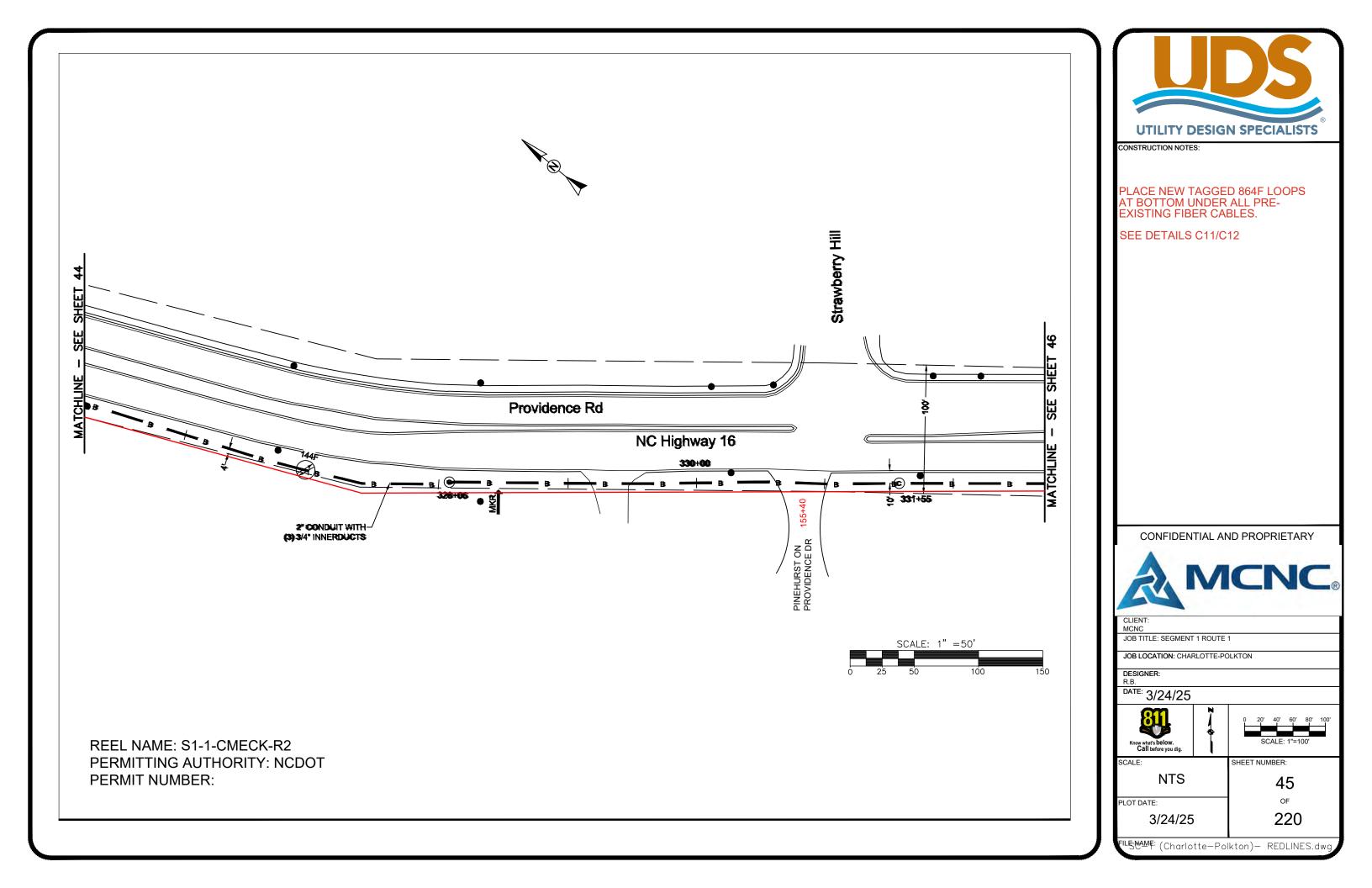




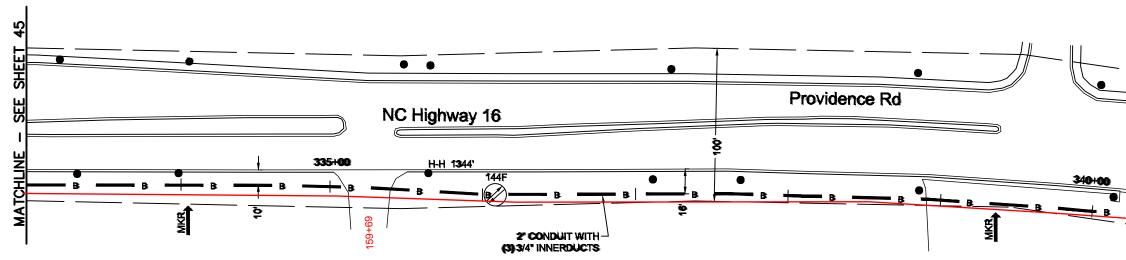






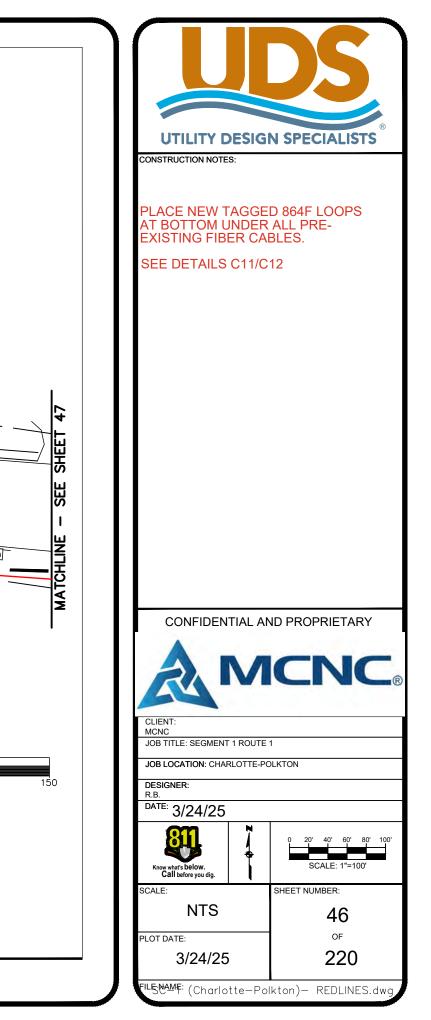


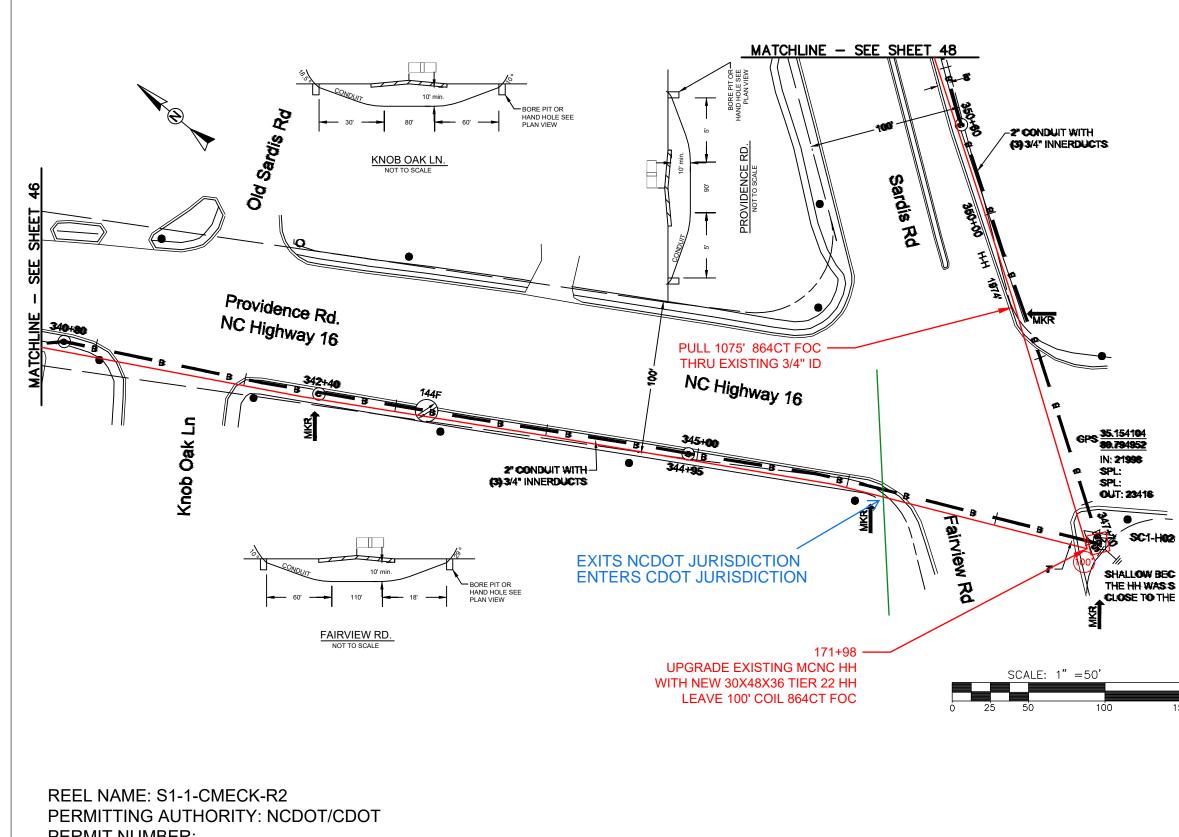




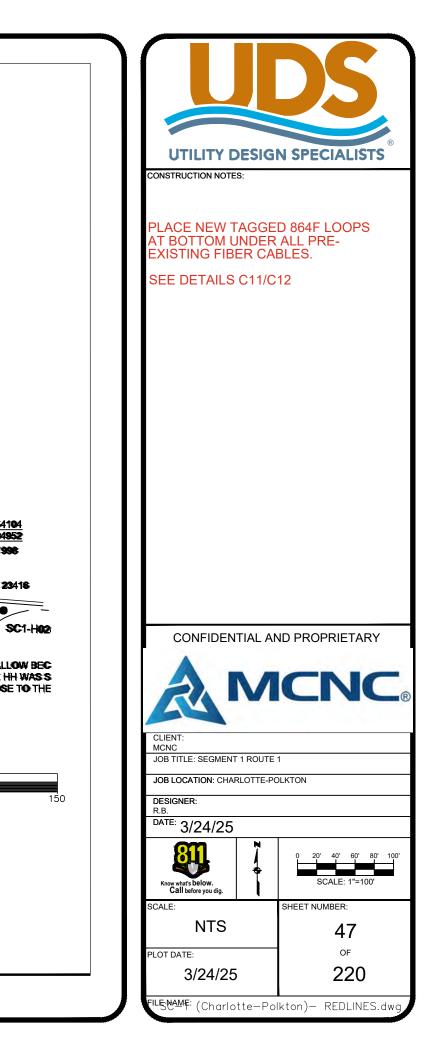
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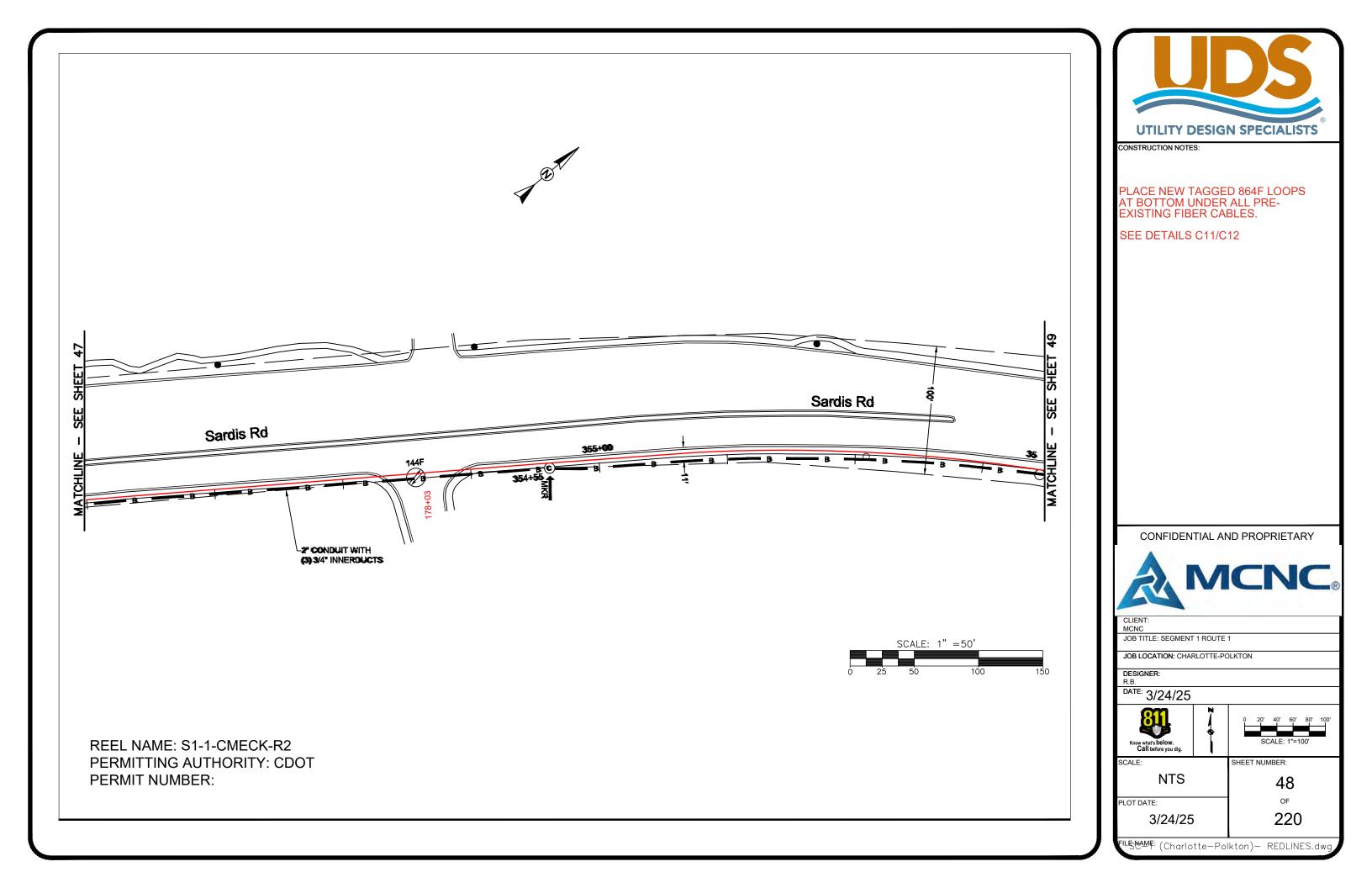
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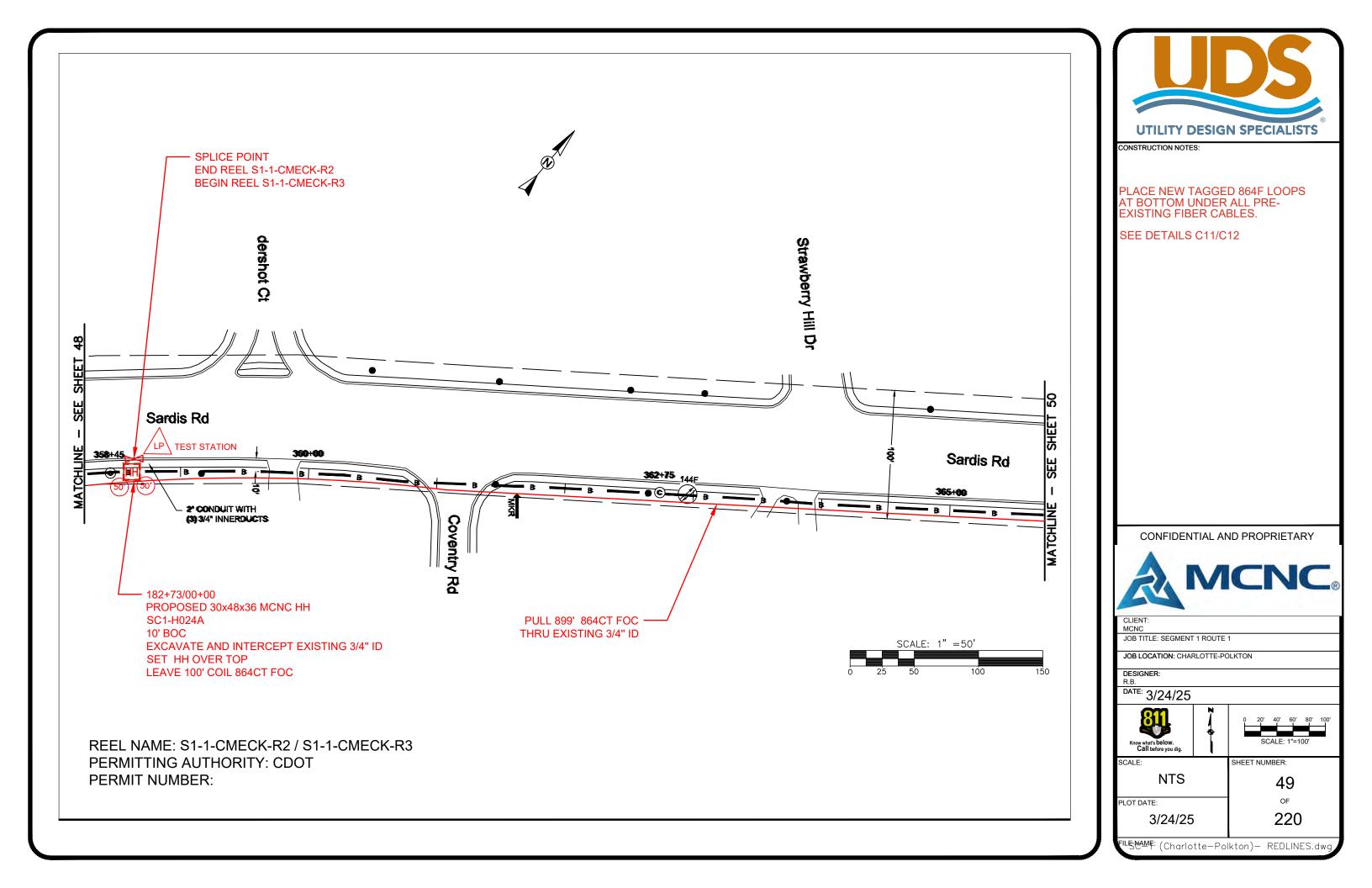


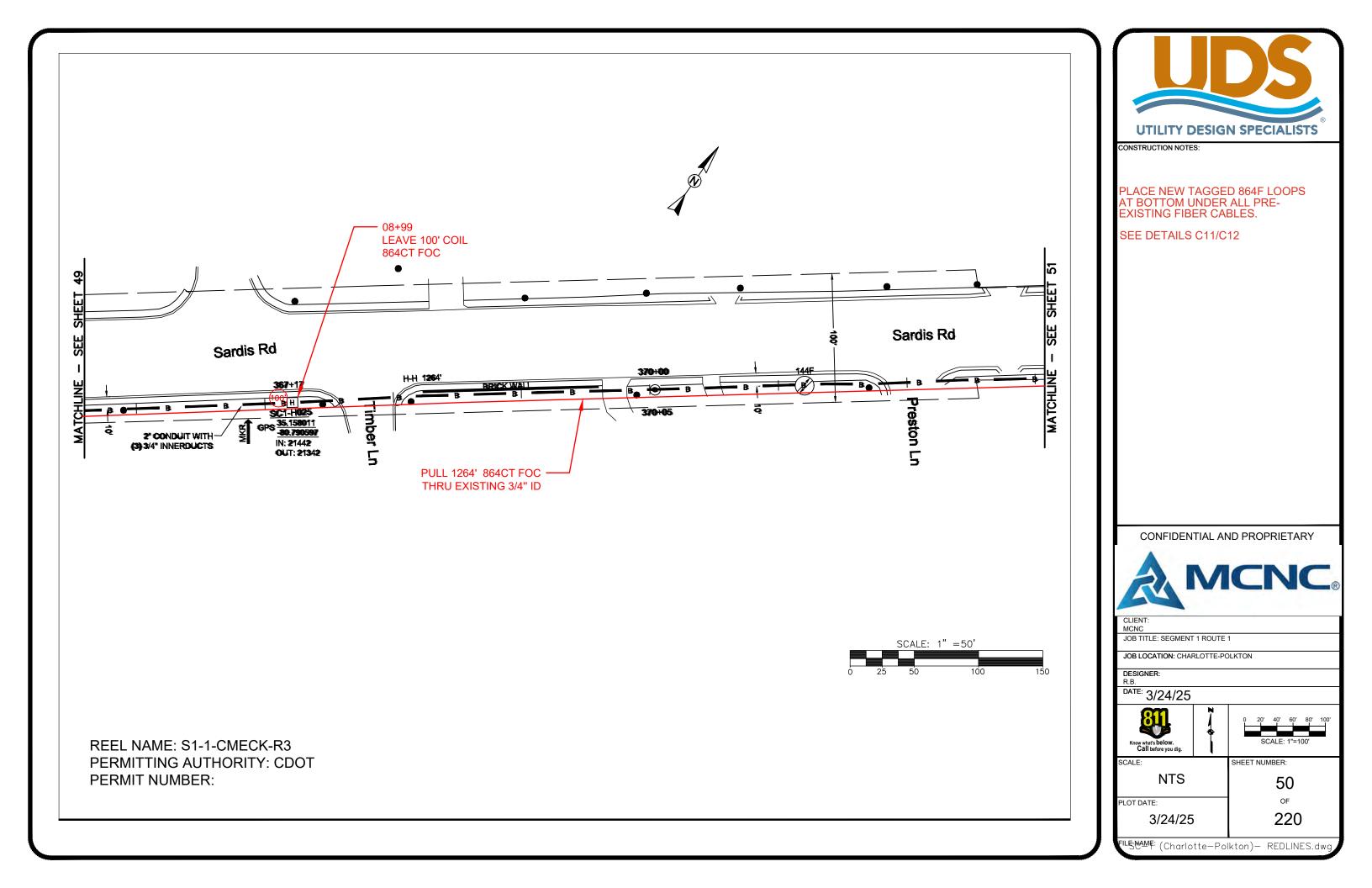


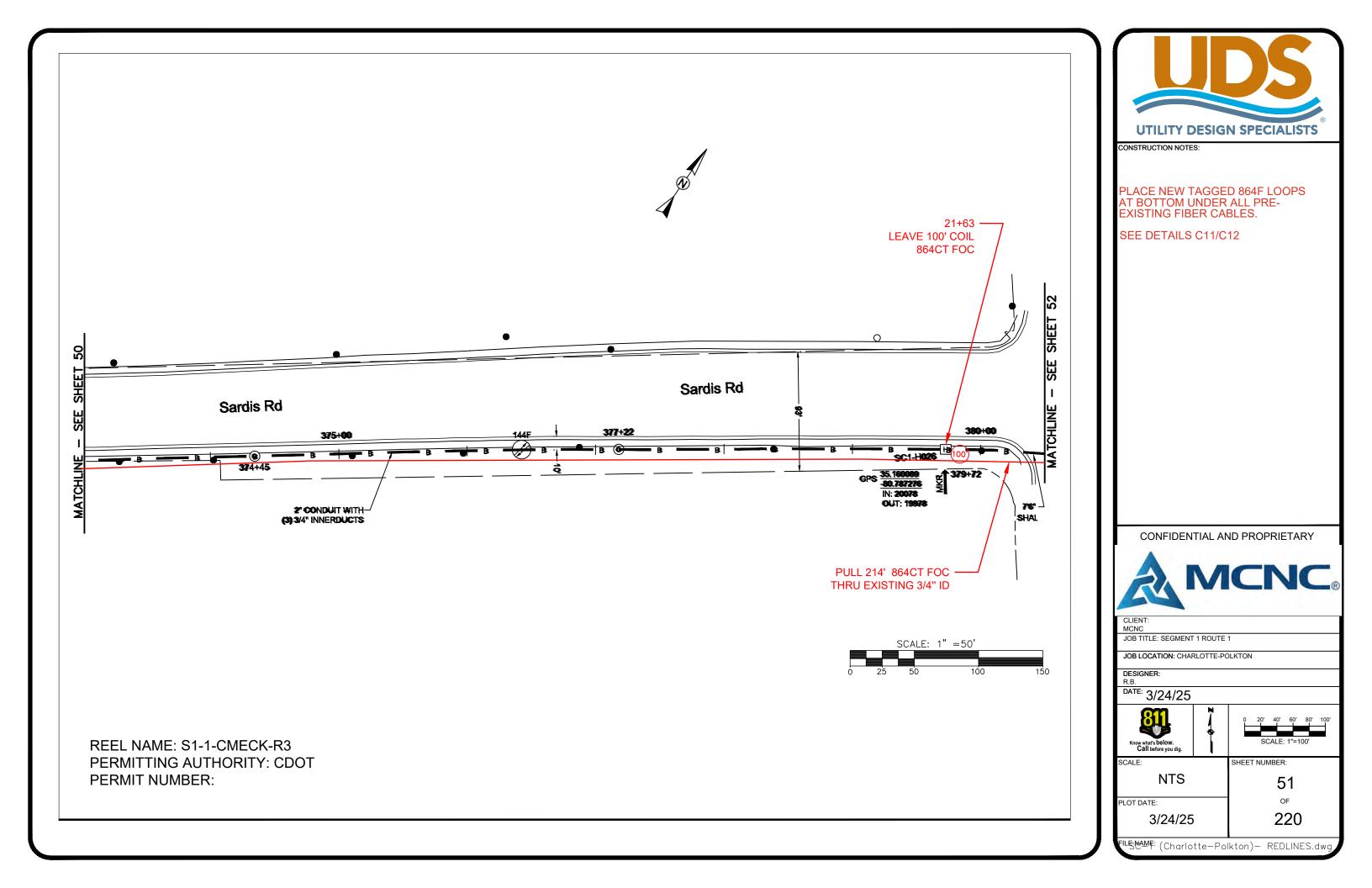
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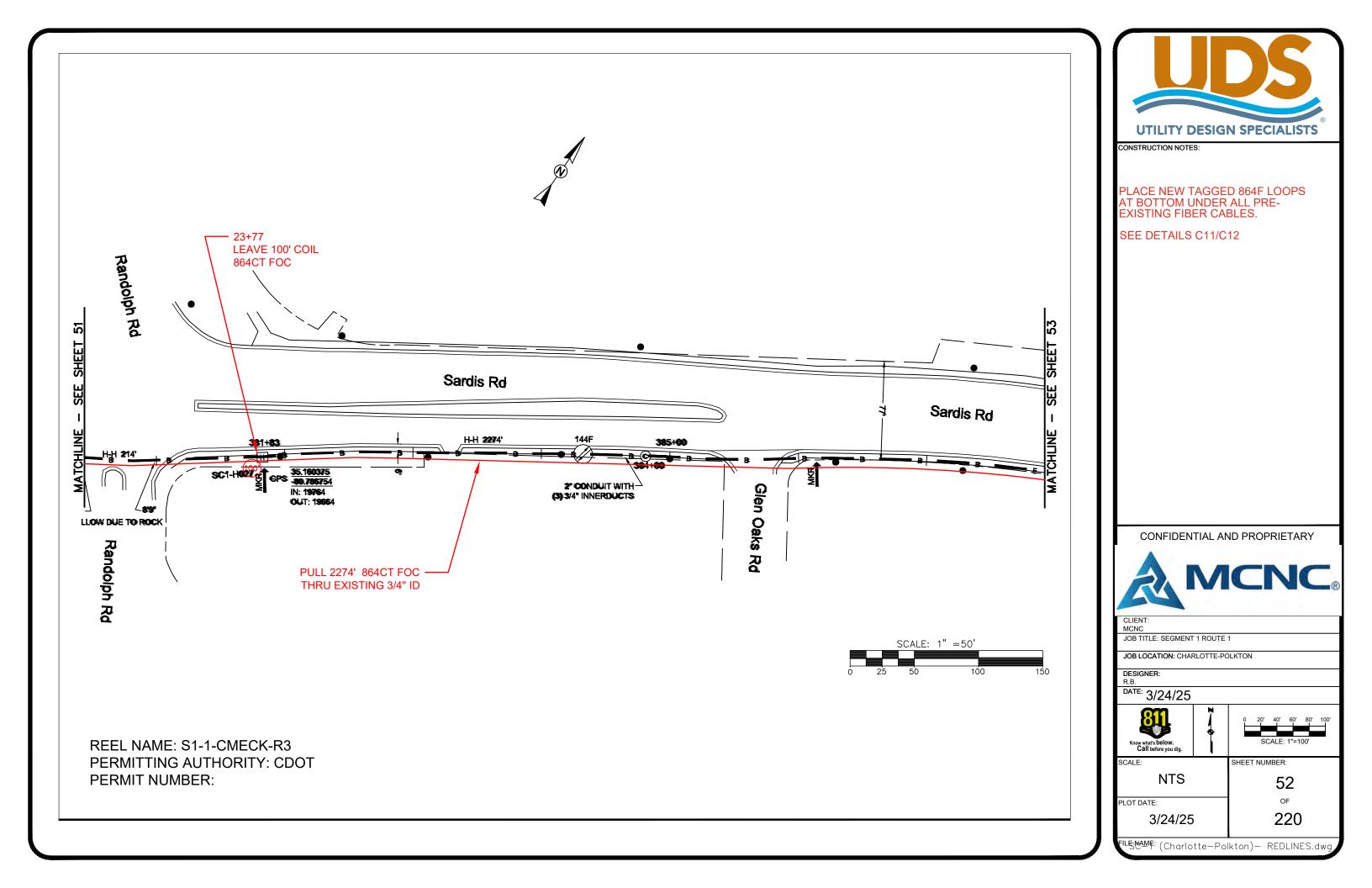


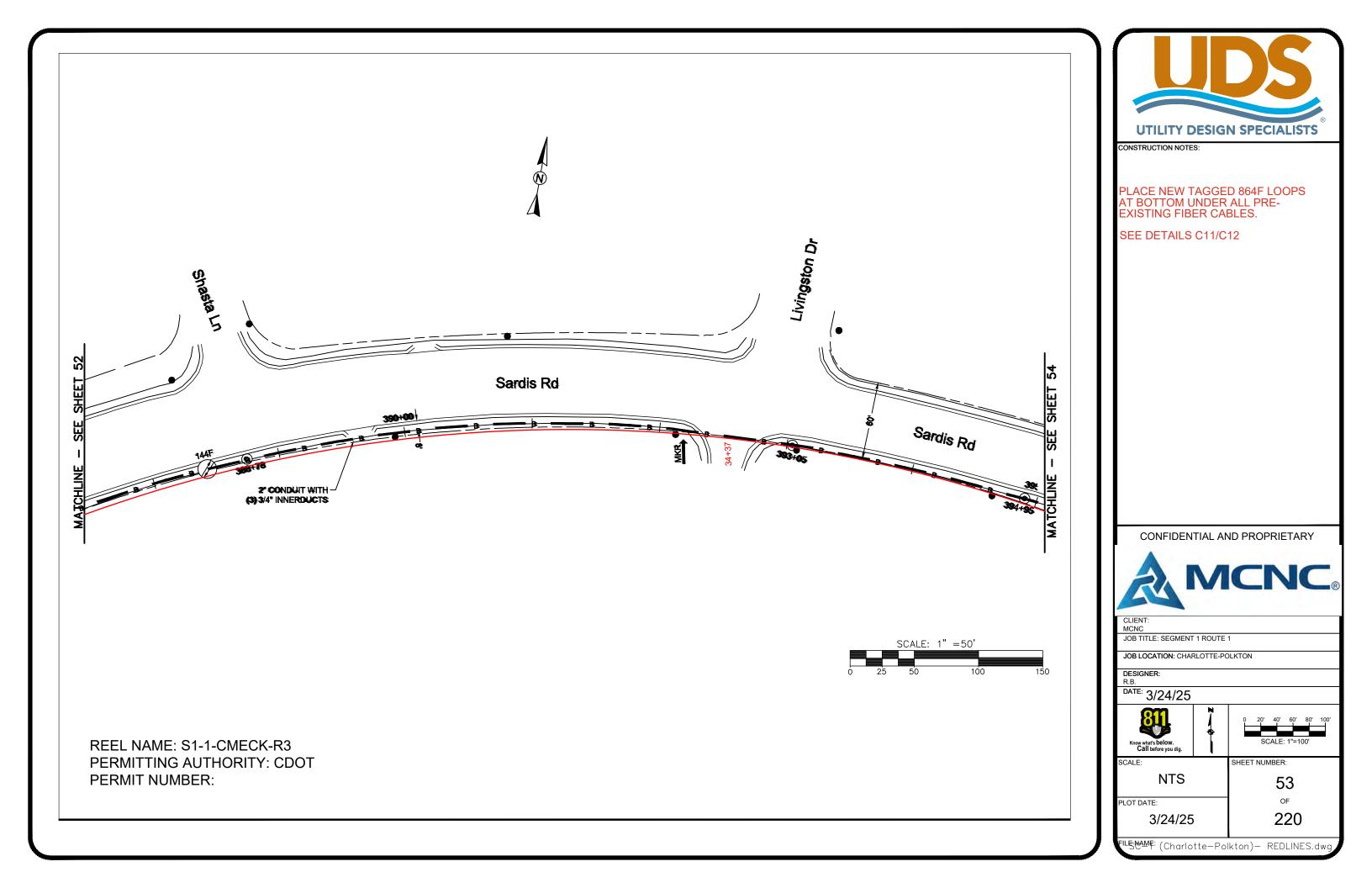


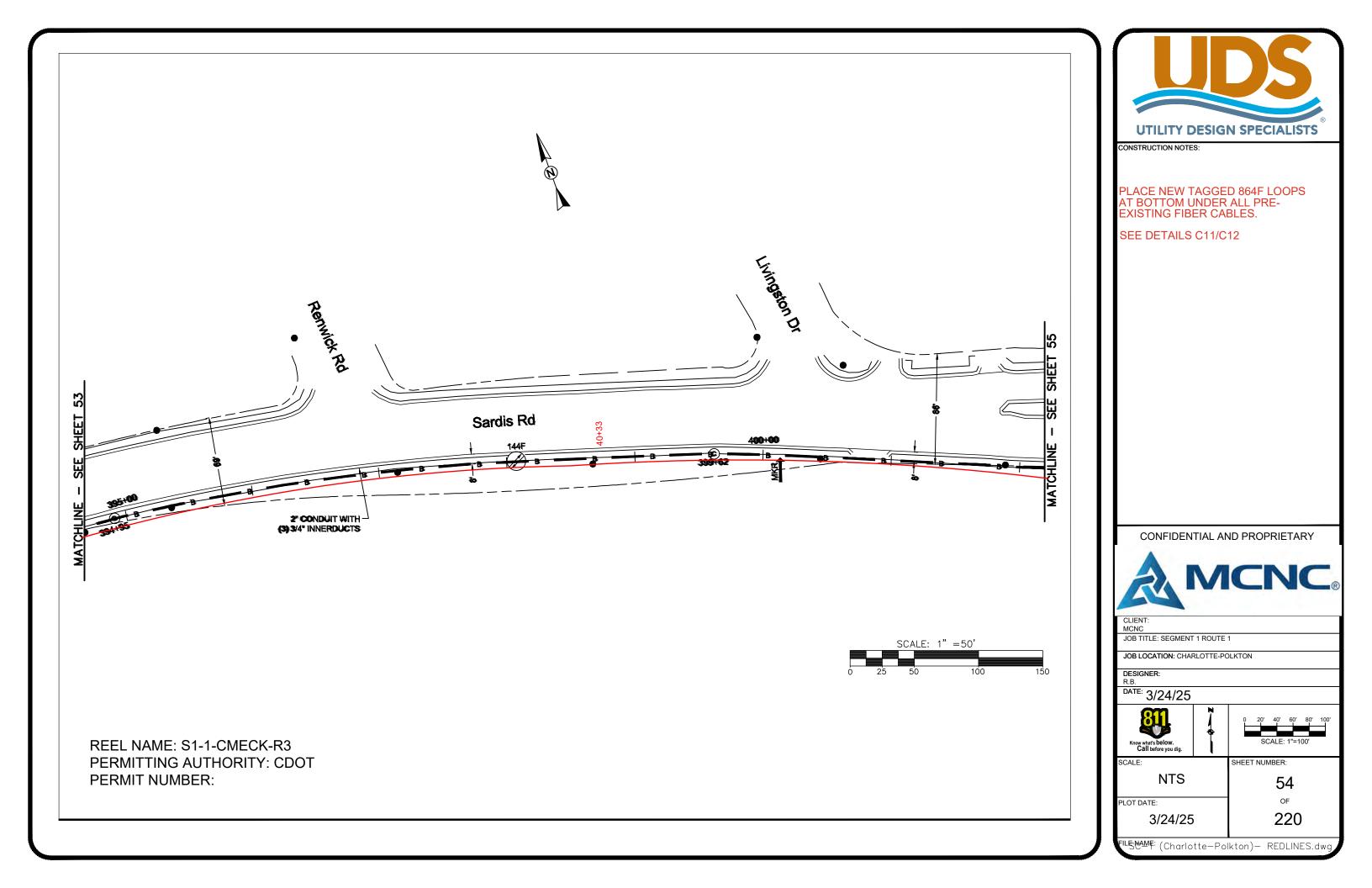


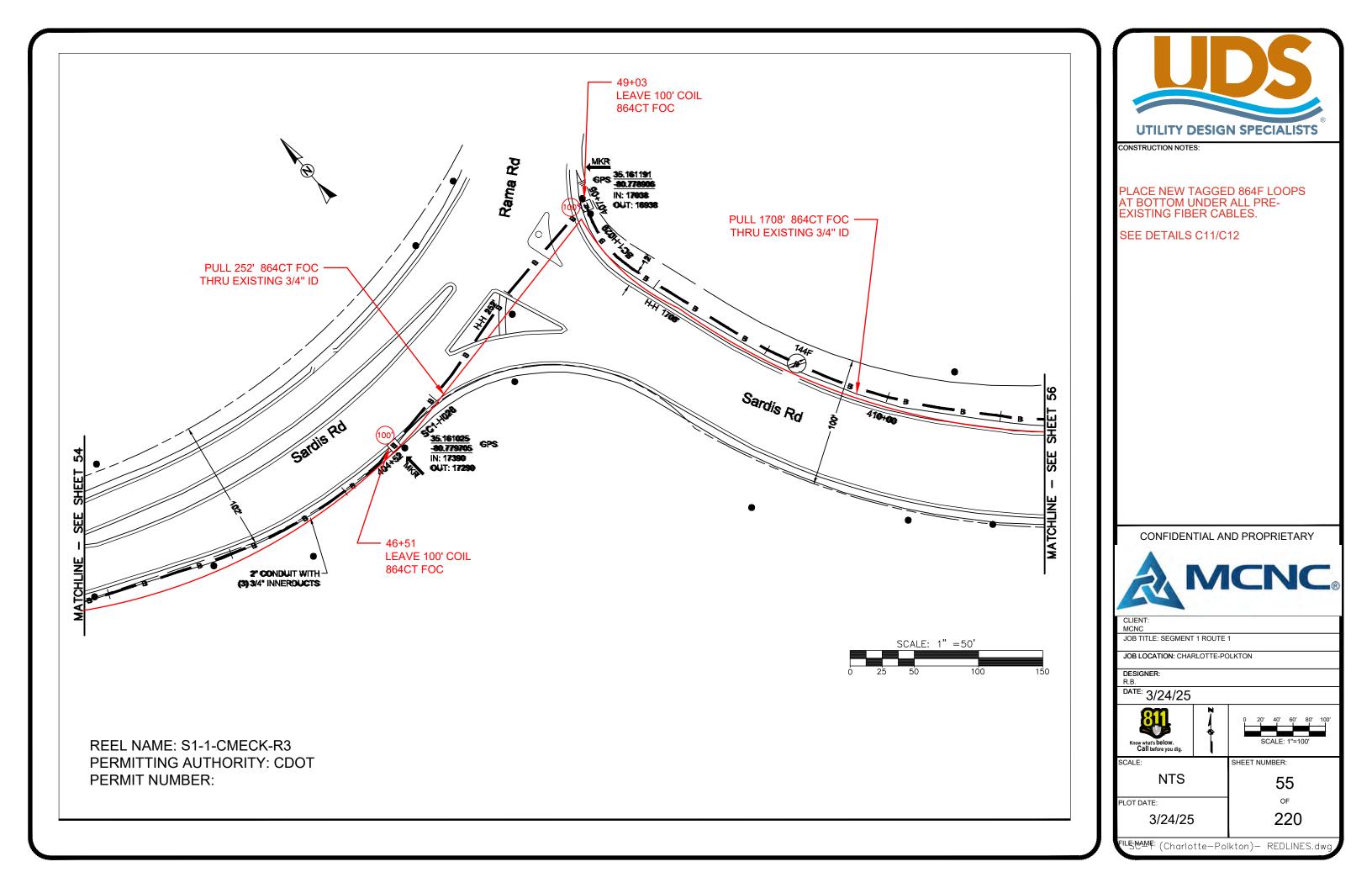


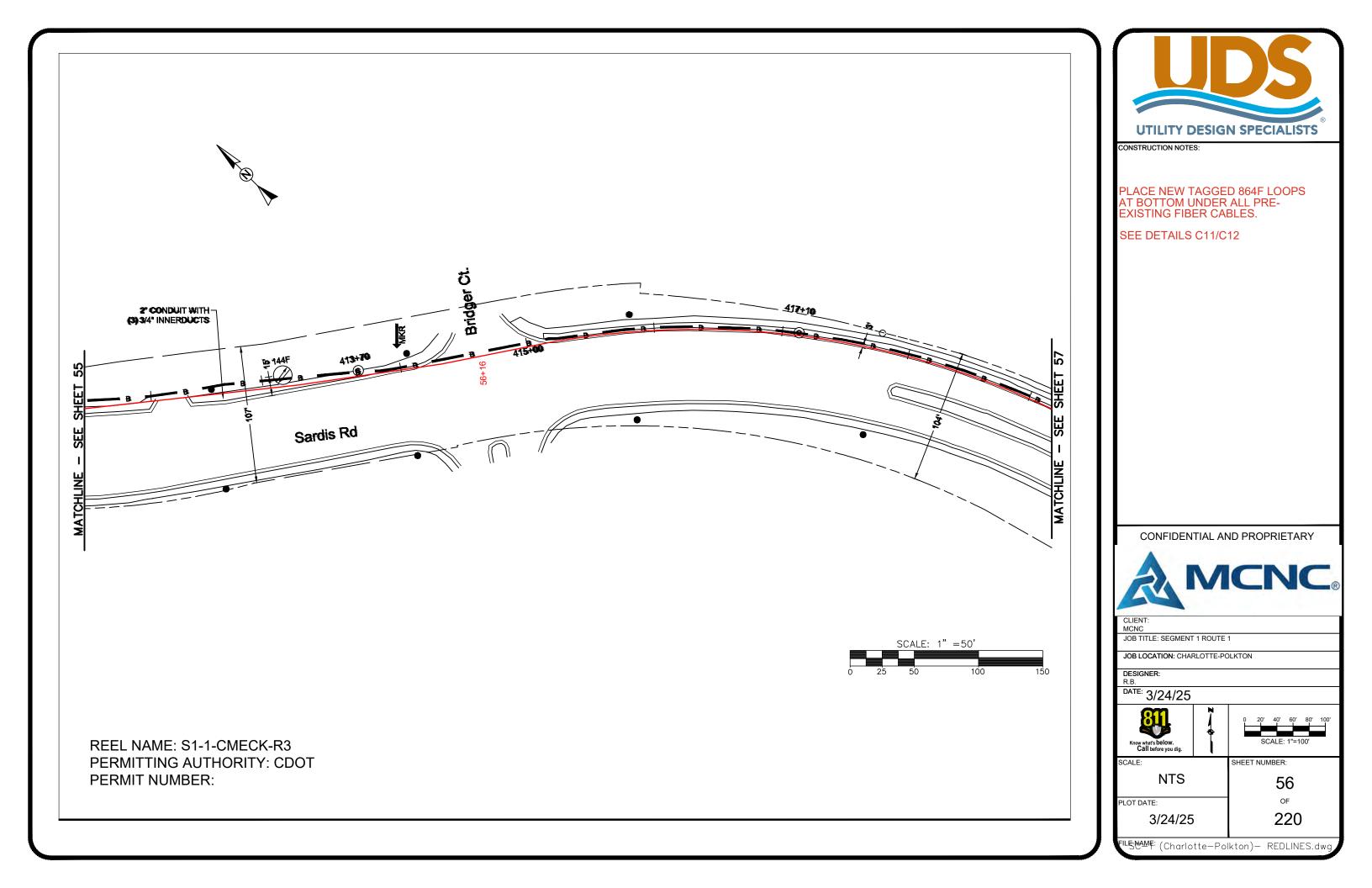


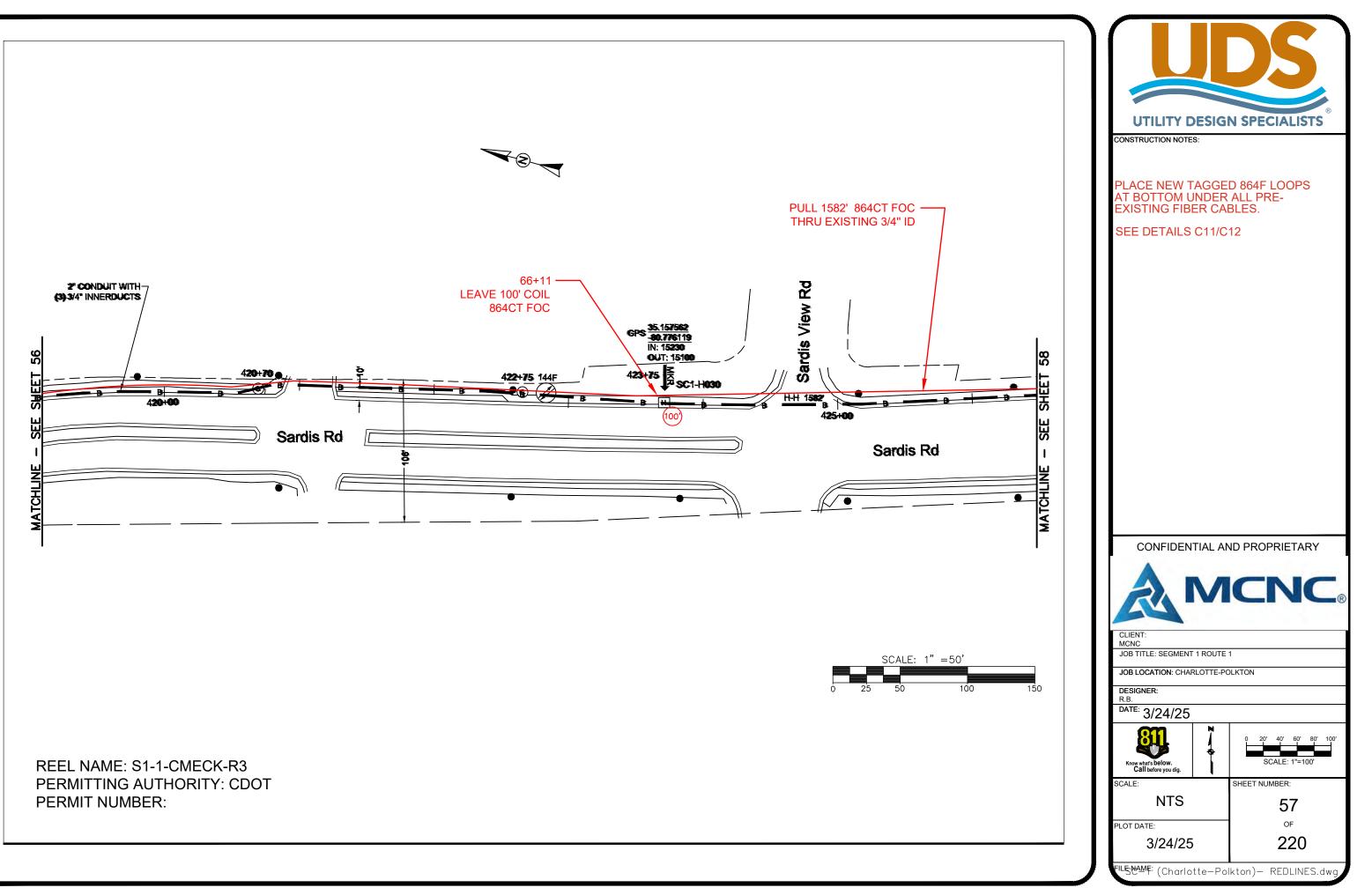


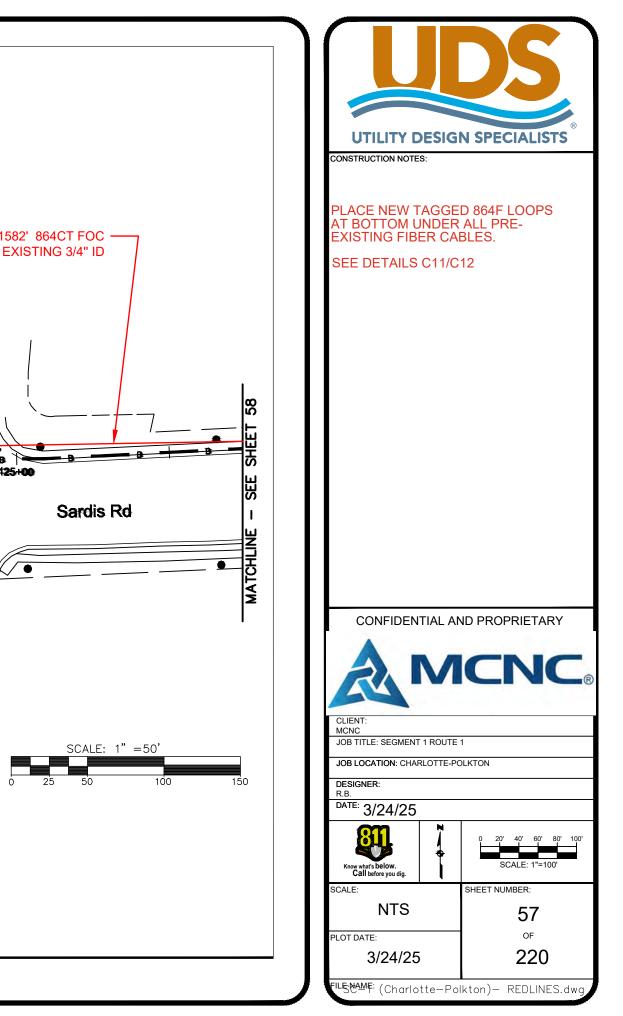


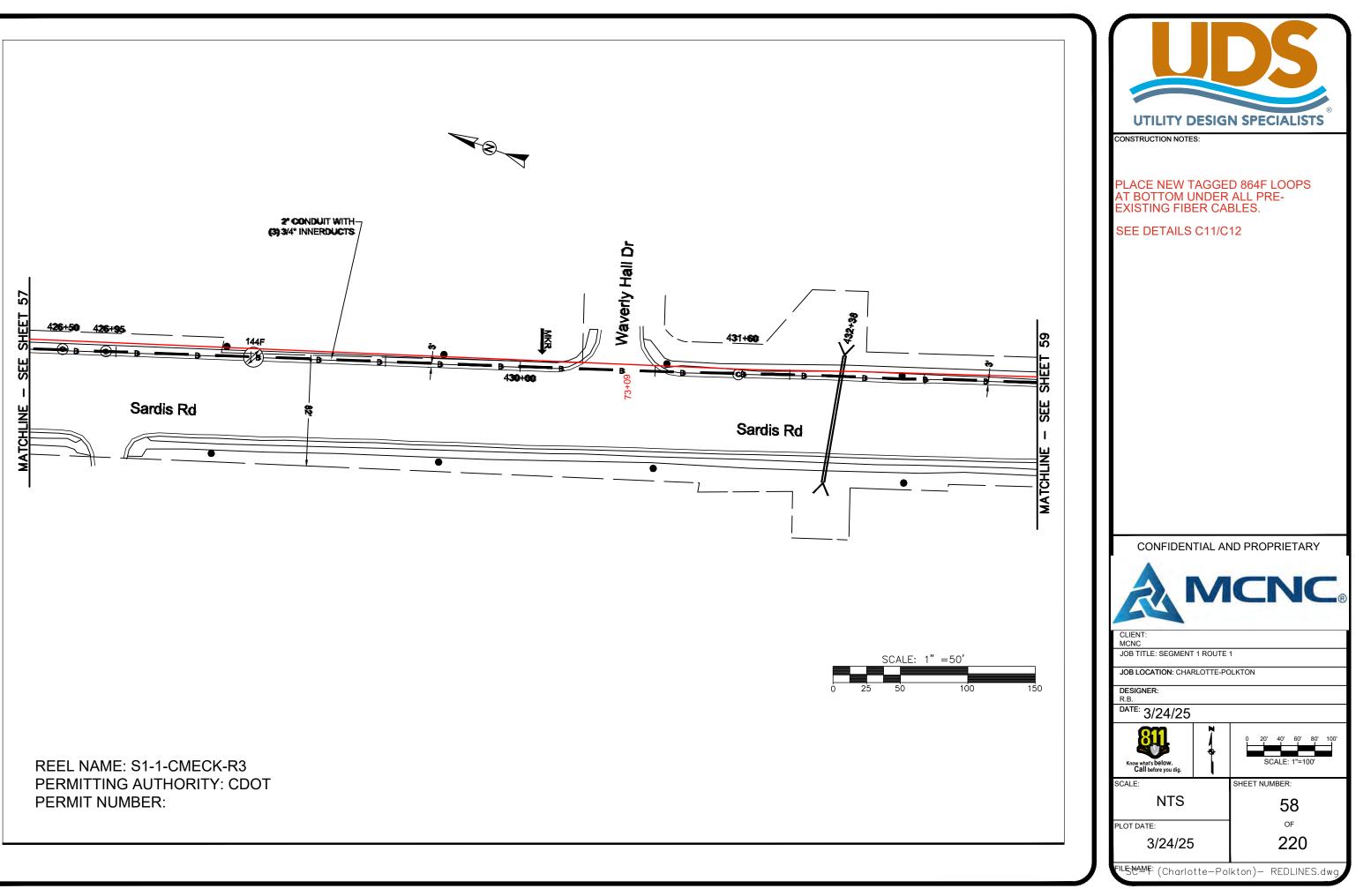


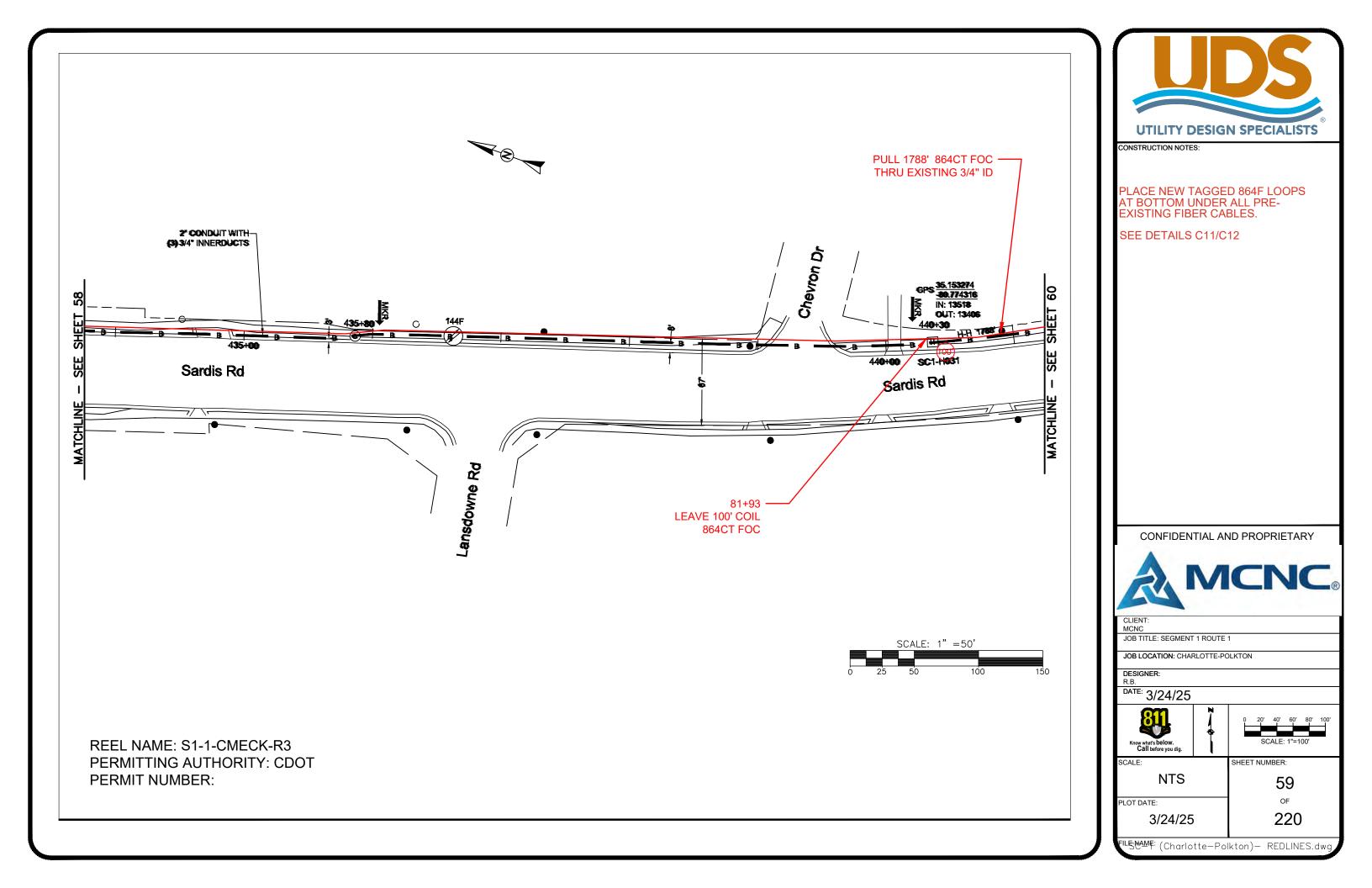


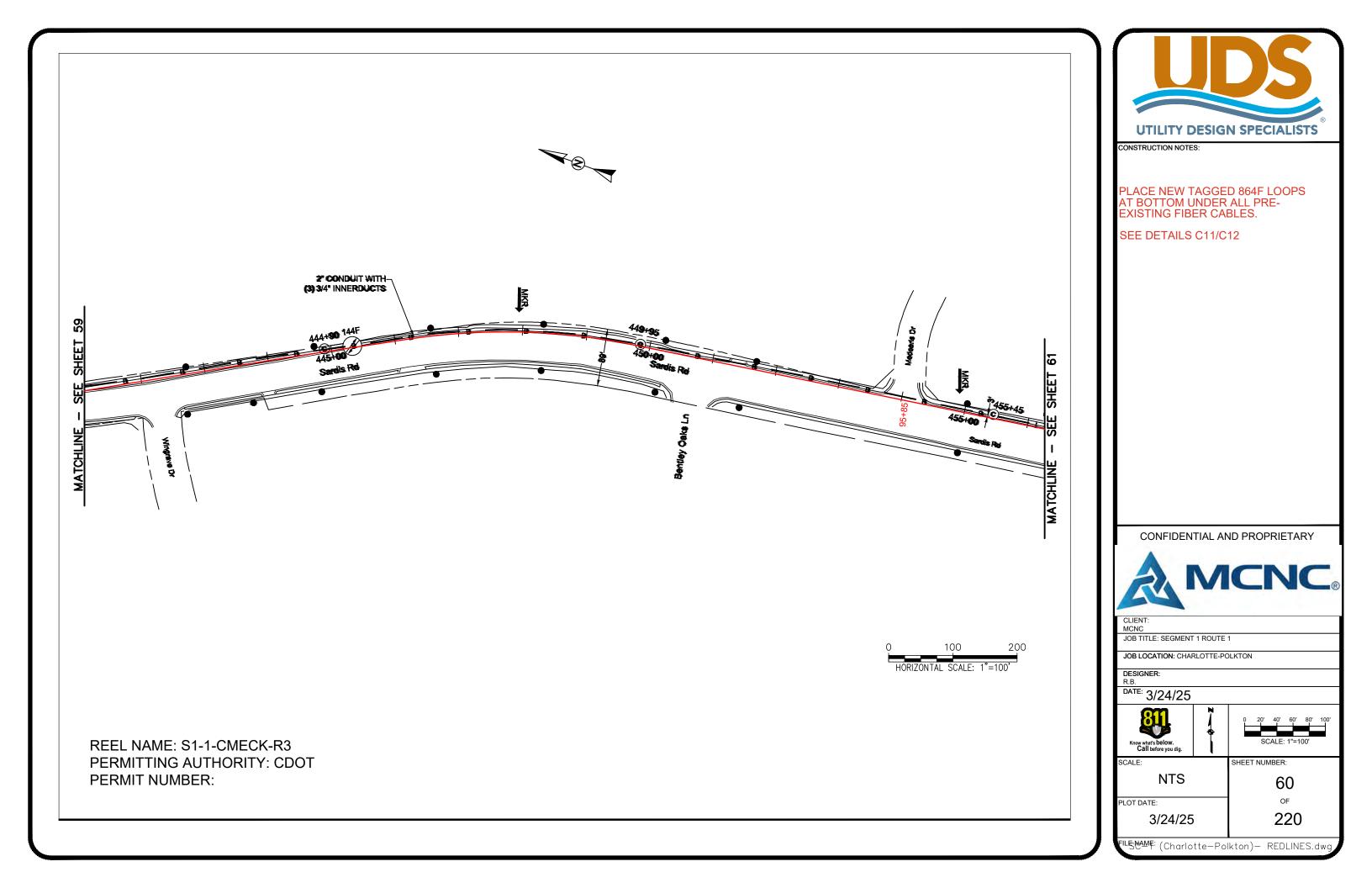


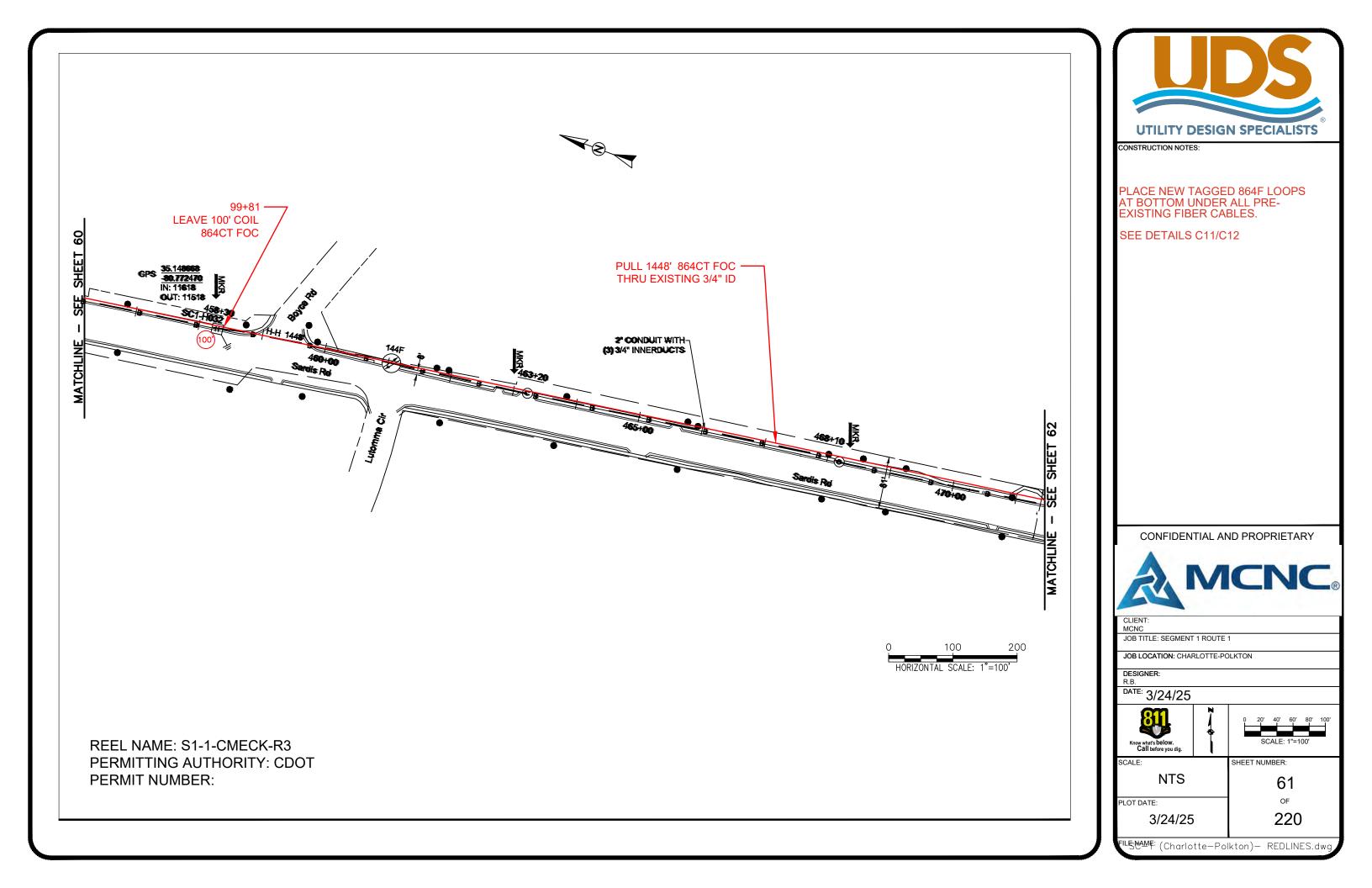


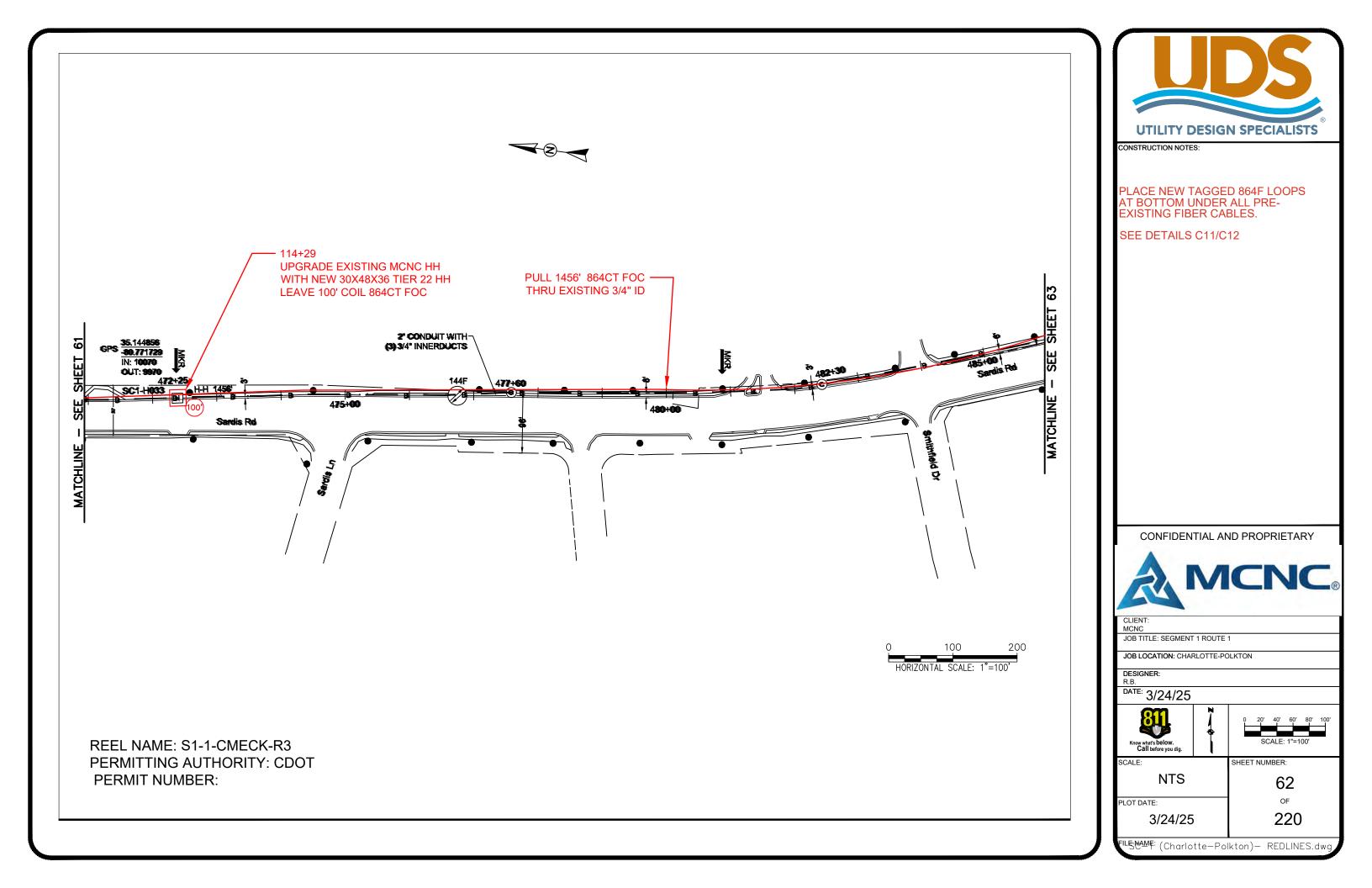


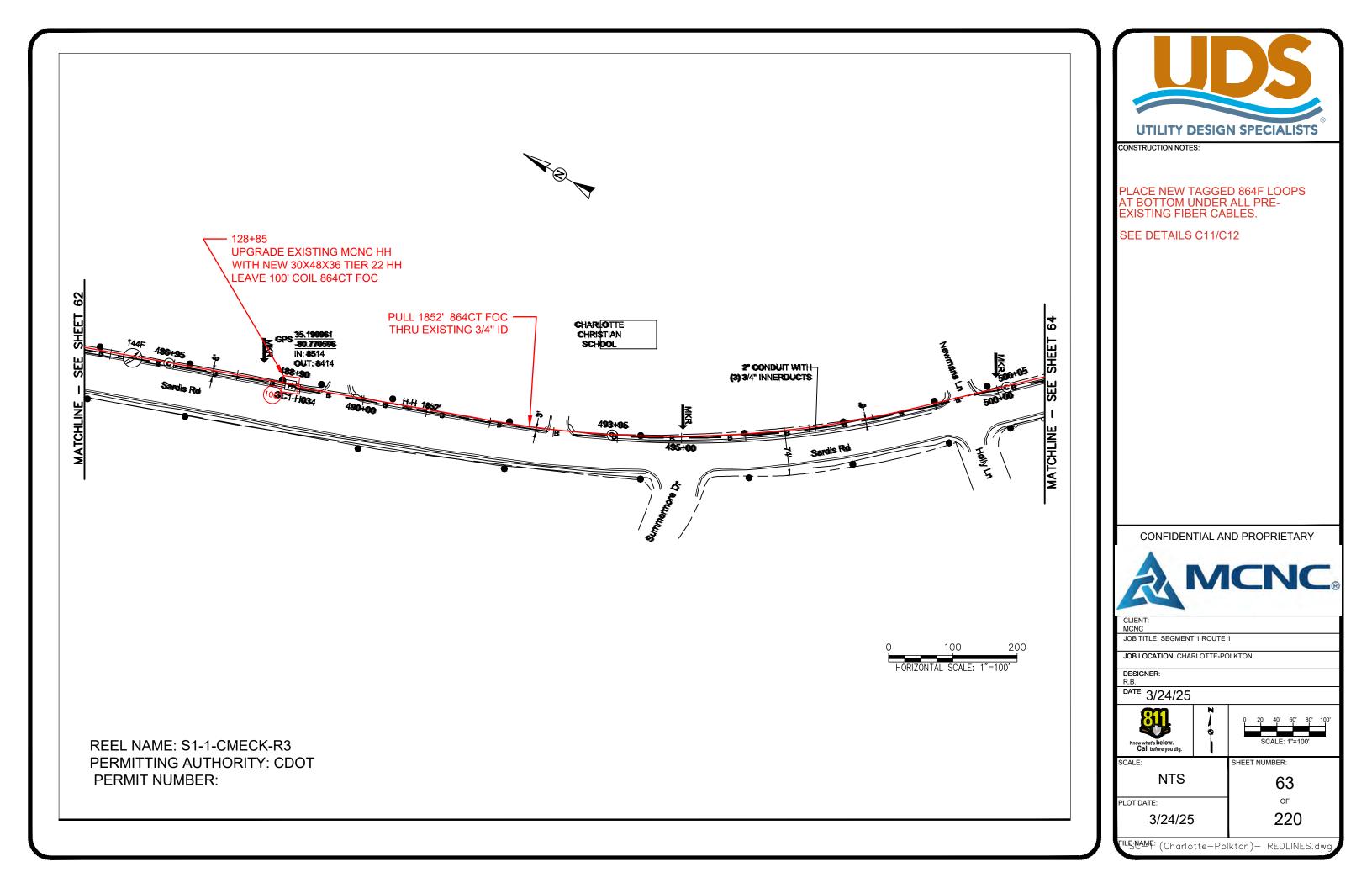


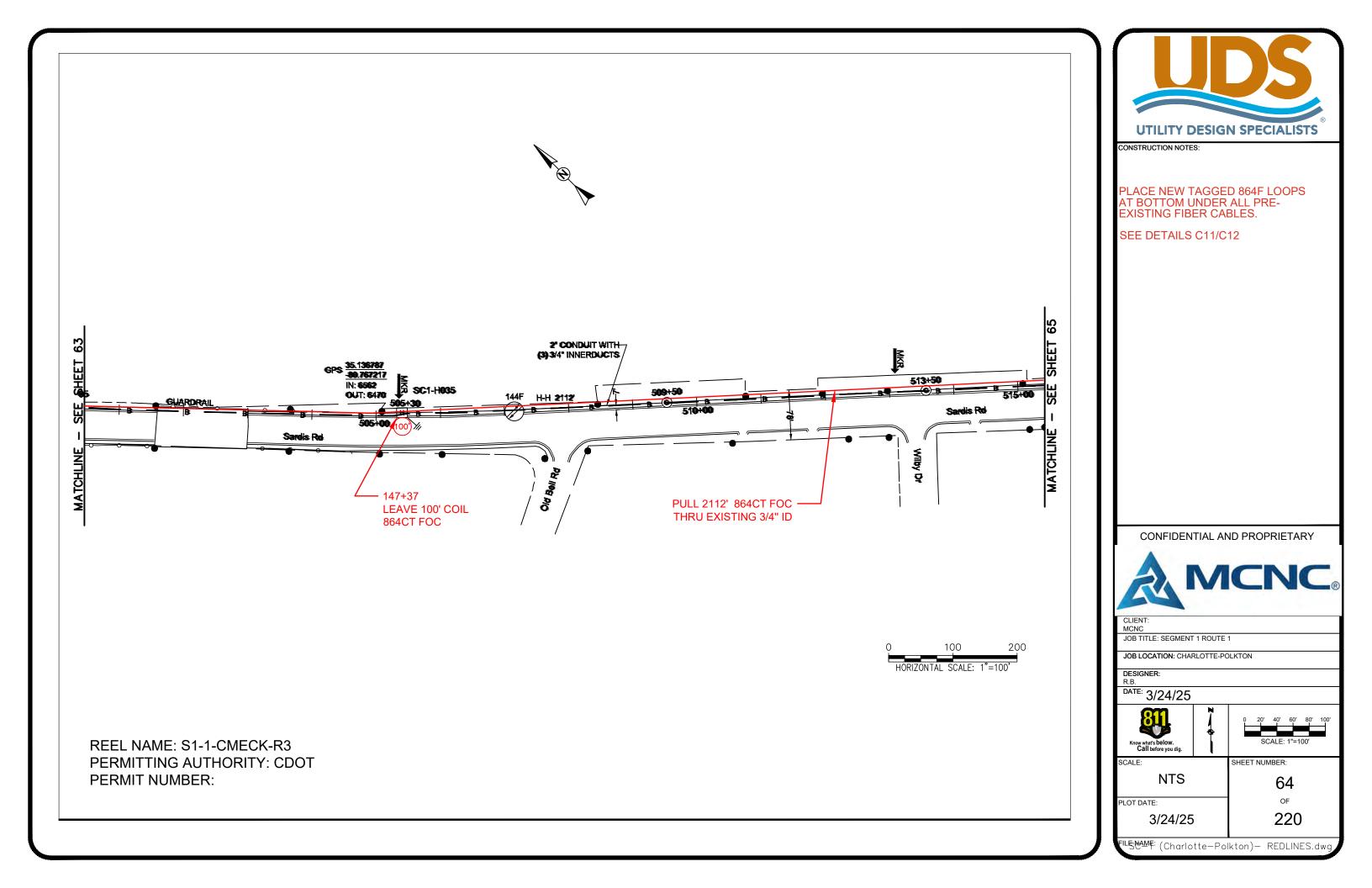


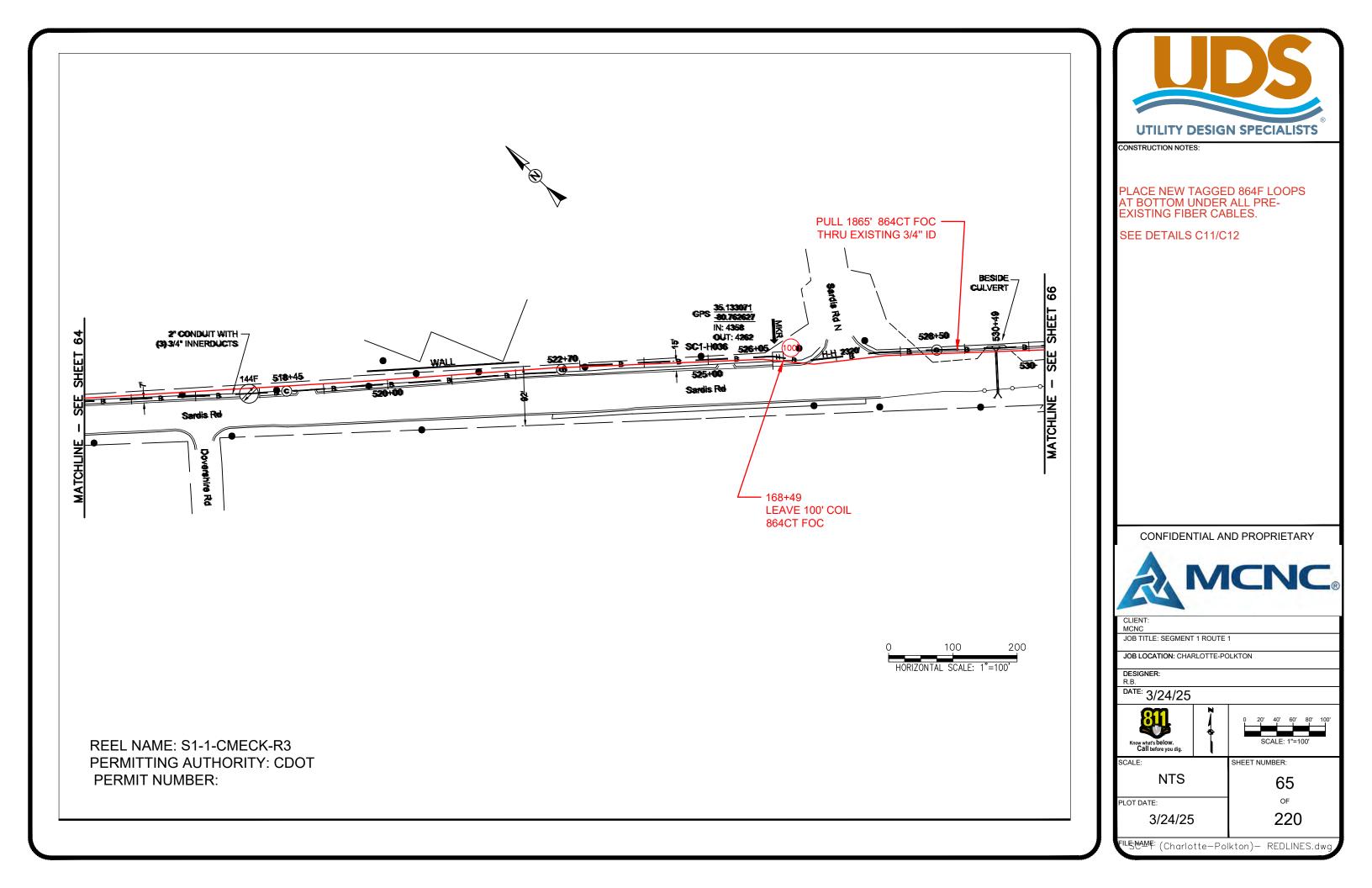


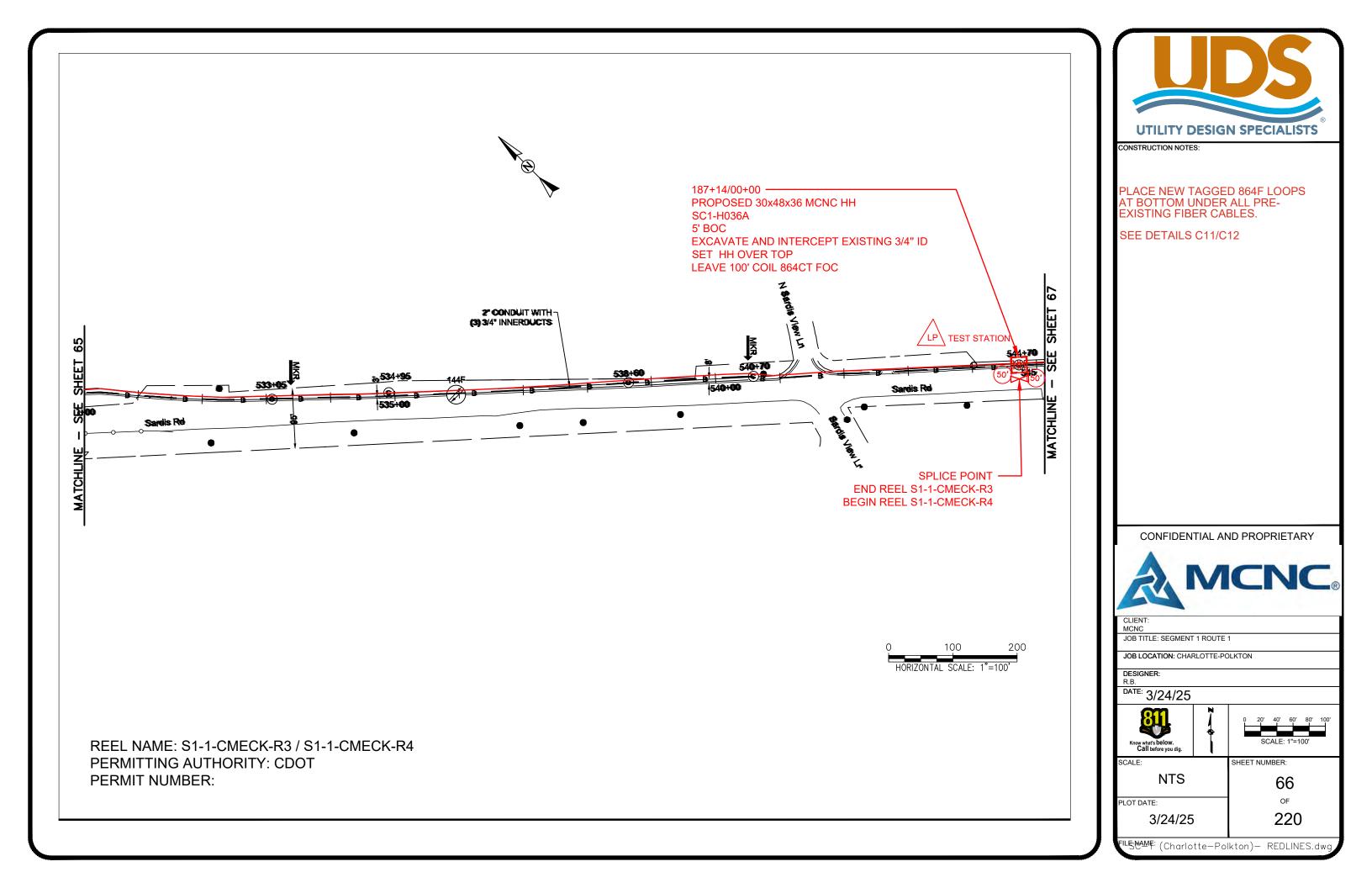


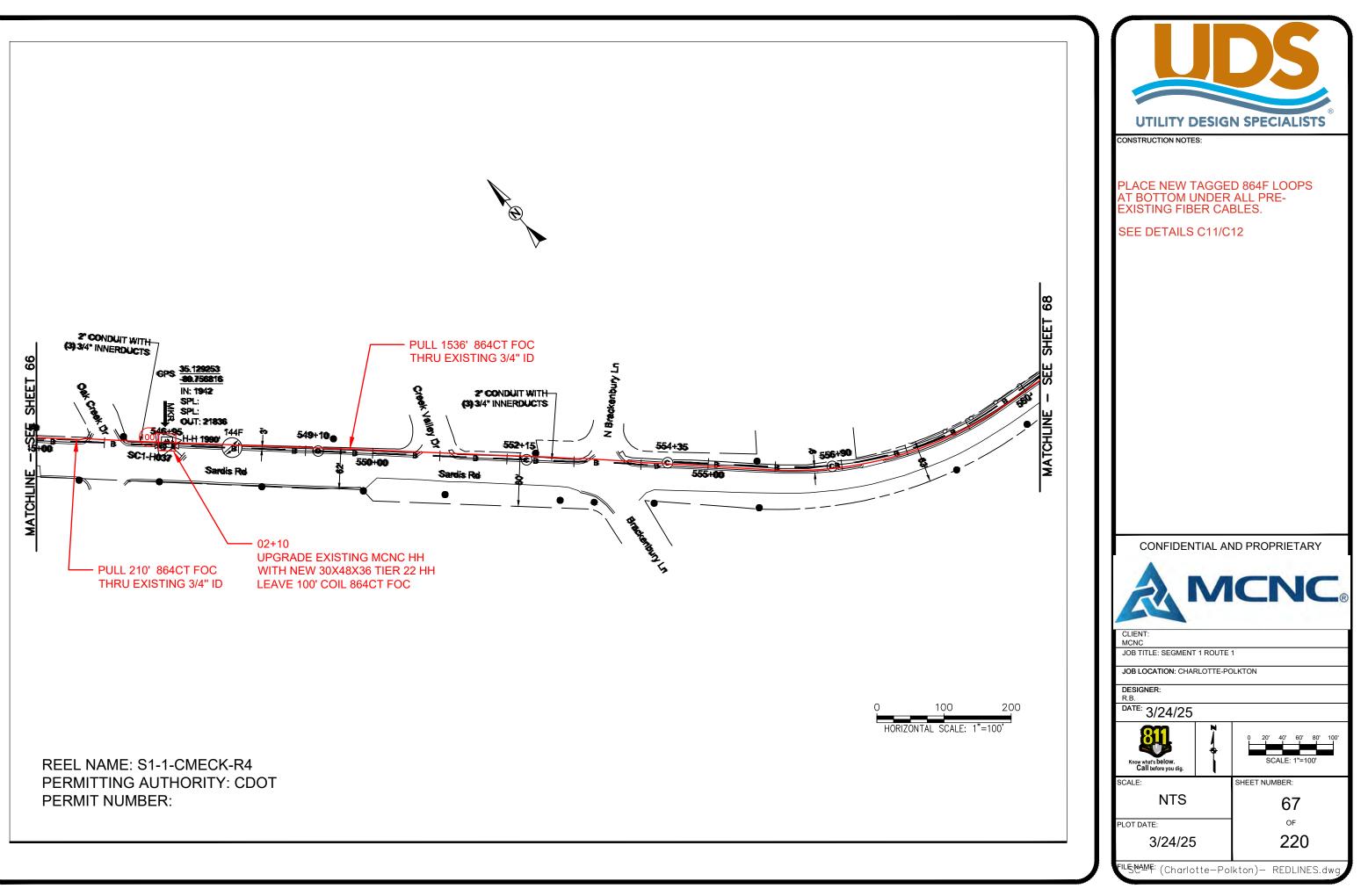


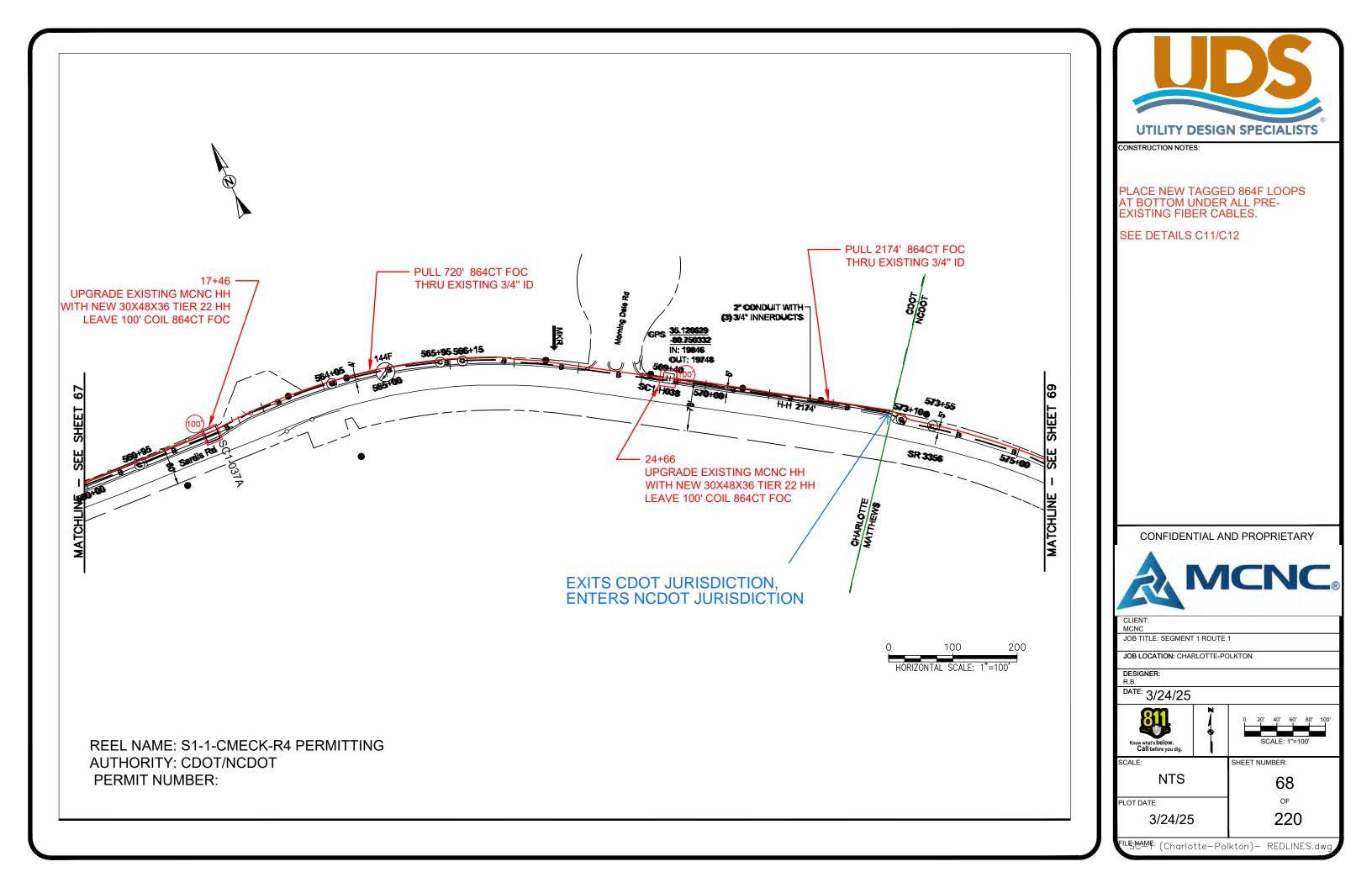


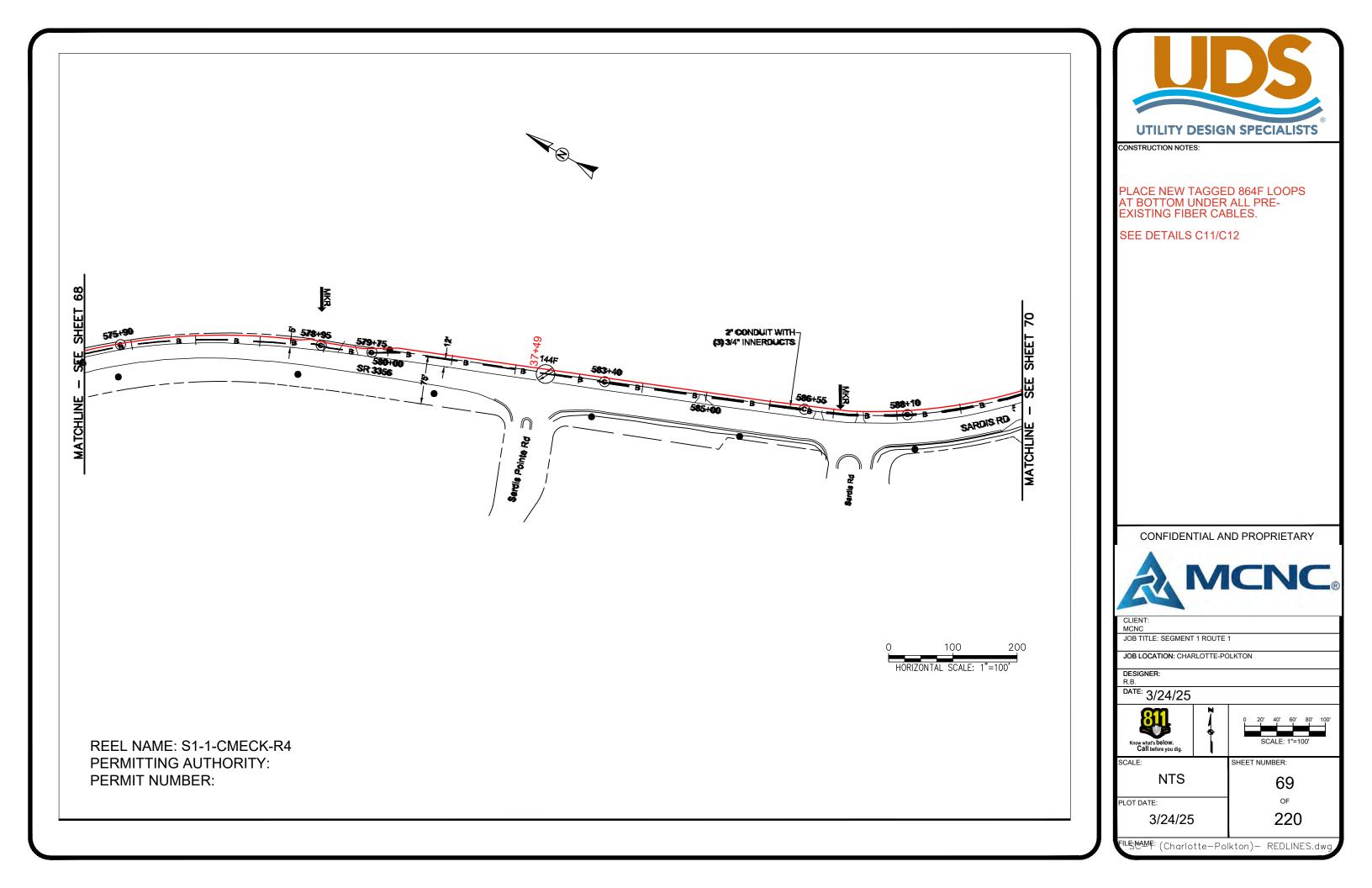


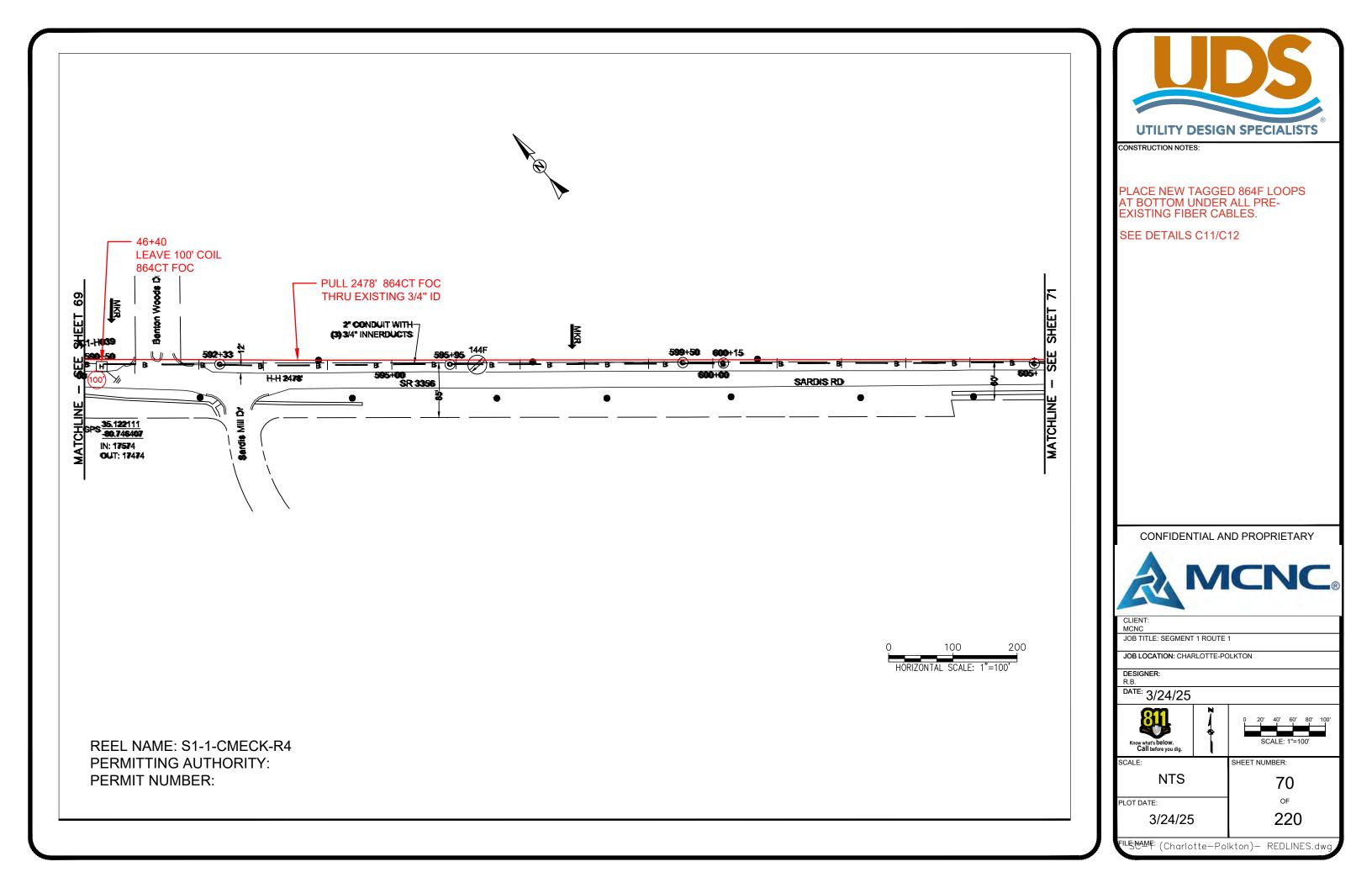


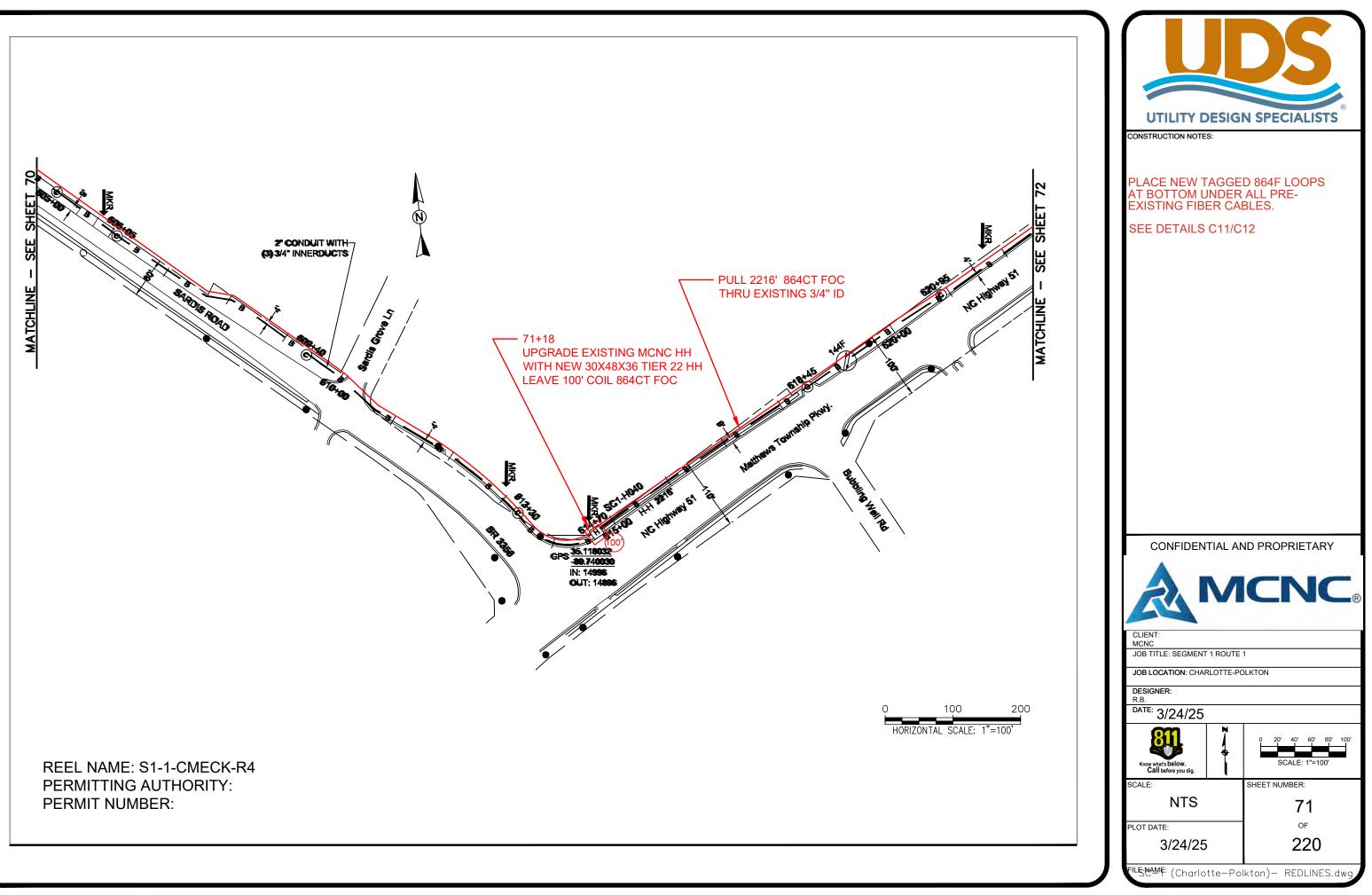


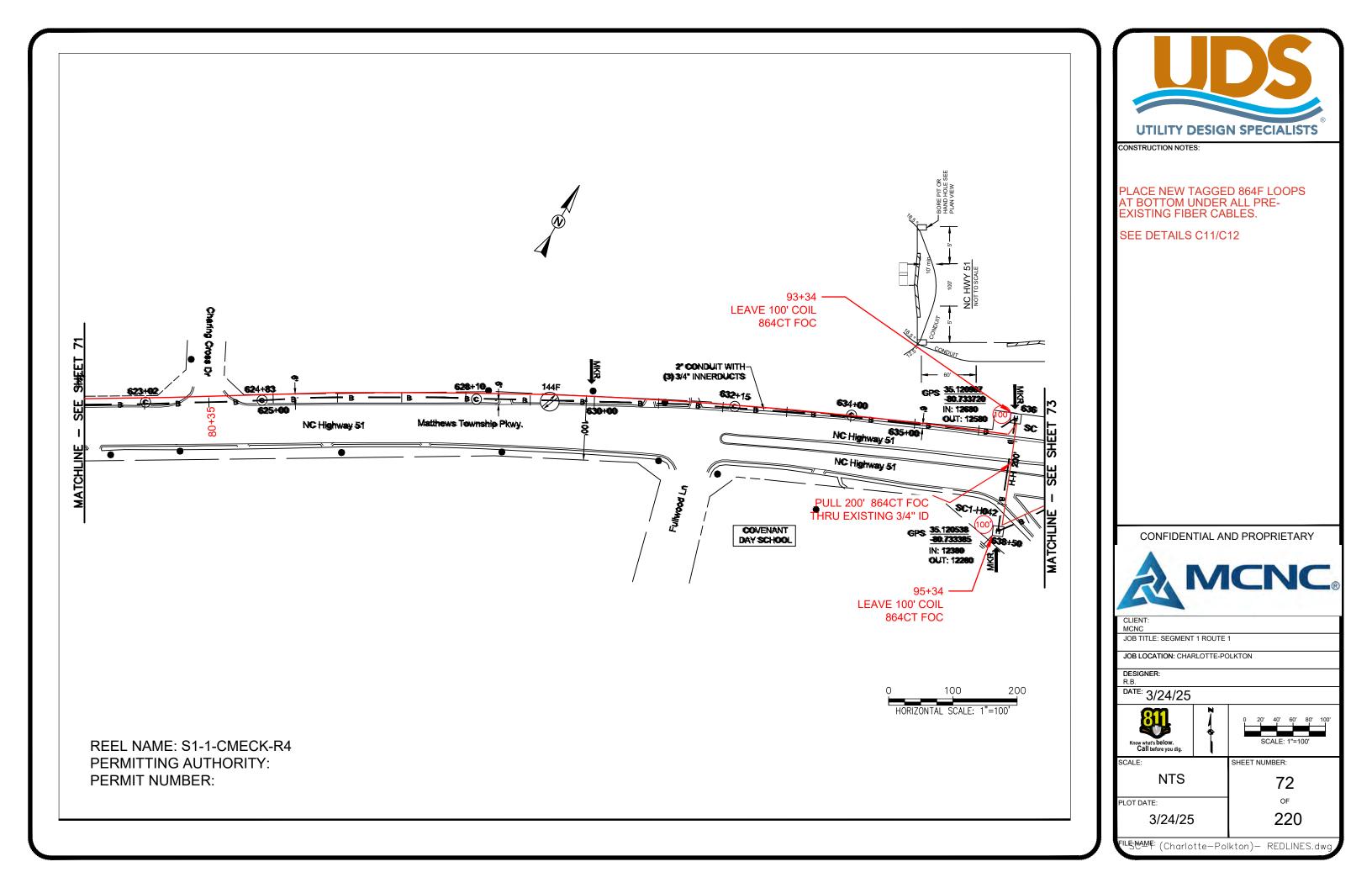


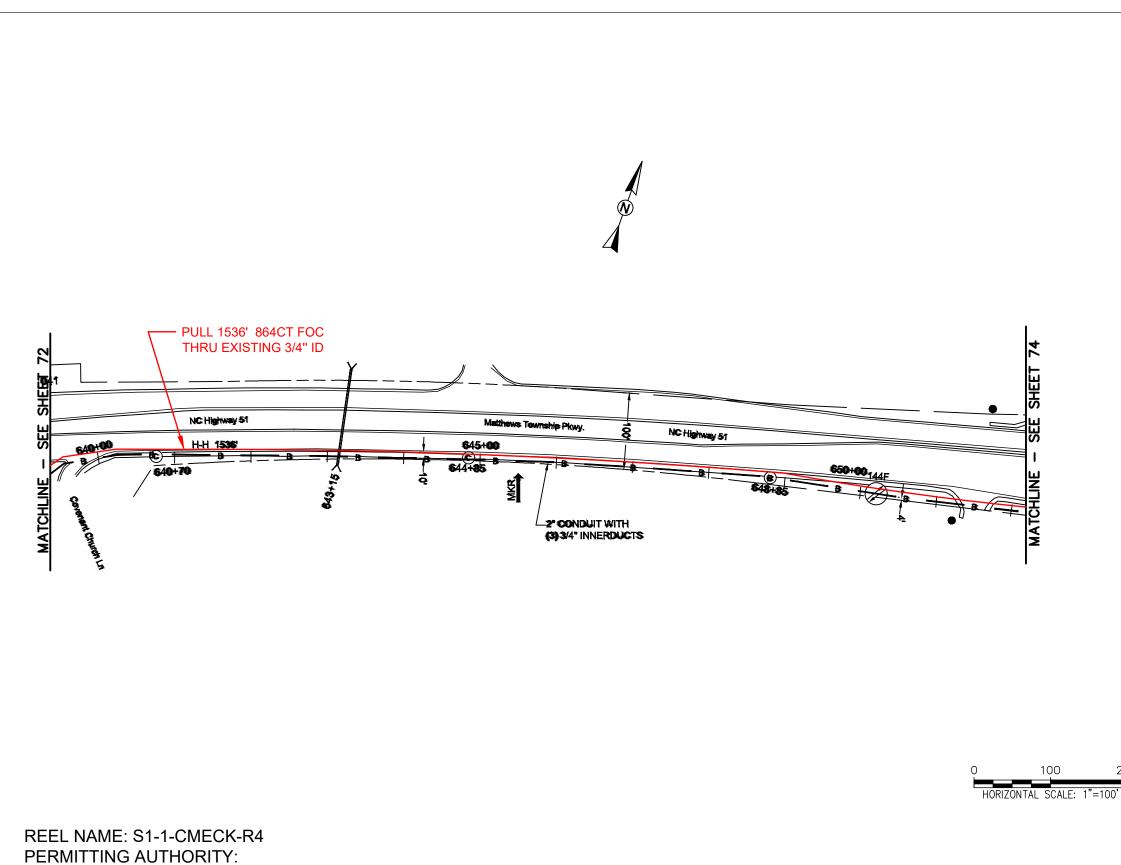




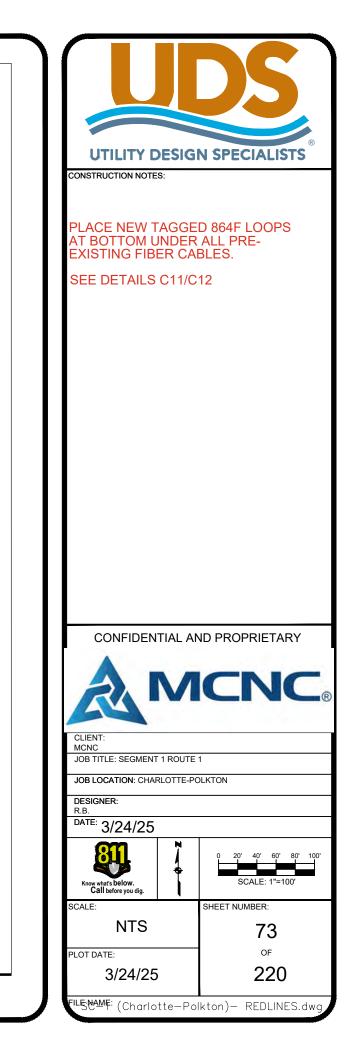




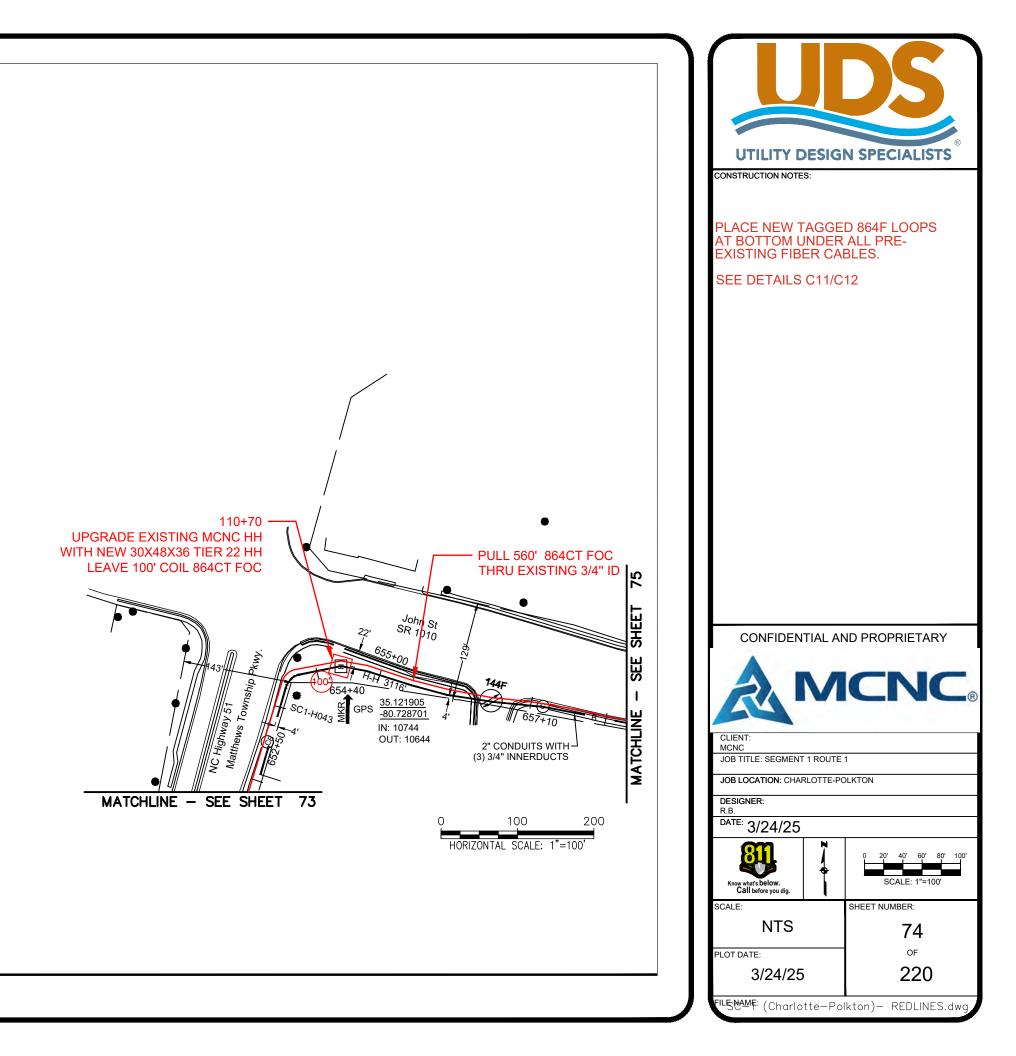




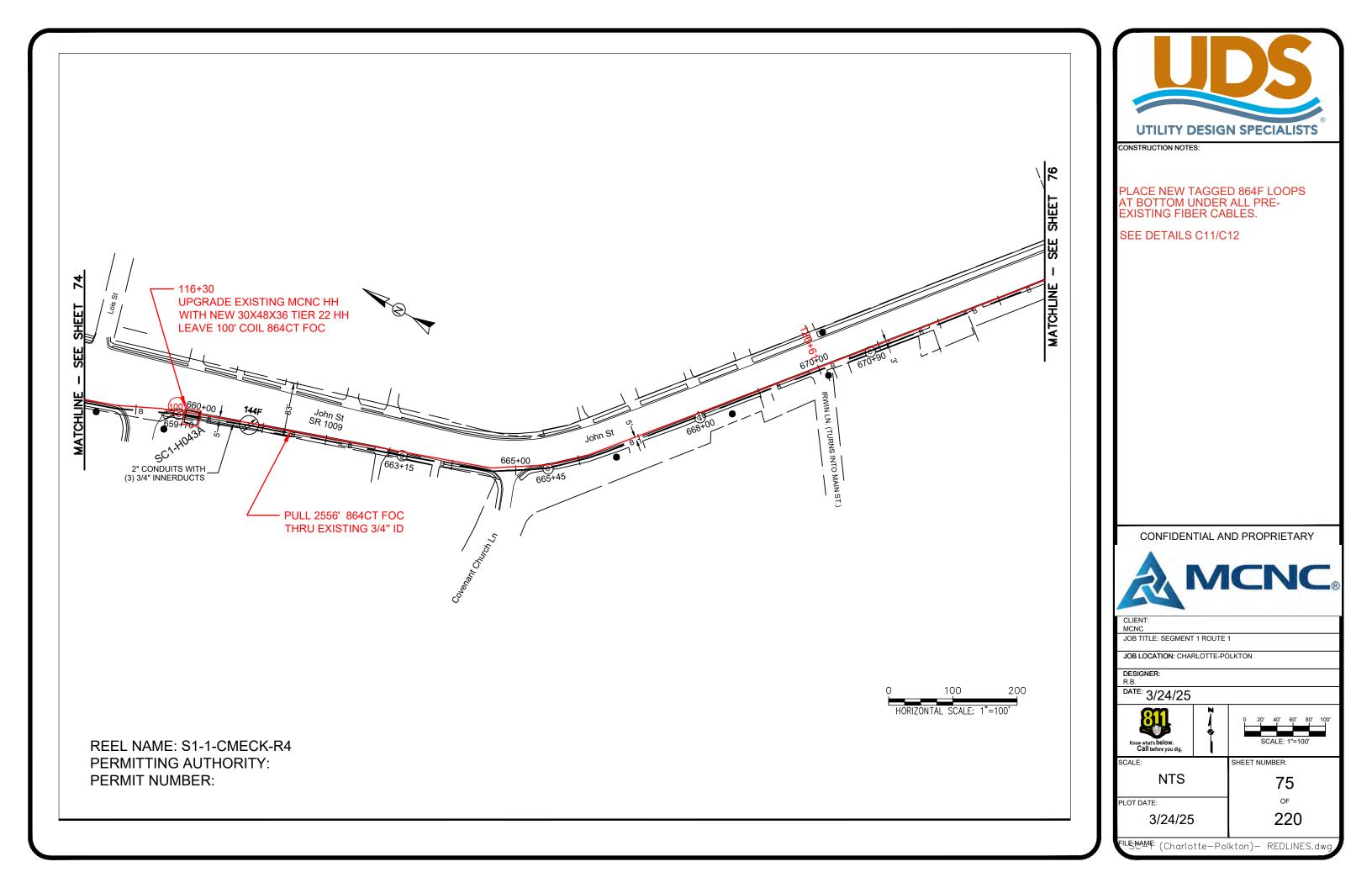
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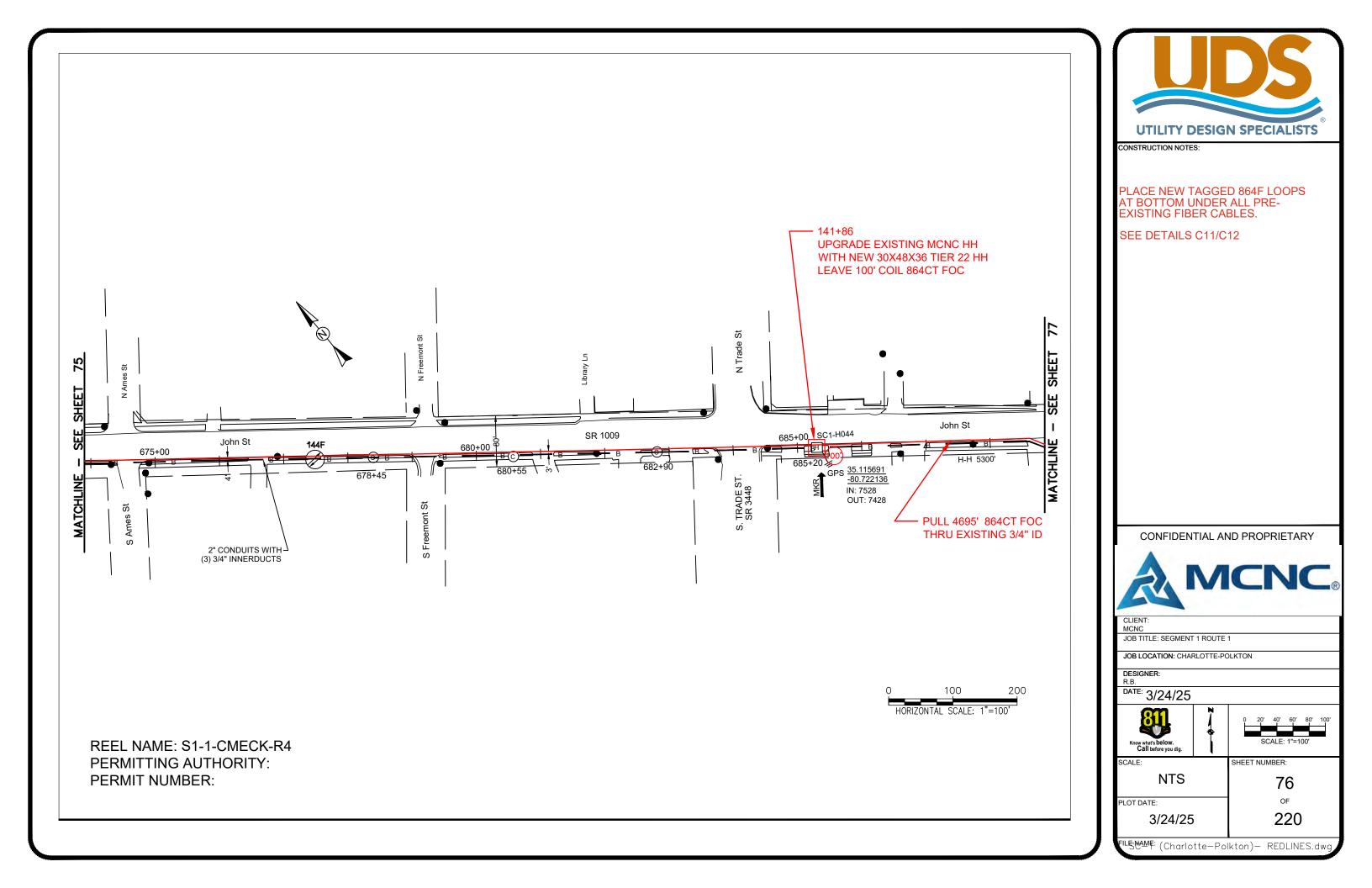


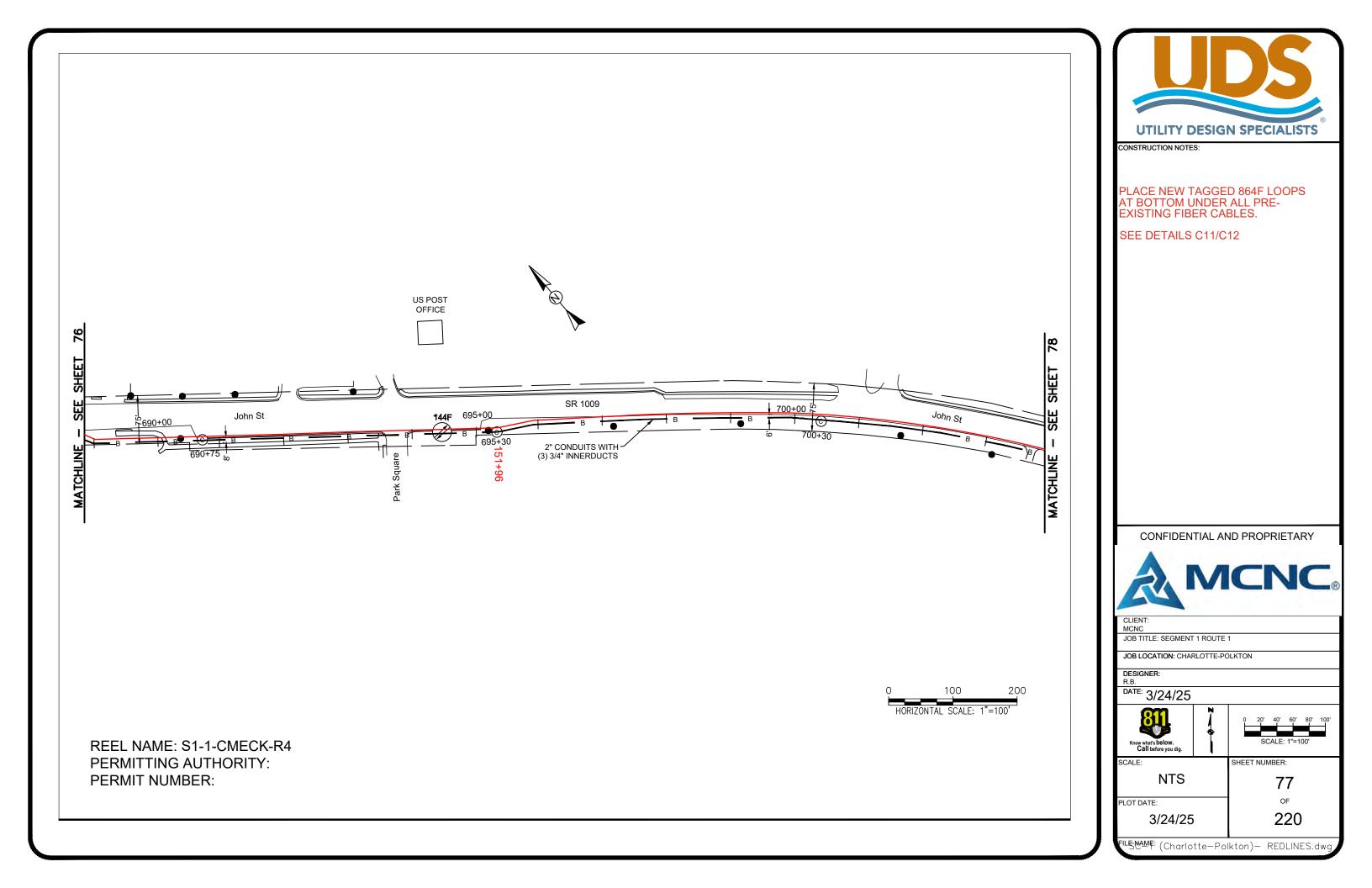
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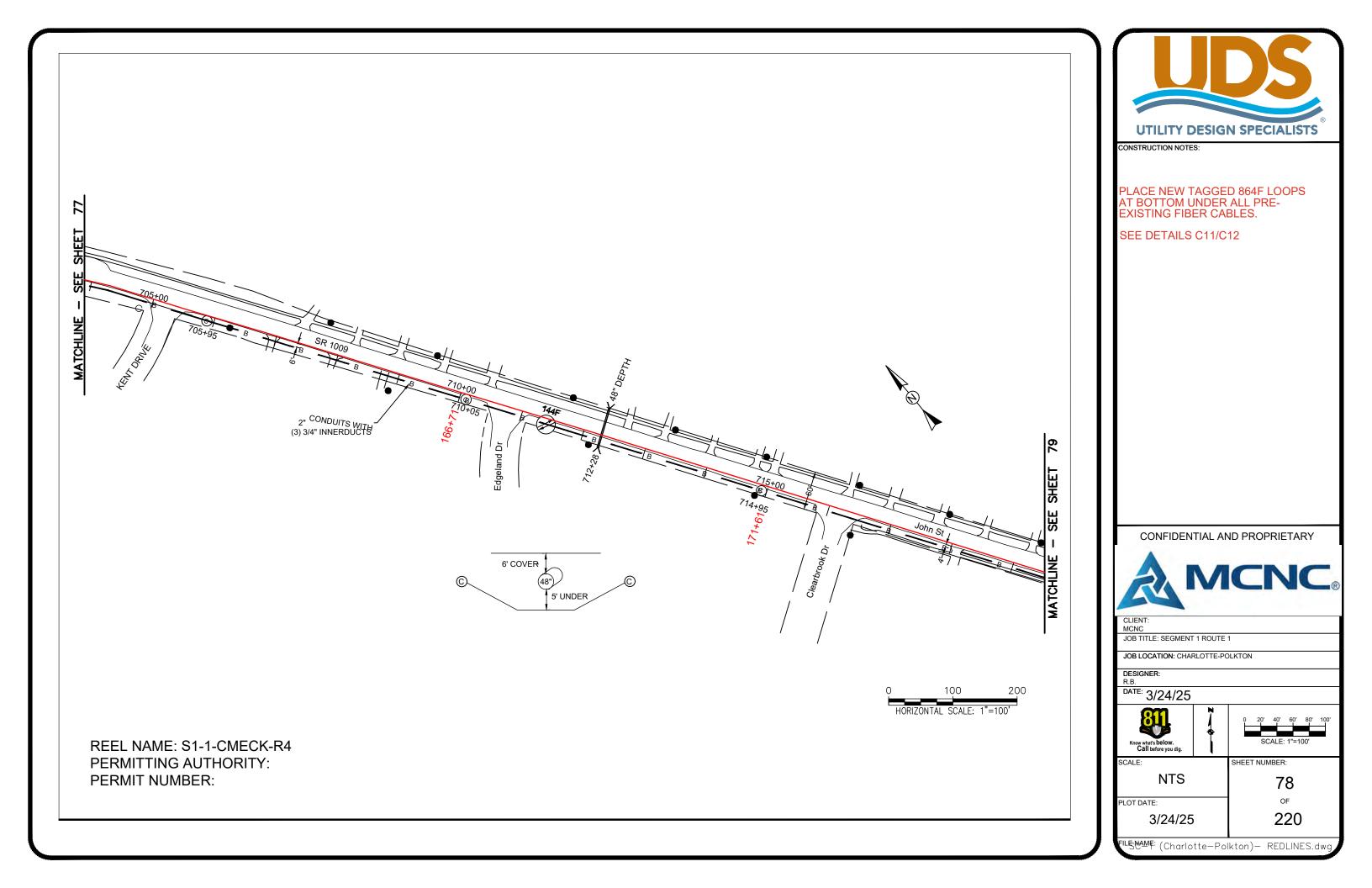


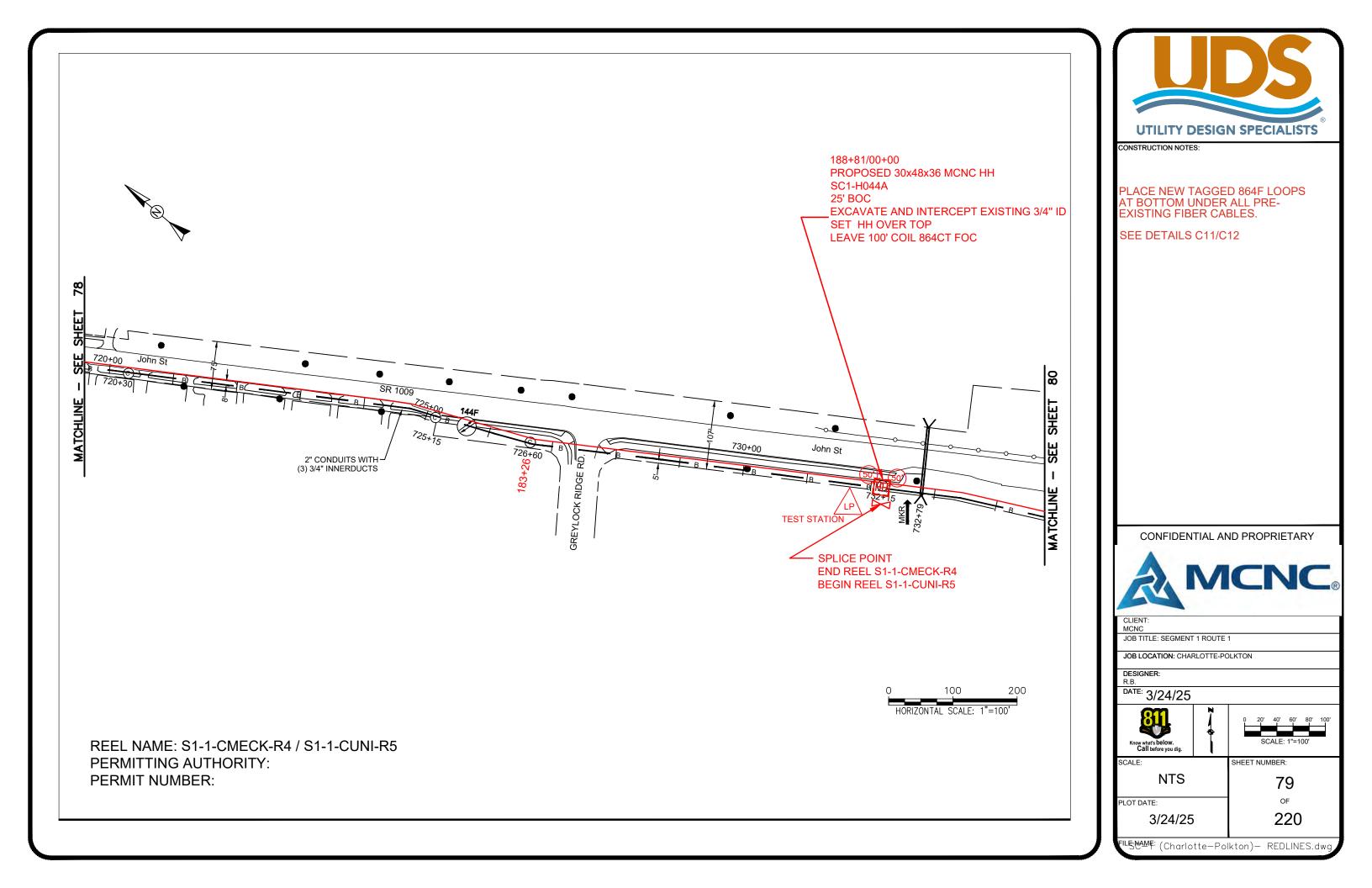
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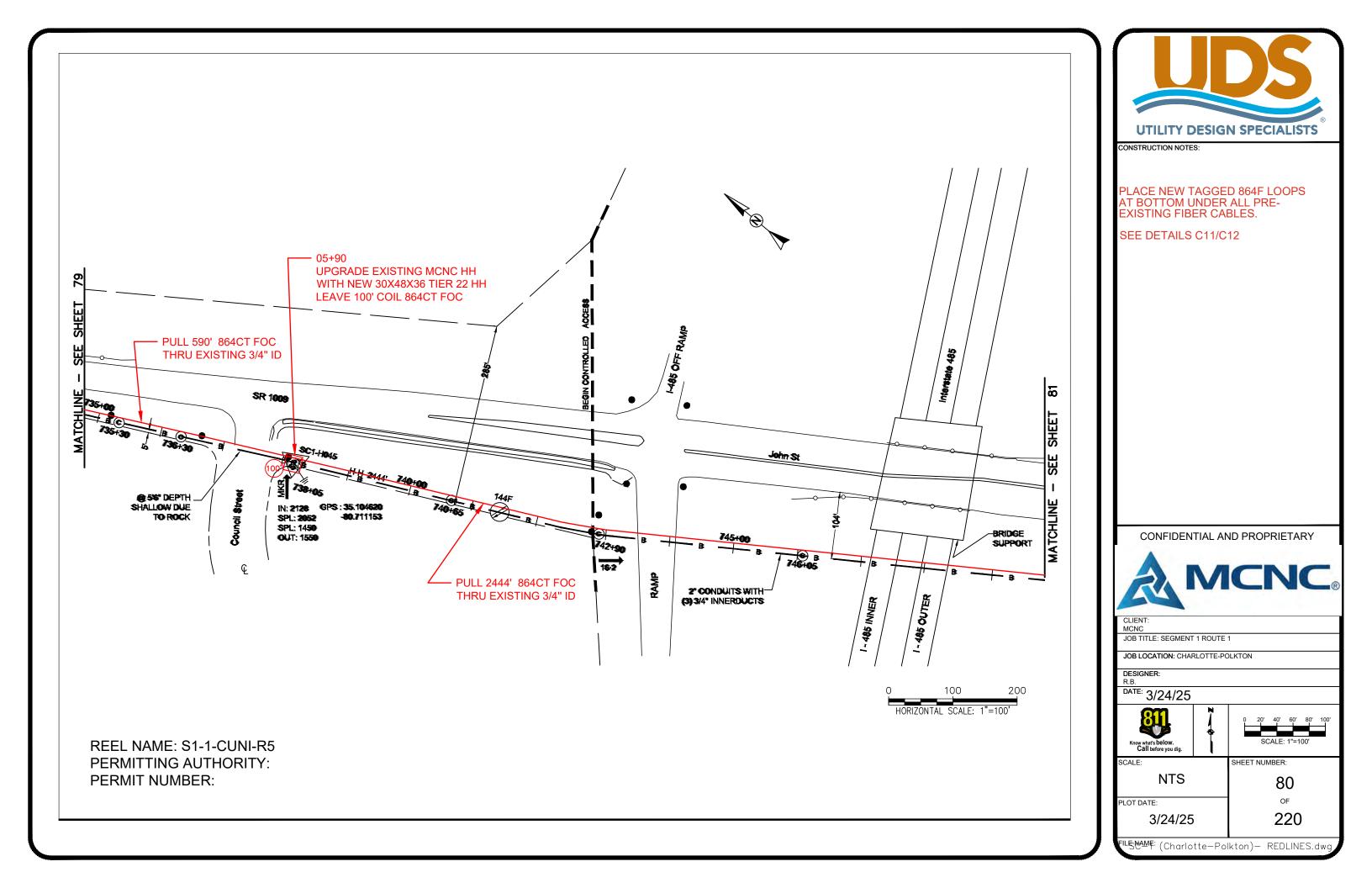


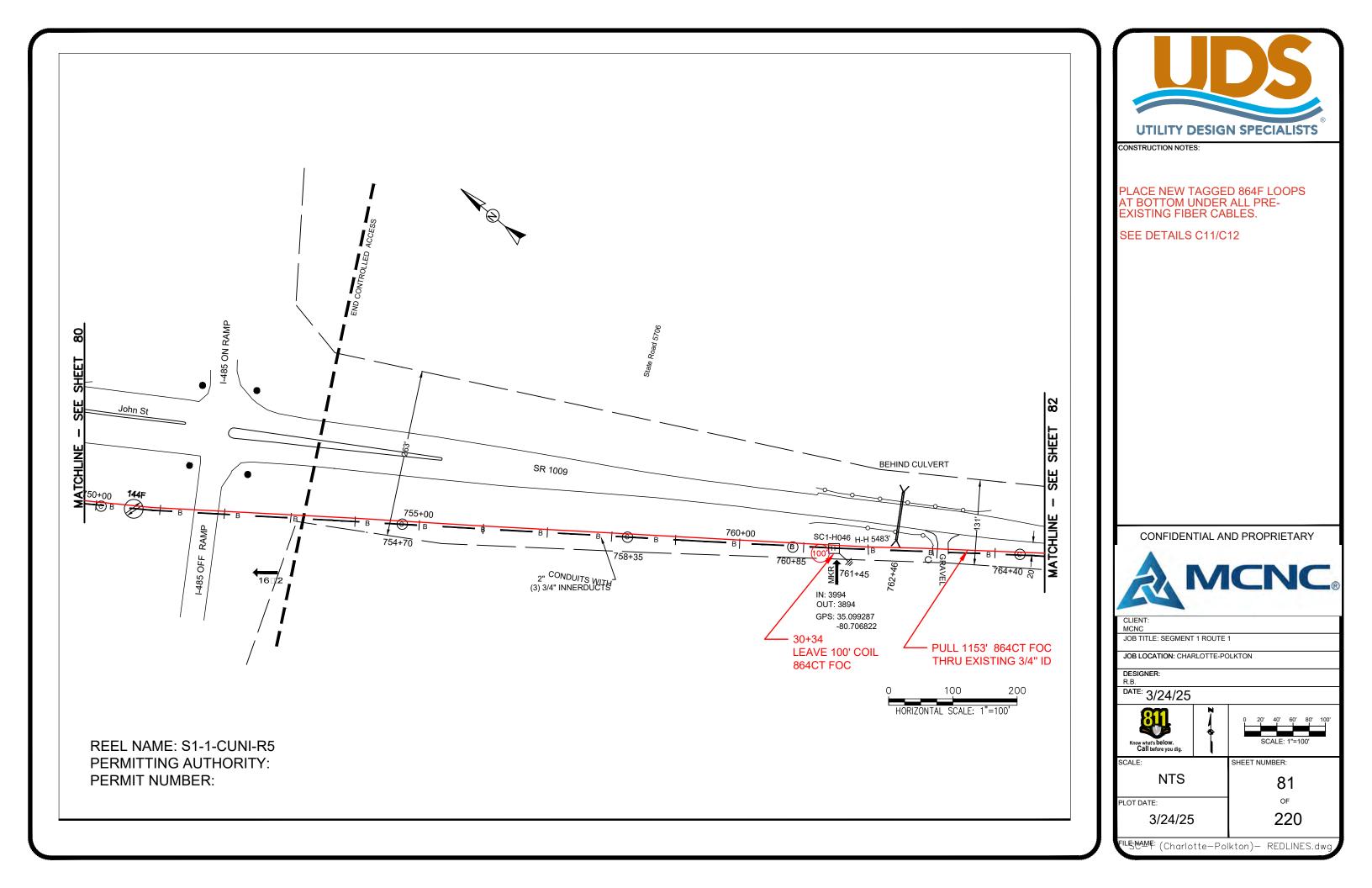


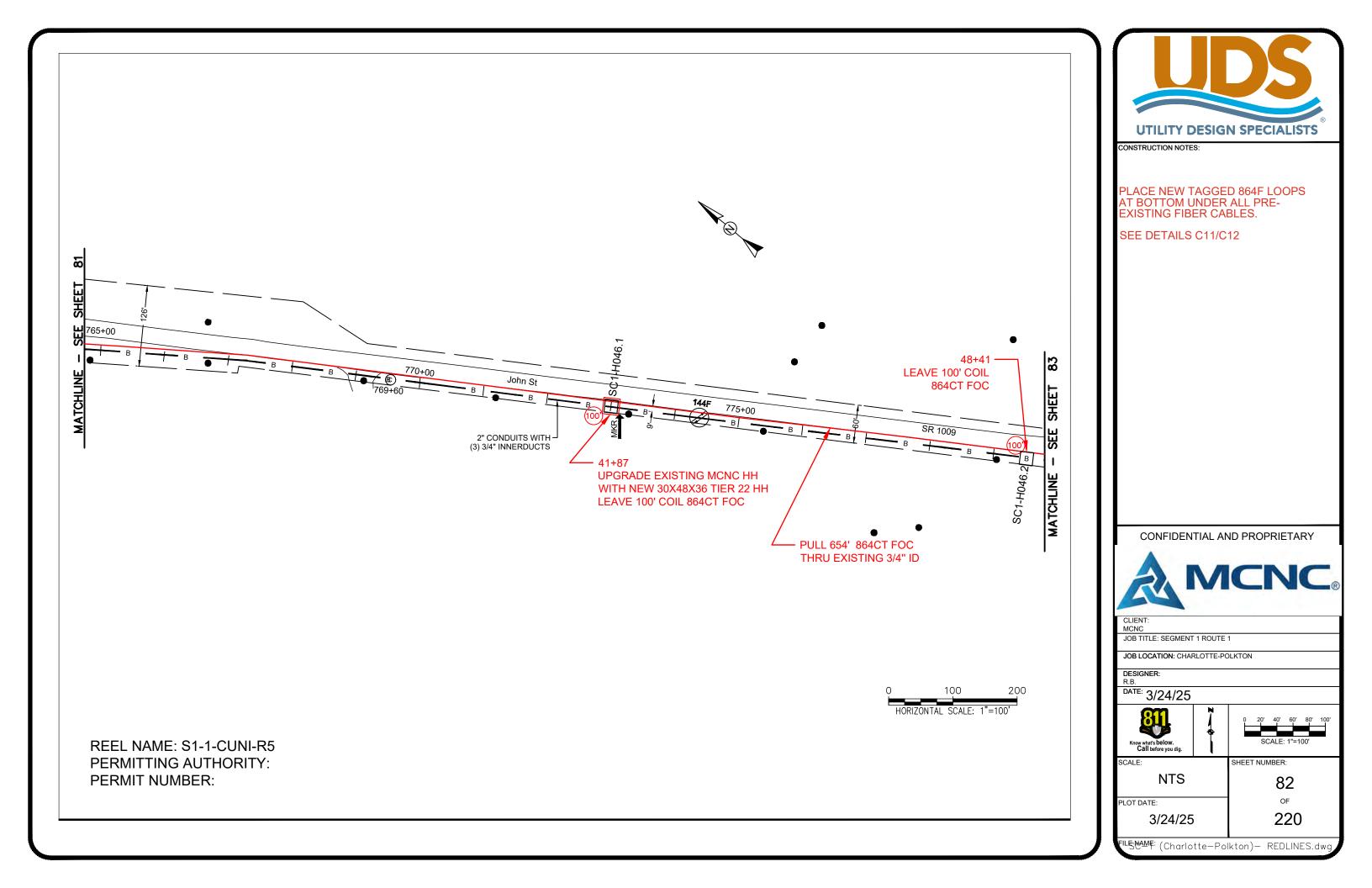


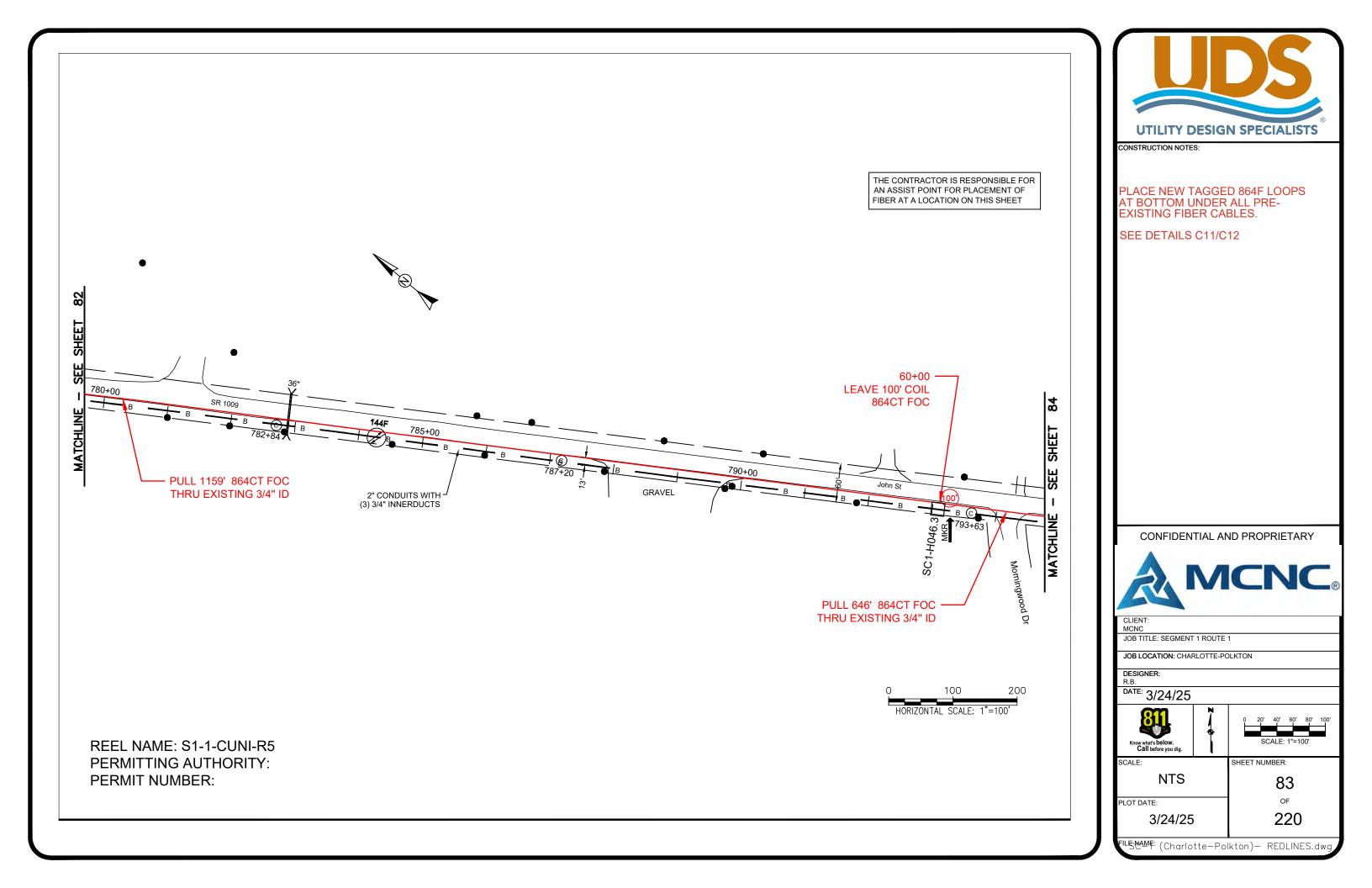


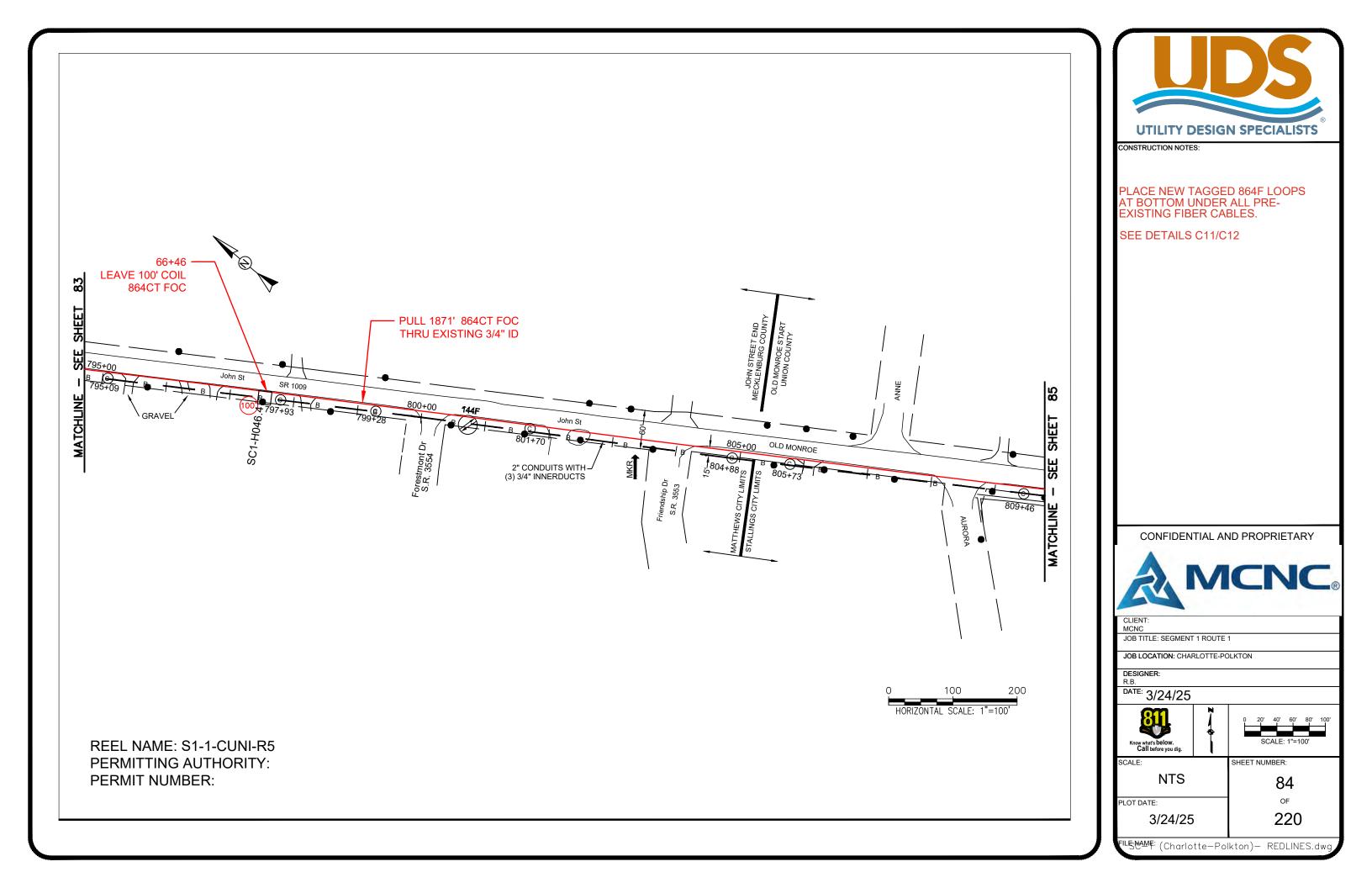


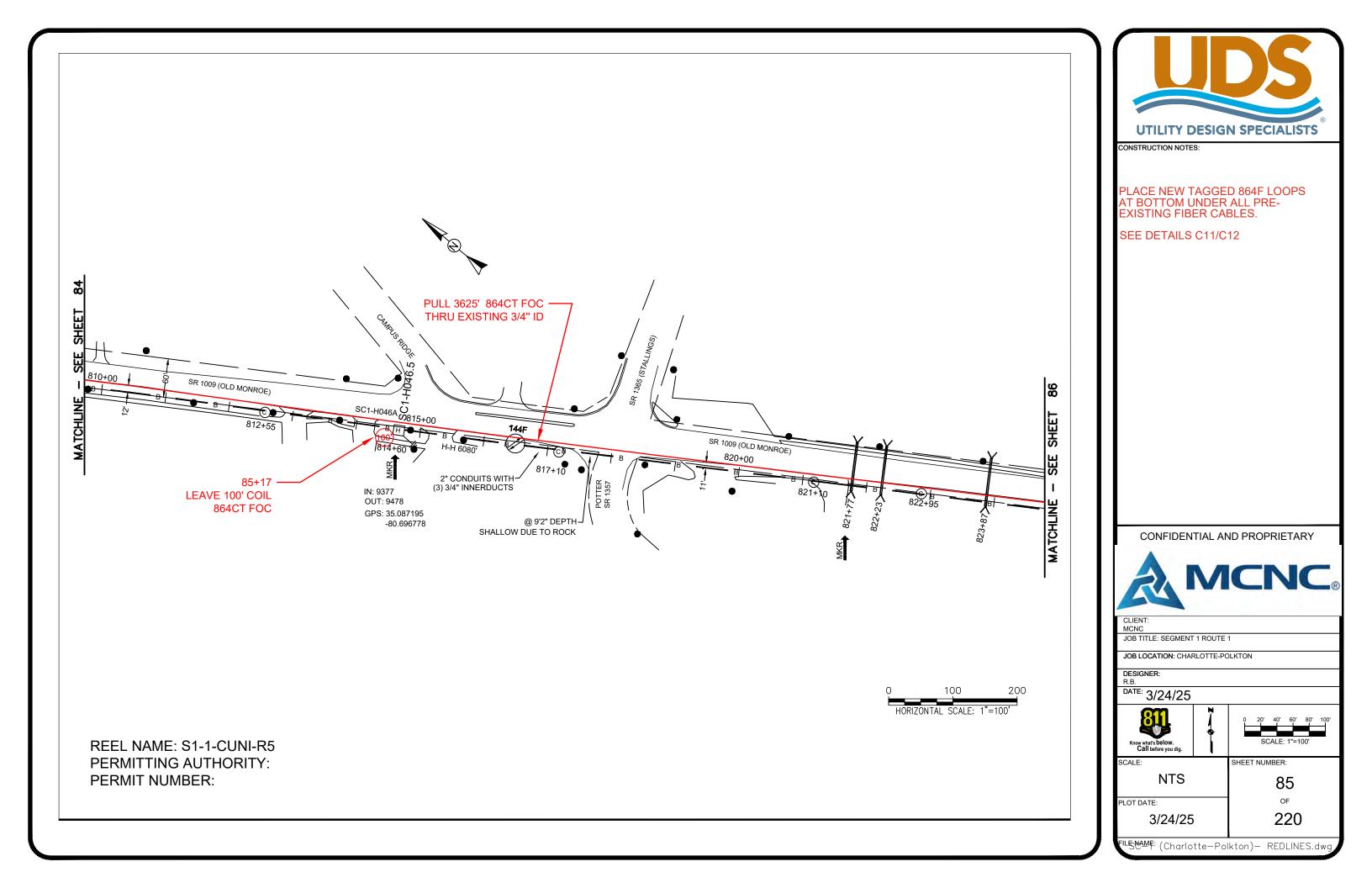


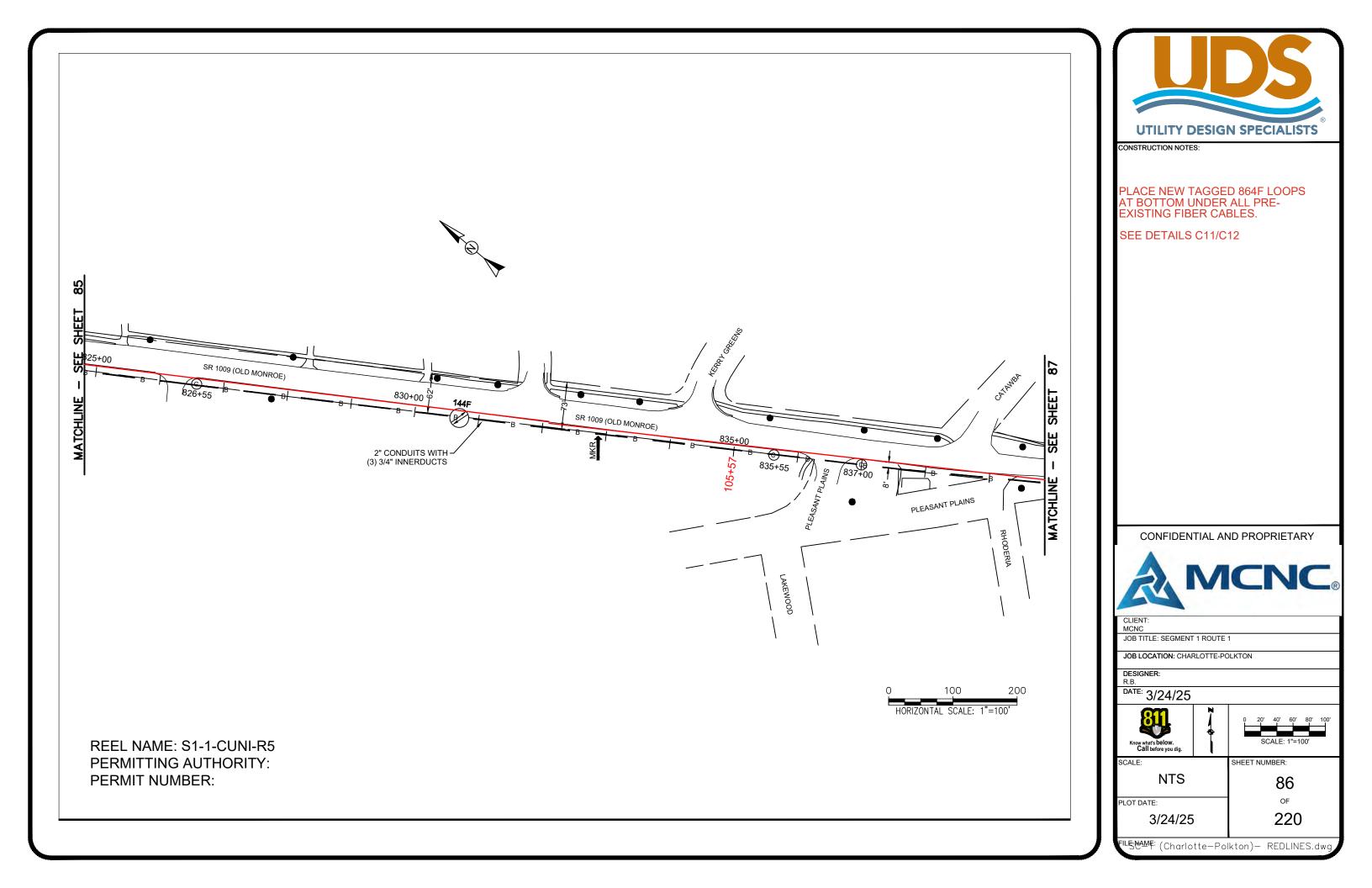


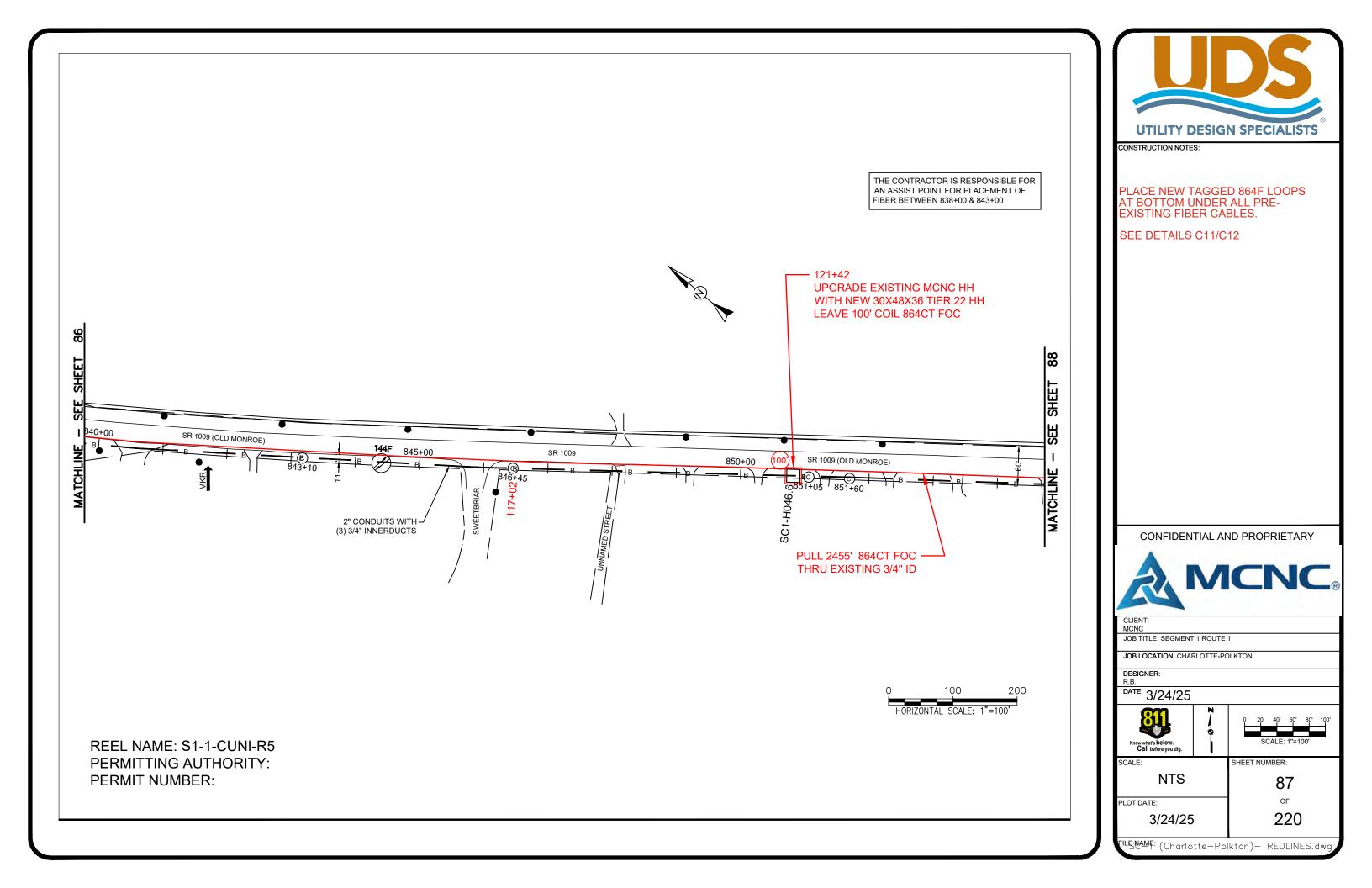


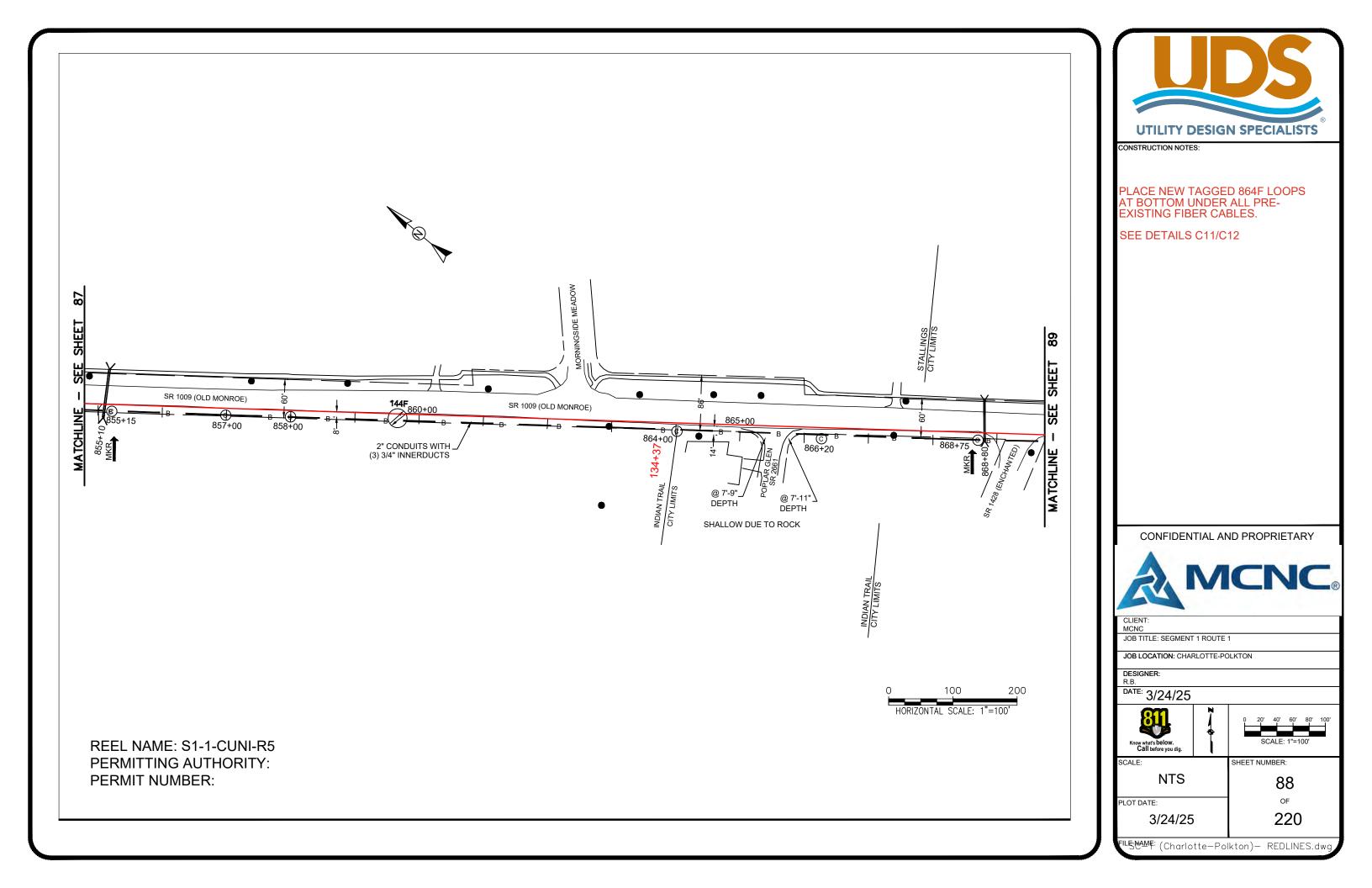


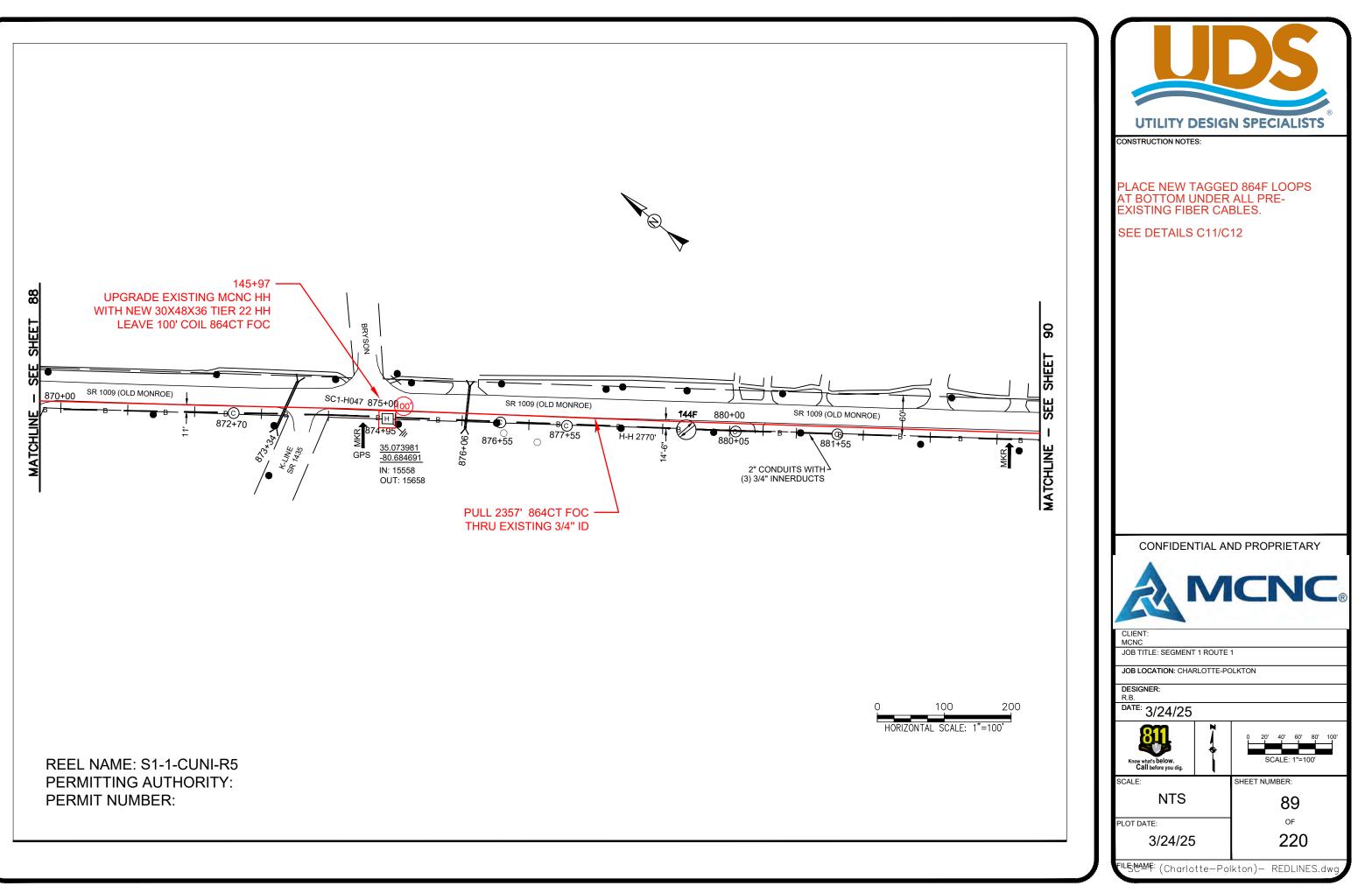


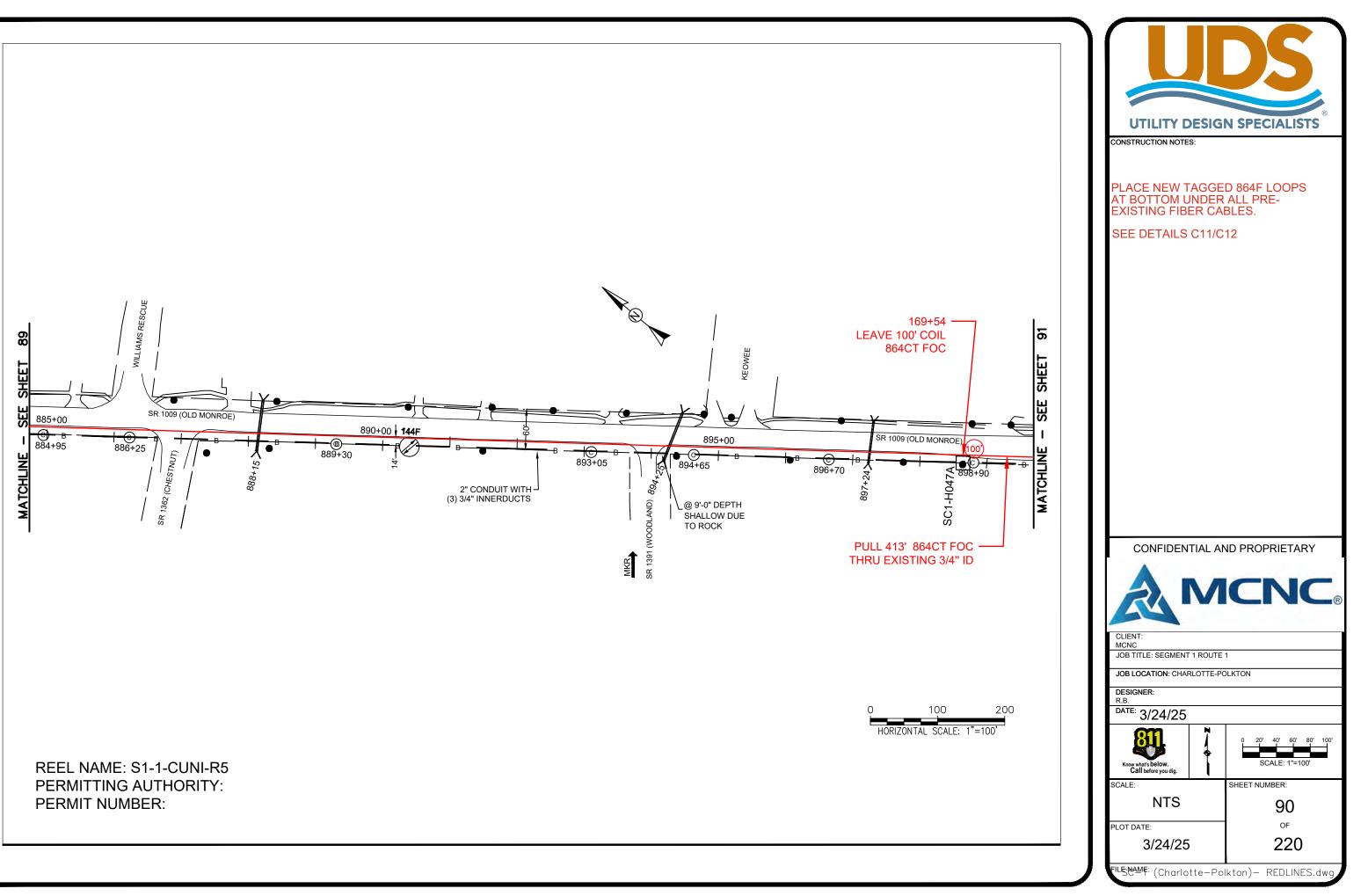


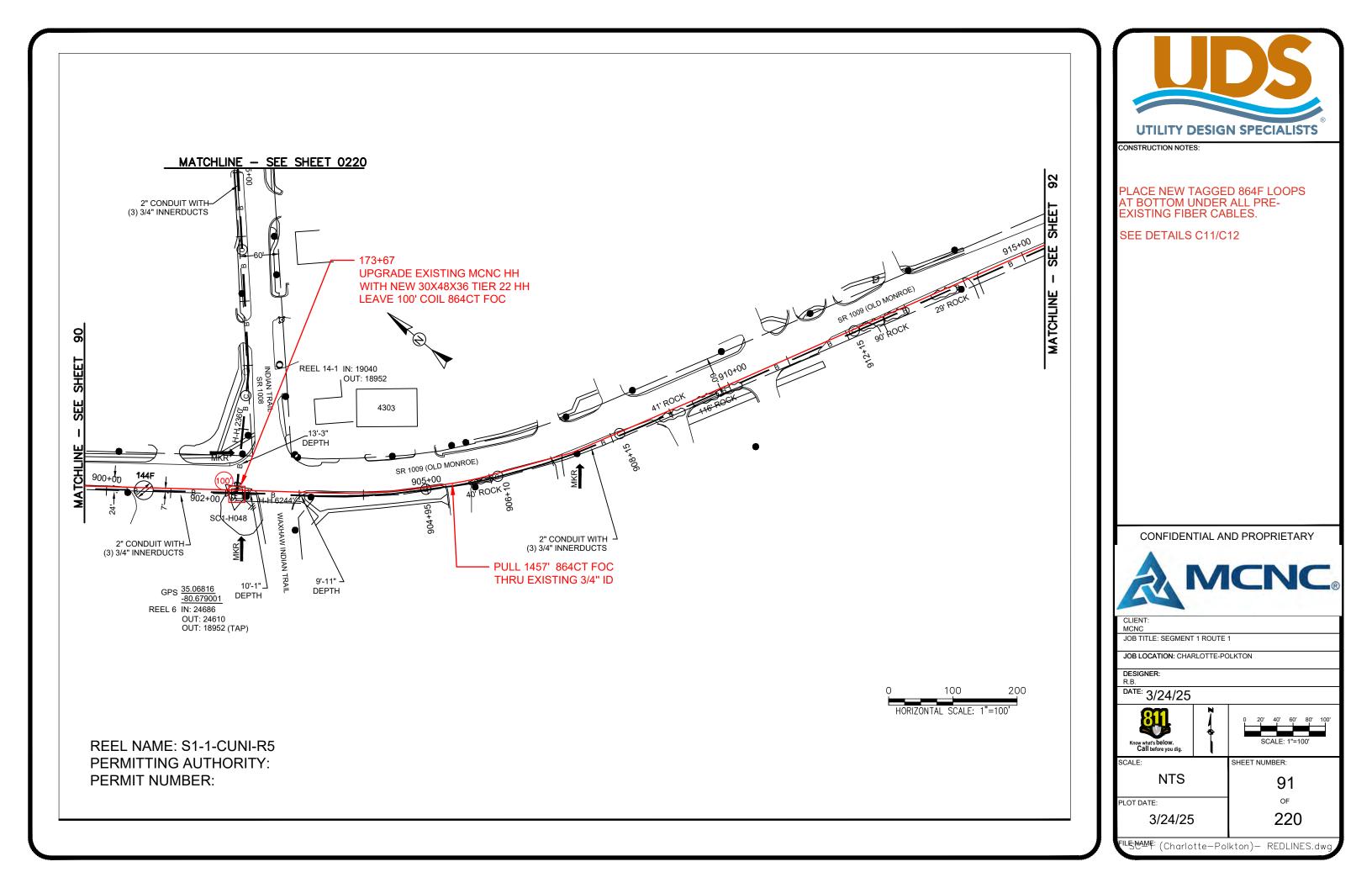


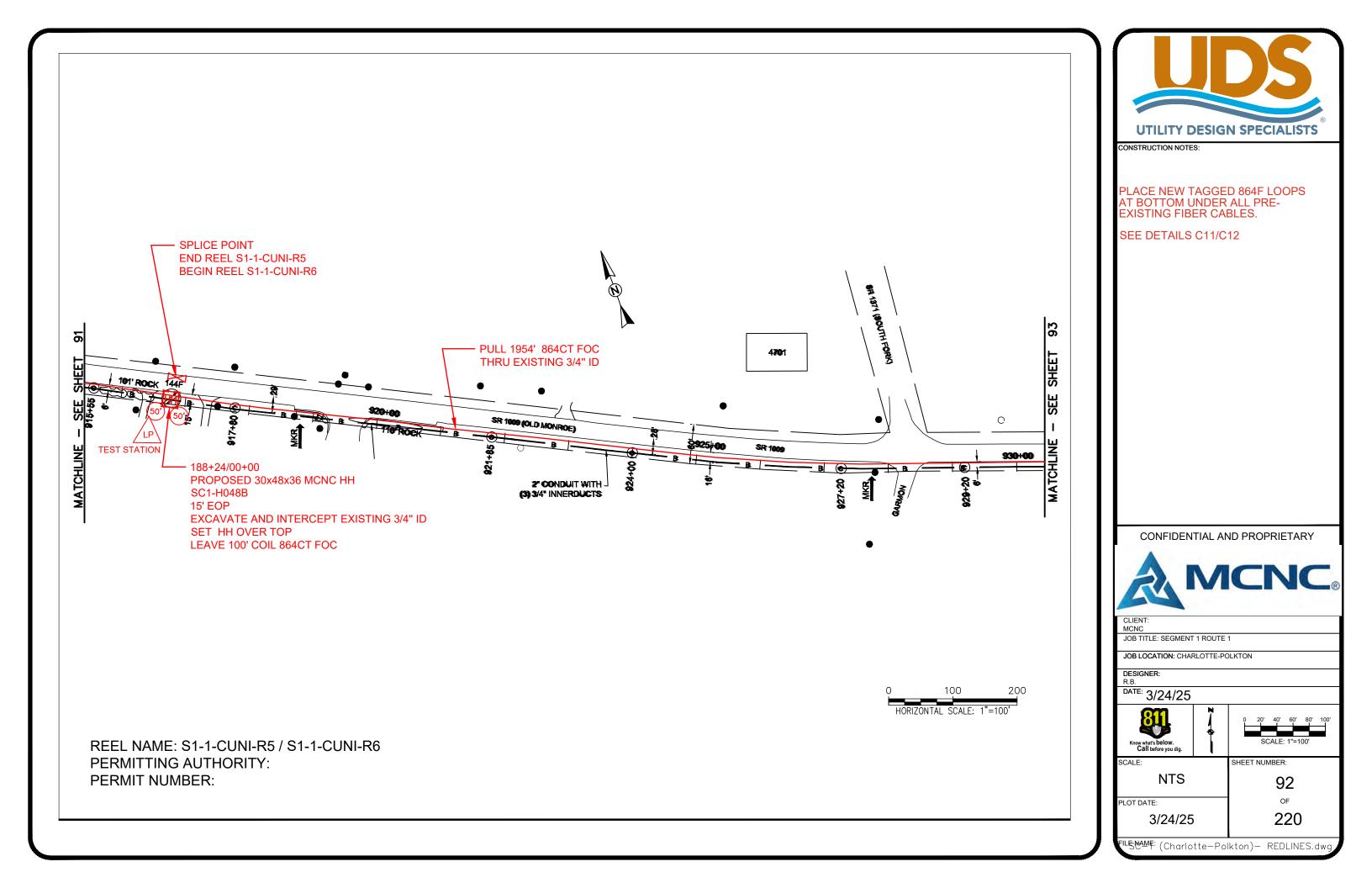


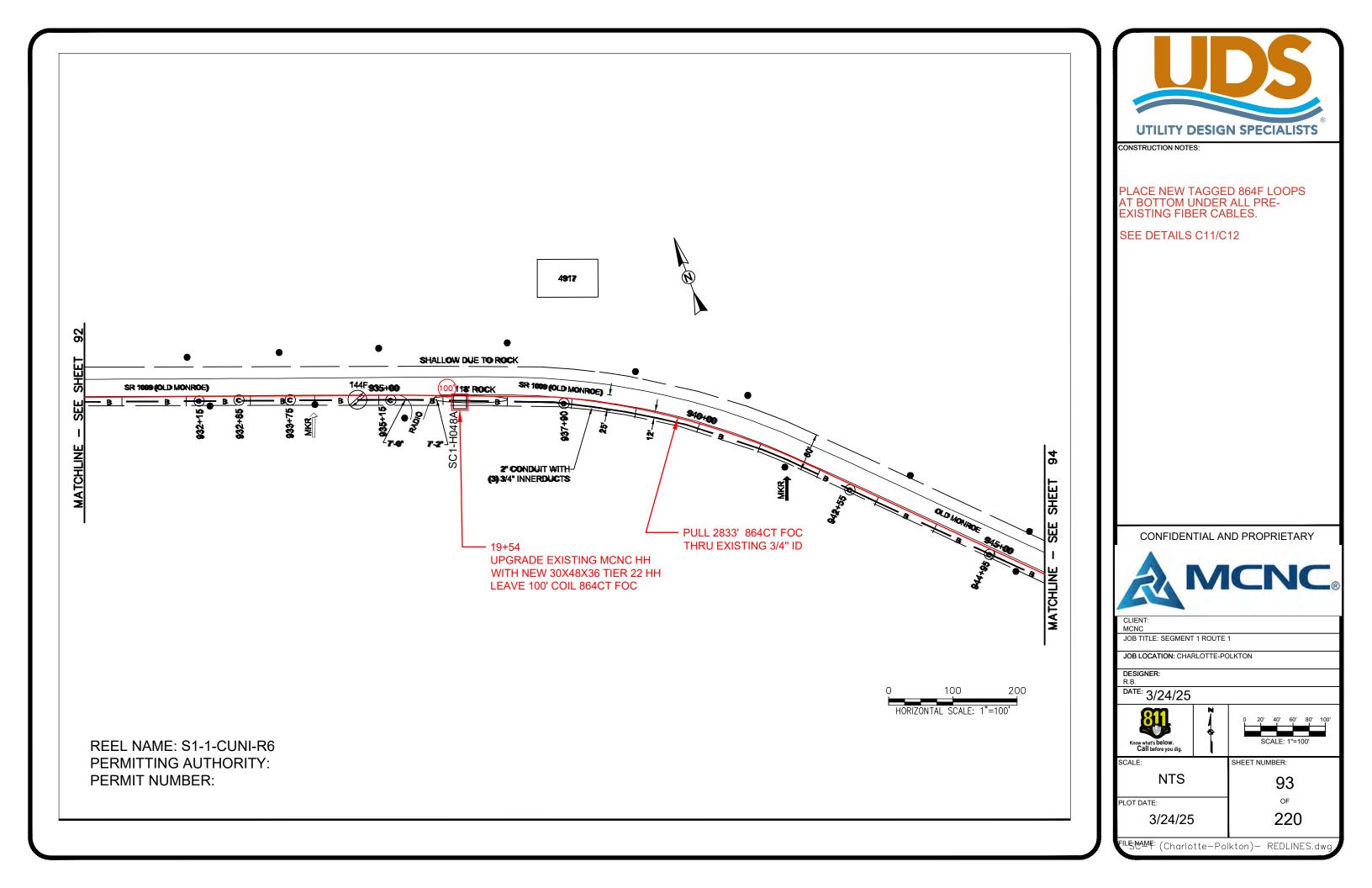


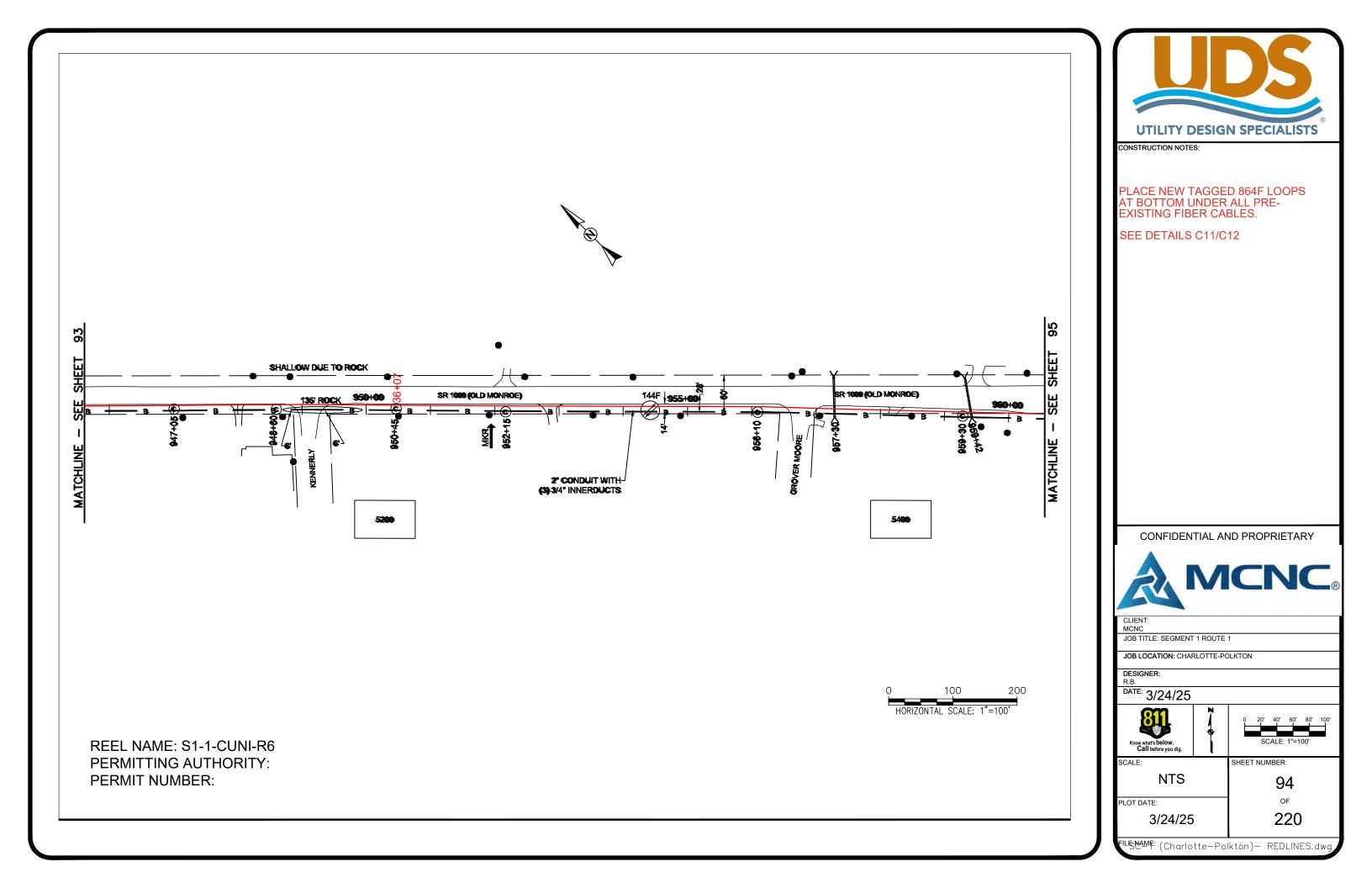


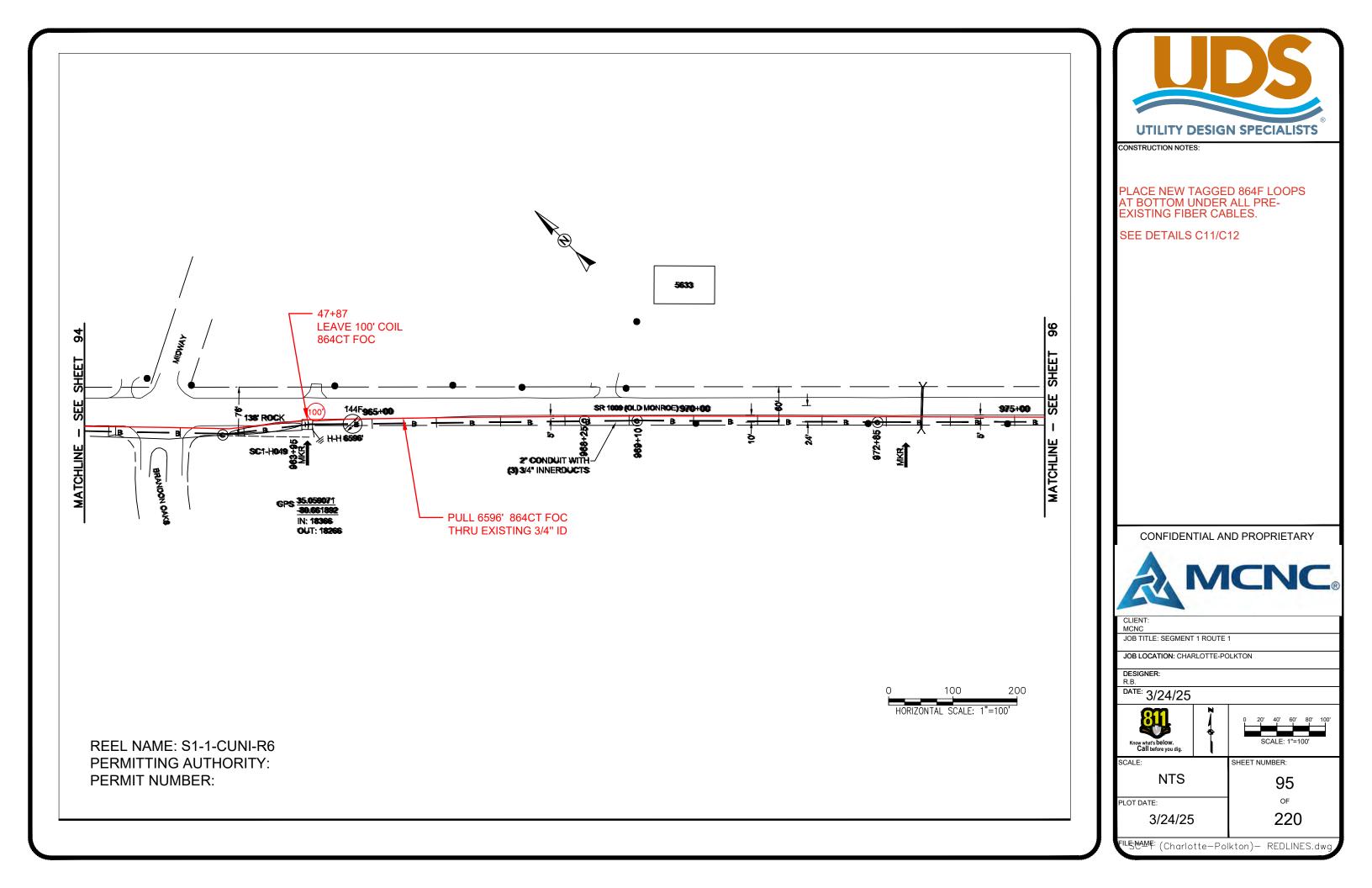


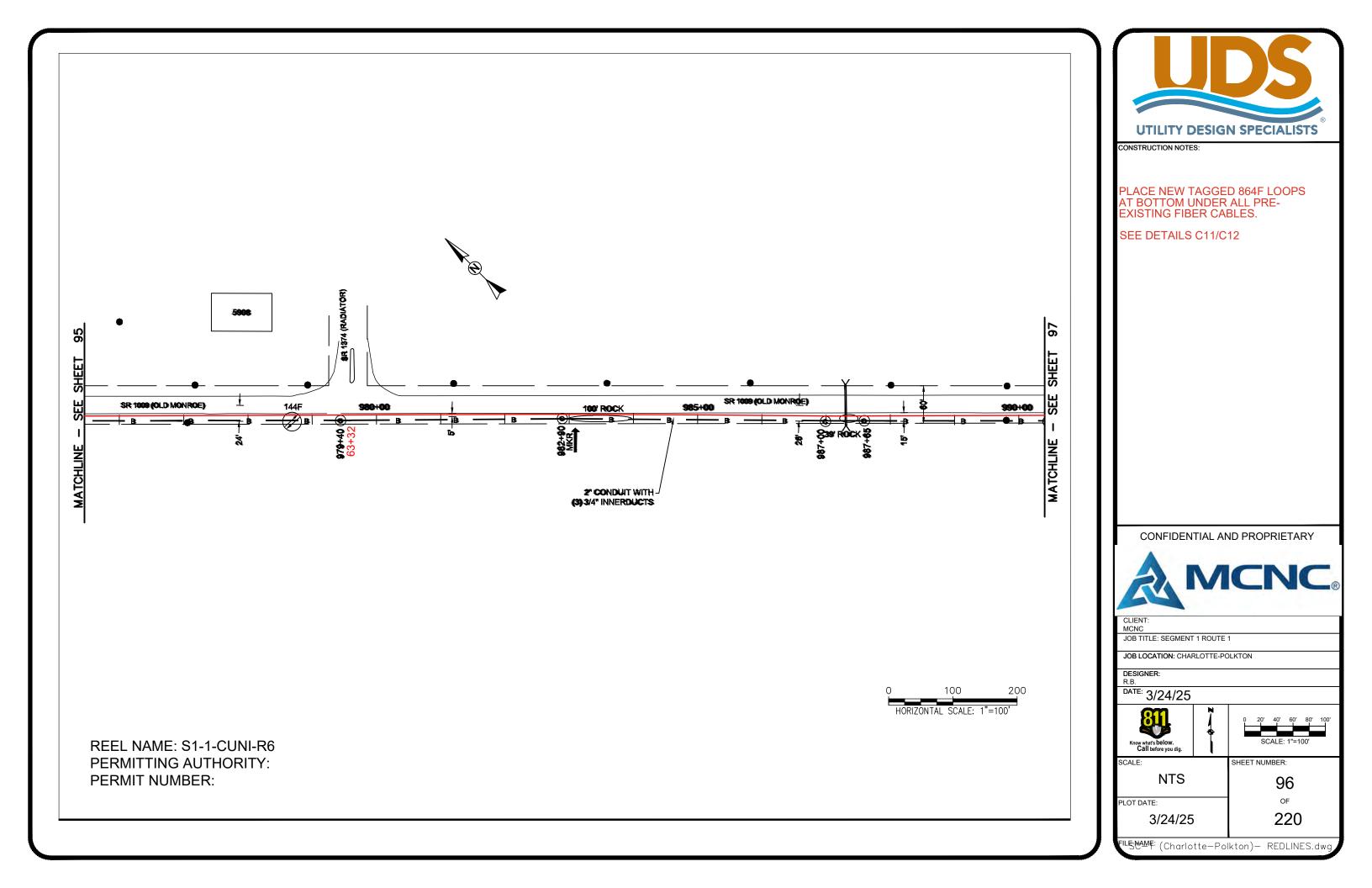


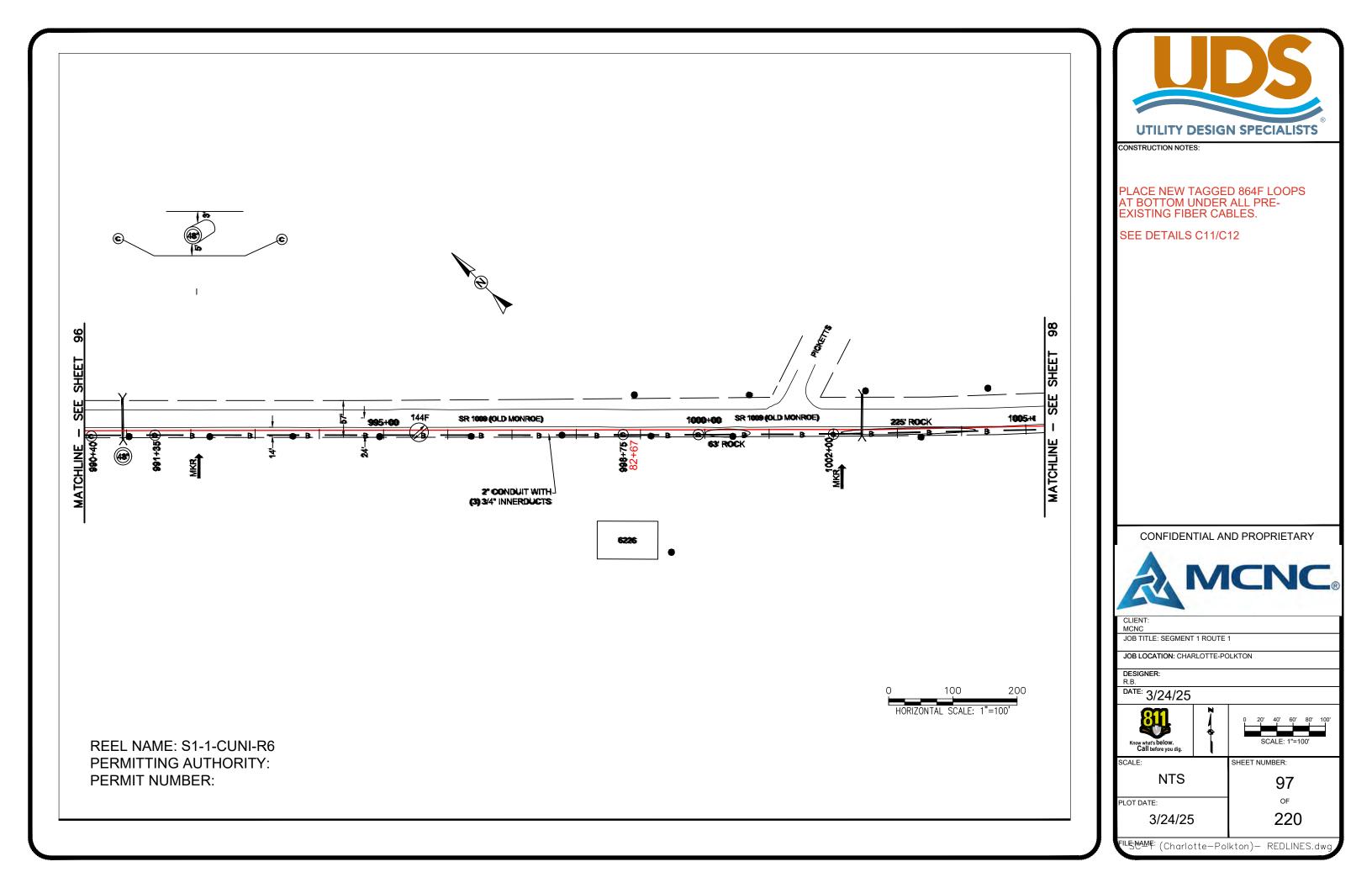


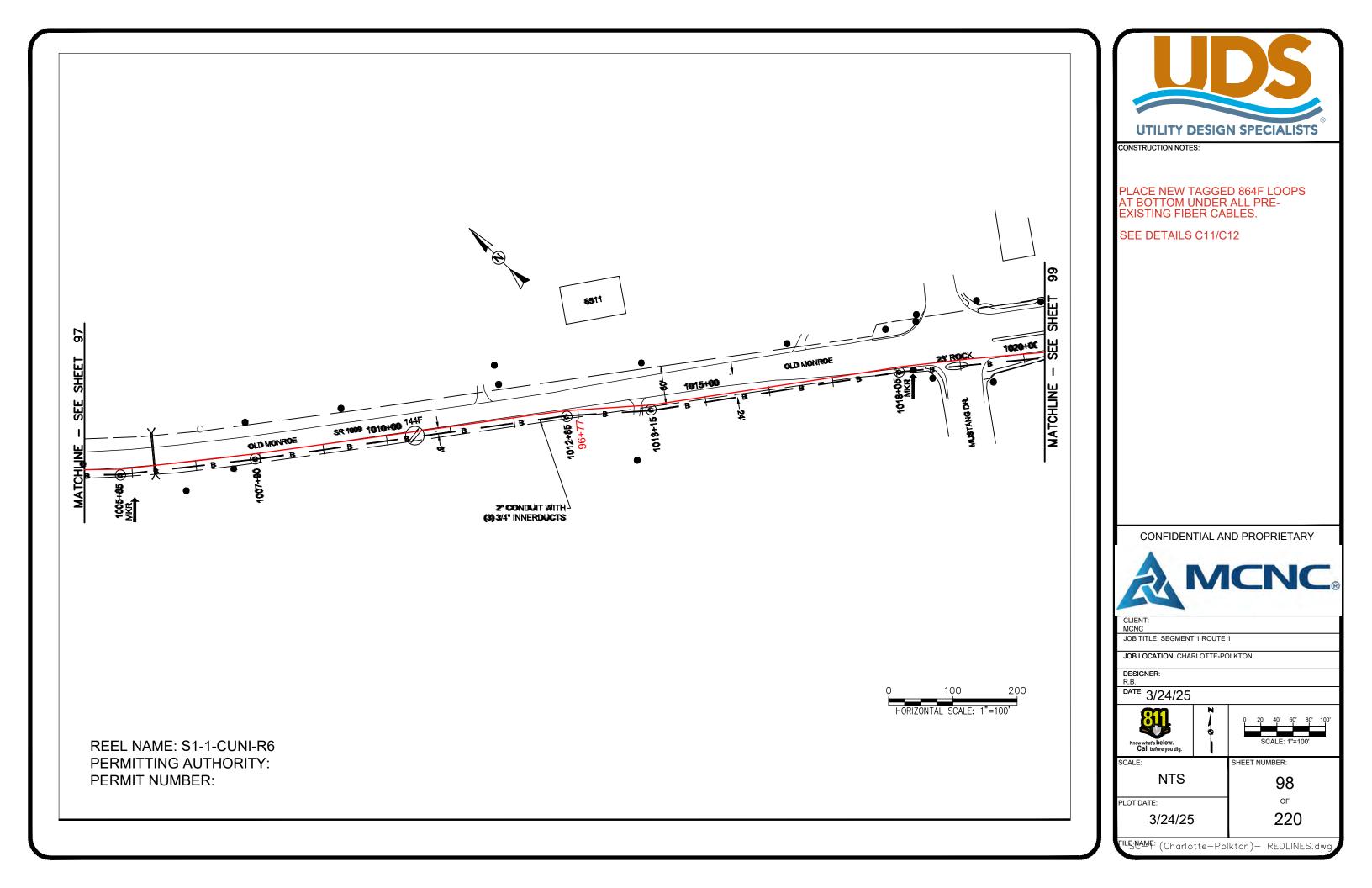


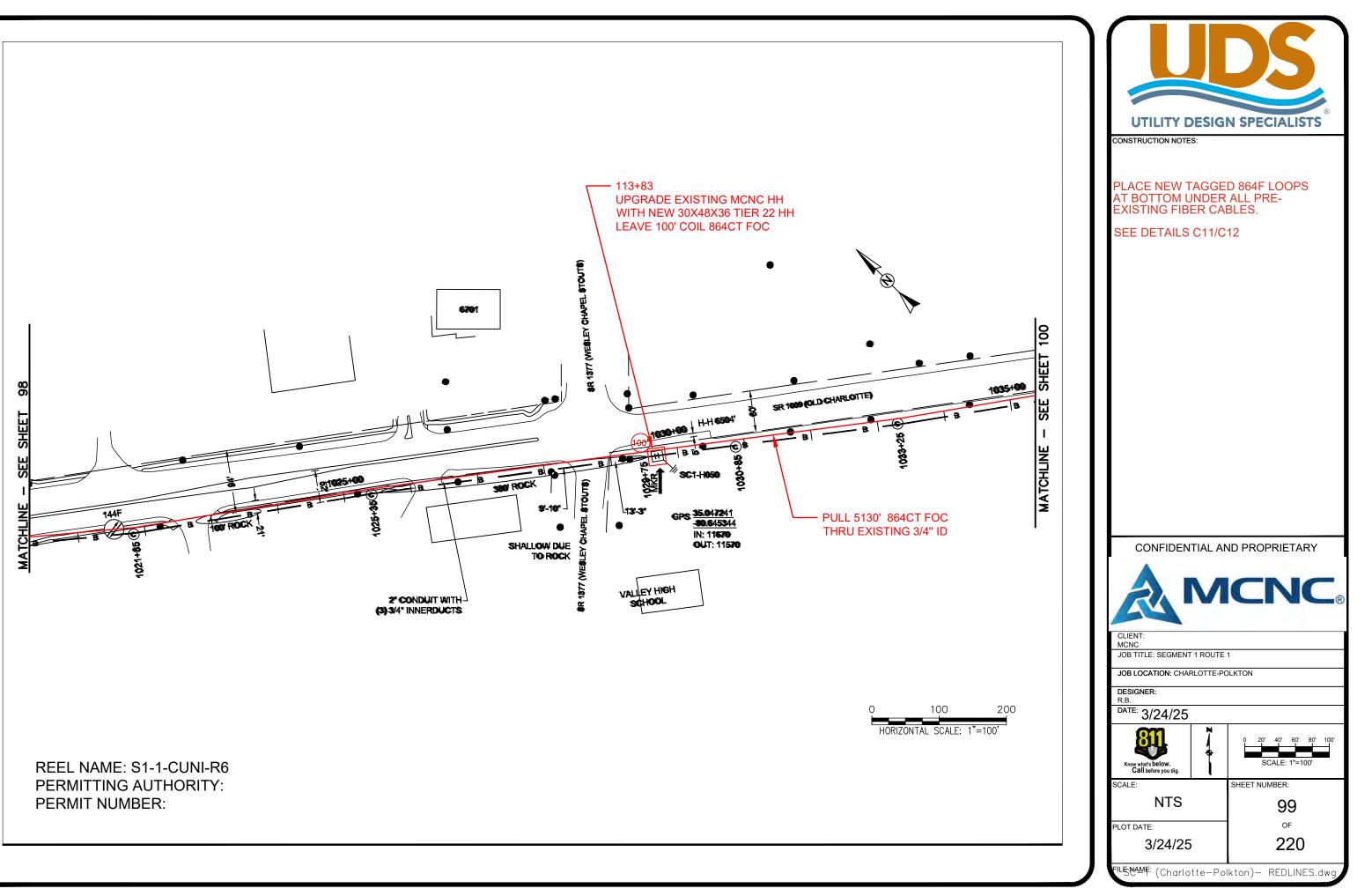


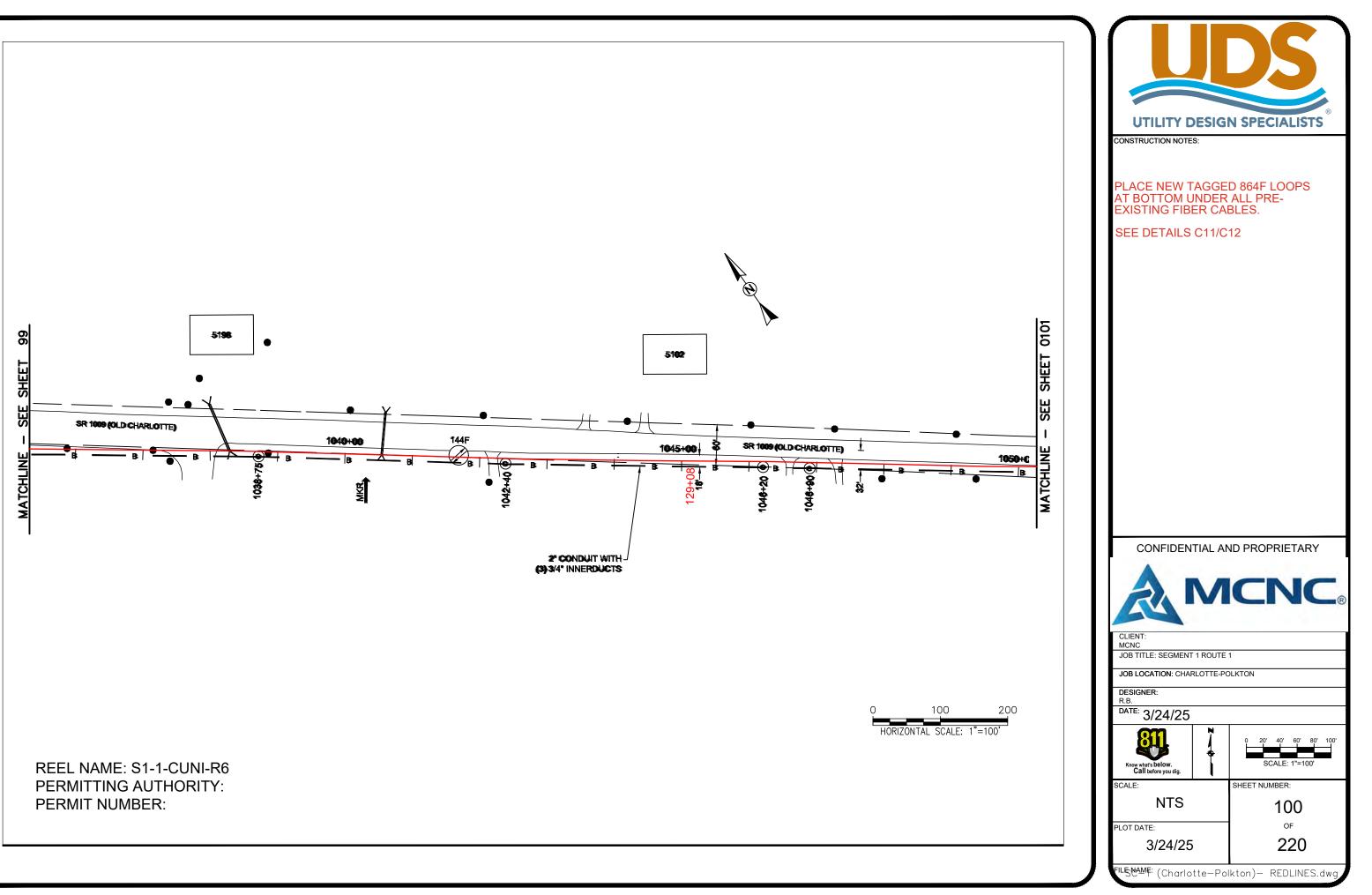


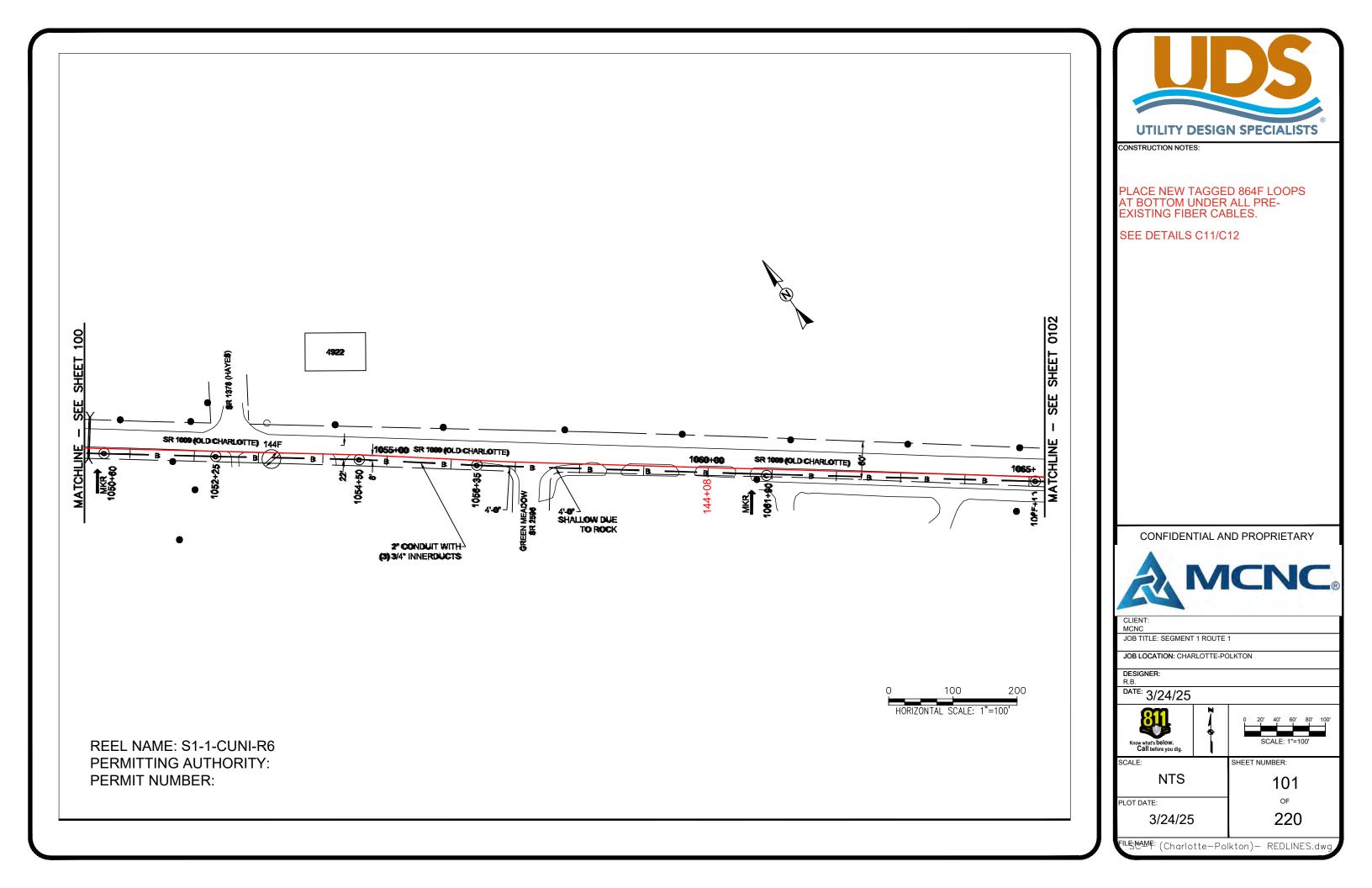


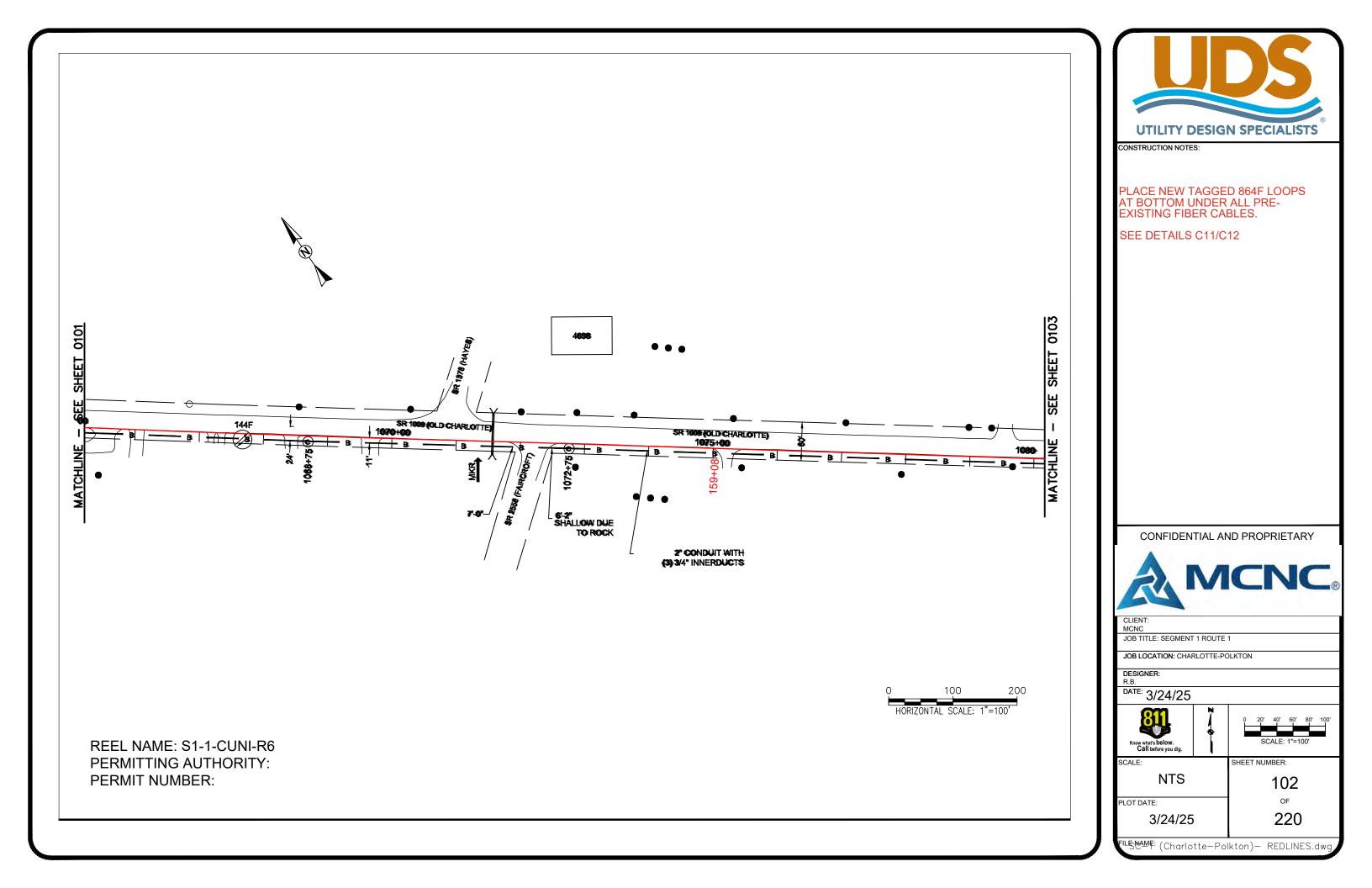


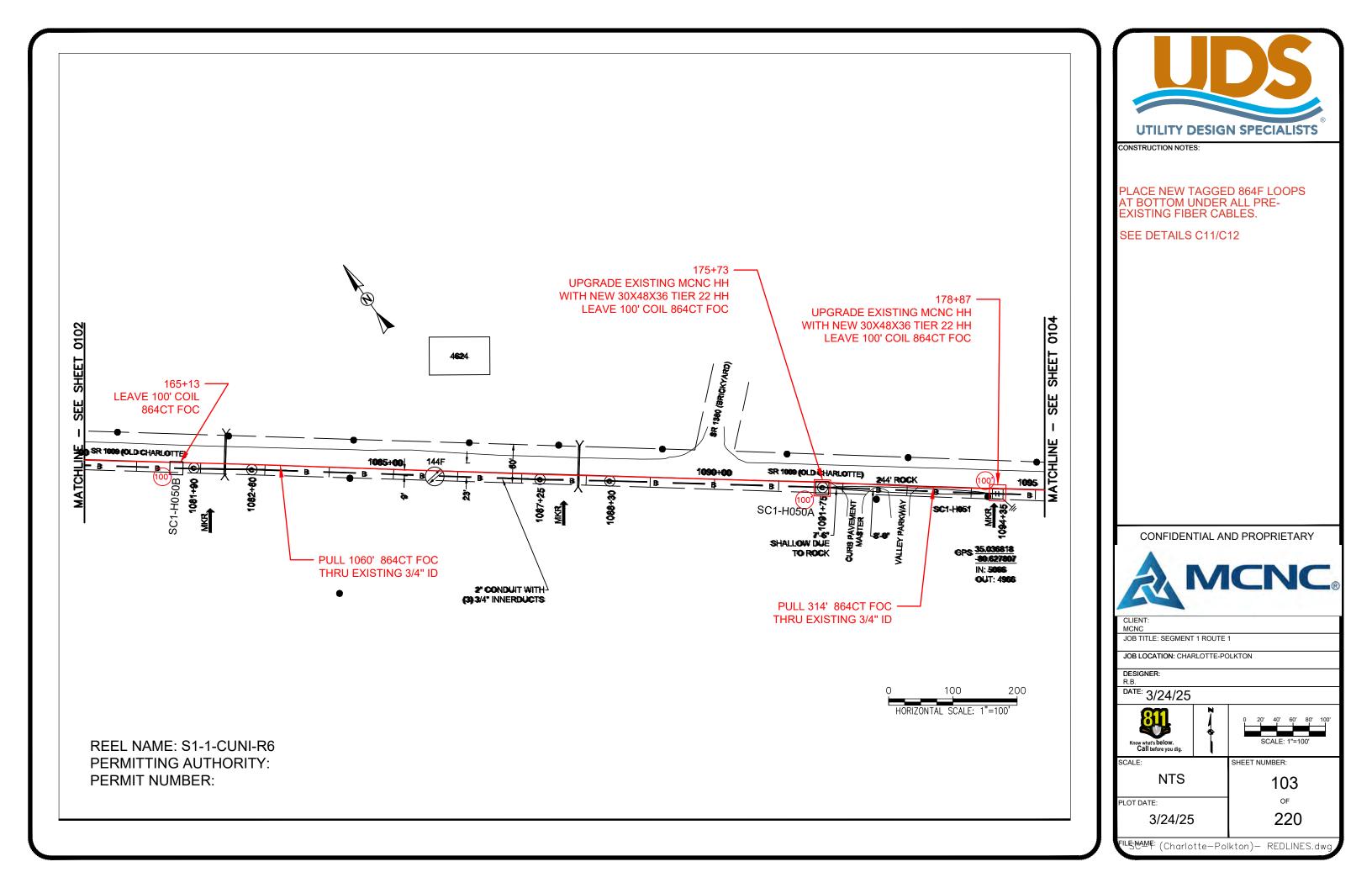


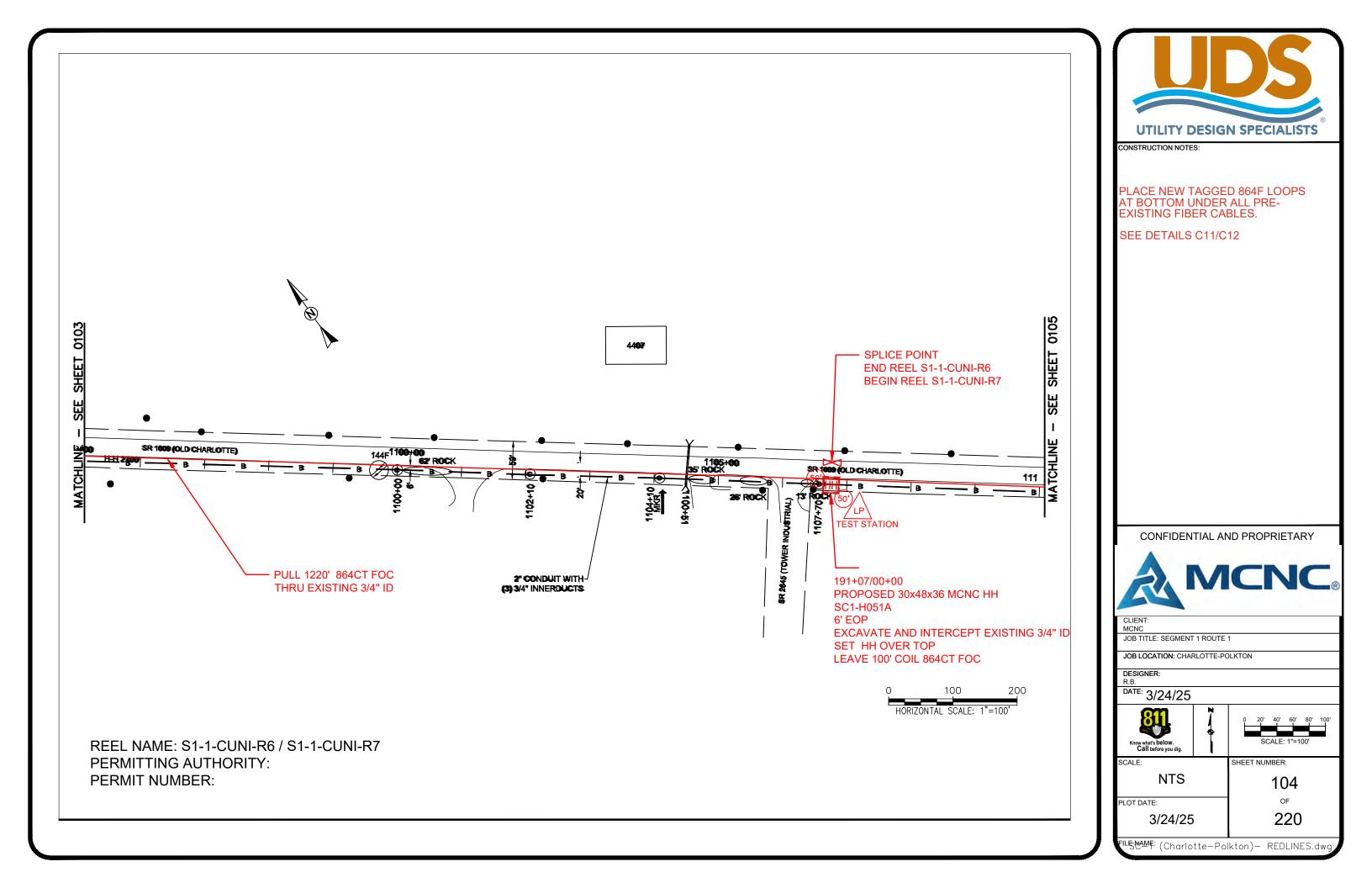


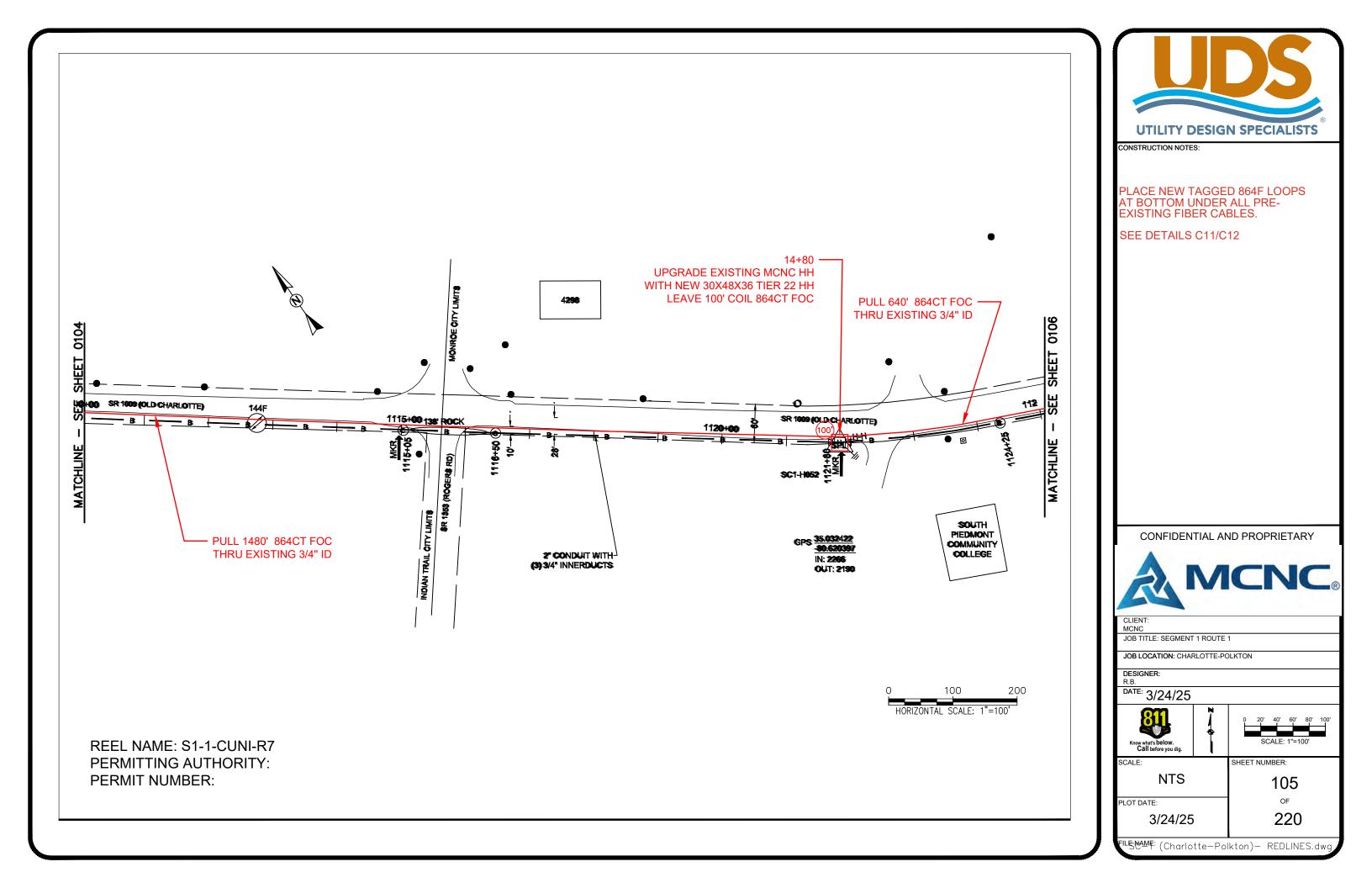


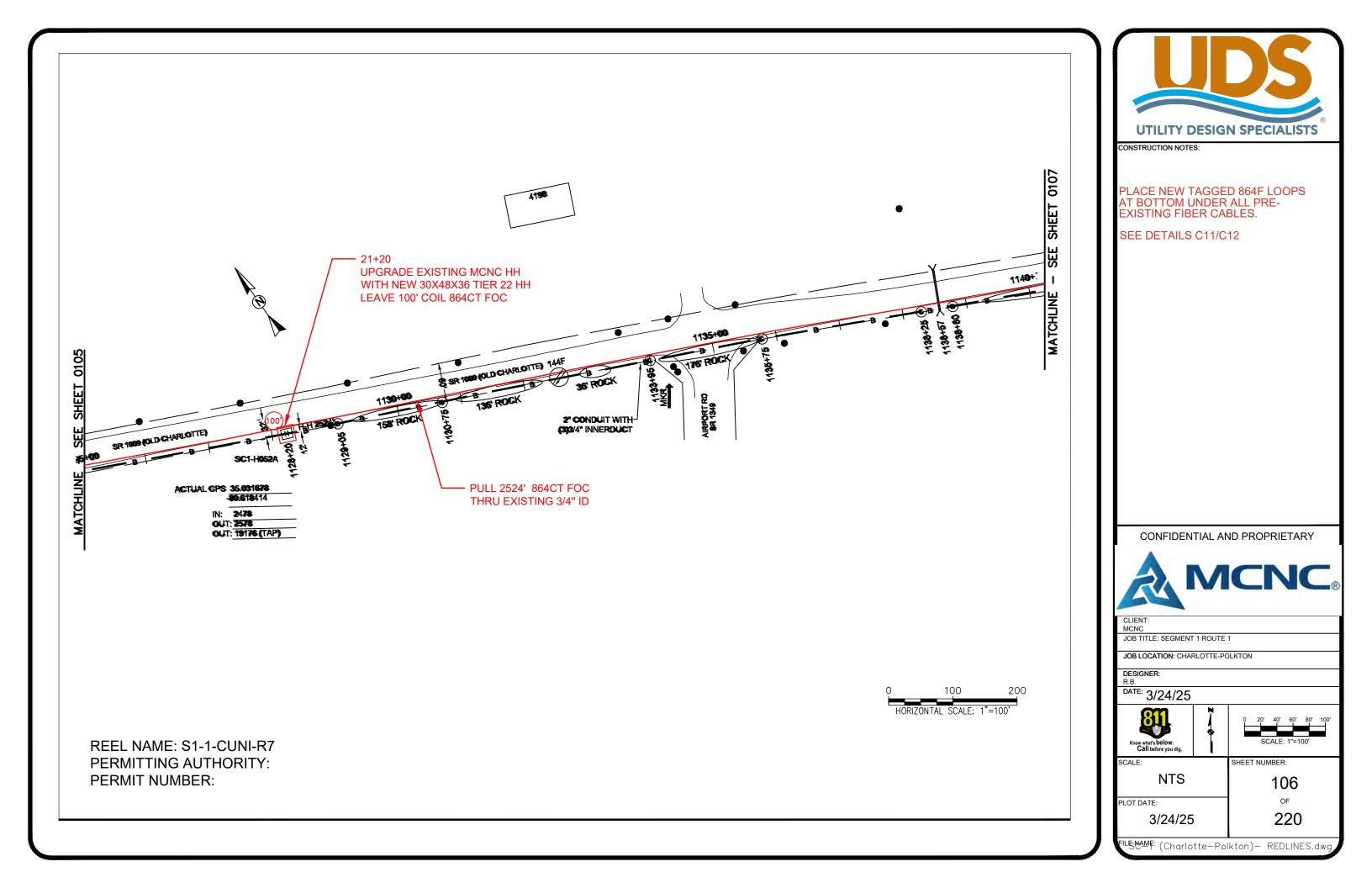


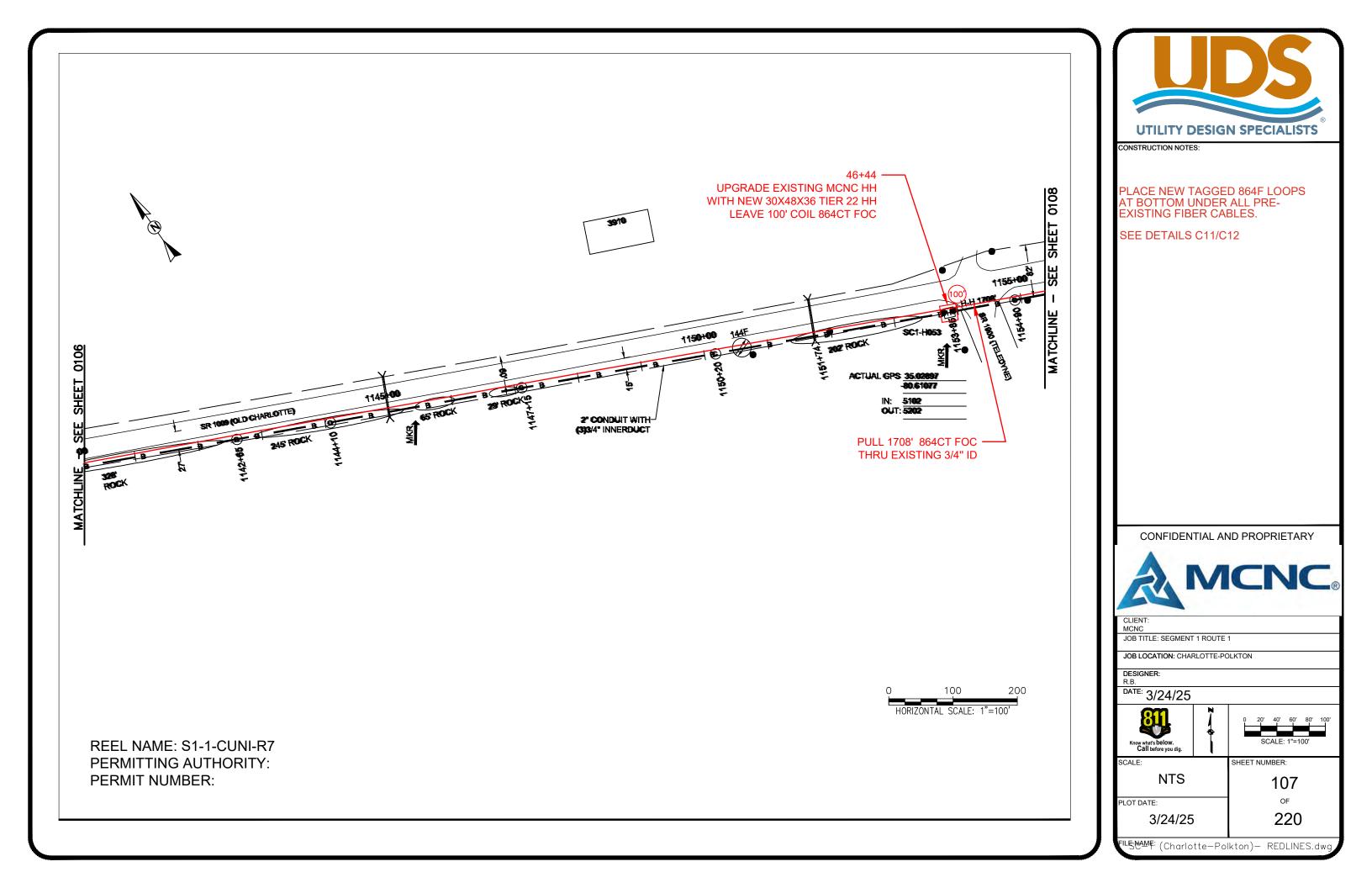


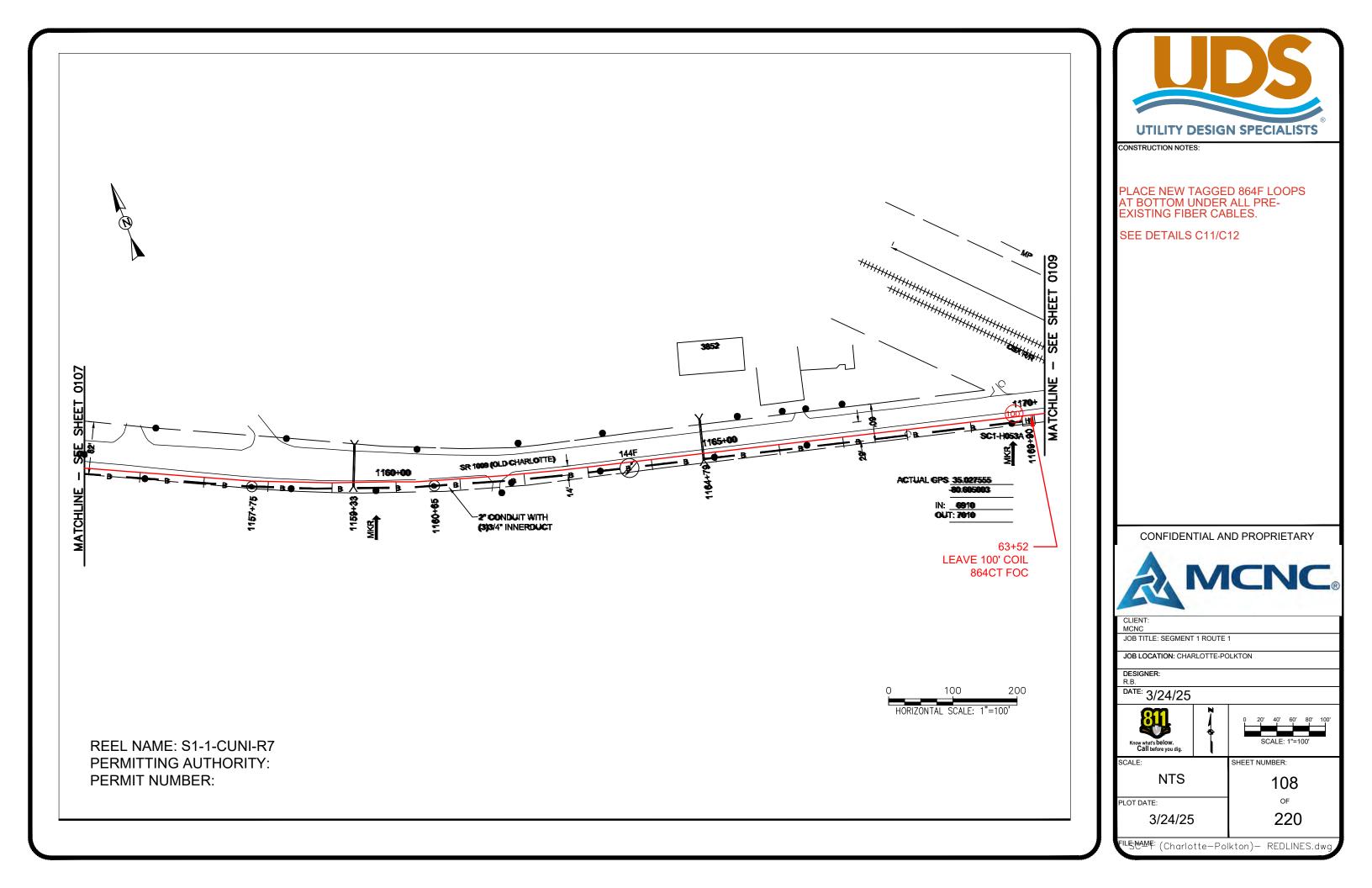


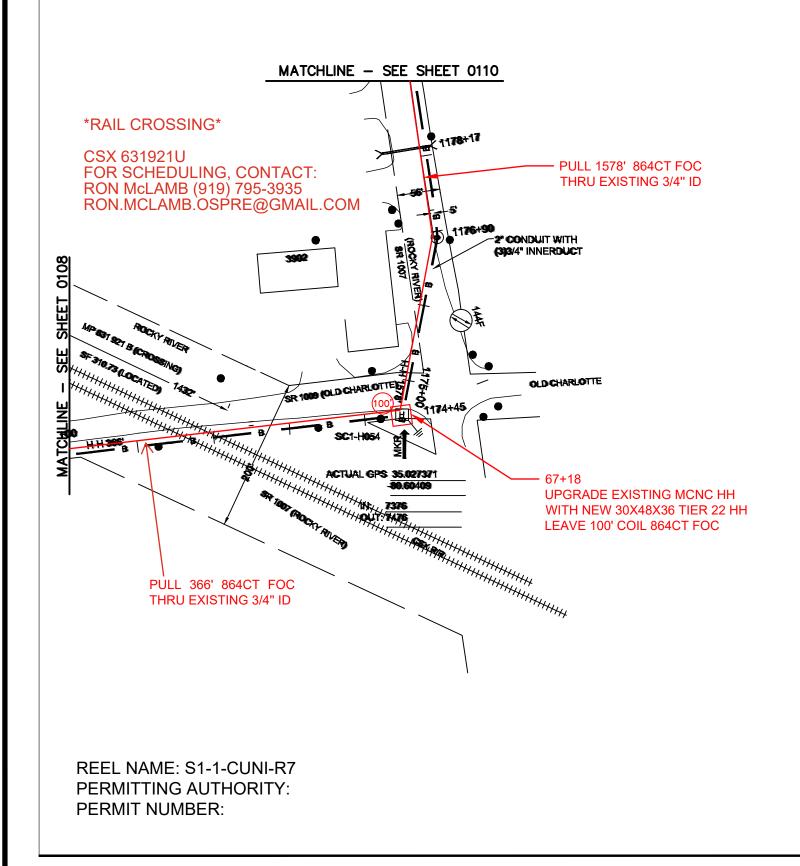




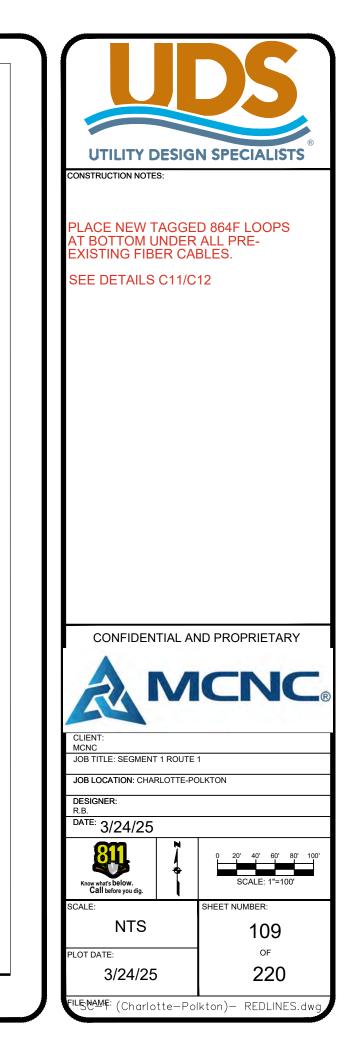




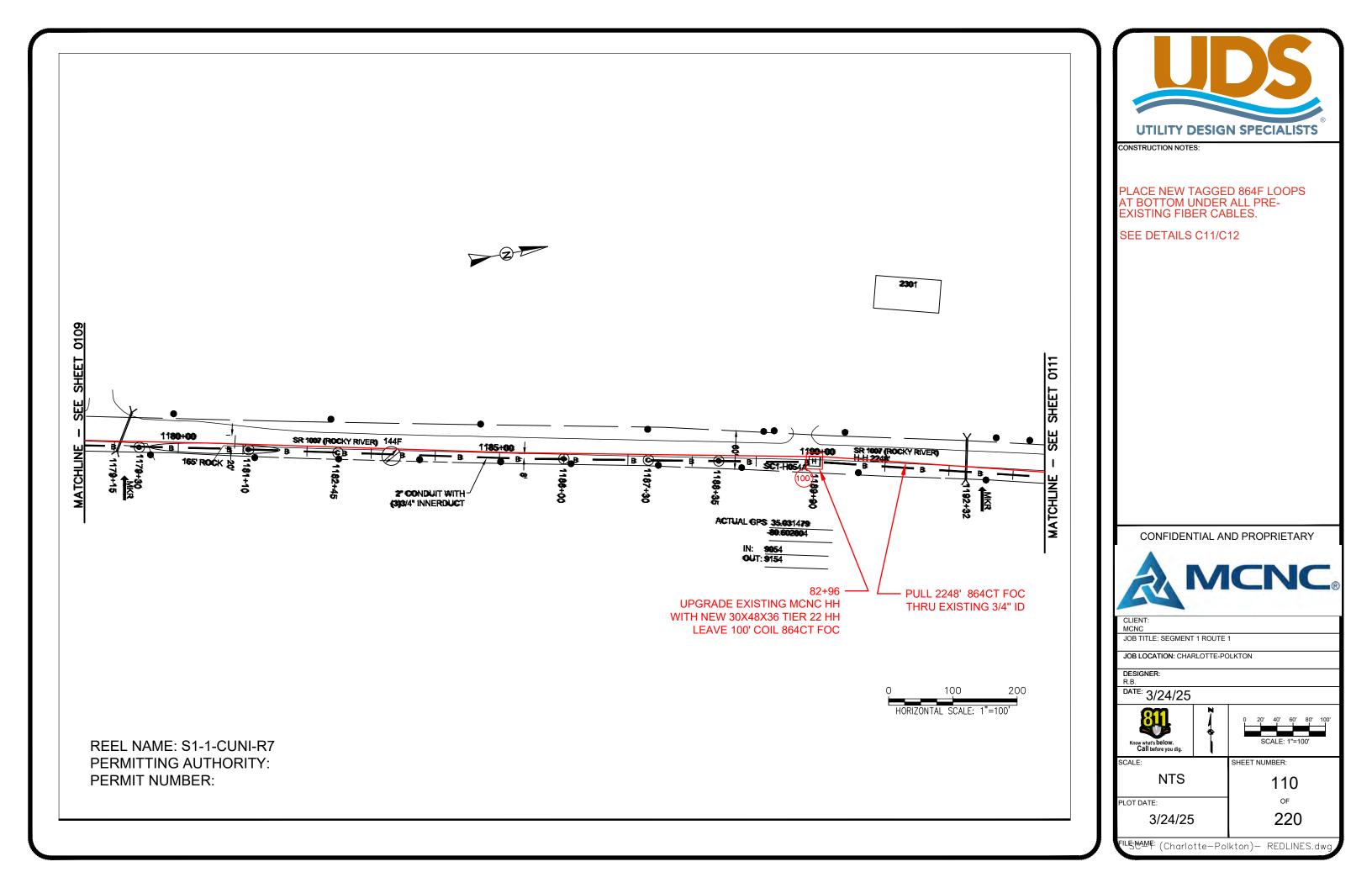


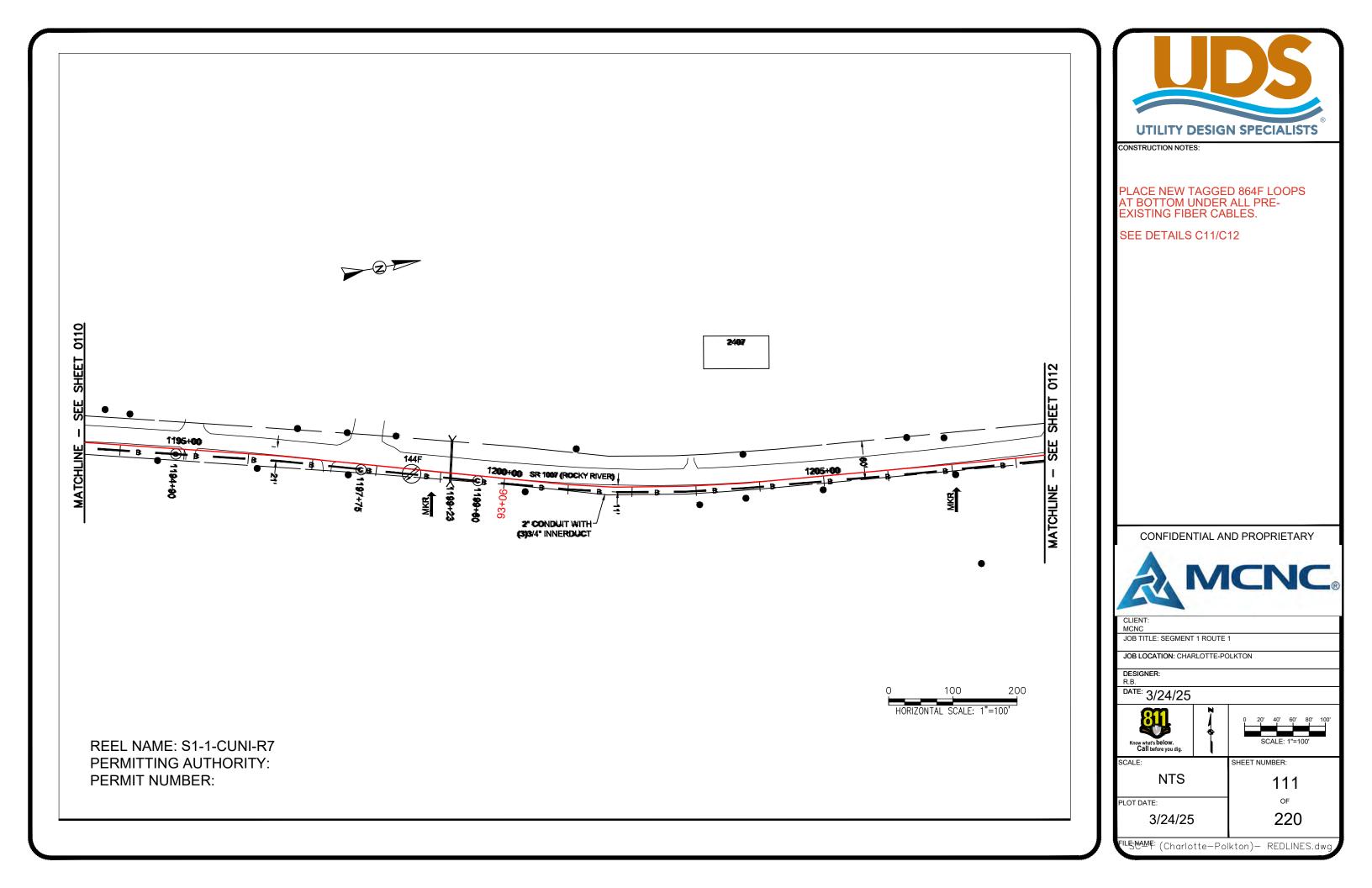


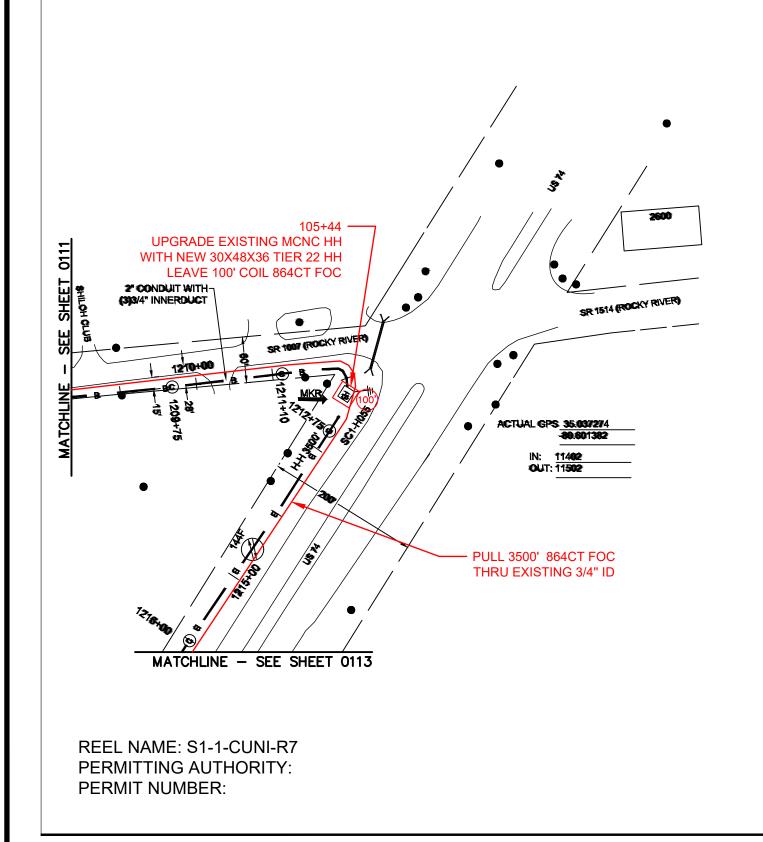
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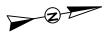


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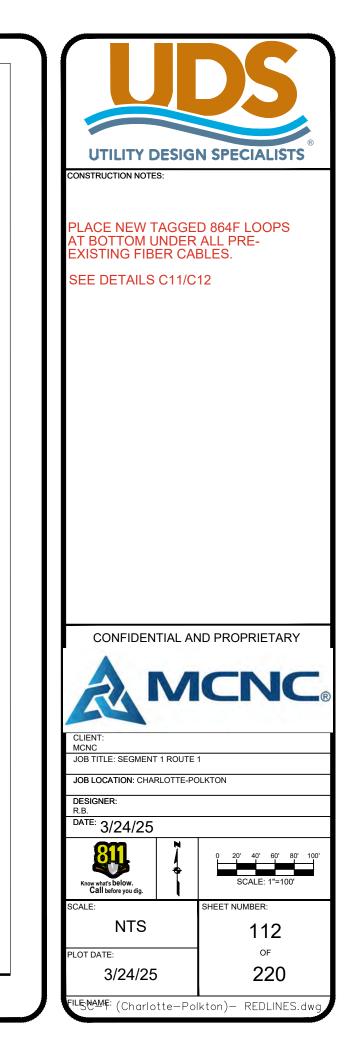


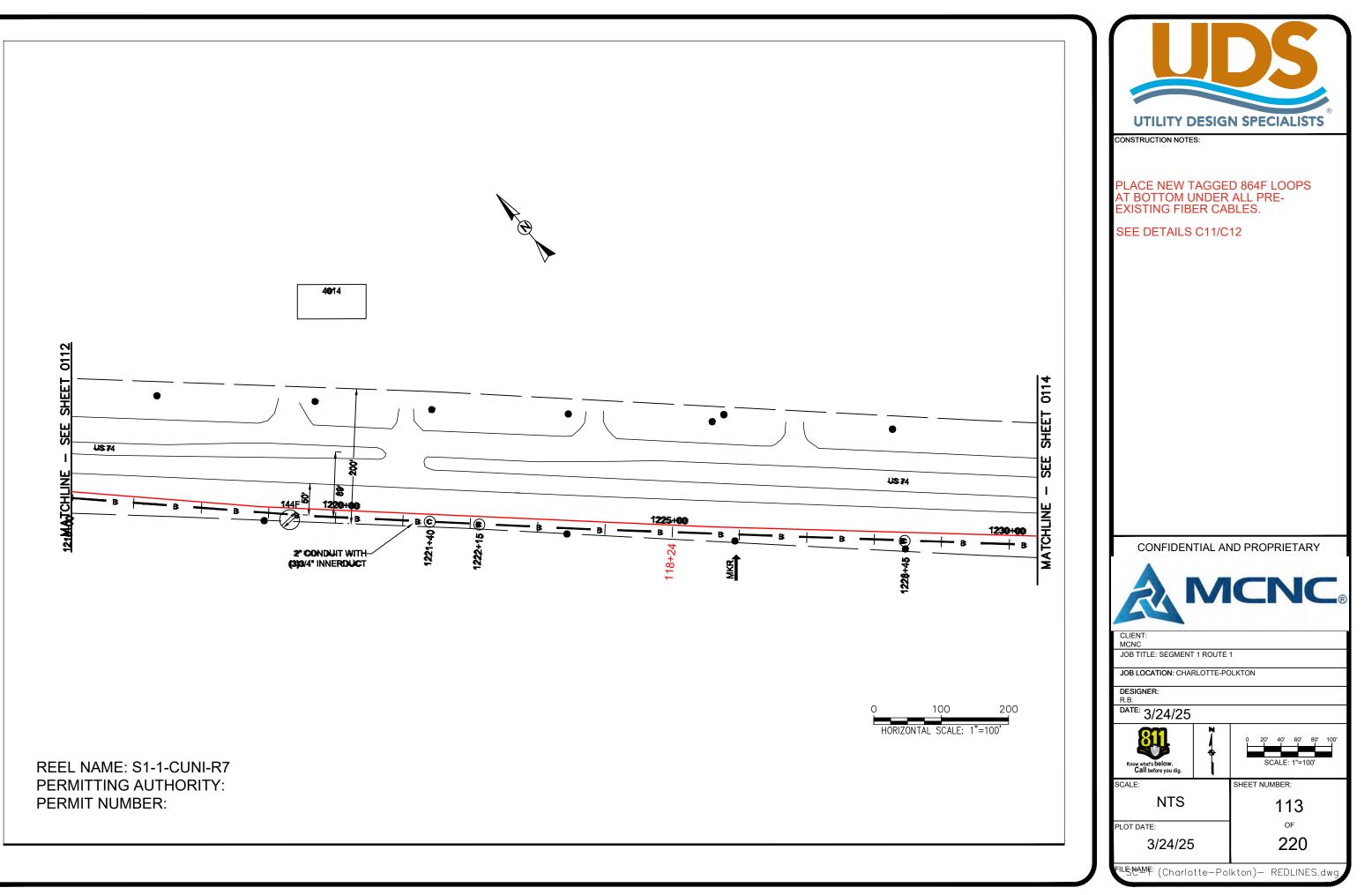


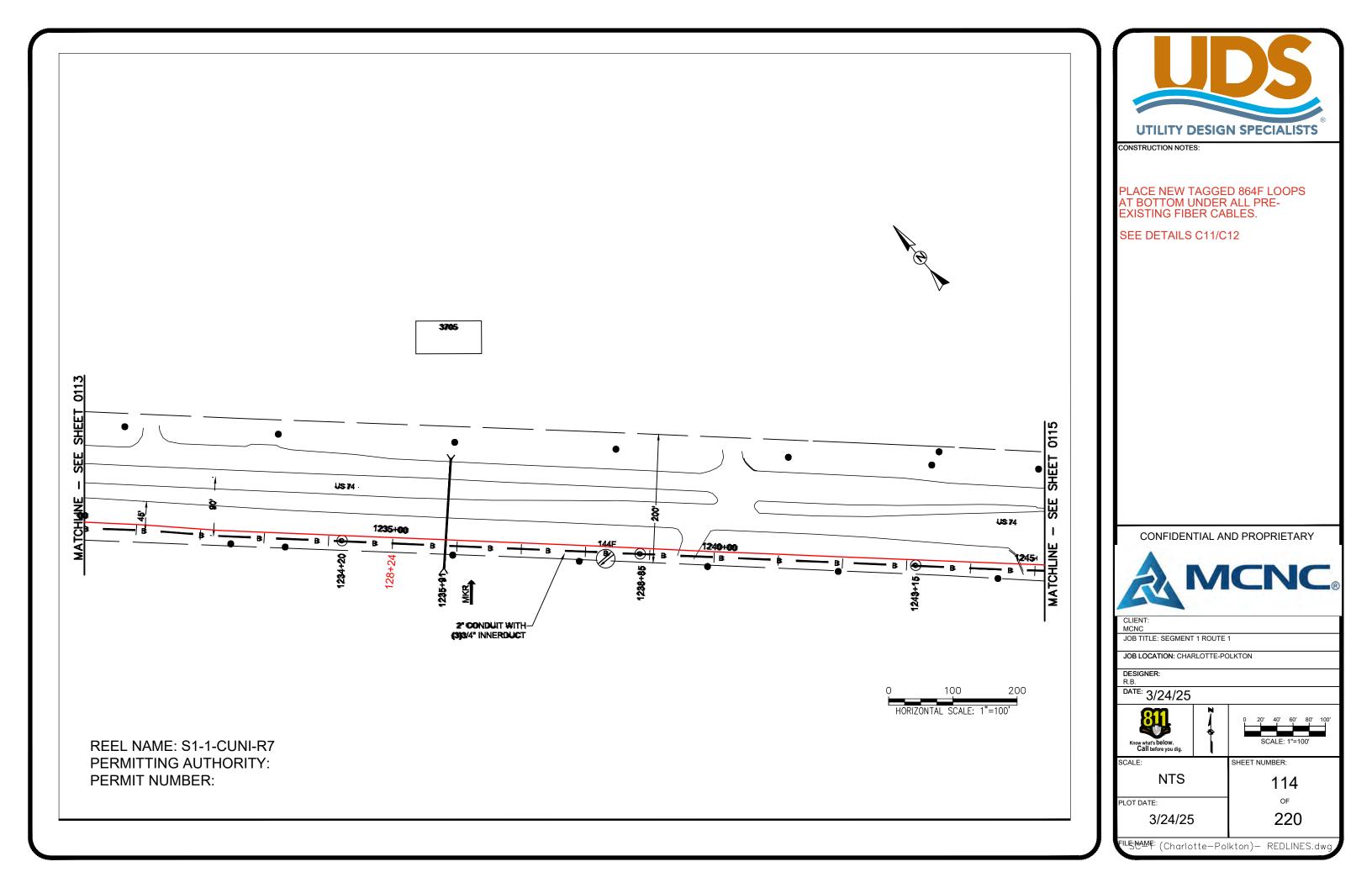


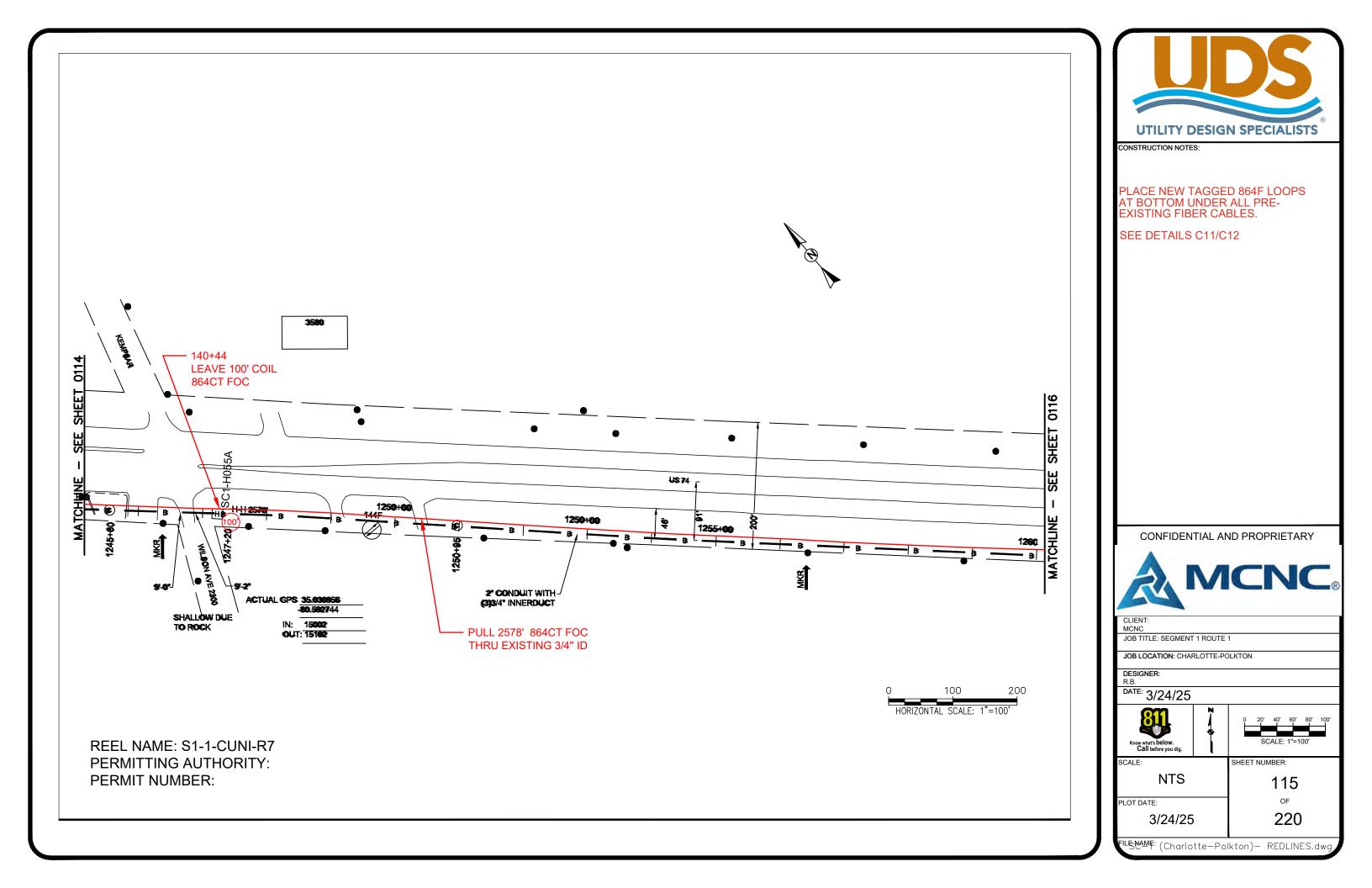


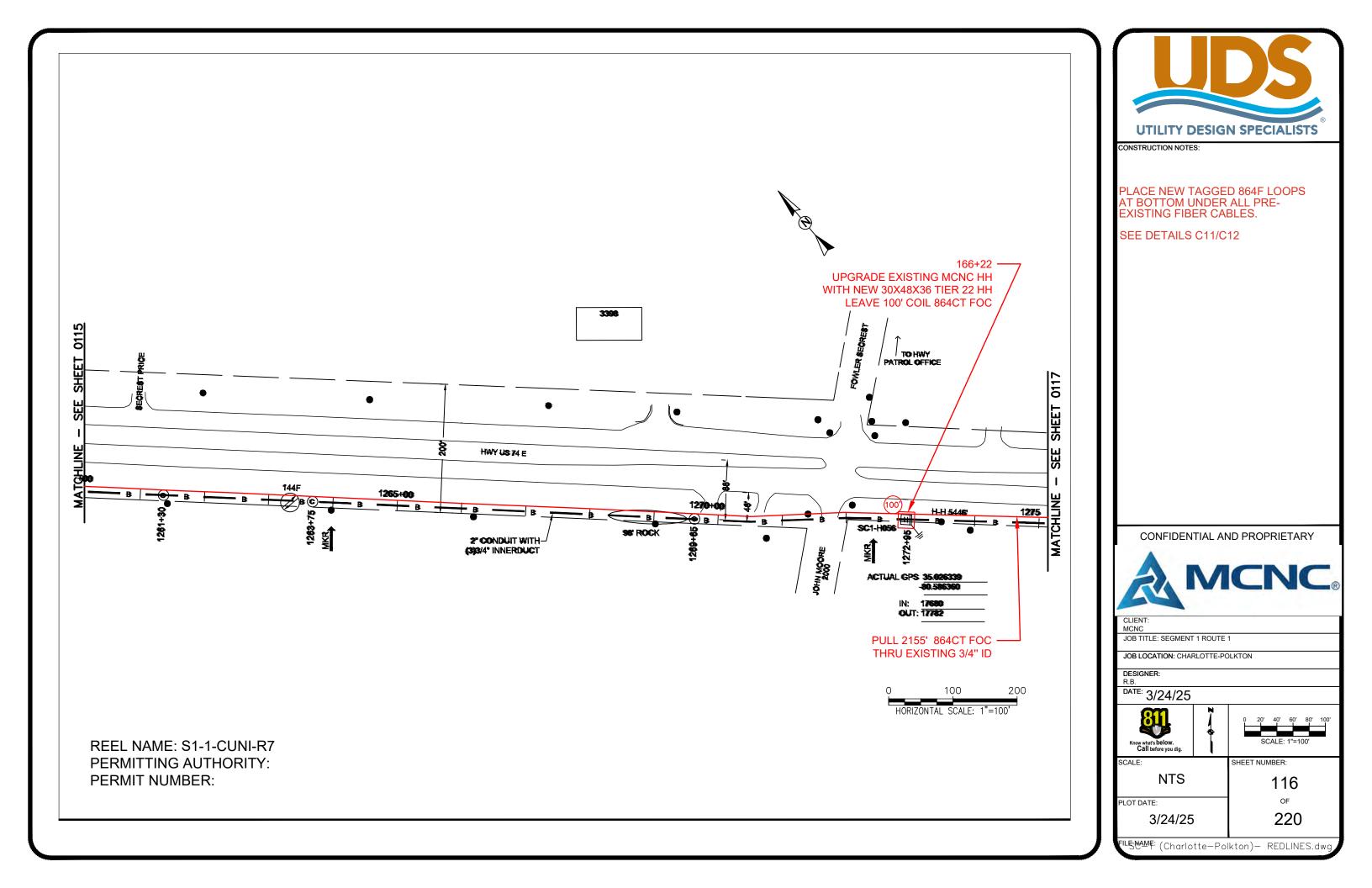


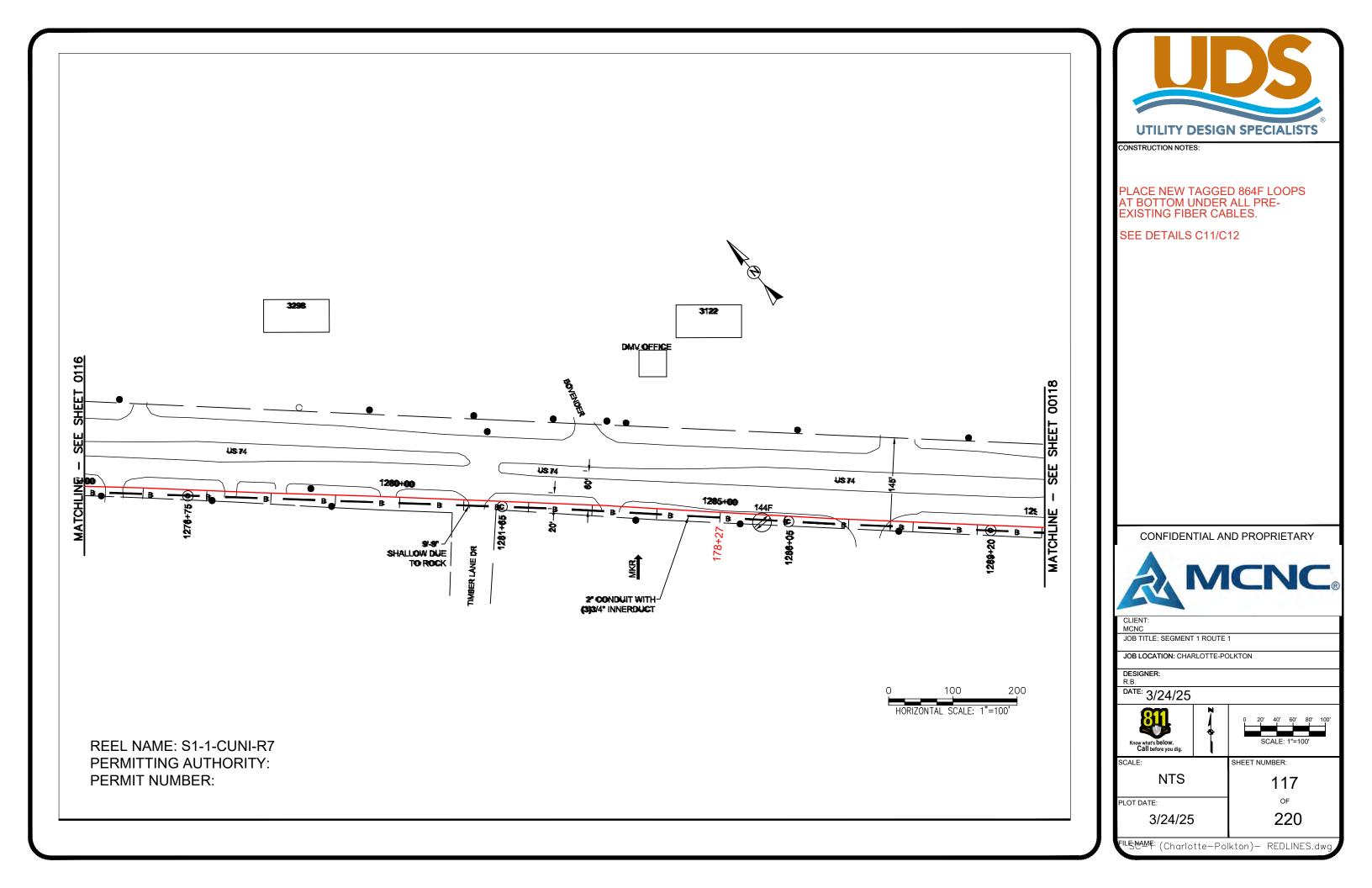


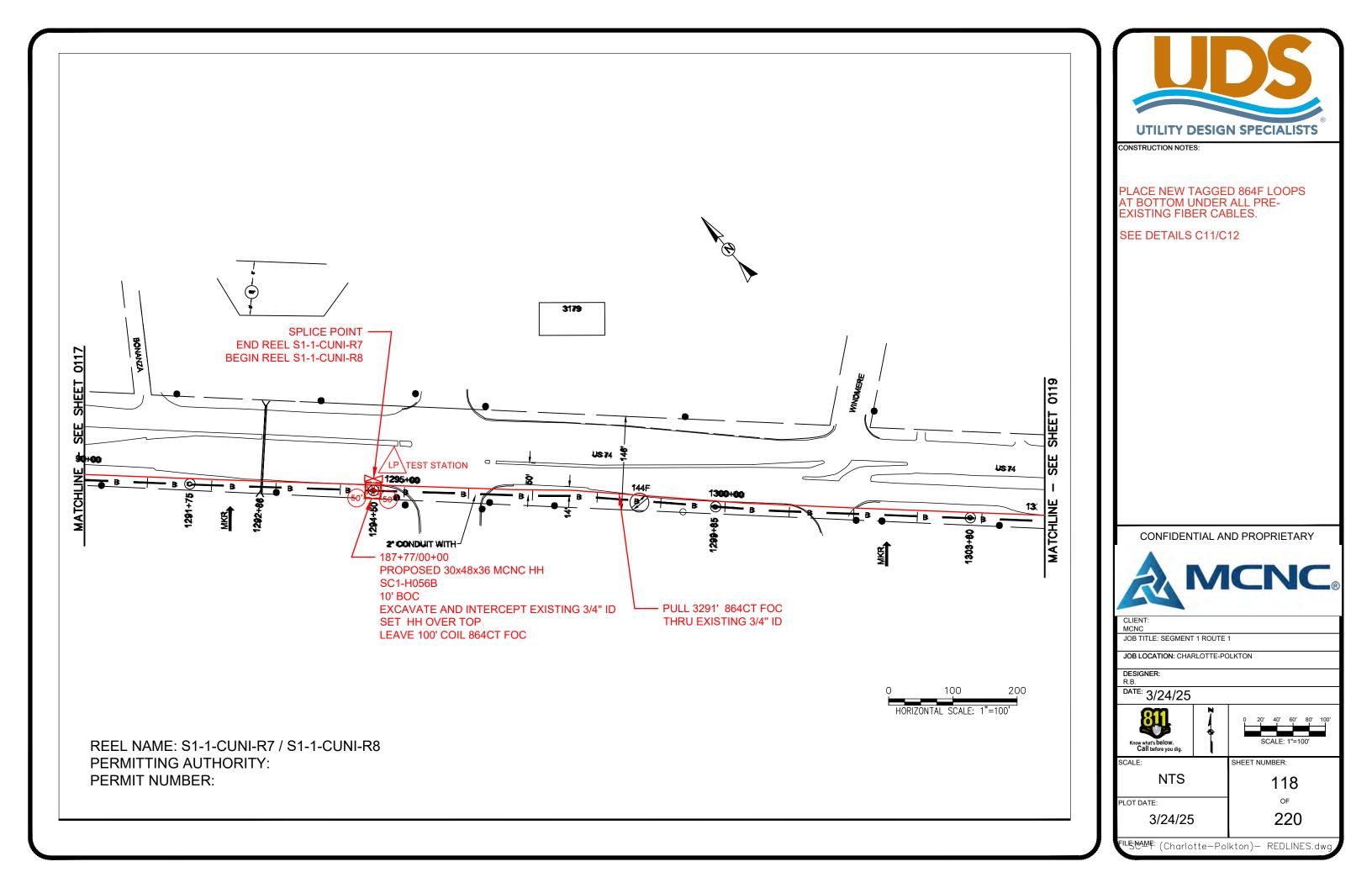


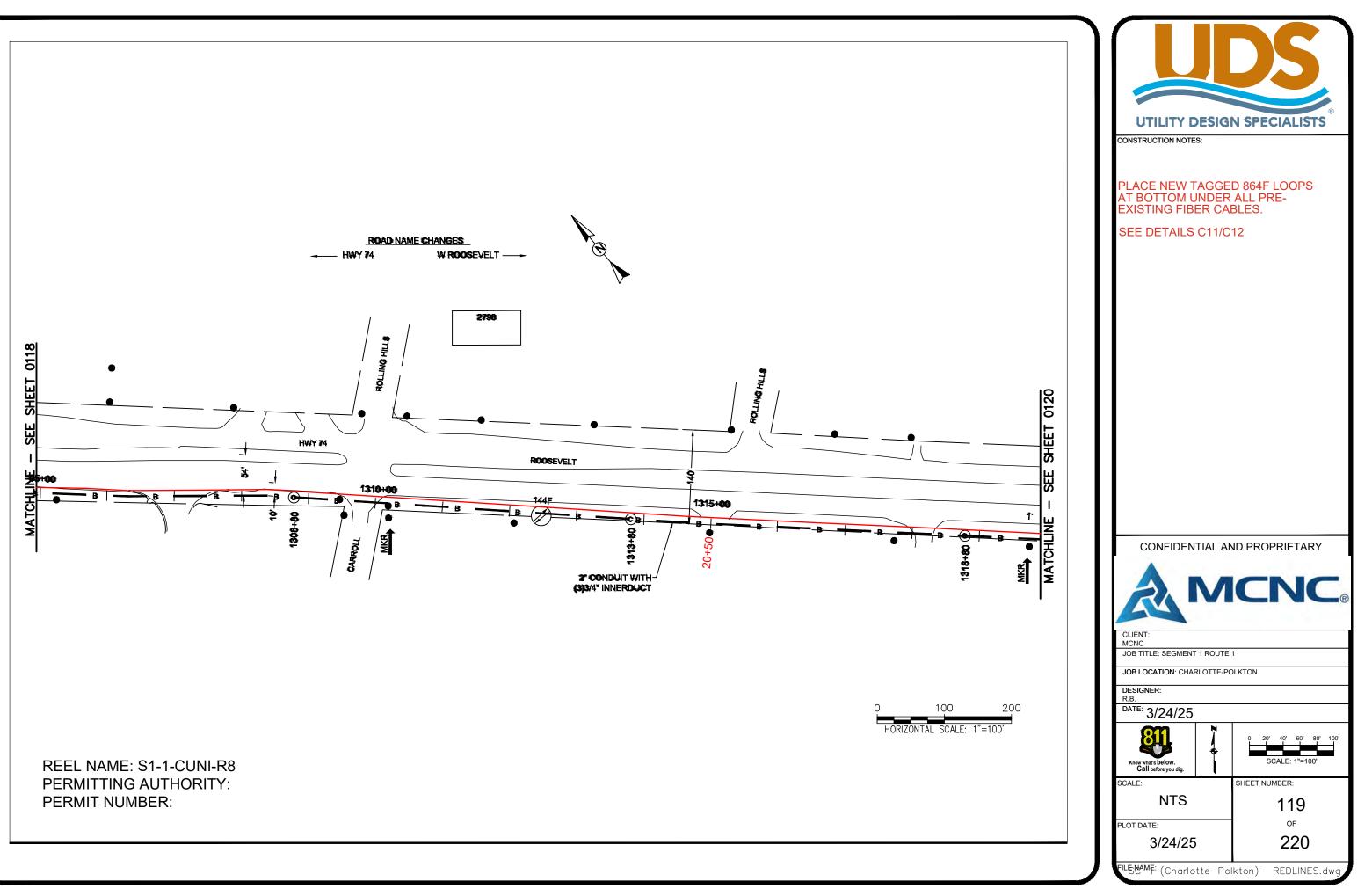


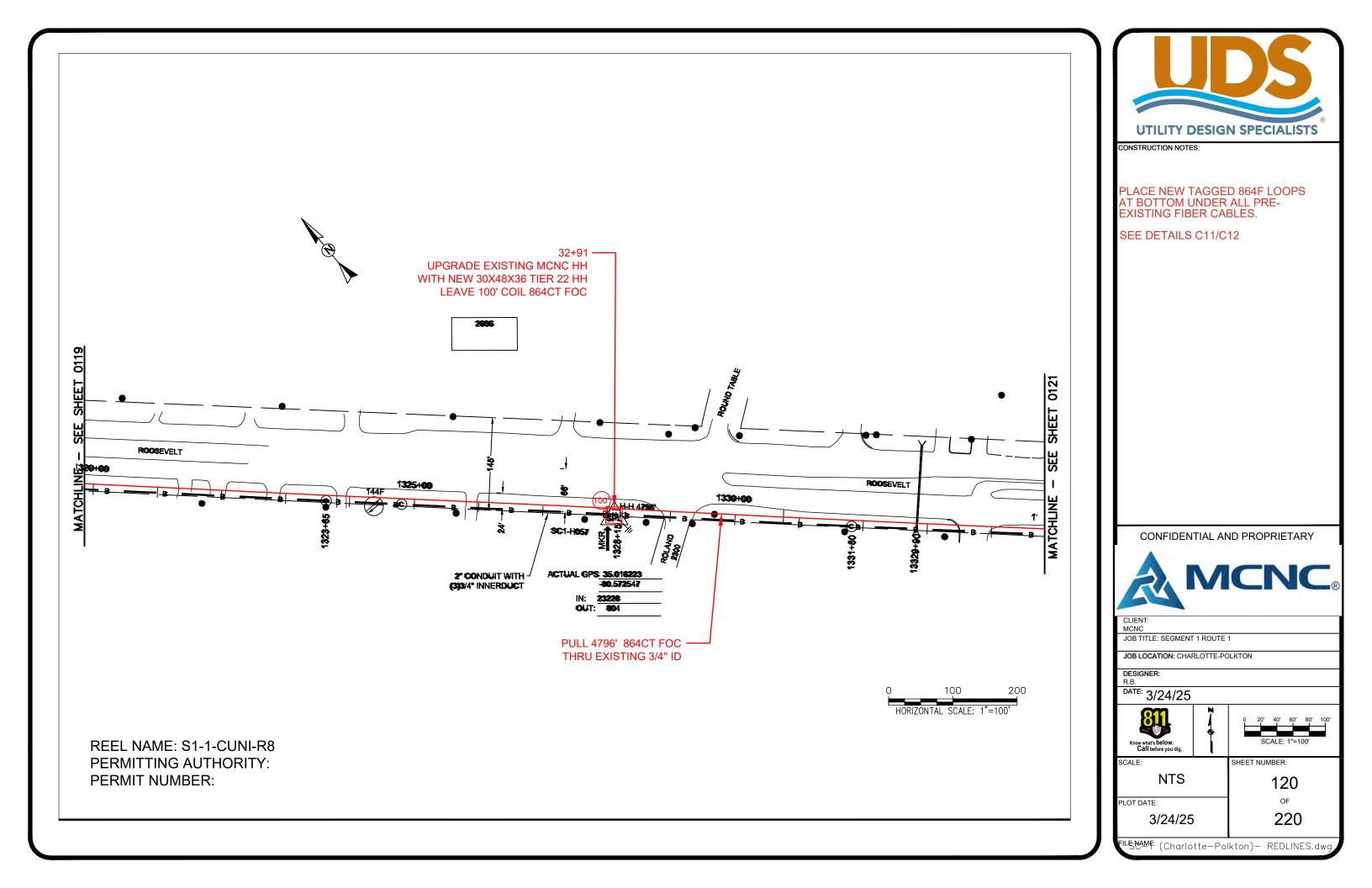


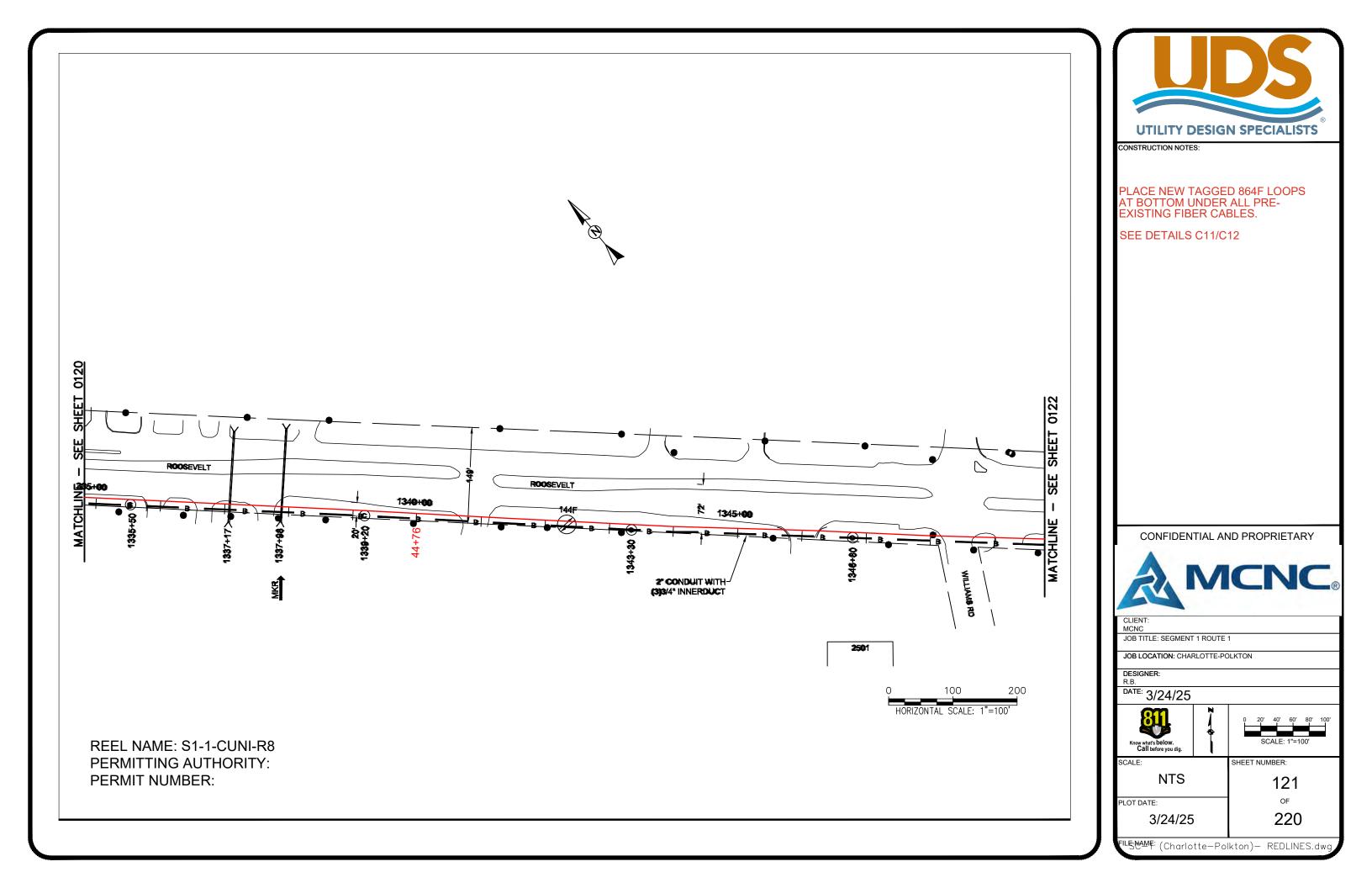


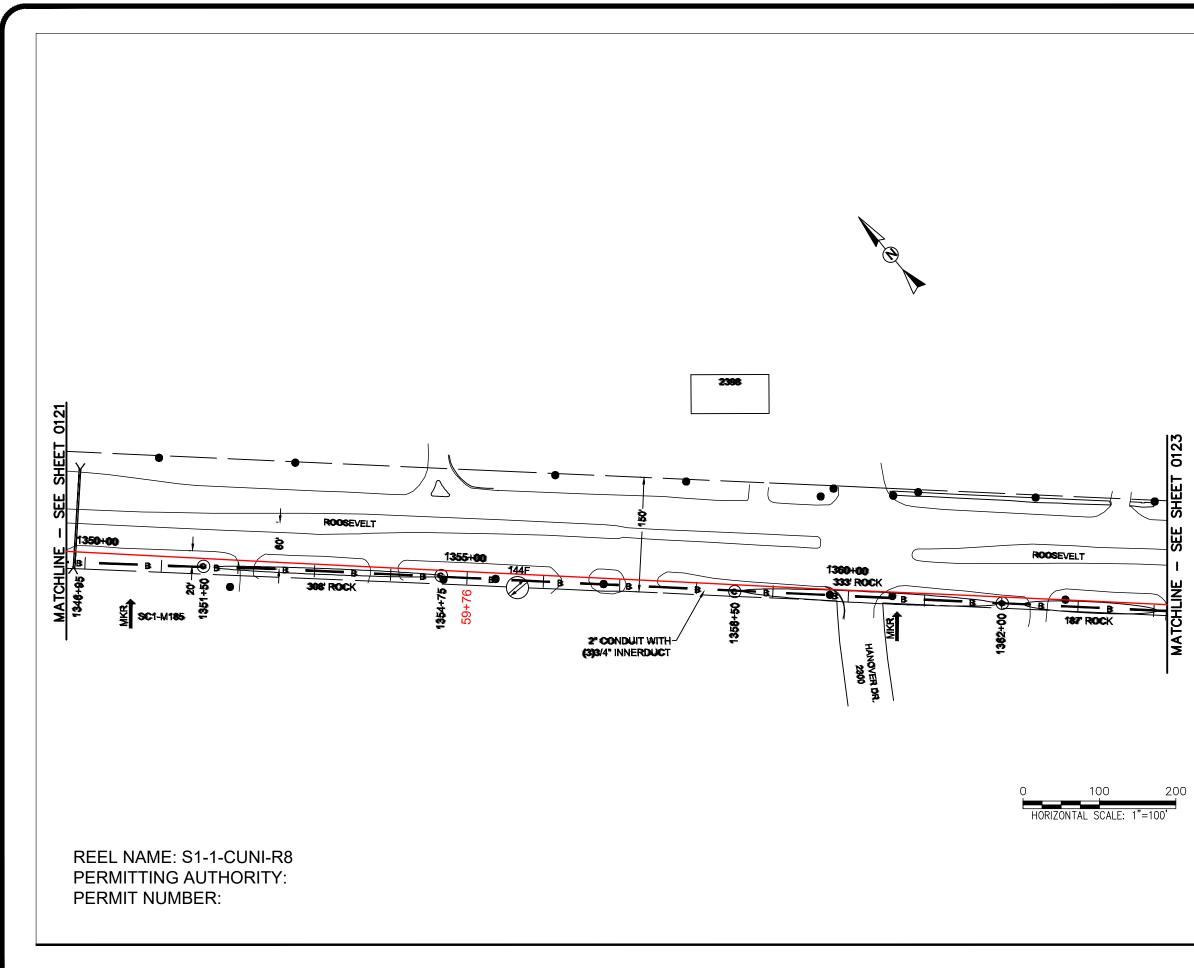


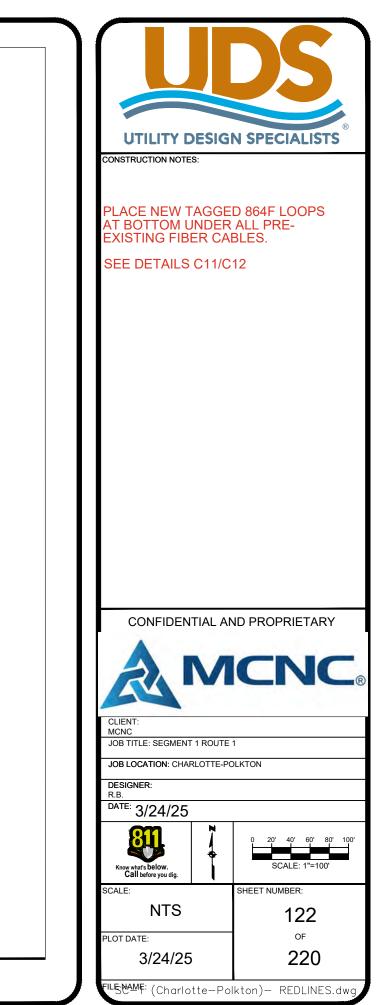


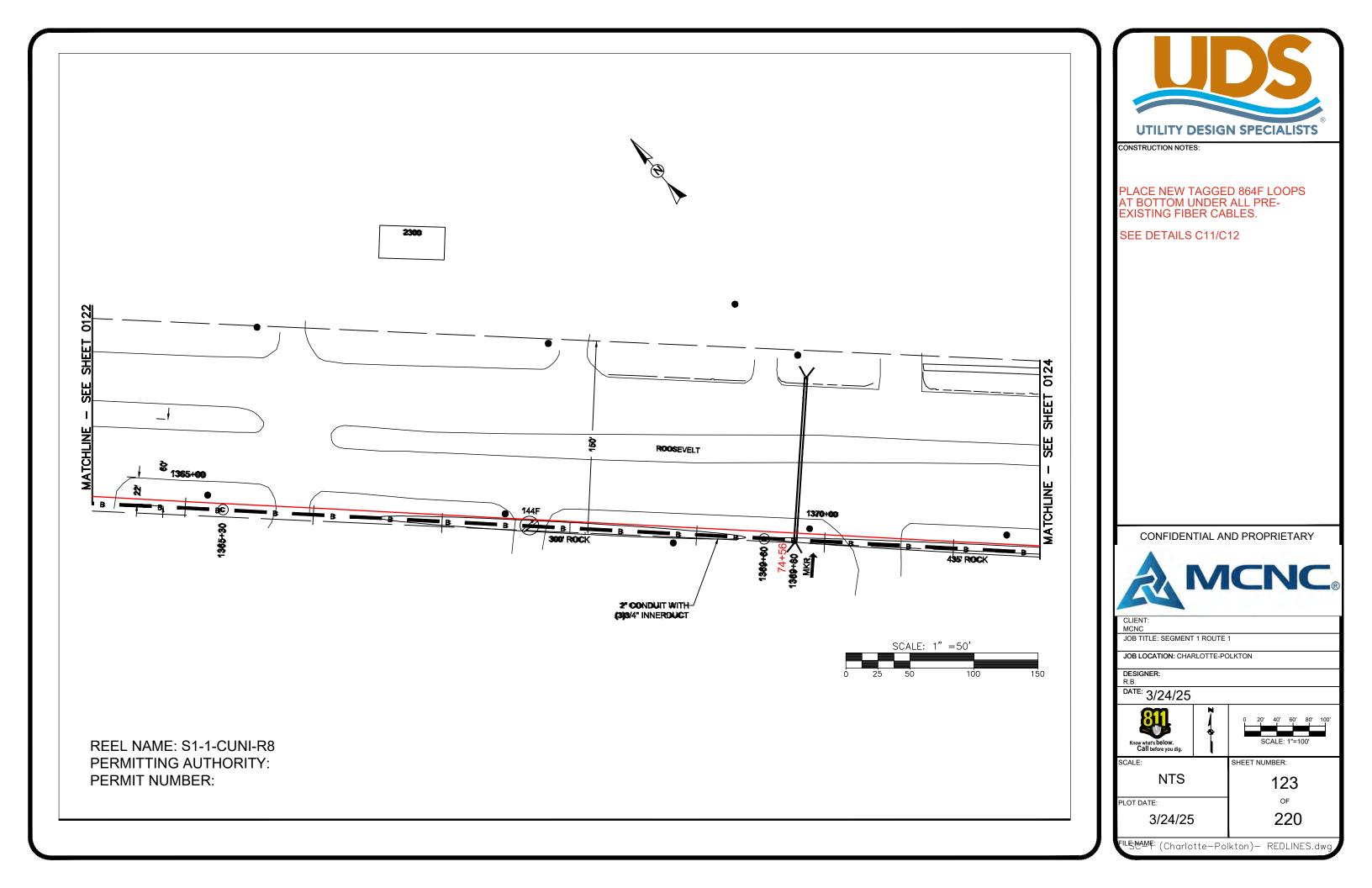


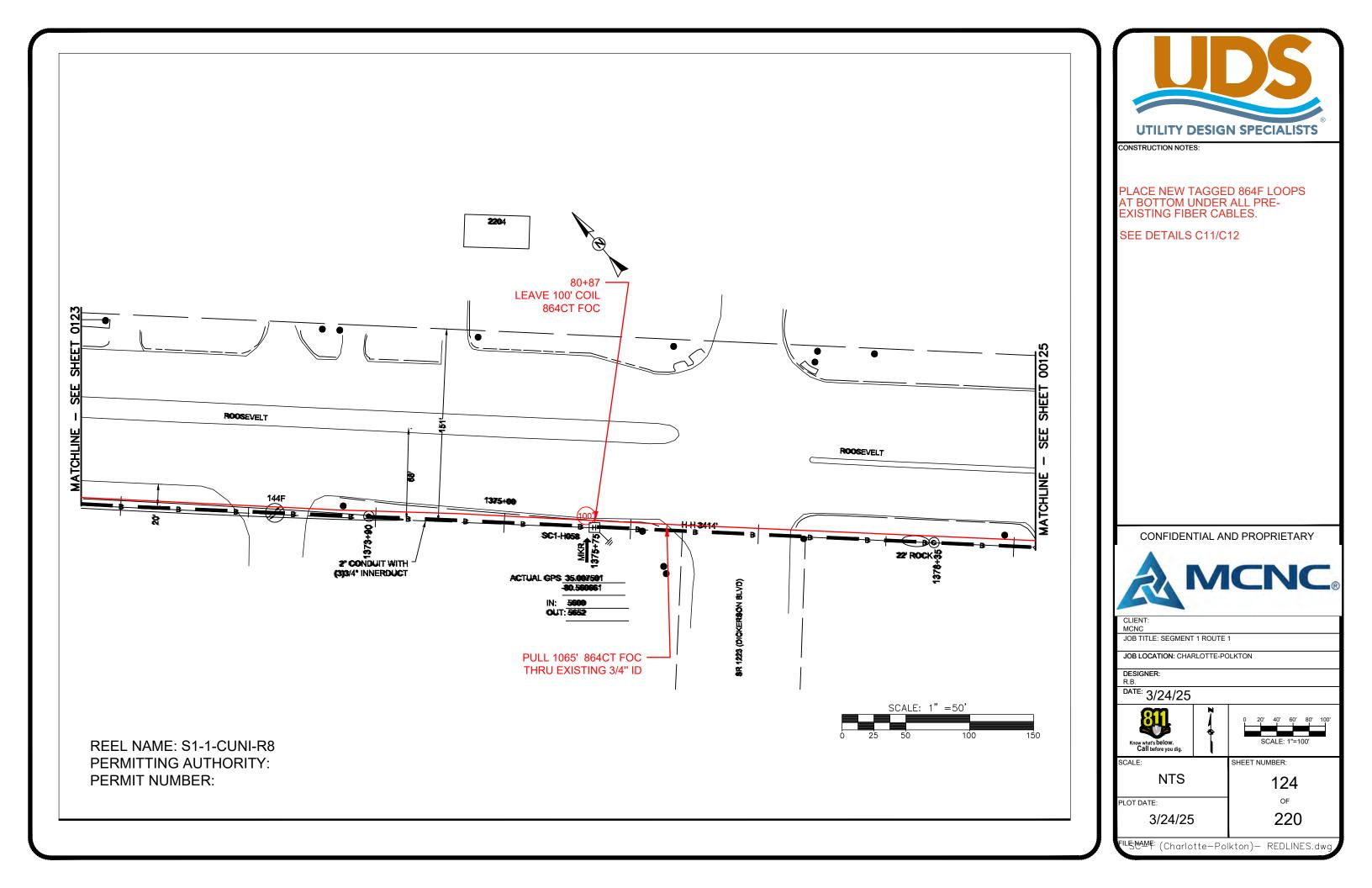


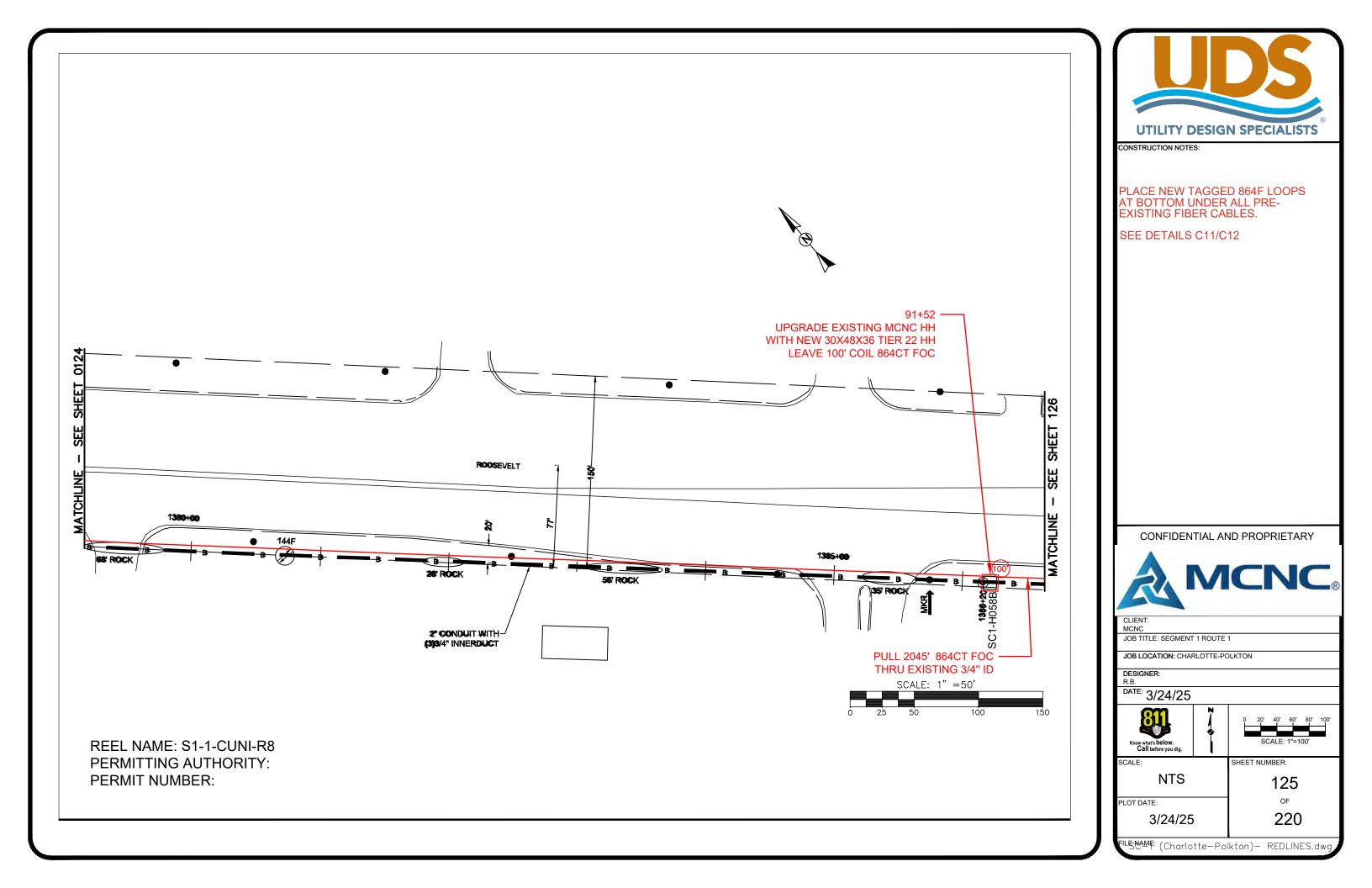


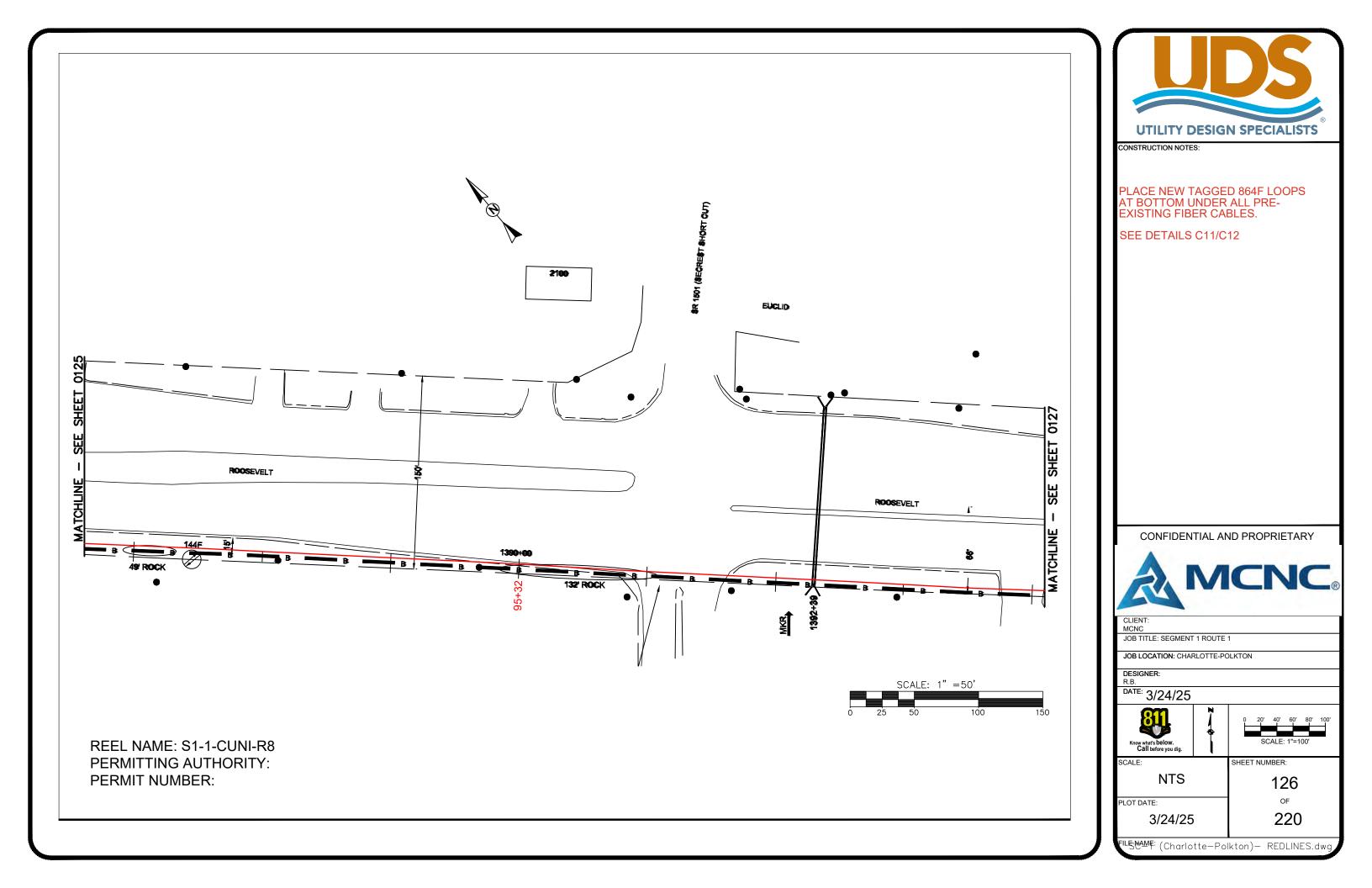


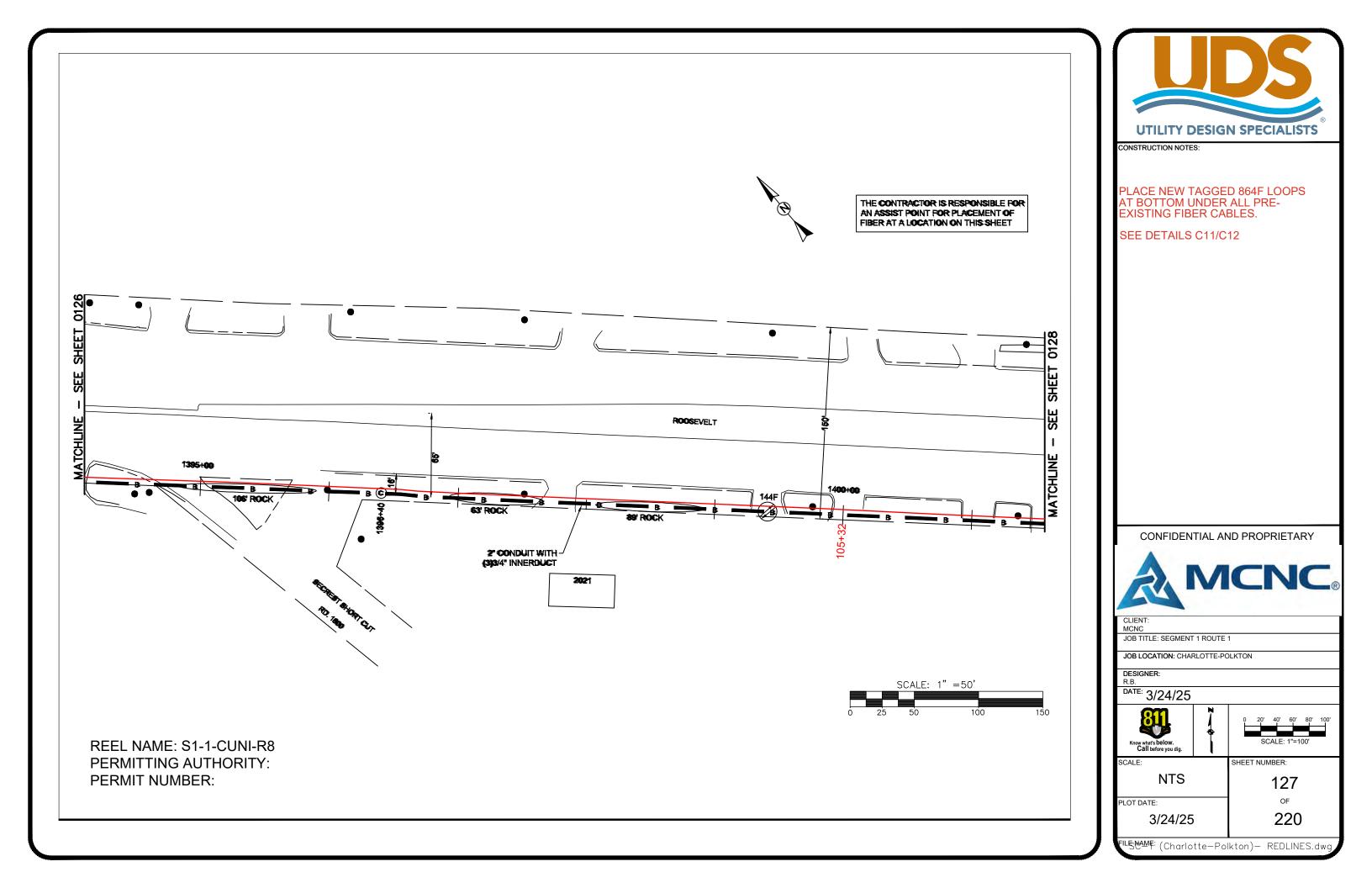


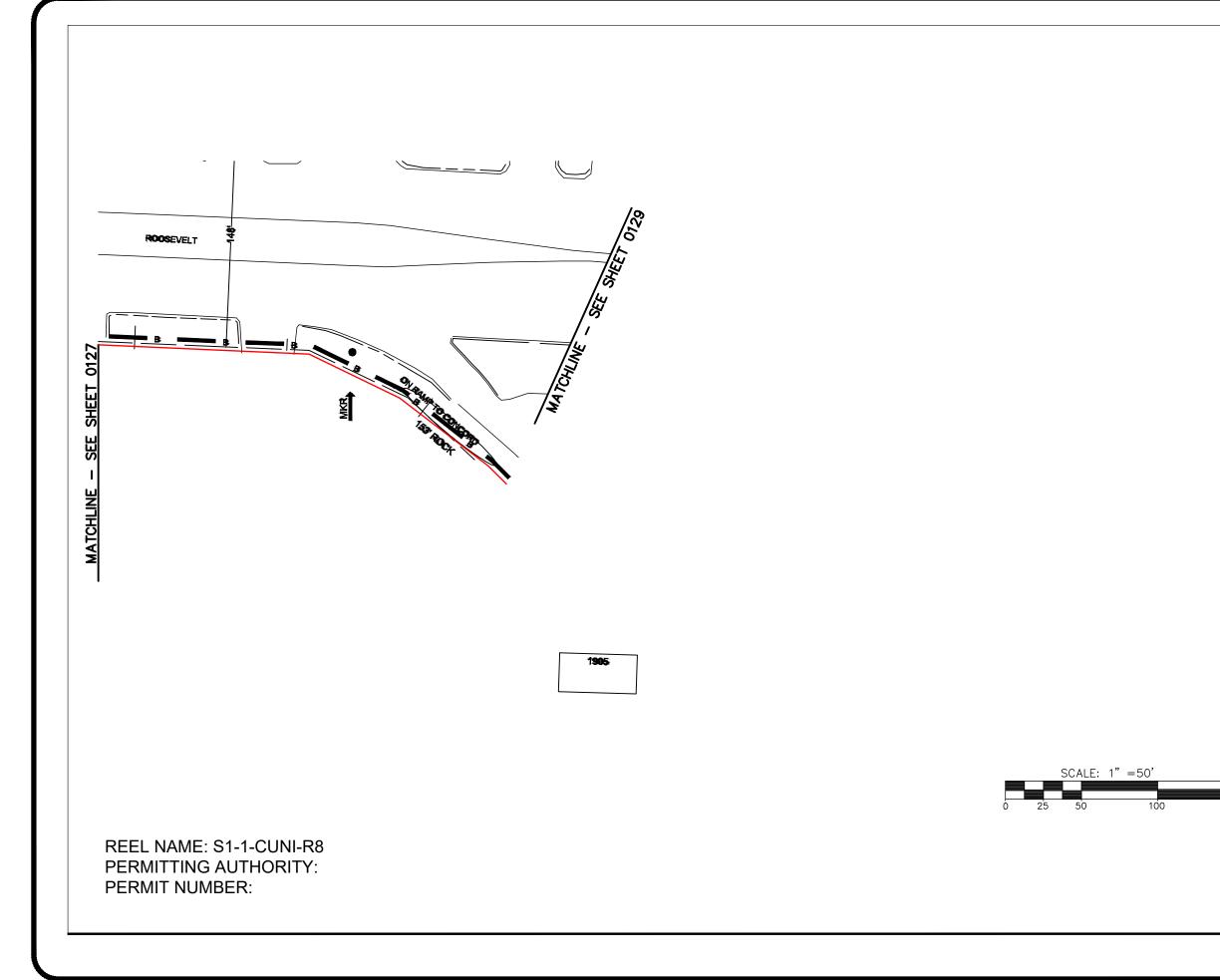


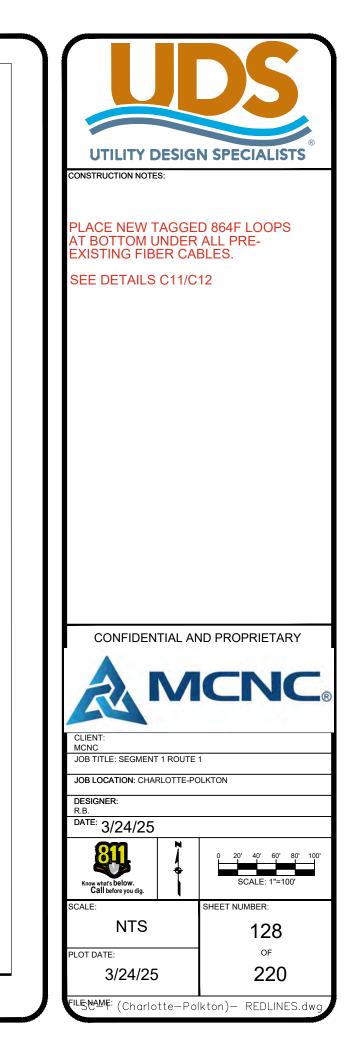


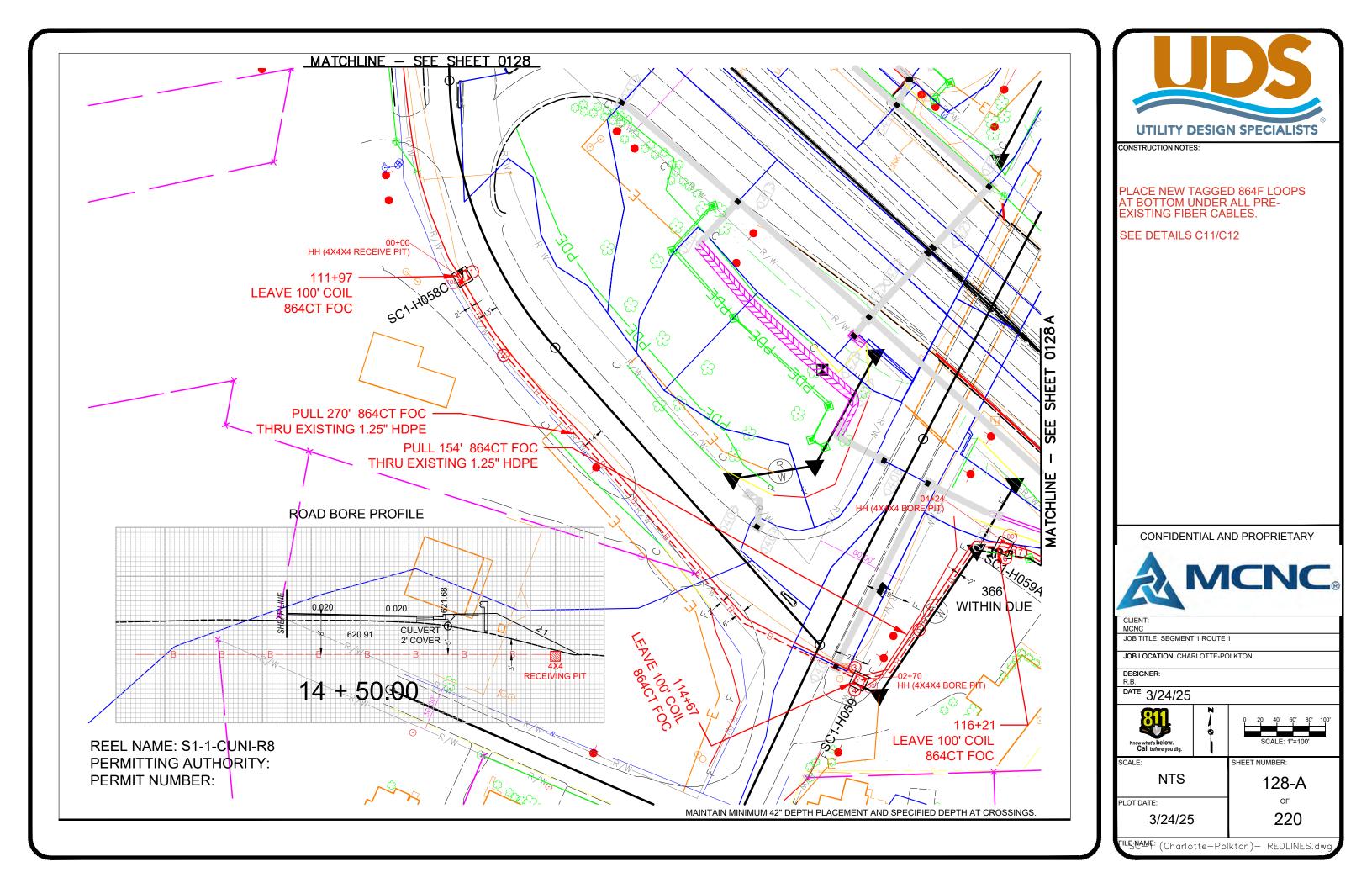


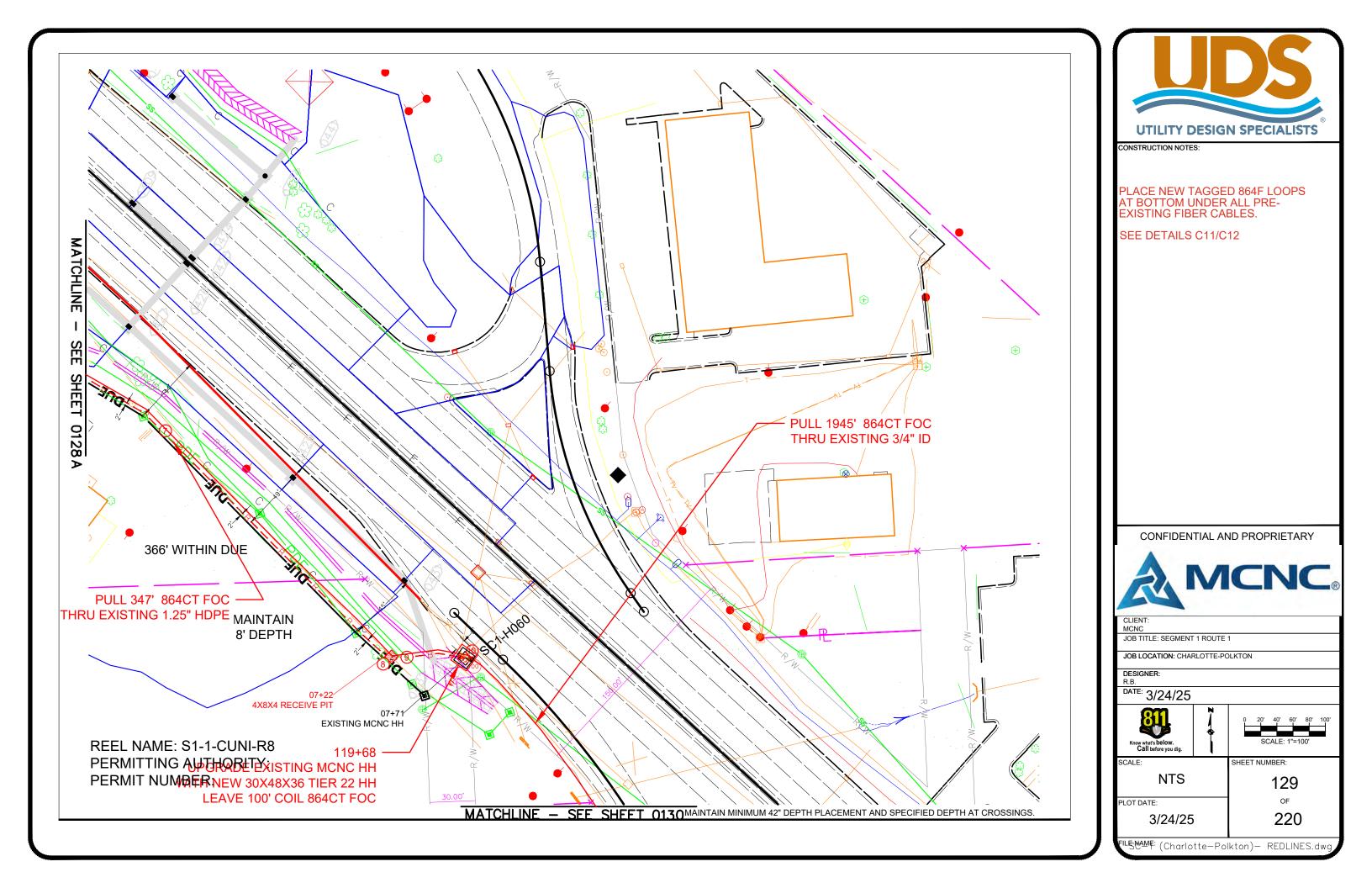


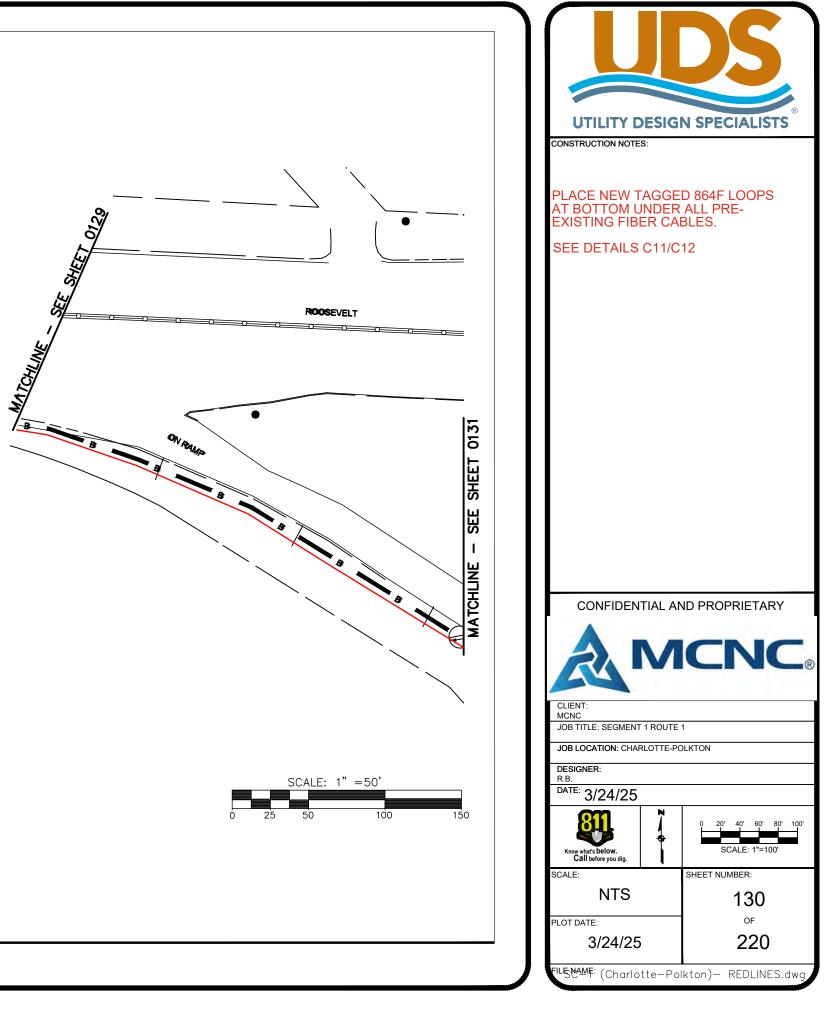




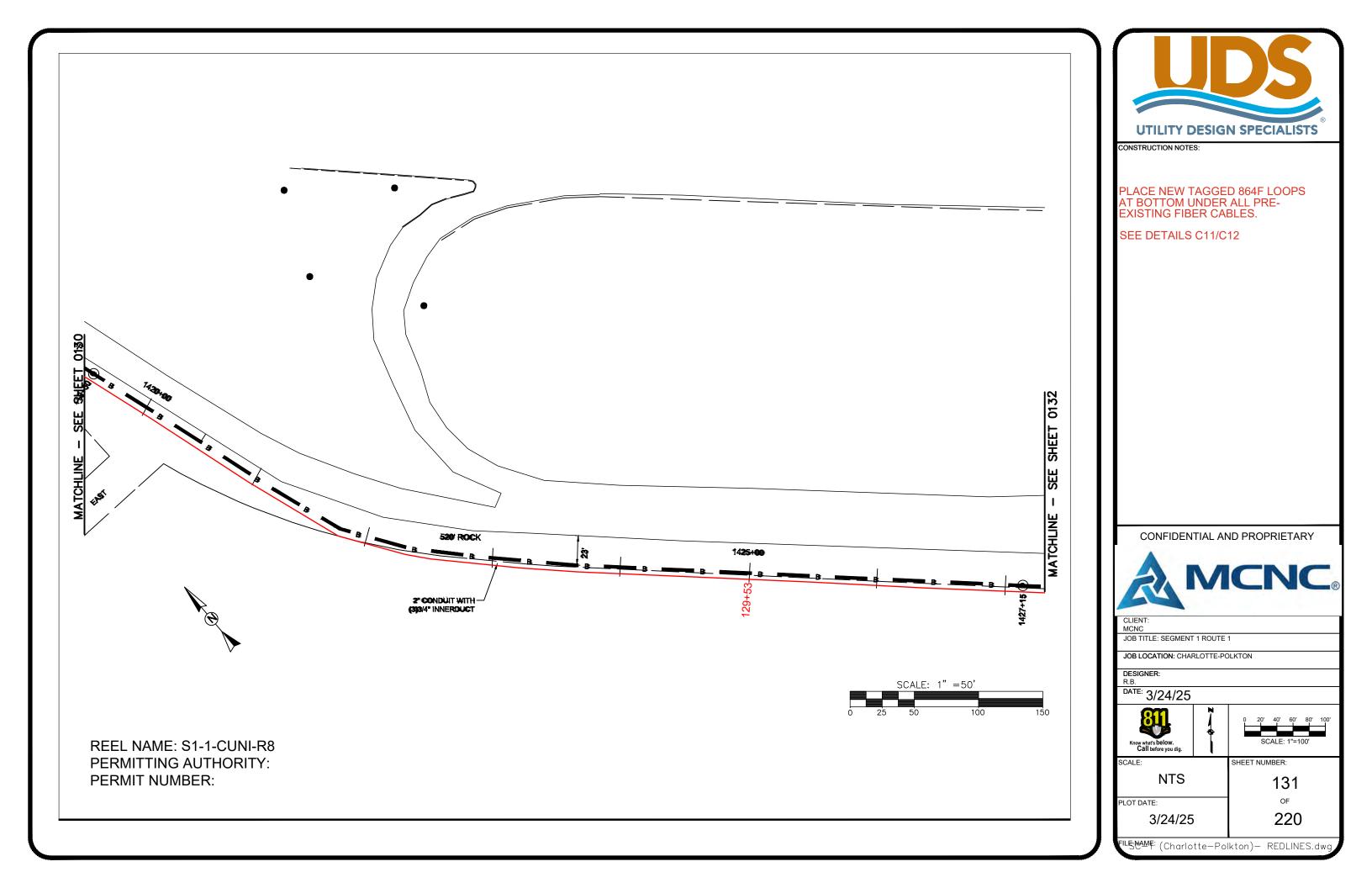


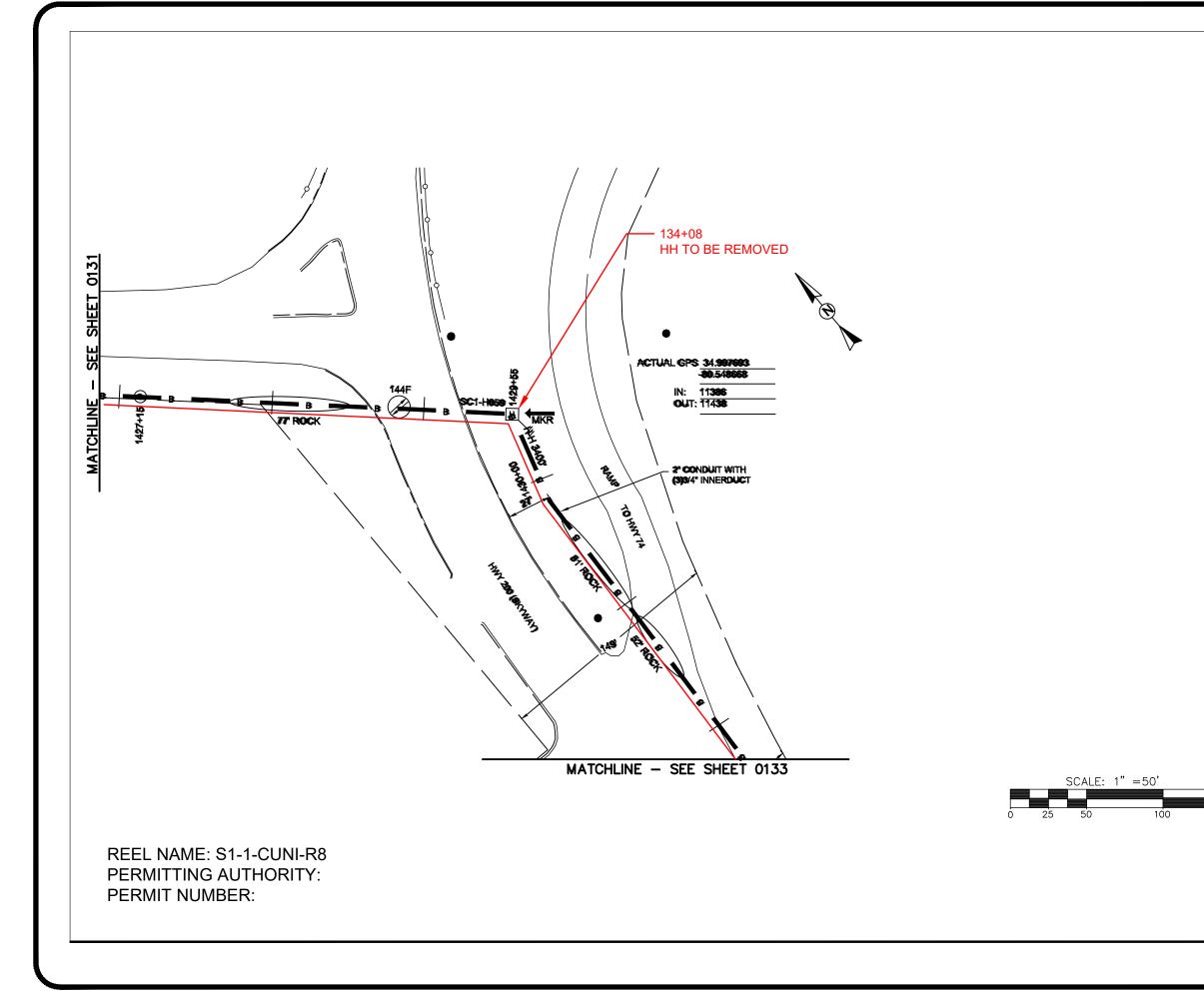


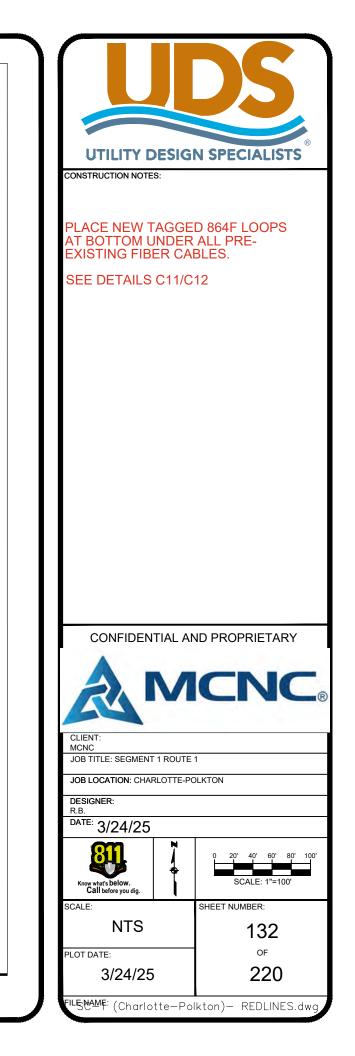


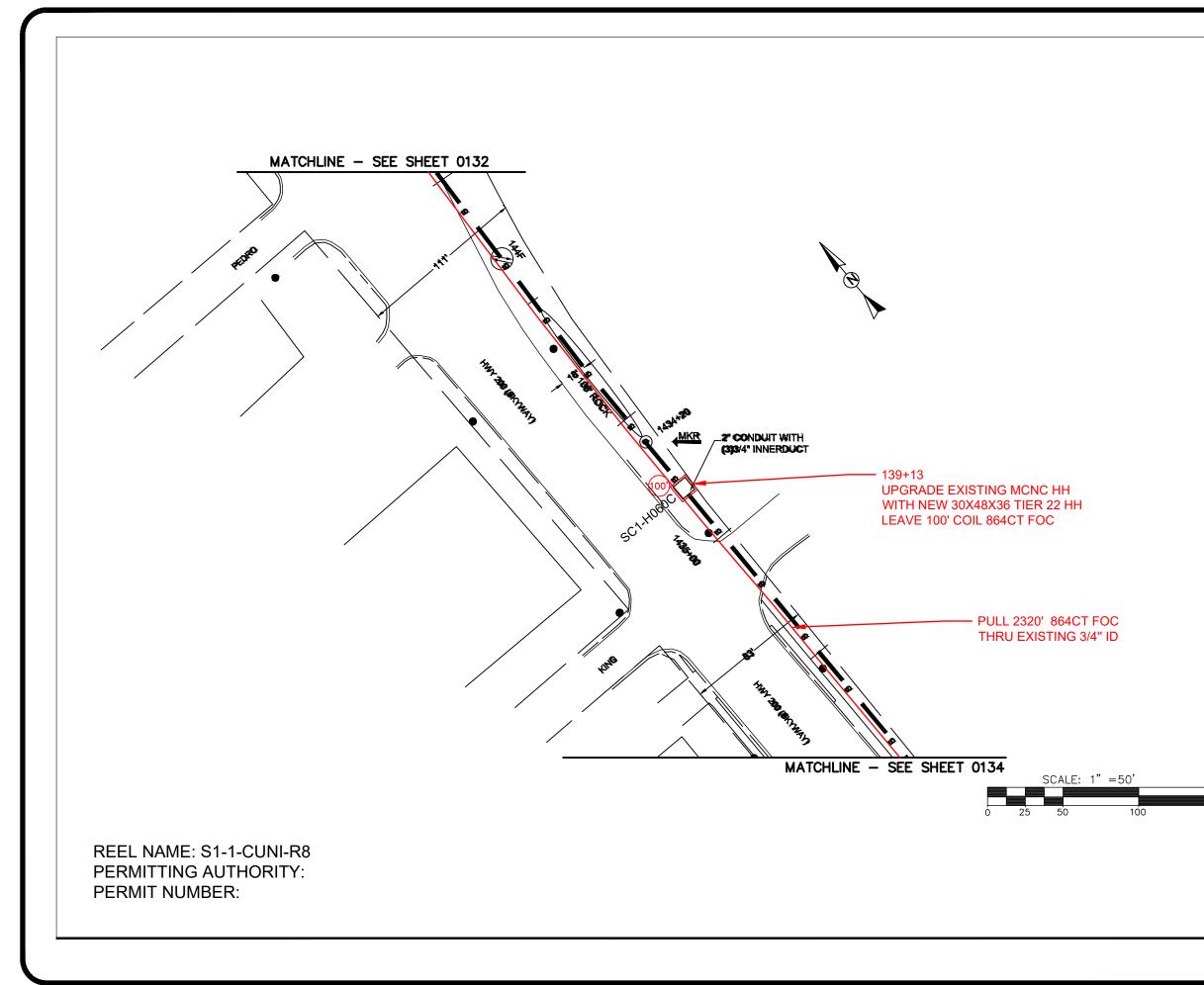


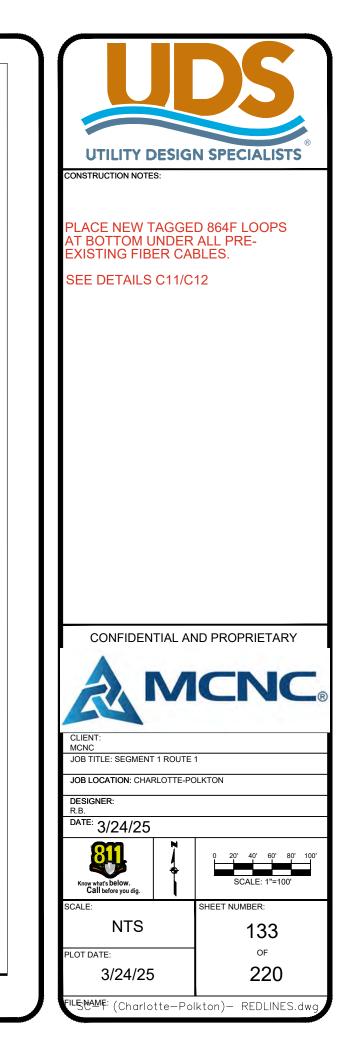
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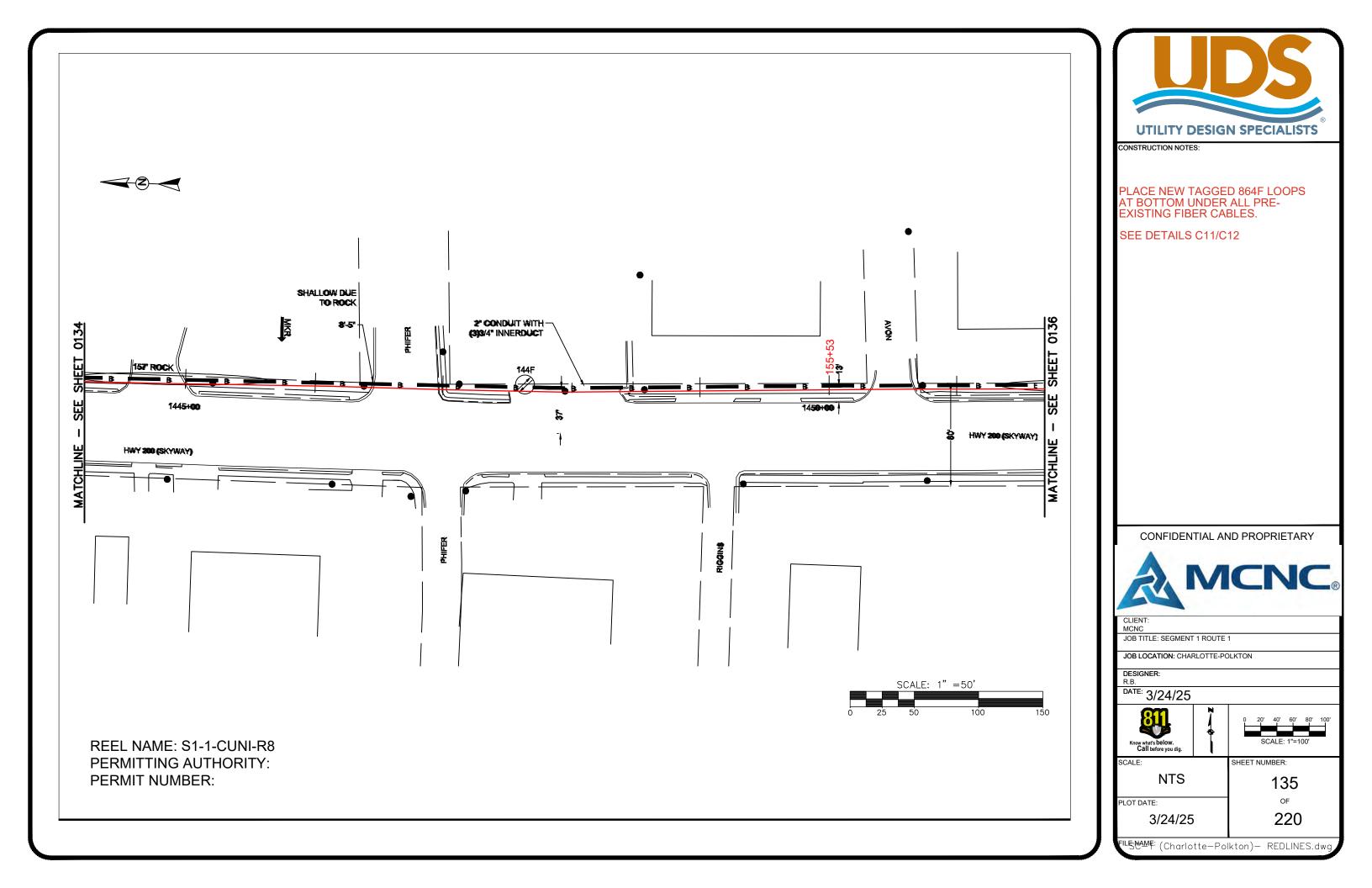


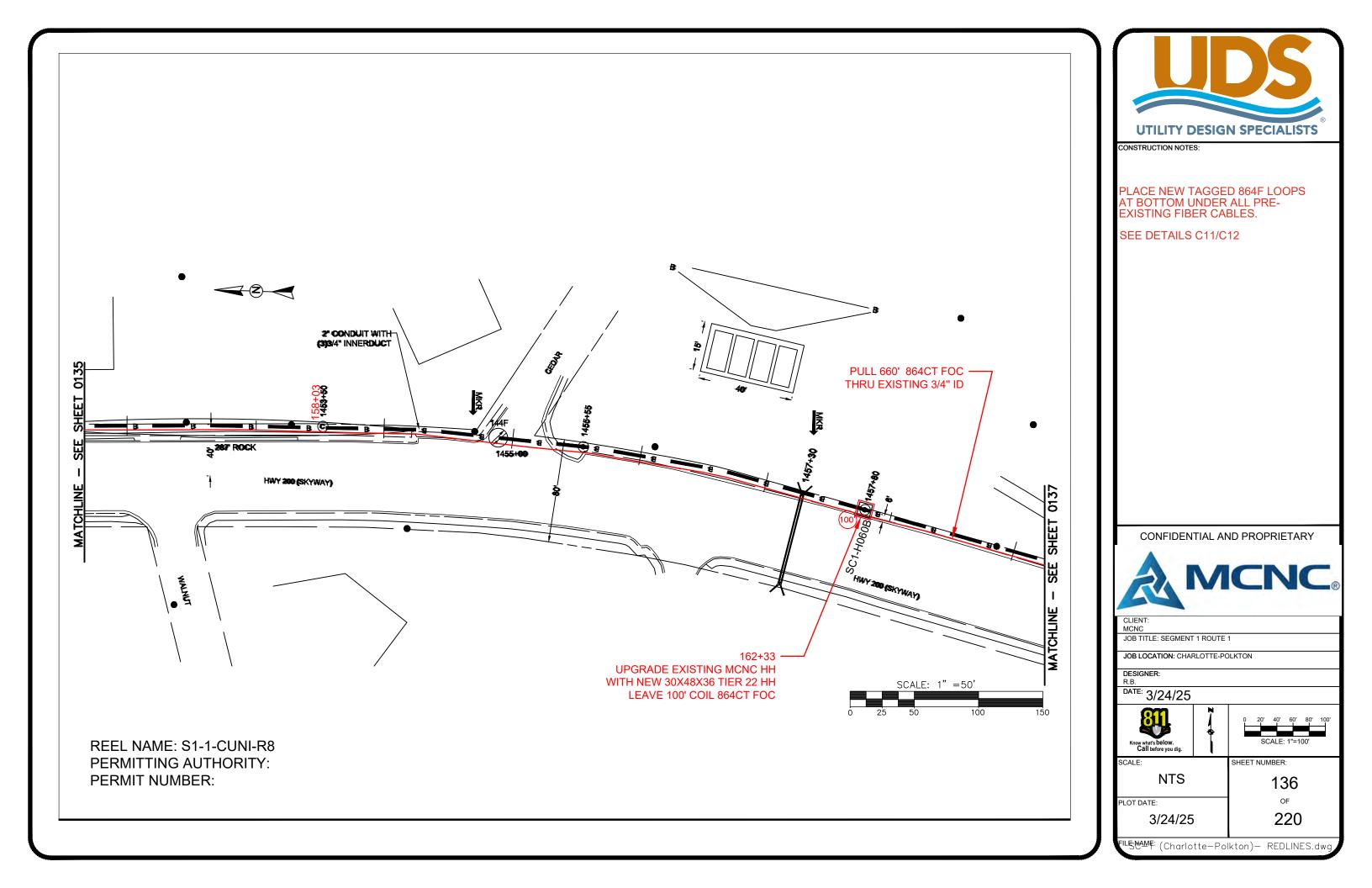


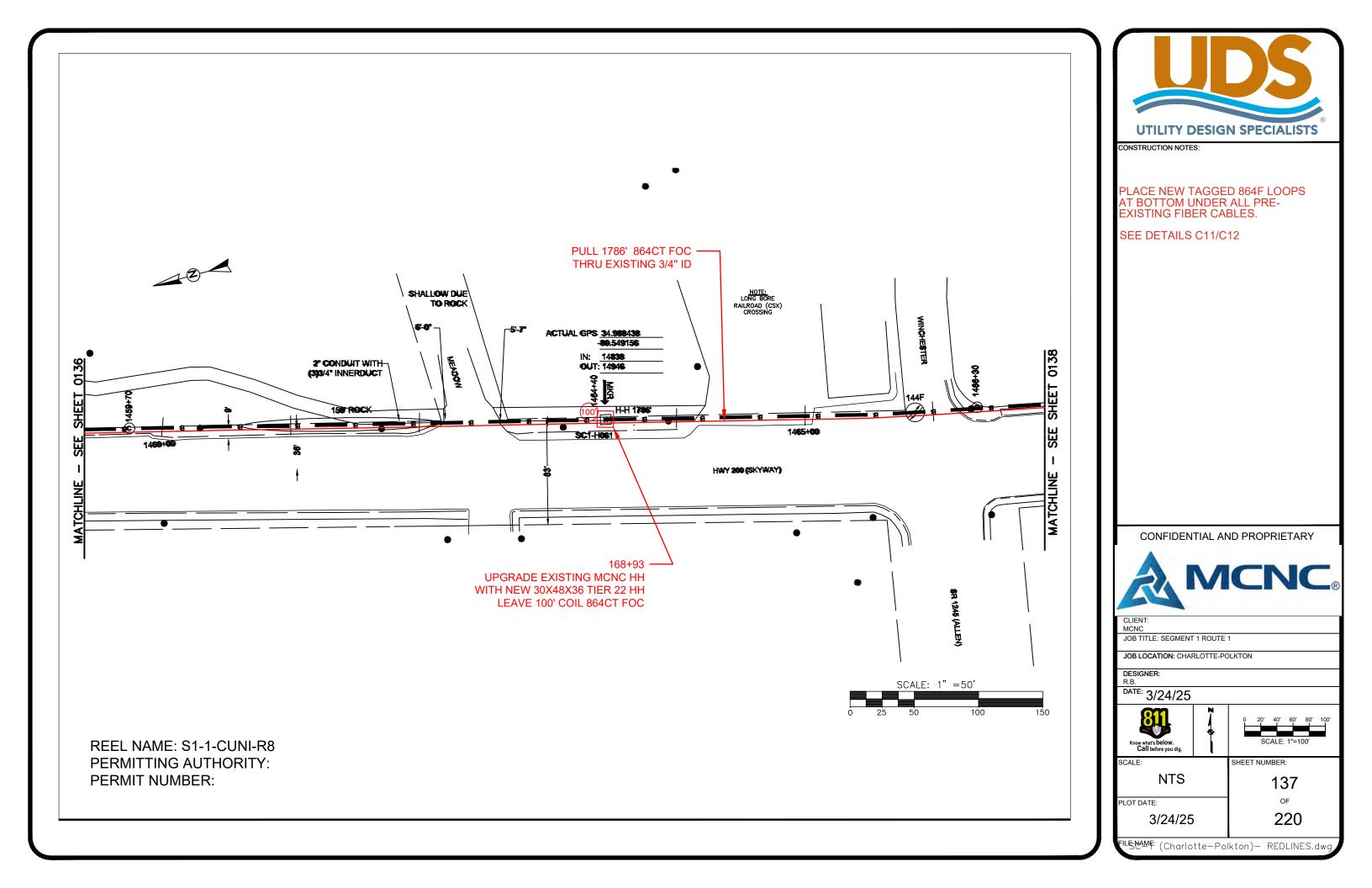


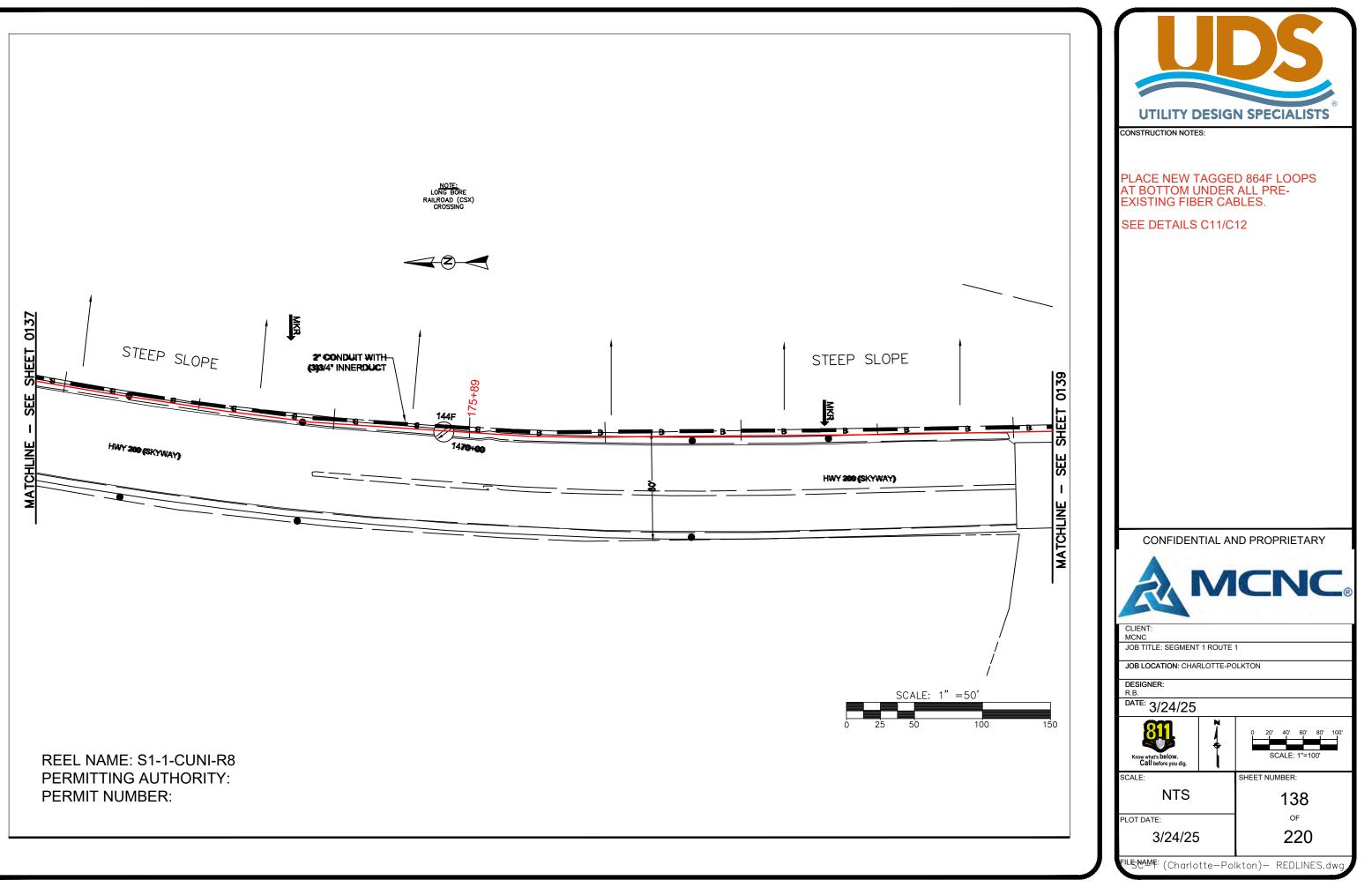


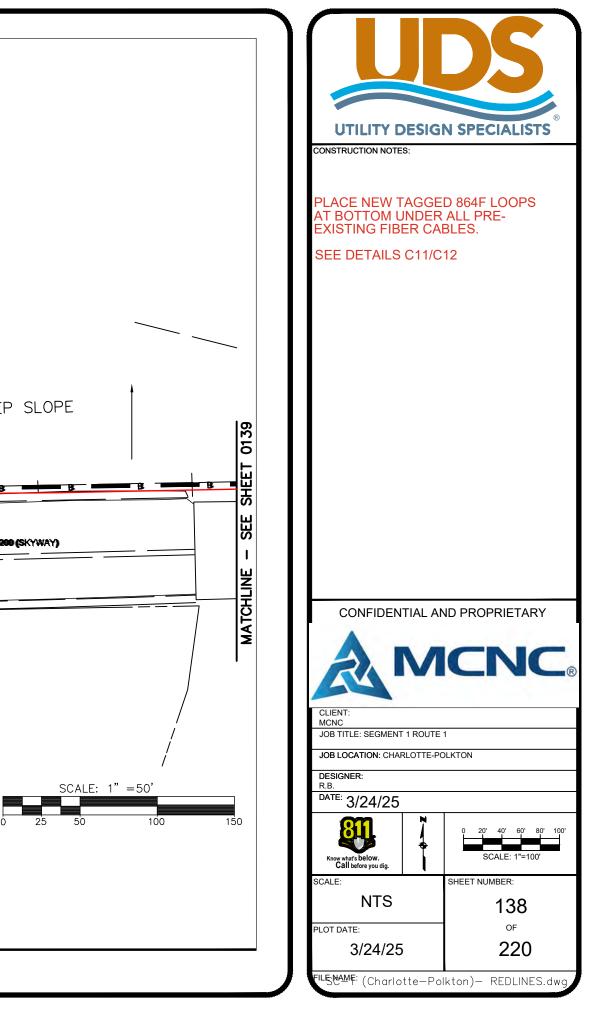


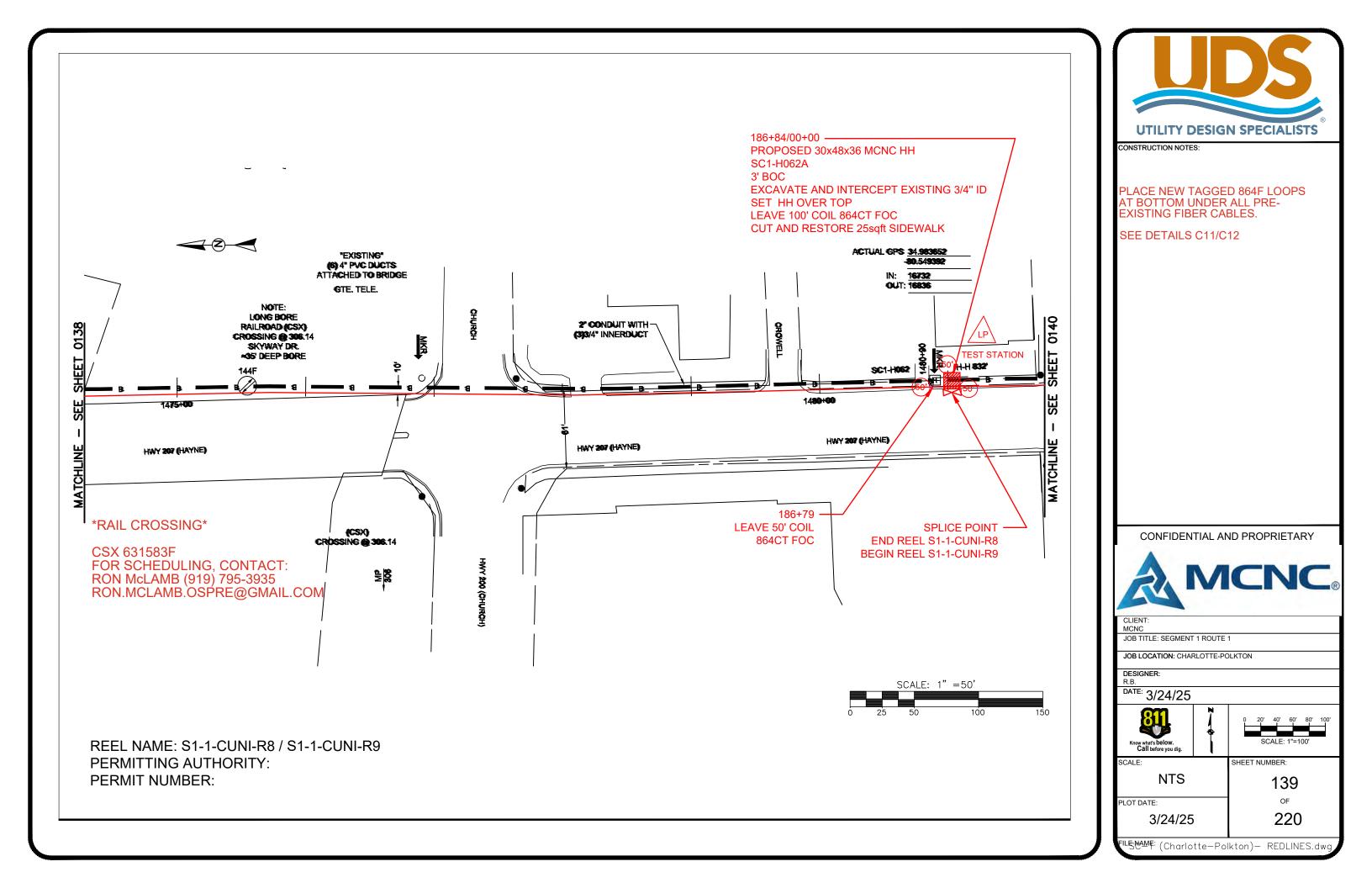


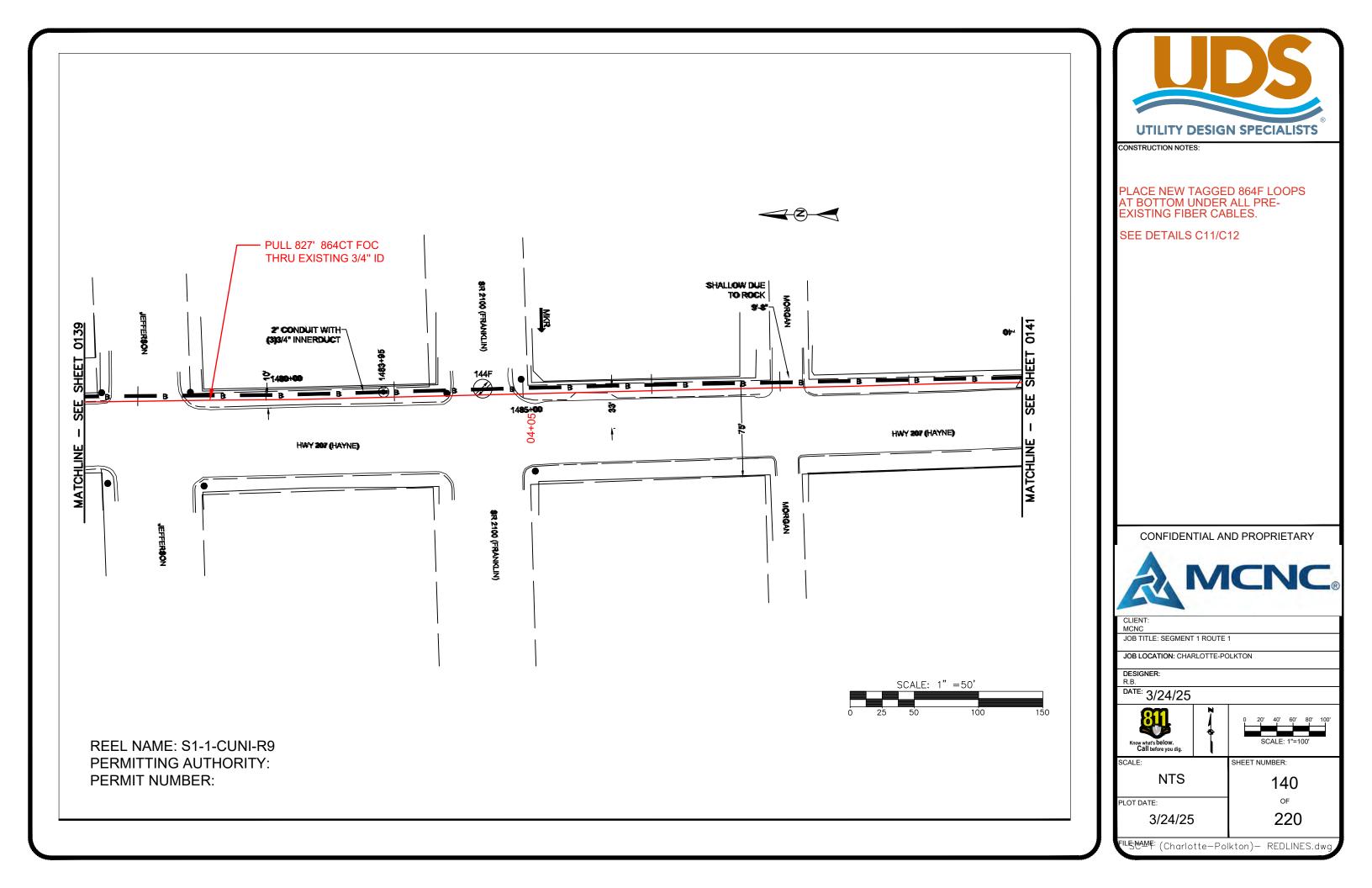


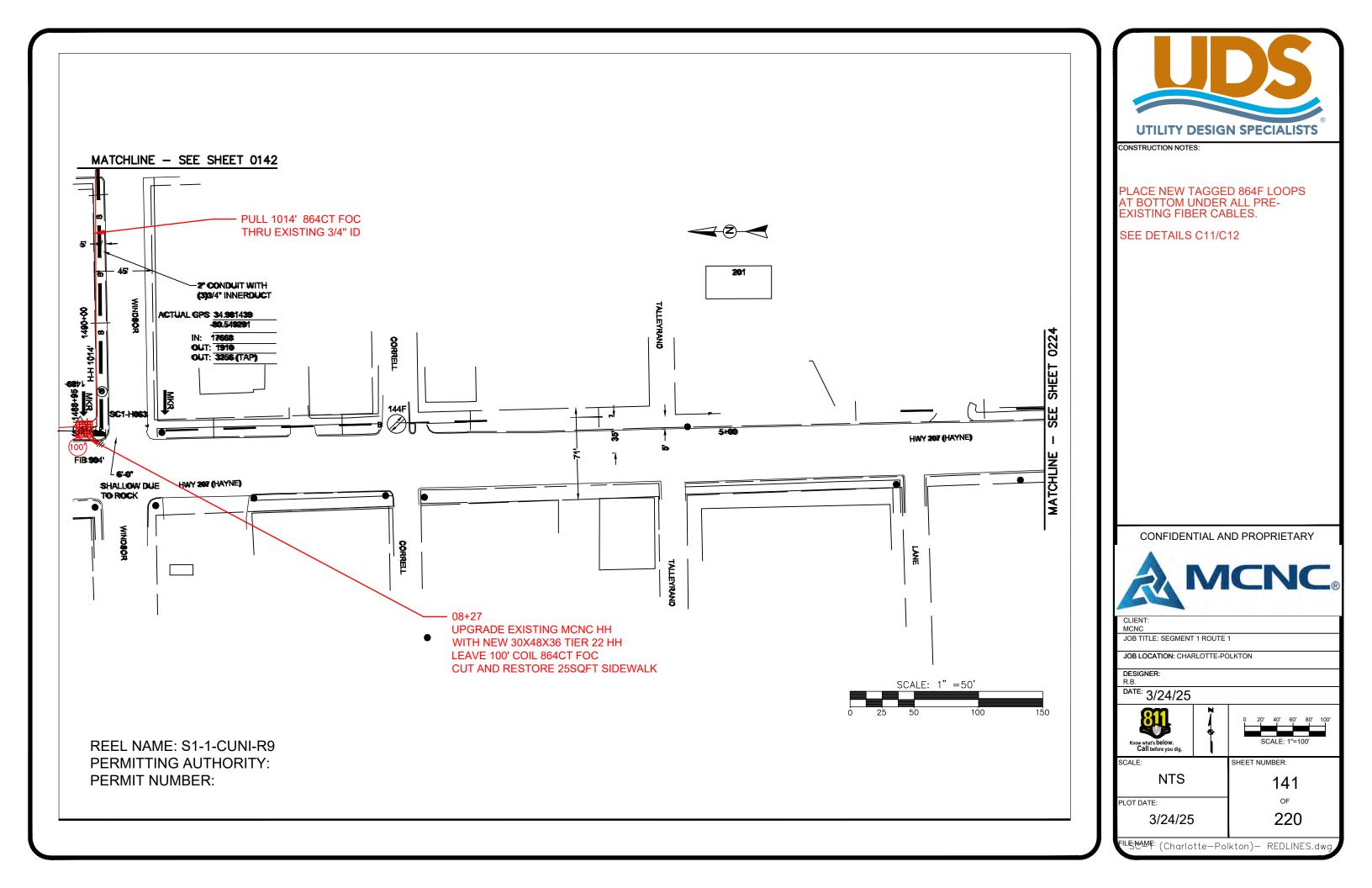


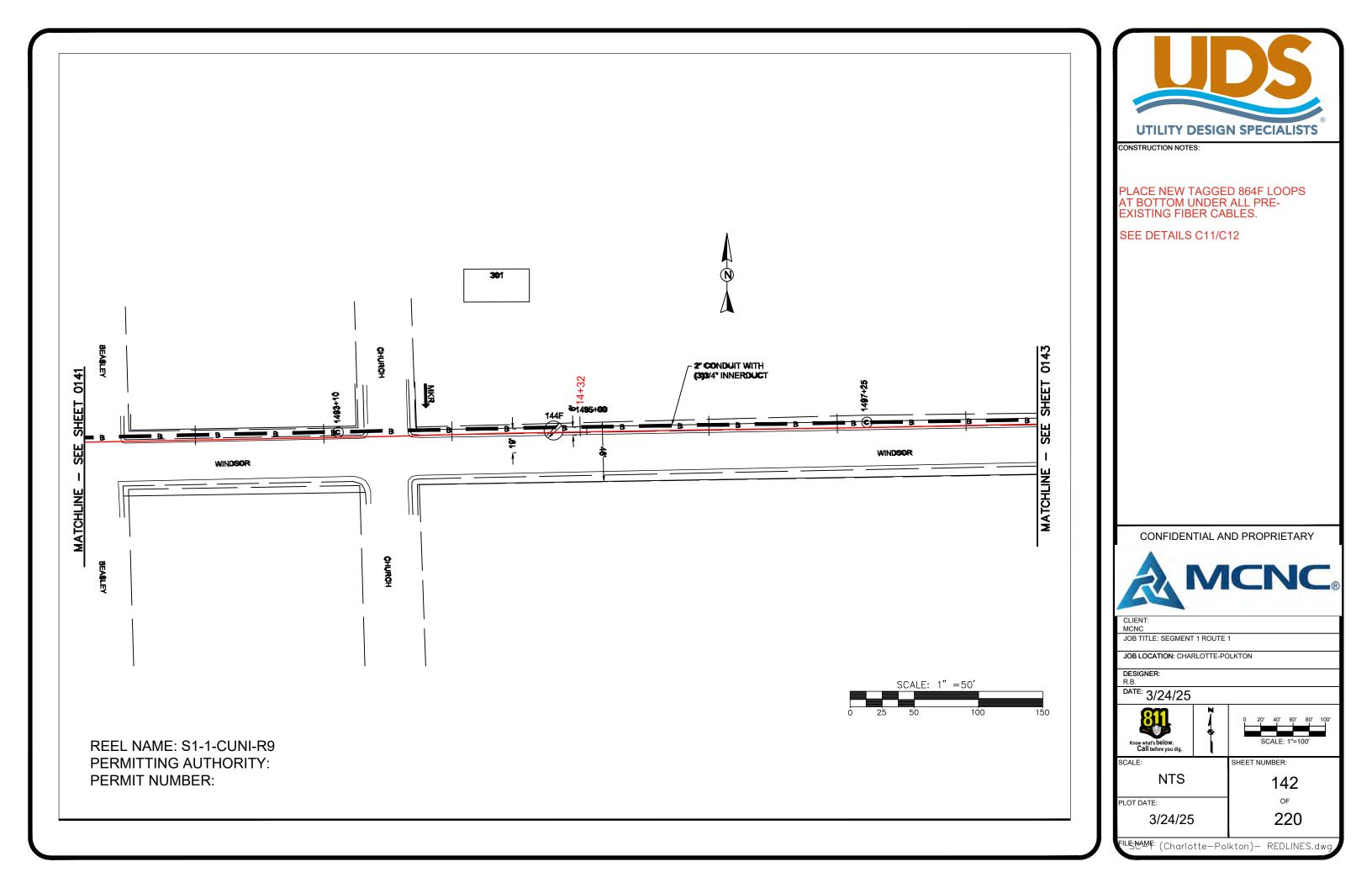


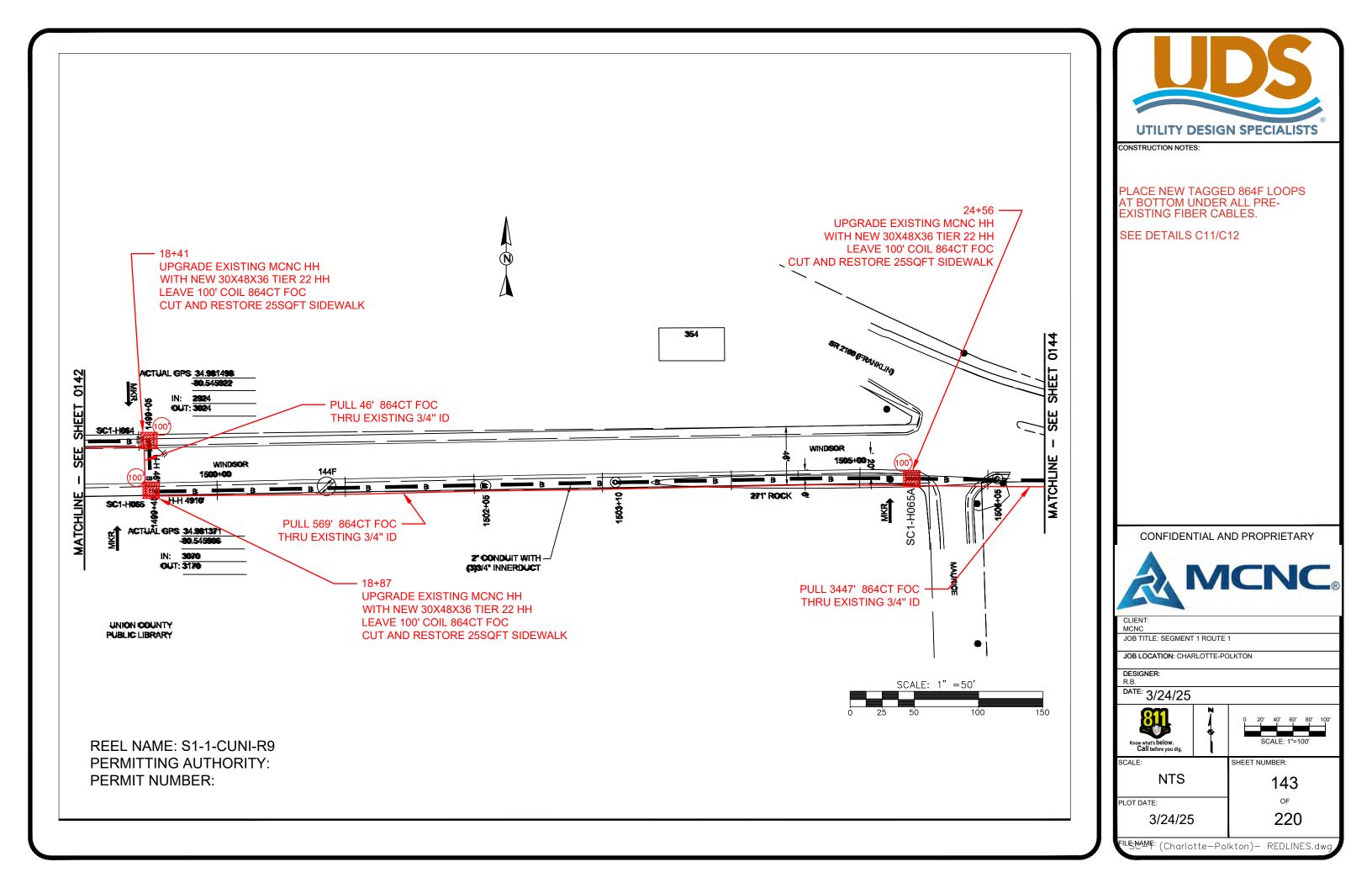


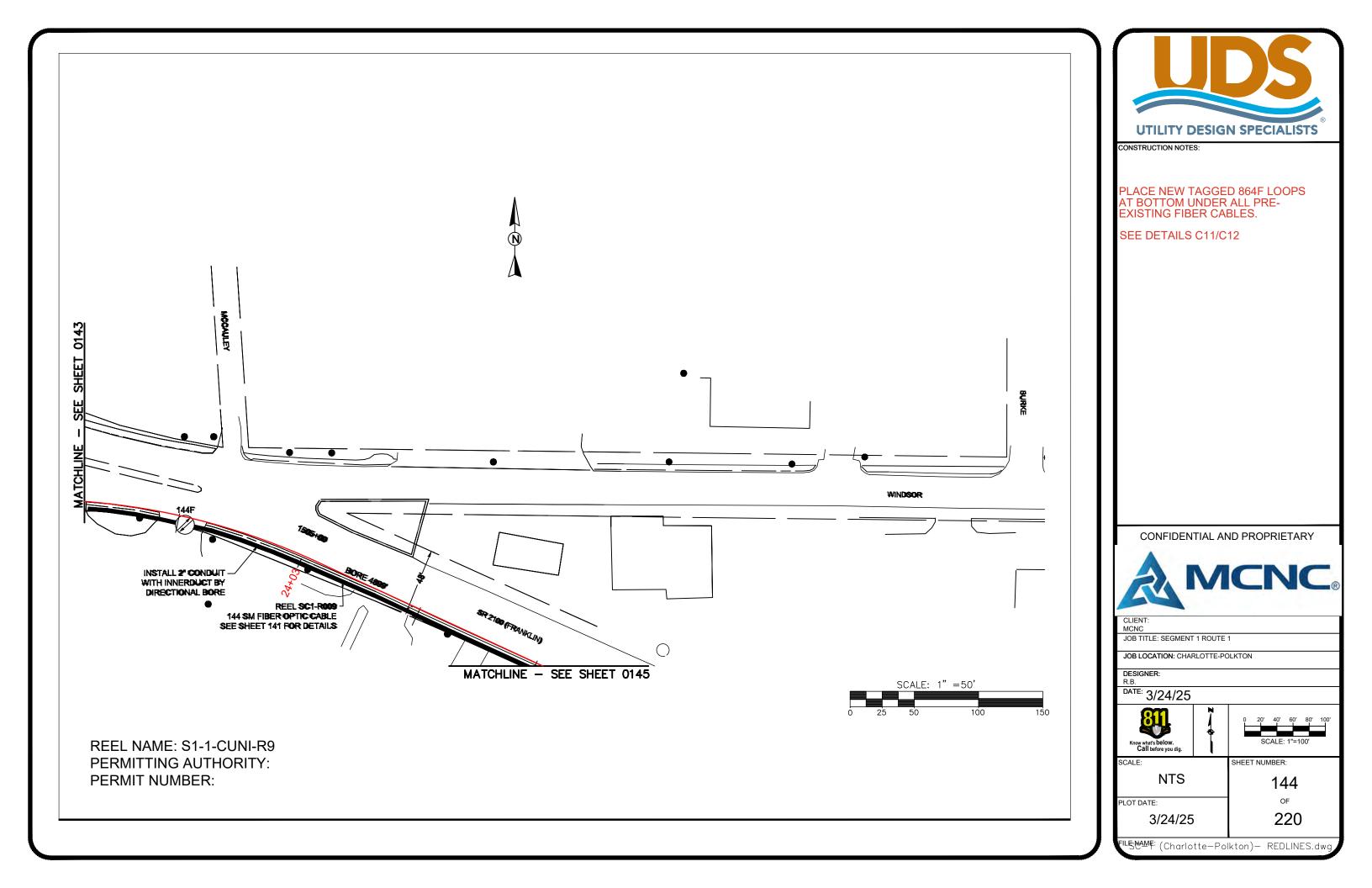


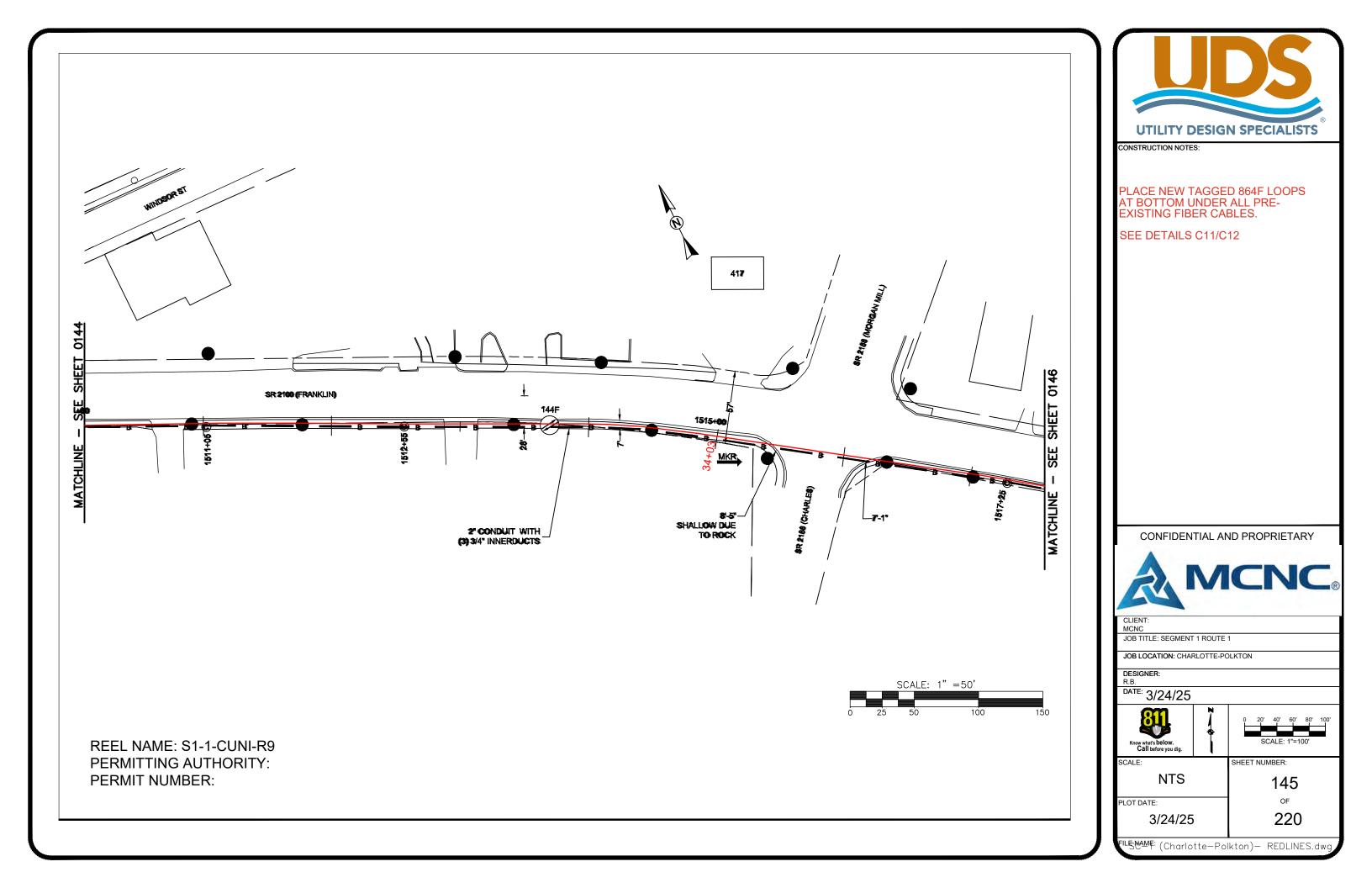


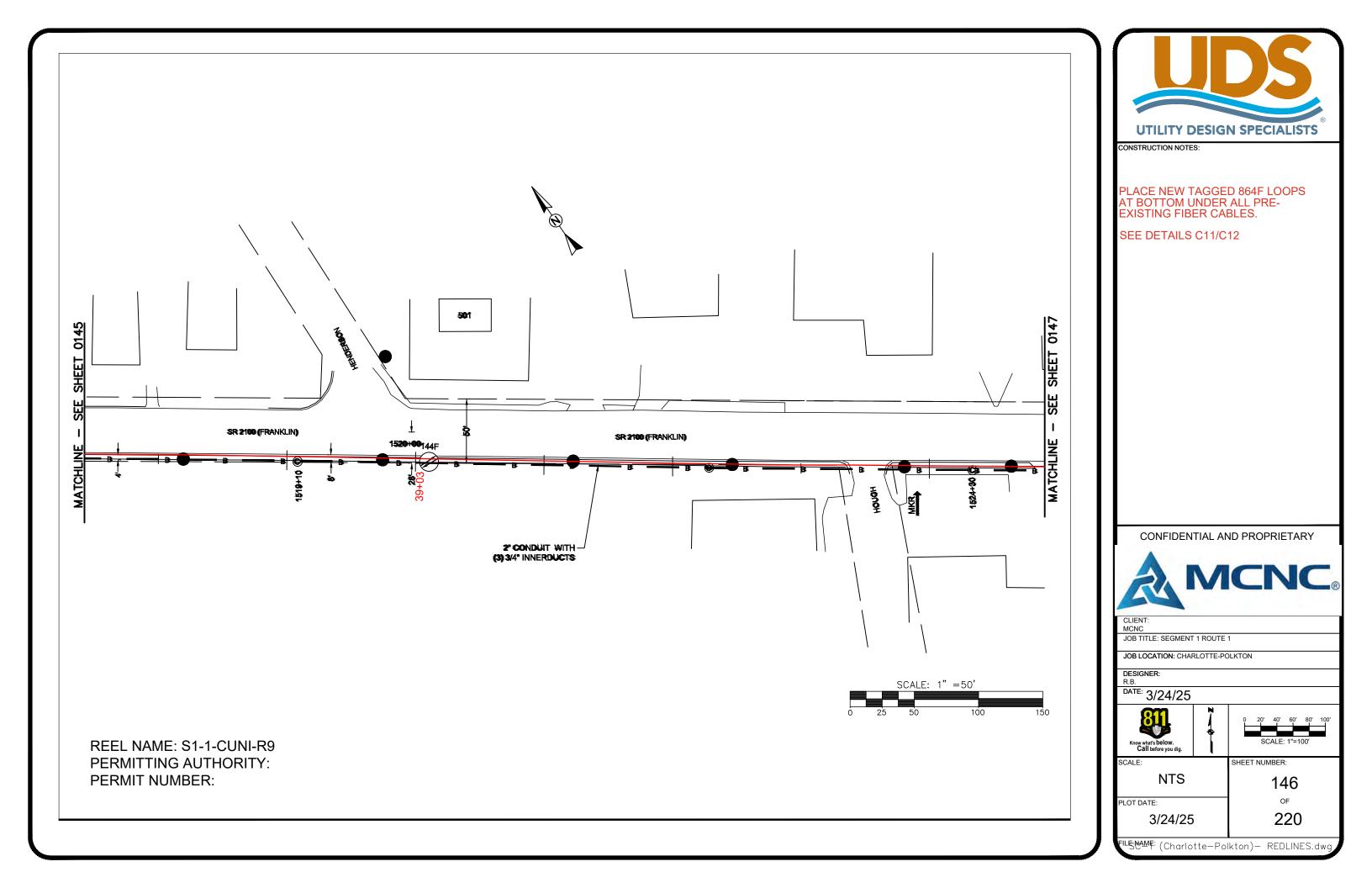


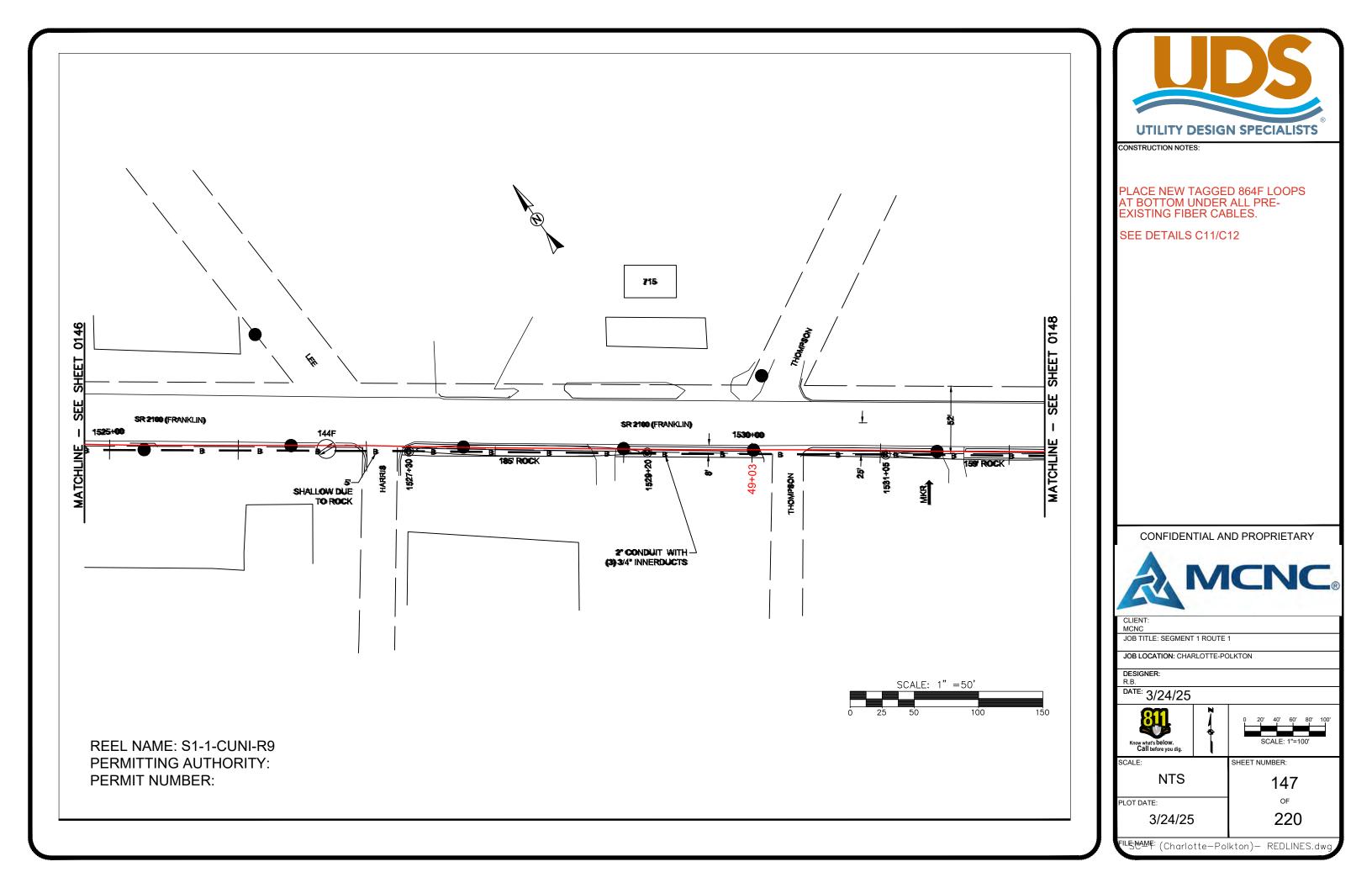


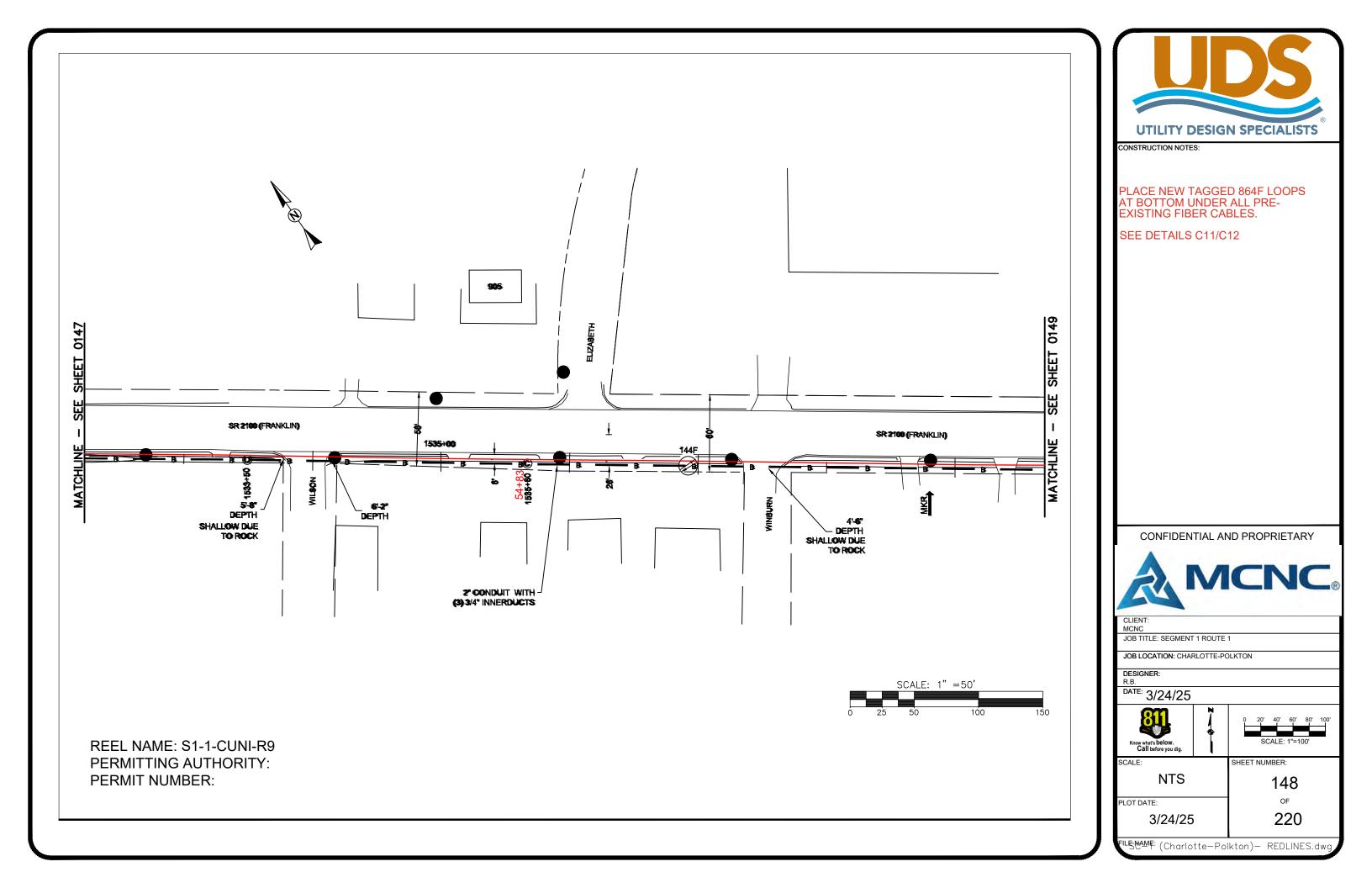


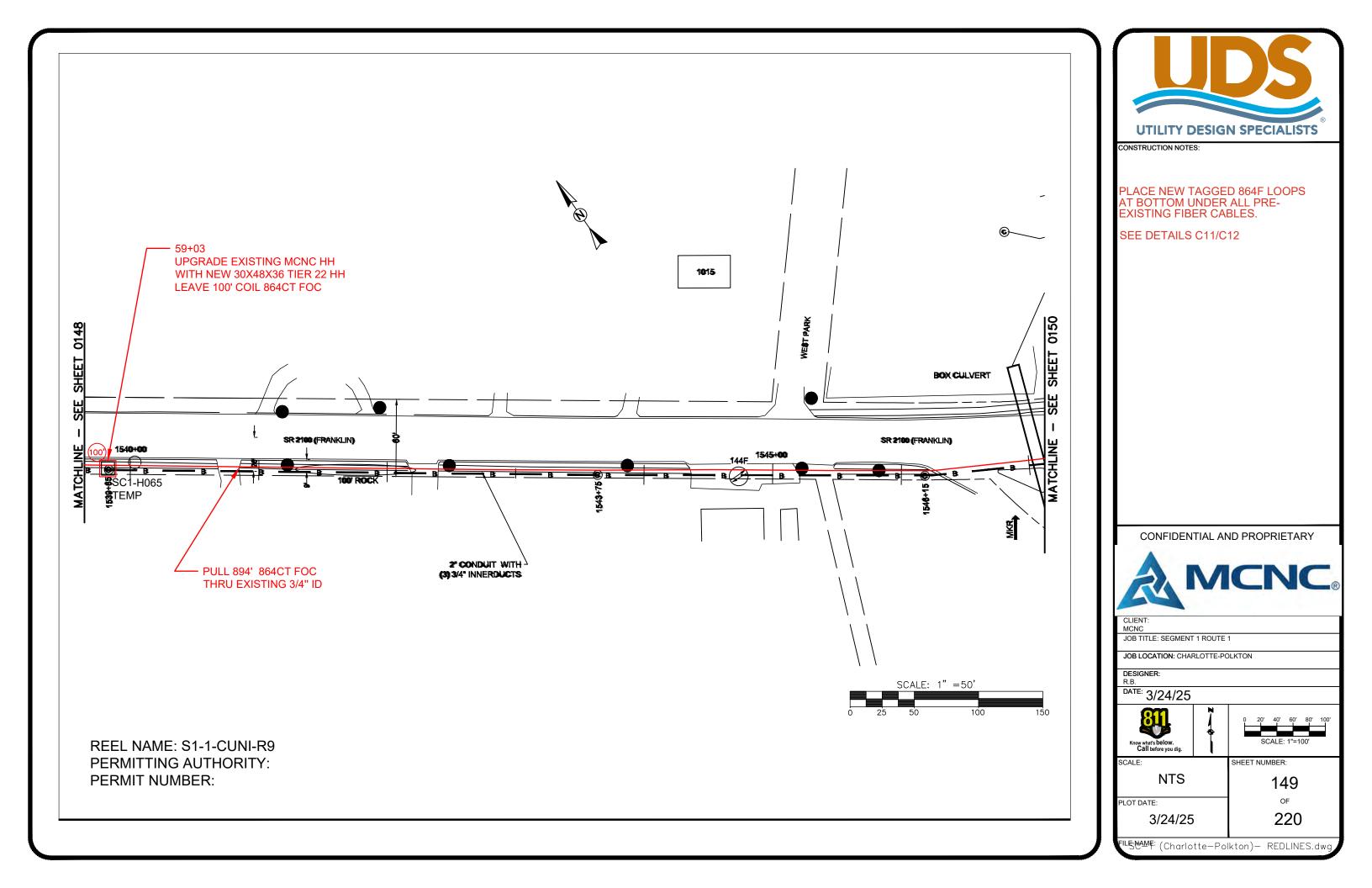


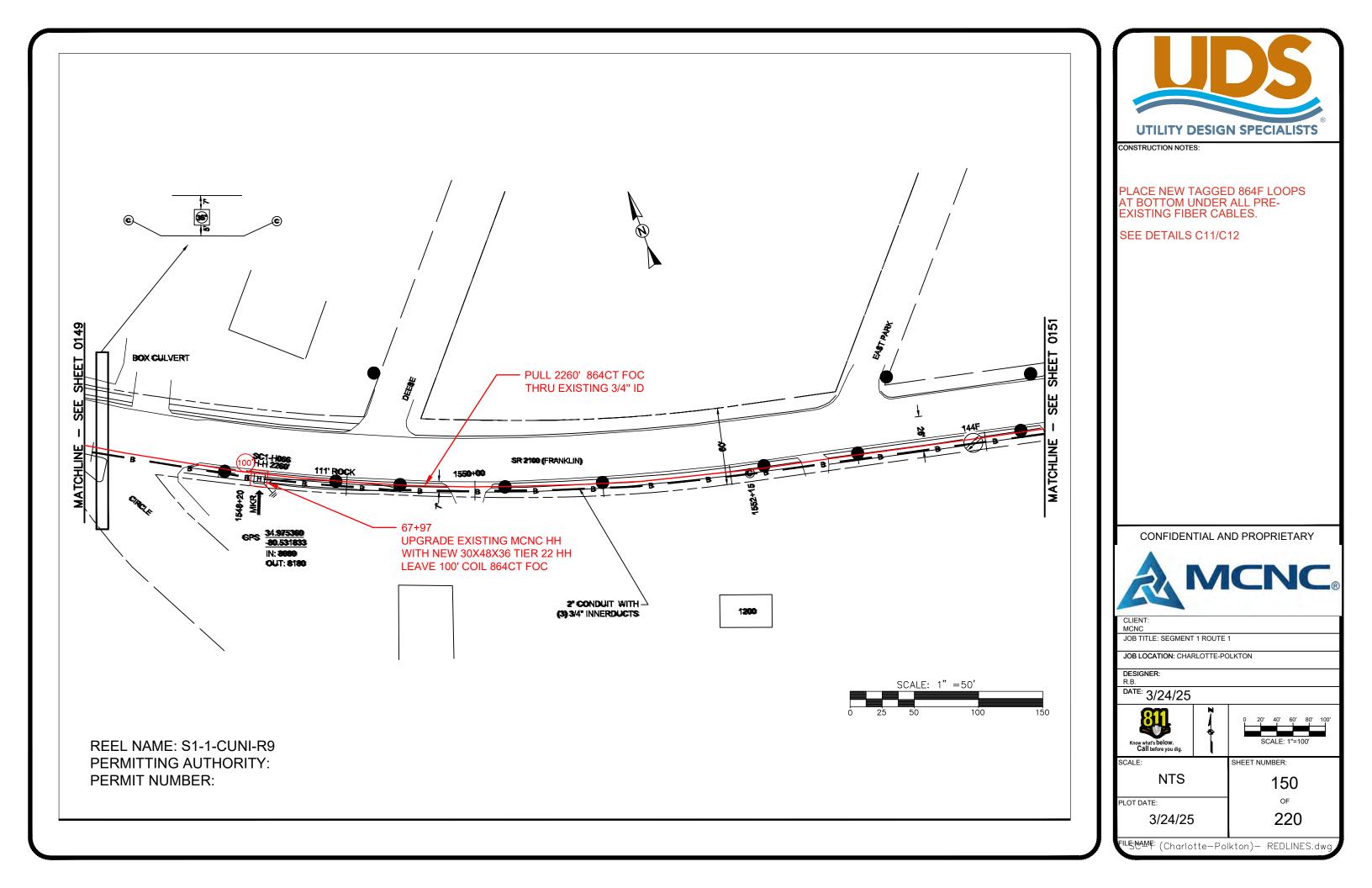


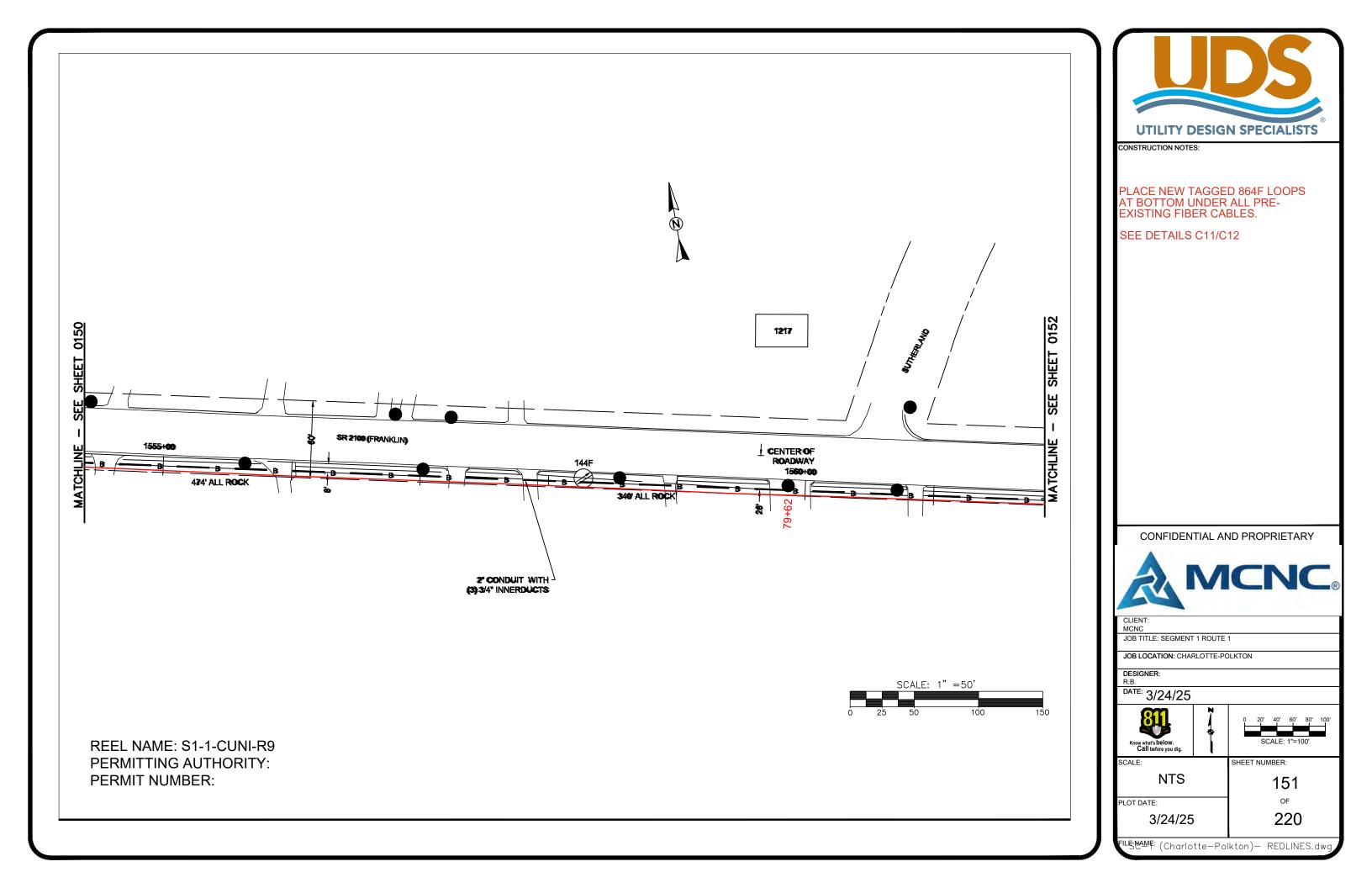


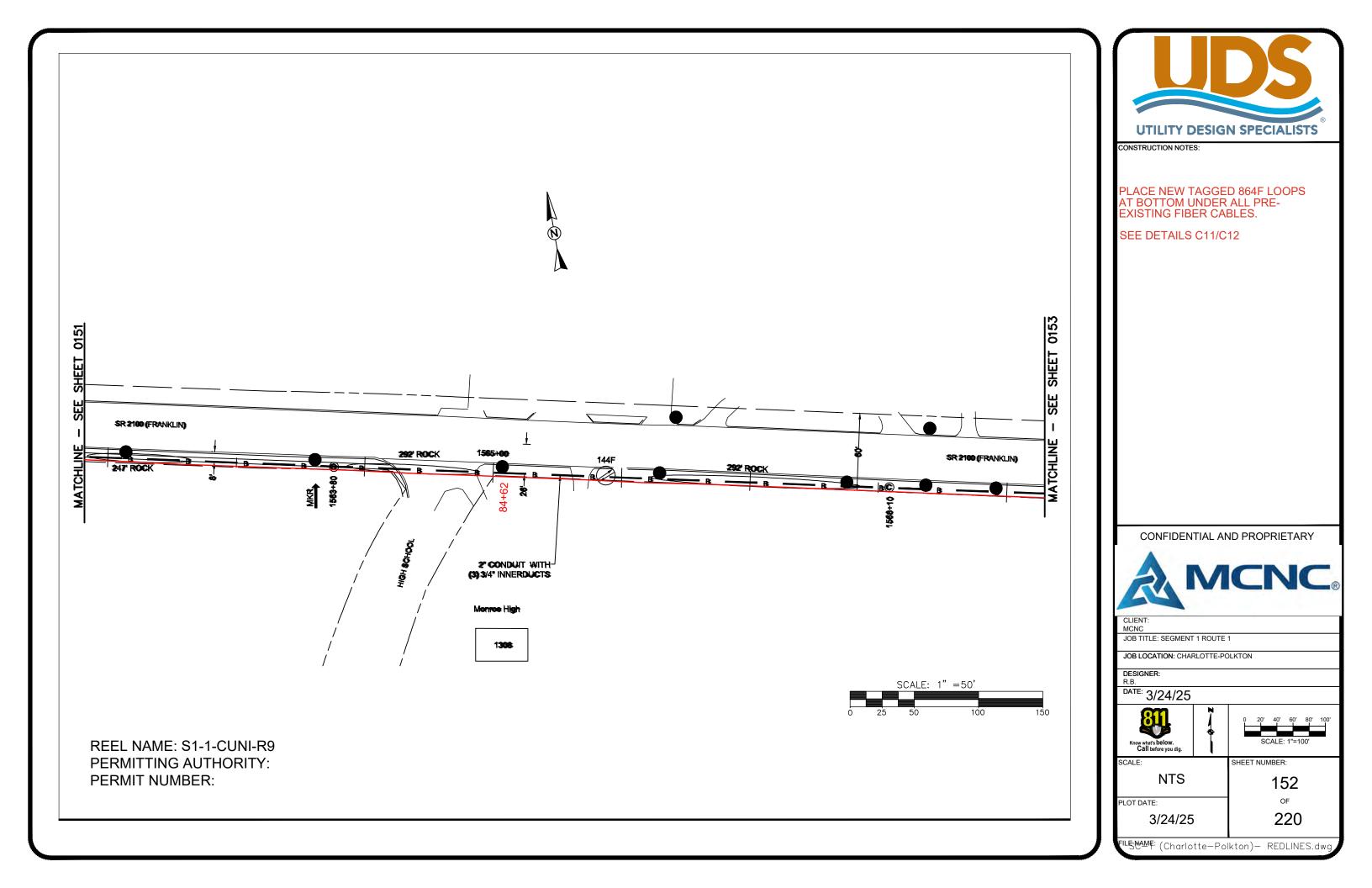


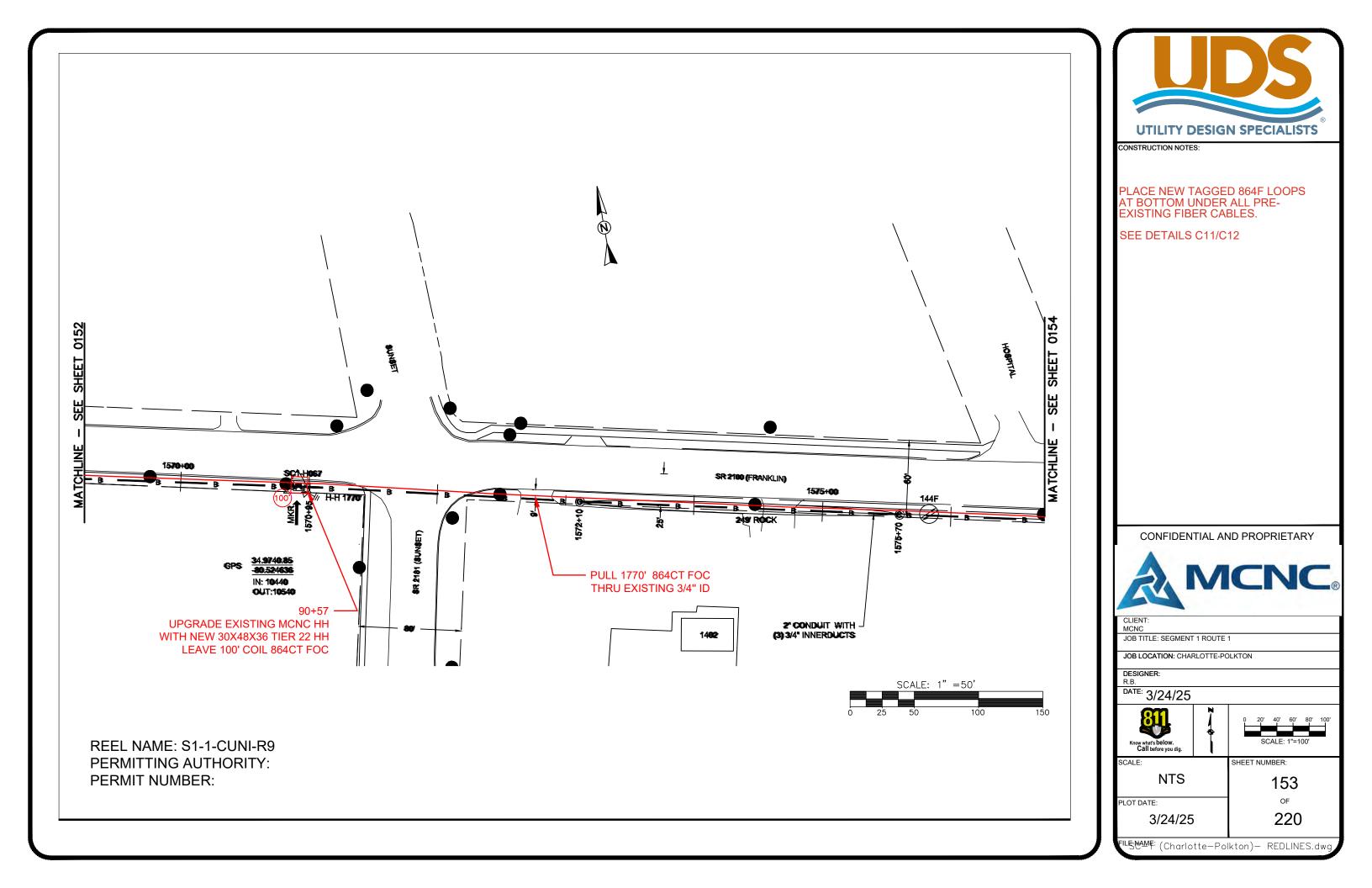


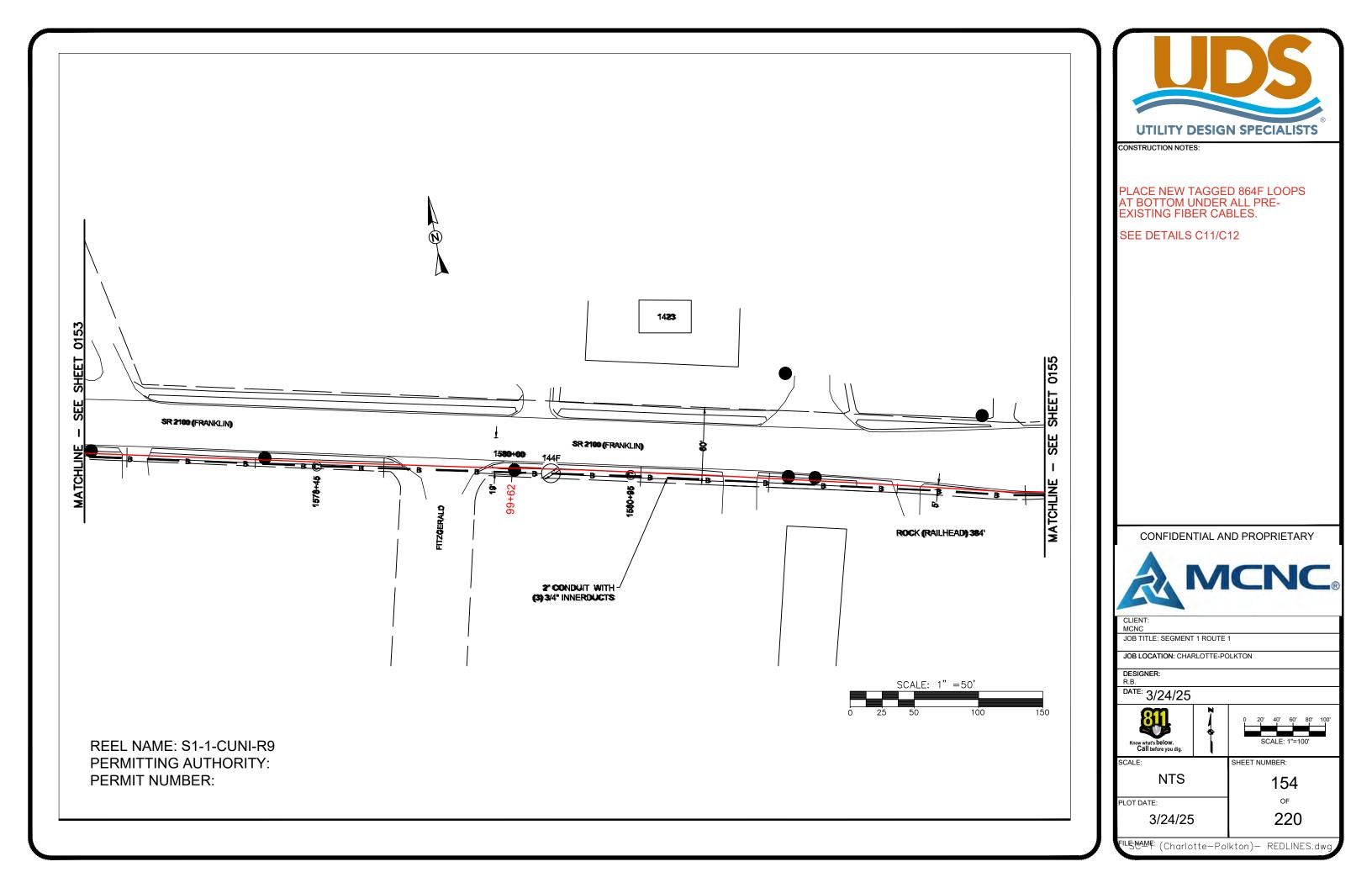


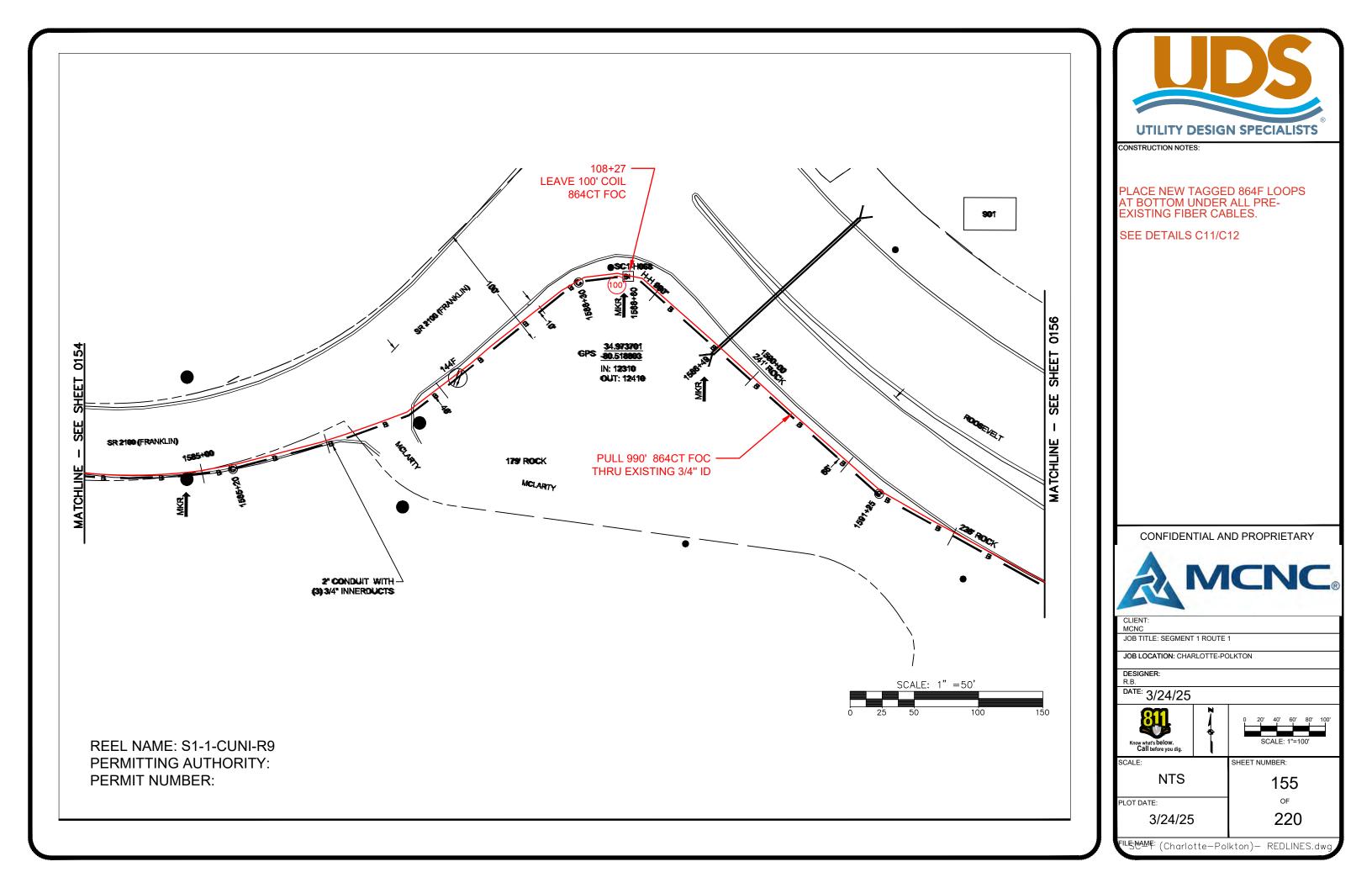


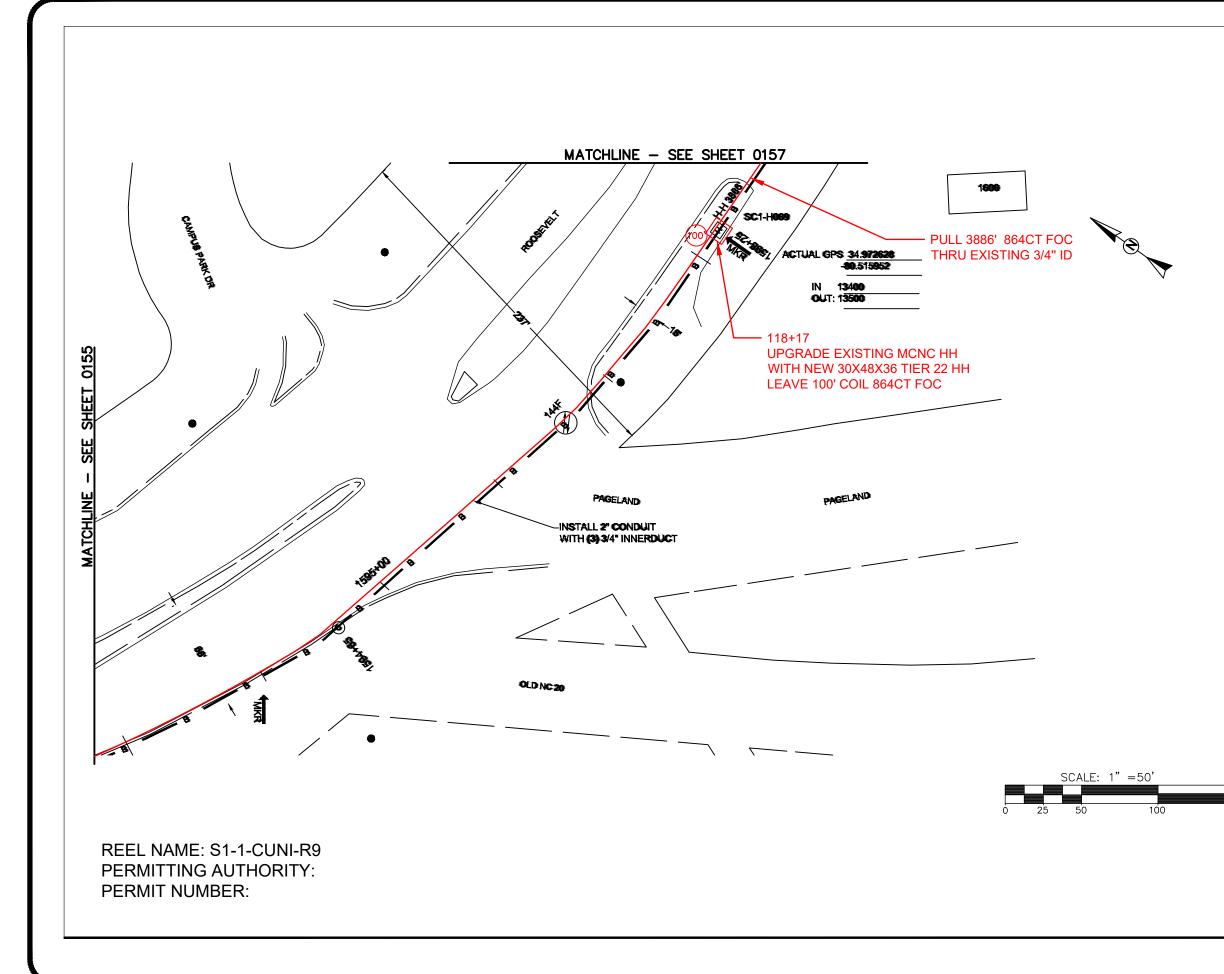


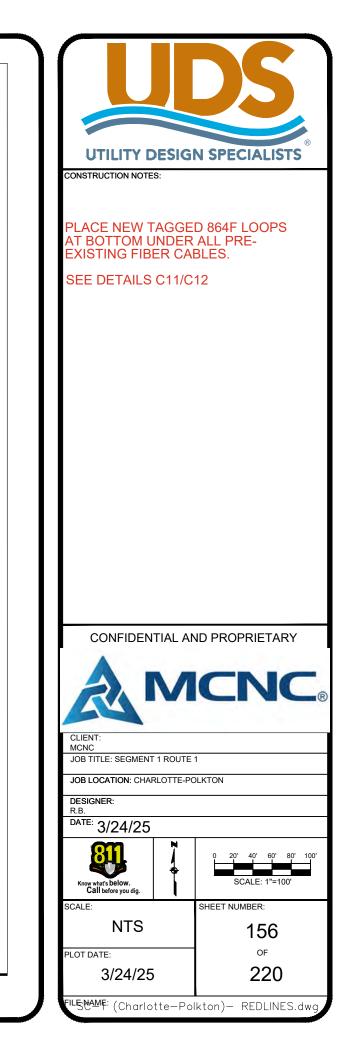


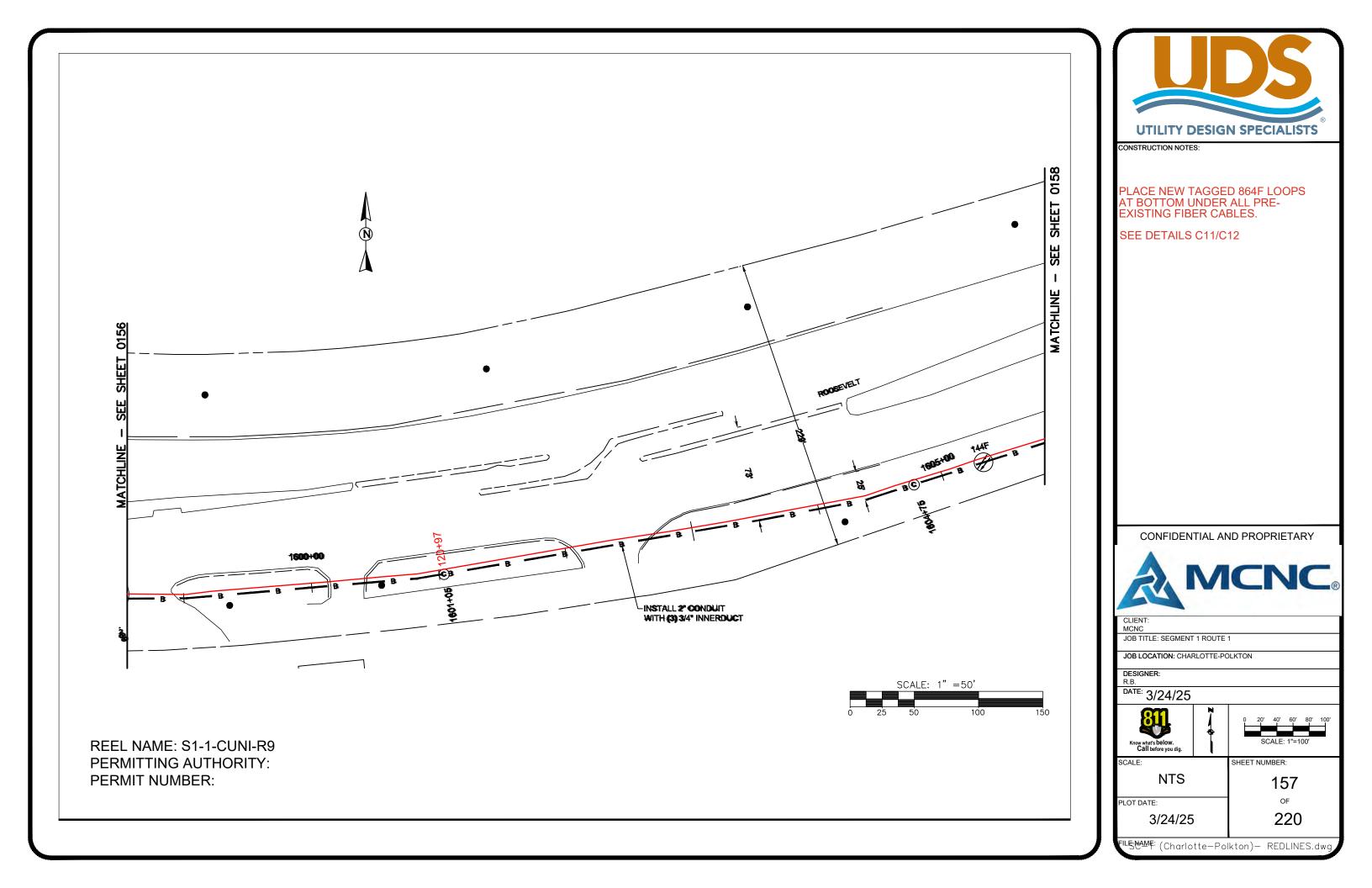


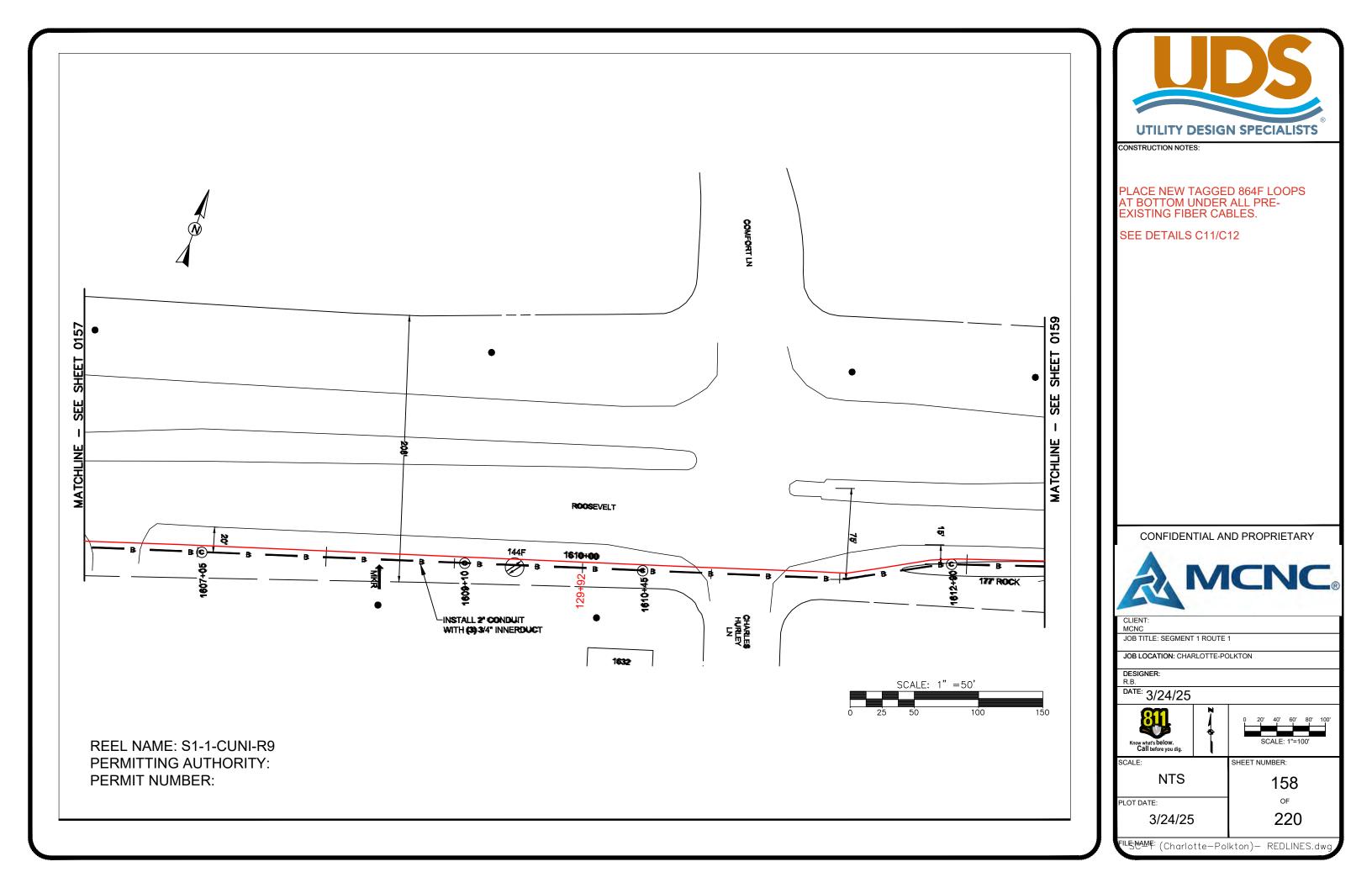


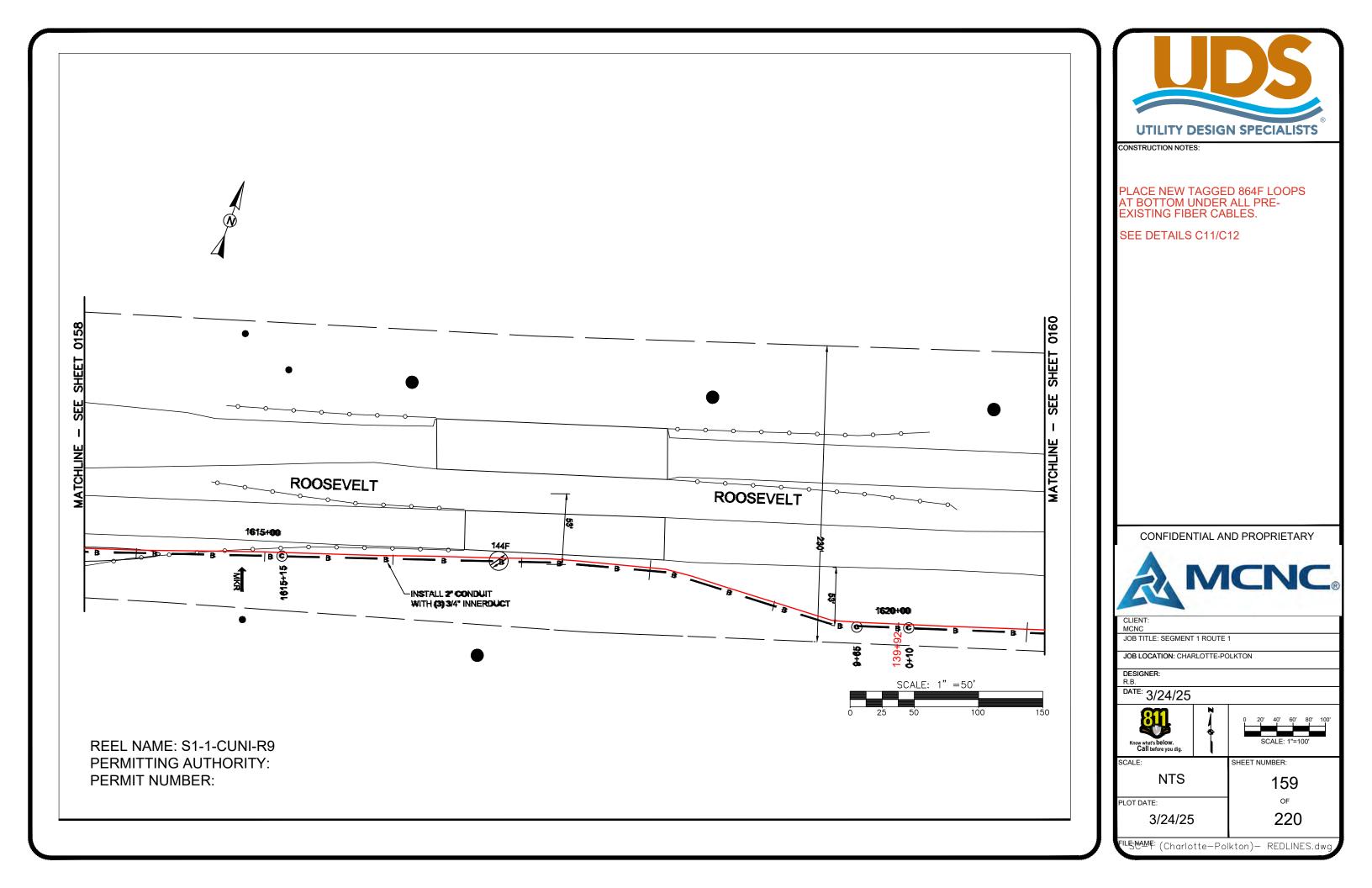


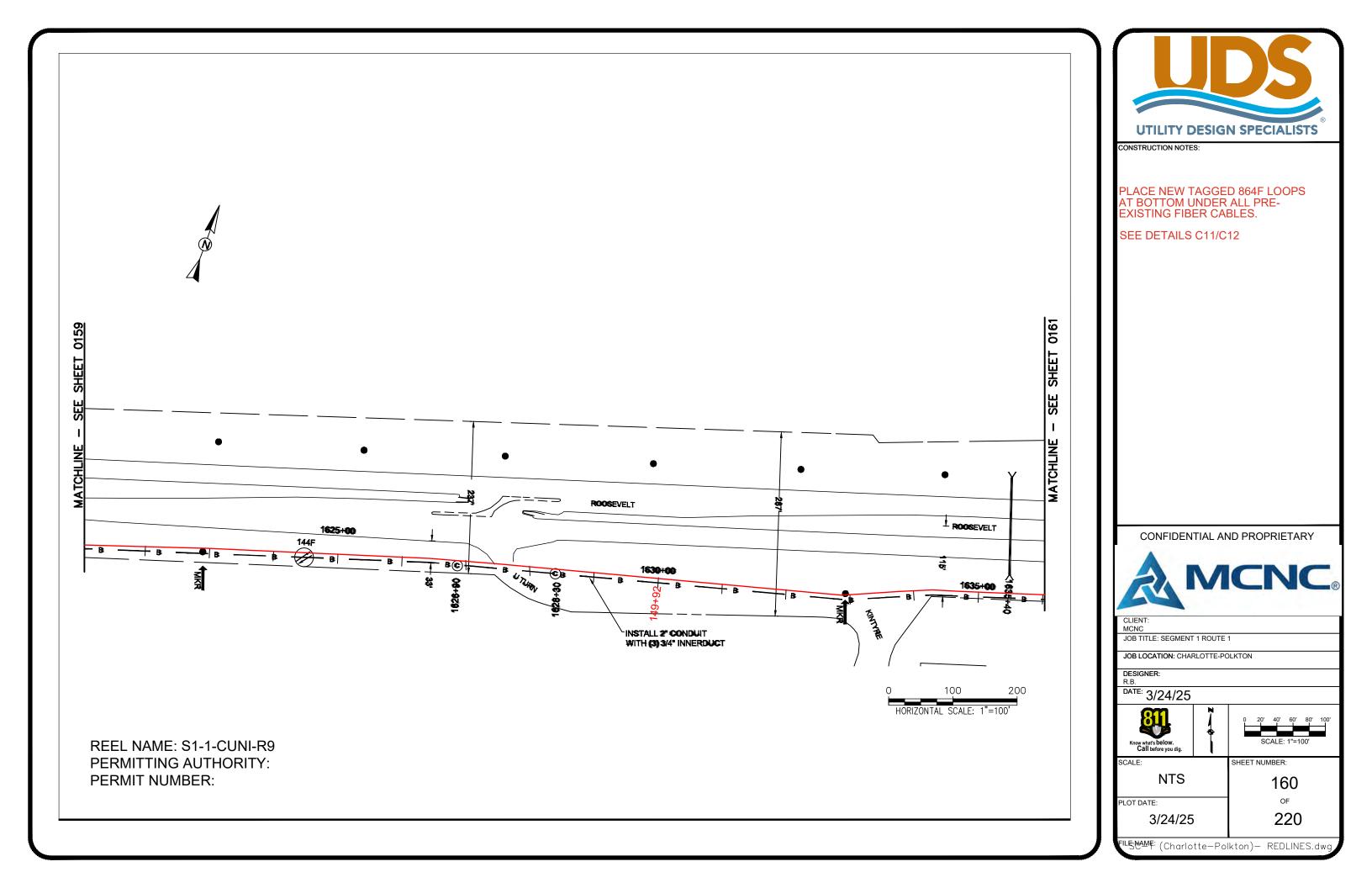


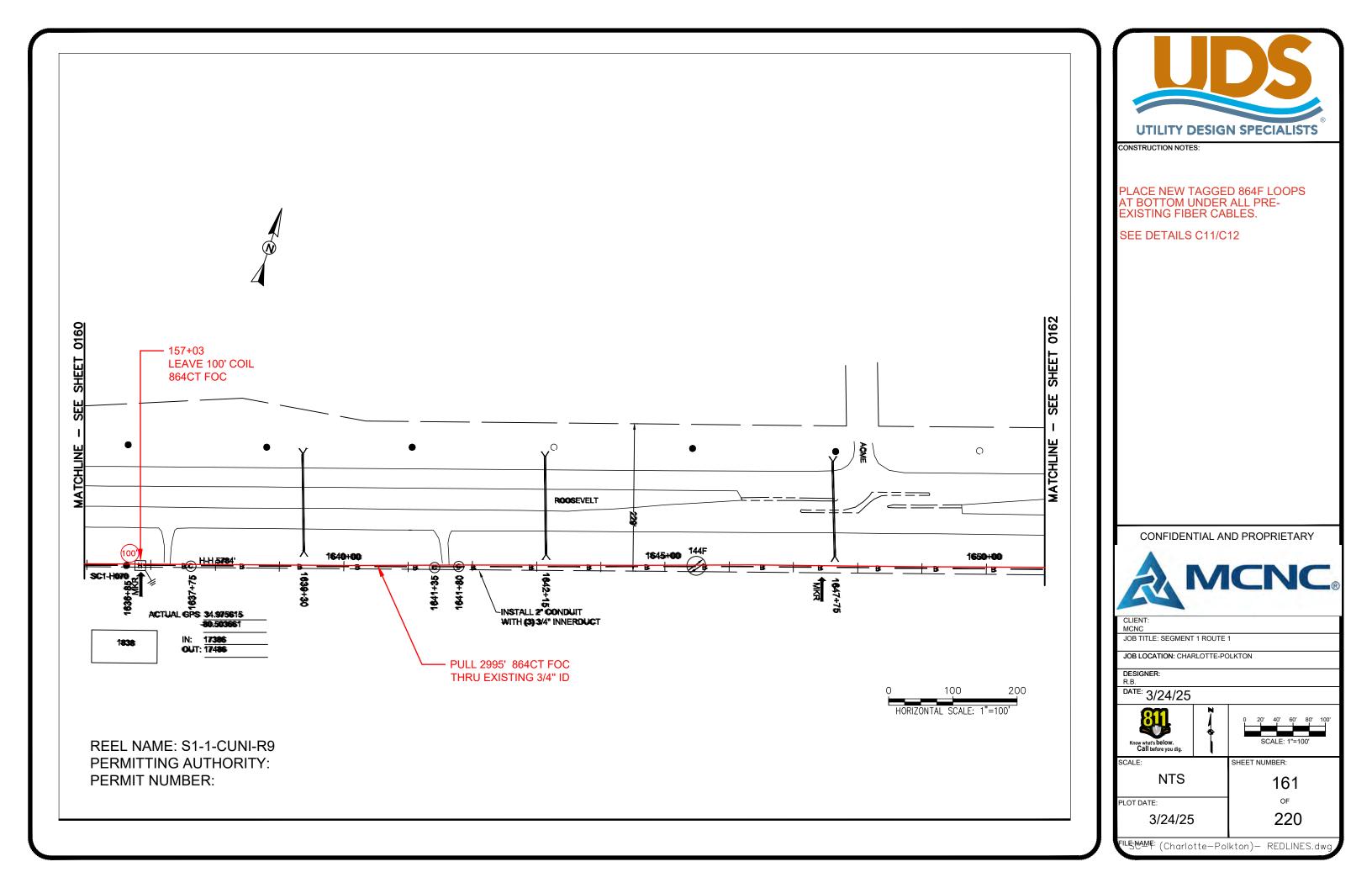


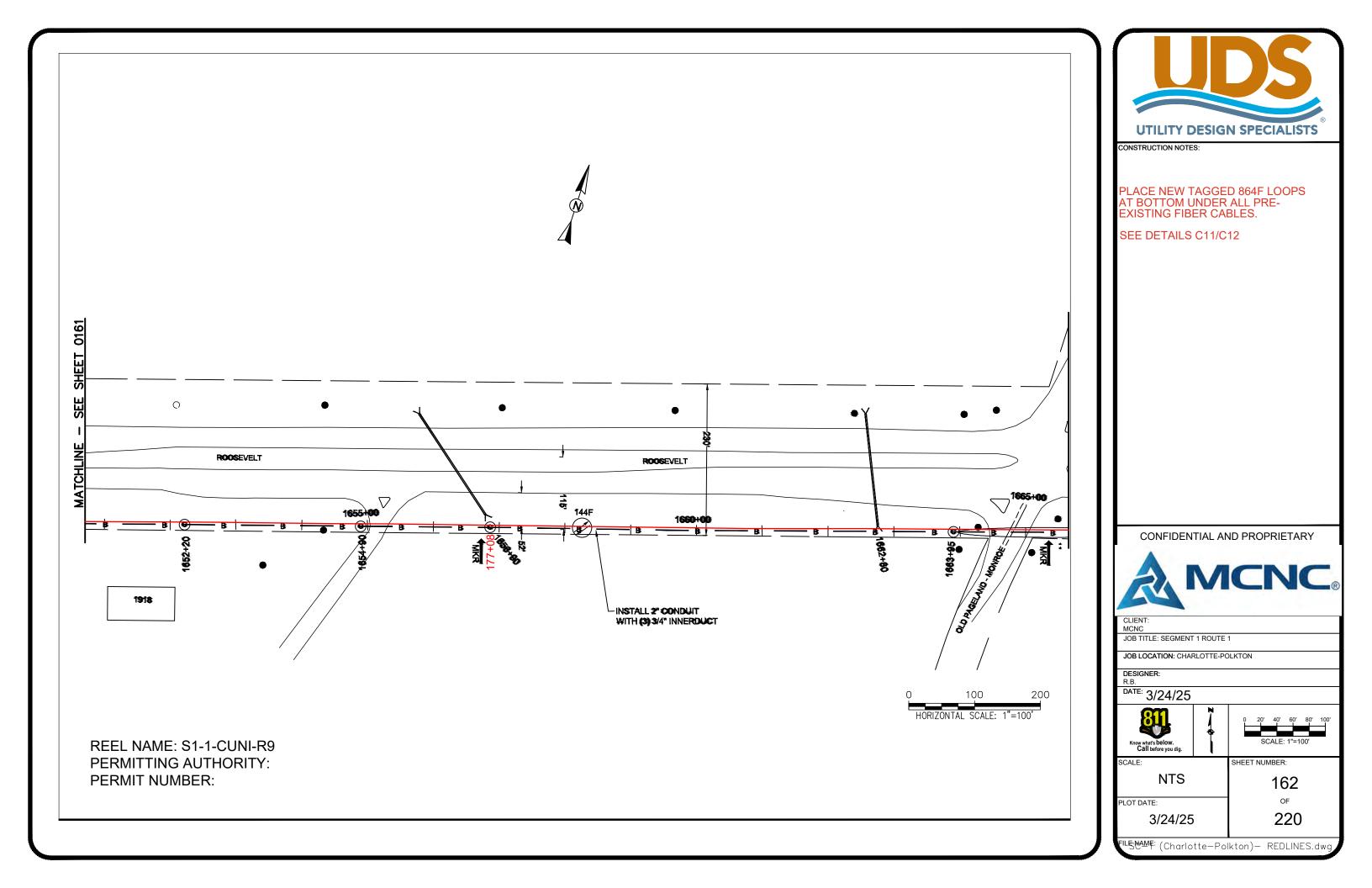


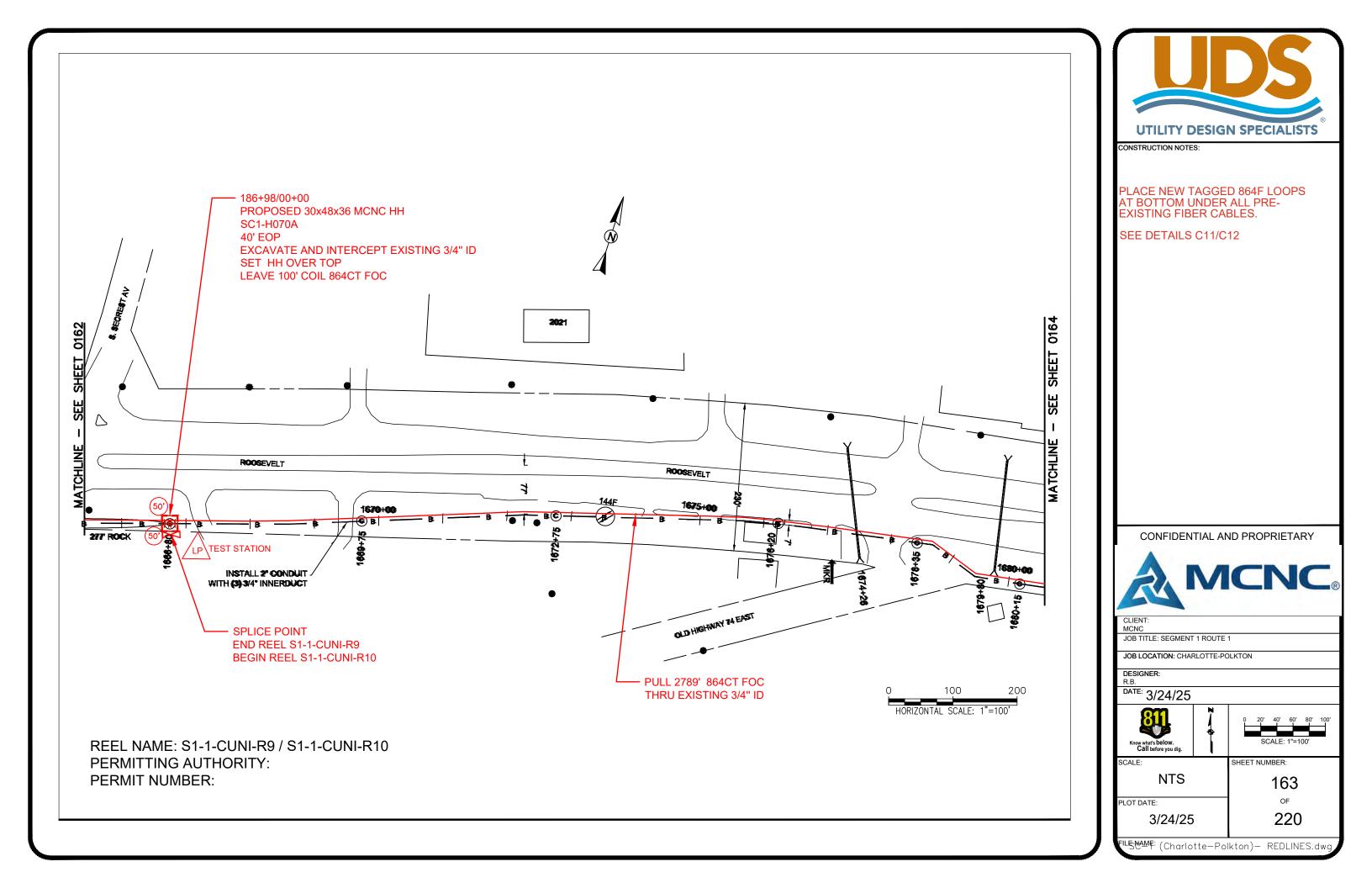


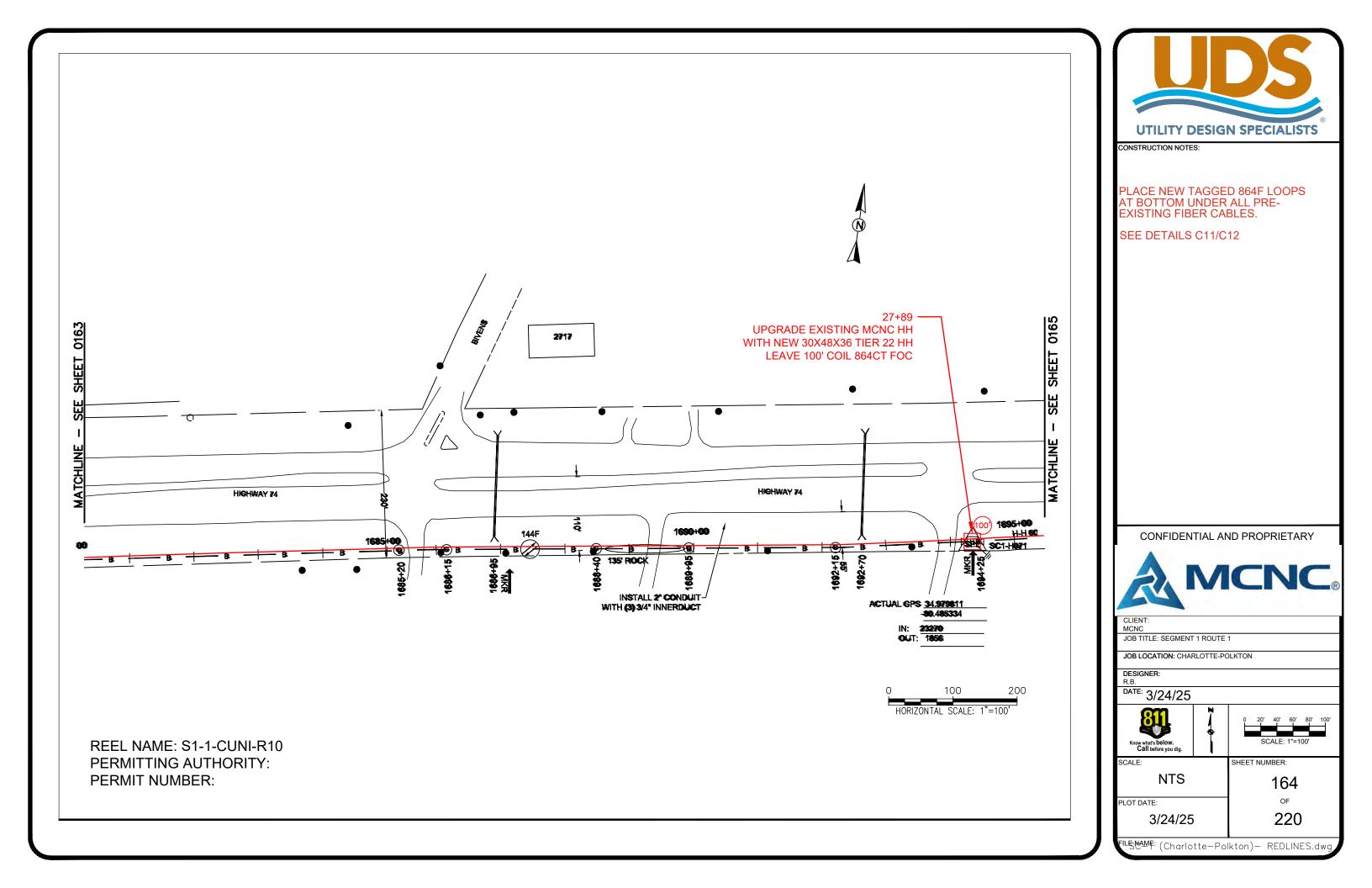


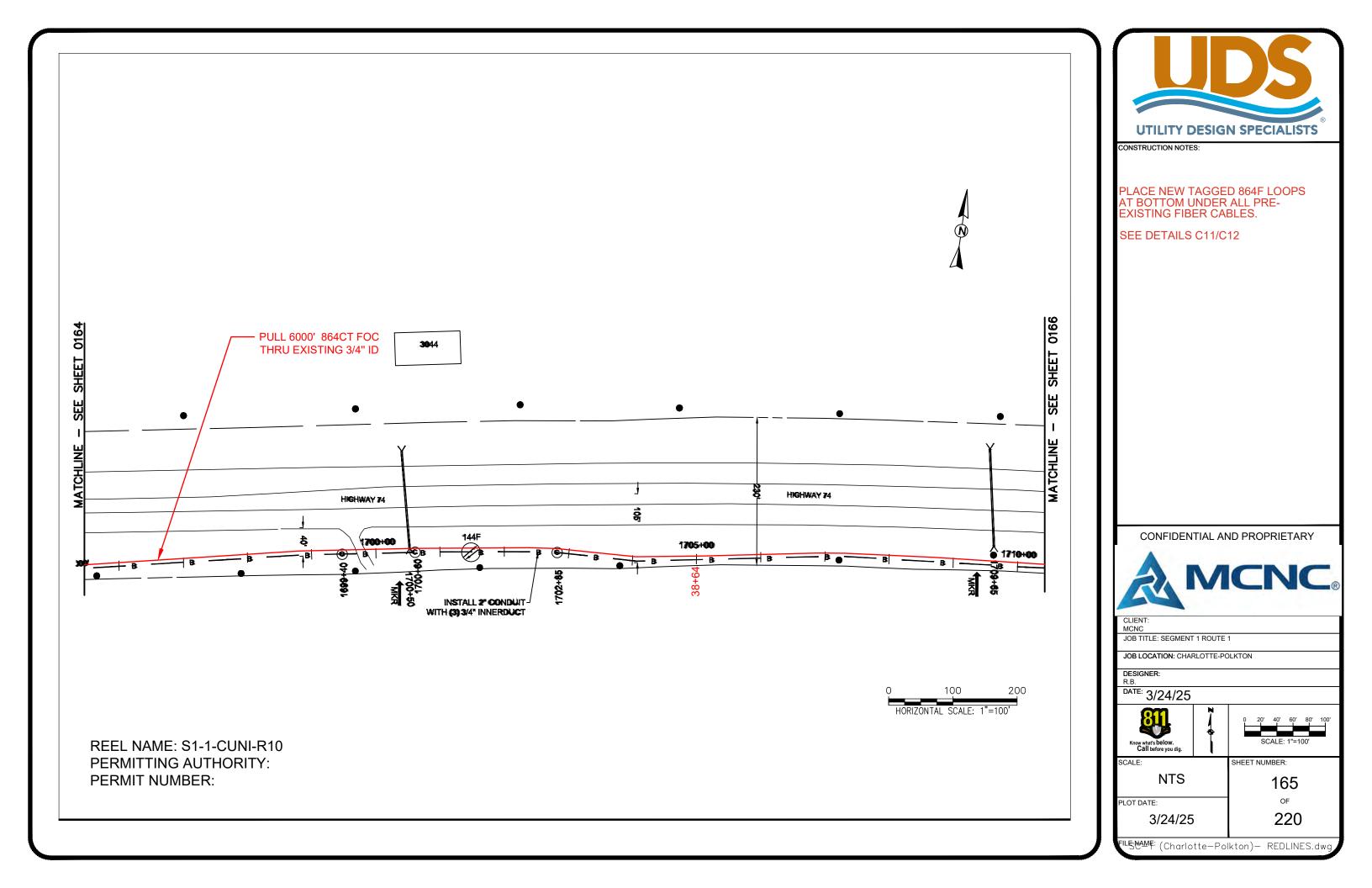


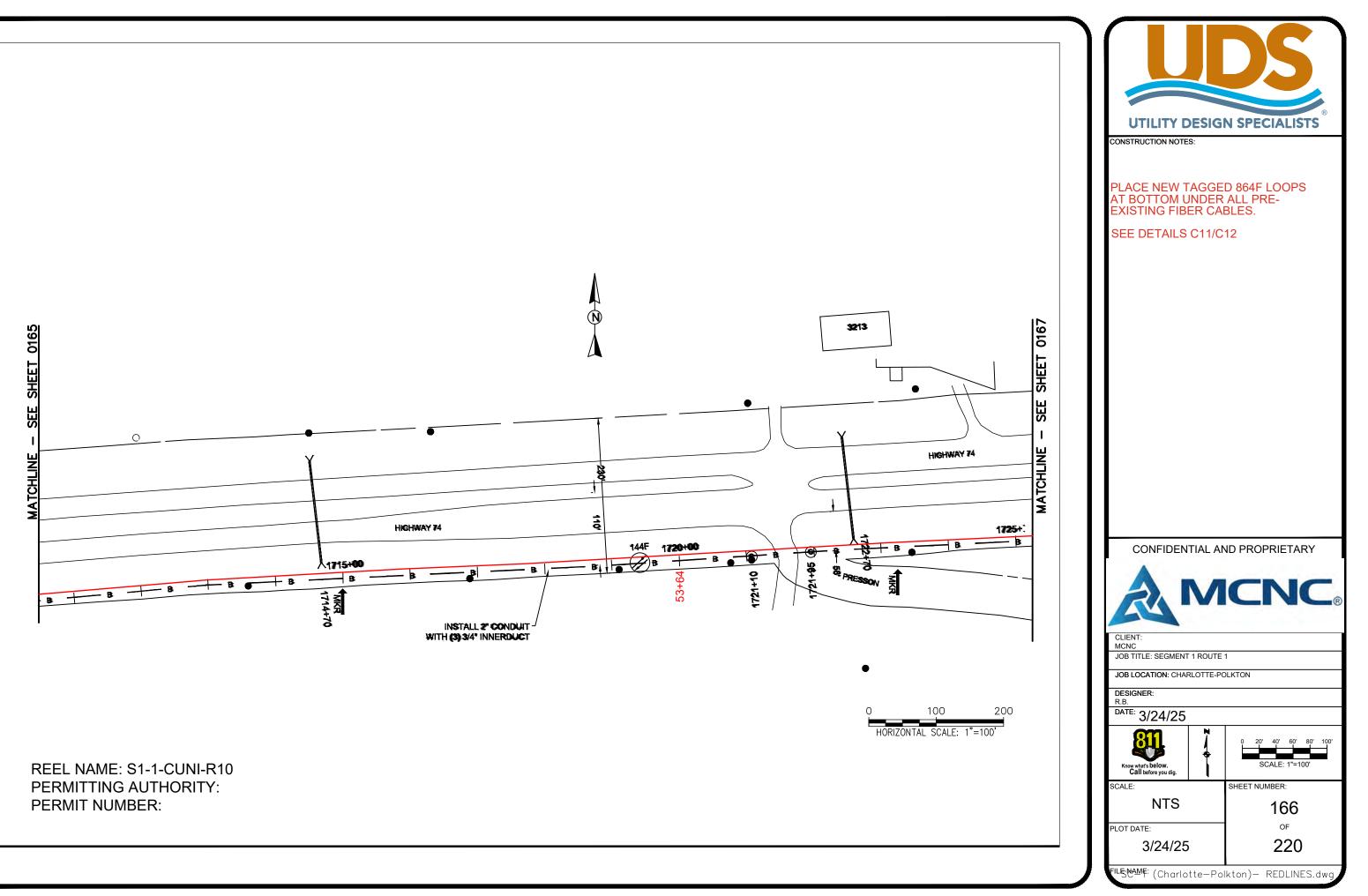


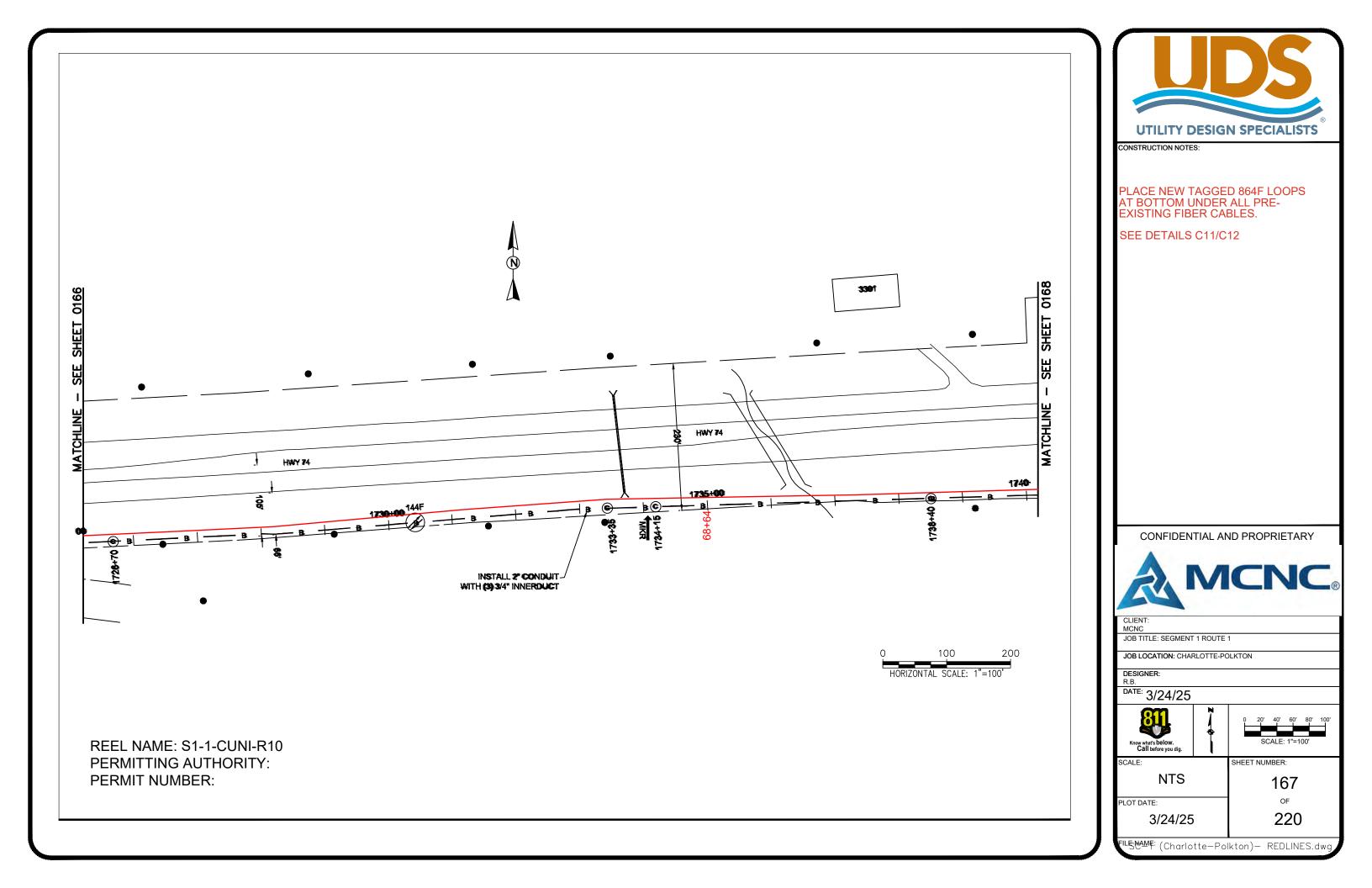


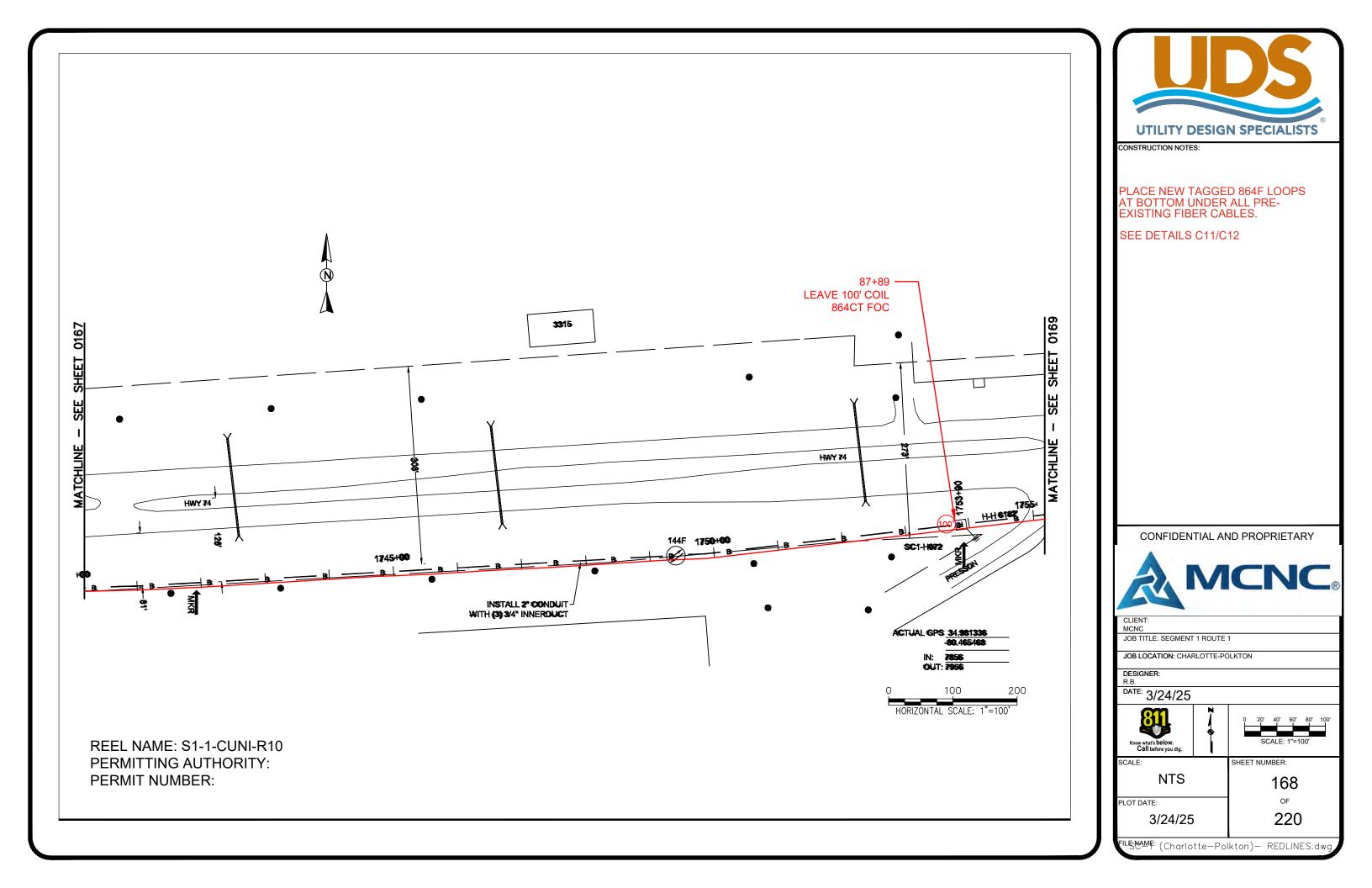


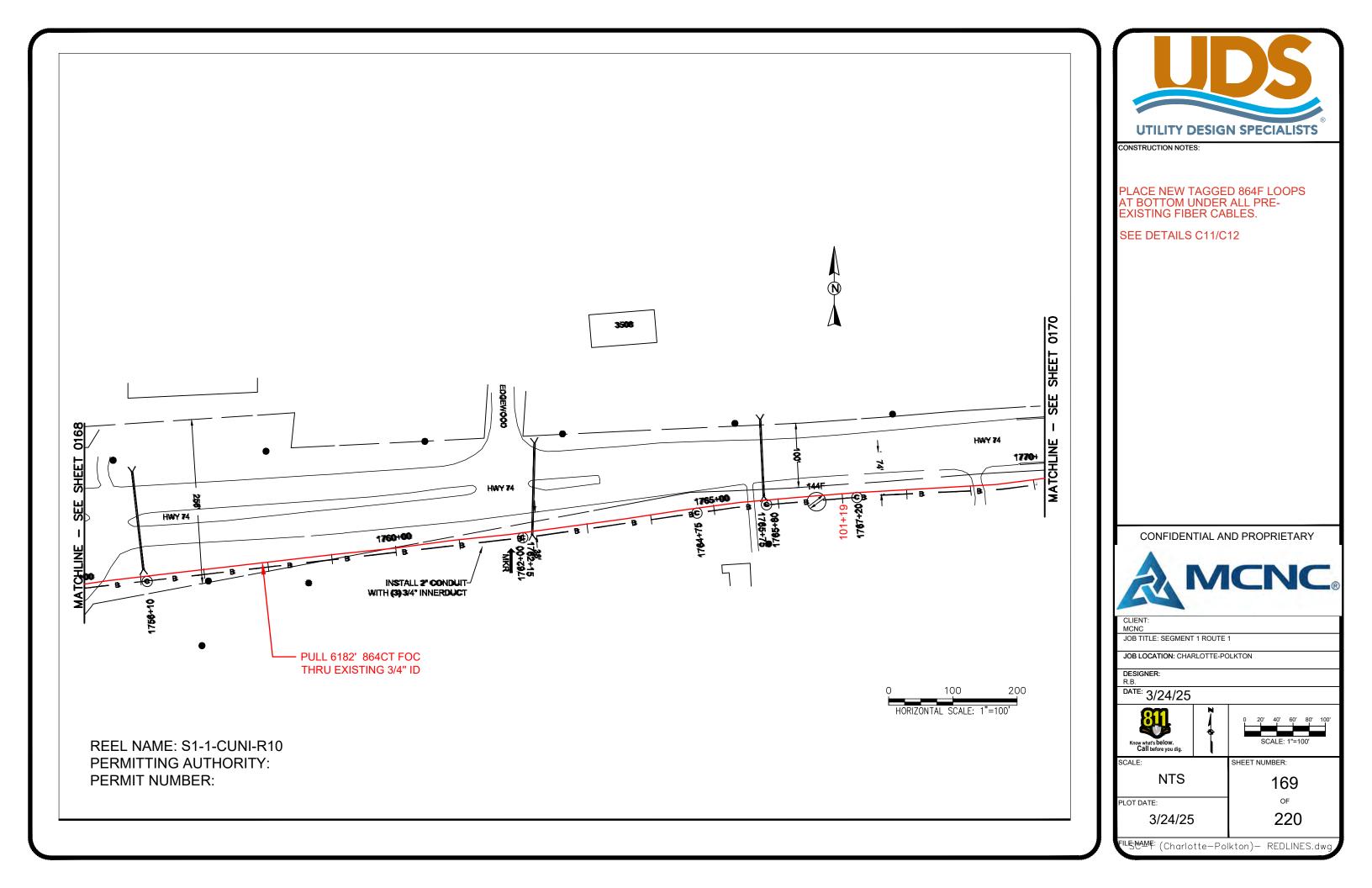


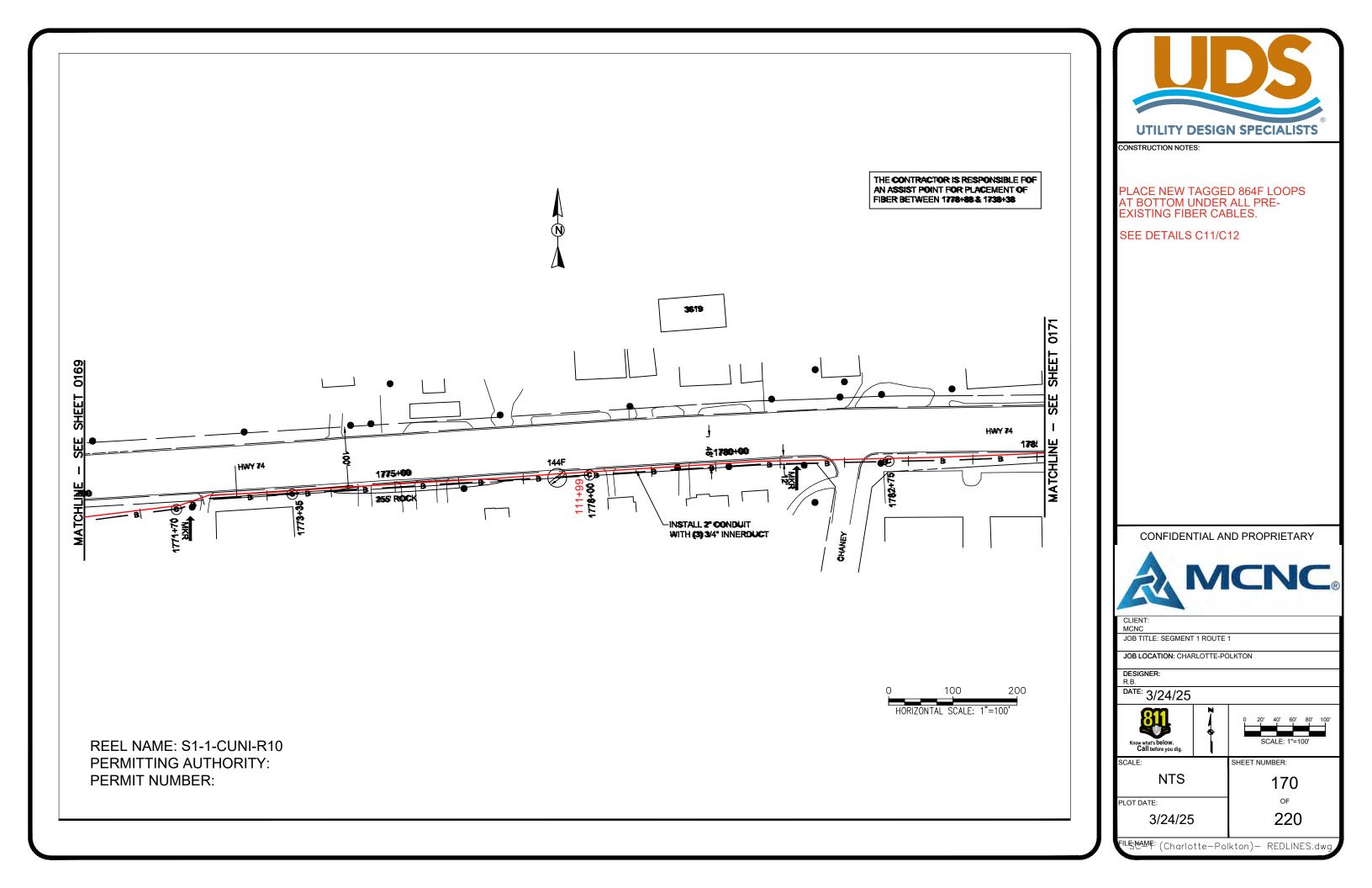


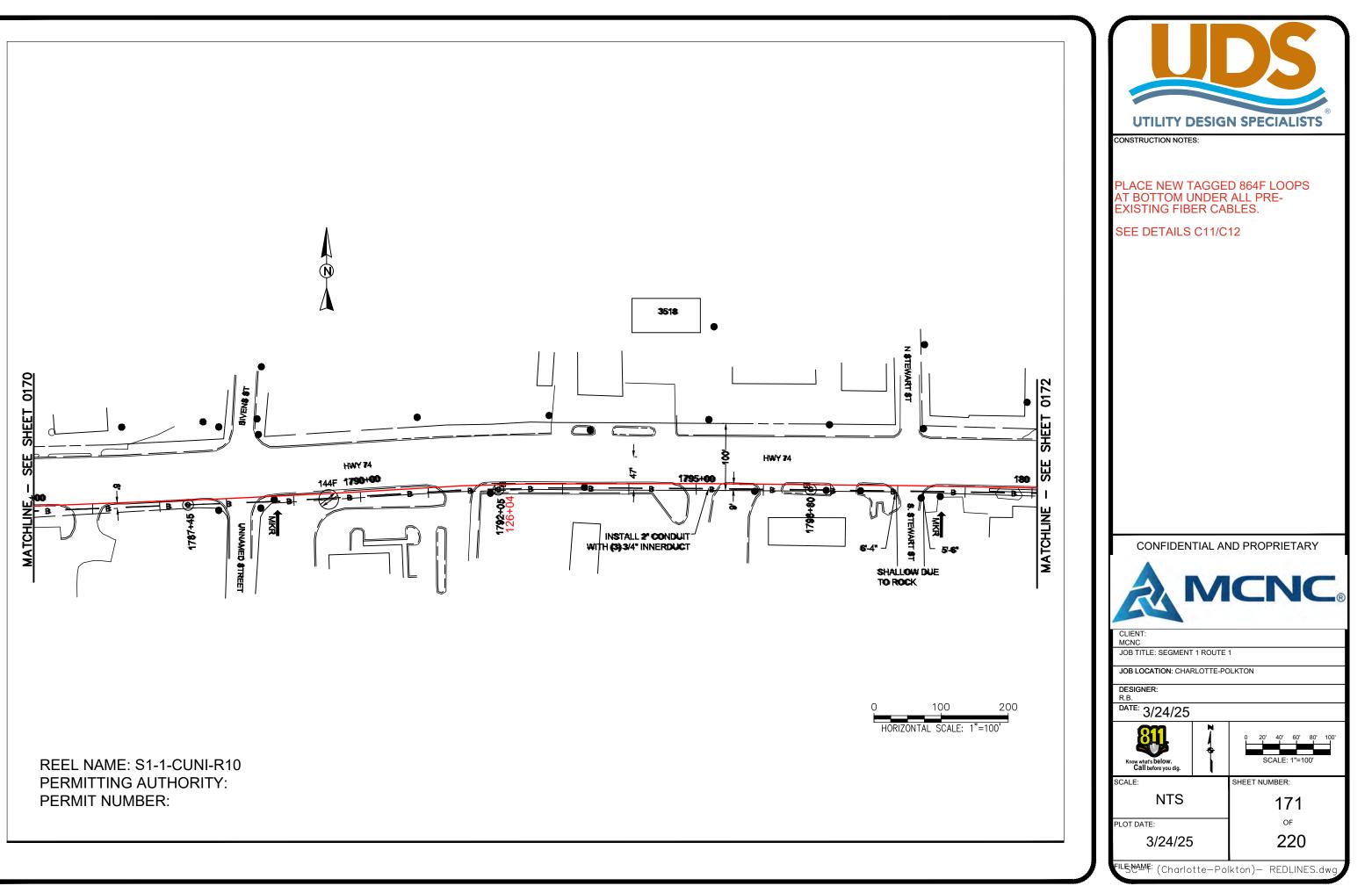


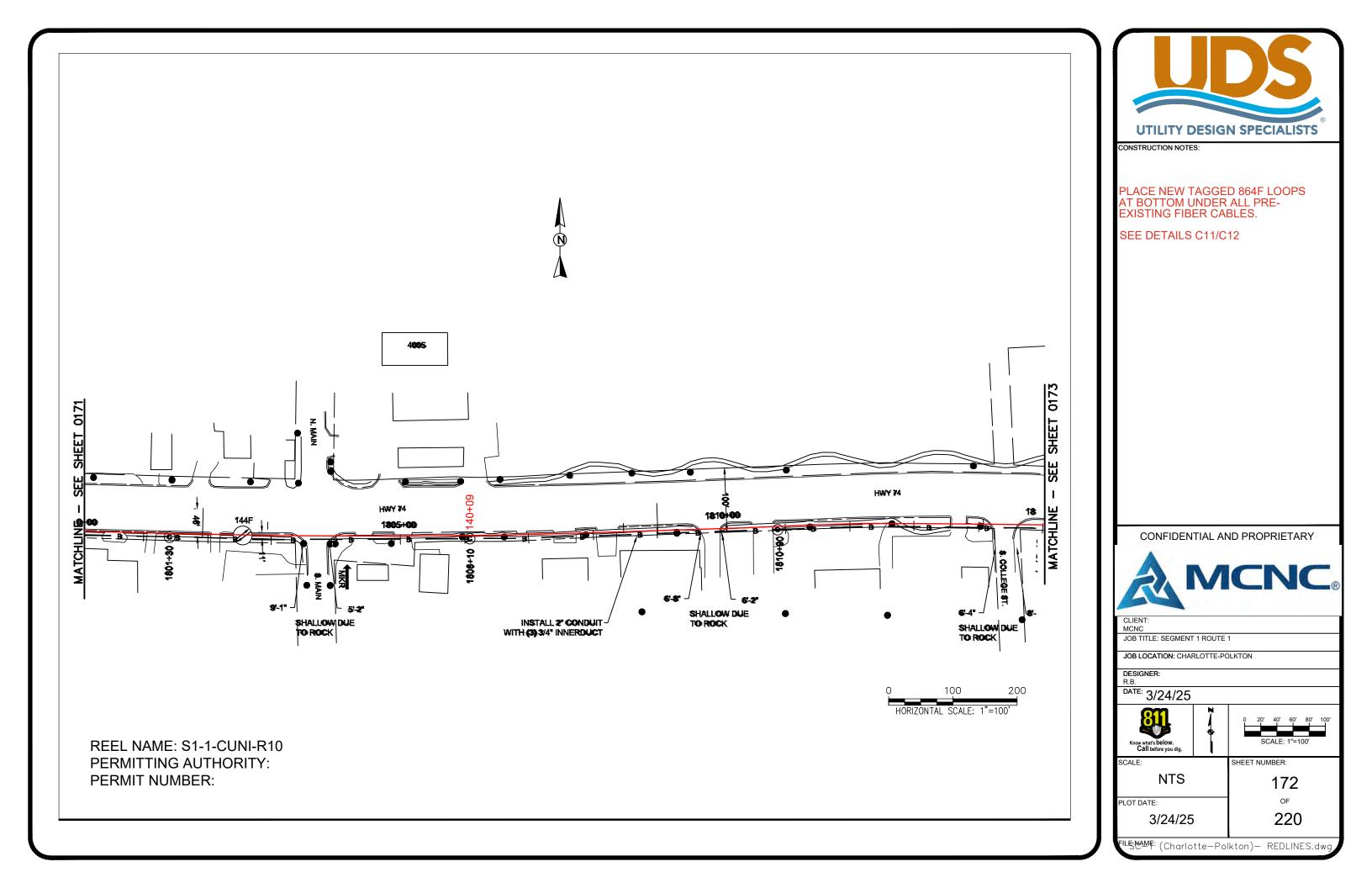


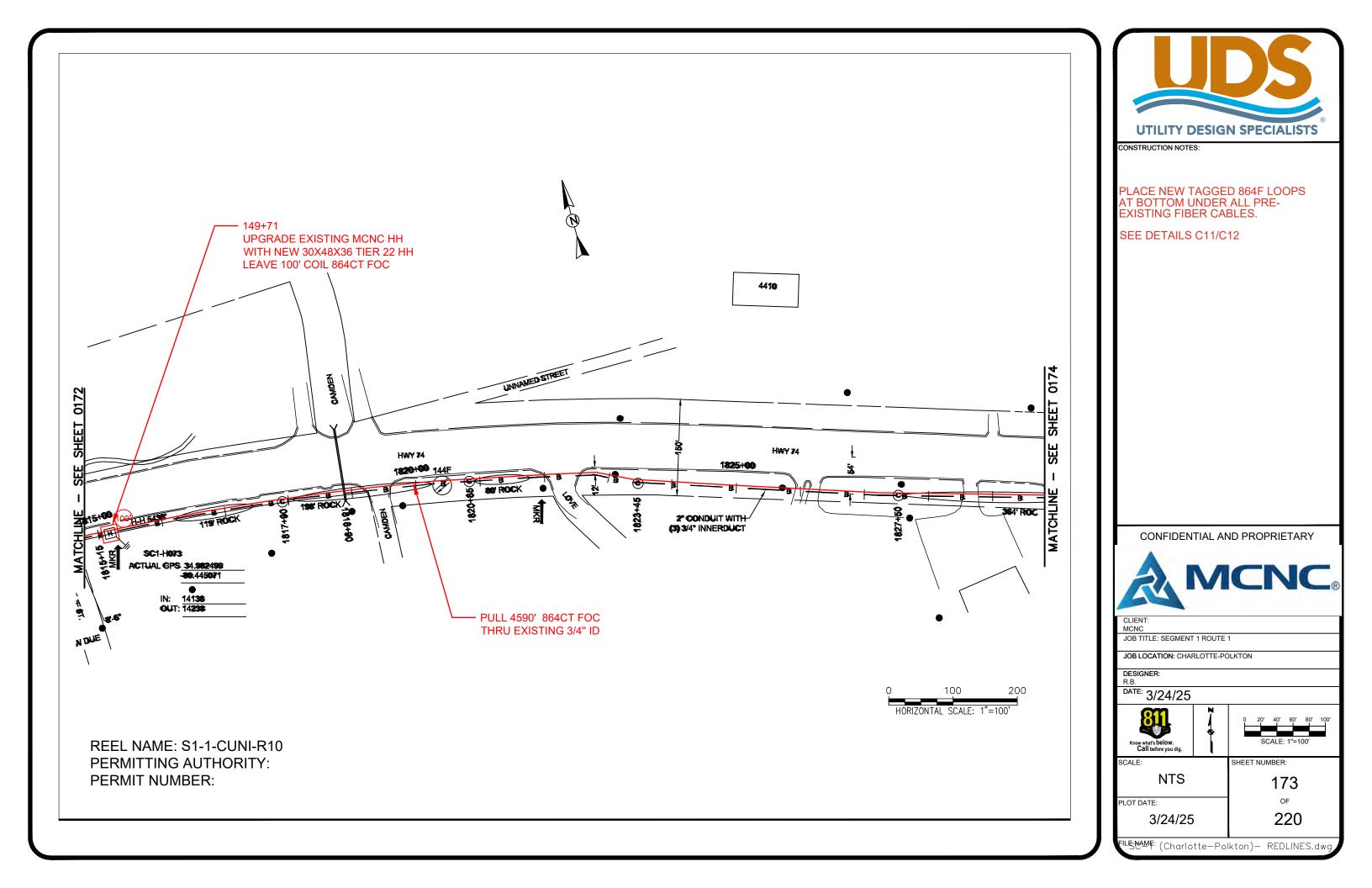


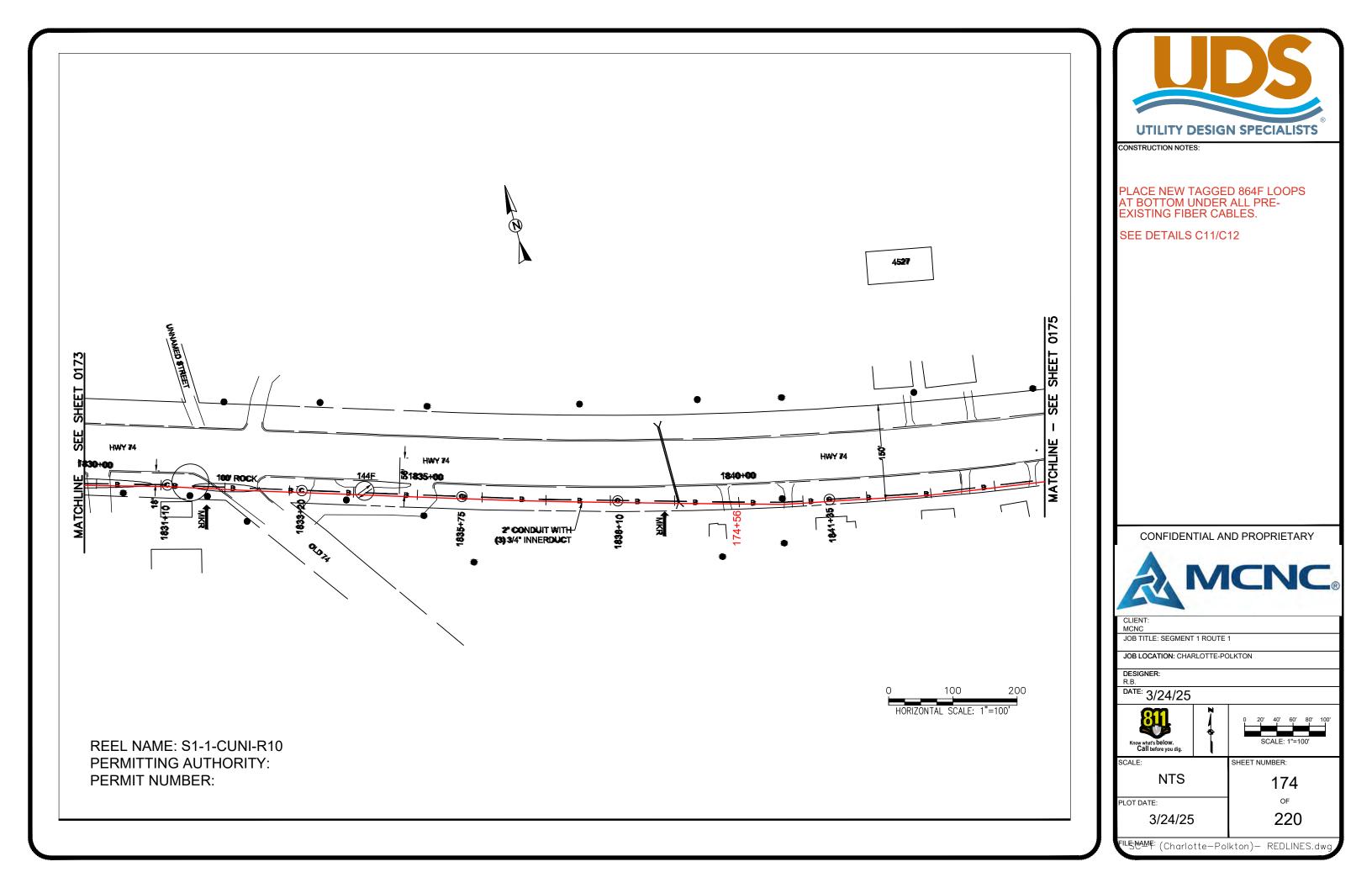


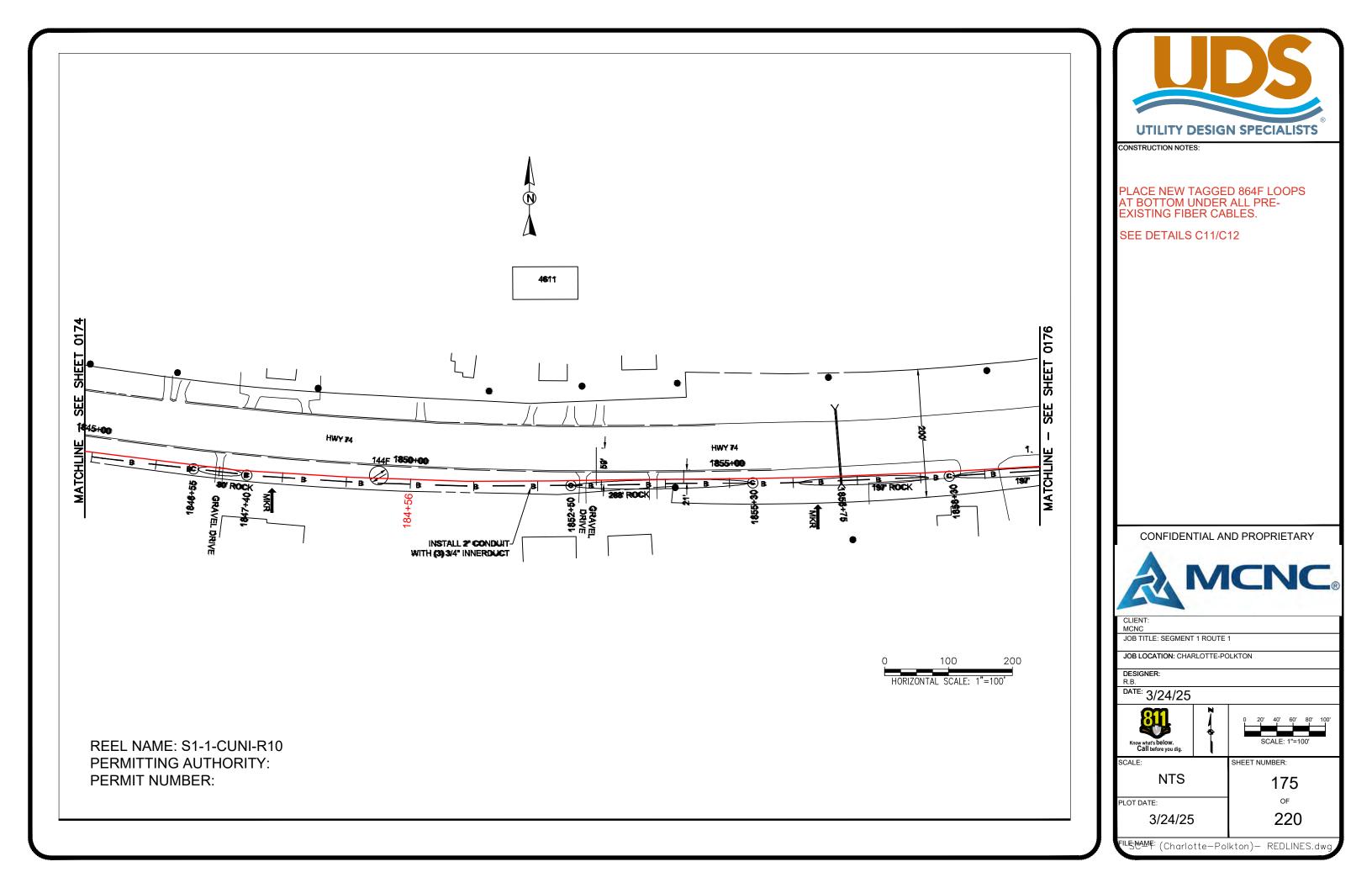


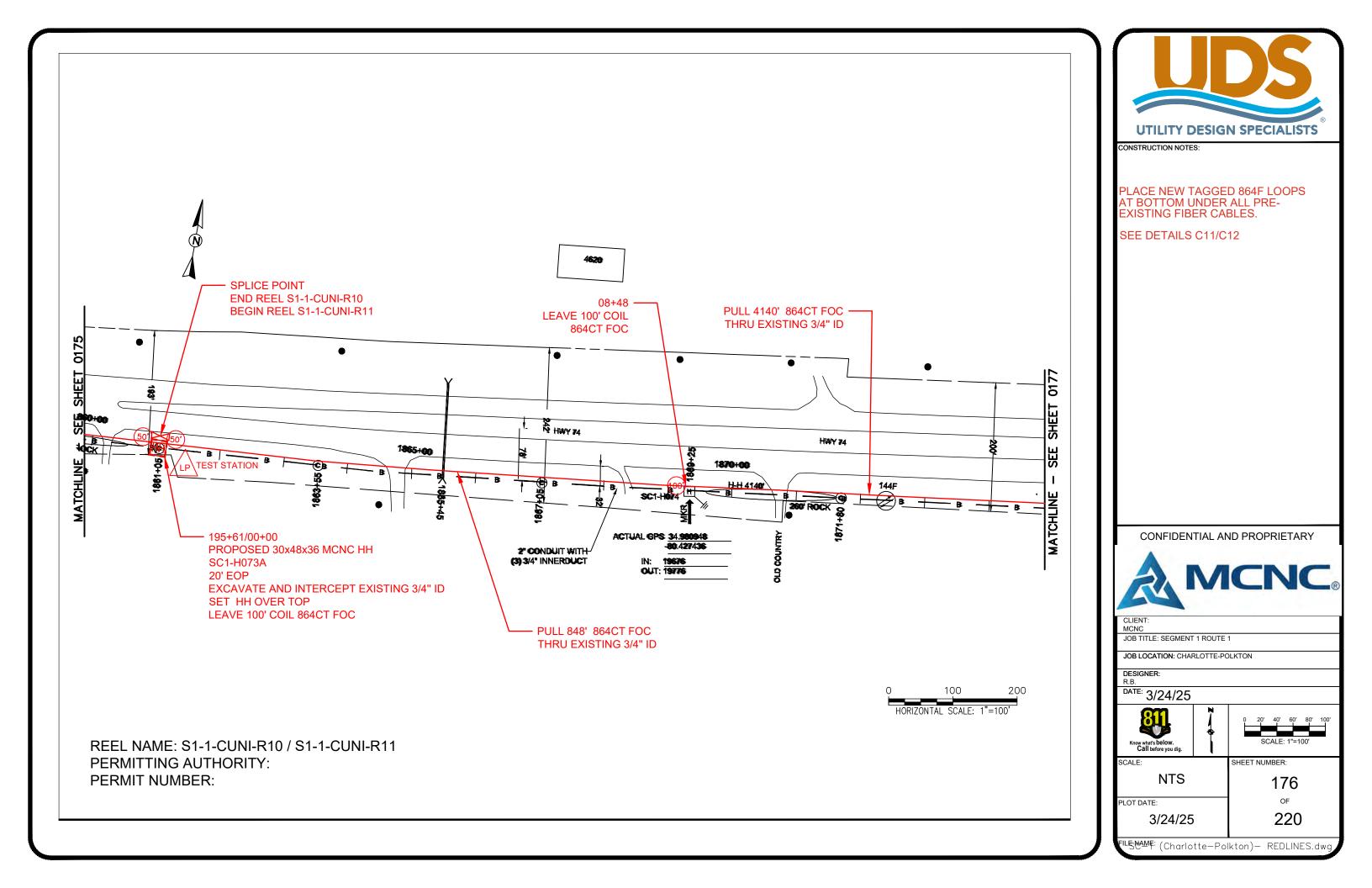


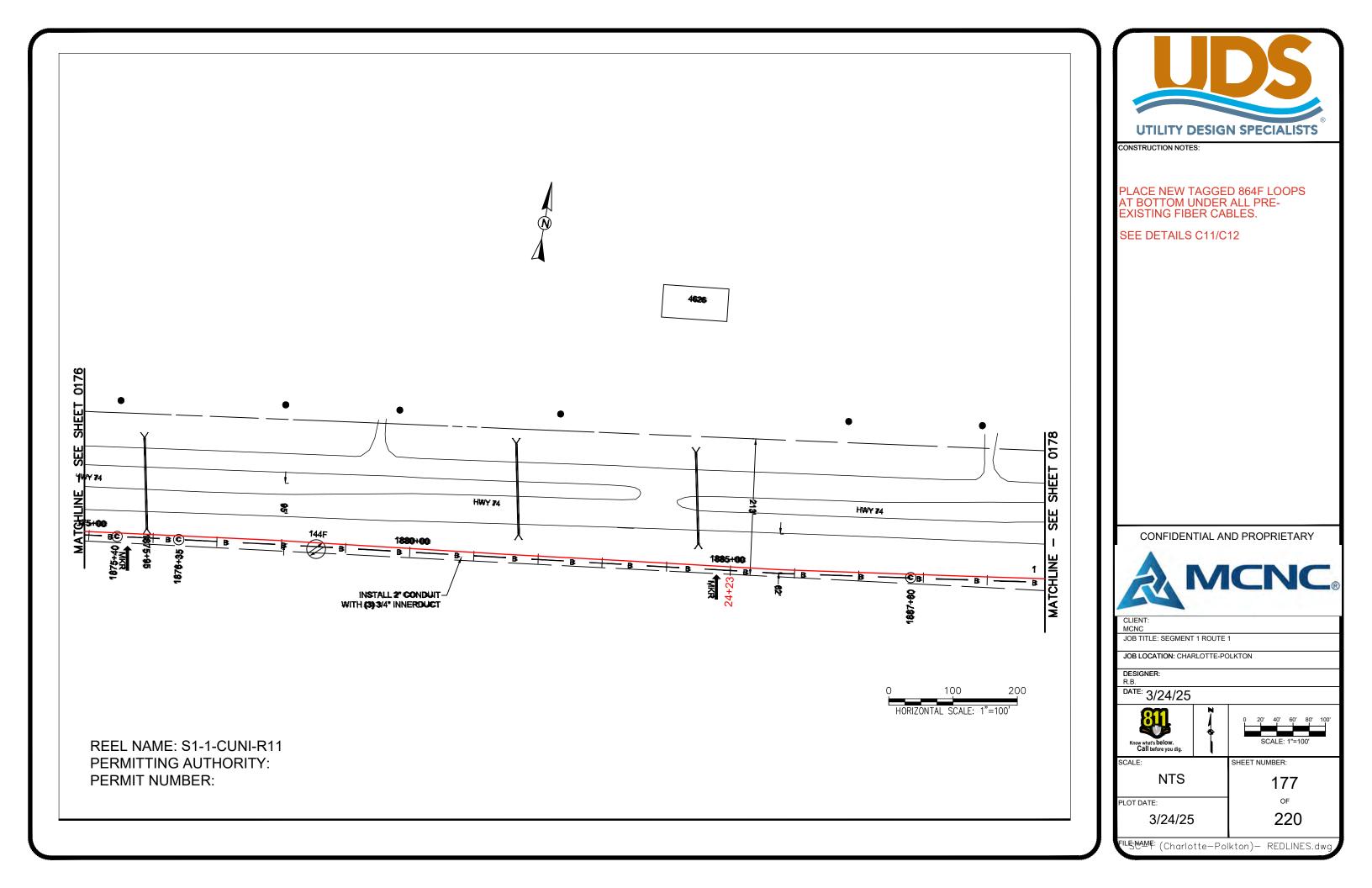


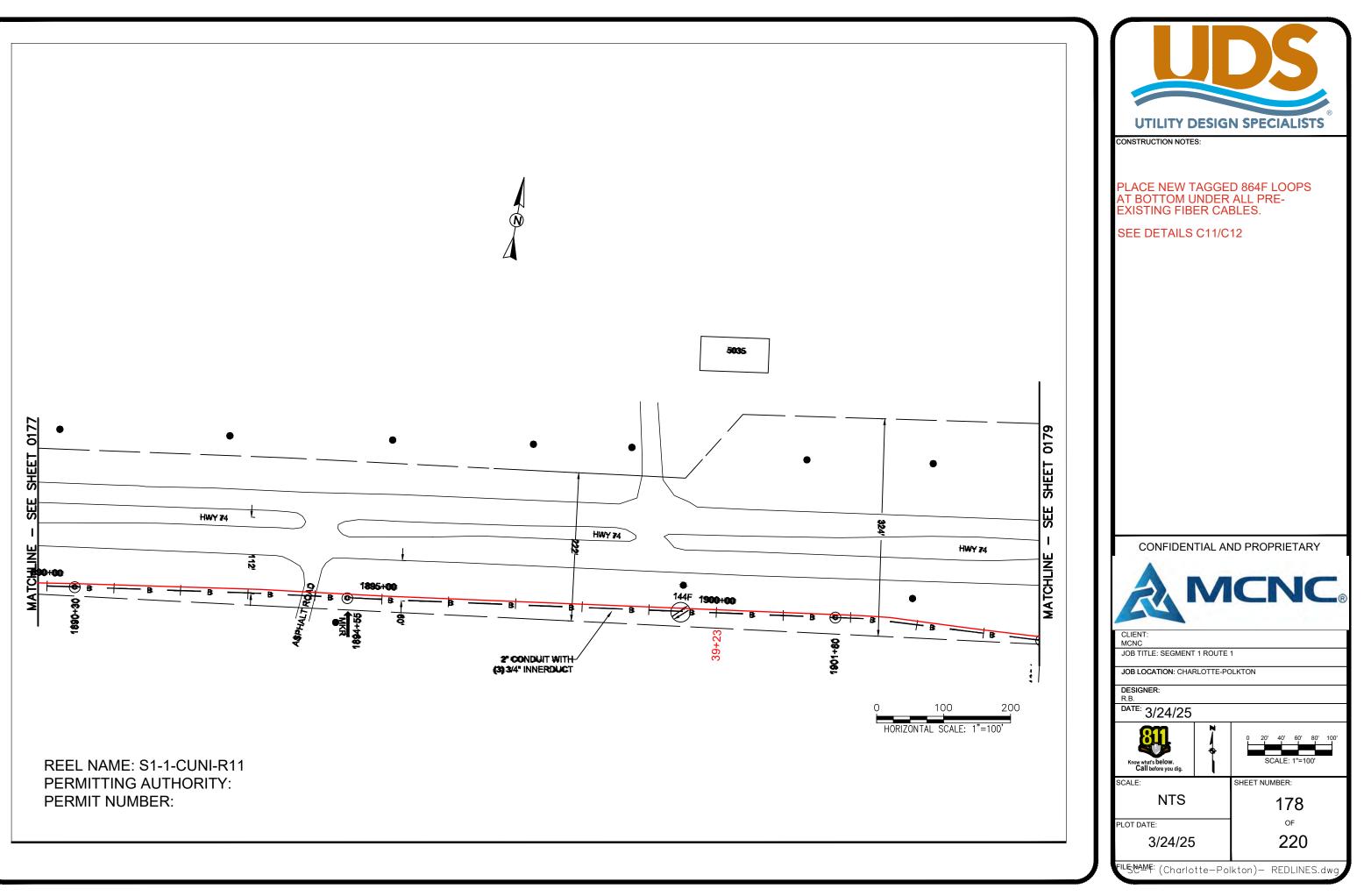


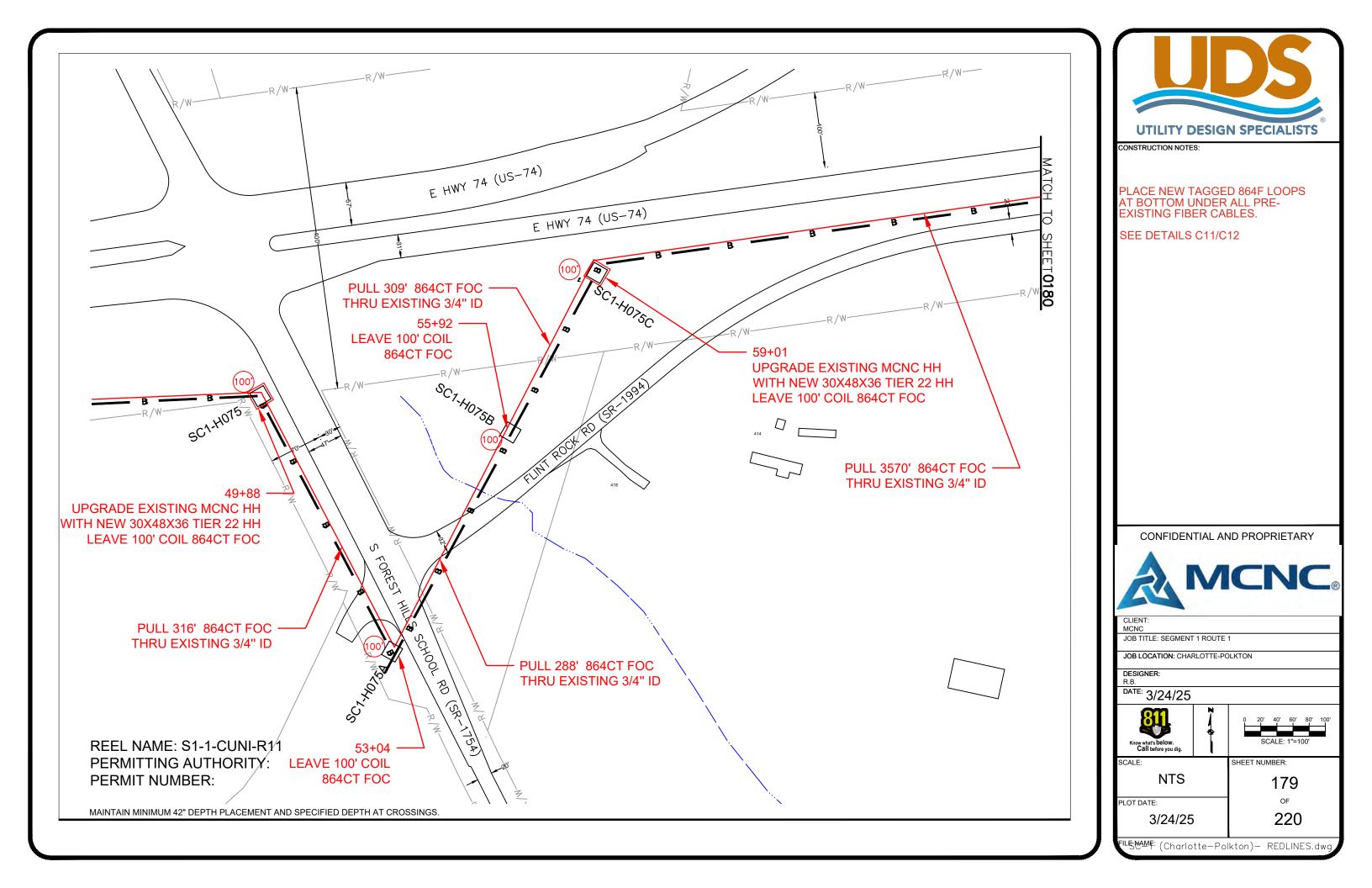


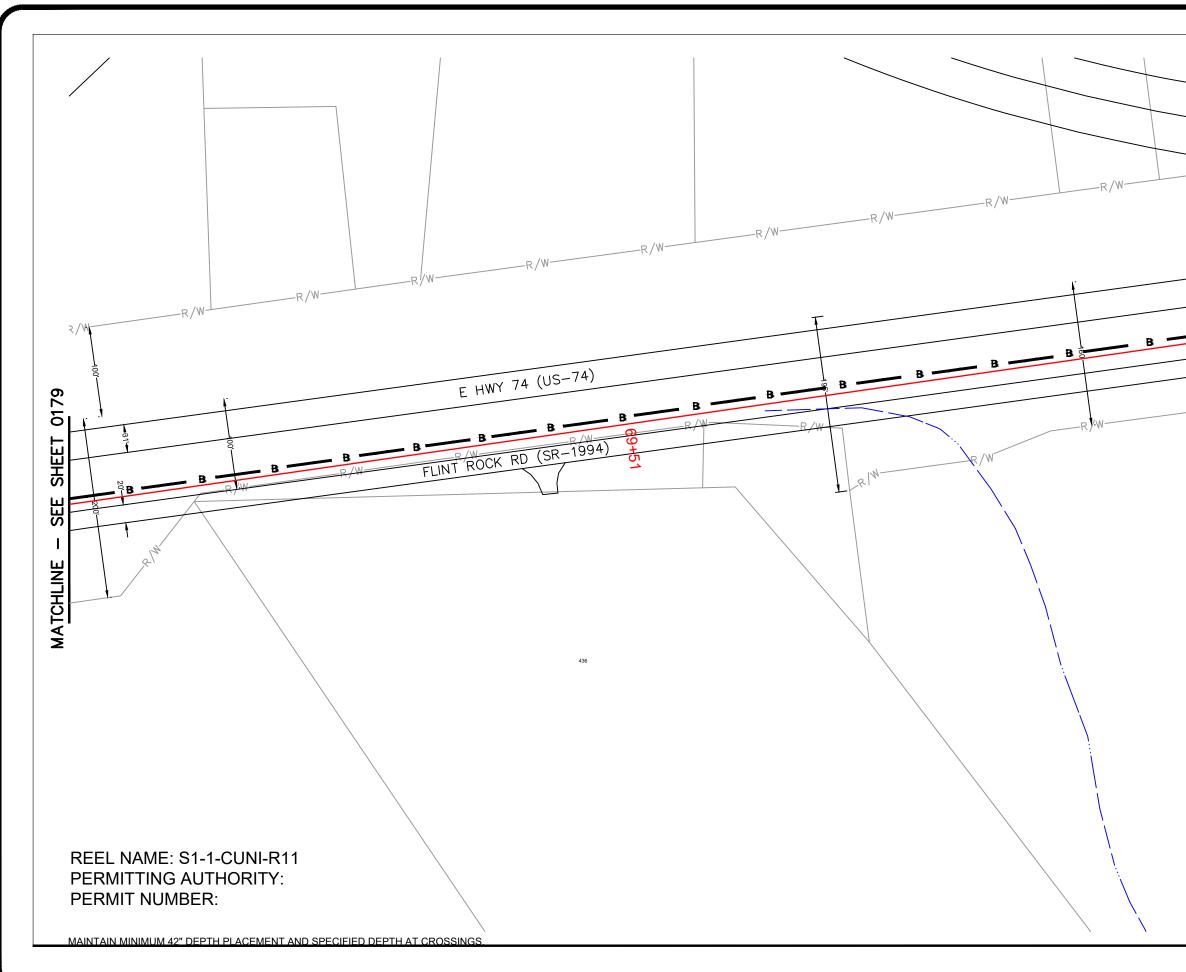


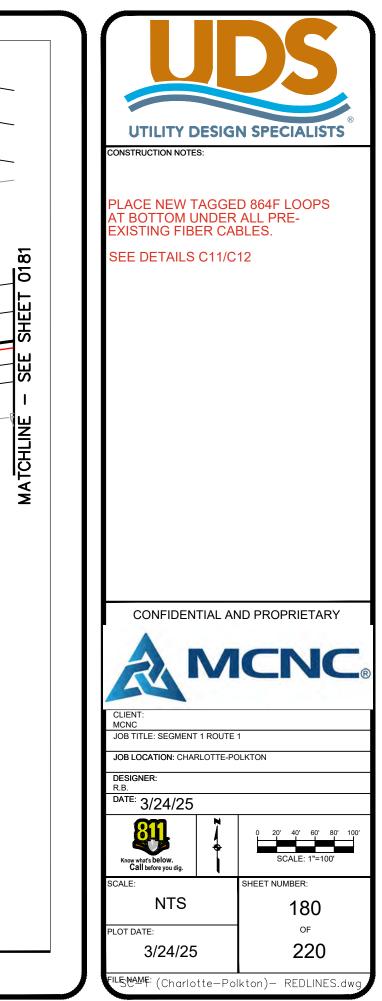


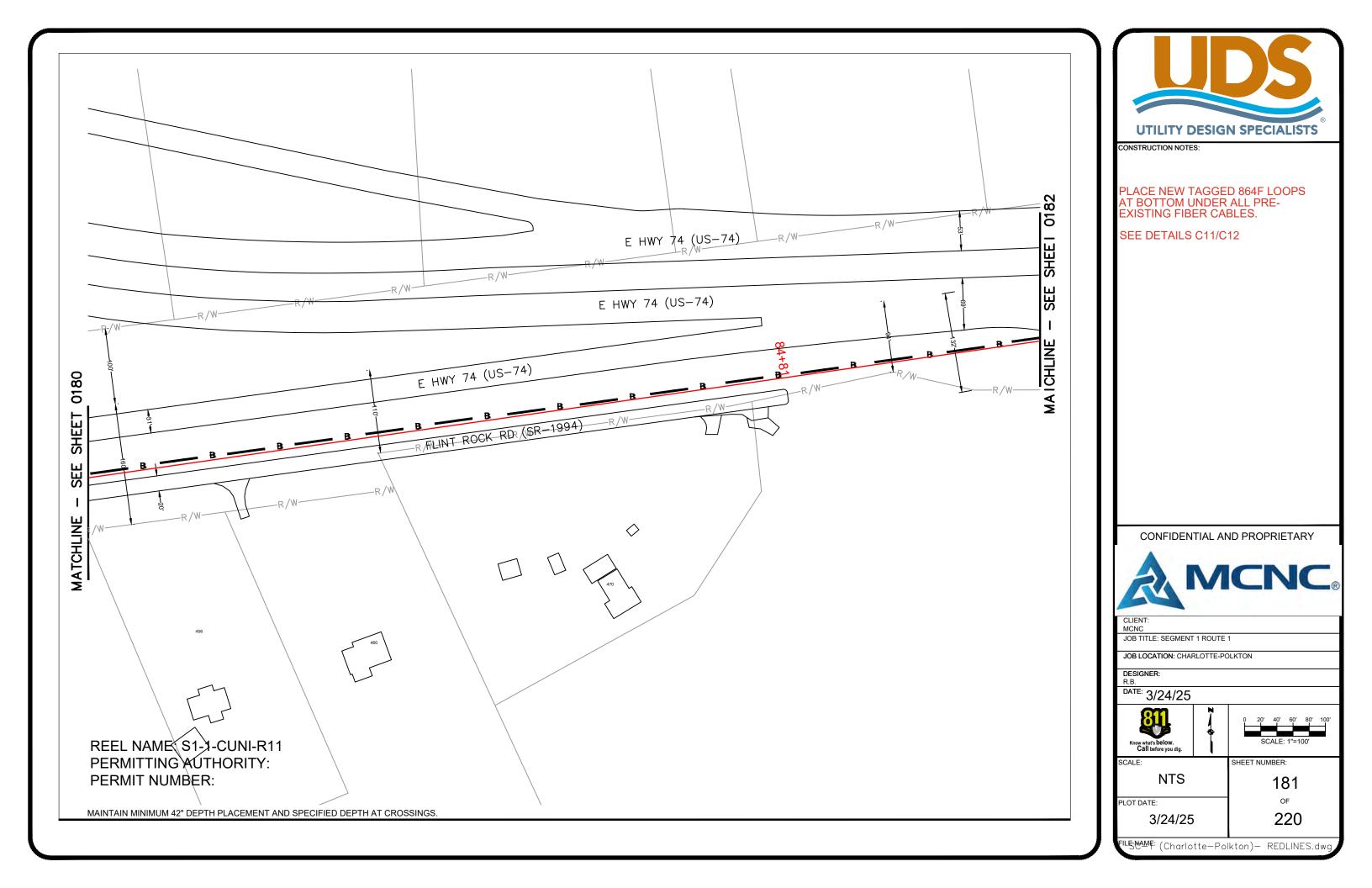


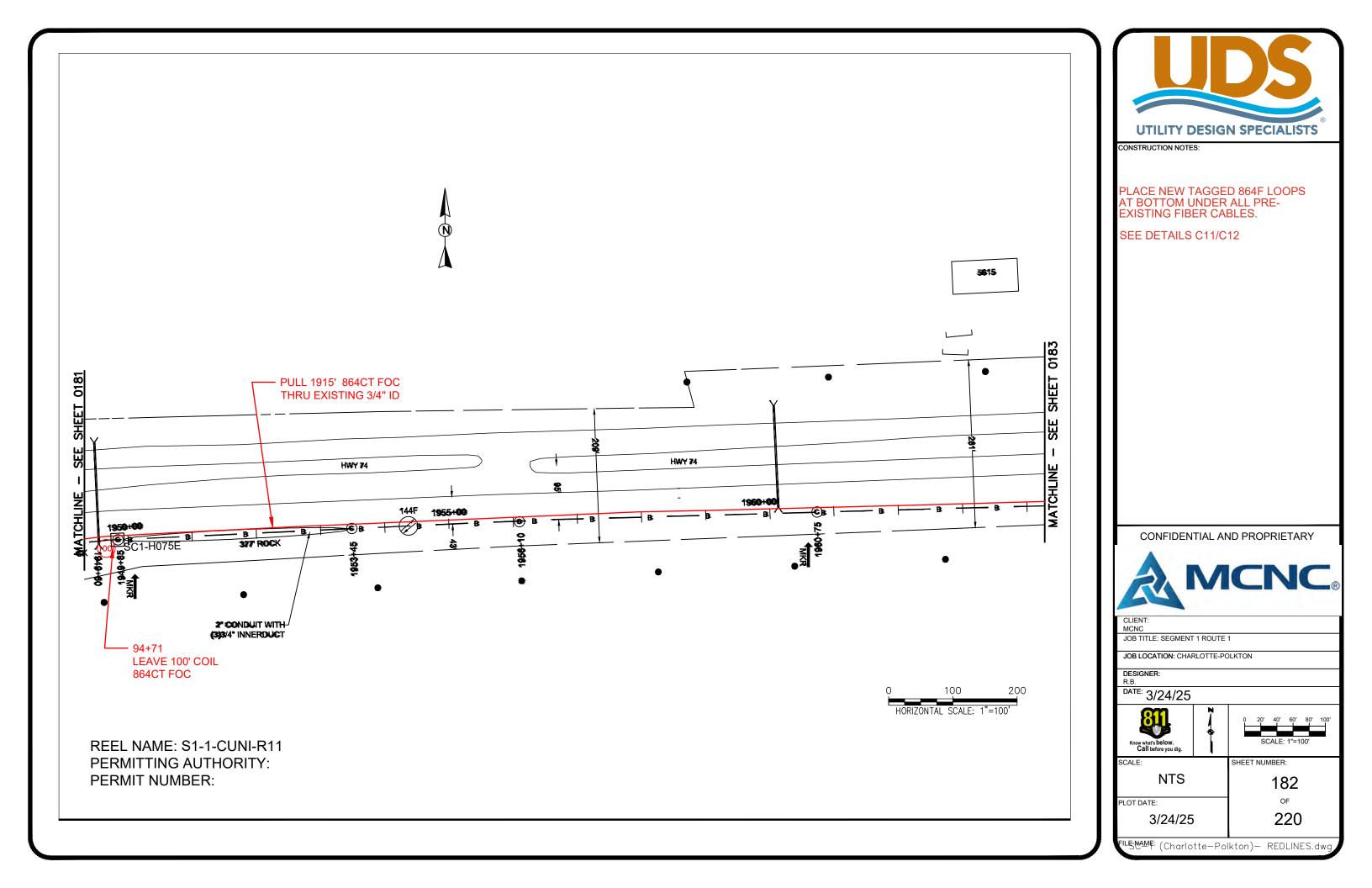


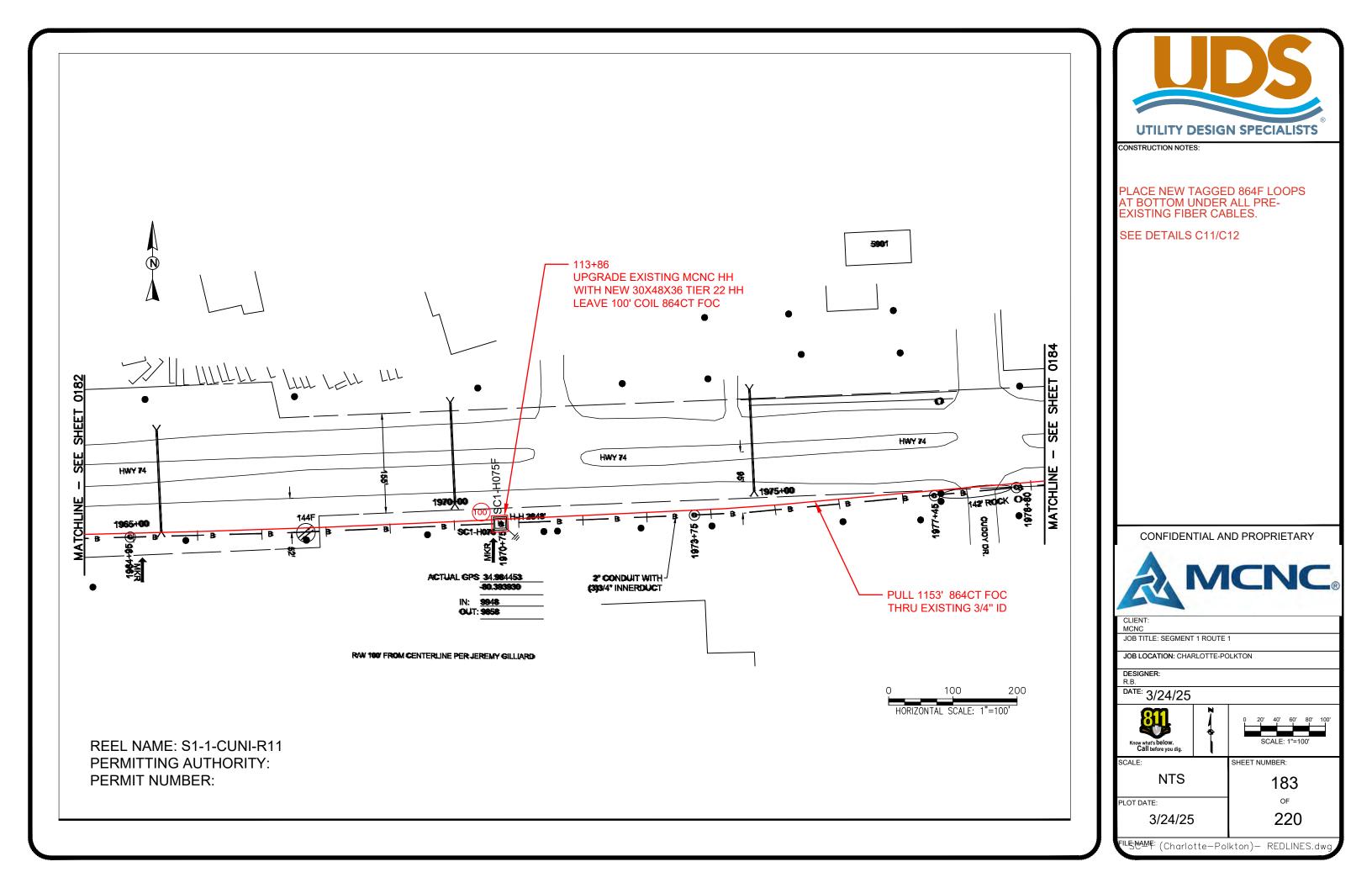


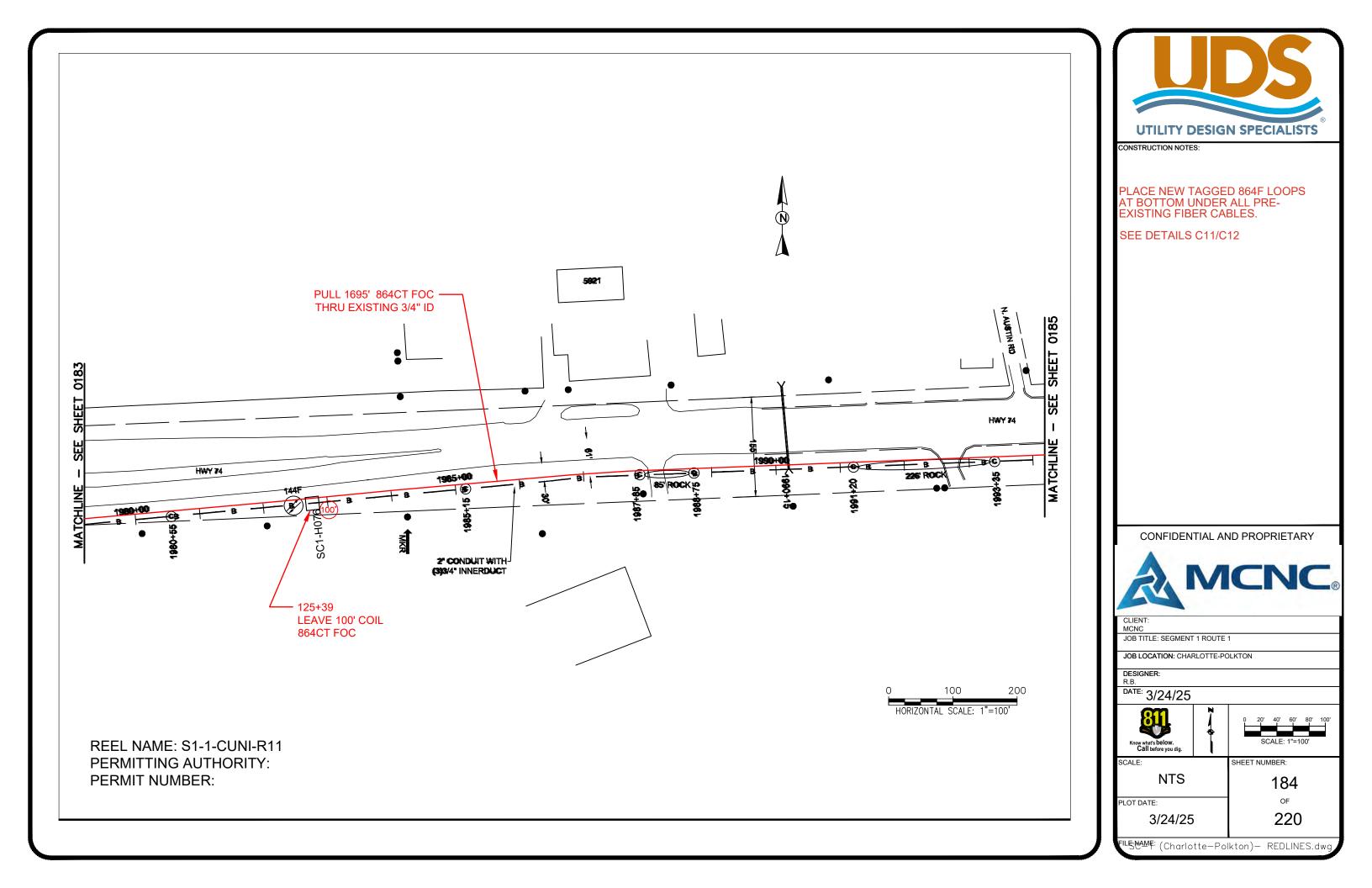


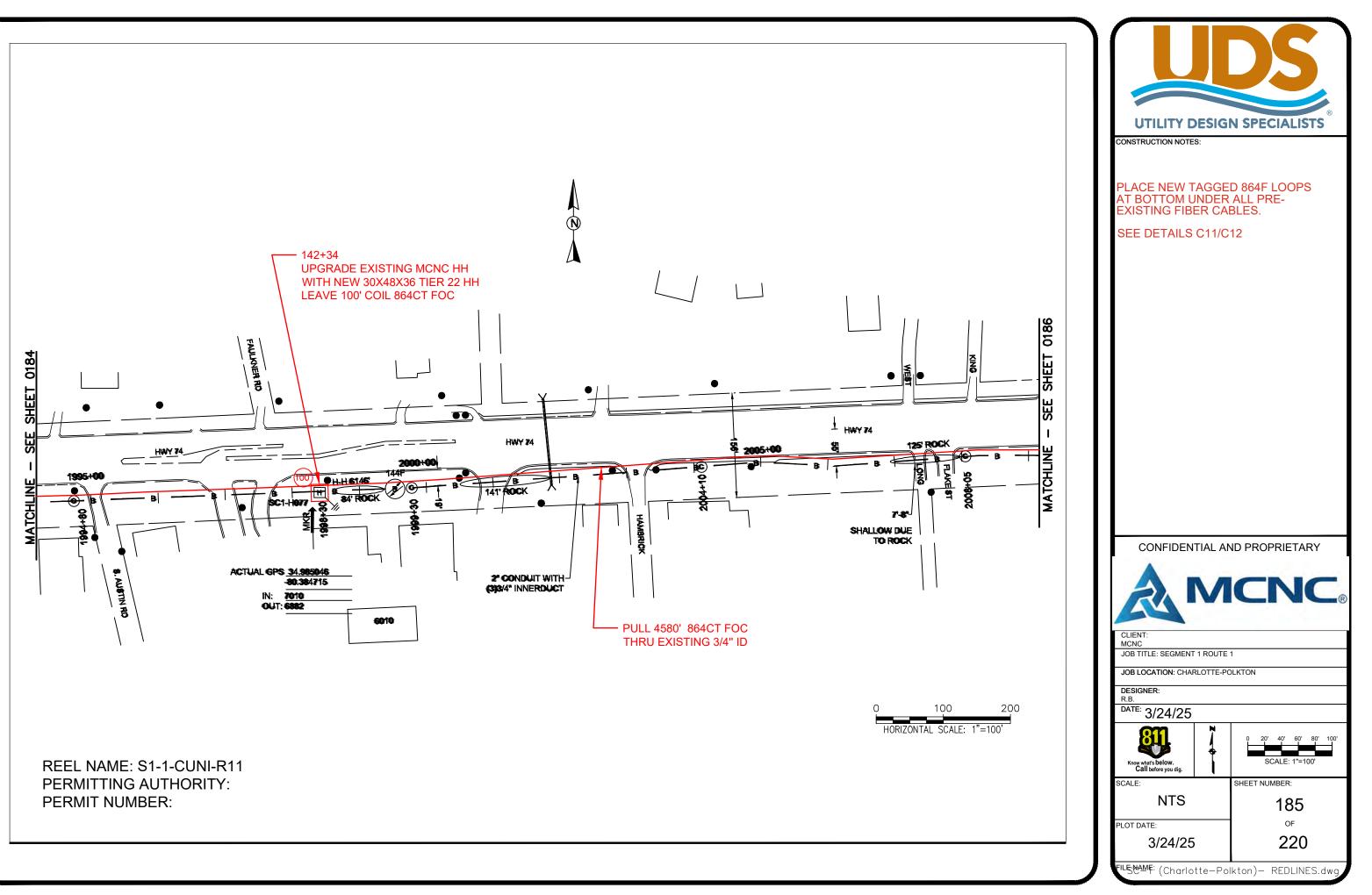


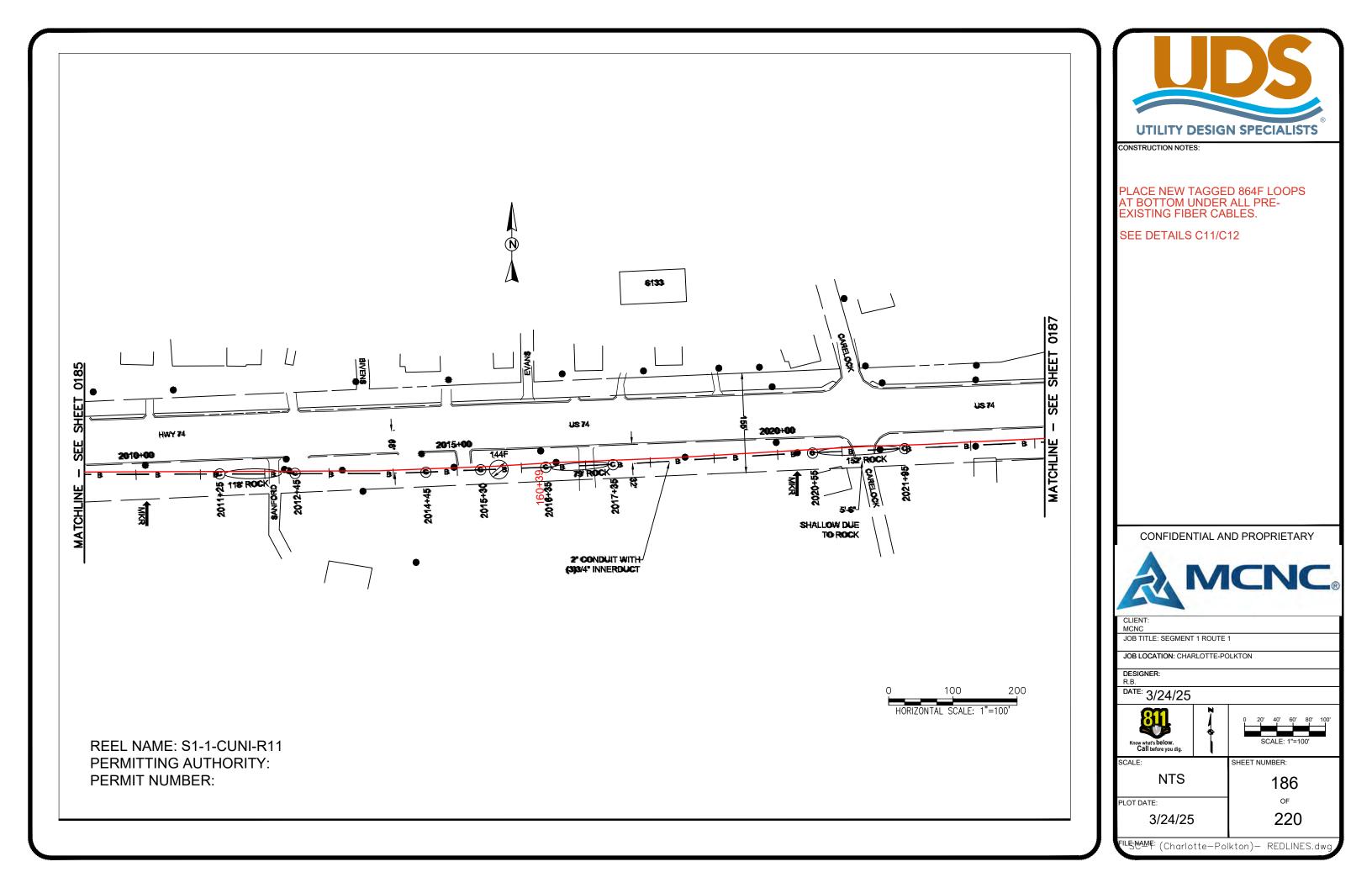




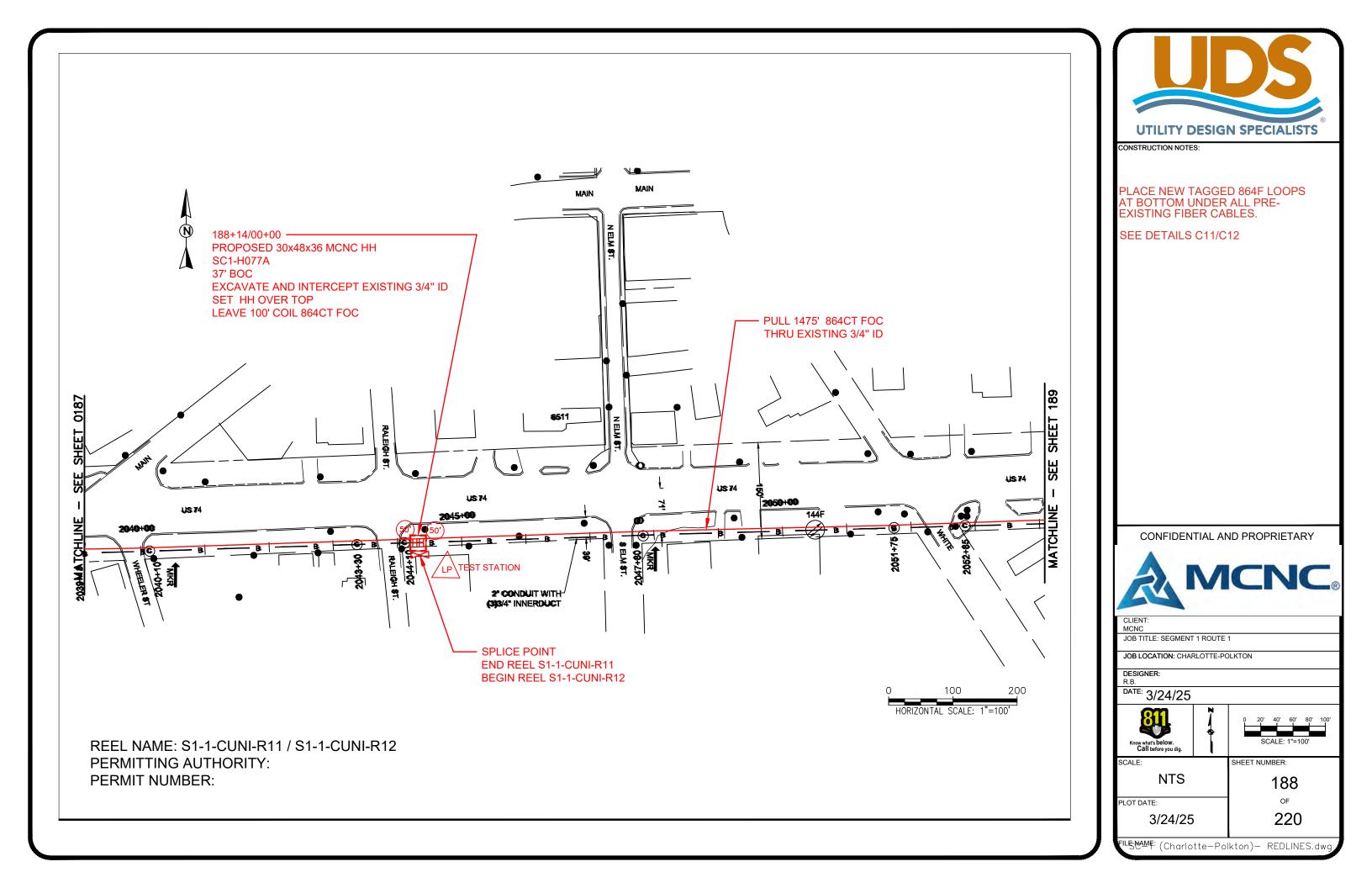


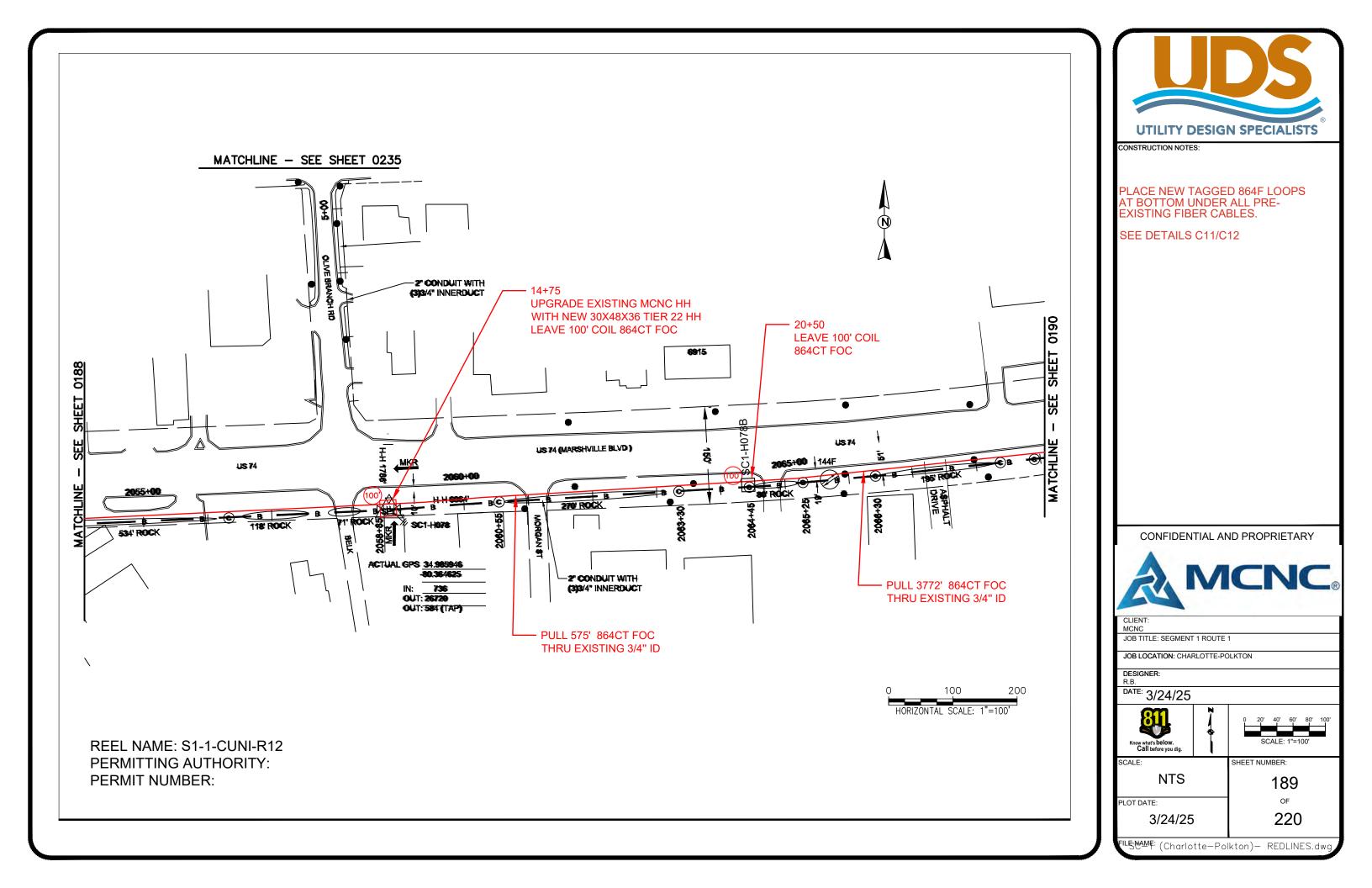


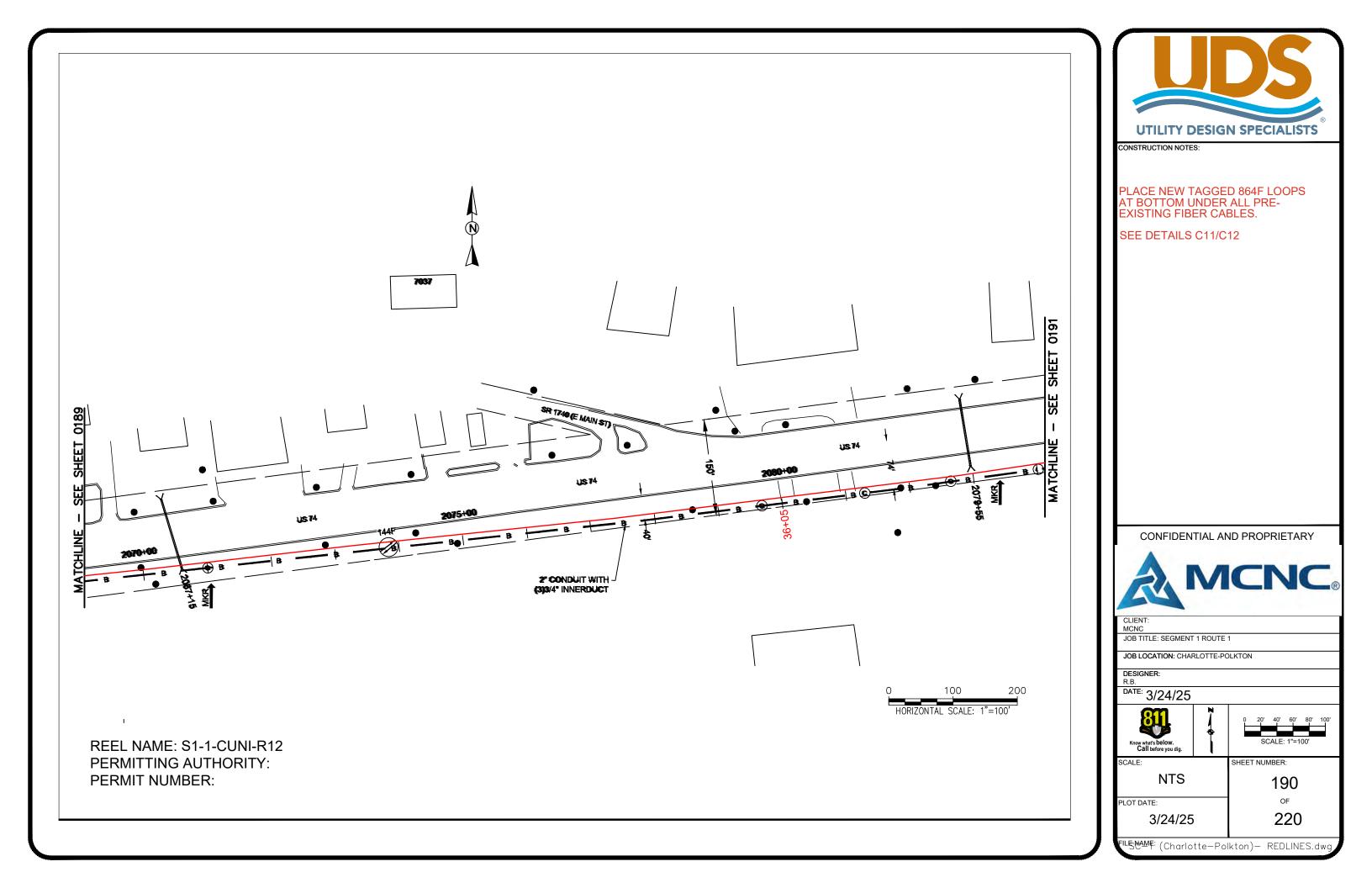


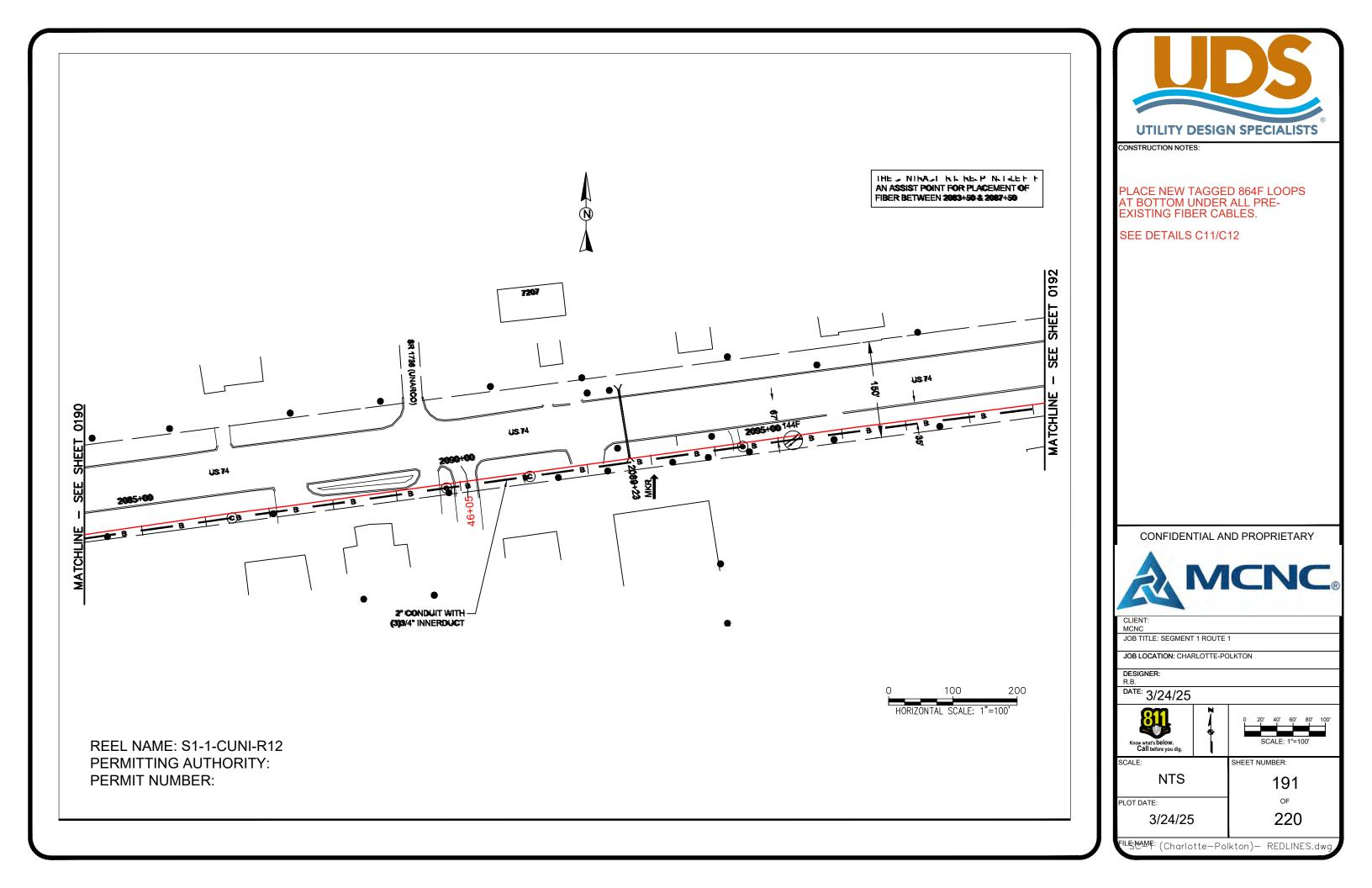


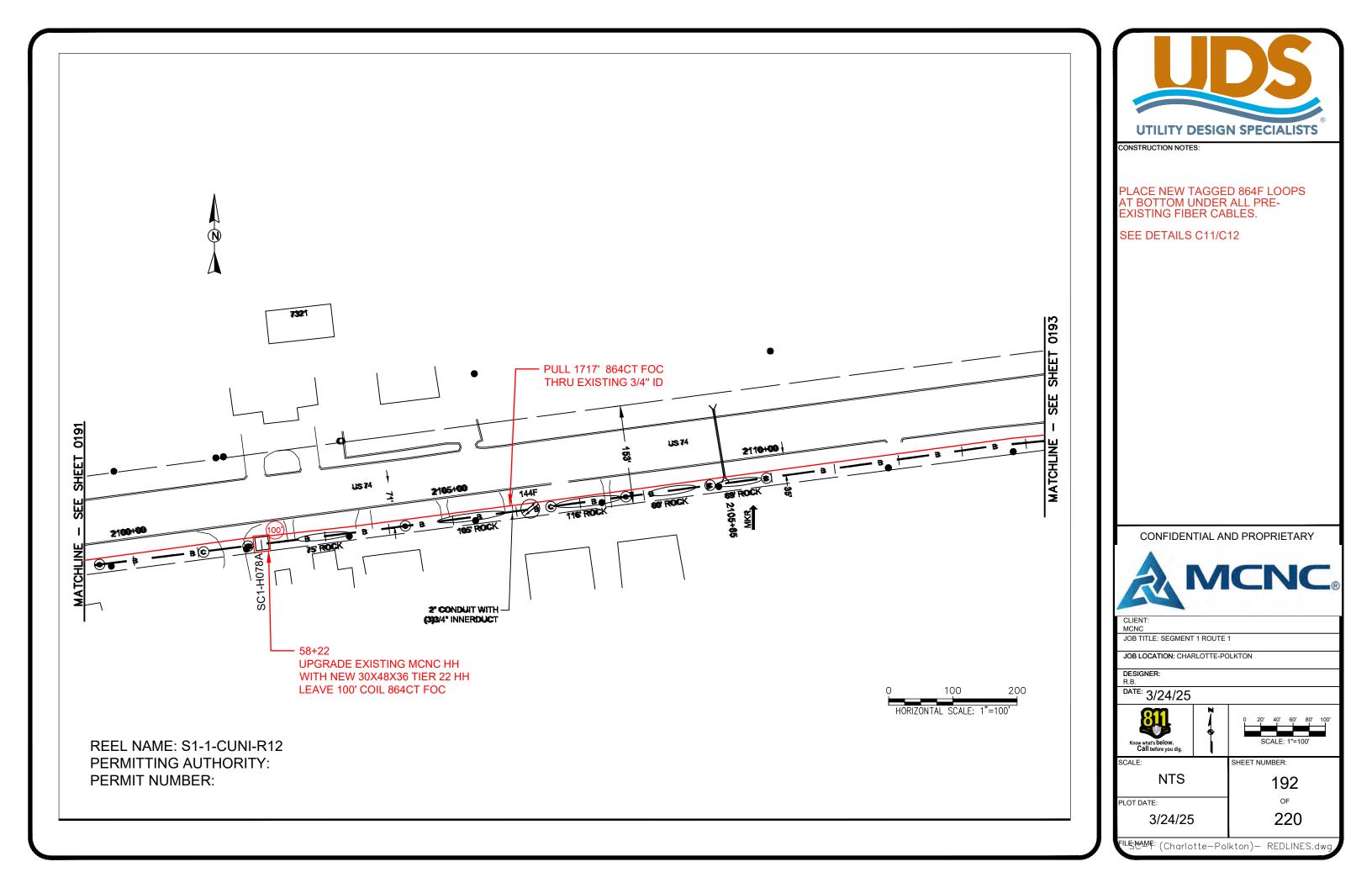


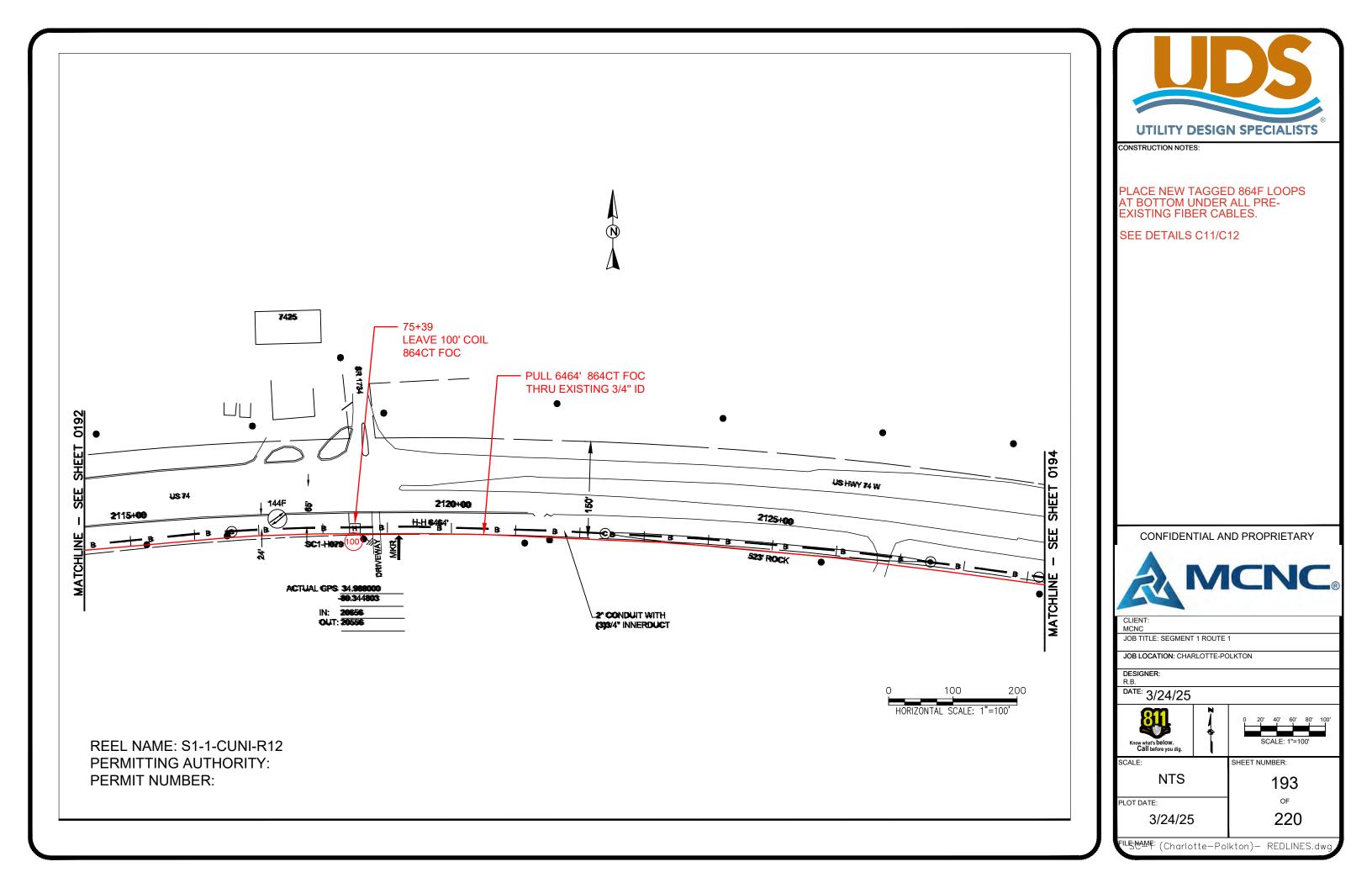


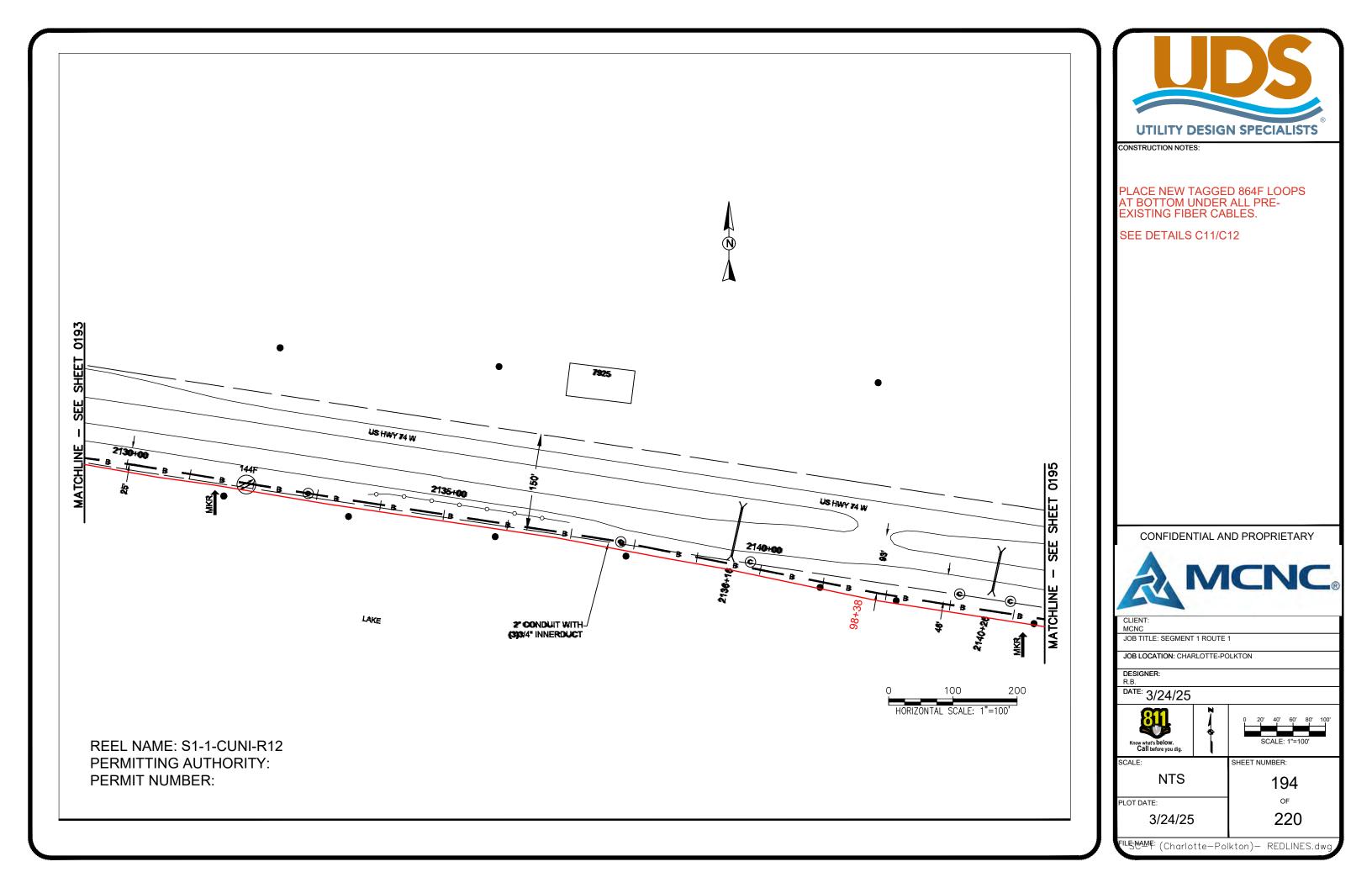


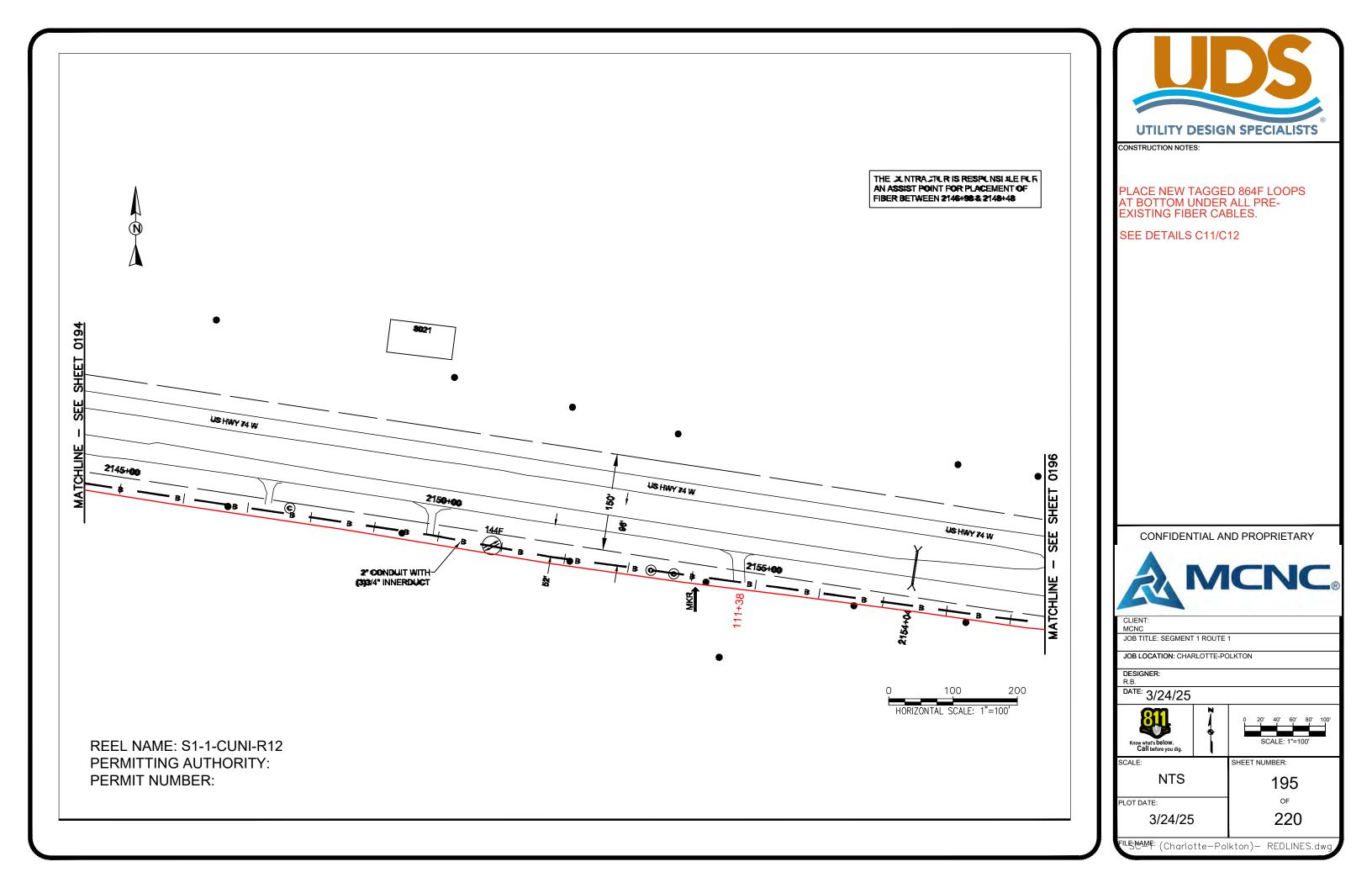


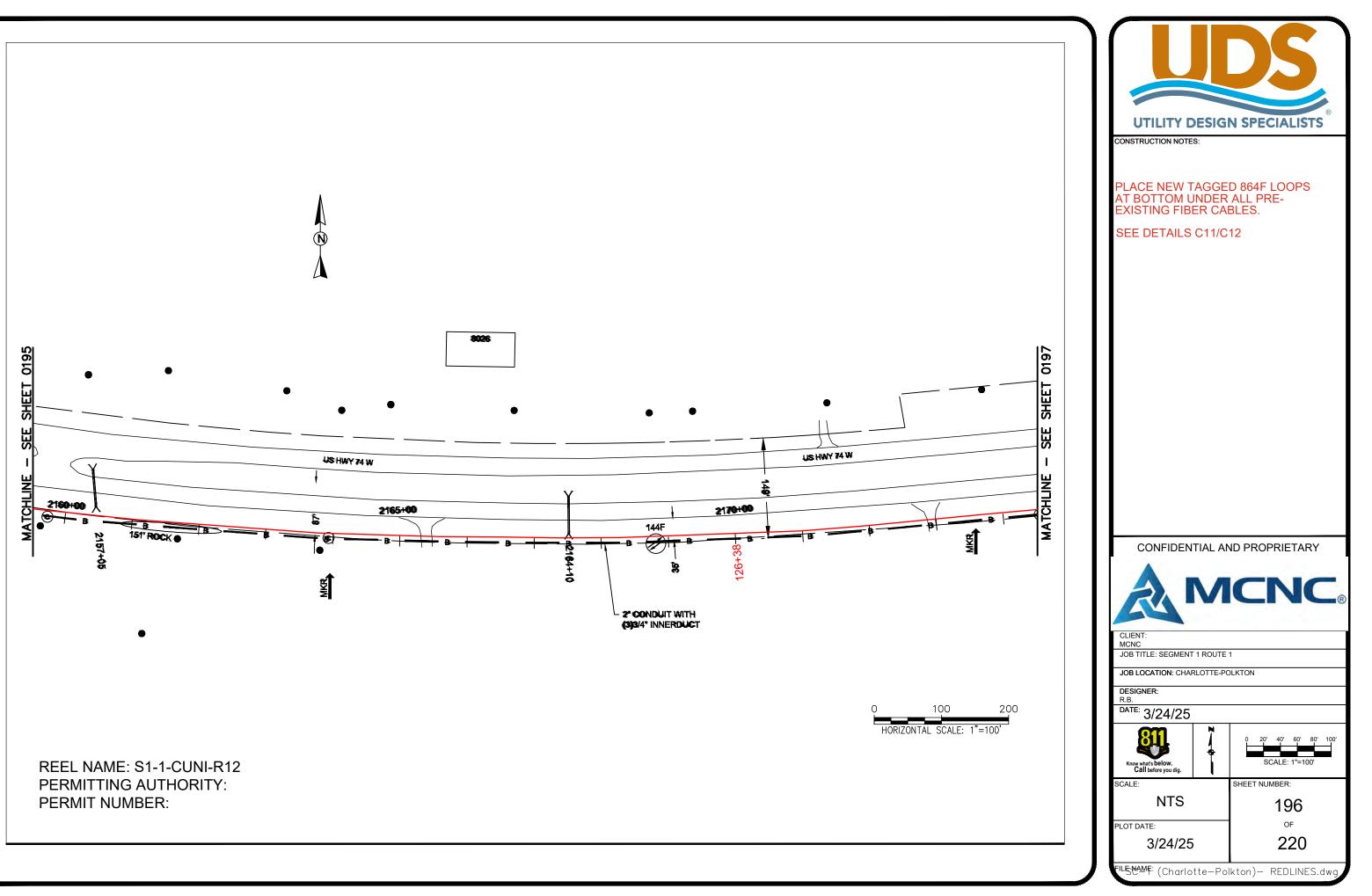


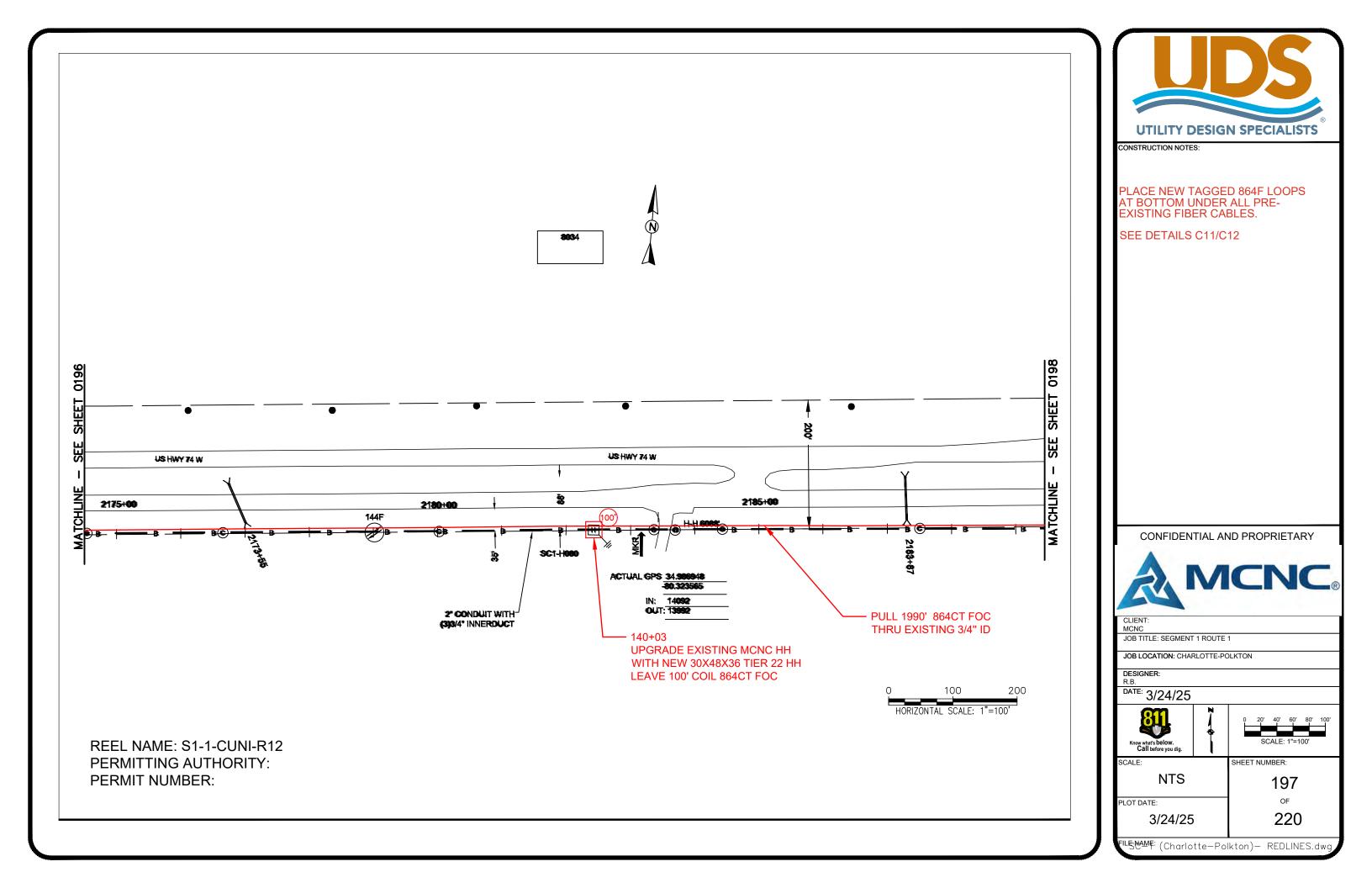


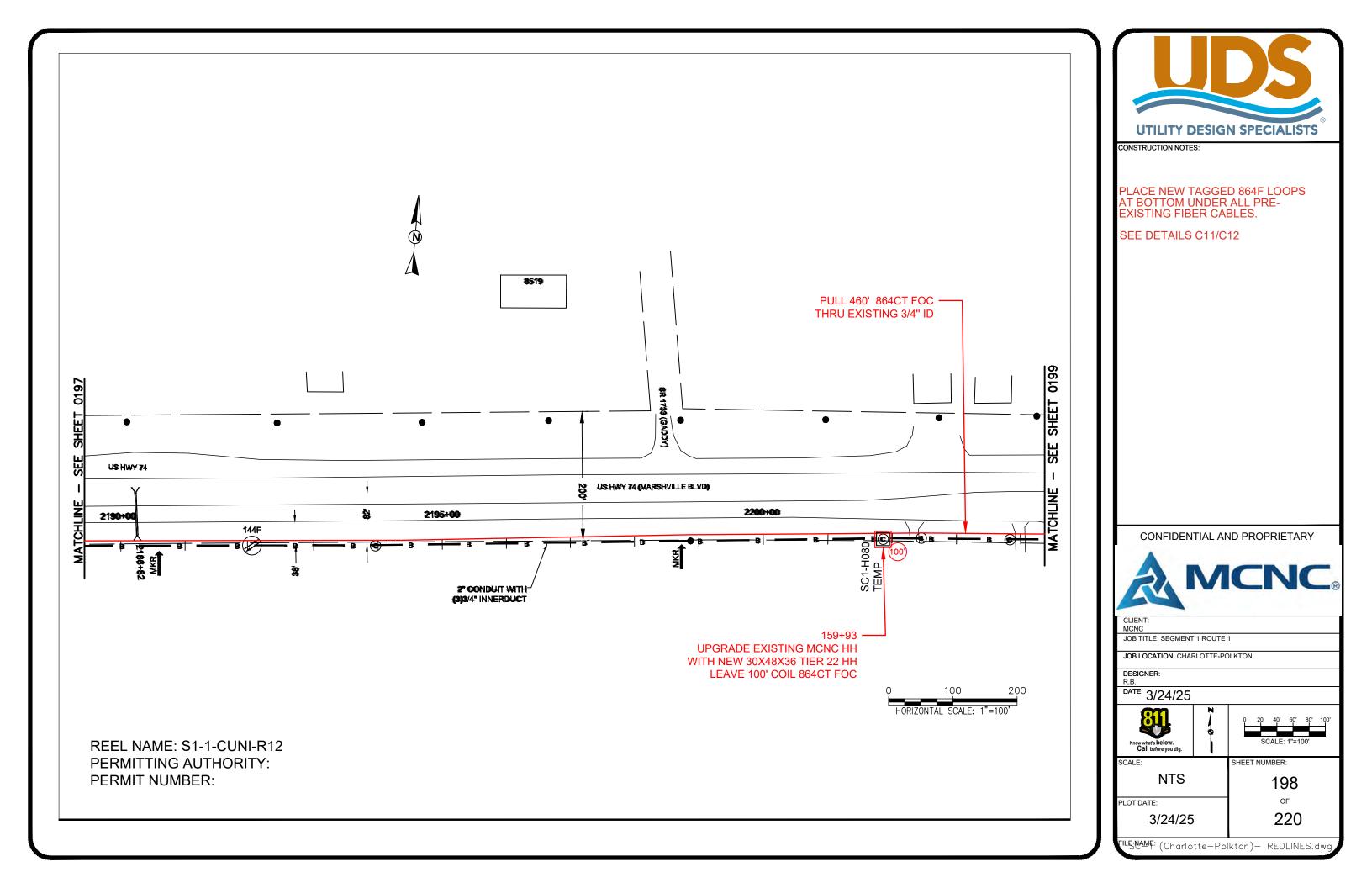


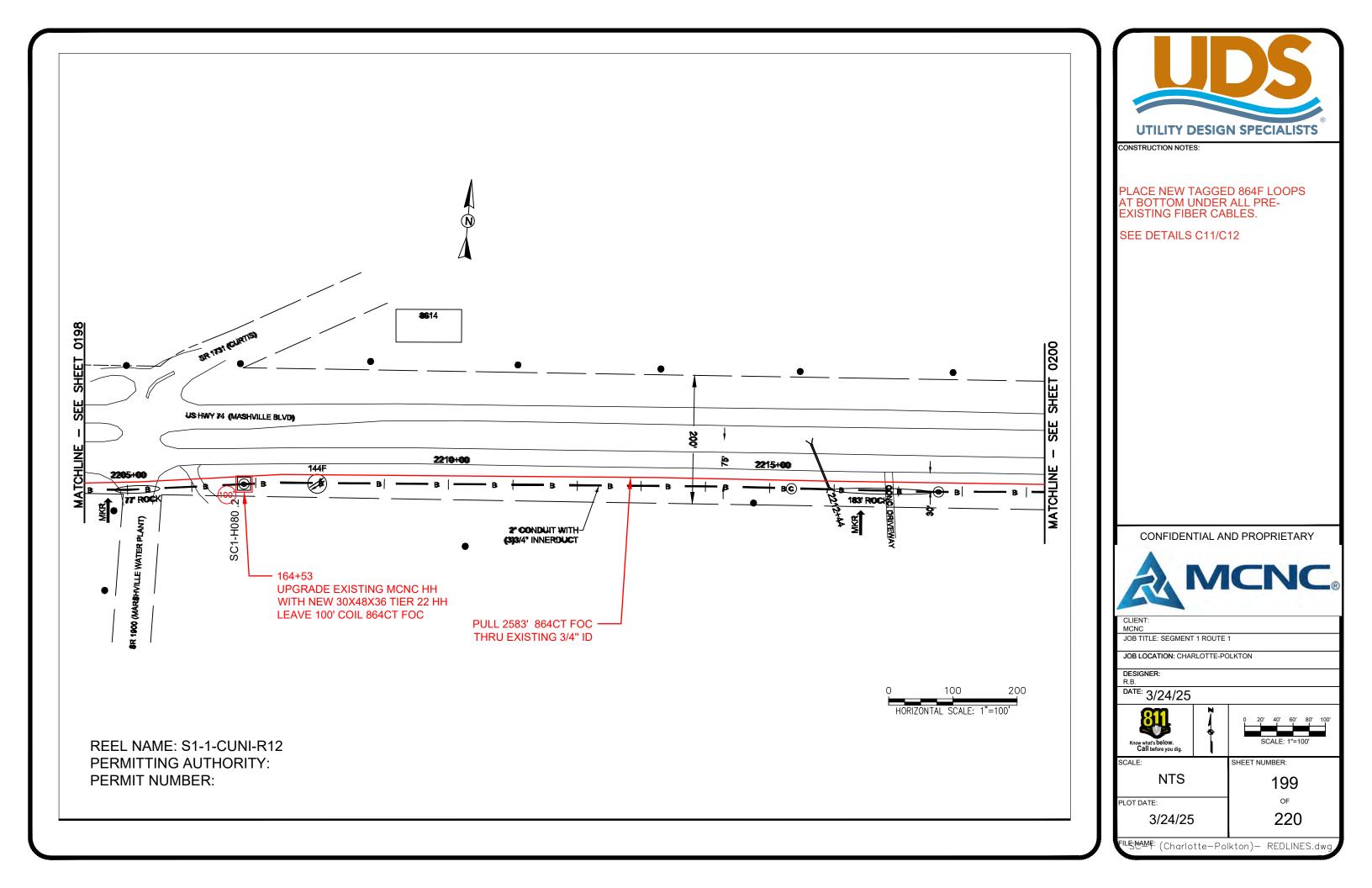


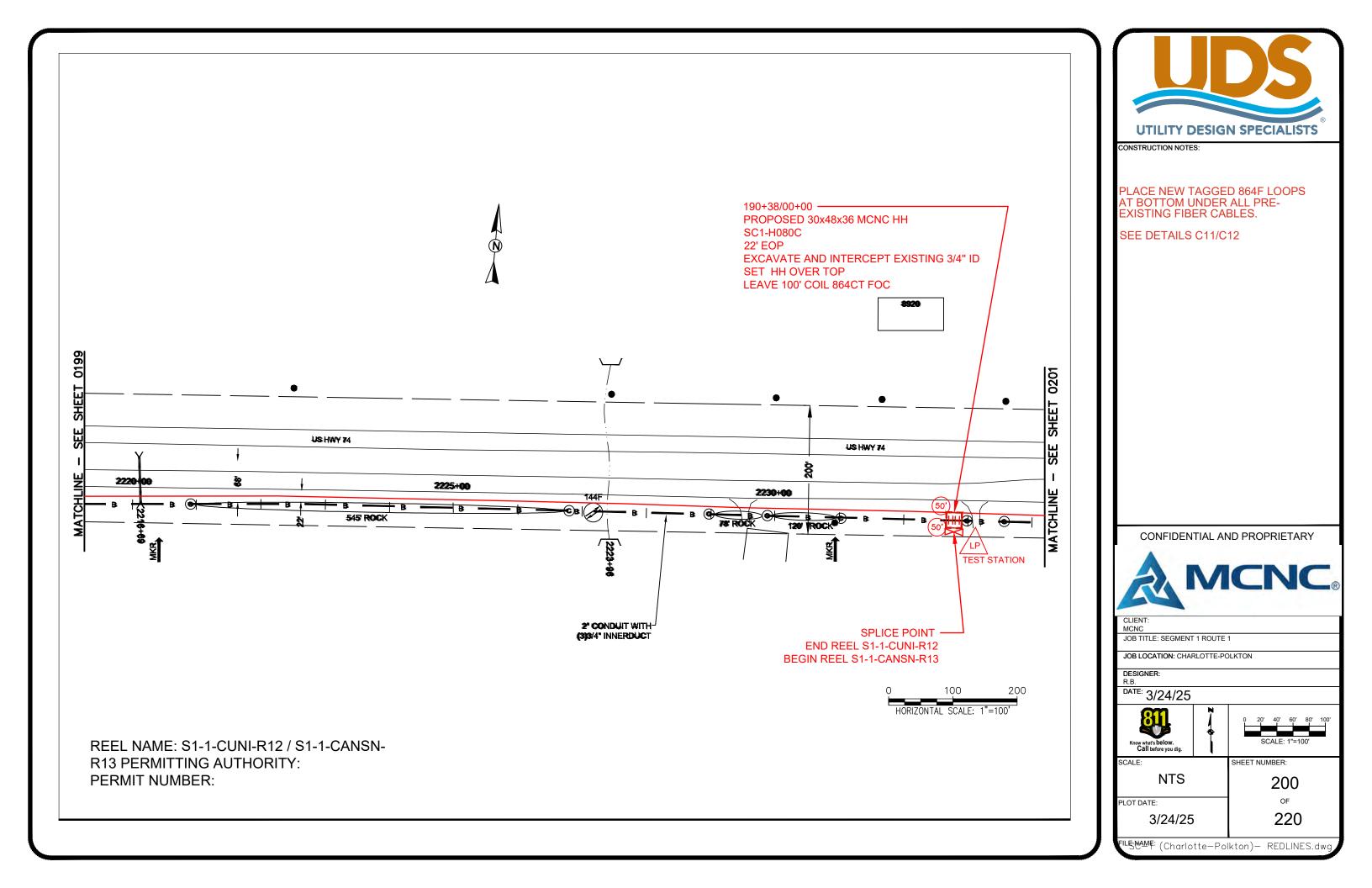


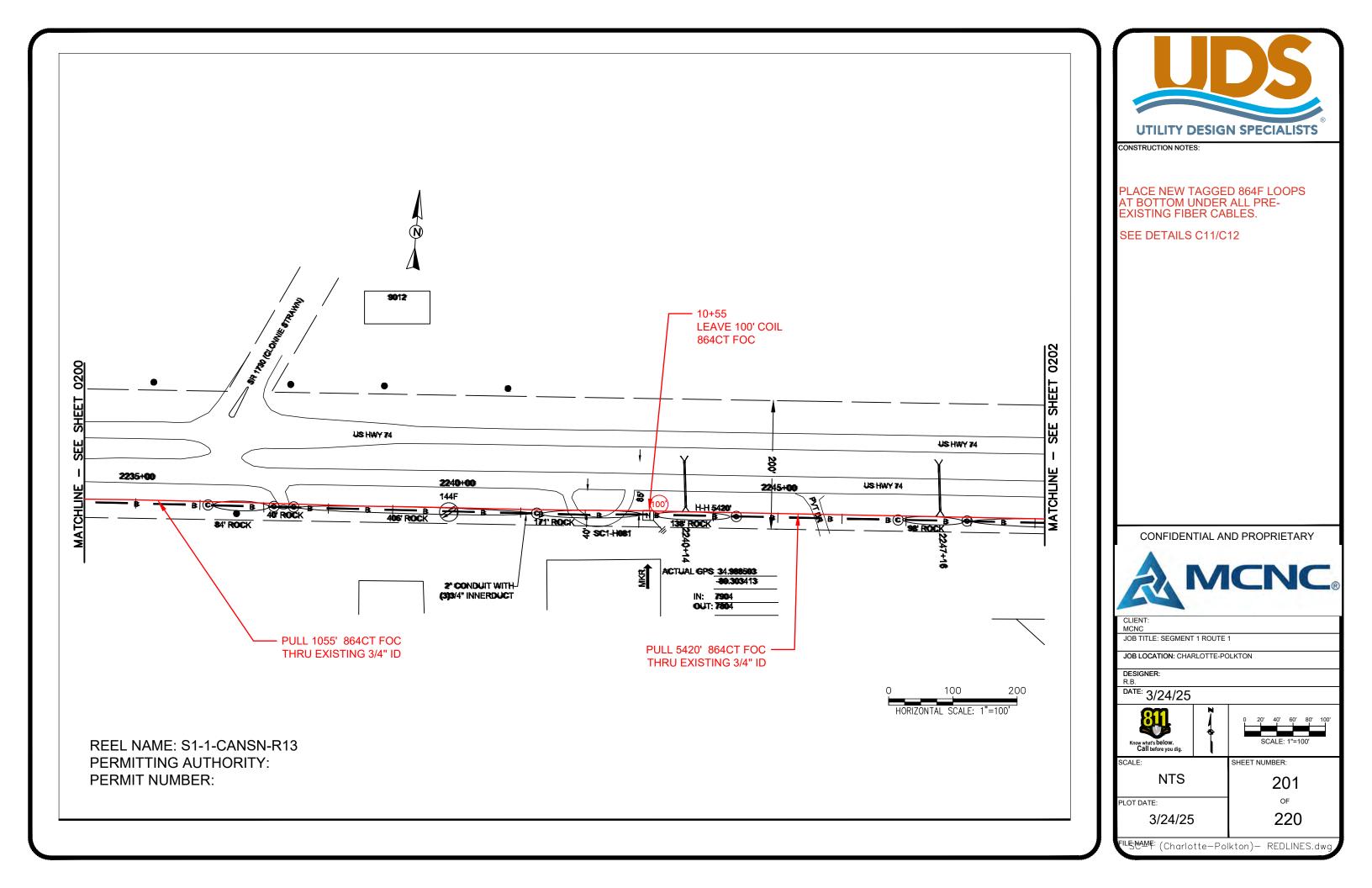


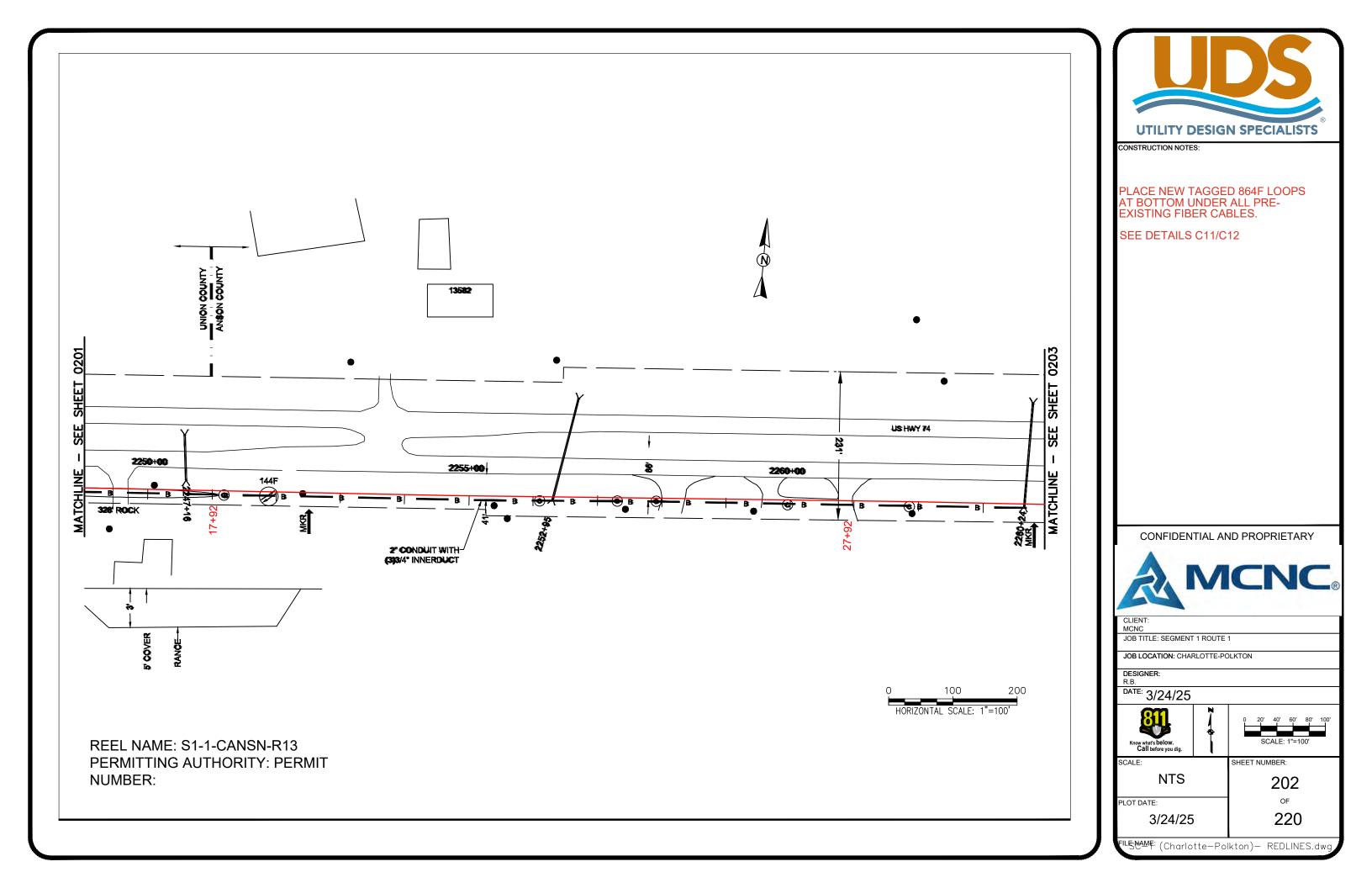


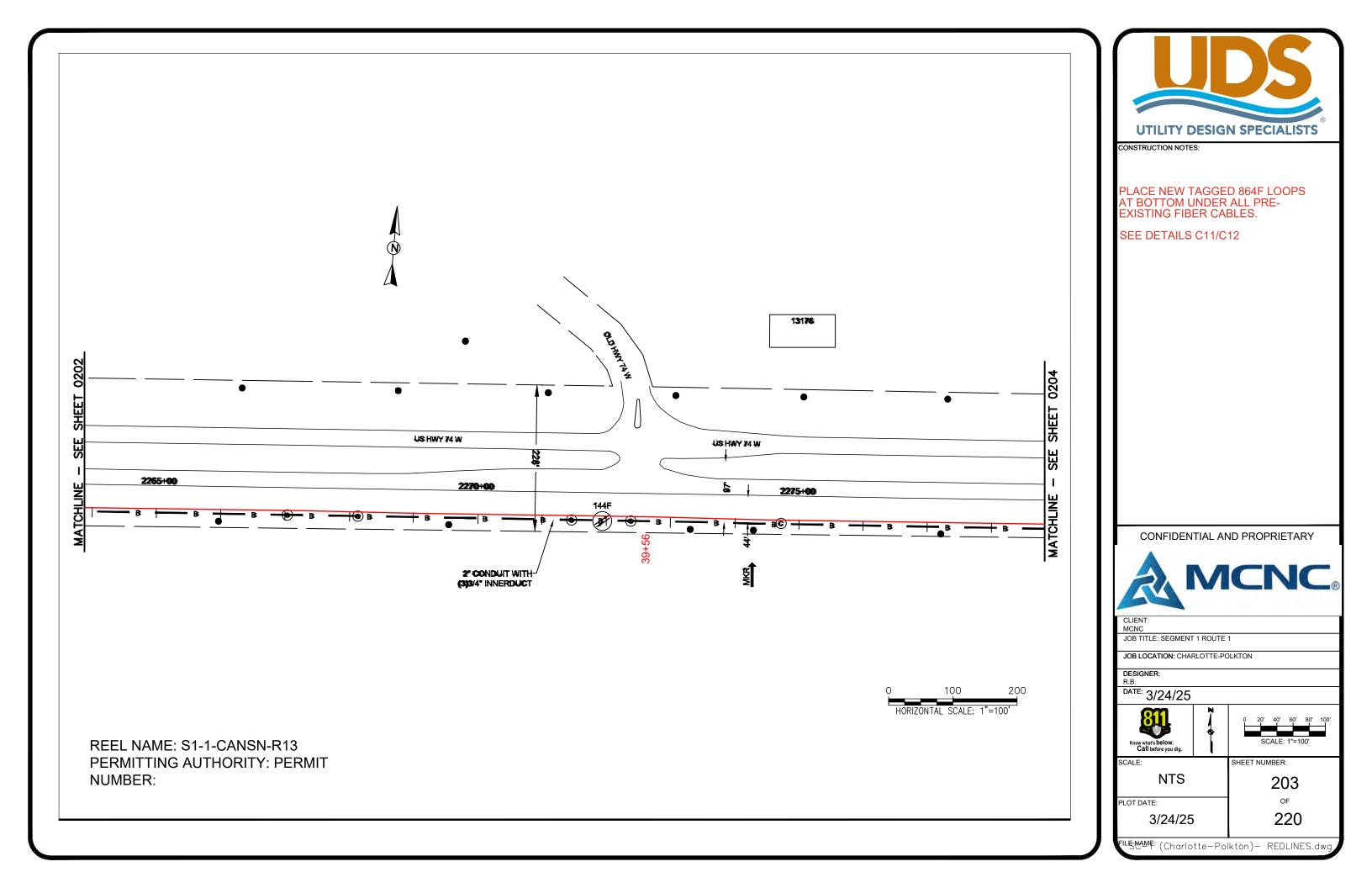


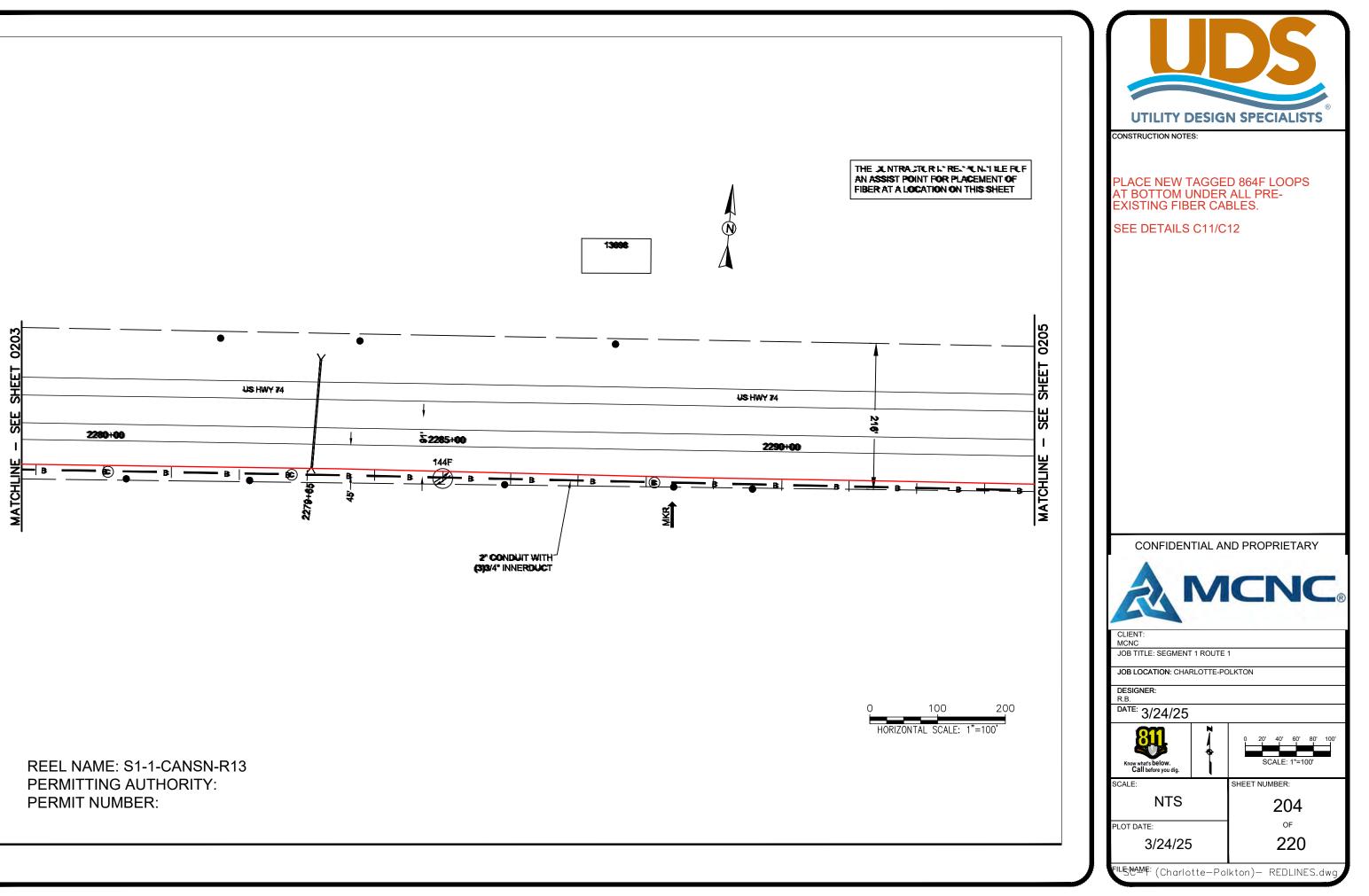


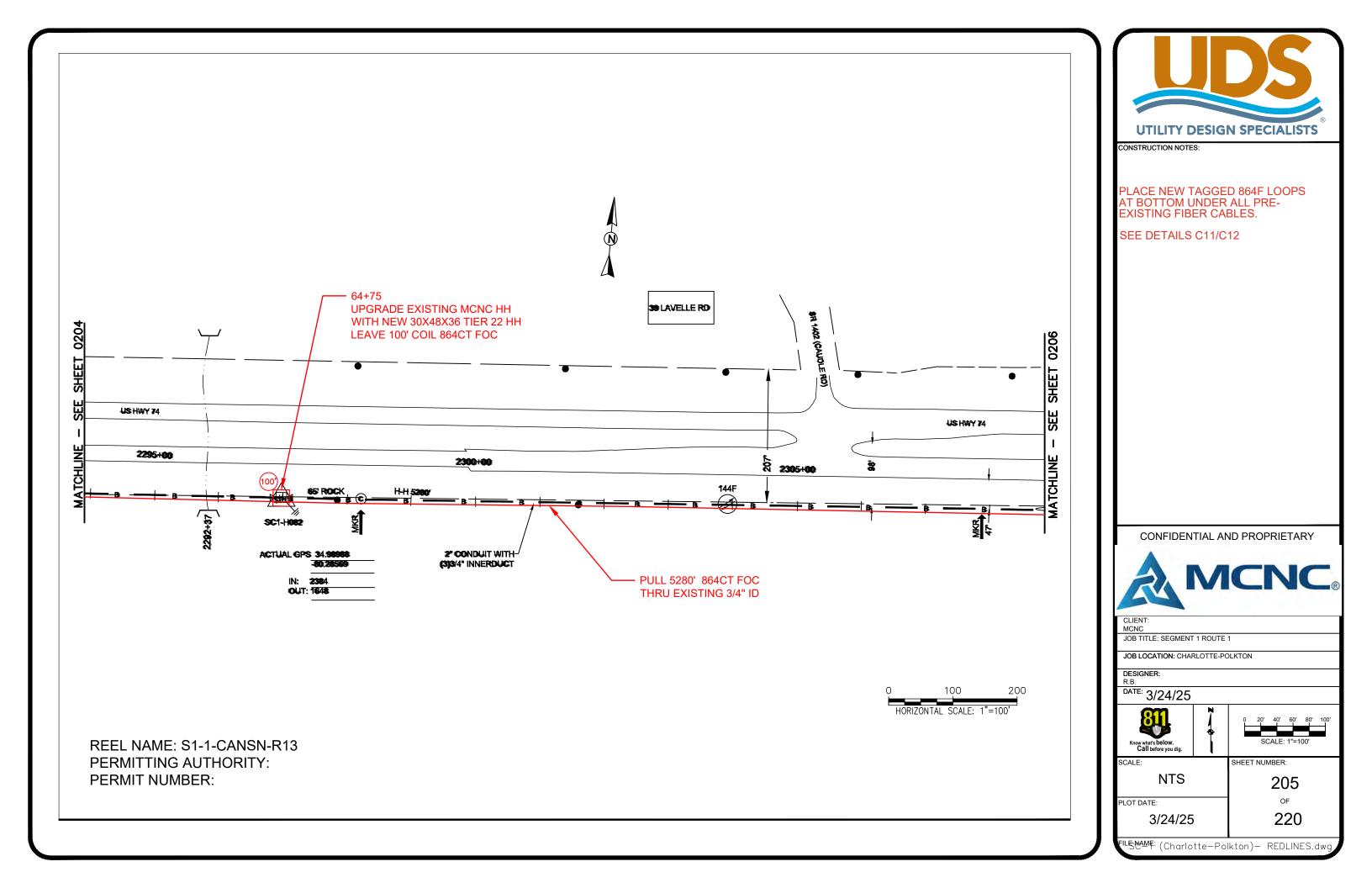


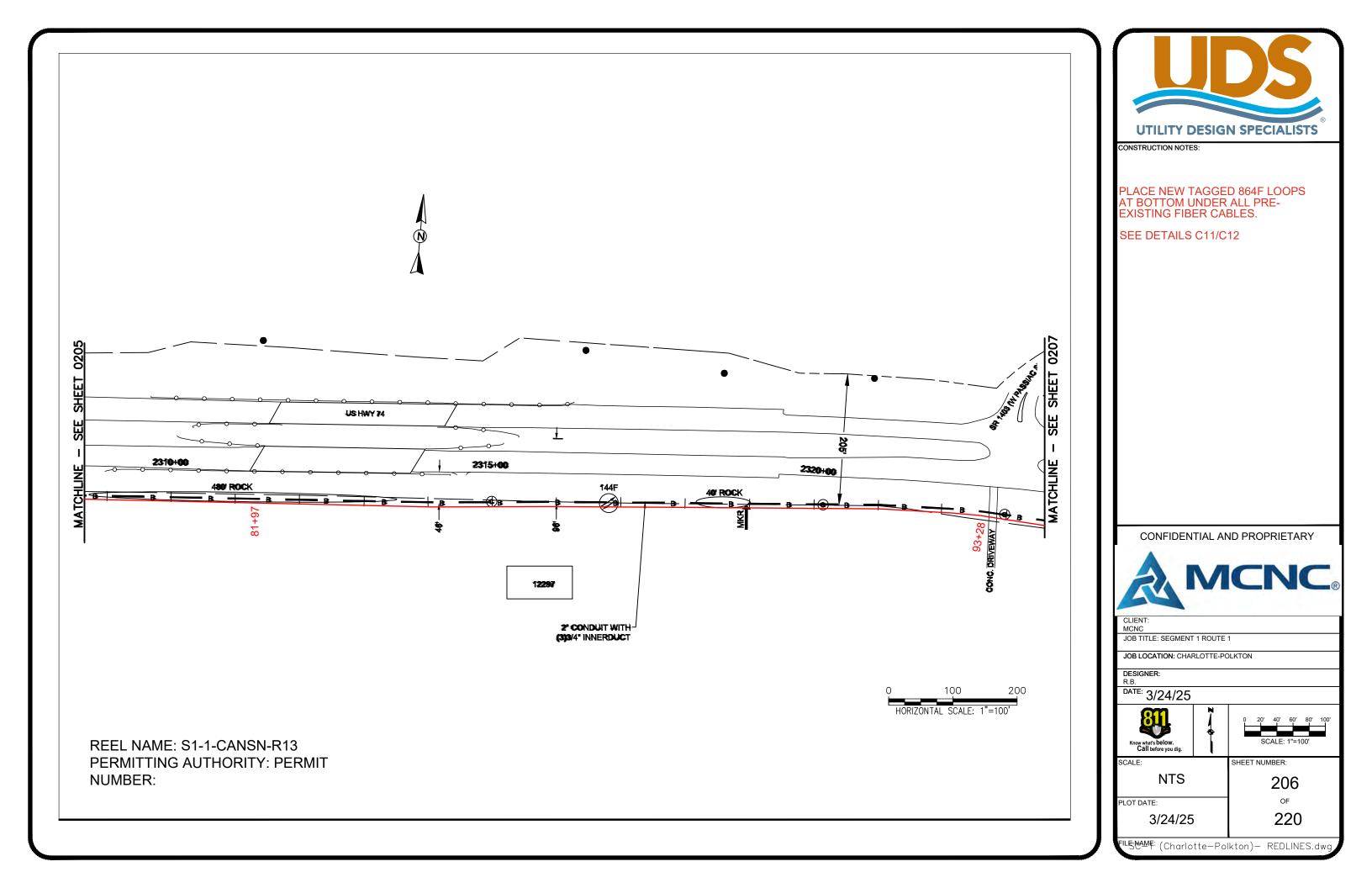


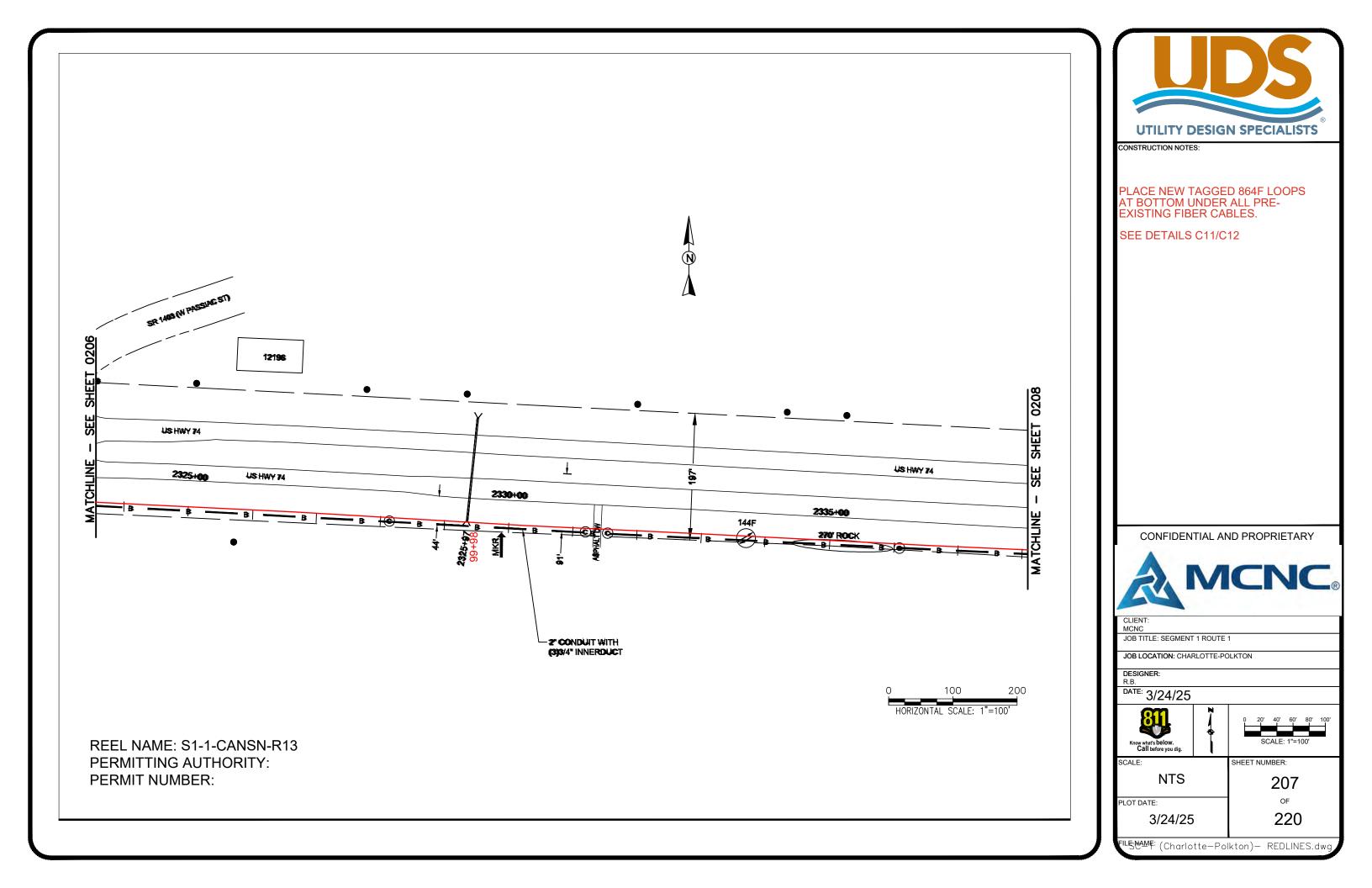


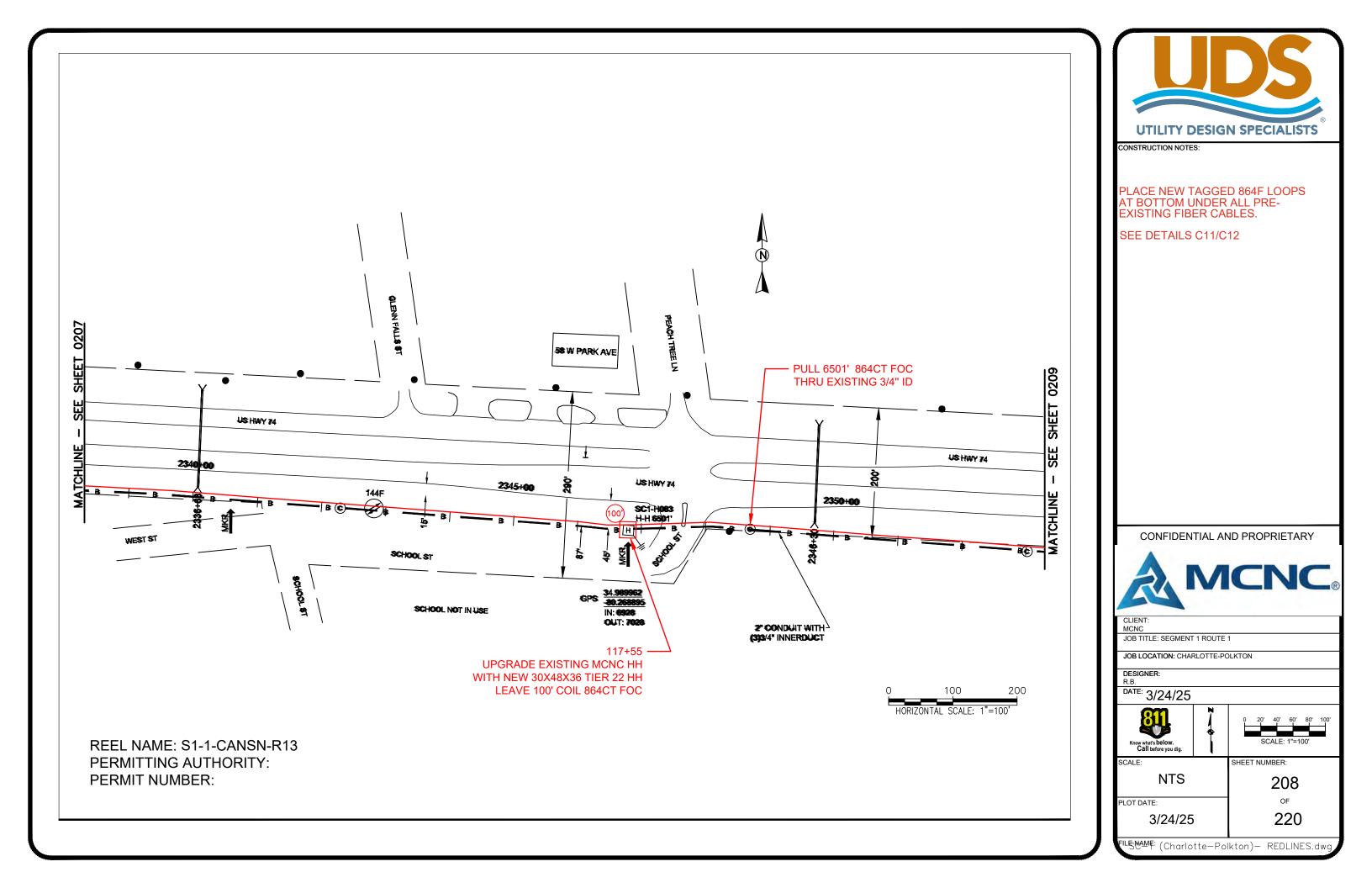


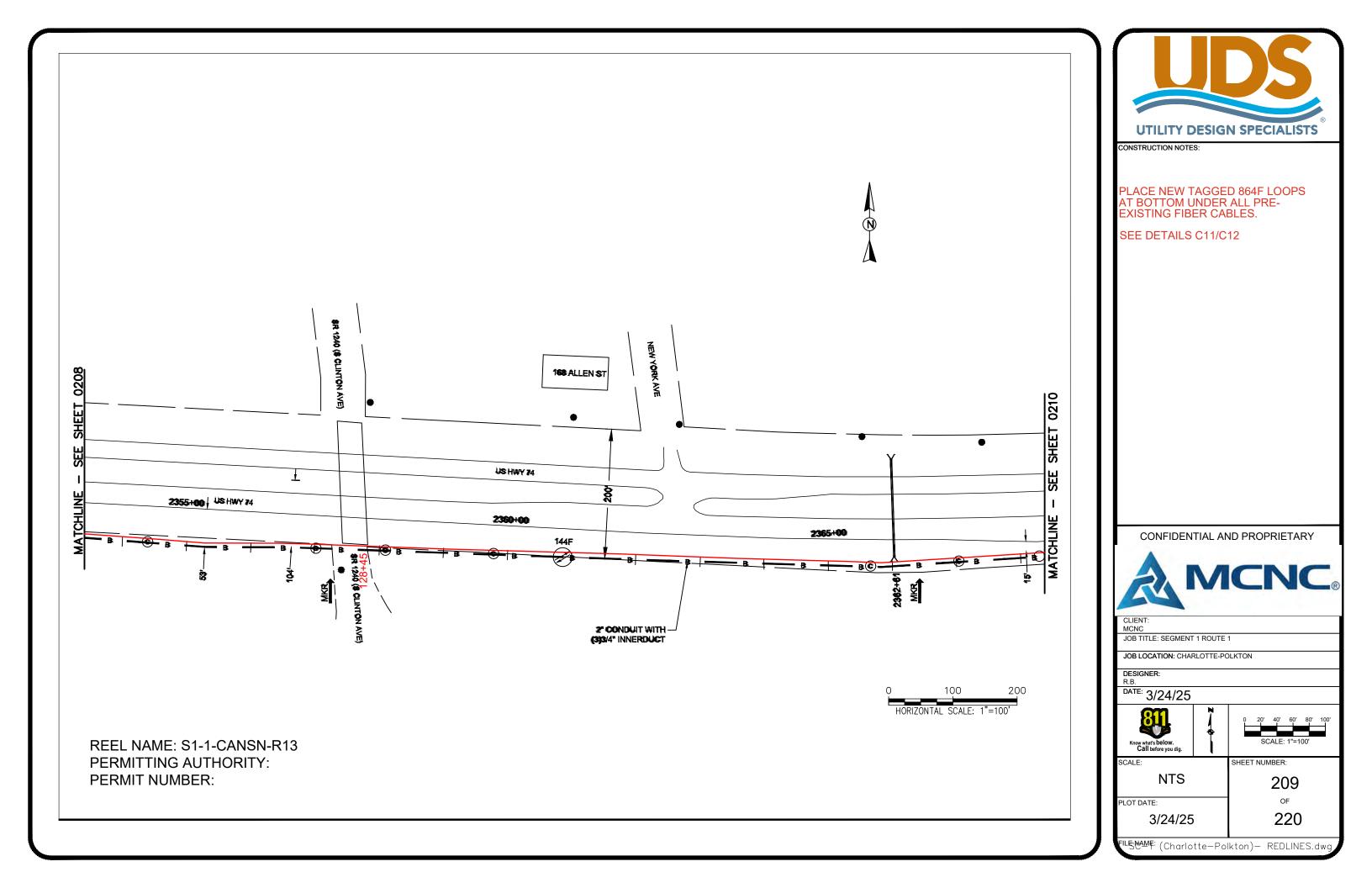


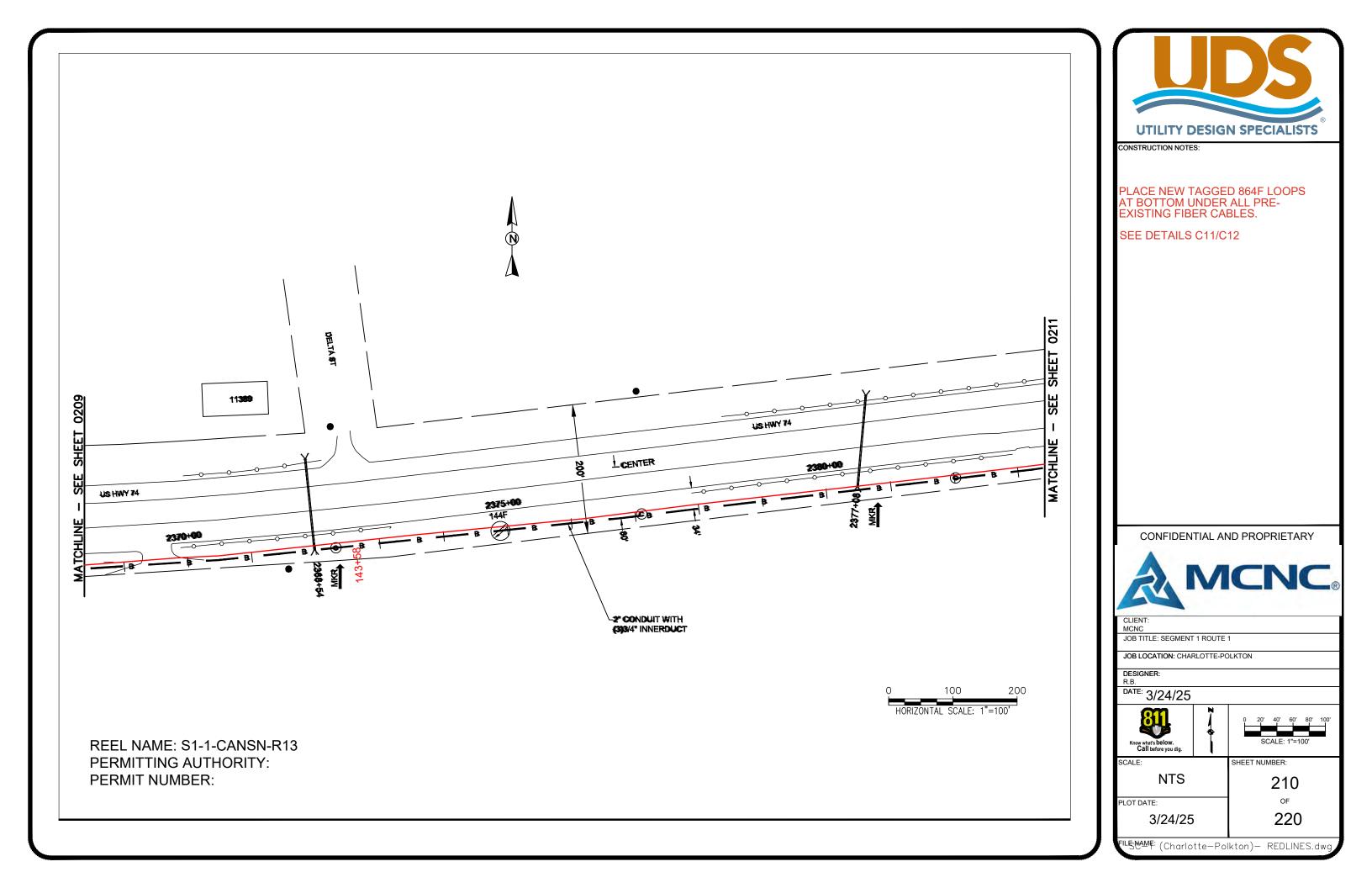


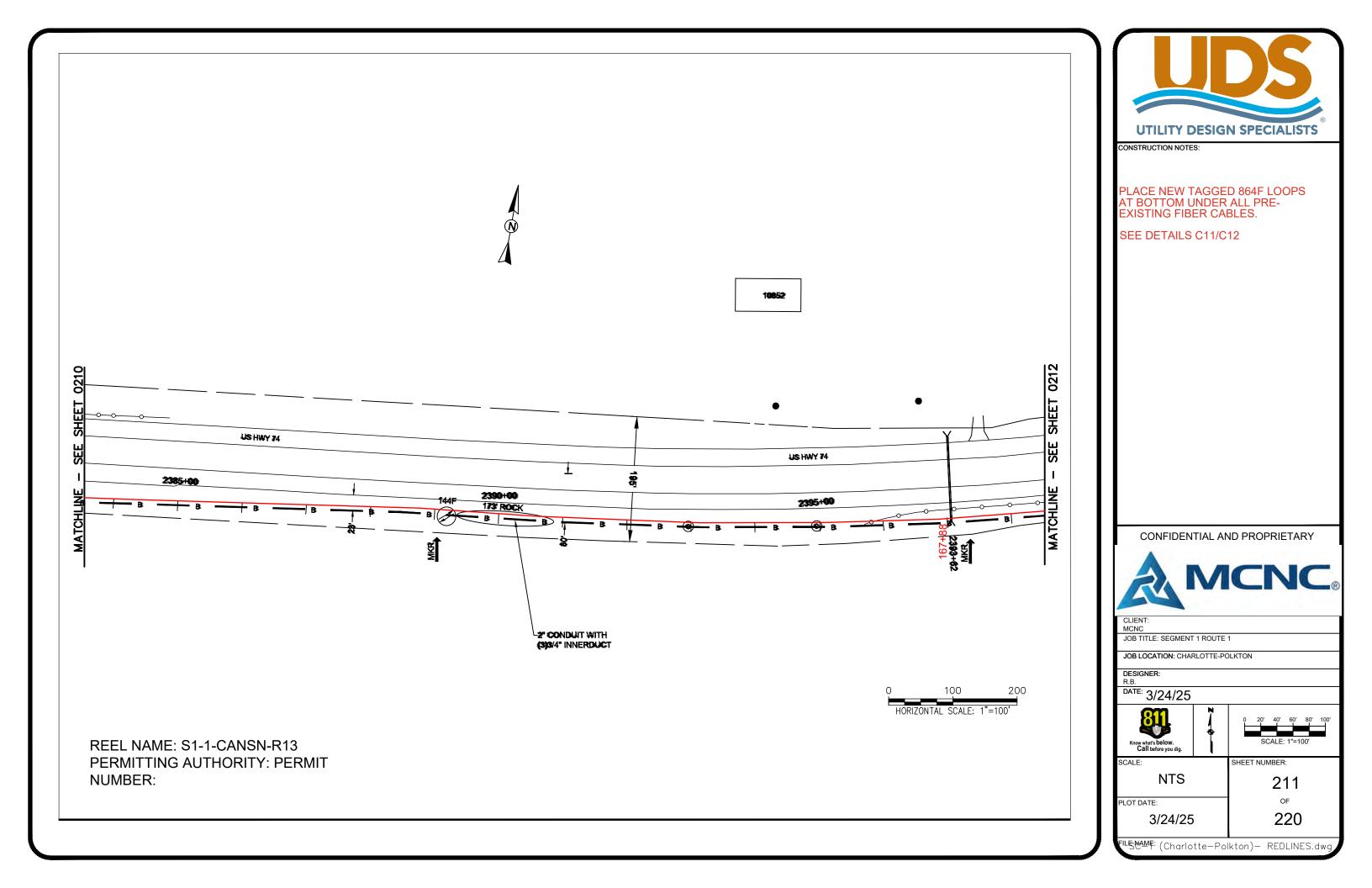


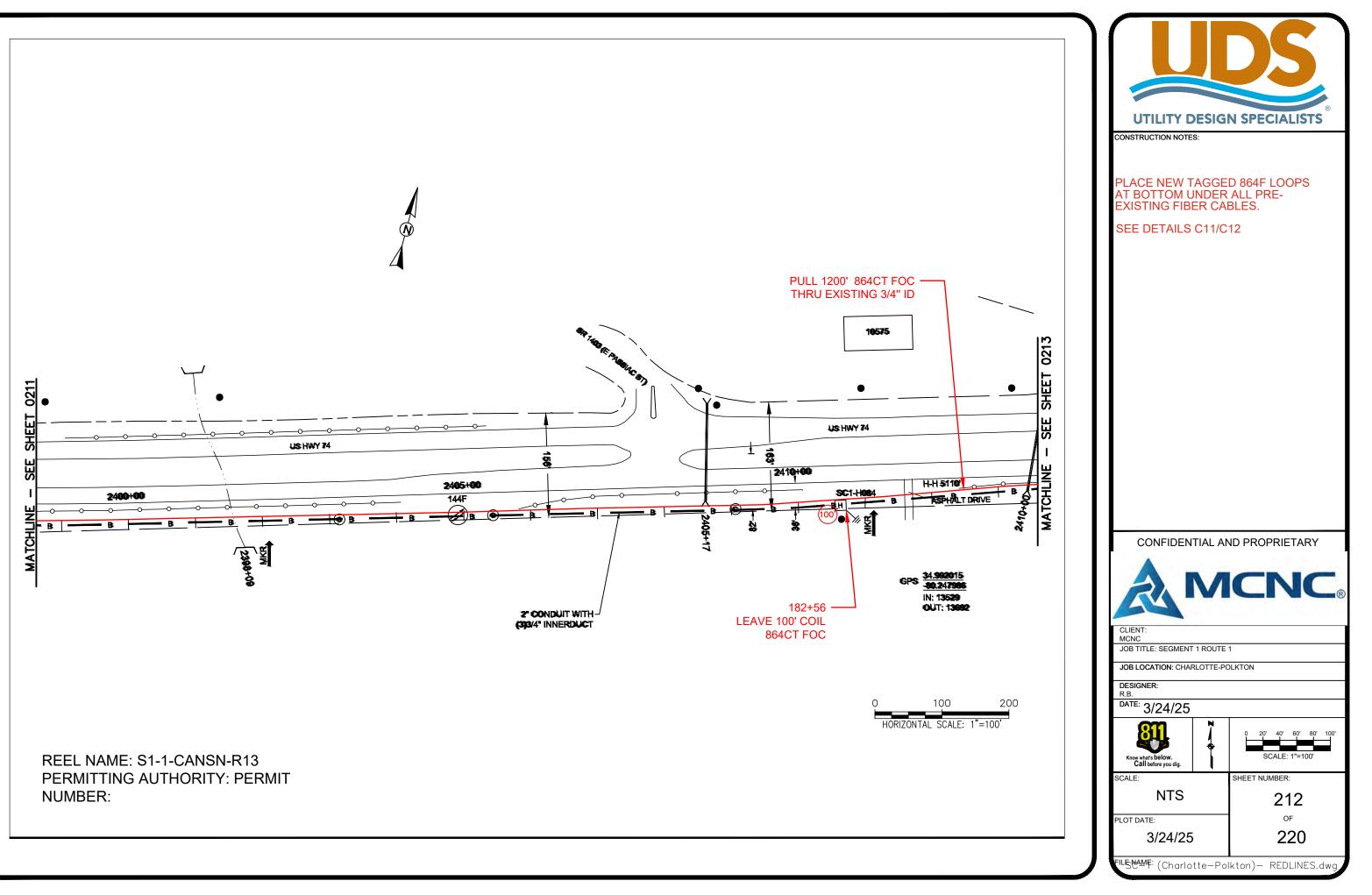


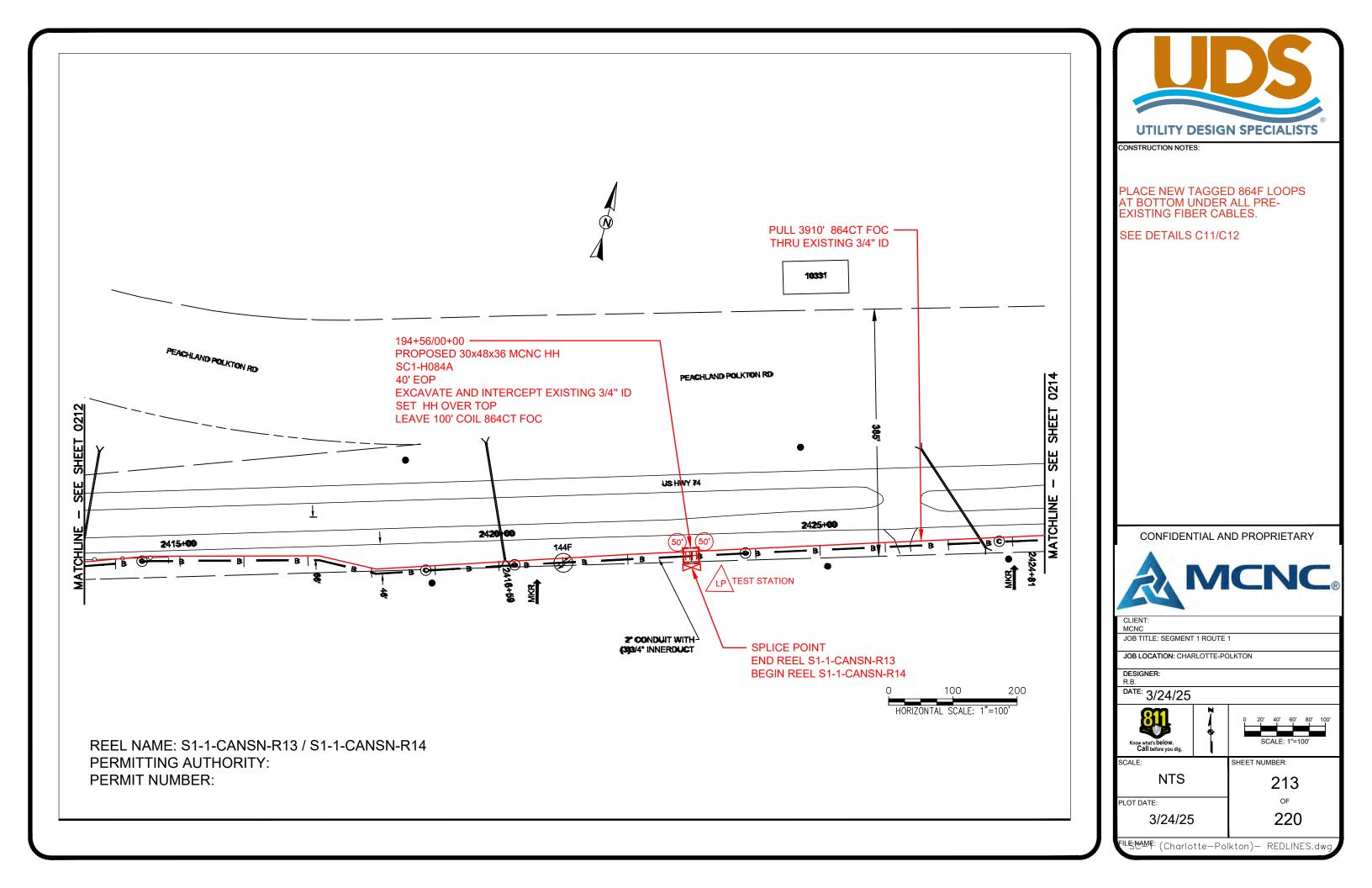


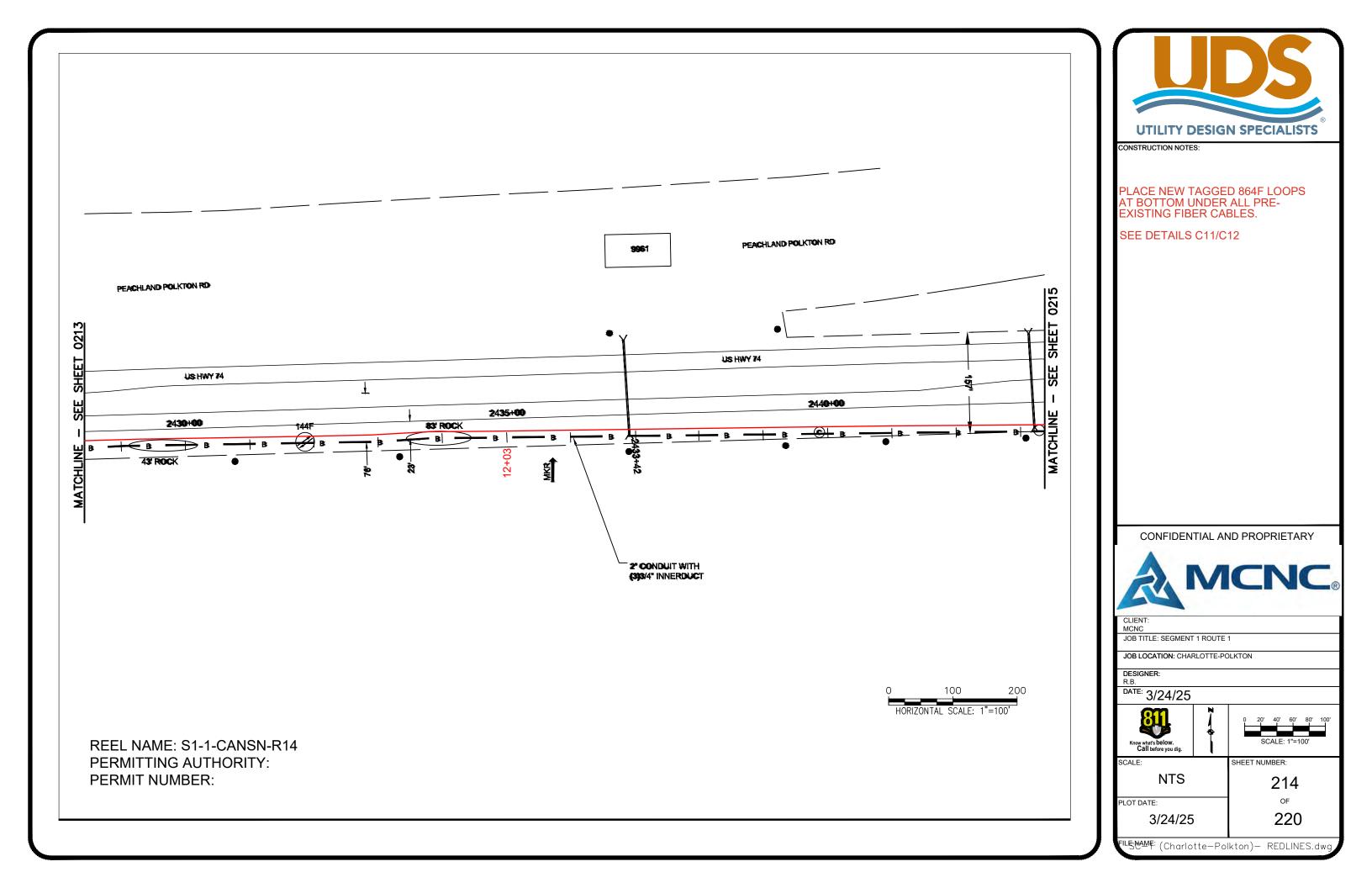


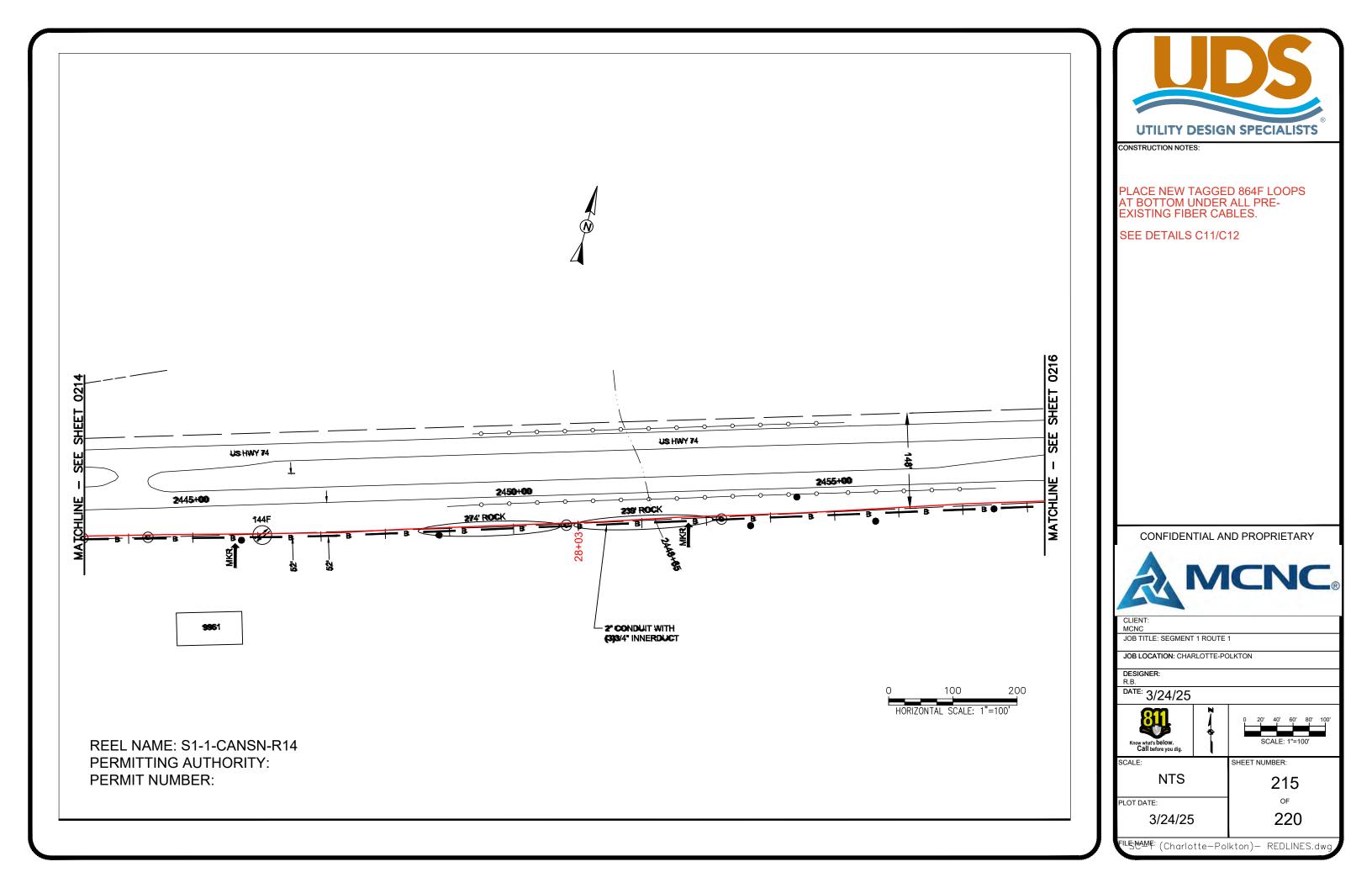


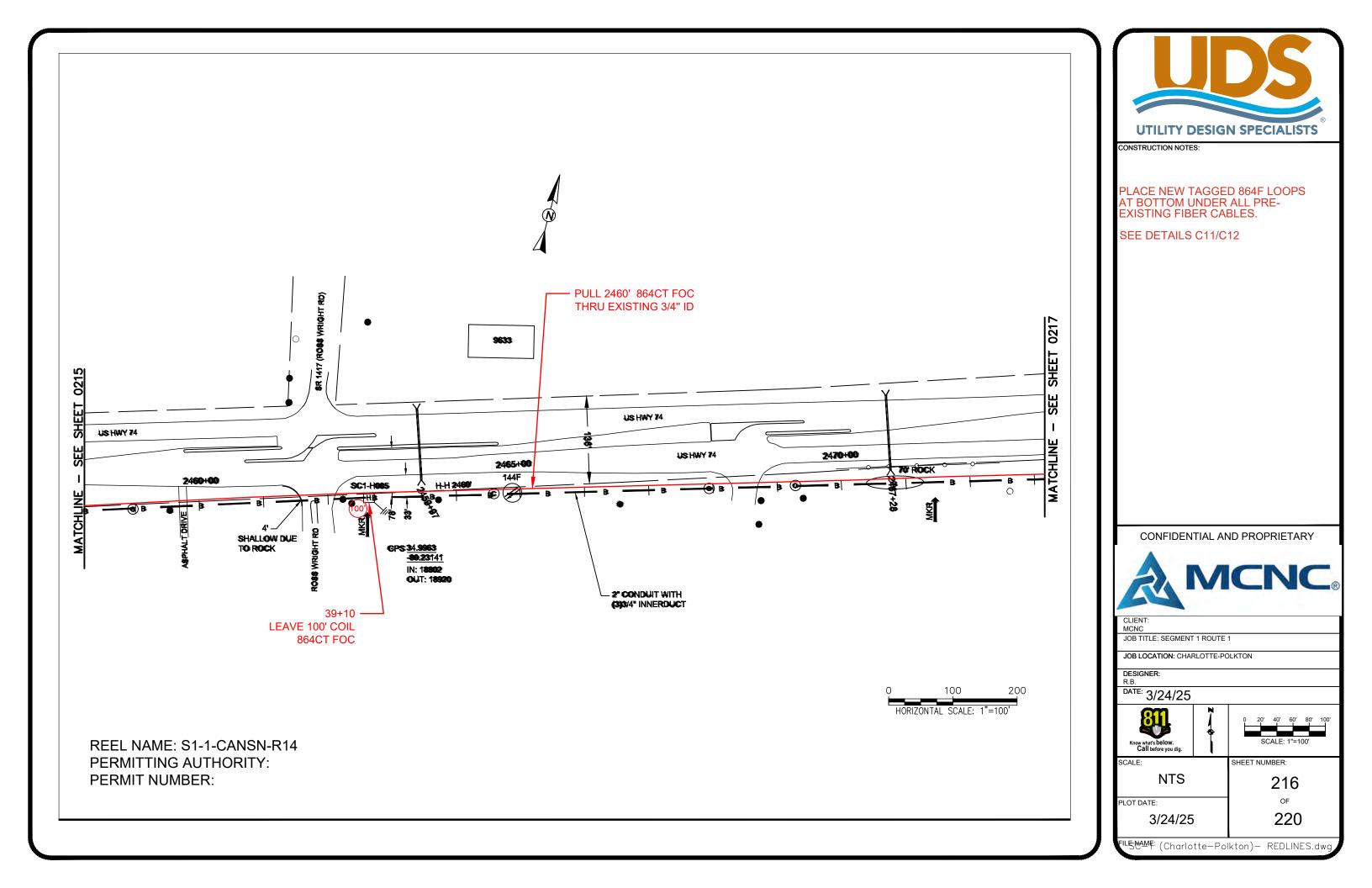


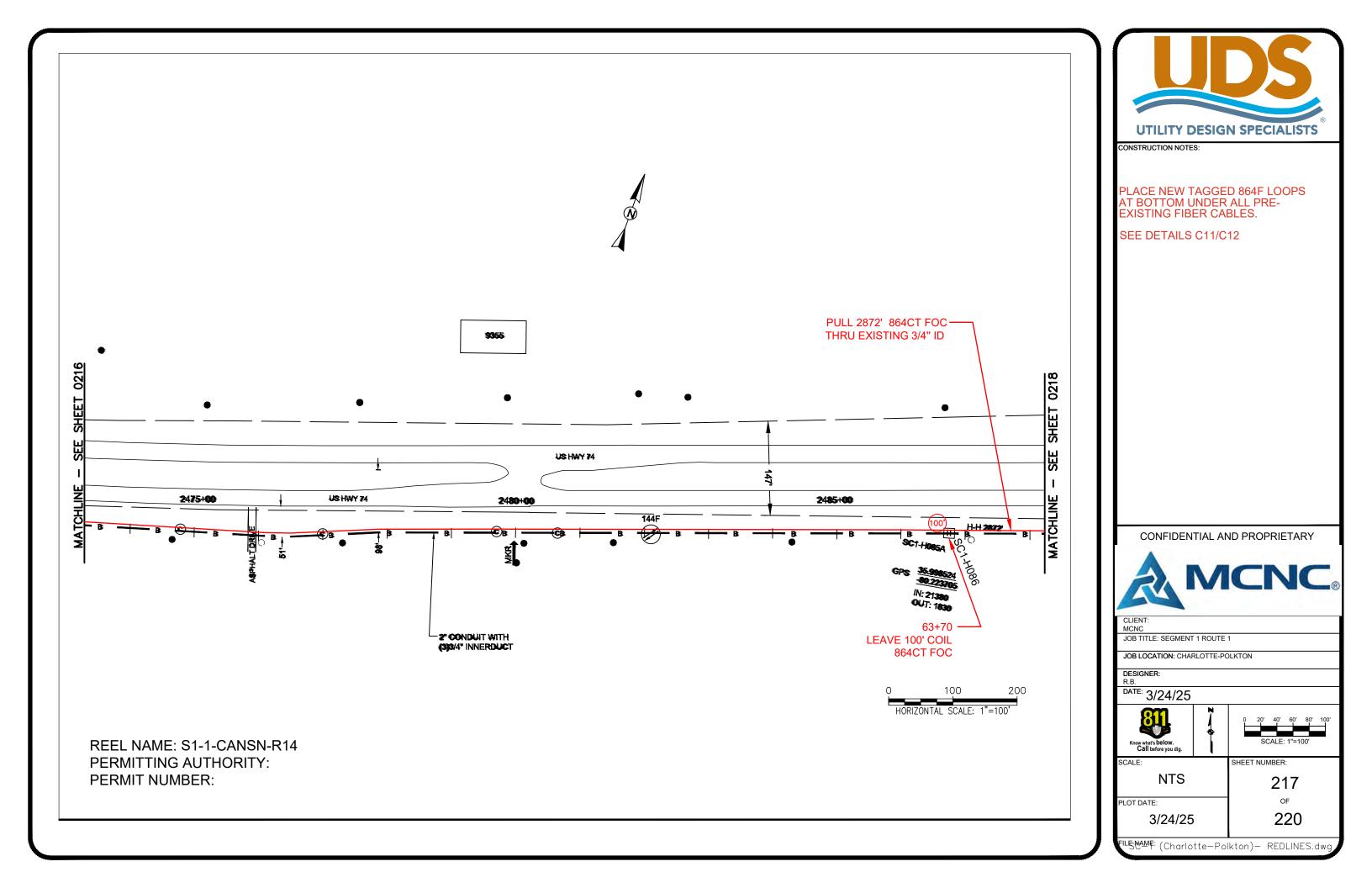


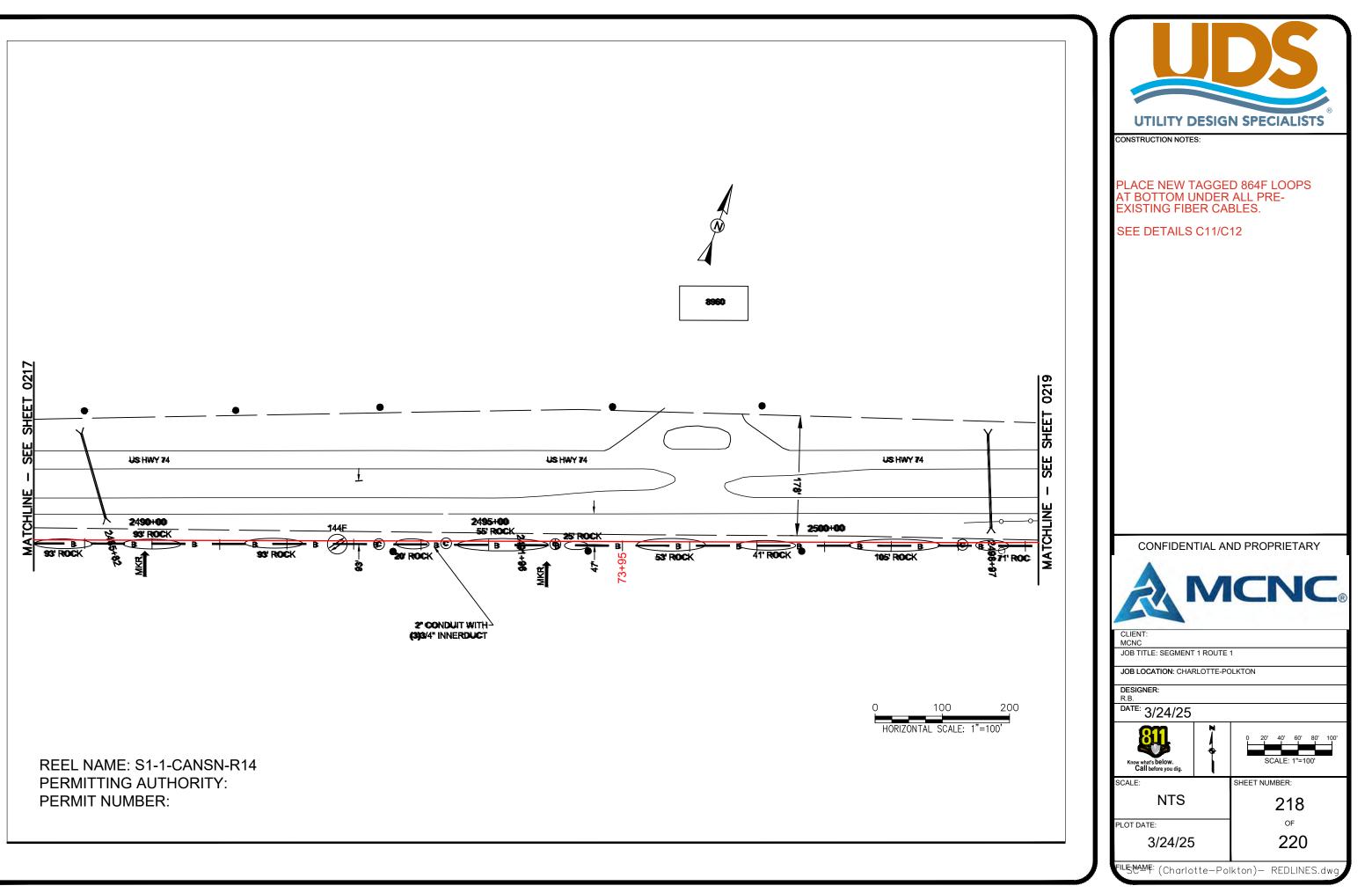


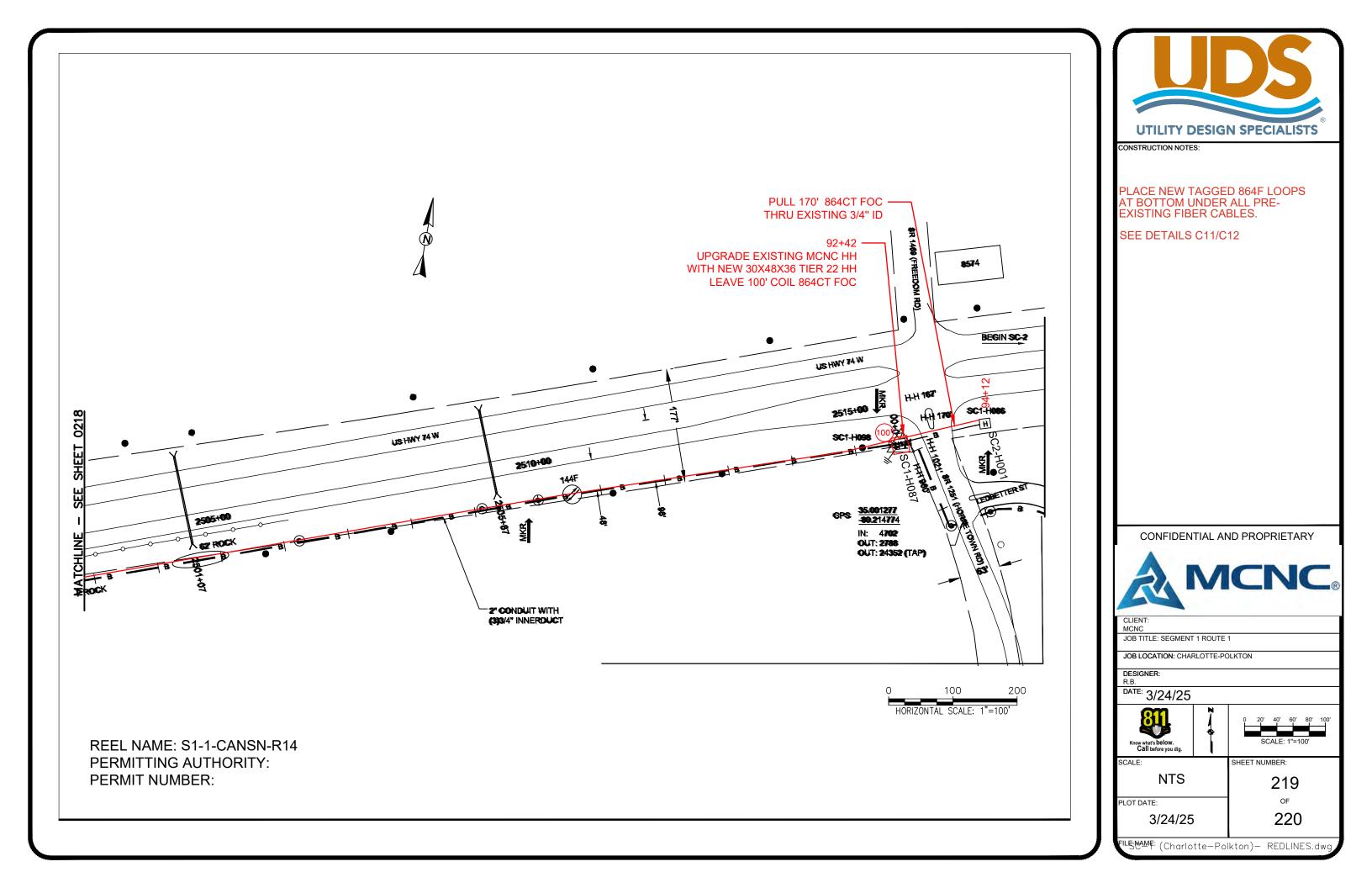


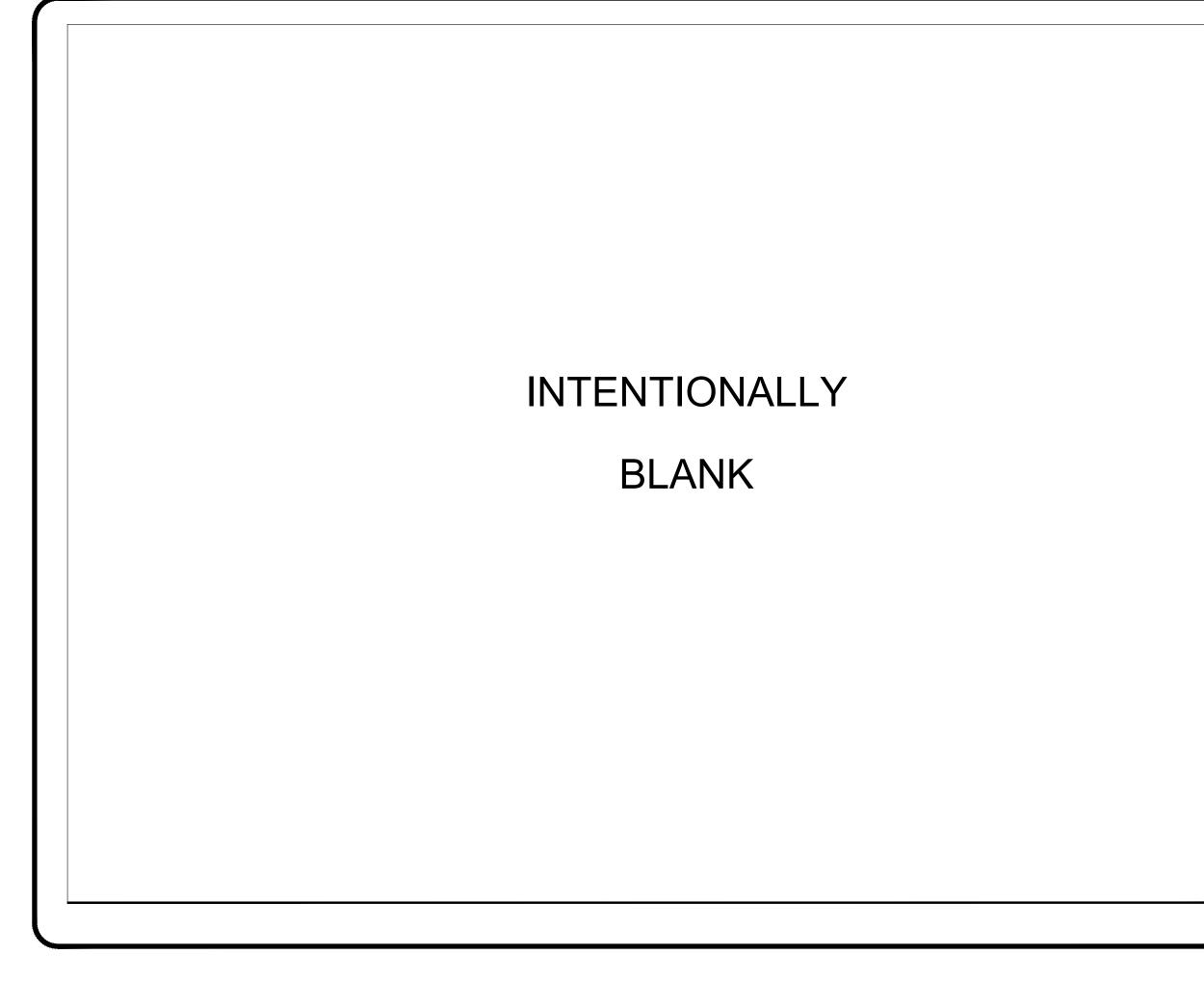


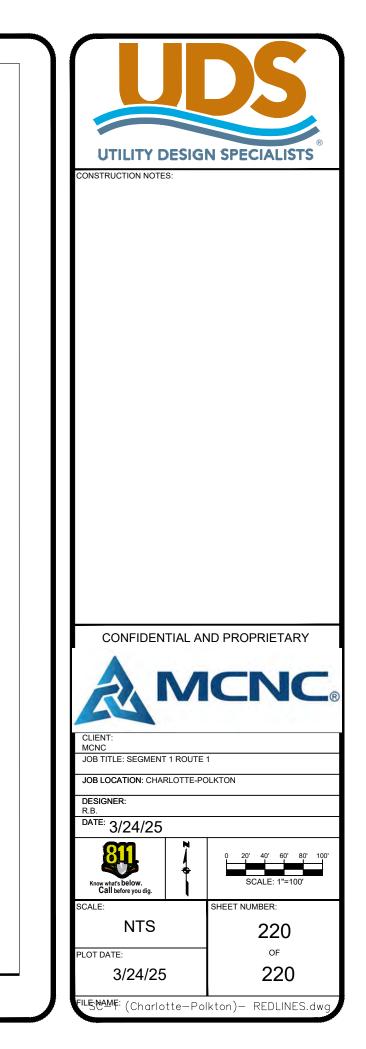


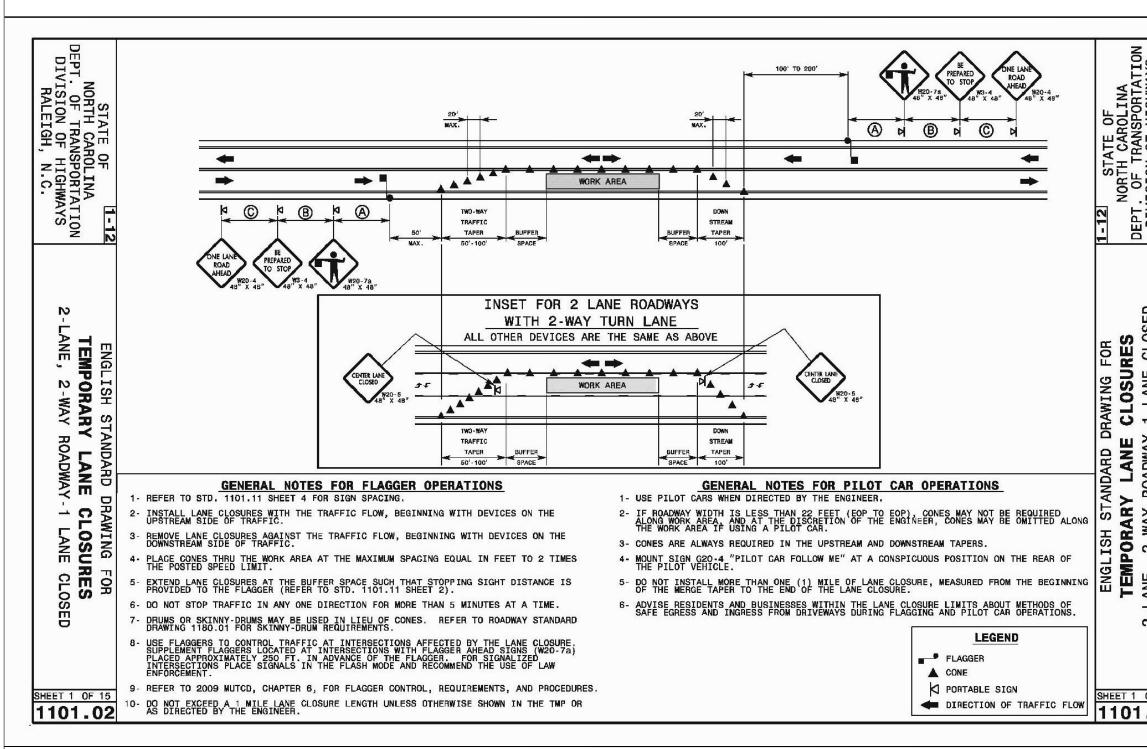




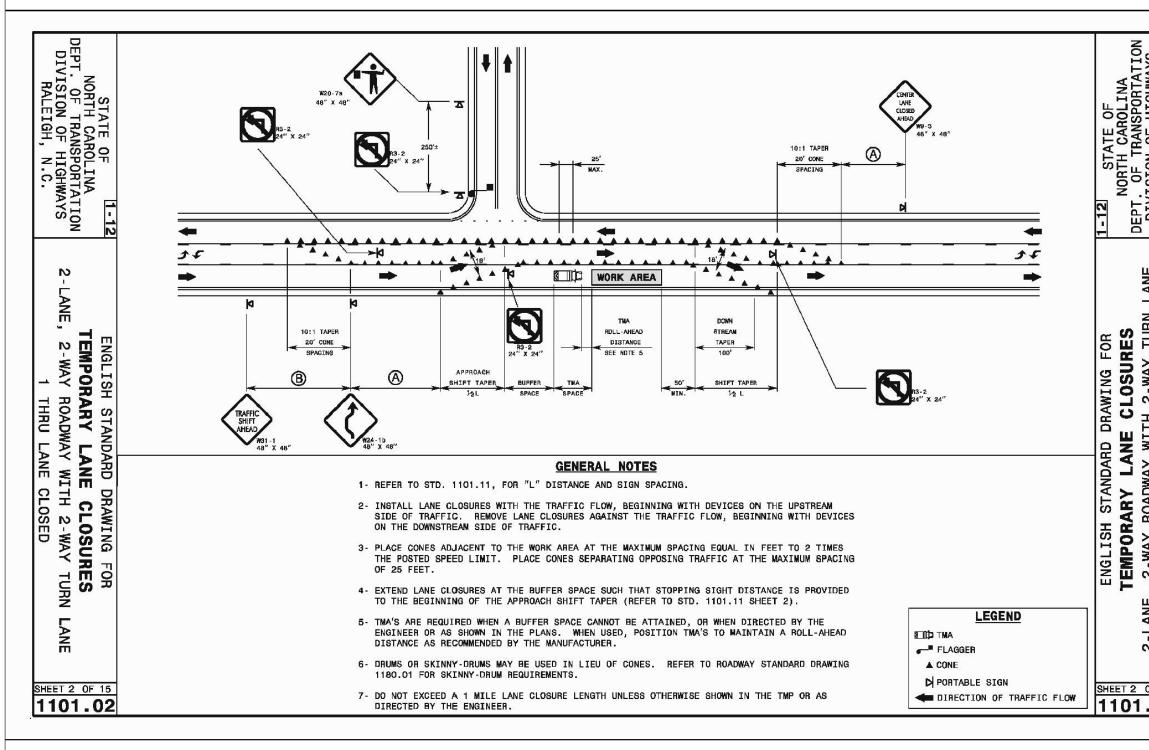




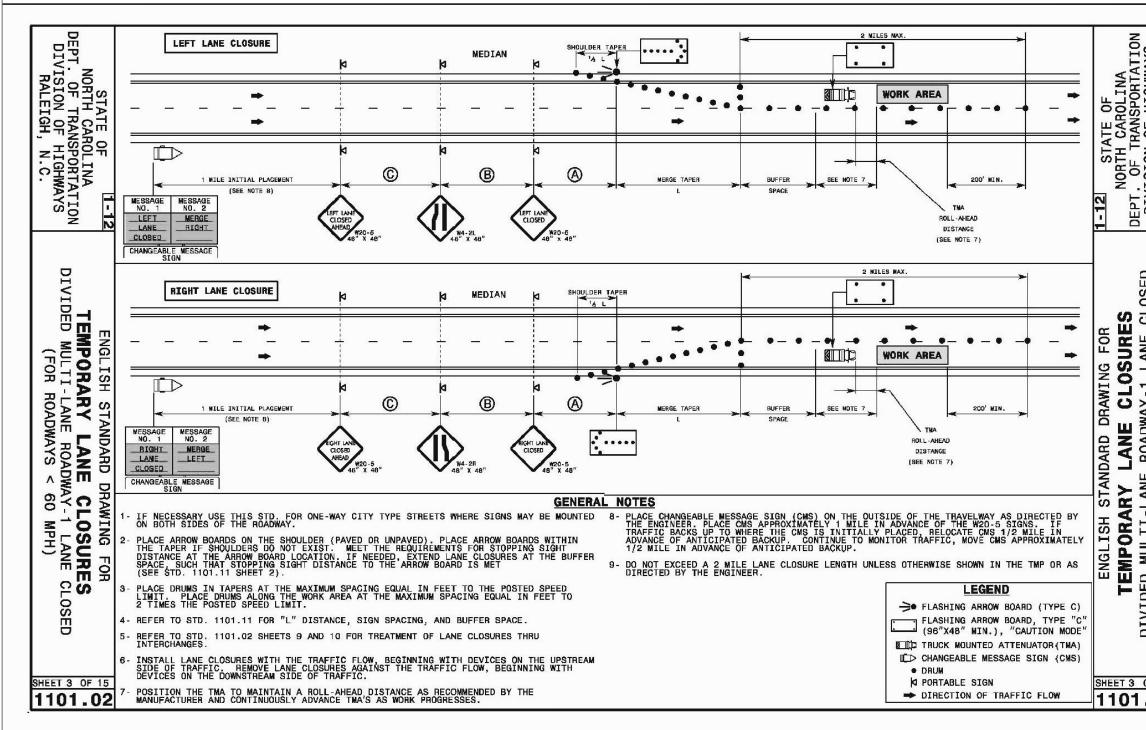




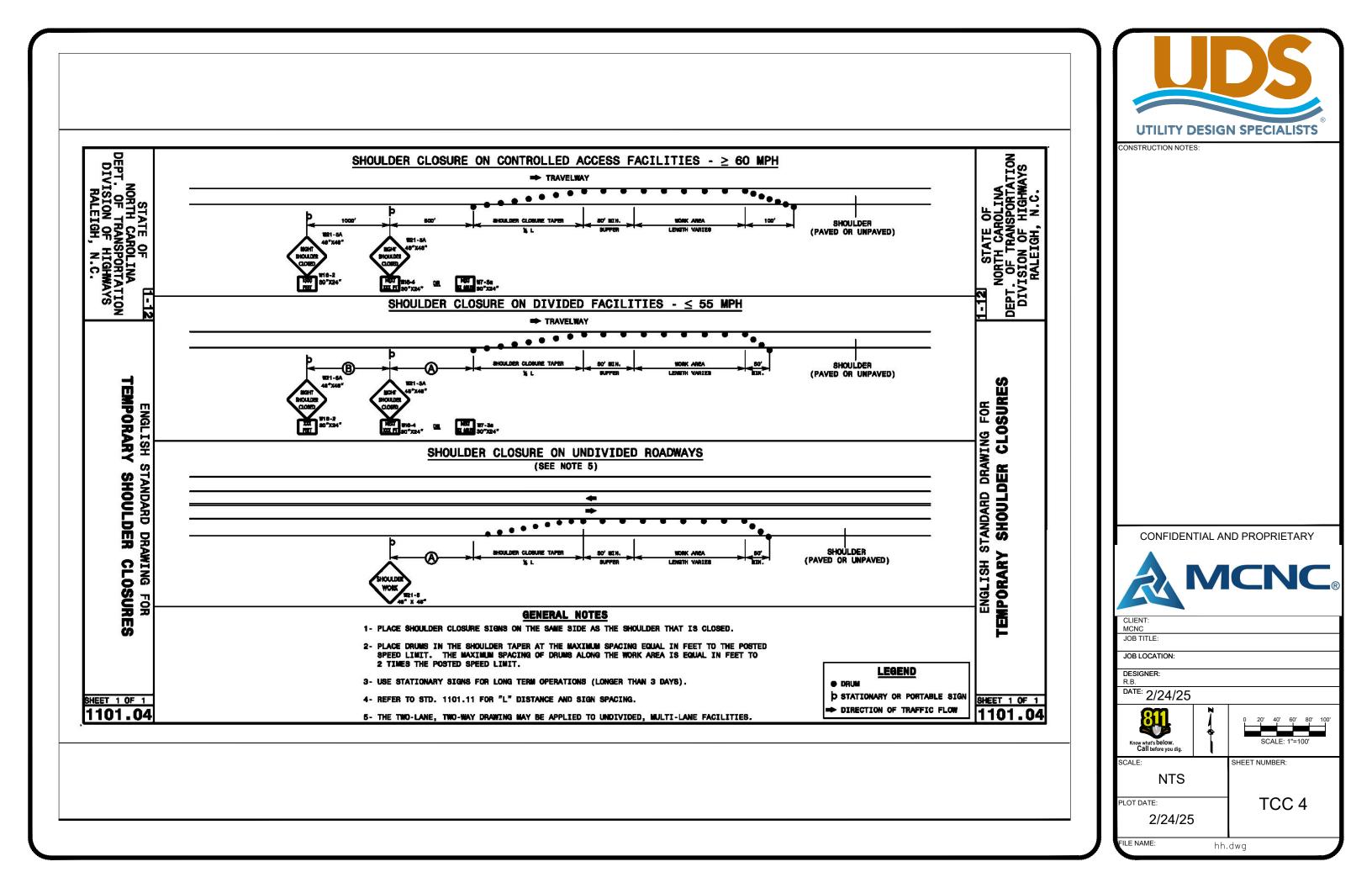
	UTILITY D	ESIGN	SPECIALISTS
NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	CONSTRUCTION NOTES	:	
PORARY LANE CLOSURES 2-WAY ROADWAY-1 LANE CLOSED			
TEMPORARY 2-LANE, 2-WAY R	CLIENT: MCNC JOB TITLE: JOB LOCATION:		D PROPRIETARY
et 1 OF 15 01.02	DESIGNER: R.B. DATE: 2/24/25	2-4-	0 20' 40' 60' 80' 100' SCALE: 1"=100'
	NTS PLOT DATE: 2/24/25 FILE NAME:	hh.c	TCC 1



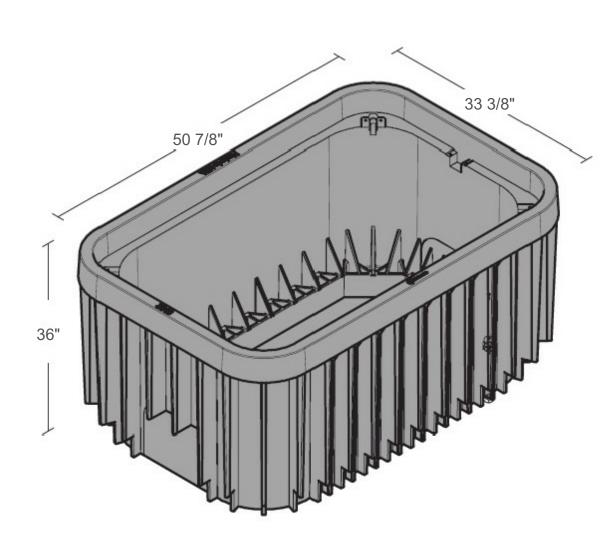
NORTH CAROLINA EPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	UTILITY DESIG	SPECIALISTS
DEPT		
Y LANE CLOSURES DWAY WITH 2-WAY TURN LANE U LANE CLOSED		ND PROPRIETARY
TEMPORARY	CLIENT: MCNC JOB TITLE: JOB LOCATION: DESIGNER:	
ET 2 OF 15 01.02	R.B. DATE: 2/24/25	0 20' 40' 60' 80' 100' SCALE: 1"=100'
	SCALE: NTS PLOT DATE: 2/24/25	TCC 2
	FILE NAME: hh	.dwg



	UTILITY DESIGN SPECIALISTS®
NOHIH CAHOLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	CONSTRUCTION NOTES:
LANE CLOSURES ROADWAY-1 LANE CLOSED VAYS < 60 MPH)	
TEMPORARY I DIVIDED MULTI-LANE (FOR ROADW	CONFIDENTIAL AND PROPRIETARY CLIENT: MCNC JOB TITLE: JOB LOCATION: DESIGNER:
01.02	R.B. DATE: 2/24/25
	SCALE: SHEET NUMBER: NTS PLOT DATE: TCC 3 2/24/25

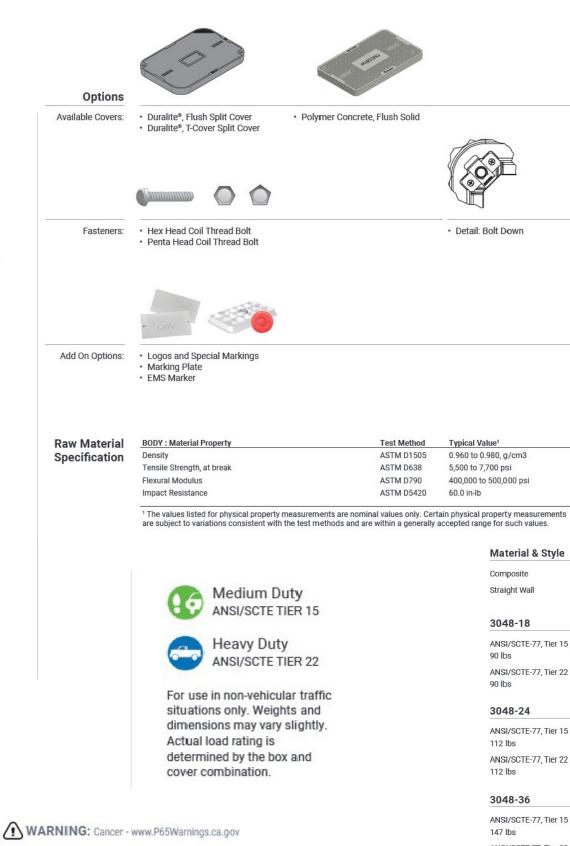






	А	В	С
3048-18	33 3/8"	50 7/8"	18"
3048-24	33 3/8"	50 7/8"	24"
3048-36	33 3/8"	50 7/8"	36"

Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location. Based upon lid and body combination, this unit can be Tier 15 or Tier 22. T22 rating when paired with T22 polymer concrete lid.



Product modifications, including but not limited to, cutting for conduit access, or "mouseholes" may alter ratings and product performance listed within this document unless stated otherwise.

All information contained on this sheet is current at the time of publication. Oldcastle reserves the right to discontinue or update product information without notice.

Revision 04/2023

* ALL HH'S TO BE PLACED **ON THIS PROJECT ARE** 3048-36 HEAVY DUTY ANSI/SCTE TIER 22

UTILITY DESIGN SPECIALISTS

CONSTRUCTION NOTES

CONFIDENTIAL AND PROPRIETARY

AM	
CLIENT: MCNC	
JOB TITLE:	
MCNC - PROJECT STORM	
JOB LOCATION: NORTH CAROLINA	
DESIGNER: RB	
DATE: 4/24/2025	
Know what's below. Call before you dig.	
SCALE:	SHEET NUMBER:
	A1
PLOT DATE:	OF
4/24/2025	1
FILE NAME: MCNC Project	st Storm.dwg

Material & Style

ANSI/SCTE-77, Tier 15

ANSI/SCTE-77, Tier 22

ANSI/SCTE-77, Tier 15

ANSI/SCTE-77, Tier 22

147 lbs

Options

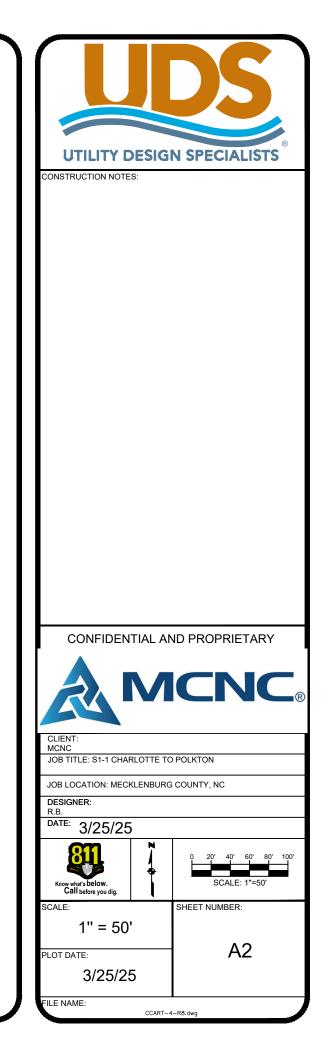
ANSI/SCTE-77, Tier 15

ANSI/SCTE-77, Tier 22

Mouseholes/Knockouts



Customer Description Job No
Proof NoDate Sent
PLEASE REVIEW THIS PROOF CAREFULLY! Be Sure To Mark Corrections And Alterations Clearly Proof Acceptable As Is Corrections Indicated
Approved byDate
PRO-MARK UTILITY SUPPLY CO.

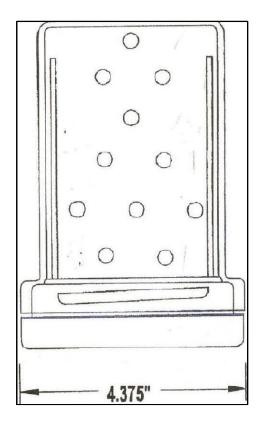




UTILITY SUPPLY INC.

PRO-MARK MODEL<u># PM-TS</u>3 TEST STATION

NOTE: Terminal holes are 1/4" dia. and Suitable for ¹/₄-20 bolt assemblies



SPECIFICATIONS & FEATURES:

- Installs on 3" conduitMade of high-impact Polycarbonate Plastics
- UV Inhibited- Doubled Terminal Board capacity
- 18.8 Stainless Steel Hardware
 Compatible with all other Top Hat designs

