

TUSCOLA COUNTY ROAD COMMISSION

IN COOPERATION WITH
FEDERAL HIGHWAY ADMINISTRATION
- AND -

MICHIGAN DEPARTMENT OF TRANSPORTATION

BRAY ROAD

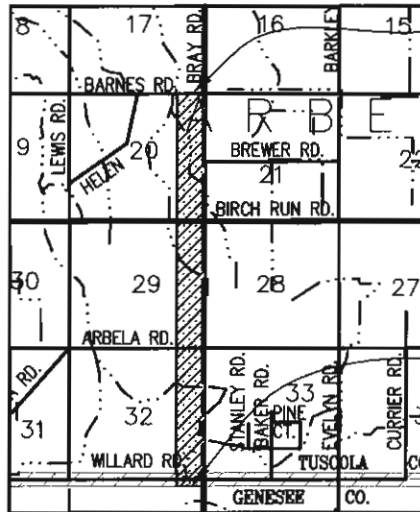
SECTIONS 20, 21, 28, 29, 32 & 33

ARBELA TOWNSHIP T10N-R7E



STANDARD PLANS

- R-11-D MONUMENT BOXES
- R-29-G DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS
- R-60-H GUARDRAIL TYPES A, B, BD, T, AND TD
- R-61-G GUARDRAIL APPROACH TERMINAL TYPES 1B & 1T
- R-72-C W-BEAM BACKED GUARDRAIL INSTALLATIONS
- R-74-D BUMPER & PARKING RAILS AND MISC. WOOD POSTS
- R-82-D BEDDING AND FILLING AROUND PIPE CULVERTS
- R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
- R-100-F SEEDING AND TREE PLANTING
- R-105-D GRADING CROSS-SECTIONS
- R-107-H SUPERELEVATION AND PAVEMENT CROWNS
- * 21 GUARDRAIL AT INTERSECTIONS
- * WZD-100-A TEMPORARY TRAFFIC CONTROL DEVICES
- * WZD-125-E GROUND DRIVEN SIGN SUPPORTS FOR TEMPORARY SIGNS
- * SIGN-120-B ROADSIDE SIGN LOCATIONS AND SUPPORT SPACING
- * DENOTES SPECIAL DETAIL (INCLUDED IN THE PROJECT PROPOSAL)



JN 39287A
PROJECT LOCATION
P.O.E. STA 166+09
MALI M.P. 3.06

JN 39287A
PROJECT LOCATION
P.O.B. STA 4+32
MALI M.P. 0.00

PROJECT LENGTH 3.06 MILES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2003 EDITION.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS 2005 MICHIGAN.

BRAY ROAD

JOB NUMBER: 39287A
CONTROL SECTION: STL 79007
FEDERAL PROJECT NUMBER: STP-1179(012)
FEDERAL ITEM NUMBER: RR7682

TRAFFIC DATA BRAY ROAD

PRESENT AVERAGE DAILY TRAFFIC 3200 (2011)
FUTURE AVERAGE DAILY TRAFFIC 3900 (2031)
% COMMERCIAL 5%
POSTED SPEED NOT POSTED
DESIGN SPEED 55 MPH

ENGINEER SEAL



PREPARED UNDER THE SUPERVISION OF
MARK D. STRALEY, P.E., AGENT
REG. PROFESSIONAL ENGINEER, REG. NO. 39853

CONTRACT FOR: HMA ULTRA-THIN OVERLAY, SHOULDER CL II, CULVERT REPLACEMENTS, HEADWALL REPLACEMENTS, APPROACH IMPROVEMENTS, PAVEMENT MARKING, PERMANENT SIGNING, AND SLOPE RESTORATION.

COUNTY ROAD COMMISSION APPROVAL

CHAIRMAN	<i>John G. Laurie</i>	DATE
VICE CHAIRMAN	<i>Gary J. Russell</i>	DATE
MEMBER	<i>Michael Zwerk</i>	DATE 5-12-11
MEMBER	<i>John Matuzak</i>	DATE 6-12-11
MEMBER	<i>Pat Sheridan</i>	DATE 5-12-11
HIGHWAY ENGINEER	<i>Michele Zawerucha, P.E.</i>	DATE

R. S. SCOTT ASSOCIATES, INC.

405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

ENGINEERING • ARCHITECTURE • SURVEYING

BY:	DATE
KJO	3/11
CHK:	DATE
MDS	3/11

W.O. 79-107-4

LOG PAGE 1

PAY ITEMS:

Approach Quantities:

Mobilization, Max ___	1	LS
Culv, Rem, 24 inch to 48 inch	1	Ea
Pavt, Rem	740	Syd
Structures, Rem	1	LS
Structures, Rem Portions	1	LS
Embankment, CIP	150	Cyd
Excavation, Earth	1900	Cyd
Backfill, Structure, CIP	1660	Cyd
Aggregate Mud Mat	31	Cyd
Erosion Control, Silt Fence	1000	Ft
Gabion Wall	218	Ft
Aggregate Base	425	Ton
Approach, CI II	100	Ton
Shoulder, CI II	850	Ton
Approach, CI II, Modified, Limestone	30	Ton
Culv, CI A, 48 inch	64	Ft
Culv Bedding	26	Cyd
Culv, CSP Arch, CI A, 117 inch by 79 inch	70	Ft
Video Taping Sewer and Culv Pipe	134	Ft
HMA, 13A	140	Ton
HMA Approach	90	Ton
HMA, Ultra-Thin, Medium Volume	1940	Ton
Conc, Grade X	12	Cyd
Guardrail, Type B	888	Ft
Guardrail, Curved, Type B	100	Ft
Guardrail, Backed, Det G2	6	Ea
Guardrail Buffered End	4	Ea
Guardrail Reflector	60	Ea
Post, Mailbox	2	Ea
Guardrail Approach Terminal, Type 1B, Modified	8	Ea
Post, Steel, 3 lb	900	Ft
Sign, Type IIIA	240	Sft
Sign, Type IIIB	130	Sft
Sign, Type III, Rem	49	Ea
Pavt Mrkg, Regular Dry, 4 inch, White	32354	Ft
Pavt Mrkg, Regular Dry, 4 inch, Yellow	10408	Ft
Barricade, Type III, High Intensity, Lighted, Furn	7	Ea
Barricade, Type III, High Intensity, Lighted, Oper	7	Ea
Flag Control	1	LS
Lighted Arrow, Type C, Furn	2	Ea
Lighted Arrow, Type C, Oper	2	Ea
Minor Traf Devices	1	LS
Pavt Mrkg, Type NR, Tape, 4 inch, Yellow, Temp	1736	Ft
Plastic Drum, High Intensity, Furn	30	Ea
Plastic Drum, High Intensity, Oper	30	Ea
Sign, Type B, Temp, Furn	839	Sft
Sign, Type B, Temp, Oper	839	Sft
Riprap, Plain	210	Syd
Slope Restoration, Modified	1520	Syd
Monument Box, Adj	7	Ea

GENERAL NOTES

THE ATTACHED PROJECT LOG PROVIDES THE APPROXIMATE LOCATIONS OF PERTINENT ROADWAY AND ROADSIDE OBJECTS OR NOTES FOR USE OF THE CONTRACTOR DURING CONSTRUCTION. STATIONING ON THIS PROJECT WAS BASED ON A VEHICLE MOUNTED DISTANCE MEASURING INSTRUMENT (DMI) AND IS CONSIDERED TO BE APPROXIMATE.

THE DESIGN ENGINEERING, CONSTRUCTION ENGINEERING, OR THEIR REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE CONTRACTORS MEANS, METHODS, SEQUENCES, PROCEDURES, OR SAFETY IN CONNECTION WITH THE WORK.

UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL CALL MISS DIG AT 1-800-482-7171, A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK, AND SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO INSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MONUMENT BOXES

IT IS THE INTENT THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED AND THAT, WHERE NECESSARY, MONUMENT BOXES BE PLACED OR ADJUSTED WHETHER SHOWN OR NOT, PAID FOR AS "MONUMENT BOX, ADJ".

DRIVEWAYS

ACCESS TO DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.

SIGNS

EXISTING SIGNS TO BE REMOVED SHALL BE SALVAGED AND STOCKPILED ON SITE FOR THE TUSCOLA COUNTY ROAD COMMISSION. THIS WORK SHALL BE PAID FOR AS SIGN, TYPE III, REM.

EXISTING PLANS

PARTIAL EXISTING PLANS ARE AVAILABLE AT THE ROAD COMMISSION FOR REVIEW.

LOG SHEET LEGEND

(S) SALVAGE  LIMITS OF HMA APPROACH  LIMITS OF APPROACH, CL II  LIMITS OF PAVT, REM

UTILITIES

ELECTRIC:

DTE
2000 SECOND AVE.
RM 518 S.B.
DETROIT, MI 48226
ATTN: HELEN LEE
313-235-9043
LOCAL CONTACT:
GARY MAKAR
810-667-7822

TELEPHONE:

TDS
4712 MAIN STREET
P.O. BOX 292
MILLINGTON, MI 48746
ATTN: WILLIAM BOUMAN
888-225-5837

GAS:

CONSUMERS ENERGY
2400 WEISS STREET
SAGINAW, MI 48602
ATTN: MARCIA JANSON-WILSON
989-791-5869

R. S. SCOTT ASSOCIATES, INC. 405 RIVER STREET
ALPENA, MICHIGAN 49707
ENGINEERING • ARCHITECTURE • SURVEYING (989) 354-3178

BY:	DATE
KJO	05/11
CHK:	DATE
MDS	05/11

W.O. 79-107-4

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**Project Log and Stationing For:
Bray Road, JN 39287A, Control Section STL 79007**

The attached project log provides the approximate locations of pertinent roadway and roadside objects or notes for the use of the Contractor during construction.

Description of Work

This project consists of HMA paving, aggregate shoulder, pavement marking, sign replacement, guardrail, gabion wall, culvert replacement, driveway and intersection approach work.

HMA Paving

From P.O.B. Station 4+32 (southerly spring point of Willard Road intersection) to P.O.E. Station 166+09 (southerly spring point of Barnes Road intersection)

Refer to the HMA Application Estimate and typical sections for locations, materials, application rates and taper joint details.

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Shoulder, CI II	Ton	850
HMA, Ultra-Thin, Medium Volume	Ton	1940

Aggregate Surface Driveways

At aggregate surfaced driveway locations noted in the table below, place, grade, and compact Approach, CI II to meet the proposed Class II shoulders as directed by the Engineer.

Station	Offset	Existing Width
8+75	Rt	20' Gravel
10+05	Rt	25' Gravel
13+70	Rt	20' Gravel
17+92	Rt	20' Gravel
18+95	Rt	20' Gravel

Aggregate Surface Driveways Cont....

Station	Offset	Existing Width
26+28	Lt	20' Gravel
27+80	Rt	20' Gravel
30+55	Lt	16' Gravel
32+32	Lt	20' Gravel
37+25	Rt	20' Gravel
41+96	Rt	20' Gravel
48+85	Lt	20' Gravel
50+30	Rt	20' Gravel
56+49	Rt	20' Gravel
61+25	Lt	20' Gravel
62+03	Lt	20' Gravel
62+90	Lt	20' Gravel
63+75	Lt	20' Gravel
64+55	Lt	20' Gravel
65+20	Lt	20' Gravel
65+90	Lt	15' Gravel
67+35	Rt	20' Gravel
68+37	Lt	22' Gravel
72+45	Rt	20' Gravel
74+10	Rt	20' Gravel
75+67	Lt	20' Gravel
76+26	Lt	30' Gravel
78+70	Rt	20' Gravel
79+95	Rt	20' Gravel
80+44	Rt	20' Gravel

Aggregate Surface Driveways Cont....

Station	Offset	Existing Width
80+75	Lt	20' Gravel
85+12	Rt	30' Gravel
88+49	Lt	20' Gravel
94+08	Lt	20' Gravel
97+52	Lt	20' Gravel
98+93	Lt	20' Gravel
100+36	Lt	12' Gravel
105+88	Lt	20' Gravel
107+40	Rt	20' Gravel
112+03	Rt	20' Gravel
113+07	Lt	30' Gravel
116+57	Lt	20' Gravel
118+73	Lt	85' Gravel
120+25	Lt	20' Gravel
120+77	Lt	20' Gravel
127+30	Rt	20' Gravel
128+00	Lt	20' Gravel
128+00	Rt	20' Gravel
128+65	Lt	20' Gravel
134+05	Lt	20' Gravel
137+90	Lt	30' Gravel
139+25	Lt	20' Gravel
141+20	Lt	20' Gravel
141+58	Rt	20' Gravel
142+36	Rt	20' Gravel

Aggregate Surface Driveways Cont....

Station	Offset	Existing Width
142+36	Lt	20' Gravel
143+45	Rt	20' Gravel
143+95	Rt	20' Gravel
145+31	Rt	20' Gravel
145+80	Rt	20' Gravel
147+12	Rt	20' Gravel
152+25	Rt	20' Gravel
154+46	Rt	20' Gravel
159+13	Rt	20' Gravel
160+00	Rt	20' Gravel
161+40	Lt	40' Gravel

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Approach, CI II	Ton	100

Limestone Aggregate Surface Driveways

At limestone aggregate surfaced driveway locations noted in the table below, place, grade, and compact Approach, CI II, Modified, Limestone to meet the proposed Class II shoulders as directed by the Engineer.

Station	Offset	Existing Width
21+90	Rt	15' Gravel
26+20	Lt	20' Gravel
31+95	Lt	20' Gravel

Limestone Aggregate Surface Driveways Cont....

Station	Offset	Existing Width
34+72	Rt	20' Gravel
43+58	Lt	25' Gravel
49+99	Rt	20' Gravel
53+10	Rt	20' Gravel
60+40	Lt	20' Gravel
77+92	Rt	20' Gravel
85+12	Lt	20' Gravel
103+02	Lt	20' Gravel
104+45	Lt	20' Gravel
108+40	Rt	20' Gravel
109+70	Lt	20' Gravel
134+32	Lt	20' Gravel
135+75	Lt	20' Gravel
139+25	Lt	20' Gravel
149+50	Rt	20' Gravel
158+10	Lt	20' Gravel

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Approach, CI II, Modified, Limestone	Ton	30

Local Road Approaches, HMA Paved and Concrete Driveways

Both local road approaches and driveways shall be surfaced with HMA Approach as applicable to meet the proposed paved shoulder as directed by the Engineer.

Station	Offset	Existing Width
5+00	Lt and Rt	See Willard Rd. Intersection Typical
25+06	Rt	15' HMA
29+30	Lt	20' HMA
30+65	Rt	15' HMA
33+20	Rt	16' Overlay to exist. Conc.
35+71	Lt	15' HMA
40+36	Rt	20' Overlay to exist. Conc.
41+65	Rt	25' HMA
59+07	Lt and Rt	See Arbela Rd. Intersection Typical
94+43	Lt	14' HMA
96+45	Rt	20' HMA
99+61	Rt	18' Conc.
100+49	Rt	25' HMA
101+44	Rt	12' HMA
103+46	Rt	18' Conc with HMA overlay
105+44	Rt	12' HMA
106+45	Rt	18' Conc with HMA Overlay
112+52	Lt and Rt	See Birch Run Rd. Intersection Typical

Local Road Approaches, HMA Paved and Concrete Driveways Cont....

Station	Offset	Existing Width
114+71	Lt	12' HMA
122+66	Lt	24' HMA
124+50	Lt	24' HMA
132+54	Lt	16' HMA
139+26	Rt	See Brewer Rd. Intersection Typical
156+98	Rt	12' HMA

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
HMA Approach	Ton	30 (Drives) 60 (Intersections)

Local Road Culverts

Culv, CI A, 48 inch and Culv, CSP Arch, CI A, 117 inch by 79 inch shall be polymer-precoated in accordance with FUSP 03SP402(A).

Station	Size, Length & Type	Location	Treatment
91+84	30"X57.1' CSP	X-Culvert	Replace with 64 Ft, Culv, CI A, 48 inch
126+60	40.83' Conc Structure	X-Culvert	Replace with 70 Ft, Culv, CSP Arch, CI A, 117 inch by 79 inch

Local Road Culverts Cont....**ITEMS OF WORK**

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Culv, Rem, 24 inch to 48 inch	Ea	1
Pavt, Rem	Syd	155
Structures, Rem	LS	1
Excavation, Earth	Cyd	40
Erosion Control, Silt Fence	Ft	400
Aggregate Base	Ton	85
Culv, CI A, 48 inch	Ft	64
Culv Bedding	Cyd	26
Culv, CSP Arch, CI A, 117 inch by 79 inch	Ft	70
Video Taping Sewer and Culv Pipe	Ft	134
HMA, 13A (Leveling Course)	Ton	30
Riprap, Plain	Syd	90
Slope Restoration, Modified	Syd	400

Gabion Walls

Station	Item Description	Units	Approximate Quantity
Sta 17+35 Rt	Excavation, Earth	Cyd	290
	Backfill, Structure, CIP	Cyd	270
	Gabion Wall	Ft	32
Sta 17+35 Lt	Excavation, Earth	Cyd	300
	Backfill, Structure, CIP	Cyd	270
	Gabion Wall	Ft	32
Sta 25+72 Rt	Excavation, Earth	Cyd	360
	Backfill, Structure, CIP	Cyd	290
	Gabion Wall	Ft	40

Gabion Walls Cont....

Station	Item Description	Units	Approximate Quantity
Sta 25+72 Lt	Excavation, Earth	Cyd	350
	Backfill, Structure, CIP	Cyd	300
	Gabion Wall	Ft	40
Sta 49+36 Rt	Excavation, Earth	Cyd	300
	Backfill, Structure, CIP	Cyd	270
	Gabion Wall	Ft	32
Sta 49+36 Lt	Excavation, Earth	Cyd	260
	Backfill, Structure, CIP	Cyd	260
	Gabion Wall	Ft	42

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Pavt, Rem	Syd	585
Structures, Rem Portions	LS	1
Embankment, CIP	Cyd	150
Excavation, Earth	Cyd	1860
Backfill, Structure, CIP	Cyd	1660
Aggregate Mud Mat	Cyd	31
Erosion Control, Silt Fence	Ft	600
Gabion Wall	Ft	218
Aggregate Base	Ton	340
HMA 13A (Leveling Course)	Ton	112
Conc, Grade X	Cyd	12
Riprap, Plain	Syd	120
Slope Restoration, Modified	Syd	1120

Guardrail

Posts placed within 3' of existing culverts shall be in drilled holes and shall not be driven.

All guardrail posts shall be 8 feet long, where standards allow.

Guardrail stationing includes the Guardrail Approach Terminal, Type 1B, Modified and Guardrail Buffered End.

Station	Item Description	Units	Approximate Quantity
15+51 Rt to 17+79 Rt	Guardrail, Type B	Ft	125
	Guardrail, Curved, Type B	Ft	25
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	1
	Guardrail Reflector	Ea	10
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	1
15+56 Lt to 19+31 Lt	Guardrail, Type B	Ft	250
	Guardrail, Curved, Type B	Ft	0
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	0
	Guardrail Reflector	Ea	14
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	2
25+17 Rt to 27+57 Rt	Guardrail, Type B	Ft	137.5
	Guardrail, Curved, Type B	Ft	25
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	1
	Guardrail Reflector	Ea	10
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	1
23+74 Lt to 26+26 Lt	Guardrail, Type B	Ft	150
	Guardrail, Curved, Type B	Ft	25
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	1
	Guardrail Reflector	Ea	10
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	1
47+52 Rt to 49+90 Rt	Guardrail, Type B	Ft	112.5
	Guardrail, Curved, Type B	Ft	0
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	0
	Guardrail Reflector	Ea	8
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	2

Guardrail Cont....

49+02 Lt to 51+21 Lt	Guardrail, Type B	Ft	112.5
	Guardrail, Curved, Type B	Ft	25
	Guardrail, Backed, Det G2 (18'-9" Span)	Ea	1
	Guardrail Buffered End	Ea	1
	Guardrail Reflector	Ea	8
	Guardrail, Approach Terminal, Type 1B, Modified	Ea	1

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Guardrail, Type B	Ft	888
Guardrail, Curved, Type B	Ft	100
Guardrail, Backed, Det G2	Ea	6
Guardrail Buffered End	Ea	4
Guardrail Reflector	Ea	60
Guardrail Approach Terminal, Type 1B, Modified	Ea	8

Monument Box, Adj

Station	Description
5+00	Section Corner Sec 32, 33
5+00	Section Corner Sec 4, 5
32+67	Quarter Corner Sec 32, 33
59+07	Section Corner Sec 32, 33, 28, 29
85+47	Quarter Corner Sec 28, 29
112+51	Section Corner Sec 28, 29, 20, 21
138+91	Quarter Corner Sec 20, 21

Monument Box, Adj Cont....**ITEM OF WORK**

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Monument Box, Adj	Ea	7

Permanent Road Signing

See the Michigan Manual of Uniform Traffic Control Devices for Streets and Highways 2005 Michigan.

For the lettering on the D3-1, D1-3, and I2-2 Signs use 6" initial capital letters, white, Series B, HIP.

Steel post quantities are based on 15 feet per sign. See Standard Plan Sign-120-B for variations in length due to terrain. All R1-1 signs shall have two posts.

Station	Sign Type	Notes
4+78 Lt	R1-1	36"x36"
4+70 Rt	W1-6R	48"x24"
5+24 Rt	R1-1	36"x36"
5+24 Lt	D3-1 D3-1	36"x12" On Same Post 30"x12"
6+85 Rt	I2-2	30"x18" Tuscola County
7+39 Lt	R4-2	24"x30"
11+14 Rt	R4-2	24"x30"
17+65 Lt	R4-1	24"x30"
17+65 Rt	W14-3	36"x48"x48"
52+70 Rt	R4-1	24"x30"
52+70 Lt	W14-3	36"x48"x48"

Permanent Road Signing Cont....

Station	Sign Type	Notes
58+82 Lt	R1-1	30"x 30" On Arbela Rd
59+23 Rt	R1-1	30"x30" On Arbela Rd
59+26 Rt	D3-1 D3-1	36"x12" On Same Post 30"x12"
59+53 Rt	R4-2	24"x30"
60+60 Lt	R4-2	24"x30"
64+38 Rt	R4-1	24"x30"
64+38 Lt	W14-3	36"x48"x48"
65+97 Lt	R4-1	24"x30"
65+97 Rt	W14-3	36"x48"x48"
71+10 Lt	R4-2	24"x30"
76+30 Rt	R4-2	24"x30"
84+50 Lt	R4-1	24"x30"
84+50 Rt	W14-3	36"x48"x48"
99+22 Rt & Lt	(2) W3-1	36"x36"
107+84 Rt	D1-3	84"x48" Tuscola Straight Arrow Birch Run Left Arrow Millington Right Arrow
111+89 Lt and Rt	R1-1 R1-1 R1-3 R1-3	36"x36" 36"x36" 12"x6" On same post 12"x6" On same post
112+02 Lt	D3-1 D3-1	48"x12" On Same Post 30"x12"

Permanent Road Signing Cont....

Station	Sign Type	Notes
112+07 107+45 Lt	R1-1 R1-1 R1-3 R1-3	36"x36" 36"x36" 12"x6" On same post 12"x6" On same post on Birch Run Road
112+07 107+45 Rt	R1-1 R1-1 R1-3 R1-3	36"x36" 36"x36" 12"x6" On same post 12"x6" On same post on Birch Run Road
112+80 Rt and Lt	R1-1 R1-1 R1-3 R1-3	36"x36" 36"x36" 12"x6" On same post 12"x6" On same post
116+35 Lt	D1-3	84"x48" Flint Straight Arrow Millington Left Arrow Birch Run Right Arrow
126+14 Rt	OM-3R	Removing and not replacing
126+26 Lt	OM-3L	Removing and not replacing
126+82 Lt and Rt	(2) W3-1	36"x36"
132+55 Rt	R4-1	24"x30"
132+55 Lt	W14-3	36"x48"x48"
137+90 Rt	R4-2	24"x30"
138+96 Rt	D3-1 D3-1	36"x12" On Brewer Road 30"x12" On same post
139+28 Lt	W1-7	48"x24" Across from Brewer Road Intersection

Permanent Road Signing Cont....

139+32 Rt	R1-1	30"x30" Stop Sign on Brewer Road
141+29 Lt	R4-2	24"x30"
146+67 Lt	R4-1	24"x30"
146+67 Rt	W14-3	36"x48"x48"

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Post, Steel, 3 lb	Ft	900
Sign, Type IIIA	Sft	240
Sign, Type IIIB	Sft	130
Sign, Type III, Rem	Ea	49

Maintaining Traffic

Traffic shall be maintained throughout construction in accordance with the Special Provision for Maintaining Traffic.

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Barricade, Type III, High Intensity, Lighted, Furn	Ea	7
Barricade, Type III, High Intensity, Lighted, Oper	Ea	7
Flag Control	LS	1
Lighted Arrow, Type C, Furn	Ea	2
Lighted Arrow, Type C, Oper	Ea	2
Minor Traf Devices	LS	1

Maintaining Traffic Cont....**ITEMS OF WORK CONT....**

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Pavt Mrkg, Type NR, Tape, 4 Inch, Yellow, Temp	Ft	1736
Plastic Drum, High Intensity, Furn	Ea	30
Plastic Drum, High Intensity, Oper	Ea	30
Sign, Type B, Temp, Furn	Sft	839
Sign, Type B, Temp, Oper	Sft	839

Miscellaneous Pay Items

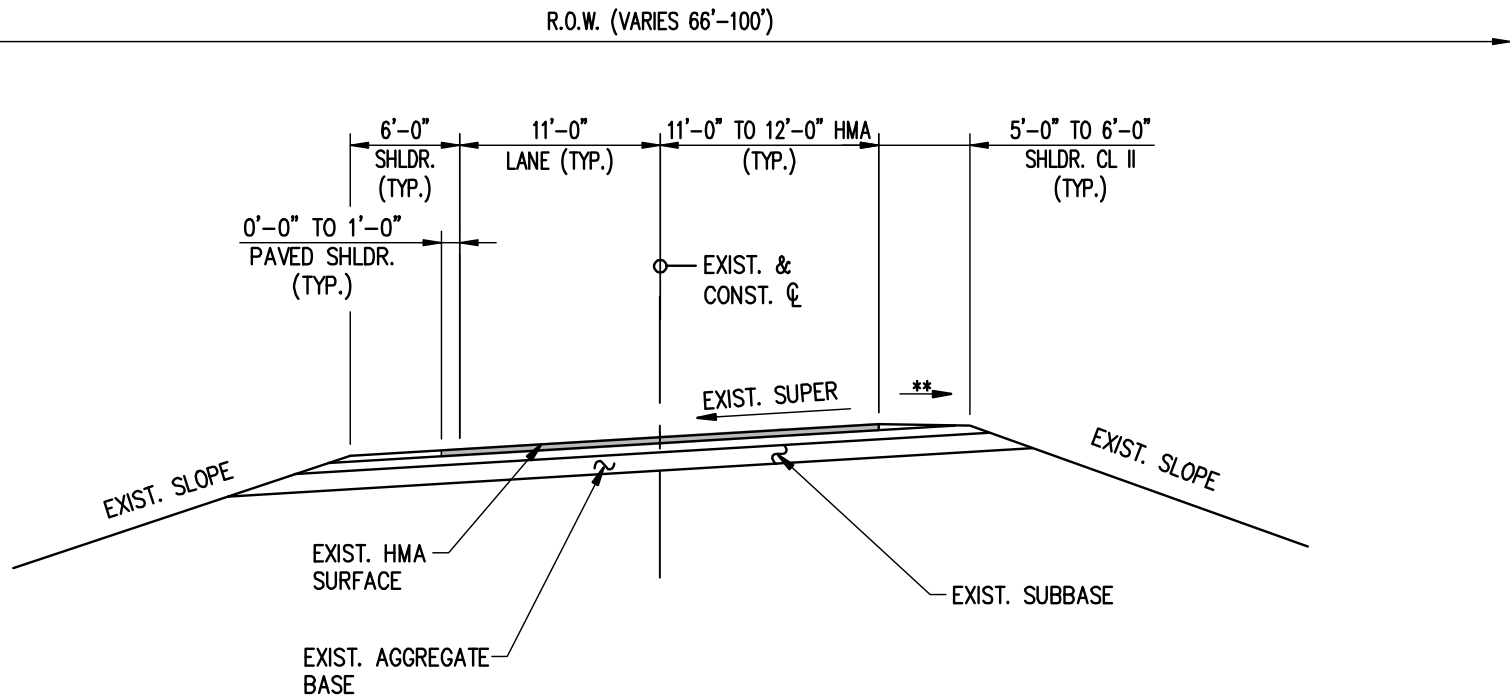
Miscellaneous items of work shall be done as they apply throughout the project or as directed by the Engineer. These items are not detailed in the log or on the typical sections.

ITEMS OF WORK

ITEM DESCRIPTION	UNITS	APPROX. QUANTITY
Mobilization, Max ____	LS	1
Post, Mailbox	Ea	2
Pavt Mrkg, Regular Dry, 4 inch, White	Ft	32354
Pavt Mrkg, Regular Dry, 4 inch, Yellow	Ft	10408

CURVE #1

$\Delta = 6^{\circ}06'30''$ LT
 $R = 1'$
 $R = 5729.65'$
 $T = 305.8'$
 $L = 610.831'$
 $E = 8.16'$
P.C. = STA 5+94.2
P.I. = STA 9+00
P.T. = STA 12+05.03



EXISTING SUPERELEVATION SECTION

APPLIES P.O.B. STA 4+32 TO END OF SUPER STA 12+78
 INCLUDES CROWN RUNOUT AND TRANSITION
 NOT TO SCALE

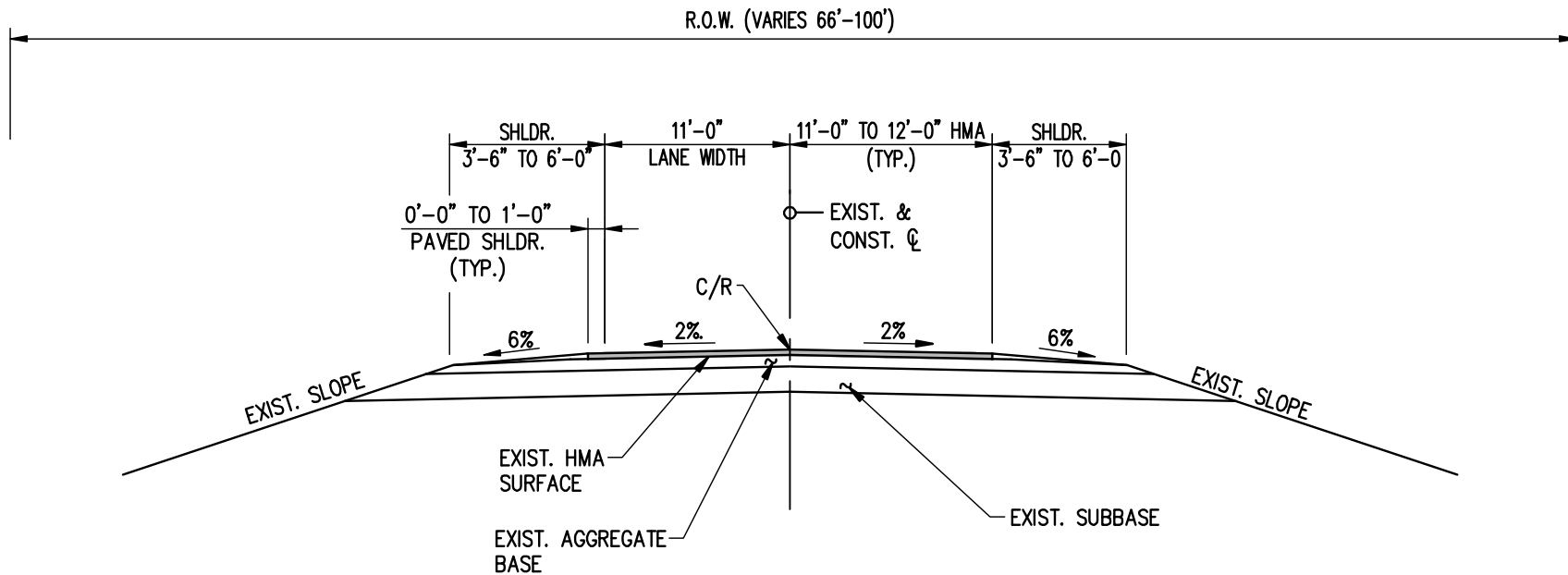
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TUSCOLA COUNTY ROAD COMMISSION

BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	20 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



EXISTING TYPICAL SECTION BRAY ROAD

APPLIES STA 12+78 TO P.O.E STA 166.09
NOT TO SCALE

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

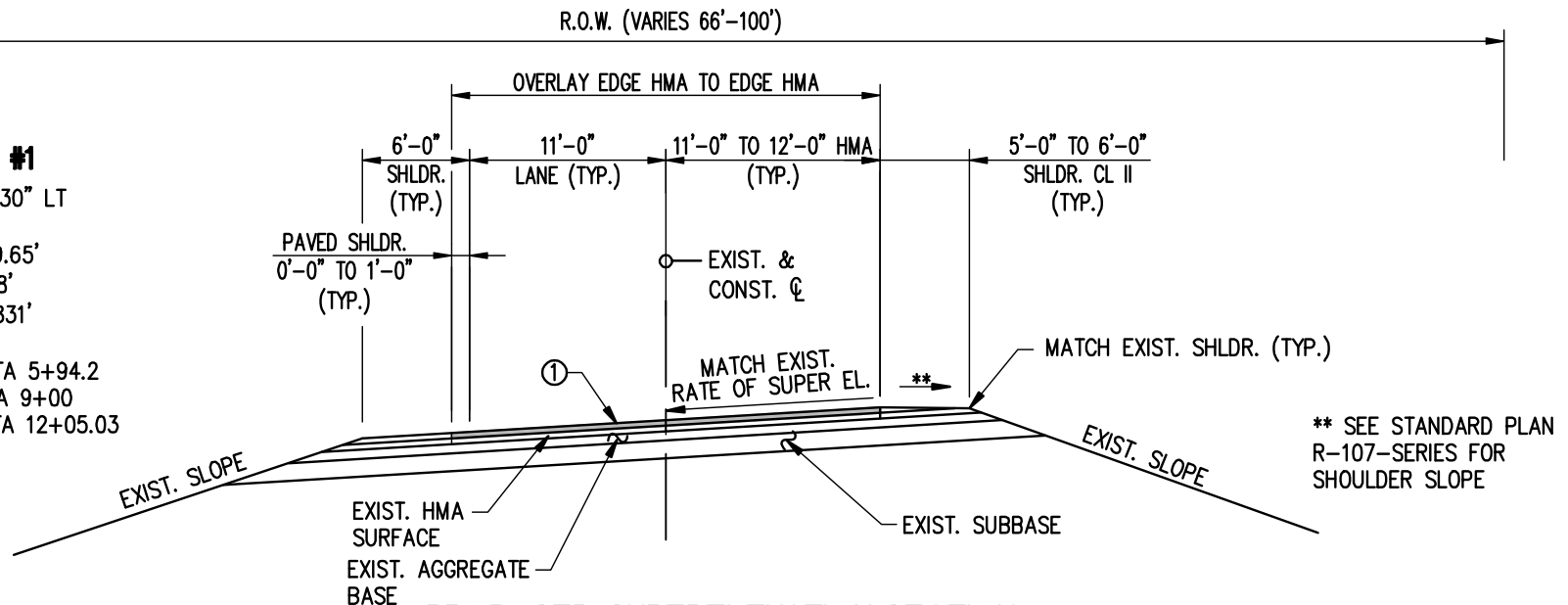
BY:	DATE:	SHEET NO.
DJR	5/11	21 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4

HMA APPLICATION ESTIMATE

IDENT #	ITEM	RATE LB/SYD	PERFORMANCE GRADE	REMARKS
①	HMA, ULTRA-THIN, MEDIUM VOLUME	83	PG 64-28P*	TOP COURSE AWI = 260
②	HMA, 13A	330	58-28	2 COURSE LEVELING
BA-1	HMA APPROACH	83	PG 64-28P*	APPROACHES AT WILLARD RD, ARBELA RD, BIRCH RUN RD, & BREWER RD INTERSECTIONS. HMA AND CONCRETE DRIVEWAYS
* MAY USE ANOTHER "READILY AVAILABLE" POLYMER MODIFIED (P) GRADE HMA BOND COAT 0.10 - 0.15 GAL/SYD FOR INFORMATIONAL PURPOSES ONLY. INCLUDED IN PAYMENT FOR HMA MIXTURES.				

CURVE #1

$\Delta = 6'06'30''$ LT
 $R = 1'$
 $R = 5729.65'$
 $T = 305.8'$
 $L = 610.831'$
 $E = 8.16'$
 P.C. = STA 5+94.2
 P.I. = STA 9+00
 P.T. = STA 12+05.03



PROPOSED SUPERELEVATION SECTION

APPLIES P.O.B. STA. 4+32 TO END OF SUPER STA 12+78
 INCLUDES CROWN RUNOUT AND TRANSITION
 NOT TO SCALE

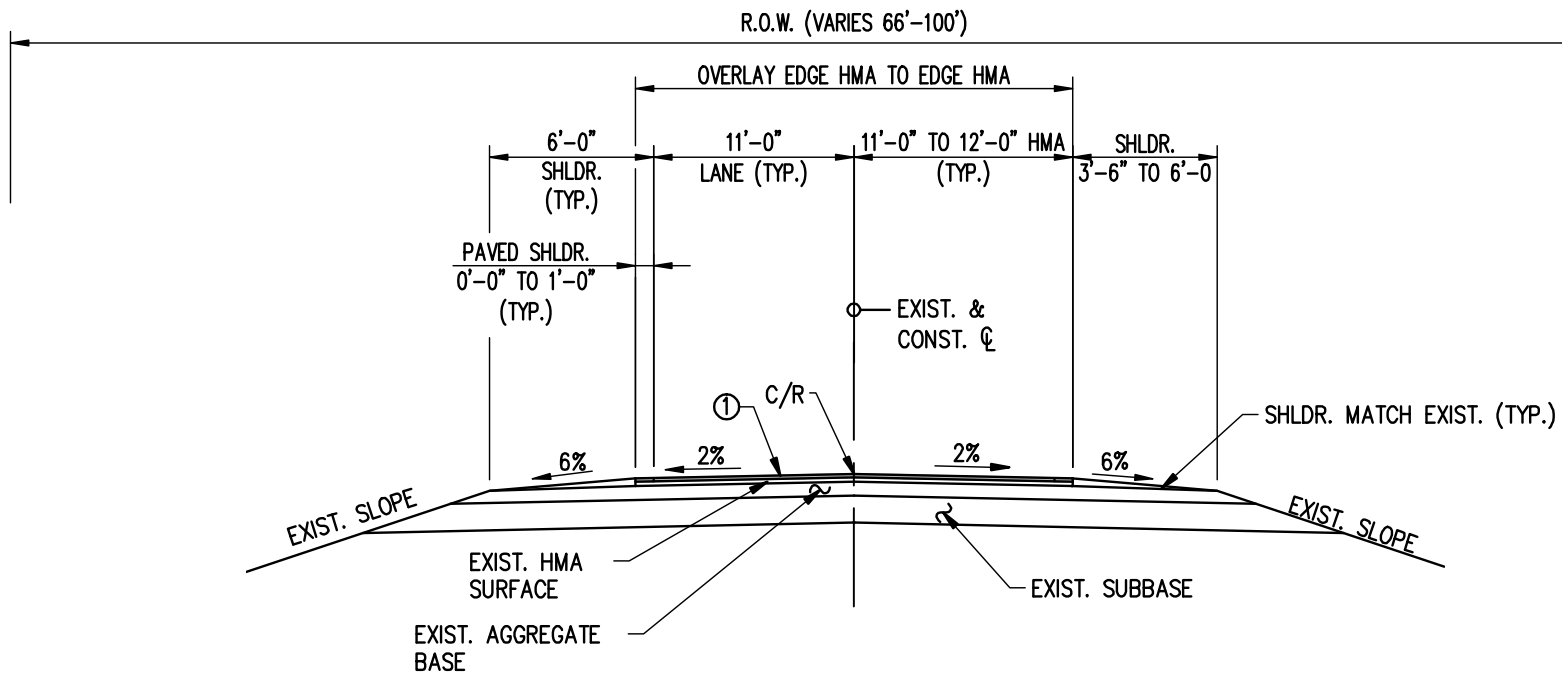
NOTE:
 PAVE MAINLINE EDGE OF HMA
 TO EDGE OF HMA


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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	22 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



PROPOSED TYPICAL SECTION BRAY ROAD

APPLIES STA 12+78 TO P.O.E. STA 166+09
NOT TO SCALE

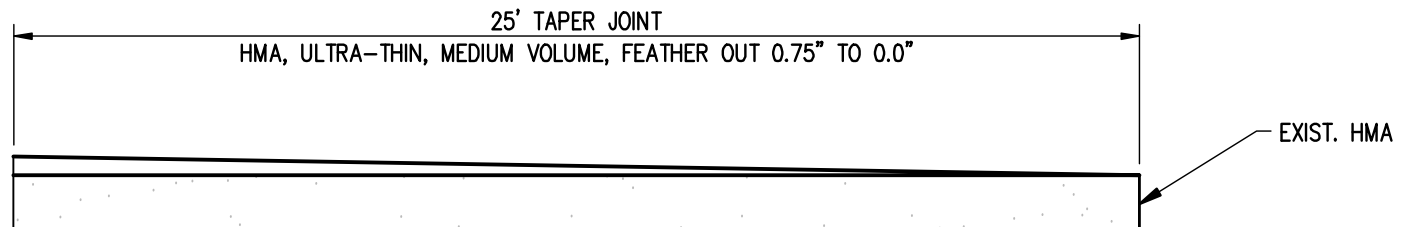
NOTE:
PAVE MAINLINE EDGE OF HMA
TO EDGE OF HMA

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	23 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



HMA TAPER JOINTS DETAIL

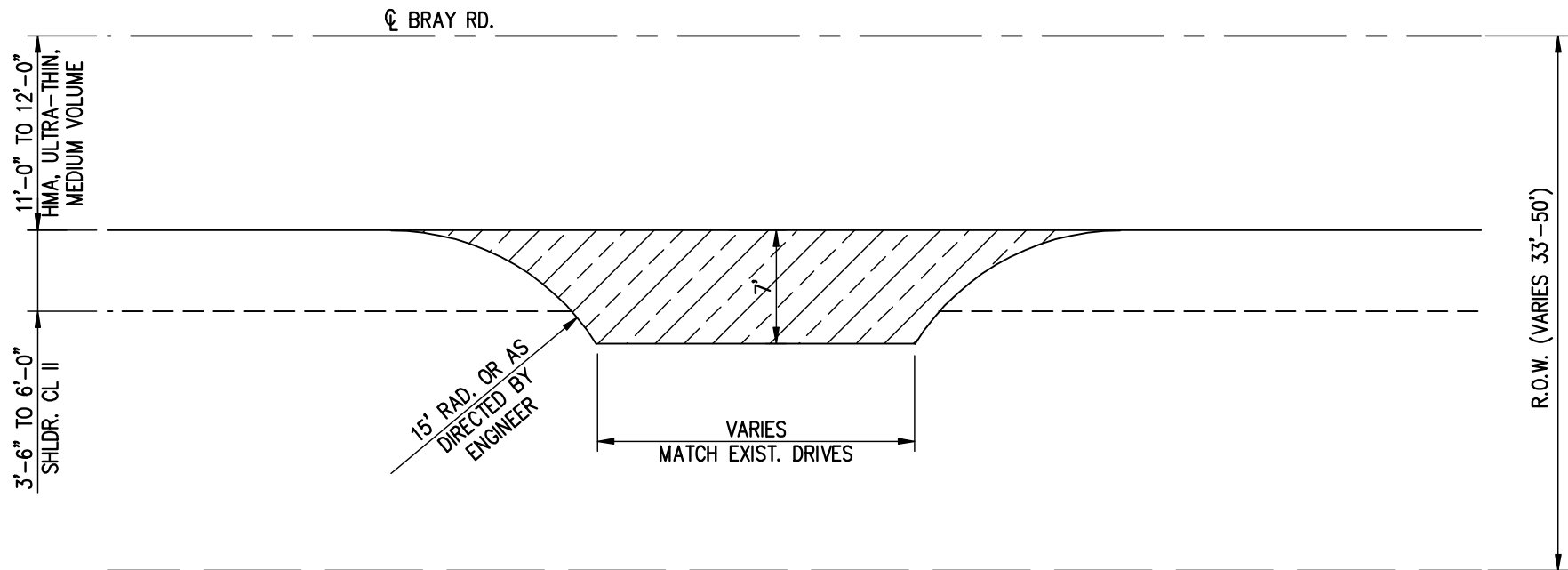
APPLIES TO:
 WILLARD RD INTERSECTION
 ARBELA RD INTERSECTION
 BIRCH RUN RD INTERSECTION
 NOT TO SCALE

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	24 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



APPROACH, CL II DETAIL, AGGERGATE AND LIMESTONE DRIVEWAYS

SEE LOG FOR LOCATIONS
NOT TO SCALE

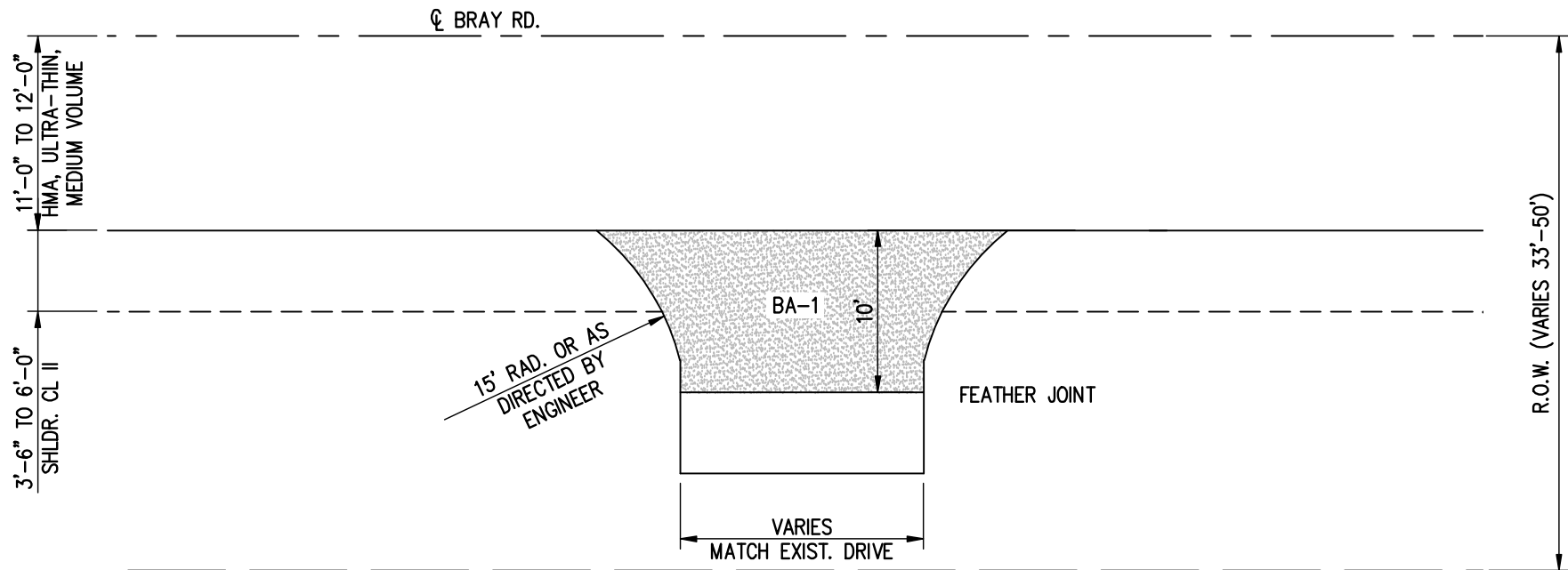
PLACE AGGREGATE AND LIMESTONE
APPROACH, CL II AND GRADE TO MATCH
EXISTING. ESTIMATED 1.5 TON PER DRIVE.

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SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	25 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



APPROACH DETAIL HMA AND CONCRETE DRIVEWAYS

SEE LOG FOR LOCATIONS
NOT TO SCALE

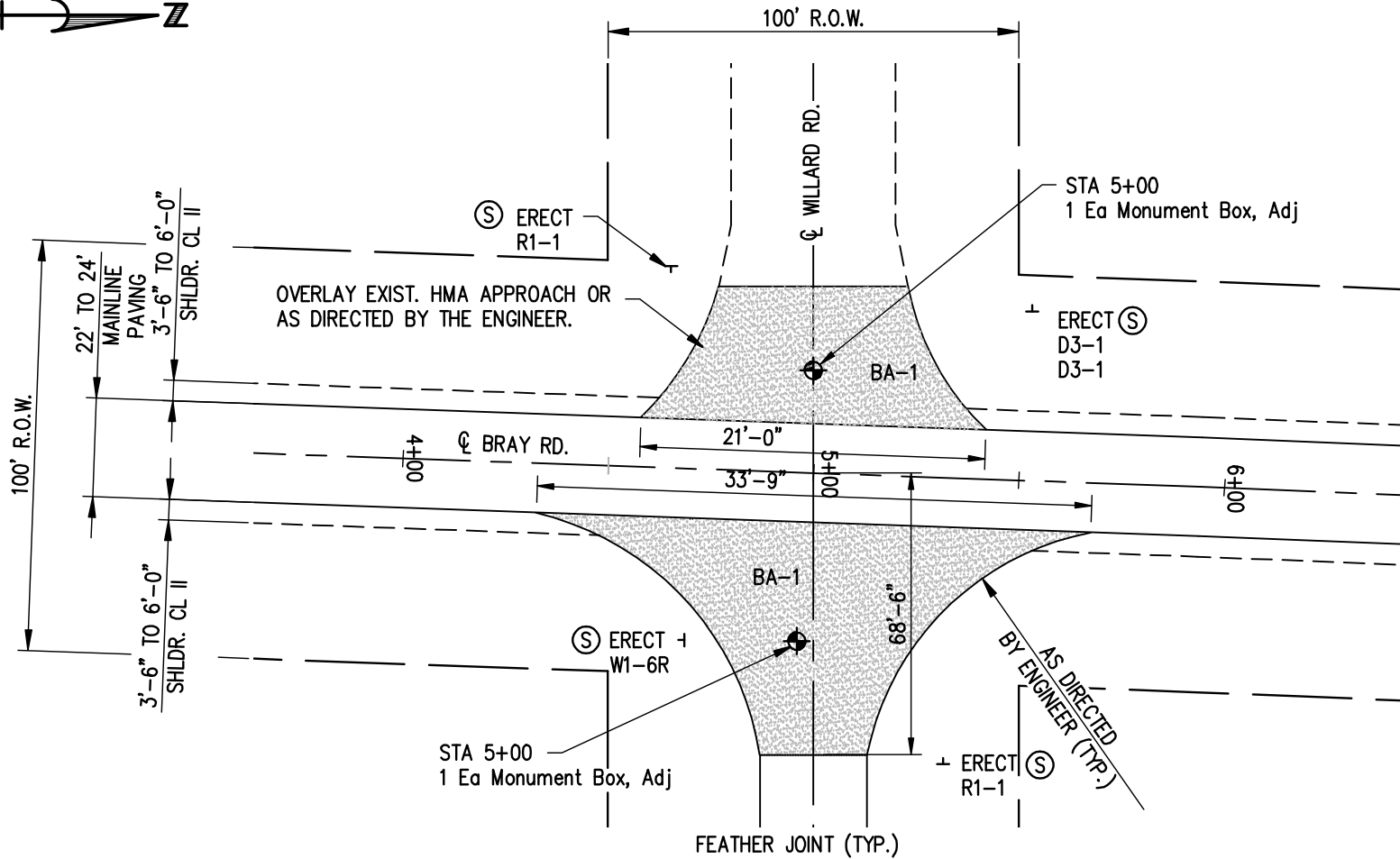
OVERLAY EXISTING HMA OR CONCRETE
DRIVE APPROACHES PLACE ESTIMATED
1.5 TON PER DRIVE

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SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	26 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



APPROACH DETAIL 1 WILLARD ROAD

STA 5+00
NOT TO SCALE

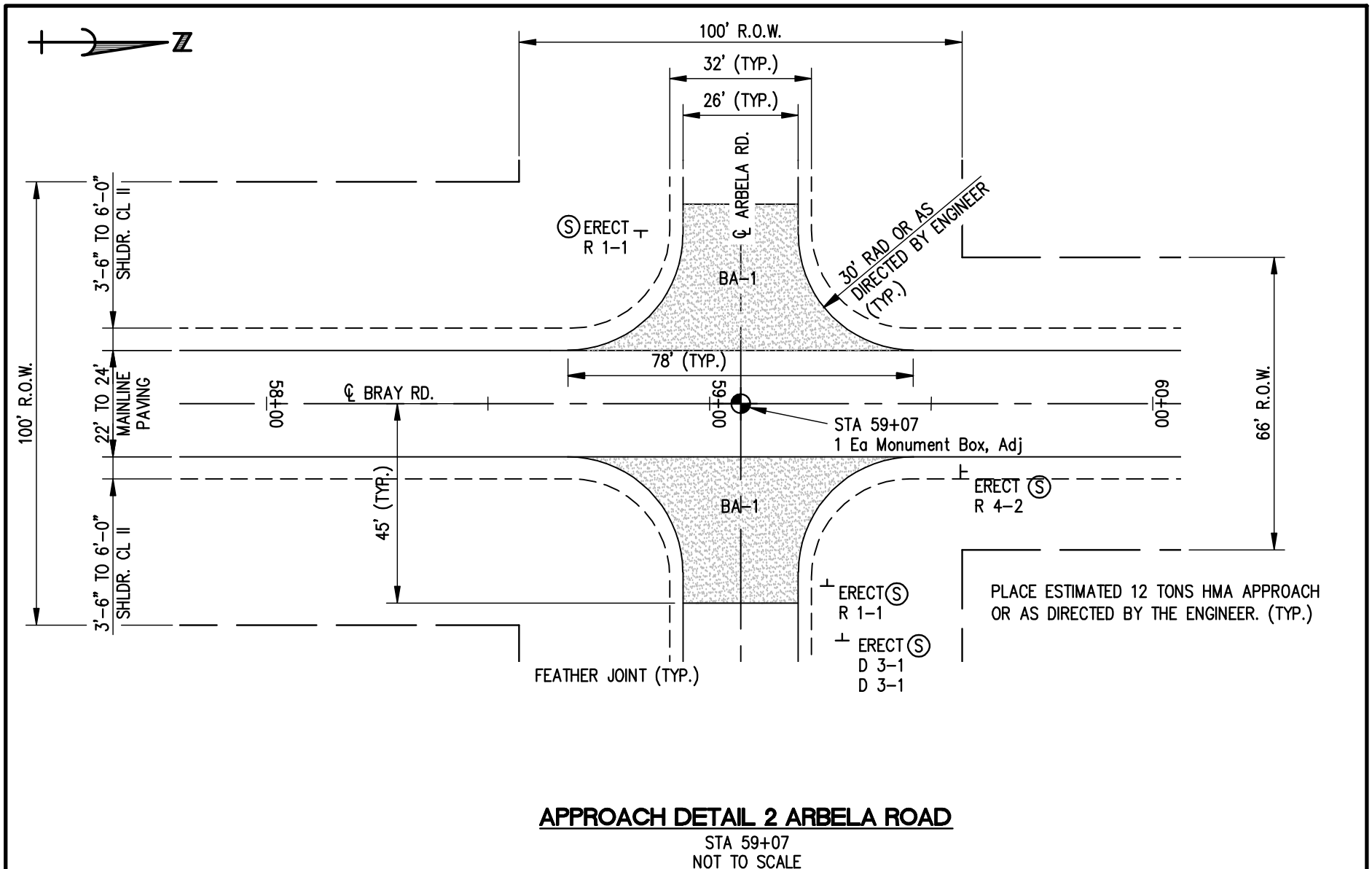
PLACE ESTIMATED 27 TONS HMA APPROACH
OR AS DIRECTED BY THE ENGINEER. (TYP.)

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	27 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4

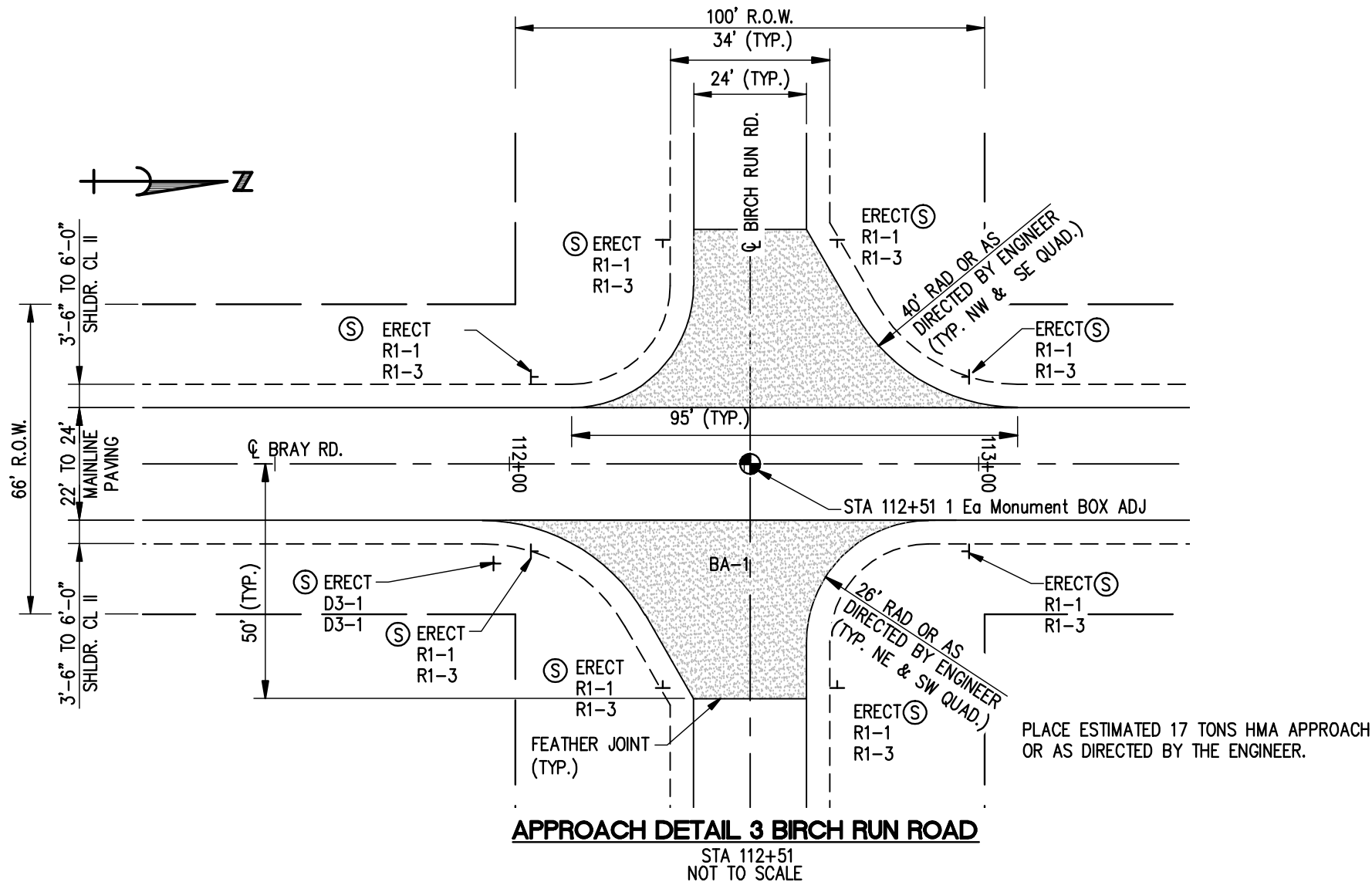


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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	28 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4

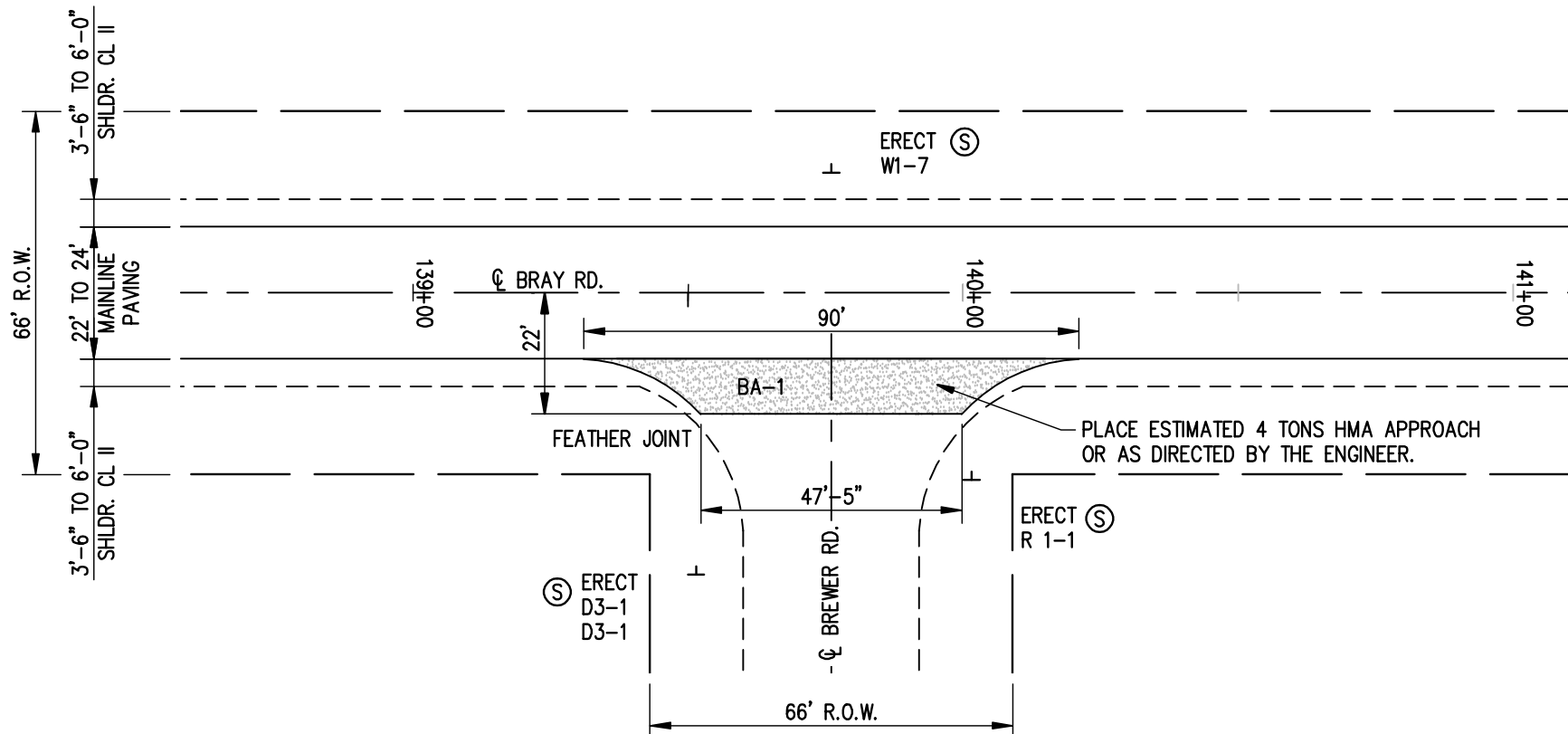


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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	29 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



APPROACH DETAIL 4 BREWER ROAD

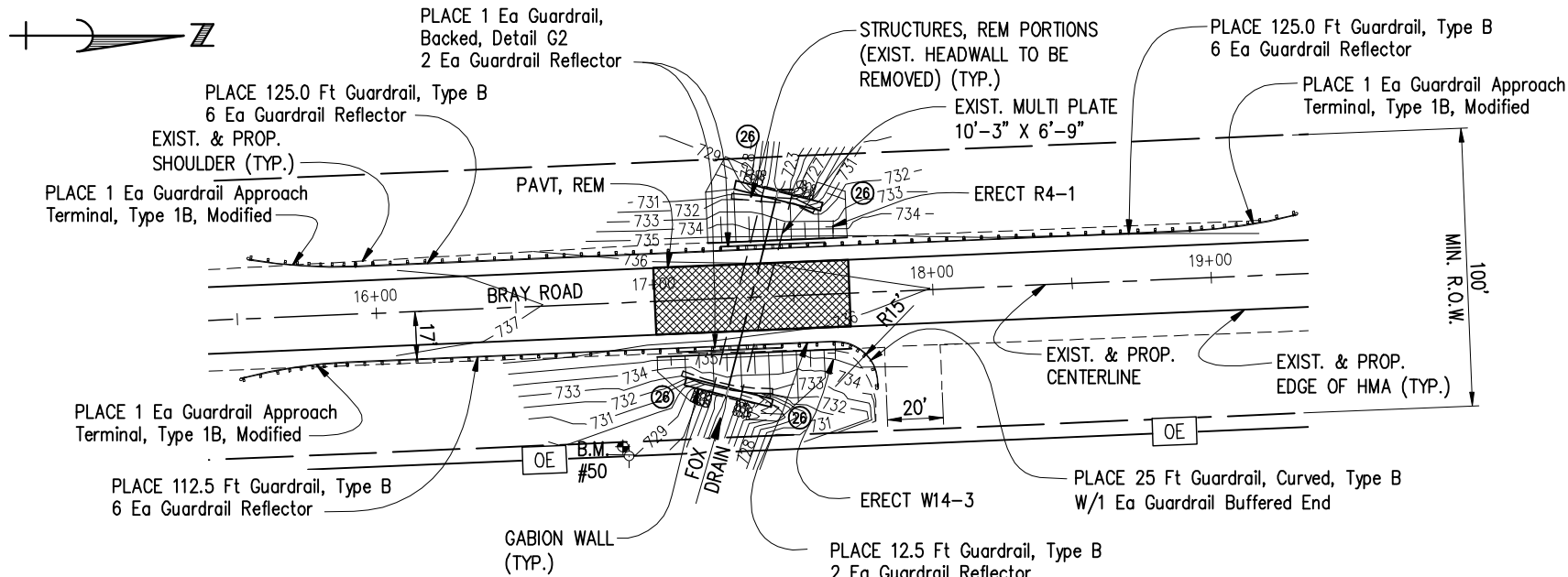
STA 139+76
NOT TO SCALE

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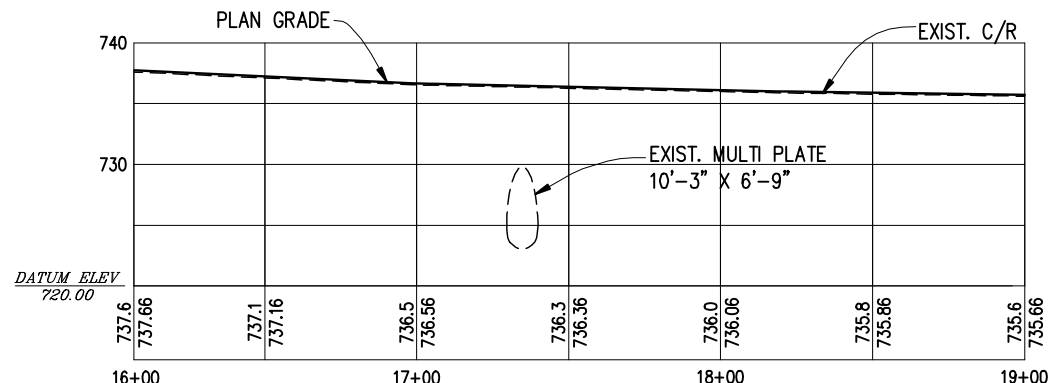
TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD

SECTIONS 20, 21, 28, 29, 32, & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
DJR	5/11	30 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



PLAN OF SITE (STA 17+35)
SCALE 1"=60'-0"



CENTERLINE PROFILE (STA 17+35)
SCALE HORZ. 1"=60'-0"
VERT. 1"=15'-0"

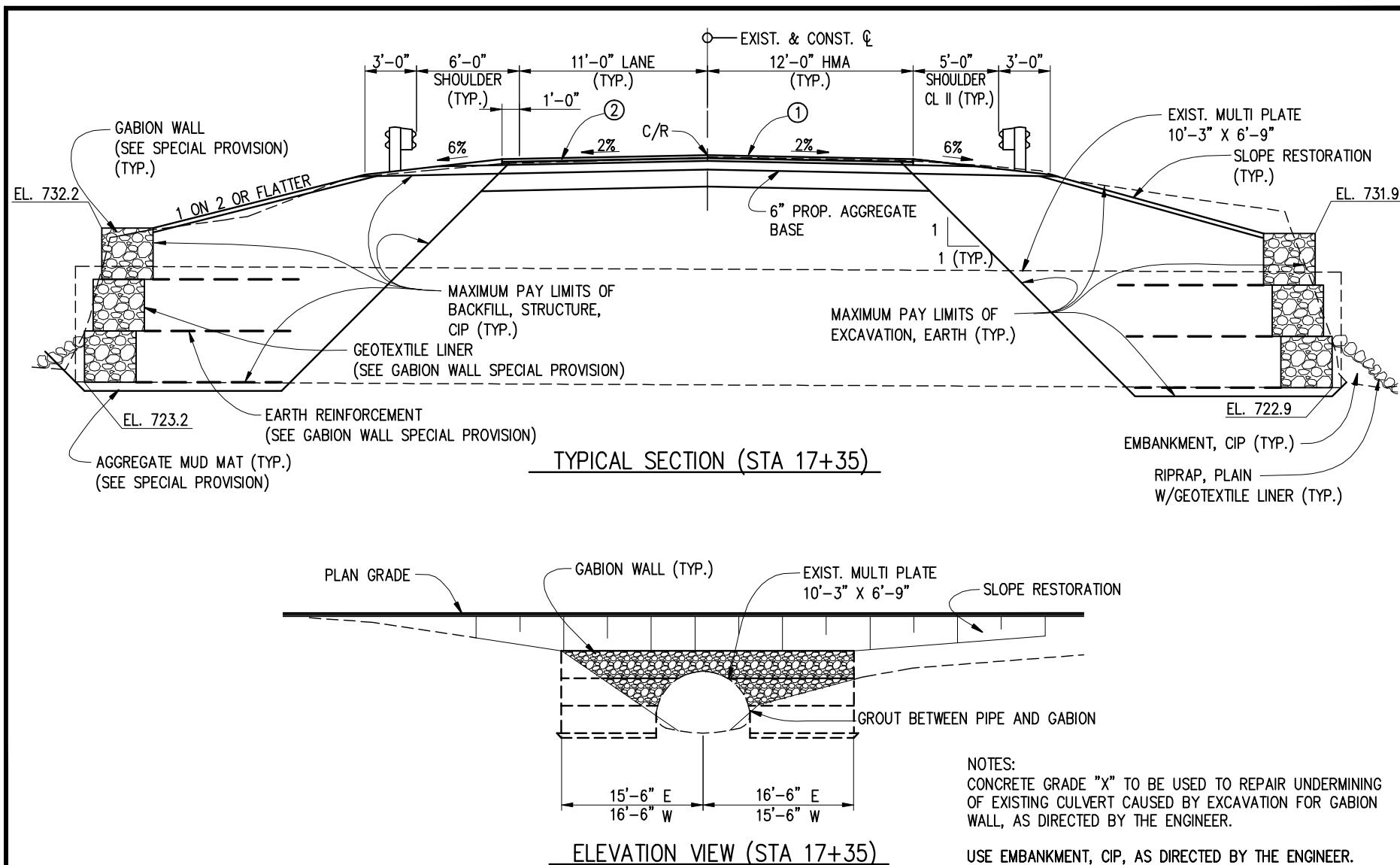
BENCH MARKS	
BM #50	EL. 731.61
RR SPIKE IN PP	STA: 16+89 51' RT.

(26) REFERS TO LEGEND IN STANDARD PLAN R-96 SERIES

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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER FOX DRAIN
 SECTIONS 32 & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	31 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4

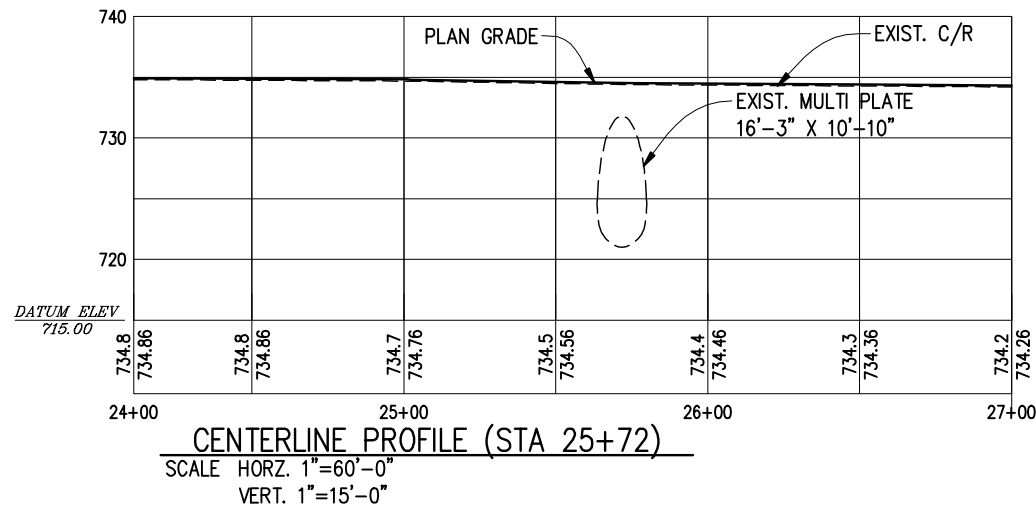
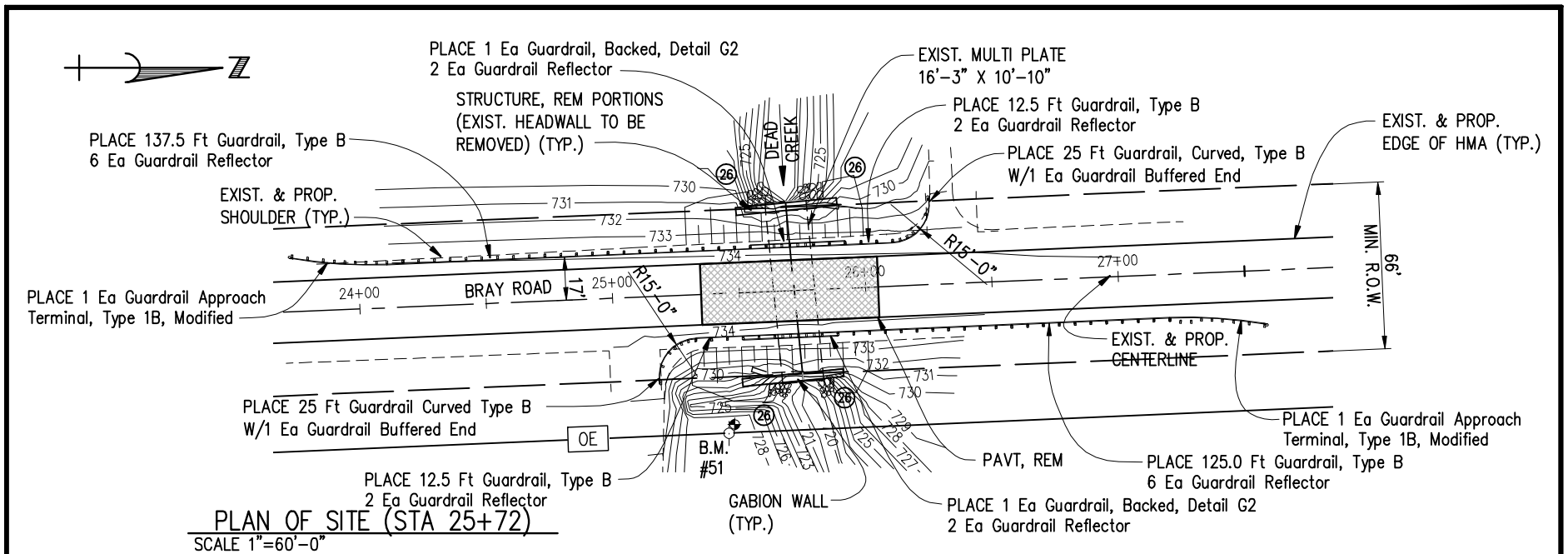


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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER FOX DRAIN

SECTIONS 32 & 33
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	32 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



BENCH MARKS		
BM #51		
RR SPIKE IN PP		EL. 729.59
STA: 25+44 53' RT.		

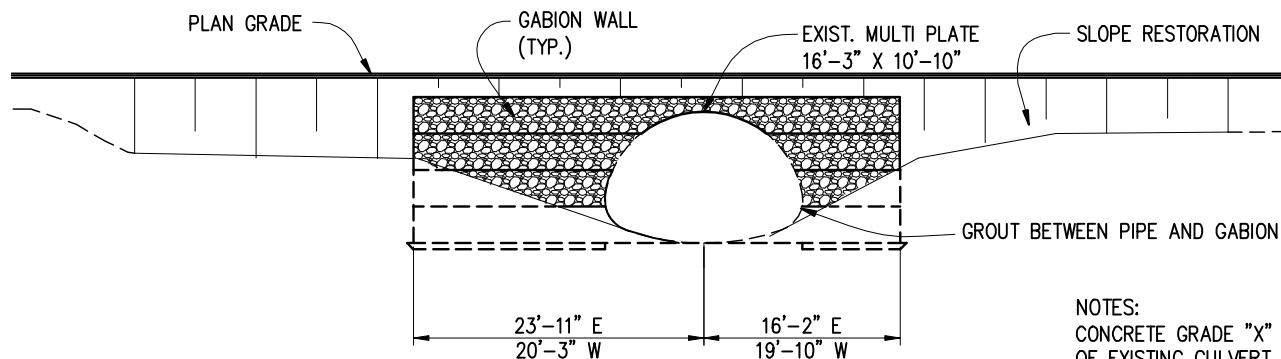
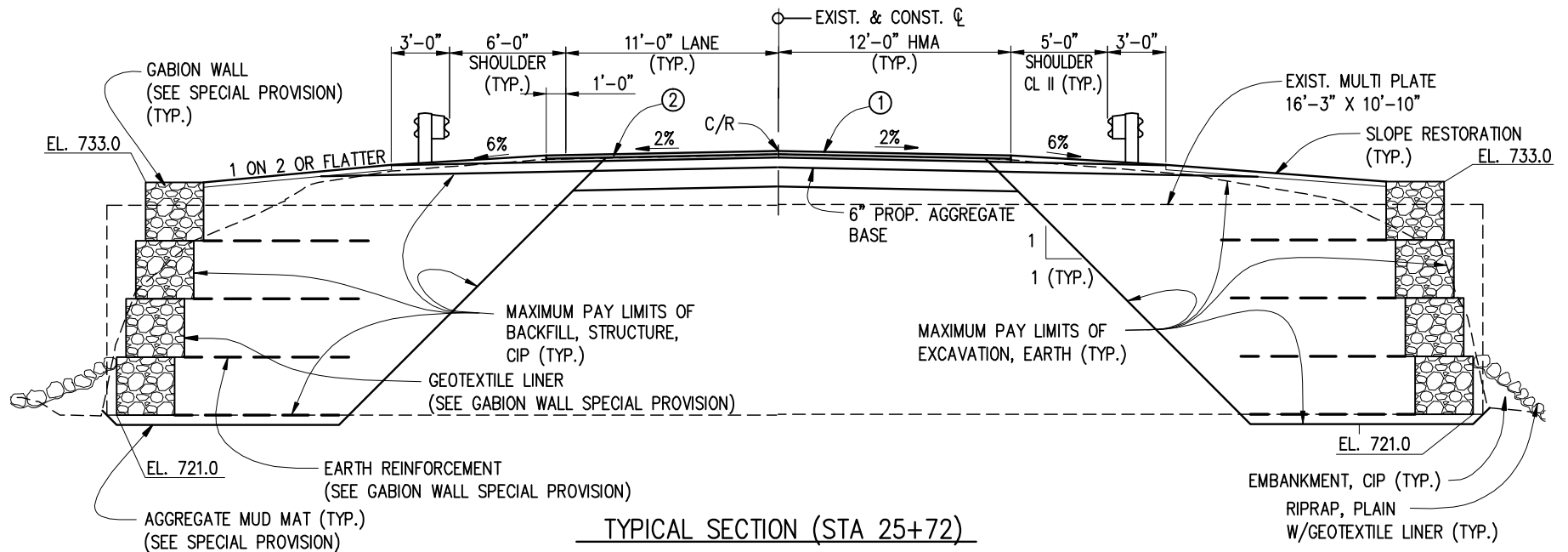
(26) REFERS TO LEGEND IN STANDARD PLAN R-96 SERIES

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD OVER DEAD CREEK

SECTIONS 32 & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	33 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



NOTES:
CONCRETE GRADE "X" TO BE USED TO REPAIR UNDERMINING OF EXISTING CULVERT CAUSED BY EXCAVATION FOR GABION WALL, AS DIRECTED BY THE ENGINEER.

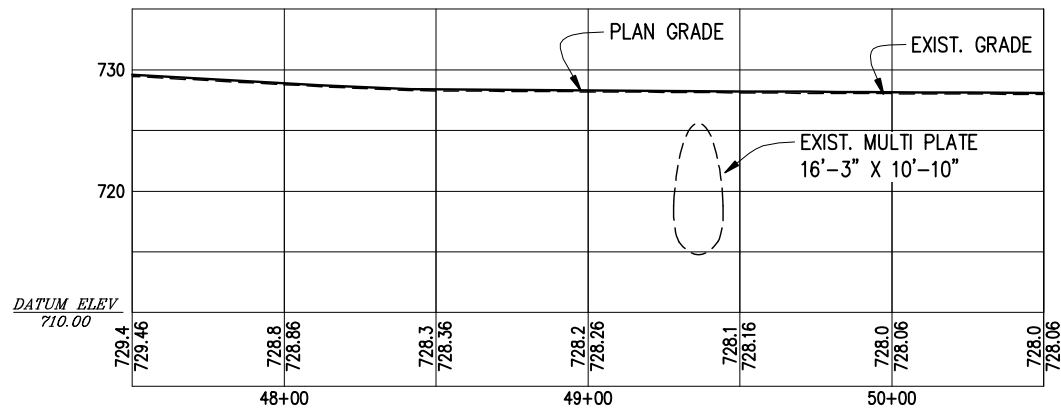
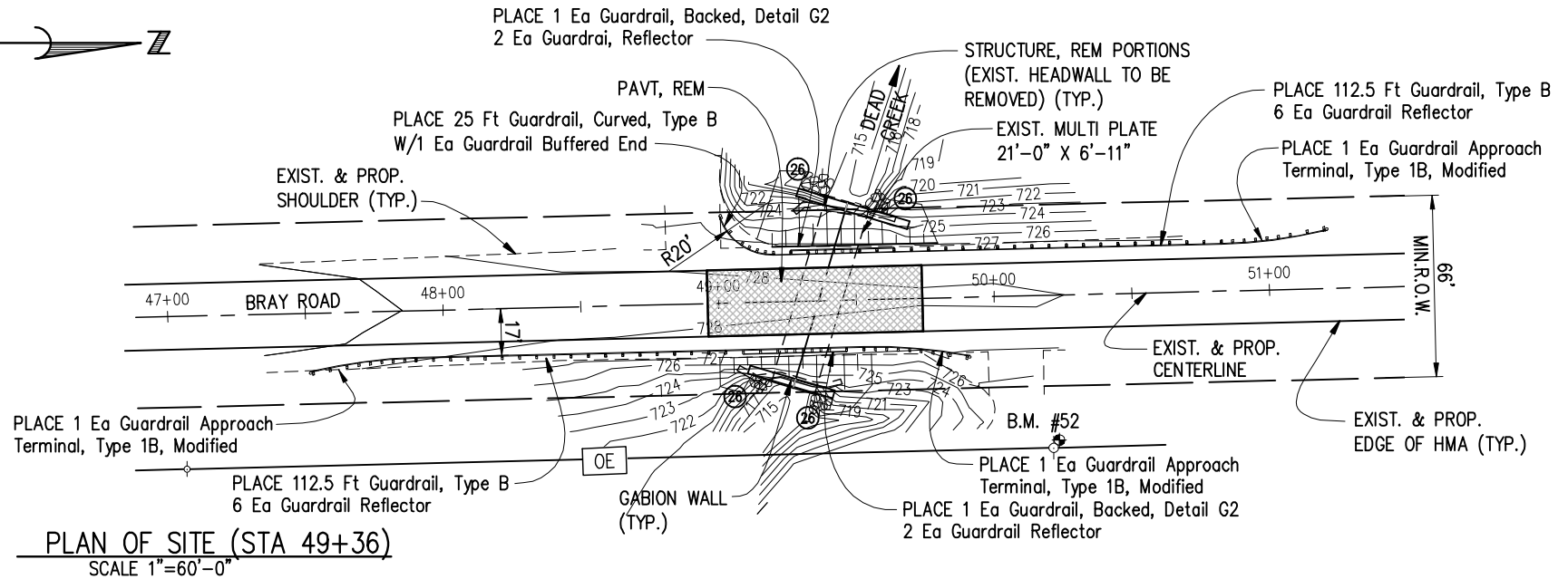
USE EMBANKMENT, CIP, AS DIRECTED BY THE ENGINEER.

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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER DEAD CREEK

SECTIONS 32 & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	34 OF 40
CHK:	DATE:	
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BENCH MARKS		
BM #52		
RR SPIKE IN PP	EL. 721.71	
STA: 50+20 56' RT.		

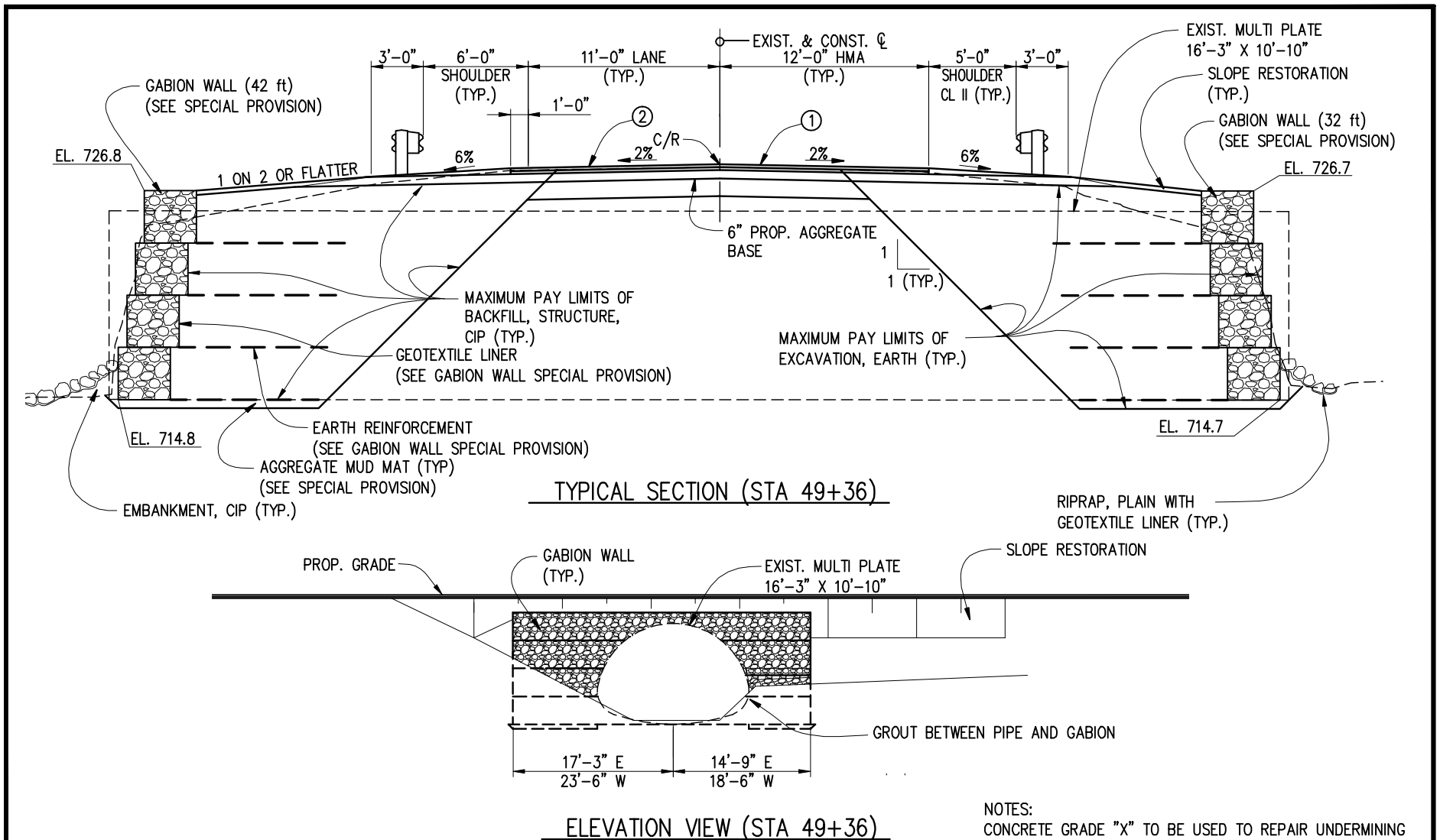
(26) REFERS TO LEGEND IN STANDARD PLAN R-96 SERIES

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TUSCOLA COUNTY ROAD COMMISSION BRAY ROAD OVER DEAD CREEK

SECTIONS 32 & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	35 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



NOTES:
CONCRETE GRADE "X" TO BE USED TO REPAIR UNDERMINING OF EXISTING CULVERT CAUSED BY EXCAVATION FOR GABION WALL, AS DIRECTED BY THE ENGINEER.

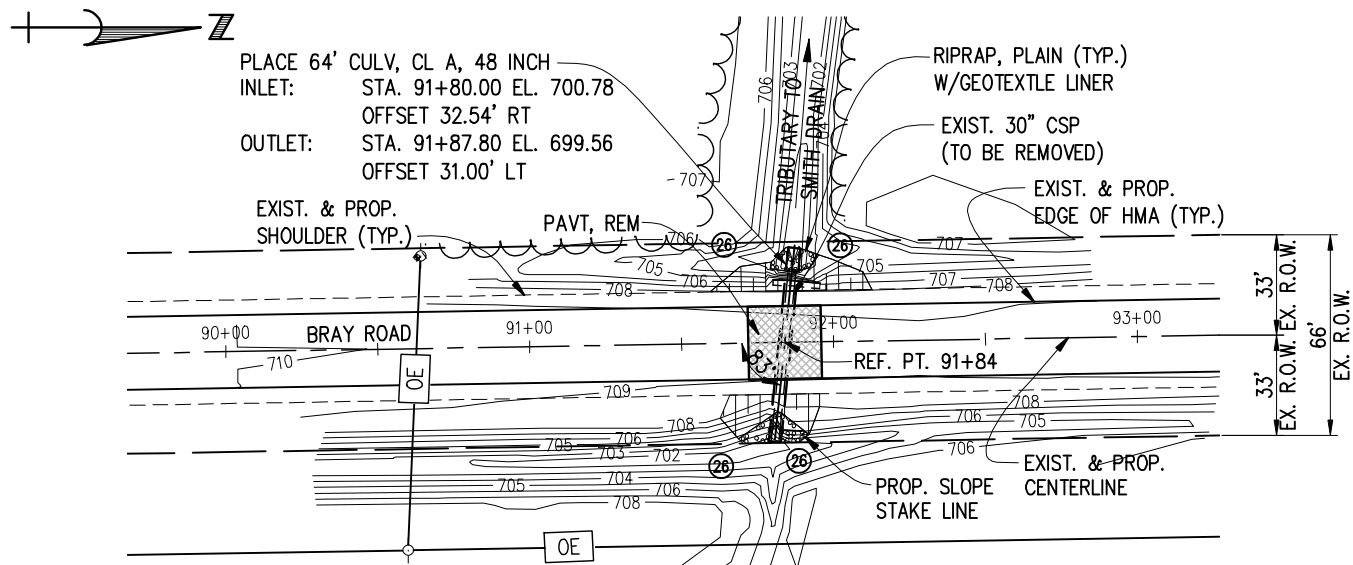
USE EMBANKMENT, CIP, AS DIRECTED BY THE ENGINEER.

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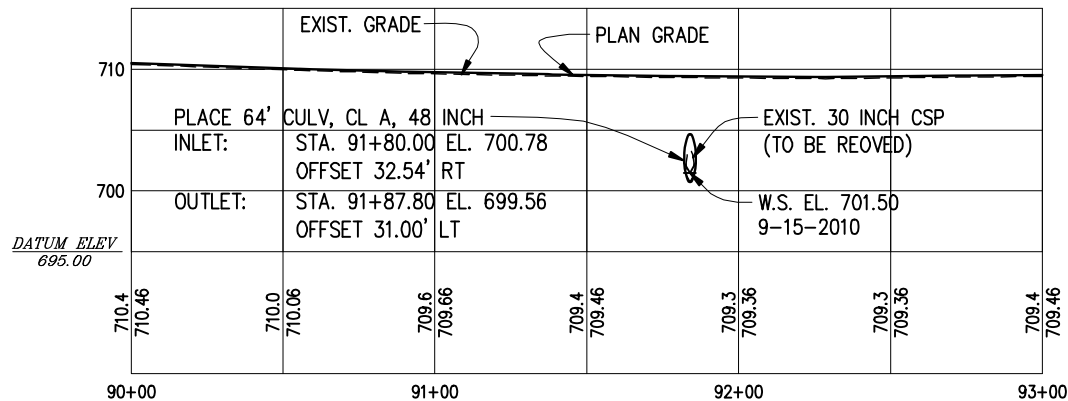
TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER DEAD CREEK

SECTIONS 32 & 33
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	3/11	36 OF 40
CHK:	DATE:	
MDS	3/11	W.O. NO. 79-107-4



PLAN OF SITE
SCALE 1"=60'-0"



CENTERLINE PROFILE
SCALE HORZ. 1"=60'-0"
VERT. 1"=15'-0"

BENCH MARKS	
BM #53	
RR SPIKE IN PP	EL. 707.60
STA: 90+64 30' LT.	

NOTES:
CULV, CL A 48 INCH SHALL BE POLYMER PRE-COATED
(26) REFERS TO LEGEND IN STANDARD PLAN R-96 SERIES

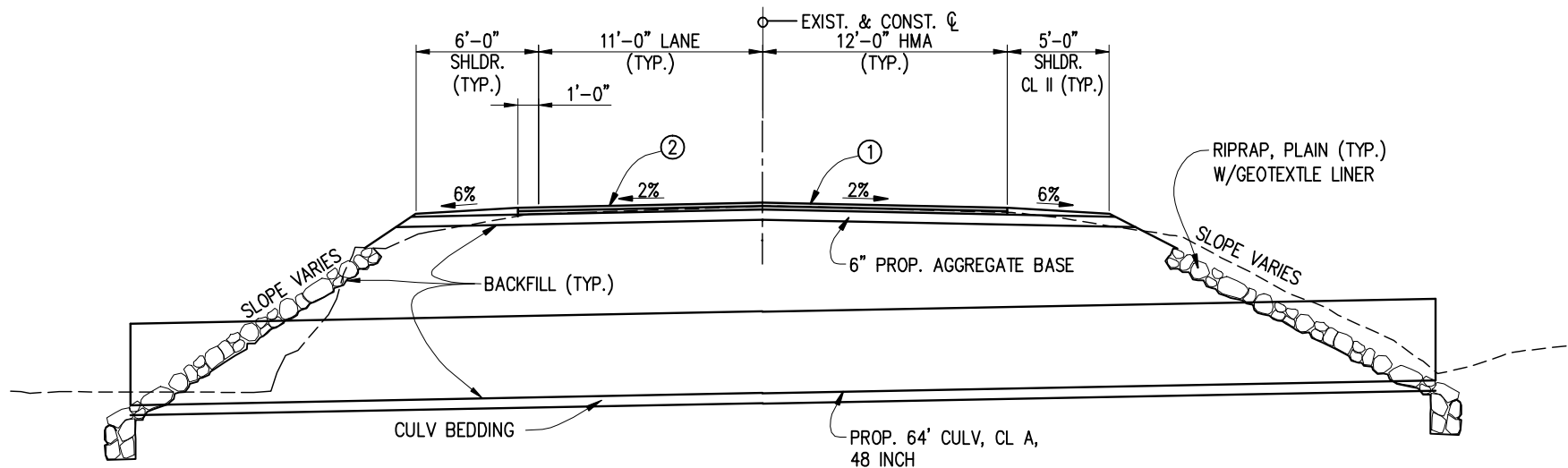


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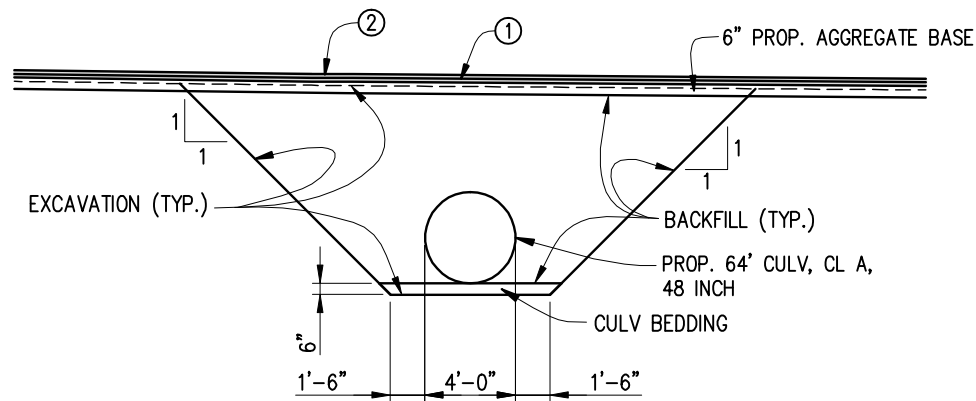
TUSCOLA COUNTY ROAD COMMISSION
BRAY RD. OVER TRIB. TO SMITH DR.

SECTIONS 28 & 29
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	5/11	37 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



TYPICAL SECTION THROUGH CULVERT



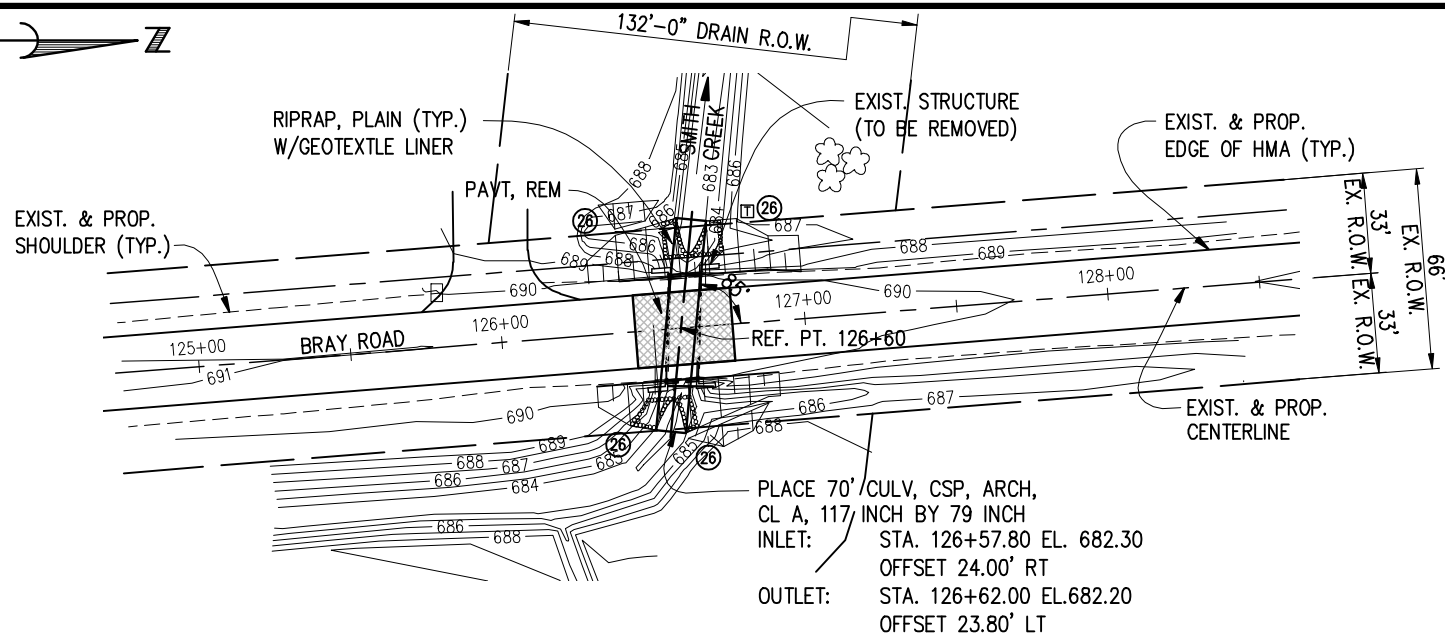
TYPICAL CULVERT SECTION

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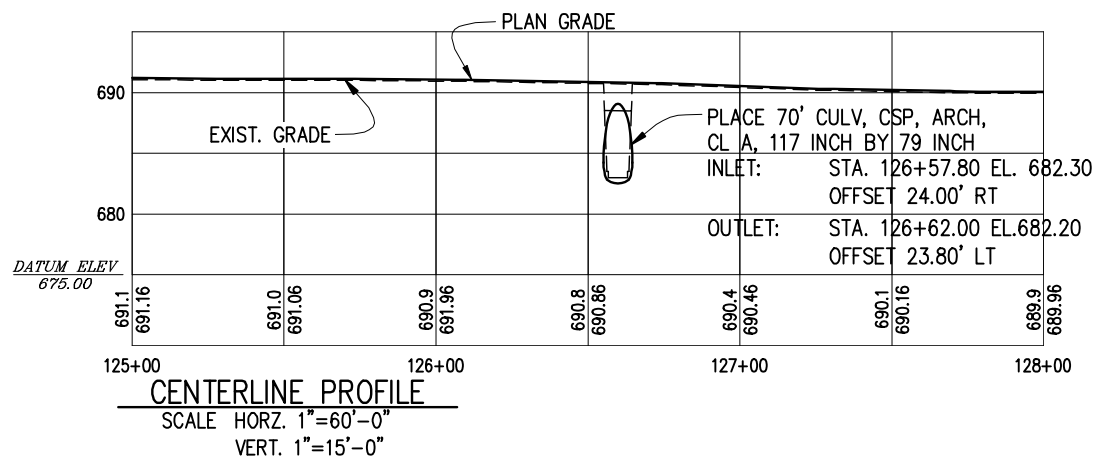
TUSCOLA COUNTY ROAD COMMISSION
BRAY RD. OVER TRIB. TO SMITH DR.

SECTIONS 28 & 29
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
JMK	5/11	38 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



PLAN OF SITE
SCALE 1"=60'-0"



BENCH MARKS

BM #54
RR SPIKE IN 18" ELM EL. 689.45
STA: 127+03 143' LT.

NOTES:
CULV, CSP, ARCH, CL A, 117 INCH BY 75 INCH SHALL BE POLYMER PRE-COATED

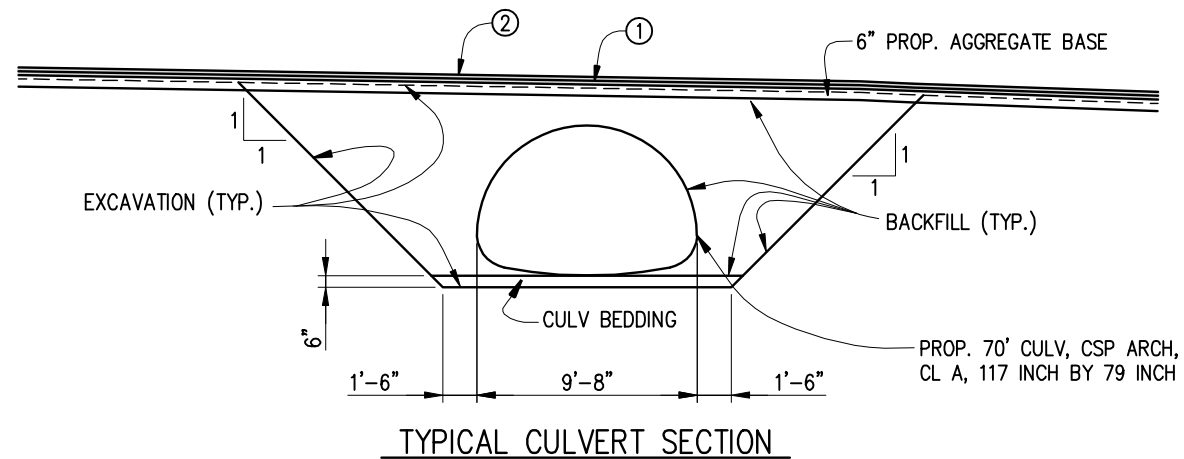
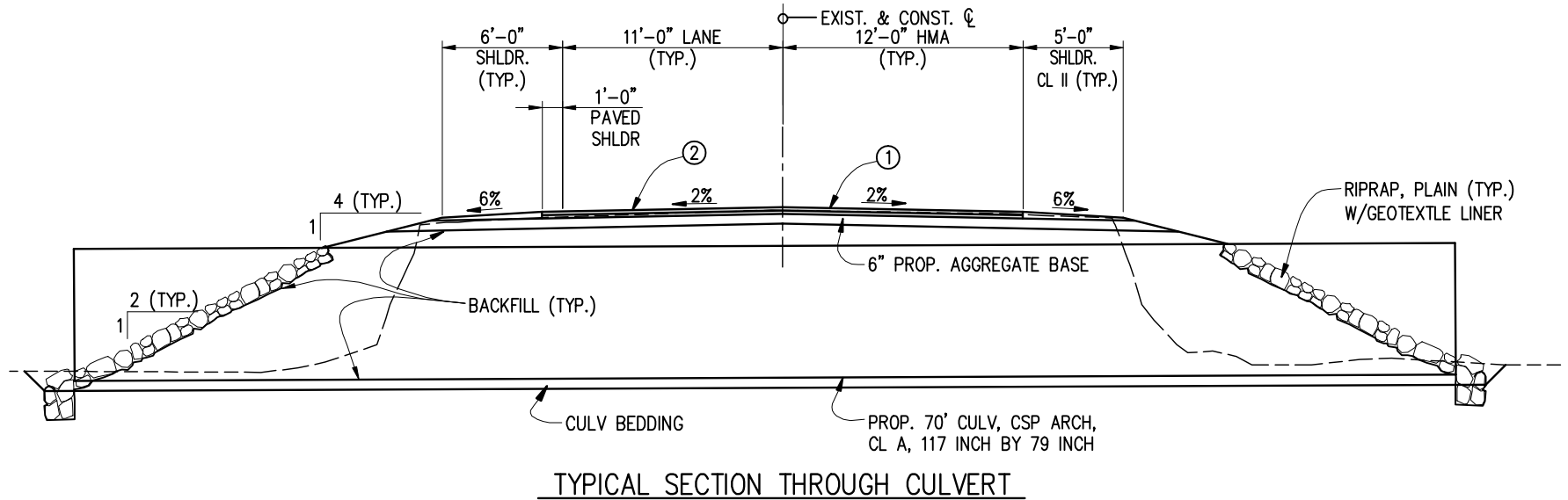
(26) REFERS TO LEGEND IN STANDARD PLAN R-96 SERIES

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TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER SMITH DRAIN

SECTIONS 20 & 21
ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
TAS	3/11	39 OF 40
CHK:	DATE:	
MDS	3/11	W.O. NO. 79-107-4

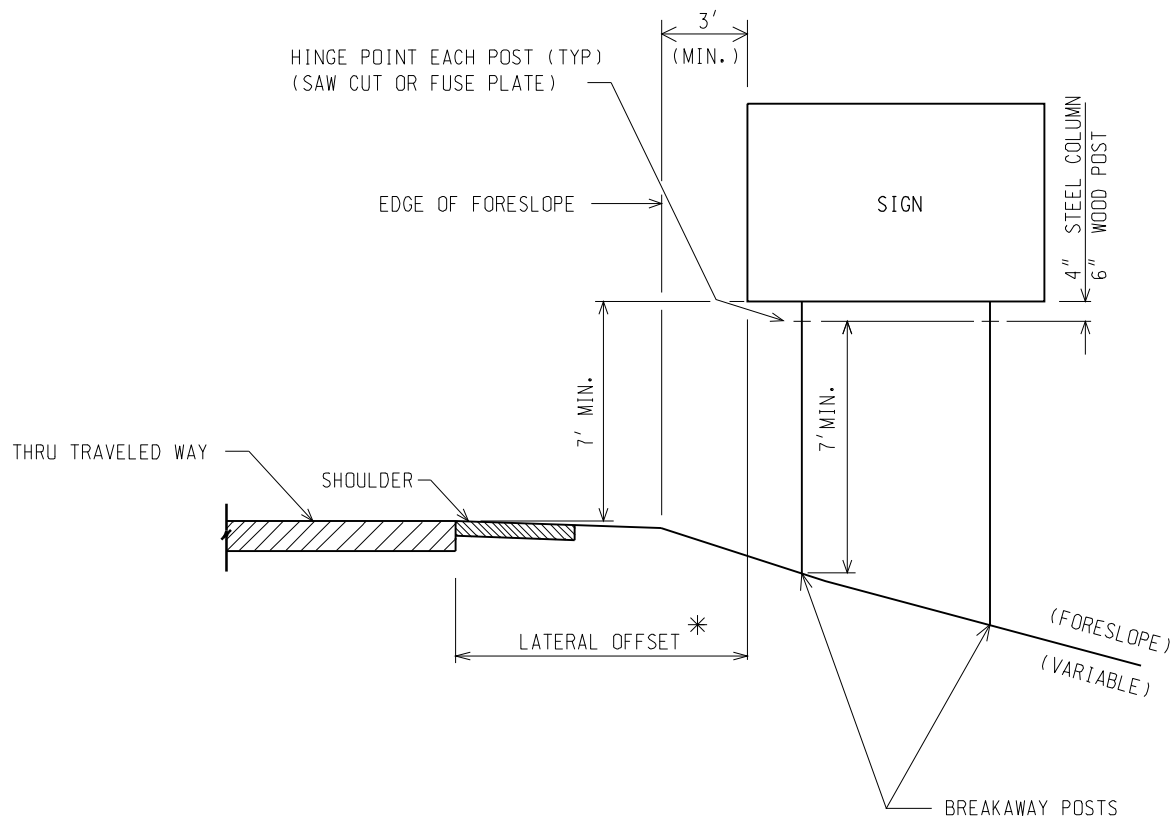


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 405 RIVER STREET, ALPENA, MICHIGAN 49707
 PHONE: (989) 354-3178 FAX: (989) 354-3191

TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD OVER SMITH DRAIN

SECTIONS 20 & 21
 ARBELA TOWNSHIP T10N-R7E

BY:	DATE:	SHEET NO.
JMK	5/11	40 OF 40
CHK:	DATE:	
MDS	5/11	W.O. NO. 79-107-4



* THE LATERAL OFFSET SHALL BE 30' (MIN.), FOR MAINTENANCE PURPOSES.

SIGN PLACEMENT-ELEVATION VIEW: FREEWAY (FORESLOPE)

NOT TO SCALE

File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn

Rev. 03/17/2009 jt



PREPARED BY
TRAFFIC AND SAFETY

DRAWN BY: KBK/ECH

CHECKED BY: AJU

John C. Friend
ENGINEER OF DELIVERY
Mark A. Van Pelt
ENGINEER OF DEVELOPMENT

10/22/09
FHWA APPROVAL DATE

235

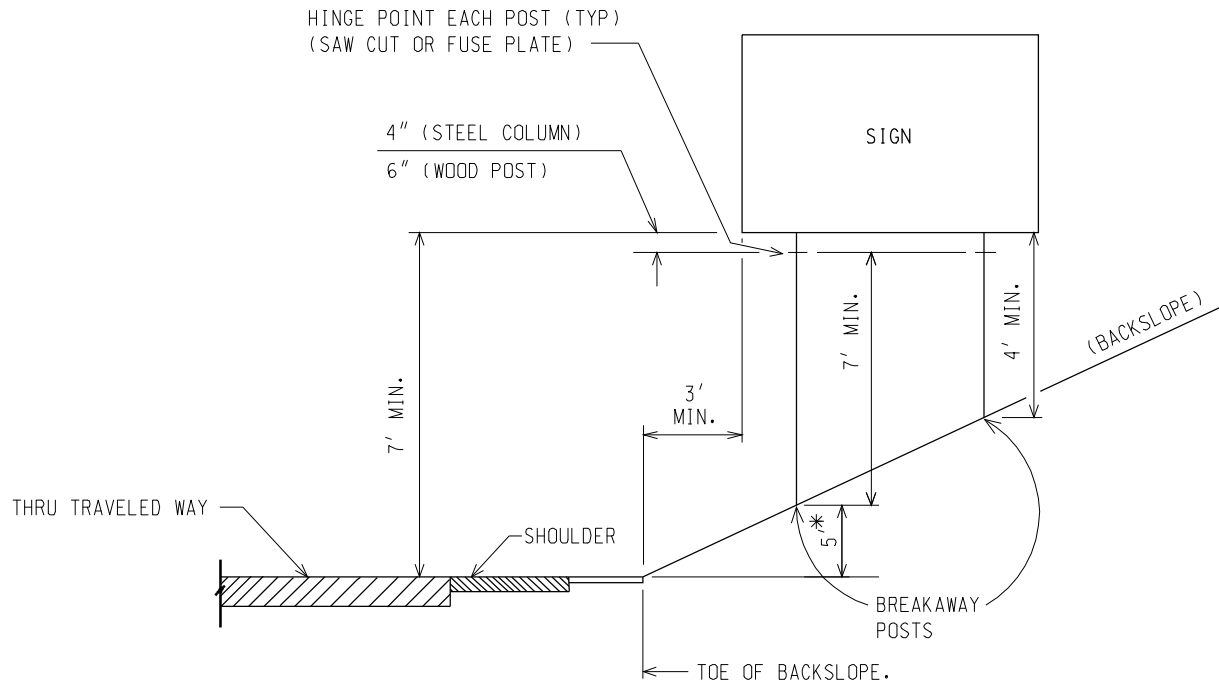
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR
**ROADSIDE SIGN LOCATIONS
& SUPPORT SPACING**

03/17/09
PLAN DATE

SIGN-120-B

SHEET
1 of 8

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



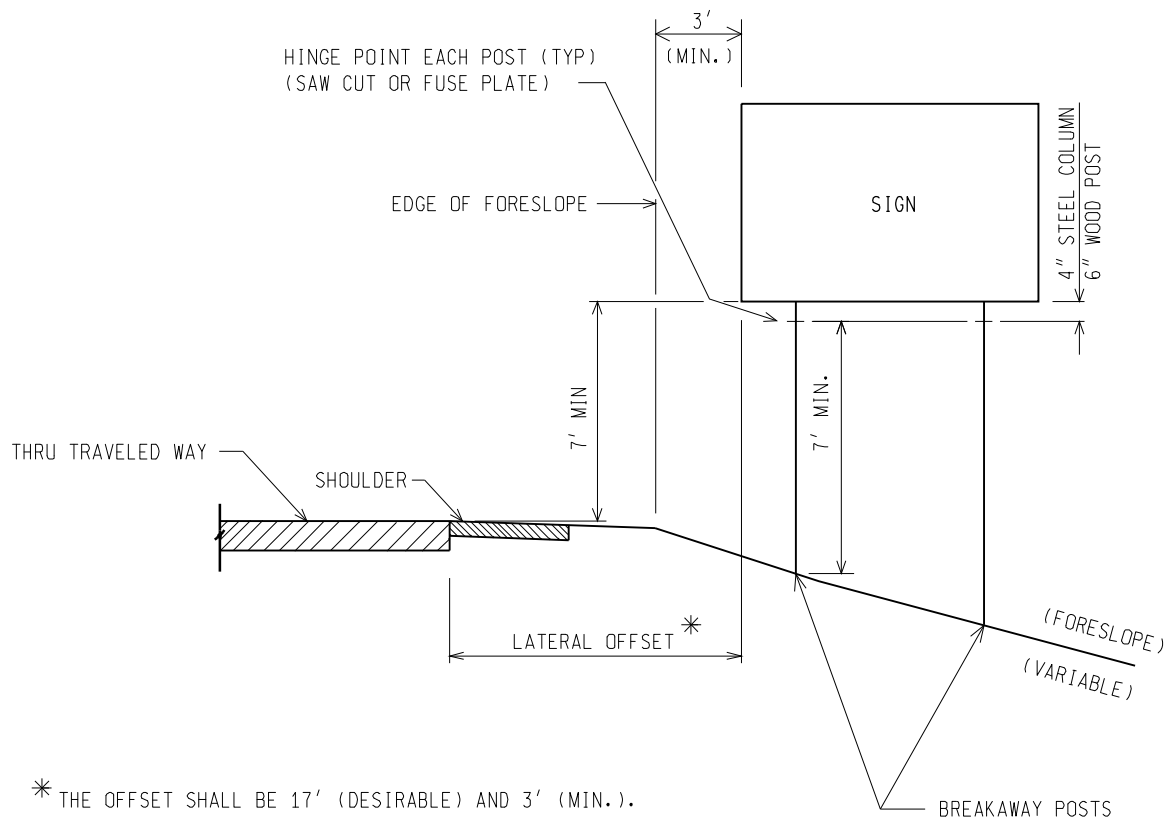
* IN DEPRESSED SECTIONS WITH 3:1 OR STEEPER BACKSLOPE, IF THE FRONT (TRAFFIC SIDE) POST CANNOT BE LOCATED AT 7' ABOVE SHOULDER ELEVATION, THEN A 3' MINIMUM OFFSET FROM THE TOE OF SLOPE SHALL BE MAINTAINED AND THE SIGN PROTECTED WITH AN APPROVED BARRIER. SEE GENERAL NOTE 5.

SIGN PLACEMENT-ELEVATION VIEW: FREEWAY (BACKSLOPE)

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 2 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

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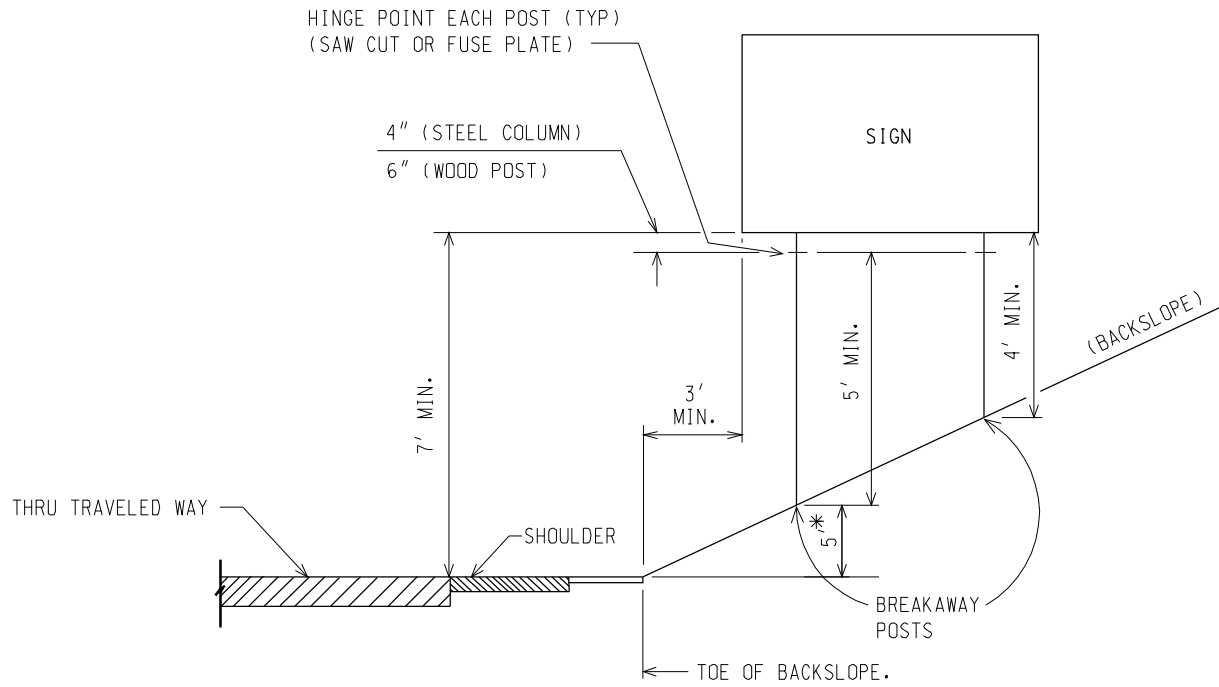


SIGN PLACEMENT-ELEVATION VIEW: NON-FREEWAY (FORESLOPE)

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 3 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

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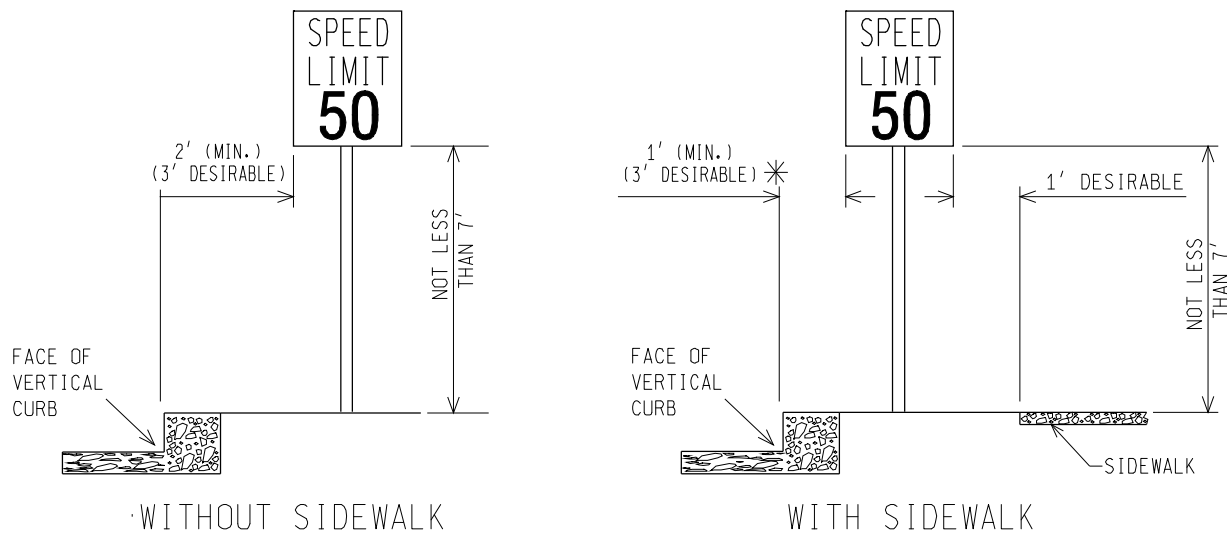
* IN DEPRESSED SECTIONS WITH 3:1 OR STEEPER BACKSLOPE, IF THE FRONT (TRAFFIC SIDE) POST CANNOT BE LOCATED AT 5' ABOVE SHOULDER ELEVATION, THEN A 3' MINIMUM OFFSET FROM THE TOE OF SLOPE SHALL BE MAINTAINED AND THE SIGN PROTECTED WITH AN APPROVED BARRIER. SEE GENERAL NOTE 5.

SIGN PLACEMENT-ELEVATION VIEW: NON-FREEWAY (BACKSLOPE)

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 4 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

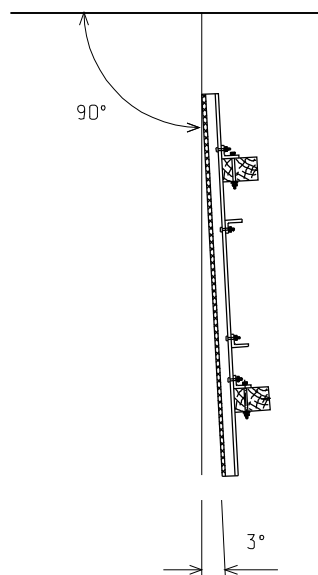
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



*WHEN DIRECTED BY THE ENGINEER, 1' IS PERMITTED IN AREAS WHERE SIDEWALK OR UTILITY POLES ARE CLOSE TO CURB PER MMUTCD.

NOTE: SLOPING CURBS SHOULD BE TREATED AS FLAT.

SIGN PLACEMENT ALONG VERTICAL CURB ELEVATION VIEW

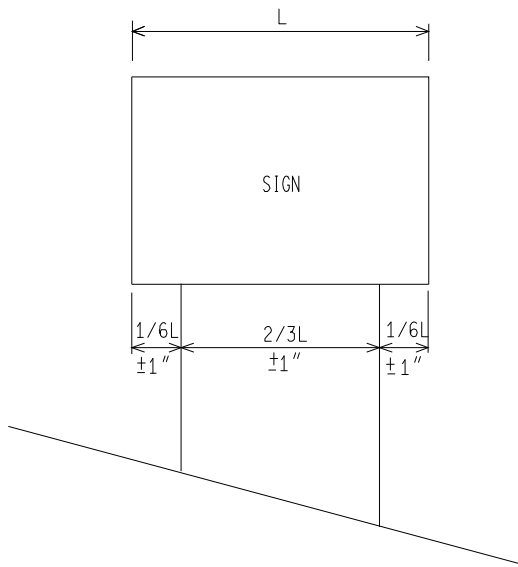


SIGN ORIENTATION

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 5 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

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2 POST SIGN SUPPORT SPACING

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 6 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

SIGN BOTTOM HEIGHTS

CONVENTIONAL ROADS

7'-RURAL AREAS

7'-URBAN AREAS

7'-ALL CONDITIONS WHERE SIDEWALKS EXISTS

RAMPS/CROSSROADS

7'-RAMP AND CROSSROAD SIGNING
(WITHOUT VERTICAL CURB)

7'-RAMP AND CROSSROAD SIGNING
(WITH VERTICAL CURB)

7'-ALL CONDITIONS WHERE SIDEWALK EXISTS

FREEWAYS/EXPRESSWAYS

7'-ROUTE MARKERS, WARNING AND
REGULATORY SIGNS

7'-ALL OTHER FREEWAY/EXPRESSWAY SIGNS

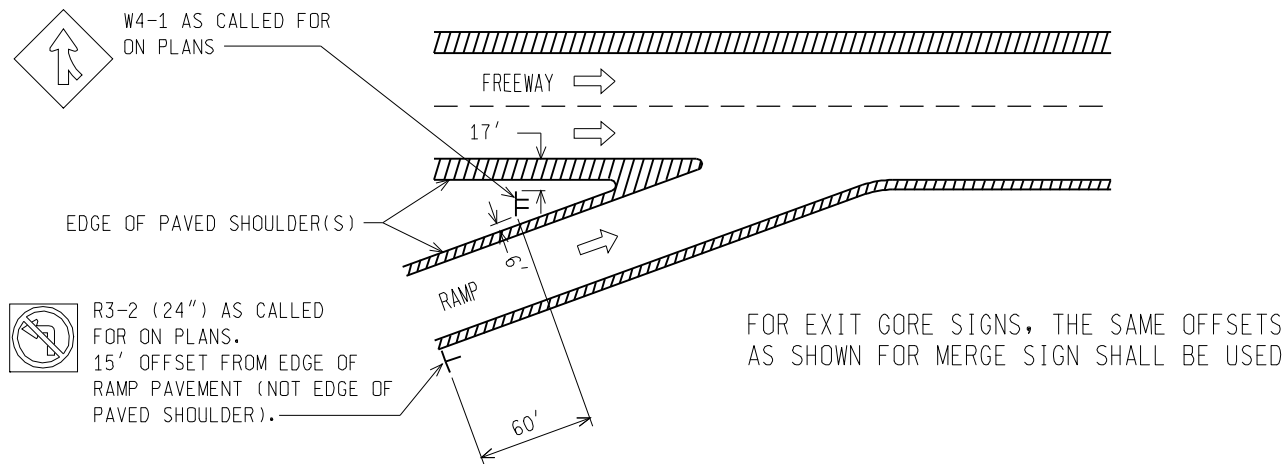
NOTES:

1. PARKING SIGNS MOUNTED BELOW A PARENT SIGN MAY HAVE A BOTTOM HEIGHT 1' OR 1.5' (DEPENDENT ON SIGN SIZE) LESS THAN BOTTOM HEIGHTS LISTED FOR PARENT SIGNS.
2. BOTTOM HEIGHT OF ALL SIGNS ARE 7' EXCEPT THE FOLLOWING:
OBJECT MARKERS- 4'
MILE POST MARKERS- 4'
3. CONVENTIONAL ROAD-A STREET OR HIGHWAY OTHER THAN A FREEWAY OR EXPRESSWAY.
4. EXPRESSWAY-A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.
5. FREEWAY-A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

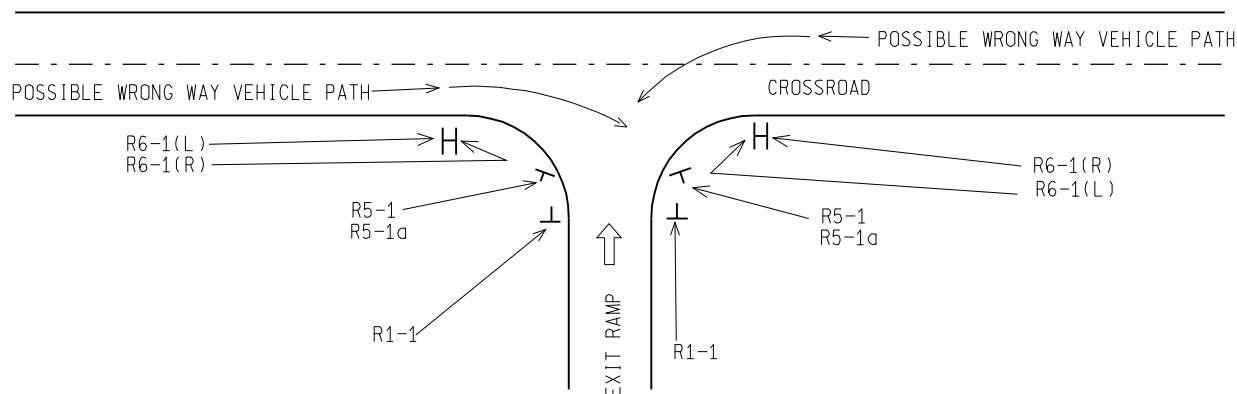
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 7 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 j+			

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



PLACEMENT OF MERGE & NO LEFT TURN SIGNS AT ENTRANCE RAMP



TYPICAL LOCATION OF R5-1 & R5-1a ON EXIT RAMPS. THESE SIGNS SHOULD BE TURNED APPROXIMATELY 20 DEGREES FROM THE CROSSROAD TO FACE THE PATHS OF POSSIBLE WRONG WAY VEHICLE MOVEMENTS.

PLACEMENT OF SIGNS AT EXIT RAMP TERMINALS

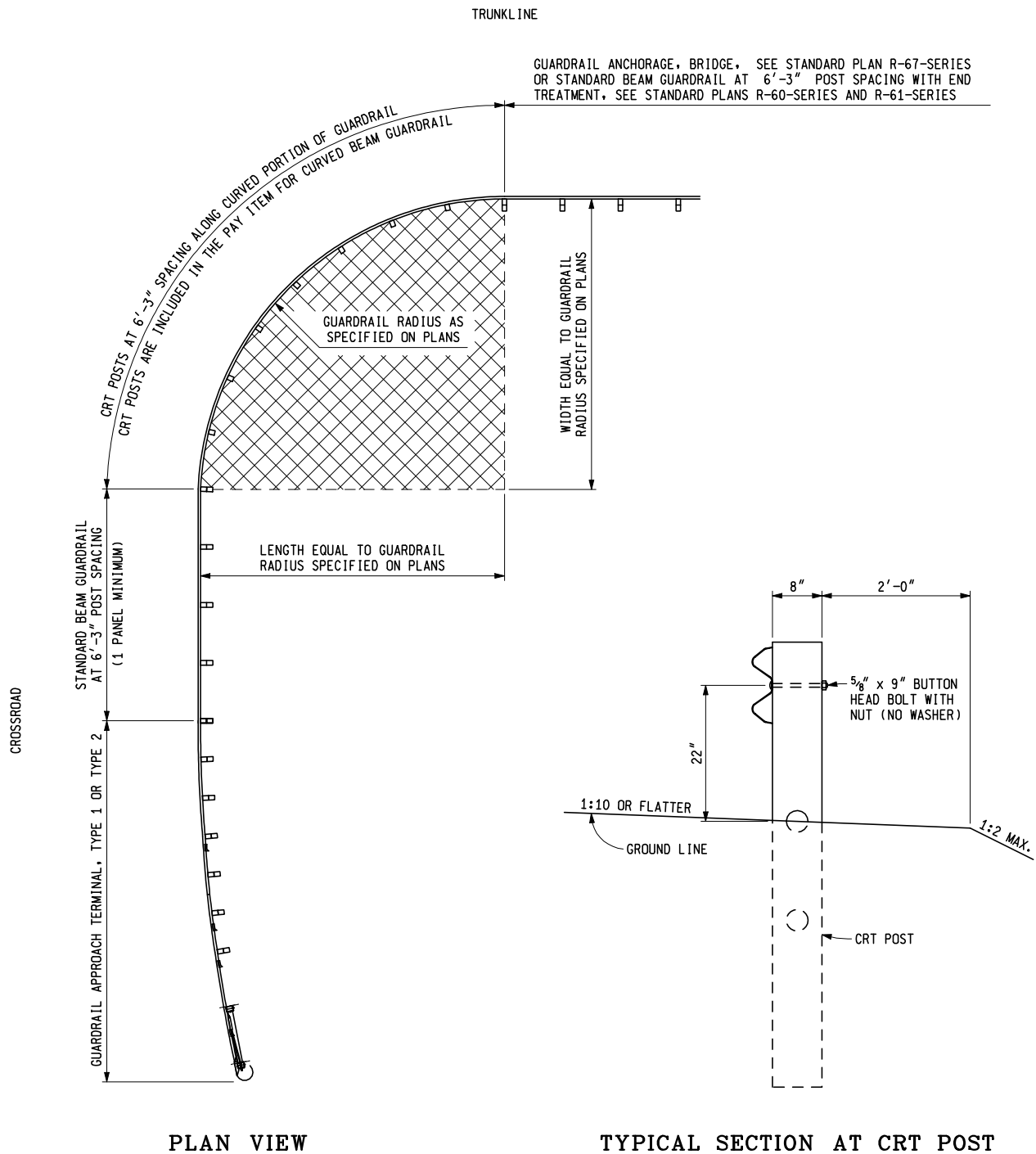
GENERAL NOTES:

1. LATERAL OFFSET CLEARANCE OF ALL SIGNS SHALL BE AS INDICATED UNLESS OTHERWISE SHOWN ON CONTRACT SIGN PLAN SHEETS OR IN THE PROPOSAL.
2. THE TERM "SIGN" AS USED ON THIS PLAN MEANS A SINGLE PANEL OR GROUP OF PANELS COMBINED TO FORM ONE INSTALLATION.
3. BOTTOM HEIGHT (BH) SHALL BE AS INDICATED ON SHEET 6 UNLESS OTHERWISE SHOWN ON THE ELEVATION SIGN PLAN SHEET OR IN THE PROPOSAL. BOTTOM HEIGHT IS THE DIFFERENCE IN ELEVATION OF THE NEAREST EDGE OF THE TRAVELED LANE AND BOTTOM OF THE SIGN.
4. SIGN LOCATIONS SHALL BE AS SHOWN UNLESS OTHERWISE SPECIFIED ON CONTRACT SIGN PLAN SHEETS OR IN THE PROPOSAL.
5. WHEN SIGNS ARE TO BE INSTALLED BEHIND CONCRETE BARRIER OR GUARDRAIL, THE NEAR EDGE OF SIGN SHOULD BE SET BACK A MINIMUM OF 3' MEASURED FROM THE BACK OF BARRIER OR GUARDRAIL POSTS. BREAKWAY SIGN POSTS ARE NOT REQUIRED AT THESE LOCATIONS.
6. FOR PLACEMENT OF STOP SIGNS AT CROSSROADS SEE MMUTCD.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	10/22/09 FHWA APPROVAL DATE	03/17/09 PLAN DATE	SIGN-120-B	SHEET 8 of 8
File:PW:RD/TS/TYP/SIGNS/SSS/SIGN-120-A-ENG.dgn	Rev. 03/17/2009 jf			

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NOTE:
FOR DRIVEWAYS, IF R.O.W. ALLOWS, USE DEPARTING END TERMINAL. (SEE STANDARD PLAN R-66-SERIES) IF R.O.W. IS LIMITED SUCH THAT A TYPICAL DEPARTING END TERMINAL CANNOT BE FIT IN, DRILL 8 HOLES IN THE CURVED BEAM GUARDRAIL TO ACCOMMODATE AN ANCHOR PLATE AND INSTALL A CABLE ANCHOR SIMILAR TO THAT OF THE DEPARTING END TERMINAL ON STANDARD PLAN R-66-SERIES. THIS WILL BE PAID FOR AS GUARDRAIL, DEPARTING TERMINAL.



PREPARED BY
DESIGN
SUPPORT AREA

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____
ENGINEER OF DELIVERY

APPROVED BY: _____
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT SPECIAL DETAIL FOR

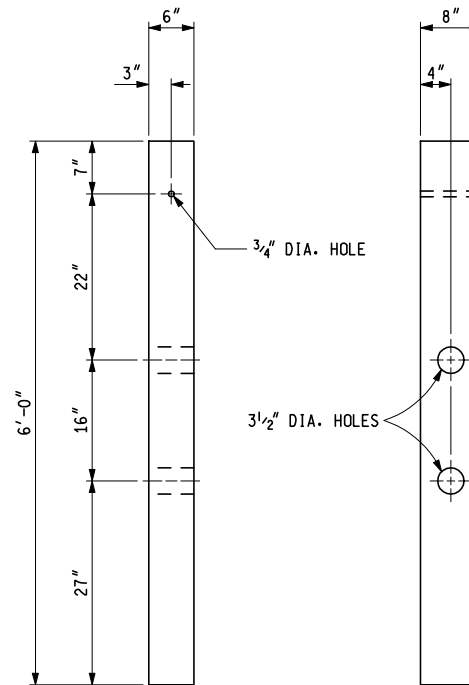
GUARDRAIL AT INTERSECTIONS

F.H.W.A. APPROVAL

5-24-2001
PLAN DATE

SPECIAL
DETAIL **21**

SHEET
1 OF 2



CONTROLLED RELEASING TERMINAL POST (CRT)

NOTES:

THE SLOPE IN FRONT OF THE INSTALLATION SHOULD NOT EXCEED 1:10 AND EXTEND TO 2'-0" BEYOND THE GUARDRAIL POST. THE SLOPE BEYOND THIS HINGE LINE SHALL BE 1:2 OR FLATTER.

THE CROSS HATCHED AREA BEHIND THE CURVED GUARDRAIL SHOULD BE KEPT FREE OF FIXED OBJECTS.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT SPECIAL DETAIL FOR

GUARDRAIL AT INTERSECTIONS

F.H.W.A. APPROVAL

5-24-2001
PLAN DATE

SPECIAL DETAIL 21

SHEET
2 OF 2

TUSCOLA COUNTY ROAD COMMISSION

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION

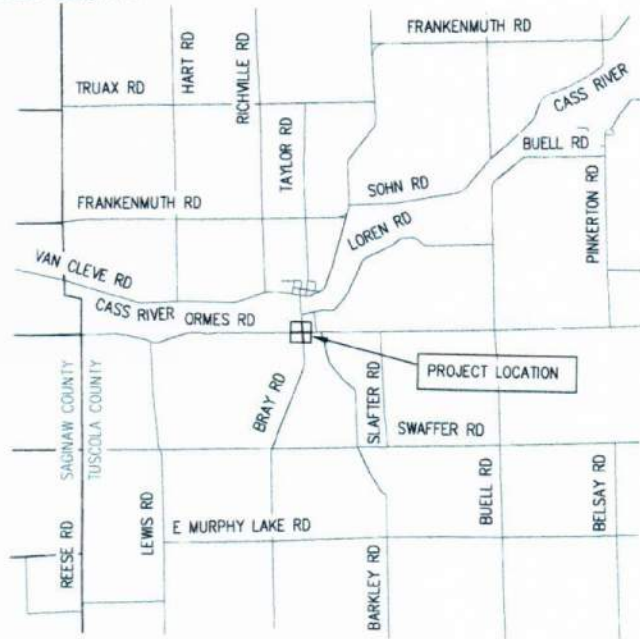
CONTROL SECTION: HSIP 79609
 JOB NUMBER: 123794A
 FEDERAL PROJECT NO: HSIP 1579(011)
 FEDERAL ITEM NO: RT 0210

TRAFFIC DATA

ORMES ROAD:
 2290 ----- PRESENT ADT (2015)
 3403 ----- FUTURE ADT (2035)
 55 ----- POSTED SPEED
 60 ----- DESIGN SPEED
 3% ----- COMMERCIAL

BRAY ROAD:
 3030 ----- PRESENT ADT (2015)
 4502 ----- FUTURE ADT (2035)
 55 ----- POSTED SPEED
 60 ----- DESIGN SPEED
 3% ----- COMMERCIAL

ORMES ROAD AT BRAY ROAD
 TUSCOLA TOWNSHIP
 TUSCOLA COUNTY



SECTIONS 28 & 33, T11N-R7E

MDOT ROAD STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MDOT STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

BEDDING AND FILLING AROUND PIPE CULVERTS
 UTILITY TRENCHES
 PRECAST CONCRETE END SECTION FOR PIPE CULVERT
 STEEL END SECTION
 CULVERT SLOPED END SECTION
 SOIL EROSION & SEDIMENTATION CONTROL MEASURES
 SEEDING AND TREE PLANTING

R-82-D
 R-83-B
 R-86-E
 R-88-D
 R-95-F
 R-96-E
 R-100-H

*SPECIAL DETAILS INCLUDED IN PROPOSAL

MDOT TRAFFIC AND SAFETY STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MDOT STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

LONGITUDINAL LINE TYPES AND PLACEMENT
 ROADSIDE SIGN LOCATIONS AND SUPPORT SPACING
 STEEL POSTS
 GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
 TEMPORARY TRAFFIC CONTROL DEVICES

PAVE-905-B
 SIGN-120-D
 SIGN-200-D
 W2D-100-A*
 W2D-125-E*

*SPECIAL DETAILS INCLUDED IN PROPOSAL

THE DESIGN OF THIS ROAD IS BASED ON THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION, AND SECTION C (3R) OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES ON LOCAL AGENCY PROJECTS - DATED 3-04-14, AND THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2011 EDITION.

CONTRACT FOR:
 INTERSECTION IMPROVEMENTS, DRAINAGE IMPROVEMENTS, AND PERMANENT SIGNING

TUSCOLA COUNTY ROAD COMMISSION APPROVAL

CHAIRMAN	<i>John G. Laurie</i>	7-2-15
	JACK LAURIE	DATE
VICE-CHAIRMAN	<i>Gary J. Parsell</i>	7-2-15
	GARY PARSELL	DATE
MEMBER	<i>Julie Matuszak</i>	7/2/15
	JULIE MATUSZAK	DATE
MEMBER	<i>Pat Sheridan</i>	7-2-15
	PAT SHERIDAN	DATE
MEMBER	<i>Mike Zwerch</i>	7-2-15
	MIKE ZWERCH	DATE
COUNTY HIGHWAY ENGINEER	<i>Michelle Zaverucha</i>	7/2/15
	MICHELLE ZAVERUCHA, P.E.	DATE

THESE PLANS WERE PREPARED FOR THE
 TUSCOLA COUNTY ROAD COMMISSION BY



Michael G. Niederquell
 MICHAEL G. NIEDERQUELL, P.E.



6201049825

REGISTRATION NO. 6-30-15
 SAGINAW OFFICE
 230 S. Washington Ave.
 Saginaw, MI 48607
 Tel. 989-754-4717
 Fax. 989-754-4440
 www.SpicerGroup.com

LOG OF PROJECT

Page 2

**Tuscola County
CS HSIP 79609
JN 123794A**

LOCATION

The project location is at the intersection of Ormes Road and Bray Road in Tuscola Township, Tuscola County, as shown on the vicinity map and detail sheets included in this proposal.

DESCRIPTION

This is a lighting improvement and intersection widening project. The project includes two culvert replacements. Permanent signing upgrades are also being incorporated into the project. Permanent signing upgrades will replace four stop signs (R1-1), two Stop Ahead Symbol signs (W3-1), four CROSS TRAFFIC DOES NOT STOP signs (W4-4P), two road name plaques (W16-8P), and two Cross Road Symbol signs (W2-1).

Slope Restoration shall be used where the earth has been disturbed to construct the widened intersection and additional culverts as shown in the plans or directed by the Engineer.

Traffic shall be maintained as described in the Special Provision contained in this proposal.

MISCELLANEOUS PROJECT QUANTITIES: ITEMS OF WORK

Mobilization, Max. _____	1 LS
Erosion Control, Check Dam, Stone.....	26 Ft
Erosion Control, Sediment Trap	2 Ea
Erosion Control, Silt Fence.....	400 Ft
Maintenance Gravel	10 Ton
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn.....	10 Ea
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	10 Ea
Lighted Arrow, Type C, Furn	2 Ea
Lighted Arrow, Type C, Oper.....	2 Ea
Minor Traf Devices.....	1 LS
Plastic Drum, High Intensity, Furn	25 Ea
Plastic Drum, High Intensity, Oper.....	25 Ea
Sign Cover	6 Ea
Sign, Type B, Temp, Prismatic, Furn	490 Sft
Sign, Type B, Temp, Prismatic, Oper	490 Sft
Sign, Type B, Temp, Prismatic, Special, Furn.....	146 Sft
Sign, Type B, Temp, Prismatic, Special, Oper	146 Sft
Traf Regulator Control.....	1 LS
Riprap, Plain	90 Syd

The following items of work shall be used at the Ormes Road and Bray Road intersection

Culv, Rem, 24 inch to 48 inch	1 Ea
Culv, Rem, Over 48 inch	1 Ea

LOG OF PROJECT

Page 3

**Tuscola County
CS HSIP 79609
JN 123794A**

Ditch Cleanout	7 Sta
Embankment, CIP	67 Cyd
Excavation, Earth	55 Cyd
Subbase, CIP	88 Cyd
Aggregate Base, 6 inch, Modified	263 Syd
Shoulder, Cl II, 6 inch, Modified	25 Syd
Culv End Sect, 12 inch	3 Ea
Culv, Cl E, 30 inch	84 Ft
Culv, Cl F, 12 inch	44 Ft
Culv, Slp End Sect, 1 on 4, 30 inch, Longit	2 Ea
Culv, Slp End Sect, Arch Pipe, 1 on 4, 71 inch by 47 inch, Longit	2 Ea
Culv, CSP Arch, Cl A, 71 inch by 47 inch	72 Ft
Tee, CSP, 47 inch by 12 inch	1 Ea
Sewer Tap, 30 inch	2 Ea
Cold Milling HMA Surface	292 Syd
HMA Surface, Rem	111 Syd
HMA, 13A	74 Ton
Slope Restoration, Type A, Modified	180 Syd
Slope Restoration, Type B, Modified	99 Syd
Slope Restoration, Type C, Modified	693 Syd

The following items of work shall be used on Ormes Road for permanent signing:

Post, Steel, 3 lb	199 Ft
Sign, Type III, Erect, Salv	2 Ea
Sign, Type III, Rem	16 Ea
Sign, Type IIIA	36 Sft
Sign, Type IIIB	62 Sft
Reflective Panel for Permanent Sign Support, 6 foot	8 Ea
Pavt Mrkg, Waterborne, 4 inch White	108 Ft
Pavt Mrkg, Waterborne, 4 inch Yellow	52 Ft
Pavt Mrkg, Waterborne, 2nd Application, 4 inch White	108 Ft
Pavt Mrkg, Waterborne, 2nd Application, 4 inch Yellow	52 Ft

LOG OF PROJECT

Page 4

**Tuscola County
CS HSIP 79609
JN 123794A**

GENERAL PLAN NOTES

SPECIFICATIONS FOR CONSTRUCTION

The improvements covered by these plans shall be done in accordance with the MDOT 2012 Standard Specifications for Construction and the Special Provisions and supplemental specifications located within this proposal.

UNDERGROUND UTILITIES

For protection of underground utilities and in conformance with Public Act 174, 2013, the contractor shall dial 1-800-482-7171 or 811 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be part of the "Miss Dig" alert system.

The existing utilities on these drawings have been shown according to the best available information. Contractor shall field locate all utilities prior to beginning construction and shall notify the engineer as to where possible conflict exists.

EXISTING UTILITIES

The Contractor shall be responsible for any damage to properly identified existing utilities during the construction of this project.

PAVEMENT MARKINGS AND SIGNS

All permanent pavement markings, shapes, and dimensions shall conform with MDOT pavement marking typicals PAVE-900 Series

ILLICIT CONNECTIONS TO STORM WATER SYSTEM

Connections to existing storm conveyance systems not shown on the plans must be reconnected with minimal interruption in service. Size, type and location by station and offset and any suspect illicit discharge observed shall be reported to the engineer prior to reconnecting. Contractor shall proceed as directed by engineer.

SOIL EROSION MEASURES

Appropriate soil erosion and sedimentation control measures shall be in place prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodable slopes as directed by the Engineer. Critical ditch grades shall be protected with either sod or seed/mulch or mulch blanket as directed by the engineer.

SEED MIXTURE

The percentages for the permanent turf seed mixture on this project shall meet the requirements of the slope restoration special provision. The seed mixture will be TDS.

SLOPES

Class A slopes shall be constructed in lawn areas.

LOG OF PROJECT

Page 5

**Tuscola County
CS HSIP 79609
JN 123794A**

REMOVED/SALVAGED SIGNS

Removed signs shall become the property of the Tuscola County Road Commission and stock piled on site for TCRC pick up. Contractor shall notify the engineer when the signs are removed. Contractor shall use care when removing and salvaging as to not damage signs.

DITCH CLEANOUT

Ditch Cleanout shall only include tree removal less than 3 inches in diameter.

Ditch Cleanout for the Ormes Road construction alignment shall be as follows:

Station: 9+12 to 9+62 RT

Station: 10+49 to 12+24 LT

Ditch Cleanout for the Bray Road construction alignment shall be as follows:

Station: 8+49 to 9+49 RT

Station: 8+55 to 9+55 LT

Station: 10+45 to 11+45 RT

Station: 10+51 to 11+51 LT

LOG OF PROJECT

Page 6

**Tuscola County
CS HSIP 79609
JN 123794A**

UTILITIES

The existing utilities listed below and shown within the log represent the best information available as obtained on our surveys. This information does not relieve the Contractor of the responsibility to be satisfied as to its accuracy and the location of existing utilities.

Charter Communications
Attn: Mark Price
mark.price@charter.com
7372 Davison Road
Davison, MI 48423
(248) 240-4015

Cable TV

Consumers Energy
Attn: Kevin Couturier
kevin.couturier@cmsenergy.com
2400 Weiss Street
Saginaw, MI 48602
(989) 791-5885 (office)

Gas

DTE Energy
Attn: Reggie Brown
brownr@dteenergy.com
4100 Doerr Road
Cass City, MI 48726
(734) 397-4241 (office)

Electric

Tuscola County Road Commission
Attn: Michele Zawerucha
1733 Mertz Road
Caro, MI 48723
(989) 673-2128

Road and Storm Sewer

Wolverine/TDS Telecom
Attn: William Bouman
william.bouman@tdstelecom.com
4712 E. Main Street
P.O. Box 292
Millington, MI 48746
(989) 871-5101 (office)

Telephone

LINE TYPE LEGEND

	- EXISTING WATER MAIN
	- EXISTING SANITARY SEWER
	- EXISTING STORM SEWER
	- EXISTING UNDERGROUND TELEPHONE CABLE
	- EXISTING UNDERGROUND FIBER OPTIC
	- EXISTING GAS MAIN
	- EXISTING UNDERGROUND ELECTRIC
	- EXISTING OVERHEAD UTILITY
	- EXISTING CURB & GUTTER
	- PROPOSED STORM SEWER
	- PROPOSED CURB & GUTTER
	- PROPOSED REVERSE PAN CURB & GUTTER
	- RIGHT-OF-WAY
	- EASEMENT

SYMBOLS LEGEND

	- MANHOLE		- BARRIER FREE PARKING
	- PROPOSED MANHOLE		- FENCE
	- CATCHBASIN		- SPRINKLER
	- CURB CATCHBASIN		- RAILROAD SIGNAL
	- PROPOSED CATCHBASIN		- ANTENNA
	- FIRE HYDRANT		- SATELLITE DISH
	- PROPOSED FIRE HYDRANT		- AIR CONDITIONING UNIT
	- GAS VALVE		- SOIL BORING
	- WATER VALVE		- FOUND SURVEY CORNER
	- PROPOSED WATER VALVE		- SET 3/4" IRON PIPE
	- TELEPHONE PEDESTAL		- BREAK IN LINE
	- POWER POLE		- STUMP
	- TELEPHONE POLE		- WETLANDS
	- POWER AND TELEPHONE POLE		- PINE
	- LIGHT POLE		- BUSH
	- GUY ANCHOR AND POLE		- TREE
	- MAIL BOX		- MONITORING WELL
	- SIGN		- TELEPHONE MANHOLE
	- CABLE TV PEDESTAL		- ELECTRIC MANHOLE
	- TRANSFORMER		- HAND HOLE
	- ELECTRICAL PEDESTAL		- EXISTING SIGN-1 POST
	- EROSION CONTROL ITEM NUMBER (SEE STANDARD PLAN R-96 SERIES)		- PROPOSED SIGN-1 POST
			- EXISTING SIGN-2 POSTS
			- PROPOSED SIGN-2 POSTS

HAZARDOUS OR
FLAMMABLE MATERIAL

- GAS OR ELECTRICAL LINES LABEL

CAUTION - CRITICAL
UTILITY

- FIBER OPTIC, TELEPHONE LINES, AND WATER MAIN LABEL

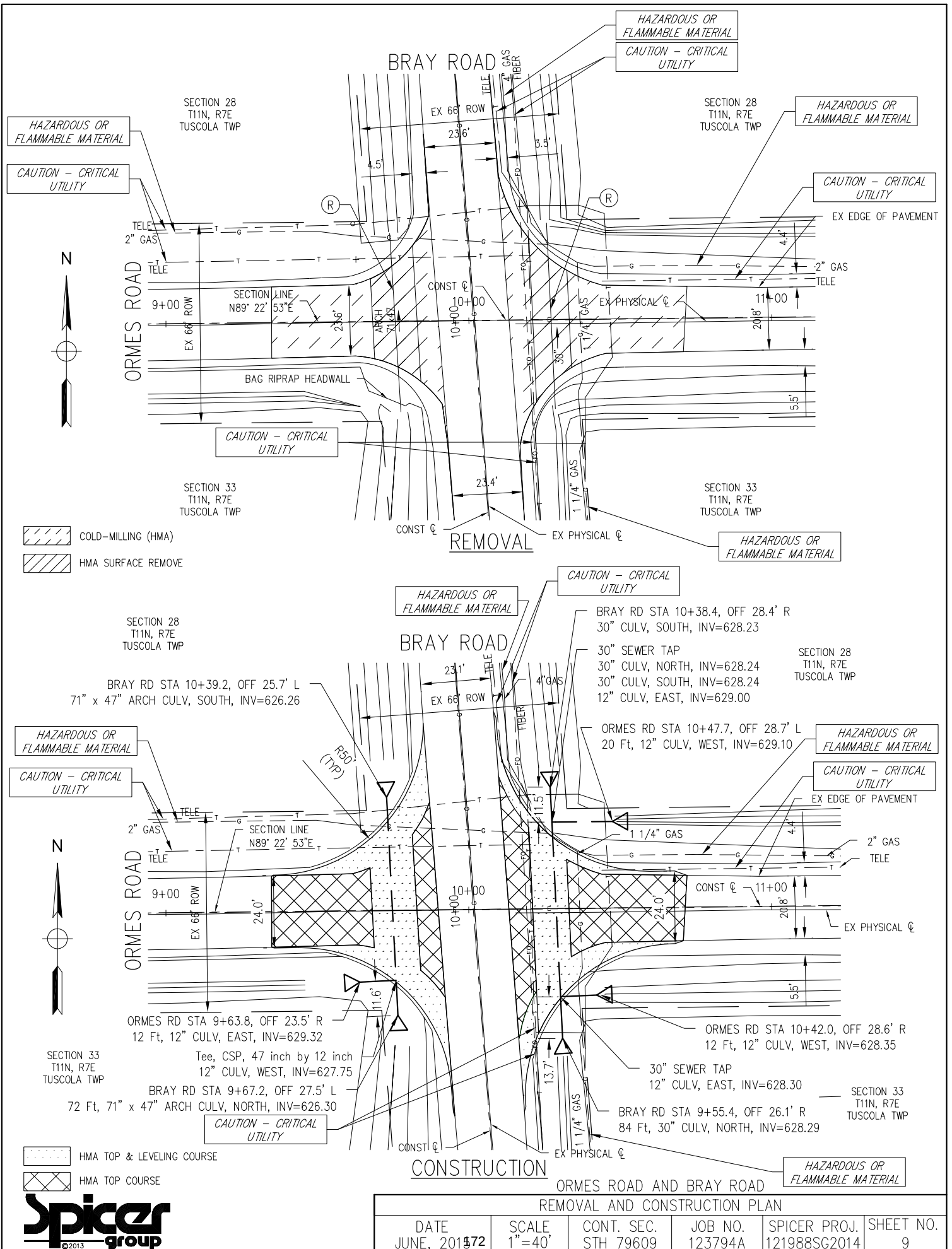
	- DR STRUCTURE COVER, ADJ, CASE _
	- ADJUST BY OTHERS
	- RELOCATE BY OTHERS
	- SIDEWALK RAMP TYPE
	- GATE BOX, ADJ, CASE _
	- WATER SHUTOFF, ADJ, CASE _
	- MONITORING WELL, ADJ, CASE _

	- ABANDON
	- BULKHEAD
	- CLEARING
	- REMOVING
	- SAVE

ORMES RD AND BRAY RD

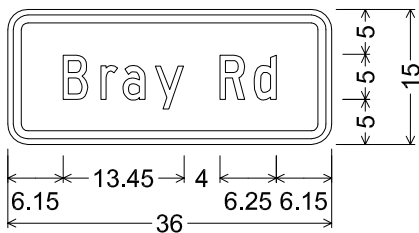
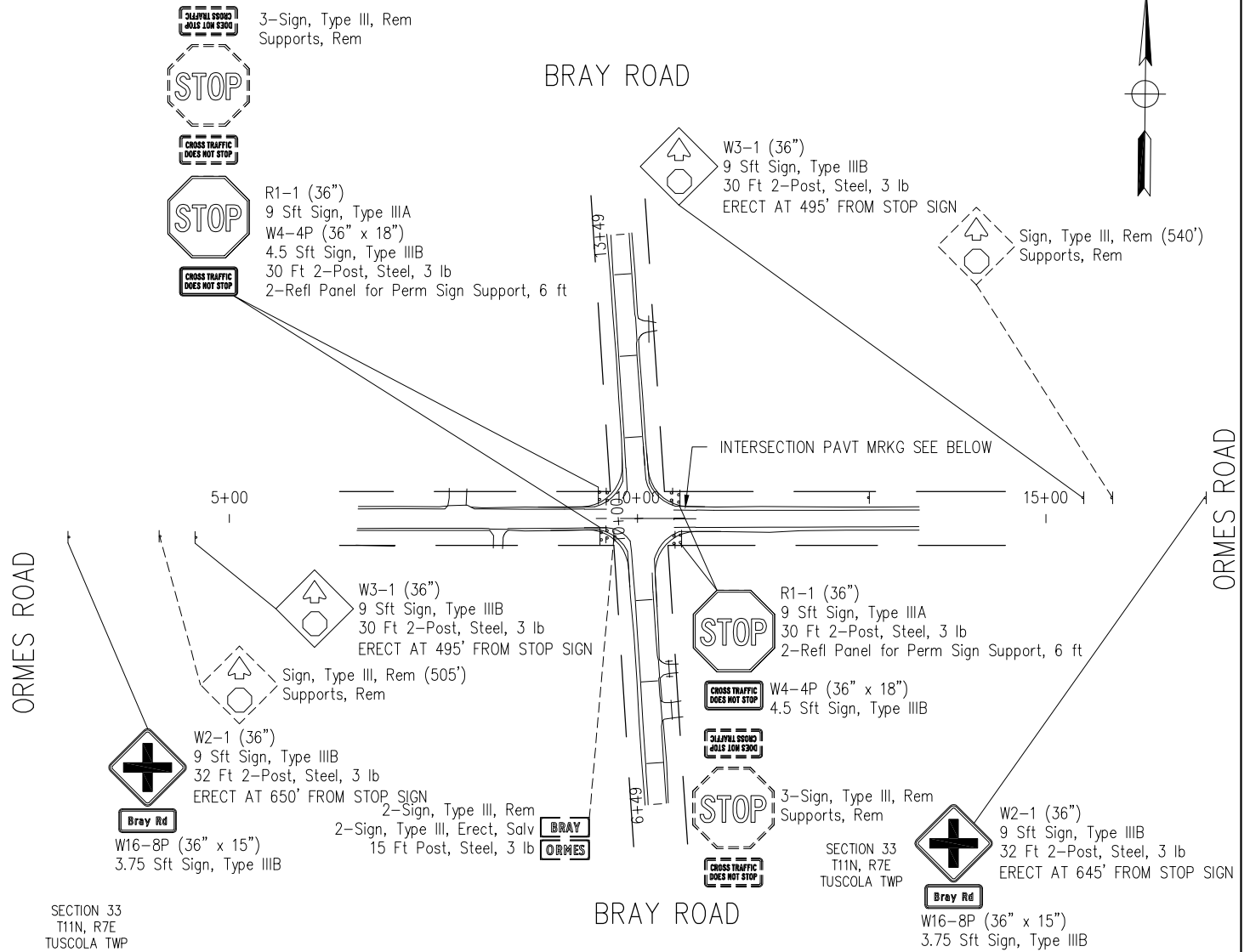
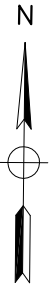
LEGEND

DATE	SCALE	CONT. SEC.	JOB NO.	SPICER PROJ.	SHEET NO.
APRIL, 2015	70 N/A	STH 79609	123794A	121988SG2014	7



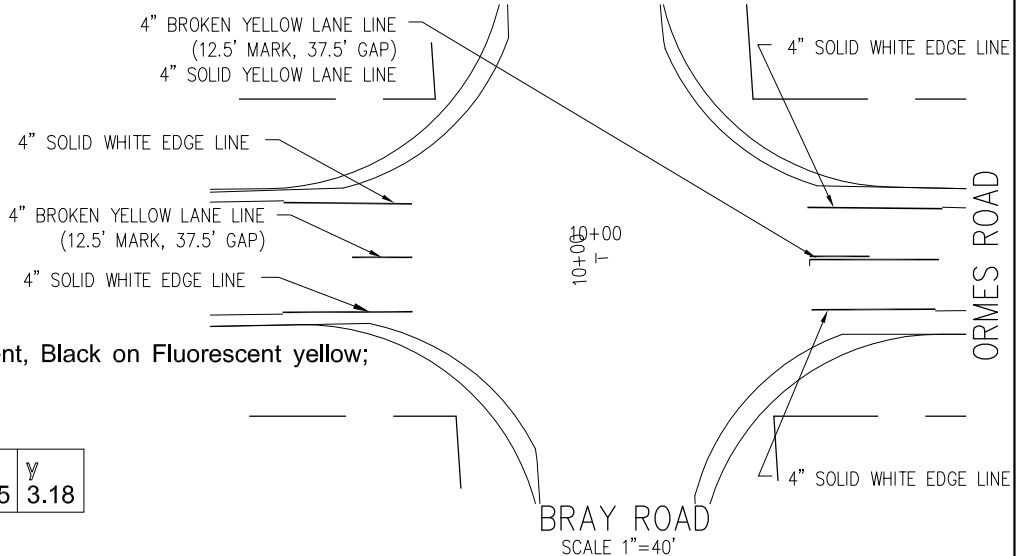
SECTION 28
T11N, R7E
TUSCOLA TWP

SECTION 28
T11N, R7E
TUSCOLA TWP



W16-8P;
2.25" Radius, 0.88" Border, 0.63" Indent, Black on Fluorescent yellow;
[Bray] C; [Rd] C;
Table of widths and spaces.

6.15	B	2.73	1.47	r	1.87	0.60	a	2.45	1.15	y	3.18
4.00	R	2.74	1.06	d	2.45	6.15					

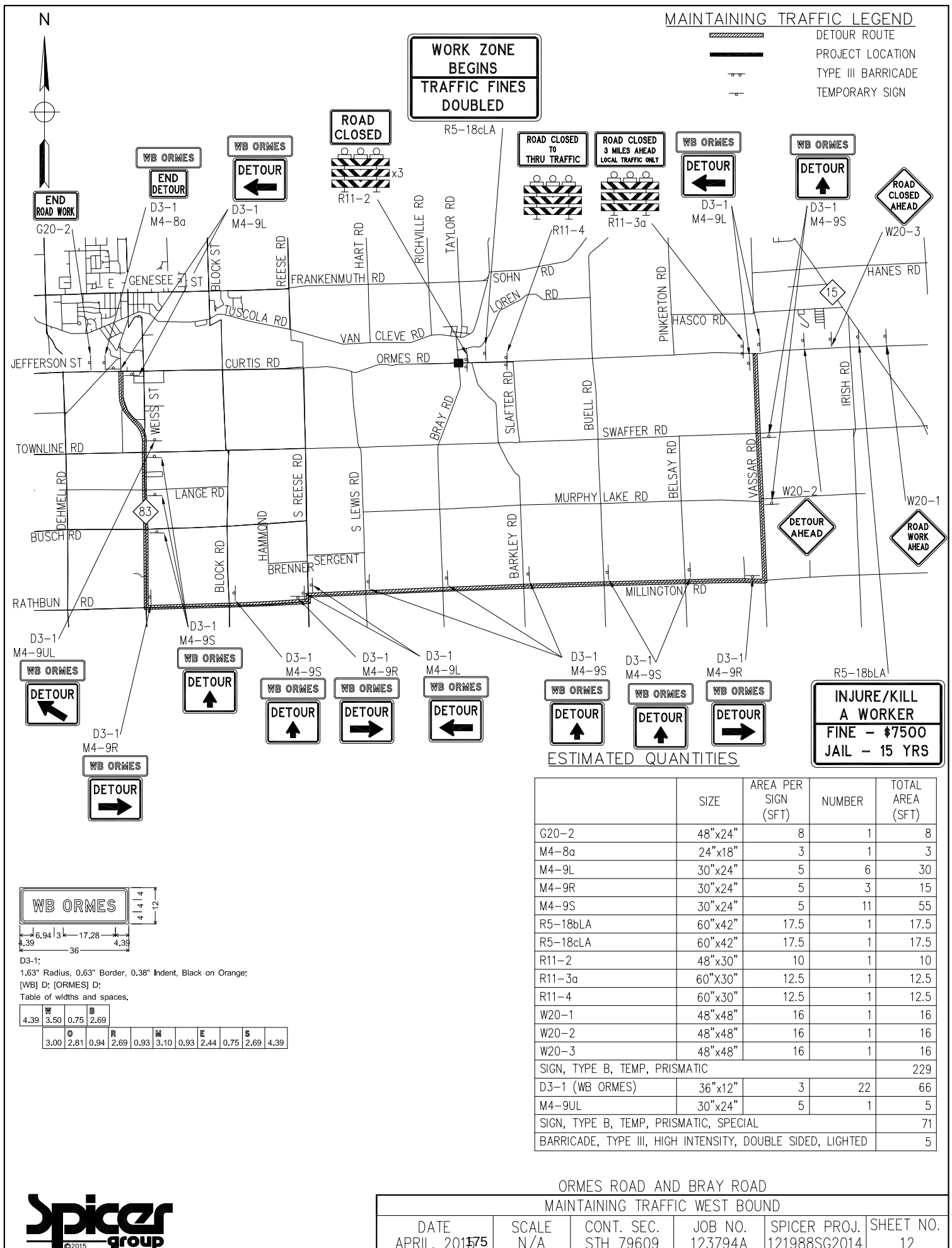


BRAY ROAD
SCALE 1"=40'

ORMES ROAD AND BRAY ROAD
PERMANENT SIGNING PLAN



DATE	SCALE	CONT. SEC.	JOB NO.	SPICER PROJ.	SHEET NO.
APRIL, 2015	1"=200'	STH 79609	123794A	121988SG2014	10



TUSCOLA COUNTY ROAD COMMISSION

IN COOPERATION WITH

FEDERAL HIGHWAY ADMINISTRATION

- AND -

MICHIGAN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

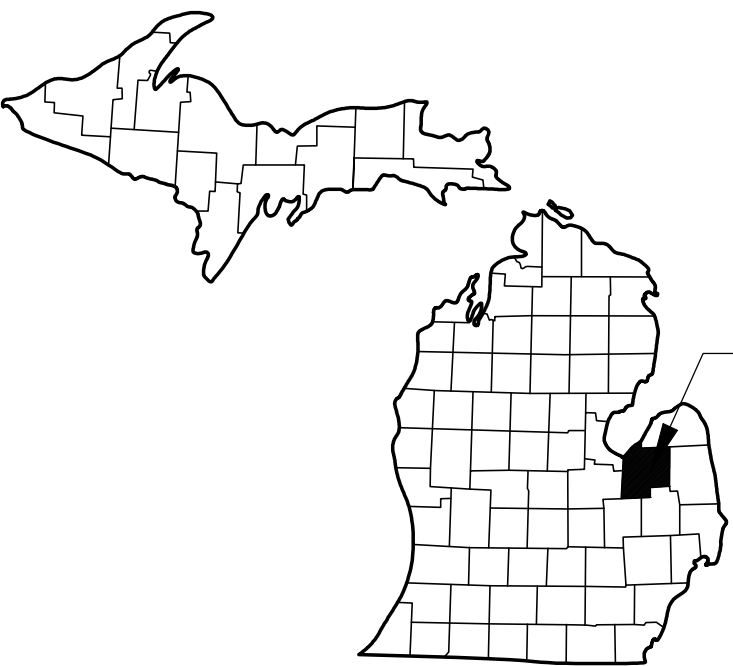
CLEARING AND TREE REMOVAL

JOB NUMBER: 127419

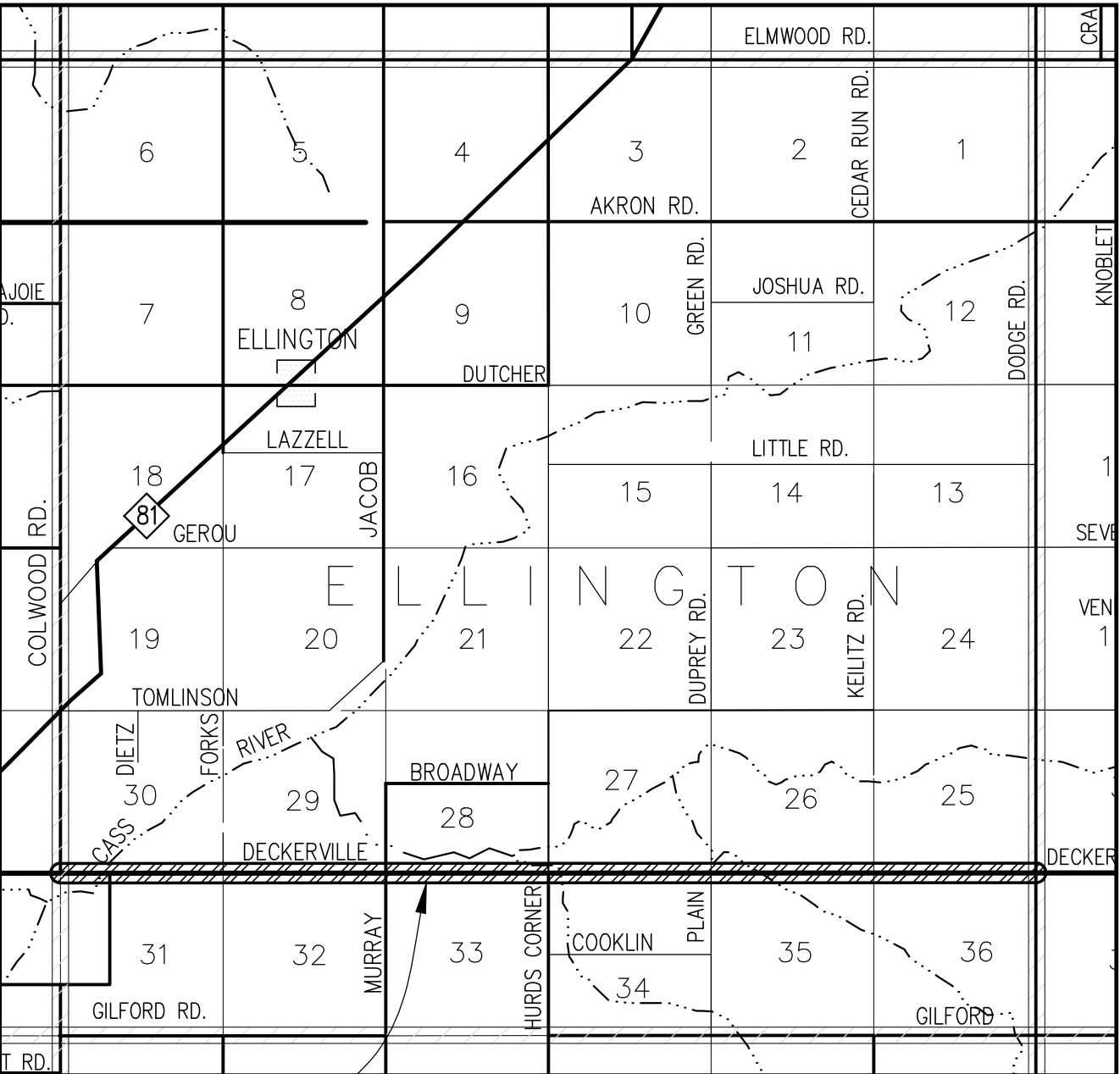
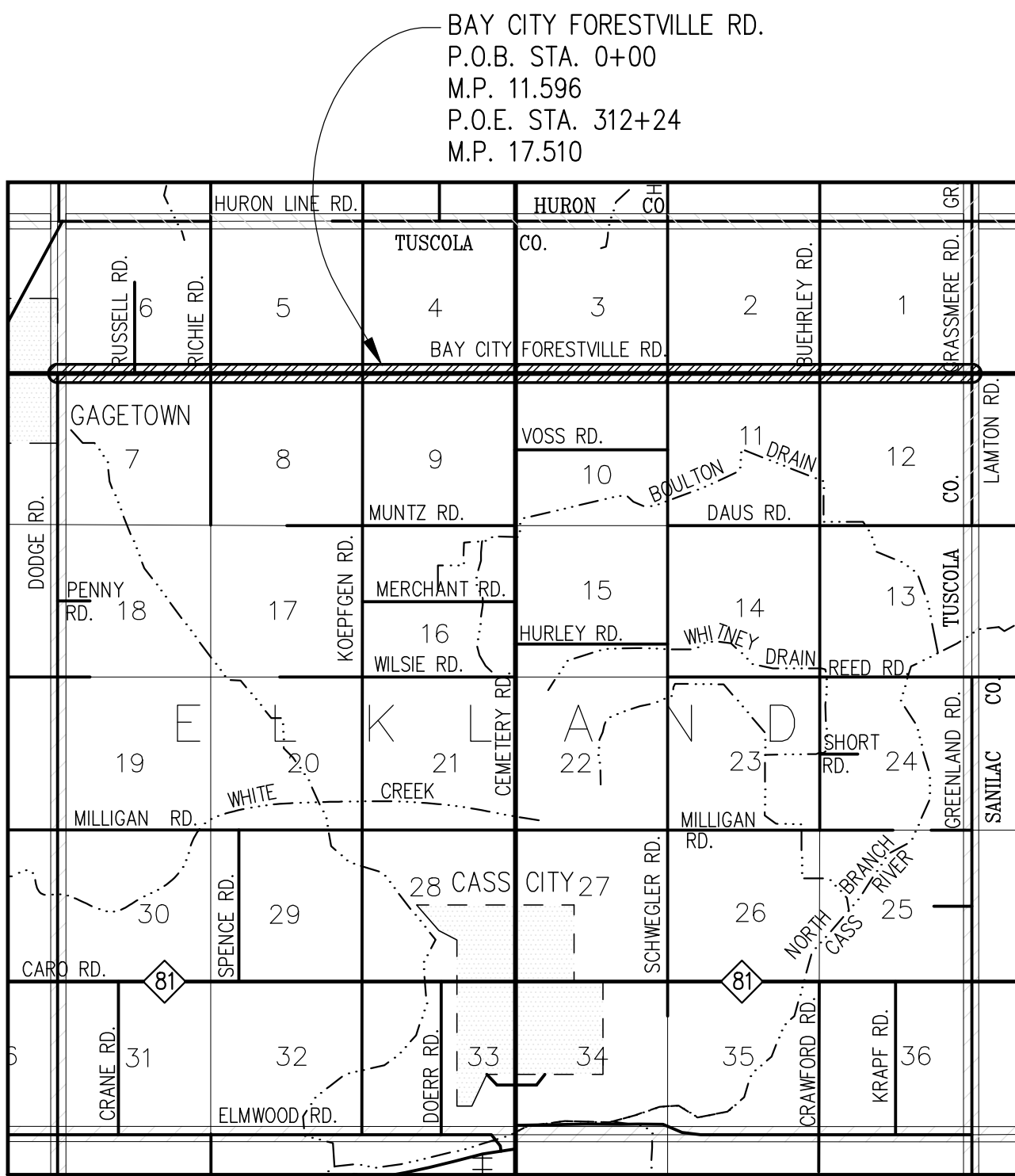
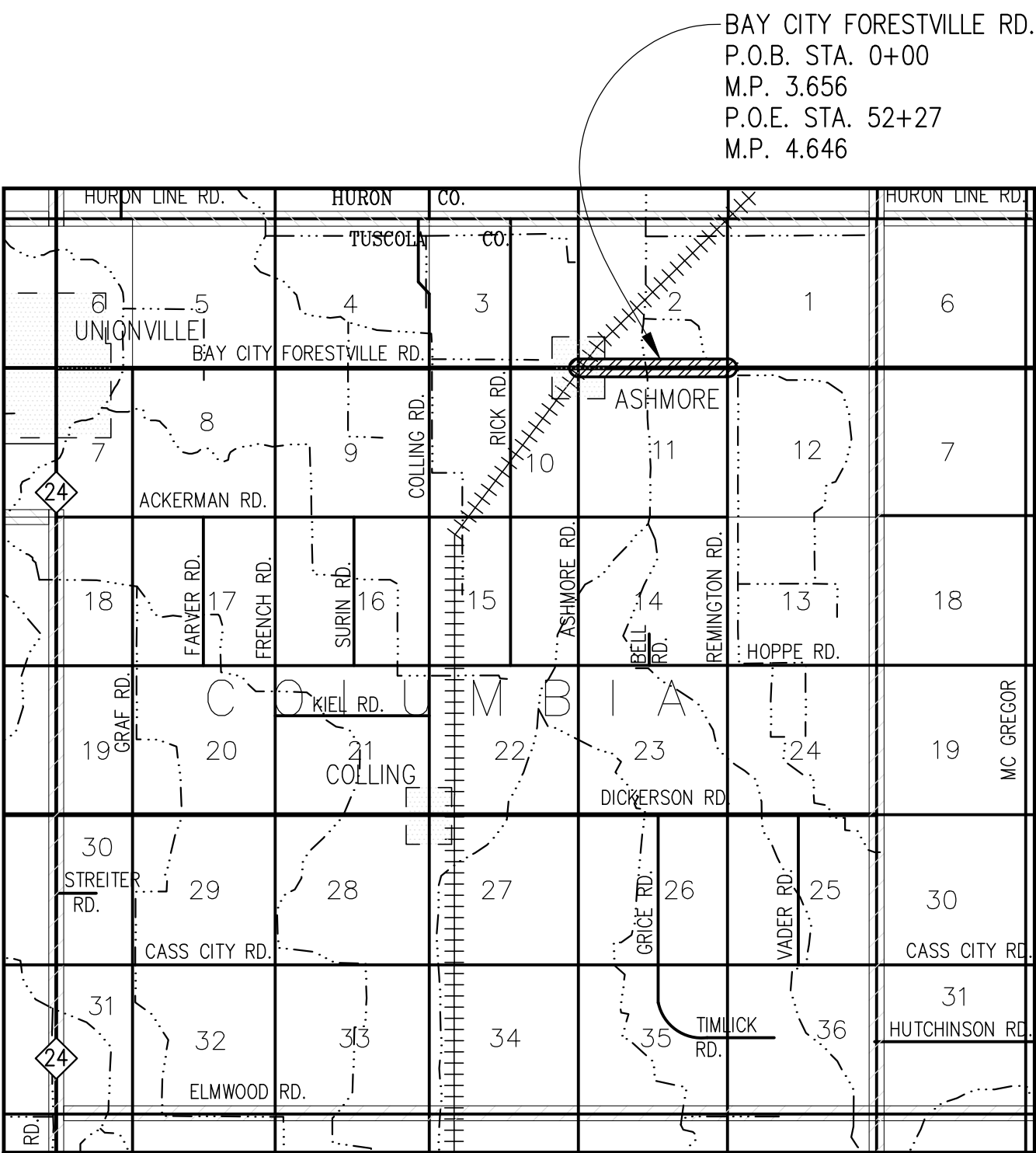
CONTROL SECTION: HSIP 79609

FEDERAL PROJECT NUMBER: HSIP 1679(014)

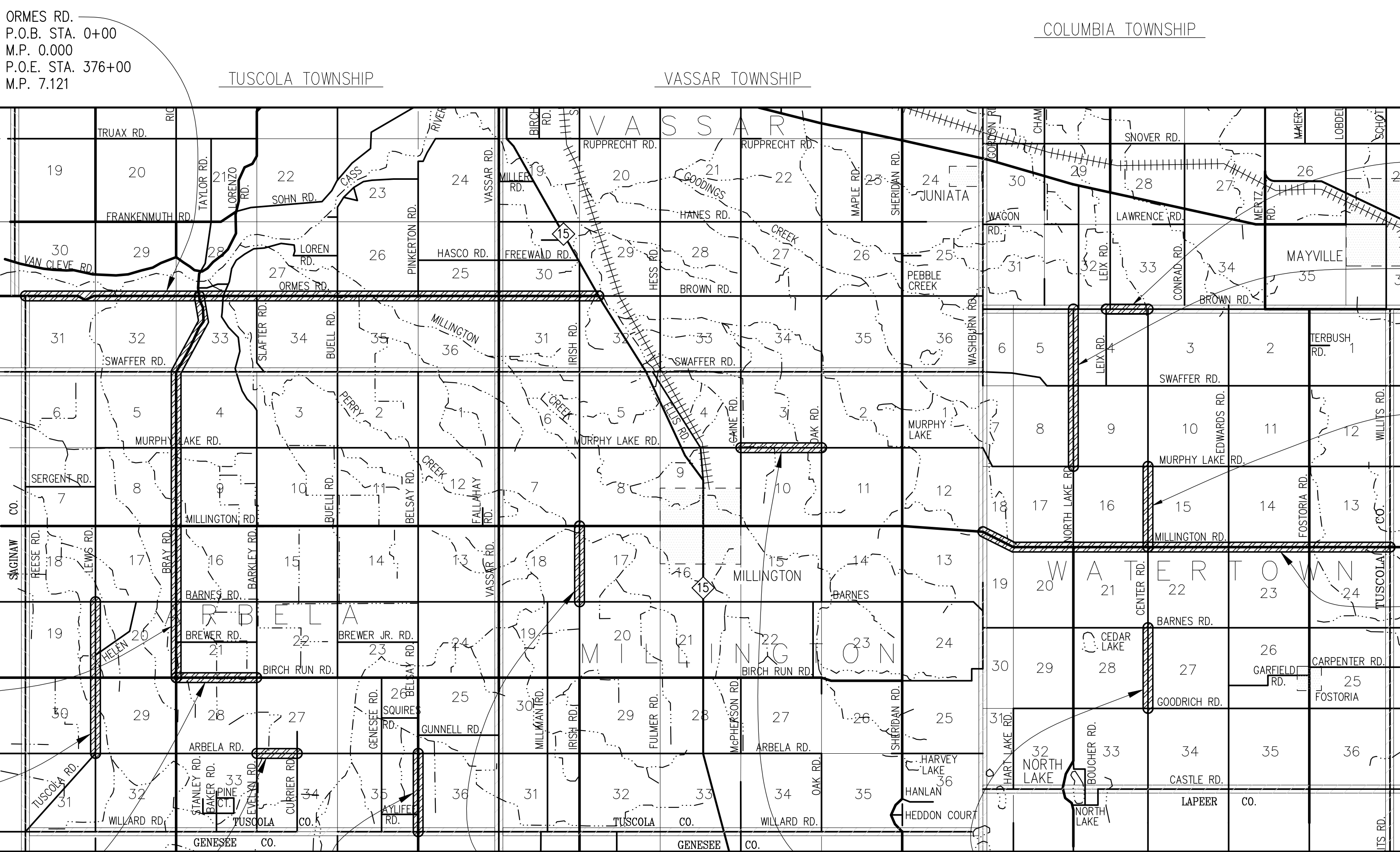
FEDERAL ITEM NUMBER: KK 4132



TUSCOLA COUNTY



ELLINGTON TOWNSHIP



TUSCOLA TOWNSHIP

VASSAR TOWNSHIP

ARBELA TOWNSHIP

MILLINGTON TOWNSHIP

WATERTOWN TOWNSHIP

LOCATION MAPS

BROWN RD
P.O.B. STA. 0+00
M.P. 1.910
P.O.E. STA. 26+28
M.P. 2.408

NORTH LAKE RD
P.O.B. STA. 0+00
M.P. 4.069
P.O.E. STA. 106+63
M.P. 6.089

CENTER RD
P.O.B. STA. 0+00
M.P. 2.999
P.O.E. STA. 53+02
M.P. 4.003

MILLINGTON RD
P.O.B. STA. 0+00
M.P. 11.831
P.O.E. STA. 290+30
M.P. 17.329

BRAY RD
P.O.B. STA. 0+00
M.P. 1.028
P.O.E. STA. 106+75
M.P. 3.050

LEWIS RD
P.O.B. STA. 0+00
M.P. 1.028
P.O.E. STA. 106+75
M.P. 3.050

BIRCH RUN RD
P.O.B. STA. 0+00
M.P. 1.750
P.O.E. STA. 51+83
M.P. 2.732

ARBELA RD
P.O.B. STA. 0+00
M.P. 2.760
P.O.E. STA. 26+92
M.P. 3.270

BELSAY RD
P.O.B. STA. 0+00
M.P. 0.000
P.O.E. STA. 53+32
M.P. 1.010

IRISH RD
P.O.B. STA. 0+00
M.P. 3.035
P.O.E. STA. 52+94
M.P. 4.038

MURPHY LAKE RD
P.O.B. STA. 0+00
M.P. 3.158
P.O.E. STA. 52+00
M.P. 4.143

CENTER RD
P.O.B. STA. 0+00
M.P. 1.000
P.O.E. STA. 52+75
M.P. 1.999

CONTRACT FOR: 40.44 MILES OF CLEARING AND TREE REMOVAL

COUNTY ROAD COMMISSION APPROVAL

CHAIRMAN

John G. Laurie 7-14-16
JOHN G. LAURIE DATE

VICE CHAIRMAN

Gary E. Parsell 7-14-16
GARY E. PARSELL DATE

MEMBER

Julie Matuszak 7-14-16
JULIE MATUSZAK DATE

MEMBER

Pat Sheridan 7-14-16
PAT SHERIDAN DATE

MEMBER

Michael Zwerke 7-14-16
MICHAEL ZWERKE DATE

COUNTY HIGHWAY ENGINEER

Michele Zawerucha 7-14-16
MICHELE ZAWERUCHA, P.E. DATE

PREPARED UNDER THE SUPERVISION OF:

MARK D. STRALEY, P.E.
REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER: MI 39856
R.S. SCOTT ASSOCIATES, INC. - AGENT
7-8-2016
DATE



R. S. SCOTT ASSOCIATES, INC.
ENGINEERING • ARCHITECTURE • SURVEYING

405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

ELLINGTON TOWNSHIP
ARBELA TOWNSHIP
MILLINGTON TOWNSHIP

TUSCOLA COUNTY ROAD COMMISSION

WATERTOWN TOWNSHIP
COLUMBIA TOWNSHIP
ELKLAND TOWNSHIP

TITLE SHEET

BY:	DATE
TAS	7/16
CHK:	DATE
MDS	7/16

SHEET NO.	1
OF	24

7/18/2016 9:43 AM P:\tuscola(79)\79-403\BAY CITY FORESTVILLE\TOWNSHIP\notes and typicals.dwg

PLAN INDEX

- 1. TITLE SHEET
- 2. NOTES AND LEGEND
- 3. SITE PLAN (BIRCH RUN RD. & ARBELA RD.)
- 4. SITE PLAN (BELSAY RD. & LEWIS RD.)
- 5. SITE PLAN (LEWIS RD. & BRAY RD.)
- 6. SITE PLAN (BRAY RD.)
- 7. SITE PLAN (BRAY RD.)
- 8. SITE PLAN (IRISH RD. & MURPHY LAKE RD.)
- 9. SITE PLAN (CENTER RD.)
- 10. SITE PLAN (NORTH LAKE RD.)
- 11. SITE PLAN (MILLINGTON RD.)
- 12. SITE PLAN (MILLINGTON RD.)
- 13. SITE PLAN (MILLINGTON RD. & BROWN RD.)
- 14. SITE PLAN (ORMES RD.)
- 15. SITE PLAN (ORMES RD.)
- 16. SITE PLAN (ORMES RD.)
- 17. SITE PLAN (ORMES RD.)
- 18. SITE PLAN (DECKERVILLE RD.)
- 19. SITE PLAN (DECKERVILLE RD.)
- 20. SITE PLAN (DECKERVILLE RD.)
- 21. SITE PLAN (BAY CITY FORESTVILLE RD.)
- 22. SITE PLAN (BAY CITY FORESTVILLE RD.)
- 23. SITE PLAN (BAY CITY FORESTVILLE RD.)
- 24. SITE PLAN (BAY CITY FORESTVILLE RD.)

STANDARD PLANS

- R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
- R-100-H SEEDING AND TREE PLANTING
- ** WZD-125-E TEMPORARY TRAFFIC CONTROL DEVICES

** DENOTE SPECIAL DETAIL INCLUDED IN PROPOSAL

UTILITIES

ELECTRIC THUMB ELECTRIC CO-OP 2231 MAIN STREET UBLY, MI 48475 ATT: RICK EWALD OFFICE 989-658-8571 CELL 989-553-5654	CABLE CHARTER COMMUNICATIONS 7372 DAVISON RD. DAVISON, MI 48423 ATT: TIMOTHY BATES 810-614-0573	TELEPHONE CENTURYLINK 100 W. SECOND ST. P.O. BOX 0389 PINCONNING, MI 48650 ATT: TOM BEECHUM OFFICE 989-879-8704
ELECTRIC DTE NORTHEAST REGION 4100 DOERR RD. CASS CITY, MI 48726 989-872-6197 NEPD@dteenergy.com	DRAIN TUSCOLA CNTY DRAIN COMMISSION 125 W. LINCOLN ST. SUITE 100 CARO, MI 48723 ATTN: BOB MANTEY 989-672-3820 989-553-3824	TELEPHONE FRONTIER COMMUNICATION 311 S. CEDAR ST. IMLAY, MI 48444 ATTN: BOB FRIEDSBERG OFFICE 810-724-3122 CELL 810-656-8605
GAS CONSUMERS ENERGY 2400 WEISS STREET SAGINAW, MI 48602 ATT: KEVIN COUTURIER OFFICE 989-791-5885	TELEPHONE PIGEON TELEPHONE COMPANY 65 SOUTH MAIN STREET PIGEON, MI 48755 ATT: JEFF ZARNKE OFFICE 989-453-2100	TELEPHONE TDS TELECOM P.O. BOX 292 4712 MAIN STREET MILLINGTON, MI 48746 ATT: WILLIAM BOUMAN 989-871-5101

GENERAL NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION.

THE DESIGN ENGINEER, CONSTRUCTION ENGINEER, OR THEIR REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE CONTRACTORS MEANS, METHODS, SEQUENCES, PROCEDURES, OR SAFETY IN CONNECTION WITH THE WORK.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK, AND SHALL CONDUCT HIS OPERATION IN SUCH A MANNER AS TO INSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL CONTACT MISS DIG SYSTEM, INC. BY PHONE AT 1-800-482-7171 OR VIA THE WEB AT EITHER ELOCATE.MISSDIG.ORG FOR SINGLE ADDRESS OR RTE.MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR DAYS TO EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

ACCESS TO DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.

ALL STUMPS, IN RESIDENTIAL AREAS TO BE GROUND AND NOT PULLED PER TUSCOLA COUNTY ROAD COMMISSION.

BIDDERS ATTENTION IS CALLED TO ALL WORK WITHIN 15 FEET OF THUMB ELECTRIC CO-OP WIRES. ANY TREE BEING REMOVED IN THESE AREAS MUST BE REMOVED BY A THUMB ELECTRIC CO-OP LINEMAN OR A CERTIFIED LINE CLEARANCE TREE TRIMMER.

LIMITS OF CLEARING TO THE TOE OF THE FRONT SLOPE OR AS DIRECTED BY THE ENGINEER.

CONTRACTORS ATTENTION CALLED TO MDOT STANDARD SPECIFICATION FOR CONSTRUCTION 2012 EDITION SECTION 201. CONTRACTOR SHALL NEATLY STACK ALL WOOD ONSITE AS REQUESTED BY ADJACENT PROPERTY OWNER.

LEGEND

	SAVE TREE
	TREE REMOVAL
	CLEARING
	STUMP REMOVAL
	OVERHEAD ELECTRICAL LINE
	UNDER GROUND ELECTRICAL
	TELEPHONE LINE
	FIBER OPTIC LINE
	USED WITH UNDERGROUND GAS & ELECTRICAL LINES

MISCELLANEOUS QUANTITIES

Mobilization, Max	1	LSUM
Clearing	2	Acre
Tree, Rem, 6 inch to 18 inch	62	Ea
Tree, Rem, 19 inch to 36 inch	12	Ea
Tree, Rem, 37 inch or Larger	6	Ea
Tree Removal	250	Ea
Barricade, Type III, High Intensity, Lighted, Furn	25	Ea
Barricade, Type III, High Intensity, Lighted, Oper	25	Ea
Lighted Arrow, Type C, Furn	9	Ea
Lighted Arrow, Type C, Oper	9	Ea
Minor Traf Devices	1	LSUM
Plastic Drum, High Intensity, Furn	200	Ea
Plastic Drum, High Intensity, Oper	200	Ea
Sign, Type B, Temp, Prismatic, Furn	1572	Sft
Sign, Type B, Temp, Prismatic, Oper	1572	Sft
Traf Regulator Control	1	LSUM
Slope Restoration	15216	Syd



R. S. SCOTT ASSOCIATES, INC.
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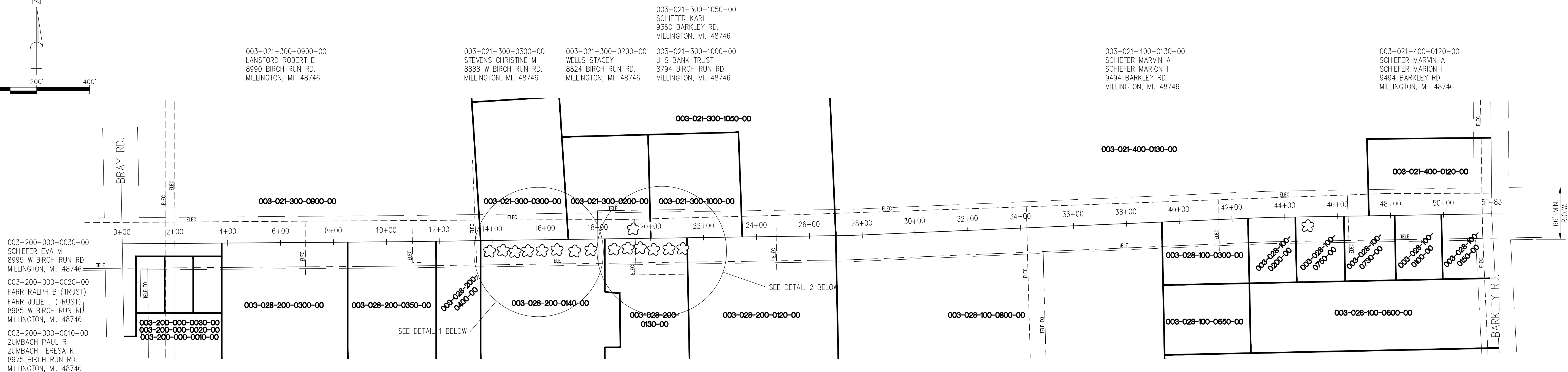
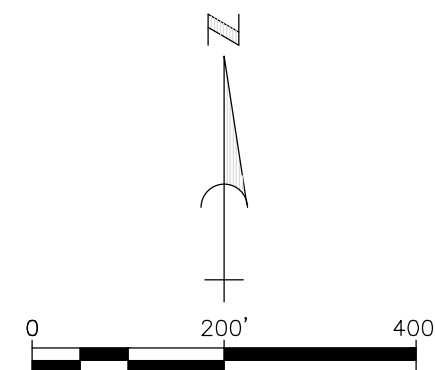
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
ELLINGTON TOWNSHIP
ARBELA TOWNSHIP
MILLINGTON TOWNSHIP
WATERTOWN TOWNSHIP
COLUMBIA TOWNSHIP
ELKLAND TOWNSHIP

NOTES AND LEGEND

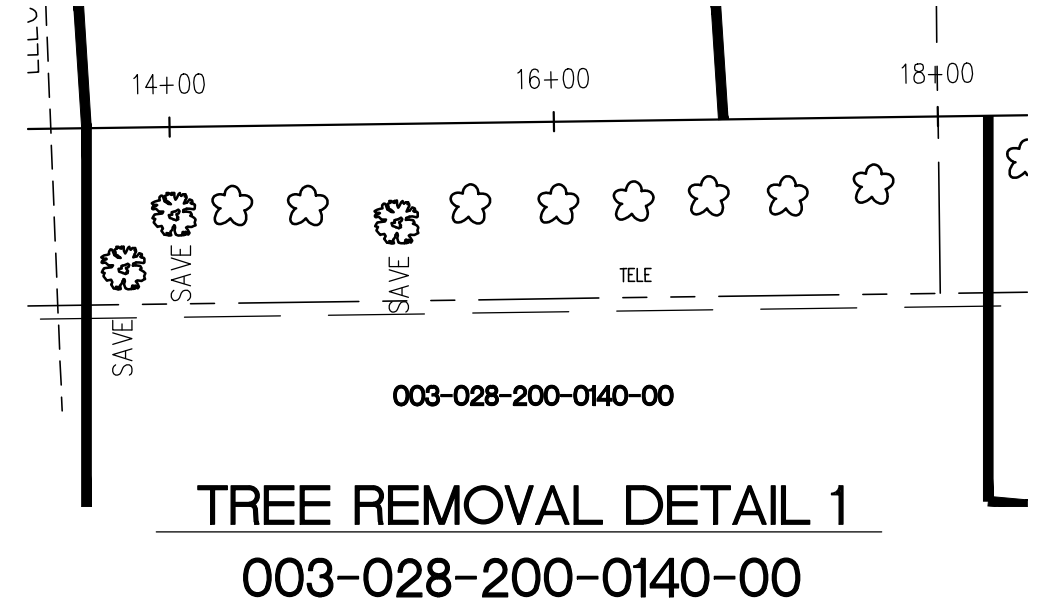
BY:	DATE:		SHEET NO.
TAS	7/16		2
CHK:	DATE:		
MDS	7/16	79-403	OF 24

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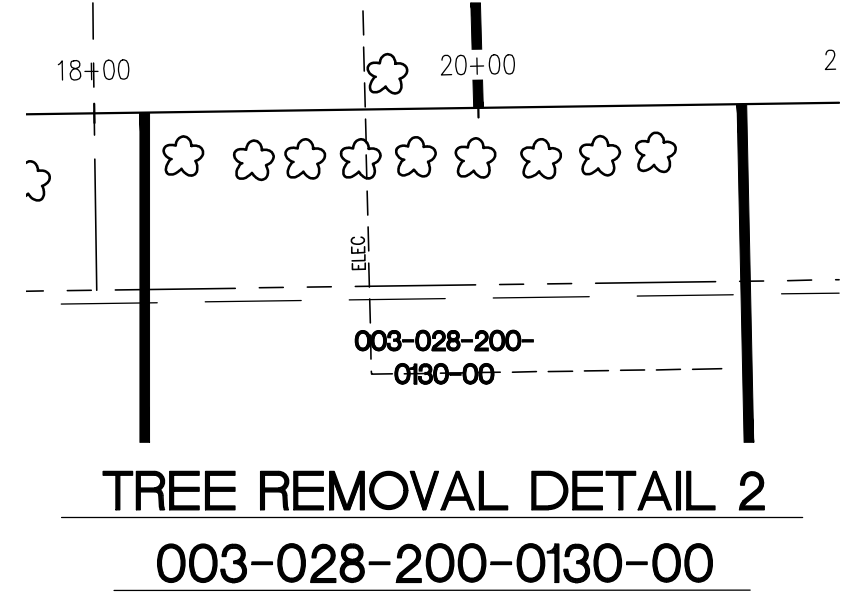


BIRCH RUN ROAD
STA. 0+00 TO STA. 51+83

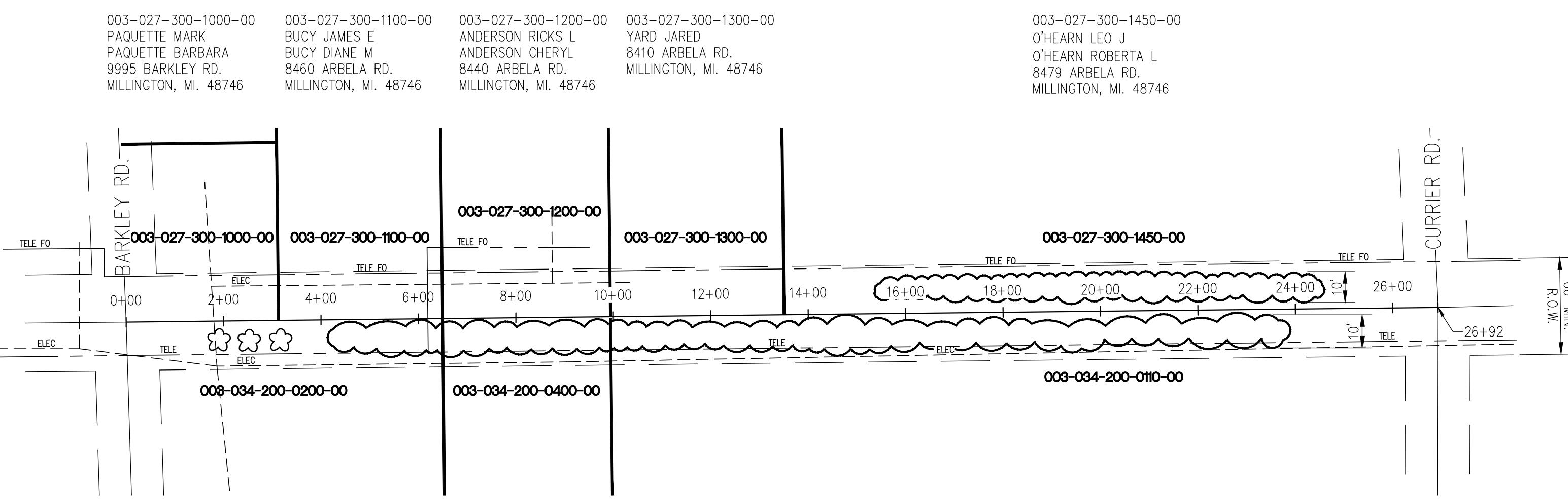
BETWEEN STA. 0+00 AND STA. 51+83	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	17	0	17
Tree, Rem, 19 inch to 36 inch	0	1	1
Tree, Rem, 37 inch or Larger	1	0	1
Slope Restoration	855	Syd	



TREE REMOVAL DETAIL 1
003-028-200-0140-00



TREE REMOVAL DETAIL 2
003-028-200-0130-00



ARBELA ROAD
STA. 0+00 TO STA. 26+92

BETWEEN STA. 0+00 AND STA. 26+92	RIGHT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	2	2
Tree, Rem, 19 inch to 36 inch	1	1
Slope Restoration	135	Syd

Clearing - Left	900'	10'	0.2 Acre
Clearing - Right	2000'	10'	0.5 Acre
Slope Restoration	3867	Syd	



R. S. SCOTT ASSOCIATES, INC.
ENGINEERING • ARCHITECTURE • SURVEYING

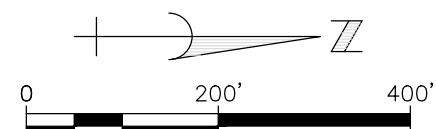
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
BIRCH RUN ROAD ARBELA TOWNSHIP
ARBELA TOWNSHIP
SEC. 21 & 28, T10N - R7E SEC. 27 & 34, T10N - R7E

SITE PLAN

BY:	DATE:	79-403	SHEET NO.
TAS	7/16		3
CHK:	DATE:		
MDS	7/16	OF	24

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003-035-400-0700-00
VAN ZANDT HAROLD J
VAN ZANDT PHYLLIS
15007 N BELSAY RD.
MILLINGTON, MI. 48746

003-035-400-0610-00
TURNER DEBRA
10400 BELSAY RD.
MILLINGTON, MI. 48746

003-035-400-0200-00
EARLS CHRISTIAN DAVID
1 HOME CAMPUS
MILLINGTON, MI. 48746

003-035-400-0300-00
EQUITY TRUST COMPANY
10300 BELSAY RD.
MILLINGTON, OH. 48746

003-035-400-0120-00
HARDY MARSHA L
10250 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-1500-00
MONROE TERRY A
10244 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-1600-00
MORAN JAMES S
MORAN MARY K
10242 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-1400-00
YUTALO CARL M
YUTALO DENISE L
10230 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-1300-00
WELLS JERRY
10200 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-1200-00
SIMMONS EDWARD J
SIMMONS DOROTHY H
SIMMONS JAMES L
SIMMONS CARL D
10152 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-0300-00
SIMMONS EDWARD J
SIMMONS DOROTHY H
SIMMONS JAMES L
SIMMONS CARL D
10152 BELSAY RD.
MILLINGTON, MI. 48746

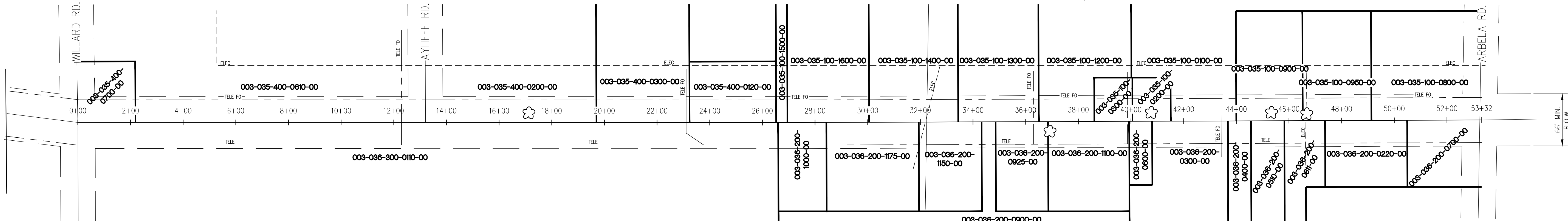
003-035-100-0200-00
STEPHENS GARY W
10146 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-0100-00
MC NEAL JERROLD M
10100 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-0900-00
EDMONDSON RICKI
EDMONDSON DEBRA
10096 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-0950-00
PFEIFFER JERRY B
PFEIFFER SHARON G
10052 BELSAY RD.
MILLINGTON, MI. 48746

003-035-100-0800-00
HOCUTT CATHERINE MARIE
10050 BELSAY RD.
MILLINGTON, MI. 48746

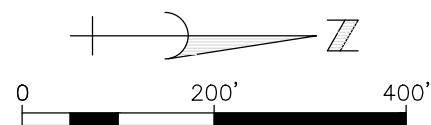


BELSAY ROAD

STA. 0+00 TO STA. 53+32

BETWEEN STA. 0+00 AND STA. 53+32	RIGHT	LEFT	TOTAL (Eg)
Tree, Rem, 6 inch to 18 inch	0	3	3
Tree, Rem, 19 inch to 36 inch	0	1	1
Tree, Rem, 37 inch or Larger	1	0	1

Slope Restoration 225 Syd



003-030-400-0650-00
BAUMGERTNER CHRISTOPHER II
9986 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0660-00
HEATH JOSEPH J
9942 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0670-00
KNAPP GARY L
9910 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0800-00
KNAPP GARY L
9910 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0410-00
CARUTH ROBERT W
CARUTH BARBARA J
9822 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0300-00
CARUTH ROBERT W
CARUTH BARBARA J
9822 LEWIS RD.
MILLINGTON, MI. 48746

003-030-400-0200-00
CARUTH ROBERT W
CARUTH BARBARA J
9771 LEWIS RD.
MILLINGTON, MI. 48746

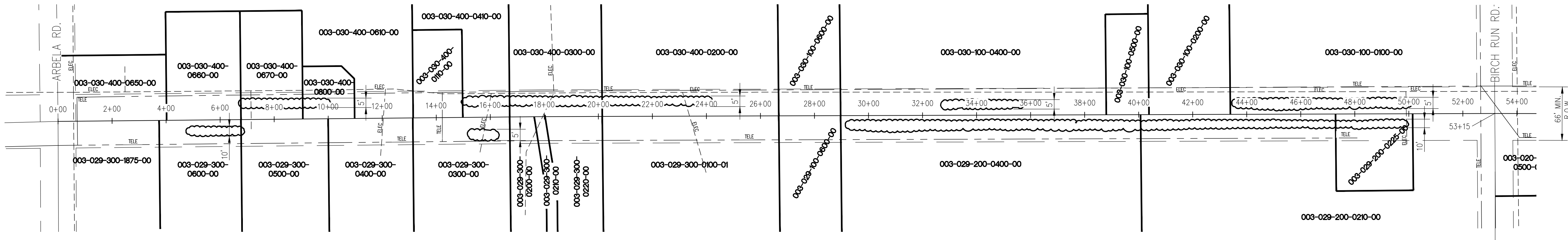
003-030-100-0600-00
CONSUMER ENERGY COMPANY
EPI0 PROPERTY TAXES
ENERGY PLAZA
JACKSON, MI. 49201

003-030-100-0400-00
GRAY JAMES E
GRAY MARY K
9712 LEWIS RD.
MILLINGTON, MI. 48746

003-030-100-0500-00
HITSMAN CLARENCE J & WIFE
9624 LEWIS RD.
MILLINGTON, MI. 48746

003-030-100-0200-00
HITSMAN VICTOR A
HITSMAN NADINE L
9614 LEWIS RD.
MILLINGTON, MI. 48746

003-030-100-0100-00
MOSSNER JEAN A - TRUST
4963 S HART RD.
FRANKENMUTH, MI. 48734



003-029-300-1875-00
POLMATIER ALVIN D
POLMATIER MARY S
9476 ARBELA RD.
MILLINGTON, MI. 48746

003-029-300-0600-00
MARTIN DALE D
MARTIN HENRIETTA E
9384 ARBELA RD.
MILLINGTON, MI. 48746

003-029-300-0500-00
GARDY CHRIS P
GARDY KELLY J
9933 LEWIS RD.
MILLINGTON, MI. 48746

003-029-300-0400-00
PAPKE REBACCA KAY
9891 LEWIS RD.
MILLINGTON, MI. 48746

003-029-300-0300-00
HOWARD DARREL C
9881 LEWIS RD.
MILLINGTON, MI. 48746

003-029-300-0210-00
ESTERLINE GENE
ESTERLINE SHERRY
9835 LEWIS RD.
MILLINGTON, MI. 48746

003-029-300-0100-01
HAWLEY WILLIAM L JR
9771 LEWIS RD.
MILLINGTON, MI. 48746

003-029-100-0600-00
CONSUMER ENERGY COMPANY
EPI0 PROPERTY TAXES
ENERGY PLAZA
JACKSON, MI. 49201

003-029-200-0400-00
MOSSNER JEAN A
TRUSTEE REVOCABLE TRUST
4963 S HART RD.
FRANKENMUTH, MI. 48734

003-029-200-0210-00
RATZA LILIAN & ROBERT
MOSKAL KIMBERLY
9493 BIRCH RUN RD.
MILLINGTON, MI. 48746

003-029-200-0225-00
MOSKAL THOMAS R
MOSKAL KIMBERLY J
9545 LEWIS RD.
MILLINGTON, MI. 48746

LEWIS ROAD

STA. 0+00 STA. 53+15

BETWEEN STA. 0+00 AND STA. 53+15			
Clearing - Left	325'	5'	0.1 Acre
Clearing - Right	200'	10'	0.1 Acre
Clearing - Left	700'	5'	0.1 Acre
Clearing - Right	50'	5'	0.1 Acre
Clearing - Right	2100'	10'	0.5 Acre
Clearing - Left	325'	5'	0.1 Acre
Clearing - Left	650'	5'	0.1 Acre

Slope Restoration 4435 Syd



R. S. SCOTT ASSOCIATES, INC.
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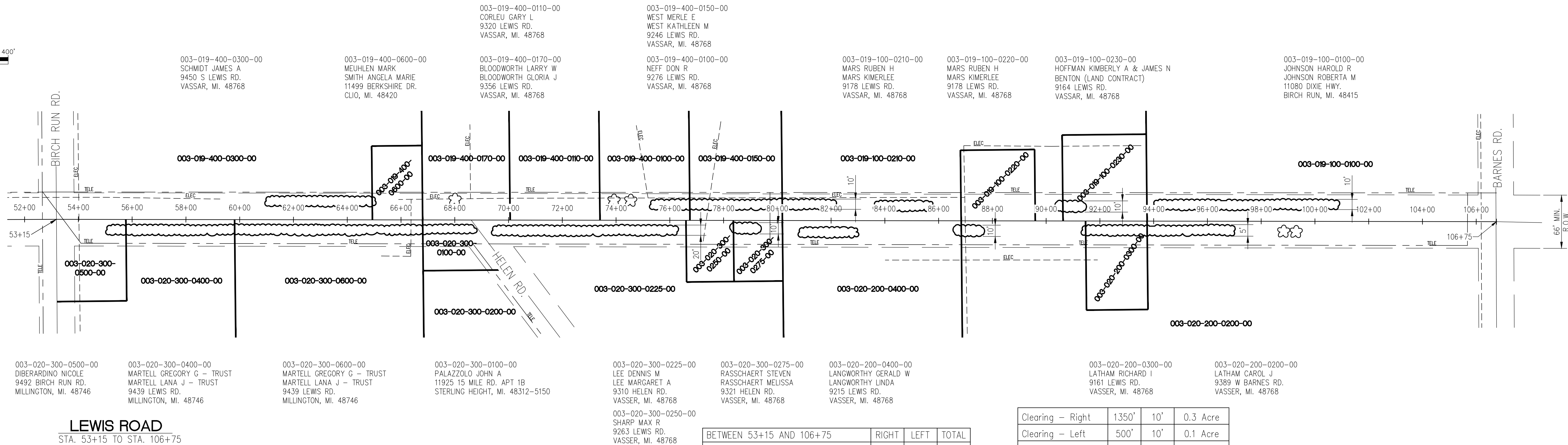
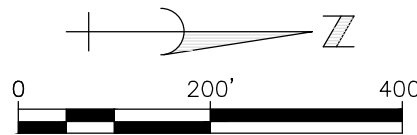
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
BELSAY ROAD LEWIS ROAD
ARBELA TOWNSHIP ARBELA TOWNSHIP
SEC. 35 & 36, T10N - R7E SEC. 29 & 30, T10N - R7E

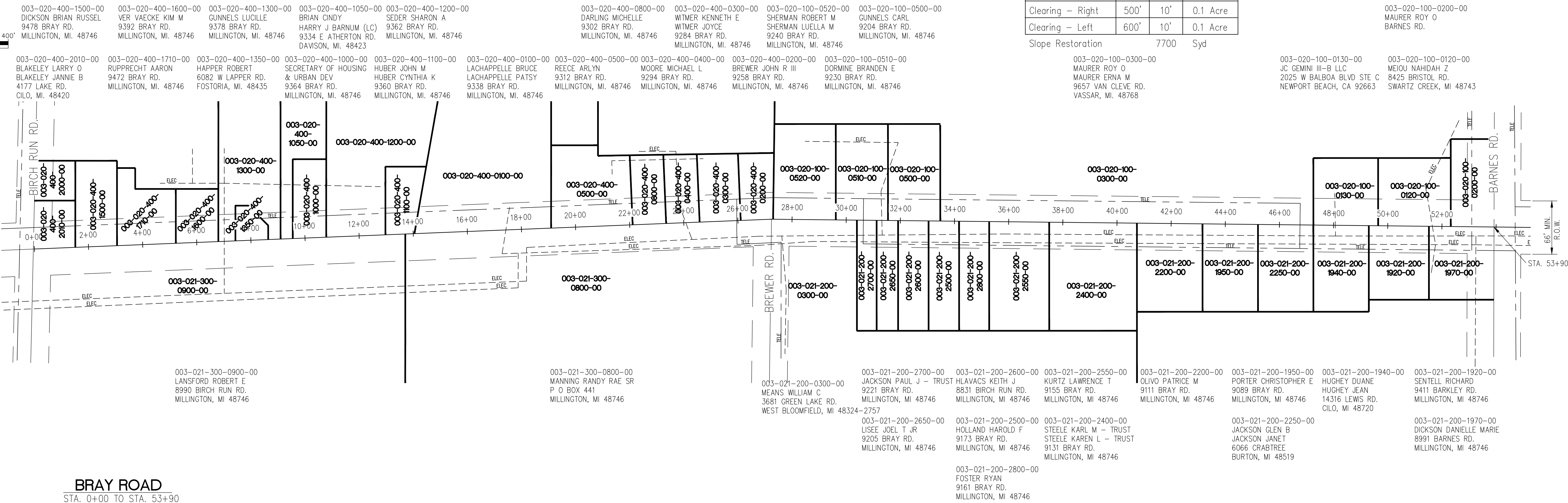
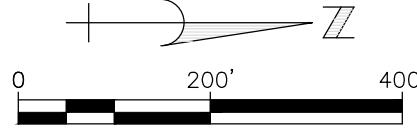
SITE PLAN

BY:	DATE:		SHEET NO.
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LEWIS ROAD
STA. 53+15 TO STA. 106+75



BRAY ROAD
STA. 0+00 TO STA. 53+90



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ENGINEERING • ARCHITECTURE • SURVEYING

405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

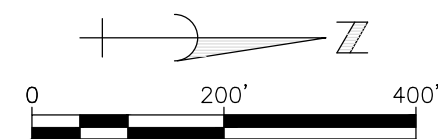
TUSCOLA COUNTY ROAD COMMISSION
LEWIS ROAD
ARBELA TOWNSHIP
SEC. 19 & 20, T10N - R7E

BRAY ROAD
ARBELA TOWNSHIP
SEC. 20 & 21, T10N - R7E

SITE PLAN

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7/18/2016 9:57 AM P:\tuscold(79)\79-403\BAY CITY FORESTVILLE\TOWNSHIP\april 2016\ARBELA.dwg



003-017-400-0300-00
ILL VICTOR A
ILL RUTH ANN
8730 W BARNES RD.
MILLINGTON, MI. 48746

003-017-400-0400-00
PECHE DONALD
8900 BRAY RD.
VASSAR, MI. 48768

003-017-100-1010-00
WEBER LAND LLC
7159 BARKLEY RD.
VASSAR, MI. 48768

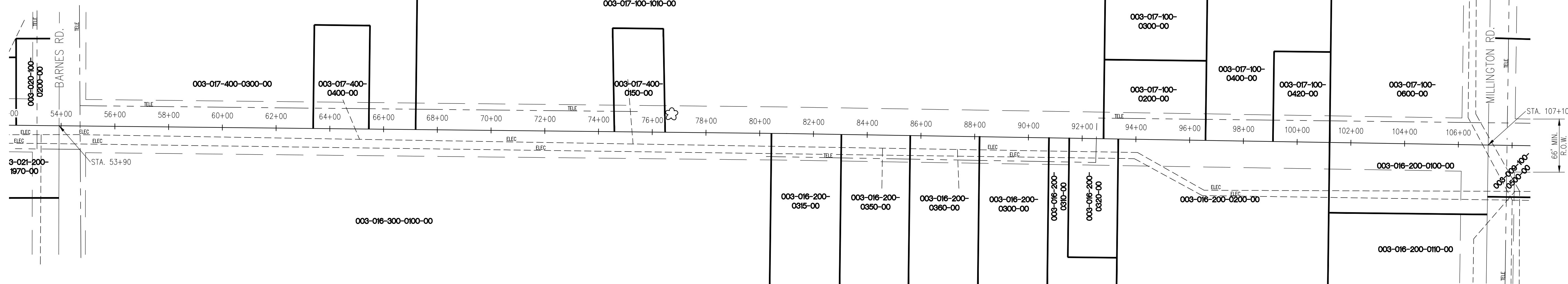
003-017-400-0150-00
TAYLOR ROBERT
8800 BRAY RD.
VASSAR, MI. 48768

003-017-100-0200-00
MARTIN GARY R
MARTIN BARBARA K
8604 BRAY RD.
VASSAR, MI. 48768

003-017-100-0400-00
AYOTTE WILLIAM F
8584 BRAY RD.
VASSAR, MI. 48768

003-017-100-0420-00
FRUENDT ANN
FRUENDT ALLEN
8580 BRAY RD.
VASSAR, MI. 48768

003-017-100-0600-00
NELSON ROBERT
NELSON RAEDENE
9055 MILLINGTON RD.
VASSAR, MI. 48768



BRAY ROAD
STA. 53+90 TO 107+10

003-016-300-0100-00
KILBOURN CHESTER D
2243 E WILLARD RD.
CILO, MI. 48420

BETWEEN STA. 53+90 AND STA. 107+10	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 37 inch or Larger	0	1	1
Slope Restoration	45	Syd	

003-016-200-0315-00
O'BRIEN DAVID E
O'BRIEN LINDA C
8749 BRAY RD.
VASSAR, MI. 48768

003-016-200-0350-00
PIPKIN PATRICIA E
8715 BRAY RD.
VASSAR, MI. 48768

003-016-200-0360-00
PETERS GARY D
PETERS GERALDINE A
8677 BRAY RD.
VASSAR, MI. 48768

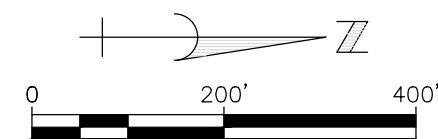
003-016-200-0300-00
JARONIEWSKI JOSHUA
JARONIEWSKI CAROL
8647 BRAY RD.
MILLINGTON, MI. 48746

003-016-200-0310-00
JARONIEWSKI JOSHUA
JARONIEWSKI CAROL
8647 BRAY RD.
MILLINGTON, MI. 48746

003-016-200-0320-00
KROLL MARK C
KROLL RHONDA A
8633 BRAY RD.
VASSAR, MI. 48768

003-016-200-0200-00
BIELSKIS KIRK J
BIELSKIS LINDA S
8581 BRAY RD.
VASSAR, MI. 48768

003-016-200-0100-00
MOORE JON-CHARLES
MOORE KATRINA
8991 MILLINGTON RD.
VASSAR, MI. 48768



003-008-400-0915-00
LEBLANC DAVID
8418 BRAY RD.
VASSAR, MI. 48768

003-008-400-0920-00
TUNE DANA
RYAN JERAMY
8380 BRAY RD.
VASSAR, MI. 48768

003-008-400-0200-00
WILLBANKS FREDDIE E
9196 MILLINGTON RD.
VASSAR, MI. 48768

003-008-400-0100-00
ZIEGLER JOHN R - TRUST
ZIEGLER DIONNE J - TRUST
12755 E TUSCOLA RD.
FRANKENMUTH, MI. 48734

003-008-100-0920-00
BOCK MATTHEW C
BOCK HEATHER J
8238 BRAY RD.
VASSAR, MI. 48768

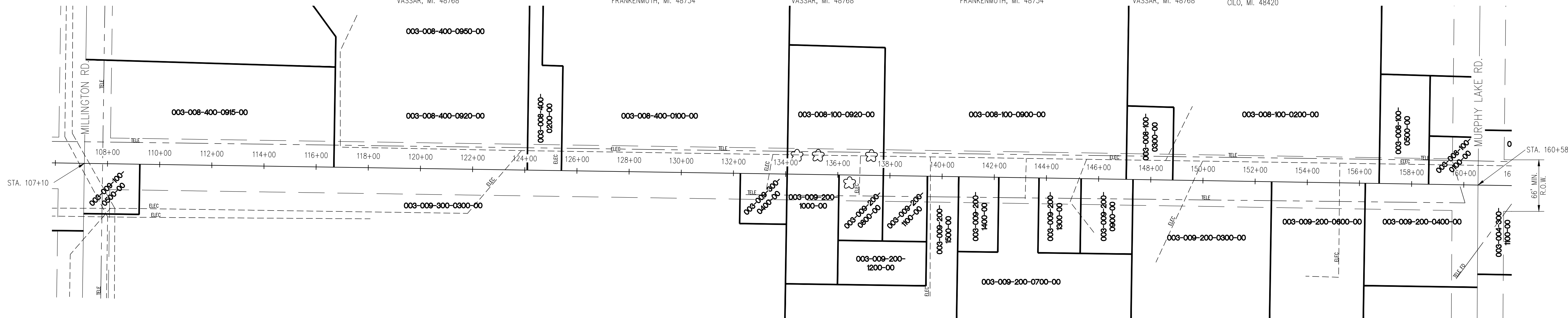
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ZIEGLER JOHN R - TRUST
ZIEGLER DIONNE J - TRUST
12755 E TUSCOLA RD.
FRANKENMUTH, MI. 48734

003-008-100-0300-00
WEISS BRIAN L
WEISS MARY R
8120 BRAY RD.
VASSAR, MI. 48768

003-008-100-0200-00
HAHN DALLAS CEIL (FAM TRUST)
HAHN LORETA MAE (FAM TRUST)
8445 ILENE DR.
CILO, MI. 48420

003-008-100-0500-00
HELMER MATTHEW
12148 BENSON RD.
MT MORRIS, MI. 48458

003-008-100-0100-00
HELMHOLD JOANN
8006 BRAY RD.
VASSAR, MI. 48468



003-009-300-0500-00
DTE ELECTRIC COMPANY
P O BOX 33017
DETROIT, MI. 48232

BRAY ROAD
STA. 107+10 TO STA. 160+58

003-009-300-0300-00
KEINATH ALLEN W
KEINATH CYNTHIA ANN
9130 COLE RD.
VASSAR, MI. 48768

BETWEEN STA. 107+10 AND STA. 160+58	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 19 inch to 36 inch	1	2	3
Tree, Rem, 37 inch or Larger	1	0	1
Slope Restoration	180	Syd	

003-009-300-0400-00
MURRAY ALBERT
8257 BRAY RD.
VASSAR, MI. 48768

003-009-200-1000-00
MAHNKE CLARENCE J
MAHNKE CAROL J
8241 BRAY RD.
VASSAR, MI. 48768

003-009-200-0800-00
PATTERSON ALLEN
JOHNSON SHERYL
8215 BRAY RD.
VASSAR, MI. 48768

003-009-200-1500-00
GRAVES WILLIAM O
8197 BRAY RD.
VASSAR, MI. 48768

003-009-200-0700-00
ILL JAMES L
8169 BRAY RD.
VASSAR, MI. 48768

003-009-200-0900-00
LA FORGE SALLY J
8151 BRAY RD.
VASSAR, MI. 48768

003-009-200-0300-00
KRIBS JAMES & JANICE
8091 BRAY RD.
VASSAR, MI. 48768

003-009-200-0600-00
CURRIER VELMA F
TAYLOR DEBBIE L
1285 HOPEWELL RD.
HARRODSBURG, KY. 40330

003-009-200-0400-00
WOLFINGTON PERRY
8023 BRAY RD.
VASSAR, MI. 48768



R. S. SCOTT ASSOCIATES, INC.
ENGINEERING • ARCHITECTURE • SURVEYING

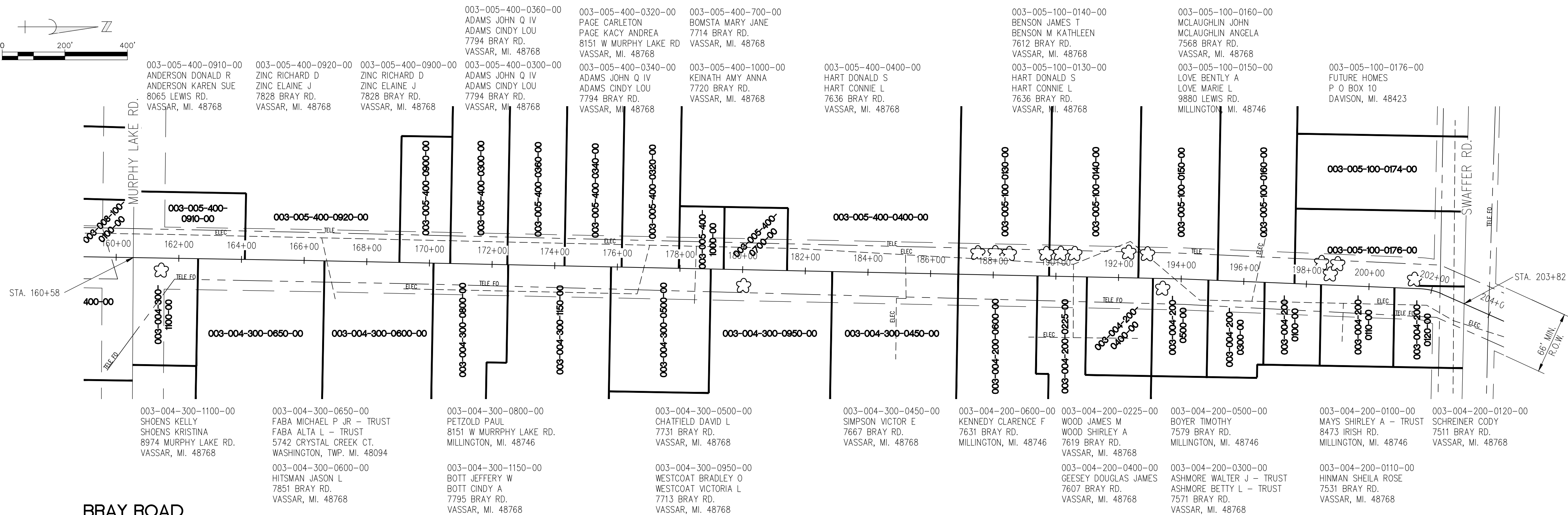
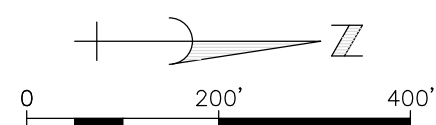
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD
ARBELA TOWNSHIP
SEC. 8, 9, 16 & 17, T10N - R7E

SITE PLAN

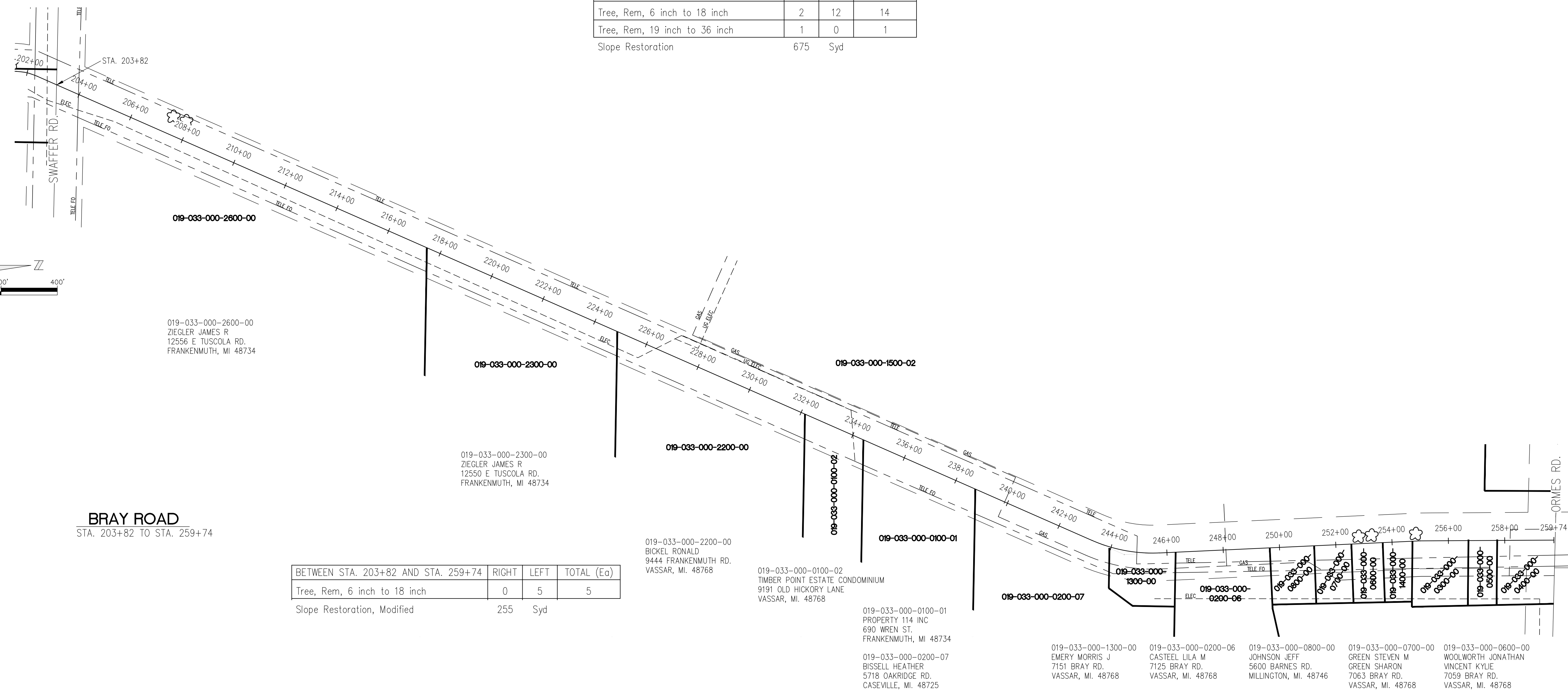
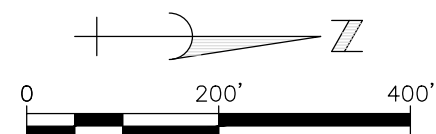
BY:	DATE:	79-403	SHEET NO.
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BRAY ROAD
STA. 160+58 TO STA. 203+82

BETWEEN STA. 160+58 AND STA. 203+82	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	2	12	14
Tree, Rem, 19 inch to 36 inch	1	0	1
Slope Restoration	675	Syd	



BRAY ROAD
STA. 203+82 TO STA. 259+74

BETWEEN STA. 203+82 AND STA. 259+74	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	0	5	5
Slope Restoration, Modified	255	Syd	



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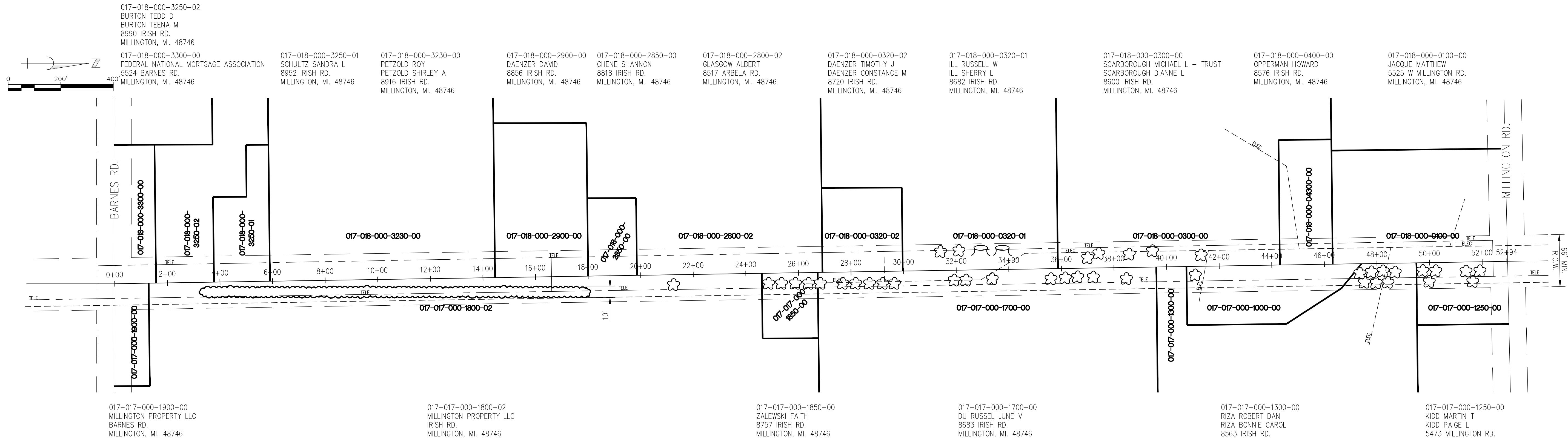
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
BRAY ROAD
ARBELA TOWNSHIP SEC. 4 & 5
TUSCOLA TOWNSHIP SEC. 33, T11N - R7E

SITE PLAN

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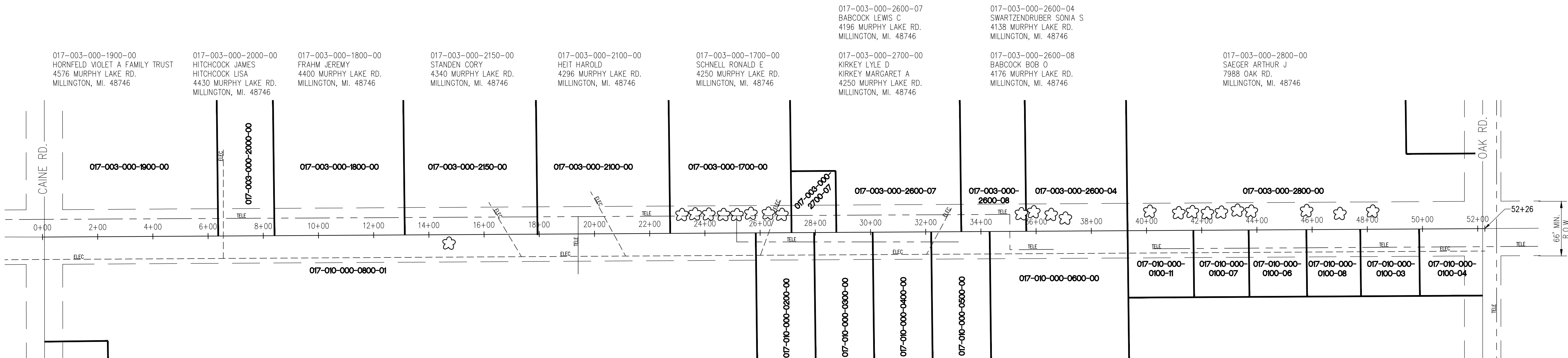
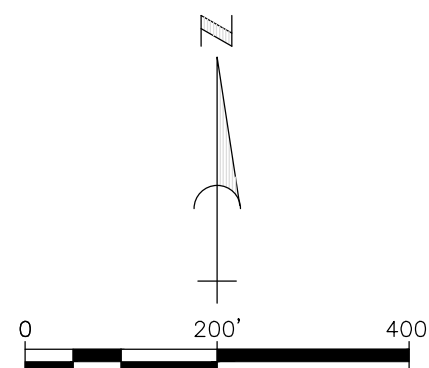


IRISH ROAD
STA. 0+00 TO STA 52+94

1 STUMP 6 INCH TO 18 INCH LEFT
1 STUMP GREATER THAN 37 INCH LEFT
ALREADY IN LIST.

BETWEEN STA. 0+00 AND STA. 52+94	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	28	7	35
Tree, Rem, 19 inch to 36 inch	3	0	3
Tree, Rem, 37 inch or Larger	2	0	2
Stump, Rem, 6 inch to 18 inch	0	1	1
Stump, Rem, 37 inch or Larger	0	1	1
Slope Restoration	1890	Syd	

Clearing — Right	1430'	10'	0.3 Acre
Slope Restoration	1910	Syd	



MURPHY LAKE ROAD
STA. 0+00 TO STA. 52+26

017-010-000-0800-01
REINERT RAYMOND
REINERT MARIAN
8011 CAINE RD.
MILLINGTON, MI. 48746

BETWEEN STA. 0+00 AND STA. 52+26	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	1	22	23
Slope Restoration	1035	Syd	

017-010-000-0200-00
SWARTZ WARD B
SWARTZ NANCY
4251 MURPHY LAKE RD.
MILLINGTON, MI. 48746
017-010-000-0300-00
MUDGE LYLE E
MUDGE DANA L
4225 MURPHY LAKE RD.
MILLINGTON, MI. 48746

017-010-000-0400-00
LUTZE KENNETH A
LUTZE GLORIA J
4201 MURPHY LAKE RD.
MILLINGTON, MI. 48746
017-010-000-0500-00
BLUE DALE W
4195 MURPHY LAKE RD.
MILLINGTON, MI. 48746

017-010-000-0600-00
BUMGARDNER BOYD C
BUMGARDNER KATHLEEN M
4139 MURPHY LAKE RD.
MILLINGTON, MI. 48746

017-010-000-0100-11
NELSON PETER
4087 MURPHY LAKE RD.
MILLINGTON, MI. 48746
017-010-000-0100-07
INGRAM EDWARD A
4063 MURPHY LAKE RD.
MILLINGTON, MI. 48746

017-010-000-0100-06
INGRAM EDWARD A
4063 MURPHY LAKE RD.
MILLINGTON, MI. 48746
017-010-000-0100-08
BISSELL DAVID BRION
4055 MURPHY LAKE RD.
MILLINGTON, MI. 48746

017-010-000-0100-03
HACKER CLIFFORD A
TESCHENDORF-HACKER KATHY M
4041 MURPHY LAKE RD.
MILLINGTON, MI. 48746
017-010-000-0100-04
JOLLY TIMOTHY A
FYKE-JOLLY TINA L
4017 MURPHY LAKE RD.
MILLINGTON, MI. 48746



R. S. SCOTT ASSOCIATES, INC.
ENGINEERING • ARCHITECTURE • SURVEYING

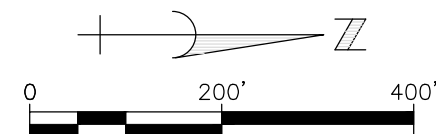
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
IRISH ROAD
MILLINGTON TOWNSHIP
SEC. 17 & 18, T10N — R8E
MURPHY LAKE ROAD
MILLINGTON TOWNSHIP
SEC. 3 & 10, T10N — R8E

SITE PLAN

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021-016-000-1200-00
WATERTOWN CENTER MISSIONARY
1812 MILLINGTON RD.
MILLINGTON, MI. 48746

021-016-000-1100-00
KINNEY BETTY J
KINNEY MURRAY A
1948 W MILLINGTON RD.
MILLINGTON, MI. 48746

021-016-000-1000-00
LONG LA VON S
LONG MARTHA E
8324 S CENTER RD.
MILLINGTON, MI. 48746

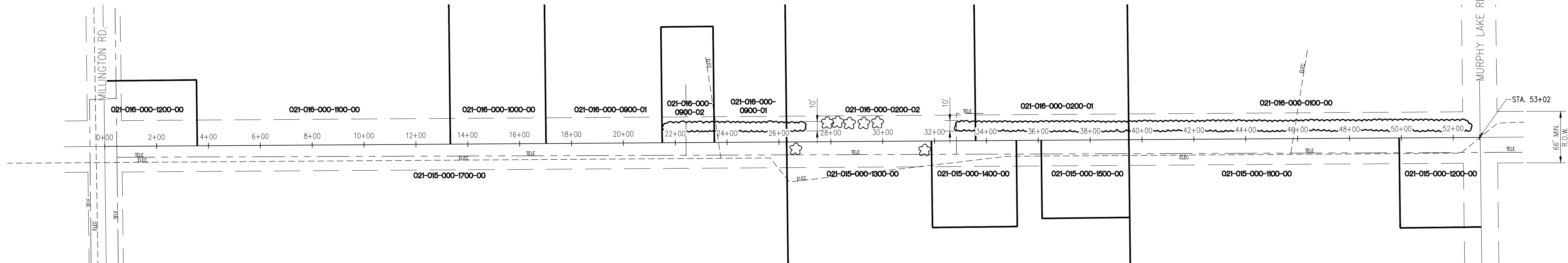
021-016-000-0900-01
LONG JAMES N - TRUST
LONG JUDITH A
8074 NORTH LAKE RD.
MILLINGTON, MI. 48746

021-016-000-0900-02
LONG JAMES PRESTON
8276 S CENTER RD.
MILLINGTON, MI. 48746

021-016-000-0200-02
KEINATH THOMAS
1560 MURPHY LAKE RD.
FOSTORIA, MI. 48435

021-016-000-0200-01
COLLING KENTON
COLLING JUNE A
2127 SWAFFER RD.
MILLINGTON, MI. 48746

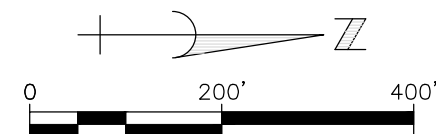
021-016-000-0100-00
SHERMAN HARVEY F JR
SHERMAN KATHLEEN M
2011 MURPHY LAKE RD.
MILLINGTON, MI. 48746-9675



CENTER ROAD
STA. 0+00 TO STA. 53+02

BETWEEN STA. 0+00 AND STA. 53+02	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	1	5	6
Tree, Rem, 19 inch to 36 inch	1	0	1
Slope Restoration, Modified	315	Syd	

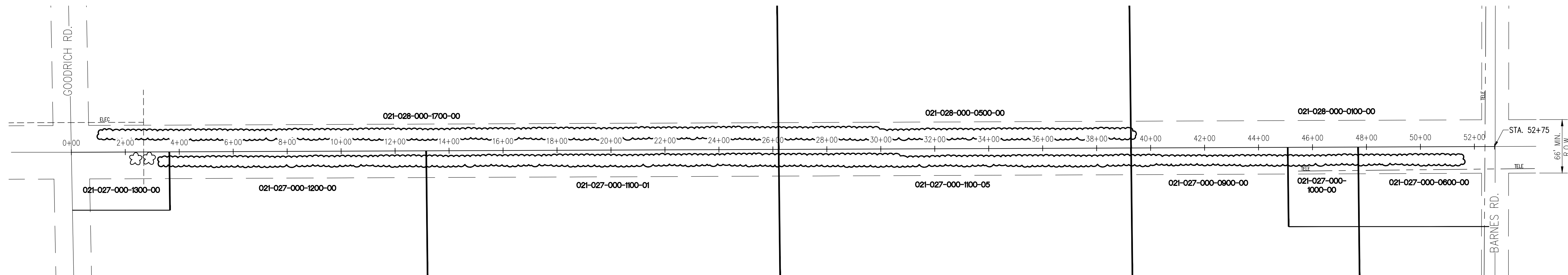
Clearing - Left	550'	10'	0.1 Acre
Clearing - Left	1980'	10'	0.5 Acre
Slope Restoration, Modified	3375	Syd	



021-028-000-1700-00
SAGINAW ASPHALT PAVING CO
2981 CARROLLTON RD.
SAGINAW, MI. 48604-2312

021-028-000-0500-00
VROMAN RUSSELL T
VROMAN MARGARET A
2754 TOZER RD.
NORTH BRANCH, MI. 48461

021-028-000-0100-00
VALENTINE ROBERT I
VALENTINE MARK E
8689 EDWARDS RD.
FOSTORIA, MI. 48435



CENTER ROAD
STA. 0+00 TO STA. 52+75

BETWEEN STA. 0+00 AND STA. 52+75	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	2	0	2
Slope Restoration	90	Syd	

Clearing - Left	3900'	15'	1.3 Acre
Clearing - Right	4900'	15'	1.7 Acre
Slope Restoration, Modified	17,600	Syd	



R. S. SCOTT ASSOCIATES, INC.
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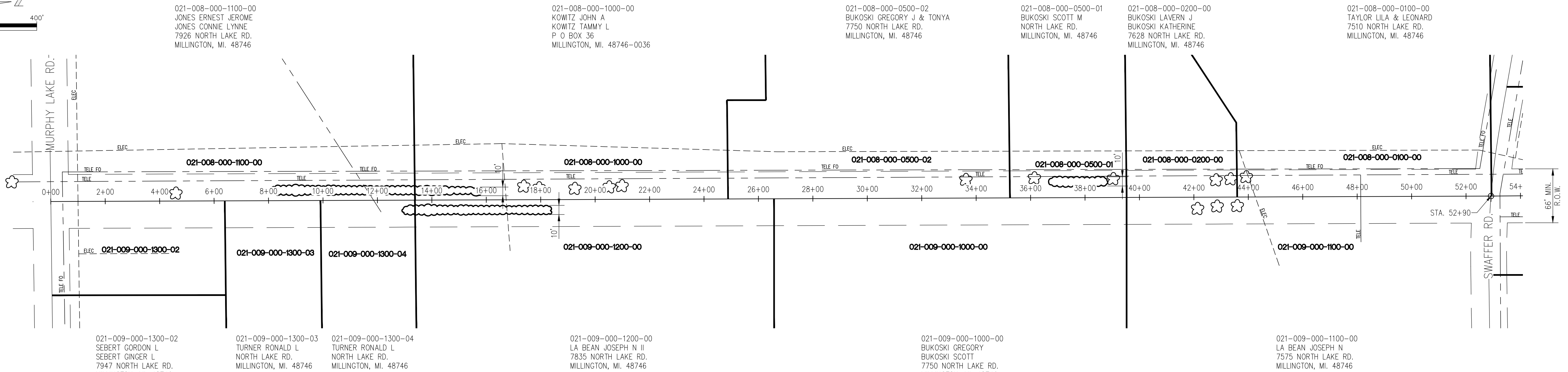
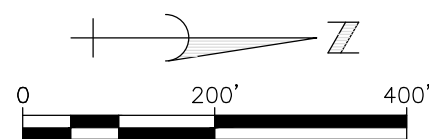
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
CENTER ROAD CENTER ROAD
WATERTOWN TOWNSHIP WATERTOWN TOWNSHIP
SEC. 15 & 16, T10N - R9E SEC. 27 & 28, T10N - R9E

SITE PLAN

BY:	DATE:	79-403	SHEET NO. 9 OF 24
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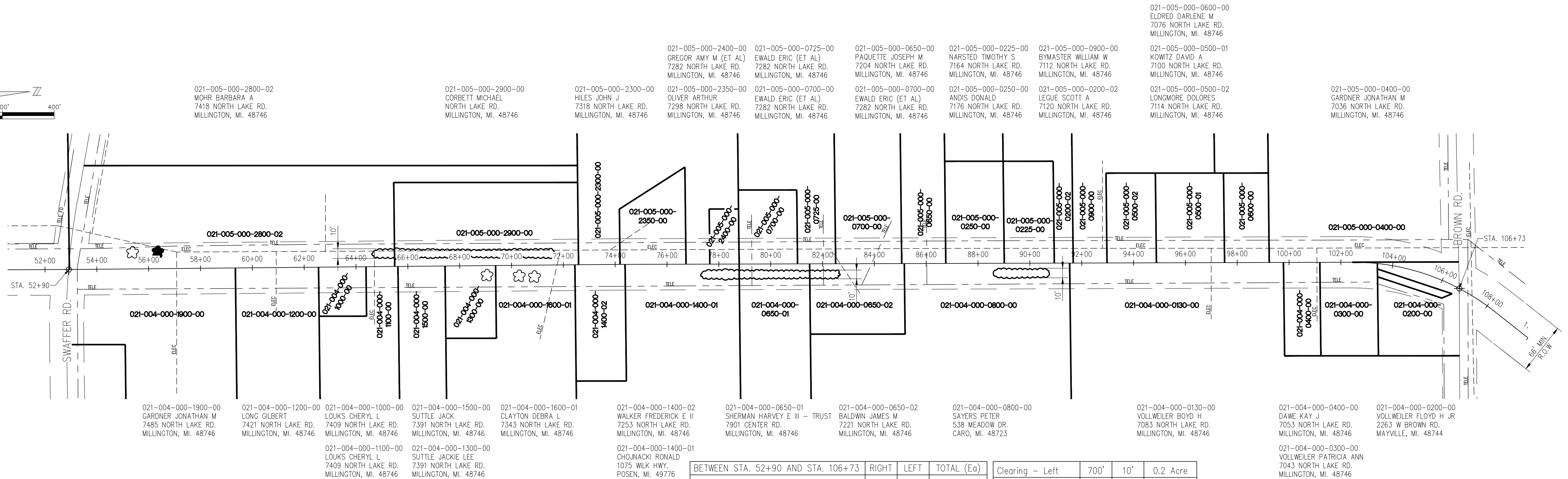
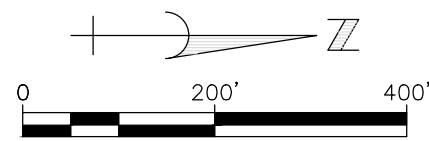
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NORTH LAKE ROAD
STA. 0+00 TO STA. 52+90

	BETWEEN STA. 0+00 AND STA. 52+90	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	3	12	15	
Slope Restoration	675	Syd		

Clearing - Right	540'	10'	0.1 Acre
Clearing - Left	770'	10'	0.2 Acre
Clearing - Left	175'	10'	0.1 Acre
Slope Restoration	1980	Syd	



NORTH LAKE ROAD
STA. 52+90 TO STA. 106+73

	BETWEEN STA. 52+90 AND STA. 106+73	RIGHT	LEFT	TOTAL (Ea)
Tree, Rem, 6 inch to 18 inch	1	2	3	
Tree, Rem, 19 inch to 36 inch	2	0	2	
Slope Restoration	225	Syd		

Clearing - Left	700'	10'	0.2 Acre
Clearing - Right	525'	10'	0.1 Acre
Clearing - Right	270'	10'	0.1 Acre
Slope Restoration	1995	Syd	



R. S. SCOTT ASSOCIATES, INC.
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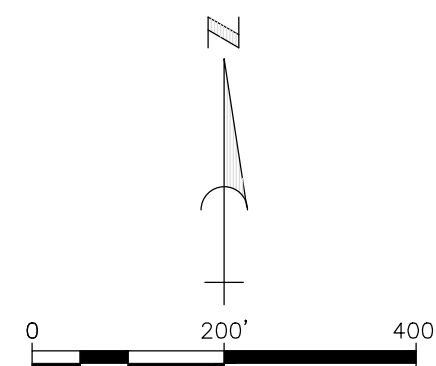
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
NORTH LAKE ROAD
WATERTOWN TOWNSHIP
SEC. 4, 5, 8 & 9, T10N - R9E

SITE PLAN

BY:	DATE:	99-403	SHEET NO.
TAS	7/16		10
CHK:	DATE:		OF 24
MDS	7/16		

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021-018-000-0200-01
GRAHAM RANDY L
GRAHAM KAREN
8404 STATE ST.
MILLINGTON, MI. 48746

021-018-000-0300-01
GRAHAM TERRY L
GRAHAM JERRY GAIL
2914 E MILLINGTON RD.
MILLINGTON, MI. 48746

021-018-000-0100-00
DEPT OF NATURAL RESOURCES
P O BOX 30028
LANSING, MI. 48909

021-018-000-0100-00
DEPT OF NATURAL RESOURCES
P O BOX 30028
LANSING, MI. 48909

021-018-000-0400-03
GRAHAM WILLIAM
2907 E MILLINGTON RD.
MILLINGTON, MI. 48746

021-018-000-0400-02
GRAHAM ROBERT G JR
GRAHAM KAY
2907 E MILLINGTON RD.
MILLINGTON, MI. 48746

021-018-000-0100-00
DEPT OF NATURAL RESOURCES
P O BOX 30028
LANSING, MI. 48909

021-017-000-0800-00
DEPT OF NATURAL RESOURCES
P O BOX 30028
LANSING, MI. 48909

021-017-000-1000-00
NAU HAROLD
2786 MILLINGTON RD.
MILLINGTON, MI. 48746-9609

021-017-000-0700-00
RALEIGH JOHNATHAN
2776 MILLINGTON RD.
MILLINGTON, MI. 48746-9609

021-017-000-1150-00
KOTARSKI SANDY E
2749 MILLINGTON RD.
MILLINGTON, MI. 48746

021-017-000-0900-00
TUSCOLA COUNTY ROAD COMMISSION
1733 S MERTZ RD.
CARO, MI. 48723

021-020-000-0500-00
DEPT OF NATURAL RESOURCES
P O BOX 30028
LANSING, MI. 48909

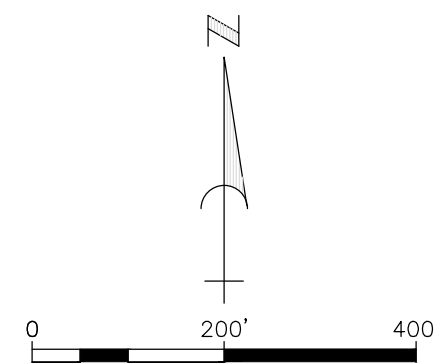
021-016-000-0600-00
LEIX RICHARD H
15804 ABOITE RD.
ROANOK, IN. 46783

021-016-000-0800-00
BURKOWSKI JOSEPH TERRY
2106 MILLINGTON RD.
MILLINGTON, MI. 48746

021-016-000-0700-00
NELSON ARCHIE O JR
2214 MILLINGTON RD.
MILLINGTON, MI. 48746

021-017-000-1200-01
SMITH PATRICIA
8362 NORTH LAKE RD.
MILLINGTON, MI. 48746

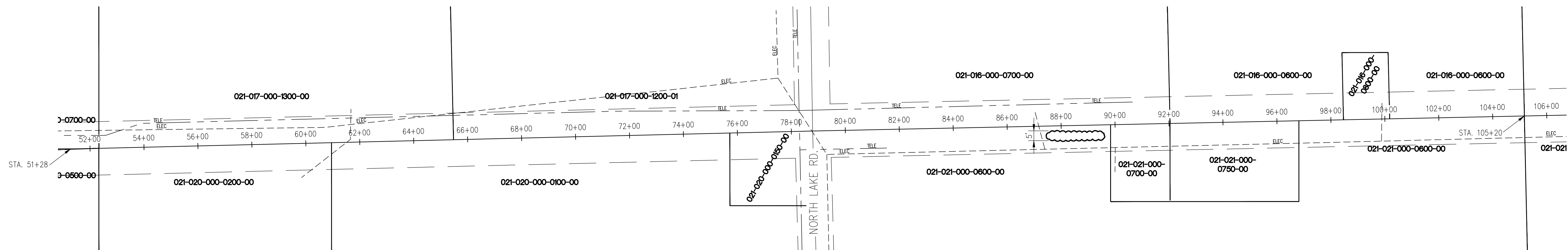
021-017-000-1300-00
WRIGHT CALVIN E - TRUST
MILLINGTON, MI. 48746



MILLINGTON ROAD

STA. 0+00 TO STA. 51+28

Clearing - Right	400'	5'	0.1 Acre
Slope Restoration, Modified	267	Syd	



021-020-000-0200-00
SEBERT ROBERT L
SEBERT THEDA D
2687 MILLINGTON RD.
MILLINGTON, MI. 48746

021-020-000-0100-00
MEACHAM DANIEL C
SEBERT THEDA D
8532 NORTH LAKE RD.
MILLINGTON, MI. 48746

021-020-000-0150-00
ILL WILBERT
ILL SUSAN D
8530 NORTH LAKE RD.
MILLINGTON, MI. 48746

021-021-000-0600-00
HULLBERGER JOAN L
MILLINGTON RD.
MILLINGTON, MI. 48746

021-021-000-0700-00
AULBERT CLIFFORD J
AULBERT HARLEY M
2181 MILLINGTON RD.
MILLINGTON, MI. 48746
021-021-000-0750-00
COLEMAN LON
2163 MILLINGTON RD.
MILLINGTON, MI. 48746

Clearing - Right	200'	5'	0.1 Acre
Slope Restoration, Modified	135	Syd	

MILLINGTON ROAD

STA. 51+28 TO STA. 105+20



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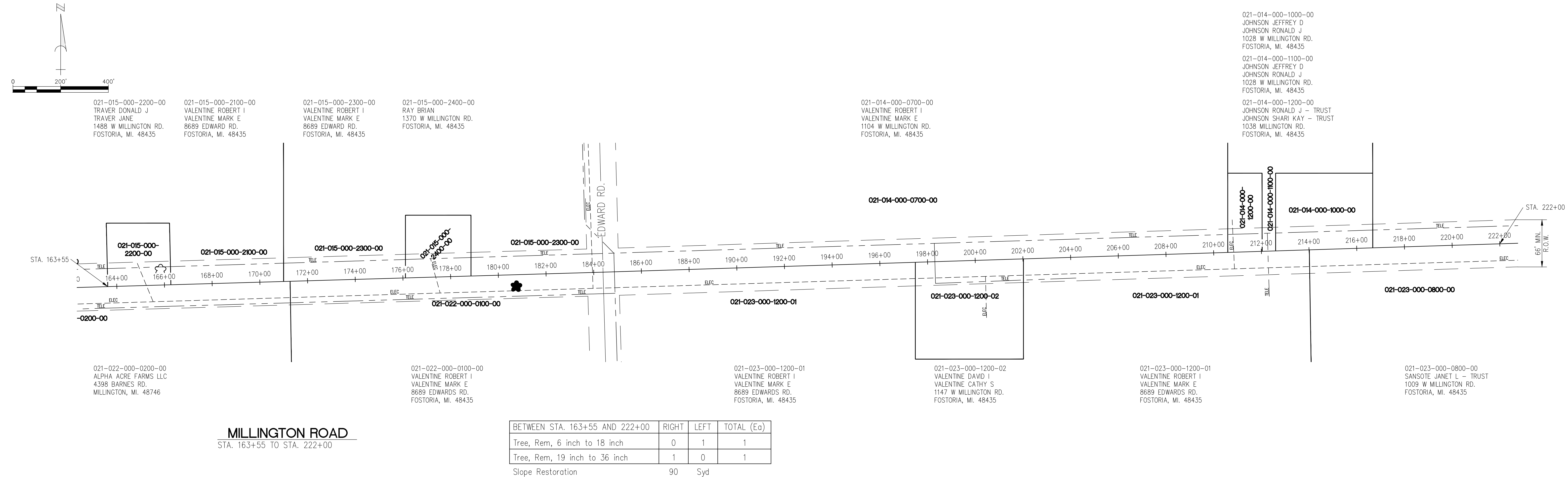
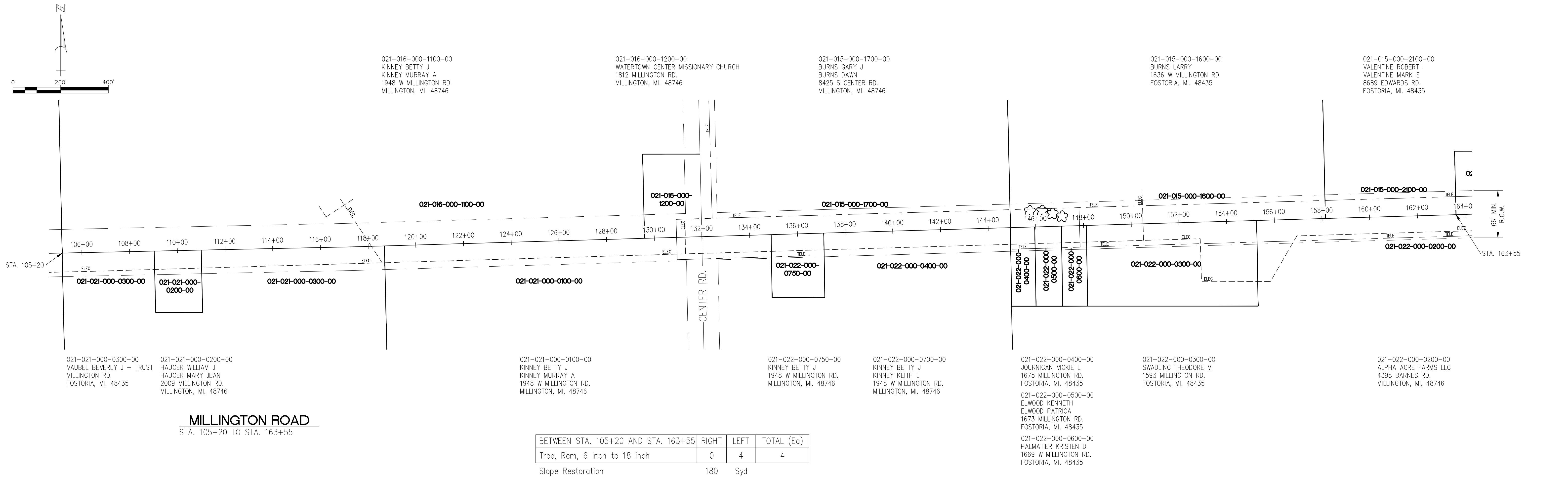
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
MILLINGTON ROAD
WATERTOWN TOWNSHIP
SEC. 16, 17, 18, 20 & 21, T10N - R9E

SITE PLAN

BY:	DATE:	79-403	SHEET NO. 11 OF 24
TAS	7/16		
CHK:	DATE:		
MDS	7/16		

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TUSCOLA COUNTY ROAD COMMISSION
MILLINGTON ROAD
WATERTOWN TOWNSHIP
SEC. 14, 15, 16, 21, 22 & 23, T10N - R9E

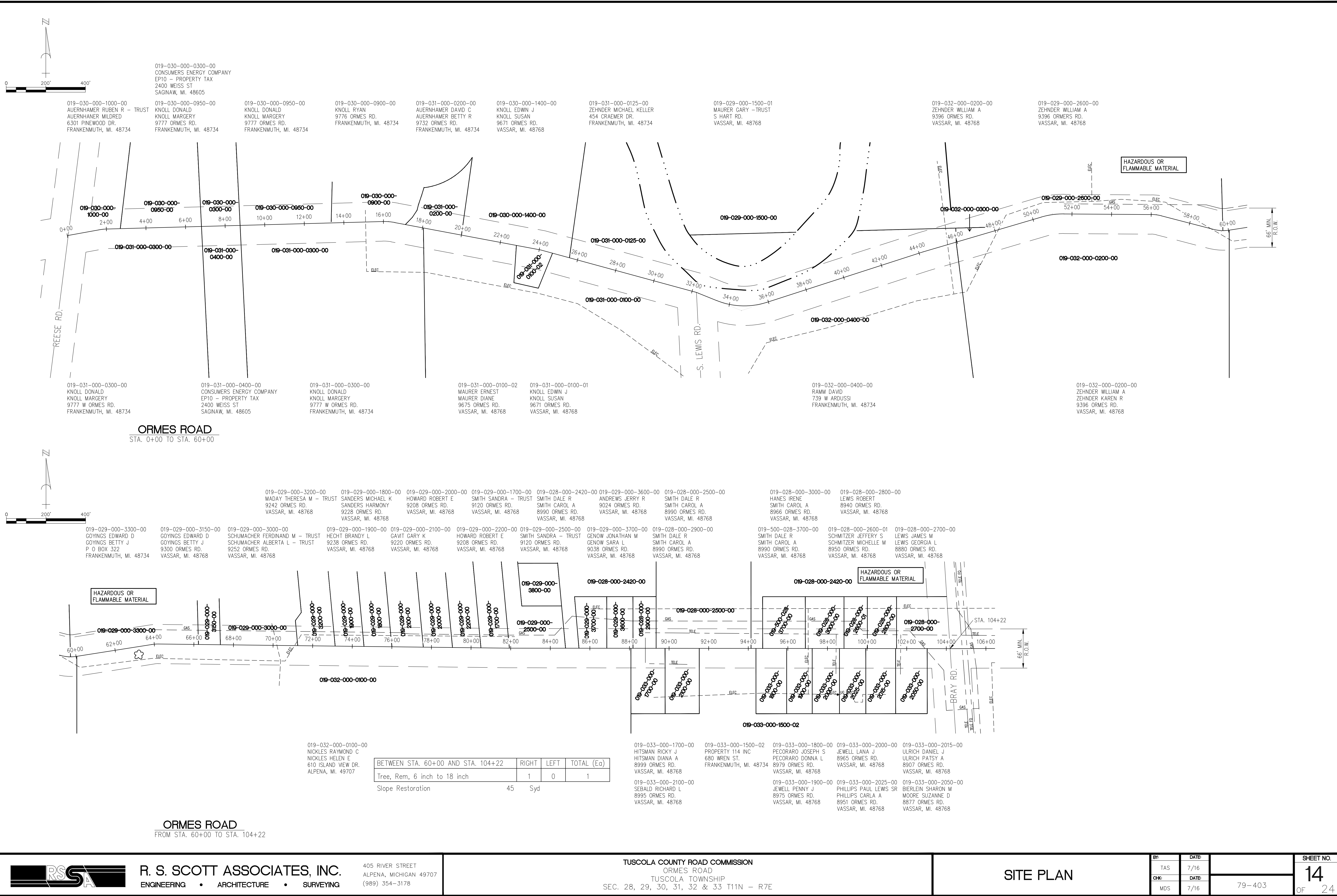
SITE PLAN

BY:	DATE:	79-403	SHEET NO.
TAS	7/16		12
CHK:	DATE:		OF 24
MDS	7/16		



SITE PLAN

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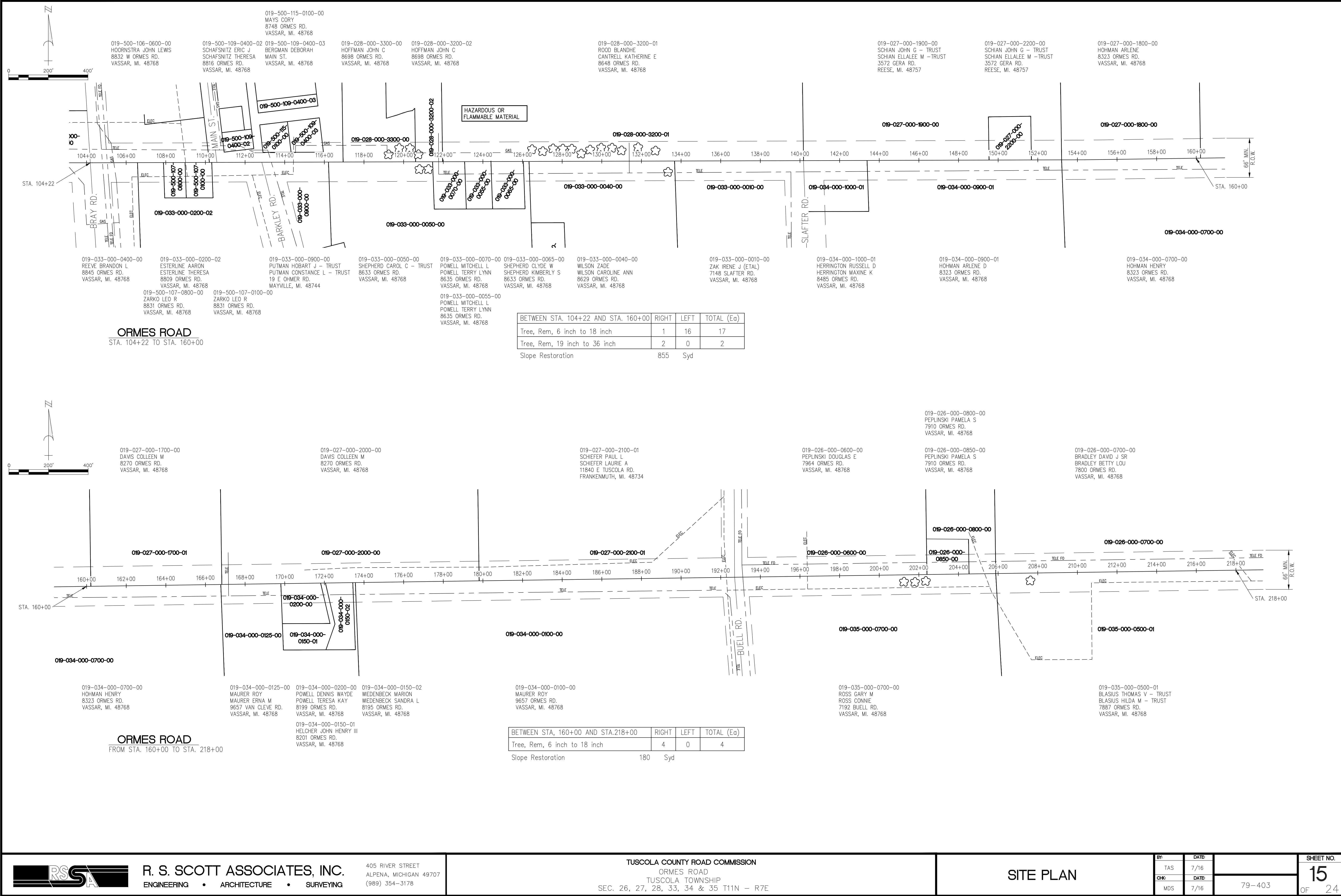
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
ORMES ROAD
TUSCOLA TOWNSHIP
SEC. 28, 29, 30, 31, 32 & 33 T11N - R7E

SITE PLAN

BY:	DATE:		SHEET NO.
TAS	7/16		14
CHK:	DATE:		
MDS	7/16	79-403	OF 24

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R. S. SCOTT ASSOCIATES, INC.
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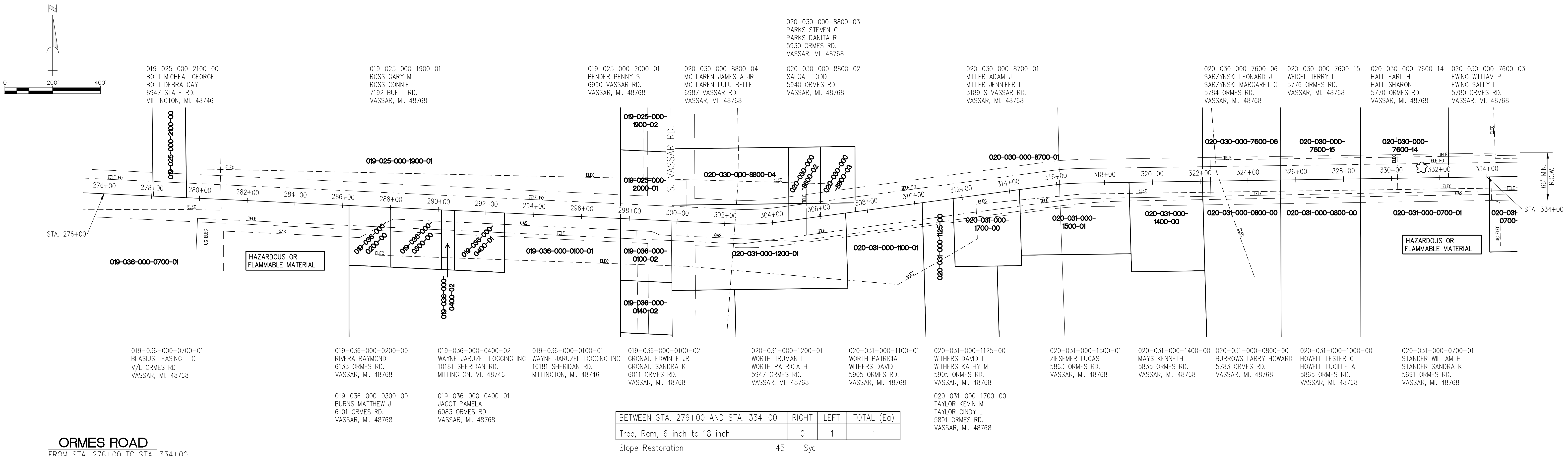
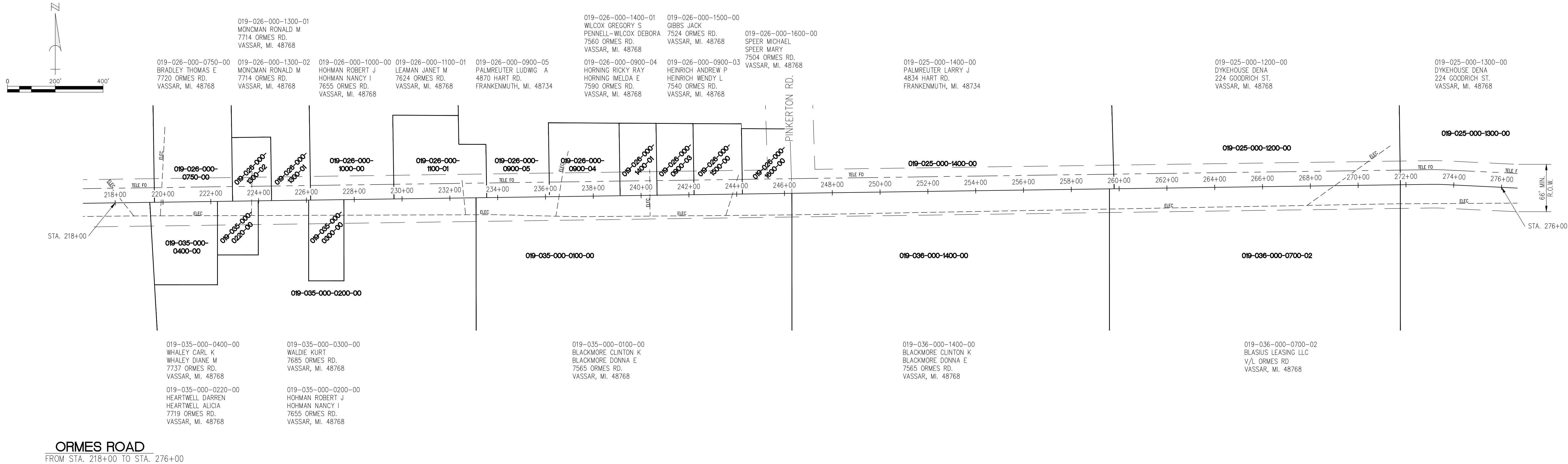
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
ORMES ROAD
TUSCOLA TOWNSHIP
SEC. 26, 27, 28, 33, 34 & 35 T11N - R7E

SITE PLAN

BY:	DATE:	79-403	SHEET NO.
TAS	7/16		15
CHK:	DATE:		OF 24
MDS	7/16		

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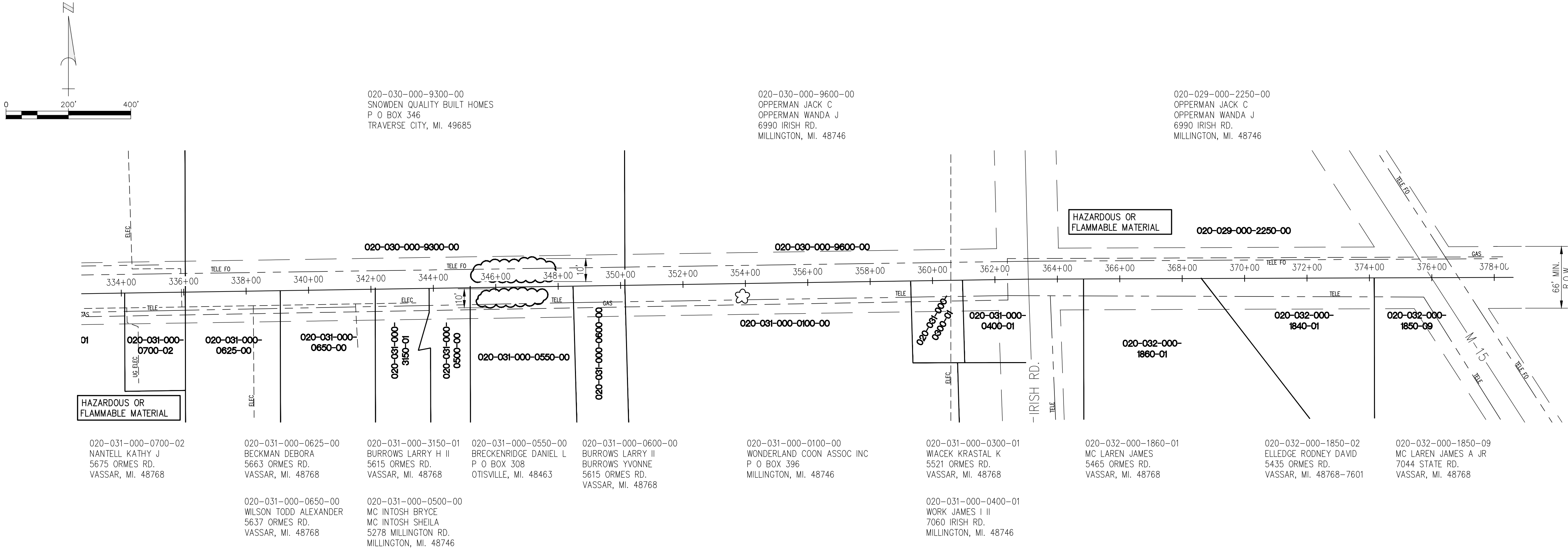
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
ORMES ROAD
TUSCOLA TOWNSHIP, SEC. 25, 26, 35 & 36 T11N - R7E
VASSAR TOWNSHIP, SEC. 30 & 31 T11N - R8E

SITE PLAN

BY:	DATE:	SHEET NO. 16 OF 24
TAS	7/16	
CHK:	DATE:	
MDS	7/16	79-403

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ORMES ROAD
FROM STA. 334+00 TO STA. 376+00

BETWEEN STA. 334+00 AND STA. 376+00	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 19 inch to 36 inch	1	0	1
Slope Restoration	45	Syd	

Clearing - Right	200'	10'	0.5 Acre
Clearing - Left	150	10'	0.3 Acre
Slope Restoration	470	Syd	



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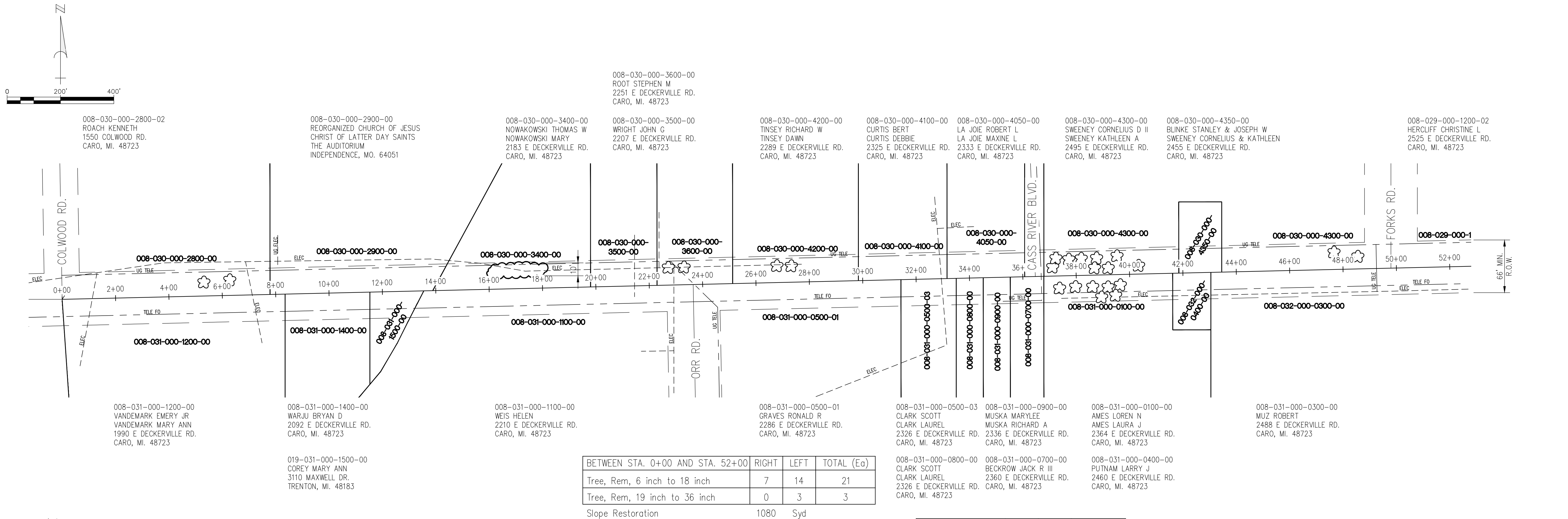
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
ORMES ROAD
VASSAR TOWNSHIP
SEC. 29, 30, 31 & 32, T11N - R8E

SITE PLAN

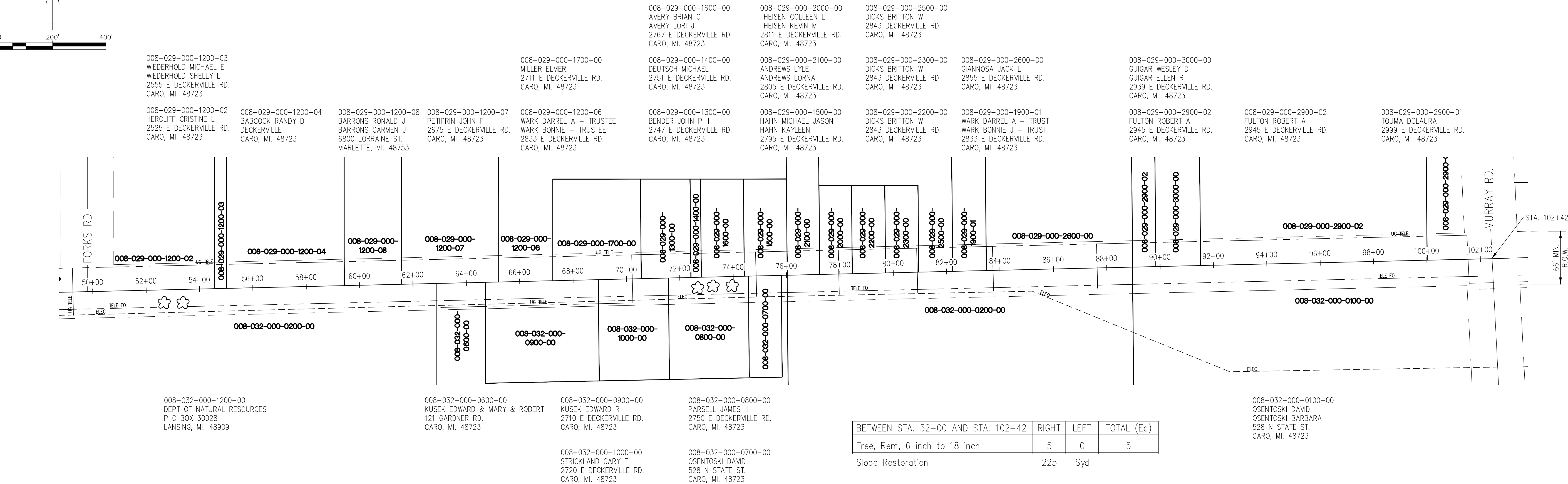
BY:	DATE	SHEET NO.
TAS	7/16	17
CHK:	DATE	
MDS	7/16	79-403
		OF 24

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DECKERVILLE ROAD

STA. 0+00 TO STA. 52+00



DECKERVILLE ROAD

FROM STA. 52+00 TO STA. 102+42



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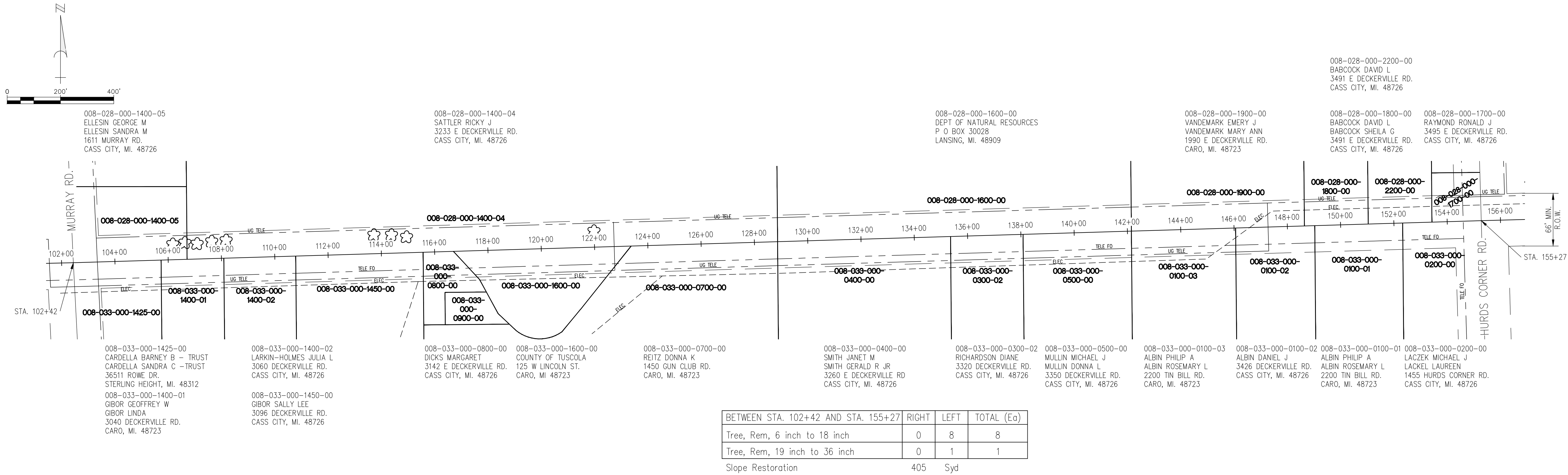
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
DECKERVILLE ROAD
ELLINGTON TOWNSHIP
SEC. 29, 30, 31 & 32 T13N - R10E

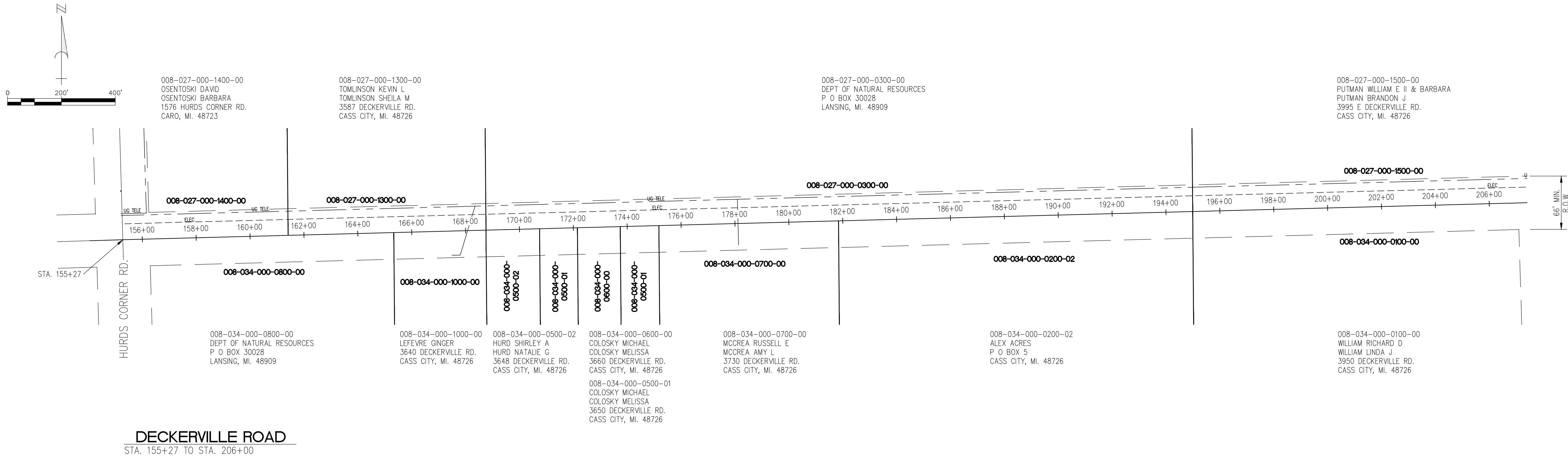
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BY:	DATE:	SHEET NO. 18 OF 24
TAS	7/16	
CHK:	DATE:	
MDS	7/16	79-403

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DECKERVILLE ROAD
STA. 102+42 TO STA 155+27



DECKERVILLE ROAD
STA. 155+27 TO STA. 206+00



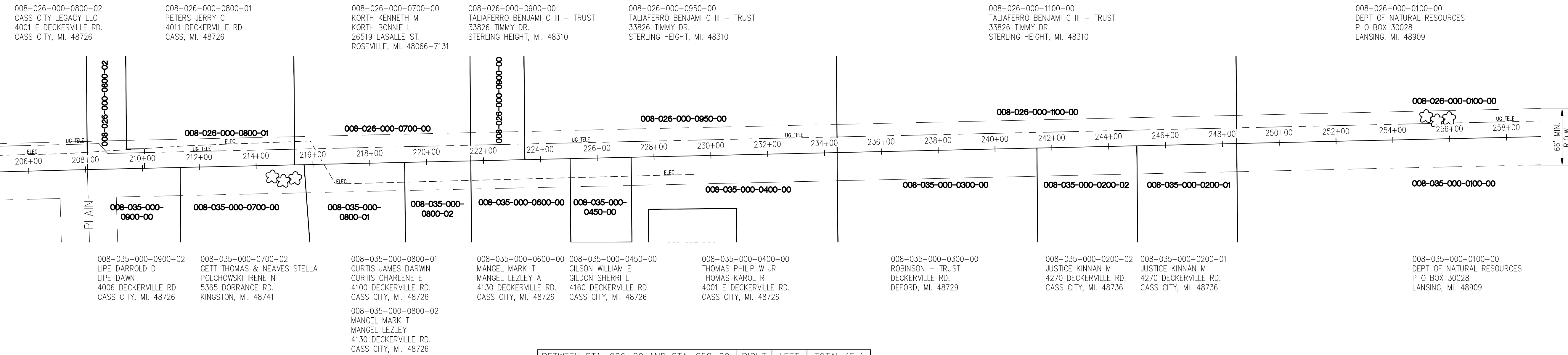
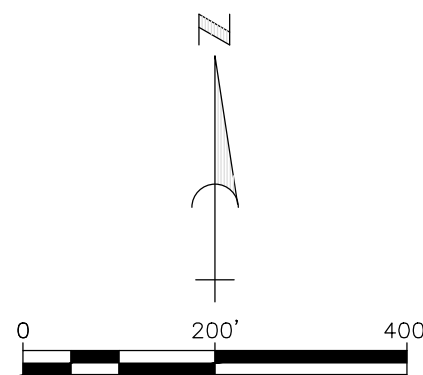
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(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
DECKERVILLE ROAD
ELLINGTON TOWNSHIP
SEC. 27, 28, 33 & 34 T13N - R10E

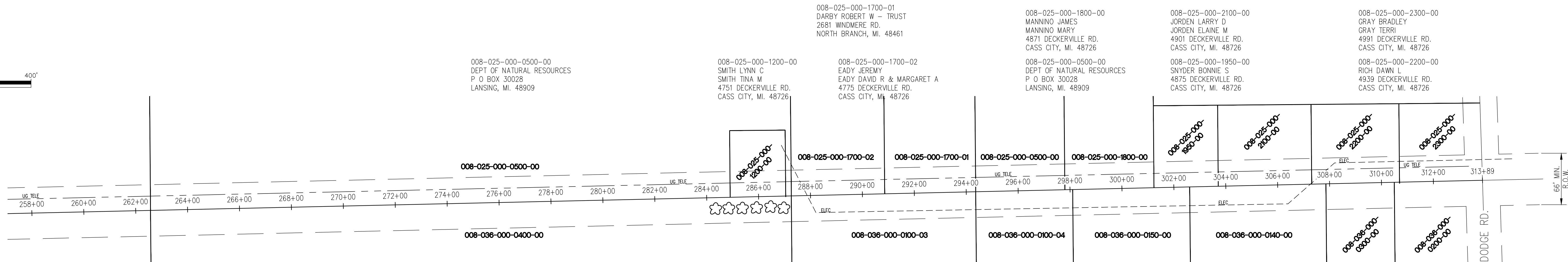
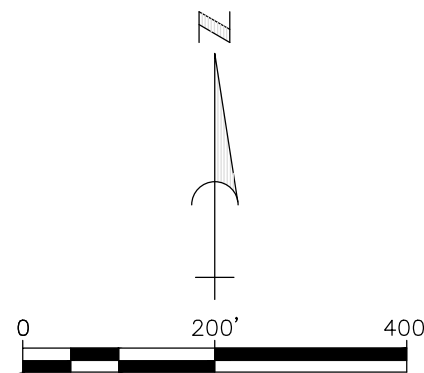
SITE PLAN

BY:	DATE:	79-403	SHEET NO. 19 OF 24
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CHK:	DATE:		
MDS	7/16		



DECKERVILLE ROAD
STA. 206+00 TO STA. 258+00

BETWEEN STA. 206+00 AND STA. 258+00	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	3	3	6
Slope Restoration	270	Syd	



DECKERVILLE ROAD
STA. 258+00 TO STA. 313+89

BETWEEN STA. 258+00 AND STA.313+89	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	6	0	6
Slope Restoration	270	Syd	



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DECKERVILLE ROAD
ELLINGTON TOWNSHIP
SEC. 25, 26, 35 & 36 T13N - R10E

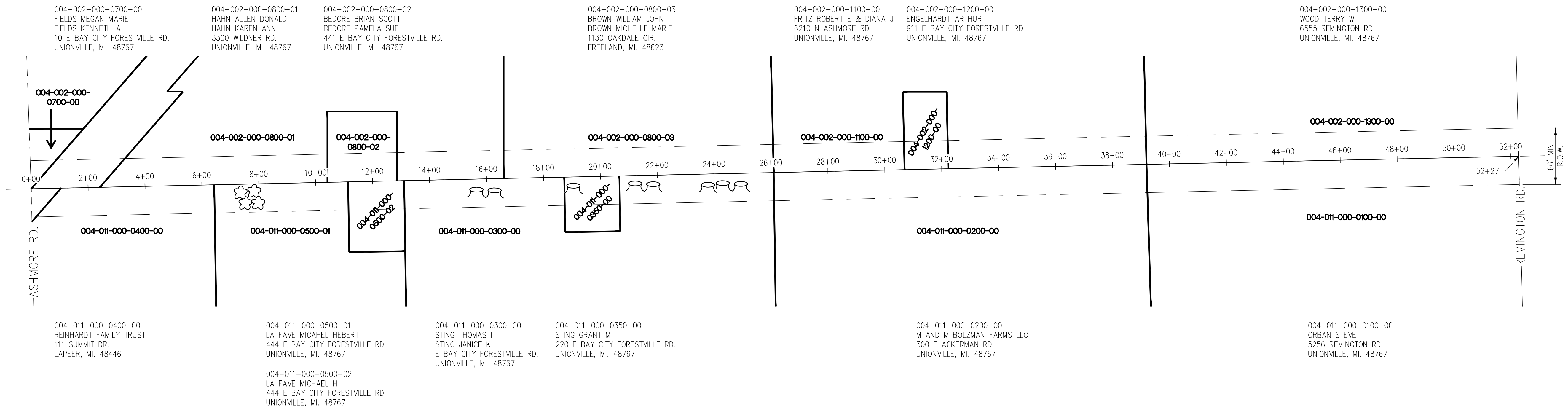
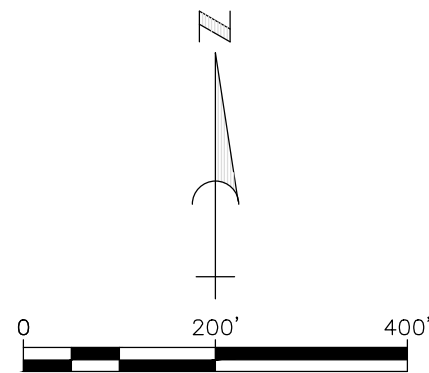
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BY:	DATE
TAS	7/16
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MDS	7/16

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OF 24

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BAY CITY FORESTVILLE ROAD
STA. 0+00 TO STA. 52+27

BETWEEN STA. 0+00 AND STA. 52+27	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	4	0	4
Stump, Rem, 19 inch to 36 inch	7	0	7
Stump, Rem, 37 inch or Larger	1	0	1
Slope Restoration	540	Syd	



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BAY CITY FORESTVILLE ROAD
COLUMBIA TOWNSHIP
SEC. 2 & 11, T14N - R9E

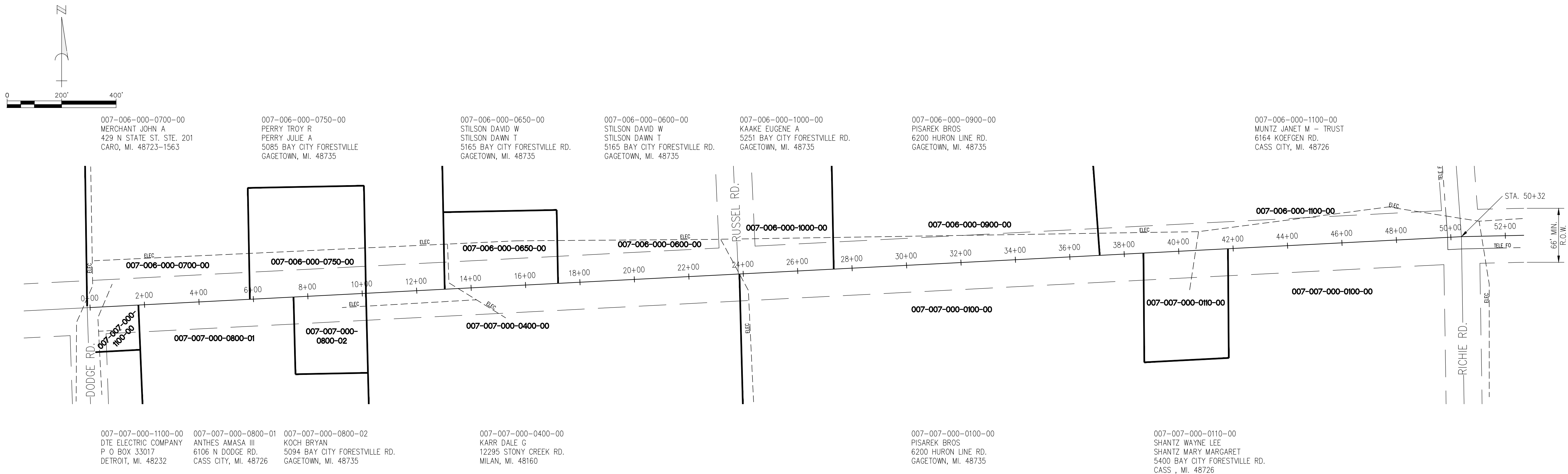
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TAS	7/16
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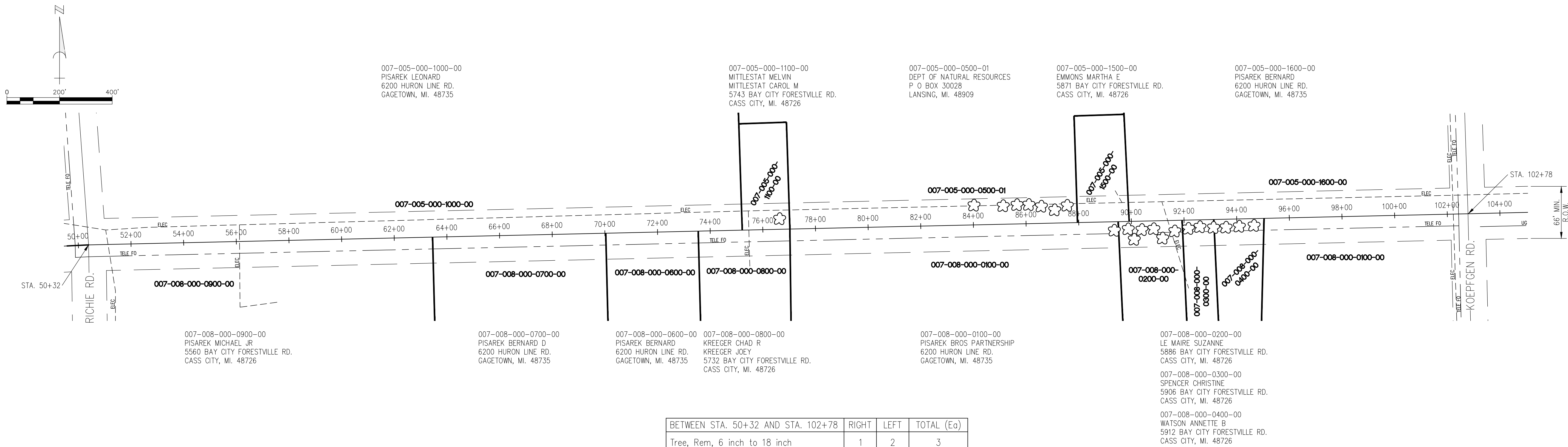
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21
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BAY CITY FORESTVILLE ROAD
STA. 0+00 TO STA. 50+32



BAY CITY FORESTVILLE ROAD
STA. 50+32 TO STA. 102+78



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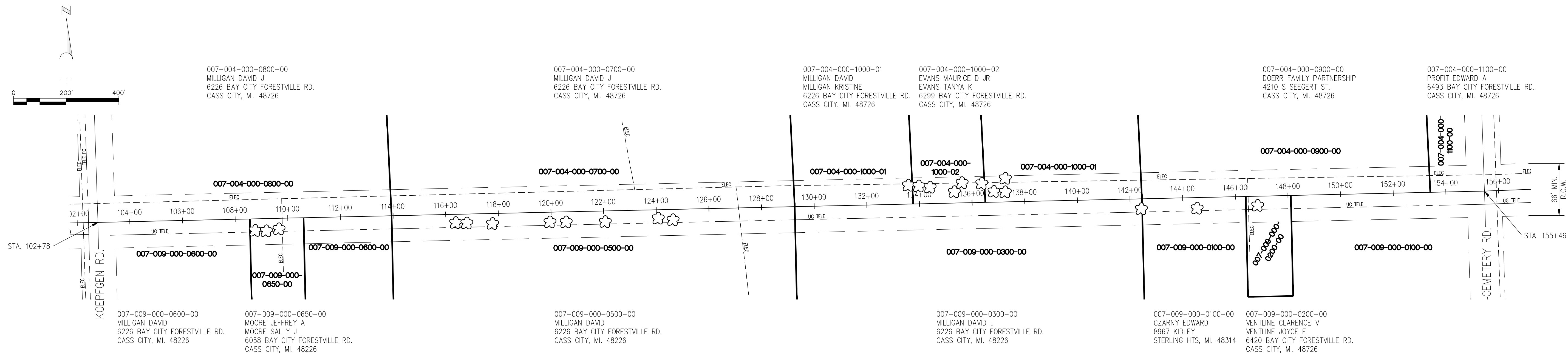
405 RIVER STREET
ALPENA, MICHIGAN 49707
(989) 354-3178

TUSCOLA COUNTY ROAD COMMISSION
BAY CITY FORESTVILLE ROAD
ELKLAND TOWNSHIP
SEC. 5, 6, 7 & 8, T14N - R11E

SITE PLAN

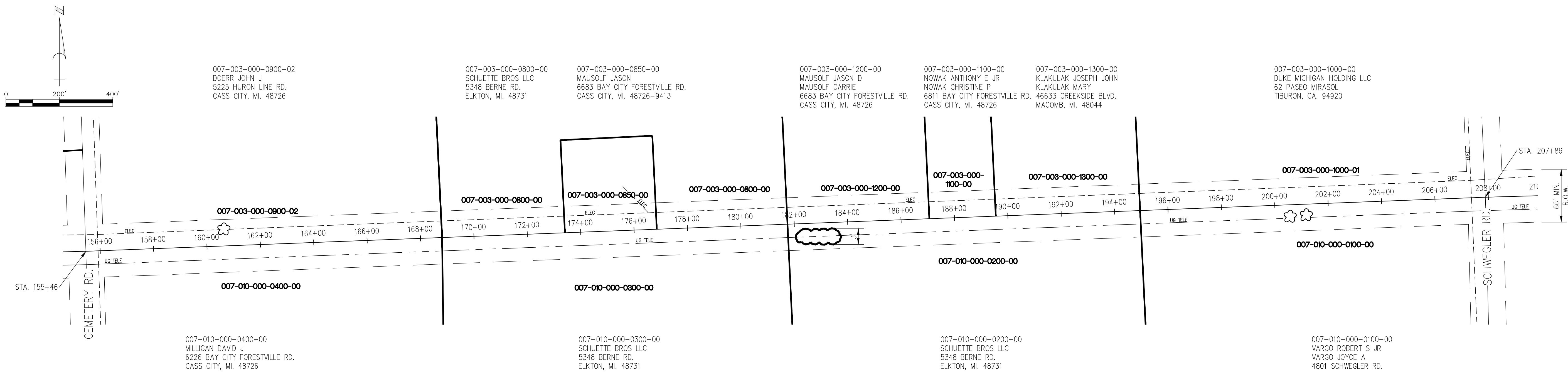
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TAS	7/16	22
CHK:	DATE:	79-403
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BETWEEN STA. 102+78 AND STA. 155+46	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	3	6	9
Tree, Rem, 19 inch to 36 inch	10	0	10
Tree, Rem, 37 inch or Larger	1	3	4
Slope Restoration	1035	Syd	

BAY CITY FORESTVILLE ROAD
STA. 102+78 TO STA. 155+46



BETWEEN STA. 155+46 AND STA. 207+86	RIGHT	LEFT	TOTAL (Eq)
Tree, Rem, 6 inch to 18 inch	1	0	1
Tree, Rem, 19 inch to 36 inch	0	1	1
Tree, Rem, 37 inch or Larger	1	0	1
Slope Restoration	135	Syd	

Clearing - Right	50'	3'	0.1 Acre
Slope Restoration	20	Syd	

BAY CITY FORESTVILLE ROAD
STA. 155+46 TO STA. 207+86



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BAY CITY FORESTVILLE ROAD
ELKLAND TOWNSHIP
SEC. 3, 4, 9 & 10, T14N - R11E

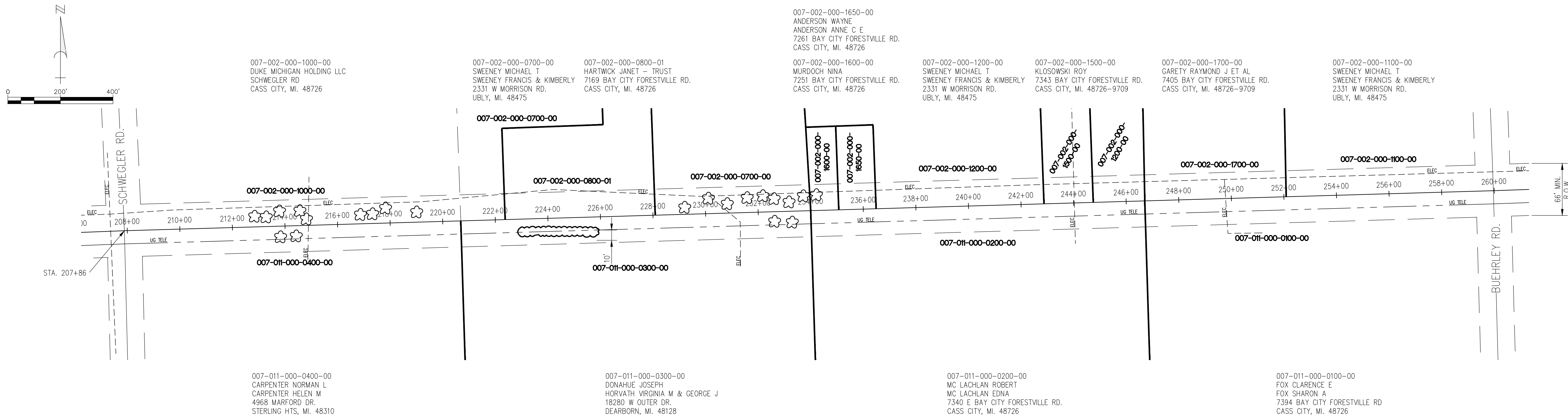
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BY:	DATE
TAS	7/16
CHK:	DATE
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79-403

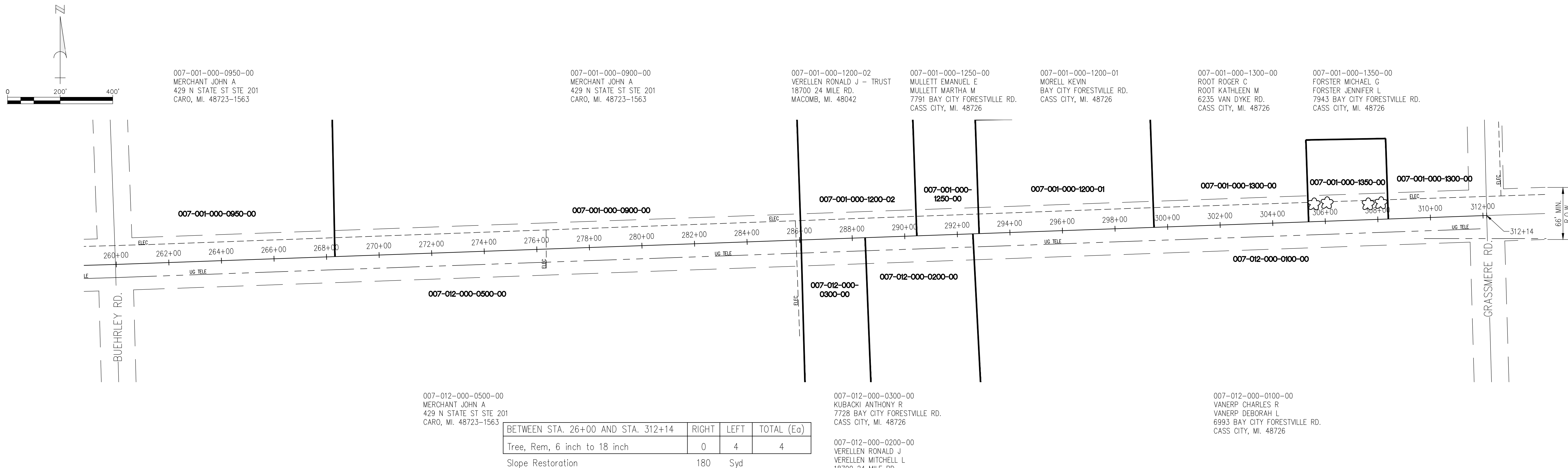
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OF 24

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BAY CITY FORESTVILLE ROAD

STA. 207+86 TO STA. 260+00



BAY CITY FORESTVILLE ROAD

STA. 260+00 TO STA. 312+14



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BAY CITY FORESTVILLE ROAD
ELKLAND TOWNSHIP
SEC. 1, 2, 11 & 12, T14N - R11E

SITE PLAN

BY:	DATE:	79-403	SHEET NO.
TAS	7/16		24
CHK:	DATE:		OF 24
MDS	7/16		