

Appendix A.5

PLAN AND PROFILE DRAWINGS:

DERBY JUNCTION TO ANSONIA 115-kV TRANSMISSION LINE REBUILD PROJECT

INTRODUCTION

This attachment contains plan and profile drawings prepared as part of the engineering design of the Derby Junction to Ansonia 115-kV Transmission Line Project (Project) as proposed by UI. The plan and profile drawings contained in this Appendix A.5 depict the locations of the proposed structures in relation to the existing UI ROW and the existing infrastructure along with a profile of the proposed structures, conductors, and wires in relation to existing ground surface. The existing 115-kV lines between Derby Junction and Ansonia Substation are arranged in a double circuit configuration over approximately 4.1 miles (a total of approximately 8.2 circuit miles). The Project consists of the rebuild of three circuits as follows:

- Circuit 1560-3 runs the entire length of the proposed project (approximately 4.1 miles) from the interconnection with Eversource in the City of Shelton (Derby Junction) through UI's Indian Well Substation in the City of Derby to UI's Ansonia Substation in the City of Ansonia.
- Circuit 1808-2 runs from Derby Junction in the City of Shelton to UI's Indian Well Substation in the City of Derby (approximately 1.5 miles).
- Circuit 1594 runs from UI's Indian Well Substation in the City of Derby to UI's Ansonia Substation in the City of Ansonia (approximately 2.6 miles)

Notes:

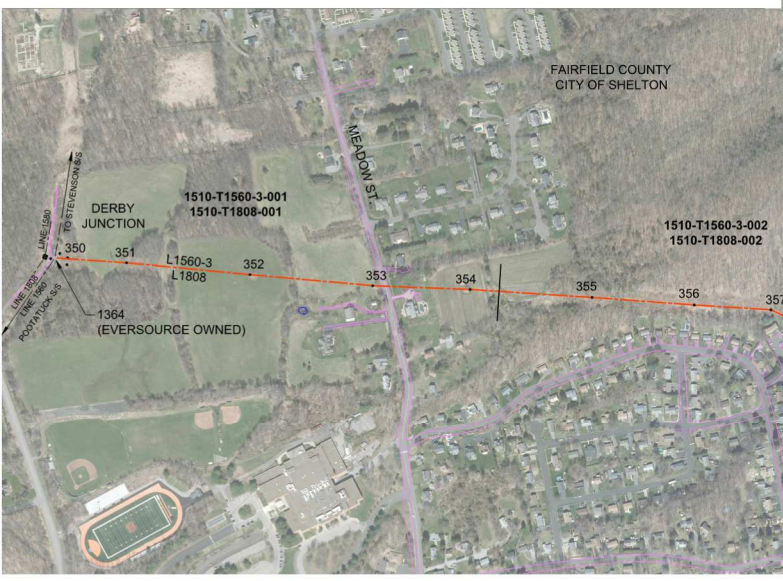
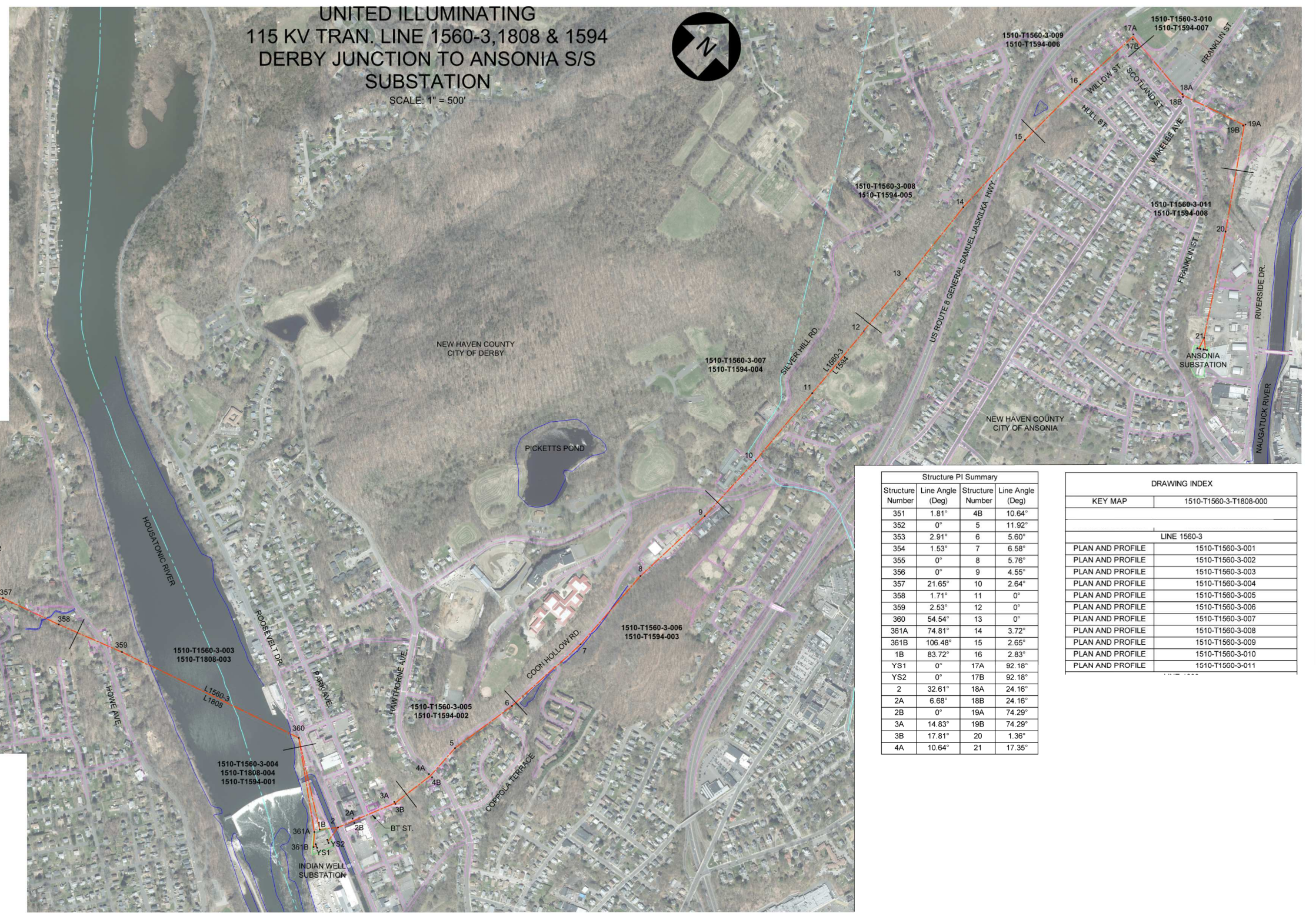
1. Grey shading on Plan and Profile Drawings denotes critical energy infrastructure information that has been redacted.
2. These Plan and Profile Drawings reflect the Project's 70% engineering design (January 2022). Since the completion of the 70% design, UI has made minor modifications to clarify the configuration and location of the proposed rebuilt 115-kV lines, including regarding the existing ROW and proposed ROW expansion. As a result, there may be slight variations between the aerial maps used for the Plan and Profile Drawings compared to the Project's 400 scale and 100 scale mapping in Appendices A.3 and A.4, respectively. The configurations depicted on the 400 scale and 100 scale maps represent the current Project design (May 2022).

PLAN LEGEND:

	PROPERTY LINE		FARMLAND
	TOWN LINE		RETAINING WALL
	EXISTING RIGHT OF WAY		GUARD RAIL
	PROPOSED RIGHT OF WAY		ROADS/DRIVEWAYS
	FEMA 100 YEAR FLOOD		STREET SIDEWALKS
	TRANSMISSION CENTERLINE		MARKER BALLS
	DISTRIBUTION CENTERLINE		SIGN
	UNDERGROUND GAS		FIRE HYDRANT
	UNDERGROUND WATER LINE		LIGHTPOST
	UNDERGROUND SANITARY		BOULDER/ROCK
	UNDERGROUND ELECTRIC		EXISTING TOWER TO BE REMOVED
	RAILROADS		EXISTING WOOD POLE
	BUILDINGS		EXISTING WOOD POLE WITH LIGHT
	DECKS/DETACHED STRUCTURES		NEW STEEL POLE
	FENCES		EXISTING STEEL POLE
	ROCKWALL		EXISTING STEEL POLE TO BE REMOVED
	EDGE OF TREE LINE		EXISTING W-BEAM
	WATER		
	WETLAND/WATERCOURSES (FUSS & O'NEILL DESIGNATION)		

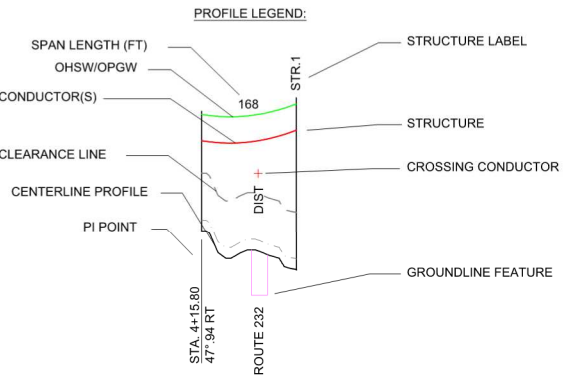
PLAN	SURVEYED	DATE
NOTEBOOK NO.	REVIEWED	
	ROW CHKD	

PLAN SCALE: 1" = 80'
 PROFILE SCALE: 1" = 40' VERTICAL
 1" = 80' HORIZONTAL



Structure PI Summary			
Structure Number	Line Angle (Deg)	Structure Number	Line Angle (Deg)
351	1.81°	4B	10.64°
352	0°	5	11.92°
353	2.91°	6	5.60°
354	1.53°	7	6.58°
355	0°	8	5.76°
356	0°	9	4.55°
357	21.65°	10	2.64°
358	1.71°	11	0°
359	2.53°	12	0°
360	54.54°	13	0°
361A	74.81°	14	3.72°
361B	106.48°	15	2.65°
1B	83.72°	16	2.83°
YS1	0°	17A	92.18°
YS2	0°	17B	92.18°
2	32.61°	18A	24.16°
2A	6.68°	18B	24.16°
2B	0°	19A	74.29°
3A	14.83°	19B	74.29°
3B	17.81°	20	1.36°
4A	10.64°	21	17.35°

DRAWING INDEX	
KEY MAP	1510-T1560-3-T1808-000
LINE 1560-3	
PLAN AND PROFILE	1510-T1560-3-001
PLAN AND PROFILE	1510-T1560-3-002
PLAN AND PROFILE	1510-T1560-3-003
PLAN AND PROFILE	1510-T1560-3-004
PLAN AND PROFILE	1510-T1560-3-005
PLAN AND PROFILE	1510-T1560-3-006
PLAN AND PROFILE	1510-T1560-3-007
PLAN AND PROFILE	1510-T1560-3-008
PLAN AND PROFILE	1510-T1560-3-009
PLAN AND PROFILE	1510-T1560-3-010
PLAN AND PROFILE	1510-T1560-3-011



PROFILE	SURVEYED	DATE
NOTEBOOK NO.	REVIEWED	
	NOTES REDUCED	

UNDERBUILD CONSTRUCTION TYPE	N/A	NEUTRAL CONDUCTOR TYPE	N/A	OPGW/OHSW TYPE	N/A	CONDUCTOR TYPE	N/A	YR. CONST.	W/O	PE Stamp	
TENSION	N/A	TENSION	N/A	TENSION	N/A	TENSION	N/A	NOTES:	SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION		
DESIGN TEMP.	N/A	DESIGN TEMP.	N/A	DESIGN TEMP.	N/A	DESIGN TEMP.	N/A	REV.	DATE	BY	DESCRIPTION

CADD Drawing. DO NOT REVISE MANUALLY.



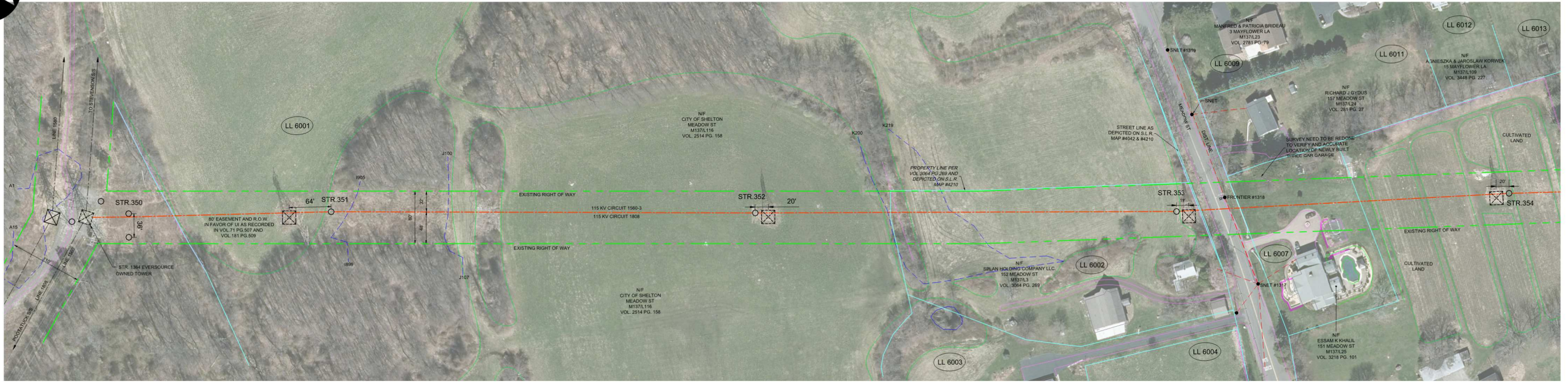
DERBY JUNCTION TO ANSONIA S/S KEY MAP
 115 KV LINES 1560-3, 1808, AND 1594

0-0B	01/31/2022	HMS	ISSUED FOR REVIEW	SJH	DR.	HMS	SHEET 1	FILE:	
0-0A	10/27/2021	HMS	ISSUED FOR REVIEW	SJH	CK	SKK	NO.		
REV.	DATE	BY	DESCRIPTION	APP.	DATE:	10/27/2021	1510-T1560-3-T1594-T1808-000		REV. 0-0B



FAIRFIELD COUNTY, CT
CITY OF SHELTON

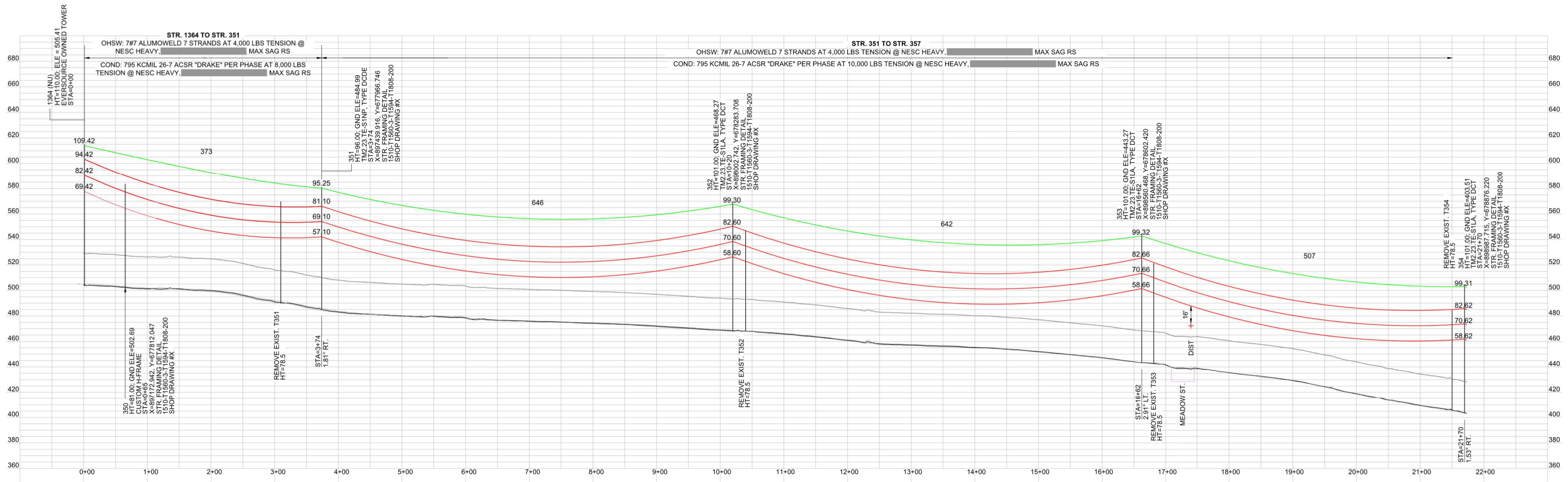
CONCEPTUAL - NOT FOR CONSTRUCTION



DATE	BY	SURVEYED	REVIEWED
PLAN	NOTEBOOK NO.	ROW	CHKD

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



DATE	BY	PROFILE	SURVEYED
NOTEBOOK NO.	NOTES REDUCED		

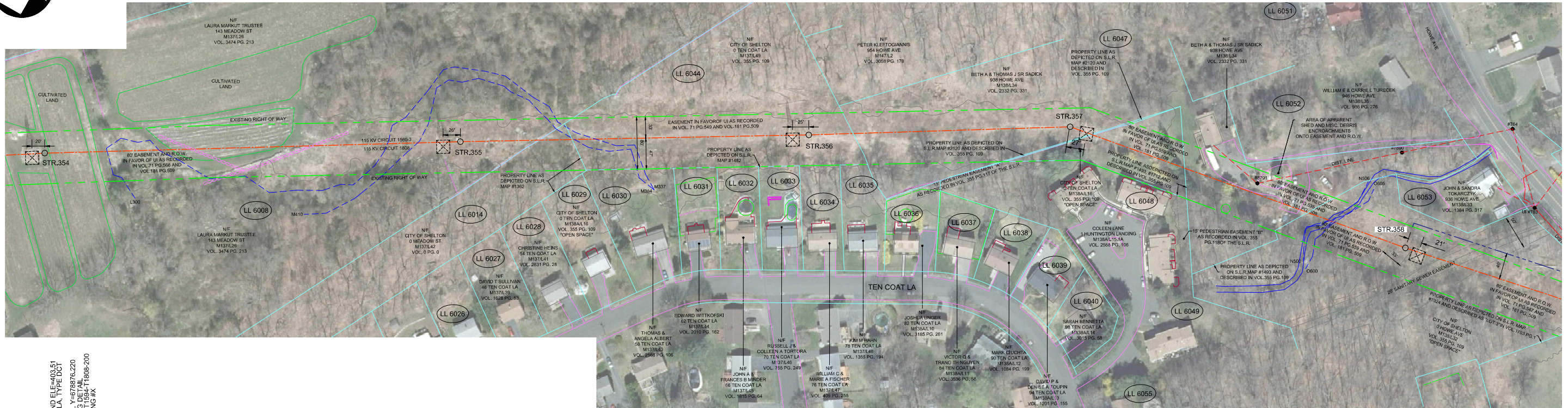
CADD Drawings DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE N/A	NEUTRAL CONDUCTOR TYPE N/A	OPGW/OHSW TYPE 7#7 ALUMOWELD	CONDUCTOR TYPE 7#5 KCMIL 26-7 ACSR 'DRAKE'	YR. CONST. W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3	
TENSION N/A	TENSION N/A	TENSION SEE PROFILE SECTION ABOVE	TENSION SEE PROFILE SECTION ABOVE	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION			SHEET 1 OF 11 SHELTON FAIRFIELD	
DESIGN TEMP. N/A	DESIGN TEMP. N/A	DESIGN TEMP.	DESIGN TEMP.				DR. HMS CK. SKK APP. SJH	SHEET 1 NO. 1510-T1560-3-001
REV.	DATE	BY	DESCRIPTION	APP.		0-0B 01/31/2022 HMS ISSUED FOR REVIEW 0-0A 10/27/2021 HMS ISSUED FOR REVIEW	DR. HMS CK. SKK APP. SJH	REV. 0-0B



FAIRFIELD COUNTY, CT
CITY OF SHELTON

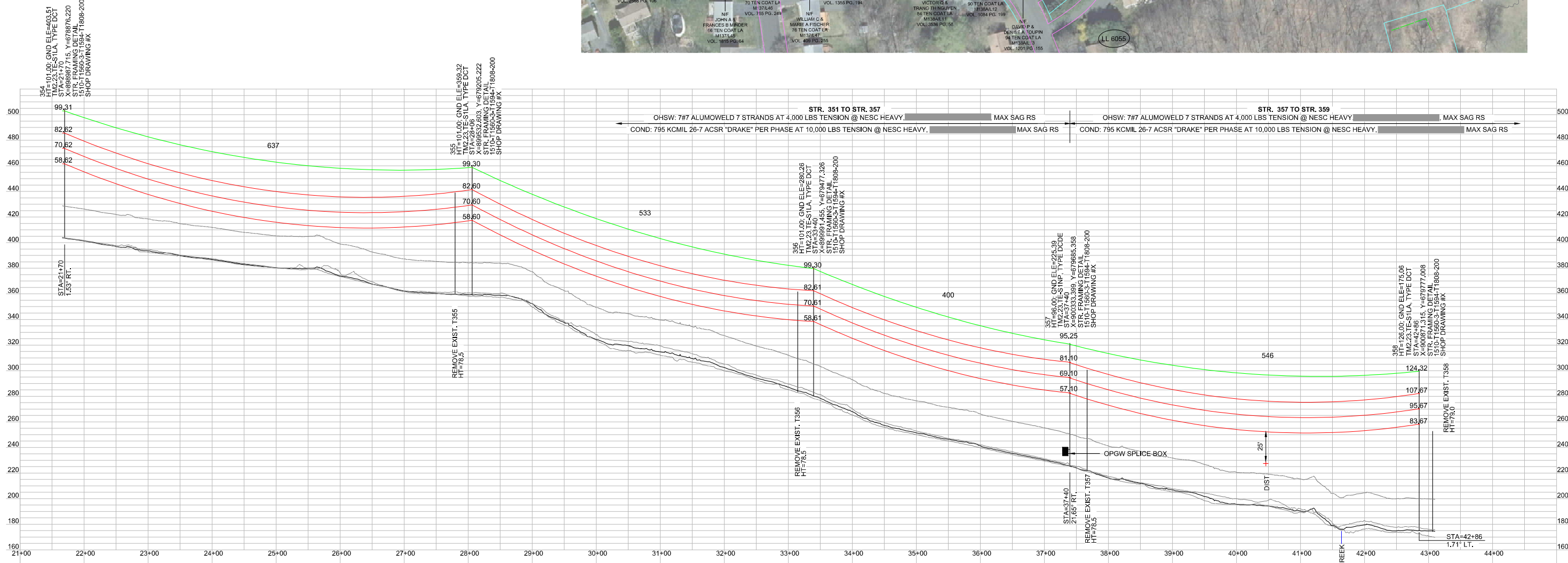
CONCEPTUAL - NOT FOR CONSTRUCTION



PLAN	SURVEYED	REVIEWED	DATE
NOTEBOOK NO.	ROW CHKD		

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



PROFILE	SURVEYED	REVIEWED	DATE
NOTEBOOK NO.	NOTES REDUCED		

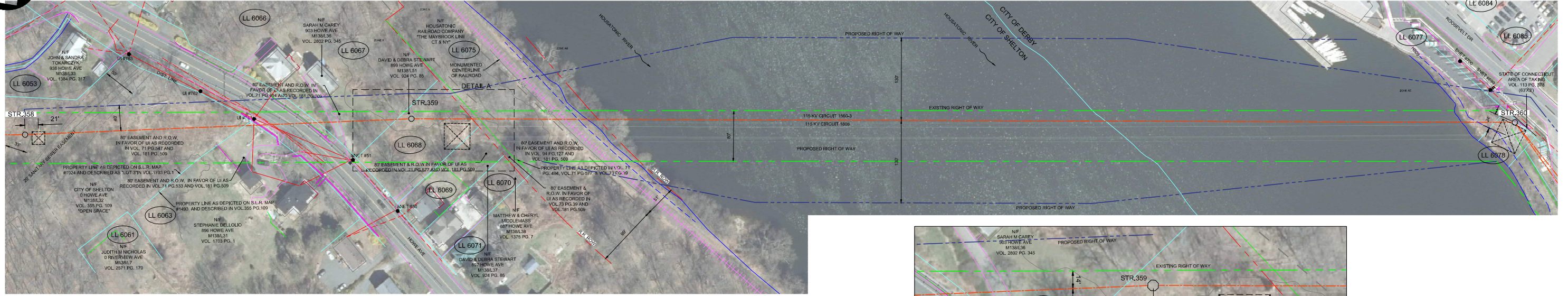
UNDERBUILD CONSTRUCTION TYPE N/A	NEUTRAL CONDUCTOR TYPE N/A	OPGW/OWSW TYPE 7#7 ALUMOWELD	CONDUCTOR TYPE 795 KCMIL 26-7 ACSR "DRAKE"	YR. CONST. W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3	
TENSION N/A	TENSION N/A	TENSION SEE PROFILE SECTION ABOVE	TENSION SEE PROFILE SECTION ABOVE	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION			SHEET 2 OF 11	
DESIGN TEMP. N/A	DESIGN TEMP. N/A	DESIGN TEMP.	DESIGN TEMP.	REV. DATE BY DESCRIPTION APP.			SHELTON FAIRFIELD	

0-0B	01/31/2022	HMS	ISSUED FOR REVIEW	SJH	DR. HMS	SHEET 2	FILE:
0-0A	10/27/2021	HMS	ISSUED FOR REVIEW	SJH	CK. SKK	NO.	
REV.	DATE	BY	DESCRIPTION	APP.	DATE	1510-T1560-3-002	0-0B



FAIRFIELD/NEW HAVEN COUNTY, CT
CITY OF SHELTON/DERBY

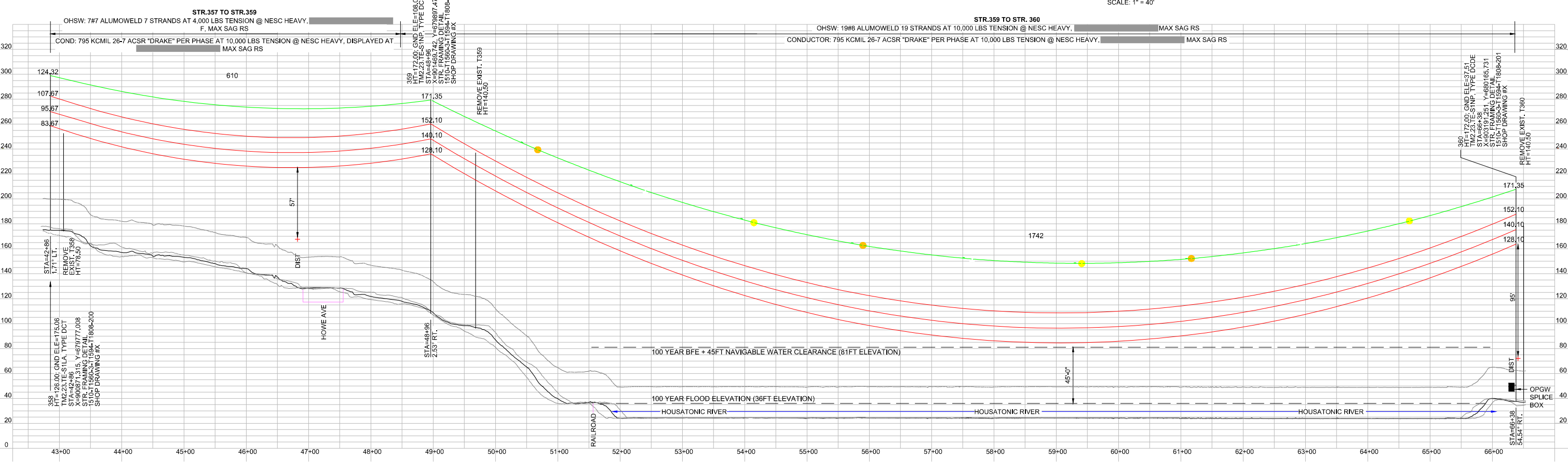
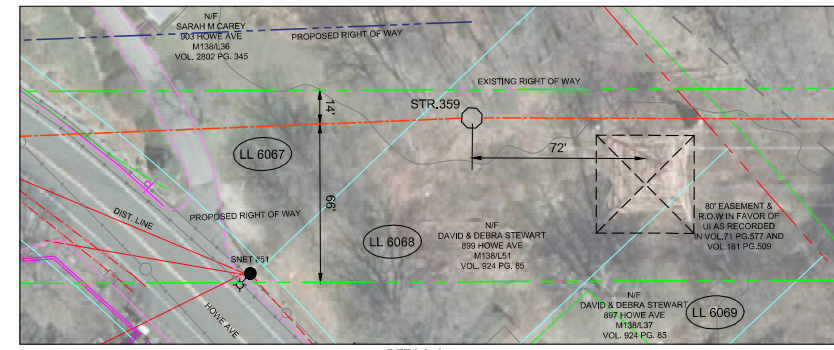
CONCEPTUAL - NOT FOR CONSTRUCTION



PLAN	SURVEYED	REVIEWED	DATE
NOTEBOOK NO.	ROW	CHKD	

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



PROFILE	SURVEYED	REVIEWED	DATE
NOTEBOOK NO.	NOTES REDUCED		

CADD Drawings DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OPGW/HSW TYPE	CONDUCTOR TYPE	YR. CONST.	W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3	
N/A	N/A	7#7 ALUMOWELD 1#8 ALUMOWELD	7#5 KCMIL 26-7 ACSR "DRAKE"	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION				SHEET 3 OF 11	
TENSION	TENSION	TENSION	TENSION					SHELTON/DERBY FAIRFIELD/NEW HAVEN	
N/A	N/A	SEE TENSION SECTION ABOVE	SEE TENSION SECTION ABOVE				NO.		
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.				1510-T1560-3-003		
N/A	N/A						REV. 0-0B		

REV.	DATE	BY	DESCRIPTION	APP.
0-0B	01/31/2022	HMS	ISSUED FOR REVIEW	
0-0A	10/27/2021	HMS	ISSUED FOR REVIEW	

DR.	HMS	SHEET 3	FILE:
CK.	SKK	NO.	
APP.	SJH		
APP.	DATE: 10/27/2021		

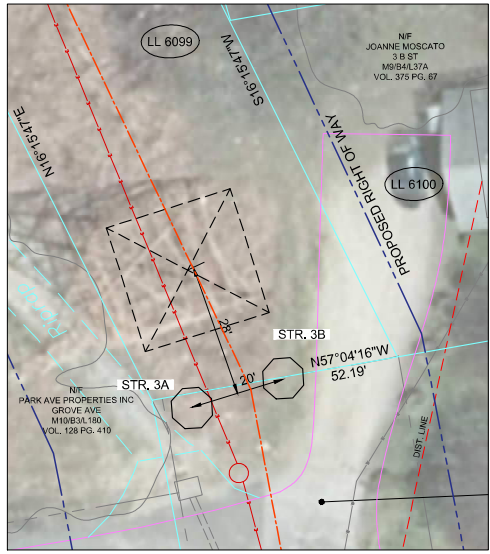
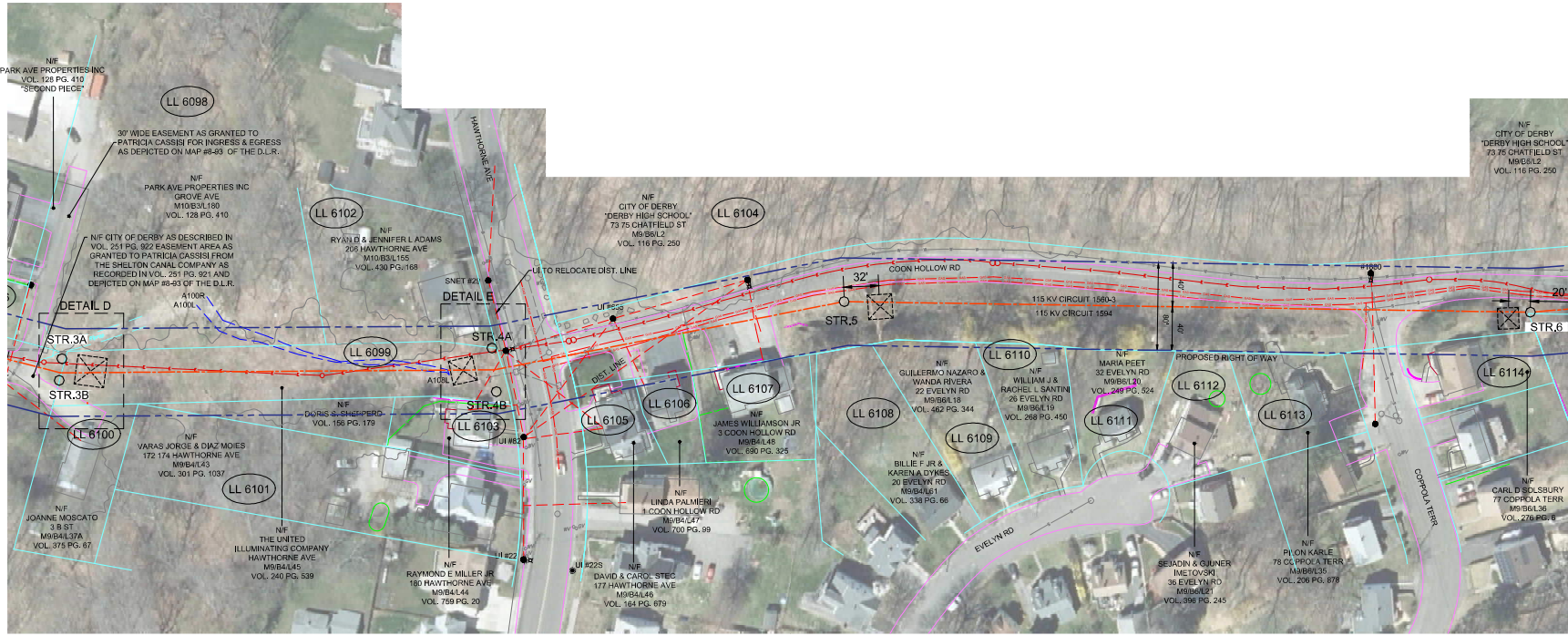


NEW HAVEN COUNTY, CT
CITY OF DERBY

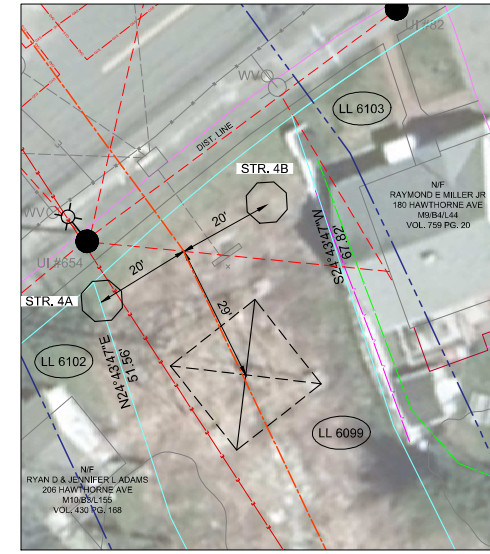
CONCEPTUAL - NOT FOR CONSTRUCTION

PLAN	SURVEYED	REVIEWED	ROW	CHKD
NOTEBOOK NO.				
DATE				
BY				

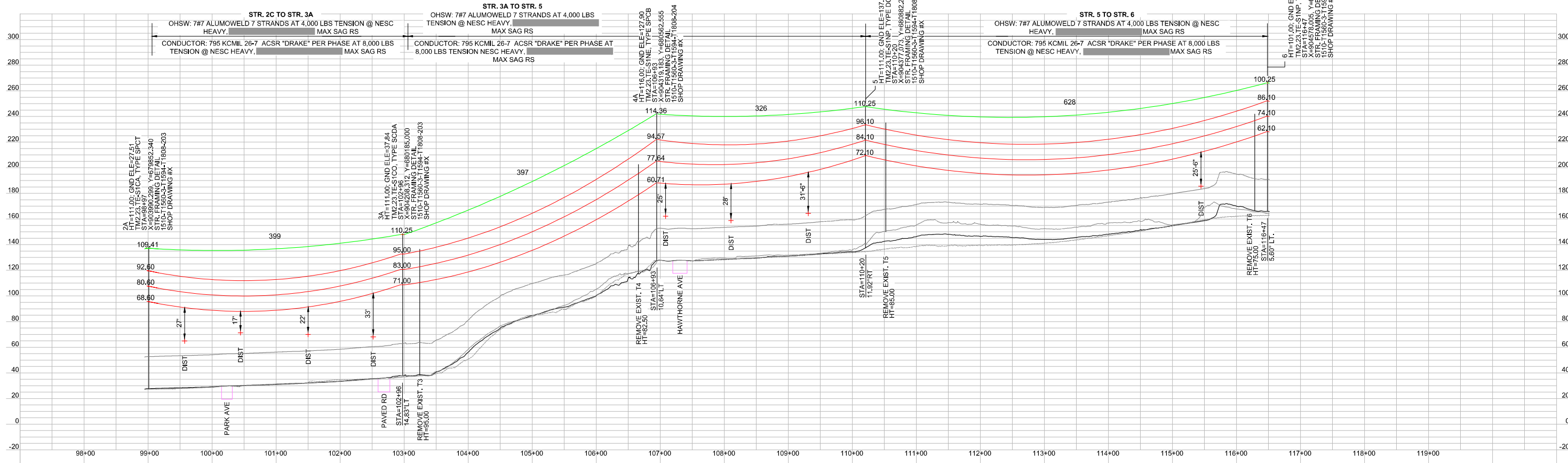
PLAN SCALE:
1" = 80'
PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



DETAIL D
STRUCTURE 3A/B BLOW-UP
SCALE: 1" = 20'



DETAIL E
STRUCTURE 4A/B BLOW-UP
SCALE: 1" = 20'



PROFILE	SURVEYED	REVIEWED	NOTES REDUCED
NOTEBOOK NO.			
DATE			
BY			

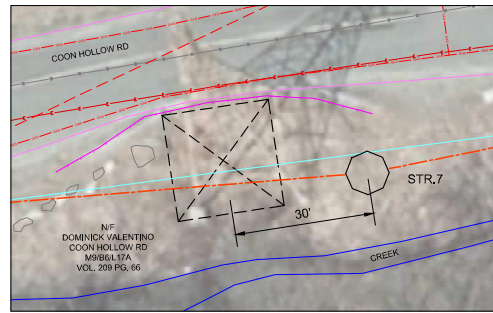
CADD Drawing. DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE N/A	NEUTRAL CONDUCTOR TYPE N/A	OPGW/OHSW TYPE 7#7 ALUMOWELD	CONDUCTOR TYPE 795 KCML 26-7 ACSR 'DRAKE'	YR. CONST. W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3 SHEET 5 OF 11 DERBY	DR. HMS CK. SKK APP. SJH DATE: 10/27/2021	SHEET 5 NO. 1510-T1560-3-005	REV. 0-0B REV. 0-0A			
TENSION N/A	TENSION N/A	TENSION SEE PROFILE SECTION ABOVE	TENSION SEE PROFILE SECTION ABOVE	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION	0-0B 01/31/2022 HMS ISSUED FOR REVIEW 0-0A 10/27/2021 HMS ISSUED FOR REVIEW						DR. SJH CK. SKK APP. SJH DATE: 10/27/2021	FILE: NO.	REV. 0-0B
DESIGN TEMP. N/A	DESIGN TEMP. N/A	DESIGN TEMP.	DESIGN TEMP.	REV. DATE BY DESCRIPTION APP.	REV. DATE BY DESCRIPTION APP.						APP. DATE: 10/27/2021	NO.	REV. 0-0B

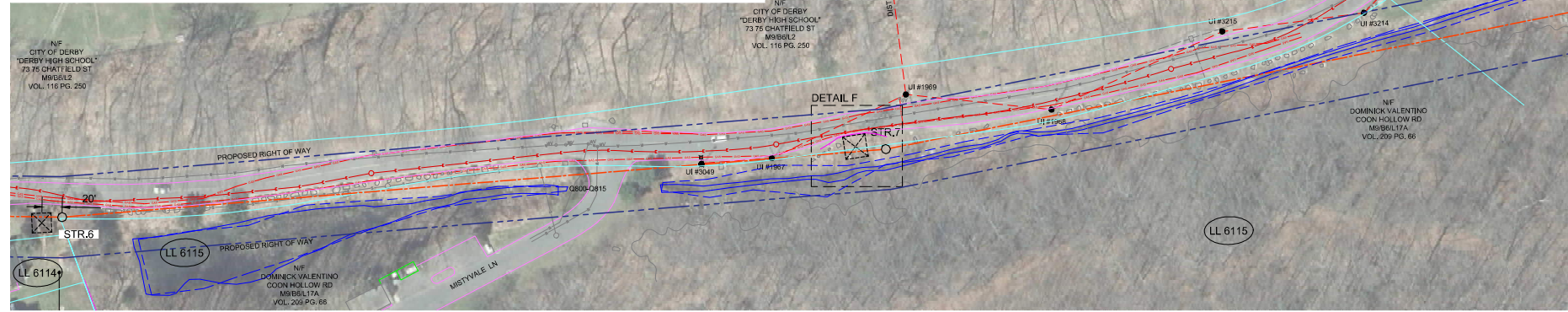
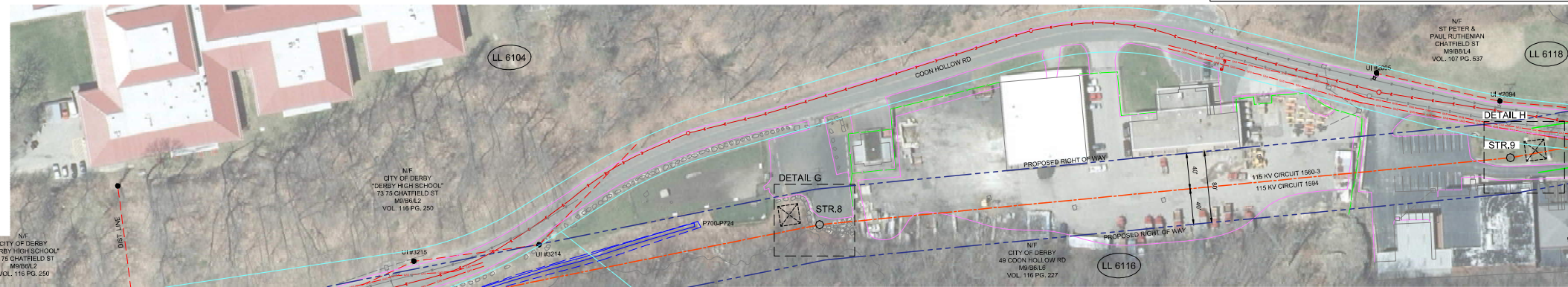


NEW HAVEN COUNTY, CT
CITY OF DERBY

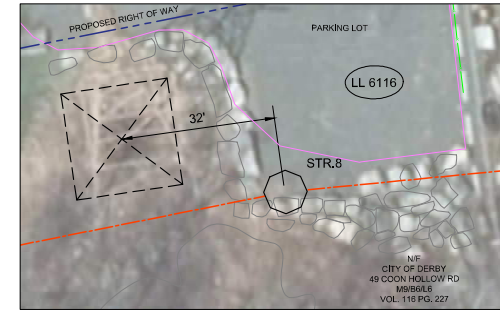
CONCEPTUAL - NOT FOR CONSTRUCTION



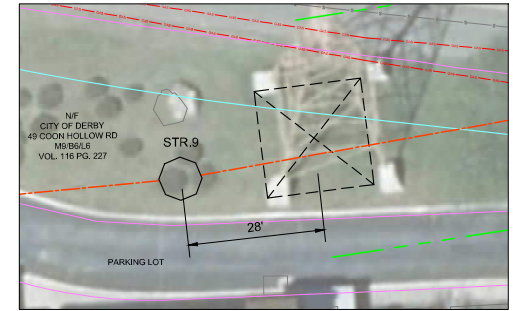
DETAIL F
STRUCTURE 7 BLOW-UP
SCALE: 1" = 20'



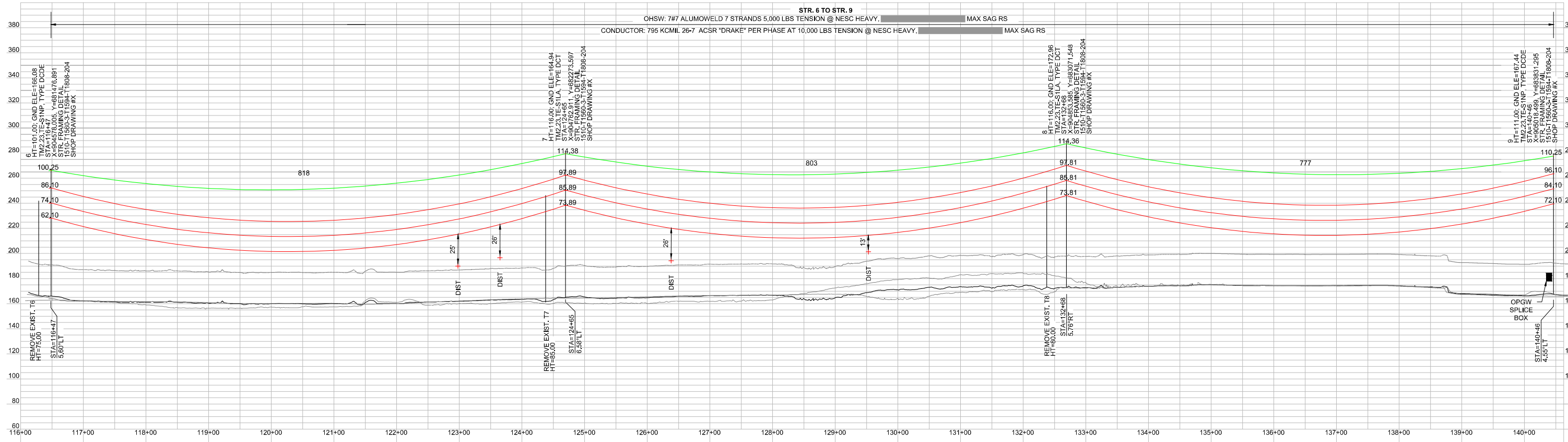
PLAN SCALE:
1" = 80'
PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



DETAIL G
STRUCTURE 8 BLOW-UP
SCALE: 1" = 20'



DETAIL H
STRUCTURE 9 BLOW-UP
SCALE: 1" = 20'



PROFILE	DATE

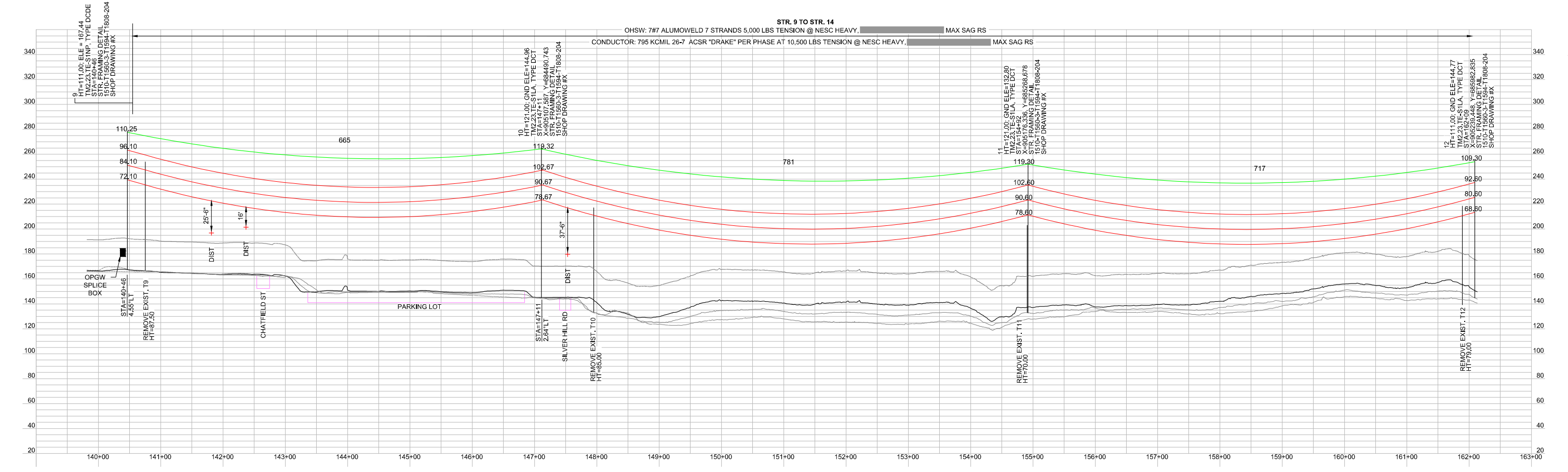
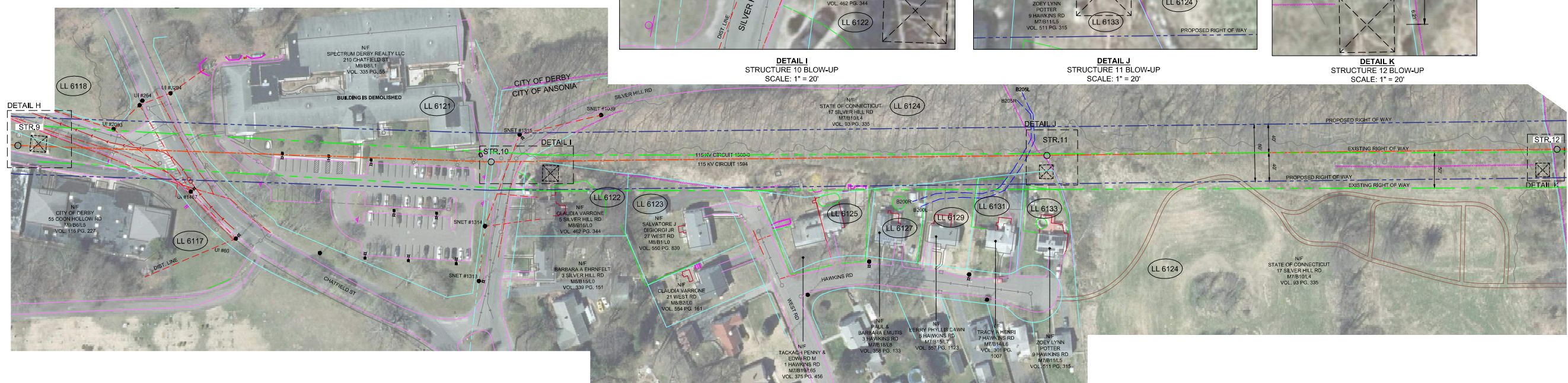
UNDERBUILD CONSTRUCTION TYPE N/A	NEUTRAL CONDUCTOR TYPE N/A	OPGW/OHSW TYPE 7#7 ALUMOWELD	CONDUCTOR TYPE 795 KCMIL 26-7 ACSR "DRAKE"	YR. CONST. W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3 SHEET 6 OF 11 DERBY	NEW HAVEN		
TENSION N/A	TENSION N/A	TENSION SEE TENSION SECTION ABOVE	TENSION SEE PROFILE SECTION ABOVE	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION	0-0B 01/31/2022 HMS ISSUED FOR REVIEW 0-0A 10/27/2021 HMS ISSUED FOR REVIEW				DR. HMS CK. SKK APP. SJH	SHEET 6 NO. 1510-T1560-3-006
DESIGN TEMP. N/A	DESIGN TEMP. N/A	DESIGN TEMP.	DESIGN TEMP.	REV. DATE BY DESCRIPTION APP.	REV. DATE BY DESCRIPTION APP. 10/27/2021				SHEET 6 NO. 1510-T1560-3-006	REV. 0-0B

CADD Drawing. DO NOT REVISE MANUALLY.

PLAN	DATE
NOTEBOOK NO.	BY
REVIEWED	SURVEYED
ROW CHKD	REVIEWED

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



PROFILE	DATE
NOTEBOOK NO.	BY
REVIEWED	SURVEYED
NOTES REDUCED	REVIEWED

CADD Drawings DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OPGW/OWSW TYPE	CONDUCTOR TYPE	YR. CONST.	W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3			
N/A	N/A	7#7 ALUMOWELD	7#5 KCMIL 26-7 ACSR "DRAKE"					SHEET 7 OF 11			
TENSION	TENSION	TENSION	TENSION	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION				DERBY/ANSONIA NEW HAVEN			
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	REV.	DATE	BY	DESCRIPTION	APP.	DR. HMS CK. SKK APP. SJH DATE: 10/27/2021	SHEET 7 NO. 1510-T1560-3-007	REV. O-0B



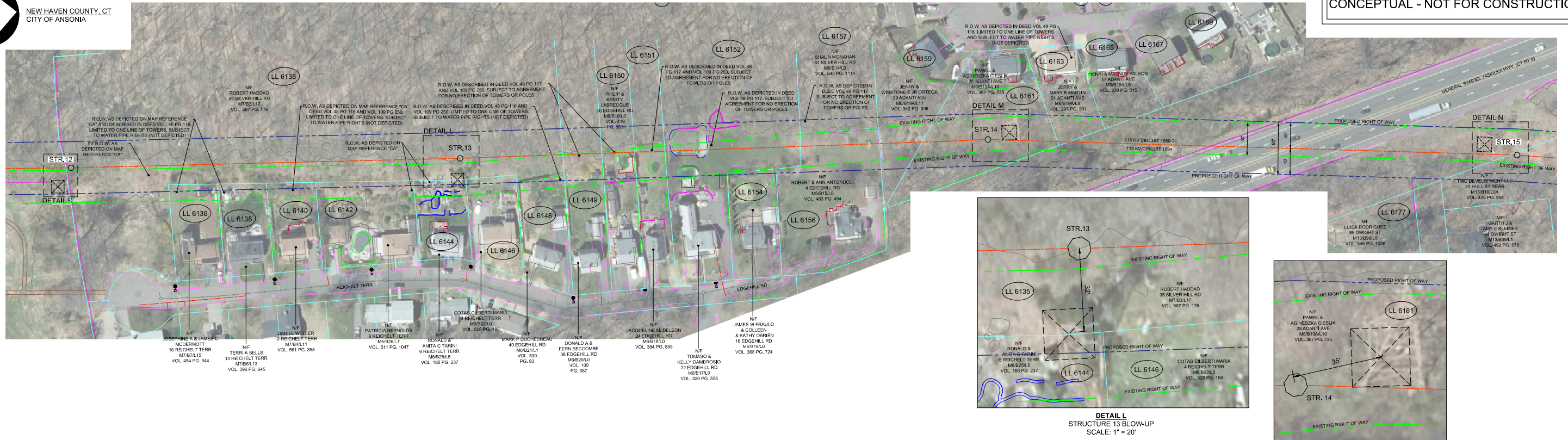
NEW HAVEN COUNTY, CT
CITY OF ANSONIA

CONCEPTUAL - NOT FOR CONSTRUCTION

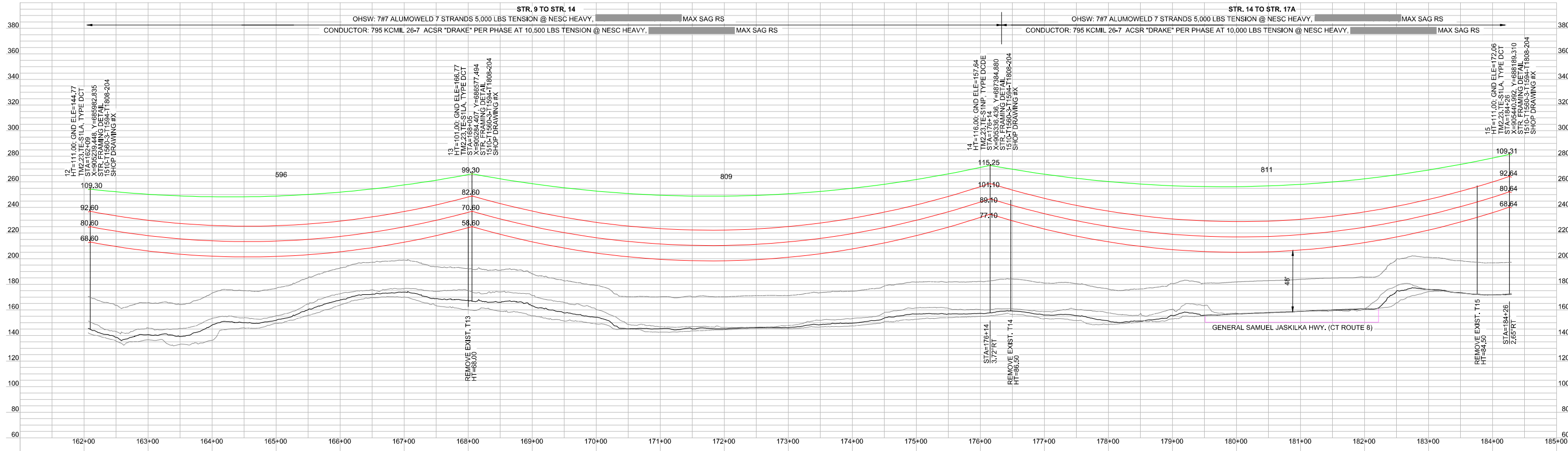
DATE	
BY	
SURVEYED	
REVIEWED	
NOTEBOOK NO.	
ROW CHKD	

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



DATE	
BY	
SURVEYED	
REVIEWED	
NOTEBOOK NO.	
NOTES REDUCED	

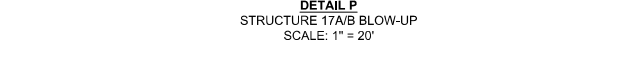
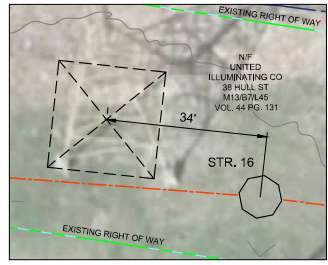
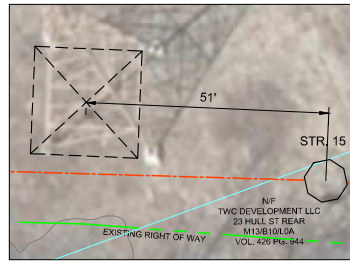
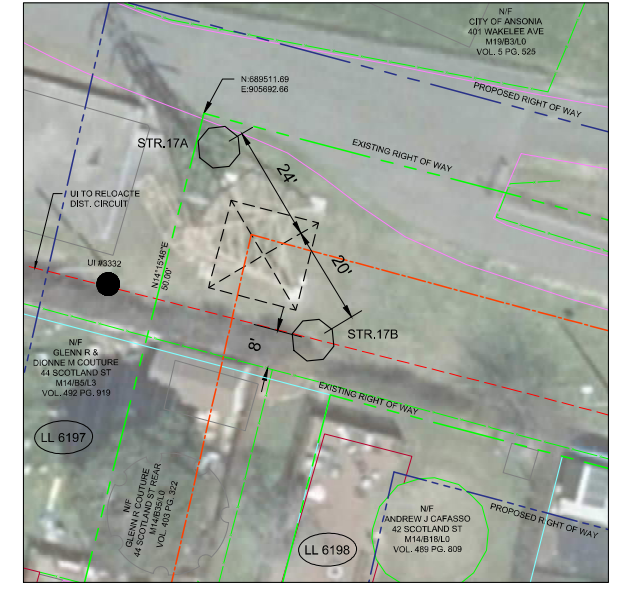


UNDERBUILD CONSTRUCTION TYPE N/A	NEUTRAL CONDUCTOR TYPE N/A	OPGW/HSW TYPE 7#7 ALUMOWELD	CONDUCTOR TYPE 795 KCMIL 26-7 ACSR "DRAKE"	YR. CONST. W/O	PE Stamp		DERBY JUNCTION TO ANSONIA S/S 115 KV TRANSMISSION LINE 1560-3 SHEET 8 OF 11	
TENSION N/A	TENSION N/A	TENSION SEE PROFILE SECTION ABOVE	TENSION SEE PROFILE SECTION ABOVE	NOTES: SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION	ANSONIA DR. HMS CK. SKK APP. SJH			NEW HAVEN SHEET 8 NO.
DESIGN TEMP. N/A	DESIGN TEMP. N/A	DESIGN TEMP.	DESIGN TEMP.	REV. DATE BY DESCRIPTION APP.	0-0B 01/31/2022 HMS ISSUED FOR REVIEW 0-0A 10/27/2021 HMS ISSUED FOR REVIEW			1510-T1560-3-008 REV. 0-0B



NEW HAVEN COUNTY, CT
CITY OF ANSONIA

CONCEPTUAL - NOT FOR CONSTRUCTION



DETAIL N
STRUCTURE 15 BLOW-UP
SCALE: 1" = 20'

DETAIL O
STRUCTURE 16 BLOW-UP
SCALE: 1" = 20'

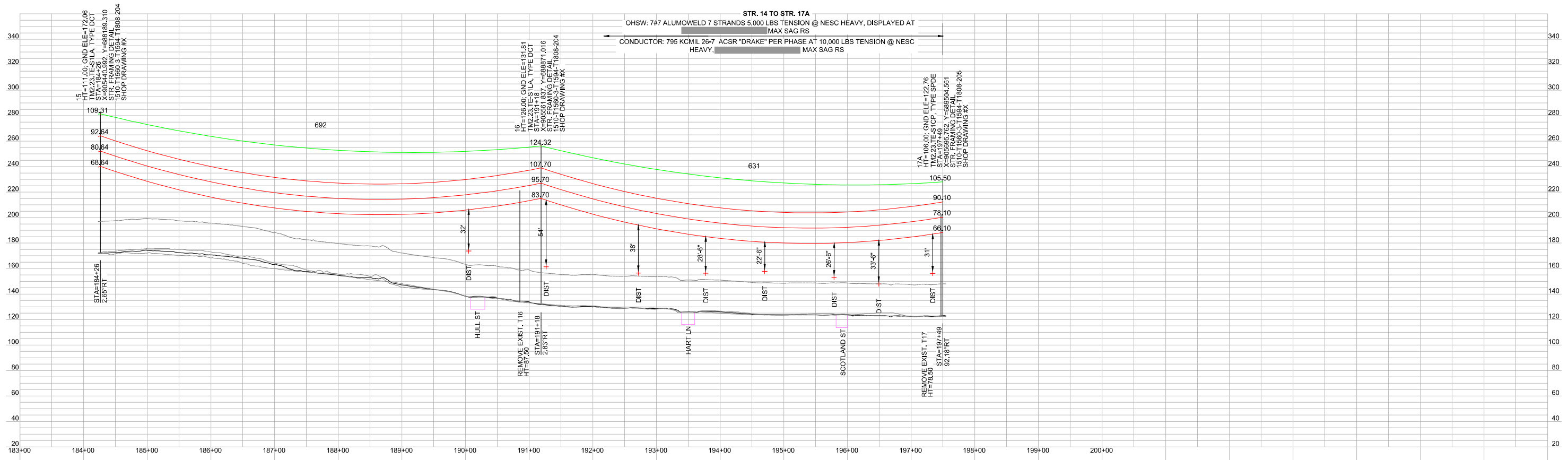
DETAIL P
STRUCTURE 17A/B BLOW-UP
SCALE: 1" = 20'

DATE	BY	SURVEYED	REVIEWED
NOTEBOOK NO.	ROW CHKD		

PLAN SCALE:
1" = 80'

PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL

DATE	BY	SURVEYED	REVIEWED
NOTEBOOK NO.	NOTES REDUCED		



CADD Drawings DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE	N/A	NEUTRAL CONDUCTOR TYPE	N/A	OPGW/OHSW TYPE	7#7 ALUMOWELD	CONDUCTOR TYPE	795 KCMIL 26-7 ACSR "DRAKE"	YR. CONST.	W/O	PE Stamp	
TENSION	N/A	TENSION	N/A	TENSION	SEE PROFILE SECTION ABOVE	TENSION	SEE PROFILE SECTION ABOVE	NOTES:	SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION		
DESIGN TEMP.	N/A	DESIGN TEMP.	N/A	DESIGN TEMP.		DESIGN TEMP.		REV.	DATE	BY	DESCRIPTION

DERBY JUNCTION TO ANSONIA S/S
115 KV TRANSMISSION LINE 1560-3

SHEET 9 OF 11

ANSONIA NEW HAVEN

0-0B 01/31/2022 HMS ISSUED FOR REVIEW SJH

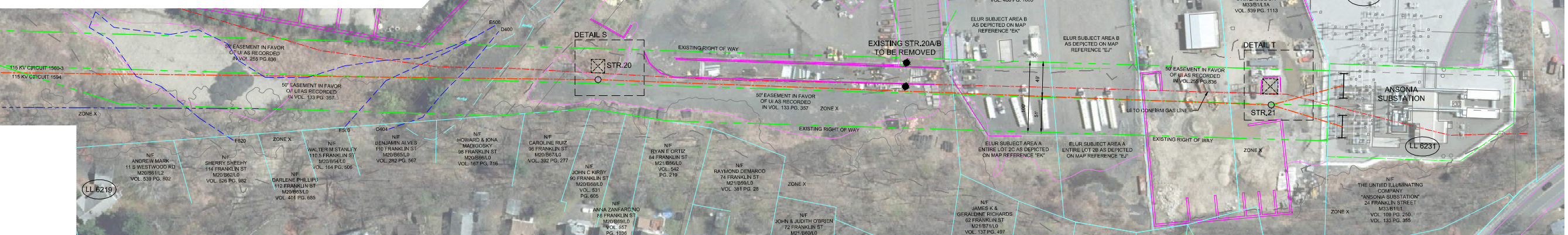
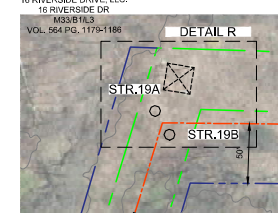
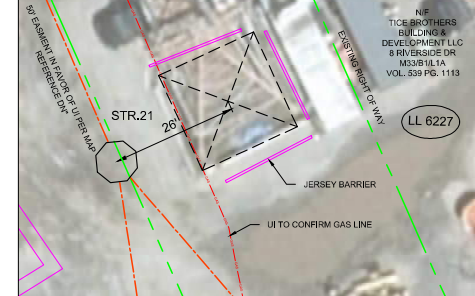
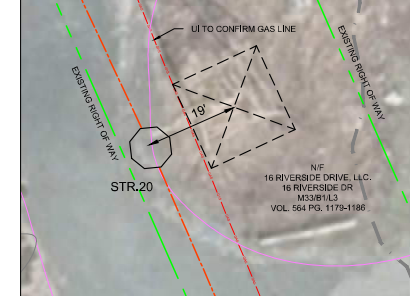
0-0A 10/27/2021 HMS ISSUED FOR REVIEW SJH

FILE: 1510-T1560-3-009

REV. 0-0B

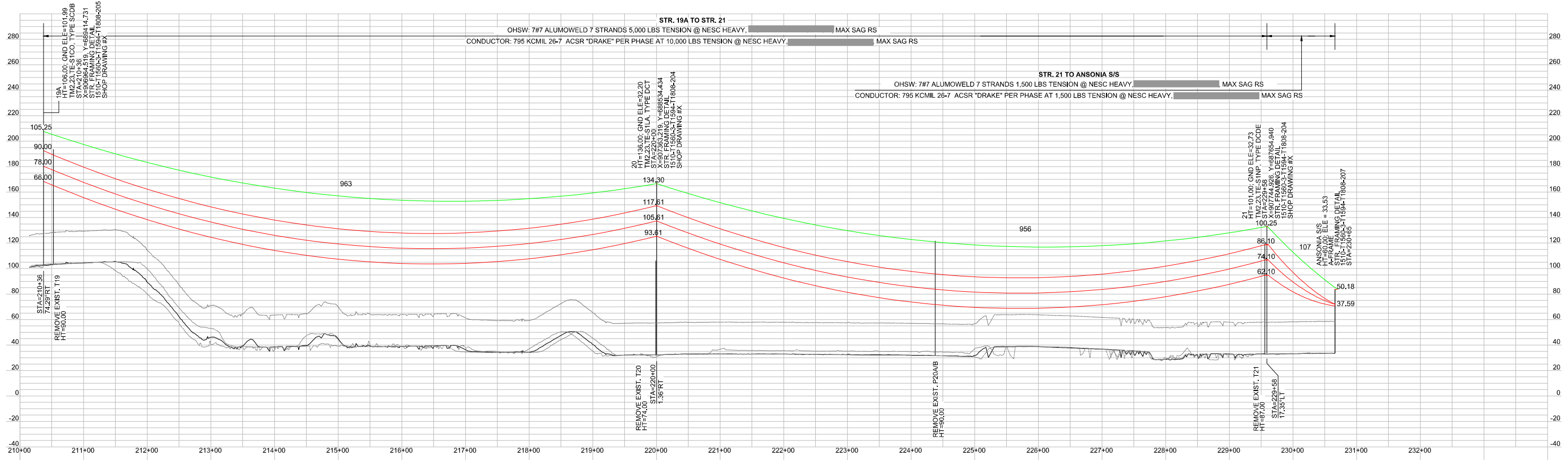


NEW HAVEN COUNTY, CT
CITY OF ANSONIA



DATE	BY			
DATE	BY			
PLAN	SURVEYED	REVIEWED	ROW	CHKD
NOTEBOOK NO.				

PLAN SCALE:
1" = 80'
PROFILE SCALE:
1" = 40' VERTICAL
1" = 80' HORIZONTAL



DATE	BY		
DATE	BY		
PROFILE	SURVEYED	REVIEWED	NOTES REDUCED
NOTEBOOK NO.			

CADD Drawing, DO NOT REVISE MANUALLY.

UNDERBUILD CONSTRUCTION TYPE	NEUTRAL CONDUCTOR TYPE	OPGW/OHSW TYPE	CONDUCTOR TYPE	YR. CONST.	W/O	PE Stamp
N/A	N/A	7#7 ALUMOWELD	795 KCMIL 26-7 ACSR "DRAKE"			
TENSION	TENSION	TENSION	TENSION	NOTES:	SEE SHEET 1510-T1560-3-T1594-T1808-001 FOR STRUCTURE PHASING INFORMATION	
N/A	N/A	SEE PROFILE SECTION ABOVE	SEE PROFILE SECTION ABOVE			
DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	DESIGN TEMP.	REV.	DATE	BY
N/A	N/A					

DERBY JUNCTION TO ANSONIA S/S
115 KV TRANSMISSION LINE 1560-3

SHEET 11 OF 11

ANSONIA **NEW HAVEN**

0-0B	01/31/2022	HMS	ISSUED FOR REVIEW	SJH	DR.	HMS	SHEET 11	FILE:	
0-0A	10/27/2021	HMS	ISSUED FOR REVIEW	SJH	CK.	SKK	NO.	1510-T1560-3-011	REV.
REV.	DATE	BY	DESCRIPTION	APP.	DATE:	10/27/2021			0-0B