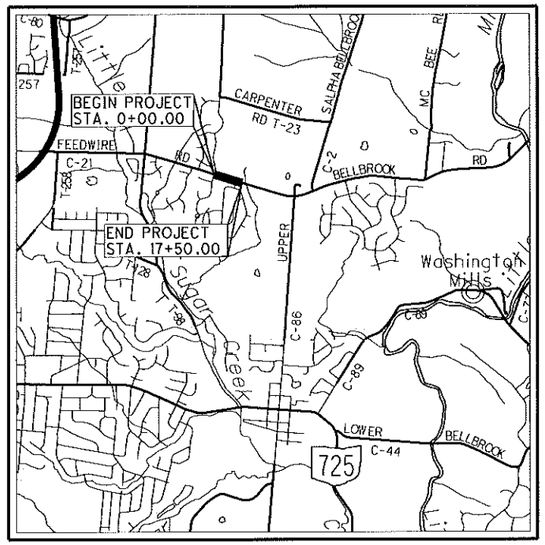

LOCATION MAP

LATITUDE: 39°39'16" LONGITUDE: 84°04'15"

SCALE IN MILES

0 .25 0.5 1 2

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

PATH DESIGN SPEED ..... 20 MPH
FEEDWIRE POSTED SPEED ..... 45 MPH

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS **BEFORE YOU DIG.**

OHIO Utilities Protection SERVICE

Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

PLAN PREPARED BY:

THE KLEINGERS GROUP

CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE

6305 Centre Park Dr. West Chester, OH 45069 513.779.7851 www.kleingers.com

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

GRE-SUGARCREEK SRTS 12 FEEDWIRE

SUGARCREEK TOWNSHIP GREENE COUNTY

INDEX OF SHEETS:

TITLE SHEET	1
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TYPICAL SECTIONS	3
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CULVERT DETAIL	20
WALK DETAIL	21-22
TRAFFIC CONTROL	23-25

STAGE 2 SUBMITTAL

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	MT-97.10	7/18/14				800-2016	7/15/16	
BP-4.1	7/19/13	MT-105.10	7/19/13				832	1/17/14	
BP-5.1	7/19/13	MT-110.10	7/19/13				878	7/15/16	
BP-7.1	7/18/14								
HW-1.1	1/18/13								
DM-4.3	1/15/16								
DM-4.4	1/15/16								
F-2.1	7/19/13								
MGS-1.1	7/19/13								
MGS-2.1	7/19/13								
RM-5.2	1/17/14								

ENGINEERS SEAL:

SIGNED:

DATE:

PROJECT DESCRIPTION

THE PROJECT INCLUDES CONSTRUCTION OF 1,600 FT OF SHARED USE PATH ALONG FEEDWIRE ROAD. ASSOCIATED IMPROVMENTS INCLUDE ADDITION AND/OR MODIFICATION OF STORM SEWER, PAVEMENT MARKINGS, FENCING, GUARDRAIL, AND SIGNAGE.

PROJECT EARTH DISTURBED AREA: 0.90 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.06 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 0.96 ACRES

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E120743

PID NO. 98576

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

GRE-SUGARCREEK SRTS 12 FEEDWIRE

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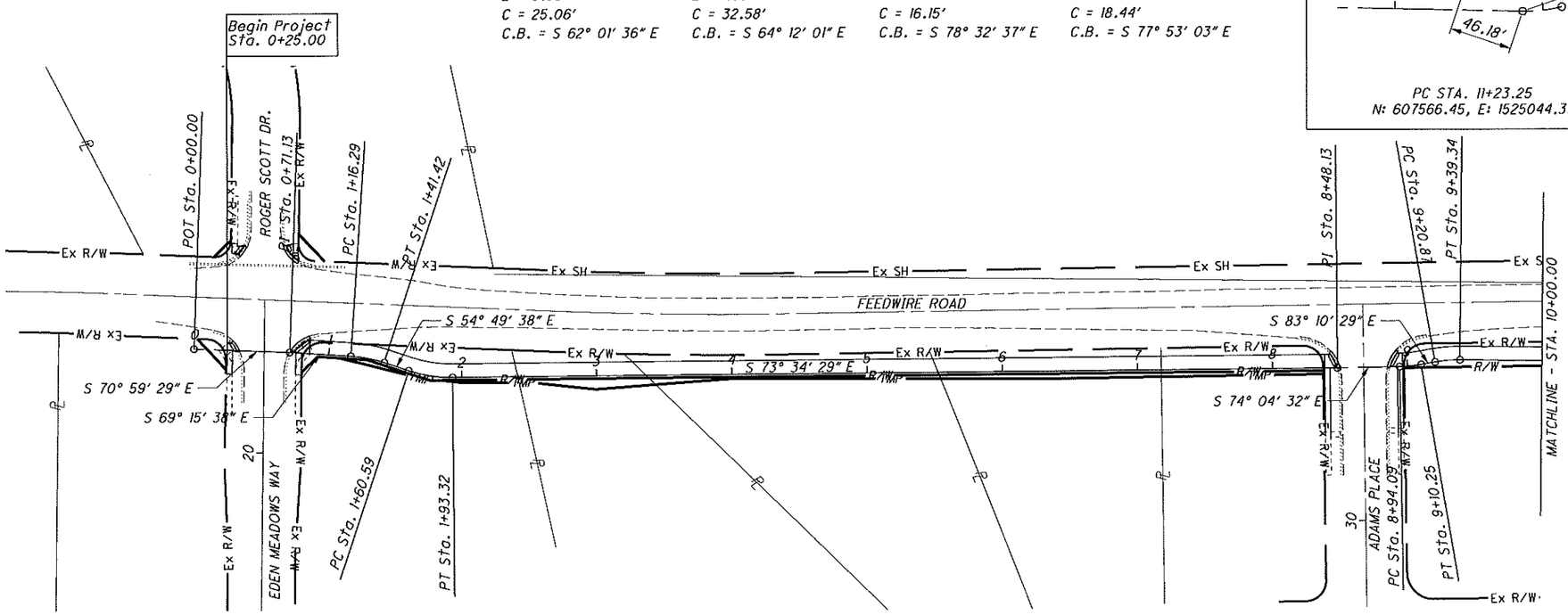
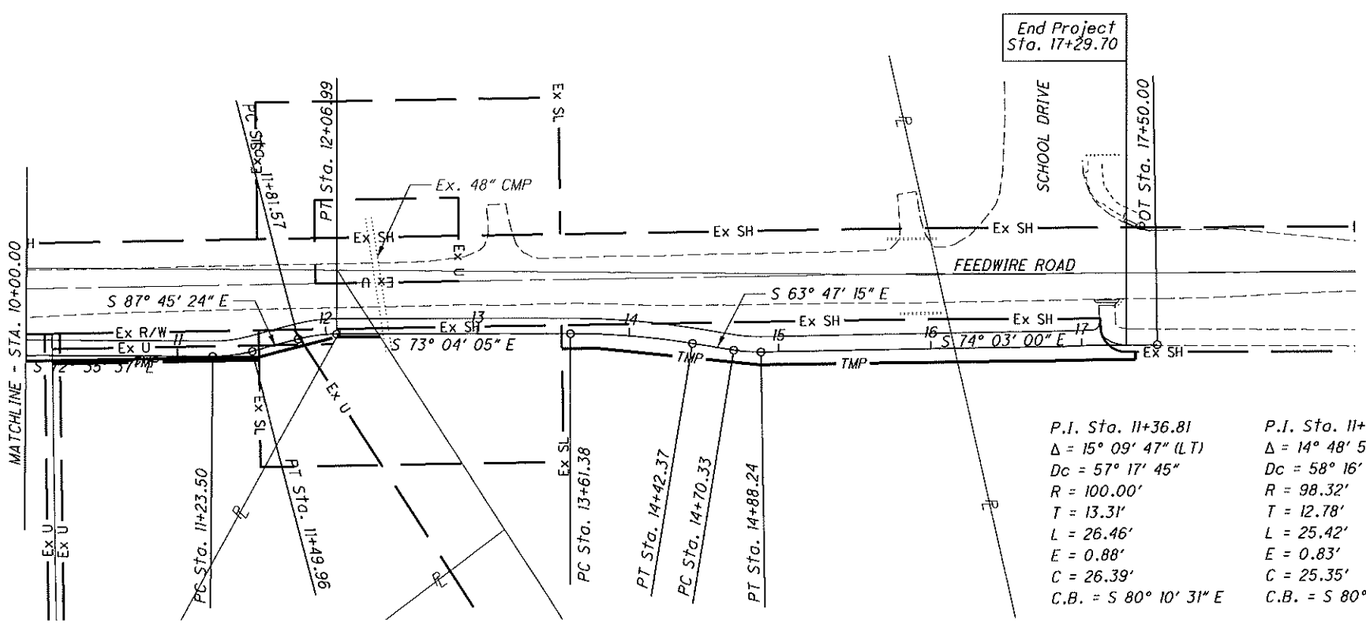
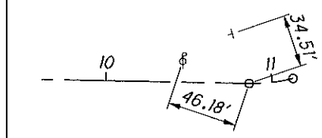
CURVE DATA

P.I. Sta. 1+28.92	P.I. Sta. 1+77.10	P.I. Sta. 9+02.19	P.I. Sta. 9+30.13
Δ = 14° 28′ 03″ (RT)	Δ = 18° 44′ 46″ (LT)	Δ = 8° 56′ 12″ (LT)	Δ = 10° 34′ 53″ (RT)
Dc = 57° 34′ 02″	Dc = 57° 17′ 18″	Dc = 55° 17′ 10″	Dc = 57° 17′ 53″
R = 99.53′	R = 100.01′	R = 103.64′	R = 100.00′
T = 12.63′	T = 16.51′	T = 8.10′	T = 9.26′
L = 25.13′	L = 32.72′	L = 16.16′	L = 18.47′
E = 0.80′	E = 1.35′	E = 0.32′	E = 0.43′
C = 25.06′	C = 32.58′	C = 16.15′	C = 18.44′
C.B. = S 62° 01′ 36″ E	C.B. = S 64° 12′ 01″ E	C.B. = S 78° 32′ 37″ E	C.B. = S 77° 53′ 03″ E

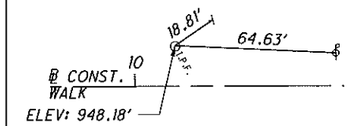




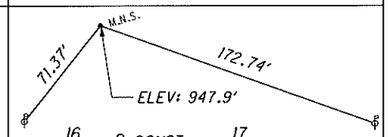
CENTERLINE REFERENCES (Not to Scale)



PC STA. 11+23.25
N: 607566.45, E: 1525044.31



STA. 10+17.69, 14.13′ LT WALK
N: 607611.58, E: 1524947.57



STA. 16+35.38, 73.24′ LT WALK
N: 607492.96, E: 1525553.19

BENCHMARK INFORMATION

BM#1
DESCRIPTION:
CAPPED IRON PIN "AZIMUTH MARK - WYCO 7628"
NORTHING: 604391.729
EASTING: 1526685.083
ELEVATION: 928.198
BM#2
DESCRIPTION:
CAPPED IRON PIN "AZIMUTH MARK - WYCO 7628"
NORTHING: 607701.447
EASTING: 1524815.312
ELEVATION: 953.031

CURVE DATA

P.I. Sta. 11+36.81	P.I. Sta. 11+94.35	P.I. Sta. 14+01.97	P.I. Sta. 14+79.31
Δ = 15° 09′ 47″ (LT)	Δ = 14° 48′ 51″ (RT)	Δ = 9° 16′ 51″ (RT)	Δ = 10° 15′ 46″ (LT)
Dc = 57° 17′ 45″	Dc = 58° 16′ 29″	Dc = 11° 27′ 33″	Dc = 57° 17′ 45″
R = 100.00′	R = 98.32′	R = 500.00′	R = 100.00′
T = 13.31′	T = 12.78′	T = 40.58′	T = 8.98′
L = 26.46′	L = 25.42′	L = 80.99′	L = 17.91′
E = 0.88′	E = 0.83′	E = 1.64′	E = 0.40′
C = 26.39′	C = 25.35′	C = 80.90′	C = 17.89′
C.B. = S 80° 10′ 31″ E	C.B. = S 80° 20′ 59″ E	C.B. = S 68° 25′ 40″ E	C.B. = S 68° 55′ 08″ E

HORIZONTAL SCALE IN FEET: 0 25 50 100

CALCULATED AMR
CHECKED MWN

SCHEMATIC PLAM

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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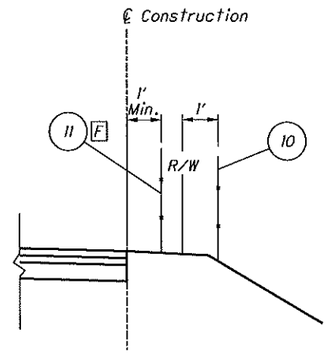
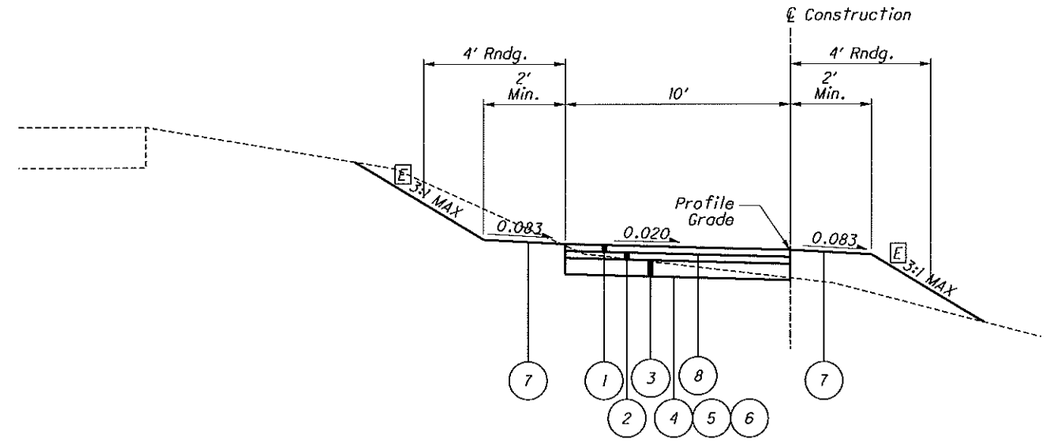
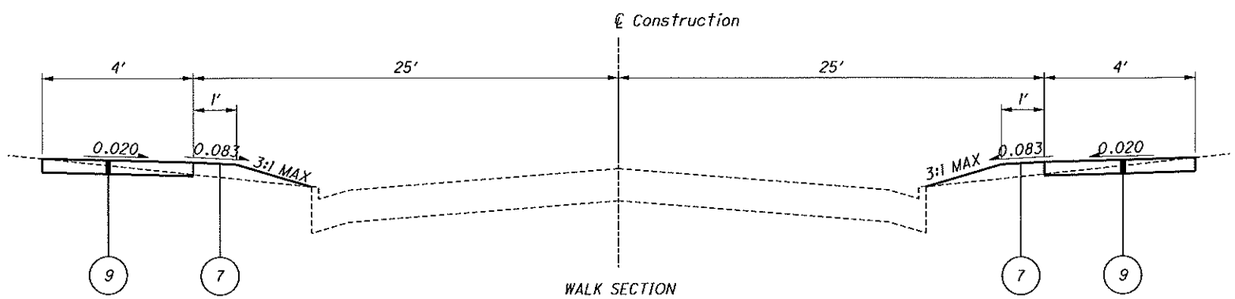


FENCE & RAILING DETAIL - FEEDWIRE RD.
* SEE PLAN & PROFILE SHEETS

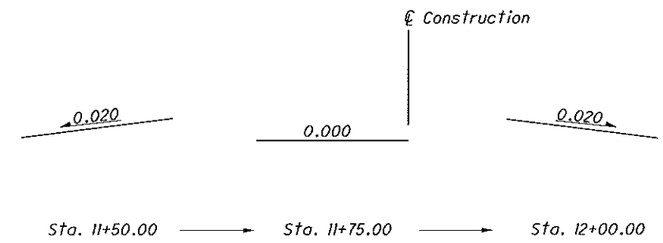
Sta. 11+86.68 to Sta. 17+22.00



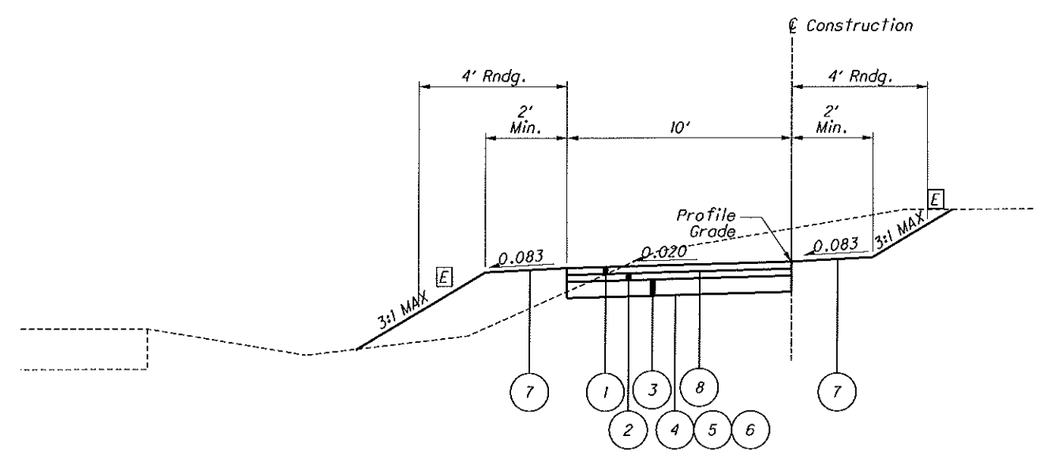
SHARED PATH SECTION - FEEDWIRE RD.
Sta. 12+00 to Sta. 17+07.27



WALK SECTION
Eden Meadows Way - Sta. 20+58.00 to Sta. 20+75.00
Adams Place Drive - Sta. 30+27.43 to Sta. 30+75.00



1. ITEM 442 - 1-¼ Asphalt Concrete Surface Course, 9.5MM, Type A (448)
2. ITEM 442 - 1-¾" Asphalt Concrete Intermediate Course, 9.5MM, Type A (448)
3. ITEM 304 - Aggregate Base, 6"
4. ITEM 204 - Subgrade Compaction
5. ITEM SPL - Soil Sterilant
6. ITEM 204 - Geotextile Fabric
7. ITEM 659 - 4" Topsoil/Seeding & Mulching
8. ITEM 407 - Tack Coat
9. ITEM 608 - 4" Concrete Walk, As Per Plan
10. ITEM 607 - Fence, Type 47RA
11. ITEM 607 - Fence, Misc.: Wood Fence



SHARED PATH SECTION - FEEDWIRE RD.
Sta. 0+84.42 to Sta. 11+50.00

E Unless otherwise shown in cross sections

F Sta. 11+86.68 to 14+06.93

TYPICAL SECTIONS

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS

THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS, DATED JANUARY 1, 2016, AND THE NOTED STANDARD CONSTRUCTION DRAWINGS SHALL GOVERN THIS IMPROVEMENT.

EXISTING FACILITIES

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM HIS WORK IN SUCH A MANNER AS TO NOT DAMAGE OR DESTROY ANY EXISTING FACILITY. IF ANY SUCH DAMAGE DOES OCCUR DUE TO THE CONTRACTOR'S OPERATIONS, HE SHALL REPLACE THE DAMAGED PORTION AT HIS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

CONSTRUCTION LIMITS

THE CONTRACTOR SHALL RESTRICT ALL OF HIS ACTIVITIES, EQUIPMENT STORAGE AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE ACTUAL CONSTRUCTION LIMITS ARE SHOWN ON THE PLANS OR THE EXISTING OR PROPOSED R/W, WHICHEVER IS NEAREST. SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITS, HE MUST SUBMIT HIS REQUEST IN WRITING TO THE ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE ENGINEER SHALL APPROVE THE REQUEST IN WRITING BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA. PRIOR TO THE BEGINNING OF WORK, THE REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL ADJACENT SITES WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER5#32S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF THE ADJACENT SITES WILL BE MADE. ANY AREAS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE, IN KIND OR AS DIRECTED BY THE ENGINEER.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD(83)(CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFROMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLAN SOUTH 3402
COMBINED SCALE FACTOR: 1.0000931890 GRID TO GROUND

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

UTILITY COORDINATION:

THE FOLLOWING IS A LIST OF THE KNOWN EXISTING UTILITIES IN THE PROJECT AREA ALONG WITH THE RESPECTIVE OWNERS. THE LIST IS INCLUDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY OWNERS IN THE PROJECT AREA PRIOR TO START OF CONSTRUCTION WHETHER LISTED ON THIS PAGE OR NOT.

DAYTON POWER & LIGHT COMPANY
1900 DRYDEN ROAD
DAYTON, OHIO 45439
937-331-4132

ENTERPRISE PRODUCTS OPERATING LLC
9420 W. SAM HOUSTON PKWY NORTH
HOUSTON,TEXAS 77064
281-887-3312

VECTREN ENERGY DELIVERY OF OHIO, INC.
6500 CLYO ROAD
CENTERVILLE, OHIO 45459
937-312-2533

AT&T OHIO
3233 WOODMAN DRIVE, ROOM 225
DAYTON, OHIO 45420
937-425-8850

TIME WARNER CABLE
3691 TURNER CABLE
DAYTON, OHIO 45415
937-425-8850

GREEN COUNTY WATER AND SEWER
667 DAYTON-XENIA ROAD
XENIA, OHIO, 45385
937-562-7462

QWEST/CENTERY LINK NATIONAL NETWORKS
441 W. BROAD STREET
PATASKALA, OHIO 43062
303-886-1299

CITY OF BELLBROOK
12 EAST FRANKLIN STREET, 2ND FLOOR
BELLBROOK, OHIO 45305
937-848-4666

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF:
- FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND/OR ROAD CLOSURES.
- SEVEN (7) DAYS PRIOR TO LANE CLOSURES AND/OR SHIFTS IN TRAFFIC PATTERNS.

THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (513) 933-9472 OR EMAIL AT D08.PIO.FORM@DOT.OHIO.GOV
DISTRICT PERMIT SECTION BY FAX AT (513) 933-9472 OR EMAIL AT TOM.MAKRIS@DOT.OHIO.GOV
CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" OR LABELED CONTINGENCY UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER.

SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

659, COMMERCIAL FERTILIZER	
659, LIME	0.42 TON
659, WATER	0.65 ACRES
	16.91 M. GAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 608 4" CONCRETE WALK, AS PER PLAN

IN ADDITION TO ALL REQUIREMENTS OF ITEM 608, THE CONTRACTOR SHALL PERFORM EMBANKMENT AND EXCAVATION IN AREAS WHERE IT IS NECESSARY TO ADJUST ELEVATIONS AND GRADES TO PROVIDE COMPLIANT SLOPES, PROMOTE POSITIVE DRAINAGE AND COVER CONDUITS. ALL EMBANKMENT AND EXCAVATION SHALL MEET THE REQUIREMENTS OF ITEM 203. THE COST OF ALL EXCAVATION AND EMBANKMENT SHALL BE INCLUDED WITH THE BID PRICE FOR ITEM 608 4" SIDEWALK, AS PER PLAN.

MAINTENANCE OF TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY THE USE OF THE EXISTING PAVEMENT OR COMPLETED PAVEMENT, EXCEPT BETWEEN THE HOURS OF 7:40AM TO 2:30PM WHEN ONE LANE OF TWO-WAY TRAFFIC MAY BE MAINTAINED BY FLAGGERS.

A MINIMUM OF THE FULL WIDTH OF EXISTING DRIVEWAY PAVEMENT SHALL BE MAINTAINED AT ALL TIMES, EXCEPT BETWEEN THE HOURS OF 7:40AM TO 2:30PM WHEN ½ OF THE FULL WIDTH OF EXISTING DRIVEWAY PAVEMENT MAY BE MAINTAINED.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

CALCULATED SJB CHECKED YSY

GENERAL NOTES

GRE-SUGARCREEK SRTS 12 FEEDWIRE

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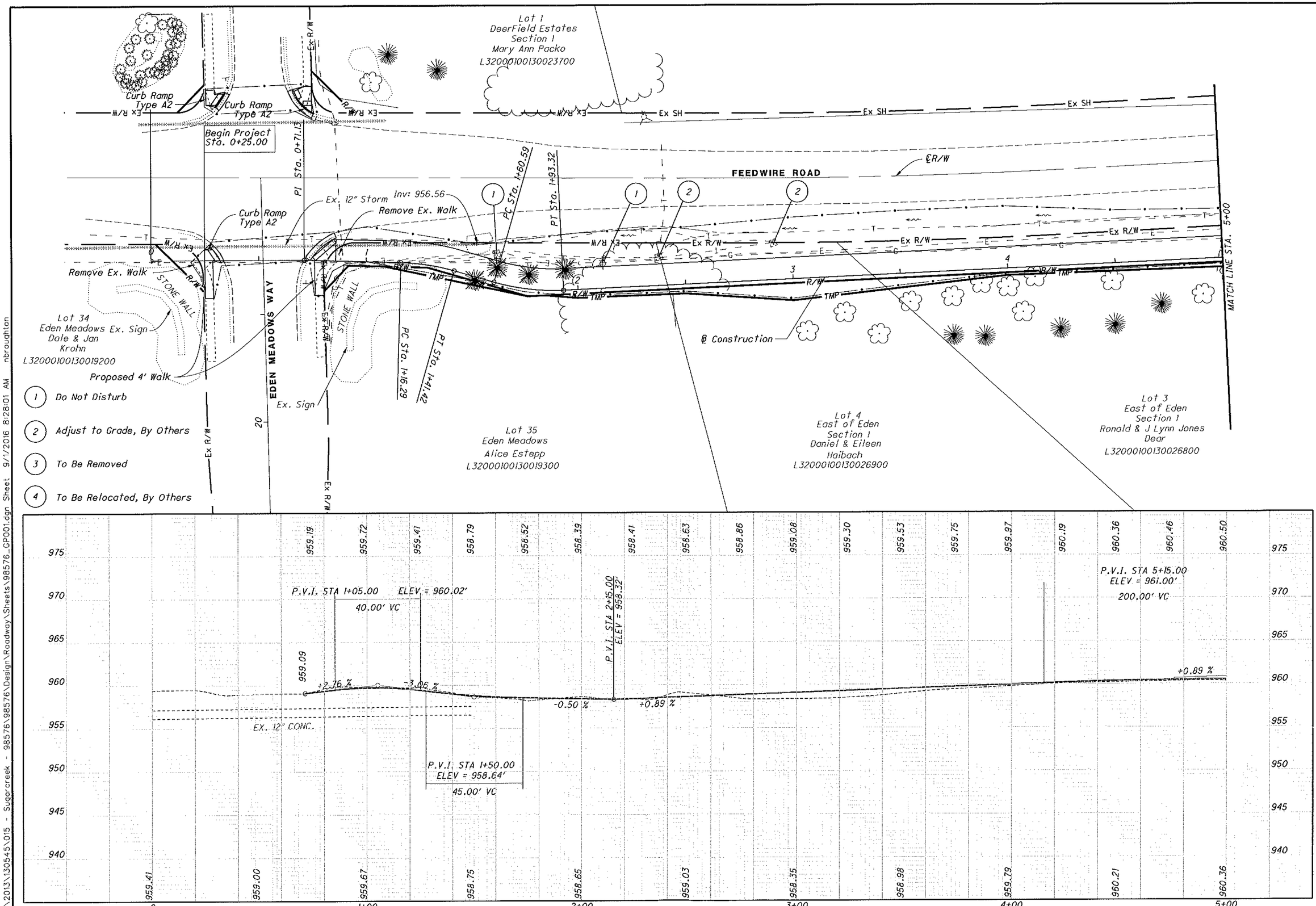

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AMR
CHECKED MWN

PLAN AND PROFILE
STA. 0+00 TO STA. 5+00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

5
25

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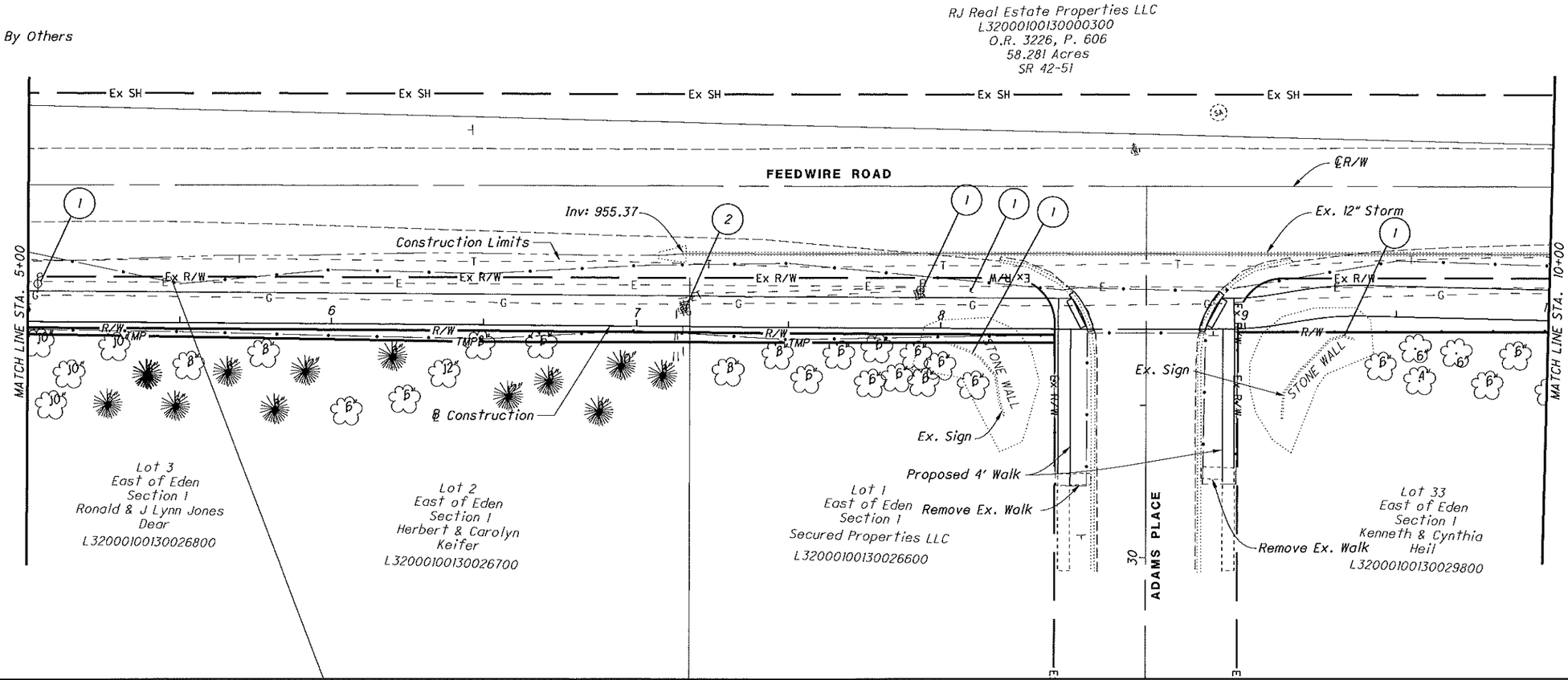
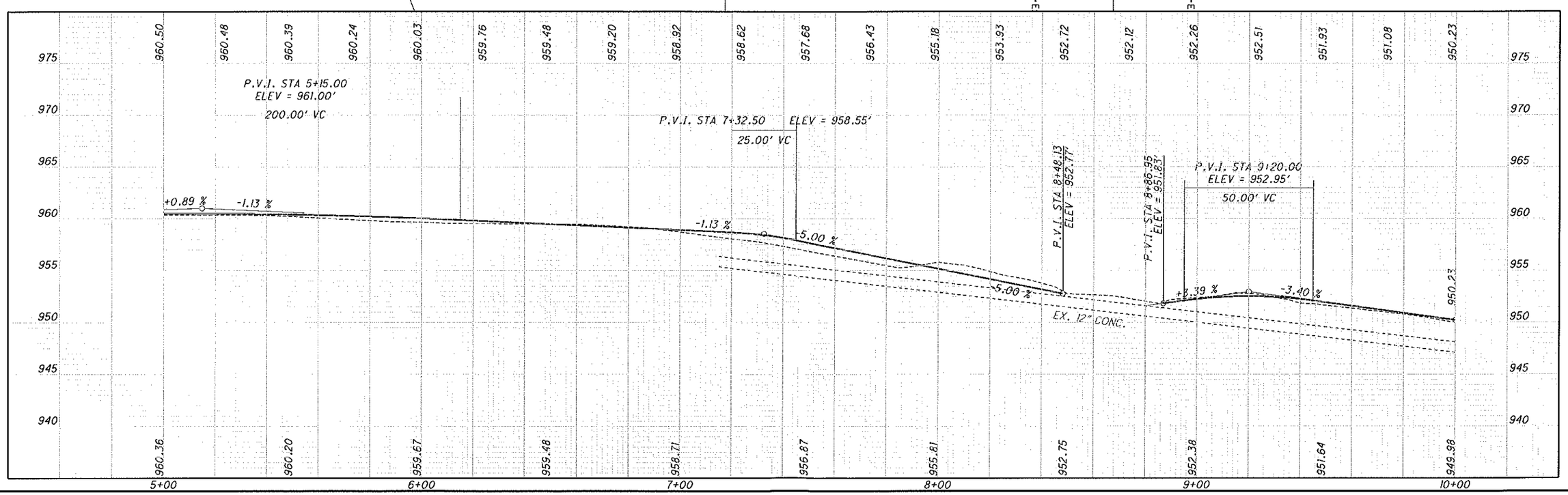
1. Do Not Disturb
2. Adjust to Grade, By Others
3. To Be Removed
4. To Be Relocated, By Others





HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AMR
CHECKED MWN

PLAN AND PROFILE
STA. 5+00 TO STA. 10+00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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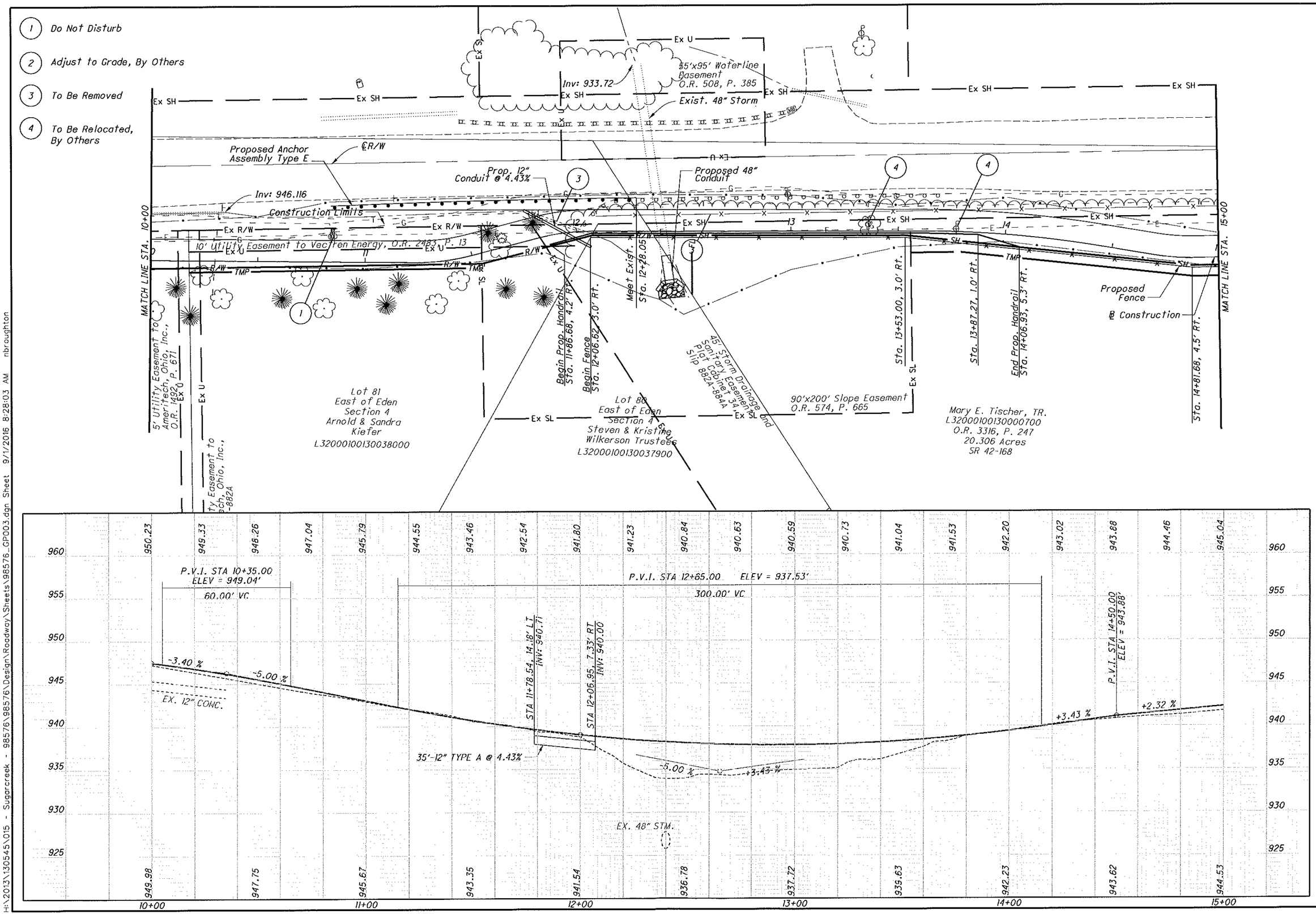
1. Do Not Disturb
2. Adjust to Grade, By Others
3. To Be Removed
4. To Be Relocated, By Others



HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AMR
CHECKED MWN

PLAN AND PROFILE
STA. 10+00 TO STA. 15+00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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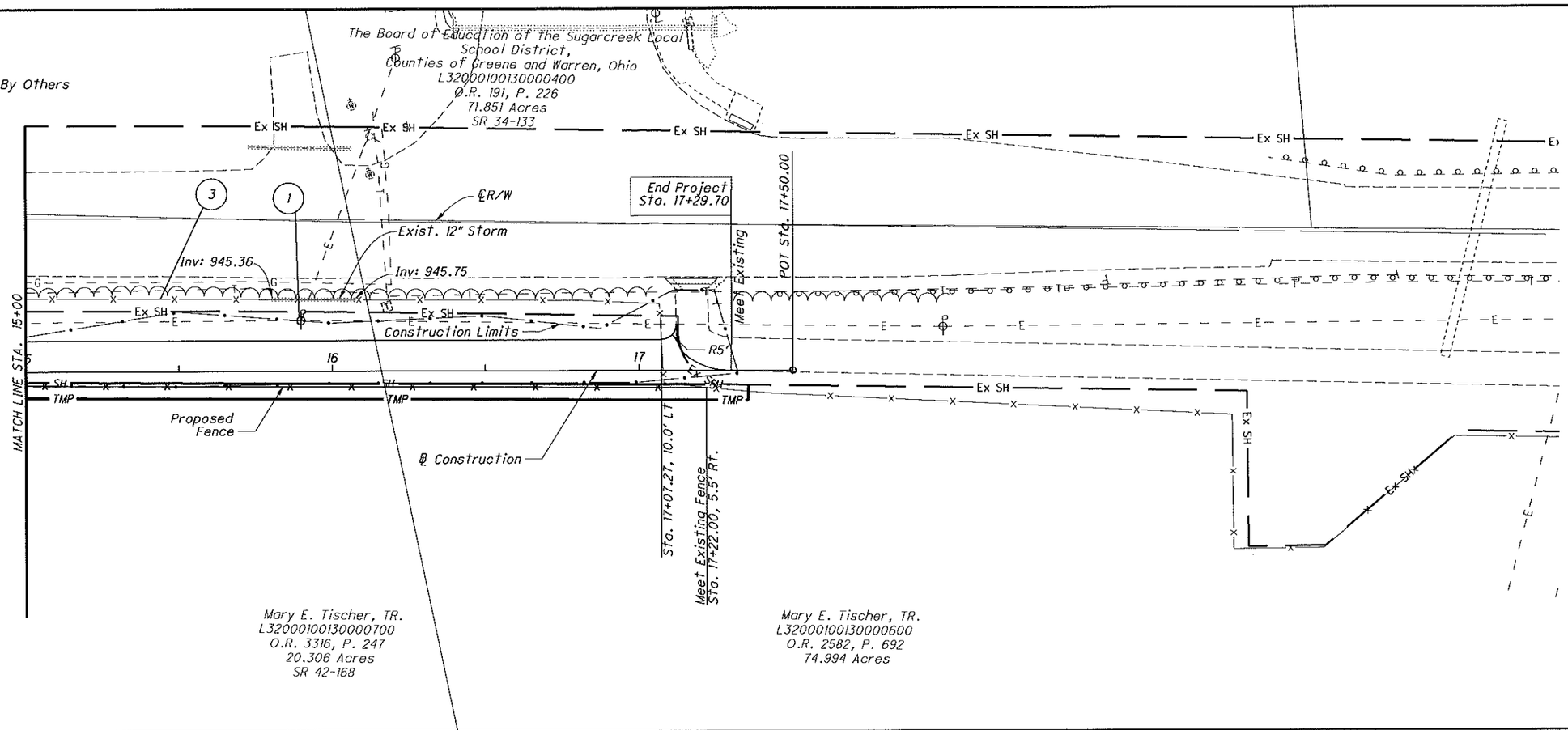
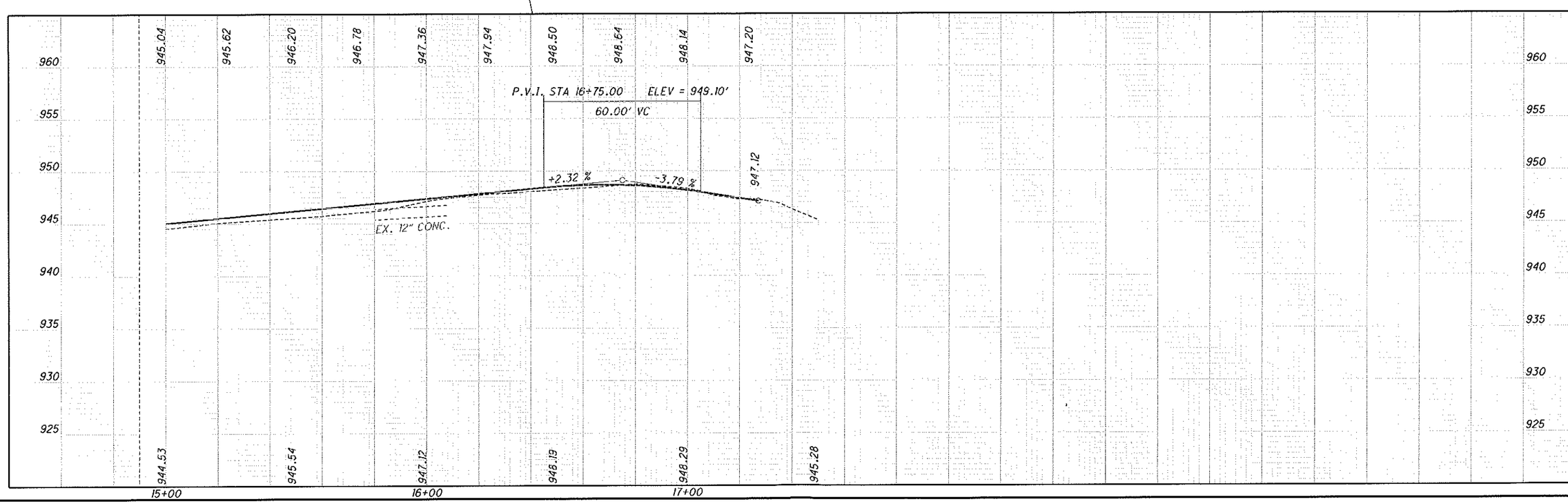
1 Do Not Disturb

2 Adjust to Grade, By Others

3 To Be Removed

4 To Be Relocated





HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AMR
CHECKED MWN

PLAN AND PROFILE
STA. 15+00 TO STA. 20+00

GRE-SUGARCREEK SRTS 12 FEEDWIRE

8/25

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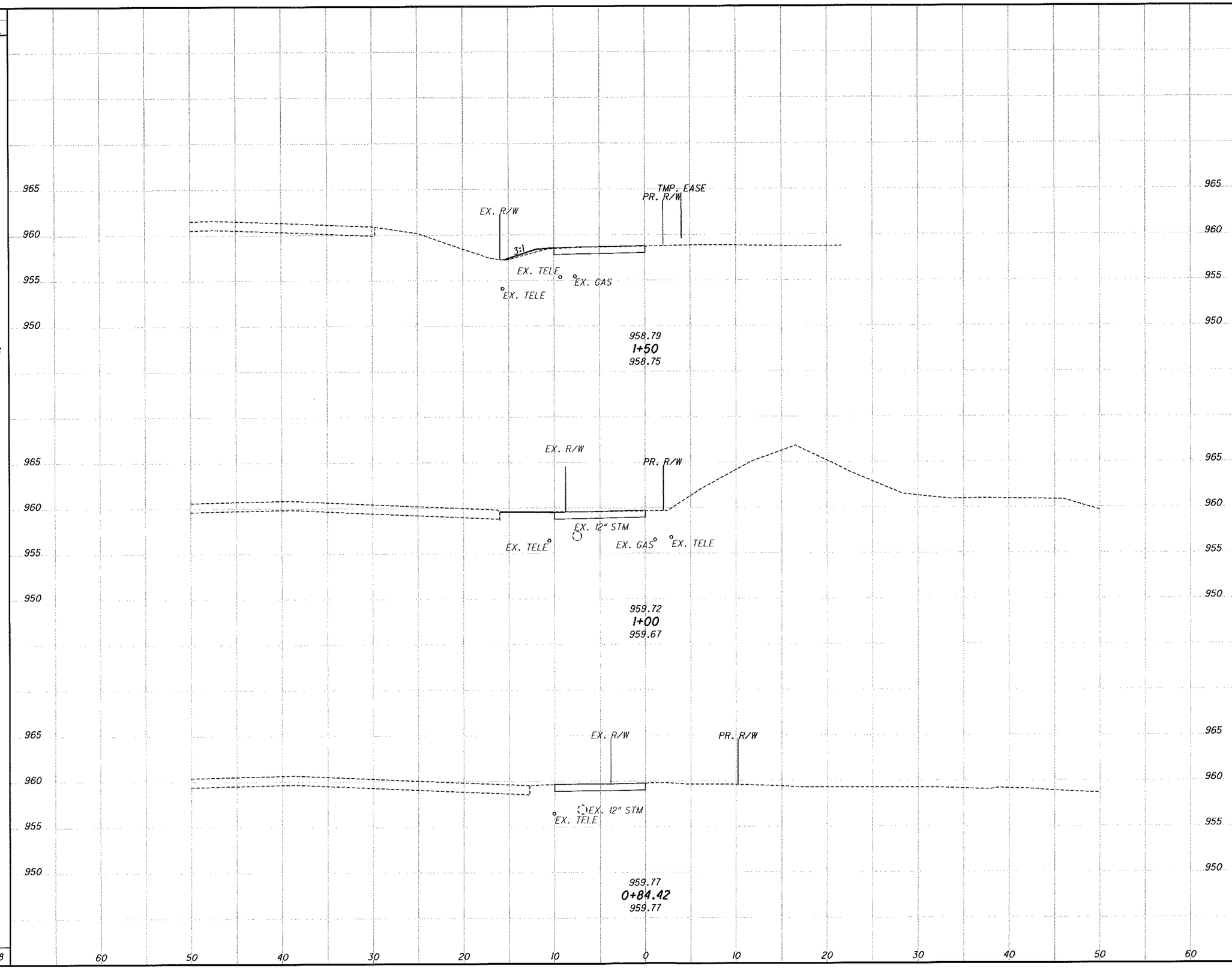
SEEDING END WIDTH	SEEDING SQ. YDS.
6	33
6	5
0	
	38



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7	1		
		14	1
8	0		
		5	0
8	0		
		19	1

CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 0+84.42 TO STA. 1+50.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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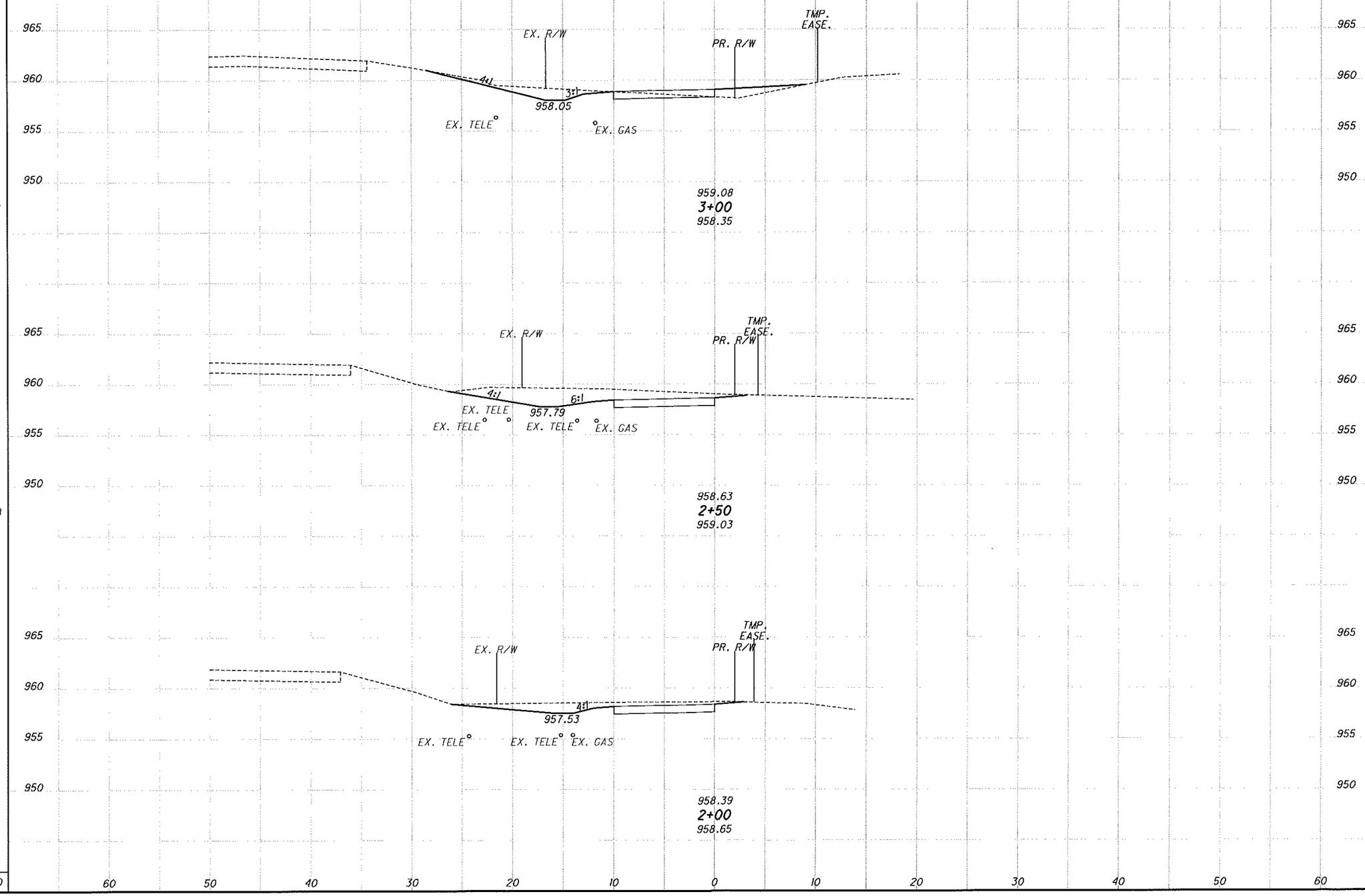
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
28	133	13	5	45	5
20	108	36	0	53	0
19	69	21	0	26	1
	310			124	6



CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 2+00.00 TO STA. 3+00.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

10/25

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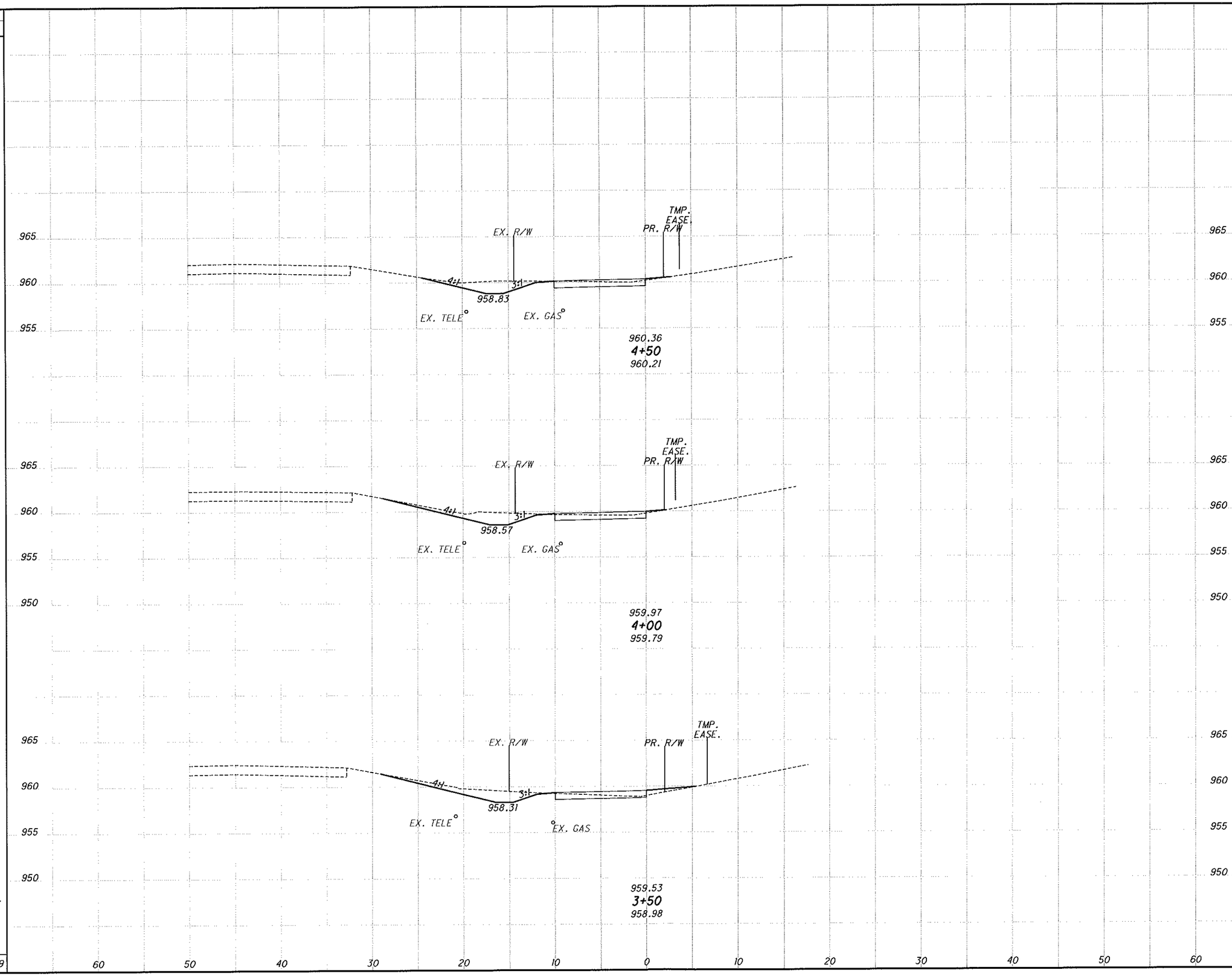
SEEDING END WIDTH	SEEDING SQ. YDS.
18	111
22	131
25	147
	389



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14	0		
		27	0
15	0		
		27	2
14	2		
		25	6
		79	8

CALCULATED SEF
CHECKED MWN

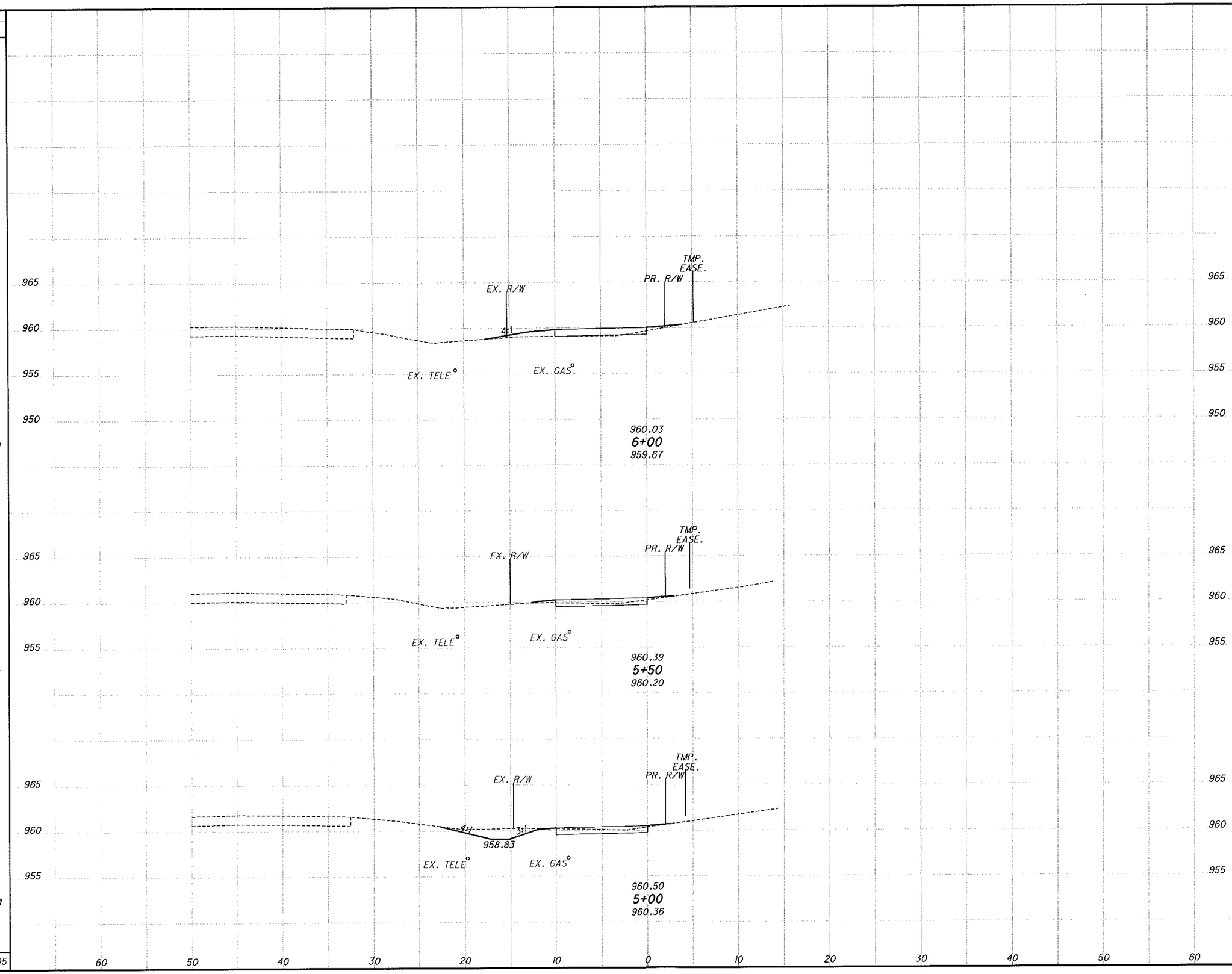
CROSS SECTIONS
STA. 3+50.00 TO STA. 4+50.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

11
25

H:\2013\130545\015 - Sugarcreek - 985761\985761\Design\Roadway\Sheets\985761_XS003.dgn Sheet 9/1/2016 8:28:06 AM nbroughton

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12		1	4		
	50			4	5
6		3	1		
	61			14	1
16		12	0		
	94			24	0
	205			42	6



CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 5+00.00 TO STA. 6+00.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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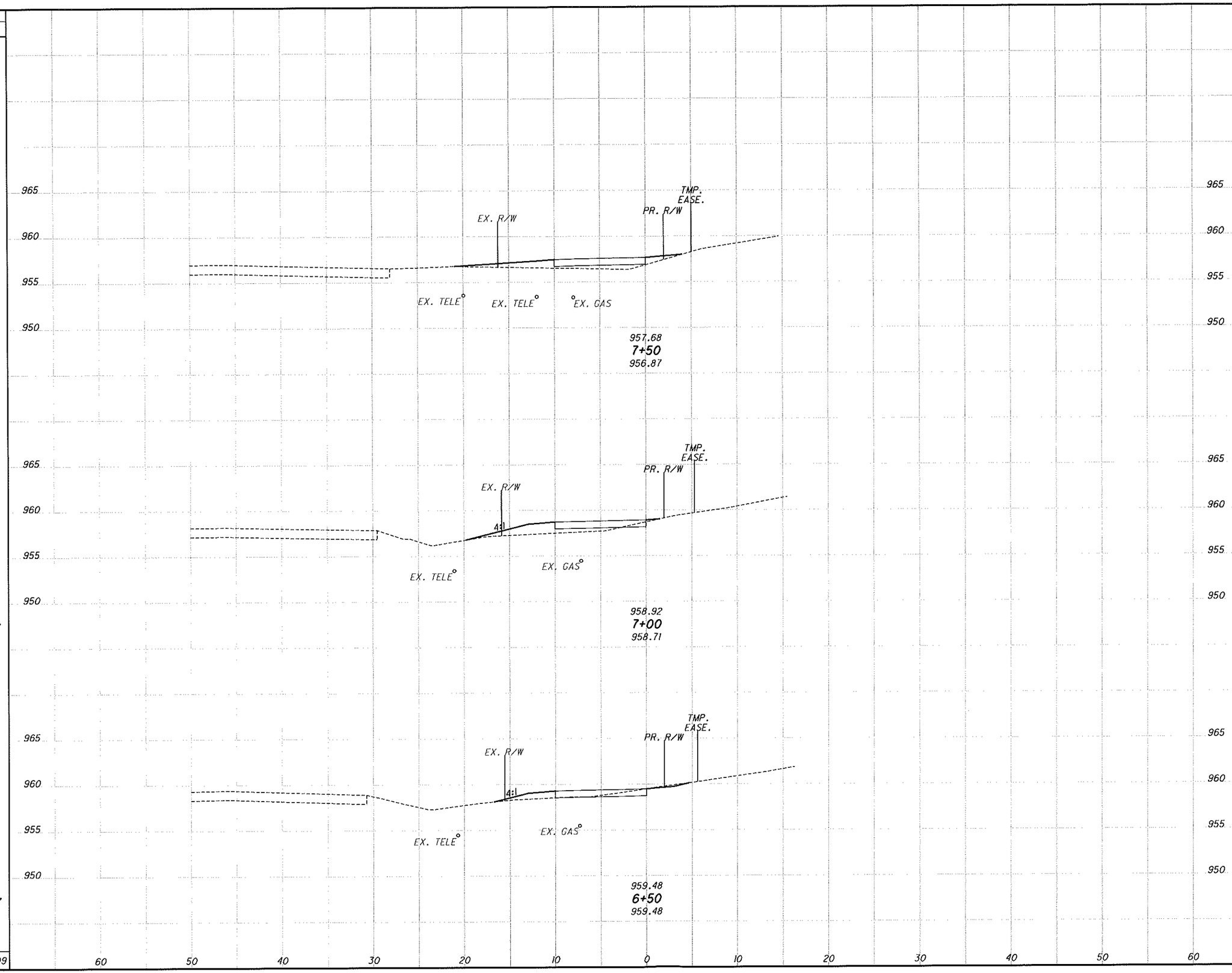
SEEDING END WIDTH	SEEDING SQ. YDS.
15	75
12	67
12	67
	209



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	10		
1	10	1	19
3	3	4	12
		4	6
		9	37

CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 6+50.00 TO STA. 7+50.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

13
25

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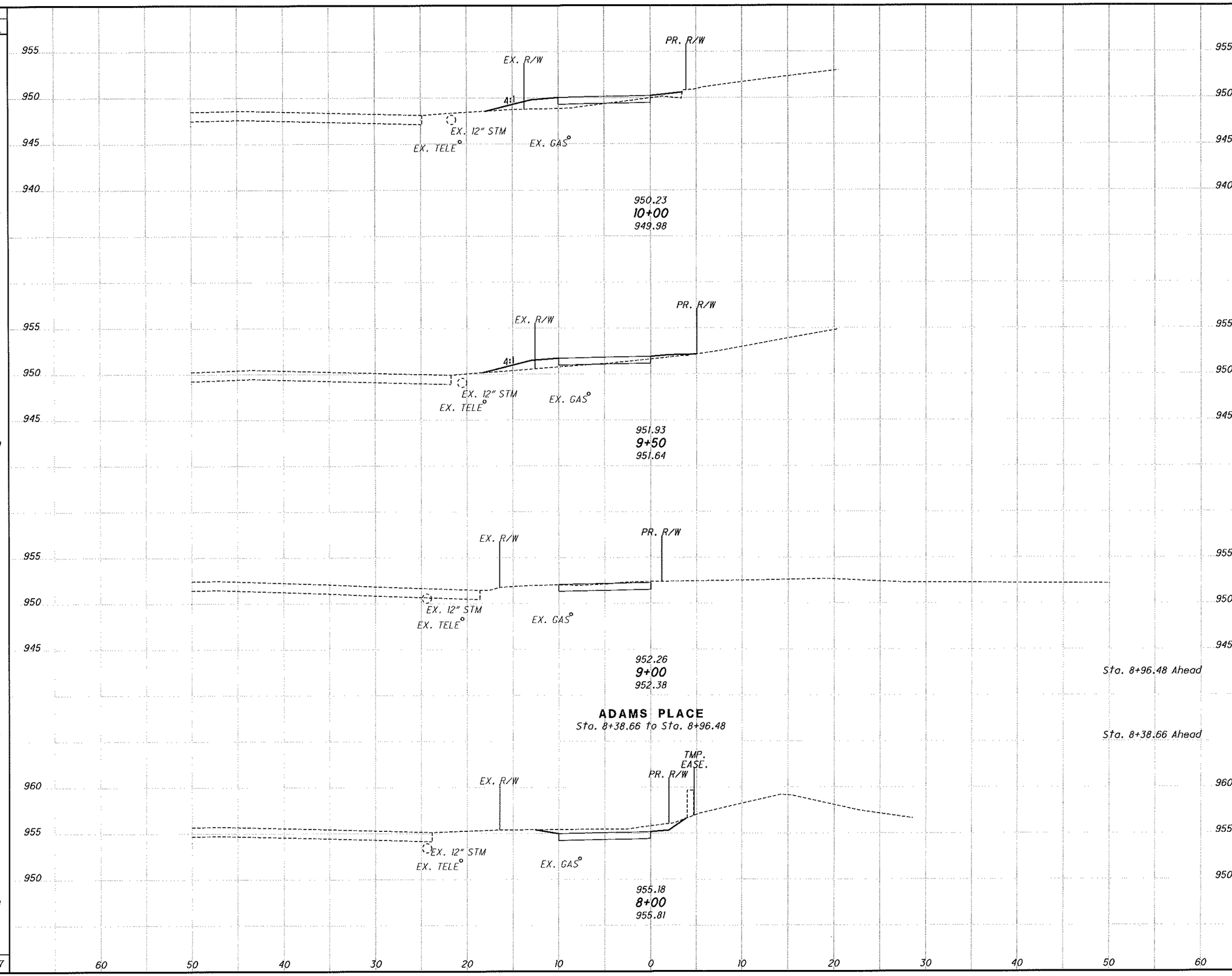
SEEDING END WIDTH	SEEDING SQ. YDS.
12	72
14	39
0	0
7	61
	187



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1	8		
		2	14
1	7		
		7	6
7	0		
		1	0
		10	0
14	0		
		13	9
		33	29

CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 8+00.00 TO STA. 10+00.00

GRE-SUGARCREEK SRTS 12 FEEDWIRE

14
25

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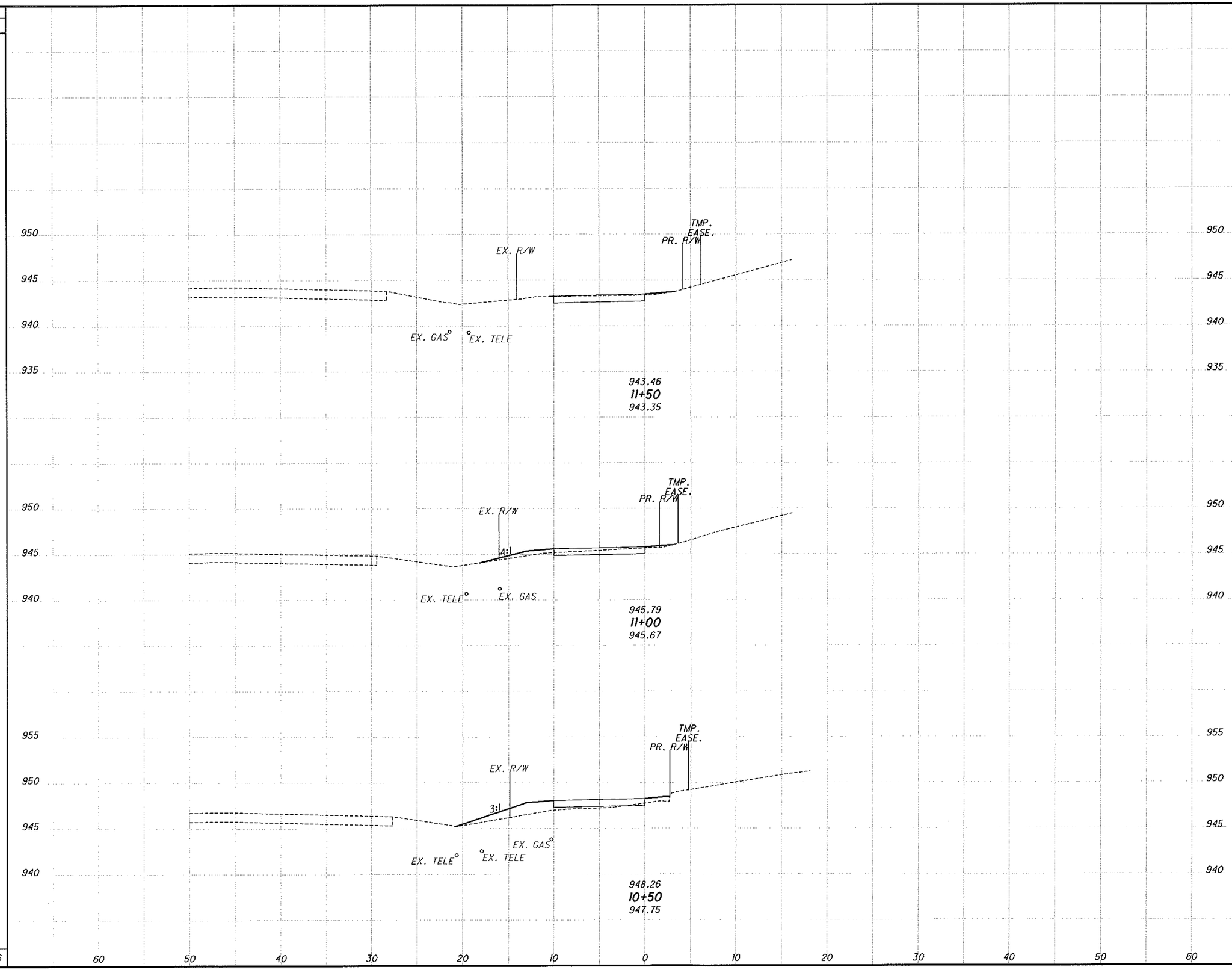
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3		7	0		
	42			11	3
12		5	3		
	72			5	14
14		0	12		
	72			1	19
	186			17	36



CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 10+50.00 TO STA. 11+50.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

15
25

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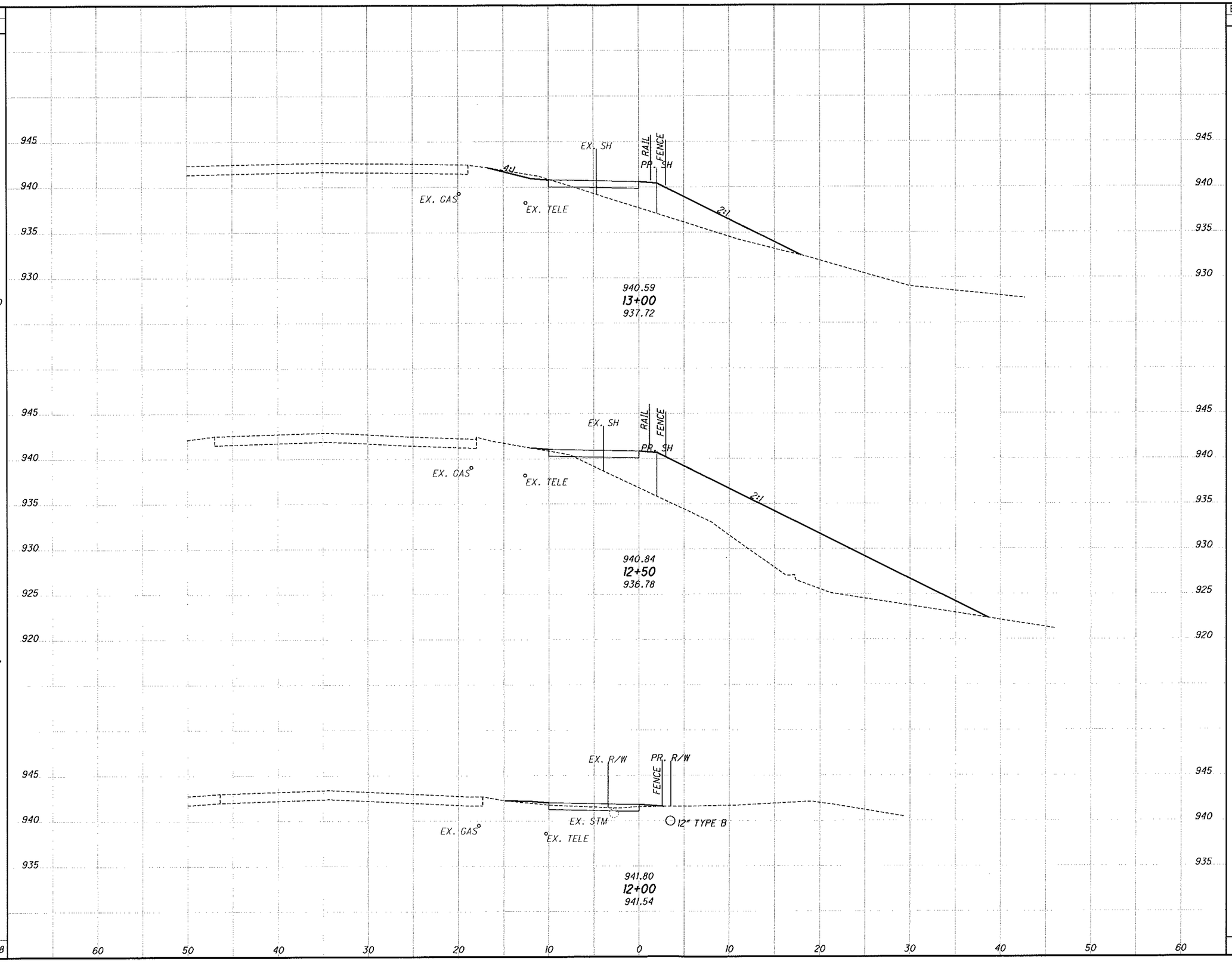

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27	200	3	43	4	206
45	147	1	179	5	167
8	31	4	1	10	1
	378			19	374

CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 12+00.00 TO STA. 13+00.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

16
25

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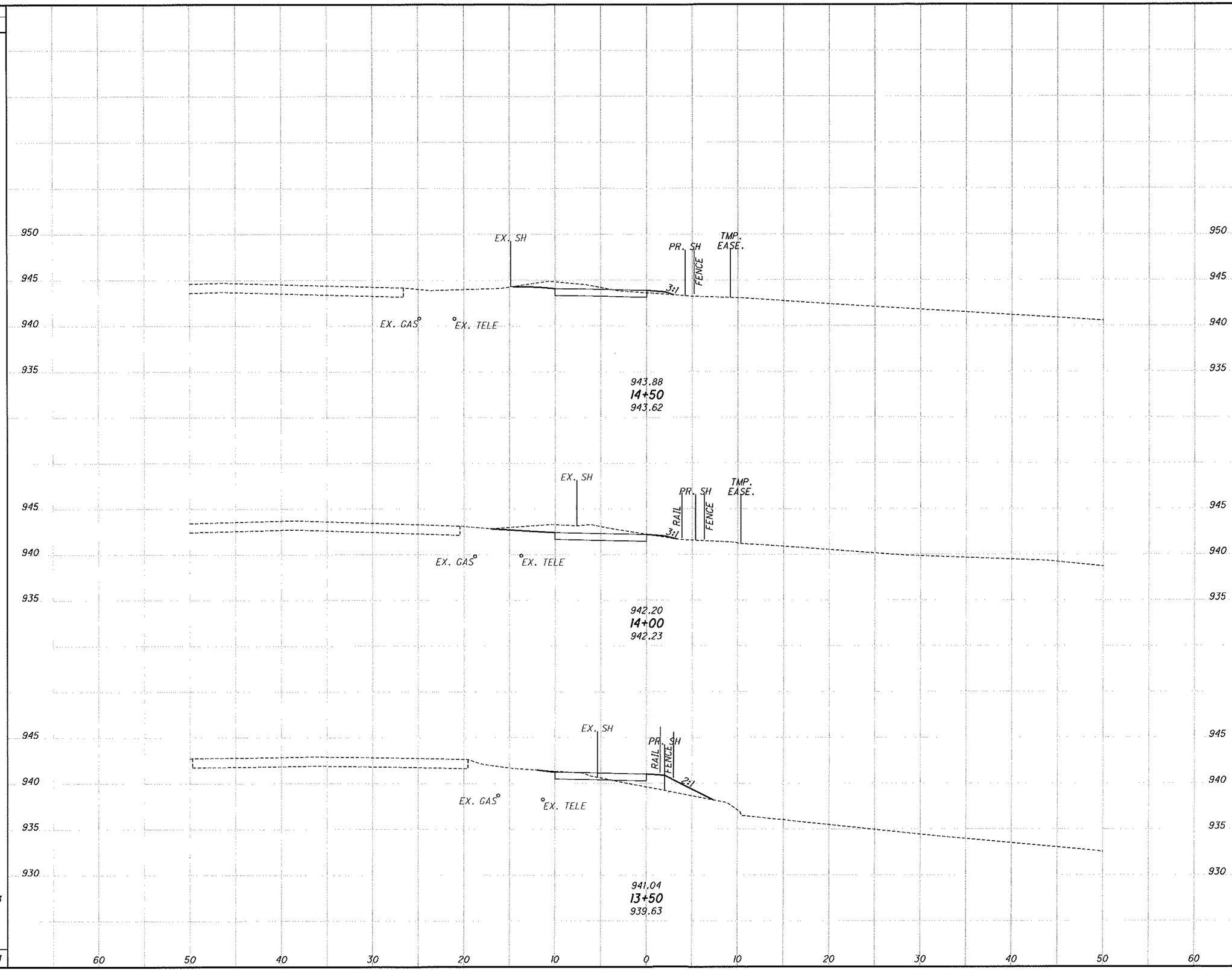
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	53	12	1	27	1
11	58	17	0	19	8
10	103	4	9	6	48
	214			52	57



CALCULATED SEF
CHECKED MWN

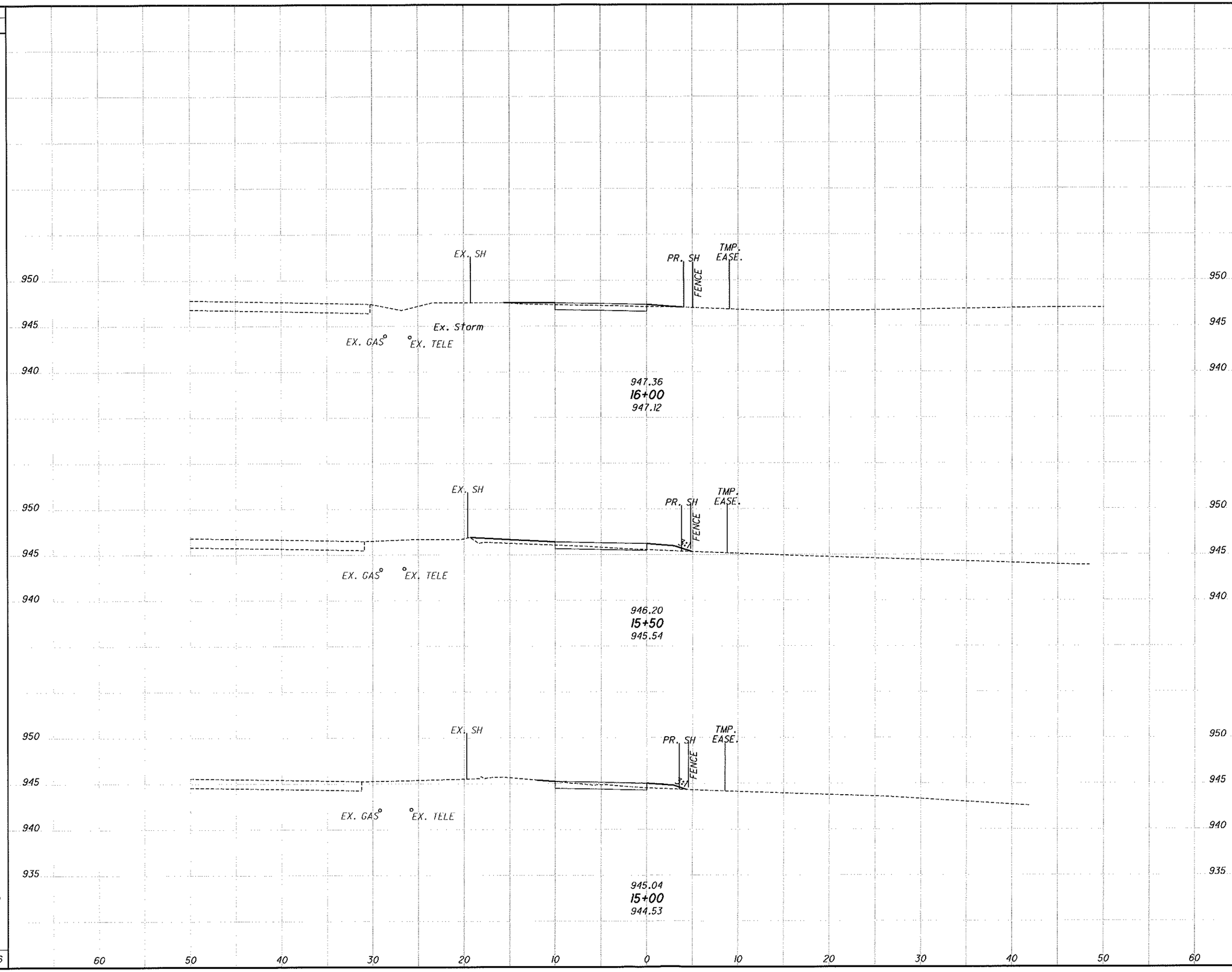
CROSS SECTIONS
STA. 13+50.00 TO STA. 14+50.00

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

17
25

H:\2013\130545\015 - Sugarcreek - 98576\98576\Design\Roadway\Sheets\98576_XS009.dgn Sheet 9/1/2016 8:28:09 AM nbroughton

SEEDING END WIDTH	SEEDING SQ. YDS.
10	69
15	58
6	39
	166



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
5	1	6	6
2	6	6	7
5	2	16	3
		28	16

CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 15+00.00 TO STA. 16+00.00

GRE-SUGARCREEK SRTS 12 FEEDWIRE

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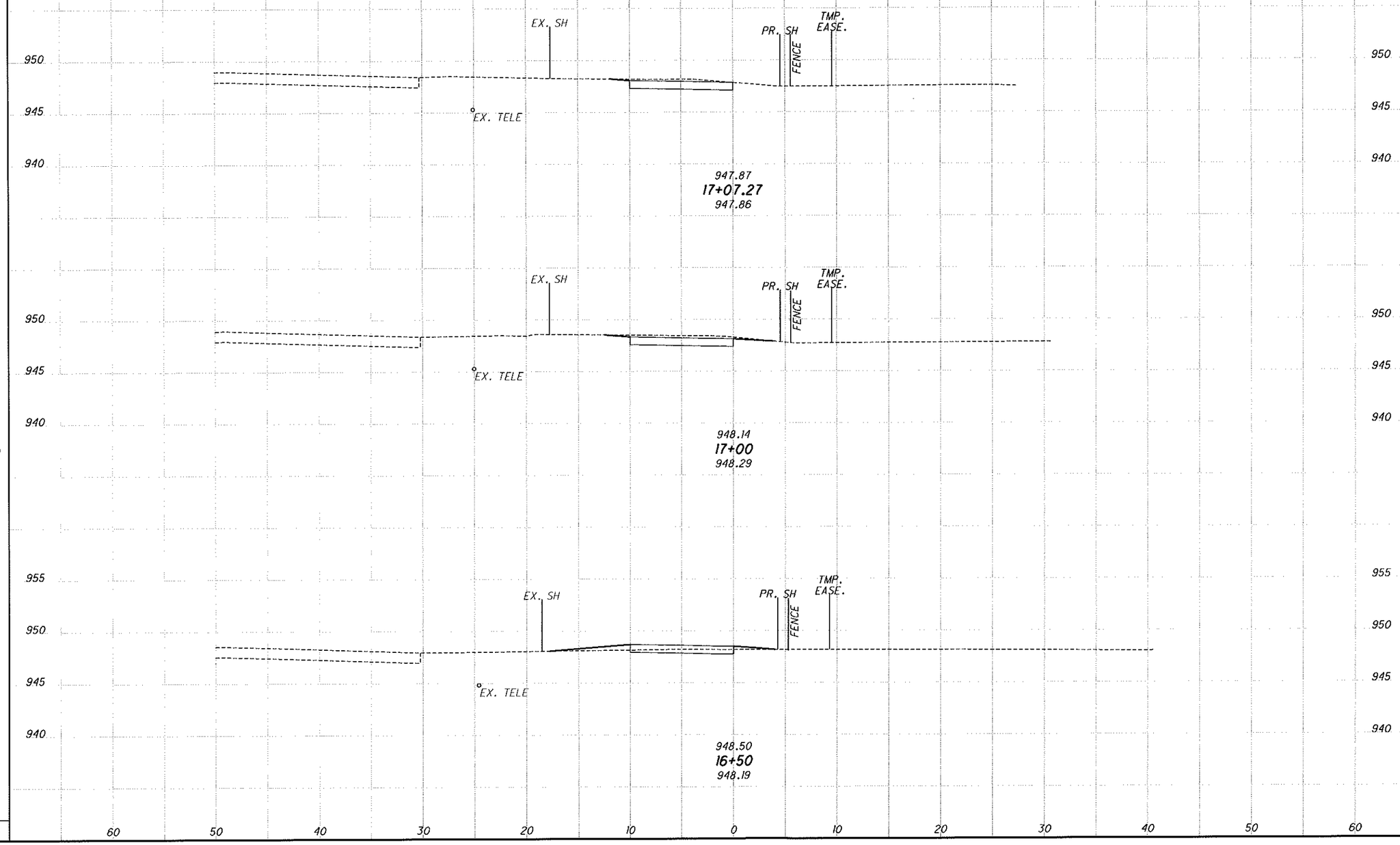
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
2	3	9	0	3	0
6	50	10	0	13	3
12	61	4	3	8	4
	114			24	7



CALCULATED SEF
CHECKED MWN

CROSS SECTIONS
STA. 16+50.00 TO STA. 17+07.27

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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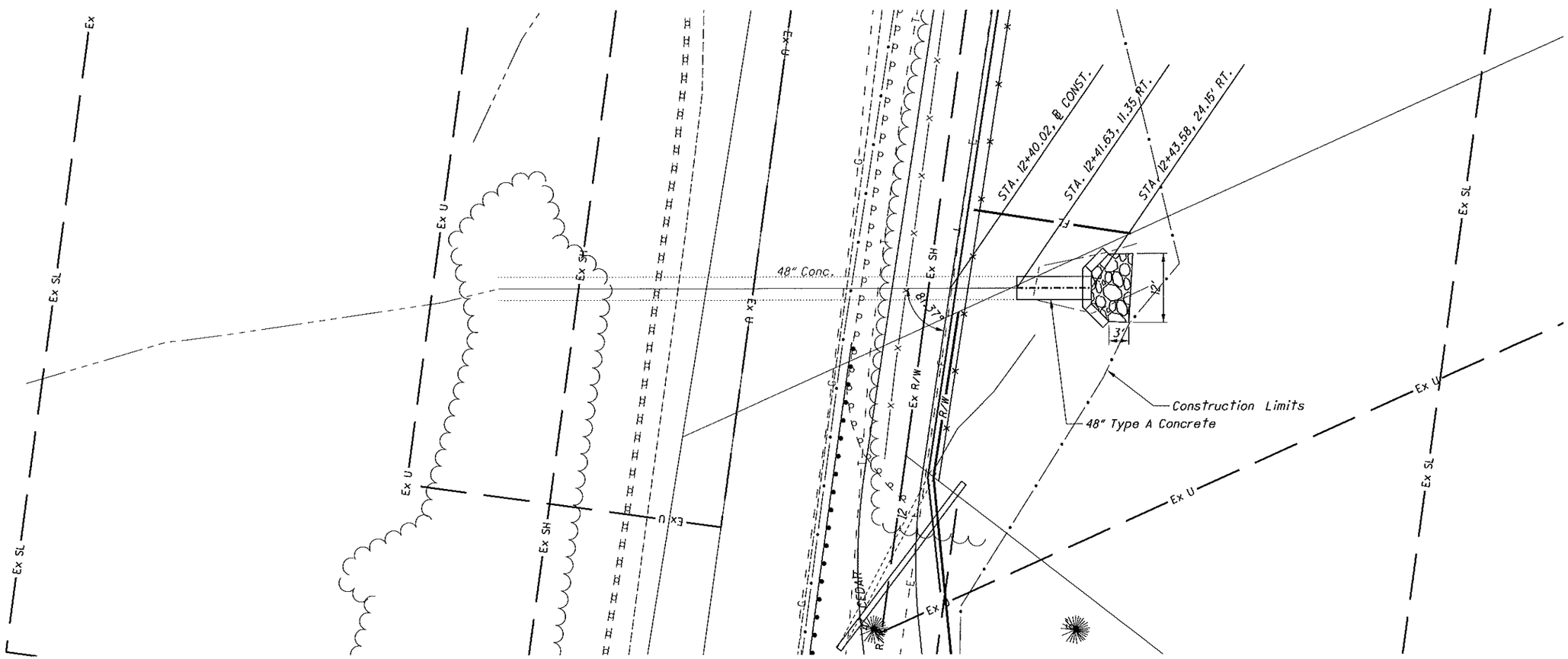
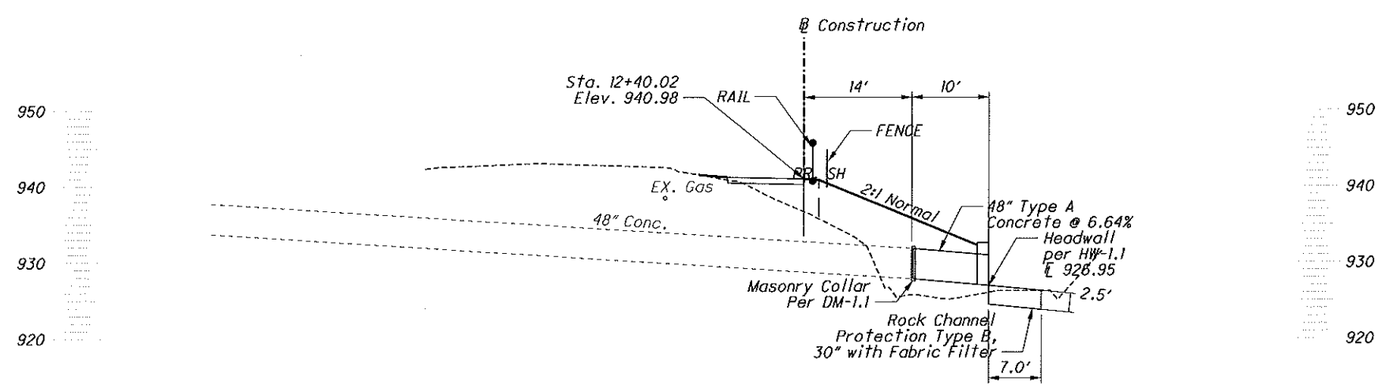


HYDRAULIC DESIGN DATA	
Drainage Area	= 100.5 Ac.
Q_n	= 122.21 cfs
Q_{100}	= 151.95 cfs
HW_n	= 939.43'
HW_{100}	= 940.99'
V_n	= 27.96 fps
V_{100}	= 29.66 fps



CALCULATED AMR
CHECKED MWN

0 5 10 20
HORIZONTAL SCALE IN FEET

CULVERT DETAIL
FEEDWIRE ROAD STA. 12+39.91

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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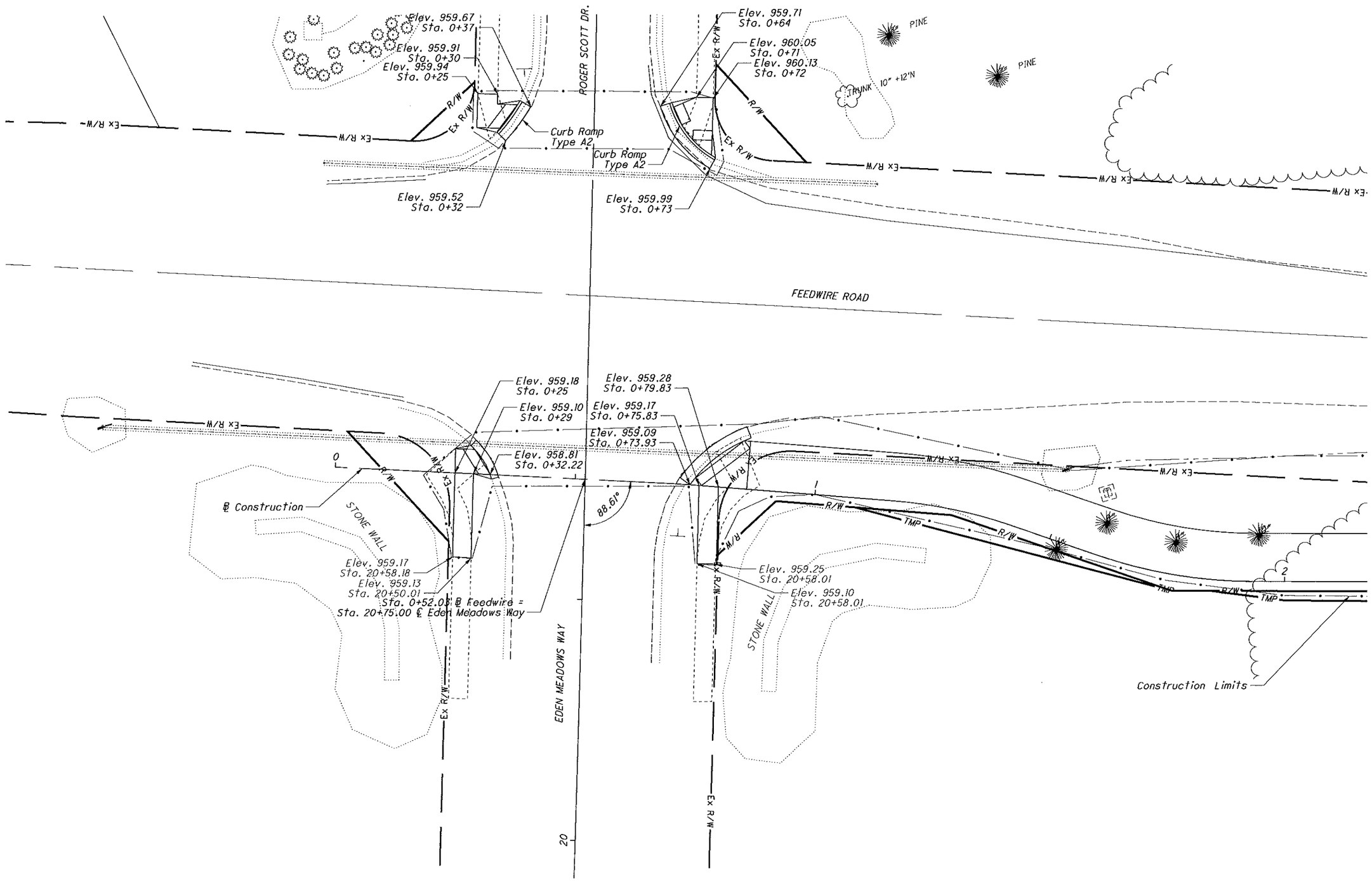

WALK DETAIL - EDEN MEADOWS WAY

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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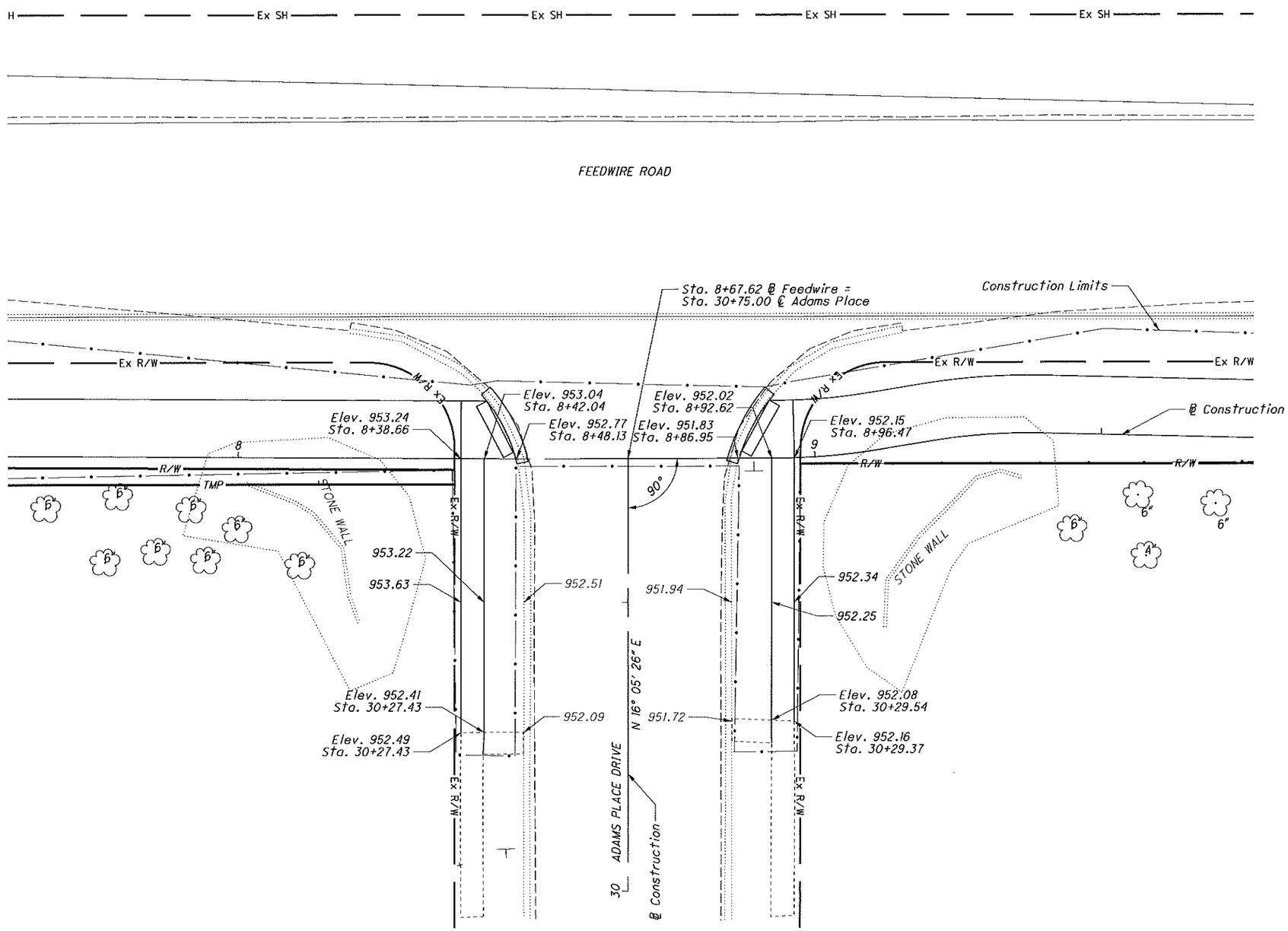

HORIZONTAL SCALE IN FEET
0 5 10 20

WALK DETAIL - ADAMS PLACE DRIVE

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

22
25

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ITEM 631, SCHOOL SPEED LIMIT SIGN ASSEMBLY, AS PER PLAN

THE CONTRACTOR SHALL REMOVE AND RELOCATE THE EXISTING PEDESTAL, SCHOOL SPEED LIMIT FLASHER ASSEMBLY, CONTROL BOX AND POWER SERVICE 40' WEST OF CURRENT LOCATION ALONG STATE ROUTE 12.

THE CONTRACTOR SHALL REMOVE THE EXISTING FOUNDATION AND INSTALL A NEW PEDESTAL FOUNDATION PER ODOT CMS 632.14.

POWER SOURCE LOCATION SHALL REMAIN THE SAME AS THE EXISTING SCHOOL FLASHER.

COORDINATE POWER SERVICE INSTALLATION WITH POWER COMPANY.

PAYMENT FOR THE ABOVE WORK SHALL BE PER THE CONTRACT UNIT PRICE FOR EACH SCHOOL SPEED LIMIT SIGN ASSEMBLY, AS PER PLAN INSTALLED AND ACCEPTED.

630 SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE 2-SIDED LED, SOLAR POWERED AND PEDESTRIAN ACTIVATED. MULTIPLE UNITS SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED. THE UNIT 200 SIGNS TRAFFIC ENGINEERING MANUAL (JULY 17, 2015) OCTOBER 23, 2002 2-103 SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

GENERAL REQUIREMENTS

EACH RRFB SHALL CONSIST OF TWO RAPIDLY AND ALTERNATELY FLASHING RECTANGULAR YELLOW INDICATIONS HAVING LED ARRAY BASED PULSING LIGHT SOURCES.
EACH RRFB SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.).

FUNCTIONAL REQUIREMENTS

EACH RRFB SHALL UTILIZE SOLAR POWER.

EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSHBUTTONS.

THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).
EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.

WHEN ACTIVATED, THE RRFB UNIT INDICATIONS SHALL FLASH IN A RAPIDLY ALTERNATING "WIG-WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).
ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

EACH OF THE RRFB'S INDICATIONS SHALL FLASH AT 70 TO 80 FLASHES PER MINUTE.

THE UNIT SHALL BE LOW CURRENT/HIGH OUTPUT INCLUDING AUTOMATIC DIMMING CAPABILITIES FOR DAY AND NIGHT VISIBILITY. THE UNIT SHALL BE CAPABLE OF RUNNING UP TO 30 DAYS WITHOUT SUNLIGHT.

MATERIALS

FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

1. RRFB INDICATIONS
   a. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
   b. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.
   c. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.
   d. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.
   e. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
   f. A SMALL CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE 200 SIGNS TRAFFIC ENGINEERING MANUAL 2-104 OCTOBER 23, 2002 (JULY 17, 2015) INSTALLED INTEGRAL TO THE RRFB OR PUSHBUTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.
2. SIGNS
   a. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
   b. PEDESTRIAN PUSHBUTTONS SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.
   c. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.
3. CONTROL CIRCUIT
   a. WHEN ACTIVATED, THE TWO YELLOW INDICATIONS IN EACH RRFB SHALL FLASH IN A RAPIDLY ALTERNATING "WIG-WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).
   b. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
   c. AS A SPECIFIC EXCEPTION TO THE 2003 MUTCD SECTION 4K.01 REQUIREMENTS FOR THE FLASH RATE OF BEACONS, RRFBS SHALL USE A MUCH FASTER FLASH RATE. EACH OF THE TWO YELLOW INDICATIONS OF AN RRFB SHALL HAVE 70 TO 80 PERIODS OF FLASHING PER MINUTE AND SHALL HAVE ALTERNATING, BUT APPROXIMATELY EQUAL, PERIODS OF FLASHING LIGHT EMISSIONS AND DARK OPERATION. DURING EACH OF ITS 70 TO 80 FLASHING PERIODS PER MINUTE, THE YELLOW INDICATIONS ON THE LEFT SIDE OF THE RRFB SHALL EMIT TWO SLOW PULSES OF LIGHT AFTER WHICH AND THE YELLOW INDICATIONS ON THE RIGHT SIDE OF THE RRFB SHALL EMIT FOUR RAPID PULSES OF LIGHT FOLLOWED BY A LONG PULSE.
   d. THE FLASH RATE OF EACH INDIVIDUAL YELLOW INDICATION, AS APPLIED OVER THE FULL ON-OFF SEQUENCE OF A FLASHING PERIOD OF THE INDICATION, SHALL NOT BE BETWEEN 5 AND 30 FLASHES PER SECOND, TO AVOID FREQUENCIES THAT MIGHT CAUSE SEIZURES.
   e. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
   f. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.
4. BATTERY AND SOLAR PANELS
   a. BATTERY UNIT SHALL BE A 12VDC, 40 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
   b. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 55 WATTS PEAK TOTAL OUTPUT.
   c. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES- 60 DEGREES TO PROVIDE MAXIMUM OUTPUT.
   d. ALL FASTENERS USED SHALL BE ANTI-VANDAL.
5. WIRELESS RADIO
   a. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI-FI OR APPROVED EQUAL.
   b. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSHBUTTON INPUT.
   c. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TUM ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH-OUT THE DURATION OF THE FLASHING CYCLE.
   d. RADIO SYSTEMS SHALL OPERATE FROM: 3VDC TO 15VDC.
6. PUSHBUTTON
   a. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF 200 SIGNS TRAFFIC ENGINEERING MANUAL (JULY 17, 2015) OCTOBER 23, 2002 2-105 -30 DEGREES F TO +165 DEGREES F.
   b. PUSHBUTTON SHALL BE ADA COMPLIANT.
7. PEDESTAL SHAFT AND BASE - MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST.

CONSTRUCTION

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY

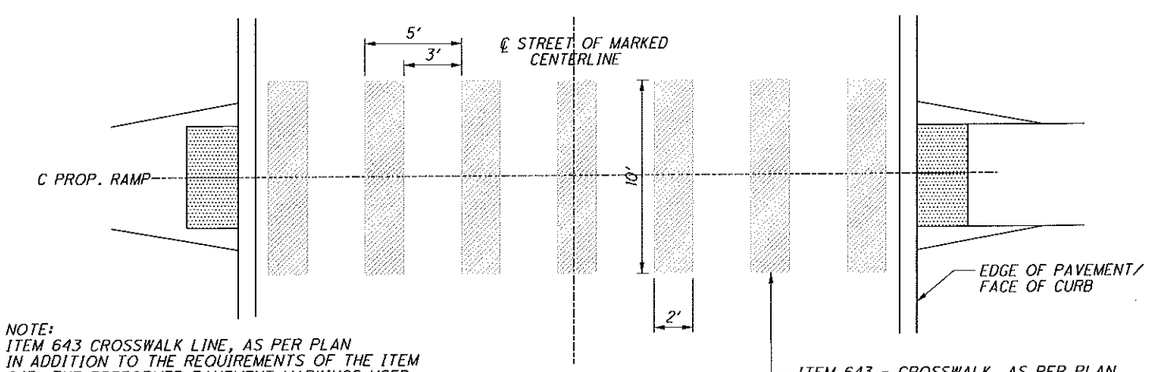
WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT

THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY.



NOTE:
ITEM 643 CROSSWALK LINE, AS PER PLAN IN ADDITION TO THE REQUIREMENTS OF THE ITEM 643, THE PREFORMED PAVEMENT MARKINGS USED FOR ALL CROSSWALKS SHALL BE HIGHLY SKID RESISTANT. PAYMENT SHALL BE PER ITEM 643.

CROSSWALK MARKING DETAIL
NOT TO SCALE

CALCULATED AMR CHECKED MWN

TRAFFIC CONTROL NOTES

GRE-SUGARCREEK
SRTS 12 FEEDWIRE

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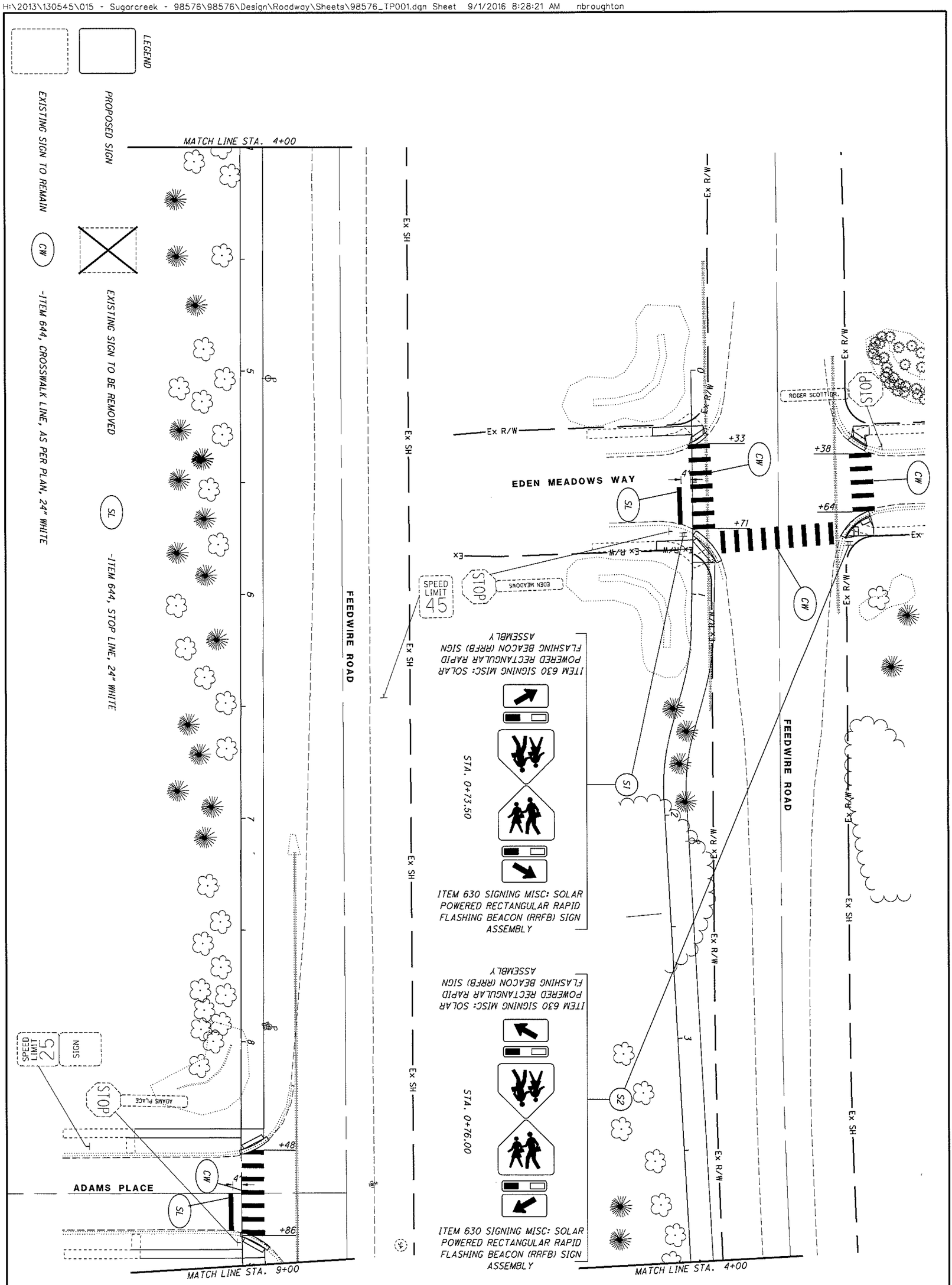
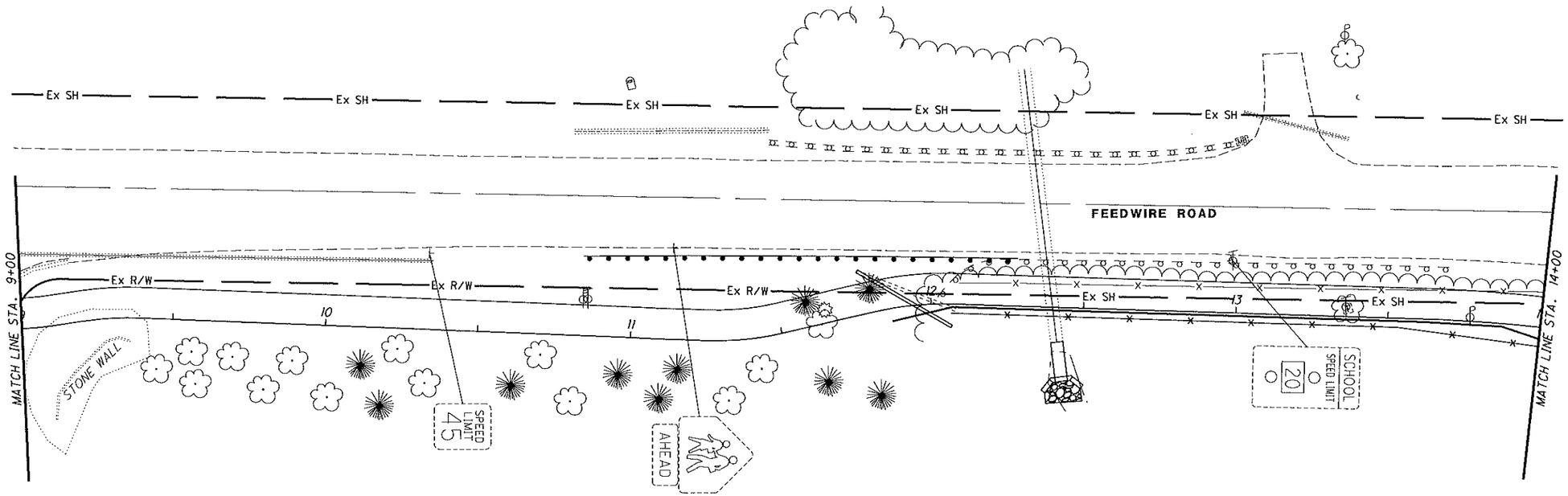
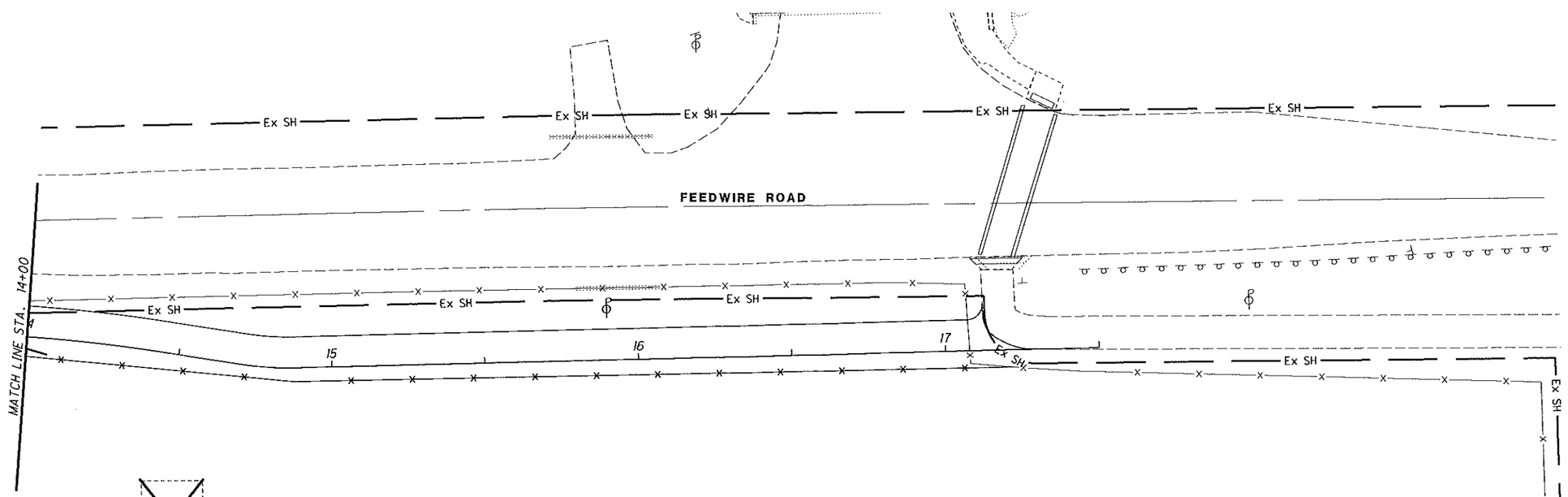


24/25	GRE-SUGARCREEK SRTS 12 FEEDWIRE	TRAFFIC CONTROL - FEEDWIRE ROAD STA. 0+00.00 TO STA. 9+00.00	CALCULATED AMR / CHECKED MWN	HORIZONTAL SCALE IN FEET 0 10 20 40





LEGEND

PROPOSED SIGN

EXISTING SIGN TO BE REMOVED

EXISTING SIGN TO REMAIN

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AMR
CHECKED MWN

TRAFFIC CONTROL - FEEDWIRE ROAD STA. 9+00.00 TO END WORK

GRE-SUGARCREEK SRTS 12 FEEDWIRE

25/25

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