

M-32 Clean and Camera

Bid packages will contain specifications, quantities, requirements and contact information and are available at MDOT Alpena TSC, 1540 Airport Rd, Alpena, MI 49707 or can be requested electronically by emailing precorde@michigan.gov. MDOT retains the right to reject any and all bids. Bidders must be state prequalified contractors. Bids will be accepted until April 2, 2025.

Contractor Responsibilities

- Clean all of the storm water system highlighted in provided plans.
 - Camera all of said system (document and report and immediate repairs needed).
 - Water needed for completion of project.
 - Disposal of all spoils.
 - Mobilization.
 - All traffic control needed to safely complete project following MDOT traffic typical standards.
 - A copy of the as built plans with the assets in question for this project are included.
- All quantities for the overall drainage system and amount of debris to remove are estimated and are the contractors responsibility to confirm.

LUMP SUM BID: _____ Sign and date: _____

12" culvert-120'

15" culvert-452.5'

18" culvert-112'

24" culvert-72'

30" culvert-30'

Sewer Pipe

12" – 3612'

15" – 1786'

18" – 1341'

24" – 1034'

30" – 1030'

36" – 765'

Elliptical pipe

24"x 38" 27'

29"x 45" 895'

PART 1
ROAD
PLANS

SHEET
NUMBERS

TITLE	1
TYPICAL CROSS SECTIONS	2-4
MISCELLANEOUS DETAIL	5,6
NOTE SHEET	7
STANDARD SYMBOLS	8
WITNESSES AND BENCHMARKS	9
REMOVALS, PLAN & PROFILE	10-36
LANDSCAPING PLANS	37-44
MAINTAINING TRAFFIC/CONSTRUCTION STAGING	45
SIGNAL PLANS	46-58
PAVEMENT MARKING	59-61
LOG OF BORINGS	62-63
SPECIAL DETAILS	64-75

MICHIGAN
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED

MICHIGAN PROJECT

CONTROL SECTION 04021

JOB NUMBER 60361A/83536A

M-32

ALPENA TOWNSHIP

ALPENA COUNTY

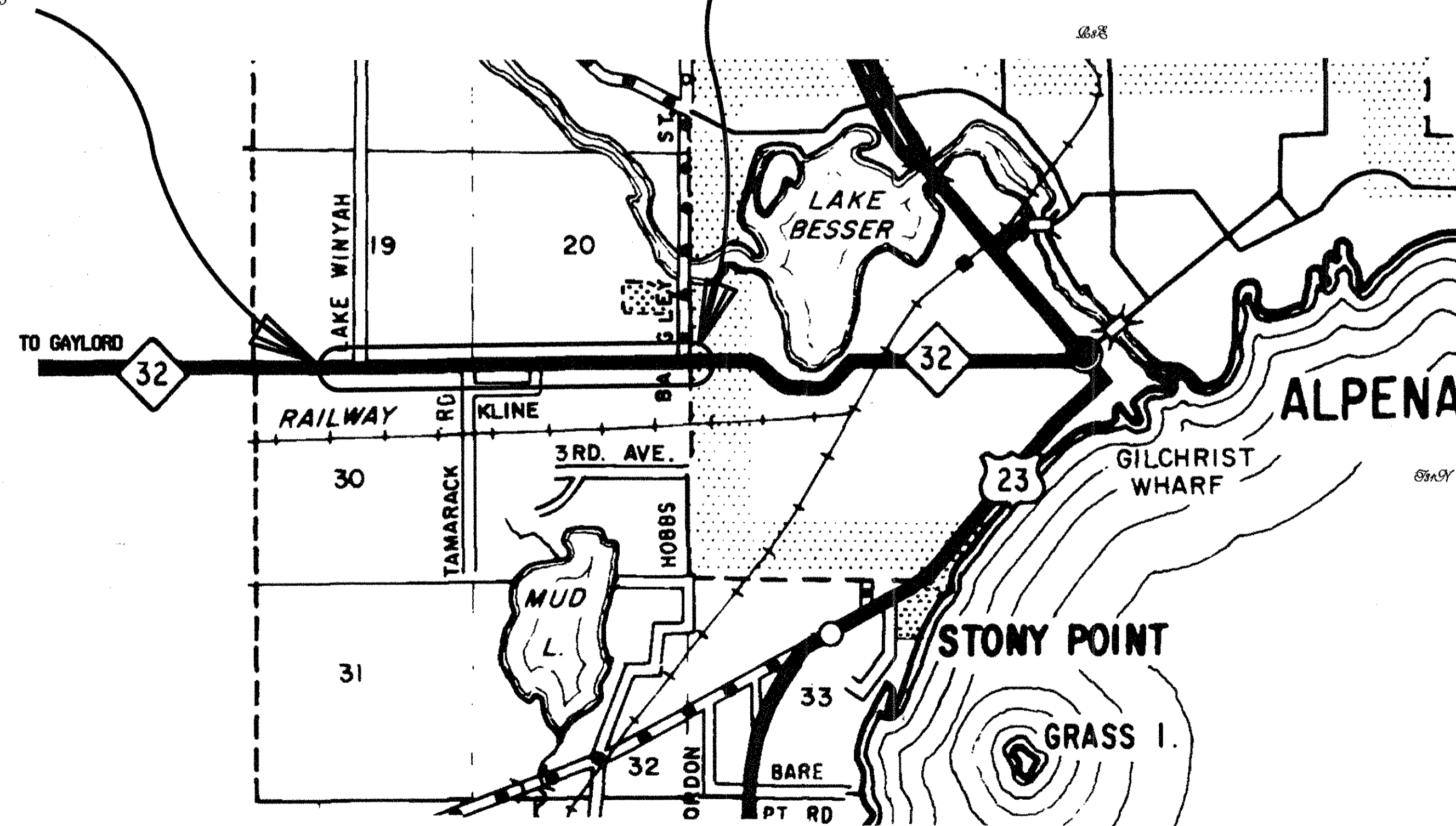
THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

	YEAR 2003	YEAR 2023
A.O.T.	9800	11750
D.H.V.	570	685
COMM. %	3.4%	4.1%
ESALS	2,817,850	
RIGID ESALS	3,852,930	
	P.O.B./M.P. 19.785	M.P./P.O.E. 19.785
POSTED SPEED	55	45
DESIGN SPEED	60	50



C.S. 04021
J.N. 60361A/83536A
P.O.B. STA. 1148+00
MILE PT. 18.61
P.R. * 1023609

C.S. 04021
J.N. 60361A/83536A
P.O.E. STA. 1237+00
MILE PT. 20.30
P.R. * 1023609



TITLE SHEET LEGEND

PROPOSED PROJECT	
EXISTING ROADS	
PAVED	
BITUMINOUS	
GRAVEL	
UNIMPROVED OR CITY STREET	
SECTION LINE	
TOWNSHIP LINE	
COUNTY LINE	
CITY OR VILLAGE LIMITS	
RAILROADS	

PROJECT LENGTH: 1.69 MI.

CONTRACT FOR: CRUSH AND SHAPE, WIDENING, CURB & GUTTER, DRAINAGE IMPROVEMENT, SIDEWALK, NON-MOTORIZED PATH, AND LANDSCAPING

APPROVALS

RECOMMENDED FOR APPROVAL _____ DATE _____
PROJECT MANAGER

RECOMMENDED FOR APPROVAL _____ DATE _____
DELIVERY ENGINEER

MICHIGAN
DEPARTMENT OF TRANSPORTATION
GLORIA J. JEFF - DIRECTOR

APPROVED BY _____ DATE _____
ENGINEER OF DEVELOPMENT



KEVIN SCHAEIDIG
DESIGN UNIT

CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS		SHEET NO.
		PROJECT	ITEM	
04021	60361A 83536A		501	1

CONTROL SECTION - JOB NUMBER - 04021 / 60361A/83536A

DATE: _____ CORRECTED BY: _____ CHECKED BY: _____ DATE: _____ DRAWN BY: _____ FILE NAME: P:\J3\60631\60631ITL.DGN

41 43 45 47
1 2 3 5 7 8

LAKE WINYAH RD

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
26	GEOTEXTILE SILT FENCE	80 Ft	Erosion Control, Silt Fence
39A	INLET PROTECTION FABRIC DROP	1 Ea	Erosion Control, Inlet Protection, Fabric Drop

NOTE: UPON CONSTRUCTION OF 36" CULVERT END SECTION CONTRACTOR SHALL INSTALL 5' OF GEOTEXTILE SILT FENCE IN EACH QUADRANT OF THE CULVERT

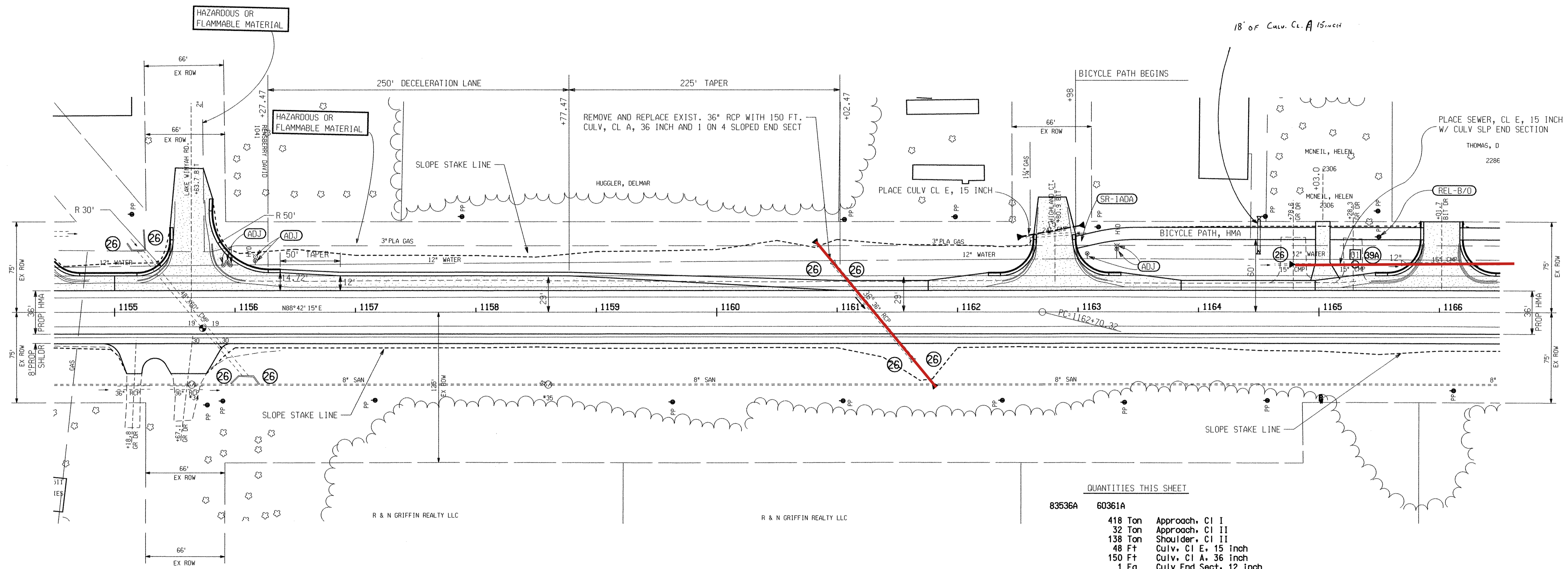
SECTION 19
T31N,R0E
ALPENA TWP.

HIGHLAND COURT



CO1 @
CURVE DATA
Δ=1° 02' 22" (RT)
D=0° 03' 59"
R=86,230.51'
T=782.20'
L=1,564.35'
E=3.55'
PC=1162+70.32 X=19,909,244.980 Y=637,311.457
PI=1170+52.52 X=19,910,026.979 Y=637,329.138
PT=1178+34.68 X=19,910,809.169 Y=637,332.630
SUPER = NORMAL CROWN

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



QUANTITIES THIS SHEET

83536A	60361A
418 Ton	Approach, CI I
32 Ton	Approach, CI II
138 Ton	Shoulder, CI II
48 Ft	Culv, CI E, 15 inch
150 Ft	Culv, CI A, 36 inch
1 Ea	Culv End Sect, 12 inch
2 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Transv
2 Ea	Culv, Slip End Sect, 1 on 4, 36 inch, Transv
230 Ft	Sewer, CI E, 12 inch, Tr Det B
1 Ea	Dr Structure, 24 inch dia
200 Lb	Dr Structure Cover (1-G)
1467 Ton	HMA, 4E3
412 Ton	HMA Approach
289 Ft	Curb and Gutter, Conc, Det B2
359 Ft	Bicycle Path, Grading
89 Ton	Bicycle Path, Aggregate
44 Ton	Bicycle Path, HMA
100 Sft	Sidewalk Ramp, ADA
6 Ea	Water Shutoff, Adj, Case 1, Special
2 Ea	Hydrant, Adj
640 Lb	Culv End Sect, Grate

DRIVE & APPROACH TABLE
(FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	APPROACH CL II TON	HMA APPROACH TON	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CULVERT SIZE LENGTH
1155+18.8 RT	67.9		11				
1155+67.1 RT	126.3		21				
1155+63.7 LT	642.2	215		159	166	108	
1162+80.9 LT	531.6	178		132	123	95	48
1165+03 LT	74.3	25		18			

SECTION 30
T31N,R0E
ALPENA TWP.



M-32 STA. 1155+00 TO STA. 1166+00					
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
03/15/06	1" = 40'	04021	60361A 83536A	SCHAEDIG	506 14

WORKED ON BY: DATE: CHECKED BY: DATE: FILE NAME:

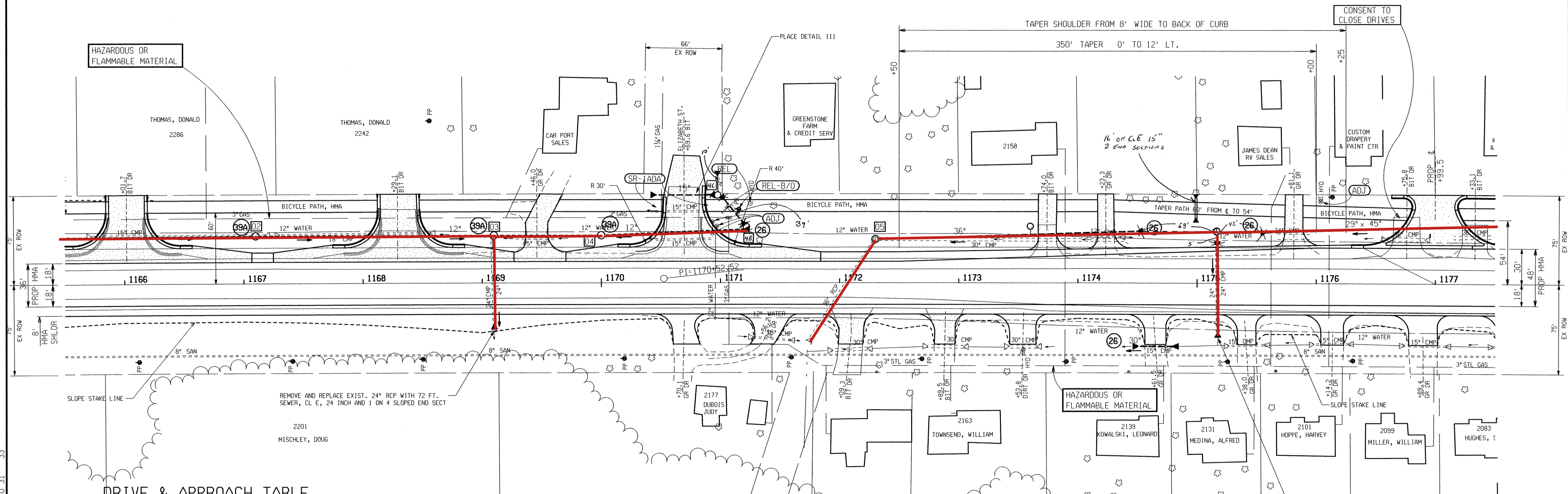
CO1 &
 CURVE DATA
 $\Delta=1^{\circ} 02' 22''$ (RT)
 $D=0^{\circ} 03' 59''$
 $R=86,230.51'$
 $T=782.20'$
 $L=1,564.35'$
 $E=3.55'$
 $PC=1162+70.32$ $X=19,909,244.980$ $Y=637,311.457$
 $PI=1170+52.52$ $X=19,910,026.979$ $Y=637,329.138$
 $PT=1178+34.68$ $X=19,910,809.169$ $Y=637,332.630$
 SUPER = NORMAL CROWN

SECTION 19
 T31N,R8E
 ALPENA TWP.
ELIZABETH ST.

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
(26)	GEOTEXTILE SILT FENCE	80 Ft	Erosion Control, Silt Fence
(39A)	INLET PROTECTION FABRIC DROP	3 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



DRIVE & APPROACH TABLE
 (FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	APPROACH CL II TON	HMA APPROACH TON	DRIVEWAY OPENING DETAIL M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CULVERT SIZE LENGTH
1166+01.7 LT	465.3	155		116		145	121	
1168+29.1 LT	457.6	153		113		145	128	
1169+46.0 LT	148.6	50		37				
1170+69.6 LT	591.1	197		146		138	98	15" - 36'
1170+70.1 RT	62.2		10					
1171+56.2 RT	72.7		12					
1172+09.3 RT	65.3	22		16				
1172+89.5 RT	55.4	19		14				
1173+53.8 RT	69.0		12					
1173+74.0 LT	87.4	29		22				
1174+23.3 LT	78.0		13					
1174+61.5 RT	57.0		10					30" - 30'
1175+38.0 RT	50.7		8					
1175+81.1 LT	80.7	27		20				
1176+14.2 RT	60.4		10					
1176+75.8 LT	CLOSE							
1176+89.4 RT	74.6		12					
1176+99.5 LT	223.0	74		55	120	176		

QUANTITIES THIS SHEET

83536A	60361A	1 Ea	Culv. Slip End Sect, 1 on 6, 36 inch,	1004 Cyd	Subbase, CIP
		1290 Ton	Aggregate Base	726 Ton	Approach, CI I
		1 Ea	Culv. Slip End Sect, Ellip Pipe, 1 on 6,	88 Ton	Approach, CI II
		29 inch by 45 inch, Longit		103 Ton	Shoulder, CI II
		1 Ea	Sewer Tap, 36 inch	78.5	Culv, CI E, 15 inch
		2 Ea	Dr Structure, 24 inch dia	72 Ft	Culv, CI E, 24 inch
		3 Ea	Dr Structure, 48 inch dia (40 + 40)	30 Ft	Culv, CI F, 30 inch
		2 Ea	Dr Structure, 72 inch dia	410 Ft	Sewer, CI E, 12 inch, Tr Det B
		950 Lb	Dr Structure Cover (3-G, 1-B)	72 Ft	Sewer, CI E, 24 inch, Tr Det B
		358 Ton	HMA, 3E3	220 Ft	Sewer, CI E, 36 inch, Tr Det B
		1497 Ton	HMA, 4E3	232 Ft	Sewer, Reinf Conc Ellip, CI HE IV, 29 inch by 45 inch, Tr Det B
		539 Ton	HMA Approach	1 Ea	Culv End Sect, 12 inch
		604 Ft	Curb and Gutter, Conc, Det B2	3 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Transv
		120 Ft	Driveway Opening, Conc, Det M	1 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Longit
		910	Bicycle Path, Grading	1 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Longit
		226	Ton Bicycle Path, Aggregate	3 Ea	Culv, Slip End Sect, 1 on 4, 24 inch, Transv
		111	Ton Bicycle Path, HMA	1 Ea	Culv, Slip End Sect, 1 on 4, 24 inch, Longit
		200	Sft Sidewalk Ramp, ADA	3 Ea	Culv, Slip End Sect, 1 on 4, 24 inch, Transv
		50 Syd	Riprap, Plain	2 Ea	Culv, Slip End Sect, 1 on 6, 30 inch, Longit
		1 Ea	Hydrant, Adj	777 Lb	Culv End Sect, Grate
		1 Ea	Water Shutoff, Adj, Case 1, Special		
		1 Ea	Hydrant, Relocate, Case 2		

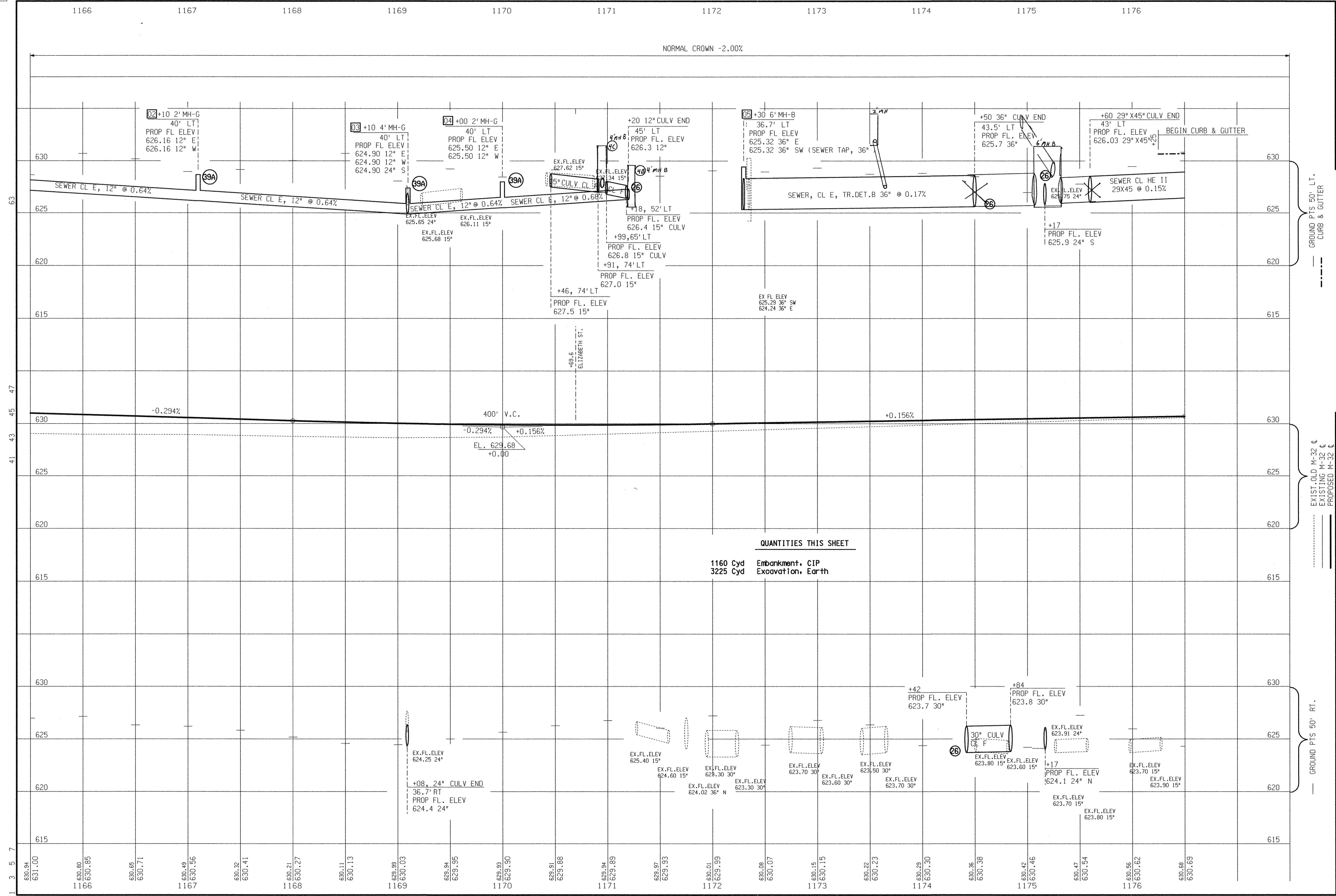
SECTION 30
 T31N,R8E
 ALPENA TWP.



M-32 STA. 1166+00 TO STA. 1177+00

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
11/30/05	1" = 40	04021	60361A 83536A	SCHAEDIG	508 17

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



1 3 5 7
630.94
631.00
630.80
630.85
630.65
630.71
630.49
630.56
630.32
630.41
630.21
630.27
630.11
630.13
629.89
630.03
629.84
629.95
629.93
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629.81
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629.84
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629.87
629.93
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629.99
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630.54
630.56
630.62
630.69
630.69

1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176

NORMAL CROWN -2.00%

QUANTITIES THIS SHEET

1160 Cyd Embankment, CIP
3225 Cyd Excavation, Earth

GROUND PTS 50' LT.
CURB & GUTTER

EXIST. OLD M-32
EXISTING M-32
PROPOSED M-32

GROUND PTS 50' RT.

FINAL R.O.W.	
REVISION	
DATE	
AUTH	

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT
03/15/06	HORZ. 1" = 40' VERT. 1" = 4'	04021	60361A 83536A	SCHEDIG
CHECKED BY:	WORKED ON BY:			
DATE:	DATE:			

SHEET NO.	18
R.O.W CONST.	

M-32 STA. 1165+50 TO STA. 1176+50

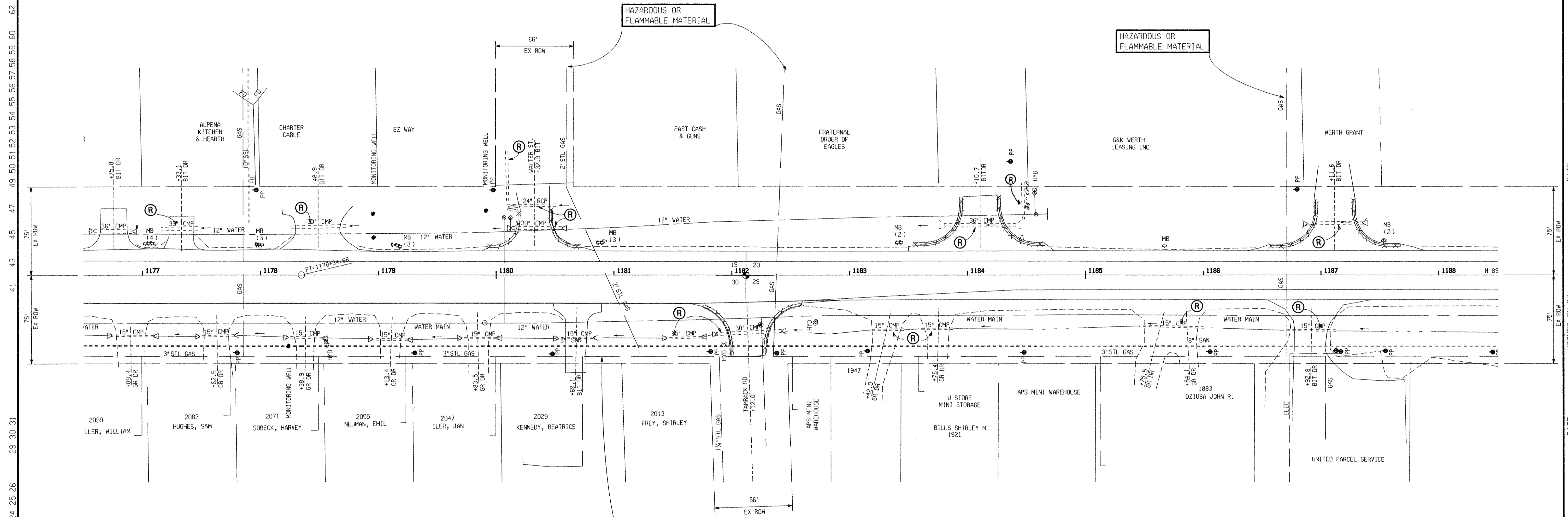
CURVE DATA
 $\Delta=1^{\circ} 02' 22''$ (RT)
 $D=0^{\circ} 03' 59''$
 $R=86,230.51'$
 $T=782.20'$
 $L=1,564.35'$
 $E=3.55'$
 $PC=1162+70.32$ $X=19,909,244.980$ $Y=637,311.457$
 $PI=1170+52.52$ $X=19,910,026.979$ $Y=637,329.138$
 $PT=1178+34.68$ $X=19,910,809.169$ $Y=637,332.630$
 EX SUPER = NORMAL CROWN
 PROP SUPER = NORMAL CROWN

WALTER RD.

SECTION 19
 T31N,R8E
 ALPENA TWP.

SECTION 20
 T31N,R8E
 ALPENA TWP.

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



QUANTITIES THIS SHEET

- 6 Ea Culv. Rem. Less than 24 inch
- 7 Ea Culv. Rem. 24 inch to 48 inch
- 3760 Syd Pavt. Rem

REMOVAL SHEET

1.2.3 5 7.8.9.10 15 21 24 25 26 29 30 31 41 43 45 47 49 50 51 52 53 54 55 56 57 58 59 60 62

DATE: WORKED ON BY: CHECKED BY: FILE NAME:

SECTION 30
 T31N,R8E
 ALPENA TWP.

SECTION 29
 T31N,R8E
 ALPENA TWP.

TAMARACK RD.

		M-32 STA. 1177+00 TO STA. 1188+00			
		DATE 03/15/06	SCALE 1" = 40	CONT. SEC. 04021	JOB NO. 60361A 83536A

CURVE DATA
 Δ=1° 02' 22" (RT)
 D=0° 03' 59"
 R=86,230.51'
 T=782.20'
 L=1,564.35'
 E=3.55'
 PC=1162+70.32 X=19,909,244.980 Y=637,311.457
 PI=1170+52.52 X=19,910,026.979 Y=637,329.138
 PT=1178+34.68 X=19,910,809.169 Y=637,332.630
 EX SUPER = NORMAL CROWN
 PROP SUPER = NORMAL CROWN

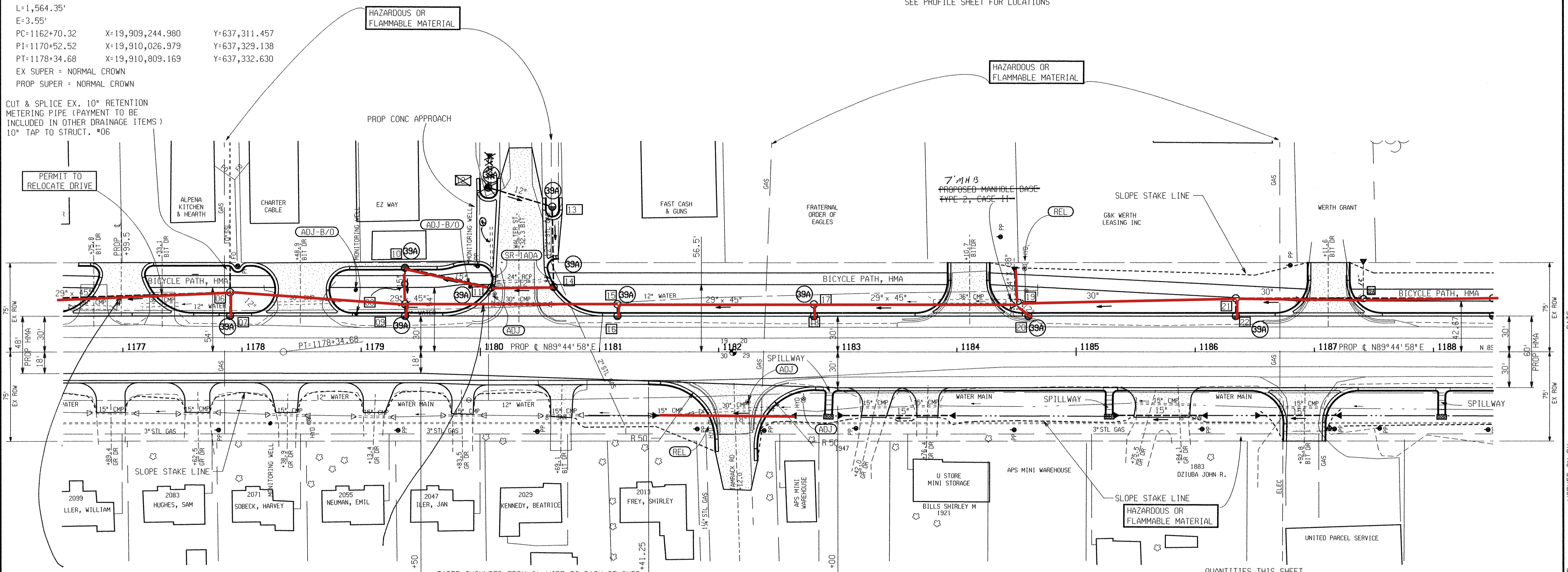
WALTER RD. SECTION 19 T31N,R8E ALPENA TWP.
 SECTION 20 T31N,R8E ALPENA TWP.

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
39A	INLET PROTECTION FABRIC DROP	11 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

CUT & SPLICE EX. 10" RETENTION METERING PIPE (PAYMENT TO BE INCLUDED IN OTHER DRAINAGE ITEMS)
 10" TAP TO STRUCT. *06



Place Flowable Fill Collars in Trench STA. 1177+00 AND 1180+00 AT AROUND Equip. Culvert 29"x45". Use A Rubber Premium Gasket At Each Joint Between STA. 1177+00 To 1180+00. 6A Stone Used in Sewer Trench Per Prop. Order, M.O.D.T. + D.E.A.

DRIVE & APPROACH TABLE (FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	APPROACH CL II TON	HMA APPROACH TON	DRIVEWAY OPENING DETAIL M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT
1177+33.1 LT	RELOCATE						
1177+62.5 RT	65.6		11				
1178+38.9 RT	65.0		11				
1178+48.9 LT	270.5	90		67	86	119	
1179+13.4 RT	70.0		12				
1179+83.5 RT	57.9		10				
1180+32.3 LT*	793.2	272		180	74 & 48	227	101
1180+69.1 RT	63.6	21		16			

* INCLUDES QUANTITIES FOR DRIVES ON WALTER RD.

DRIVE & APPROACH TABLE (FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	HMA APPROACH TON	DRIVEWAY OPENING DETAIL M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CULVERT SIZE LENGTH
1182+12.0 RT	412.4	137	102				18" - 112FT
1183+42.0 RT	69.4	23	17				15" - 77FT
1183+76.4 RT	56.6	19	14				
1184+10.7 LT	170.8	57	42	90	124	141	
1185+75.5 RT	64.1	21	16				15" - 66FT
1185+84.1 RT	64.0	21	16				
1186+92.8 RT	170.2	57	42	90	125		15" - 63FT
1187+11.6 LT	170.8	57	42	90	124	135	

QUANTITIES THIS SHEET			
83536A	60361A	60361A	60361A
13.7 Cyd	Conc. Grade S2	3031 Cyd	Subbase, CIP
2303 Lb	Reinforcement, Steel	2713 Ton	Aggregate Base
1 Ea	Sewer Tap, 10 inch	775 Ton	Approach, CI I
8395 Lb	Dr Structure Cover (6-B,2-G,9-J)	44 Ton	Approach, CI II
1117 Ton	HMA, 3E3	25 Ton	Shoulder, CI II
1757 Ton	HMA, 4E3	112 Ft	Culv, CI E, 18 inch
554 Ton	HMA Approach	206 Ft	Culv, CI F, 15 inch
2296 Ft	Curb and Gutter, Conc, Det B2	27 Ft	Sewer, Reinf Conc Ellip, CI HE IV, 24 inch by 38 inch, Tr Det B
478 Ft	Driveway Opening, Conc, Det M	8 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Longit
90 Syd	Driveway, Nonreinf Conc, 6 inch	2 Ea	Culv, Slip End Sect, 1 on 4, 18 inch, Longit
109 Ton	Bicycle Path, Grading	1 Ea	Culv, Slip End Sect, Ellip Pipe, 1 on 6, 24 inch by 38 inch, Longit
200 Ton	Bicycle Path, Aggregate	403 Ft	Sewer, CI E, 12 inch, Tr Det B
	Bicycle Path, HMA	663 Ft	Sewer, Reinf Conc Ellip, CI HE IV, 29 inch by 45 inch, Tr Det B
	Sidewalk Ramp, ADA	398 Ft	Sewer, CI E, 30 inch, Tr Det B
	Hydrant, Relocate, Case 1	7 Ea	Dr Structure, 24 inch dia
	Gate Well Cover, Adj, Case 1	4 Ea	Dr Structure, 48 inch dia
	Hydrant, Adj	1 Ea	Dr Structure, 60 inch dia
	Water Shutoff, Adj, Case 1, Special	4 Ea	Dr Structure, 72 inch dia
	Spillway, Conc	320 Lb	Culv End Sect, Grate
	Shoulder Gutter, Conc, Det 1		
	Riprap, Plain		
	Underdrain, Subbase, 6 inch		
	Underdrain Outlet, 6 inch		
	Underdrain, Outlet Ending, 6 inch		
	Sewer Tap, 6 inch		



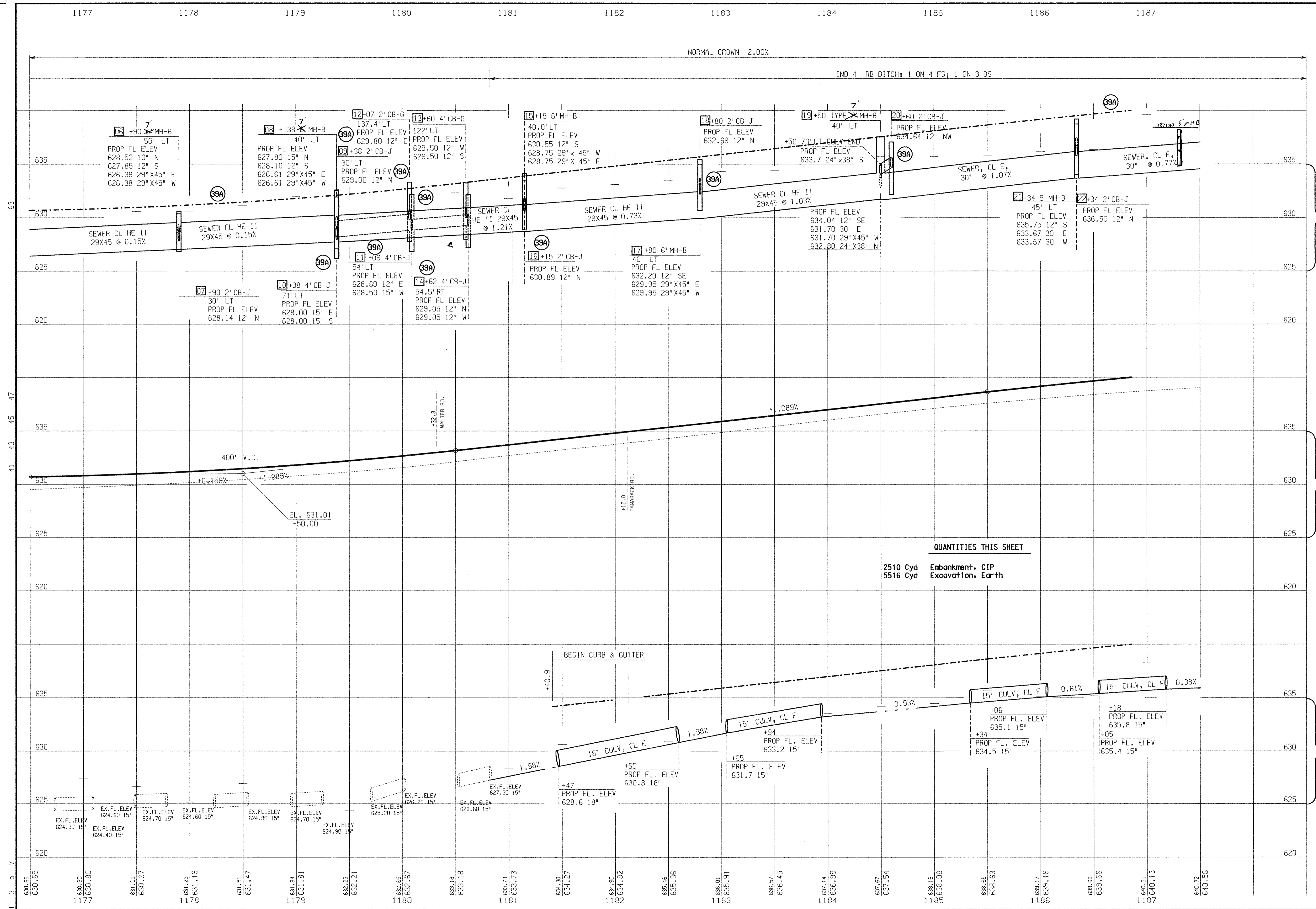
M-32 STA. 1177+00 TO STA. 1188+00

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
03/15/06	1" = 40'	04021	83536A	SCHAEDIG	510 20

SECTION 30 T31N,R8E ALPENA TWP.
 SECTION 29 T31N,R8E ALPENA TWP.

33
30.31
24.25.26.27
21
14.15
7.8.9.10

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



QUANTITIES THIS SHEET
 2510 Cyd Embankment, CIP
 5516 Cyd Excavation, Earth

--- GROUND PTS 50' RT.
 --- CURB & GUTTER
 --- GROUND PTS 50' LT.
 --- CURB & GUTTER
 --- EXIST. OLD M-32 CL
 --- EXISTING M-32 CL
 --- PROPOSED M-32 CL

FINAL R.O.W.	
REVISION	
DATE	
AUTH	

DATE	03/15/06	SCALE	HORIZ. 1" = 40' VERT. 1" = 4'	CONT. SEC.	04021	DESIGN UNIT	SCHMIDIG
JOB NO.	60361A	M-32 STA. 1176+50 TO STA. 1187+50		WORKED ON BY:		DATE:	
FILE NO.	83536A			CHECKED BY:		DATE:	

SHEET NO. 21
 R.O.W. CONSTRUCTION

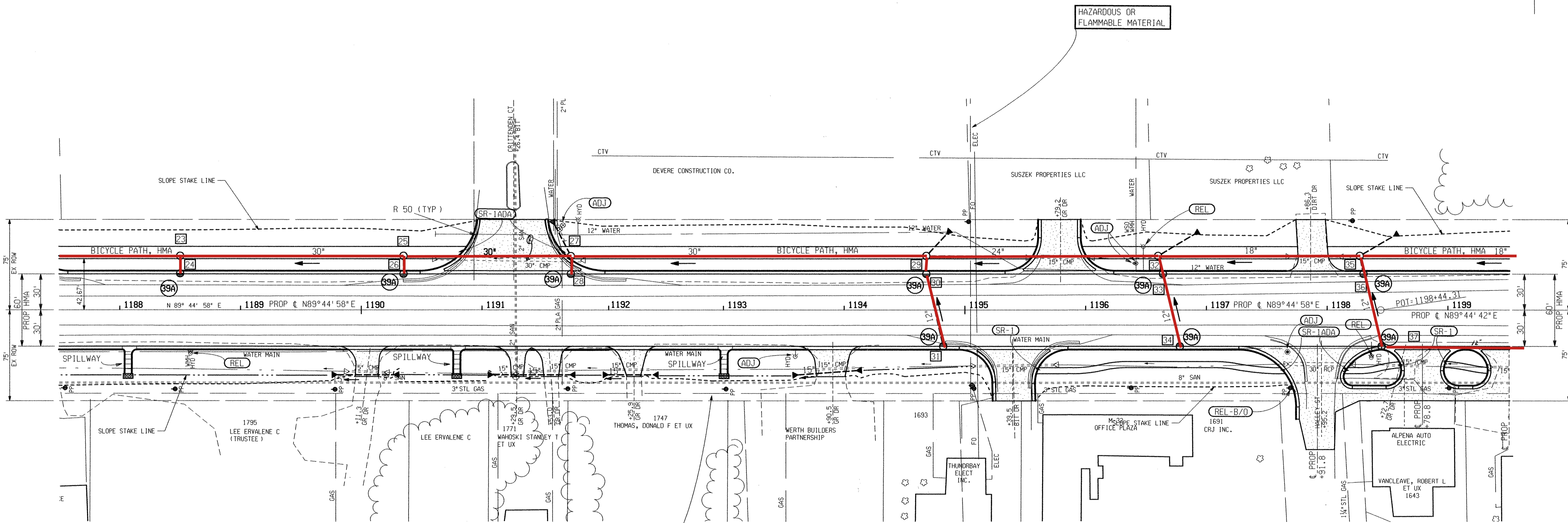
SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
39A	INLET PROTECTION FABRIC DROP	9 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

SECTION 20
T31N,R8E
ALPENA TWP.

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION

CRITTENDEN CT.



DRIVE & APPROACH TABLE
(FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	HMA APPROACH TON	DRIVEWAY OPENING DET M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CULVERT SIZE LENGTH
1190+11.4 RT	59.8	20	15				15" - 47FT
1191+26.4 LT	384.7	128	95	153	125	191	
1191+29.5 RT	39.5	13	10				15" - 60FT
1191+53.0 RT	46.1	15	11				
1192+25.9 RT	50.2	17	12				15" - 33FT
1193+90.5 RT	76.1	25	19				15" - 61FT
1195+39.5 RT	171.8	58	43	90	94	137	
1195+79.2 LT	170.9	57	42	90	124		
1197+86.3 LT	124	41	31				
1197+95.2 RT	409.2	136	101		137	107	
1198+78.8 RT	218.4	73	54	70	92		

HAZARDOUS OR FLAMMABLE MATERIAL

QUANTITIES THIS SHEET	83536A	60361A	60361A
2 Ea	Hydrant, Adj	3321 Cyd	Subbase, CIP
1 Ea	Gate Well Cover, Adj, Case 1	2678 Ton	Aggregate Base
2 Ea	Hydrant, Relocate, Case 2	583 Ton	Approach, C I I
1 Ea	Hydrant, Relocate, Case 1	201 Ft	Culv, C I F, 15 inch
1210 Ton	HMA, 3E3	8 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Longlit
1815 Ton	HMA, 4E3	3 Ea	Culv End Sect, 15 inch
433 Ton	HMA Approach	433 Ft	Sewer, C I E, 12 inch, Tr Det B
2280 Ft	Curb and Gutter, Conc, Det B2	29 Ft	Sewer, C I E, 15 inch, Tr Det B
403 Ft	Driveway Opening, Conc, Det M	375 Ft	Sewer, C I E, 18 inch, Tr Det B
1300 Sft	Sidewalk, Conc, 4 inch	210 Ft	Sewer, C I E, 24 inch, Tr Det B
300 Sft	Sidewalk Ramp, ADA	600 Ft	Sewer, C I E, 30 inch, Tr Det B
150 Sft	Sidewalk Ramp	6 Ea	Dr Structure, 24 inch dia
972 Ft	Bicycle Path, Grading	5 Ea	Dr Structure, 48 inch dia
241 Ton	Bicycle Path, Aggregate	4 Ea	Dr Structure, 60 inch dia
119 Ton	Bicycle Path, HMA	7995 Lb	Dr Structure Cover (6-B, 9-J)
2 Ea	Shoulder Gutter, Conc, Det 1	4 Ea	Water Shutoff, Adj, Case 1, Special
32 Ft	Spillway, Conc	1600 Ft	Underdrain, Subbase, 6 inch
10 Syd	Riprap, Plain	600 Ft	Underdrain, Subgrade, 6 inch
9 Ea	Sewer Tap, 6 inch	30 Ft	Underdrain Outlet, 6 inch
		3 Ea	Underdrain, Outlet Ending, 6 inch

HALLEY ST.

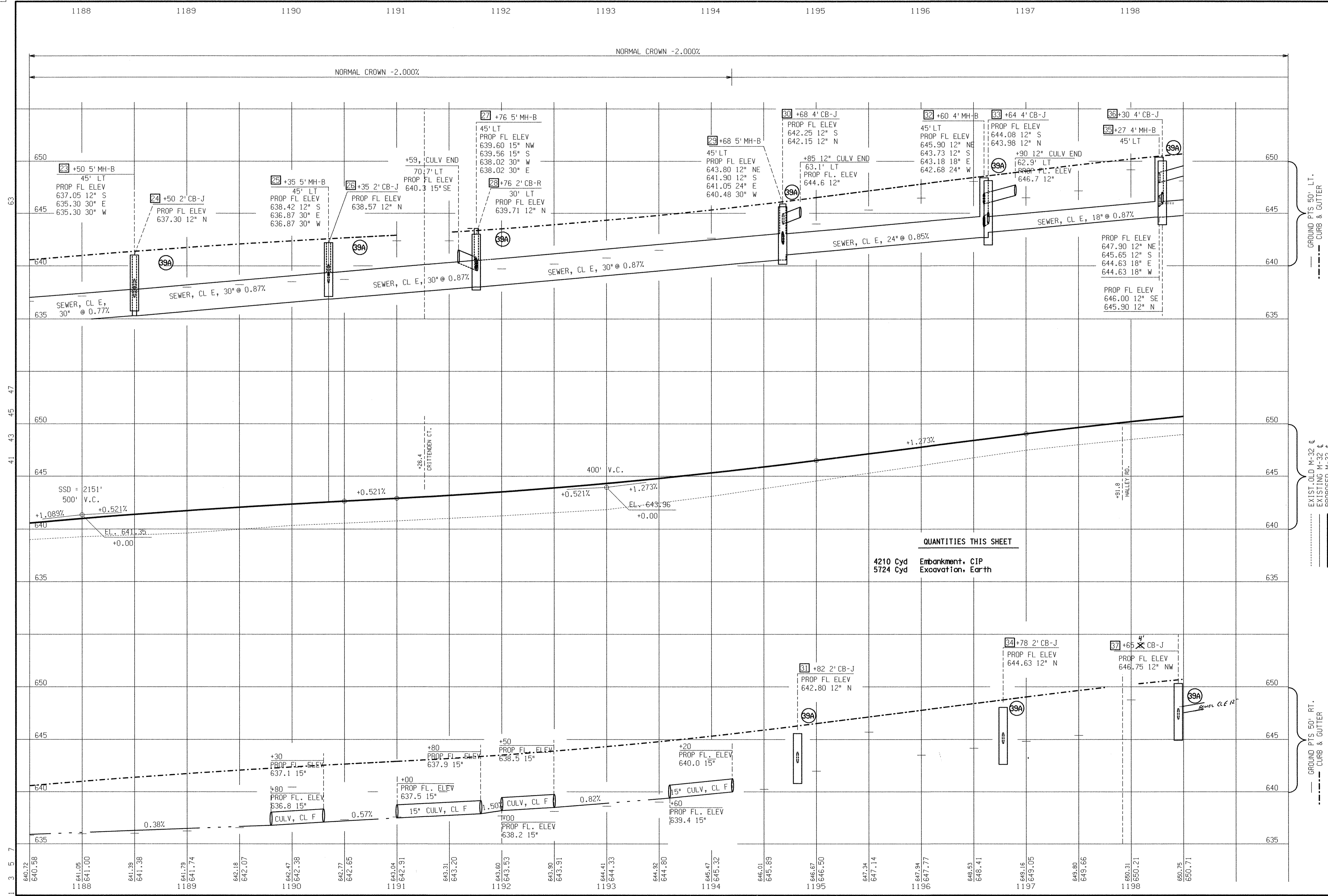
M-32 STA. 1188+00 TO STA. 1199+00

	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
	03/15/06	1" = 40	04021	60361A 83536A	SCHAEDIG	512 23

SECTION 29
T31N,R8E
ALPENA TWP.

1 2 3 4 5 7 8 9 10 15 21 24 25 26 30 31 33

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



QUANTITIES THIS SHEET
 4210 Cyd Embankment, CIP
 5724 Cyd Excavation, Earth

FINAL R.O.W.	
REVISION	
DATE	
AUTH	

EXISTING OLD M-32	DESIGN UNIT
EXISTING M-32	60361A
PROPOSED M-32	83536A
WORKED ON BY:	
DATE	

M-32 STA. 1187+50 TO STA. 1198+50	
DATE	03/15/06
SCALE	HORZ. 1" = 40' VERT. 1" = 4'
CONT. SEC.	04021
DESIGN UNIT	SCHMIDT

SHEET NO.	24
R.O.W. CONST.	
FILE NAME:	

1187

DATE:

DATE:

CHECKED BY:

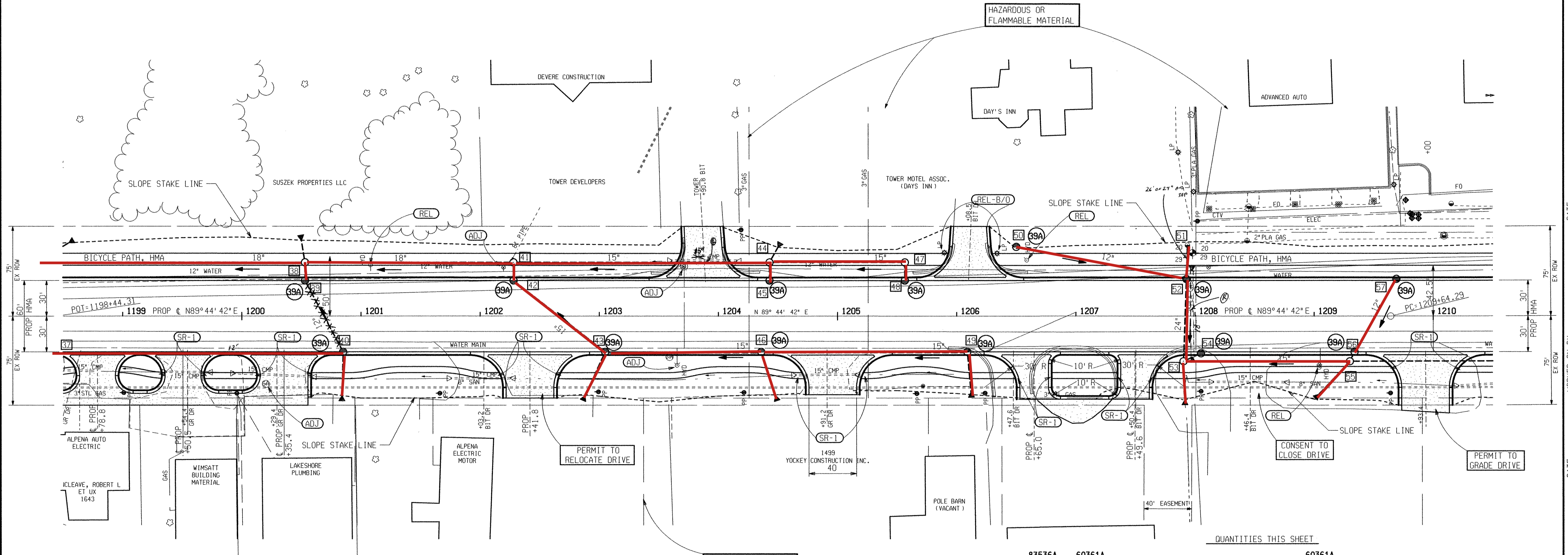
DATE:

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
39A	INLET PROTECTION FABRIC DROP	13 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

SECTION 20
T31N,R8E
ALPENA TWP.

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



DRIVE & APPROACH TABLE
(FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	HMA APPROACH TON	DRIVEWAY OPENING DET M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT
1199+50.5	208.0	69	51	70	93	
1200+35.0 RT	249.5	83	62	80	92	
1202+03.2 RT	RELOCATE					
1202+41.8 RT	192.4	64	48	100	104	
1203+90.8 LT	176.5	59	44	91	117	105
1204+91.2 RT	178.2	59	44 H.S.	100	98	
1206+08.5 LT	168.5	56	42 H.S.	90	117	101
1206+65.0 RT	118.3	39	29 H.S.	64	116	135
1207+49.6 RT	118.3	39	29 H.S.	64	116	128
1209+93.4 RT	244.1	81	60 H.S.	100	116	

83536A		60361A		60361A	
550 Ton	HMA, 3E3	3296 Cyd	Subbase, CIP		
825 Ton	HMA, 4E3	2687 Ton	Aggregate Base		
206 Ton	HMA Approach	549 Ton	Approach, CI I		
203 Ton	HMA Approach, High Stress	1 Ea	Culv, Slip End Sect, 1 on 4, 15 inch, Longit		
660 Ton	HMA, 3E3, High Stress		Culv, Slip End Sect, 1 on 4, 30 inch, Longit		
990 Ton	HMA, 4E3, High Stress	1 Ea	Culv End Sect, 15 inch		
2442 Ft	Curb and Gutter, Conc, Det B2	5 Ea	Sewer, CI E, 12 inch, Tr Det B		
759 Ft	Driveway Opening, Conc, Det M	769 Ft	Sewer, CI E, 15 inch, Tr Det B		
4100 Sft	Sidewalk, Conc, 4 inch	912 Ft	Sewer, CI E, 18 inch, Tr Det B		
700 Sft	Sidewalk Ramp	193 Ft	Sewer, CI E, 24 inch, Tr Det B		
1022 Ft	Bicycle Path, Grading	100 Ft	Sewer, CI E, 30 inch, Tr Det B		
254 Ton	Bicycle Path, Aggregate	32 Ft	Dr Structure, 24 inch dia		
125 Ton	Bicycle Path, HMA	5 Ea	Dr Structure, 48 inch dia		
		2 Ea	Dr Structure Cover, Adj, Case 1		
		2 Ea	Dr Structure Cover, Adj, Case 2		
		1 Ea	Dr Structure Cover, 60 inch dia		
		3 Ea	Water Shutoff, Adj, Case 1, Special		
		1 Ea	Hydrant, Relocate, Case 1		
		1 Ea	Hydrant, Relocate, Case 2		
		10160 Lb	Dr Structure Cover (6-B, 1-G, 12-J)		
		2200 Ft	Underdrain, Subgrade, 6 inch		
		12 Ea	Sewer Tap, 6 inch		
		165 Lb	Culv End Sect, Grate		

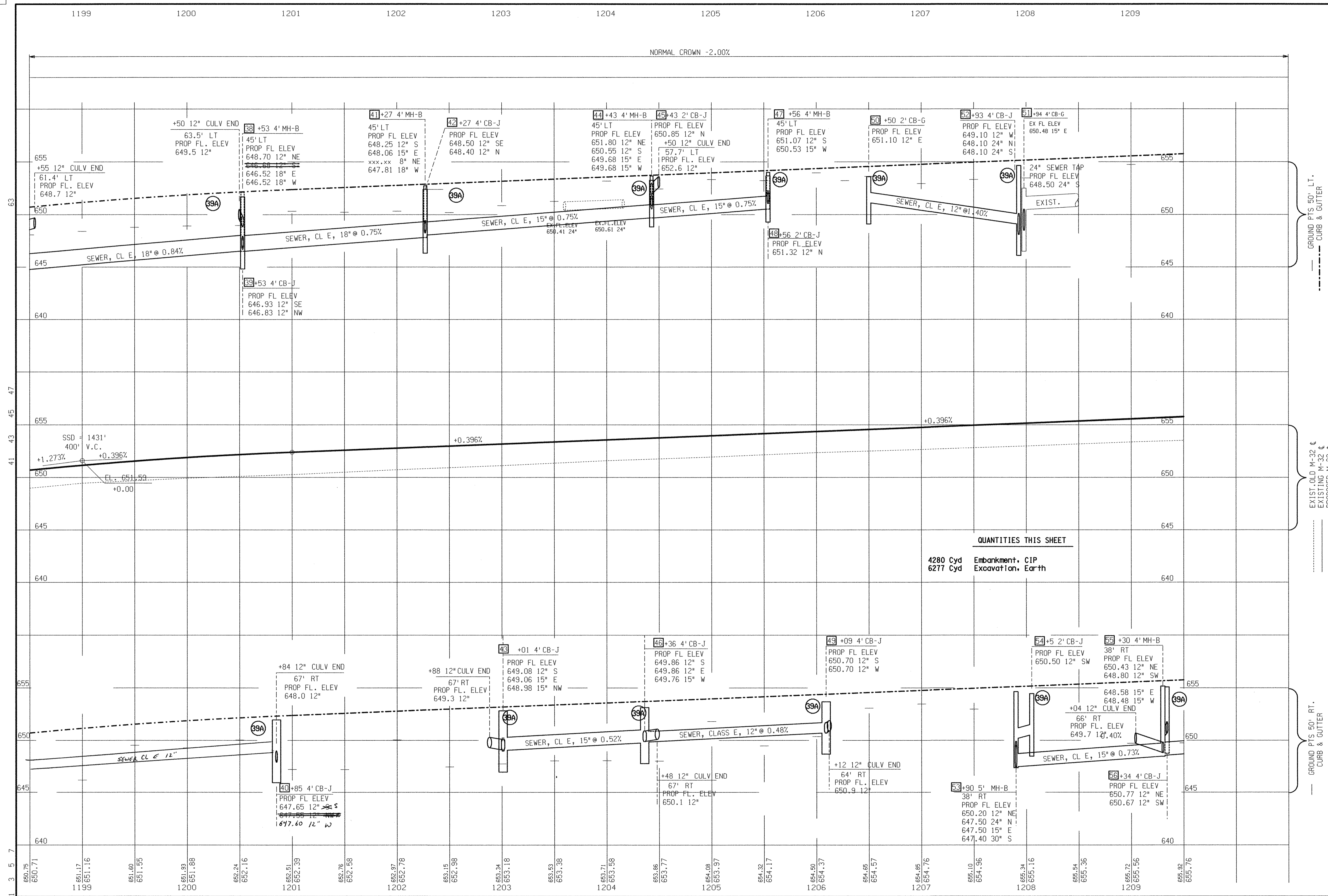
SECTION 29
T31N,R8E
ALPENA TWP.



M-32 STA. 1199+00 TO STA. 1210+00					
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
03/15/06	1" = 40'	04021	60361A 83536A	SCHAEDIG	514 26

1.2 3 5 7.8 9 10 15 21 24 25 26 27 30 31 33

DATE: WORKED ON BY: CHECKED BY: FILE NAME:



QUANTITIES THIS SHEET
 4280 Cyd Embankment, CIP
 6277 Cyd Excavation, Earth

--- GROUND PTS 50' LT. CURB & GUTTER

..... EXIST. OLD M-32
 - - - - - EXISTING M-32
 ——— PROPOSED M-32

--- GROUND PTS 50' RT. CURB & GUTTER

FINAL R.O.W.	
REVISION	
DATE	
NO.	

M-32 STA. 1198+50 TO STA. 1209+50

DATE: 03/15/06
 SCALE: HORIZ. 1" = 40', VERT. 1" = 4'
 CONT. SEC.: 04021
 JOB NO.: 60361A
 DESIGN UNIT: 83536A
 SCHEDULE: SCH-EDIG

WORKED ON BY: _____
 CHECKED BY: _____
 DATE: _____

MDOT
 Michigan Department of Transportation

SHEET NO. 27
 R.O.W. CONST.

CURVE DATA
 $\Delta = 3^\circ 55' 14''$ (LT)
 $D = 0^\circ 19' 57''$
 $R = 17,229.59'$
 $T = 589.72'$
 $L = 1,178.98'$
 $E = 10.09'$
 $PC = 1209+64.29$ $X = 19,913,938.753$ $Y = 637,346.409$
 $PI = 1215+54.01$ $X = 19,914,528.468$ $Y = 637,349.099$
 $PT = 1221+43.27$ $X = 19,915,116.619$ $Y = 637,392.104$
 EX SUPER = NORMAL CROWN
 PROP SUPER = NORMAL CROWN

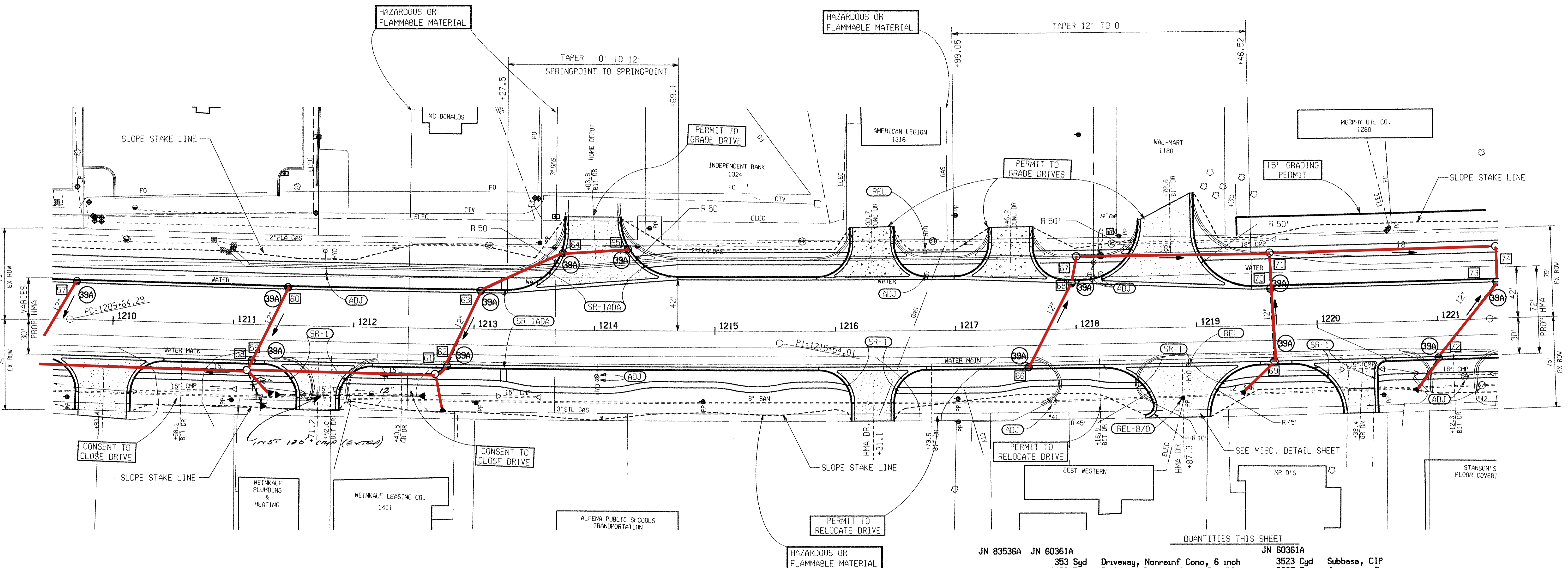
NOTE:
 ON STRUCTURES 68,70,73,77,80,83, AND 87 THE CONTRACTOR WILL BE RESPONSIBLE TO LOCATE THE WATERMAIN AND ADJUST THE DEPTH OF THE SUMP SO THE BOTTOM OF THE STRUCTURE WILL BE AT LEAST 1' ABOVE THE WATERMAIN. THIS WORK SHALL BE INCLUDED IN THE COST OF THE STRUCTURES.

SECTION 20
 T31N,R8E
 ALPENA TWP.

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
39A	INLET PROTECTION FABRIC DROP	11 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



DRIVE & APPROACH TABLE
 (FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	HMA APPROACH TON	DRIVEWAY OPENING DET M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CONC NONREINF 6 INCH SYD
1210+58.2 RT	CLOSE						
1211+71.2 RT	155.3	52	38 H.S.	90	106	108	
1212+40.5 RT	CLOSE						
1214+03.8 LT	348	116	86 H.S.	142	164	260	
1216+31.1	168.7	56	42 H.S.	89	116		
1216+30.7 LT	174.8	59		92	114	154	175
1217+46.2 LT	178.1	60		92	112	154	178
1218+87.3 RT	267.0	71	66 H.S.	130	134	130	
1218+79.6 LT	386.4	129	96 H.S.	144	165	238	
1220+39.4 RT	147.6	49	37 H.S.	78	113		

QUANTITIES THIS SHEET

JN 83536A	JN 60361A	JN 60361A
4285	353	3523
300	2336	2887
400	854	612
1010		5
251		561
110		12
	3 Ea	3 Ea
	1 Ea	1 Ea
	5 Ea	5 Ea
	2 Ea	2 Ea
	8605	8605
	1304	1304
	1955	1955
	1600	1600
	600	600
	8 Ea	8 Ea
	120 FT	120 FT

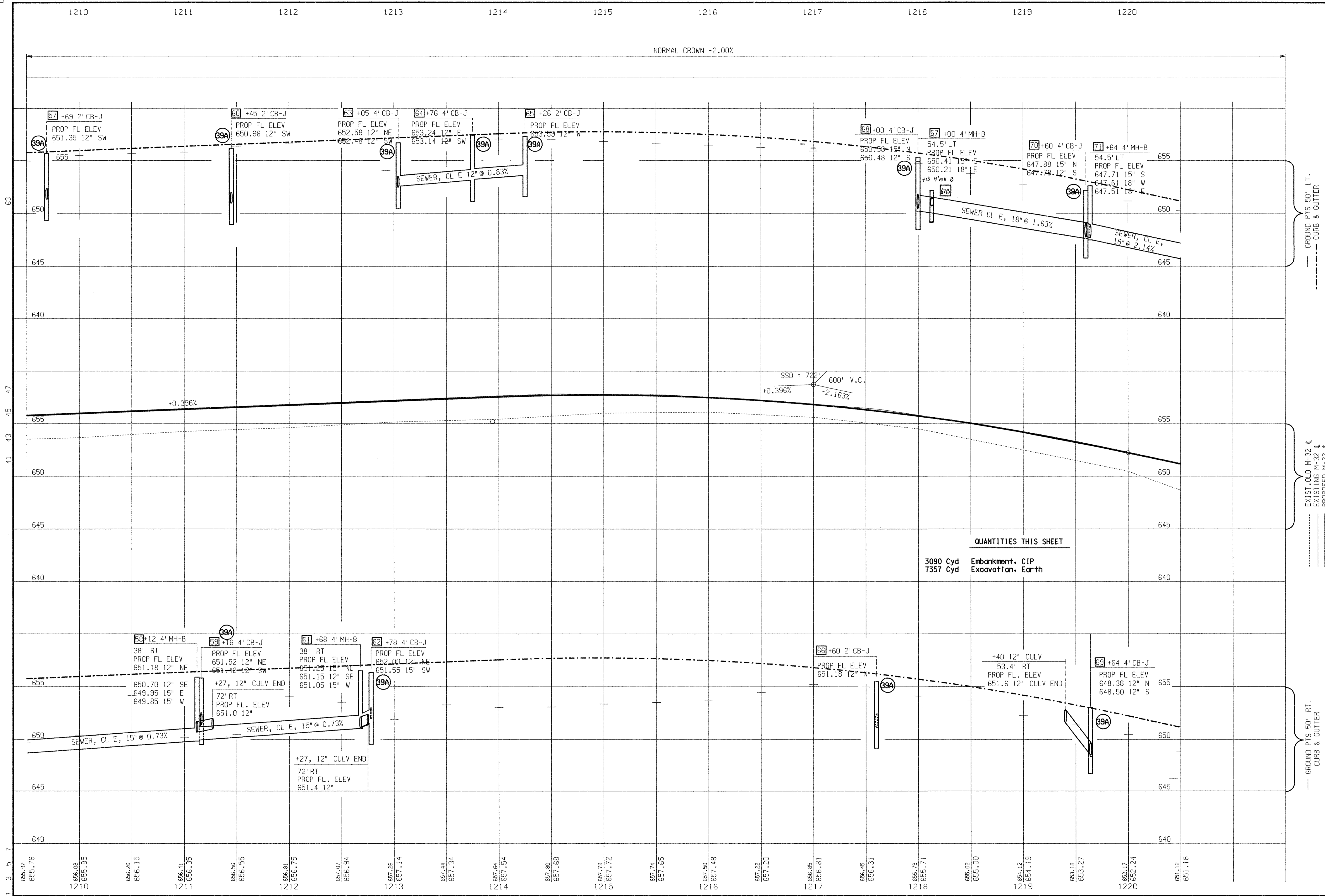
Subbase, CIP
 Aggregate Base
 Approach, C1 I
 Culv End Sect, 12 inch
 Sewer, C1 E, 12 inch, Tr Det B
 Sewer, C1 E, 15 inch, Tr Det B
 Sewer, C1 E, 18 inch, Tr Det B
 Dr Structure, 24 inch dia
 Dr Structure, 48 inch dia
 Dr Structure Cover (4-B, 11-J)
 HMA Approach, High Stress
 HMA, 3E3, High Stress
 HMA, 4E3, High Stress
 Underdrain, Subbase, 6 inch
 Underdrain, Subgrade, 6 inch
 Sewer Tap, 6 inch
 CULV, CL F, 12 INCH (EXTRA)

SECTION 29
 T31N,R8E
 ALPENA TWP.



M-32 STA. 1210+00 TO STA. 1221+00					
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
03/15/06	1" = 40'	04021	60361A 83536A	SCHAEDIG	516 29

DATE: _____
 WORKED ON BY: _____
 CHECKED BY: _____
 FILE NAME: _____



QUANTITIES THIS SHEET
 3090 Cyd Embankment, CIP
 7357 Cyd Excavation, Earth

— GROUND PTS 50' LT.
 - - - - - CURB & GUTTER

..... EXIST. OLD M-32 CL
 - - - - - EXISTING M-32 CL
 ——— PROPOSED M-32 CL

— GROUND PTS 50' RT.
 - - - - - CURB & GUTTER

FINAL R.O.W.
REVISION
DATE
NO.
AUTH.

M-32 STA. 1209+50 TO STA. 1220+50

DATE	SCALE	CONT. SEC.	DESIGN UNIT
03/15/06	HORIZ. 1" = 40' VERT. 1" = 4'	04021	SCHEDIG
JOB NO. 60361A		WORKED ON BY:	
83536A		DATE:	
SHEET NO. 30		FILE NAME:	



SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
39A	INLET PROTECTION FABRIC DROP	12 Ea	Erosion Control, Inlet Protection, Fabric Drop

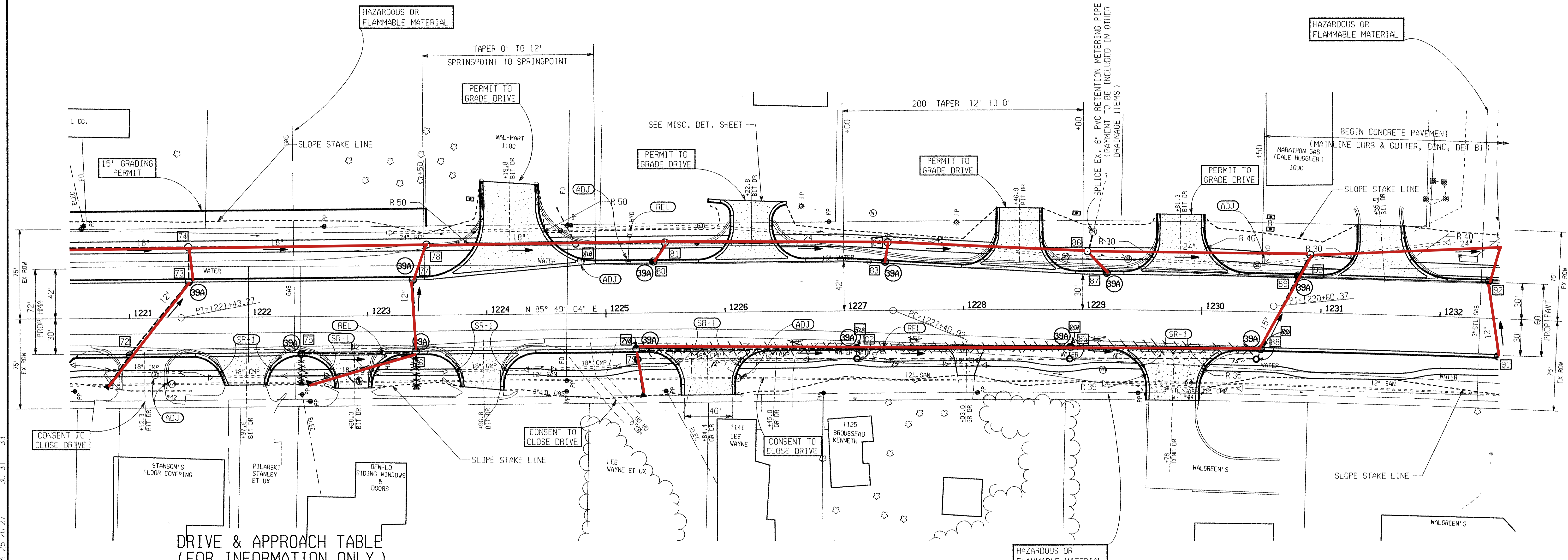
SEE PROFILE SHEET FOR LOCATIONS

NOTE:
ON STRUCTURES 68,70,73,77,80,83, AND 87 THE CONTRACTOR WILL BE RESPONSIBLE TO LOCATE THE WATERMAIN AND ADJUST THE DEPTH OF THE SUMP SO THE BOTTOM OF THE STRUCTURE WILL BE AT LEAST 1' ABOVE THE WATERMAIN. THIS WORK SHALL BE INCLUDED IN THE COST OF THE STRUCTURES.

SECTION 20
T31N,R8E
ALPENA TWP.

CURVE DATA
 $\Delta=3^{\circ} 38' 11''$ (RT)
 $D=0^{\circ} 34' 10''$
 $R=10,063.14'$
 $T=319.45'$
 $L=638.68'$
 $E=5.07'$
 PC=1227+40.92 X=19,915,712.680 Y=637,435.691
 PI=1230+60.37 X=19,916,031.273 Y=637,459.019
 PT=1233+79.60 X=19,916,350.705 Y=637,462.094
 EX SUPER = NORMAL CROWN
 PROP SUPER = NORMAL CROWN

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



DRIVE & APPROACH TABLE
(FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	APPROACH CL II TON	HMA APPROACH TON	DRIVEWAY OPENING DET M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT	CONC NONREINF 6 INCH SYD
1221+12.3 RT	CLOSE						96	
1221+97.6 RT	111.1	37		28	87	76	99	
1222+88.3 RT	107.0	36		26	85	86	98	
1223+96.8 RT	128.4	43		32	91	86	118	
1224+19.8 LT	445.1	149		110	144	186	160	
1224+83.0 RT	CLOSE							
1225+84.4 RT	192.5	64		48	100	104		
1226+22.8 LT	201.8	67		50	90	146	149	
1226+45.0 RT	CLOSE							
1228+03.0 RT	51.0	17		13				
1228+46.9 LT	217.4	73		54	96	134	196	
1229+78.0 RT	226.0	76			110	122	96	225
1229+81.3 LT	231.5	77		57	104	134	216	
1231+55.5 LT	206.4	69		51	104	122	211	

QUANTITIES THIS SHEET

JN 83536A	JN 60361A	JN 60361A
1129 Ton	HMA Approach	3457 Cyd
1693 Ton	HMA, 3E3, High Stress	2488 Ton
1000 Syd	HMA, 4E3, High Stress	1089 Syd
226 Syd	Conc Pavt. Nonreinf. 9 inch	710 Ton
300 Ft	Driveway, Nonreinf Conc. 6 inch	4 Ea
2085 Ft	Curb and Gutter, Conc. Det B1	584 Ft
1011 Ft	Curb and Gutter, Conc. Det B2	494 Ft
500 Sft	Driveway Opening, Conc. Det M	452 Ft
884 Ft	Sidewalk, Conc. 4 inch	652 Ft
219 Ton	Sidewalk Ramp	3 Ea
108 Ton	Bicycle Path, Grading	15 Ea
600 Ft	Bicycle Path, Aggregate	9960 Lb
	Bicycle Path, HMA	1900 Ft
	Joint, Contraction, Cp	300 Ft
		1089 Syd
		12 Ea
		Subbase, CIP
		Aggregate Base
		Open-Graded Dr Cse, 4 inch
		Approach, CI I
		Culv End Sect. 12 inch
		Sewer, CI E, 12 inch, Tr Det B
		Sewer, CI E, 15 inch, Tr Det B
		Sewer, CI E, 18 inch, Tr Det B
		Sewer, CI E, 24 inch, Tr Det B
		Dr Structure, 24 inch dia
		Dr Structure, 48 inch dia
		Dr Structure Cover (6-B, 12-J)
		Underdrain, Subbase, 6 inch
		Underdrain, Pipe, Open-Graded, 6 inch
		Geotextile Separator
		Sewer Tap, 6 inch

1.2.3 5 7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27 30.31 33

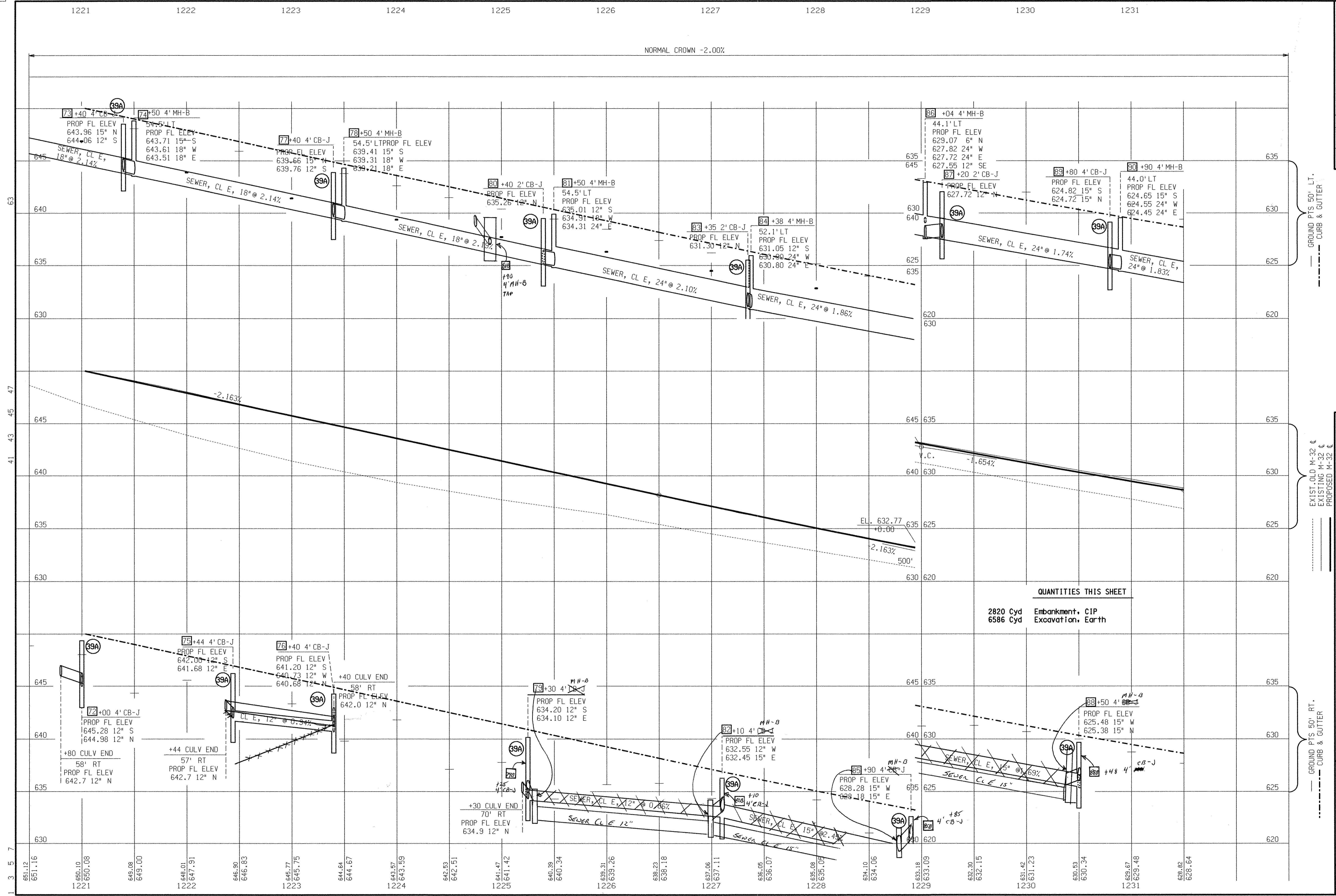
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SECTION 29
T31N,R8E
ALPENA TWP.

MDOT
Michigan Department of Transportation

M-32 STA. 1221+00 TO STA. 1232+00

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
03/15/06	1" = 40'	04021	60361A 83536A	SCHAEDIG	518 32



QUANTITIES THIS SHEET
 2820 Cyd Embankment, CIP
 6586 Cyd Excavation, Earth

FINAL R.O.W.
REVISION
DATE
NO.
AUTH.

M-32 STA. 1220+50 TO STA. 1231+50
DESIGN UNIT
JOB NO. 60361A
CONT. SEC. 04021
SCHEDIG 83536A
SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'
DATE 03/15/06
CHECKED BY:
WORKED ON BY:
DATE:

MDOT Michigan Department of Transportation
SHEET NO. 33
R.O.W. CONST.
FILE NAME:

SECTION 20
T31N,R8E
ALPENA TWP.

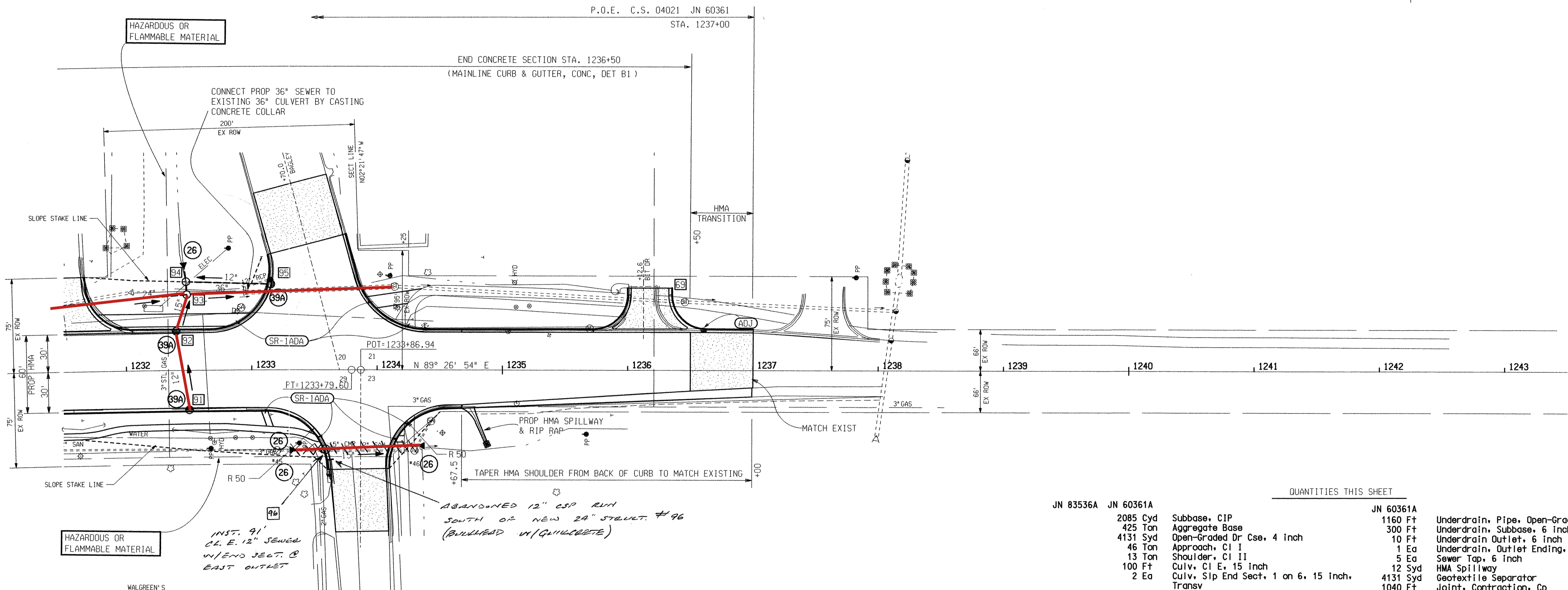
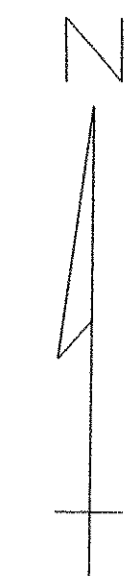
BAGLEY ST.

SECTION 21
T31N,R8E
ALPENA TWP.

SOIL EROSION AND SEDIMENTATION CONTROL ITEMS SEE STANDARD PLAN R-96 SERIES FOR DETAILS			
KEY NO	NAME	QUANTITY	PAY ITEM
26	GEOTEXTILE SILT FENCE	60 Ft	Erosion Control, Silt Fence
39A	INLET PROTECTION FABRIC DROP	3 Ea	Erosion Control, Inlet Protection, Fabric Drop

SEE PROFILE SHEET FOR LOCATIONS

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



15
21.22
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33

SECTION 29
T31N,R8E
ALPENA TWP.

HOBBS DR.

SECTION 23
T31N,R8E
ALPENA TWP.

DRIVE & APPROACH TABLE
(FOR INFORMATION ONLY)

STATION OR LOCATION	APPROX AREA SYD	APPROACH CL I TON	APPROACH CL II TON	HMA APPROACH TON	DRIVEWAY OPENING DET M FT	CURB & GUT CONCRETE DET. B2 FT	C&G REM FT
1236+12.6 LT	138.4	46		34	90	74	155

QUANTITIES THIS SHEET			
JN 83536A	JN 60361A	JN 60361A	
2085 Cyd	Subbase, CIP	1160 Ft	Underdrain, Pipe, Open-Graded, 6 inch
425 Ton	Aggregate Base	300 Ft	Underdrain, Subbase, 6 inch
4131 Syd	Open-Graded Dr Cse, 4 inch	10 Ft	Underdrain Outlet, 6 inch
46 Ton	Approach, CI I	1 Ea	Underdrain, Outlet Ending, 6 inch
13 Ton	Shoulder, CI II	5 Ea	Sewer Tap, 6 inch
100 Ft	Culv, CI E, 15 inch	12 Syd	HMA Spillway
2 Ea	Culv, Slip End Sect, 1 on 6, 15 inch, Transv	4131 Syd	Geotextile Separator
1 Ea	Culv, Slip End Sect, 1 on 6, 18 inch, Longit	1040 Ft	Joint, Contraction, Cp
222	431-Ft Sewer, CI E, 12 inch, Tr Det B	120 Ft	Joint, Expansion, E2
30 Ft	Sewer, CI E, 15 inch, Tr Det B	1 Ea	Dr Structure Cover, Adj, Case 1
21 Ft	Sewer, CI E, 18 inch, Tr Det B	2 Cyd	Conc, Grade S2
45 Ft	Sewer, CI E, 36 inch, Tr Det B	5 Syd	Riprap, Plain
3 Ea	Dr Structure, 24 inch dia		
2 Ea	Dr Structure, 48 inch dia		
1 Ea	Dr Structure, 72 inch dia		
2665 Lb	Dr Structure Cover (2-"B", 3-"J")		
34 Ton	HMA Approach		
137 Ton	HMA, 3E3, High Stress		
237 Ton	HMA, 4E3, High Stress		
3838 Syd	Conc Pavt, Nonreinf, 9 inch		
761 Ft	Curb and Gutter, Conc, Det B1		
133 Ft	Curb and Gutter, Conc, Det B2		
90 Ft	Driveway Opening, Conc, Det M		
950	Sft Sidewalk, Conc, 4 inch		
664	Sft Sidewalk Ramp, ADA		
116	Ft Bicycle Path, Grading		
29	Ton Bicycle Path, Aggregate		
14	Ton Bicycle Path, HMA		



M-32 STA. 1232+00 TO STA. 1238+00 (POE)					
DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
11/30/05	1" = 40	04021	60361A 83536A	SCHAEDIG	R.O.W' CONST. 520 35

DATE: _____ WORKED ON BY: _____ CHECKED BY: _____ FILE NAME: _____