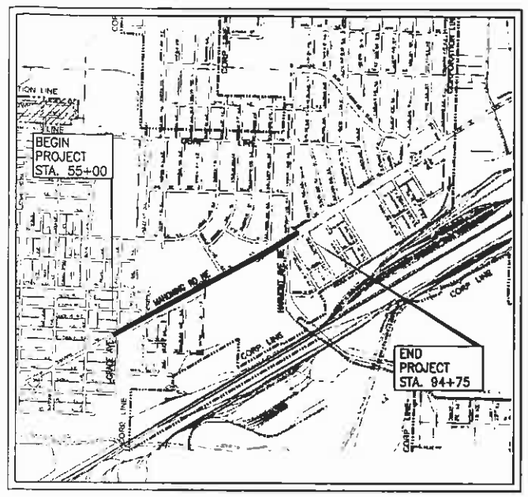


LOCATION MAP

0.0 0.5 1.0

N

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES (77)
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2009)	10411 VPD
DESIGN YEAR ADT (2024)	12703 VPD
DESIGN HOURLY VOLUME	828 VPH
DIRECTIONAL DISTRIBUTION, D	52%/48% (WB/EB)
TRUCKS (24 HOUR B&C)	2%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NOS.
PAVEMENT CROSS SLOPE	--/--/----	4-8

STATE OF OHIO
CITY OF CANTON
STA-0153-01.70
MAHONING ROAD NE
ROADWAY IMPROVEMENTS

STAGE 2 SUBMITTAL

INDEX OF SHEETS

NOT USED: 110,118

PROJECT DESCRIPTION

THE PROJECT WORK INVOLVES THE IMPROVEMENT OF APPROXIMATELY 0.67 MILES OF MAHONING ROAD NE, S.R. 153 BETWEEN THE GRACE AVENUE NE AND HARMONT AVENUE NE INTERSECTIONS. THE IMPROVEMENTS INCLUDE NEW CURB, SIDEWALK, PLANTERS, SIGNING, AND STREET LIGHTING.

2010 SPECIFICATIONS

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

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

APPROVED _____

DATE _____ DANIEL J. MOEGLIN, P.E., S.I.
CANTON CITY ENGINEER

_____ DATE _____

_____ DATE _____

STANDARD CONSTRUCTION DRAWINGS

ODOT										CITY OF CANTON		ODOT SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	7-18-08	DM-1.1	4-21-06	MH-1.1	7-19-02	RM-1.1	7-18-08	TC-81.21	7-16-10	NO. 1	4-04	800	4-16-10
BP-2.2	7-18-08	DM-1.4	4-21-06	MH-1.2	1-20-06	RM-2.1	10-20-06	TC-82.10	7-16-10	NO. 19	1-01	802	1-16-09
BP-2.5	7-18-08	DM-4.3	4-17-09					TC-83.20	1-19-07			832	5-5-09
BP-3.1	10-19-07	DM-4.4	4-17-09	MT-35.10	4-20-01	TC-21.20	10-16-09	TC-85.10	10-16-09				
BP-4.1	7-16-04			MT-95.60	1-16-09	TC-22.20	1-19-01						
BP-5.1	7-28-00	HL-20.11	1-19-07	MT-95.61	1-16-09	TC-41.20	1-19-01						
BP-7.1	4-16-10	HL-30.11	10-16-09	MT-97.12	4-17-09	TC-42.10	1-19-07						
		HL-30.21	1-19-07	MT-101.60	4-17-09	TC-42.20	7-16-04						
CB-1.1	7-15-05	HL-30.22	4-17-09	MT-105.10	1-16-09	TC-52.10	1-19-07						
CB-2.1	7-15-05	HL-50.11	1-19-07	MT-110.10	1-16-09	TC-52.20	1-19-07						
CB-2.3	7-15-05					TC-71.10	1-15-10						
		LA-1.2	1-16-09			TC-73.10	1-19-01						

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

OUPS REFERENCE NUMBERS

MAHONING ROAD - A831102839
SUPERIOR AVE - A831102847
WINFIELD WAY - A831102851
ROYAL AVE - A831102855
15TH STREET - A831102859
GRACE AVE - A831102864
16TH STREET - A831102868

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

AUGUST, 2011

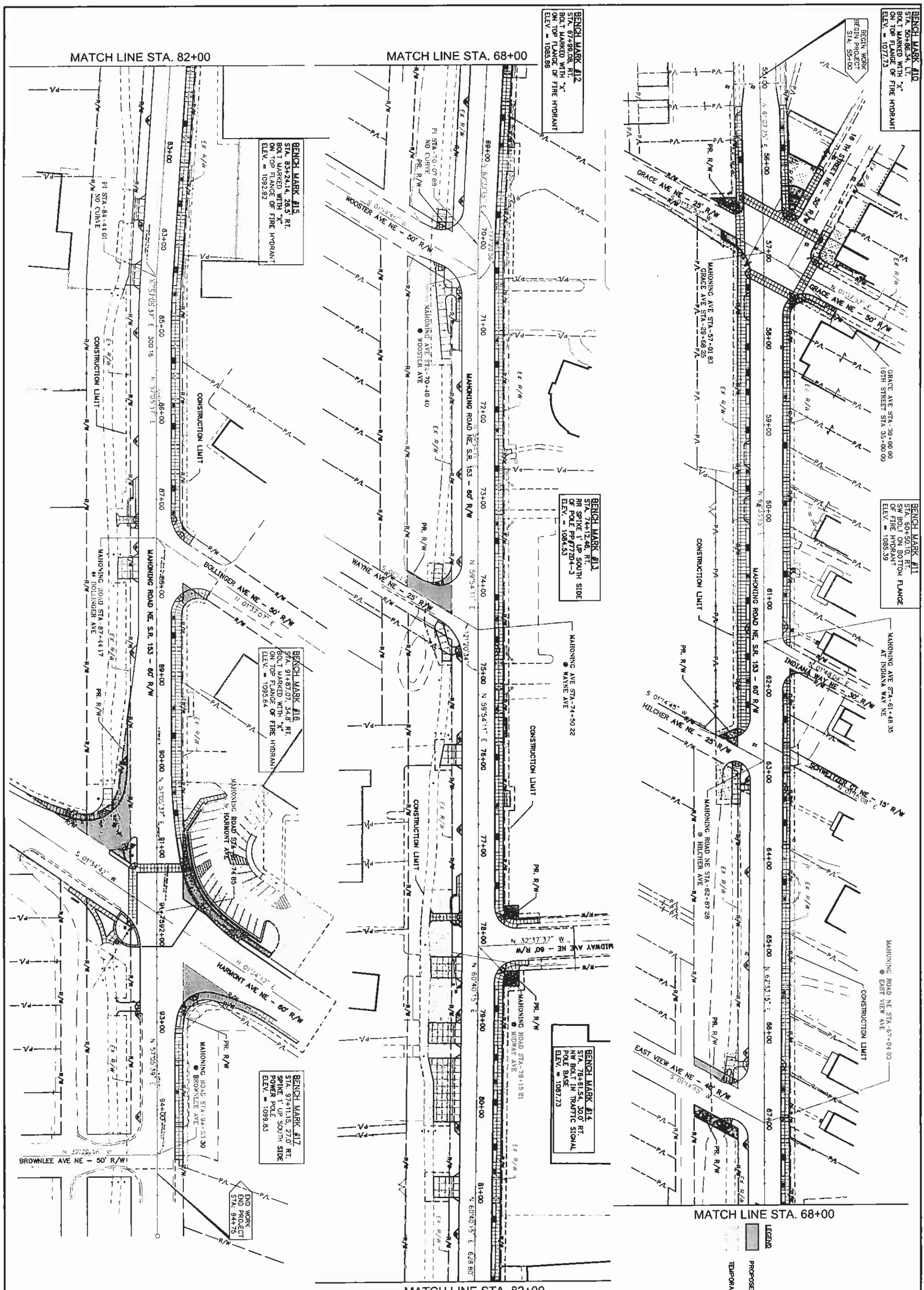
FEDERAL PROJECT NO.

PID NO. 90361

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

MAHONING ROAD NE
STA-0153-01.70



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2780 FAX (330) 379-2791

2
122

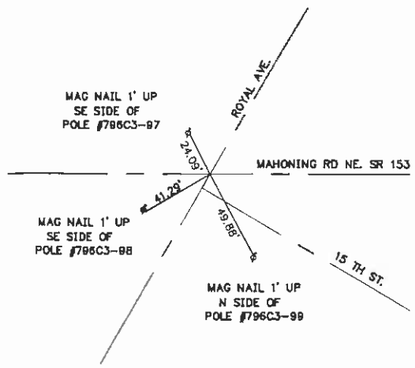
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

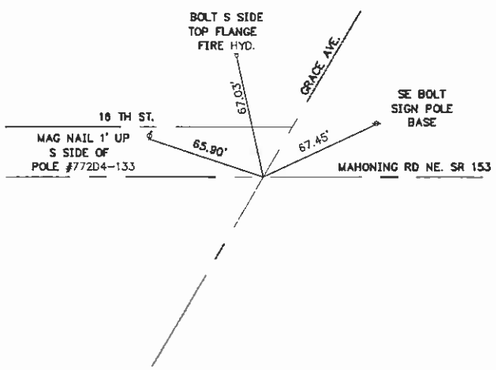
SCHEMATIC PLAN
STA. 55+00 TO STA. 95+00

CALCULATED: MAT
CHECKED: JGG

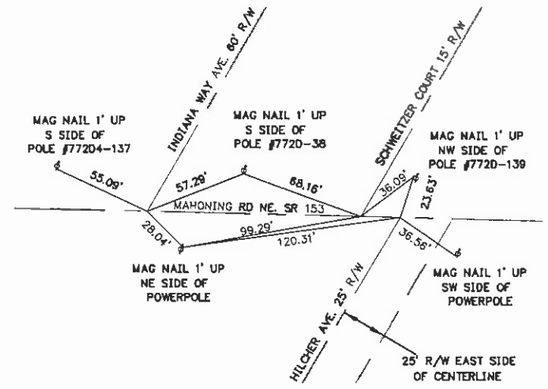
0 25' 50' 100
HORIZONTAL SCALE
1"=50'



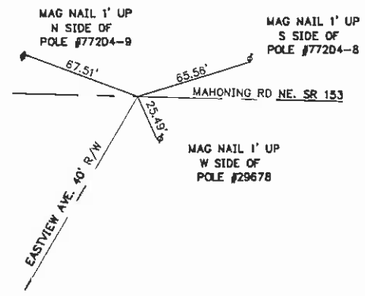
MAHONING RD. NE, S.R. 153
STA: 50+63.19



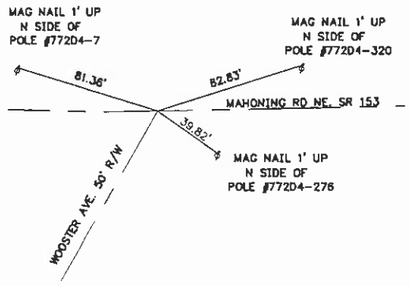
MAHONING RD. NE, S.R. 153
STA: 57+01.83



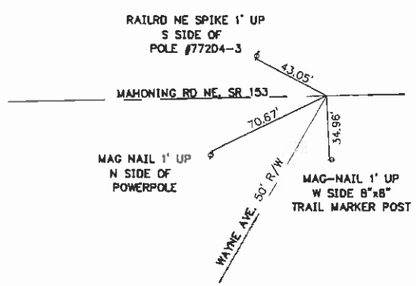
MAHONING RD. NE, S.R. 153
STA: 61+48.35 - STA: 62+87.28



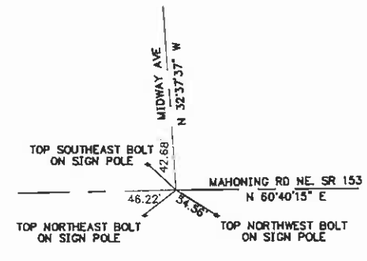
MAHONING RD. NE, S.R. 153
STA: 67+04.03



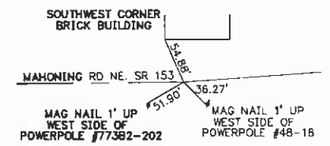
MAHONING RD. NE, S.R. 153
STA: 70+40.40



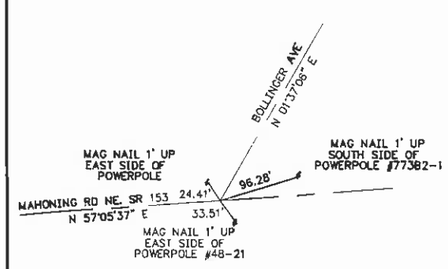
MAHONING RD. NE, S.R. 153
STA: 74+50.22



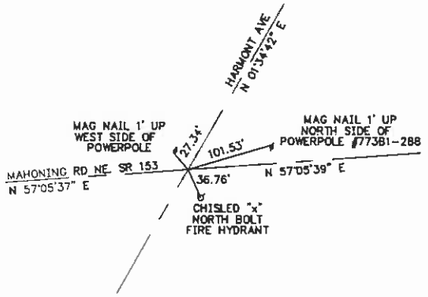
MAHONING RD. NE, S.R. 153
STA: 78+15.21



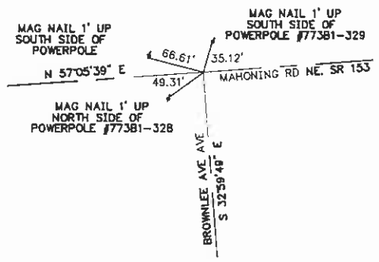
MAHONING RD. NE, S.R. 153
STA: 84+44.01



MAHONING RD. NE, S.R. 153
STA: 87+44.17



MAHONING RD. NE, S.R. 153
STA: 91+74.85



MAHONING RD. NE, S.R. 153
STA: 94+53.30

PROPOSED ALIGNMENT DATA

PI STATION	NORTHING	EASTING	Δ	Dc	R	L	T	CH	E	PC STATION	NORTHING	EASTING	PT STATION	NORTHING	EASTING
MAHONING RD. NE S.R. 153															
57+01.83	419937.70	2289798.14													
70+40.40	420555.98	2290985.33													
78+15.21	420944.52	2291655.68													
84+44.01	421252.52	2292203.86													
91+74.85	421649.56	2292817.46													
94+53.30	421800.84	2293051.24													

REFERENCE TIES
STA. 55+00 TO STA. 95+00

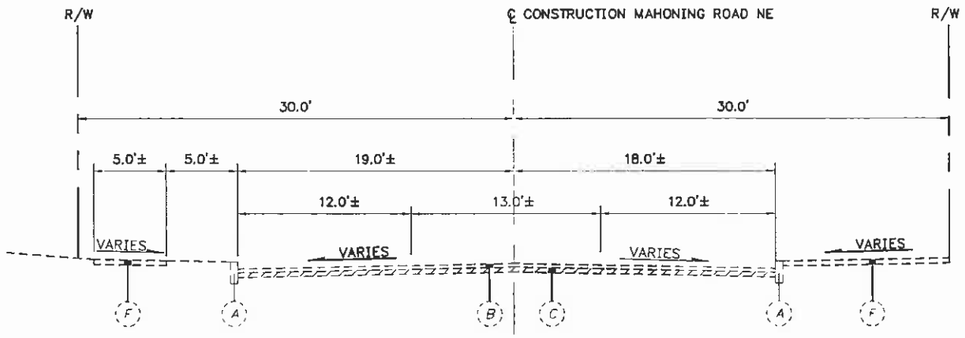
CALCULATED: MAT
CHECKED: JCG

HORIZONTAL SCALE
1"=40'

REVISIONS | DATE | BY

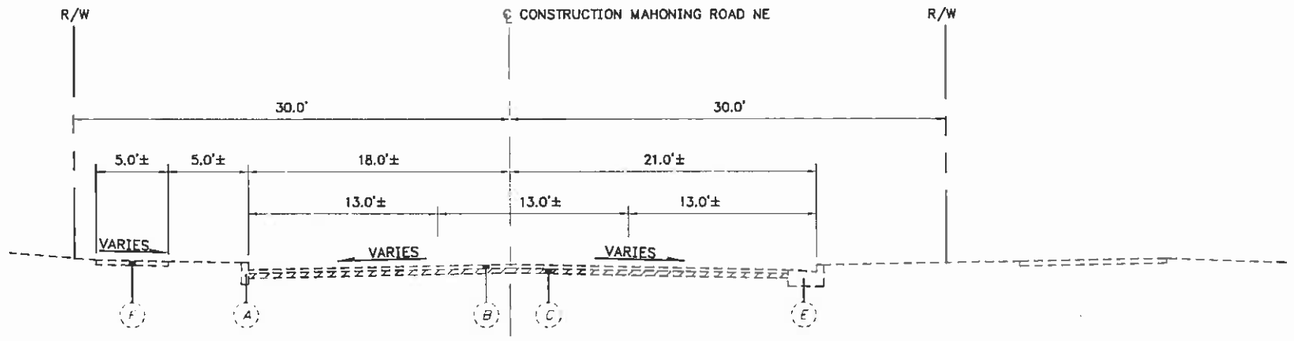
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



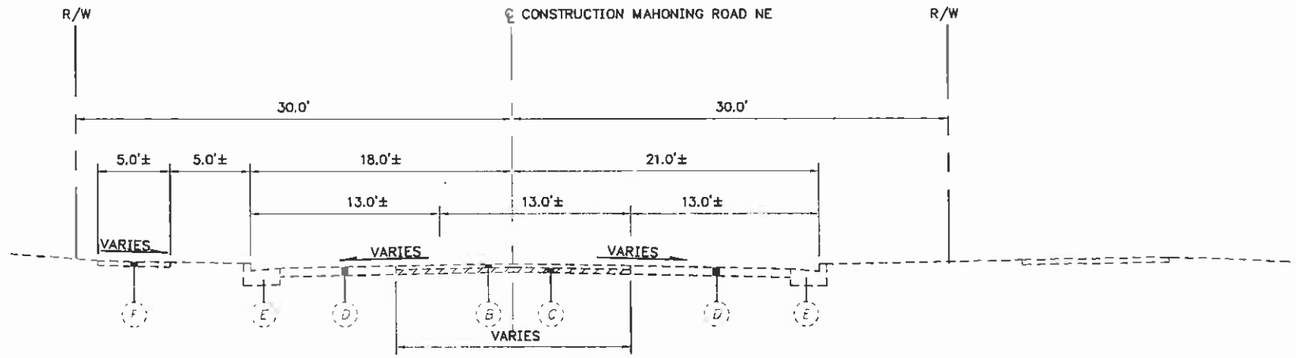
NORMAL SECTION

STA. 55+00 – STA. 66+75



NORMAL SECTION

STA. 66+75 – STA. 78+25



NORMAL SECTION

STA. 78+25 – STA. 85+00

EXISTING LEGEND

- (A) EXISTING CURB
- (B) EXISTING 1.5 TO 7.5" ASPHALT
- (C) EXISTING 4" BRICK BASE (RANDOM AREAS OF 5" CONCRETE)
- (D) EXISTING 8" TO 13" ASPHALT
- (E) EXISTING CONCRETE CURB AND GUTTER
- (F) EXISTING SIDEWALK

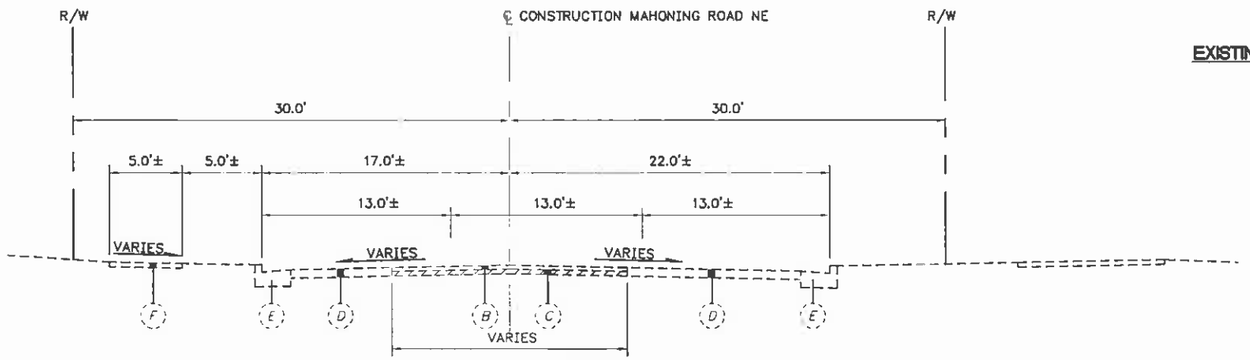
CALCULATED:
CHECKED:

EXISTING TYPICAL SECTIONS STA. 55+00 TO STA. 85+00

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

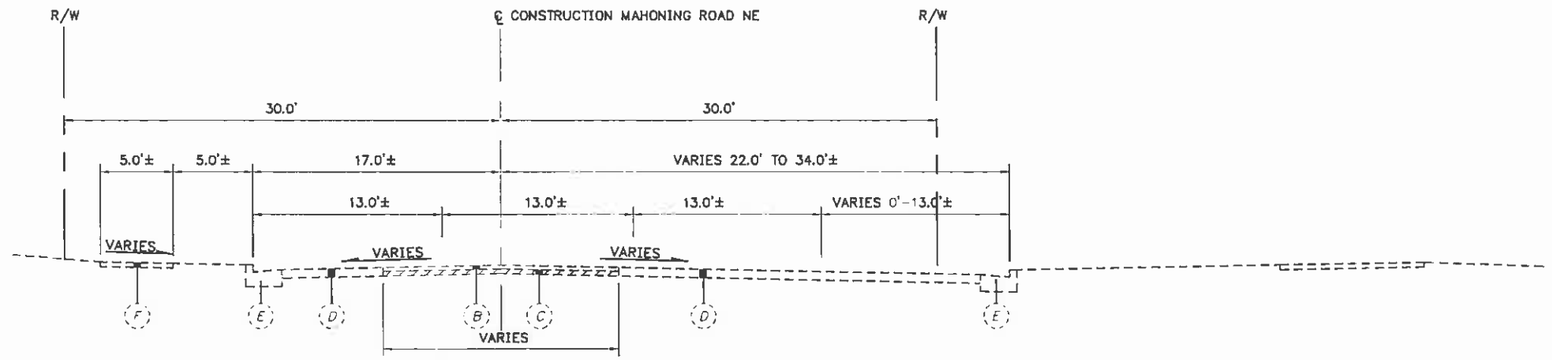


NORMAL SECTION

STA. 85+00 – STA. 88+75

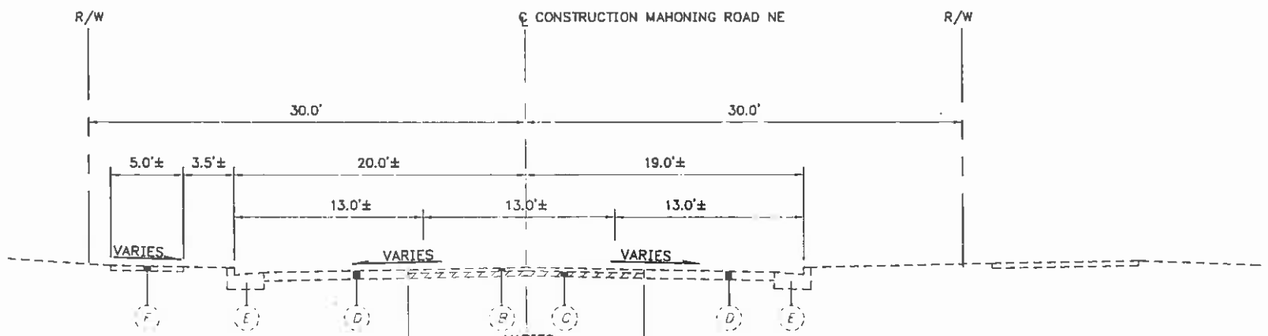
EXISTING LEGEND

- (A) EXISTING CURB
- (B) EXISTING 1.5 TO 7.5" ASPHALT
- (C) EXISTING 4" BRICK BASE (RANDOM AREAS OF 5" CONCRETE)
- (D) EXISTING 8" TO 13" ASPHALT
- (E) EXISTING CONCRETE CURB AND GUTTER
- (F) EXISTING SIDEWALK



NORMAL SECTION

STA. 88+75 – STA. 91+75



NORMAL SECTION

STA. 91+75 – STA. 94+50

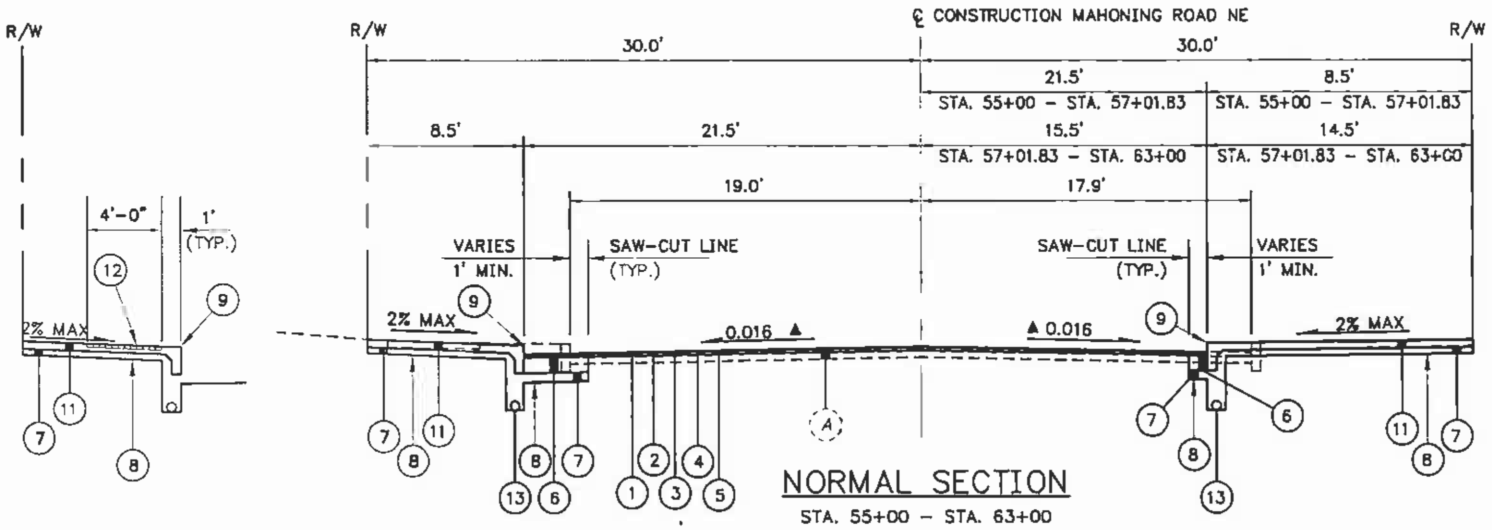
CALCULATED: CHECKED:

EXISTING TYPICAL SECTIONS
STA. 85+00 TO STA. 94+50

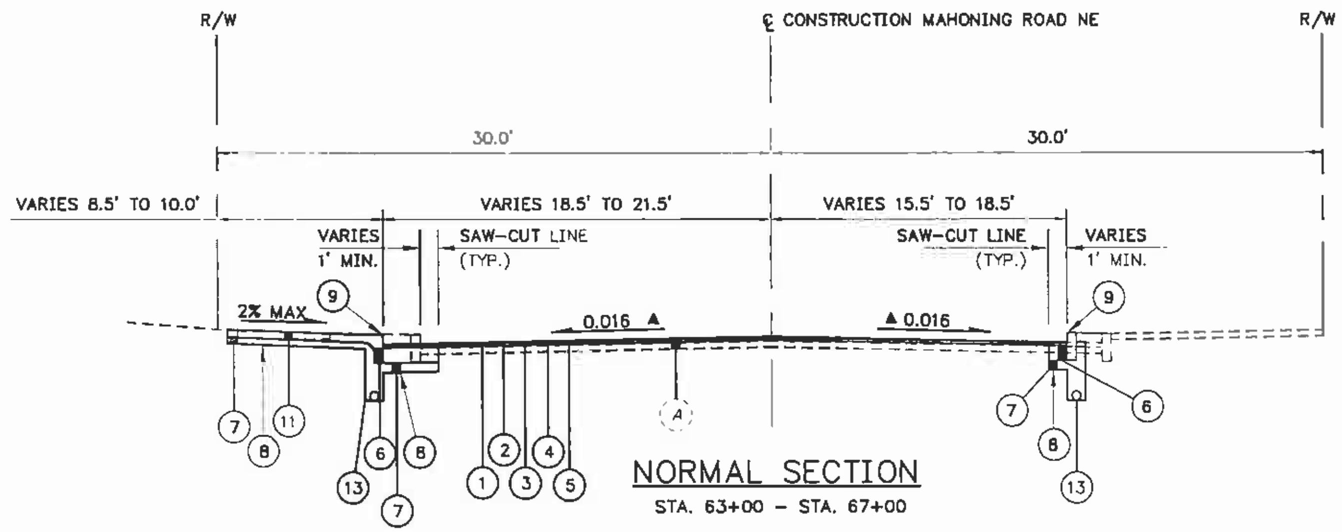
REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2780 FAX (330) 379-2791

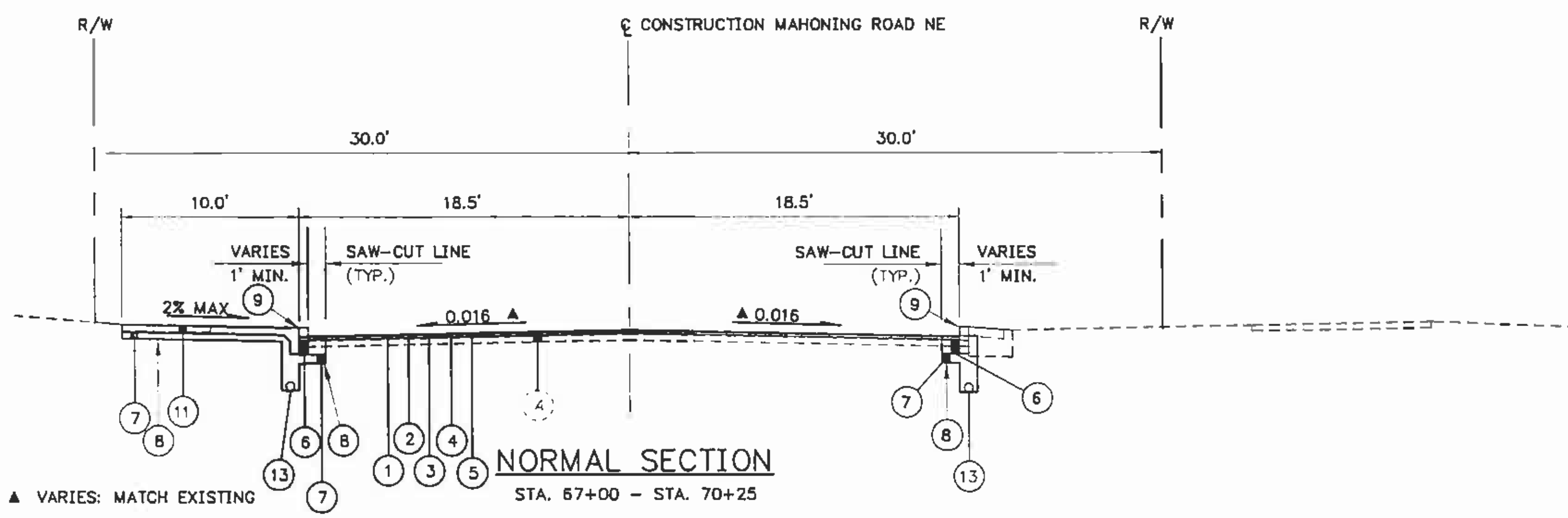
MAHONING ROAD NE
STA-0153-01.70



▲ VARIES: MATCH EXISTING



▲ VARIES: MATCH EXISTING



▲ VARIES: MATCH EXISTING

PROPOSED LEGEND

1. ITEM 254 – PAVEMENT PLANING, AS PER PLAN
2. ITEM 424 – 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
3. ITEM 448 – 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22
4. ITEM 407 – TACK COAT, 702.13
5. ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 305 – 10" CONCRETE BASE
7. ITEM 304 – AGGREGATE BASE, AS PER PLAN
8. ITEM 204 – SUBGRADE COMPACTION
9. ITEM 609 – CURB, TYPE 6, AS PER PLAN
10. ITEM 000 – CITY STANDARD 43 CONCRETE CURB AND GUTTER, AS PER PLAN
11. ITEM 608 – 5" CONCRETE WALK, AS PER PLAN (DEPTH VARIES AT BRICK PANELS)
12. ITEM SPECIAL – BRICK WALKWAY PANELS
13. ITEM 605 – 6" SHALLOW PIPE UNDERDRAINS, 707.31, WITH FABRIC WRAP, AS PER PLAN
14. ITEM 659 – SEEDING AND MULCHING, CLASS 1
15. ITEM 659 – 6" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN

(A) EXISTING COMPOSITE PAVEMENT (BRICK OR CONCRETE UNDER ASPHALT)

SEE STREETSCAPE PLANS FOR BRICK LOCATIONS, DIMENSIONS AND SPECIFICATIONS
SEE CANTON CITY STANDARD DRAWING, TYPICAL STREETSCAPE CORRIDOR, BRICK WALKWAY PAVERS

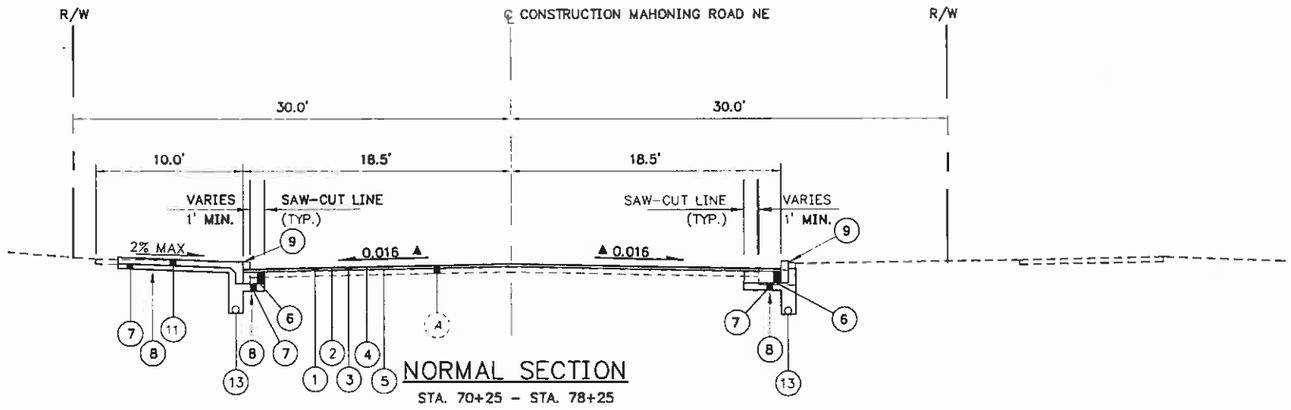
CALCULATED: CHECKED:

TYPICAL SECTIONS
STA. 55+00 TO STA. 70+25

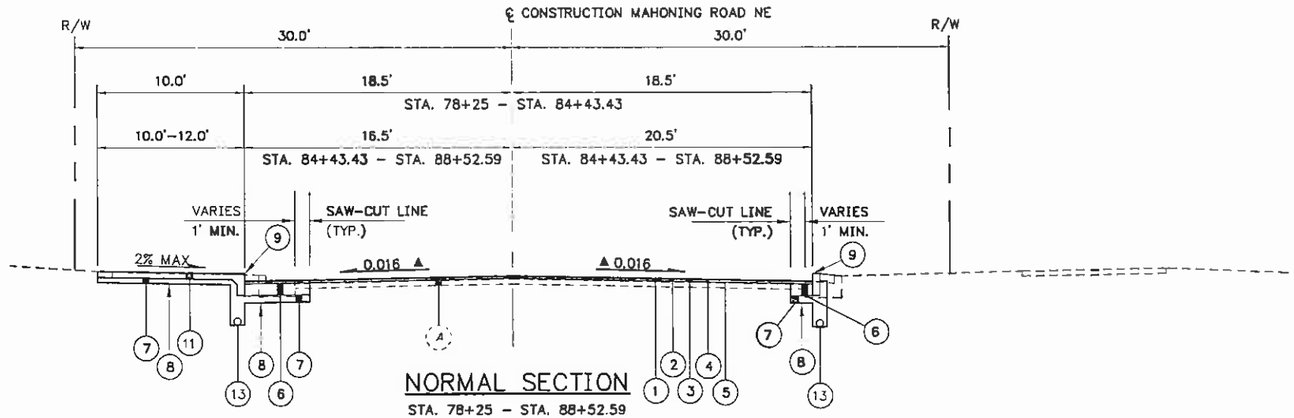
REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

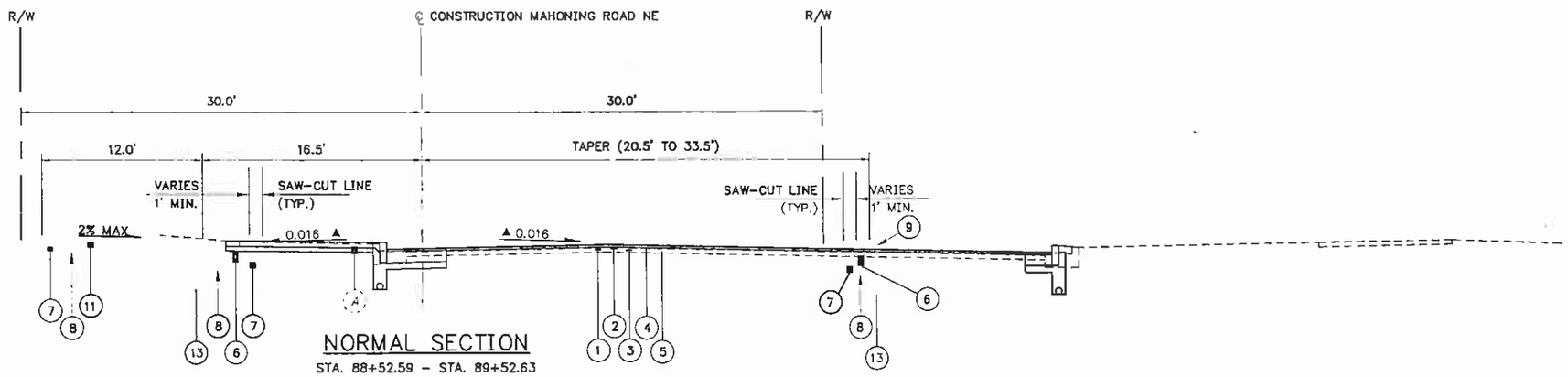
MAHONING ROAD NE
STA-0153-01.70



▲ VARIES: MATCH EXISTING



▲ VARIES: MATCH EXISTING



▲ VARIES: MATCH EXISTING

PROPOSED LEGEND

1. ITEM 254 – PAVEMENT PLANING, AS PER PLAN
2. ITEM 424 – 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
3. ITEM 448 – 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22
4. ITEM 407 – TACK COAT, 702.13
5. ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 305 – 10" CONCRETE BASE
7. ITEM 304 – AGGREGATE BASE, AS PER PLAN
8. ITEM 204 – SUBGRADE COMPACTION
9. ITEM 609 – CURB, TYPE 6, AS PER PLAN
10. ITEM 000 – CITY STANDARD 43 CONCRETE CURB AND GUTTER, AS PER PLAN
11. ITEM 608 – 5" CONCRETE WALK, AS PER PLAN (DEPTH VARIES AT BRICK PANELS)
12. ITEM SPECIAL – BRICK WALKWAY PANELS
13. ITEM 605 – 6" SHALLOW PIPE UNDERDRAINS, 707.31, WITH FABRIC WRAP, AS PER PLAN
14. ITEM 659 – SEEDING AND MULCHING, CLASS 1
15. ITEM 659 – 6" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN

(A) EXISTING COMPOSITE PAVEMENT (BRICK OR CONCRETE UNDER ASPHALT)

SEE STREETSCAPE PLANS FOR BRICK LOCATIONS, DIMENSIONS AND SPECIFICATIONS
SEE CANTON CITY STANDARD DRAWING, TYPICAL STREETSCAPE CORRIDOR,
BRICK WALKWAY PAVERS

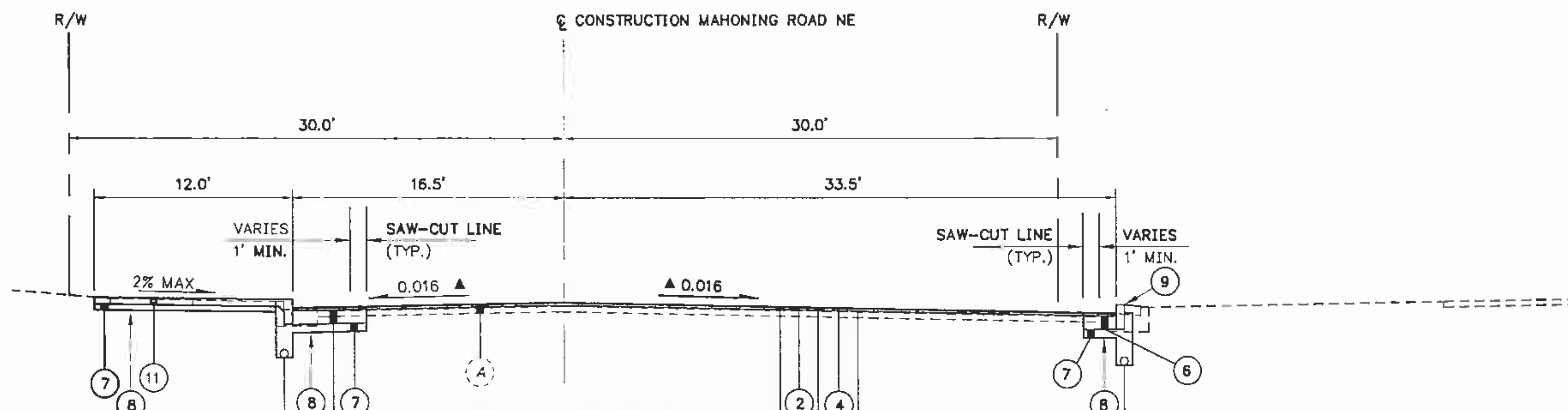
CALCULATED:
CHECKED:

TYPICAL SECTIONS
STA. 70+25 TO STA. 89+52.63

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

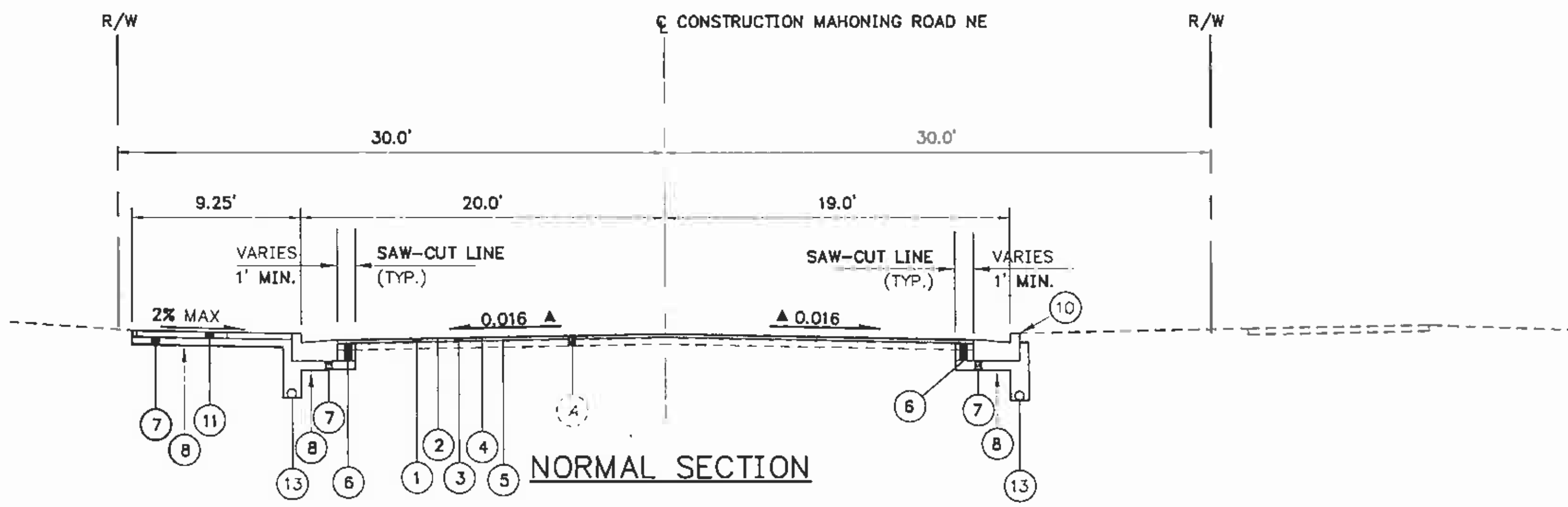
MAHONING ROAD NE
STA-0153-01.70



NORMAL SECTION

STA. 89+52.63 – STA. 91+75

▲ VARIES: MATCH EXISTING



NORMAL SECTION

STA. 91+75 – STA. 94+58

STA. 91+75 – STA. 92+89.86

▲ VARIES: MATCH EXISTING

PROPOSED LEGEND

1. ITEM 254 – PAVEMENT PLANING, AS PER PLAN
2. ITEM 424 – 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
3. ITEM 448 – 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22
4. ITEM 407 – TACK COAT, 702.13
5. ITEM 407 – TACK COAT FOR INTERMEDIATE COURSE
6. ITEM 305 – 10" CONCRETE BASE
7. ITEM 304 – AGGREGATE BASE, AS PER PLAN
8. ITEM 204 – SUBGRADE COMPACTION
9. ITEM 609 – CURB, TYPE 6, AS PER PLAN
10. ITEM 000 – CITY STANDARD 43 CONCRETE CURB AND GUTTER, AS PER PLAN
11. ITEM 608 – 5" CONCRETE WALK, AS PER PLAN (DEPTH VARIES AT BRICK PANELS)
12. ITEM SPECIAL – BRICK WALKWAY PANELS
13. ITEM 605 – 6" SHALLOW PIPE UNDERDRAINS, 707.31, WITH FABRIC WRAP, AS PER PLAN
14. ITEM 659 – SEEDING AND MULCHING, CLASS 1
15. ITEM 659 – 6" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN

(A) EXISTING COMPOSITE PAVEMENT (BRICK OR CONCRETE UNDER ASPHALT)

SEE STREETSCAPE PLANS FOR BRICK LOCATIONS, DIMENSIONS AND SPECIFICATIONS
SEE CANTON CITY STANDARD DRAWING, TYPICAL STREETSCAPE CORRIDOR, BRICK WALKWAY PAVERS

CALCULATED: | CHECKED:

TYPICAL SECTIONS
STA. 89+52.63 TO STA. 94+58.00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

PRECONSTRUCTION INCIDENTALS

PROJECT SPECIFICATIONS/REQUIREMENTS:

ALL WORK REQUIRED TO COMPLETE THIS IMPROVEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS/ REQUIREMENTS OF THE CITY OF CANTON AND THE 2008 EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, EXCEPT AS HEREIN AMENDED. IN THE CASE OF A CONFLICT BETWEEN THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS/REQUIREMENTS, THE CITY OF CANTON REQUIREMENTS WILL TAKE PRECEDENCE. UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.

THE CONTRACTOR SHALL COMPLY WITH THE CITY OF CANTON SUPPLEMENTAL SPECIFICATION 01-00 PROJECT DOCUMENTATION AND SUBMITTAL REQUIREMENTS.

ADMINISTRATIVE REQUIREMENTS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COMPLYING WITH ALL THE ADMINISTRATIVE DUTIES HEREIN CONTAINED.

THE CONTRACTOR SHALL DESIGNATE TO THE CITY AN EMPLOYEE RESPONSIBLE FOR CORRESPONDENCE, NOTIFICATIONS, AND SUBMITTALS PERTINENT TO THE PROJECT.

PRECONSTRUCTION MEETING:

A PRECONSTRUCTION MEETING WITH THE CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, THE CITY OF CANTON ENGINEERING DEPARTMENT AND THE CITY OF CANTON WATER DEPARTMENT IS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

FOR CITY GENERAL PROJECTS, THE CITY ENGINEER WILL CONTACT THE CONTRACTOR TO ARRANGE A MEETING DATE. THE CITY ENGINEER WILL CONTACT THE ABOVE AGENCIES TO CONFIRM THE MEETING DATE.

PROJECT SAFETY:

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL PROPERLY SUPPORT AND/OR MAINTAIN ALL EXCAVATIONS PER APPLICABLE SAFETY REQUIREMENTS AND COMPLY WITH ALL O.S.H.A. REGULATIONS. ADEQUATE BARRICADES, WARNING LIGHTS, SIGNS, FENCING, ETC. SHALL BE ERECTED AROUND THE CONSTRUCTION AREA DURING ALL NON-WORKING HOURS TO ALERT PERSONS OF THE POTENTIAL DANGER ASSOCIATED WITH THE AREA UNDER CONSTRUCTION AS WELL AS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION SITE/AREA. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD, STONE, ETC.) AT ALL TIMES. THE CONTRACTOR SHALL ALERT ALL LOCAL EMERGENCY AGENCIES (FIRE, POLICE, AMBULANCE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING AND CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

UNDERGROUND UTILITIES:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED BY FIELD OBSERVATIONS, FROM EXISTING RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE INFORMATION AS SHOWN IS BELIEVED TO BE CORRECT; HOWEVER, THE COMPLETENESS AND ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL THE VARIOUS UTILITY COMPANIES (PUBLIC AND PRIVATE) TO VERIFY THE EXISTENCE, LIMITS AND/OR LOCATION OF ANY UTILITIES WHICH MAY BE ALONG THE ROUTE OR WITHIN THE VICINITY OF THIS IMPROVEMENT.

UTILITY NOTIFICATION:

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY/SERVICE, AND THE OWNERS OF ANY OTHER UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY HAVE UTILITY LINES OR FACILITIES WITHIN THE VICINITY OF THIS PROJECT BUT WHO ARE NOT MEMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS AND OTHER LEGAL HOLIDAYS; STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION.

OHIO UTILITIES PROTECTION SERVICE: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY).

THE PRIMARY UTILITIES WITHIN THE CITY OF CANTON AREA:

NATURAL GAS DISTRIBUTION
DOMINION EAST OHIO GAS
320 SPRINGSIDE DR.
AKRON, OHIO 44333
330-664-2516
ATTN: HARVEY YERGIN

TELEPHONE
AT&T
13630 CORAIN AVE
ROOM 300
CLEVELAND, OHIO 44111
216-476-6638
ATTN: RALPH HUTCHINSON

COMMUNICATIONS CABLE
TIME WARNER CABLE
5520 WHIPPLE AVE N.W.
NORTH CANTON, OHIO 44720
330-494-9200, EXT. 87
ATTN: TIM KNIGHT

ELECTRIC
AMERICAN ELECTRIC POWER
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701-4400
330-438-7762
ATTN: KEN HUOT
EMERGENCY NO.
1-800-672-2017

SANITARY AND STORM SEWER
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3381
ATTN: DAN MOEGLIN

WATER
WATER DEPARTMENT
2664 HARRISBURG RD. N.E.
CANTON, OHIO 44708
330-489-3310
ATTN: LEWI MILLER

NATURAL GAS TRANSMISSION
DOMINION EAST OHIO GAS
7015 FREEDOM AVE. N.E.
NORTH CANTON, OHIO 44720
330-266-2120
ATTN: FRANK MARTIN

TRAFFIC INTERCONNECT
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3370
ATTN: NICK LOUKAS

THE CITY ENGINEER'S OFFICE IS TO BE CONTACTED DIRECTLY FOR SANITARY AND STORM SEWER AND TRAFFIC INTERCONNECT FACILITIES LOCATION: 330-489-3381.

EXPLORATORY BORINGS:

EXPLORATORY SOIL BORING INFORMATION IS NOT THE RESPONSIBILITY OF THE CITY OF CANTON. IT IS THE CONTRACTOR RESPONSIBILITY TO REVIEW ANY AND ALL INFORMATION AVAILABLE. IF CONTRACTOR REQUESTS TO DRILL AND OR EXCAVATE WITHIN THE CITY'S R/W, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AT LEAST 3 WORKING DAYS PRIOR TO THIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY NOTIFICATION, AS SPECIFIED, ALL TRAFFIC CONTROL, PREMIUM BACKFILL, COMPACTION AND RESTORATION, AS NECESSARY.

CONTINGENCY QUANTITIES:

WHEN SPECIFIED ON PLANS OR SPECIFICATIONS, CONTINGENCY QUANTITIES ARE TO BE PERFORMED ONLY UNDER DIRECTION OF THE CITY ENGINEER. THE CONTRACTOR SHALL NOT ORDER ANY CONTINGENCY MATERIAL OR PERFORM ANY WORK UNTIL DIRECTED BY THE ENGINEER. THE ACTUAL WORK LOCATION AND QUANTITIES FOR SUCH ITEMS SHALL BE DOCUMENTED BY THE CONTRACTOR AND THE ENGINEER.

LEGEND

Line	Description
OH — OH — OH — OH	EXISTING OVERHEAD LINE
T	EXISTING OVERHEAD TELEPHONE
E	EXISTING OVERHEAD ELECTRIC
CTV	EXISTING OVERHEAD CABLE TELEVISION
E/C	EXISTING OVERHEAD ELECTRIC/CABLE
E/T	EXISTING OVERHEAD ELECTRIC/TELEPHONE
E/T/C	EXISTING OVERHEAD ELECTRIC/TELEPHONE/CABLE
G	EXISTING GAS LINE
SAN — SAN	EXISTING SANITARY/COMBINED SEWER
STM — STM	EXISTING STORM SEWER
UGE	EXISTING UNDERGROUND ELECTRIC
UGT	EXISTING UNDERGROUND TELEPHONE
W	EXISTING WATER LINE
R/W	EXISTING RIGHT-OF-WAY LINE
P/L	EXISTING PROPERTY LINE
6" SAN	EXISTING SEWER CONNECTION (SIZE NOTED IF LARGER THAN 6")
C-1	PAVEMENT CORE (C) (SEE SUBSURFACE EXPLORATION REPORT)

EXISTING GAS VALVE
EXISTING WATER VALVE
EXISTING HYDRANT
EXISTING WATER METER
EXISTING WATER MANHOLE
EXISTING CATCH BASIN
EXISTING STORM MANHOLE
EXISTING SANITARY/COMBINED MANHOLE
EXISTING UTILITY MANHOLE
EXISTING ELECTRIC MANHOLE
EXISTING TELEPHONE MANHOLE
EXISTING CLEANOUT
EXISTING UTILITY POLE
EXISTING POWER POLE
EXISTING LIGHT POLE
EXISTING TRAFFIC SIGNAL POLE
EXISTING POWER/TELEPHONE POLE
EXISTING POWER/LIGHT POLE
EXISTING POWER/LIGHT/TELEPHONE POLE
EXISTING TREE
EXISTING FLAG POLE
EXISTING MONUMENT BOX
EXISTING SIGN
EXISTING PAY PHONE
EXISTING YARD LIGHT
EXISTING PARKING METER
EXISTING TELEPHONE PEDESTAL
EXISTING MONITORING WELL
EXISTING BUS SHELTER

UNDERGROUND CONDUIT ACRONYMS

CemD = CEMENT DUCT
CWD = CREOSOTE WOOD DUCT
FD = FIBER DUCT
MTD = MULTI-TILE DUCT
PD = PLASTIC DUCT
STD = SEWER TILE DUCT

CALCULATED:
CHECKED:

GENERAL NOTES

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

CONSTRUCTION INCIDENTALS

PLAN DISCREPANCIES:

ANY DISCREPANCIES FROM THE PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO THAT THE APPROPRIATE ADJUSTMENTS IN ALIGNMENT AND/OR GRADE MAY BE MADE PRIOR TO THE START OF CONSTRUCTION OR THE CONTINUATION OF THE ABOVE..

FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL COMPENSATION.

VERIFICATION OF UNDERGROUND UTILITIES:

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/BANKS, ELECTRIC LINES, ETC. THIS MAY REQUIRE EXPLORATORY EXCAVATIONS TO BE PERFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE REIMBURSED. THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.)

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO INSTALL THE PROPOSED CONDUIT.

PROTECTION OF UTILITIES:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS AS APPROVED BY THE OWNERS OF THE UTILITY AND THE CITY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY COORDINATE THEIR WORK WITH ALL UTILITY COMPANIES. ANY POTENTIAL DELAYS WILL NOT BE THE RESPONSIBILITY OF THE CITY.

THE CONTRACTOR SHOULD EXPECT AT A MINIMUM ONE SANITARY SEWER LATERAL, ONE ROOF DRAIN, ONE WATER SERVICE, AND ONE GAS SERVICE FOR EACH LOT. ANY OF THE ABOVE UTILITIES DAMAGED DUE TO THE CONTRACTOR'S WORK SHALL BE RESTORED TO THE UTILITY OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL ADEQUATELY SUPPORT, SHORE UP, OR OTHERWISE PROTECT UNDERGROUND UTILITIES WHENEVER EXPOSED IN THE TRENCH. SUPPORTS SHALL EXTEND A MINIMUM OF 12 INCHES INTO UNDISTURBED EARTH EACH SIDE OF TRENCH. CONTRACTOR SHALL BAND OR TIE UTILITY TO BRIDGING FOR ITS FULL FOUNDATION. CONTRACTOR SHALL PROVIDE VERTICAL SUPPORT, INCLUDING ANY LATERAL BRACING NECESSARY TO PROVIDE FIRM SUPPORT.

ABOVE GROUND (AERIAL) UTILITIES, INCLUDING, BUT NOT LIMITED TO, POWER, TELEPHONE AND CABLE TELEVISION, ETC., SHALL REMAIN IN SERVICE AT ALL TIMES. ANY ANTICIPATED DISRUPTION OF SERVICE SHALL BE WITH THE FULL KNOWLEDGE OF THE UTILITY COMPANY AND REQUIRES ADVANCE NOTICE TO AFFECTED USERS. REMOVAL OF GUY WIRES AND HOLDING OF POLES SHALL BE COMPLETED AS REQUIRED TO COMPLETE THE WORK, SHALL BE AS AGREED UPON BY THE UTILITY COMPANY AND CONTRACTOR, AND SHALL BE AT THE EXPENSE OF CONTRACTOR.

INSPECTION:

ALL WORK REQUIRED FOR THIS IMPROVEMENT SHALL BE SUBJECT TO INSPECTION BY THE CITY OF CANTON OR THEIR DESIGNATED REPRESENTATIVE. THE CONTRACTOR SHALL GIVE A 48 HOUR NOTICE BEFORE STARTING ANY WORK ON THIS PROJECT AND SHALL KEEP THE CITY INFORMED OF HIS/HER CONSTRUCTION SCHEDULE. NO WORK SHALL BE PERFORMED UNLESS AN AUTHORIZED INSPECTOR IS PRESENT.

FIELD OFFICE:

THE CONTRACTOR SHALL PROVIDE A FIELD OFFICE IN ACCORDANCE WITH ODOT 619. THE FIELD OFFICE SHALL BE TYPE 'C', UNLESS OTHERWISE SPECIFIED.

MAINTENANCE OF UTILITY SERVICES:

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN UTILITY SERVICES AT ALL TIMES.

WATER SERVICE MAY BE INTERRUPTED FOR LIMITED PERIODS (4 HOURS MAXIMUM) DURING CONNECTION BETWEEN EXISTING WATER LINES AND RELOCATED/NEW WATER MAINS WHICH CANNOT BE COMPLETED OTHERWISE. NO SHUT DOWN SHALL OCCUR WITHOUT WRITTEN PERMISSION OF THE CITY OF CANTON WATER DEPARTMENT. PROPERTY OWNERS AFFECTED BY APPROVED INTERRUPTED SERVICE SHALL BE NOTIFIED 48 HOURS IN ADVANCE BY THE CONTRACTOR.

STORM SEWER AND SANITARY SEWER SERVICES SHALL BE MAINTAINED WITHOUT INTERRUPTION, UNLESS APPROVED BY THE CITY ENGINEER.

IN THE EVENT THAT CONSTRUCTION DISRUPTS THE FLOW OF A SANITARY SEWER, THE CONTRACTOR SHALL IMMEDIATELY RECTIFY THE DISRUPTED SEWER BY EITHER TEMPORARILY FLUMING WITH MATERIALS ACCEPTABLE TO THE ENGINEER OR BYPASSING WITH PUMPS. COST OF MAINTAINING AND REPAIR OF SANITARY SEWERS DISTURBED BY CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION NOISE:

CONSTRUCTION NOISE ASSOCIATED WITH ANY IMPROVEMENT PROJECT, SHALL BE LIMITED TO LEVELS COMMENSURABLE WITH ADJOINING LAND AND THEIR ASSOCIATED USAGE AS DETERMINED BY THE CITY ENGINEER. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 P.M. AND 7:00 A.M., UNLESS AUTHORIZED BY THE CITY ENGINEER.

CLEANUP AND DISPOSAL:

DURING WORK, KEEP ROADS CLEAN AND WORK AREAS IN AN ORDERLY CONDITION. AT THE END OF THE PROJECT, ALL STREETS AND ROADWAYS AFFECTED BY THIS PROJECT SHALL BE SWEPT.

OPEN TRENCH CONSTRUCTION AND TRENCH PROTECTION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION /TRENCHING PRACTICES FOR THE PROPOSED IMPROVEMENT, OR AS FURTHER SHOWN ON THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL FOLLOW ALL LOCAL AND STATE REGULATION, INCLUDING FEDERAL REGULATION, PART 1926, SUB PART P FOR ALL APPLICABLE REQUIREMENTS AND RESPONSIBILITIES.

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF THE PROJECT'S ASSIGNED "COMPETENT PERSON" IN OSHA EXCAVATION STANDARDS.

PROVIDE TRENCH PROTECTION USING A TRENCH BOX, WOOD SHEETING AND BRACING, OR SUCH OTHER METHOD AS DETERMINED BY CONTRACTOR TO MAINTAIN A SAFE WORKING ENVIRONMENT. ALL EXCAVATIONS SHALL COMPLY WITH APPLICABLE LAWS AND REGULATIONS (FEDERAL, STATE AND LOCAL).

FOR WOOD SHEETING AND BRACING USE SOUND LUMBER SUITABLE FOR THE PURPOSE INTENDED, AND ARRANGE SO AS TO SUPPORT THE TRENCH WALLS AND EXISTING STRUCTURES AND UTILITIES.

SHEETING AND BRACING SHALL BE REMOVED BY THE CONTRACTOR AFTER PLACING AND COMPACTING BACKFILL TO A LEVEL AT LEAST 2 FEET ABOVE THE PIPE TOP. DO NOT PULL SHEETING IN INCREMENTS EXCEEDING 3 TO 4 FEET IN ORDER TO AVOID THE DANGER OF BREAKING THE BURIED UTILITY DUE TO THE WEIGHT OF THE BACKFILL. UPON REMOVAL, IMMEDIATELY FILL AND RECOMPACT VOIDS LEFT DUE TO SUCH REMOVAL.

TRENCH CLOSING AND TEMPORARY TOPPING:

THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE NECESSARY LEVELS OF PROTECTION AND SAFEGUARDING OF ALL OPEN TRENCHES, WHEN WORK IS EITHER COMPLETED AT THE END OF THE DAY OR SUSPENDED FOR ANY OTHER REASON.

AS A MINIMUM, THE CITY REQUIRES ALL TRENCHES TO BE TOPPED WITH 4" OF ODOT 304 LIMESTONE FOR TRENCHES WITHIN EXISTING ROADWAY PAVEMENTS WHEN THE ROADWAY WILL BE OPENED TO VEHICULAR TRAFFIC PRIOR TO PAVEMENT REPLACEMENT.

THE TRENCH TOPPING MATERIAL SHALL BE ROLLED OR OTHERWISE COMPLETED AND BE FURNISHED FLUSH WITH THE EXISTING ADJOINING PAVEMENT.

DUST CONTROL:

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL.

TESTING OF UTILITIES:

ALL NEWLY CONSTRUCTED WATERLINES AND SANITARY SEWERS (INCLUDING LATERALS) MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE STANDARDS (AWWA, ETC.) PER THE OHIO ENVIRONMENTAL PROTECTION AGENCY, AND PER THE REQUIREMENTS OF THE CITY OF CANTON CITY AND WATER ENGINEERING DEPARTMENT.

SANITARY SEWERS SHALL BE TESTED BY CONTRACTOR IN ACCORDANCE WITH THE CITY OF CANTON'S SUPPLEMENTAL SPECIFICATION:

02-00 TESTING FOR EXCESSIVE DEFLECTION FOR NON-PRESSURE THERMOPLASTIC SEWER PIPE.

03-00 TESTING PRACTICES FOR LOW-PRESSURE AIR TESTING OF INSTALLED, NON-PRESURE, THERMOPLASTIC SEWER PIPE.

04-01 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE TEST.

SANITARY AND STORM SEWERS CONSTRUCTED WITH THIS PROJECT SHALL BE TELEVISED BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF CANTON'S SUPPLEMENTAL SPECIFICATION:

05-01 SEWER TELEVISION INSPECTION AND DOCUMENTATION PROCEDURE.

PRESERVATION OF EXISTING STRUCTURES:

THE CONTRACTOR SHALL PERFORM WORK SO AS TO NOT DISTURB, DAMAGE OR DESTROY ANY MAILBOX, PAPER BOX, TELEPHONE OR POWER POLES, SIGNS, FENCES, RETAINING WALLS, LANDSCAPING ITEMS, ETC. ANY ITEM DAMAGED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.

SALVAGED CASTINGS:

WHEN DIRECTED BY THE CITY ENGINEER, ALL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED ON SITE OR DELIVERED TO A LOCATION DESIGNATED BY THE CITY ENGINEER.

PLUG EXISTING CONDUIT:

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT TO BE ABANDONED.

BULKHEADS SHALL CONSIST OF BRICK AND/OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

PAYMENT FOR PLUGGING OF EXISTING CONDUIT FOR ABANDONMENT SHALL BE INCLUDED IN THE UNIT BID OF THE VARIOUS ITEMS OF THE PROJECT.

CONSTRUCTION LAYOUT:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT UTILIZING PERTINENT PLAN DATA. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR STAKING HORIZONTAL OR VERTICAL CONTROL. CONSTRUCTION LAYOUT SHALL BE IN ACCORDANCE WITH ODOT 623 CONSTRUCTION LAYOUT STAKES.

AT THE CITY ENGINEER'S REQUEST THE CONTRACTOR SHALL MAKE AVAILABLE ALL SURVEY FIELD NOTES FOR REVIEW.

EXISTING MONUMENTATION:

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS AND/OR ANY TYPE OF LAND MONUMENT. (HE SHALL HAVE ALL MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED.) THE CONTRACTOR SHALL REPLACE/RESET ANY DISTURBED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

ELEVATION DATUM:

ALL ELEVATIONS AREA BASED ON THE NAVD 1988 DATUM

DEWATERING OPERATIONS:

WHEN DEEMED NECESSARY, THE CONTRACTOR MAY INSTALL DEWATERING EQUIPMENT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

THE PROPOSED LOCATION OF WELL POINTS, HEADER PIPE, ELECTRICAL DISTRIBUTION, GENERATORS AND DISCHARGE PIPES, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS FOR THE INSTALLATION AND SUBSEQUENT REMOVAL OF DEWATERING EQUIPMENT AS MAY BE NECESSARY PER STATE AND LOCAL GOVERNING AGENCIES.

INSTALLATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING GROUNDING AND PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR SHALL PROVIDE ALL COMBUSTIBLE ENGINE DRIVEN GENERATORS WITH "HOSPITAL GRADE" MUFFLERS. MUFFLERS SHALL BE RATED, AT A MAXIMUM OF 67 dB AT 23 FEET AWAY RUNNING FULL LOAD.

EARTHWORK / SITE WORK

EASEMENTS AND RIGHT-OF WAY:

THE CONTRACTOR SHALL STAY WITHIN THE PROPERTIES, EASEMENTS, AND/OR RIGHT-OF-WAY PROVIDED AT ALL TIMES. NO MATERIAL SHALL BE STORED NOR ANY WORK PERFORMED ON PRIVATE PROPERTY. DISTURBANCE OF EXISTING FEATURES AND/OR IMPROVEMENTS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND AS APPROVED BY THE CITY ENGINEER/PROPERTY OWNER.

SUITABILITY OF SITE:

THE CITY OF CANTON WILL NOT BE RESPONSIBLE FOR THE TYPE AND/OR SUITABILITY OF THE MATERIAL UNDERLYING THE PROJECT SITE. THE CONTRACTOR MUST APPRAISE THEMSELVES OF ANY EXISTING SITE CONDITIONS WHICH MAY AFFECT THEIR BID OR THE PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL PERFORM ANY INVESTIGATIONS AND/OR TESTING NECESSARY TO ADEQUATELY DETERMINE/ESTIMATE TO THEIR SATISFACTION OF ALL SITE CONDITIONS WHICH COULD AFFECT THE PERFORMANCE OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE BUT NOT BE LIMITED TO UNSUITABLE AND/OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER (PERCHED OR FREE), SPRINGS, ETC.

REMOVAL/REPLACEMENT OF UNSUITABLE MATERIAL:

THE CONTRACTOR SHALL UNDERCUT AND REPLACE UNSUITABLE MATERIAL ENCOUNTERED DURING INSTALLATION OF THE PROPOSED UTILITIES AND ROADWAY IN ACCORDANCE WITH O.D.O.T. ITEM No. 603 AND 203, OR AS FURTHER DESCRIBED HEREIN.

IF PLANS ALLOW FOR A CONTINGENCY ITEM FOR SUCH REMOVAL/REPLACEMENT, THE CITY WILL DOCUMENT THE LOCATION OF AREAS OF SUCH REMOVAL/REPLACEMENT FOR FINAL QUANTITY TABULATION.

RESTORATION OF DISTURBED AREAS:

EXISTING DRIVES, BERMS, LAWNS, PAVEMENTS, CURBS, SIDEWALKS, SIGNS, MAILBOXES OR OTHER APPURTENANCES DISTURBED DURING CONSTRUCTION BUT NOT SPECIFICALLY DESIGNATED FOR REMOVAL/REPLACEMENT SHALL BE RESTORED TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO CONSTRUCTION AND TO THE COMPLETE SATISFACTION OF THE CITY ENGINEER. RESTORATION OF EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY, TOWNSHIP, COUNTY, AND/OR OTHER AGENCIES HAVING AUTHORITY. COST FOR THE RESTORATION OF THESE ITEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO PUBLIC ROADWAY SHALL BE DISTURBED WITHOUT PRIOR WRITTEN APPROVAL FROM THE GOVERNING AGENCY AND ACQUISITION OF NECESSARY PERMITS.

CALCULATED:
CHECKED:

GENERAL NOTES

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

ROADWAY / PAVEMENT / WALK / CURB

PAVEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD DRAWINGS AND APPLICABLE ODOT SPECIFICATIONS, UNLESS SPECIFIED OTHERWISE ON THE PLANS.

ITEM 304 – AGGREGATE BASE, AS PER PLAN:

THE REQUIREMENTS OF ODOT 304 SHALL APPLY; DEVIATIONS FROM THIS ARE AS FOLLOWS;

(1) NO OPEN HEARTH BASIC-OXYGEN STEEL OR GRANULAR SLAG SHALL BE PERMITTED.

ITEM 608 – 5" CONCRETE WALK, AS PER PLAN:

THE REQUIREMENTS OF ODOT 608 CONCRETE WALKS AND RAMPS SHALL APPLY; DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) CONCRETE MIX COARSE AGGREGATE SHALL BE LIMESTONE ONLY.

(2) EXPANSIONS JOINTS (1/2") SHALL BE PLACED AT THE TRANSVERSE JOINTS OF THE WALK AT INTERVALS NOT TO EXCEED 30 FEET IN LENGTH.

(3) COLD WEATHER PRACTICES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL. CONTRACTOR SHALL PLACE AND PROTECT ALL CONCRETE IN ACCORDANCE WITH LATEST EDITION OF ACI 306.

ITEM 609 – COMBINATION CURB AND GUTTER, (TYPE), AS PER PLAN
ITEM 609 – CURB, (TYPE), AS PER PLAN:

REQUIREMENTS OF ODOT 609 SHALL APPLY; DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) CONCRETE MIX COARSE AGGREGATE SHALL BE LIMESTONE ONLY.

(2) CONSTRUCTION JOINTS FOR STAND-UP CURB AND COMBINATION CURB/GUTTER SHALL BE DOWELED. DOWELS SHALL BE (2) #5 BAR, 18" IN LENGTH EQUALLY SPACED.

(3) COLD WEATHER PRACTICES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL. CONTRACTOR SHALL PLACE AND PROTECT ALL CONCRETE IN ACCORDANCE WITH LATEST EDITION OF ACI 306.

(4) CURB SHALL BE CORED OR SLEEVED 3-1/2" FOR 3" DRAIN OUTLETS AT THE LOCATIONS DETERMINED BY CITY ENGINEER OR AS SPECIFIED ON PLAN. NOTCH CUTTING OF CURB IS PROHIBITED.

DROP CURB AT DRIVEWAYS:

THE CONTRACTOR SHALL PROVIDE DROP CURB FOR ALL PROPOSED DRIVEWAYS AT THE TIME THE CONCRETE CURB IS POURED. DROP CURBS SHALL CONFORM TO ODOT STANDARD CONSTRUCTION DRAWING BP-4.1.

WHEN THE LOCATIONS OF DRIVES ARE NOT KNOWN AT THE TIME OF CURB CONSTRUCTION, THE DROPS MAY BE SAW CUT WITH THE CITY ENGINEER'S APPROVAL.

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING BP-7.1 "CURB RAMPS WITH TRUNCATED DOMES" AND USE OF WHITACRE GREER ADA PAVER, CLEAR RED (RUSTIC) #30.

RESTRICTED WORK SCHEDULE:

NO CONCRETE FINISH WORK OR PERMANENT ASPHALT SHALL BE PLACED FROM NOVEMBER 15TH TO APRIL 15TH UNLESS WRITTEN APPROVAL IS GRANTED BY THE CITY ENGINEER.

ASPHALT/CONCRETE:

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES COMPACTION TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF ASPHALT OR CONCRETE. WORK WILL NOT PROCEED UNTIL TESTING AND/OR INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE CITY ENGINEER.

SANITARY SEWERS / STORM SEWERS

ALL SANITARY/STORM SEWER CONDUITS AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO CITY SPECIFICATIONS AND ODOT 603 SPECIFICATION EFFECTIVE AT THE TIME OF CONSTRUCTION.

BEDDING:

BEDDING SHALL BE AASHTO M 43, NUMBERS 56, 57, OR 67 LIMESTONE OR ANGULAR CRUSHED GRAVEL STONE. BEDDING SHALL EXTEND THE FULL WIDTH OF THE TRENCH. TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF PIPE PLUS 12" ON BOTH SIDES OF THE PIPE. FOR REINFORCED CONCRETE PIPE CONDUIT THE BEDDING SHALL EXTEND 3" BELOW THE BOTTOM OF PIPE AND FLUSH WITH THE TOP OF PIPE. FOR ALL OTHER SEWER CONDUITS THE BEDDING SHALL EXTEND 6" BELOW THE BOTTOM OF PIPE AND 12" ABOVE THE PIPE.

BACKFILL WITHIN THE RIGHT-OF-WAY:

BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL (304, 411, or 617 AGGREGATE GRADATION); DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) NO FOUNDRY SAND, AIR COOLED BLAST FURNACE SLAG, GRANULATED SLAG, OR OPEN HEARTH SLAG SHALL BE PERMITTED.

(2) ANY EXCEPTION TO THE TYPE '1' GRANULAR MATERIAL SHALL BE WITH THE SUPPLEMENTAL APPROVAL OF THE CITY ENGINEER. FOR SUCH SUPPLEMENTAL APPROVAL THE DEVELOPER/ CONTRACTOR SHALL SUBMIT IN WRITING THE FOLLOWING:

- SOURCE OF THE ALTERNATE BACKFILL MATERIAL.
- GRADATION REPORT IN ACCORDANCE WITH AASHTO T III AND T 27.
- PROCTOR CURVE ANALYSIS IN ACCORDANCE WITH ASTM D 698.
- PROPOSED COMPACTION METHOD.

REGARDLESS OF THE CITY APPROVAL OF AN ALTERNATE BACKFILL MATERIAL, THE CONTRACTOR WILL BE REQUIRED TO USE ODOT 703.11 TYPE 1 BACKFILL IN THE TRENCH WITHIN 4 FEET OF THE FINISHED GRADE OVER SAID TRENCH.

THE CITY RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL THE CITY FINDS NOT CONSISTENT WITH THE MATERIAL PREVIOUSLY APPROVED BY THE CITY ENGINEER.

BACKFILL METHODS SHALL BE IN ACCORDANCE WITH ODOT 603; DEVIATION FROM THIS ARE AS FOLLOWS:

(1) CONTRACTOR MAY REQUEST TO EXCEED 8" PLACEMENT LIFTS DURING BACKFILL PROCEDURE. GREATER LIFT SIZE IS SUBJECT TO THE CITY ENGINEER'S APPROVAL BASED ON THE CONTRACTOR'S PROPOSED COMPACTION METHOD AND THE BACKFILL MATERIAL.

BACKFILL OUTSIDE THE RIGHT-OF-WAY:

BACKFILL MATERIAL AND COMPACTION SHALL BE IN ACCORDANCE WITH ODOT 603.

MANHOLES:

PRECAST MANHOLES:

PRECAST CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH ODOT 604 AND ODOT STANDARD CONSTRUCTION DRAWING MH-3 DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) ALL MANHOLE SECTIONS SHALL HAVE 6 ±2 PERCENT AIR IN THE HARDENED CONCRETE.

(2) PRECAST BASE SHALL HAVE EXTENDED BASE OF 6" AROUND OUTSIDE CIRCUMFERENCE OF MANHOLE.

(3) GRADE RINGS SHALL BE SET IN MORTAR.

(4) GRADE RINGS, IF BRICK, SHALL BE BELDEN BRICK CO. (FINE GRIND) OR EQUAL AND MEET ASTM C32-90.

(5) MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.

(6) UNIONS IN RISER SECTIONS SHALL USE ELASTOMERIC JOINT SEALANT, CON-SEAL OR EQUAL.

(7) TOTAL HEIGHT OF GRADE RINGS USED SHALL NOT EXCEED 12".

BRICK MANHOLES: (STORM SEWER ONLY)

BRICK MANHOLES SHALL BE IN ACCORDANCE WITH ODOT 604 AND ODOT STANDARD CONSTRUCTION DRAWING MH-1 DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) CONCRETE BRICK AND CONCRETE MASONRY BLOCK ARE PROHIBITED FROM THE MATERIAL SECTION.

(2) BRICK SHALL BE MANUFACTURED BY BELDEN BRICK (FINE GRIND) OR EQUAL. BRICK SHALL MEET ASTM C32-93.

(3) MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.

MANHOLE BASE PLACED ON 6" OF #57 STONE BEDDING.

ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL. BACKFILL METHODS IN ACCORDANCE WITH ODOT 603.081.

CASTINGS AS PER CITY STANDARD DRAWING # 19.

DISTANCE BETWEEN TOP OF MANHOLE CASTING AND THE TOP STEP SHALL NOT EXCEED 30".

MANHOLE STEPS SHALL BE POLYPROPYLENE IN ACCORDANCE WITH ASTM 2146-68.

CHANNELS SHALL BE CONSTRUCTED WITH CLASS 'C' CONCRETE WITH A FINISHED SMOOTH SURFACE MAINTAINING POSITIVE FLOW FROM INLET TO OUTLET.

WHEN SPECIFIED ON THE PLANS, DROP PIPES SHALL BE CONSTRUCTED FOR SANITARY CONDUITS WHICH CANNOT BE CONNECTED TO THE MANHOLE WITHIN 24 INCHES FLOW LINE TO FLOW LINE. DROP PIPES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 18 OR AS SHOWN ON THE PLANS.

CATCH BASINS:

CATCH BASINS SHALL BE IN ACCORDANCE WITH ODOT 604, APPLICABLE ODOT CATCH BASIN STANDARD CONSTRUCTION DRAWINGS, AND APPLICABLE CITY CATCH BASIN STANDARD DRAWINGS AS PER PLAN. DEVIATIONS FROM ODOT SPECIFICATIONS ARE AS FOLLOWS:

(1) CONCRETE BLOCK IS PROHIBITED FROM THE MATERIAL SELECTION.

(2) BRICK SHALL BE MANUFACTURED BY BELDEN BRICK (FINE GRIND) OR EQUAL. BRICK SHALL MEET ASTM C32-93 GRADENESS.

(3) MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.

(4) BRICK CATCH BASINS SHALL INCLUDE:

- ALL INSIDE JOINTS TO BE STRUCK AND CLOSED.
- (ONE) 4" DIAMETER INLET PIPE SITUATED AWAY FROM THE ROAD SIDE OF THE BASIN.
- PLASTER OUTSIDE WALLS WITH HIGH STRENGTH MORTAR, 1/2" THICK.

(5) ALL CATCH BASINS SHALL BE PLACED ON 6" OF #57 STONE BEDDING.

(6) ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL. BACKFILL METHODS IN ACCORDANCE WITH ODOT 603.081.

(7) ALL KNOCKOUTS FOR INLETS AND OUTLETS PIPING SHALL BE FASHIONED NEATLY. ALL ANNULAR SPACE TO BE FILLED WITH APPROVED BRICK AND MORTAR.

(8) CHANNELS SHALL BE CONSTRUCTED WITH CLASS 'C' CONCRETE WITH A FINISHED SMOOTH SURFACE MAINTAINING POSITIVE FLOW FROM INLET TO OUTLET.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT 605 UNDERDRAINS; DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) NO AIR-COOLED BLAST FURNACE SLAG SHALL BE PERMITTED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT 605 UNDERDRAINS; DEVIATIONS FROM THIS ARE AS FOLLOWS:

(1) NO AIR-COOLED BLAST FURNACE SLAG SHALL BE PERMITTED.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES:

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

CALCULATED:
CHECKED:

GENERAL NOTES

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

SANITARY SEWERS / STORM SEWERS (continued)

REVIEW OF DRAINAGE FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS:

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

603, 4" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	50 FT.
603, 4" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	50 FT.
603, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	50 FT.
603, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	50 FT.
603, 8" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	50 FT.
603, 8" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	50 FT.
603, 12" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	50 FT.
603, 12" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	50 FT.

ITEM SPECIAL – MISCELLANEOUS METAL:

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET CITY STANDARDS AND ITEM 604 OF THE CMS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

SPECIAL, MISCELLANEOUS METAL	15,000 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

EROSION CONTROL:

TEMPORARY EROSION CONTROL:

THE CONTRACTOR SHALL IMPLEMENT TEMPORARY EROSION CONTROL MEASURES AT THE EARLIEST POSSIBLE TIME. IMPLEMENTATION SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 832.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR TEMPORARY EROSION CONTROL WORK AND WERE CARRIED TO THE GENERAL SUMMARY:

832, STORM WATER POLLUTION PREVENTION PLAN	LUMP
832, EROSION CONTROL	10,000 EACH

SEEDING AND MULCHING:

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	85 CU. YD.
659, SEEDING AND MULCHING	750 SQ. YD.
659, REPAIR SEEDING AND MULCHING	50 SQ. YD
659, INTER-SEEDING	50 SQ. YD.
659, COMMERCIAL FERTILIZER	0.10 TON
659, LIME	0.15 ACRES
659, WATER	2 M. GAL.
659, MOWING	2 M. SQ. FT.

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

POST CONSTRUCTION INCIDENTALS

AS-BUILT DRAWINGS:

AS-BUILT PRINTS SHALL BE PROVIDED TO THE CITY OF CANTON BY THE CONTRACTOR AT THE COMPLETION OF THE PROJECT. THE CONSTRUCTION BOND WILL NOT BE RELEASED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN ACCEPTED.

PROPOSED MONUMENTATION:

THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER IN WRITING UPON THE COMPLETION OF MONUMENTS BEING SET AS PER PLAN OR RECORD PLAT.

RELEASE OF RETAINER/BONDS:

PRIOR TO THE RELEASE OF RETAINER/CONSTRUCTION BOND BY THE CITY OF CANTON, THE CONTRACTOR SHALL HAVE COMPLETED THE ENGINEER'S PROJECT PUNCHLIST AND SUBMIT. FINAL WAIVER OF LIEN, IN ACCORDANCE WITH CITY SS 01-00.

WATER MAIN / SERVICES:

WATER MAINS/SERVICES:

ALL WATER MAINS, SERVICES AND APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO THE CITY OF CANTON WATER DEPARTMENT REQUIREMENTS AND SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION. ANY DEVIATION FROM THE PLANS AFFECTING THE WATER SYSTEM MUST BE APPROVED BY THE CANTON WATER DEPARTMENT.

WATER MAINS SHALL BE CLASS 53 (12" AND UNDER) OR CLASS 54 (OVER 12") DUCTILE IRON MEETING AWWA C-151 WITH PUSH JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 4'-6" FROM GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS, AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THE COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIAL AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH DOUBLE CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C-104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 250 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C-153. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED, AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER. WATER SERVICES WILL BE INSTALLED BY THE CITY OF CANTON AND PAID FOR BY THE OWNER/DEVELOPER. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C-651. ALL WATER LINE PRESSURE TESTING SHALL CONFORM TO AWWA C-600.

WATER MAINS SHALL BE INSTALLED AND BACKFILLED PER O.D.O.T. ITEM 638. WATERLINES LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER WATER MAINS MAY BE INSTALLED AS TYPE C CONDUITS. BEDDING SHALL BE AS SPECIFIED, EXCEPT THAT SLAG WILL NOT BE PERMITTED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED EQUAL. POURED-IN-PLACED CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR EACH BEND, FITTINGS, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING.

IN ADDITION TO THE RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD END, ETC. THE CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL JOINTS FOR AT LEAST THREE (3) PIPE JOINTS (50) LF MIN.) ON BOTH SIDES OF EACH DEAD END, BEND, FITTING, VALVE, TEE, ETC. UTILIZING MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUAL.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND ANY SANITARY SEWERS. WHEN 18" CLEARANCE BETWEEN A WATERLINE AND SANITARY SEWER CANNOT BE OBTAINED THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE BETWEEN WATERLINE AND STORM SEWER. THE CONTRACTOR SHALL MAINTAIN TEN (10) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND SANITARY SEWERS AND FOUR (4) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND STORM SEWERS.

FIRE HYDRANTS SHALL BE MUELLER A423 MEETING THE CITY OF CANTON WATER DEPARTMENT STANDARDS AND REQUIREMENTS. ALL COSTS FOR THE 6" PIPING ASSOCIATED WITH THE INSTALLATION OF FIRE HYDRANTS SHALL BE INCLUDED WITH THE FIRE HYDRANT PAY ITEM. ALL HYDRANTS WILL BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

ALL WATER SERVICES MUST BE INSTALLED BEFORE ANY PAVEMENT FOR THE PROPOSED ROADWAYS HAS BEEN PLACED. CONTRACTOR IS NOT TO MAKE ANY SERVICE TAPS ON THE WATER MAIN. THE CANTON WATER DEPARTMENT WILL MAKE ALL SERVICE TAPS.

THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

ALL DUCTILE IRON PIPE, INCLUDING FITTINGS AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENCASED WITH 8 MIL POLYETHYLENE FILM CONFORMING TO AWWA C105.

POLYETHYLENE WATER MAIN AND SERVICE TUBING 2" AND UNDER SHALL BE COPPER TUBE SIZE AND MEET STANDARDS ASTM-D2737 PE3408 AND AWWA C906. THE ONLY ACCEPTED TUBING IS CP CHEM PERFORMANCE PIPE DRISCOPLEX 5100-ULTRA-LINE.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN IN SERVICE, ANY EXISTING WATER MAINS EXPOSED DURING CONSTRUCTION.

ANY WATER SERVICE LINE THAT IS BROKEN, CUT OR OTHERWISE DAMAGED, SHALL BE REPLACED FROM THE CORPORATION STOP TO THE CURB STOP WITH A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED.

SERVICE BRANCHES WILL BE INSTALLED AS PER O.D.O.T ITEM 638.16 WITH THE FOLLOWING EXCEPTIONS:

(1) WHEN A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING OR SHORTENING ON THE PROPERTY SIDE ON THE SERVICE STOP, IT SHALL BE REPLACED WITH NEW MATERIALS FROM THE CORPORATION STOP TO THE SERVICE STOP.

IN A STREET IMPROVEMENT, NO EXISTING WATER CURB BOX WILL BE LEFT IN THE PAVEMENT, CURB AND GUTTER OR SIDEWALK THE CURB BOX WILL BE MOVED TO A SUITABLE LOCATION DETERMINED BY THE CANTON WATER DEPTARTMENT. WHEN THE CURB BOX IS MOVED ALL NEW MATERIAL WILL BE USED FROM THE CORPORATION STOP TO THE THE CURB STOP WHICH IS A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED. A NEW TAP (CORPORATION STOP) AND CURB STOP AND BOX MAY ALSO BE REQUIRED. THE DETERMINATION WILL BE MADE BY THE CANTON WATER DEPARTMENT.

ALL WATER MAINS WILL BE INSTALLED UNDER THE PAVEMENT WITH A MINIMUM OF 3 FEET FROM THE EDGE OF PAVEMENT OR THE CURB AND/OR GUTTER. IN EXISTING STREETS, A SAW CUT WILL BE MADE TO ENSURE A CLEAN EDGE.

WHEN AN EXISTING WATER MAIN MUST BE SHUT DOWN TO PERFORM REQUIRED WORK, THE PROPERTIES TO BE EFFECTED SHALL BE GIVEN A MINIMUM 24 HOUR NOTICE OF SAID SHUT DOWN. THE WORK WILL BE SCHEDULED AND COORDINATED TO MINIMIZE THE TIME THE MAIN IS OUT OF SERVICE.

THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF ANY SHUT DOWN OF AN EXISTING WATER MAIN. THE CONTRACTOR WILL NOT OPERATE ANY VALVES. VALVES WILL BE OPERATED BY CANTON WATER DEPARTMENT PERSONNEL ONLY. VALVES DAMAGED BY THE CONTRACTOR'S OPERATION WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ALL VALVE BOXES WILL BE ADJUSTED TO FINAL GRADE OF THE PAVEMENT WHEN THE PROJECT IS COMPLETED.

CALCULATED:
CHECKED:

GENERAL NOTES

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 501, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

ITEM 614 – MAINTAINING TRAFFIC

A MINIMUM OF 1 TEN (10) FOOT LANE OF TRAFFIC IN EACH DIRECTION ALONG MAHONING ROAD SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT OR THE COMPLETED PAVEMENT.

THE CONTRACTOR SHALL DIVERT TRAFFIC FROM NORMAL LANES BY PLASTIC SAFETY DRUMS OR CONES, TEMPORARY TRAFFIC SIGNS AND WORK ZONE PAVEMENT MARKINGS AS SHOWN ON THE PLAN SHEETS.

THE LENGTH AND DURATION OF LANE CLOSURES AND/OR TIME RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. THE INTENT IS TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF TEMPORARY TRAFFIC CONTROL DEVICES SHALL COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL MAINTAIN A SAFE AND SATISFACTORY ACCESS TO ABUTTING PROPERTIES ALONG MAHONING ROAD AT ALL TIMES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

WORK ZONE SIGNS, INCLUDING WZ-SPECIAL BUSINESS SIGNS, SHALL NOT BE ATTACHED TO ANY LIGHT POLES OR SIGNAL POLES.

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGN SUPPORTS AND FURNISH AND MAINTAIN FLAGGERS AND INCIDENTALS RELATED THERETO.

ONLY DURING OFF-PEAK PERIODS (ANY PERIOD OTHER THAN 7:00 AM to 9:00 AM AND 4:00 PM TO 6:00 PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ANY TRAFFIC CONTROL DEVICES NECESSARY FOR TEMPORARY TRAFFIC CONTROL FOR EACH CONSTRUCTION PHASE.

THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THE WORK FORCES OF UTILITY COMPANIES RELOCATING THEIR FACILITIES SO AS TO COMPLETE ALL SCHEDULED CONSTRUCTION ACTIVITIES WITHOUT UNDUE DELAY OR INTERFERENCE IN ACCORDANCE WITH SECTION 105.07 OF THE SPECIFICATIONS. THE CONTRACTOR SHALL ARRANGE WITH OTHER WORK FORCES A MUTUALLY ACCEPTABLE WORK SCHEDULE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. THE CONTRACTOR SHALL PRESENT ANY UNRESOLVED SCHEDULE CONFLICTS WITH THE OTHER WORK FORCES IN WRITING TO THE ENGINEER WITHIN TWO WORKING DAYS OF THE CONFLICT DISCOVERY. THE ENGINEER WILL ATTEMPT CONFLICT RESOLUTION WITH THE OTHER WORK FORCES WITHIN TWO WORKING DAYS FOLLOWING RECEIPT OF THE CONTRACTOR'S NOTIFICATION. COMPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS WITHIN THE PROJECT.

ALL CONSTRUCTION IN A GIVEN PHASE, INCLUDING DRIVEWAY CONSTRUCTION, SHALL BE COMPLETED PRIOR TO BEGINNING THE NEXT PHASE, HOWEVER THE BRICK STREETSCAPE, TREE GRATES, AND LANDSCAPE ITEMS NEED NOT BE COMPLETED PRIOR TO MOVING TO THE NEXT PHASE.

SIDE STREET CONSTRUCTION SHALL BE PERFORMED DURING THE APPROPRIATE PHASE USING PART WIDTH CONSTRUCTION. ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION ON THE SIDE STREETS UNLESS OTHERWISE SHOWN ON THE PLANS OR WRITTEN PERMISSION IS OBTAINED FROM THE CITY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	50 CU. YD.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	50 CU. YD.
ITEM 614, WORK ZONE LANE LINE, CLASS II, 642 PAINT	1.00 MILE
ITEM 614, WORK ZONE CENTER LINE, CLASS II, 642 PAINT	1.00 MILE
ITEM 616, WATER	15 M. GAL.
ITEM 616, CALCIUM CHLORIDE	2 TON
ITEM 608, 2" ASPHALT CONCRETE WALK	3000 S.F.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING.THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING PHASE CHANGES.

DURING MODIFICATION, CLOSING OR MAINTAINING A SIGNALIZED INTERSECTION DURING REMOVAL OR INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEOS) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEOS ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CITY OF CANTON
CHIEF DEAN McKIMM
221 THIRD STREET SW
CANTON, OHIO 330-489-3111

THE LAW ENFORCEMENT OFFICER AND LAW ENFORCEMENT OFFICER WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER AND ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER	160 HOURS
ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR	160 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF CONTRACTOR WISHES TO UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL, OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 – WORK ZONE PAVEMENT MARKINGS

ALL WORK ZONE PAVEMENT MARKINGS APPLIED TO THE EXISTING PAVEMENT OR THE COMPLETED INTERMEDIATE SURFACE COURSE SHALL BE 642 PAINT, CLASS 1, TYPE 2. NO WORK ZONE PAVEMENT MARKINGS SHALL BE APPLIED TO THE SURFACE COURSE. ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH CMS 614.11F1. WORK ZONE LINES SHALL BE A MINIMUM OF (4) INCHES IN WIDTH AND STOP LINES TWELVE (12) INCHES IN WIDTH.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ALONG MAHONING ROAD OR TO ANY RESIDENCE/BUSINESS. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AN OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

MANHOLES AND VALVES

ALL CASINGS ENCOUNTERED SHALL BE SET TO GRADE AND PAID FOR UNDER VARIOUS ITEMS DESCRIBED ELSEWHERE IN THE ROADWAY GENERAL NOTES AND SPECIFICATIONS. ANY CASTINGS EXPOSED TO TRAFFIC HAVING AN ELEVATION DIFFERENTIAL GREATER THAN 1 1/4" SHALL HAVE A TEMPORARY WEDGE OF ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

UTILITY WORK

EXCAVATIONS MADE FOR CONDUIT OR UTILITIES IN OPEN TRENCHES SHALL BE ADEQUATELY MAINTAINED AND PROTECTED AT ALL TIMES. THE USE OF METAL PLATES OVER OPEN TRENCHES IS ONLY PERMITTED IMMEDIATELY AFTER THE EXCAVATION IN ORDER TO MAINTAIN THE ROADWAY LANES TO TRAFFIC. UPON COMPLETING THE SUBSURFACE CONNECTIONS, THE OPENING SHALL BE RETURNED TO THE ROADWAY SURFACE LEVEL WITH APPROVED MATERIAL.

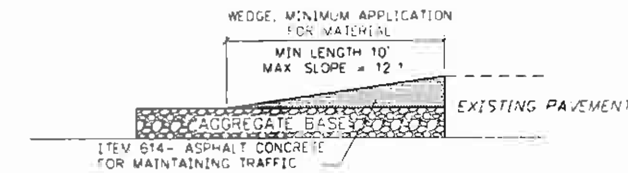
TEMPORARY DRAINAGE

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ADEQUATE DRAINAGE OF THE TRAVELED ROADWAYS DURING ALL PHASES OF CONSTRUCTION USING EXISTING DRAINAGE FACILITIES, TEMPORARY DRAINAGE FACILITIES, AND PERMANENT DRAINAGE FACILITIES.

TEMPORARY RAMPING OF VERTICAL SURFACES AT DRIVEWAYS

IN ORDER TO PROVIDE FOR LOCAL ACCESS, LONGITUDINAL VERTICAL FACES ABUTTING DRIVES SHALL BE TEMPORARILY RAMPED AS DETAILED BELOW. TRANSVERSE VERTICAL FACES SHALL BE TEMPORARILY RAMPED A MINIMUM OF TEN FEED IN LENGTH AND TRAFFIC SHALL BE WARNED WITH W8-1 "BUMP" SIGNS IN ADVANCE OF THE RAMPED AREAS. THE GRADE BREAK SHALL NOT EXCEED A MAXIMUM OF 8 PERCENT AT EITHER END OF THE WEDGE.

ALL TEMPORARY RAMPING SHALL BE INSTALLED, AT THE DIRECTION OF THE ENGINEER, USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.



WEDGE DETAIL FOR DRIVEWAY LOCATIONS

ACCESS TO ABUTTING COMMERCIAL PROPERTIES

ALL DRIVE ACCESS LOCATIONS ALONG MAHONING ROAD SHALL BE MAINTAINED BY THE CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE ENGINEER. THE COMMERCIAL PROPERTIES ALONG MAHONING ROAD ARE DEPENDENT UPON CUSTOMER ACCESS DURING NORMAL BUSINESS HOURS. THEREFORE, ANY WORK ON A COMMERCIAL DRIVE THAT REQUIRES INTERFERENCE WITH ACCESS TO PROPERTY SHALL BE PERFORMED AFTER CLOSING TIME FOR THE AFFECTED PROPERTY, UNLESS PROVIDED OTHERWISE IN THIS NOTE. THE CONTRACTOR SHALL SCHEDULE THE DRIVEWAY CONSTRUCTION SUCH THAT ACCESS IS MAINTAINED BY MEANS OF THE EXISTING DRIVE, A TEMPORARY DRIVE OF MATERIAL APPROVED BY THE ENGINEER, OR THE PROPOSED DRIVE.

FOR COMMERCIAL PROPERTIES WITH TWO DRIVEWAYS WHERE INGRESS AND EGRESS IS AVAILABLE FOR BOTH OF THE DRIVEWAYS, THE CONTRACTOR SHALL PROVIDE ACCESS AT ALL TIMES TO ONE OF THE DRIVEWAYS WHILE THE OTHER DRIVEWAY IS RECONSTRUCTED. FOR COMMERCIAL PROPERTIES WITH ONE DRIVEWAY, THE CONTRACTOR SHALL PROVIDE ACCESS AT ALL TIMES BY USING PART WIDTH CONSTRUCTION. FOR COMMERCIAL PROPERTIES WITH TWO DRIVEWAYS WHERE ONE OF THE DRIVES IS USED EXCLUSIVELY AS AN ENTRANCE AND THE OTHER IS USED EXCLUSIVELY AS AN EXIT, THE CONTRACTOR SHALL PROVIDE ACCESS AT ALL TIMES FOR BOTH OF THE DRIVEWAYS BY USING PART WIDTH CONSTRUCTION.

THE CONTRACTOR, UPON DIRECTION OF THE ENGINEER, SHALL USE CLASS MS OR FS CONCRETE IN ACCORDANCE WITH CMS ITEM 499.05 TO EXPEDITE DRIVEWAY WORK AT SELECTED LOCATIONS. PAYMENT FOR CLASS MS OR FS CONCRETE WILL BE AS A SURCHARGE TO THE UNIT PRICE PER CUBIC YARD OF CONCRETE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL – EXTRA PAYMENT FOR CLASS MS CONCRETE	200 CU. YD.
ITEM SPECIAL – EXTRA PAYMENT FOR CLASS FS CONCRETE	200 CU. YD.

THE QUANTITIES

TRENCH FOR WIDENING

THE OPENING TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AL ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIALS SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN THREE INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

SIDE STREET CLOSURE

INTERSECTING STREETS MAY BE CLOSED ONLY WITH WRITTEN APPROVAL FROM THE CITY ENGINEER. LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH SECTION 108.07 FOR EACH CALENDAR DAY THAT THE INTERSECTING STREET REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. ALL CLOSED STREETS SHALL BE BARRICADED AT THE WORK LIMITS WITH GATES AND BARRICADES PER PLAN INSERTS AND SIGNED WITH A "ROAD CLOSED" (R11-2) SIGN MOUNTED ON THE BARRICADES. IN ADDITION, A "ROAD CLOSED AHEAD" (W20-3) SIGN SHALL BE INSTALLED AT THE FIRST INTERSECTION BEYOND THE WORK, AND/OR WHERE SHOWN ON THE PLANS. THE CONTRACTOR SHALL FURNISH, ERRECT, MAINTAIN AND REMOVE ALL SIGNS AND BARRICADES REQUIRED FOR THIS PURPOSE

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE CITY OF CANTON (330 489 3031) A MINIMUM OF SEVEN DAYS IN ADVANCE OF WHEN THE DETOUR ROUTES SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. DETOURS ARE PAID FOR AS LUMP SUM ITEM 614 DETOUR SIGNING.

CALCULATED: CHECKED:

MAINTENANCE OF TRAFFIC
GENERAL NOTES

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

BUSINESS SIGN

THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING BUSINESS SIGN AT THE LOCATIONS DETERMINED BY THE ENGINEER. THE SIGN SHALL BE 3 FEET WIDE BY 4 FEET TALL WITH 6" WHITE LETTERING ON A GREEN REFLECTIVE BACKGROUND.

BUSINESS

←

WZ-SPECIAL BUSINESS-L

A WZ-SPECIAL BUSINESS-R SIGN IS SIMILAR TO THE SIGN SHOWN ABOVE EXCEPT THE ARROW POINTS TO THE RIGHT.
AN INSTALLATION WILL INCLUDE BOTH A WZ SPECIAL BUSINESS SIGN ON A POST SUPPORT AS PER ODOT STANDARD DRAWING MT 105.11.
PAYMENT WILL BE MADE FOR EACH INSTALLATION WHICH INCLUDES INSTALLATION, MAINTENANCE, REPLACEMENT OF THE INSTALLATION SHOULD IT BECOME DAMAGED AND SUBSEQUENT REMOVAL. AN ESTIMATED QUANTITY OF 10 EACH ITEM 614 MAINTAINING TRAFFIC, MISC.; BUSINESS SIGN HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE CITY OF CANTON AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE SIGNAL INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL SHALL BE MADE BY THE CITY. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE CITY AND THE CONTRACTOR.

AFTER THE REPORT HAS BEEN SIGNED BY ALL PARTIES, THE SIGNAL INSTALLATION SHALL BE TURNED OVER TO THE CONTRACTOR, WHO SHALL THEN BE REQUIRED TO MAINTAIN THE TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITION: EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED. WHETHER FROM UTILITY WORK OR FROM THE CONTRACTOR.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE CITY AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED TO THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FORE THE WORST SINGLE OUTAGE.

WHERE THE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE CITY OF CANTON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY THE CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE CITY OF CANTON TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION, SHALL BE COVERED AS DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:
1. TIME OF NOTIFICATION OF MALFUNCTION
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE
5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00 AM TO 8:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF DUTY POLICE HIRED BY THE CONTRACTOR.
1. MAHONING ROAD AT GRACE AVENUE
2. MAHONING ROAD AT HARMONT AVENUE

NIGHT WORK

THE CONTRACTOR'S NEED TO WORK BETWEEN SUNSET TO SUNRISE SHALL HAVE PRIOR APPROVAL FROM THE CITY. THE WRITTEN REQUEST SHOULD HAVE A 5 DAY ADVANCE NOTICE. THE REQUEST TO WORK BETWEEN THESE HOURS SHALL INCLUDE THE TYPE OF WORK TO BE DONE, EQUIPMENT TO BE USED, THE DURATION AND THE LOCATION. A TEMPORARY LIGHTING PLAN MAY BE REQUIRED (SEE THE "FLOODLIGHTING" NOTE SHEET 13).

TRAFFIC LIMITATIONS

THE TRAFFIC LIMITATION DATES FOR THE YEAR OF CONSTRUCTION WILL BE FURNISHED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

CONSTRUCTION SEQUENCE - GENERAL

THE CONTRACTOR SHALL DIVIDE THE ENTIRE PROJECT LENGTH INTO CONVENIENT CONSTRUCTION SECTIONS.

THE CONTRACTOR SHALL COMPLETE ALL WORK IN A GIVEN CONSTRUCTION SECTION BEFORE BEGINNING ANY WORK IN A SUBSEQUENT SECTION, UNLESS OTHERWISE APPROVED BY THE ENGINEER. NORMAL VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BEYOND THE WORK LIMITS OF THE SECTION CURRENTLY UNDER CONSTRUCTION.

NO CHANGE IN TRAFFIC PATTERN SHALL TAKE PLACE DURING PEAK HOURS, 6:00 AM TO 9:00 AM AND 3:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY.

LOCATION OF ADVANCE WARNING SIGNS SHALL BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE.

DRUMS SHALL BE PLACED 25' C/C APART ON THE MAIN LINE AND 10' C/C APART ON TAPER LENGTHS, AND 5' C/C AT RADII UNLESS OTHERWISE SPECIFIED. WHEN THE USE OF DRUMS IN LIEU OF TEMPORARY PAVEMENT MARKINGS IS APPROVED BY THE DIVISION OF TRAFFIC ENGINEERING, DRUMS SHALL BE PLACED 10' C/C APART IN ALL LOCATIONS EXCLUDING RADII.

PHASE SEQUENCE:

PHASE I:
CONSTRUCTION AREA: SOUTH SIDE OF MAHONING ROAD BETWEEN GRACE AVENUE AND HARMONT AVENUE (STA 56+00 TO 95+00)

WORK DESCRIPTION: CONSTRUCTION OF NEW SIDEWALK, DRIVEWAYS, PEDESTRIAN RAMPS, LIGHT POLES, AND MISCELLANEOUS UTILITIES RELOCATION.

MAINTENANCE OF TRAFFIC: TWO WAY TRAFFIC TO MAINTAINED AT ALL TIMES AS SHOWN ON PHASE ONE PLAN. MIN. 10' LANE TO BE USED IN EACH DIRECTION.

PHASE II:
CONSTRUCTION AREA: NORTH SIDE OF MAHONING ROAD BETWEEN GRACE AVENUE AND HARMONT AVENUE (STA 56+00 TO 95+00)

WORK DESCRIPTION: CONSTRUCTION OF NEW SIDEWALK, DRIVEWAYS, PEDESTRIAN RAMPS, LIGHT POLES, AND MISCELLANEOUS UTILITIES RELOCATION.

MAINTENANCE OF TRAFFIC: TWO WAY TRAFFIC TO MAINTAINED AT ALL TIMES AS SHOWN ON PHASE ONE PLAN. MIN. 10' LANE TO BE USED IN EACH DIRECTION.

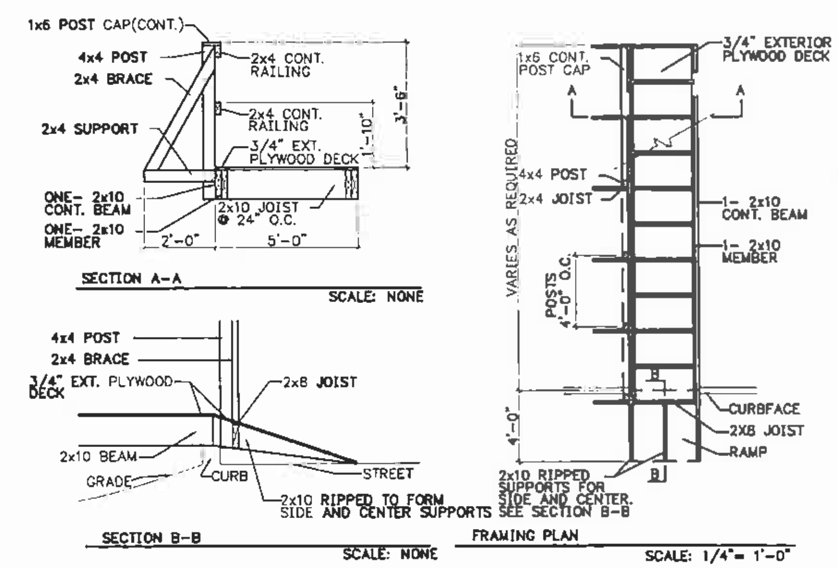
STORM WORK AND CROSSWALKS:

AT PROPOSED STORM LINE, OTHER UTILITY LATERALS, AND CROSSWALKS LOCATED IN THE ROADWAY AND NOT COVERED BY PHASE I AND II, CONTRACTOR TO PROVIDE TRAFFIC CONTROL SCENARIOS IN ACCORDANCE WITH OMUTCD AND AS SHOWN ON SHEET 13 THRU 22

MAINTENANCE OF PEDESTRIAN TRAFFIC

THE CONTRACTOR SHALL TAKE ADEQUATE PROVISIONS (I.E. TEMPORARY WALKWAYS, DETOURS, ETC.) FOR THE SAFETY OF PEDESTRIANS WITHIN THE WORK ZONE.

AT EXISTING SIDEWALK OR CROSSWALK LOCATIONS WHERE PEDESTRIAN TRAFFIC CAN NOT BE MAINTAINED, PROVIDE PEDESTRIAN TRAFFIC CONTROL IN ACCORDANCE WITH THE OMUTCD, CURRENT EDITION, LATEST REVISION, FIGURES 6H-28 (SIDEWALK DETOUR OR DIVERSION, TA-28) AND 6H-29 (CROSSWALK CLOSURES AND PEDESTRIAN DETOURS, TA-29).
THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS TO THE FRONT DOORS OF ALL STORES, OFFICES, RTA BUS STOPS, ETC., AS WELL AS ACCESS TO ALL RESIDENCES, DURING HIS/HER CONSTRUCTION, WITH TEMPORARY CONCRETE OR ASPHALT PAVEMENTS OR PEDESTRIAN BRIDGES. THE PEDESTRIAN BRIDGES ARE DETAILED ON THIS SHEET. EXISTING CONCRETE OR ASPHALT PAVEMENTS (PRIOR TO DEMOLITION) MAY BE USED FOR THE PURPOSES OF REROUTING PEDESTRIAN TRAFFIC. THESE PROVISIONS SHALL BE ADHERED TO TO MAINTAIN ACCESS TO BUILDING ENTRANCES AT ALL TIMES. TEMPORARY ACCESS TO ALL BUILDING ENTRANCES SHALL BE PROVIDED IMMEDIATELY UPON REMOVAL OF EXISTING PAVEMENT. IF A PORTION OF THE PEDESTRIAN WAY IS REROUTED DUE TO CONSTRUCTION, THE PATH OF TRAVEL SHALL BE CLEARLY DEFINED. THE CONTRACTOR SHALL SUBMIT A PEDESTRIAN ACCESS PLAN (INDICATING PEDESTRIAN ACCESS, LIMITATION, REROUTING AND NOTIFICATION) TO THE ENGINEER FOR REVIEW AND APPROVAL. "SIDEWALK CLOSED" SIGNS ON THE MAINTENANCE OF TRAFFIC PLANS REFER TO THE EXISTING SIDEWALKS AND DO NOT AUTHORIZE THE CONTRACTOR TO ELIMINATE PEDESTRIAN ACCESS TO ANY BUSINESSES OR RESIDENCES. THIS COST OF THIS WORK SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.



NOTES:

1) CONTRACTOR SHALL ESTABLISH A 5' WIDE PEDESTRIAN ZONE, INDICATED BY BARRICADES AND LIGHTS ALONG THE PORTION OF THE SITE UNDER CONSTRUCTION TO PROVIDE ACCESS TO TEMPORARY WOOD WALKWAYS.

2) RAMP AT BUILDING ENTRANCE MUST BE ADJUSTED TO ACCOMMODATE VARYING ENTRANCE CONDITIONS.

PEDESTRIAN TEMPORARY WALKWAYS (OR EQUAL)

SCALE: AS NOTED

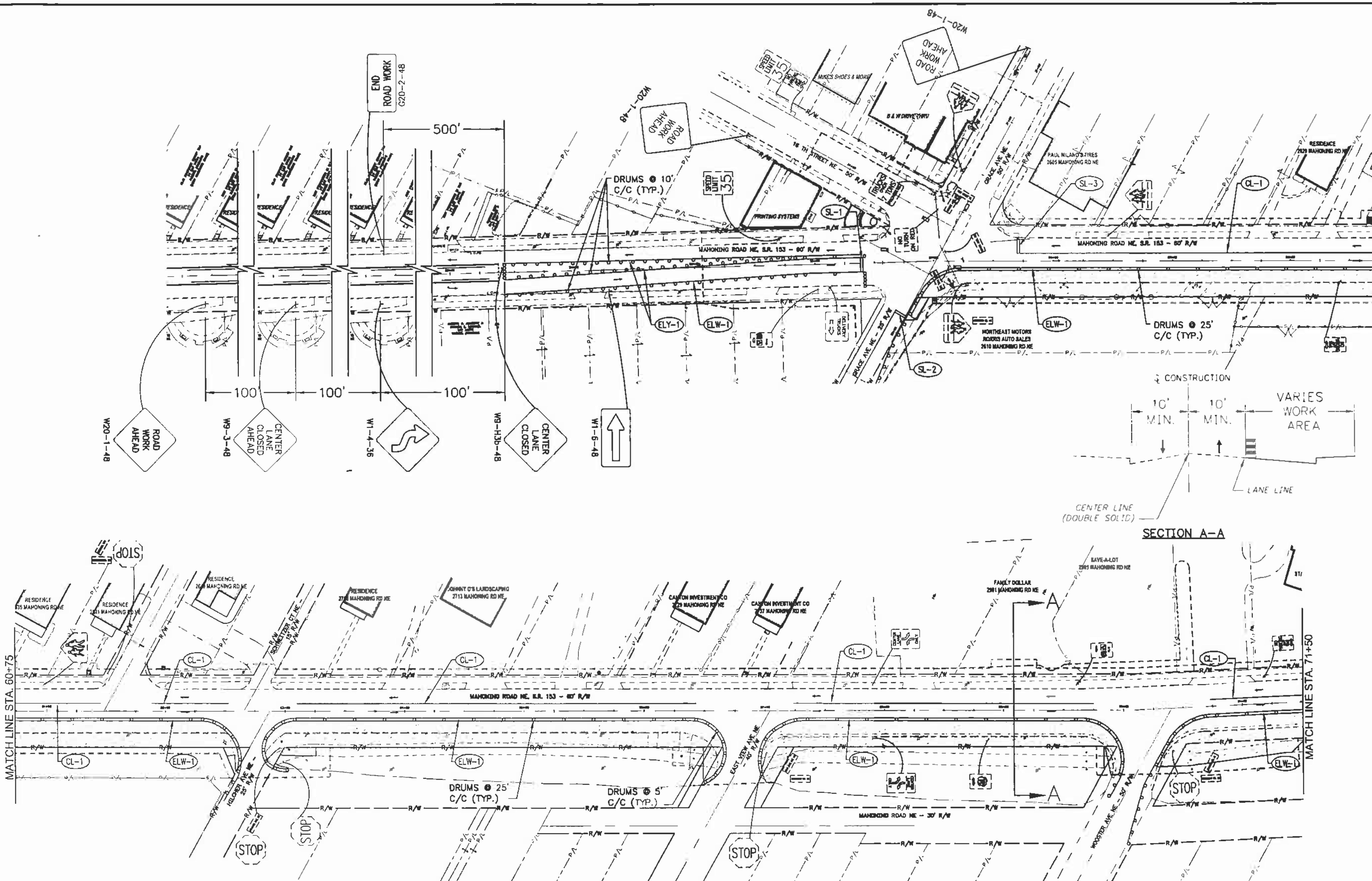
CALCULATED:
CHECKED:

MAINTENANCE OF TRAFFIC GENERAL NOTES

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



LEGEND:

- WORK AREA
- CONSTRUCTION LIMIT
- DRUMS
- DIRECTION OF TRAVEL

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

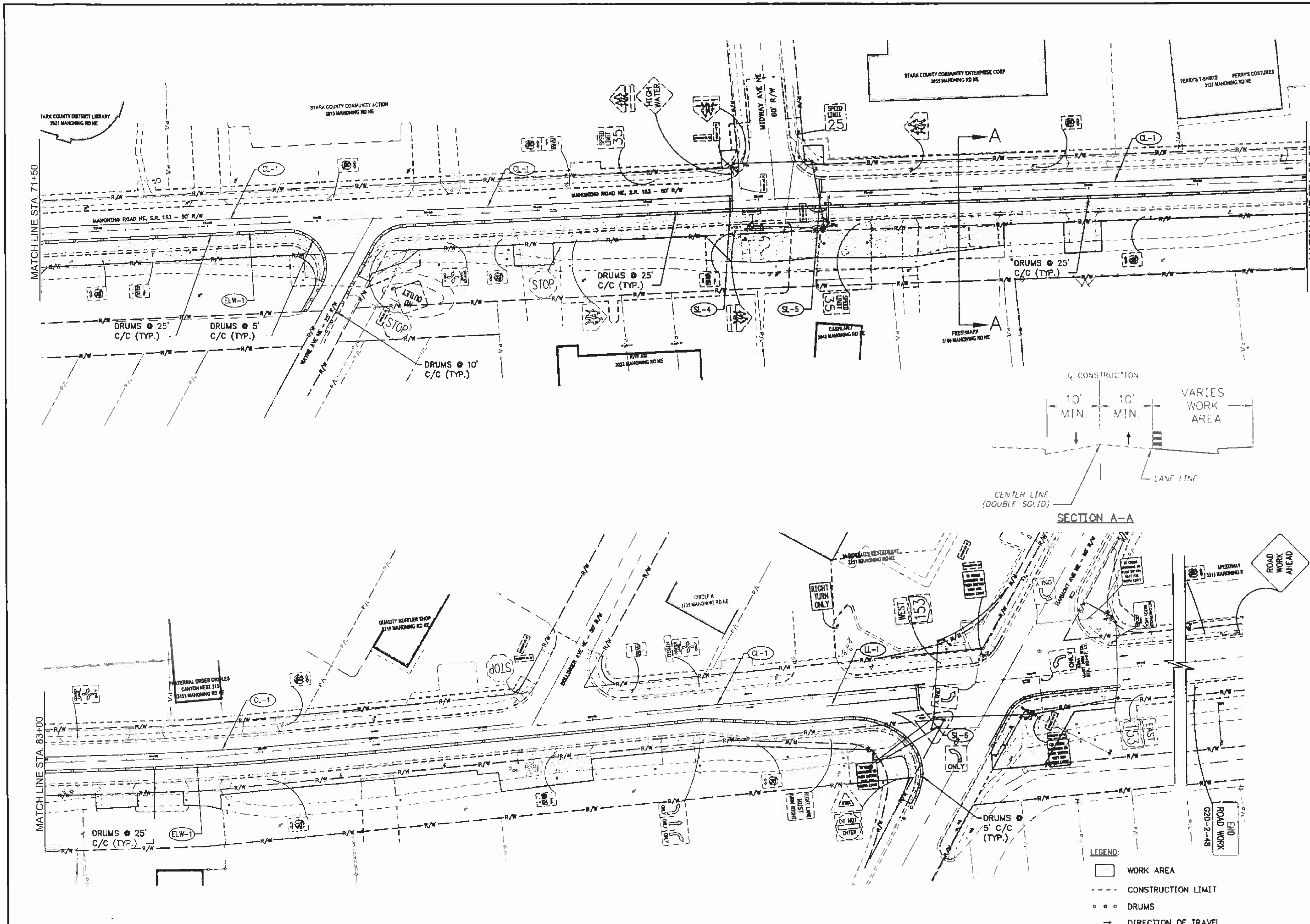
REVISIONS	DATE	BY

CALCULATED: SSA
CHECKED: JGG

HORIZONTAL SCALE 1"=40'
0 20' 40' 80'

MAINTENANCE OF TRAFFIC PHASE I

MAHONING ROAD NE
STA-0153-01.70



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

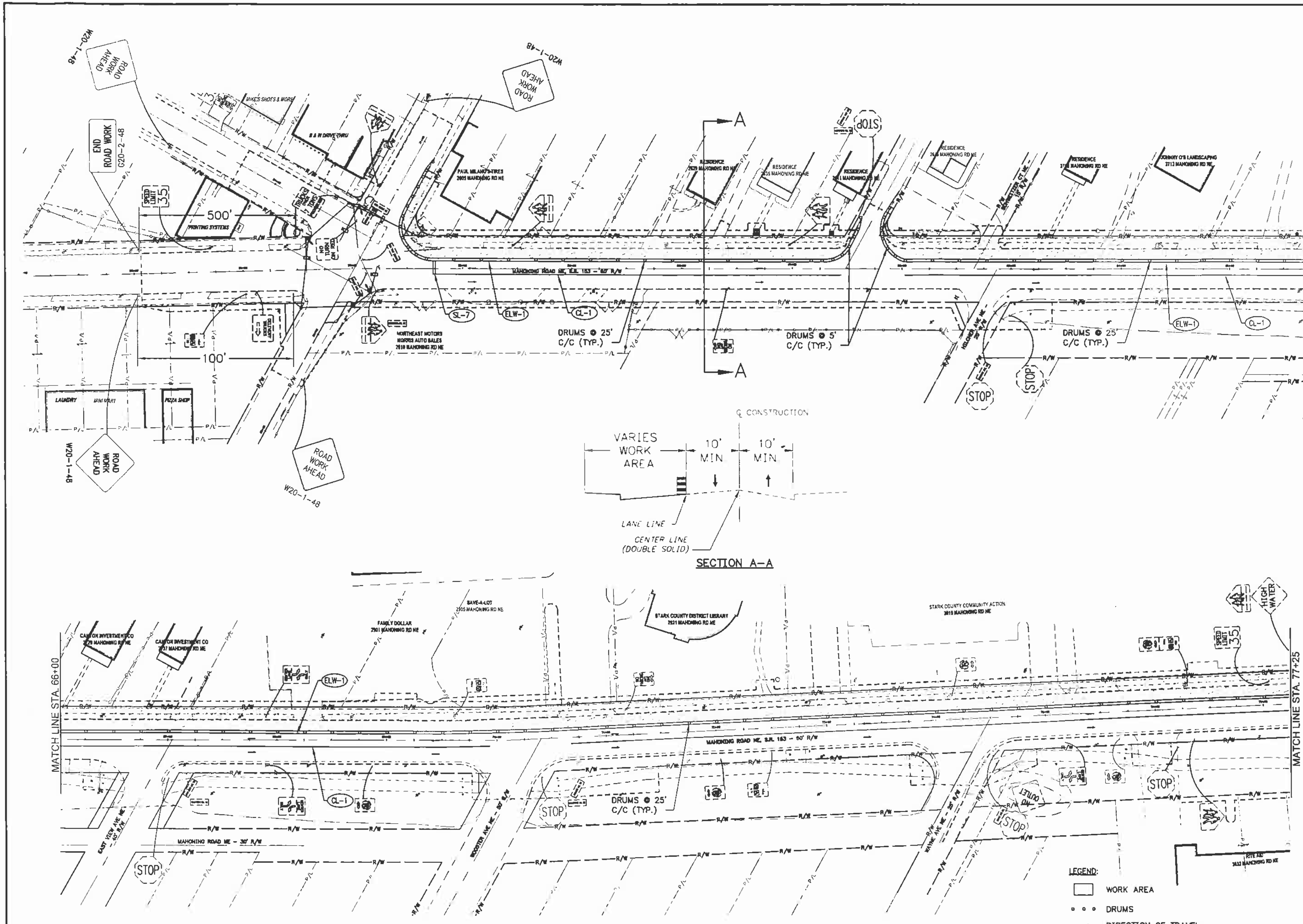
REVISIONS | DATE | BY

MAHONING ROAD NE
STA-0153-01.70

MAINTENANCE OF TRAFFIC
PHASE I

CALCULATED: SSA
CHECKED: JGG

HORIZONTAL SCALE 1"=40'
0 20' 40' 80'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

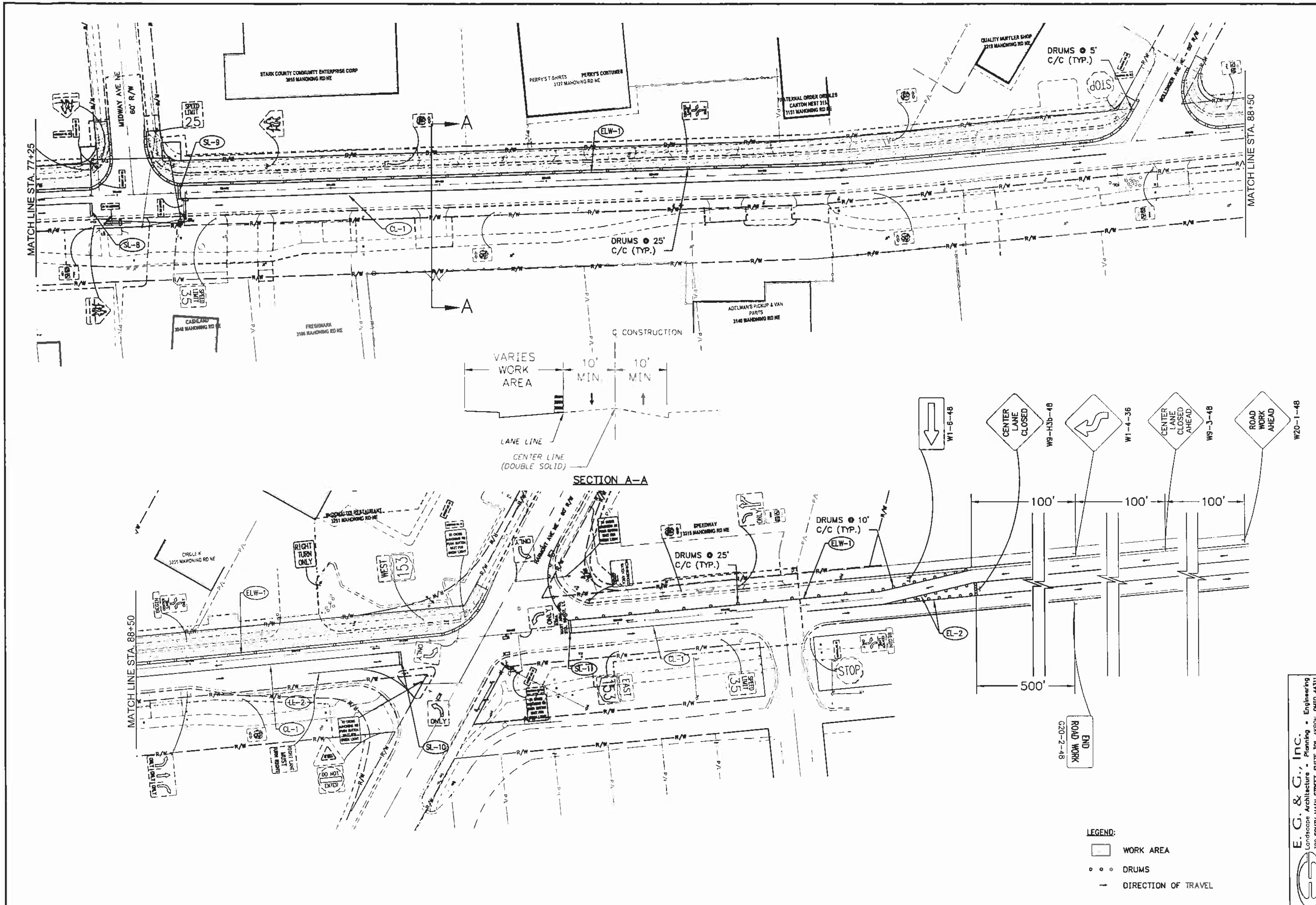
REVISIONS | DATE | BY

CALCULATED: SSA
CHECKED: JGG

0 20' 40' 80'
HORIZONTAL SCALE 1"=40'

MAINTENANCE OF TRAFFIC PHASE II

MAHONING ROAD NE STA-0153-01.70



HORIZONTAL SCALE 1"=40'

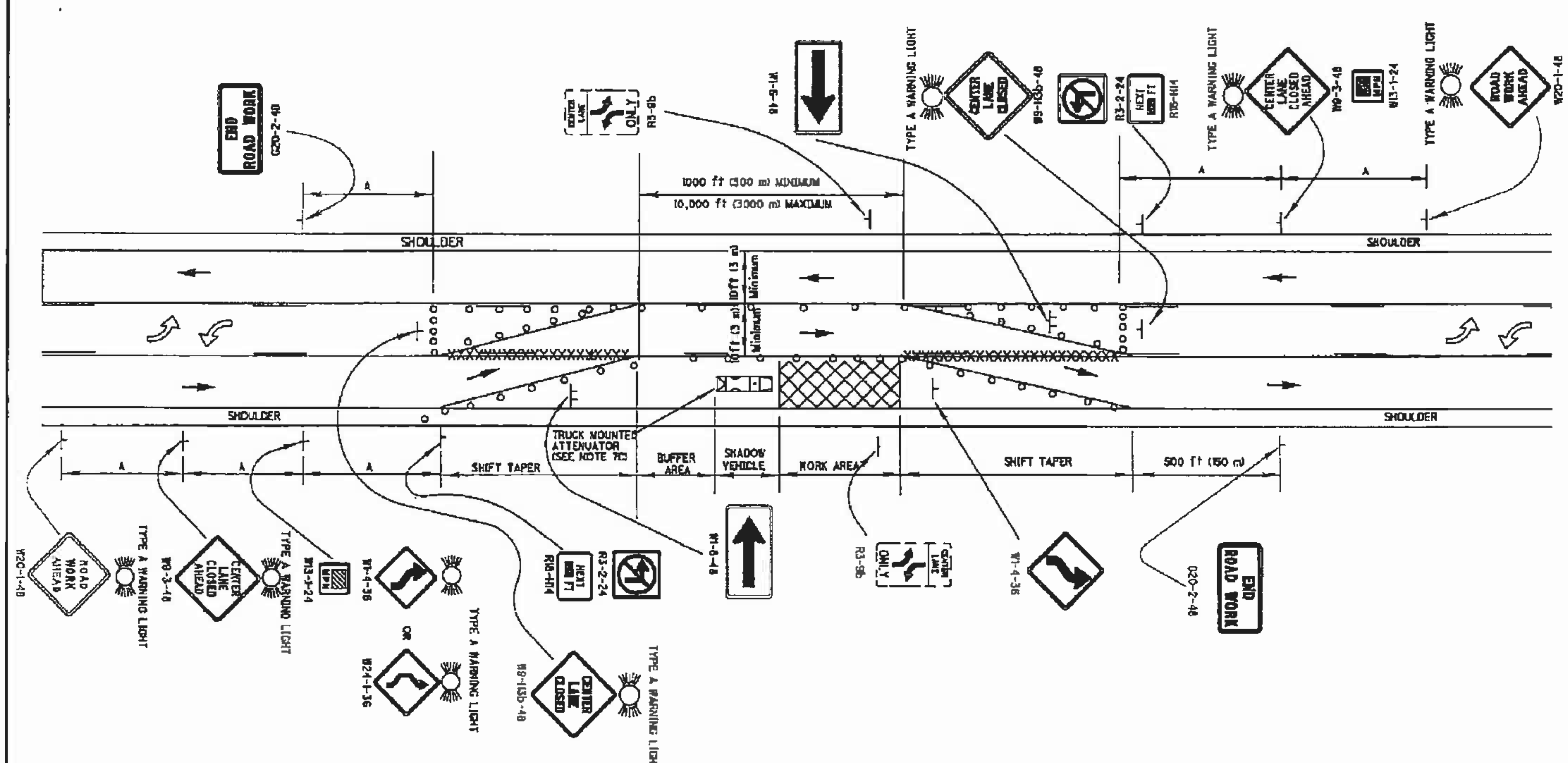
CALCULATED: SSA
CHECKED: JGG

REVISIONS | DATE | BY

MAINTENANCE OF TRAFFIC PHASE II

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 376-2790 FAX (330) 376-2791

MAHONING ROAD NE
STA-0153-01.70



LEGEND

- WORK AREA
- DRUMS
- 2-WAY LEFT-TURN MARKING
- SHADOW VEHICLE
- REMOVE EXISTING MARKINGS
- DIRECTION OF TRAVEL

TABLE I
(SIGN SPACING)

ROAD TYPE	MINIMUM DISTANCE FT(m) A
TWO-LANE ≤ 40 MPH	100 (30)
TWO-LANE 45-50 MPH	360 (100)
TWO-LANE 55 MPH	500 (150)

TABLE II

SPEED LIMIT (MPH)	SHIFT TAPER RATE MINIMUM	SHOULDER TAPER RATE MINIMUM	MAXIMUM DRUM SPACING FT (m)	BUFFER (D) FT (m) MINIMUM
25	11:1	4:1	25 (7.5)	155 (45)
30	15:1	5:1	30 (9)	200 (60)
35	21:1	7:1	35 (10.5)	250 (75)
40	27:1	9:1	40 (12)	305 (85)
45	46:1	15:1	40 (12)	360 (110)
50	50:1	17:1	40 (12)	425 (130)
55	55:1	18:1	40 (12)	495 (150)

MT-95.61 | OFFICE OF TRAFFIC ENGINEERING | CLOSURE OF THRU LANE OF THREE LANE SECTION WITH TWO-WAY LEFT TURN LANE | 01-16-09

1/2

SHB

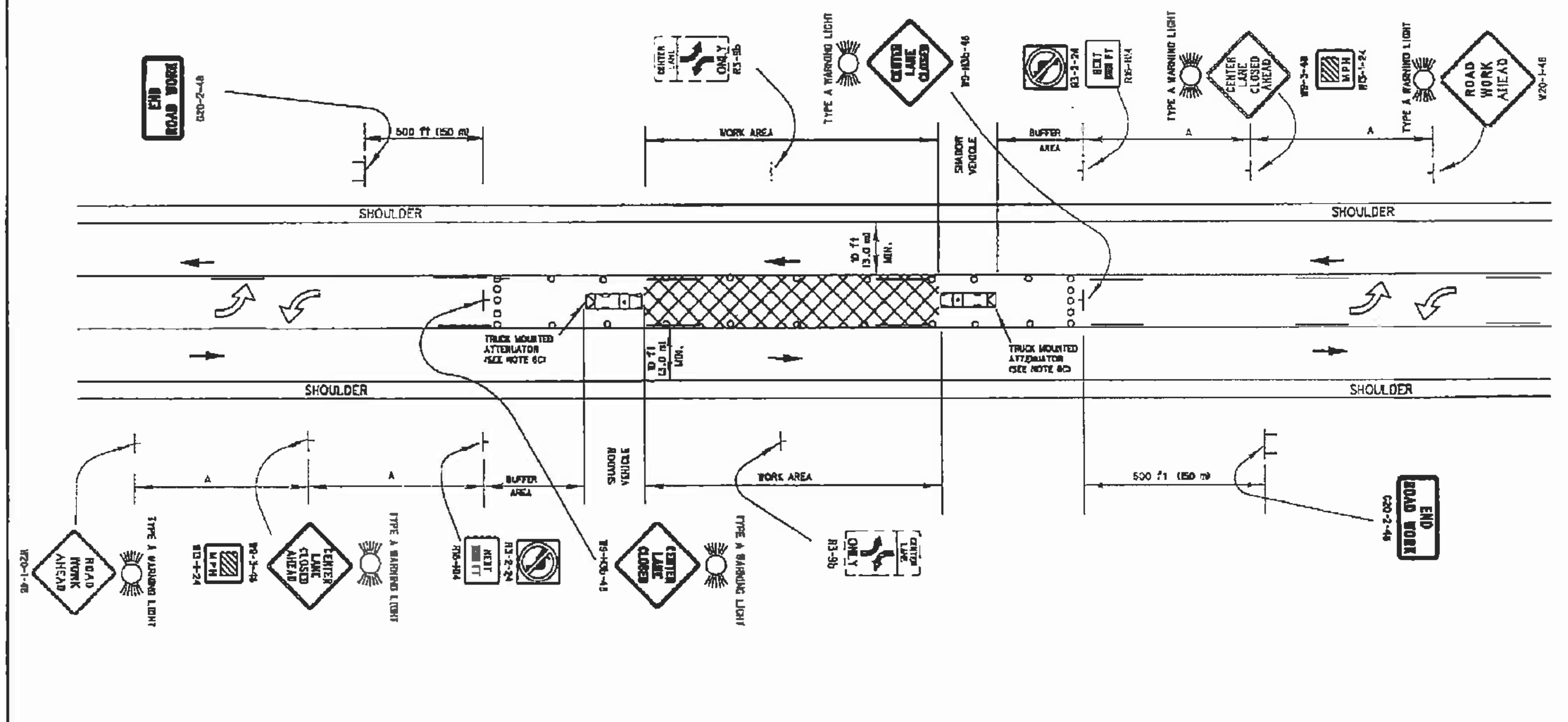
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

REVISIONS | DATE | BY

MAINTENANCE OF TRAFFIC DETAILS

CALCULATED:
CHECKED:



CLOSURE OF TWO-WAY LEFT TURN LANE

1-16-09

OFFICE OF TRAFFIC ENGINEERING

MT-95.60

1/2

LEGEND

WORK AREA	
DRUMS	
2-WAY LEFT-TURN MARKING	
SHADOW VEHICLE	
DIRECTION OF TRAVEL	

TABLE I (SIGN SPACING)

ROAD TYPE	MINIMUM DISTANCE FT(m) A
URBAN ≤40 MPH	100 (30)
URBAN 45–50 MPH	350 (100)
RURAL 55 MPH	500 (150)

TABLE II

SPEED LIMIT (MPH)	MAXIMUM DRUM SPACING FT (m)	BUFFER (B) FT (m) MINIMUM
25	25 (7.5)	155 (45)
30	30 (9)	200 (60)
35	35 (10.5)	250 (75)
40	40 (12)	305 (95)
45	40 (12)	380 (110)
50	40 (12)	425 (130)
55	40 (12)	495 (150)

SHB

CALCULATED:
CHECKED:

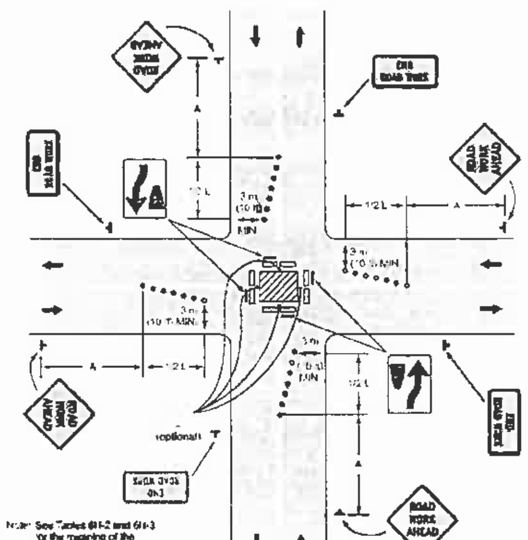
MAINTENANCE OF TRAFFIC DETAILS

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

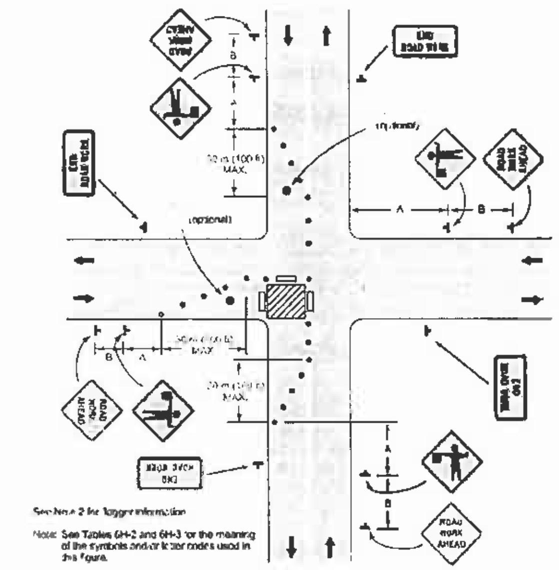
MAHONING ROAD NE
STA-0153-01.70

Figure 6H-26. Closure in Center of Intersection (TA-26)



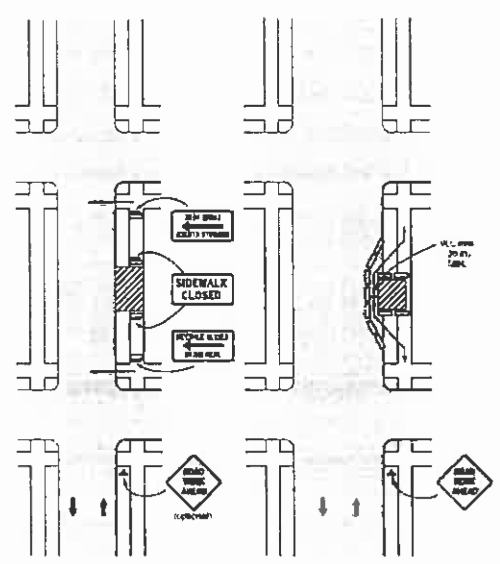
Typical Application 26

Figure 6H-27. Closure at Side of Intersection (TA-27)



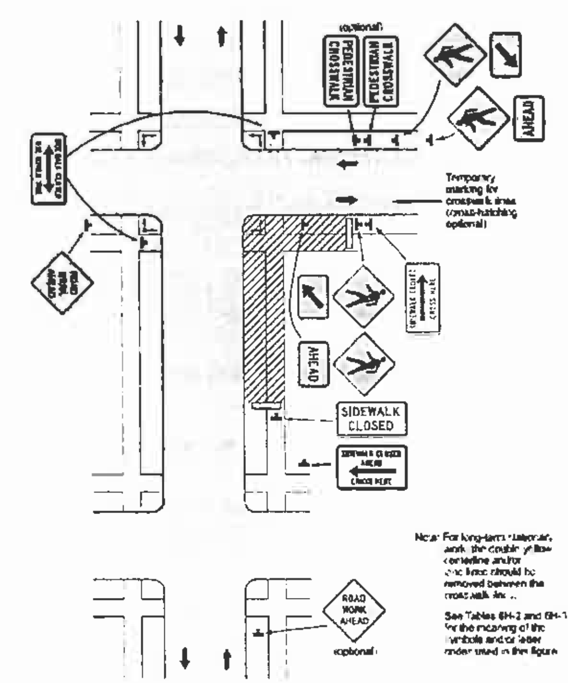
Typical Application 27

Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Figure 6H-29. Crosswalk Closures and Pedestrian Detours (TA-29)



Typical Application 29

LEGEND:

WORK AREA

DRUMS

DIRECTION OF TRAVEL

CALCULATED:

CHECKED:

MAINTENANCE OF TRAFFIC DETAILS

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

ITEM	SHEET NUMBER																				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	12	27	28	29	31	32	33	35	37	38																
																									ROADWAY	
201																					201	11001	LUMP		CLEARING AND GRUBBING AS PER PLAN	
202			1621																		202	23000	1521	SY	PAVEMENT REMOVED	
202										1765											202	23000	1765	SY	PAVEMENT REMOVED (DRIVEWAYS)	
202										177											202	23010	177	SY	PAVEMENT REMOVED ASPHALT	
202				21400																	202	30000	21400	SF	WALK REMOVED	
202		60																			202	30200	60	FT	STEPS REMOVED	
202		3136																			202	32000	3136	FT	CURB REMOVED	
202		4298																			202	32500	4298	FT	CURB AND GUTTER REMOVED	
202																					202	35100	351	FT	PIPE REMOVED 24" AND UNDER	
202																					202	35200	50	FT	PIPE REMOVED OVER 24"	
202																					202	58100	30	EACH	CATCH BASIN REMOVED	
202																					202	98100	5	EACH	REMOVAL MISC. BENCH	
202																					202	98100	8	EACH	REMOVAL MISC BOLLARD	
202																					202	98100	91	EACH	REMOVAL MISC POLE	
202																					202	98200	490	FT	REMOVAL MISC FENCE	
203																					203	10000	330	CY	EXCAVATION	
203																					203	20000	440	CY	EMBANKMENT	
204								5467		1903											204	10000	7370	SY	SUBGRADE COMPACTION	
204																					204	45000	4	HOUR	PROOF ROLLING	
608							5														608	40000	5	FT	CONCRETE STEPS TYPE A	
608							10														608	41000	10	FT	CONCRETE STEPS TYPE B	
608							38														608	49001	38	EACH	CURB RAMP AS PER PLAN	
608									6736												608	98000	6736	SF	WALKWAY MISC 2-1/4" BRICK WALKWAY PAVERS	
608									6736												608	98000	6736	SF	WALKWAY MISC BRICK BOX FORM	
																									EROSION CONTROL	
653	65																				653	10000	65	CY	TOPSOIL FURNISHED AND PLACED	
659	2																				659	00100	2	EACH	SOIL ANALYSIS TEST	
659	750																				659	00500	750	SY	SEEDING AND MULCHING CLASS 1	
659	50																				659	14000	50	SY	REPAIR SEEDING AND MULCHING	
659	50																				659	15000	50	SY	INTER-SEEDING	
659	0.10																				659	20000	0.10	TON	COMMERCIAL FERTILIZER	
659	0.15																				659	31000	0.15	ACRE	LIME	
659	2																				659	35000	2	MGAL	WATER	
659	2																				659	40000	2	MSF	MOWING	
832	LUMP																				832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
832	10000																				832	30000	10000	EACH	EROSION CONTROL	
																									DRAINAGE	
603	50																				603	00100	50	FT	4" CONDUIT TYPE B FOR DRAINAGE CONNECTION	
603	50																				603	00200	50	FT	4" CONDUIT TYPE C FOR DRAINAGE CONNECTION	
603																					603	00510	595	FT	6" CONDUIT TYPE F FOR UNDERDRAIN OUTLETS	
603	50																				603	00900	50	FT	6" CONDUIT TYPE B FOR DRAINAGE CONNECTION	
603	50																				603	01100	50	FT	6" CONDUIT TYPE C FOR DRAINAGE CONNECTION	
603					12																603	01101	12	FT	6" CONDUIT TYPE C 707.33 AS PER PLAN	
603	50																				603	01800	50	FT	8" CONDUIT TYPE B FOR DRAINAGE CONNECTION	
603					25																603	01801	25	FT	8" CONDUIT TYPE B 707.33 AS PER PLAN	
603	50																				603	02000	50	FT	8" CONDUIT TYPE C FOR DRAINAGE CONNECTION	
603	50																				603	04400	50	FT	12" CONDUIT TYPE B FOR DRAINAGE CONNECTION	
603					132																603	04401	132	FT	12" CONDUIT TYPE B 707.33 AS PER PLAN	
603	50																				603	04800	50	FT	12" CONDUIT TYPE C FOR DRAINAGE CONNECTION	
603					154																603	05901	154	FT	15" CONDUIT TYPE B 707.33 AS PER PLAN	
603					19																603	07401	19	FT	18" CONDUIT TYPE B 707.33 AS PER PLAN	
603					8																603	10401	8	FT	24" CONDUIT TYPE B 707.33 AS PER PLAN	
604					15																604	00401	15	EACH	CATCH BASIN NO 3 AS PER PLAN	
604					3																604	02001	3	EACH	CATCH BASIN NO 6 AS PER PLAN	
604					1																604	04501	1	EACH	CATCH BASIN NO 2-2B AS PER PLAN	
604					10																604	08600	10	EACH	CATCH BASIN MISC CITY STD DWG #1	
604					10																604	09000	10	EACH	CATCH BASIN ADJUSTED TO GRADE	
604					22																604	34501	22	EACH	MANHOLE ADJUSTED TO GRADE AS PER PLAN	
604					1																604	35501	1	EACH	MANHOLE RECONSTRUCTED TO GRADE AS PER PLAN	
604	15000																				604	50000	15000	LB	SPECIAL - MISCELLANEOUS METAL	
605						7544															605	11111	7544	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP 707.33 AS PER PLAN	

CALCULATED MAT
CHECKED DAG

GENERAL SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301 AKRON, OHIO 44311
(330) 379-2730 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153 ECONOMIC DEVELOPMENT PROJECT

ITEM	SHEET NUMBER																						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	26	28	34	35	37	38	41	43	104	105	106	107	108	109	110													
																											PAVEMENT	
254				18316																			254	01000	18316	SY	PAVEMENT PLANING ASPHALT CONCRETE	
255		7751																					255	20000	7751	FT	FULL DEPTH PAVEMENT SAWING	
301						19																	301	48000	19	CY	ASPHALT CONCRETE BASE PG64-22 (DRIVEWAYS)	
304				656	380																		304	20001	1036	CY	AGGREGATE BASE AS PER PLAN	
305				906																			305	14000	906	SY	10" CONCRETE BASE	
407				1881		3																	407	10000	1884	GAL	TACK COAT	
407				941																			407	14000	941	GAL	TACK COAT FOR INTERMEDIATE COURSE	
448				784																			448	46050	784	CY	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG64-22	
448																							448	46050	261	CY	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2 PG64-22 (LEVELING COURSE)	
424				392																			424	10000	392	CY	FINE GRADED POLYMER ASPHALT CONCRETE TYPE A	
448						1																	448	48020	1	CY	ASPHALT CONCRETE SURFACE COURSE TYPE 1 PG64-22 (DRIVEWAYS)	
452																							452	10001	345	SY	5" NON-REINFORCED CONCRETE PAVEMENT AS PER PLAN	
452						1903																	452	12001	1903	SY	8" NON-REINFORCED CONCRETE PAVEMENT AS PER PLAN	
452				89																			452	14001	89	SY	10" NON-REINFORCED CONCRETE PAVEMENT AS PER PLAN	
452				4360																			452	17250	4360	SF	NON-REINFORCED CONCRETE PAVEMENT MISC ROADWAY BRICK PAVERS	
608					30757																		608	12001	30757	SF	5" CONCRETE WALK AS PER PLAN	
609			373																				609	12001	373	FT	COMBINATION CURB AND GUTTER TYPE 2 AS PER PLAN	
609			7171																				609	26001	7171	FT	CURB TYPE 6 AS PER PLAN	
																											TRAFFIC CONTROL	
630								4															630	03100	4	FT	GROUND MOUNTED SUPPORT NO 3 POST	
630								4															630	04100	4	FT	GROUND MOUNTED SUPPORT NO 4 POST	
630																							630	79100	10	EACH	SIGN HANGER ASSEMBLY MAST ARM	
630								18															630	79500	18	EACH	SIGN SUPPORT ASSEMBLY POLE MOUNTED	
630								104															630	80100	104	SF	SIGN FLAT SHEET	
630								2															630	80500	2	EACH	SIGN DOUBLE FACED STREET NAME	
630	50																						630	84900	50	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
630	37																						630	86002	37	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
630	20																						630	87500	20	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
630	8																						630	87520	8	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	
630	10																						630	89702	10	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
646							7432																646	10200	7432	MILE	CENTER LINE	
646							652																646	10300	652	FT	CHANNELIZING LINE	
646							1159																646	10400	1159	FT	STOP LINE	
646							291																646	10500	291	FT	CROSSWALK LINE	
646							44																646	20300	44	EACH	LANE ARROW	
																											LIGHTING	
625									5	10	9	12	7	11	10	6							625	00500	70	EACH	CONNECTOR KIT TYPE II 1 POLE	
625									5	10	9	12	7	11	10	6							625	00500	70	EACH	CONNECTOR KIT TYPE II 2 POLE	
625									5	10	9	12	7	11	10	6							625	00600	70	EACH	CONNECTOR KIT TYPE III	
625									5	10	9	12	7	11	10	6							625	10481	70	EACH	LIGHT POLE DECORATIVE AS PER PLAN	
625									5	10	9	12	7	11	10	6							625	14600	70	EACH	LIGHT POLE FOUNDATION MISC 30" x 6' DEEP	
625									3597	5613	4274	7138	3506	5880	4807	4785							625	22990	39600	FT	NO 8 AWG 600 VOLT DISTRIBUTION CABLE	
625									87			96		81		66							625	23400	330	FT	NO. 10 AWG PHOTOCELL CABLE	
625									450	900	810	1080	630	990	900	540							625	23410	6300	FT	NO 12 AWG POLE AND BRACKET CABLE	
625									776	1000	900	1166	1000	1056	1007	865							625	25402	7770	FT	CONDUIT 2" 725 05	
625									4	10	9	11	7	10	10	5							625	27551	66	EACH	LUMINAIRE DECORATIVE TYPE A AS PER PLAN	
625									1			1		1		1							625	27551	4	EACH	LUMINAIRE DECORATIVE TYPE B AS PER PLAN	
625									570	908	838	973	957	1010	926	573							625	29000	6755	FT	TRENCH	
625									206	92	62	193	63	46	81	292							625	29401	1035	FT	TRENCH IN PAVED AREAS AS PER PLAN	
625									2			2		2									625	31600	8	EACH	PULL BOX MISC 13" x 24	
625									5	10	9	12	7	11	10	6							625	32001	70	EACH	GROUND ROD AS PER PLAN	
625									1			1		1		1							625	34001	4	EACH	POWER SERVICE AS PER PLAN	

CHECKED MAT
DRAWN DAG

GENERAL SUMMARY

E. C. & G., Inc.
Engineering • Planning • Landscape Architecture
388 South Main Street Suite 300 Akron, OHIO 44311
(330) 375-2770 FAX (330) 375-2731

MAHONING ROAD NE. S.R. 153 ECONOMIC DEVELOPMENT PROJECT

ITEM	13	14	22	44	104	105	106	107	108	109	110	111	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	SHEET NUMBER																	
625					776	1000	900	1166	1020	1056	1007	865	625	36000	7790	FT	PLASTIC CAUTION TAPE	
																	STREETSCAPE	
661				475									661	31003	475	GAL	LANDSCAPE WATERING	
661				19									661	40120	19	EACH	DECIDUOUS TREE 3" CALIPER (CLEVELAND SELECT PEAR)	
SPECIAL				19									SPECIAL	69098000	19	EACH	MISC TREE GRATE	
																	MAINTENANCE OF TRAFFIC	
410	50												410	12000	50	CY	TRAFFIC COMPACTED SURFACE TYPE A OR B	
608	3000												608	20000	3000	SF	2" ASPHALT CONCRETE WALK	
614	160												614	11100	160	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614	160												614	11200	160	HOUR	LAW ENFORCEMENT OFFICER	
614													614	12420		LS	DETOUR SIGNING	
614	50												614	13000	50	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
614		10											614	18000	10	EACH	MAINTAINING TRAFFIC MISC BUSINESS SIGN	
614			0 04										614	20100	0 04	MILE	WORK ZONE LANE LINE CLASS I 642 PAINT	
614			1 00										614	20500	1.00	MILE	WORK ZONE LANE LINE CLASS II 642 PAINT	
614	1.05												614	21100	1 05	MILE	WORK ZONE CENTER LINE CLASS I 642 PAINT	
614	1 00												614	21500	1 00	MILE	WORK ZONE CENTER LINE CLASS II 642 PAINT	
614			3 37										614	22100	3 37	MILE	WORK ZONE EDGE LINE CLASS I 642 PAINT	
614 00	120		120										614	26200	240	FT	WORK ZONE STOP LINE CLASS I 642 PAINT	
616	15												616	10000	15	MGAL	WATER	
616	2												616	20000	2	TON	CALCIUM CHLORIDE	
																	MISC	
614													614	11000	LUMP		MAINTAINING TRAFFIC	
619													619	16020	12	MNTH	FIELD OFFICE TYPE C	
623													623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
624													624	10000	LUMP		MOBILIZATION	
SPECIAL	200												SPECIAL		200	CY	EXTRA PAYMENT FOR CLASS MS CONCRETE	
SPECIAL	200												SPECIAL		200	CY	EXTRA PAYMENT FOR CLASS FS CONCRETE	

CALCULATED MAT
CHECKED DAG

GENERAL SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153 ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF POLE MOUNTED SIGN AND REERCTION	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL
						EACH	EACH	EACH	EACH	EACH
88	1	MAHONING RD. NE S.R. 153	57+02	LT	SPECIAL			1		
88	2	MAHONING RD. NE S.R. 153	57+02	LT	R23				1	
88	3	MAHONING RD. NE S.R. 153	57+12	LT	D3-1	2	1			
88	4	MAHONING RD. NE S.R. 153	57+22	RT	D3-1				2	
88	5	MAHONING RD. NE S.R. 153	57+22	RT	W81					1
88	5	MAHONING RD. NE S.R. 153	57+22	RT	D3-1					1
88	6	MAHONING RD. NE S.R. 153	58+46	LT	W81					1
89	7	MAHONING RD. NE S.R. 153	60+41	RT	R7-1-12					1
89	8	MAHONING RD. NE S.R. 153	60+98	LT	W82					1
89	8	MAHONING RD. NE S.R. 153	61+51	LT	R1-1-30	1	1			
89	9	MAHONING RD. NE S.R. 153	61+51	LT	D3-1	2				
89	10	MAHONING RD. NE S.R. 153	62+96	RT	R1-1-30	1	1			
89	10	MAHONING RD. NE S.R. 153	62+96	RT	D3-1	1				
89	11	MAHONING RD. NE S.R. 153	62+98	RT	R1-1-30	1	1			
90	12	MAHONING RD. NE S.R. 153	67+01	RT	R1-1-30	1	1			
90	12	MAHONING RD. NE S.R. 153	67+01	RT	D3-1	2				
90	13	MAHONING RD. NE S.R. 153	67+90	RT	R48	1	1			
90	14	MAHONING RD. NE S.R. 153	67+90	LT	R48	1	1			
90	15	MAHONING RD. NE S.R. 153	68+87	RT	R7-2a	1	1			
91	16	MAHONING RD. NE S.R. 153	69+62	LT	SPECIAL			1		
91	17	MAHONING RD. NE S.R. 153	70+40	RT	R1-1-30	1	1			
91	17	MAHONING RD. NE S.R. 153	70+40	RT	D3-1	2				
91	18	MAHONING RD. NE S.R. 153	71+20	LT	R7-1-12					1
91	19	MAHONING RD. NE S.R. 153	72+03	RT	R7-2a	1	1			
91	20	MAHONING RD. NE S.R. 153	72+49	RT	SPECIAL		1	1		
91	21	MAHONING RD. NE S.R. 153	74+16	LT	R7-2a	1	1			
91	22	MAHONING RD. NE S.R. 153	74+57	RT	R1-1-30	1	1			
91	22	MAHONING RD. NE S.R. 153	74+57	RT	D3-1	1				
91	22	MAHONING RD. NE S.R. 153	74+57	RT	W48	1				
92	23	MAHONING RD. NE S.R. 153	75+17	RT	R48	1	1			
92	24	MAHONING RD. NE S.R. 153	75+66	RT	R7-2a	1	1			
92	25	MAHONING RD. NE S.R. 153	76+19	RT	R1-1-30	1	1			
92	26	MAHONING RD. NE S.R. 153	76+30	LT	R7-2a	1	1			
92	26	MAHONING RD. NE S.R. 153	76+30	LT	SPECIAL			1		
92	27	MAHONING RD. NE S.R. 153	76+34	RT	W82	1	1			
92	28	MAHONING RD. NE S.R. 153	77+07	LT	R10	1	1			
92	29	MAHONING RD. NE S.R. 153	77+75	RT	SPECIAL		1	1		
92	30	MAHONING RD. NE S.R. 153	77+77	LT	W81	1	1			
92	30	MAHONING RD. NE S.R. 153	77+77	LT	W74	1				
92	31	MAHONING RD. NE S.R. 153	77+78	RT	W81					1
92	32	MAHONING RD. NE S.R. 153	77+78	RT	D3-1				1	
92	33	MAHONING RD. NE S.R. 153	77+84	LT	D3-1					2
92	34	MAHONING RD. NE S.R. 153	77+84	LT	D3-1				1	
92	35	MAHONING RD. NE S.R. 153	77+88	LT	W81	1	1			
92	36	MAHONING RD. NE S.R. 153	78+83	LT	R10					1
92	37	MAHONING RD. NE S.R. 153	78+82	RT	D3-1				1	
92	38	MAHONING RD. NE S.R. 153	78+91	RT	R10	1	1			
92	39	MAHONING RD. NE S.R. 153	79+40	LT	W82					1
93	40	MAHONING RD. NE S.R. 153	80+35	LT	R7-2a	1	1			
93	41	MAHONING RD. NE S.R. 153	81+50	RT	R7-2a	1	1			
93	42	MAHONING RD. NE S.R. 153	83+31	LT	R48	1	1			
94	43	MAHONING RD. NE S.R. 153	85+02	RT	R7-2a	1	1			
94	44	MAHONING RD. NE S.R. 153	85+23	LT	R7-2a	1	1			
94	45	MAHONING RD. NE S.R. 153	87+44	LT	R1-1-30	1	1			
94	45	MAHONING RD. NE S.R. 153	87+44	LT	D3-1	1				
94	46	MAHONING RD. NE S.R. 153	87+62	RT	SPECIAL			1		
94	47	MAHONING RD. NE S.R. 153	88+38	LT	SPECIAL			1		
		TOTAL THIS COLUMN				39	29	7	6	11

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF POLE MOUNTED SIGN AND REERCTION	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL
						EACH	EACH	EACH	EACH	EACH
94	48	MAHONING RD. NE S.R. 153	88+95	RT	R31M	1	1			
94	49	MAHONING RD. NE S.R. 153	88+90	LT	RP48	1	1			
94	49	MAHONING RD. NE S.R. 153	88+90	LT	R48	1				
94	50	MAHONING RD. NE S.R. 153	88+48	RT	R7-2a	1	1			
95	51	MAHONING RD. NE S.R. 153	90+13	RT	R32R	1	1			
95	52	MAHONING RD. NE S.R. 153	90+76	RT	R2	1	1			
95	52	MAHONING RD. NE S.R. 153	90+76	RT	R41B	1				
95	53	MAHONING RD. NE S.R. 153	91+09	RT	SPECIAL					1
95	54	MAHONING RD. NE S.R. 153	91+09	RT	R26A				1	
95	55	MAHONING RD. NE S.R. 153	91+20	LT	M40	1	1			
95	55	MAHONING RD. NE S.R. 153	91+20	LT	M2-3	1				
95	56	MAHONING RD. NE S.R. 153	91+59	LT	SPECIAL					1
95	56	MAHONING RD. NE S.R. 153	91+59	LT	D3-1					2
95	57	MAHONING RD. NE S.R. 153	91+59	LT	R26A				1	
95	58	MAHONING RD. NE S.R. 153	92+07	RT	SPECIAL					1
95	58	MAHONING RD. NE S.R. 153	92+07	RT	D3-1					2
95	59	MAHONING RD. NE S.R. 153	92+07	RT	R26A				1	
95	60	MAHONING RD. NE S.R. 153	92+55	LT	R26A				1	
95	61	MAHONING RD. NE S.R. 153	92+55	LT	SPECIAL					1
95	62	MAHONING RD. NE S.R. 153	92+75	LT	SPECIAL					1
95	63	MAHONING RD. NE S.R. 153	93+61	LT	R7-2a	1	1			
95	64	MAHONING RD. NE S.R. 153	94+14	LT	R31A	1	1			
95	64	MAHONING RD. NE S.R. 153	94+14	LT	SPECIAL			1		
		TOTAL THIS COLUMN				11	8	1	4	9
		TOTAL FROM LEFT COLUMN				39	29	7	6	11
		TOTAL CARRIED TO GENERAL SUMMARY				50	37	8	10	20

CALCULATED PAH
CHECKED CJO

TRAFFIC CONTROL
EXISTING SIGN SUB-SUMMARY

E. G. & G., Inc.
Consulting Architecture • Planning • Engineering
1468 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44301
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	STATION						202 STEPS REMOVED	202 CURB REMOVED	202 CURB & GUTTER REMOVED
		FROM			TO			FT	FT	FT
		STA.	OFFSET	SIDE	STA.	OFFSET	SIDE			
55	R-1	57+47.0	48.4'	LT	60+00	18.4'	LT		272	
55	R-2	56+87.78	47.3'	RT	60+00	18.1'	RT		326	
56	R-3	60+00	18.4'	LT	61+53.97	28.7'	LT		159	
56	R-4	60+00	18.1'	RT	62+59.11	49.5'	RT		287	
56	R-5	60+67.42	30.4'	LT				36		
56	R-6	61+35.45	30.4'	LT				12		
56	R-7	61+87.81	48.0'	LT	65+00	18.4'	LT		339	
56	R-8	63+02.63	47.3'	RT	65+00	17.7'	RT		245	
56	R-9	63+36.14	30.0'	LT				4		
57	R-10	65+00	18.4'	LT	69+50	17.6'	LT		450	
57	R-11	65+00	17.7'	RT	66+49.14	61.6'	RT		197	
57	R-12	66+07.29	29.8'	LT				4		
57	R-13	66+84.0	37.2'	LT				4		
57	R-14	66+97.35	56.2'	RT	69+50	21.6'	RT			281
58	R-15	69+50	17.6'	LT	75+00	18.7'	LT		549	
58	R-16	69+50	21.6'	RT	69+89.61	55.4'	RT			64
58	R-17	70+27.86	48.2'	RT	73+97.53	52.9'	RT			404
58	R-18	74+35.0	50.7'	RT	75+00	21.0'	RT			78
59	R-19	75+00	18.7'	LT	77+94.59	48.7'	LT		312	
59	R-20	75+00	21.0'	RT	80+00	21.2'	RT			500
59	R-21	76+30.90	57.4'	LT	80+00	18.0'	LT			185
60	R-22	80+00	18.0'	LT	85+00	17.2'	LT			499
60	R-23	80+00	21.2'	RT	85+00	21.8'	RT			501
61	R-24	85+00	17.2'	LT	87.50.45	34.6'	LT			256
61	R-25	85+00	21.8'	RT	90+00	18.8'	RT			502
61	R-26	88+05.34	61.2'	LT	90+00	34.3'	LT			231
62	R-27	90+00	34.3'	LT	91+74.86	35.0'	LT			182
62	R-28	90+00	16.8'	RT	90+77.11	102.0'	RT			142
62	R-29	90+91.55	27.1'	RT	91+25.43	24.6'	RT			102
62	R-30	91+70.90	42.6'	RT	92+72.42	19.1'	RT			111
62	R-31	92+55.77	81.4'	LT	94+50.01	20.2'	LT			259
		TOTALS CARRIED TO GENERAL SUMMARY						60	3136	4298

CALCULATED PAH
CHECKED CJO

ROADWAY REMOVAL SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET SUITE 301, AKRON, OHIO 44311
(330) 374-2750 • FAX (330) 374-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

STATION		SIDE	LENGTH	AVERAGE WIDTH	AREA	PAVEMENT REMOVED (202)	FULL DEPTH PAVEMENT SAWING (255)		
FROM	TO		L	W	A	A/9	FT		
						SY			
TOTAL THIS COLUMN									

STATION		SIDE	LENGTH	AVERAGE WIDTH	AREA	PAVEMENT REMOVED (202)	FULL DEPTH PAVEMENT SAWING (255)		
FROM	TO		L	W	A	A/9	FT		
						SY			
MAHONING ROAD N.E. S.R. 153									
57+68.01	61+54.67	LT	465.66	1.00	466	52	465.66		
56+82.78	62+59.11	RT	614.68	1.00	615	68	614.68		
61+87.02	77+94.59	LT	1650.90	1.00	1651	183	1650.90		
63+02.63	68+51.26	RT	433.73	1.00	434	48	433.73		
67+07.16	69+84.77	RT	367.25	1.00	367	41	367.25		
70+20.19	73+97.55	RT	428.79	1.00	429	48	428.79		
74+34.48	90+77.11	RT	1722.29	1.00	1722	191	1722.29		
78+30.41	87+52.01	LT	954.07	1.00	954	106	954.07		
88+13.03	91+74.66	LT	423.20	1.00	423	47	423.20		
90+66.74	91+26.57	RT	115.32	1.00	115	13	115.32		
91+70.90	92+72.42	RT	109.74	1.00	110	12	109.74		
92+55.61	94+58.01	LT	258.66	1.00	259	29	258.66		
CONCRETE/BRICK INTERSECTION - (CADD CALCULATED)									
91+18.81	92+70.41	LT/RT			7045	783	207		
TOTAL THIS COLUMN						1621	7751.29		
TOTAL FROM LEFT COLUMN									
TOTAL CARRIED TO GENERAL SUMMARY						1621	7751.29		

CALCULATED PAH
CHECKED CJO

ROADWAY REMOVAL SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

STATION		SIDE	LENGTH	AVERAGE WIDTH	AREA	202 WALK REMOVED			
FROM	TO		L	W	A	A			
					CADD CALC.	SF			
TOTAL THIS COLUMN									

STATION		SIDE	LENGTH	AVERAGE WIDTH	AREA	202 WALK REMOVED			
FROM	TO		L	W	A	A			
57+03.78	57+42.17	RT	42.69	3.50	149.37	149.37			
57+67.41	59+68.29	LT	252.90	6.34	1603.75	1603.75			
59.80.77	60+28.33	LT	47.56	4.52	214.93	214.93			
60+46.38	61+53.97	LT	107.58	4.87	523.93	523.93			
57+94 32	58+65.58	RT	71.26	12.89	918.73	918 73			
59+05.57	59+23.05	RT	17.48	11.27	197.03	197.03			
59+65.23	61+75.00	RT	209.77	11.10	2327.56	2327.56			
61+85.75	62+72.14	LT	86.39	3.58	309.33	309.33			
63+00.00	63+83.90	LT	83.90	4.81	403.43	403.43			
62+92.32	63+25.53	RT	39.47	9.46	373.49	373.49			
64+32.23	64+52.38	LT	20.15	4.88	98.27	98.27			
64+83.70	65+26.31	LT	42.61	4.47	190.64	190.64			
65+52.26	65+66.16	LT	13.90	4.34	60.28	60.28			
65+80.65	67+03.47	LT	122.82	4.78	587.68	587 68			
67+22.62	68+15.94	LT	93.32	4.80	448.07	448.07			
68+41.63	70+60.65	LT	219.02	3.79	829.86	829.86			
70+51.56	71+39.72	RT	88.16	11.98	1056.28	1056.28			
71+07.10	72+87.34	LT	180.24	5.01	902.97	902.97			
73+16.77	74+88.97	LT	172.20	4.81	827.44	827.44			
75+12.85	75+30.69	LT	17.84	4.59	81.85	81.85			
75+66.12	77+88.76	LT	253.50	4.83	1224.53	1224.53			
74+42.41	74+85.45	RT	43.04	8.39	404.24	404 24			
78+35.92	80+80.61	LT	267.09	4.97	1326.89	1326.89			
81+25.77	82+09.97	LT	84.20	5.25	442.04	442.04			
82+36.01	82+83.91	LT	47.90	4.87	233.44	233.44			
83+14.01	83+79.21	LT	65.20	4.93	321.66	321.66			
84+08.51	84+85.11	LT	76.60	4.82	368.83	368.83			
85+14.91	87+43.46	LT	233.65	5.58	1303.09	1303 09			
88+14.63	88+54.46	LT	65.45	5.53	362.08	362.08			
88+89 18	89+87.29	LT	98.11	5.69	557.92	557.92			
90+26.45	91+75.87	LT	155.72	5.26	819.10	819.10			
92+62.24	93+12.22	LT	105.65	5.06	534.59	534.59			
93+44 03	94+20.24	LT	76.21	5.00	380.88	380.88			
90+48.86	90+77.11	RT	82.73	6.26	517.94	517.94			
91+44.30	92+09.69	RT	80.03	6.22	497.77	497.77			
TOTAL THIS COLUMN									
TOTAL FROM LEFT COLUMN									
TOTAL CARRIED TO GENERAL SUMMARY						21399 87			

CALCULATED PAH CHECKED CJO

ROADWAY REMOVAL SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	STATION						603 6" CONDUIT, TYPE C, 707.33, AS PER PLAN	603 8" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 12" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 15" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 18" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 24" CONDUIT, TYPE B, 707.33, AS PER PLAN	604 CATCH BASIN, NO 3, AS PER PLAN	604 CATCH BASIN, NO 6, AS PER PLAN	604 CATCH BASIN, NO 2-2B, AS PER PLAN	604 CATCH BASIN, MISC CITY STD. DWG #1	604 CATCH BASIN ADJUSTED TO GRADE	604 MANHOLE ADJUSTED TO GRADE, AS PER PLAN	604 MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN
		FROM			TO			FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
		STA.	OFFSET	SIDE	STA.	OFFSET	SIDE													
47	D-1	57+03.45	18.68'	RT															1	
47	D-2	57+30.22	29.65'	LT															1	
47	D-3	57+34.41	15.50'	RT								7					1			
47	D-4	57+44.17	58.10'	LT															1	
47	D-5	57+47.67	15.82'	LT															1	
47	D-6	57+44.17	58.10'	LT	57+51.23	56.25	LT				7				1					
47	D-7	57+47.67	15.82'	LT	57+79.87	21.50'	LT			33										
47	D-8	58+00.03	26.81'	RT															1	
48	D-9	60+53.00	21.50'	LT							10						1			
48	D-10	62+84.57	36.71'	RT															1	
49	D-11	66+46.78	20.89'	RT							11						1			
49	D-12	66+53.36	18.85'	LT							6						1			
49	D-13	67+92.90	18.50	LT						8	5						1			
50	D-14	69+51.51	18.50'	RT							13			1						
50	D-15	69+52.31	18.50'	LT						5	6			1						
50	D-16	72+51.75	35.11'	LT														1		
50	D-17	72+52.07	18.50'	LT							10		8	1						
50	D-18	72+53.35	18.50'	RT	72+53.41	24.96'	RT				12			1						
50	D-19	72+53.41	24.96'	RT														1		
50	D-20	74+44.31	37.08'	RT	74+50.82	51.03'	RT			16				1						
50	D-21	74+50.82	51.03'	RT															1	
50	D-22	74+50.82	51.03'	RT	74+68.26	44.68'	RT			19						1				
51	D-23	75+54.35	25.91'	RT														1		
51	D-24	75+54.49	18.50'	LT						10							1			
51	D-25	75+54.35	25.91'	RT	75+54.57	20.50'	RT			11							1			
51	D-26	75+84.11	34.93'	RT														1		
51	D-27	77+86.19	54.40'	RT															1	
51	D-28	78+05.17	42.92'	LT															1	
51	D-29	78+14.61	26.87'	RT														1		
51	D-30	78+14.61	26.87'	RT	78+16.11	20.54'	RT					12					1			
51	D-31	78+18.90	29.21'	LT															1	
51	D-32	78+30.78	51.51'	LT						5	6			1						
51	D-33	78+40.73	43.50'	RT														1		
51	D-34	78+72.61	18.50'	LT						5				1						
51	D-35	78+72.92	26.22'	RT															1	
51	D-36	79+11.79	47.81'	RT														1		
51	D-37	79+83.40	45.24'	RT														1		
52	D-38	80+30.17	25.95'	RT															1	
52	D-39	80+30.19	18.50'	LT							5			1						
52	D-40	81+33.26	26.53'	RT															1	
52	D-41	81+33.26	26.53'	RT	81+37.64	20.50'	RT				7						1			
52	D-42	81+78.57	25.68'	RT															1	
52	D-43	81+79.79	18.50'	LT				6		5	5			1						
52	D-44	82+73.37	25.88	RT															1	
52	D-45	83+21.03	18.50'	LT							6			1						
TOTAL THIS SHEET								6		117	109	19	8	10	1	1	9	8	15	

CALCULATED PAH
CHECKED CJO

DRAINAGE SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 374-2790 FAX (330) 374-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	STATION						603 6" CONDUIT, TYPE C, 707.33, AS PER PLAN	603 8" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 12" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 15" CONDUIT, TYPE B, 707.33 AS PER PLAN	603 18" CONDUIT, TYPE B, 707.33, AS PER PLAN	603 24" CONDUIT, TYPE B, 707.33, AS PER PLAN	604 CATCH BASIN, NO 3, AS PER PLAN	604 CATCH BASIN, NO 6 AS PER PLAN	604 CATCH BASIN, NO 2-28, AS PER PLAN	604 CATCH BASIN, MISC CITY STD DWG #1	604 CATCH BASIN ADJUSTED TO GRADE	604 MANHOLE ADJUSTED TO GRADE, AS PER PLAN	604 MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN
		FROM			TO			FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
		STA.	OFFSET	SIDE	STA.	OFFSET	SIDE													
53	D-46	86+23.80	18.50'	LT				6		5	6			1						
53	D-47	86+28.20	20.50'	RT							12			1						
53	D-48	87+48.46	32.27'	LT						5	5				1					
53	D-49	87+74.75	72.68'	LT														1		
53	D-50	87+88.24	49.61'	LT															1	
53	D-51	87+98.27	60.36'	LT															1	
53	D-52	88+06.60	72.38'	LT															1	
53	D-53	89+49.83	32.79'	RT							11			1						
53	D-54	89+53.56	18.50'	LT						5	8			1						
54	D-55	91+33.36	52.15'	RT															1	
54	D-56	91+73.72	50.15'	RT																1
54	D-57	91+81.96	38.40'	LT															1	
54	D-58	92+15.83	39.52'	RT														1		
54	D-59	92+19.51	41.35'	LT															1	
54	D-60	92+24.07	19.00'	RT							5			1						
54	D-61	92+26.97	35.05'	LT															1	
54	D-62	92+46.34	67.17'	LT					15								1			
54	D-63	92+60.03	28.75'	LT					10						1					
TOTALS THIS SHEET								6	25	15	45			5	2		1	2	7	1
TOTALS FROM SHEET XX								6		117	109	19	8	10	1	1	9	8	15	
TOTALS CARRIED TO GENERAL SUMMARY								12	25	132	154	19	8	15	3	1	10	10	22	1

CALCULATED PAH
CHECKED CJO

DRAINAGE SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
500 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 • FAX (330) 379-2791

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT

UNDERDRAIN SUB-SUMMARY

SHEET NO.	REFERENCE NO.	STATION FROM STA.	FROM OFFSET	FROM SIDE	STATION TO STA.	TO OFFSET	TO SIDE	605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, 707.33, AS PER PLAN FT
		MAHONING ROAD N.E. S.R. 153						
		57+66.01	22'	LT	61+54.67	22'	LT	465.66
		56+82.76	16'	RT	62+59.11	16	RT	614.66
		61+87.02	22'	LT	77+94.59	19'	LT	1850.9
		63+02.63	16'	RT	66+51.26	19'	RT	433.73
		67+07.16	19'	RT	69+84.77	19'	RT	367.25
		70+20.19	21'	RT	73+97.55	21'	RT	428.79
		74+34.48	21'	RT	90+77.11	34'	RT	1722.29
		78+30.41	19'	LT	87+52.01	19'	LT	854.07
		88+13.03	19'	LT	91+74.66	19'	LT	423.2
		90+86.74	34'	RT	91+26.57	34'	RT	115.32
		91+70.90	19'	RT	92+72.42	19'	RT	109.74
		92+55.81	20.5'	LT	94+58.01	20.5'	LT	258.66
TOTALS CARRIED TO GENERAL SUMMARY								7544

CALCULATED PAH
CHECKED CJO

E. C. & G., Inc.
Landscape Architecture • Planning • Engineering
308 South MAIN STREET SUITE 301 AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	STATION						608 CONCRETE STEPS, TYPE A	608 CONCRETE STEPS, TYPE B	608 CURB RAMP, AS PER PLAN	DESCRIPTION	SEE SHEET NO.
		FROM			TO			FT	FT	EACH		
		STA.	OFFSET	SIDE	STA.	OFFSET	SIDE					
		MAHONING ROAD										
47	CR-1	56+97.07	26.95'	RT						1	TYPE 4	
47	CR-2	57+25.58	16.00'	RT						1	PERPENDICULAR	
47	CR-3	57+52.29	33.77'	LT						1	TYPE 1	
48	CR-4	61+31.47	21.00'	LT						1	PERPENDICULAR	
48	CR-5	61+33.58	16.00'	RT						1	PERPENDICULAR	
48	CR-6	61+53.12	27.37'	LT						1	TYPE 4	
48	CR-7	61+89.89	27.31'	LT						1	TYPE 4	
48	CR-8	62+54.48	24.58'	RT						1	TYPE 4	
48	CR-9	62+91.15	43.10'	RT						1	TYPE 4	
48	CR-10	62+89.56	25.17'	RT						1	TYPE 4	
48	CR-11	62+94.90	21.00'	LT						1	TYPE 4	
49	CR-12	66+35.63	18.10'	RT						1	PERPENDICULAR	
49	CR-13	66+37.21	18.89'	LT						1	PERPENDICULAR	
49	CR-14	66+57.98	41.95'	RT						1	TYPE 4	
49	CR-15	66+98.18	44.13'	RT						1	TYPE 4	
50	CR-16	69+92.51	43.14'	RT						1	TYPE 4	
50	CR-17	70+29.98	43.12'	RT						1	TYPE 4	
50	CR-18	70+61.53	16.50'	LT						1	PERPENDICULAR	
50	CR-19	70+61.58	18.86'	RT						1	TYPE 4	
50	CR-20	73+99.13	46.72'	RT						1	TYPE 4	
50	CR-21	74+38.08	45.82'	RT						1	TYPE 4	
50	CR-22	74+73.45		LT						1	PERPENDICULAR	
50	CR-23	74+73.40	20.64'	RT						1	PERPENDICULAR	
51	CR-24	77+81.15	20.50	RT						1	PERPENDICULAR	
51	CR-25	77+84.25	23.15'	LT						1	TYPE 1	
51	CR-26	78+39.27	25.25'	LT						1	TYPE 1	
53	CR-27	87+23.43	18.84'	LT						1	TYPE 1	
53	CR-28	87+23.37	20.50'	RT						1	PERPENDICULAR	
53	CR-29	87+42.32	26.55'	LT						1	TYPE 1	
53	CR-30	88+12.22	26.75'	LT						1	TYPE 1	
54	CR-31	90+80.40	50.16'	RT						1	TYPE 1	
54	CR-32	90+96.64	38.49'	RT						1	PERPENDICULAR	
54	CR-33	91+25.77	24.25'	RT						1	TYPE 1	
54	CR-34	91+54.96	18.60'	LT						1	TYPE 1	
54	CR-35	91+69.16	26.73'	LT						1	TYPE 1	
54	CR-36	91+84.48	28.22'	RT						1	TYPE 1	
54	CR-37	92+64.42	19.00'	RT						1	PERPENDICULAR	
54	CR-38	92+83.05	26.45'	LT						1	TYPE 1	
48		60+67.69	30.00'	LT	60+67.69	38.00'	LT		6			
48		61+35.46	30.00'	LT	61+35.46	34.00	LT		4			
48		63+36.30	29.86'	LT	63+36.30	31.11'	LT	2				
49		66+07.50	28.85'	LT	66+07.50	30.98'	LT	2				
48		66+84.06	31.30'	LT	66+84.49	32.20'	LT	1				
TOTALS CARRIED TO GENERAL SUMMARY								5	10	38		

CALCULATED PAH
CHECKED CJO

ROADWAY SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
306 South Main Street, Suite 301, Akron, Ohio 44311
(330) 374-2750 FAX (330) 374-2751

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

LOCATION				LENGTH	609 CURB TYPE 6, AS PER PLAN	609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN			
FROM		TO							
STATION	SIDE	STATION	SIDE		FT	FT			
TOTAL THIS COLUMN									

LOCATION				LENGTH	609 CURB TYPE 6, AS PER PLAN	609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN			
FROM		TO							
STATION	SIDE	STATION	SIDE		FT	FT			
MAHONING ROAD N.E. S.R. 153									
57+66.01	LT	61+54.87	LT	465.66	465.66				
56+82.78	RT	62+59.11	RT	614.66	614.66				
61+67.02	LT	77+94.59	LT	1650.9	1650.9				
63+02.63	RT	66+51.26	RT	433.73	433.73				
67+07.16	RT	69+64.77	RT	367.25	367.25				
70+20.19	RT	73+97.55	RT	428.79	428.79				
74+34.48	RT	90+77.11	RT	1722.29	1722.29				
76+30.41	LT	87+52.01	LT	954.07	954.07				
88+13.03	LT	91+74.66	LT	423.2	418.48	4.72			
90+86.74	RT	91+26.57	RT	115.32	115.32				
91+70.90	RT	92+72.42	RT	109.74		109.74			
92+55.81	LT	94+56.01	LT	258.66		258.66			
TOTAL THIS COLUMN									
TOTAL FROM LEFT COLUMN									
TOTAL CARRIED TO GENERAL SUMMARY					7171.17	373.12			

CALCULATED PAH CHECKED CJO

CURB CALCULATIONS

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

STATION		SIDE	LENGTH = L	AVERAGE WIDTH = W	AVERAGE WIDENING WIDTH = W'	SURFACE AREA A=L&W	204 SUBGRADE COMPACTION ((W'+2)*L)/9 & A/9	254 PAVEMENT PLANING, ASPHALT CONCRETE L*(W-W')/9	304 AGGREGATE BASE, AS PER PLAN (((W'+1.5)*L)*1.0)/27 & (A*0.33)/27	305 10" CONCRETE BASE L*(W'+0.5)/9	407 TACK COAT (A*0.10)/9	407 TACK COAT FOR INTERMEDIATE COURSE (A*0.05)/9	424 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A (A*(0.75/12))/27	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE2 PG64-22 (A*(1.50/12))/27		452 10" NON-REINFORCED CONCRETE PAVEMENT, A/27	452 NON-REINFORCED CONCRETE PAVEMENT, MISC.: ROADWAY BRICK PAVERS A
FROM	TO		FT	FT	FT	SF	SY	SY	CY	SY	GAL	GAL	CY	CY		CY	SF
MAHONING ROAD NE, S.R. 153																	
WIDENING AREA / PAVEMENT REPAIR																	
57+00	63+00	LT	600.00	21.50	2.50	12900.00	300.00	1266.67	88.89	200.00	143.33	71.67	29.56	59.72			
57+00	63+00	RT	600.00	15.50		9300.00	133.33	1033.33	33.33	33.33	103.33	51.67	21.53	43.06			
63+00	67+00	LT	400.00	19.75	1.00	7900.00	133.33	833.33	37.04	88.67	87.78	43.89	18.29	36.57			
63+00	67+00	RT	400.00	17.25		6900.00	88.89	766.67	22.22	22.22	76.67	38.33	15.97	31.94			
67+00	70+25	LT	325.00	18.50	0.50	6012.50	90.28	650.00	24.07	36.11	66.81	33.40	13.92	27.84			
67+00	70+25	RT	325.00	18.50		6012.50	72.22	668.06	18.06	18.06	66.81	33.40	13.92	27.84			
70+25	78+25	LT	800.00	18.50	0.50	14800.00	222.22	1600.00	59.26	88.89	164.44	82.22	34.26	68.52			
70+25	78+25	RT	800.00	20.50		16400.00	177.78	1822.22	44.44	44.44	182.22	91.11	37.96	75.93			
78+25	88+97.63	LT	1072.63	18.50	1.50	19843.66	417.13	2026.06	119.15	238.36	220.49	110.24	45.93	91.87			
78+25	88+97.63	RT	1072.63	20.50		21988.92	238.36	2443.21	59.59	59.59	244.32	122.16	50.90	101.80			
88+97.63	89+52.63	LT	55.00	18.50	1.50	1017.50	21.39	103.89	8.11	12.22	11.31	5.65	2.36	4.71			
88+97.63	89+52.63	RT	55.00	27.00		1485.00	12.22	165.00	3.06	3.06	16.50	8.25	3.44	6.88			
89+52.63	91+75	LT	222.37	18.50	1.50	4113.85	86.48	420.03	24.71	49.42	45.71	22.85	9.52	19.05			
89+52.63	91+75	RT	222.37	33.50		7449.40	49.42	827.71	12.35	12.35	82.77	41.39	17.24	34.49			
91+75	92+72.41	LT	97.41	18.00		1753.38	21.65	194.82	5.41	5.41	19.48	9.74	4.06	8.12			
91+75	92+72.41	RT	97.41	17.00		1655.97	21.65	184.00	5.41	5.41	18.40	9.20	3.83	7.67			
92+72.41	94+58.01	LT	185.60	18.00		3340.80	41.24	371.20	10.31	10.31	37.12	18.56	7.73	15.47			
RESURFACING																	
92+72.41	97+58.01	RT	185.60	17.00		3155		350.58			35.06	17.53	7.30	14.61			
CROSSWALK / BRICK AREAS																	
91+34.82	92+89.42	LT/RT	134.60	17.80		2392.00	265.78		29.24							88.59	
91+48.95	92+59.42	LT/RT	112.50	38.80		4360.00	484.44		53.29								4360.00
GRACE AVENUE																	
56+76.24	56+82.78	LT/RT	40.55	8.90		' 352.84	& 39.20	40.10			& 3.92	1.96	0.82	1.63			
57+47.02	57+49.30	LT/RT	33.45	28.72		' 960.73	& 106.75	106.74			& 10.67	5.34	2.22	4.45			
INDIANA WAY																	
61+89.61	61+85.47	LT/RT	33.10	29.20		' 966.53	107.39	107.39			10.74	5.37	2.24	4.47			
HILCHER AVENUE																	
62+59.11	63+02.63	LT/RT	33.05	31.64		' 1045.73	116.19	116.19			11.62	5.81	2.42	4.84			
EAST VIEW AVENUE																	
66+49.14	66+97.35	LT/RT	39.23	43.82		' 1719.22	191.02	191.01			19.10	9.55	3.98	7.96			
WOOSTER AVENUE																	
69+84.77	70+15.02	LT/RT	57.54	43.66		' 2512.17	279.13	279.13			27.91	13.96	5.82	11.63			
WAYNE AVENUE																	
73+97.53	74+26.87	LT/RT	40.87	46.06		' 1882.54	209.17	209.16			20.92	10.46	4.36	8.72			
MIDWAY AVENUE																	
77+94.59	78+30.90	LT/RT	31.03	45.88		' 1417.38	157.49	157.49			15.75	7.87	3.28	6.56			
BOLLINGER AVENUE																	
87+80.53	88+13.03	LT/RT	59.03	55.55		' 3278.26	364.36	364.35			36.44	18.22	7.59	15.18			
HARMONT AVENUE																	
92+22.33	92+55.27	LT/RT	66.25	55.55		' 3680.27	408.92	408.91			40.89	20.45	8.52	17.04			
90+77.11	91+12.99	LT/RT	101.50	54.01		' 5481.56	609.06	609.11			60.91	30.45	12.69	25.38			
TOTAL CARRIED TO GENERAL SUMMARY							5466.51	18316.38	855.97	905.86	1881.41	940.70	391.96	783.92		88.59	4360.00

' CADD CALCUALTION

CALCULATED PAH
CHECKED CJO

PAVEMENT CALCULATIONS

E. G. & G., Inc.
Professional Architecture • Planning • Engineering
306 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 376-2700 FAX (330) 376-2701

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

FROM STATION	FROM SIDE	TO STATION	TO SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	TOTAL WALK AREA (CADD CALC.) (A1) SF	NO. TREE GRATES IN WALK AREA (T) EACH	TREE GRATE AREA (A2 = T*28) SF	BRICK WALK AREA (A3) SF	304 AGGREGATE BASE, AS PER PLAN ((A1*4/12)/27) CY	608 5" CONCRETE WALK, AS PER PLAN (A1) SF	608 WALKWAY MISC.: 2-1/4" BRICK WALKWAY PAVERS (A3) SF	608 WALKWAYS, MISC.: BRICK BOX FORM SF
MAHONING ROAD NE S.R. 153													
57+62.23	LT	57+66.46	LT	8	10.35	82.76				1.02	82.76		
57+49.30	LT	57+74.60	LT	37.50	5.54	207.73				2.56	207.73		
58+46.47	LT	58+72.47	LT	26	5.54	144				1.78	144.00		
59+06.47	LT	59+60.47	LT	54	5.41	292.03				3.61	292.03		
59+88.40	LT	60+20.47	LT	32.07	5.51	176.84				2.18	176.84		
60+49.38	LT	61+53.82	LT	107.44	6.11	656.33				8.10	656.33		
61+87.81	LT	62+65.90	LT	78.09	5.49	428.44				5.29	428.44		
63+00.00	LT	63+83.46	LT	83.46	5.86	489.31				6.04	489.31		
64+17.46	LT	64+51.46	LT	34	6.63	225.57				2.78	225.57		
64+85.45	LT	65+26.03	LT	40.57	6.43	260.72				3.22	260.72		
65+50.17	LT	65+60.48	LT	10.31	5.87	60.52				0.75	60.52		
65+88.42	LT	66+97.53	LT	109.12	7.23	789.44				9.75	789.44		
67+27.54	LT	68+10.61	LT	83.07	7.57	629.15				7.77	629.15		
68+44.61	LT	70+47.45	LT	201.95	7.78	1566.49				19.34	1566.49		
71+11.40	LT	72+85.17	LT	173.77	7.41	1288.41				15.91	1288.41		
73+18.91	LT	74+83.97	LT	165.06	7.27	1200.08				14.82	1200.08		
75+17.84	LT	75+46.45	LT	28.60	6.46	184.73				2.28	184.73		
75+80.45	LT	77+94.22	LT	252	6.92	1743.97				21.53	1743.97		
78+30.90	LT	80+76.90	LT	273	7.29	1990				24.57	1990.00		
81+10.90	LT	82+00.20	LT	89.30	6.73	601.31				7.42	601.31		
82+34.20	LT	82+82.01	LT	47.81	6.82	325.97				4.02	325.97		
83+16.01	LT	83+71.21	LT	55.20	7.18	396.61				4.90	396.61		
84+05.21	LT	84+88.45	LT	83.24	6.64	552.81				6.82	552.81		
85+22.45	LT	85+54.81	LT	32.37	7.03	227.46				2.81	227.46		
85+88.81	LT	86+36.45	LT	47.63	7.15	340.48				4.20	340.48		
86+70.45	LT	87+51.34	LT	87.02	7.66	666.96				8.23	666.96		
88+03.46	LT	88+87.88	LT	108.12	7.76	838.62				10.35	838.62		
89+01.88	LT	89+83.74	LT	81.86	6.96	569.64				7.03	569.64		
90+29.87	LT	91+75.67	LT	159.53	7.48	1193.76				14.74	1193.76		
92+47.49	LT	93+07.21	LT	106.78	7.51	802.15				9.90	802.15		
93+49.03	LT	94+15.37	LT	66.34	6.33	420.05				5.19	420.05		
94+59.01	LT	94+66.01	LT	7	4.26	29.84				0.37	29.84		
58+49.5	LT	58+61.5	LT	12	4				48.0			48.0	48.0
58+65.5	LT	58+69.5	LT	4	4				16.0			16.0	16.0
59+13.5	LT	59+45.5	LT	42	4				168.0			168.0	168.0
59+93.5	LT	60+13.5	LT	20	4				80.0			80.0	80.0
60+61.5	LT	60+85.5	LT	24	4				96.0			96.0	96.0
61+01.5	LT	61+21.5	LT	20	4				80.0			80.0	80.0
62+04.9	LT	62+24.9	LT	20	4				80.0			80.0	80.0
62+44.9	LT	62+64.9	LT	20	4				80.0			80.0	80.0
63+00.9	LT	63+12.8	LT	11.9	4				47.6			47.6	47.6
63+40.7	LT	63+76.5	LT	35.8	4				143.2			143.2	143.2
64+28.3	LT	64+44.2	LT	15.9	4				63.6			63.6	63.6
64+88.6	LT	65+07.9	LT	19.9	4				79.6			79.6	79.6
65+19.8	LT	65+23.8	LT	4	4				16.0			16.0	16.0
65+51.8	LT	65+59.8	LT	8	4				32.0			32.0	32.0
65+91.4	LT	65+95.4	LT	4	4				16.0			16.0	16.0
66+07.4	LT	66+27.3	LT	19.9	4				79.6			79.6	79.6
66+51.1	LT	66+83.0	LT	31.9	4				127.6			127.6	127.6
67+30.5	LT	64+50.5	LT	20	4				80.0			80.0	80.0
67+56.5	LT	67+86.5	LT	20	4				50.0			80.0	80.0
68+54.5	LT	68+90.5	LT	36	4				144.0			144.0	144.0
69+10.5	LT	69+42.5	LT	32	4				128.0			128.0	128.0
69+66.5	LT	69+94.5	LT	28	4				112.0			112.0	112.0
70+15.5	LT	70+39.5	LT	24	4				96.0			96.0	96.0
71+23.5	LT	71+47.5	LT	24	4				96.0			96.0	96.0
71+59.5	LT	71+83.5	LT	24	4				96.0			96.0	96.0
72+03.5	LT	72+27.5	LT	24	4				96.0			96.0	96.0
72+47.5	LT	72+71.5	LT	20	4				80.0			80.0	80.0
TOTAL THIS COLUMN										239	19382	2261	2261

FROM STATION	FROM SIDE	TO STATION	TO SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	TOTAL WALK AREA (CADD CALC.) (A1) SF	NO. TREE GRATES IN WALK AREA (T) EACH	TREE GRATE AREA (A2 = T*28) SF	BRICK WALK AREA (A3) SF	304 AGGREGATE BASE, AS PER PLAN ((A1*4/12)/27) CY	608 5" CONCRETE WALK, AS PER PLAN (A1) SF	608 WALKWAY MISC.: 2-1/4" BRICK WALKWAY PAVERS (A3) SF	608 WALKWAYS, MISC.: BRICK BOX FORM SF
73+31.5	LT	73+71.5	LT	40	4								
73+91.5	LT	74+19.5	LT	28	4								
74+43.5	LT	74+67.5	LT	24	4								
75+23.5	LT	75+43.5	LT	20	4								
75+95.5	LT	76+23.5	LT	28	4								
76+43.5	LT	76+71.5	LT	28	4								
76+83.5	LT	77+11.5	LT	28	4								
78+76.2	LT	79+04.2	LT	28	4								
79+20.2	LT	79+48.2	LT	28	4								
79+68.2	LT	79+96.2	LT	28	4				112			112	112
80+16.2	LT	80+44.2	LT	28	4				112			112	112
80+64.2	LT	80+76.2	LT	28	4				112			112	112
81+16.2	LT	81+40.2	LT	24	4				96			96	96
81+60.2	LT	81+96.2	LT	36	4				144			144	144
82+36.2	LT	82+40.2	LT	4	4				16			16	16
82+52.2	LT	82+80.2	LT	28	4				112			112	112
83+16.2	LT	83+32.2	LT	16	4				64			64	64
83+52.2	LT	83+68.2	LT	16	4				64			64	64
84+08.2	LT	84+24.2	LT	16	4				64			64	64
84+45.5	LT	84+85.5	LT	40	4				160			160	160
85+33.5	LT	85+53.5	LT	20	4				80			80	80
85+93.5	LT	86+13.5	LT	20	4				80			80	80
86+25.5	LT	86+33.5	LT	8	4				32			32	32
86+77.5	LT	84+09.5	LT	32	4				128			128	128
88+40.9	LT	88+64.9	LT	24	4				96			96	96
89+04.9	LT	89+28.9	LT	24	4				96			96	96
89+48.9	LT	89+76.9	LT	28	4				112			112	112
90+32.9	LT	90+36.9	LT	4	4				16			16	16
90+48.9	LT	90+76.9	LT	28	4				112			112	112
91+08.9	LT	91+36.9	LT	28	4				112			112	112
92+90.0	LT	93+06.0	LT	16	4				64			64	64
93+50.0	LT	93+70.0	LT	20	4				80			80	80
93+90.0	LT	94+10.0	LT	20	4				80			80	80
97+62.23	LT	94+66.01	LT				10	280				-280	-280
TOTAL THIS COLUMN												1864	1864
TOTAL FROM LEFT COLUMN										239	19382	2261	2261
TOTAL CARRIED TO GENERAL SUMMARY										239	19382	4125	4125

CALCULATED PAH
CHECKED CJO

WALK CALCULATIONS

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

E. G. & G., Inc.

STATION				LENGTH	AVERAGE WIDTH	TOTAL WALK AREA (CADD CALC.)	NO. TREE GRATES IN WALK AREA	TREE GRATE AREA	BRICK WALK AREA	304 AGGREGATE BASE, AS PER PLAN	609 5" CONCRETE WALK, AS PER PLAN	608 WALKWAY MISC.: 2-1/4" BRICK WALKWAY PAVERS	608 WALKWAYS, MISC.: BRICK BOX FORM		
								T*28		[A1*(4/12)]/27	A1	A3			
FROM		TO		L	W	A1	T	A3	A3						
STATION	SIDE	STATION	SIDE	FT	FT	SF	EACH	SF	SF	CY	SF	SF	SF		
MAHONING ROAD NE S.R. 153															
56+94.74	RT	57+47.58	RT	56.26	9	529.35				6.54	529.35				
57+79.58	RT	59+15.58	RT	13.60	114	1548				19.09	1548				
59+51.58	RT	59+78.58	RT	28.00	10	273				3.37	273				
60+15.58	RT	62+59.88	RT	254.18	12	3011.03				37.17	3011.03				
62+87.58	RT	63+25.53	RT	37.97	13	486.96				6.01	486.96				
66+27.12	RT	66+44.42	RT	17.30	8	139.38				1.72	139.38				
66+47.97	RT	66+57.32	RT	9.35	9	87.14				1.08	87.14				
66+98.89	RT	67+07.56	RT	8.67	9	78.13				0.96	78.13				
69+83.83	RT	69+91.57	RT	7.74	10	81.08				1.00	81.08				
70+28.45	RT	71+39.72	RT	111.27	14	1529.82				18.88	1529.82				
73+90.84	RT	73+98.77	RT	8.13	10	82.20				1.01	82.20				
74+34.99	RT	74+85.45	RT	50.46	12	591.61				7.30	591.61				
77+38.89	RT	78+00.15	RT	61.46	9	543.34				6.71	543.34				
86+77.91	RT	87+37.37	RT	59.46	8	329.88				4.07	329.88				
90+48.88	RT	90+87.19	RT	87.47	7	648.44				7.98	648.44				
90+87.26	RT	91+26.04	RT	112.18	2	211.71				2.61	211.71				
91+44.30	RT	92+13.39	RT	105.71	9	916.07				11.31	916.07				
92+56.92	RT	92+72.42	RT	15.50	19	291.84				3.60	291.84				
57+31.6	RT	57+47.6	RT	16	4				64.00			64	64		
57+79.6	RT	58+03.6	RT	56	4				224.00			224	224		
58+23.6	RT	58+51.6	RT	28	4				112.00			112	112		
58+71.6	RT	59+03.6	RT	32	4				128.00			128	128		
59+51.6	RT	59+79.6	RT	28	4				112.00			112	112		
60+27.6	RT	60+55.6	RT	28	4				112.00			112	112		
60+75.6	RT	61+03.6	RT	28	4				112.00			112	112		
61+49.1	RT	61+55.6	RT	7	4				26.00			26	26		
61+71.6	RT	61+99.6	RT	28	4				112.00			112	112		
62+19.6	RT	62+35.6	RT	16	4				64.00			64	64		
71+03.53	RT	71+29.53	RT	50	5				232.55			233	233		
77+72.15	RT	77+78.15	RT	4	10				40.57			41	41		
77+88.15	RT	77+98.15	RT	12	12				138.57			139	139		
87+11.37	RT	87+35.37	RT	24	10				233.12			233	233		
90+89.25	RT	91+23.99	RT	34.74	16				557.09			557	557		
91+75.25	RT	92+11.39	RT	36.14	16				595.23			595	595		
56+94.74	RT	92+72.42	RT				9	252				-252	-252		
~															
TOTAL THIS COLUMN										140	11375	2611	2611		

STATION				LENGTH	AVERAGE WIDTH	TOTAL WALK AREA (CADD CALC.)	NO. TREE GRATES IN WALK AREA	TREE GRATE AREA	BRICK WALK AREA	304 AGGREGATE BASE, AS PER PLAN	609 5" CONCRETE WALK, AS PER PLAN	608 WALKWAY MISC.: 2-1/4" BRICK WALKWAY PAVERS	608 WALKWAYS, MISC.: BRICK BOX FORM		
								T*28		[A1*(4/12)]/27	A1	A3			
FROM		TO		L	W	A1	T	A2	A3						
STATION	SIDE	STATION	SIDE	FT	FT	SF	EACH	SF	SF	CY	SF	SF	SF		
TOTAL THIS COLUMN															
TOTAL FROM LEFT COLUMN										140	11375	2611	2611		
TOTAL FROM SHEET										239	19382	4125	4125		
TOTAL CARRIED TO GENERAL SUMMARY										380	30757	6736	6736		

CALCULATED PAH
CHECKED CJO

WALK CALCULATIONS

E. G. & G., Inc.
Consulting Engineers • Surveyors • Architects • Planning
388 South Main Street, Suite 500, Akron, Ohio 44311
(330) 379-2760 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE TYPE	EXISTING DRIVE COMPOSITION	DRIVE WIDTH AT TIE-IN TO EXISTING	DRIVE LENGTH	APRON WIDTH	APRON LENGTH	DRIVE AREA	APRON AREA	202 PAVEMENT REMOVED (DRIVEWAYS)	202 PAVEMENT REMOVED, ASPHALT	204 SUBGRADE COMPACTION	301 ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	407 TACK COAT	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	452 8" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN		659 TOPSOIL
										W*L1	AW*L2				((3/2)*A1)/27	(0.08*(A1/9)	((1.25/12)*A1)/27	A1/9	A2/9	
						W	L1	AW	L2	A1	A2							DRIVE	APRON	
						FT	FT	FT	FT	SF	SF	SY	SY	SY	CY	GAL	CY	SY		CY
		MAHONING ROAD NE S.R. 153																		
47	DR-1	57+59.23	LT	COM	CONCRETE	26		36	8.74		314.64	34.96		34.96					34.96	
47	DR-2	57+83.58	RT	COM	CONCRETE	24		34	14		476.00	52.89		52.89					52.89	
47	DR-3	58+11.47	LT	COM	CONCRETE	60		70	8		560.00	62.22		62.22					62.22	
47	DR-4	58+89.47	LT	COM	GRAVEL	24		34	8		272.00		30.22	30.22					30.22	
47	DR-5	59+33.83	RT	COM	CONCRETE	24		34	14		476.00	52.89		52.89					52.89	
47	DR-6	59+74.44	LT	RES	ASPHALT	18		28	8		224.00		24.89	24.89					24.89	
47	DR-7	59+87.84	RT	COM	GRAVEL	24	6.21	34	14	148.00	476.00		69.44	52.89	8.28	1.32	0.57		52.89	
48	DR-8	60+33.43	LT	RES	CONCRETE	9	13.16	26	8	123.00	208.00	36.78		36.78				13.67	23.11	
48	DR-9	62+82.90	LT	RES	GRAVEL	21	9.63	34	8	199.00	272.00		52.33	30.22	11.06	1.77	0.77		30.22	
48	DR-10	64+00.48	LT	COM	CONCRETE	24		34	8.38		284.92	31.66		31.66					31.66	
48	DR-11	64+88.47	LT	COM	CONCRETE	24		34	8.63		293.42	32.60		32.60					32.60	
49	DR-12	65+38.12	LT	RES	CONCRETE	14		24	8.89		213.36	23.71		23.71					23.71	
49	DR-13	65+74.46	LT	RES	CONCRETE	18		28	9.03		252.84	28.09		28.09					28.09	
49	DR-14	67+12.54	LT	RES	CONCRETE	20		30	9.5		285.00	31.67		31.67					31.67	
49	DR-15	68+27.61	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
50	DR-16	70+79.91	LT	COM	CONCRETE	53		63	9.5		598.50	66.50		66.50					66.50	
50	DR-17	73+02.04	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
51	DR-18	75+00.91	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
51	DR-19	75+83.45	LT	COM	CONCRETE	24		34	9.73		330.82	36.76		36.76					36.76	
51	DR-20	75+94.54	RT	COM	CONCRETE	24	13.87	34	6.5	332.88	221.00	61.54		61.54				38.99	24.56	
51	DR-21	78+39.48	RT	COM	CONCRETE	24	26.36	34	6.5	632.64	221.00	94.85		94.85				70.29	24.56	
51	DR-22	79+14.73	RT	COM	CONCRETE	24	26.61	34	6.5	638.64	221.00	100.65		100.65				76.29	24.56	
51	DR-23	79+80.29	RT	COM	CONCRETE	73	24.89	83	6.5	1816.97	539.50	261.83		261.83				201.89	59.94	
52	DR-24	80+93.20	RT	COM	CONCRETE	24	20.50	34	6.5	492.00	221.00	79.22		79.22				54.67	24.56	
52	DR-25	80+93.90	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
52	DR-26	82+17.20	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
52	DR-27	82+98.99	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
52	DR-28	83+67.63	RT	COM	CONCRETE	24	4.70	34	6.5	112.80	221.00	37.09		37.09				12.53	24.56	
52	DR-29	83+88.21	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
52	DR-30	84+42.71	RT	COM	CONCRETE	24	6.6	34	6.5	158.40	221.00	42.16		42.16				17.60	24.56	
53	DR-31	85+05.45	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
53	DR-32	85+71.81	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
53	DR-33	86+63.45	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
53	DR-34	87+78.01	RT	COM	CONCRETE	24	16.8	34	6.5	403.20	221.00	69.36		69.36				44.80	24.56	
53	DR-35	88+84.88	LT	COM	CONCRETE	24		34	9.5		323.00	35.89		35.89					35.89	
54	DR-36	90+06.88	LT	COM	CONCRETE	36		48	9.5		437.00	48.56		48.56					48.56	
54	DR-37	93+28.12	LT	COM	CONCRETE	32		42	8.75		367.50	40.83		40.83					40.83	
54	DR-38	94+37.19	LT	COM	CONCRETE	34		44	8.75		385.00	42.78		42.78					42.78	
		TOTAL THIS SHEET										1765	177	1903	19	3	1	1903		

CALCULATED PAH
CHECKED CJO

DRIVE SUB-SUMMARY

E. G. & G., Inc.
Consulting Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	TYPE	646 CENTER LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 LANE ARROW
							FT	FT	FT	FT	EACH
96.00	CW	S.R. 153	57+29.2		LT/RT					50	
96.00	CW	S.R. 153	57+40.9		LT/RT					48	
96.00	S	S.R. 153	57+70		LT				24		
96.00	CS	S.R. 153	57+72	58+62 (X2)	LT/RT	DOUBLE SOLID	280				
96.00	CH	S.R. 153	57+72	58+34	LT			62			
96.00	A	S.R. 153	57+80		CL						1
96.00	A	S.R. 153	58+10		CL						1
96.00	C	S.R. 153	59+02	60+00 (X2)	LT/RT	BROKEN/SOLID	196				
96.00	A	S.R. 153	59+12		CL						1
96.00	A	S.R. 153	59+26		CL						1
96	CW	GRACE AVE NE			LT/RT					38	
96	CW	GRACE AVE NE			LT/RT					49	
96	CW	GRACE AVE NE			LT/RT					49	
96	CW	GRACE AVE NE			LT/RT					33	
97	C	S.R. 153	60+00	65+00 (X2)	LT/RT	BROKEN/SOLID	1000				
97	A	S.R. 153	60+66		CL						1
97	A	S.R. 153	60+82		CL						1
97	A	S.R. 153	62+26		CL						1
97	A	S.R. 153	62+42		CL						1
97	A	S.R. 153	63+40		CL						1
97	A	S.R. 153	63+56		CL						1
97	A	S.R. 153	64+96		CL						1
97	CW	INDIANA WAY NE			LT/RT					46	
97	CW	INDIANA WAY NE			LT/RT					31	
97	S	INDIANA WAY NE			LT				8		
97	CS	INDIANA WAY NE			CL	DOUBLE SOLID	44				
97	CW	HILCHER AVE NE			LT/RT					37	
97	CW	HILCHER AVE NE			LT/RT					26	
97	S	HILCHER AVE NE			RT				13		
98	C	S.R. 153	65+00	69+50 (X2)	LT/RT	BROKEN/SOLID	900				
98	A	S.R. 153	65+12		CL						1
98	A	S.R. 153	66+20		CL						1
98	A	S.R. 153	66+36		CL						1
98	A	S.R. 153	67+59		CL						1
98	A	S.R. 153	67+75		CL						1
98	A	S.R. 153	69+21		CL						1
98	A	S.R. 153	69+37		CL						1
98	CW	EAST VIEW AVE NE			LT/RT					39	
98	CW	EAST VIEW AVE NE			LT/RT					40	
98	S	EAST VIEW AVE NE			RT				20		
98	CS	EAST VIEW AVE NE			CL	DOUBLE SOLID	60				
99	C	S.R. 153	69+50	75+00 (X2)	LT/RT	BROKEN/SOLID	1100				
99	CW	S.R. 153	70+55.48		LT/RT					36	
99	CW	S.R. 153	70+63.02		LT/RT					35	
99	A	S.R. 153	71+24		CL						1
99	A	S.R. 153	71+60		CL						1
99	A	S.R. 153	73+20		CL						1
99	A	S.R. 153	73+36		CL						1
99	CW	WOOSTER AVE NE			LT/RT					40	
99	CW				LT/RT					36	
99	S				RT				18		
99	CS				CL	DOUBLE SOLID	108				
TOTAL THIS SHEET							3868	62	84	835	22

CALCULATED PAH
CHECKED CJO

PROPOSED PAVEMENT MARKING SUB-SUMMARY

E. C. & C., Inc.
Consulting Architecture • Planning • Engineering
388 South Main Street, Suite 301, Akron, Ohio 44311
(330) 376-2790 FAX (330) 376-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	TYPE	646 CENTER LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 LANE ARROW
							FT	FT	FT	FT	EACH
99	CW	WAYNE AVE NE			LT/RT					40	
99	CW	WAYNE AVE NE			LT/RT					34	
99	S	WAYNE AVE NE			RT				14		
99	CS	WAYNE AVE NE			CL	DOUBLE SOLID	56				
	C	S.R. 153	75+00	77+70 (X2)	LT/RT	BROKEN/SOLID	540				
100	A	S.R. 153	75+09		CL						1
100	A	S.R. 153	75+25		CL						1
100	A	S.R. 153	77+03		CL						1
100	A	S.R. 153	77+18		CL						1
100	S	S.R. 153	77+72		RT				26		
100	CW	S.R. 153	77+77		LT/RT					38	
100	CW	S.R. 153	77+85		LT/RT					39	
100	S	S.R. 153	78+55		RT				26		
100	C	S.R. 153	78+57	80+33 (X2)	LT/RT	BROKEN/SOLID	286				
100	A	S.R. 153	79+17		CL						1
100	A	S.R. 153	79+33		CL						1
100	CW	MIDWAY AVE NE			LT/RT					62	
100	CW	MIDWAY AVE NE			LT/RT					47	
100	S	MIDWAY AVE NE			LT				21		
100	CS	MIDWAY AVE NE			CL	DOUBLE SOLID	130				
101	C	S.R. 153	80+00	85+00 (X2)	LT/RT	BROKEN/SOLID	1000				
101	A	S.R. 153	82+34		CL						1
101	A	S.R. 153	82+50		CL						1
102	C	S.R. 153	85+00	87+17 (X2)	LT/RT	BROKEN/SOLID	434				
102	A	S.R. 153			CL						1
102	A	S.R. 153			CL						1
102	CW	S.R. 153	87+19.37		LT/RT					37	
102	CW	S.R. 153	87+27.37		LT/RT					38	
102	C	S.R. 153	88+07	88+96 (X2)	LT/RT	BROKEN/SOLID	178				
102	A	S.R. 153	88+82		CL						1
102	A	S.R. 153	88+78		CL						1
102	CS	S.R. 153	88+96	90+00 (X2)	LT/RT	DOUBLE SOLID	208				
102	CH	S.R. 153	89+46	90+00	RT			54			
102	CH	S.R. 153	89+53	90+00	RT			47			
102	A	S.R. 153	89+88		CL						1
102	A	S.R. 153	89+88		RT						1
102	CW	BOLLINGER AVE NE			LT/RT					88	
102	CW	BOLLINGER AVE NE			LT/RT					65	
102	S	BOLLINGER AVE NE			LT				18		
102	CS	BOLLINGER AVE NE			CL	DOUBLE SOLID	172				
103	CS	S.R. 153	90+00	90+97 (X2)	LT	DOUBLE SOLID	194				
103	CH	S.R. 153	90+00	90+97	RT			97			
103	CH	S.R. 153	90+00	90+87	RT			87			
103	A	S.R. 153	90+36		CL						1
103	A	S.R. 153	90+36		RT						1
103	CH	S.R. 153	90+65	90+86	RT			21			
103	A	S.R. 153	90+86		CL						1
103	S	S.R. 153	90+99		LT/RT				26		
103	CW	S.R. 153			RT					18	
103	CW	S.R. 153			RT					18	
103	S	S.R. 153	92+76		LT/RT				26		
103	CS	S.R. 153	92+76	94+20 (X2)	RT	DOUBLE SOLID	284				
103	CH	S.R. 153	92+78	94+20	LT			142			
103	A	S.R. 153	93+07		CL						1
103	A	S.R. 153	93+84		CL						1
TOTAL THIS SHEET							3480	448	155	524	19

CALCULATED PAH
CHECKED CJO

PROPOSED PAVEMENT MARKING SUB-SUMMARY

E. G. & G., Inc.
Consulting Engineers • Architecture • Planning
388 South Main Street, Suite 100, Akron, Ohio 44311
(330) 376-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	TYPE	646 CENTER LINE	646 CHANNELIZING LINE	646 STOP LINE	646 CROSSWALK LINE	646 LANE ARROW
			FROM	TO			FT	FT	FT	FT	EACH
		HARMONT AVE NE									
103	S				LT				24		
103	CS				RT	DOUBLE SOLID	112				
103	CH				LT			58			
103	A				CL						1
103	A				CL						1
103	S				RT				28		
103	CS				LT	DOUBLE SOLID	172				
103	CH				RT			88			
103	A				CL						1
TOTAL THIS SHEET							284	142	52		3
TOTAL FROM SHEET							3668	62	84	835	22
TOTAL FROM SHEET							3480	448	155	524	19
TOTAL CARRIED TO GENERAL SUMMARY							7432	652	291	1159	44

CALCULATED PAH
CHECKED CJO

PROPOSED PAVEMENT MARKING SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301 AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME
							EACH	EACH	EACH	EACH	SF	EACH
96	1		57+02.8	LT	SPECIAL (EXIST)	24" X 12"			1		2	
96	2		57+04.3	LT	R23	30" X 30"			1		6.25	
96	3		57+09.6	LT	D3-1	VAR X 8"			1		1.3	1
96	4		57+12.5	RT	D3-1	VAR X 8"			1		1.3	1
96	5		57+15.7	RT	S1-1	30" X 30"					6.25	
96	5		57+15.7	RT	W16-7P	24" X 12"		1			2	
96	6		57+71.0	LT	S1-1	30" X 30"				1	6.25	
96	6		57+71.0	LT	W16-7P	24" X 12"				1	2	
96	7		58+13.6	RT	R7-1-12	12" X 18"				1	1.5	
96	8		58+63.5	LT	R7-1-12	12" X 18"				1	1.5	
96	9		58+75.6	RT	R3-H9J	6" X 24"					1	
96	9		58+75.6	RT	R3-9B	24" X 36"	1				6	
96	10		59+21.5	LT	R3-H9K	6" X 24"					1	
96	10		59+21.5	LT	R3-9B	24" X 36"	1				6	
97	11		60+17.5	LT	S1-1	30" X 30"					6.25	
97	11		60+17.5	LT	W16-7P	24" X 12"		1			2	
97	12		60+17.6	RT	R7-1-12	12" X 18"				1	1.5	
97	13		60+51.5	LT	R7-1-12	12" X 18"				1	1.5	
97	14		61+39.5	LT	D3-1	VAR X 8"				1	1.3	1
97	15		61+53.2	LT	R1-1-30	30" X 30"	1				6.25	
97	16		62+09.6	RT	R7-1-12	12" X 18"				1	1.5	
97	17		62+90.8	RT	R1-1-30	30" X 30"	1				6.25	
97	18		63+06.5	RT	R1-1-30	30" X 30"	1				6.25	
97	19		63+09.8	RT	D3-1	VAR X 8"				1	1.3	1
97	19		63+09.8	RT	R3-9B	24" X 36"				1	6	
97	20		63+30.8	LT	R7-1-12	12" X 18"				1	1.5	
97	21		64+15.1	RT	R7-1-12	12" X 18"				1	1.5	
98	22		66+01.4	LT	R7-1-12	12" X 18"				1	1.5	
98	23		66+22.9	RT	R7-1-12	12" X 18"				1	1.5	
98	24		67+05.1	RT	R1-1-30	30" X 30"	1				6.25	
98	25		67+29.2	RT	D3-1	VAR X 8"				1	1.3	1
98	26		68+06.5	LT	R3-9B	24" X 36"	1				6	
98	27		68+44.1	RT	R3-9B	24" X 36"				1	6	
98	28		69+00.5	LT	R7-1-12	12" X 18"				1	1.5	
99	29		70+04.5	LT	SPECIAL (EXIST)	12" X 18"				1	1.5	
99	30		70+30.7	RT	R1-1-30	30" X 30"	1				6.25	
99	31		70+69.8	RT	D3-1	VAR X 8"				1	1.3	1
99	31		70+69.8	RT	R3-9B	24" X 36"				1	6	
99	32		71+70.6	RT	R7-1-12	12" X 18"				1	1.5	
99	33		71+93.5	LT	R7-1-12	12" X 18"				1	1.5	
99	34		72+72.0	RT	SPECIAL (EXIST)	12" X 18"				1	1.5	
99	35		73+72.8	RT	R7-1-12	12" X 18"				1	1.5	
99	36		74+34.1	RT	R1-1-30	30" X 30"	1				6.25	
99	37		74+57.5	RT	D3-1	VAR X 8"					1.3	1
99	37		74+57.5	RT	W14-2	30" X 30"		1			6.25	
99	38		74+81.5	LT	R7-1-12	12" X 18"				1	1.5	
100	39		75+15.0	RT	R3-9B	24" X 36"	1				6	
100	40		75+73.4	RT	R7-1-12	12" X 18"				1	1.5	
100	41		75+85.4	LT	R3-9B	24" X 36"				1	6	
100	42		76+08.3	RT	R1-1-30	30" X 30"	1				6.25	
100	43		76+39.5	LT	SPECIAL (EXIST)	12" X 18"	1				1.5	
100	44		76+77.4	LT	R7-1-12	12" X 18"				1	1.5	
100	45		76+81.3	RT	S1-1	30" X 30"				1	6.25	
100	45		76+81.3	RT	W16-9P	24" X 12"				1	2	
100	46		77+19.5	LT	R2-1	24" X 30"	1				5	
100	47		77+72.9	RT	S1-1	30" X 30"	1				6.25	
100	47		77+72.9	RT	SPECIAL (EXIST)	12" X 18"					1.5	
100	48		77+76.1	LT	S1-1	30" X 30"	1				6.25	
100	49		77+90.4	LT	S1-1	30" X 30"	1				6.25	
100	50		78+37.8	LT	R2-1	24" X 30"	1				5	
100	51		78+98.4	RT	R2-1	24" X 30"	1				5	
100	52		79+34.4	RT	R7-1-12	12" X 18"				1	1.5	
		TOTAL THIS COLUMN					18	3	4	31	216	7

CALCULATED PAH
DRAWN
CHECKED CJO

TRAFFIC CONTROL
PROPOSED SIGN SUB-SUMMARY

E. G. & G., Inc.
Engineering • Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301 AKRON, OHIO 44311
(330) 376-2790 FAX (330) 376-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	SIGN HANGER ASSEMBLY, MAST ARM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME
							EACH	EACH	EACH	EACH	SF	EACH
100	53		78+58.2	LT	S1-1	30" X 30"				1	6.25	
100	53		78+58.2	LT	W16-9P	24" X 12"				1	2	
101	54		80+26.4	RT	R3-9B	24" X 36"				1	6	
101	55		81+50.2	LT	R7-1-12	12" X 18"				1	1.5	
101	56		82+11.3	RT	R7-1-12	12" X 18"				1	1.5	
101	57		83+42.2	LT	R3-9B	24" X 36"				1	6	
101	58		84+34.2	LT	R7-1-12	12" X 18"				1	1.5	
101	59		84+87.0	RT	R7-1-12	12" X 18"				1	1.5	
102	60		85+77.3	RT	R3-9B	24" X 36"				1	6	
102	61		86+19.4	LT	R7-1-12	12" X 18"				1	1.5	
102	62		87+46.6	LT	R1-1-30	30" X 30"	1				6.25	
102	63		87+54.5	RT	D3-1	VAR X 8"				1	1.3	1
102	63		87+54.5	RT	R7-1-12	12" X 18"				1	1.5	
102	64		88+34.9	LT	D3-1	VAR X 8"				1	1.3	1
102	64		88+34.9	LT	SPECIAL (EXIST)	12" X 18"				1	1.5	
102	65		88+50.3	RT	SPECIAL (EXIST)	12" X 18"				1	1.5	
102	66		88+80.1	RT	R3-8B	48" X 30"		1			10	
102	67		88+07.0	LT	R3-HJ9	6" X 24"					1	
102	67		88+07.0	LT	R3-9B	24" X 36"		1			6	
102	68		89+38.9	LT	R7-1-12	12" X 18"				1	1.5	
102	69		89+41.2	RT	R7-1-12	12" X 18"				1	1.5	
103	70		90+11.4	RT	R3-7R	30" X 30"	1				6.25	
103	71		90+78.8	RT	R1-2	36" X 36"					9	
103	71		90+78.8	RT	R5-1	30" X 30"		2			6.25	
103	72		91+19.8	LT	M3-4	24" X 12"					2	
103	72		91+19.8	LT	M1-5	24" X 24"	1				4	
103	73		93+80.0	LT	R7-1-12	12" X 18"				1	1.5	
103	74		94+10.0	LT	R3-8	30" X 30"	1				6.25	
103	74		94+10.0	LT	SPECIAL (EXIST)	12" X 18"					1.5	
TOTAL THIS COLUMN							4	4		18	103.85	2

CALCULATED PAH
CHECKED CJO

TRAFFIC CONTROL
PROPOSED SIGN SUB-SUMMARY

E. C. & C., Inc.
Engineering Architecture • Planning • Engineering
300 SOUTH MAIN STREET, SUITE 301 AKRON, OHIO 44311
(330) 376-2790 FAX (330) 376-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT

LOCATION		661	661	661						
		DECIDUOUS TREE, 3" CALIPER (CLEVELAND SELECT PEAR)	LANDSCAPE WATERING	TREE GRATE						
STATION	SIDE	EACH	GAL	EACH						
MAHONING ROAD NE S.R. 153										
57+41.6	RT	1	25	1						
57+89.6	RT	1	25	1						
58+33.6	RT	1	25	1						
58+89.6	RT	1	25	1						
59+69.8	RT	1	25	1						
60+41.6	RT	1	25	1						
60+89.6	RT	1	25	1						
61+45.8	RT	1	25	1						
61+85.6	RT	1	25	1						
75+33.5	LT	1	25	1						
76+09.5	LT	1	25	1						
76+57.5	LT	1	25	1						
76+97.5	LT	1	25	1						
77+45.5	LT	1	25	1						
78+90.2	LT	1	25	1						
79+34.2	LT	1	25	1						
79+82.2	LT	1	25	1						
80+30.2	LT	1	25	1						
81+30.2	LT	1	25	1						
TOTAL THIS COLUMN		19	475	19						

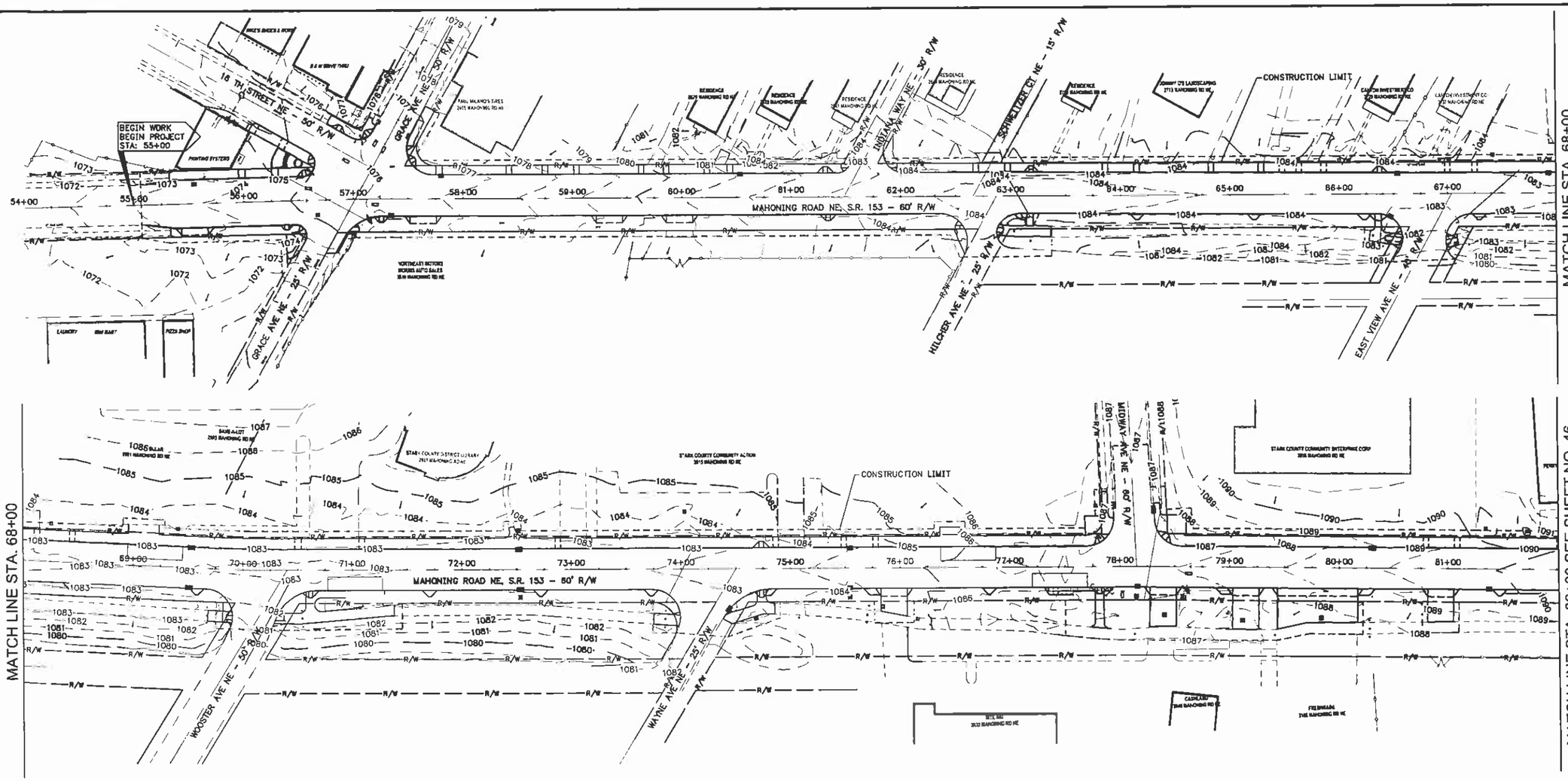
LOCATION		661	661	661						
		DECIDUOUS TREE, 3" CALIPER (CLEVELAND SELECT PEAR)	LANDSCAPE WATERING	TREE GRATE						
STATION	SIDE	EACH	GAL	EACH						
TOTAL THIS COLUMN										
TOTAL FROM LEFT COLUMN		19	475	19						
TOTAL CARRIED TO GENERAL SUMMARY		19	475	19						

CALCULATED PAH
CHECKED CJO

STREETSCAPE SUB-SUMMARY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET SUITE 301 AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE. S.R. 153
ECONOMIC DEVELOPMENT PROJECT



PROJECT DESCRIPTION

THE PROJECT WORK INVOLVES THE IMPROVEMENT OF APPROXIMATELY 0.67 MILES OF MAHONING ROAD NE, S.R. 153 BETWEEN THE GRACE AVENUE NE AND HARMONT AVENUE NE INTERSECTIONS. THE IMPROVEMENTS INCLUDE NEW CURB, SIDEWALK, PLANTERS, SIGNING, AND STREET LIGHTING.

PROJECT DATA

TOTAL PROJECT AREA (RIGHT-OF-WAY)	6.74 ACRES
TOTAL DRAINAGE AREA	12.44 ACRES
PROJECT DISTURBED EARTH AREA	2.46 ACRES
RATIONAL METHOD RUNOFF COEFFICIENT	
PRE-CONSTRUCTION	0.85
POST CONSTRUCTION	0.85
IMPERVIOUS (PAVED) AREA	
PRE-CONSTRUCTION	5.0 ACRES
POST CONSTRUCTION	5.0 ACRES
PROJECT AREA SOIL AND WATER CONSERVATION MAP	SOIL SURVEY OF STARK COUNTY
RECEIVING WATERS	MIDDLE BRANCH NIMISHILLEN CREEK
PROJECT LOCATION	
LONGITUDE	W 81°19'47"
LATITUDE	N 40°49'02"N
USGS QUADRANT NO.	40081-G3-TF-024

CALCULATED: MAT
CHECKED: JGG

0 25' 50' 100
HORIZONTAL SCALE 1"=50'

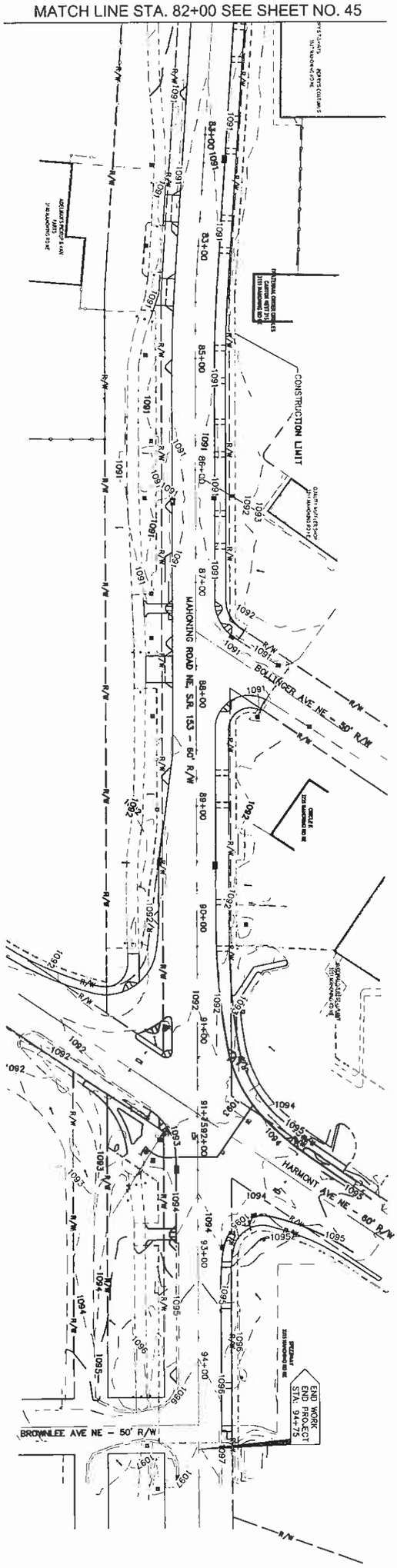
PROJECT SITE PLAN
STA. 54+00 TO STA. 82+00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

MATCH LINE STA. 82+00 SEE SHEET NO. 45



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

46
122

MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

PROJECT SITE PLAN
STA. 82+00 TO STA. 95+00

CALCULATED: MAT
CHECKED: JGG

0 50'
25' 100
HORIZONTAL SCALE
1"=50'

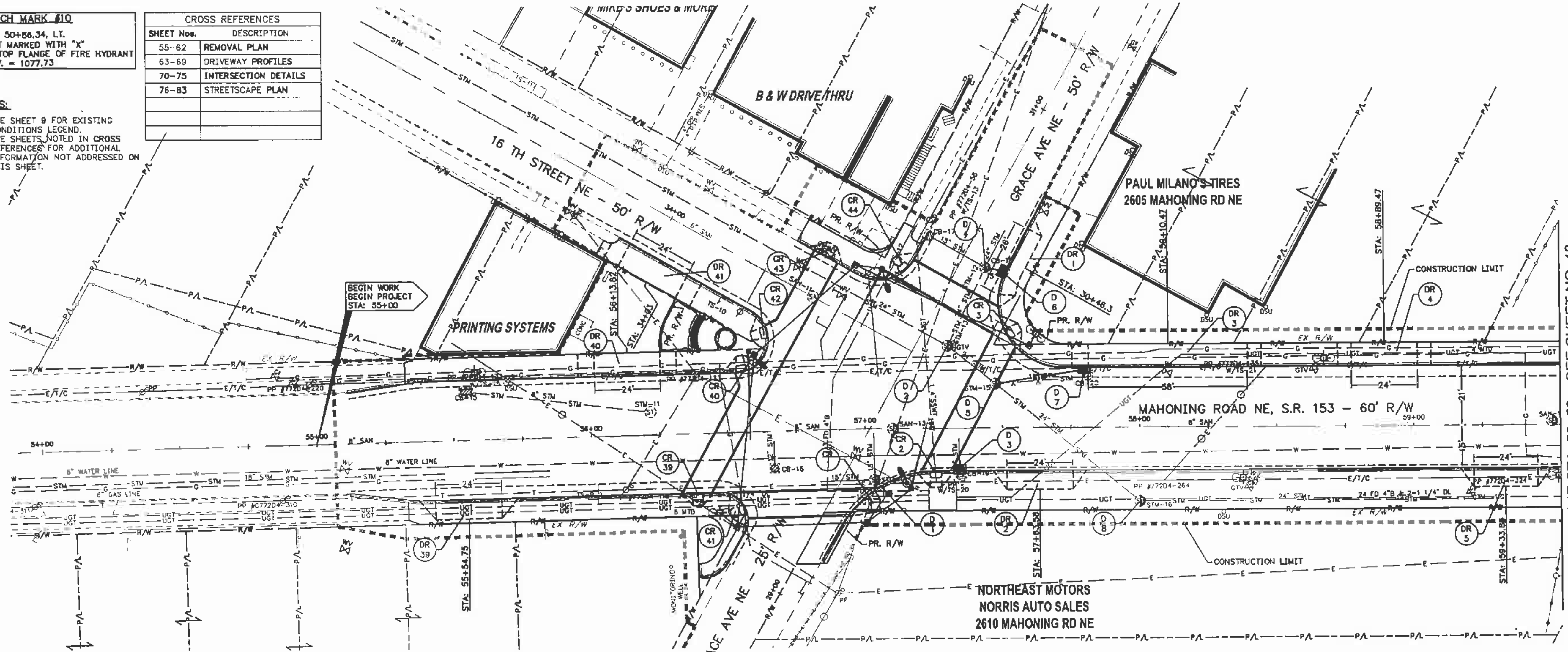
BENCH MARK #10

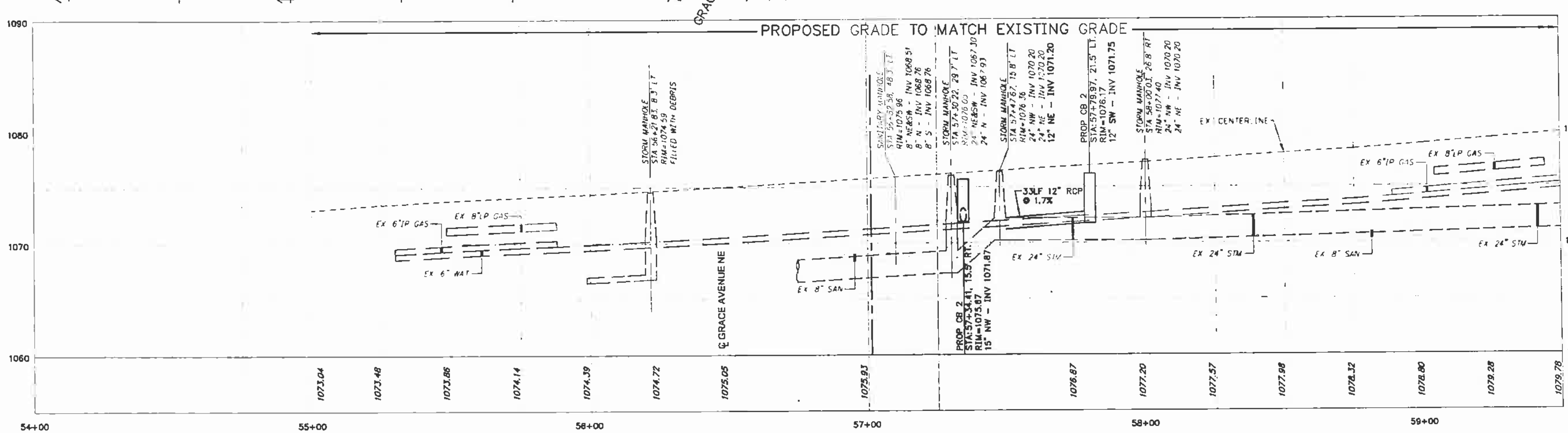
STA. 50+58.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.





EXISTING PROFILE

VERT. SCALE: 1"=5'
HORIZ. SCALE: 1"=20'

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

PLAN & PROFILE
STA. 55+00 TO STA. 59+50

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

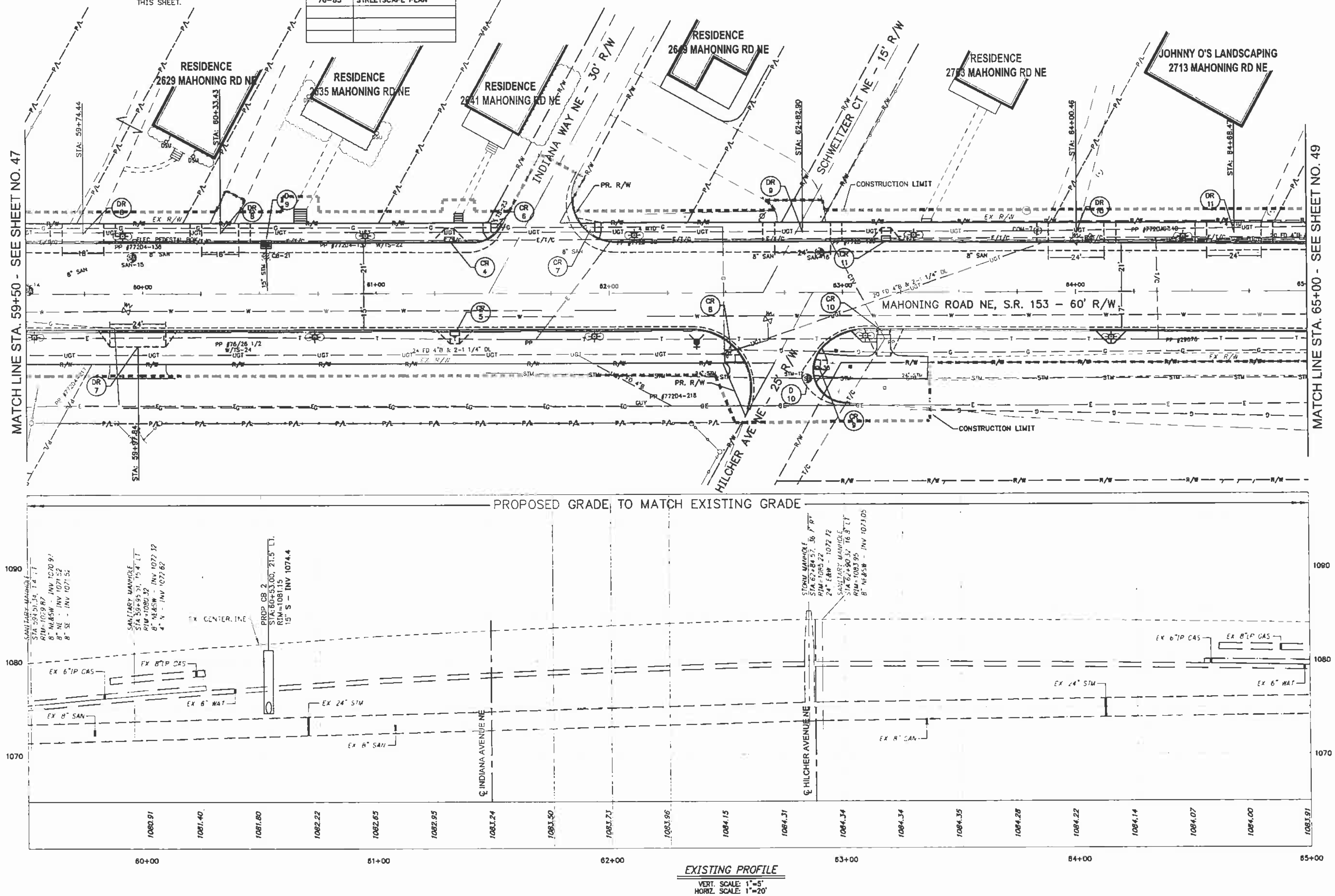
BENCH MARK #11
STA. 60+50.10, RT.
SW BOLT ON BOTTOM FLANGE
OF FIRE HYDRANT
ELEV. = 1085.39

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES

SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN



HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

PLAN & PROFILE
STA. 59+50 TO STA. 65+00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

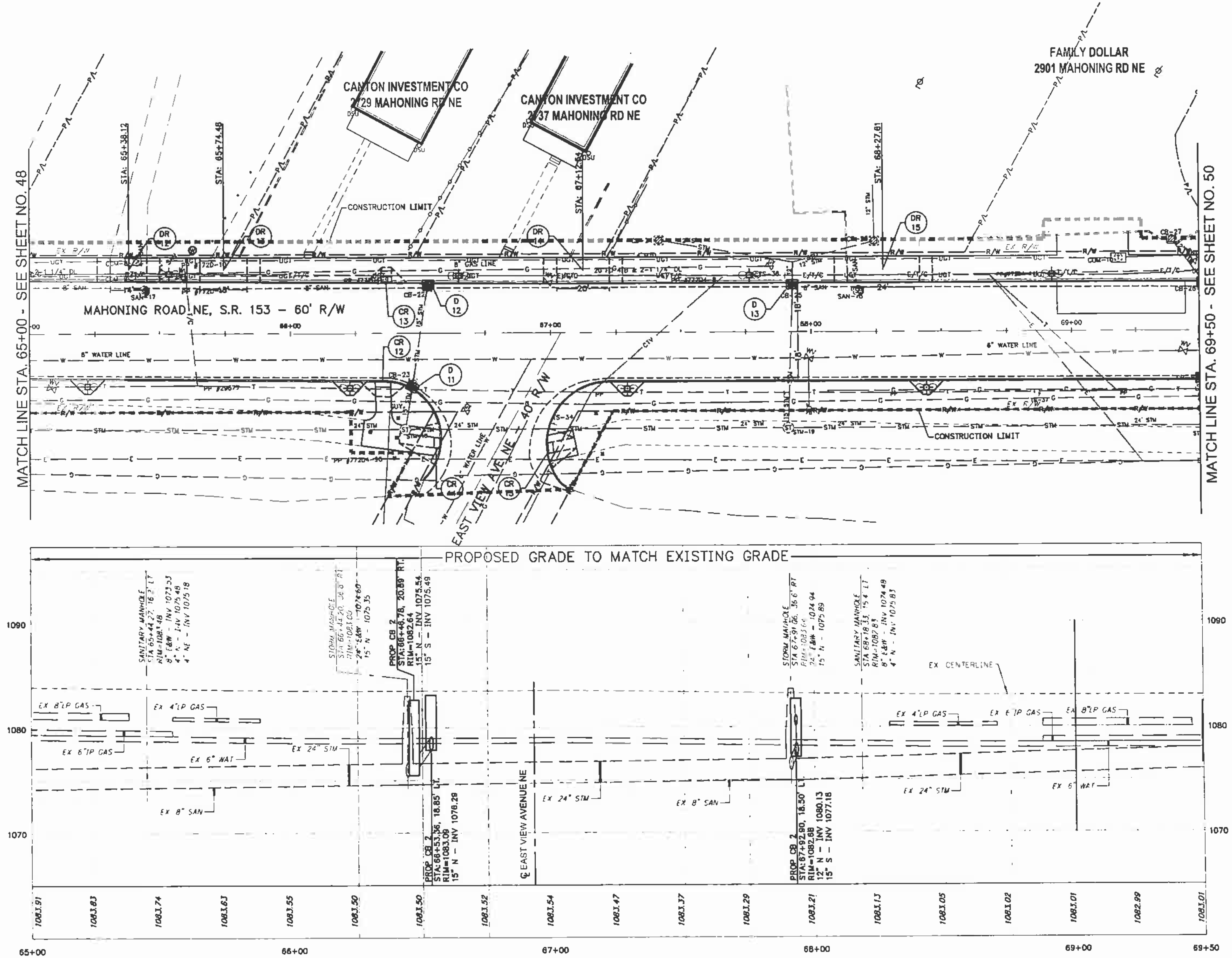
BENCH MARK #12

STA. 67+99.08, RT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1085.88

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN



EXISTING PROFILE

VERT. SCALE: 1"=5'
HORIZ. SCALE: 1"=20'

0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

PLAN & PROFILE
STA. 65+00 TO STA. 69+50

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

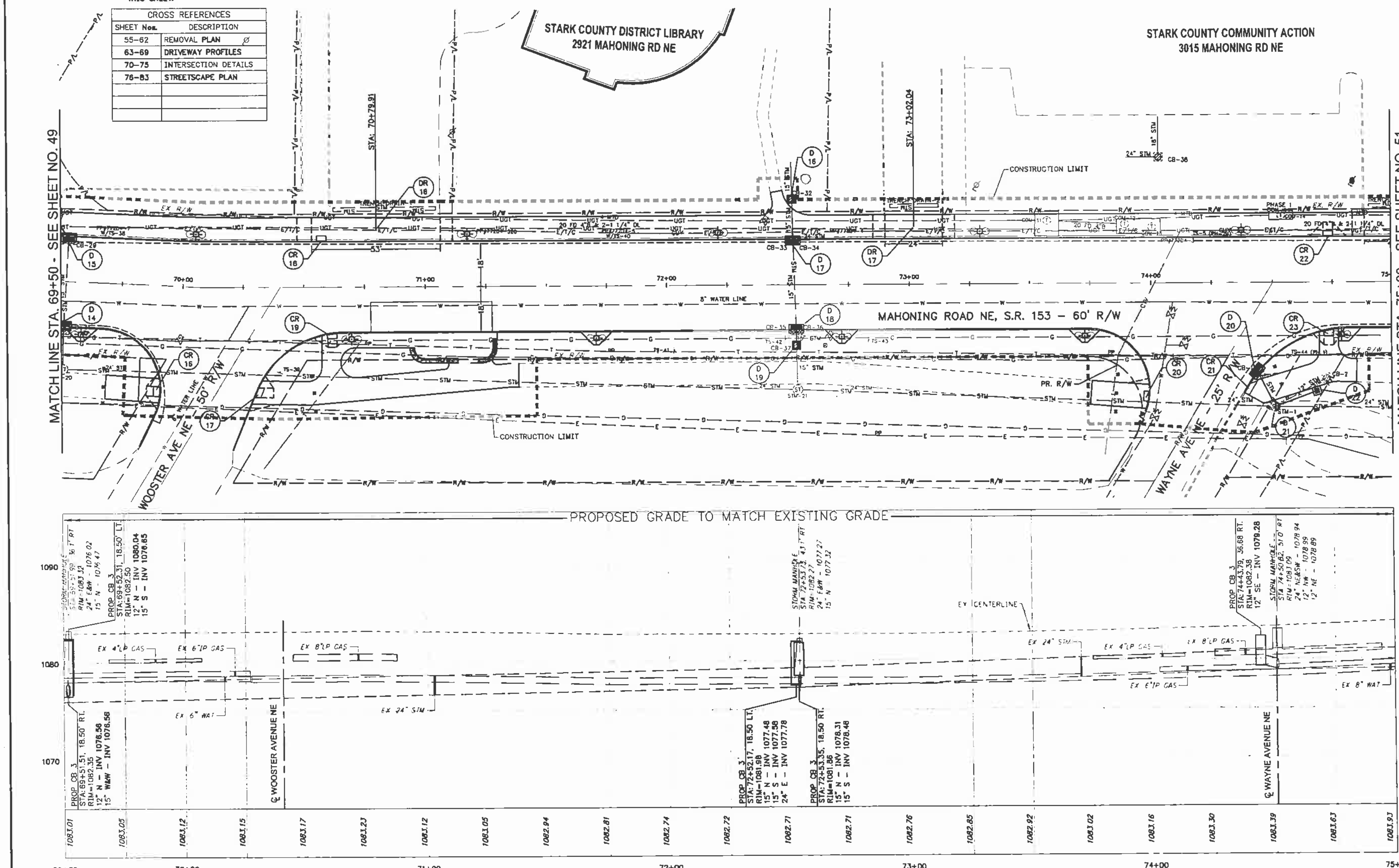
MAHONING ROAD NE
STA-0153-01.70

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

BENCH MARK #13
STA. 74+12.46, RT.
RR SPIKE 1' UP SOUTH SIDE OF POLE PP#77204-3
ELEV. = 1084.53

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN



EXISTING PROFILE
VERT. SCALE: 1"=5'
HORIZ. SCALE: 1"=20'

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

REVISIONS | DATE | BY

PLAN & PROFILE
STA. 69+50 TO STA. 75+00

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

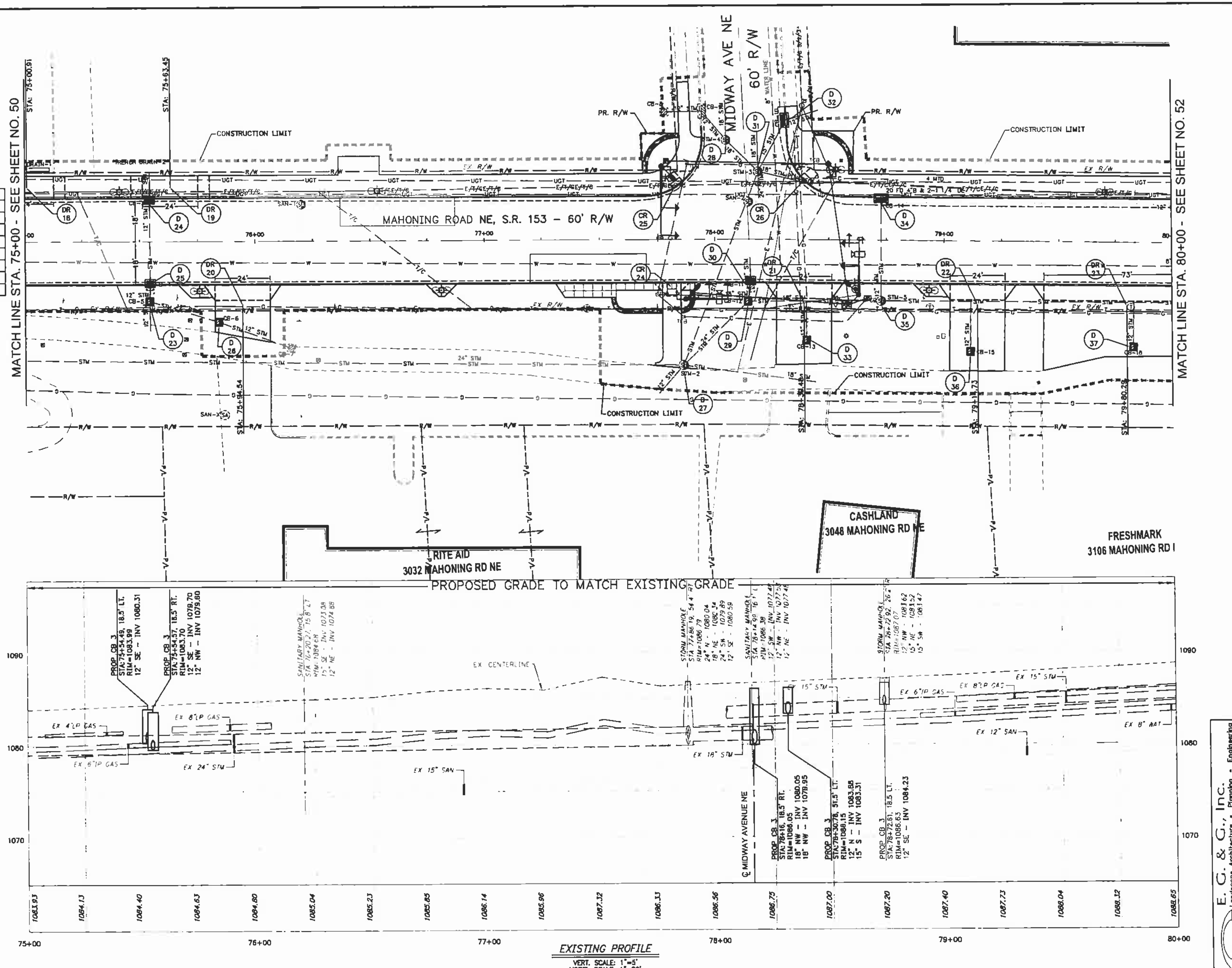
MAHONING ROAD NE
STA-0153-01.70

BENCH MARK #14
STA. 78+61.54, 30.0' RT.
NW BOLT IN TRAFFIC SIGNAL POLE BASE
ELEV. = 1087.73

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN



HORIZONTAL SCALE 1"=20'
0 10' 20' 40'

CALCULATED: MAT
CHECKED: JGG

REVISIONS | DATE | BY

PLAN & PROFILE
STA. 75+00 TO STA. 80+00

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

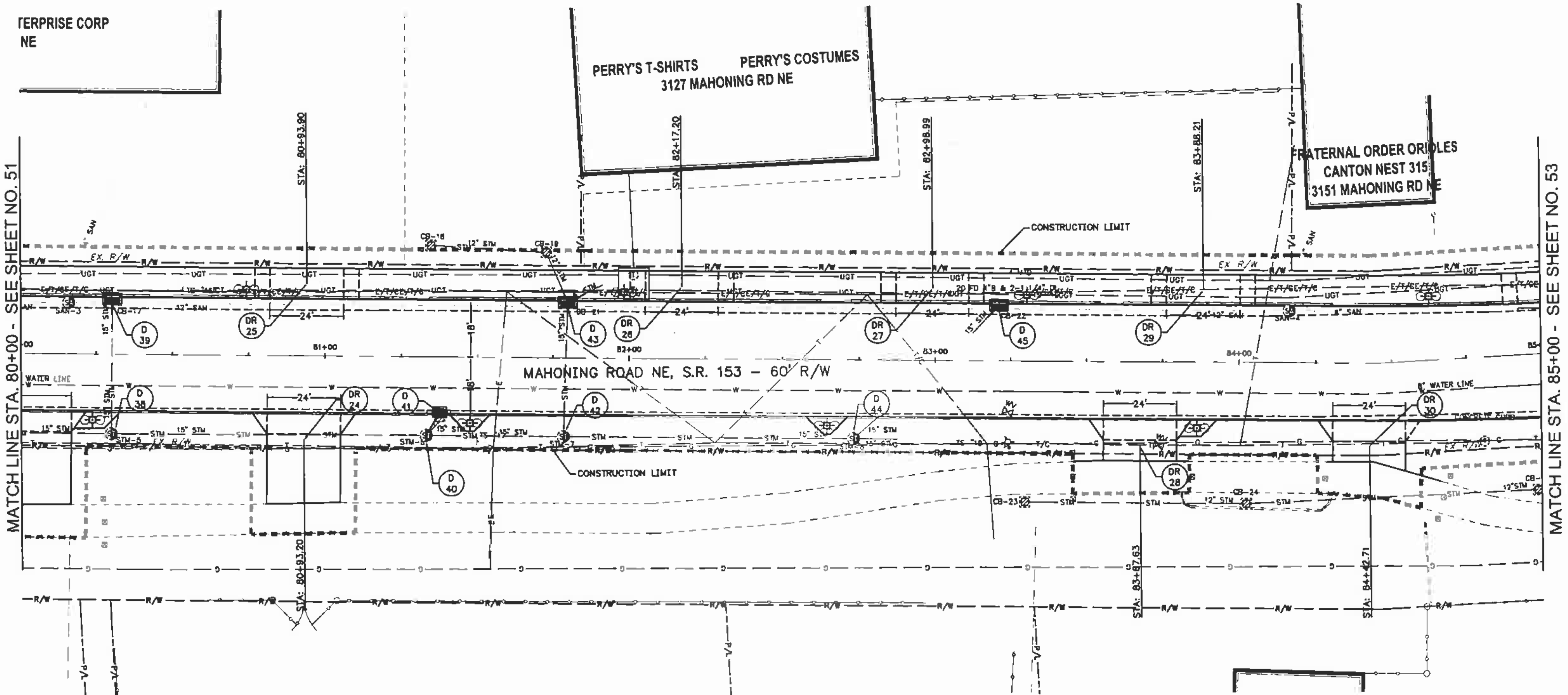
BENCH MARK #15

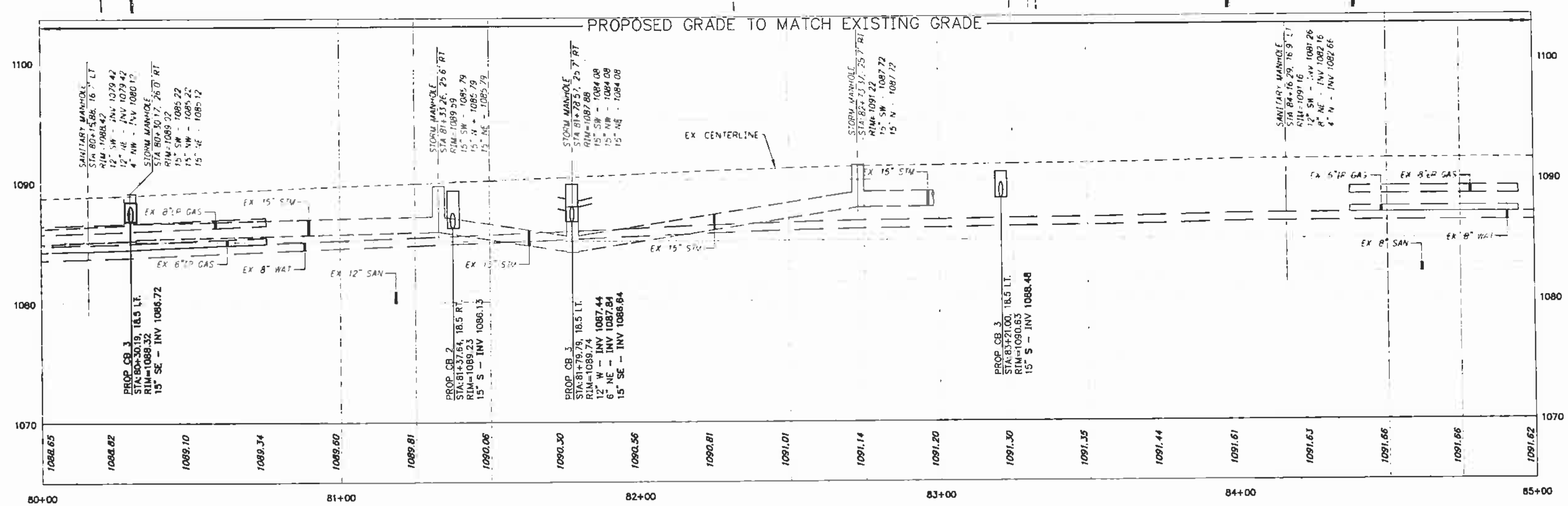
STA. 83+24.14, 26.5' RT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1092.92

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN





EXISTING PROFILE
VERT. SCALE: 1"=5'
HORIZ. SCALE: 1"=20'

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

PLAN & PROFILE
STA. 80+00 TO STA. 85+00

REVISIONS	DATE	BY

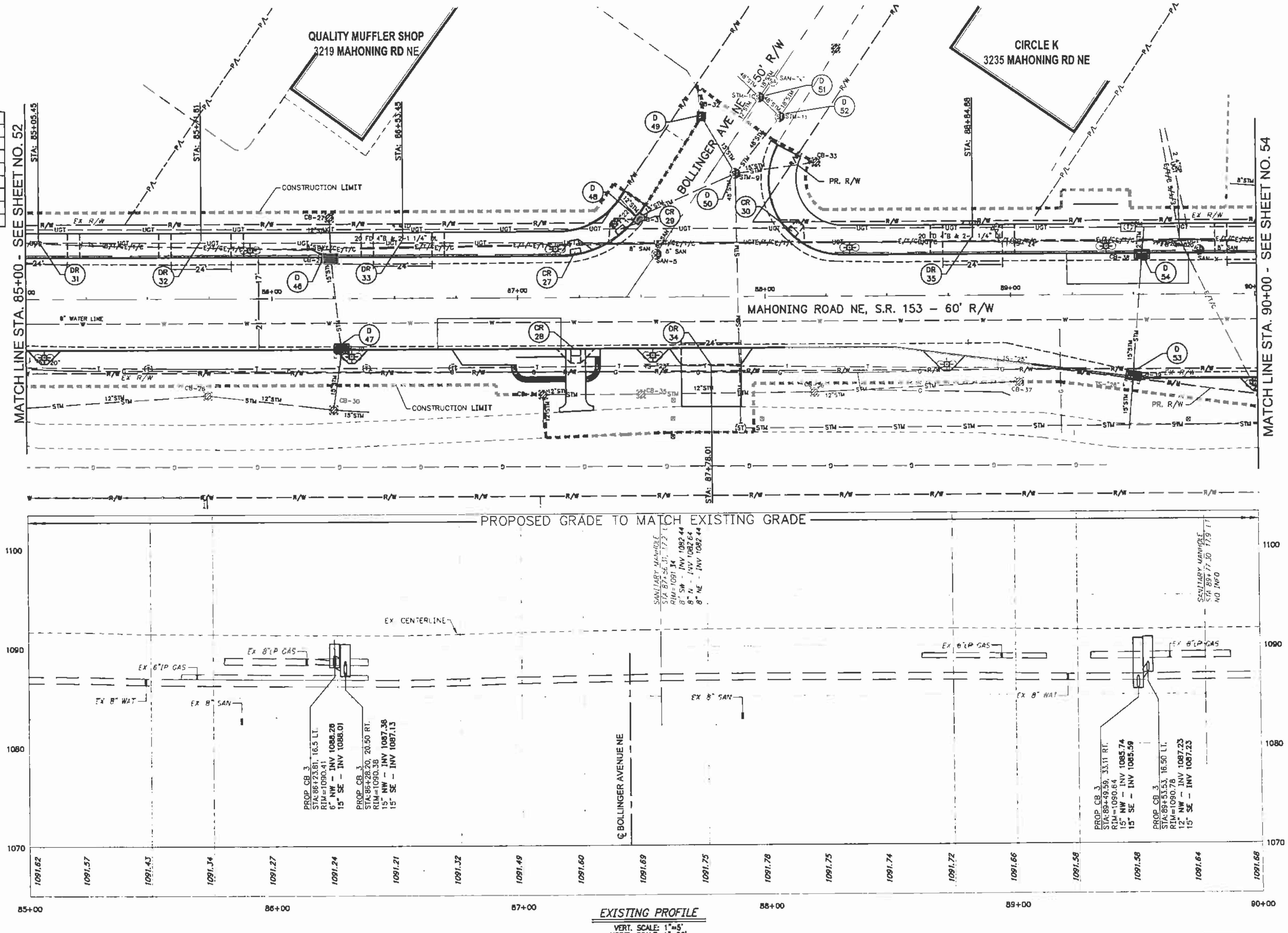
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
55–62	REMOVAL PLAN
63–69	DRIVEWAY PROFILES
70–75	INTERSECTION DETAILS
76–83	STREETSCAPE PLAN



CALCULATED: MAT
CHECKED: JGG

REVISIONS | DATE | BY

PLAN & PROFILE
STA. 85+00 TO STA. 90+00

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

BENCH MARK #16
STA. 91+87.07, 34.8' RT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1095.64

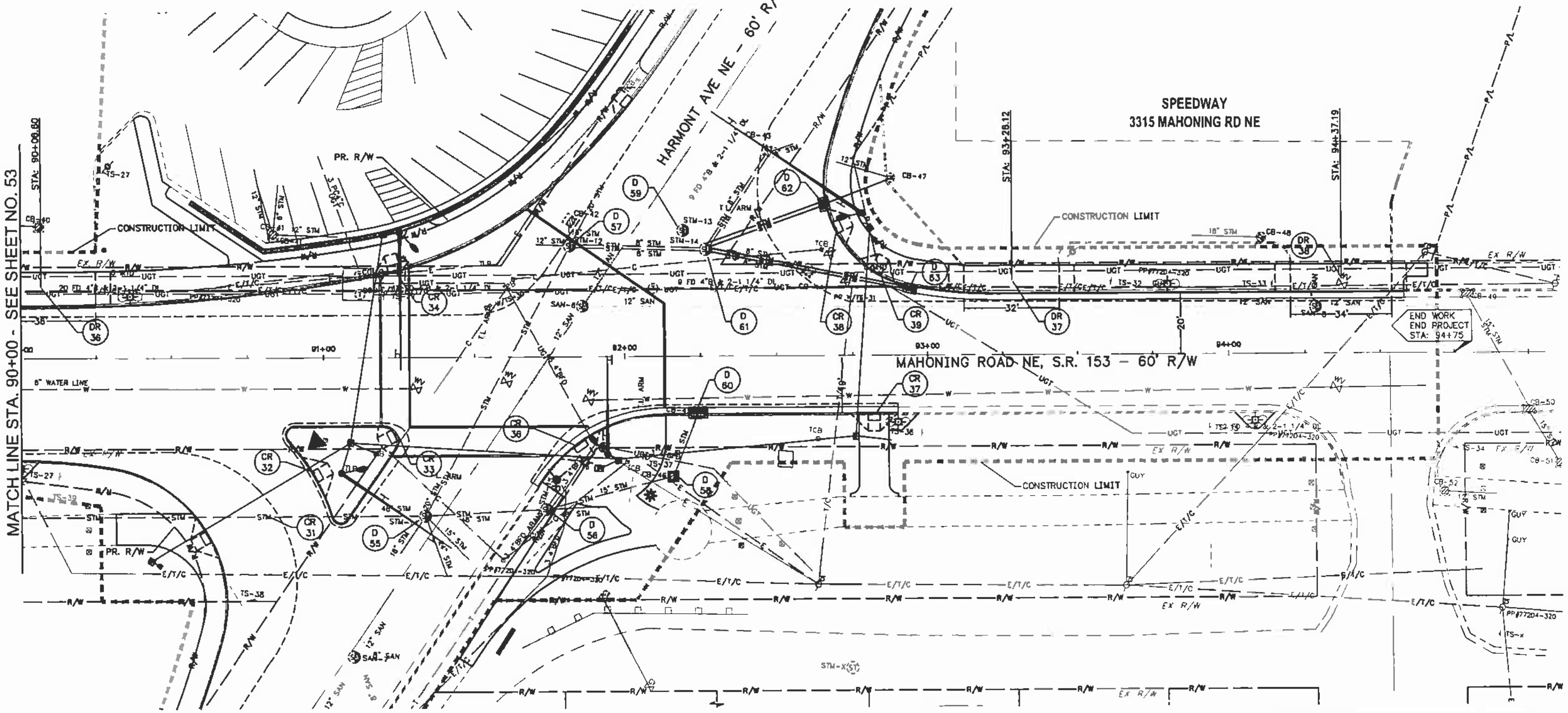
BENCH MARK #17
STA. 97+11.15, 27.0' RT.
SPIKE 1' UP SOUTH SIDE
POWER POLE
ELEV. = 1099.83

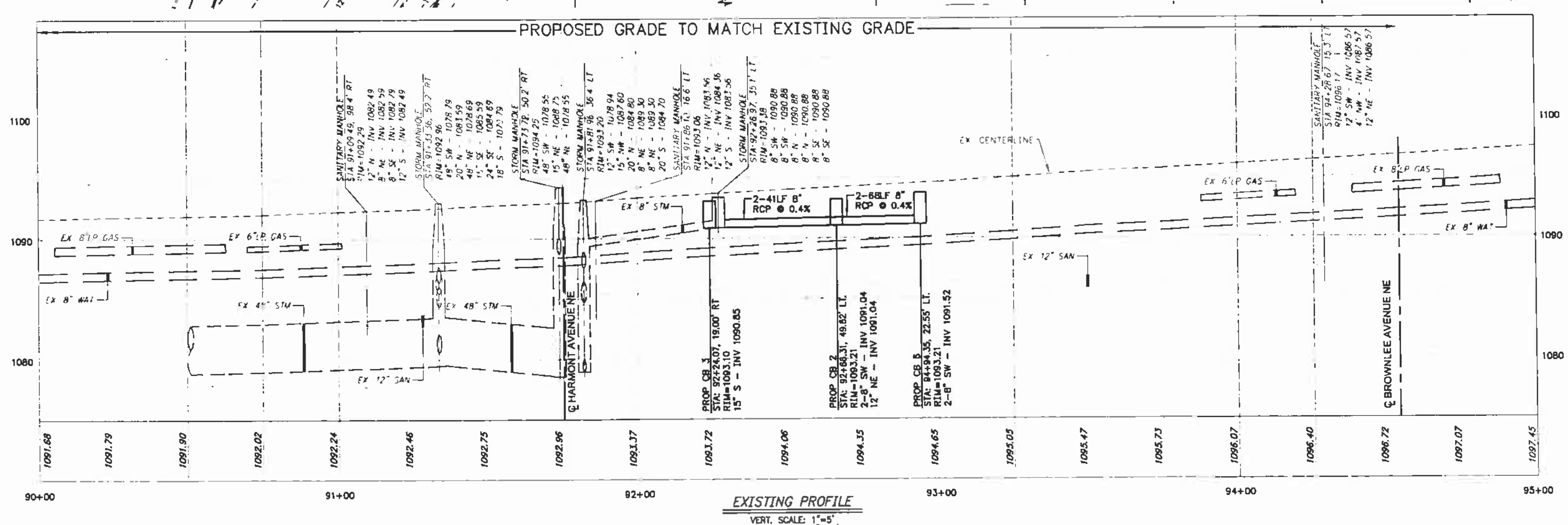
NOTES:

1. SEE SHEET 9 FOR EXISTING CONDITIONS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES

SHEET Nos.	DESCRIPTION
55-62	REMOVAL PLAN
63-69	DRIVEWAY PROFILES
70-75	INTERSECTION DETAILS
76-83	STREETSCAPE PLAN





EXISTING PROFILE
VERT. SCALE: 1"=5'
HORIZ. SCALE: 1"=20'

0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

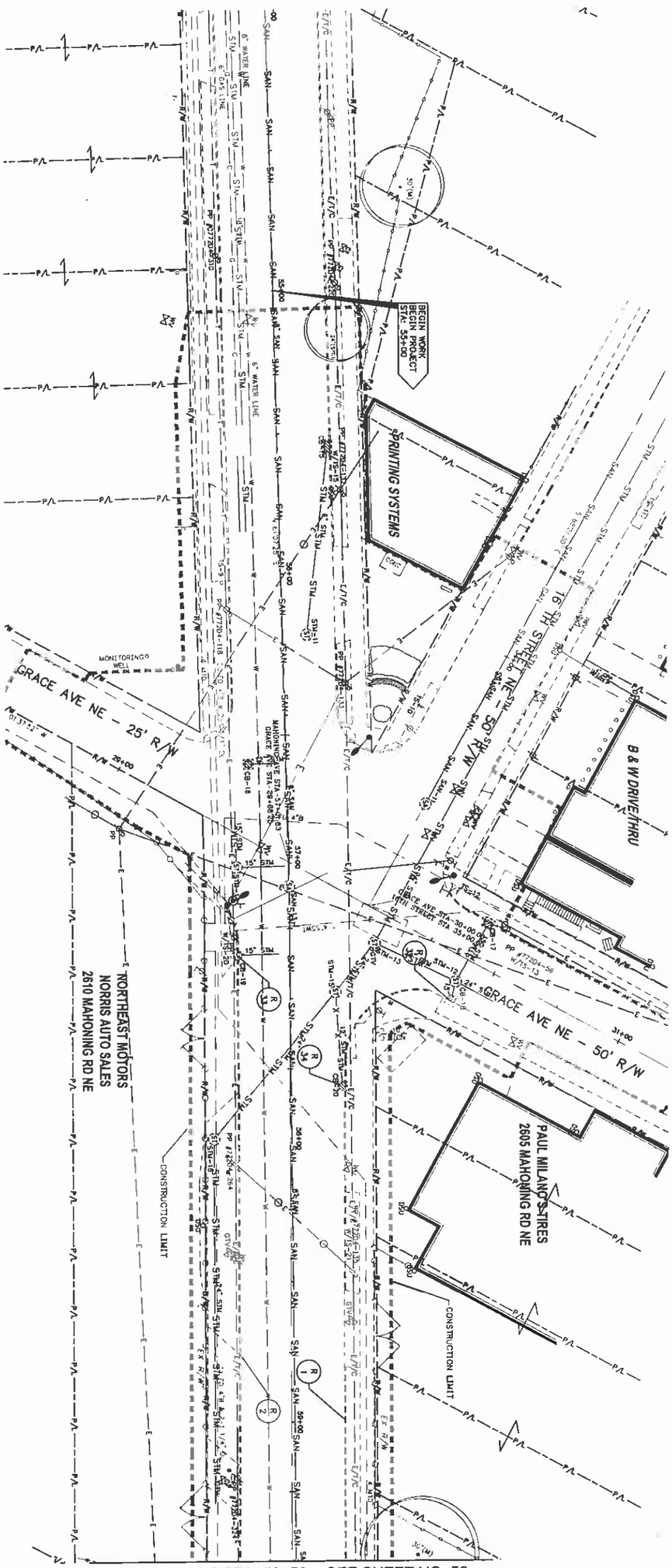
PLAN & PROFILE
STA. 90+00 TO STA. 95+00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

G:\Drawings\NEAR Construction\GRACE to HARMON\T - PHASE 1\55-62 Removal Plan.dwg, 8/3/2011 11:12:41 AM



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

55
114

MAHONING ROAD NE
STA-0153-01.70

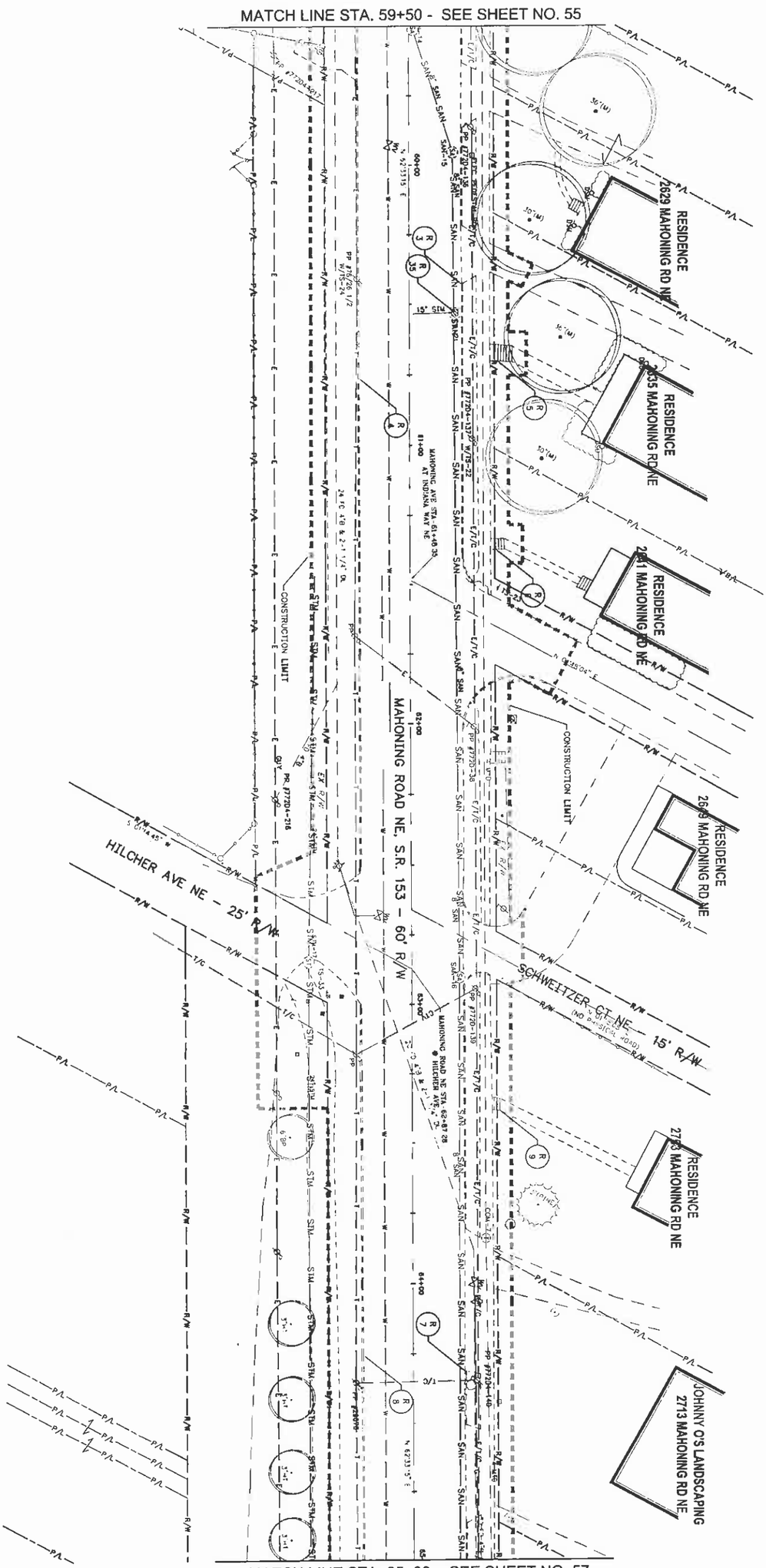
REVISIONS	DATE	BY

REMOVAL PLAN
STA. 54+00 TO STA. 59+50

CALCULATED: MAT
CHECKED: JGG

0 10' 20' 40'
HORIZONTAL SCALE
1"=20'

N



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

56
114

MAHONING ROAD NE
STA-0153-01.70

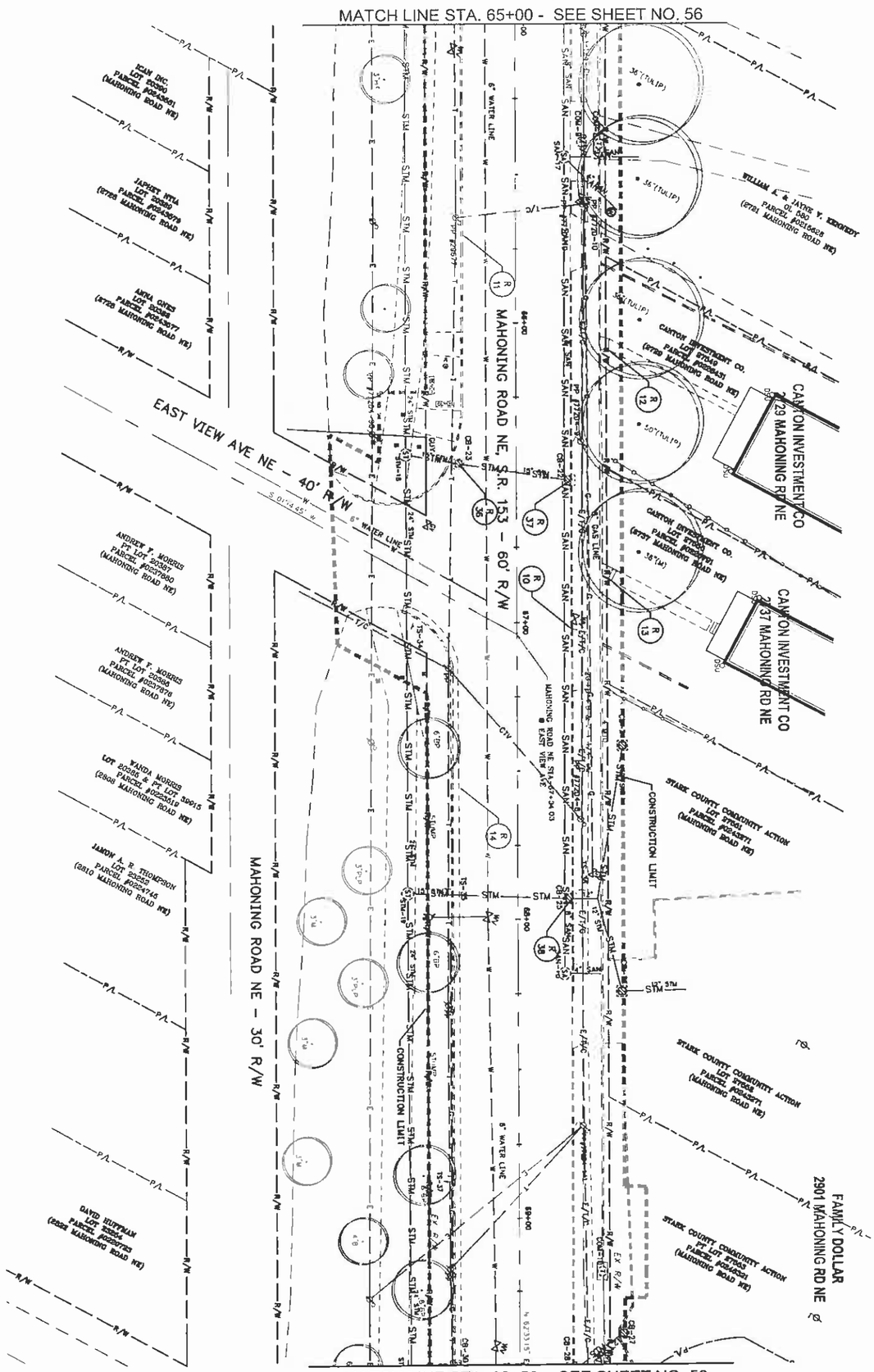
REVISIONS	DATE	BY

REMOVAL PLAN
STA. 59+50 TO STA. 65+00

CALCULATED: MAT
CHECKED: JGG

0 10' 20' 40'
HORIZONTAL SCALE
1"=20'

G:\Drawings\NEAR Construction\GRACE to HARMONY - PHASE 1\55-62 Removal Plan.dwg 8/7/2011 11:15:15 AM



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

57
114

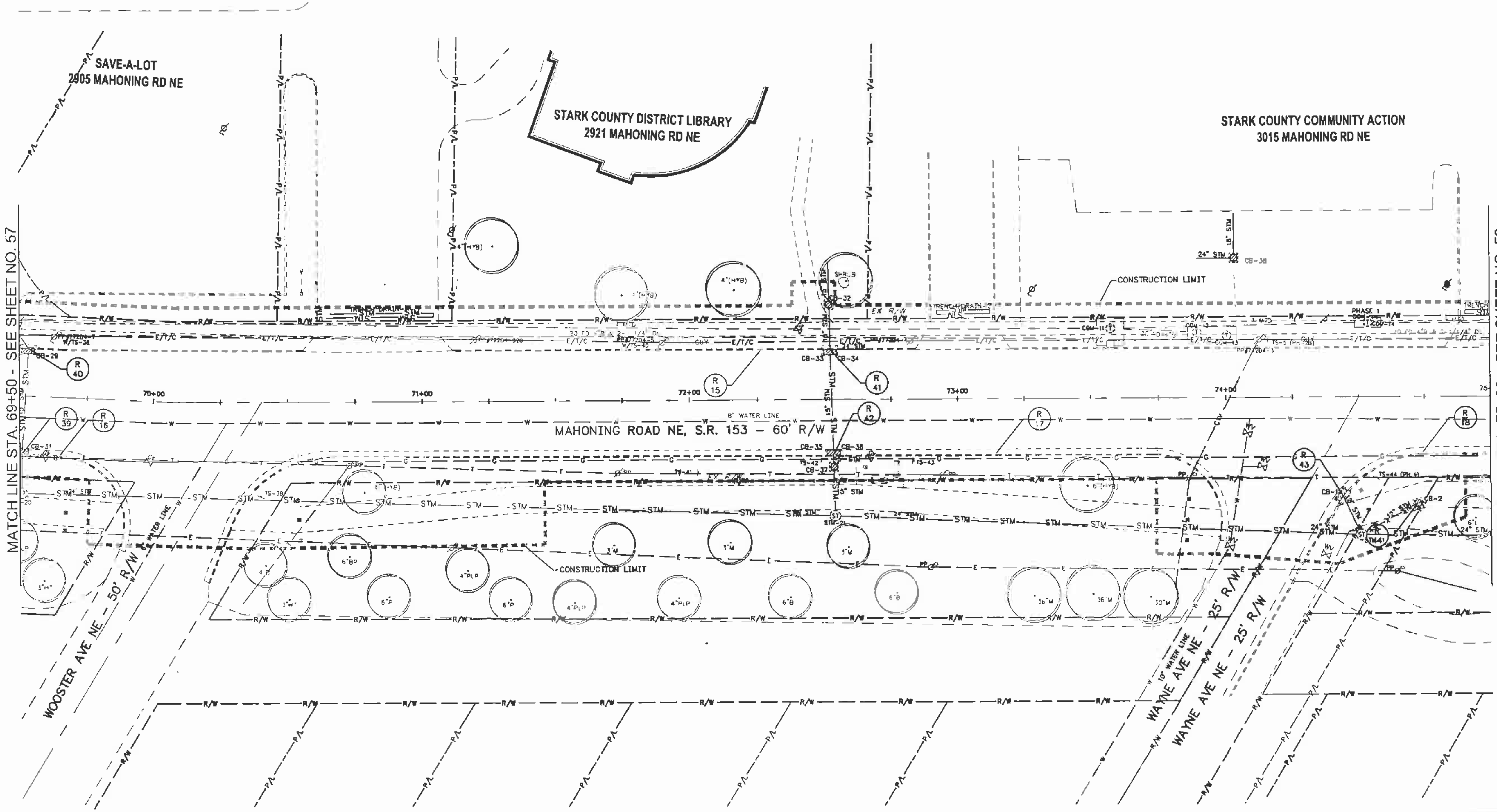
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

REMOVAL PLAN
STA. 65+00 TO STA. 69+50

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



REMOVAL PLAN
STA. 69+50 TO STA. 75+00

HORIZONTAL SCALE 1"=20'
0 10' 20' 40'

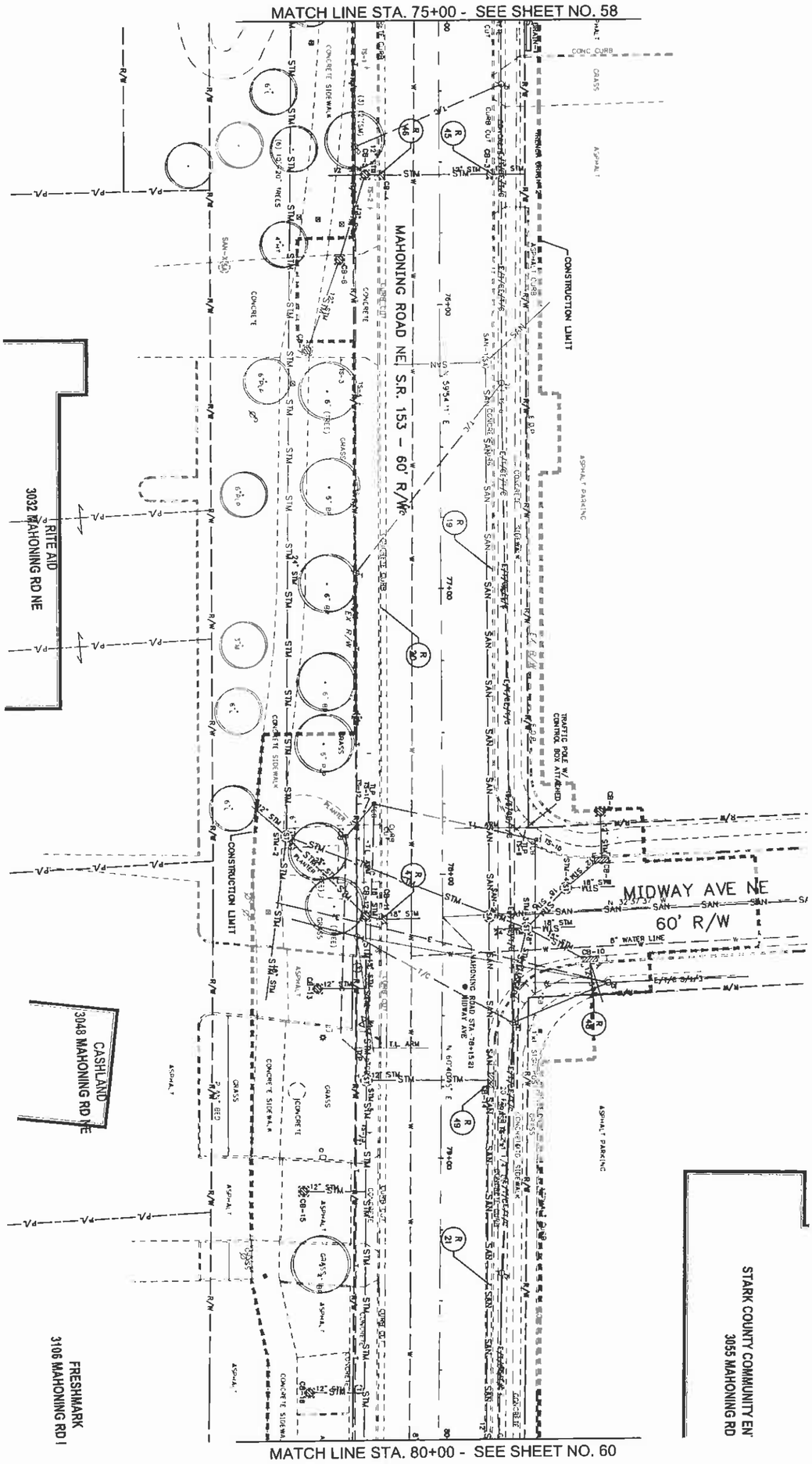
CALCULATED: MAT
CHECKED: JGG

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

G:\Drawings\NEAR Construction\GRAC (to HARMONY - PHASE 1\55-62 Removal Plan.dwg 8/2/2011 11:39:57 AM



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2780 FAX (330) 379-2791

59
114

MAHONING ROAD NE
STA-0153-01.70

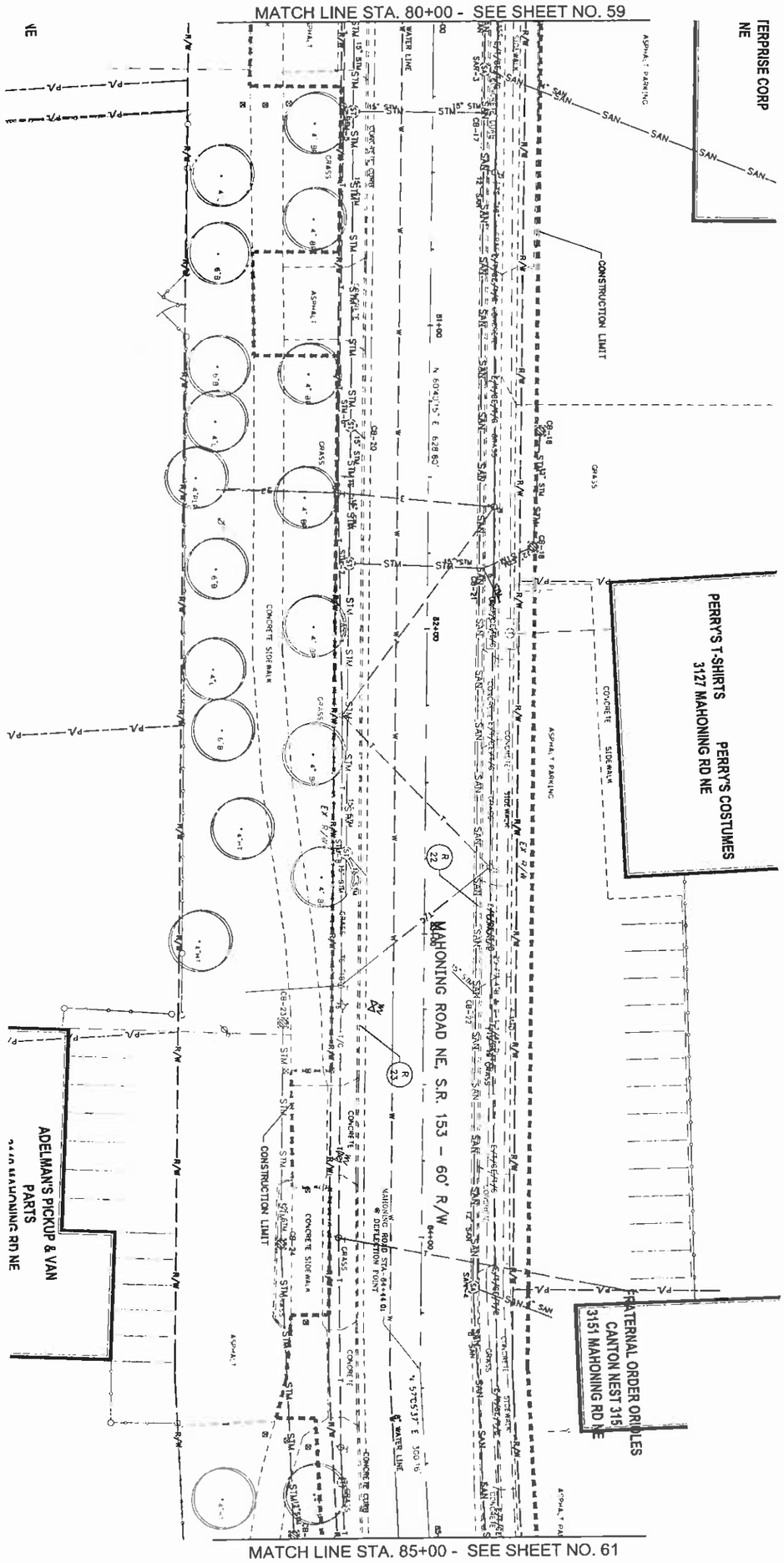
REVISIONS	DATE	BY

REMOVAL PLAN
STA. 75+00 TO STA. 80+00

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'

G:\Drawings\NEAR Construction\CURRENT\MAHONING - PHASE 3\55-62 Removal Plan.dwg, 8/7/2011 11:22:42 AM



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

60
114

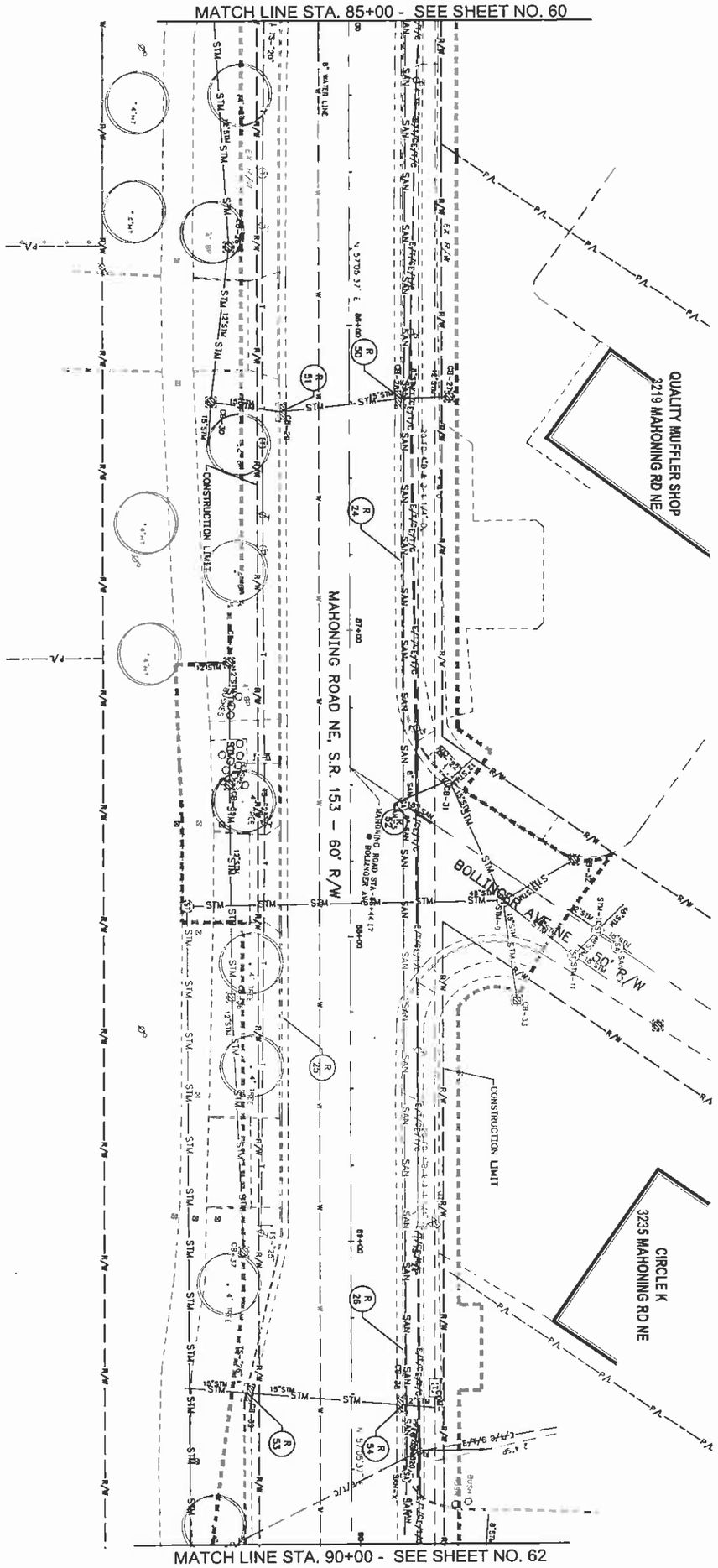
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

REMOVAL PLAN
STA. 80+00 TO STA. 85+00

CALCULATED: MAT
CHECKED: JGG

0 20' 40'
10'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

61
114

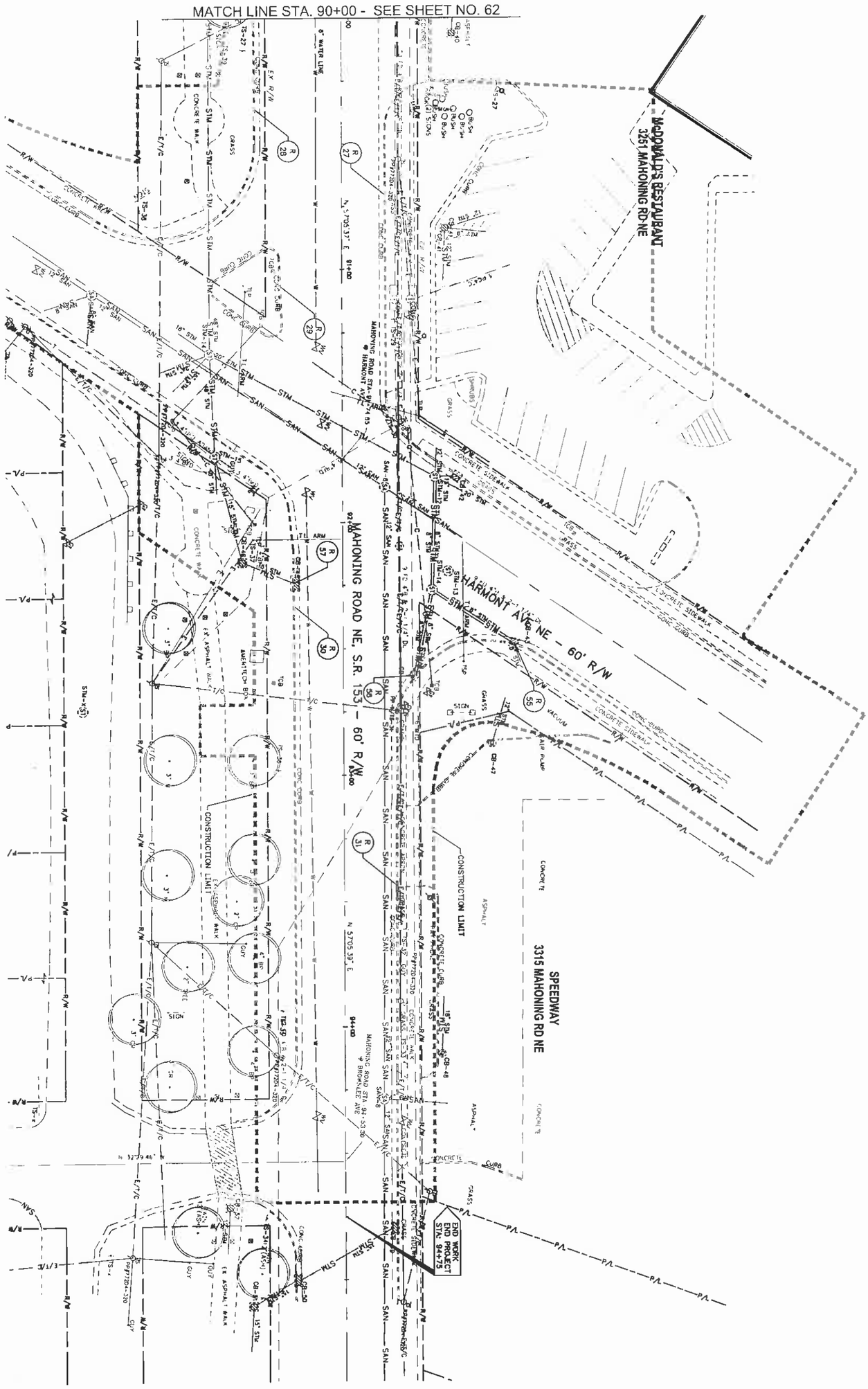
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

REMOVAL PLAN
STA. 85+00 TO STA. 90+00

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

62
114

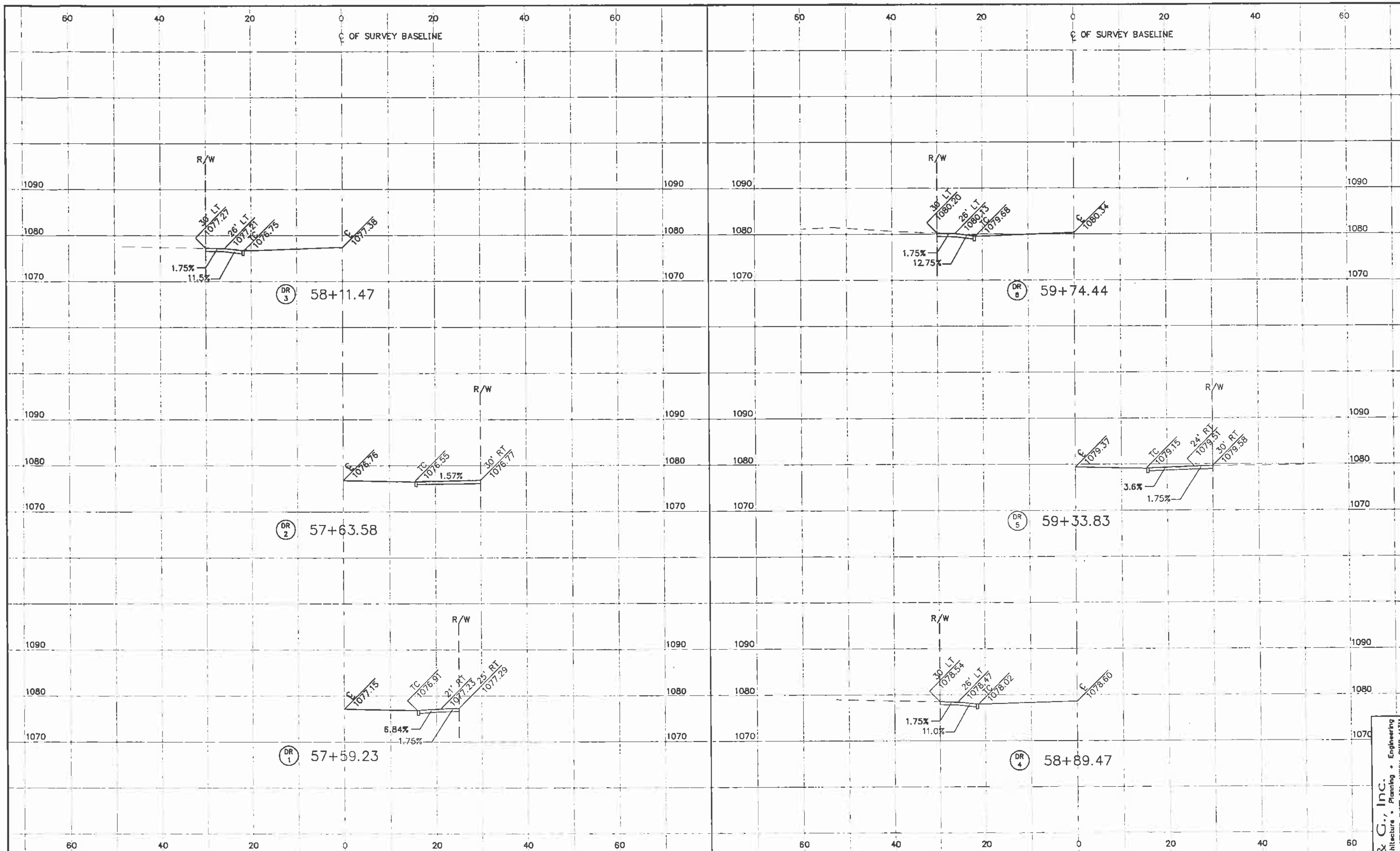
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

REMOVAL PLAN
STA. 90+00 TO STA. 95+00

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



BENCH MARK #10

STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE 1"=20'
0 10' 20' 40'

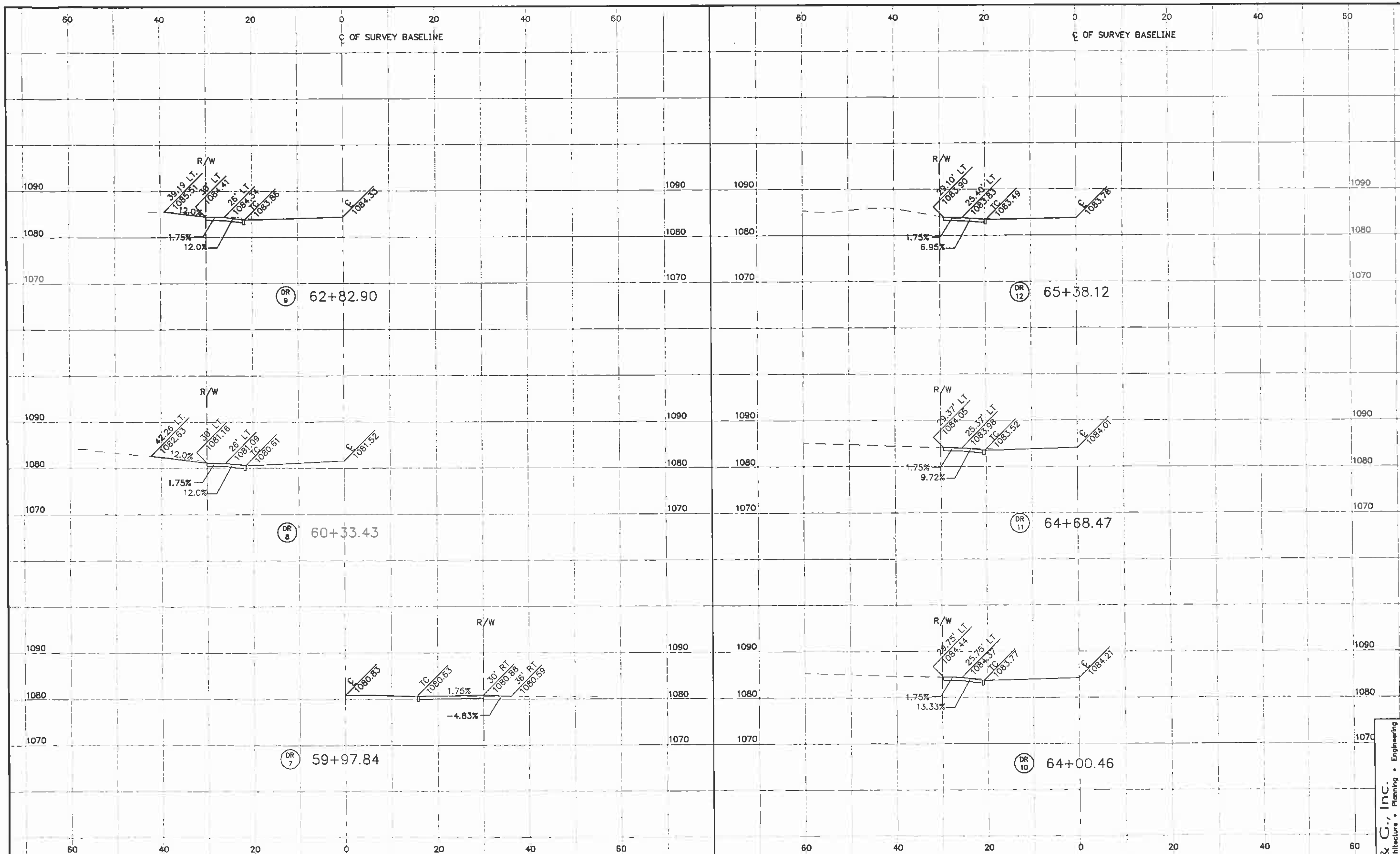
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 57+59.23 TO STA. 59+74.44

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10
STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE 1"=20'
0 10' 20' 40'

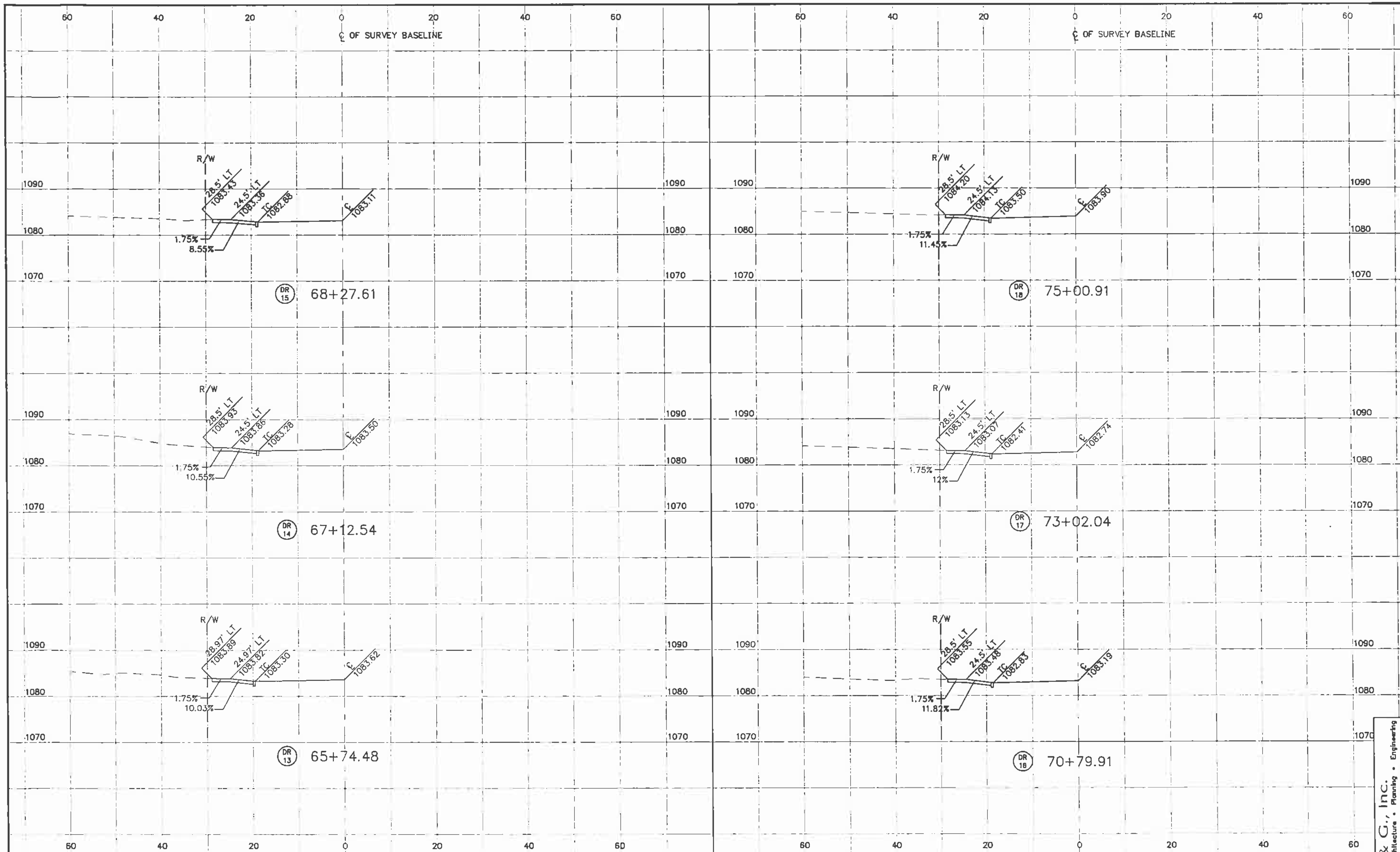
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 59+97.84 TO STA. 65+38.12

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10
STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

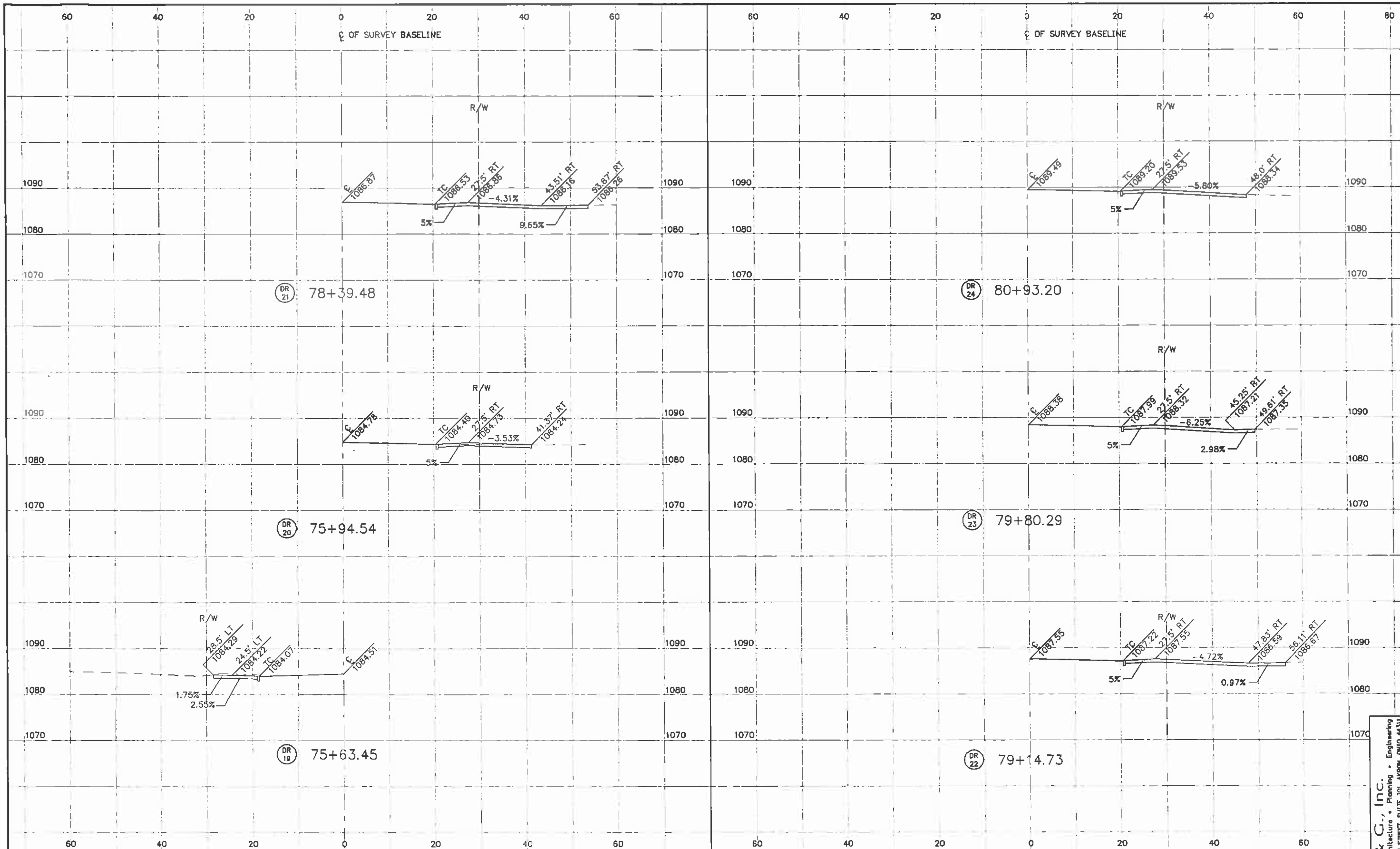
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 65+74.48 TO STA. 75+00.91

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 378-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10
STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE 1"=20'

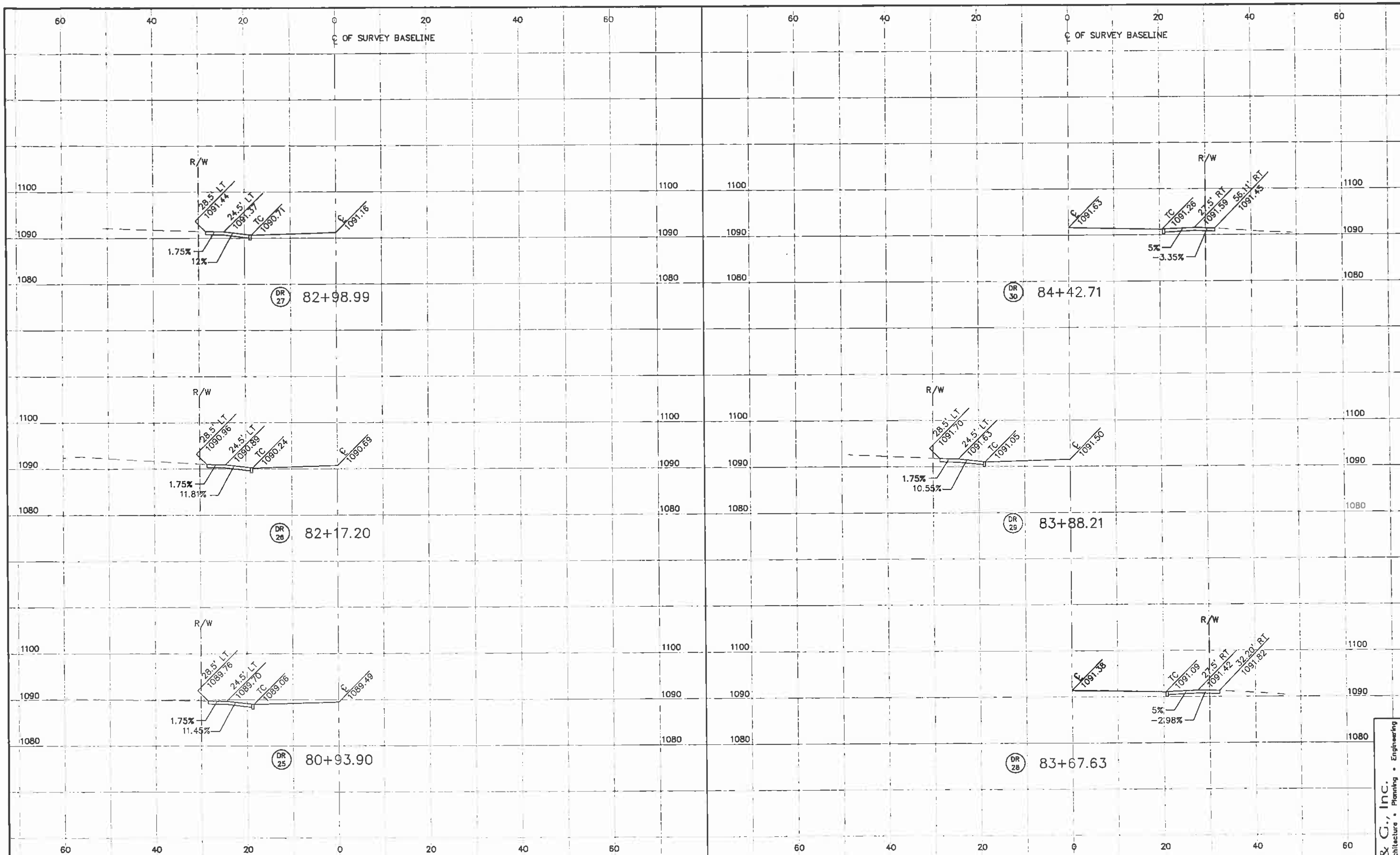
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 75+63.45 TO STA. 80+93.20

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 378-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10

STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE 1"=20'

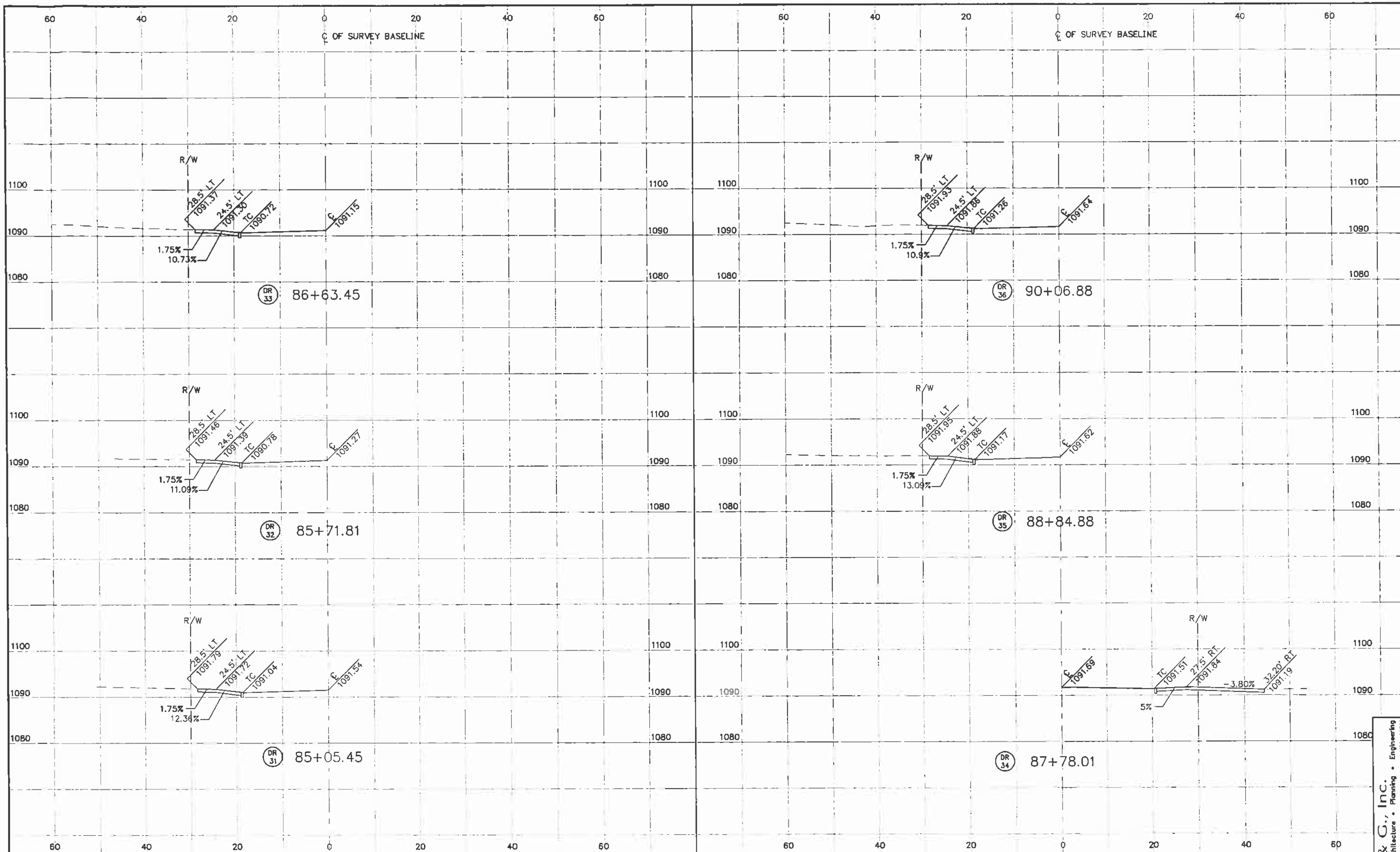
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 80+93+90 TO STA. 84+42.71

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2780 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10

STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE 1"=20'

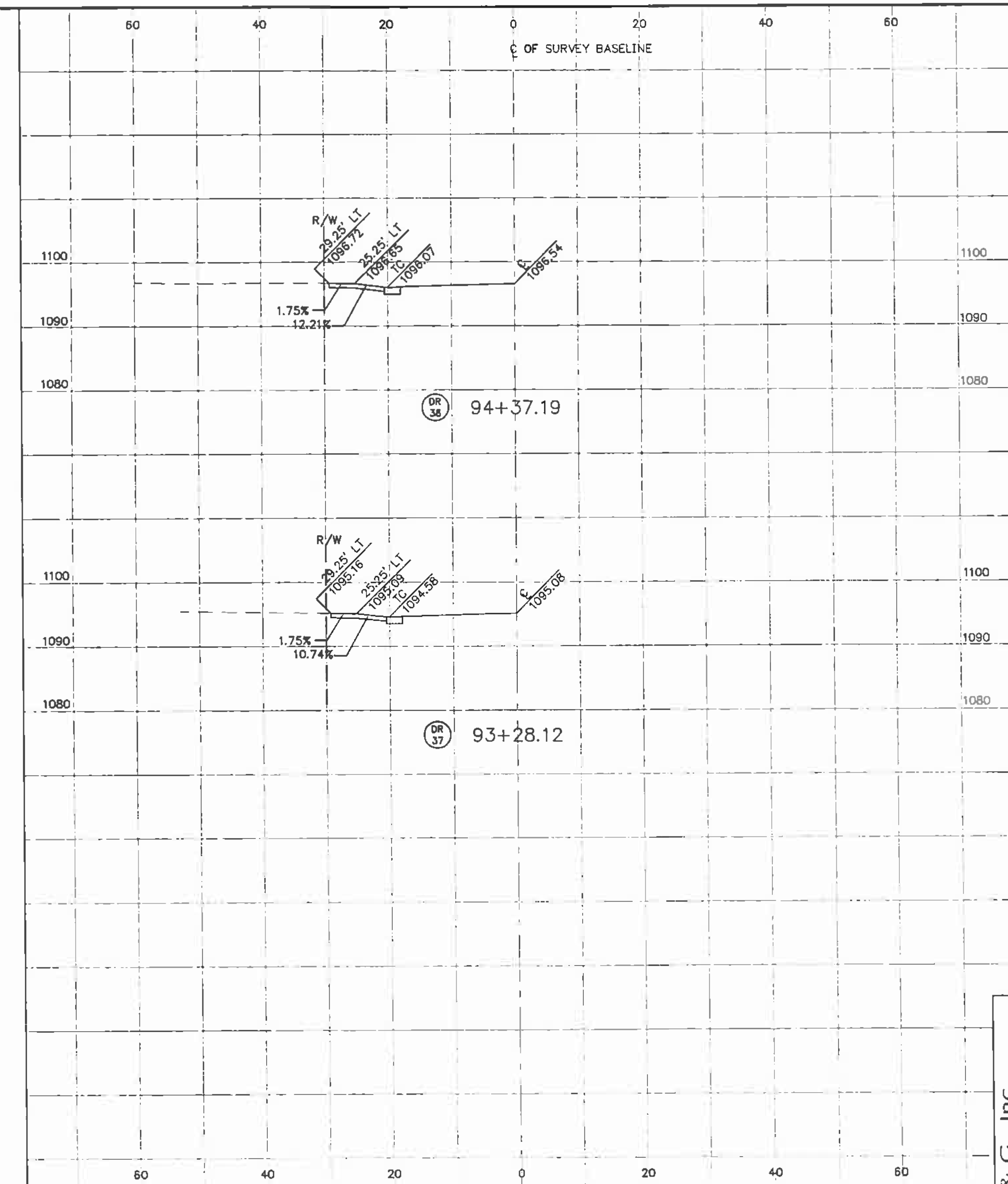
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 85+05.45 TO STA. 90+06.88

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



BENCH MARK #10
STA. 50+86.34, LT.
BOLT MARKED WITH "X"
ON TOP FLANGE OF FIRE HYDRANT
ELEV. = 1077.73

HORIZONTAL SCALE
1"=20'

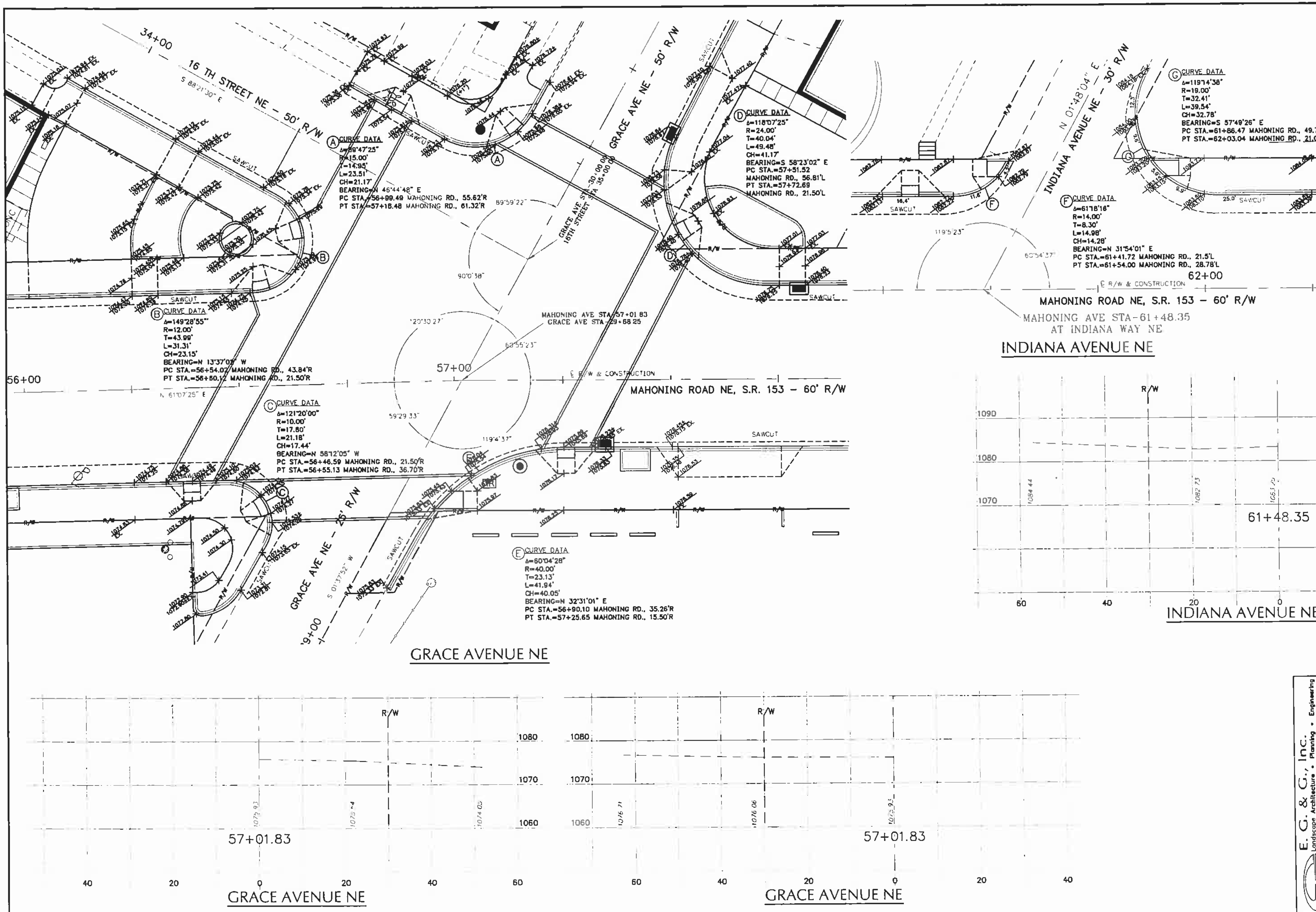
CALCULATED: MAT
CHECKED: JGG

DRIVEWAY PROFILES
STA. 93+28.12 TO STA. 94+37.19

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 378-2790 FAX (330) 378-2791

MAHONING ROAD NE
STA-0153-01.70



HORIZONTAL SCALE 1"=10'

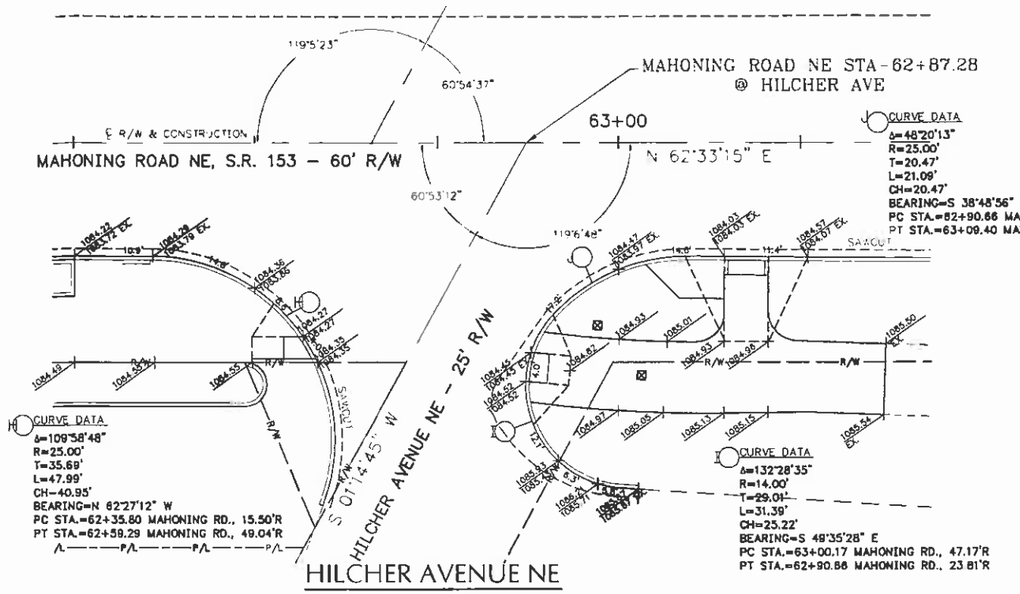
CALCULATED: MAT
CHECKED: JGG

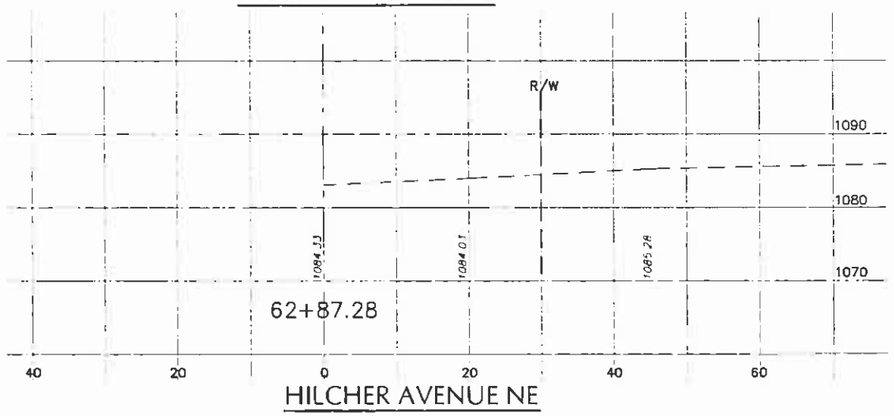
REVISIONS | DATE | BY

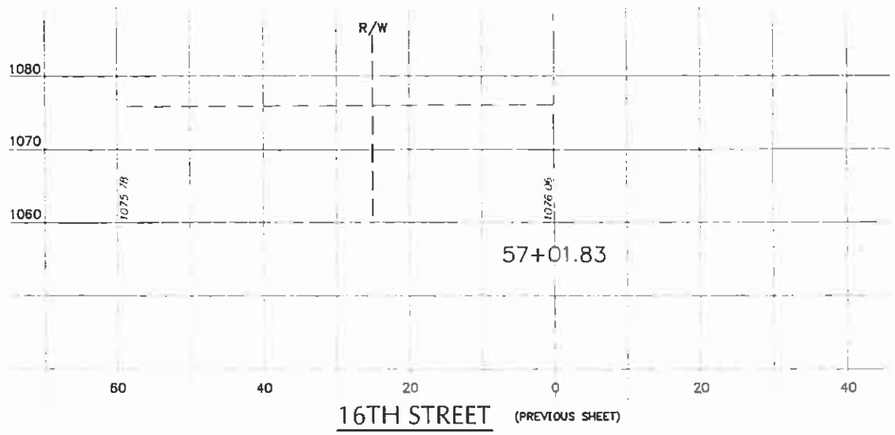
INTERSECTION DETAILS
GRACE AVENUE NE / INDIANA AVENUE NE

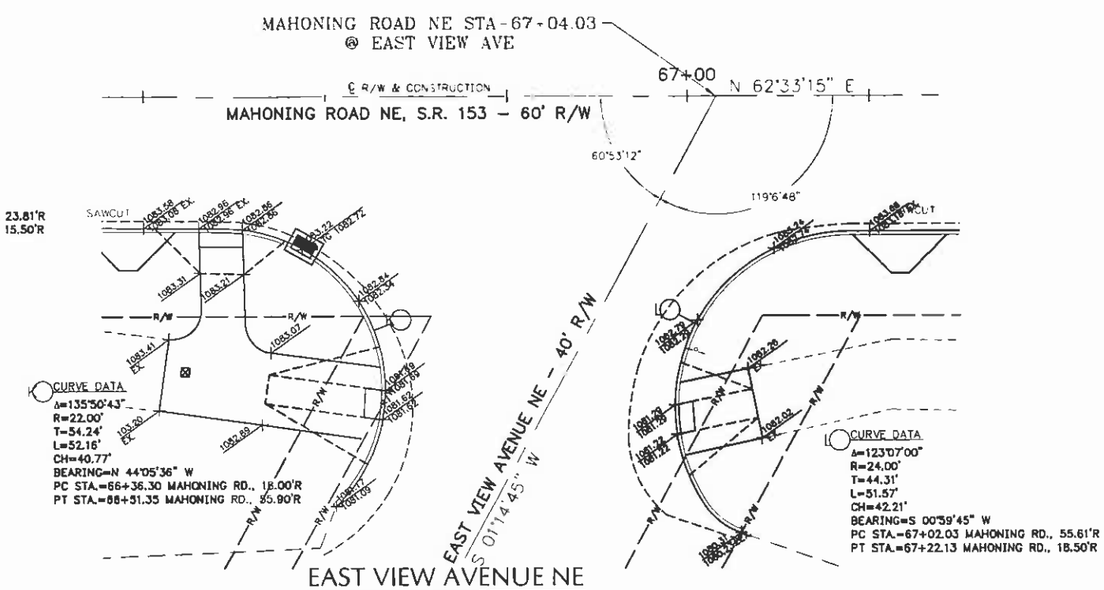
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

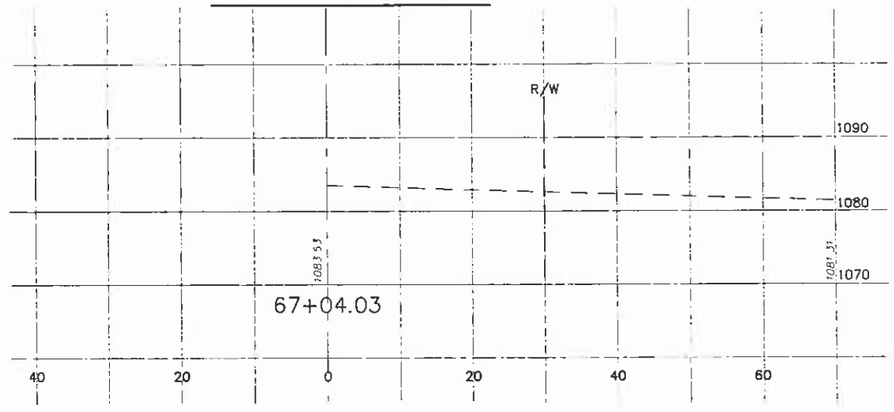
MAHONING ROAD NE
STA-0153-01.70











E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2780 FAX (330) 379-2791

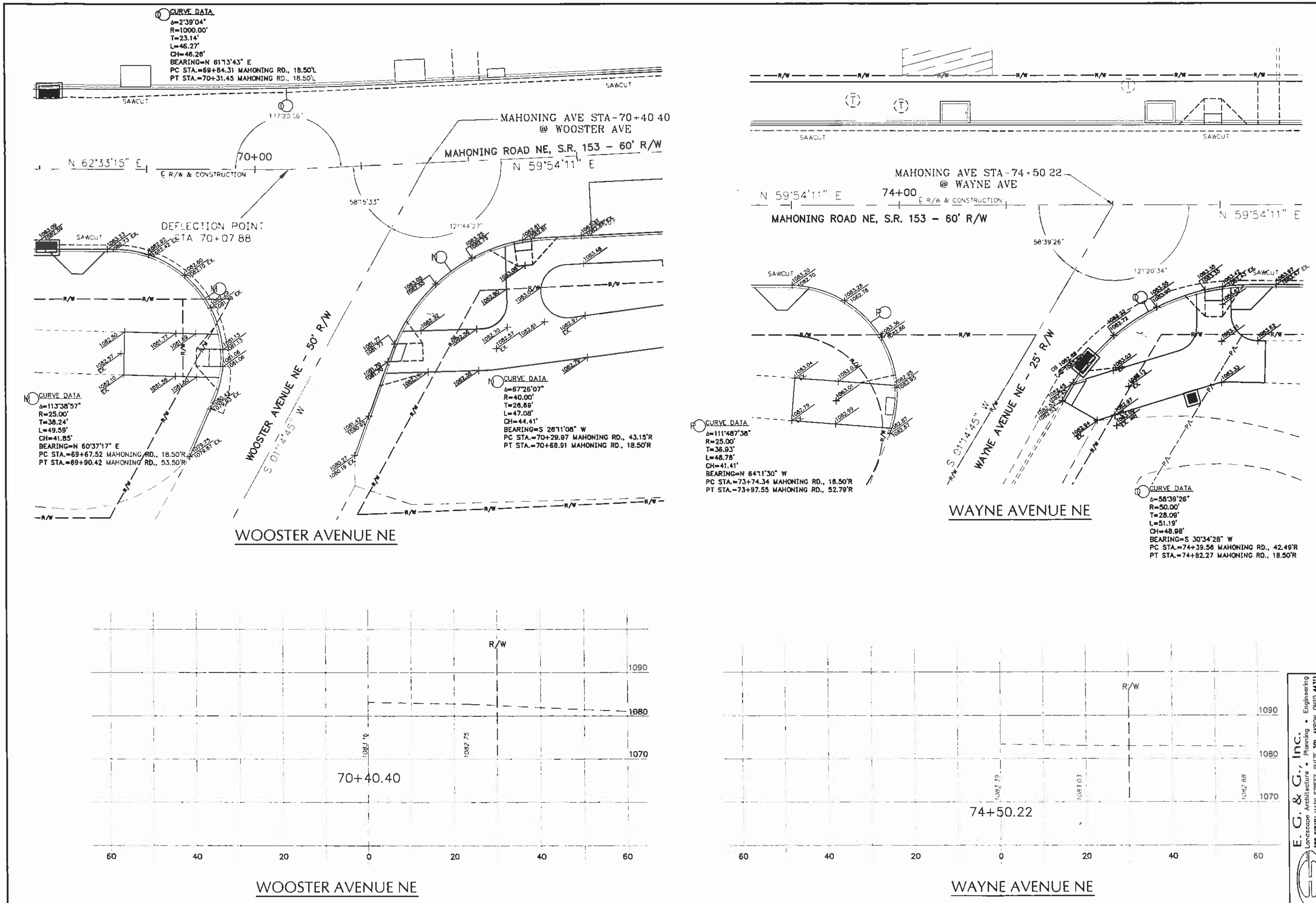
INTERSECTION DETAILS
HILCHER AVE. NE / EAST VIEW AVE. NE /WOOSTER AVE. NE

CALCULATED: MAT
CHECKED: JCG

HORIZONTAL SCALE 1"=10'

REVISIONS | DATE | BY

MAHONING ROAD NE
STA-0153-01.70



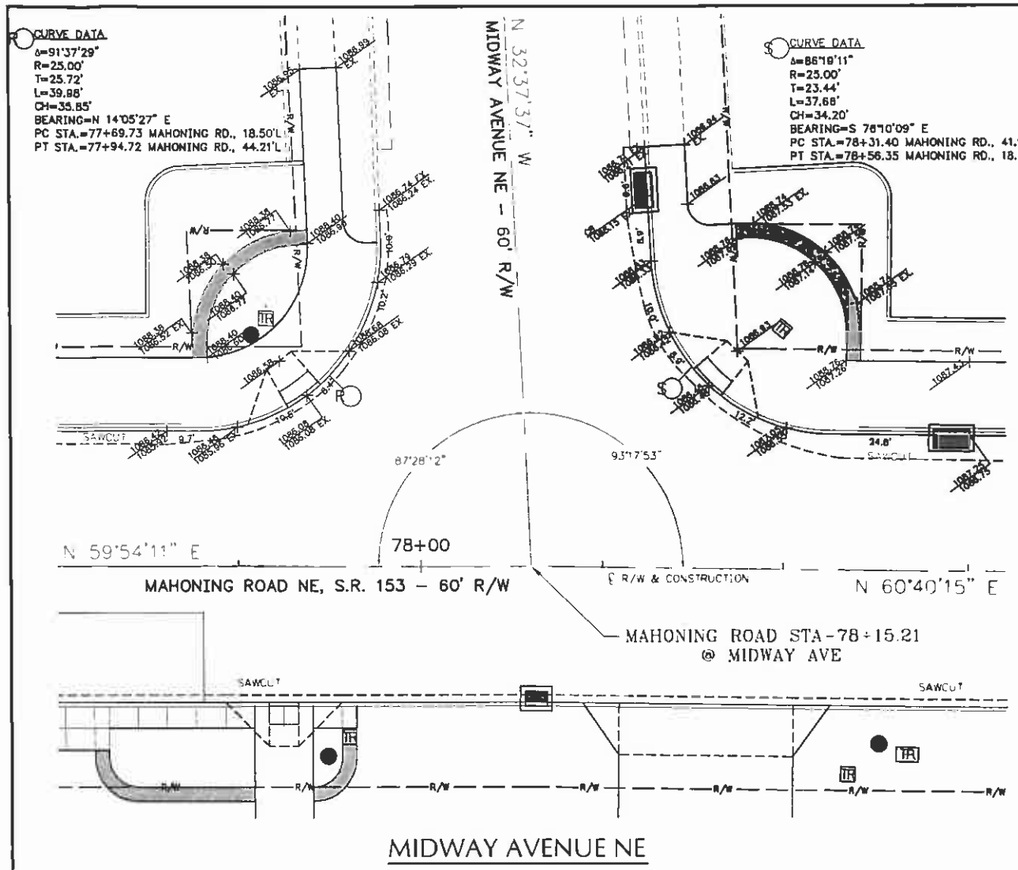
CALCULATED: MAT
CHECKED: JGG

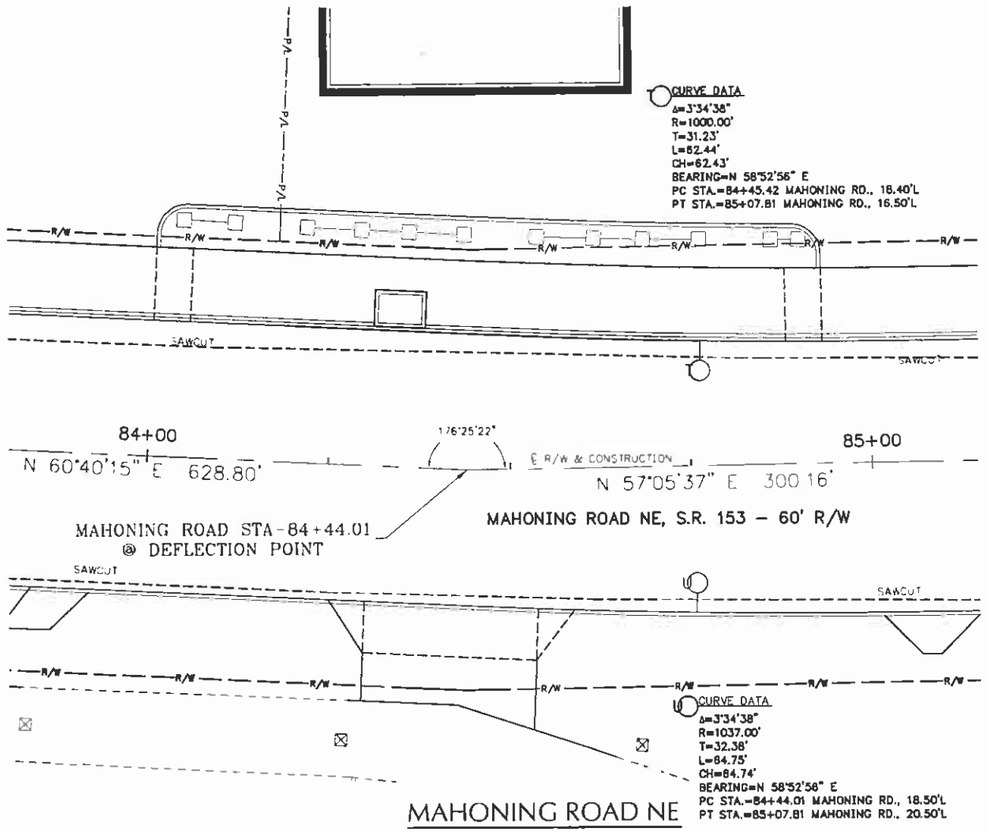
INTERSECTION DETAILS
WAYNE AVENUE NE / MIDWAY AVENUE NE

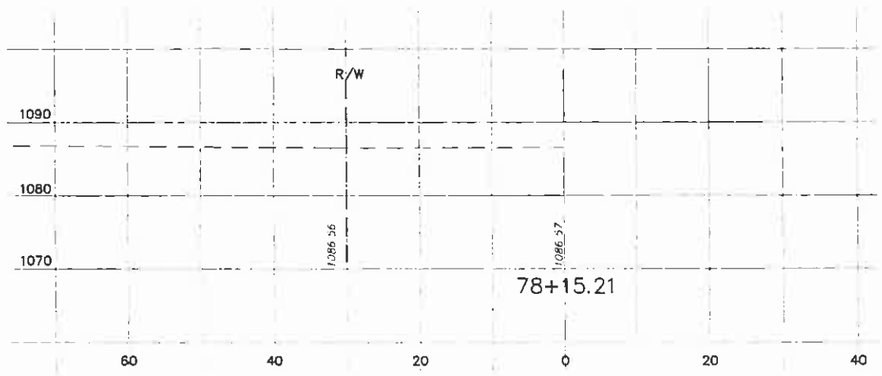
REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70







CALCULATED: MAT
CHECKED: JGG

HORIZONTAL SCALE 1"=10'
0 5' 10' 20'

INTERSECTION DETAILS
GRACE AVENUE NE / INDIANA AVENUE NE

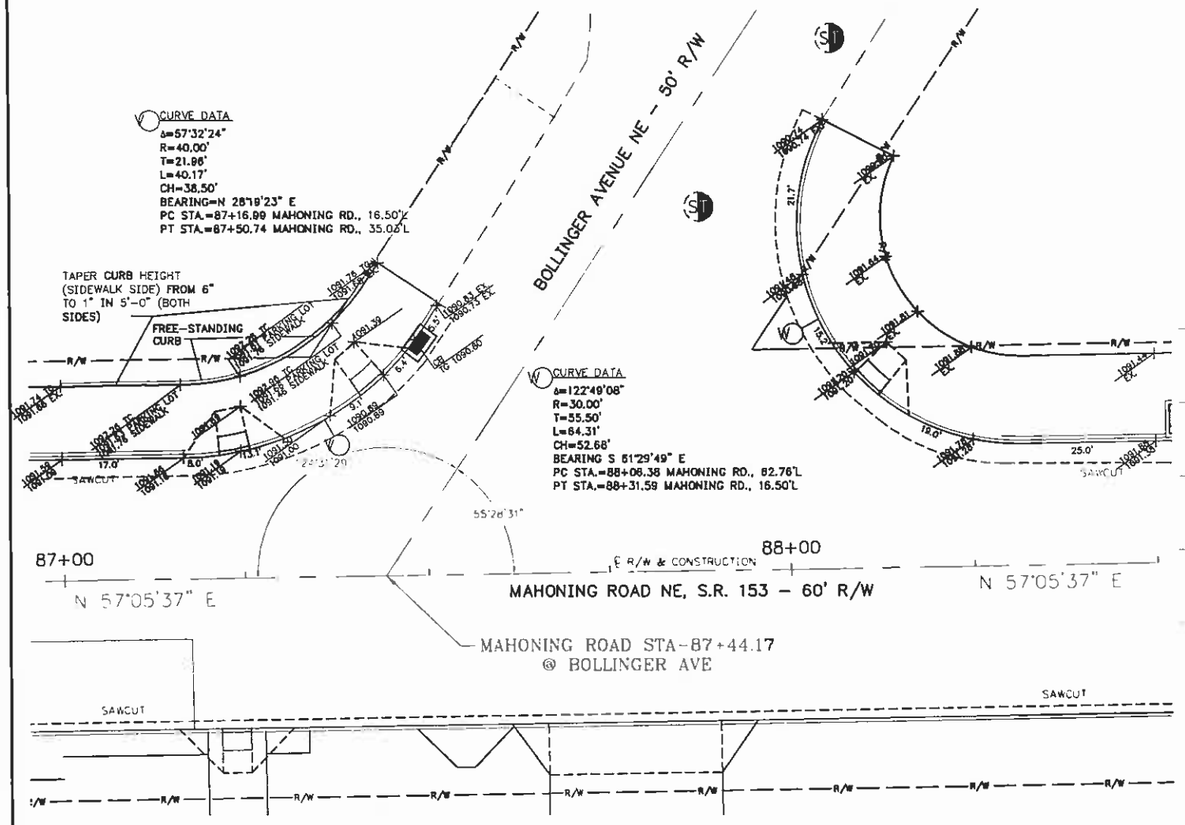
REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

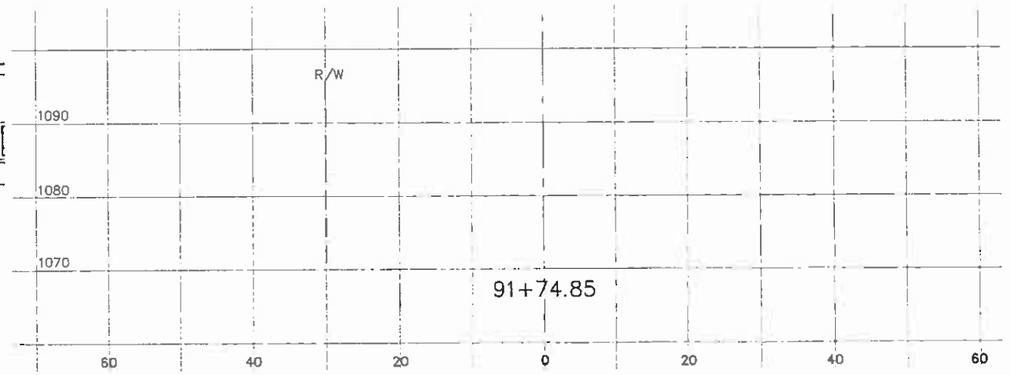
MAHONING ROAD NE
STA-0153-01.70

73
114

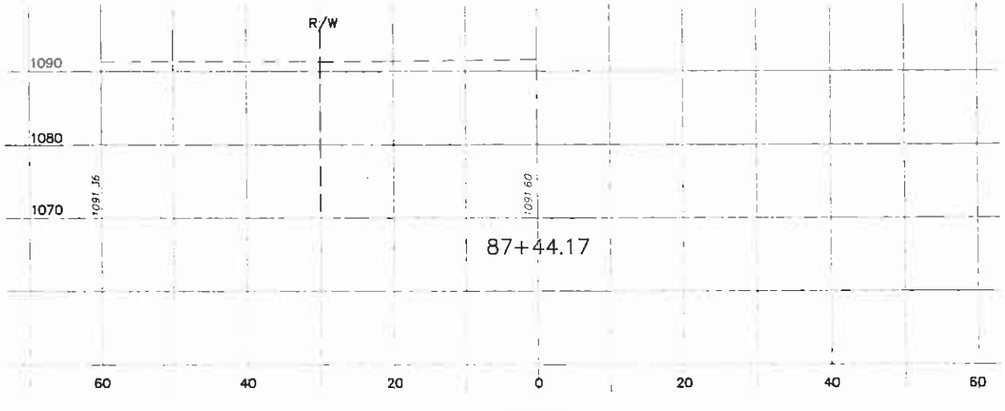
G:\Drawings\AutoCAD Construction\GRACE in HARMONY - PHASE 1\70-75 Intersection Details.dwg 8/1/2011 11:44:7 AM



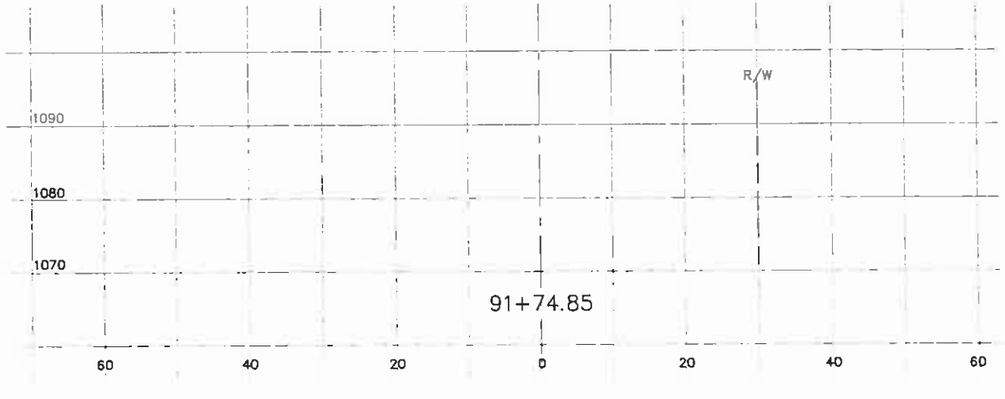
BOLLINGER AVENUE NE



HARMONT AVENUE NE (NEXT SHEET)



BOLLINGER AVENUE NE



HARMONT AVENUE NE (NEXT SHEET)

HORIZONTAL SCALE 1"=10'

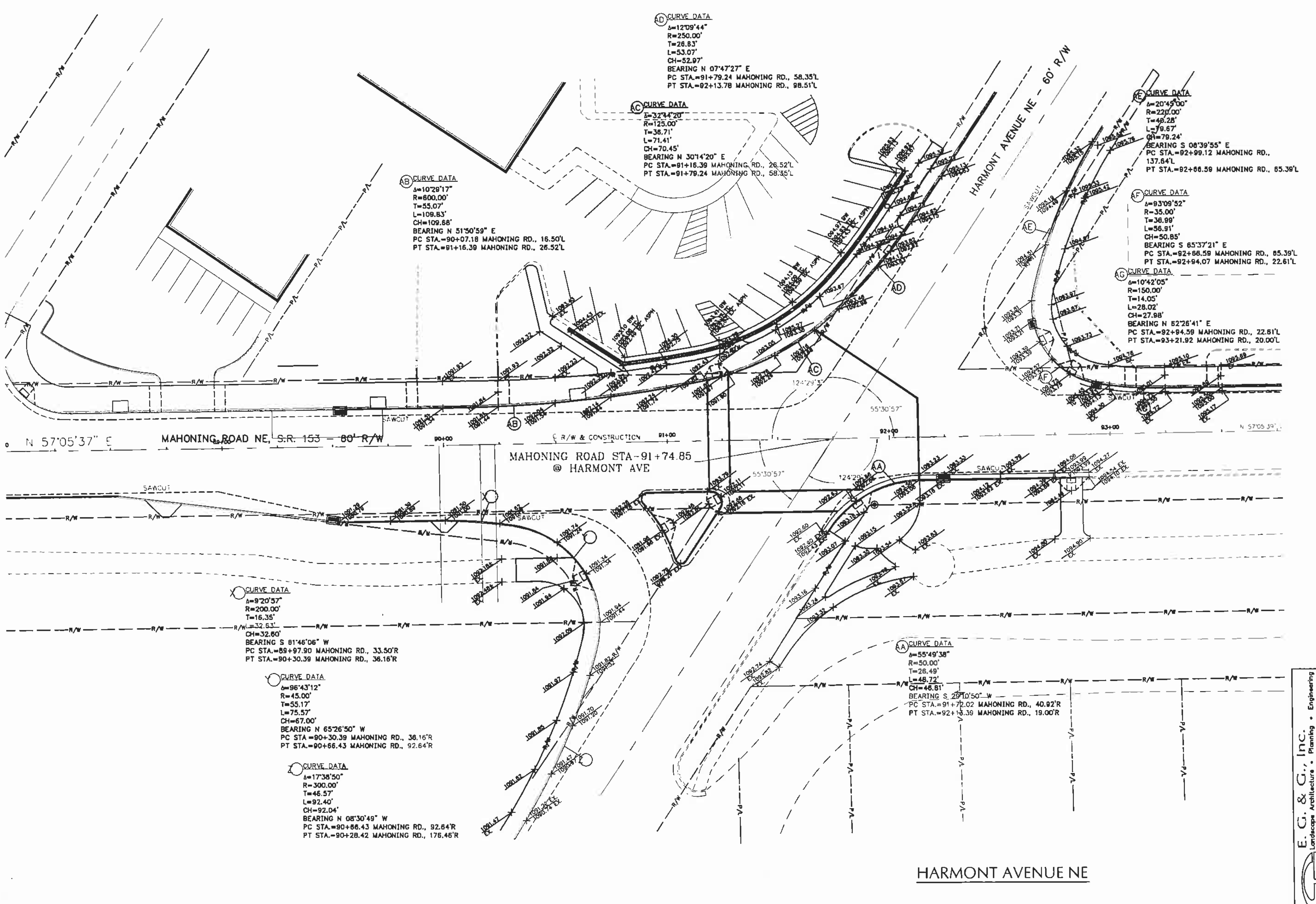
CALCULATED: MAT
CHECKED: JGC

INTERSECTION DETAILS
STA: 84+50.00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



HORIZONTAL SCALE 1"=10'

CALCULATED: MAT
CHECKED: JGG

INTERSECTION DETAILS
HARMONT AVENUE NE

REVISIONS | DATE | BY

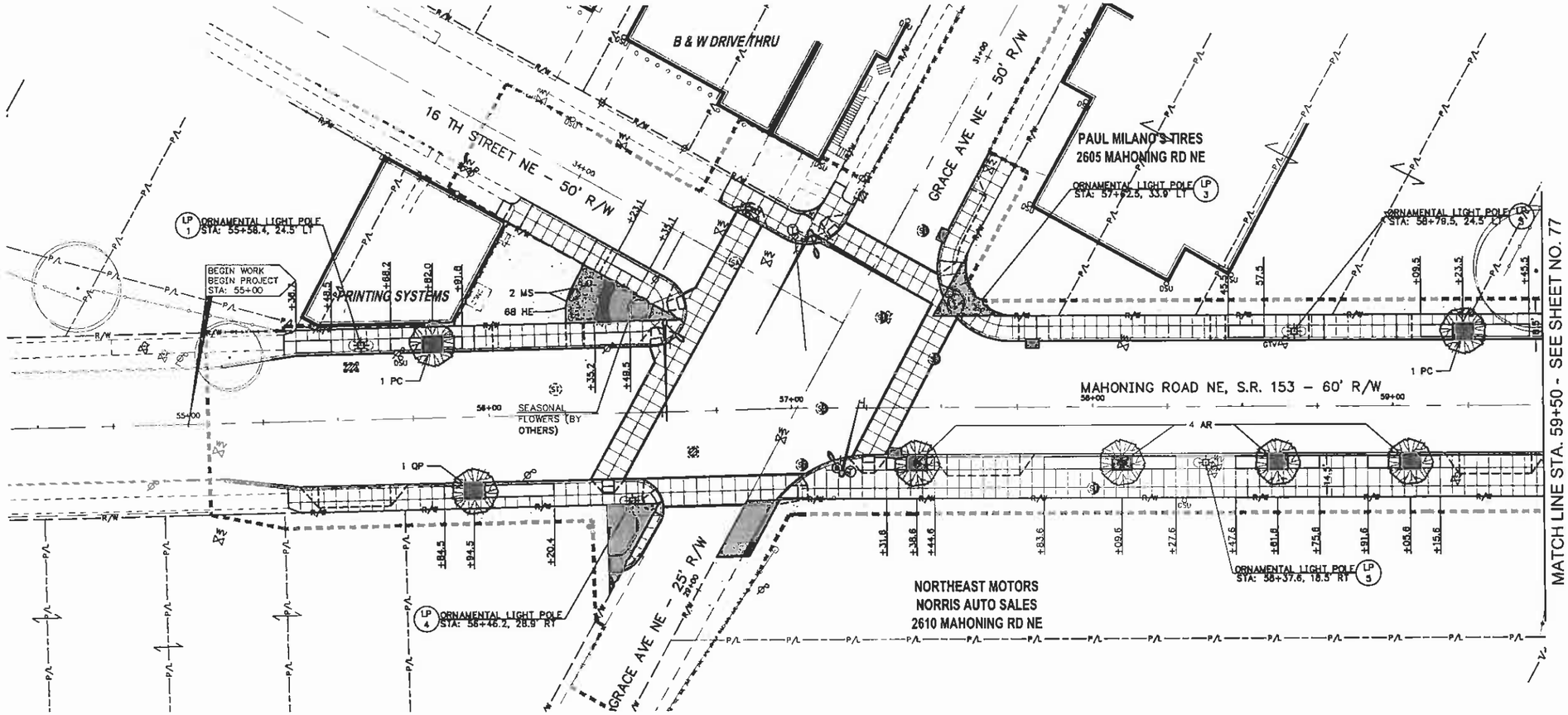
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
83–89	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



LEGEND

- CONCRETE WALK
- BRICK PAVER WALK
- PROPOSED R/W AREA
- TEMPORARY EASEMENT

PLANT LIST

SYMBOL	QUAN.	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	COMMENTS
STREET TREES						
AR	20	ACER RUBRUM 'BRANDYWINE'	BRANDYWINE RED MAPLE	2 1/2" Cal.	B&B	Street Tree Form *
MA	20	MALUS 'ADAMS'	ADAMS CRABAPPLE	2 1/2" Cal.	B&B	Street Tree Form *
MS	2	MALUS 'SARGENTI'	SARGENT CRABAPPLE	1 3/4" Cal.	B&B	Tree Form
MSS	8	MALUS 'SPRING SNOW'	SPRING SNOW CRABAPPLE	2 1/2" Cal.	B&B	Fruitless – Street Tree Form *
PC	16	PYRUS CALLERYANA 'CLEVELAND SELECT'	CLEVELAND SELECT PEAR	2 1/2" Cal.	B&B	Street Tree Form *
QP	13	QUERCUS PALUSTRIS 'GREEN PILLAR'	GREEN PILLAR PIN OAK	2 1/2" Cal.	B&B	Street Tree Form *
PERENNIALS & BULBS						
HE	68	STELLA D'ORO	STELLA D'ORO DAYLILY	Clump	#1 Cont.	Plant 18" O.C.

* ALL STREET TREES SHALL BE BRANCHED–UP MINIMUM OF 5'–6".

N

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JCG

STREETSCAPE PLAN
STA. 54+00 TO STA. 59+50

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379–2790 FAX (330) 379–2791

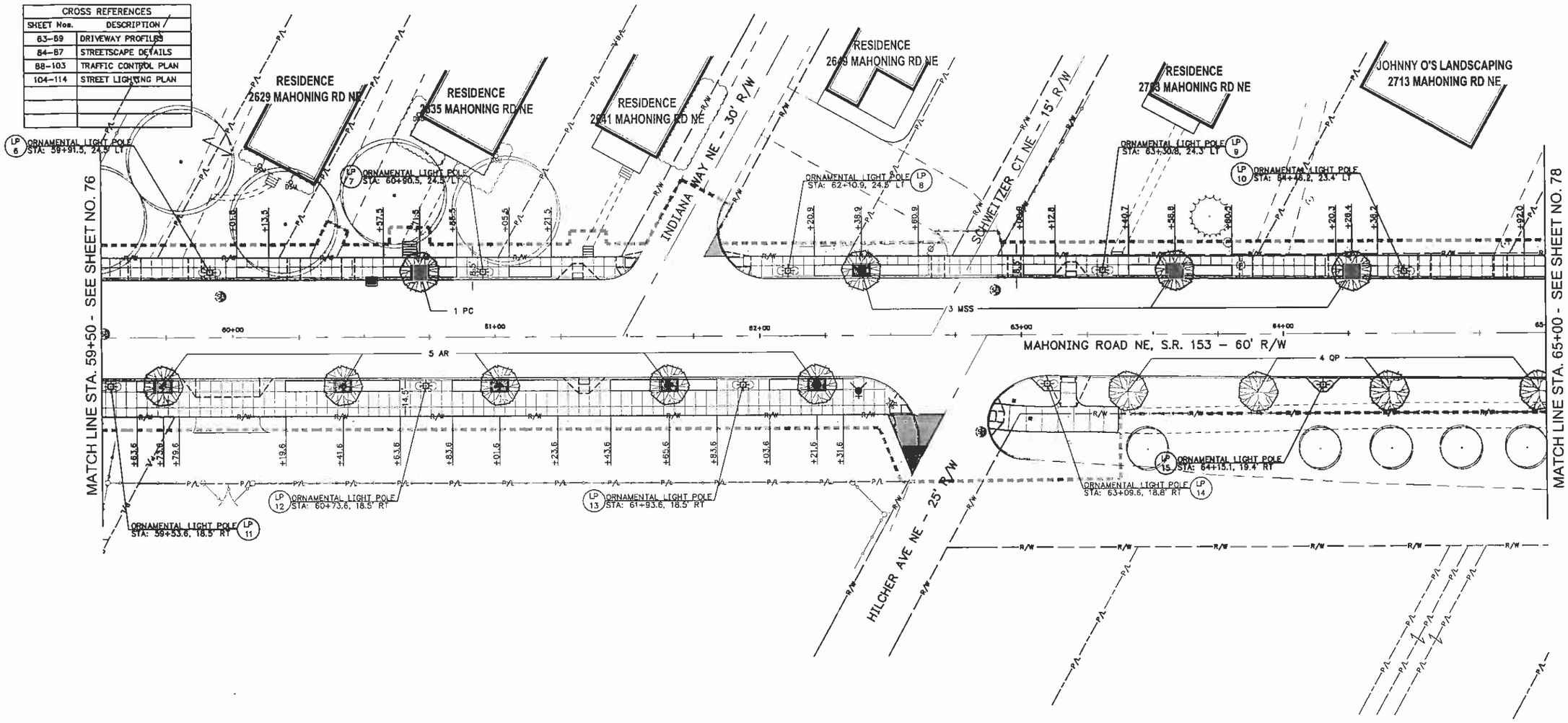
MAHONING ROAD NE
STA-0153-01.70

76
114

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
63–69	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



STREETSCAPE PLAN
STA. 59+50 TO STA. 65+00

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JCG

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

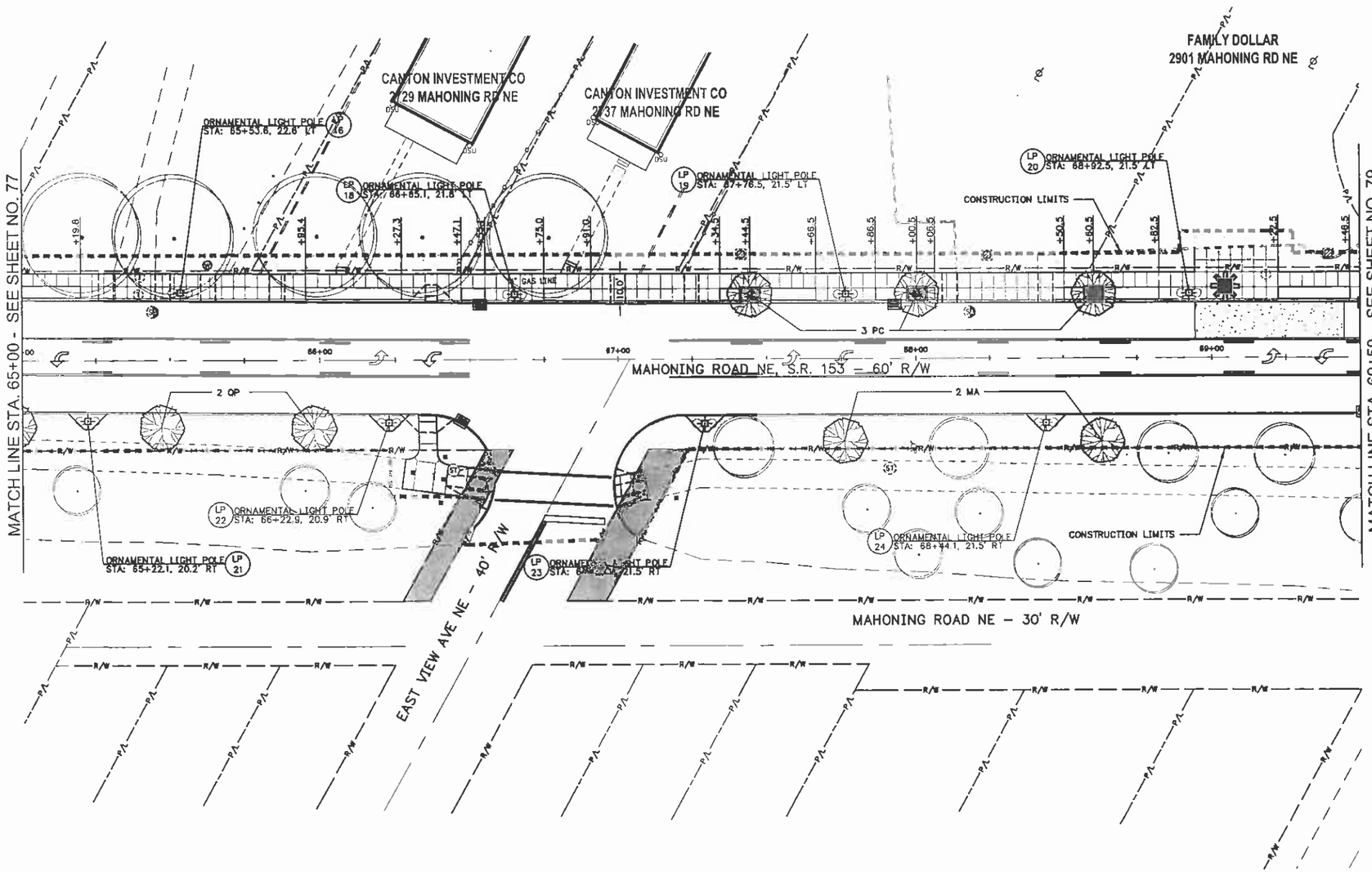
MAHONING ROAD NE
STA-0153-01.70

77
114

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
63–69	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JCG

STREETSCAPE PLAN
STA. 65+00 TO STA. 69+50

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379–2790 FAX (330) 379–2791

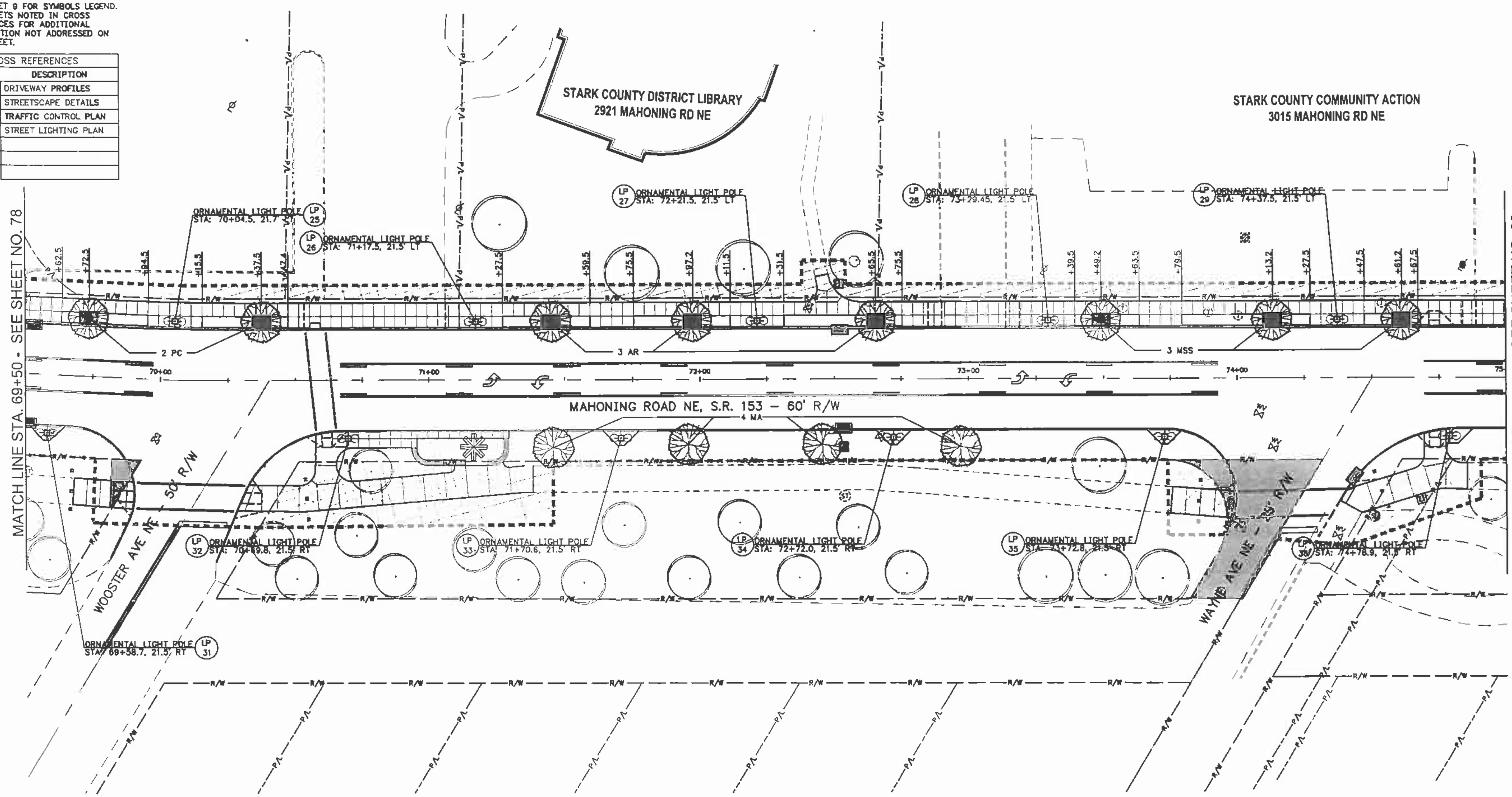
MAHONING ROAD NE
STA-0153-01.70

78
114

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
83-89	DRIVEWAY PROFILES
84-87	STREETSCAPE DETAILS
88-103	TRAFFIC CONTROL PLAN
104-114	STREET LIGHTING PLAN



HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

REVISIONS | DATE | BY

STREETSCAPE PLAN
STA. 69+50 TO STA. 75+00

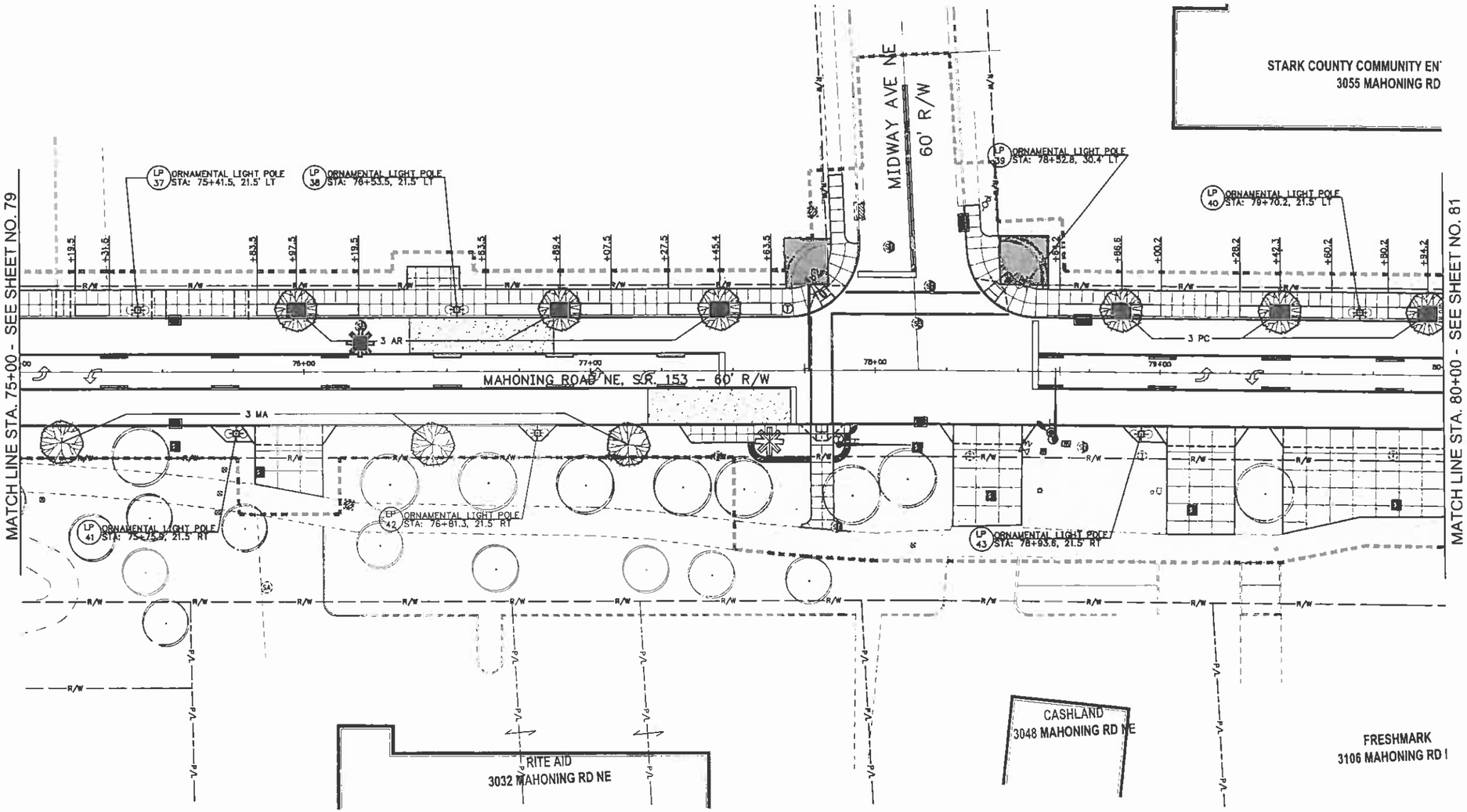
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
83–89	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



CALCULATED: MAT
CHECKED: JCG

0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

STREETSCAPE PLAN
STA. 75+00 TO STA. 80+00

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379–2790 FAX (330) 379–2791

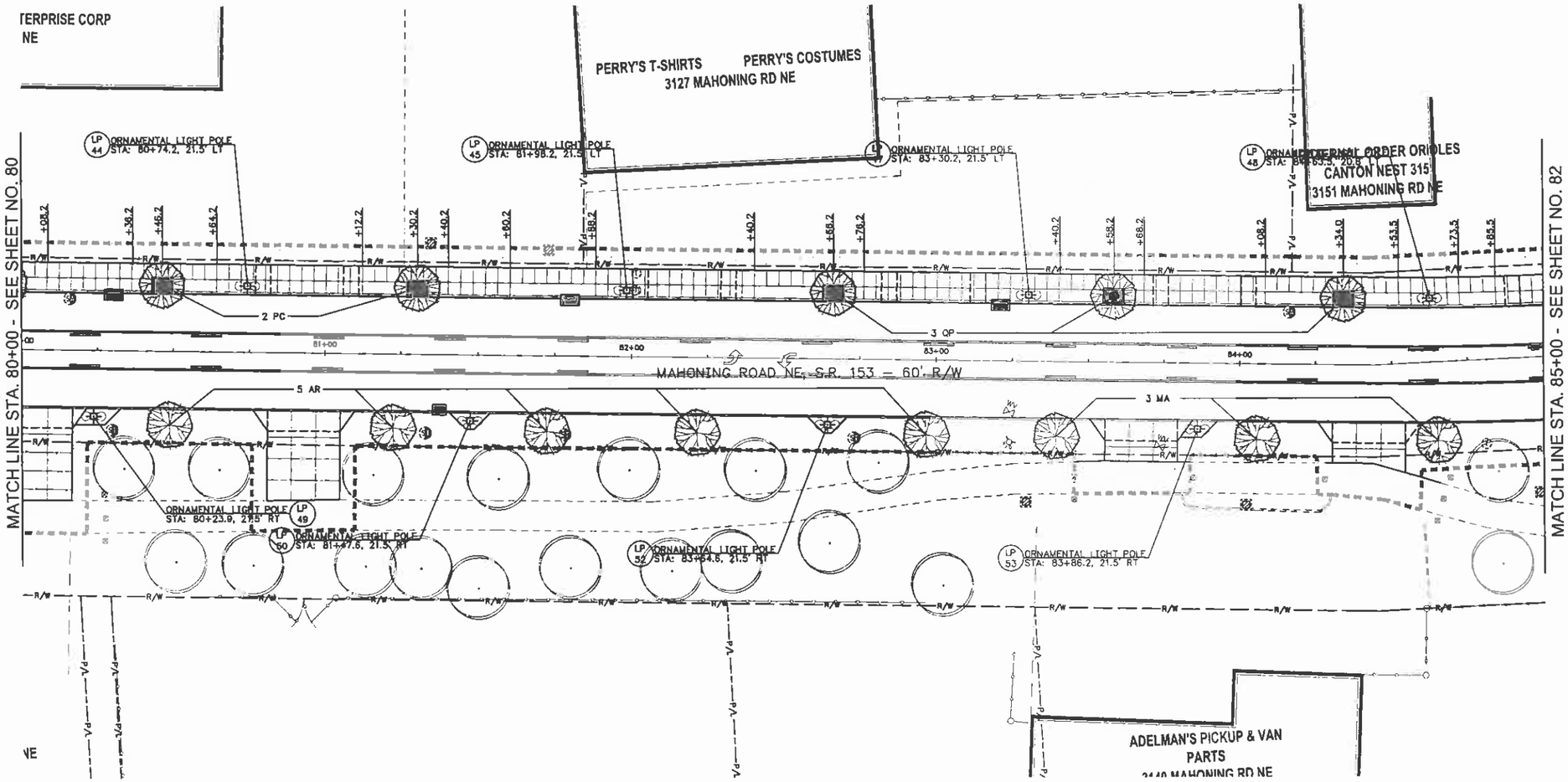
MAHONING ROAD NE
STA-0153-01.70

80
114

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
63–69	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

STREETSCAPE PLAN
STA. 80+00 TO STA. 85+00

REVISIONS	DATE	BY

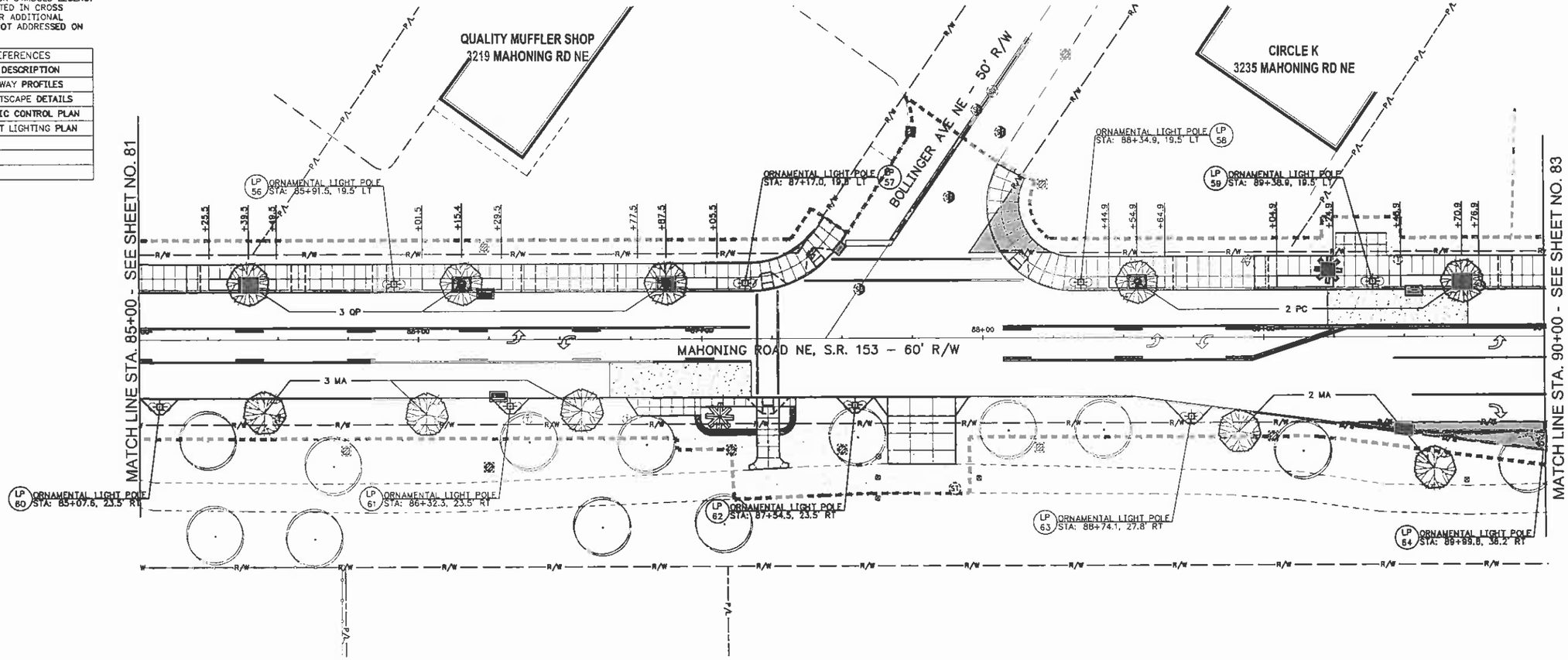
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379–2790 FAX (330) 379–2791

MAHONING ROAD NE
STA-0153-01.70

NOTES:

1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
63–69	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



CALCULATED: MAT
CHECKED: JGG

0 20' 40'
0 10'
HORIZONTAL SCALE 1"=20'

STREETSCAPE PLAN
STA. 85+00 TO STA. 90+00

REVISIONS	DATE	BY

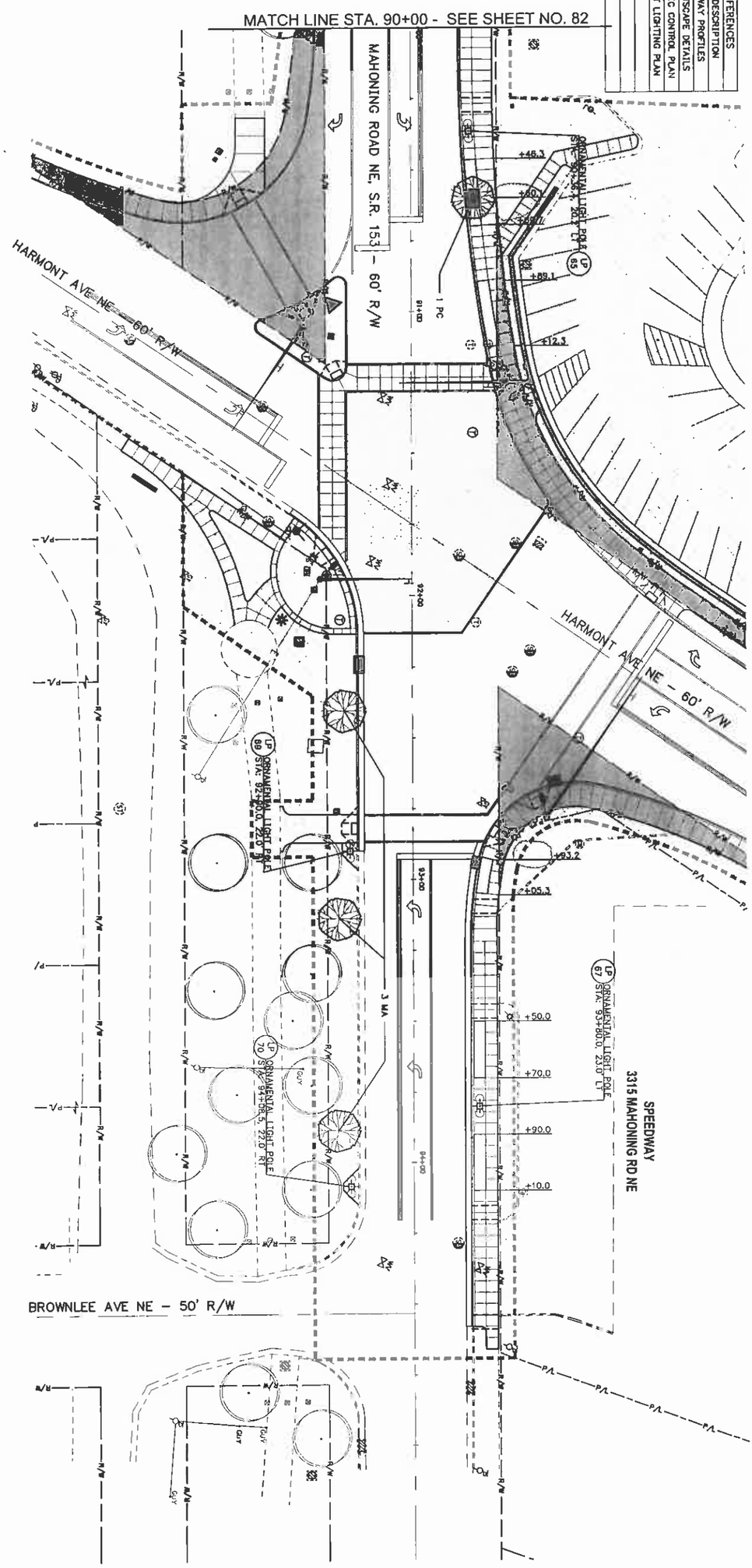
E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

G:\Drawings\NEAR Construction\GRAC [to HARMONT - PHASE 1\176-83 Streetscape Plan.dwg 8/2/2011 6:34:07 PM

NOTES:
1. SEE SHEET 9 FOR SYMBOLS LEGEND.
2. SEE SHEETS NOTED IN CROSS REFERENCES FOR ADDITIONAL INFORMATION NOT ADDRESSED ON THIS SHEET.

CROSS REFERENCES	
SHEET Nos.	DESCRIPTION
63–69	DRIVEWAY PROFILES
84–87	STREETSCAPE DETAILS
88–103	TRAFFIC CONTROL PLAN
104–114	STREET LIGHTING PLAN



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

83
114

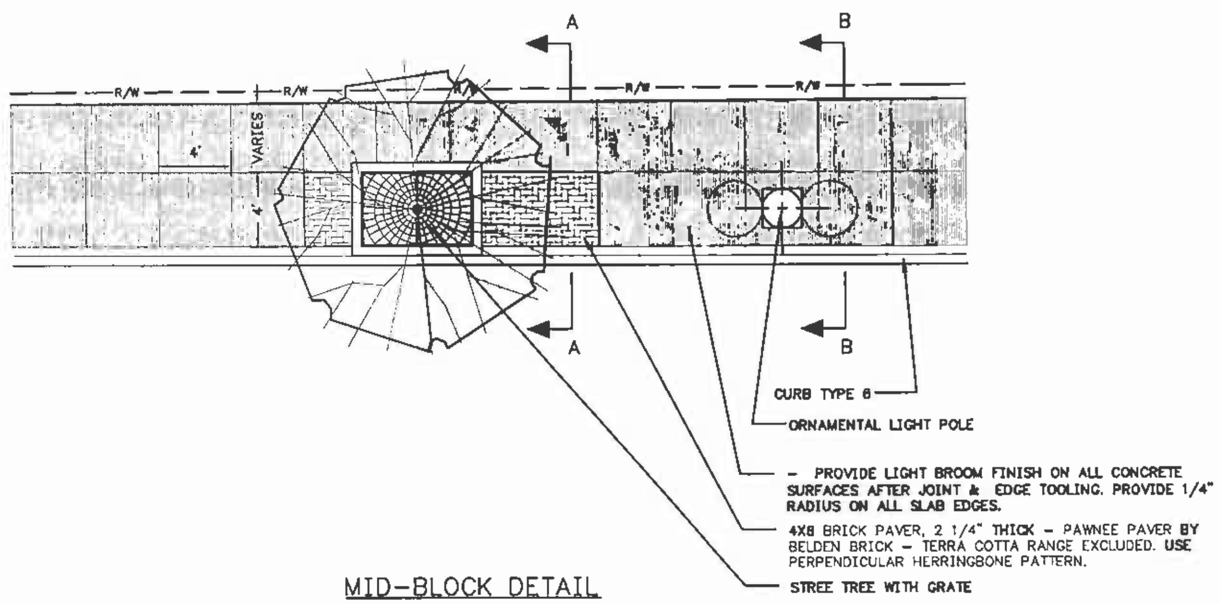
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

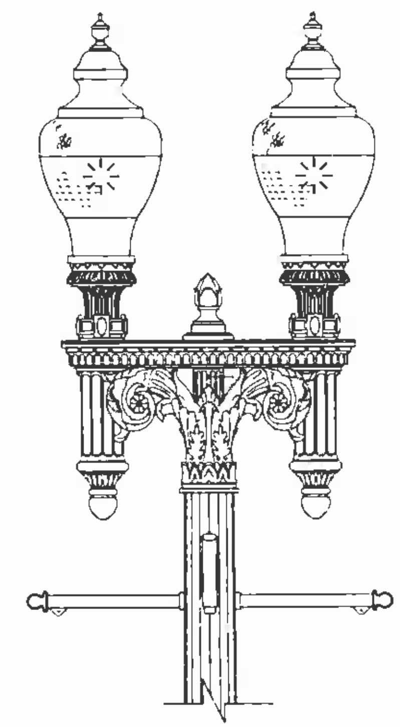
STREETSCAPE PLAN
STA. 90+00 TO STA. 95+00

CALCULATED: MAT
CHECKED: JGG

0 20' 40'
10'
HORIZONTAL SCALE
1"=20'



MID-BLOCK DETAIL



NOTE 1: WHEN ASPHALT OVERLAYS BRICK AND THE PAVEMENT IS TO BE REPLACED BY THE CITY, REPLACE CONCRETE BASE COURSE TO THE TOP OF THE EX. BRICK. FINISH FACE OF CURB TO THE TOP OF BRICK ELEVATION. PLACE EXPANSION JOINT BETWEEN CONC. ROAD BASE AND CURB.

NOTE 2: FOR SLIP FORM CONSTRUCTION USING CITY STD. 43 OR ODOT TYPE 6 CURB, USE 12 IN. #3 EPOXY COATED DOWELS 3 IN INTO CURB AND EXTENDING 3 IN INTO CONC. BASE, SPACED 2 FT ON CENTER IN LIEU OF MESH. KEYWAYS ARE NOT PERMITTED.

4X8 BRICK PAVER, 2 1/4" THICK – PAWNEE PAVER BY BELDEN BRICK – TERRA COTTA RANGE EXCLUDED. USE PERPENDICULAR HERRINGBONE PATTERN.

SWEEP JOINTS WITH DRY MIXTURE OF POLYMERIC SAND Techni-Seal OR APPROVED EQUAL. USE PLATE TAMPER WITH RUBBER MAT OR OTHER PROTECTION FOR BRICK. REMOVE EXCESS AND MOISTEN TO SET JOINT SEALANT SAND.

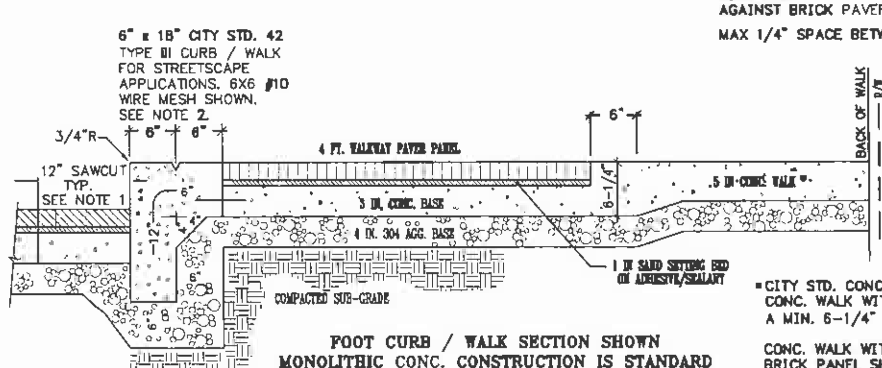
SEAL CONC. BRICK BASE USING NEOPRENE MODIFIED ASPHALT ADHESIVE/SEALANT BY ACM OR APPROVED EQUAL. – APPLY WITH SQUEEGEE.

1" MAX COMPACTED CONCRETE SAND ODOT 703.02 (ASTM C 33) SETTING BED ON NEOPRENE SEALANT.

USE INTERIOR FORMING PINS FOR WEEP HOLES ON DOWNSLOPE SIDES AND INTERIOR CORNERS. MAX 4 FT. CENTERS. – COVER W/ FILTER FABRIC.

CONCRETE WALKS AND PAVER BASE IS TO BE CLASS "C" ODOT 608. NO EXPANSION JOINTS ARE TO BE PLACED AGAINST BRICK PAVER SECTIONS.

MAX 1/4" SPACE BETWEEN BRICK AND CONCRETE.



* CITY STD. CONC. WALK (COMMERCIAL) IS 5 IN. THICK. CONC. WALK WITHIN 6 IN. OF BRICK PANEL SHALL BE A MIN. 6-1/4" THICK.

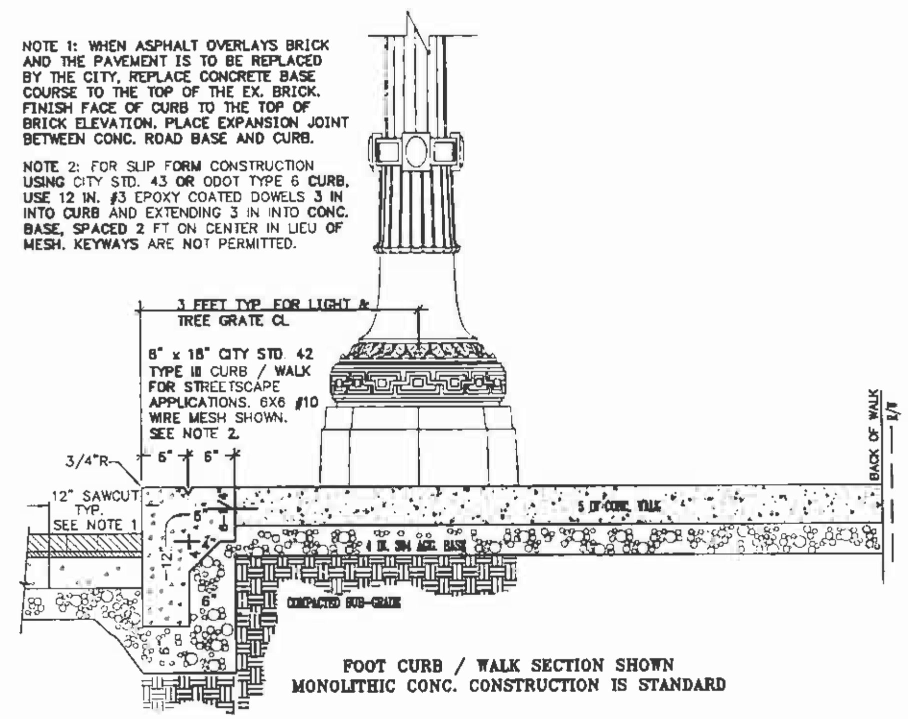
CONC. WALK WITHIN 12 IN. OF R/W AND NEXT TO BRICK PANEL SHALL BE A MIN. 9 IN. THICK.

CONTINUE TRANSVERSE WALK CONTROL JOINTS BY SAWCUTTING THROUGH BRICK CONC. BASE.

SECTION A–A

NOTE 1: WHEN ASPHALT OVERLAYS BRICK AND THE PAVEMENT IS TO BE REPLACED BY THE CITY, REPLACE CONCRETE BASE COURSE TO THE TOP OF THE EX. BRICK. FINISH FACE OF CURB TO THE TOP OF BRICK ELEVATION. PLACE EXPANSION JOINT BETWEEN CONC. ROAD BASE AND CURB.

NOTE 2: FOR SLIP FORM CONSTRUCTION USING CITY STD. 43 OR ODOT TYPE 6 CURB, USE 12 IN. #3 EPOXY COATED DOWELS 3 IN INTO CURB AND EXTENDING 3 IN INTO CONC. BASE, SPACED 2 FT ON CENTER IN LIEU OF MESH. KEYWAYS ARE NOT PERMITTED.



SECTION B–B

CALCULATED:
CHECKED:

BRICK WALKWAY PAVERS
-

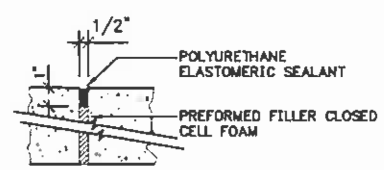
REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

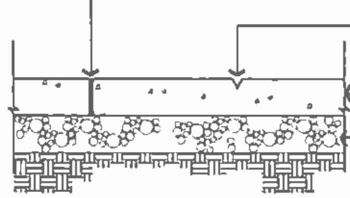
MAHONING ROAD NE
STA-0153-01.70

NOTES:

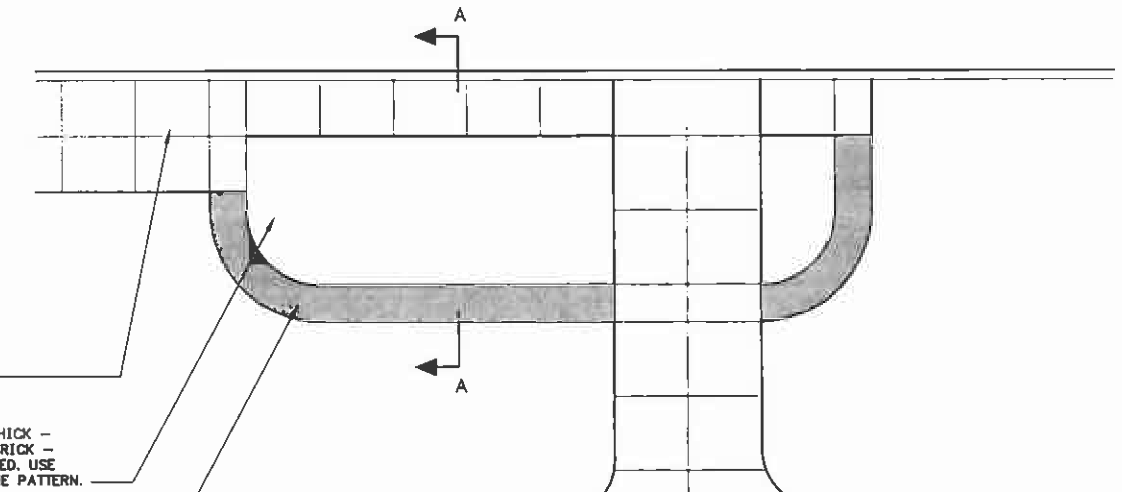
- EXPANSION JOINTS TO BE 30' MAX. O.C. CONTROL JOINTS TO BE @ 4' O.C. OR AS SHOWN ON PLAN.
- PROVIDE LIGHT BROOM FINISH ON ALL CONCRETE SURFACES AFTER JOINT & EDGE TOOLING. PROVIDE 1/4" RADIUS ON ALL SLAB EDGES.
- SAWCUT CONTRACTION JOINTS MAY BE USED IF APPROVED BY THE CITY ENGINEER.



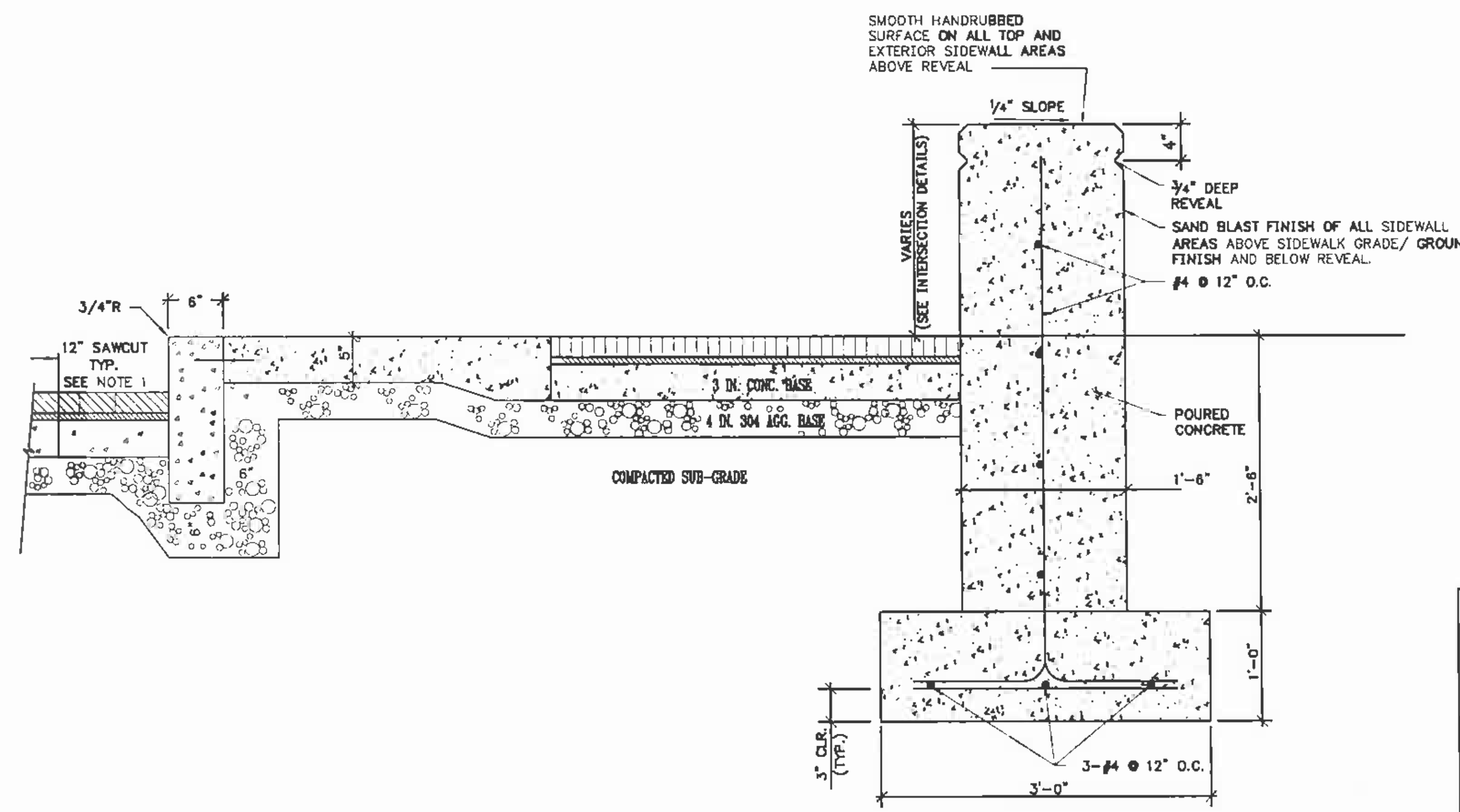
EXPANSION JOINT DETAIL
NOT TO SCALE



CONCRETE WALK PAVEMENT DETAIL



PLAN VIEW



SECTION A-A

SEAT WALL DETAIL

CALCULATED:
CHECKED:

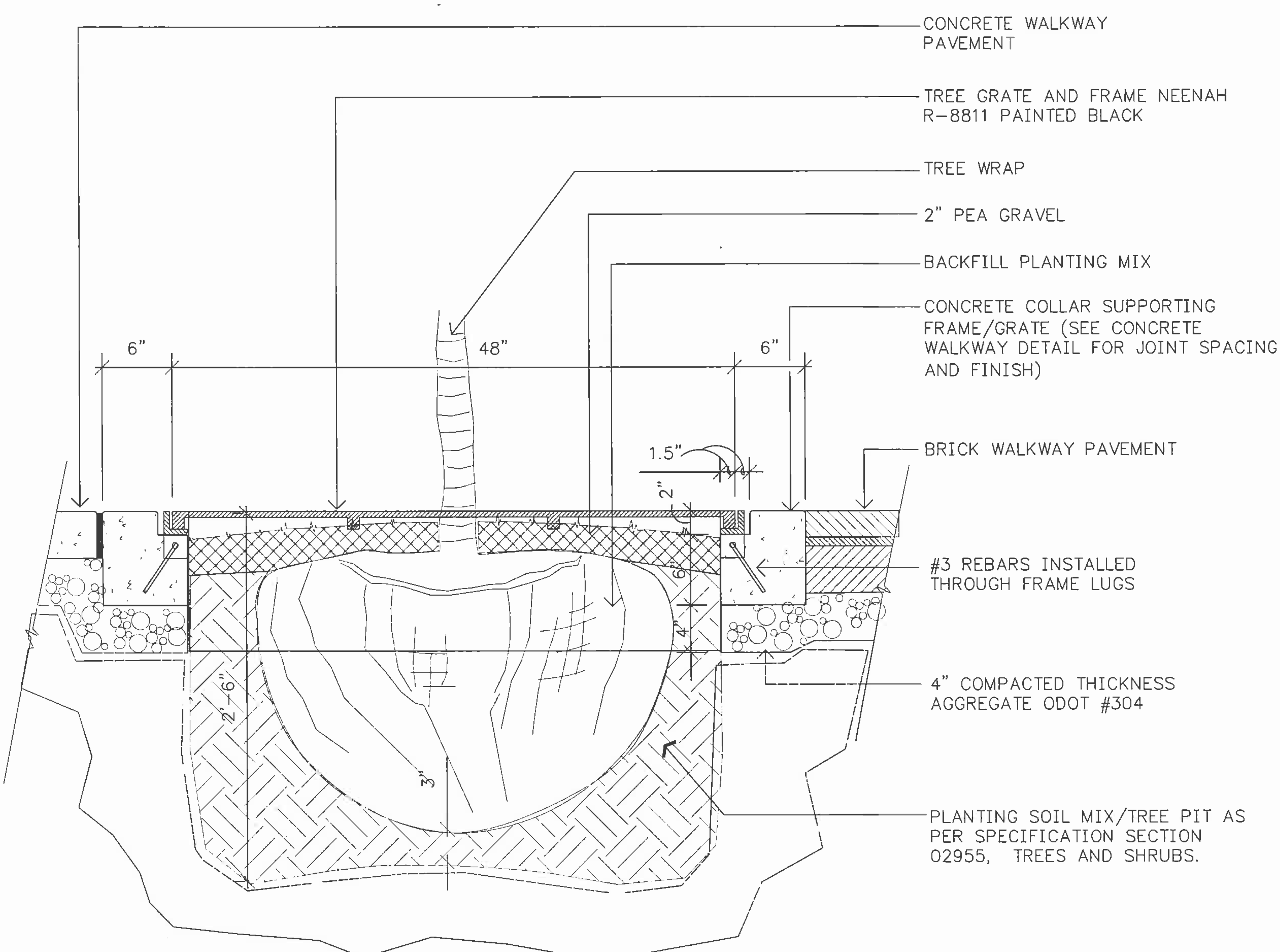
CONCRETE WALK PAVEMENT AND SEAT WALL

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

TREE FRAME AND GRATE

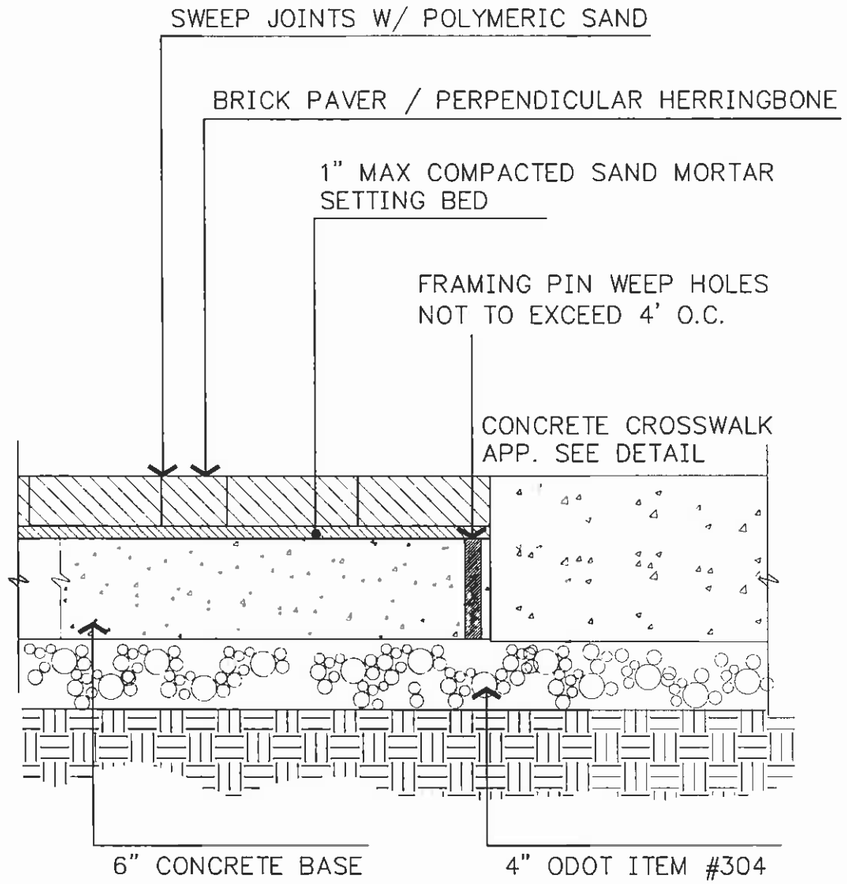


CALCULATED:
CHECKED:

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



4X8 BRICK PAVER, 2 3/4" THICK – ROADWAY PAVER BY BELDEN BRICK – ASTM C1272 TRAFFIC TYPE F APPL. PX WEATHER SX – 10,000 PSI – COLOR JUMBO REGIMENTAL

BRICK ALTERNATE – WHITACRE GREER 4 X 8–1/2 X 3–1/2 WEATHER CLASS SX, TRAFFIC F, APPLICATION PX – COLOR 33 DARK ANTIQUE – 10,000 PSI ASTM C1272

BRICK TO HAVE BEVELED EDGE AND LUGS.

USE PERPENDICULAR HERRINGBONE PATTERN IN INTERSECTION.

SWEEP JOINTS WITH DRY MIXTURE OF POLYMERIC SAND Techni–Seal OR APPROVED EQUAL. USE PLATE TAMPER WITH RUBBER MAT OR OTHER PROTECTION FOR BRICK.

REMOVE EXCESS AND MOISTEN TO SET JOINT SEALANT SAND.

1" MAX COMPACTED CONCRETE SAND ODOT 703.02 (ASTM C 33) SETTING BED W/ MORTAR.

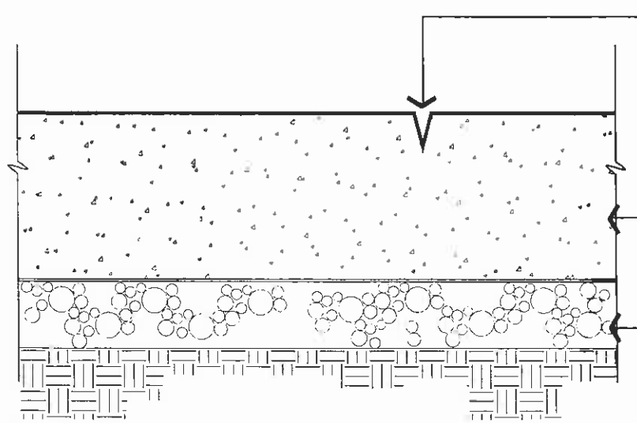
USE INTERIOR FORMING PINS FOR WEEP HOLES ON DOWNSLOPE SIDES AND INTERIOR CORNERS. MAX 4 FT. CENTERS. – COVER W/ FILTER FABRIC.

CONCRETE CROSSWALK AND PAVER BASE IS TO BE CLASS "C" ODOT 499.03 – HIGH EARLY. NO EXPANSION JOINTS ARE TO BE PLACED AGAINST BRICK PAVER SECTIONS.

MAX 1/4" SPACE BETWEEN BRICK AND CONCRETE.

PROVIDE 1/4" RADIUS ON ALL SLAB EDGES.

CROSSWALK DETAIL



TYPICAL CONTROL JOINT, 1/4 DEPTH OF SLAB SPACING OF JOINTS TO BE 4' O.C. – ALIGN CONCRETE CROSSWALK AND CONCRETE WALK JOINTS. POLYEUROTHANE ELASTOMERIC SEALANT, TYP.

10" ITEM 452 PLAIN PORTLAND CEMENT CONCRETE PAVEMENT

COMPACTED AGGREGATE BASE ODOT ITEM #304, 4" TYP.

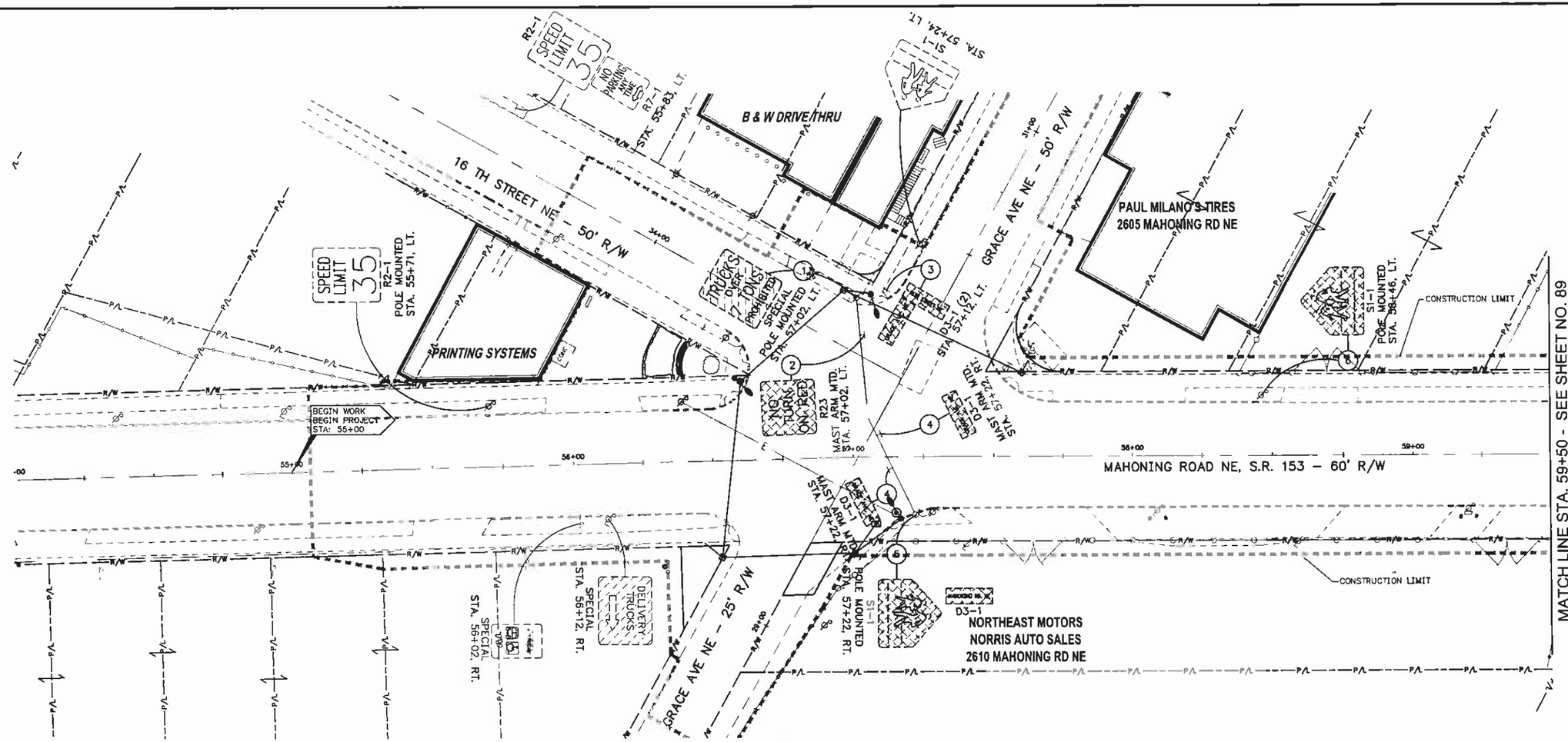
CALCULATED: CHECKED:

ROADWAY BRICK PAVEMENT

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379–2790 FAX (330) 379–2791

MAHONING ROAD NE
STA-0153-01.70



SIGN LEGEND:

- EXISTING TO REMAIN
- EXISTING TO BE REERECTED
- EXISTING TO BE REMOVED

CALCULATED: MAT
CHECKED: JGG

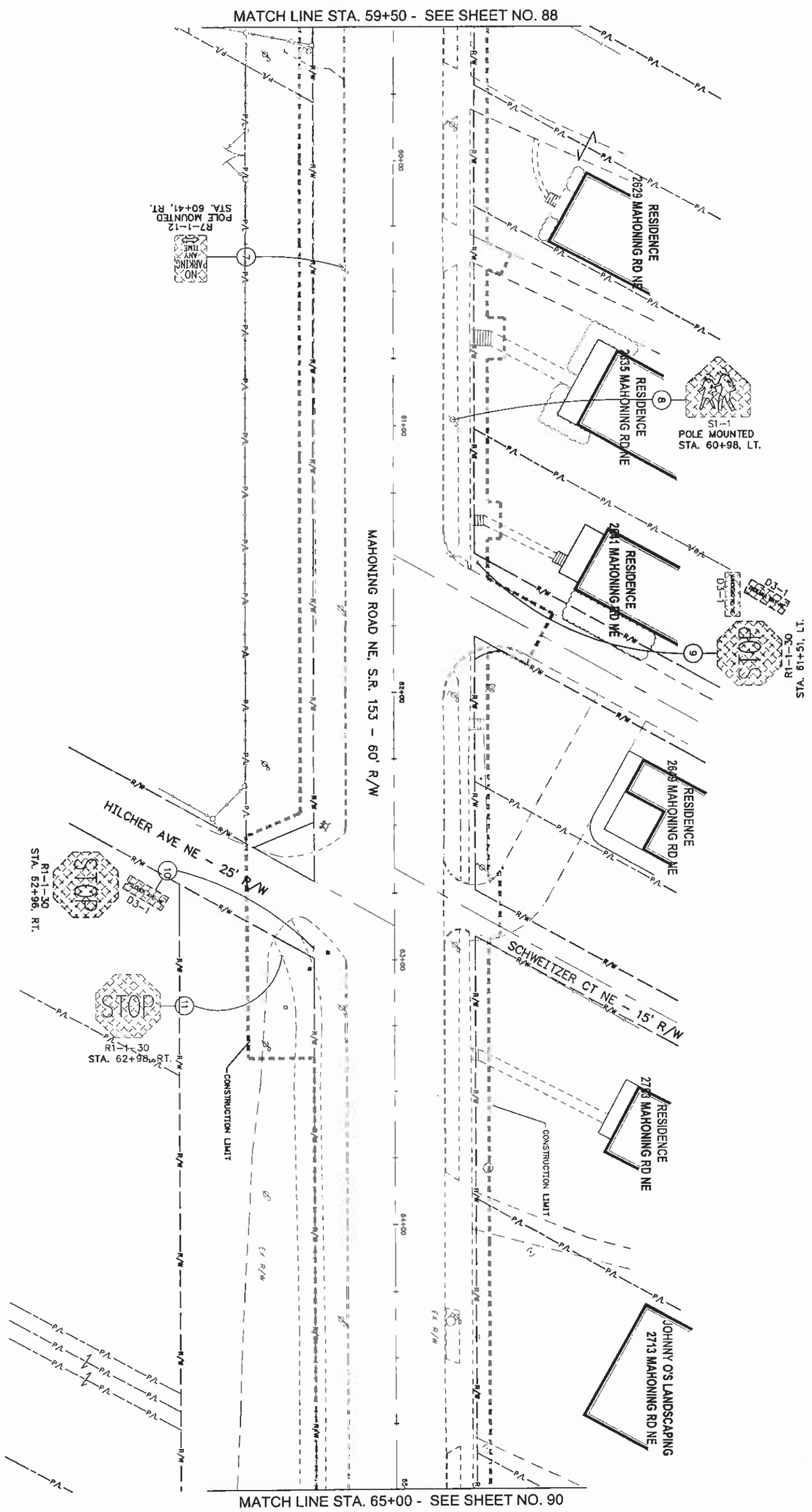
0 10' 20' 40'
HORIZONTAL SCALE 1"=20'

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 54+00 TO STA. 59+50

REVISIONS	DATE	BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

89
114

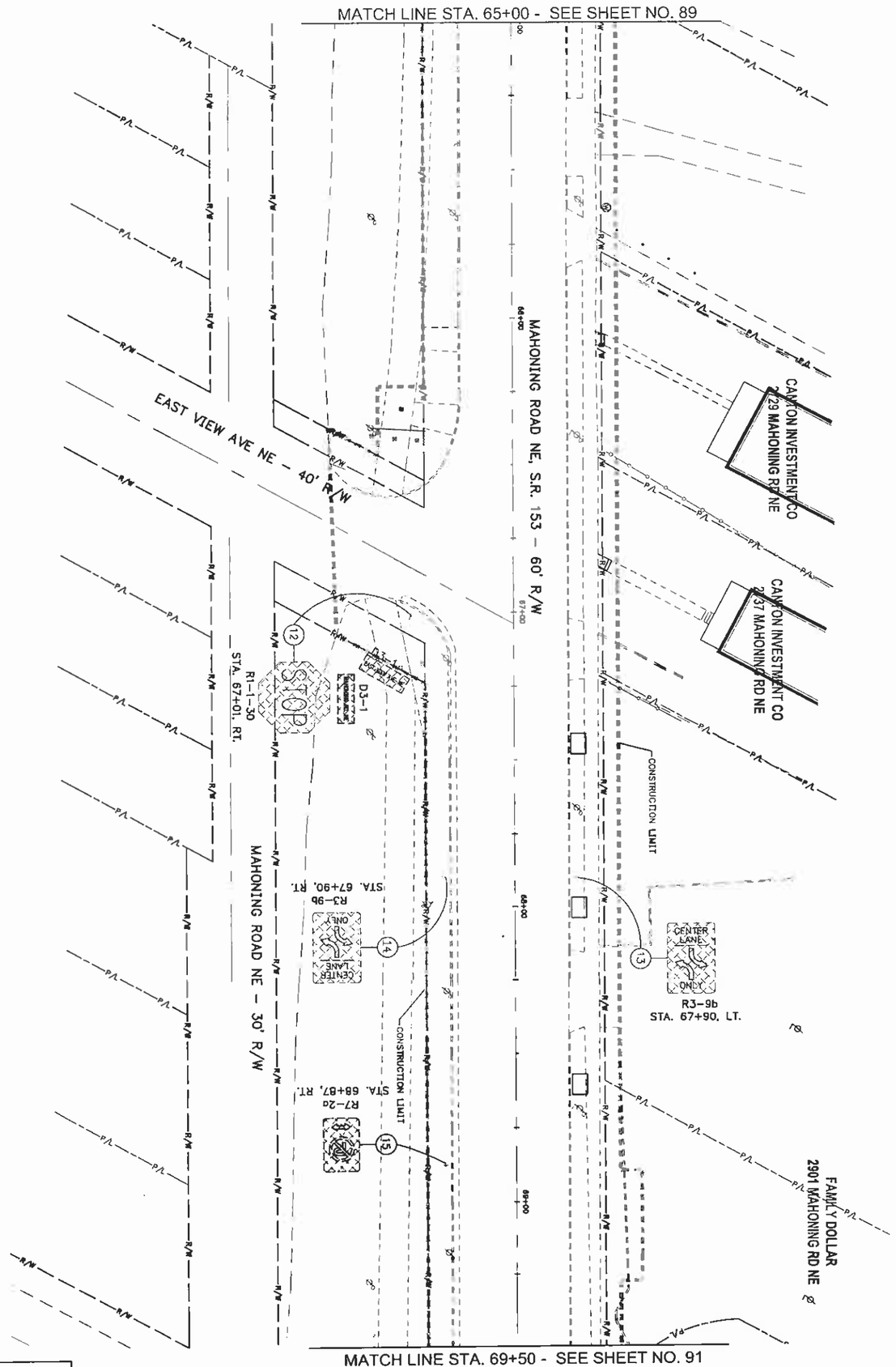
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 59+50 TO STA. 65+00

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

90
114

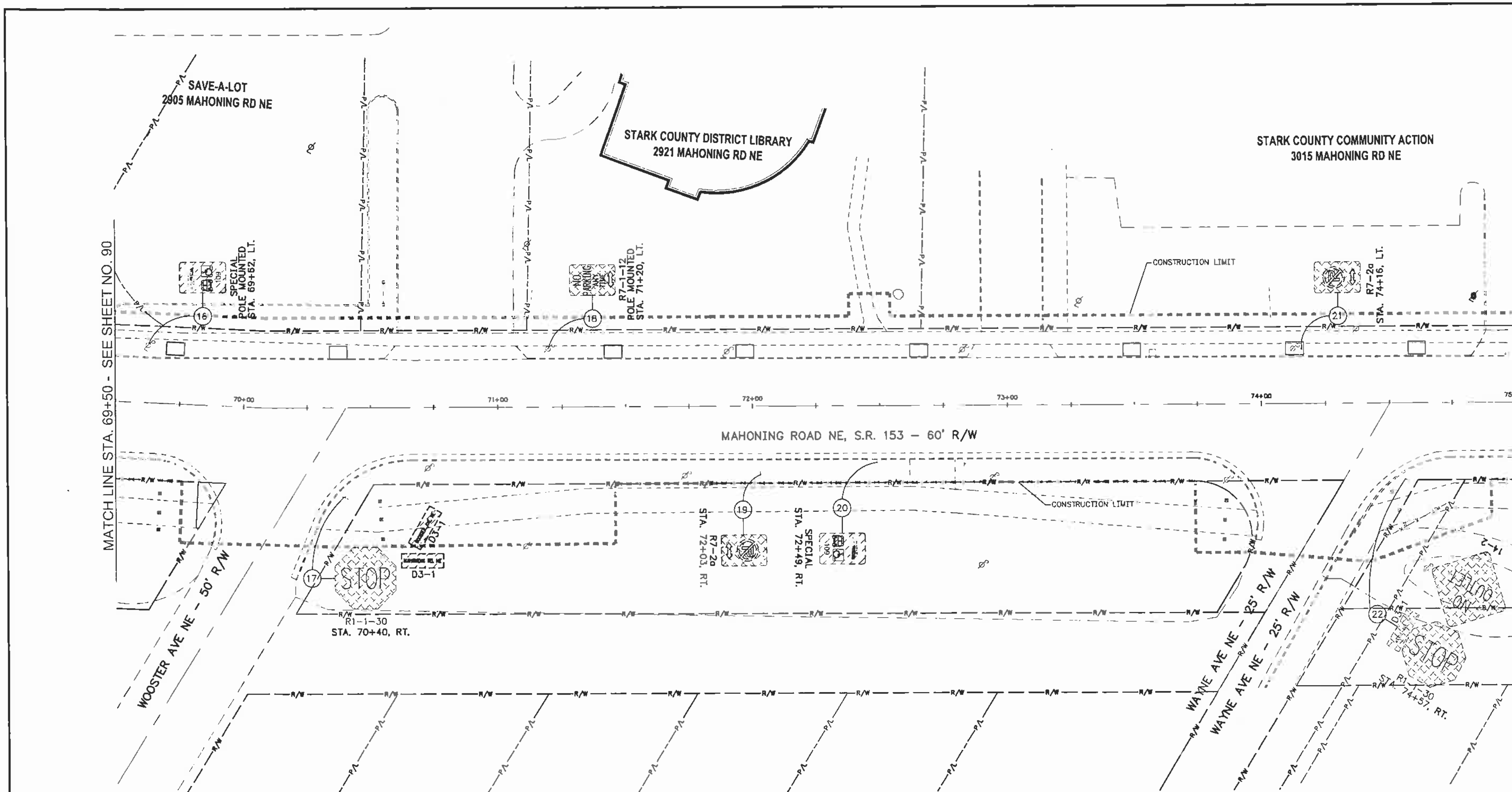
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 65+00 TO STA. 69+50

CALCULATED: MAT
CHECKED: JGG

0 10' 20' 40'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

CALCULATED: MAT
CHECKED: JGG

HORIZONTAL SCALE 1"=20'

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 69+50 TO STA. 75+00

MAHONING ROAD NE
STA-0153-01.70

MATCH LINE STA. 75+00 - SEE SHEET NO. 91

MAHONING ROAD NE, S.R. 153 – 60' R/W

MIDWAY AVE NE 60' R/W

MATCH LINE STA. 80+00 - SEE SHEET NO. 93

CONSTRUCTION LIMIT

STARK COUNTY COMMUNITY EN
3055 MAHONING RD

RITE AID
3032 MAHONING RD NE

CASHLAND
3048 MAHONING RD NE

FRESHMARK
3106 MAHONING RD I

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 75+00 TO STA. 80+00

HORIZONTAL SCALE 1"=20'

CALCULATED: MAT
CHECKED: JGG

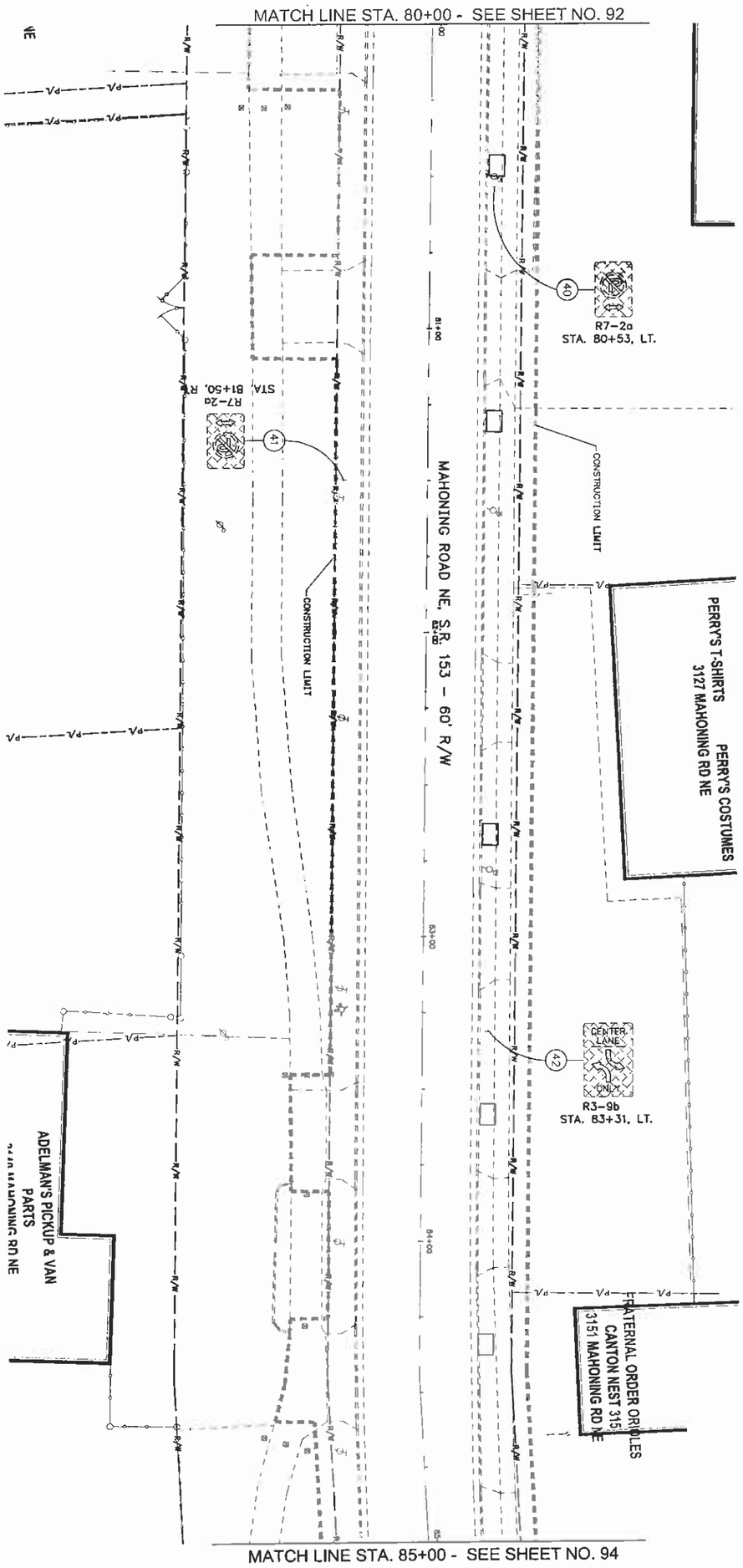
REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

92
114

MATCH LINE STA. 80+00 - SEE SHEET NO. 92



MATCH LINE STA. 85+00 - SEE SHEET NO. 94

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

93
114

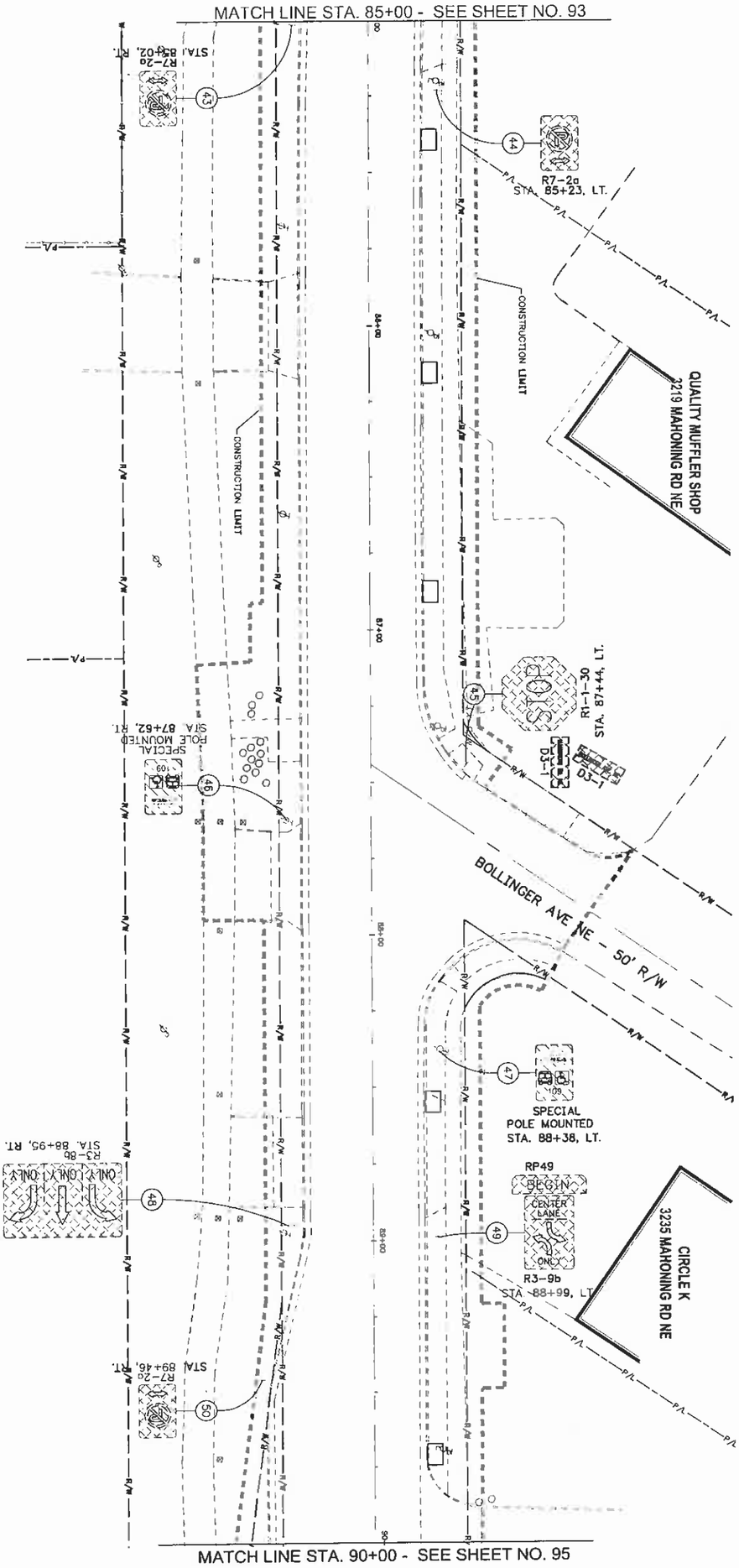
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 80+00 TO STA. 85+00

CALCULATED: MAT
CHECKED: JGG

0 10' 20' 40'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

94
114

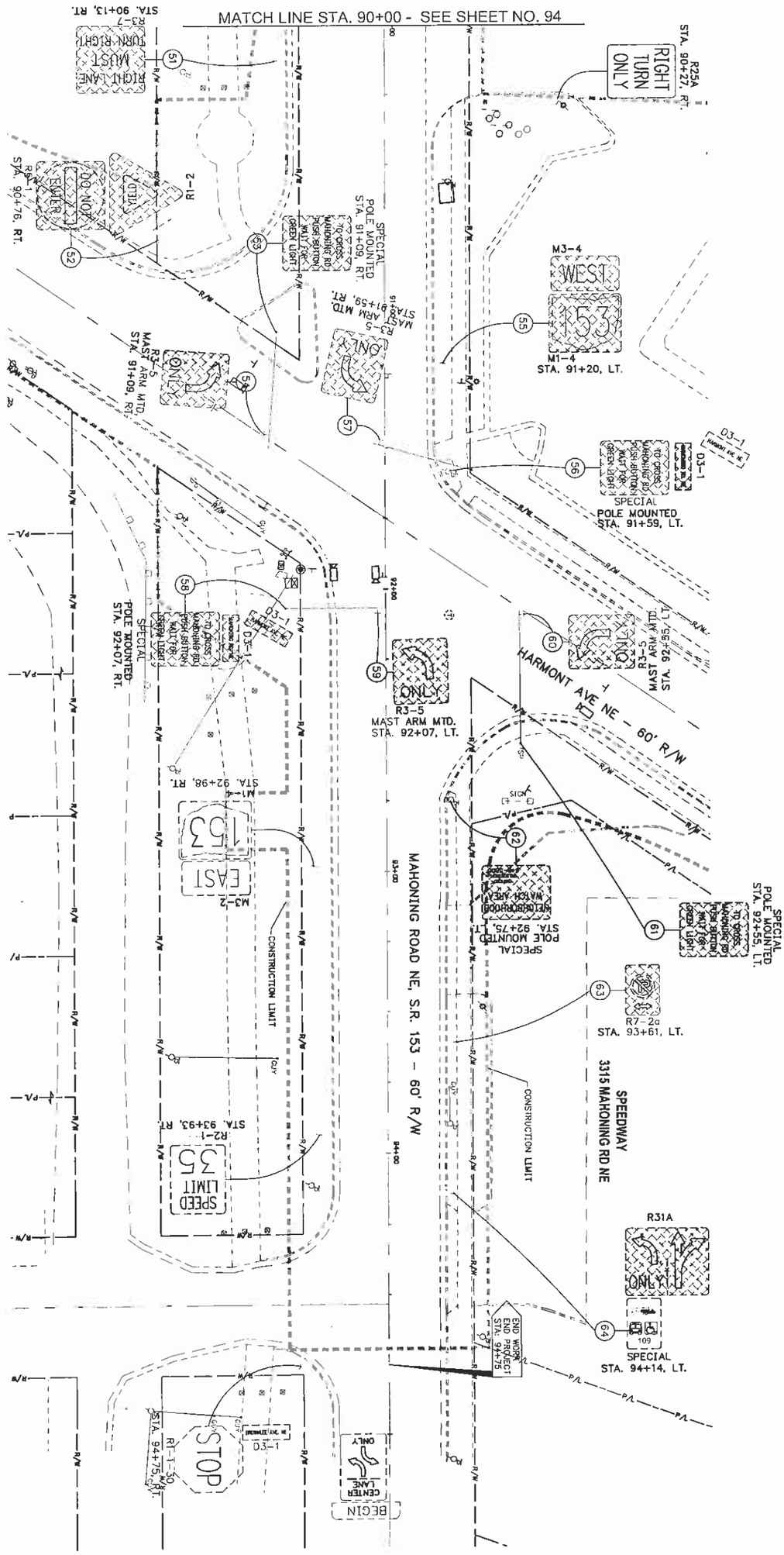
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNAGE PLAN
STA. 85+00 TO STA. 90+00

CALCULATED: MAT
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

95
114

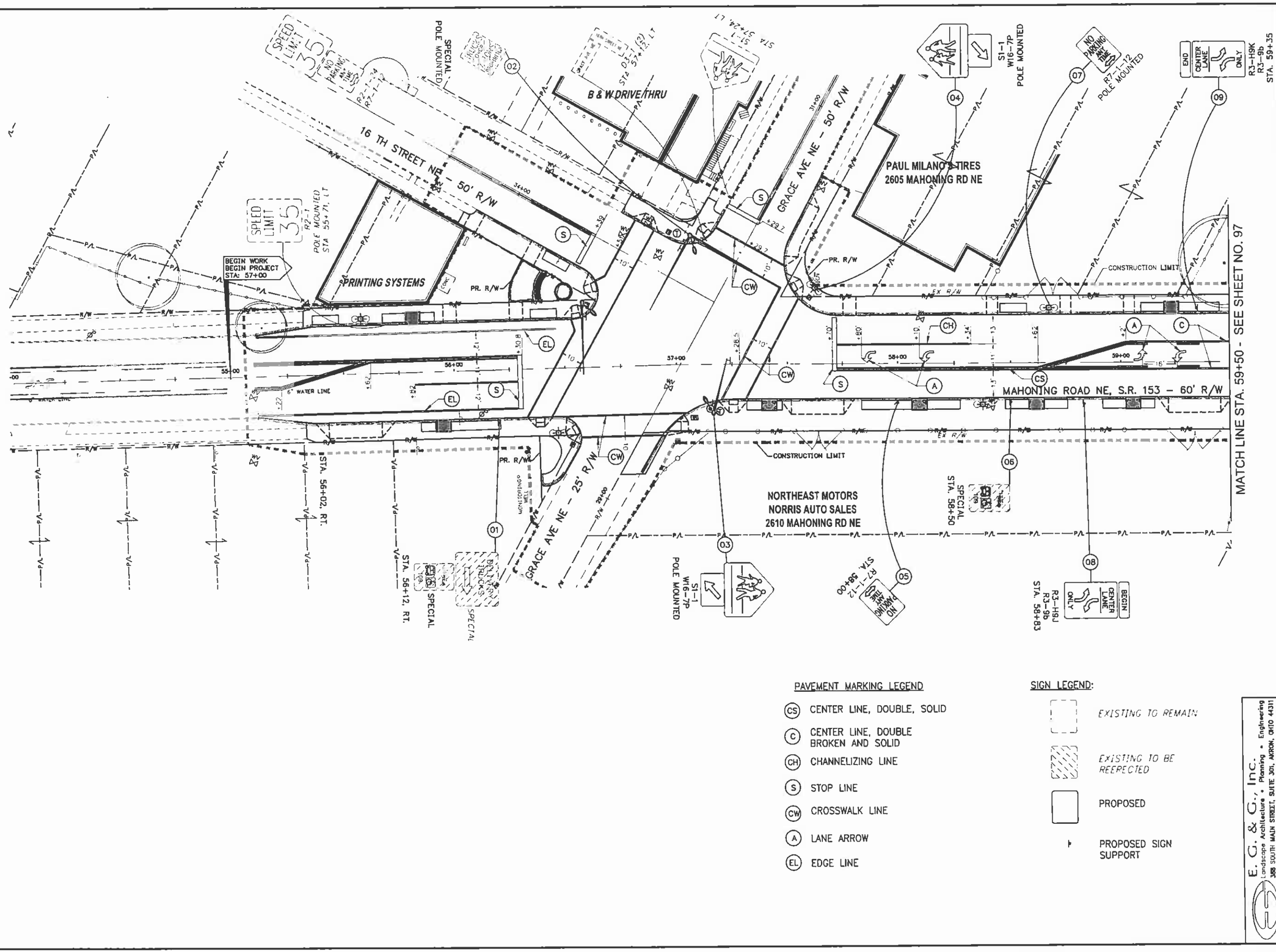
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

TRAFFIC CONTROL - EXISTING SIGNING PLAN
STA. 90+00 TO STA. 95+00

CALCULATED: MAT
CHECKED: JGG

0 10' 20' 40'
HORIZONTAL SCALE
1"=20'



PAVEMENT MARKING LEGEND

- (CS) CENTER LINE, DOUBLE, SOLID
- (C) CENTER LINE, DOUBLE BROKEN AND SOLID
- (CH) CHANNELIZING LINE
- (S) STOP LINE
- (CW) CROSSWALK LINE
- (A) LANE ARROW
- (EL) EDGE LINE

SIGN LEGEND:

- EXISTING TO REMAIN
- EXISTING TO BE REERECTED
- PROPOSED
- PROPOSED SIGN SUPPORT

SIGNING AND PAVEMENT MARKING PLAN
STA. 54+00 TO STA. 59+50

CALCULATED: SSA
CHECKED: JGG

HORIZONTAL SCALE 1"=20'

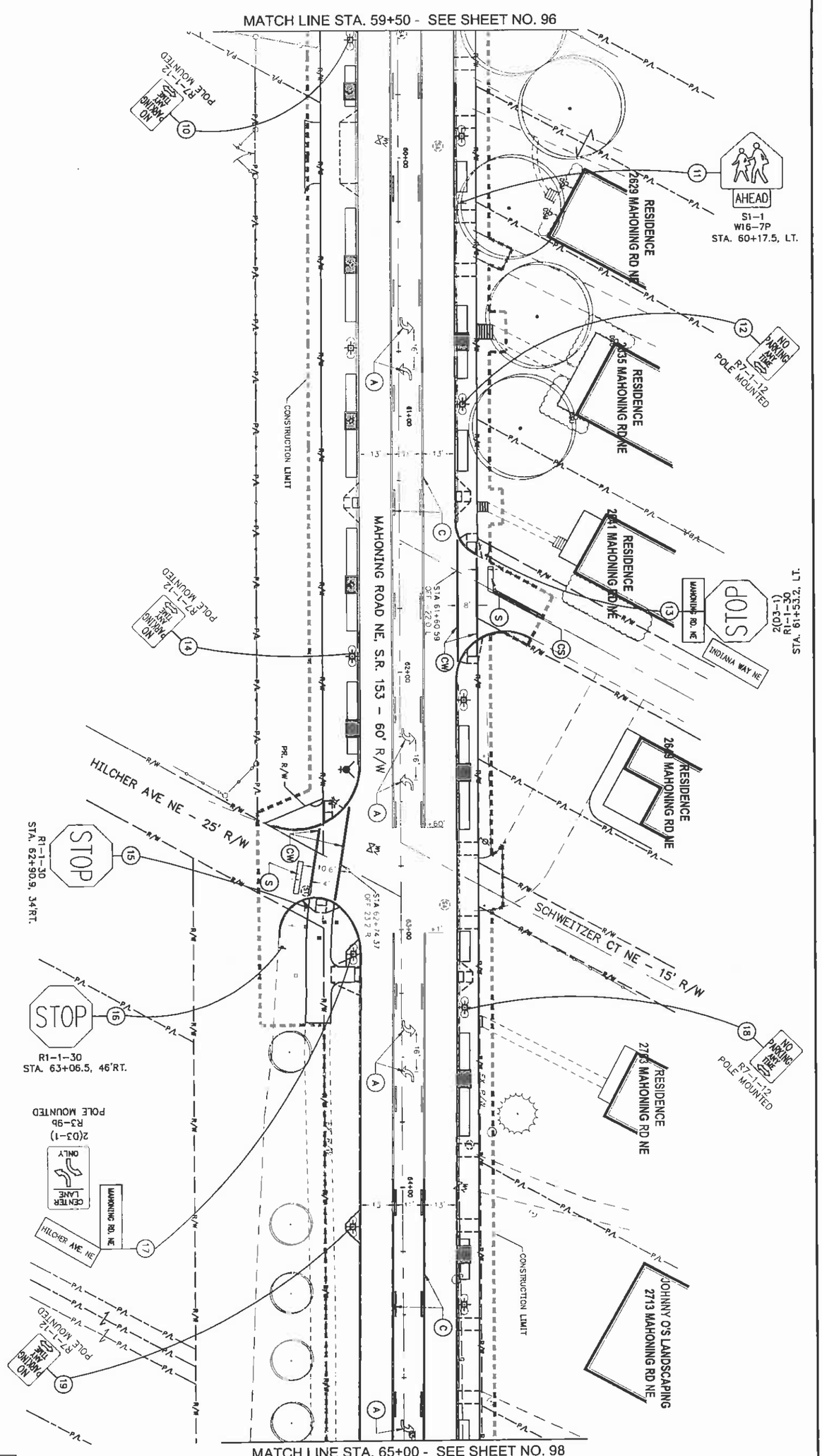
REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70

96
114

G:\Drawings\NEAR\Construction\SURFACE to HARMONY - PHASE 1\196-103 signing plan.dwg, 8/2/2011 12:40:51 PM



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

97
114

MAHONING ROAD NE
STA-0153-01.70

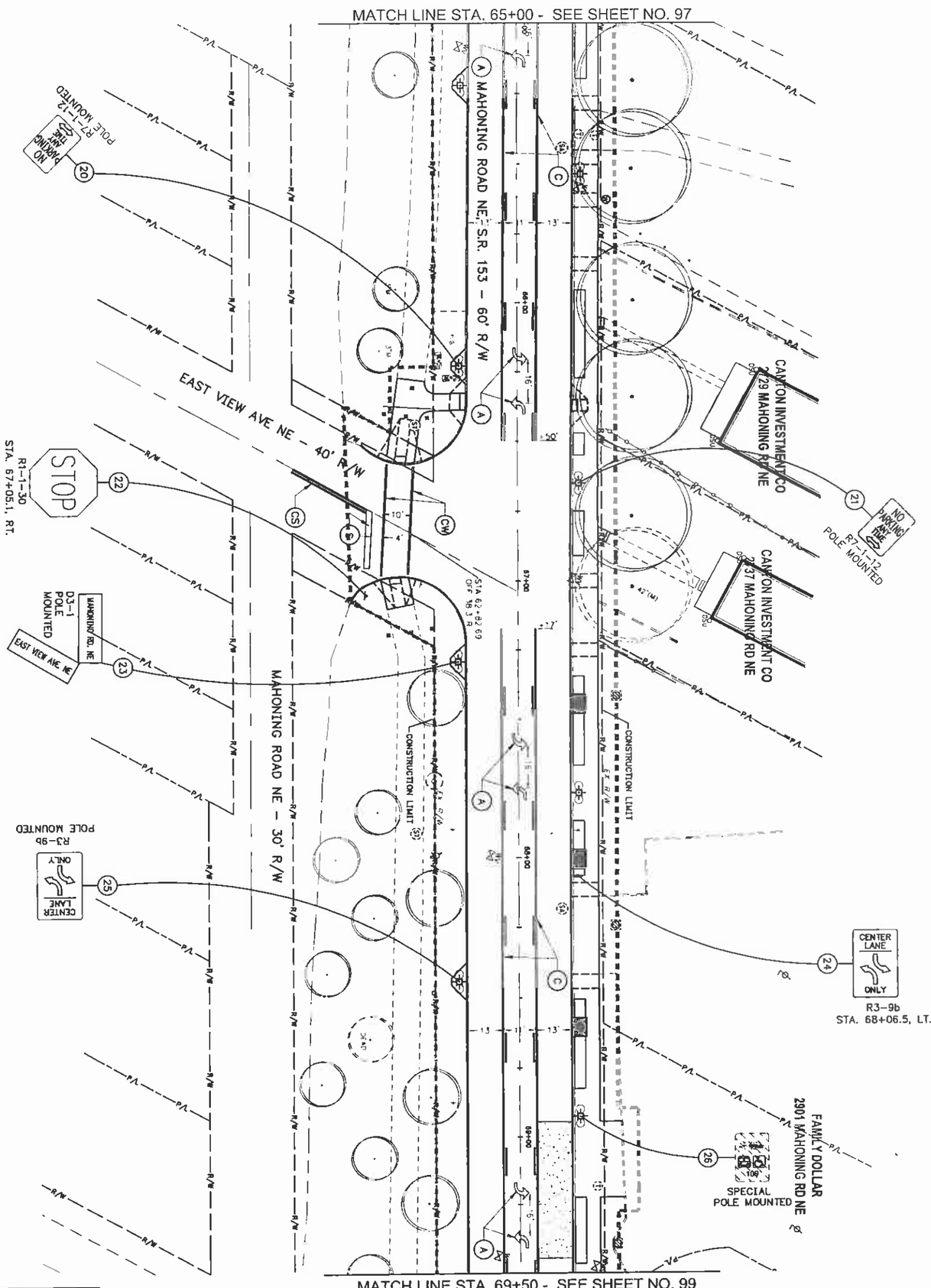
REVISIONS	DATE	BY

SIGNING AND PAVEMENT MARKING PLAN
STA. 59+50 TO STA. 65+00

CALCULATED: SSA
CHECKED: JGG

0 20' 10' 40'
HORIZONTAL SCALE
1"=20'

N



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

98
114

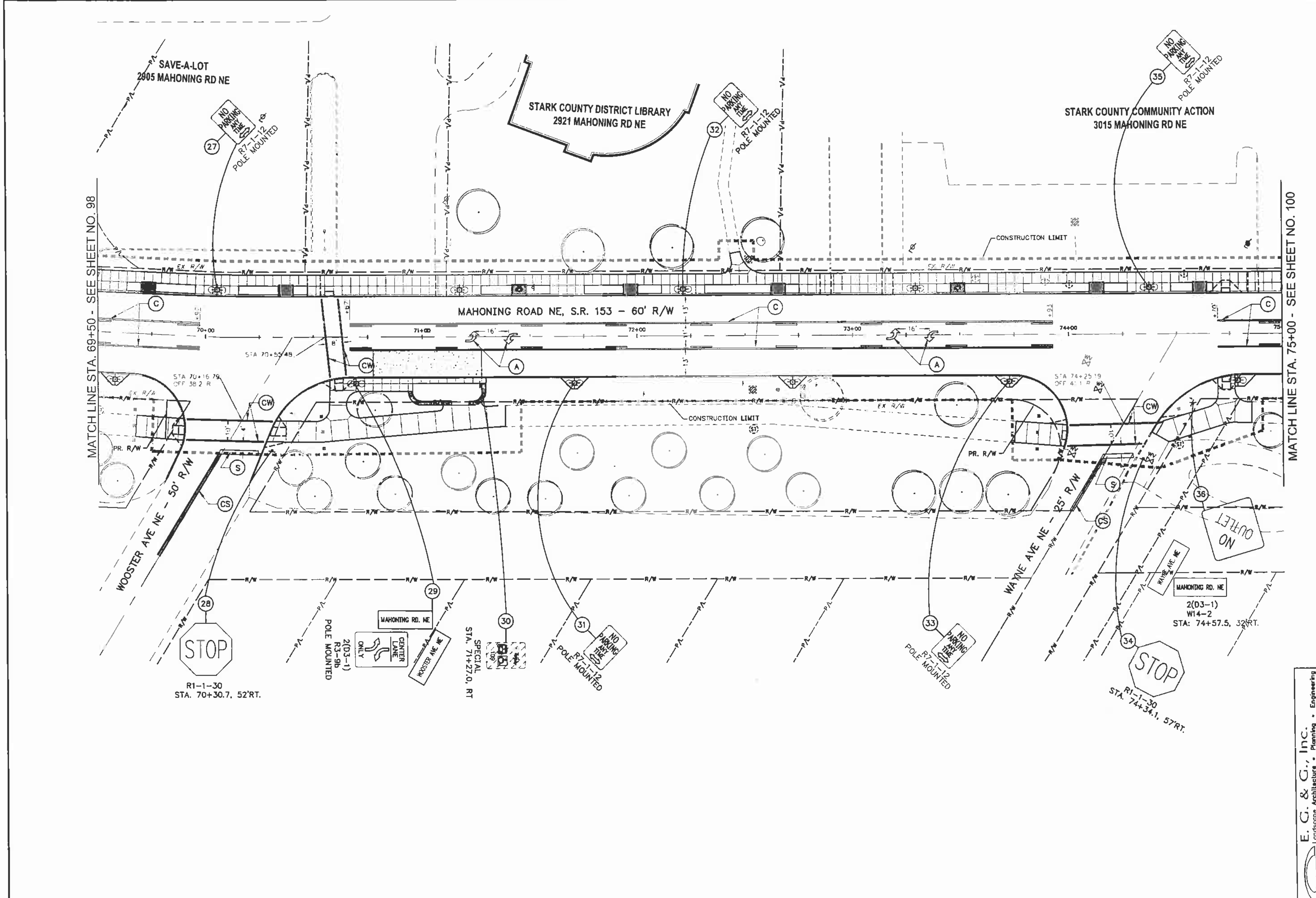
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

SIGNING AND PAVEMENT MARKING PLAN
STA. 65+00 TO STA. 69+50

CALCULATED: SSA
CHECKED: JGG

0 20' 40'
HORIZONTAL SCALE
1"=20'



SIGNING AND PAVEMENT MARKING PLAN
STA. 69+50 TO STA. 75+00

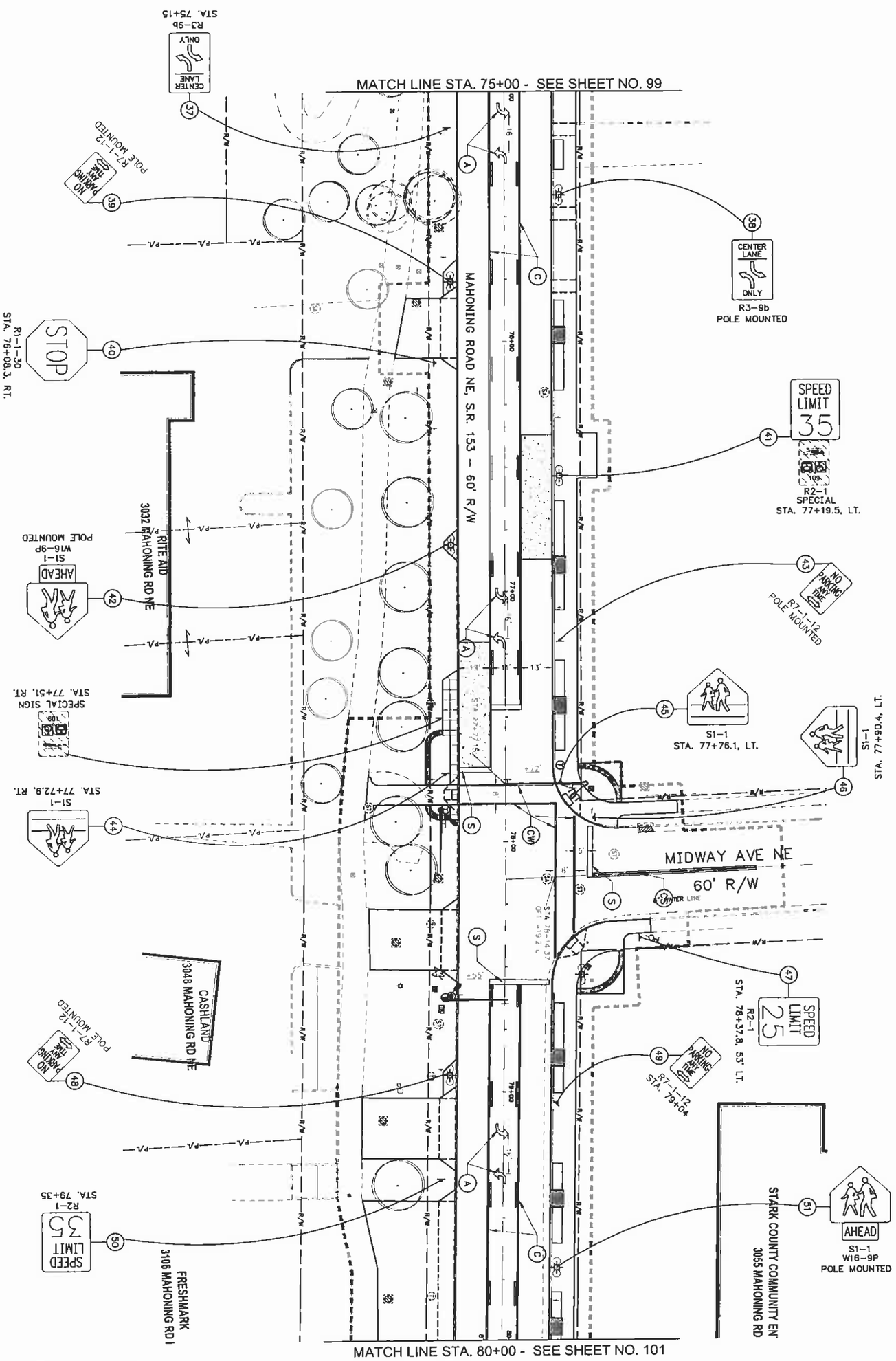
CALCULATED:	SSA
CHECKED:	JGG

HORIZONTAL SCALE 1"=20'
0 10' 20' 40'

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

100
114

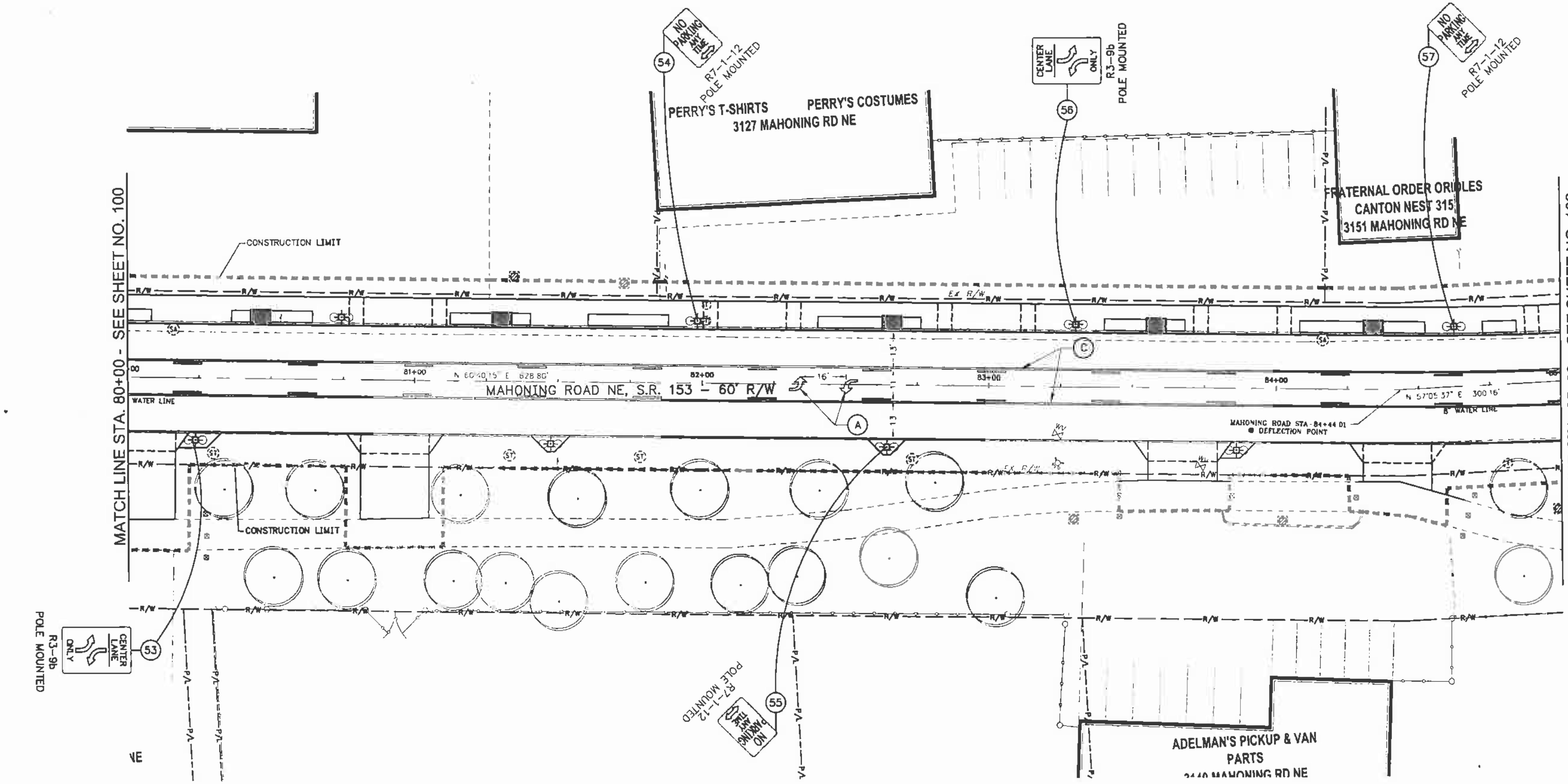
MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

SIGNING AND PAVEMENT MARKING PLAN
STA. 75+00 TO STA. 80+00

CALCULATED: SSA
CHECKED: JGG

0 20'
10' 40'
HORIZONTAL SCALE
1"=20'



CALCULATED:	SSA
CHECKED:	JGG

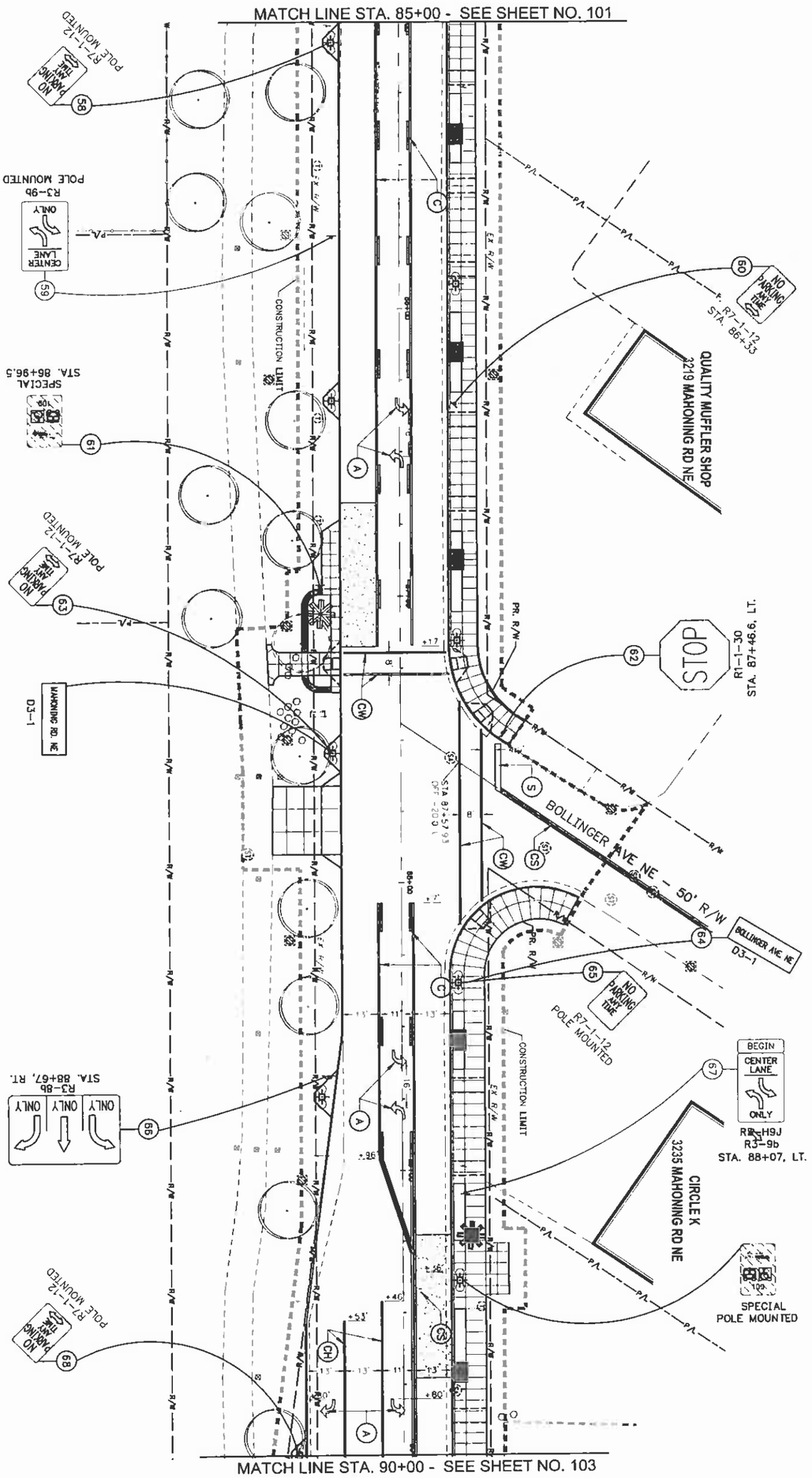
HORIZONTAL SCALE 1"=20'

SIGNING AND PAVEMENT MARKING PLAN
STA. 80+00 TO STA. 85+00

REVISIONS | DATE | BY

E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

MAHONING ROAD NE
STA-0153-01.70



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

102
114

MAHONING ROAD NE
STA-0153-01.70

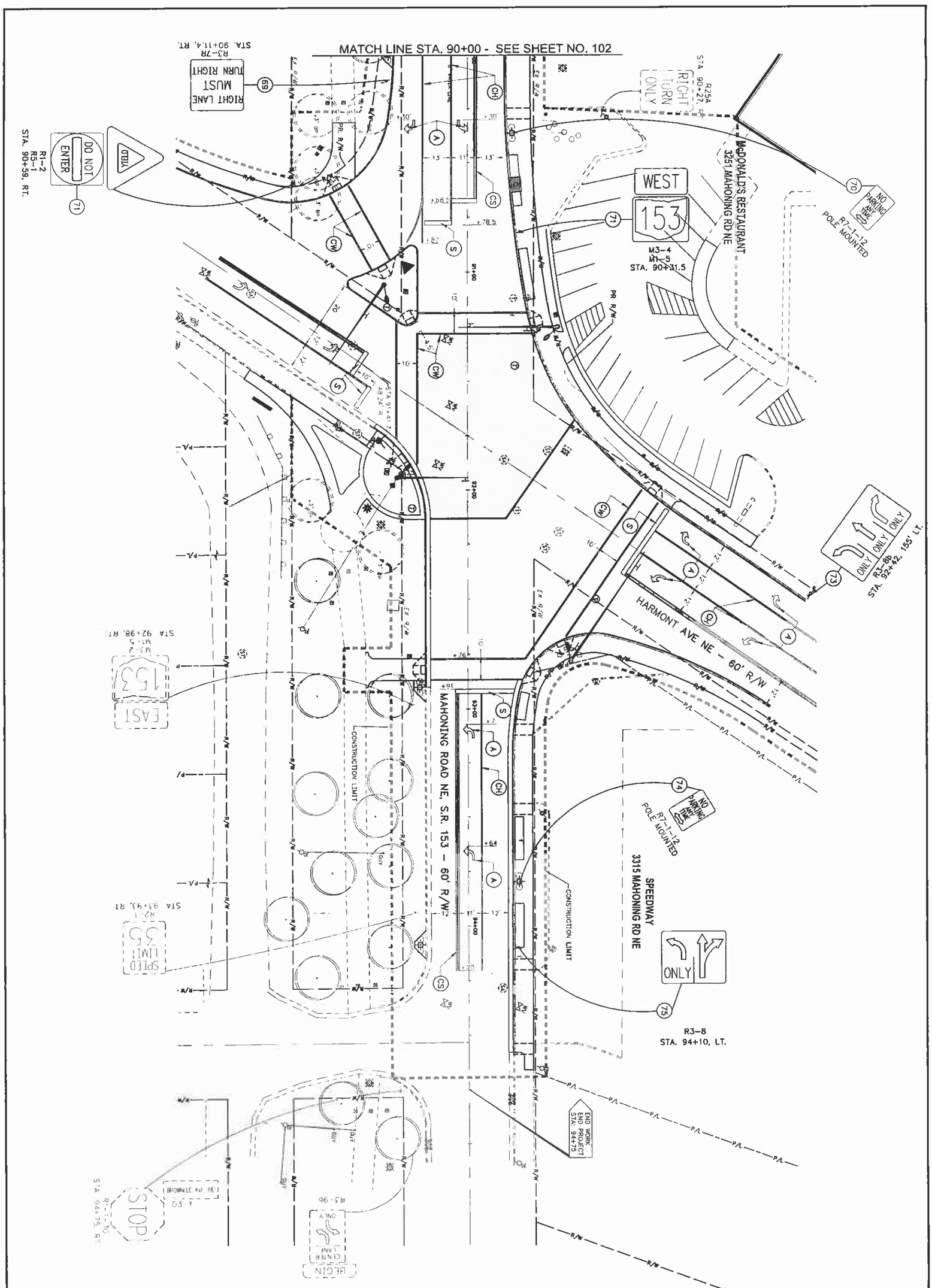
REVISIONS	DATE	BY

SIGNING AND PAVEMENT MARKING PLAN
STA. 85+00 TO STA. 90+00

CALCULATED: SSA
CHECKED: JGG

0 20' 40'
10'
HORIZONTAL SCALE
1"=20'

N



E. G. & G., Inc.
Landscape Architecture • Planning • Engineering
388 SOUTH MAIN STREET, SUITE 301, AKRON, OHIO 44311
(330) 379-2790 FAX (330) 379-2791

103
114

MAHONING ROAD NE
STA-0153-01.70

REVISIONS	DATE	BY

SIGNING AND PAVEMENT MARKING PLAN
STA. 90+00 TO STA. 95+00

CALCULATED: SSA
CHECKED: JGG

0 20' 40'
HORIZONTAL SCALE
1"=20'

N

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

A. MINIMUM OF ONE (1) ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT.
B. THE CONTRACTOR SHALL INFORM THE CITY OF CANTON ENGINEERS OFFICE AT (330) 489-3381 EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.
C. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET.
D. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS, NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.
E. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS, AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

THE CONTRACTOR SHALL ALSO FOLLOW THE INTERSECTION PRIORITY LIST SEQUENCING WHICH WILL BE PROVIDED AT THE INITIAL ON-SITE MEETING (SEE NOTE REGARDING FOUNDATIONS FOR MORE INFORMATION). THE COST FOR THE ABOVE MAINTENANCE OF TRAFFIC REQUIREMENTS SHALL BE INCIDENTAL TO AND INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

UTILITY CONTACT INFORMATION

THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE PROJECT AREA:

AMERICAN ELECTRIC POWER
301 CLEVELAND AVENUE SW
P.O. BOX 24400
CANTON, OH 44701
PHONE: 330-438-7718
ATTN: MR. RAY ZITNEY

SBC
50 WEST BOWERY STREET
4TH FLOOR
AKRON, OH 44308
PHONE: 330-384-8057
ATTN: MS. SABRENA LAMPLEY

DOMINION EAST OHIO
(DISTRIBUTION)
4725 SOUTHWAY STREET SW
CANTON, OH 44706
PHONE: 330-478-3140
ATTN: MS. KATE QUILLIN

DOMINION EAST OHIO
(TRANSMISSION)
7015 FREEDOM AVENUE NW
NORTH CANTON, OH 44720
PHONE: 330-266-2120
ATTN: MR. FRANK MARTIN, P.E.

TIME-WARNER CABLE
5520 WHIPPLE ROAD NW
NORTH CANTON, OH 44720
PHONE: 330-494-9200
(EXT. 3087)
ATTN: MR. TIM KNIGHT

CITY OF CANTON (SANITARY)
2436 30TH STREET NE
CANTON, OH 44705
PHONE: 330-489-3381
ATTN: MR. DANIEL MOEGLIN, P.E., S. I.

CITY OF CANTON (WATER)
2664 HARRISBURG ROAD NE
CANTON, OH 44705
PHONE: 330-489-3310
ATTN: MR. LEWI MILLER

CITY OF CANTON (SIGNAL)
2436 30TH STREET NE
CANTON, OH 44705
PHONE: 330-489-3370
ATTN: MR. NICHOLAS LOUKAS, P.E.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SIGNAL/FLASHER INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL/FLASHER SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

AFTER THE REPORT HAS BEEN SIGNED BY ALL PARTIES, THE SIGNAL INSTALLATION SHALL BE TURNED OVER TO THE CONTRACTOR, WHO SHALL THEN BE REQUIRED TO MAINTAIN THE TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

A. EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED, WHETHER FROM UTILITY WORK OR FROM THE CONTRACTOR.
B. NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE MAINTAINING AGENCY AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE (1) OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, SEVEN (7) DAYS A WEEK.

THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT (8) HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE (1) LOCATION. WHERE MORE THAN ONE (1) OUTAGE OCCURS AT ANY ONE (1) LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF CANTON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR (4) HOURS FOR INSTALLATIONS UTILIZING NEW FOUNDATIONS AND EIGHT (8) HOURS FOR INSTALLATIONS UTILIZING EXISTING FOUNDATIONS AND NO OUTAGE TIME PERIOD SHALL INCLUDE THE HOURS OF 6:00 AM TO 8:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF CANTON POLICE, HIRED BY THE CONTRACTOR.

A. MAHONING ROAD & HARMONT AVENUE N.E.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED, AS DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:
1). TIME OF NOTIFICATION OF MALFUNCTION;
2). TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3). ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4). A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE; AND
5). TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 625 - TRENCH IN PAVED AREA BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625.11, THIS ITEM SHALL INCLUDE FULL SLAB REPLACEMENT WHEN TRENCHING IN SIDEWALK. BORING OR JACKING THE CONDUIT UNDER THE PAVEMENT CAN BE PERFORMED IN LIEU OF TRENCHING. IF BORING OR JACKING IS PERFORMED IN LIEU OF TRENCHING, THE CONDUIT PLACED SHALL BE 725.04 ANY EXTRA COST FOR THE 725.04 CONDUIT SHALL BE INCLUDED IN THIS ITEM.

ITEM 625 - PULL BOX, MISC.: 725.06 (BY SIZE)

PULL BOXES SHALL BE MANUFACTURED BY CARSON BROOKS (MODEL #1324 AND #1730), QUAZITE (MODEL #PG1324BA18/PG1324HA44 AND #PG1730BA18/PG1730HA44), OR SYNERTECH (MODEL #S1324 HBBOA18 AND #S1730 HBBOA18), OR APPROVED EQUAL. ALL PULL BOXES SHALL INCLUDE A POLYMER CONCRETE RING AND COVER TYPE, OR EQUAL, AND SHALL BE MARKED "TRAFFIC". THE PULL BOX SHALL BE FIBERGLASS REINFORCED POLYESTER, OR EQUAL, WITH INSERTS AND SHALL BE 18" IN DEPTH. EACH PULL BOX SHALL INCLUDE TWO (2) STAINLESS STEEL HEX BOLTS. EACH PULL BOX AND COVER SHALL HAVE A MINIMUM LOAD RATING OF 20,000 POUNDS CAPACITY IN ACCORDANCE WITH THE WESTERN UNDERGROUND COMMITTEE GUIDE 3.6. UNDERDRAINS SHALL NOT BE INSTALLED IN PULL BOXES.

ITEM 632 - POWER CABLE, 3 CONDUCTOR, NO. 10 AWG, AS PER PLAN

POWER CABLE SHALL BE 3 CONDUCTOR, NO. 10 AWG STRANDED, COPPER, TYPE UF, 600 VOLT.

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER ODOT SPECIFICATION 632 AND ODOT STANDARD CONSTRUCTION DRAWING TC-83.10. ELECTRIC POWER SHALL BE SUPPLIED BY AMERICAN ELECTRIC POWER (AEP). POWER SERVICE IS TO BE UNMETERED. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS, EXCEPT WHERE DECORATIVE SIGNAL SUPPORTS WITH ORNAMENTAL LUMINAIRE WHICH REQUIRES 240V OR 208V. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE CITY OF CANTON.

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

ITEM 632 - VEHICULAR SIGNAL HEAD (LED), BY TYPE, 12" LENS, 1 WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

A. VEHICULAR SIGNAL HEADS SHALL BE FREE SWINGING.
B. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
C. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
D. VEHICULAR SIGNAL HEADS SHALL BE PROVIDED WITH A PIVOT AND LOCK BALANCE ADJUSTER. ALL BALANCE ADJUSTERS SHALL HAVE A MINIMUM THREE-QUARTER INCH (19 MILLIMETER) EYE BOLT AND THREE-QUARTER INCH (19 MILLIMETER) WIDE SLOT. EYE BOLTS APE CAST FROM 316STAINLESS STEEL AND PROVIDED WITH A SATIN FINISH. THREE-QUARTER INCH (19 MILLIMETER) BODY HALVES ARE CAST FROM AN MINIMUM 65-45-12 DUCTILE IRON AND PROVIDED WITH A BRIGHT ZINC FINISH (ZN1).
E. ALL LAMP UNITS SHALL BE THE 12 INCH (3DO MILLIMETER) SIZE AND BE EQUIPPED WITH 12"X11" CUTAWAY VISORS, UNLESS OTHERWISE NOTED IN PLANS.
F. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
G. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF ALUMINUM.
H. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING. ALL EXTERIOR COLOR SHALL BE FEDERAL HIGHWAY YELLOW AT INTERSECTIONS THAT CONTAIN NOSTALGIA SIGNAL SUPPORTS AND PEDESTALS. THE FOLLOWING IS A SUMMARY OF THE SIGNAL HEADS NEEDED.

THE CONTRACTOR SHALL PROVIDE THE CITY, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURER FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:

TRAFFIC ENGINEERING DEPARTMENT
2436-30TH STREET N.E.
CANTON, OHIO 44705
ATTN: NICHOLAS LOUKAS, P.E.

THE CITY WILL MEASURE 'VEHICULAR SIGNAL HEAD WITH LED LAMP UNITS, BY TYPE, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

A. LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 872. ALL LAMP UNITS SHALL BE THE 16 INCH SIZE AND A SINGLE UNIT.
B. THE LED LAMP UNIT SHALL DISPLAY THE SYMBOLS FOR THE UPRAISED HAND OR THE WALKING PERSON, SIDE BY SIDE FILLED.
C. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
D. ALL LAMP UNITS SHALL BE PROVIDED WITH QUICK COUPLERS FOR SIDE OF POLE MOUNTING OR WITH TOP OF PEDESTAL MOUNTING HARDWARE, AS SPECIFIED IN THE PLANS.
E. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL (BLACK) RATHER THAN PAINTING.

THE CONTRACTOR SHALL PROVIDE THE CITY, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURER FOR ALL LED UNITS TO BE USED IN THE TRAFFIC PEDESTRIAN HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:

TRAFFIC ENGINEERING DEPARTMENT
2436-30TH STREET N.E.
CANTON, OHIO 44705
ATTN: NICHOLAS LOUKAS, P.E.

THE CITY WILL MEASURE "PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS,, TYPE D2, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, AND LAMPS AS SPECIFIED.

ALL PROPOSED CONNECTIONS SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA SIGNAL POLES SHALL NOT BE PERMITTED.

ITEM 632 - PEDESTRIAN PUSHBUTTON, AS PER PLAN

PEDESTRIAN PUSHBUTTON SHALL BE AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANT AND FREEZE PROOF. IN ORDER TO CONFORM TO ADA, THE REQUIREMENTS OF 632.09 AND 732.06 ARE MODIFIED AS FOLLOWS:
A. THE MAXIMUM FORCE REQUIRED TO OPERATE THE PUSHBUTTON SHALL BE FIVE (5) POUNDS PER FOOT.
B. THE PUSHBUTTON SHALL BE RAISED OR FLUSH AND SHALL BE A MINIMUM OF TWO (2) INCHES AT THE SMALLEST DIMENSION.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, APP

THE REMOVAL SHALL CONSIST OF VEHICULAR SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, CONTROLLER WITH CABINET, TRAFFIC POLES AND PEDESTALS, FOUNDATIONS, PULL BOXES, MESSENGER WIRE, SIGNAL CABLE, CONDUIT RISER, MISCELLANEOUS ATTACHMENTS, POLE AND MAST ARM MOUNTED SIGNS, AND ALL OTHER PORTIONS OF A TRAFFIC SIGNAL INSTALLATION PER SECTION 632.26 UNLESS OTHERWISE STATED ON THE INTERSECTION PLAN SHEET. UNLESS OTHERWISE DESIGNATED, ALL TRAFFIC POLES AND ARMS REMOVED SHALL BE DELIVERED TO THE CITY OF CANTON TRAFFIC SIGN AND PAINT DEPARTMENT AT 2506 CLEVELAND AVENUE S.W., CANTON, OHIO. IN ADDITION, UNLESS OTHERWISE DESIGNATED, ALL OTHER ITEMS REMOVED EXCEPT MESSENGER WIRE AND SIGNAL CABLES SHALL BE DELIVERED TO THE CITY OF CANTON TRAFFIC SIGNAL DEPARTMENT AT 2436-30TH STREET N.E., CANTON, OHIO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF MESSENGER WIRE, SIGNAL CABLES, AND ANY OTHER TRAFFIC SIGNAL ITEMS DESIGNATED BY THE ENGINEER.

ITEM 632 - SIGNAL SUPPORT, MISC.: NOSTALGIA SIGNAL SUPPORT (BY TYPE)

NOSTALGIA SIGNAL SUPPORTS (MAST ARM POLES AND ARMS) SHALL BE PACIFIC FAMILY 50312GF SERIES (SEE DETAILS ON SHEETS 45-49) AND MANUFACTURED BY:

UNION METAL CORPORATION
1432 MAPLE AVENUE N.E.
P.O. BOX 9920
CANTON, OH. 44711
PHONE: 330-456-7653

THE CONTRACTOR SHALL FURNISH AND INSTALL NOSTALGIA SIGNAL SUPPORTS AS PER PLANS. ALL HARDWARE INCLUDING LUMINARIES AND RELATED EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM.

THE MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION TO THE CITY THAT THE ACCEPTED POLE, ARM, LUMINAIRE, AND DECORATIVE SHROUD, IS OR WILL BECOME A STOCK ITEM, READILY AVAILABLE WITH REPLACEMENT PARTS FOR MINIMUM TEN (10) YEAR PERIOD. ALL MATERIAL SUPPLIES SHALL BE WARRANTED BY THE MANUFACTURER FOR ONE (1) YEAR AFTER DELIVERY AGAINST FAULTY MATERIALS AND WORKMANSHIP. THE POLE TOP SHALL BE MECHANICALLY ATTACHED TO THE TOP OF THE POLE SHAFT TO PROVIDE ACCESS FOR WIRING SIGNALS SECURED BY A J-HOOK WIRE SUPPORT. AN OPTIONAL OUTLET FRAME SHALL BE INTEGRALLY WELDED INTO THE POLE SHAFT TO ACCOMMODATE A 20A - 125V GFCI DUPLEX RECEPTACLE WHICH IS ALSO INCLUDED. THE RECEPTACLE COVER SHALL BE WEATHERPROOF WHILE IN USE AND PAINTED TO MATCH POLE. THE MAST ARM SHALL BE DRILLED IN THE FIELD 1' FROM REQUIRED SIGNAL LOCATIONS. TWO (2) RUBBER GROMMETS SHALL BE FURNISHED WITH EACH MAST ARM. SIGNAL HANGER CLAMPS SHALL BE SUPPLIED BY THE SIGNAL SUPPLIER OR MANUFACTURER, AS REQUIRED. A PERMANENT LEGIBLE MARKING INDICATION SHALL BE INCLUDED ON EACH SIGNAL SUPPORT AND ARM. THE FOLLOWING INDICATIONS SHALL BE REQUIRED AS A MINIMUM:

A. POLE INDICATIONS: MONTH/DATE OF FABRICATION: POLE GAUGE:
BOTTOM DIAMETER: POLE HEIGHT: BOLT CIRCLE: ANCHOR BOLT DIAMETER: FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

B. ARM INDICATIONS: MONTH/DATE OF FABRICATION: ARM GAUGE; ARM DIAMETER: ARM LENGTH: CONNECTING FLANGE BOLT DIAMETER: AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

THE ORNAMENTAL BASE SHALL BE UNION METAL BASE NO. 731. THE FOUNDATION SURFACE SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY. ALL PROPOSED EXTERIOR CONNECTIONS (PEDESTRIAN SIGNAL HEADS, SCHOOL SPEED LIMIT SIGNS, ETC.) TO NOSTALGIA SIGNAL POLES SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA SIGNAL POLES SHALL NOT BE PERMITTED.

ITEM 632 - PEDESTAL, MISC.: NOSTALGIA PEDESTAL, 8'

NOSTALGIA PEDESTALS SHALL BE PACIFIC FAMILY P2000G SERIES (SEE DETAILS ON SHEETS 45-49) AND MANUFACTURED BY:

UNION METAL CORPORATION
1432 MAPLE AVENUE N.E.
P.O. BOX 9920
CANTON, OH 44711
PHONE: 330-456-7653

THE CONTRACTOR SHALL FURNISH AND INSTALL NOSTALGIA PEDESTALS AS PER PLANS. PEDESTAL SHALL INCLUDE HANDHOLE, CHAIN, AND COVER. ALL HARDWARE SHALL BE INCLUDED WITH THIS ITEM. THE ENTIRE ASSEMBLY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF AASHTO. A STEEL FABRICATION TENON SHALL BE WELDED TO THE TOP OF THE SHAFT AND SIZED TO ACCEPT PEDESTRIAN SIGNALS AS REQUIRED. THE ORNAMENTAL BASE SHALL BE UNION METAL CORPORATION BASE NO. 74 AND SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY AND SHALL BE AT LEAST AS LARGE AS THE BOTTOM DIMENSION OF THE ORNAMENTAL BASE CASTING. ALL PROPOSED EXTERIOR CONNECTIONS (PEDESTRIAN PUSHBUTTONS, ETC.) TO NOSTALGIA PEDESTALS SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE NOSTALGIA PEDESTALS SHALL NOT BE PERMITTED.

NOSTALGIA SIGNAL SUPPORT AND PEDESTAL AND DECORATIVE LIGHT POLE PAINTING

NOSTALGIA SIGNAL SUPPORT, ARMS, AND LUMINAIRE BRACKETS SHALL BE PAINTED (SURFACE PREPARATION, PRIMER APPLICATION, AND FINISH COATING OF GALVANIZED SUBSTRATES). THE FOLLOWING SHALL APPLY:

A. SURFACE PREPARATION:
PRE CLEAN SUBSTRATES TO SSPC-SP-1 SOLVENT CLEANING SPECIFICATION. PREPARE GALVANIZED SUBSTRATES BY ABRASIVE BLASTING TO SSPC-SP-7 BRUSH-OFF BLAST CLEANING SPECIFICATION.
B. COLOR
THE COLOR OF THE POLES SHALL BE CBD GREEN (COLOR AND FORMULA IS ON FILE AT THE MIDWEST TANK SERVICES CO., INC., CANTON, OH).
C. MATERIALS:
PRIMER-APPLY ONE (1) COAT OF POLYAMIDE UNIVERSAL EPOXY PRIMER-LIGHT GRAY AT A DRY FILM THICKNESS OF 2.0-4.0 MILS. IST INTERMEDIATE-APPLY ONE (1) COAT OF HIGH BUILD EPOXY-BUFF COLOR AT A DRY FILM THICKNESS OF 4.0-8.0 MILS. 2ND INTERMEDIATE-APPLY ONE (1) COAT OF ALIPHATIC ACRYLIC URETHANE-CBD GREEN AT A DRY FILM THICKNESS OF 2.0-3.0 MILS. FINISH-APPLY ONE (1) COAT OF ALIPHATIC URETHANE-CLEAR AT A DRY FILM THICKNESS OF 2.0-3.0 MILS.
D. APPLICATION:
APPLICATION(S) OF COATING(S) SHALL BE BY SPRAY METHOD ONLY BY INDUSTRY STANDARDS OF GOOD WORKMANSHIP AND PRACTICES.
E. INSPECTION:
INSPECTION OF APPLIED COATINGS SHALL BE IN ACCORDANCE WITH THE SOCIETY FOR PROTECTIVE COATINGS (SSPC) PAINT APPLICATION STANDARD NO.2: MEASUREMENT OF DRY COATING THICKNESS WITH MAGNETIC GAGES (SSPC-PA2).
F. WARRANTY:
COATINGS MANUFACTURER SHALL PROVIDE A TEN YEAR (10 YEAR) MATERIALS PERFORMANCE GUARANTEE.

THE COST FOR NOSTALGIA SIGNAL SUPPORT AND PEDESTAL AND DECORATIVE LIGHT POLE PAINTING SHALL BE INCLUDED IN AND INCIDENTAL TO THE NOSTALGIA SIGNAL SUPPORT AND PEDESTAL BID ITEMS (BID ITEMS 632) AND LIGHT POLE DECORATIVE BID ITEM (BID ITEM 625).

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

THIS PROJECT REQUIRES CONSTRUCTION OF SIGNAL SUPPORT FOUNDATIONS IN LOCATIONS WHICH CONTAIN NUMEROUS EXISTING UNDERGROUND UTILITIES. ORDERS FOR SIGNAL POLES AND MAST ARMS SHALL BE PLACED SYSTEMATICALLY AFTER THEIR RESPECTIVE FOUNDATIONS HAVE BEEN CONSTRUCTED. FOUNDATIONS THAT HAVE BEEN CONSTRUCTED SHALL BE PROTECTED AS PER SECTION 107.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

WITHIN TWO (2) WEEKS OF RECEIVING A SIGNED CONTRACT, THE CONTRACTOR SHALL LAYOUT THE PERIMETER OF EACH FOUNDATION THEN CONTACT OUPS AND THE CITY. A MEETING BETWEEN THE CONTRACTOR, ENGINEER AND A REPRESENTATIVE FROM THE CITY OF CANTON WILL BE HELD ON SITE NO LATER THEN TWO (2) WEEKS AFTER THE OUPS NOTIFICATION. BASED UPON THE PRIORITIES DETERMINED AT THIS MEETING, THE CONTRACTOR WILL CONSTRUCT FOUNDATIONS BEGINNING WITH THE HIGHEST PRIORITY FIRST. IF A UTILITY OR OTHER CONFLICT EXISTS WHICH REQUIRES THAT A SIGNAL SUPPORT BE CONSTRUCTED AT A LOCATION OTHER THAN WHAT IS INDICATED IN THE PLAN, THE ENGINEER SHALL DETERMINE WHETHER THE SPECIFIED MAST ARM LENGTH IS APPROPRIATE. IF A LONGER ARM IS REQUIRED, WITHIN TEN (10) WORKING DAYS, THE CONTRACTOR WILL BE PROVIDED WITH REVISED POLE AND ARM DATA. THE CONTRACTOR SHALL NOT ORDER THE POLES PRIOR TO RECEIVING THIS DATA. SUPPORT FOUNDATION LOCATIONS SHALL BE ADJUSTED ONLY WHEN APPROVED BY THE ENGINEER. THE CONTRACTOR IS ADVISED TO LOCATE AND CONSTRUCT THE SIGNAL SUPPORT FOUNDATIONS AS SOON AS POSSIBLE IN ORDER TO PROVIDE AMPLE LEAD TIME TO ORDER THE SIGNAL SUPPORTS AND THEIR ASSOCIATED MAST ARMS. ALL FOUNDATIONS SHALL BE HAND EXCAVATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO TIME EXTENSIONS SHALL BE GRANTED FOR DELAYS WHICH ARE CAUSED BY THE CONTRACTOR'S FAILURE TO PLAN FOUNDATION WORK AS SOON AS POSSIBLE IN THE CONTRACTORS PROGRESS SCHEDULE.

PAYMENT FOR ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN SHALL BE MADE AT THE UNIT CONTRACT PRICE BID PER EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO EXCAVATE AND BUILD THE FOUNDATION SYSTEM, COMPLETE IN PLACE AND ACCEPTED.

BECAUSE OF THE RECOGNIZED TIME DELAY BETWEEN THE CONSTRUCTION OF THE FOUNDATIONS AND THE DELIVERY OF THE SIGNAL SUPPORTS AND/OR PEDESTALS FROM THE MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE NEW CONSTRUCTED FOUNDATIONS BY A DEVICE SUCH AS A WOODEN BOX IN ACCORDANCE WITH ODOT SECTION 107.07. THE TYPE OF PROTECTIVE DEVICE SHALL BE APPROVED BY THE CITY PRIOR TO ITS APPLICATION IN THE FIELD. TRAFFIC CONES SHALL NOT BE ACCEPTABLE. PROTECTIVE DEVICES CAN BE REUSED IF THEY ARE NO LONGER NEEDED AT A PREVIOUS INTERSECTION AND THEY MEET ODOT SECTION 107.07.

FOUNDATIONS FOR NOSTALGIA SIGNAL SUPPORTS AND PEDESTAL FOUNDATIONS SHALL BE CONSTRUCTED AS PER DETAILS SHOWN IN THESE PLANS.

ITEM 632 - CONTROLLER ITEM, MISC.: PRE-EMPTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PRE-EMPTION EQUIPMENT IN THE LOCATIONS AND LOCAL CONTROLLERS AS SHOWN ON THE PLANS. THE PRE-EMPTION SHALL CONFORM TO ODOT. SPECIFICATION 633 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED, PRE-EMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY SOUND DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH AN EMITTING DEVICE LOCATED ON THE EMERGENCY VEHICLE. THE SYSTEM SHALL ACTIVATE THE PRE-EMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PRE-EMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE NEMA CONTROLLER.

THE EQUIPMENT SHALL BE SHELF OR RACK MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE SUPPLIED COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED. THE SYSTEM SHALL BE CAPABLE OF PRE-EMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE UP TO 1200 FEET FROM THE INTERSECTION.

EACH INTERSECTION SHOWN IN THE PLANS AND THE ADDITIONAL SPARES SHALL BE SUPPLIED WITH THE FOLLOWING COMPONENTS:
A. PRE-EMPT RECEIVING UNIT
B. PRE-EMPT PHASE SELECTOR ASSEMBLY
C. PRE-EMPT INTERFACE PANEL

AN ADDITIONAL ONE (1) PRE-EMPTION SPARES SUBJECT TO ALL THE REQUIREMENTS AND COMPONENTS LISTED IN THIS SECTION SHALL BE SUPPLIED AS SPARES AND SHALL BE INCIDENTAL TO BID ITEM 633 - CONTROLLER ITEM, MISC.; PRE-EMPTION.

THE CONTRACTOR SHALL INVENTORY THE CITY'S EMERGENCY VEHICLES TO DETERMINE COMPATIBILITY OF THE SIRENS WITH THE PROPOSED SYSTEM. EACH VEHICLE THAT IS DETERMINED TO BE NOT COMPATIBLE SHALL BE SUPPLIED WITH NEW SIRENS FOR THE FOLLOWING EMERGENCY VEHICLES AT COST INCIDENTAL TO THE SYSTEM. THE CITY SHALL BE RESPONSIBLE FOR INSTALLING VEHICLE EQUIPMENT:
A. FIRE: 40 VEHICLES
B. POLICE: 105 VEHICLES

THE CITY SHALL BE SUPPLIED WITH SOFTWARE REQUIRED TO CALIBRATE LOG AND OPERATE THE SYSTEM. THE SOFTWARE SHALL BE CAPABLE OF OPERATING ON AN IBM OR IBM COMPATIBLE PERSONAL COMPUTER. TWO (2) OPERATING AND INSTRUCTION MANUALS SHALL BE SUPPLIED WITH THE SOFTWARE.

THE CONTRACTOR SHALL THOROUGHLY TEST THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

IF THE PROPOSED PRE-EMPT SYSTEM IS NOT COMPATIBLE WITH THE EXISTING SYSTEM, THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FIFTEEN (15) PERSONS IN THE OPERATION OF THE SYSTEM. IT SHALL BE PROVIDED WITHIN 48 HOURS OF THE INSTALLATION OF THE SYSTEM. IT SHALL CONSIST OF HANDS-ON INSTRUCTION FOR A MINIMUM OF SIXTEEN (16) HOURS. THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FOUR (4) PERSONS IN THE INSTALLATION AND MAINTENANCE OF THE SYSTEM. IT SHALL CONSIST OF A MINIMUM OF EIGHT (8) HOURS OF INSTRUCTION. TRAINING SHALL BE SUPPLIED WITHIN SEVEN (7) DAYS OF THE INSTALLATION OF THE SYSTEM. ALL TRAINING SHALL BE HELD IN A CITY SUPPLIED LOCATION. TRAINING SHALL BE CONDUCTED BY SOMEONE WHO HAS PERFORMED THIS WITHIN THE LAST YEAR AND DOES IT ON A REGULAR BASIS. THE COST OF TRAINING, INCLUDING COURSE MATERIAL, TRAVEL SUBSISTENCE AND RELATED COSTS, SHALL BE ENTIRELY BORNE BY THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE PRE-EMPTION EQUIPMENT.

PAYMENT FOR ITEM 633 - CONTROLLER ITEM, MISC.; PRE-EMPTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PRE-EMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

ITEM 632 - SIGNALIZATION, MISC.: PRE-EMPTION DETECTOR CABLE

PRE-EMPTION DETECTOR CABLE SHALL BE NO. 20 AWG SHIELDED, 300 VOLT, TYPE PLTC, 2 CONDUCTOR CABLE IN ACCORDANCE WITH IMSA 50-2. PRE-EMPTION DETECTOR CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES EXPECTED IN NORMAL INSTALLATIONS.

ITEM 632 - SIGNALIZATION, MISC.: PRE-EMPTION DETECTOR

THE PRE- EMPTION SYSTEM EQUIPMENT BID ON THIS PROJECT SHALL EMPLOY SOUND DETECTION COMMUNICATIONS. OTHER TYPES OF PRE-EMPTION SYSTEMS SHALL NOT BE PERMITTED. PRE-EMPTION DETECTORS SHALL BE BLACK IN COLOR AND CONSIST OF A LIGHT WEIGHT, WEATHERPROOF AND DIRECTIONAL ASSEMBLY. EACH DETECTOR SHALL BE 360 DEGREE ADJUSTABLE. PRE-EMPTION DETECTORS SHALL HAVE INTERNAL CIRCUITRY TO SEND THE PROPER ELECTRICAL SIGNAL TO THE PRE-EMPTION PHASE SELECTOR ASSEMBLY VIA THE PRE-EMPTION DETECTOR CABLE. PRE-EMPTION DETECTORS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE WHICH INCLUDE STAINLESS STEEL BANDING, BOLTS, WASHERS AND BRACKETS AS APPROVED BY ODOT.

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

ITEM 632 - SIGNALIZATION, MISC.: PTZ CAMERA

THE CONTRACTOR SHALL FURNISH AND INSTALL A CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM CONSISTING OF FIELD EQUIPMENT AND OTHER AUXILARY AND INCIDENTAL EQUIPMENT REQUIRED TO ASSEMBLE A FULLY FUNCTIONING INTEGRATED TRAFFIC SURVEILLANCE SYSTEM. THE CCTV SYSTEM SHALL BE FURNISHED BY HONEYWELL, AXIS OR APPROVED EQUAL. ALL PROVIDED COMPONENTS SHALL PROVIDE A MEAN TIME BETWEEN FAILURES (MTBFL) OF 50,000 HOURS MINIMUM. COMPLIANCE WITH APPLICABLE ISO QUALITY ASSURANCE STANDARDS IS REQUIRED.

FOR EACH CAMERA, THERE SHALL BE SUPPLIED, INSTALLED, CONNECTED TO THE CAMERA AND MADE OPERATIONAL A VIDEO/DATA TRANSCEIVER. THE TRANSCEIVER SHALL BE CAPABLE OF ETHERNET COMMUNICATIONS PROTOCOL. THE TRANSCEIVER SHALL BE MOUNTED WITHIN A NEMA 4 ENCLOSURE AT THE BASE OF THE POLE ON WHICH THE CAMERA IS MOUNTED.

FOR EACH CAMERA THERE SHALL BE SUPPLIED, INSTALLED, CONNECTED TO THE CAMERA AND MADE OPERATIONAL AN OUTDOOR RATED POWER. THE POWER SUPPLY SHALL MEET THE SAME ENVIRONMENTAL SUPPLY PERFORMANCE STANDARDS AS THOSE OF THE CAMERA AND VIDEO/DATA TRANSCEIVER. THE POWER SUPPLY SHALL BE MOUNTED WITHIN THE SIGNAL CONTROLLER CABINET.

THE CCTV FIELD EQUIPMENT REQUIRED FOR THE CAMERA SITE SHALL INCLUDE INSTALLATION OF THE ITEMS DESCRIBED BELOW. PROCESS AND CONTROL EQUIPMENT FOR THE VIEWING WITH THE SURVEILLANCE CAMERAS IS INCLUDED AS PART OF ITEM 632 SIGNALIZATION, MISC.: PTZ CAMERA.

CAMERA

THE CAMERA SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:

1. COLOR /MONOCHROME ADVANCED DIGITAL SIGNAL PROCESSING (DSP)
2. 18X OPTICAL ZOOM (4.1 MM TO 73.8 MM) WITH 8X DIGITAL (144X)
3. UTILIZE 1/4-INCH CCD, USING THE MOST CURRENT TECHNOLOGY
4. PROVIDE A MINIMUM HORIZONTAL RESOLUTION OF 470 TVL (NTSC)
5. PROVIDE SHARP, DETAILED IMAGES DOWN TO 0.7 LUX COLOR, .05 LUX COLOR WITH 1/4-SECOND SHUTTER, AND .01 LUX MONOCHROME.
6. WHEN SWITCHING TO MONOCHROME MODE, THE CAMERA MUST AUTOMATICALLY REMOVE THE IR CUT FILTER WHEN NECESSARY, WHICH WILL INCREASE THE INFRARED SENSITIVITY. WHEN ENOUGH AMBIENT LIGHT IS AVAILABLE TO PRODUCE AN ACCEPTABLE COLOR IMAGE, THE CAMERA MUST AUTOMATICALLY ENABLE THE IR CUT FILTER.
7. CONTINUOUS AUTO FOCUS. WHEN REQUIRED, OPERATOR OVERRIDE OF THE AUTO FOCUS SETTINGS MUST BE ALLOWED. AUTO IRIS WITH MANUAL OVERRIDE MUST ALSO BE ALLOWED.

DOME

THE CAMERA HOUSING/DOME SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:
1. BE COMPRISED OF A HIGH-SPEED PAN/TILT ASSEMBLY USING PRECISION MOTORS AND HIGH-STRENGTH BELT DRIVE, RESULTING IN ACCURATE OPERATION. QUIET AND

2. INCORPORATE A SEALED SLIP RING TO PROVIDE A CONTINUOUS THREE HUNDRED SIXTY DEGREES (360°) OF ROTATION AND AUTOMATICALLY ADJUST PAN AND TILT SPEED IN PROPORTION TO THE ZOOM POSITION FOR GREATER CONTROL.
3. MANUAL PAN SPEEDS RANGE FROM 0.1° TO 400° PER SECOND
4. MANUAL TILT SPEEDS MUST RANGE FROM 0.1° TO 200° PER SECOND
5. AUTO-PIVOT TRACKING THAT ALLOWS THE DOME TO AUTOMATICALLY TURN 180-DEGREES WHEN REACHING ITS LOWER LIMIT SO TO ALLOW THE OPERATOR TO AUTOMATICALLY TRACK AN INDIVIDUAL MOVING DIRECTLY BELOW THE CAMERA.
6. DUST TIGHT, WEATHERPROOF, AND ABLE TO WITHSTAND MECHANICAL IMPACT IN ACCORDANCE WITH THE INTERNATIONAL ELECTROTECHNICAL COMMISSION STANDARD IP549.
7. BOTTOM OF DOME SHALL AVAILABLE IN EITHER CLEAR OR SMOKED, AND SHALL BE ATTACHED WITH A KEY-LOCK TO RESIST TAMPERING.
8. THERMOSTAT-CONTROLLED 24VAC HEATER AND BLOWER MUST BE AVAILABLE TO MAINTAIN A SUFFICIENT ORERATING TEMPERATURE.
9. BUILT-IN POWER ISOLATION AND LIGHTNING SURGE PROTECTION.
10. EQUIPPED WITH A SUN SHADE
11. PRESSURIZED HOUSING MIL-SPEC RESISTANT TO SALT AIR, DUST, HUMIDITY, OR SMOG.

MOUNTING BRACKET

THE MOUNTING HARDWARE SHALL PERMIT THE CAMERA TO BE SECURELY ATTACHED TO THE TOP OR SIDE OF A WOOD OR STEEL POLE. ALL BRACKETS, STRUTS, AND MISCELLANEOUS HARDWARE TO ATTACH THE HOUSING AND POWER SUPPLY SHALL BE INCLUDED AS PART OF THIS ITEM. ALL PARTS SHALL BE MADE OF CORROSION RESISTANT MATERIALS SUCH AS PLASTIC, STAINLESS STEEL, ALUMINUM, OR BRASS. THE MOUNTING HEIGHT SHALL BE A MINIMUM OF 20 FEET ABOVE THE ROADWAY.

CABINET

A POLE MOUNTED NEMA 4X RATED CABINET SHALL ENCLOSE THE VIDEO TRANSMISSION EQUIPMENT AND A POWER SUPPLY ASSEMBLY. THE SHALL MEET THE ENVIRONMENTAL REQUIREMENTS OF THE VIDEO HOUSING TRANSMISSION EQUIPMENT. ALL EQUIPMENT SPECIFIED HEREIN SHALL OPERATE ON A POWER SERVICE FROM 95 TO 135 VAC, 60HZ, 3HZ, SINGLE PHASE.

LIGHTNING PROTECTION

THE CONTRACTOR SHALL FURNISH AND INSTALL A PROPERLY FUNCTIONING LIGHTNING ROD AND TRANSIENT SURGE SUPPRESSER TO PROTECT THE FIELD EQUIPMENT FROM LIGHTNING STRIKES AND SUPPLY VOLTAGE SURGES. THIS ITEM IS TO INCLUDE A LIGHTNING ROD.

TESTING AND CERTIFICATION

A. THE CONTRACTOR SHALL DEMONSTRATE THE FUNCTIONALITY OF THE PTZ CAMERA UPON COMPLETION OF INSTALLATION, DOCUMENTING THE RESULT OF ALL TESTS AND PROVIDING THESE RESULTS TO THE OWNER. THE PTZ CAMERA SHALL BE TESTED IN ACCORDANCE WITH THE FOLLOWING:

1. THE CONTRACTOR SHALL CONDUCT A COMPLETE INSPECTION AND TEST OF ALL INSTALLED PTZ CAMERA EQUIPMENT. THIS INCLUDES TESTING AND VERIFYING OPERATION WITH CONNECTED EQUIPMENT.
2. THE CONTRACTOR SHALL PROVIDE STAFF TO TEST ALL DEVICES AND ALL OPERATIONAL FEATURES OF THE SYSTEM FOR WITNESS BY THE OWNER'S REPRESENTATIVE AND THE AUTHORITY HAVING JURISDICTION. ALL TESTING MUST BE WITNESSED BY THE OWNER'S REPRESENTATIVE, PRIOR TO ACCEPTANCE.

3. THE TESTING AND CERTIFICATION SHALL TAKE PLACE AS FOLLOWS:

a. THE PTZ CAMERA SHALL BE TESTED IN CONJUNCTION WITH THE MANUFACTURER'S REPRESENTATIVE.
b. ALL DEFICIENCIES NOTED IN THE ABOVE TEST SHALL BE CORRECTED.
c. TEST RESULTS SHALL BE SUBMITTED TO THE CONSULTANT OR OWNER'S REPRESENTATIVE.
d. THE TEST AND CORRECTION OF ANY DEFICIENCIES SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE, AND NOTE.
e. THE OWNER'S REPRESENTATIVE SHALL ACCEPT THE SYSTEM.
f. THE SYSTEM TEST SHALL BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION. ANY DEFICIENCIES NOTED DURING THE TESTING MUST BE CORRECTED.

4. A LETTER OF CERTIFICATION SHALL BE PROVIDED TO INDICATE THAT THE TESTS HAVE BEEN PERFORMED, AND ALL DEVICES ARE OPERATIONAL.

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN

THE CONTROLLER UNITS PROVIDED IN THIS PROJECT SHALL BE NEMA TYPE MANUFACTURED BY:

ECONOLITE CONTROL PRODUCTS
3360 EAST LA PALMA
ANAHEIM, CA 92806
PHONE: 800-225-6480

THE CONTROLLER SHALL BE MODEL ASC/2S-2100. THIS ITEM SHALL CONSIST OF FURNISHING AN ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE CONTROLLER WITH MENU DRIVEN PROMPTS, INTERNAL TBC, FSK TELEMETRY MODULE FOR CLOSED LOOP COMMUNICATIONS AND ALL OTHER ACCESSORIES THAT ARE REQUIRED TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. MANUFACTURER GUARANTEES OR WARRANTIES ON ALL INSTALLED TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL BE TRANSFERRED TO THE CITY OF CANTON TRAFFIC SIGNAL DEPARTMENT ACCEPTANCE OF THE EQUIPMENT. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS, AND OTHER INCIDENTALS NECESSARY TO FURNISH THE CONTROLLER COMPLETE, INCLUDING ALL CONNECTIONS MADE AND WIRING COMPLETE. TESTED, AND ACCEPTED. THE CONTROLLER ASSEMBLY AND CABINET SHALL INCLUDE A NEMA TS2 TYPE 2 CONTROLLER AND A NEMA TS2 TYPE 16 MALFUNCTION MANAGEMENT UNIT (MMU) COMPLETE IN A NEMA TS1 CABINET ASSEMBLY. IN ADDITION, THE CONTROLLER ASSEMBLY AND CABINET SHALL CONFORM TO ODOT SPECIFICATION 633. THE CONTROLLER SHALL BE CAPABLE OF AN ADDITIONAL 12 STANDARD OVERLAPS BY ASSIGNING EACH PHASE OUTPUT TO AN OVERLAP.

THE CONTROLLER SHALL INCLUDE TIME-OF-DAY AND COORDINATION CAPABILITIES. IN ADDITION, THE CONTROLLER SHALL INCLUDE PREEMPTION CAPABILITIES INCLUDING SIX (6) RAILROAD, FIRE, AND EMERGENCY VEHICLE HIGH-PRIORITY PREEMPTORS AND FOUR (4) LOW-PRIORITY BUS-PREEMPTORS. CONTROLLER SHALL BE PROGRAMMABLE TO ALLOW FOR FLASHING "DON'T WALK" THROUGH THE YELLOW SIGNAL PHASE. THE CABINET SHALL BE WIRED FOR MONITORING EACH APPROACH SEPARATELY. ALL VEHICLE SIGNAL CIRCUITS SHALL BE ISOLATED (SPLITTING THE HEADS FOR PRE-EMPTION PURPOSES). THE MMU SHALL PASS ALL TESTS AS PERFORMED BY AN AUTOMATIC MONITOR TESTER. TEST RESULTS SHALL BE PRINTED AND SUPPLIED WITH EACH CABINET. THE POLICE PANEL SHALL HAVE SWITCH ACCESS FOR SIGNAL ON/OFF, FLASH CONTROL, AUTOMATIC/MANUAL TRANSFER, AND MANUAL PUSHBUTTON WITH TEN (10) FEET COILED HAND CORD. TECHNICIAN SWITCH PANEL SHALL BE MOUNTED ON THE INSIDE OF THE MAIN CABINET DOOR AND SHALL HAVE SWITCH ACCESS FOR STOP TIME ON/OFF, FLASH CONTROL, TIMER POWER ON/OFF, DETECTOR TEST, MONETARY PUSHBUTTON. THE CABINET SHALL BE ALUMINUM, WITH A NATURAL SATIN FINISH OUTSIDE WITH A PAINTED SEMI-GLOSS WHITE ENAMEL FINISH INSIDE. THE CABINETS SHALL COMPLY WITH THE REQUIREMENTS OF 733.03 (SECTION A). IN ADDITION TO CABINET REQUIREMENTS, CONTRACTOR SHALL FURNISH AT INTERSECTION WITH NOSTALGIA POLE TYPE/STYLE AND STREET LIGHTING CONTROL; THE STREET LIGHTING IS TO BE CONTROLLED BY SINGLE PHOTO CELL ON CLOSEST SIGNAL POLE OR LUMINAIRE WITH CONTACTOR (TORK 5401 OR EQUAL) INSTALLED IN CABINET INCLUDING A THREE POSITION MAINTENANCE SWITCH HAND, OFF, AUTO (TELEMECANIQUE #XB4BD33 OR EQUAL). THE FAIL CONTACTS OF THE SURGE PROTECTOR SHALL BE WIRED TO AN ALARM INPUT FOR REPORTING A FAILED DEVICE TO A CENTRAL COMPUTER. WIRE CONNECTIONS TO THE BACKPANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. SOLDIER CONNECTIONS MAY BE USED ON THE BACKSIDE OF A PANEL THAT UTILIZES FEED-THRU STYLE TERMINAL BLOCKS. PRINTED CIRCUIT BOARDS SHALL NOT BE USED ON ANY PART OF THE TERMINALS AND FACILITIES PROVIDED WITHIN THE CABINET.

ALL WIRES FASTENED TO THE LOAD SWITCH, FLASHER AND FLASH TRANSFER RELAY SOCKETS SHALL BE SOLDERED IN PLACE. A GOOD MECHANICAL CONNECTION MUST BE MADE PRIOR TO SOLDERING. ALL WIRING OF HARNESSES AND INTERPANEL WIRING, INCLUDING WIRING TO THE POLICE PANEL SHALL BE PROTECTED WITH A NYLON MESH OR "SNAKE SKIN". ANY EXPOSED WIRES, OR THE USE OF CABLE TIES TO HOLD THE WIRE BUNDLES TOGETHER SHALL NOT BE ALLOWED. FOR EASE OF MAINTENANCE, ALL HARNESSES SHALL BE OF SUFFICIENT LENGTH TO PLACE THE EQUIPMENT ON TOP OF THE CABINET AND BE OPERATIONAL.

A COLOR-CODED WIRING SYSTEM SHALL BE USED THROUGHOUT THE WIRING OF THE CABINET. ALL SYSTEMS FUNCTIONS OF THE CONTROLLER SHALL BE TERMINATED ON A SINGLE PANEL. WIRING COLOR-CODE SHALL BE AS FOLLOWS:
A. BLUE CONTROLLER UNIT
B. VIOLET MMU
C. RED RED LOAD SWITCH OUTPUT
D. YELLOW YELLOW LOAD SWITCH OUTPUT
E. BROWN GREEN LOAD SWITCH OUTPUT
F. BLACK AC LINE POWER
G. WHITE AC NEUTRAL
H. GREEN EARTH GROUND
I. GRAY LOGIC GROUND
J. ORANGE FLASH PROGRAMMING

LOOP DETECTOR HARNESSES SHALL BE TAGGED WITH A WHITE CIRCULAR PLASTIC TAG, AND SHALL IDENTIFY, WITH PERMANENT MARKER, THE LOOP NUMBER, DIRECTION OF TRAVEL AND DESIGNATE THE LANE FOR WHICH THE LOOP IS PLACED. IT SHALL ALSO INCLUDE ANY NOMENCLATURE AS SHOW ON THE DRAWINGS USED FOR IDENTIFICATION OF THE HARNESS. ADDITIONAL CABINET ATTACHMENT HARDWARE SHALL INCLUDE FOUR (4) INCH ALUMINUM CONDUIT WITH COVER AND NEOPRENE GASKET (CONDUIT BODY SHALL BE LL OR LR SERIES). OTHER MOUNTING HARDWARE SHALL INCLUDE THE NECESSARY BOLTS, ALUMINUM BRACKETS, CLAMPS, AND STAINLESS STEEL BANDING WITH FOUR (4) INCH X CLOSE NIPPLES (QUANTITY: 2 PER CABINET). FOUR (4) INCH LOCKING RINGS (QUANTITY: 2 PER CABINET). AND FOUR (4) INCH BUSHINGS (QUANTITY: 1 PER CABINET). ANY EXISTING POLE HUBS THAT ARE SMALLER THAN FOUR (4) INCHES SHALL BE REPLACED WITH A FOUR (4) INCH POLE HUB. THE COST FOR THIS ADDITIONAL CABINET ATTACHMENT HARDWARE AND POLE HUBS INCLUDING WELDING SHALL BE INCIDENTAL TO THE COST OF THE CABINET.

TWO (2) SETS OF CABINET WIRING DIAGRAMS, SERVICE MANUALS, PROGRAMMING AND MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EACH CABINET AND EQUIPMENT ITEM.

THE CABINET WIRING DIAGRAMS SHALL BE SUPPLIED IN A CLEAR PLASTIC POUCH FASTENED TO THE INSIDE OF THE CONTROLLER CABINET. AN ADDITIONAL ONE (1) CONTROLLER UNIT ASSEMBLIES WITH CABINETS. SUBJECT TO ALL OF THESE SPECIFICATIONS, SHALL BE SUPPLIED AS SPARES UNDER BID ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET. TYPE TS1, AS PER PLAN.

NOTE:
ALL PROPOSED CABINETS SHALL BE TYPE SM/SM2 (SIZE: 30"x17"x58") UNLESS MODIFICATION IS OTHERWISE NEEDED AS NOTED BELOW:

THE SUPPLIER FOR BOTH THE LOCAL AND MASTER CONTROLLER UNITS (ECONOLITE CONTROL PRODUCTS) SHALL VERIFY THAT THE PROPOSED CABINET WILL FIT ON AND CONFORM TO THE EXISTING GROUND MOUNTED FOUNDATION AT THE FOLLOWING LOCATIONS:

A. MAHONING ROAD AND GRACE AVENUE N.E.
B. MAHONING ROAD AND MIDWAY AVENUE N.E.
C. MAHONING ROAD AND HARMONT AVENUE N.E.

ITEM 816- VIDEO DETECTION SYSTEM, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A VIDEO DETECTION SYSTEM CAPABLE OF INTERSECTION DETECTION CONTROL, FREEWAY MANAGEMENT DETECTION, INCIDENT VERIFICATION, TRAFFIC SURVEY DATA COLLECTION AND TEMPORARY DETECTION DURING CONSTRUCTION. REAL-TIME POLLING, DIAL-OUT OR STORED TRAFFIC DATA TO INCLUDE: VOLUME, OCCUPANCY, SPEED, DENSITY, HEADWAY AND 5 VEHICLE CLASSIFICATIONS EITHER BY PHASE OR PROGRAMMED TIMED INTERVALS RANGING FROM 1 SECOND TO 60 MINUTES. EXTENSIVE BOOLEAN LOGIC CAPABILITIES SHALL BE PROVIDED FOR FLEXIBLE DETECTOR LAYOUTS AND CAN BE USED TO HELP VALIDATE AN EVENT OR INCIDENT. THE DETECTION SYSTEM SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

THE VIDEO DETECTION SYSTEM SHALL BE AN AUTOSCOPE SOLOTERRA VIDEO DETECTION SYSTEM AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. 3360 E. LA PALMA, ANAHEIM, CALIFORNIA, 92806-2856 AND SHALL INCORPORATE OR BE FURNISHED WITH ALL DESIGN FEATURES, AUXILIARY EQUIPMENT, AND ACCESSORIES AS REQUIRED.

PROVIDE A DETECTION SYSTEM THAT INCLUDES AN INTEGRATED COLOR CAMERA, 22X CONTINUOUS FOCUS LENS, AND MACHINE VISION PROCESSOR IN ONE UNIT. THE CAMERA SHALL BE IP ADDRESSABLE, SHALL INCORPORATE A WEB SERVER INTERFACE FOR EASY SETUP AND PROVIDE MPEG4 STREAMING VIDEO OUTPUT.

PROVIDE A SYSTEM THAT INCORPORATES SIMPLE SETUP AND CONFIGURATION OF THE INTERSECTION STOP BAR DETECTION APPLICATIONS WITH MINIMAL NUMBER OF DETAILED STEP-BY-STEP INSTRUCTIONS.

PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARDRJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL SUPPORT HIGH SPEED SERIAL COMMUNICATIONS UP TO 230,400 BPS. THE ETHERNET PORT SHALL BE CONFIGURED USING A STATIC IP OR DHCP AND SHALL FACTORY PRE-CONFIGURED WITH A PRIVATE IP ADDRESS AND CALLS C SUBNET MASK.

PROVIDE A DETECTOR STATION THAT COLLECTS AND REPORTS TRAFFIC DATA GATHERED OVER SPECIFIC TIME INTERVALS.

PROVIDE A VIDED DETECTION SYSTEM THAT INSTALLS WITH ONLY 3-WIRES FROM THE INTERFACE PANEL TO EACH CAMERA THAT COMBINES STATE-OF-THE-ART ADVANCES IN DIGITAL IMAGE SIGNAL PROCESSING AND BROADBAND COMMUNICATIONS.

PROVIDE A VIDEO DETECTION SYSTEM THAT ALLOWS THE USER TO UPDATE THE EMBEDDED SOFTWARE WITH A NEW SOFTWARE RELEASE AND INTERACT WITH A PC CLIENT/SERVER APPLICATION FOR ALL OF THE VARIOUS DETECTION REQUESTS THAT ARE SUPPORT BY THE SENSOR.

PROVIDE A CAMERA AND PROCESSOR THAT WILL CONSUME A MAXIMUM OF 15 WATTS INCLUDING A THERMOSTATICALLY CONTROLLED FACEPLATE HEATER.

THE DETECTOR SYSTEM SHALL MAINTAIN A NON-VOLATILE OPERATIONS LOG WHICH MINIMALLY CONTAINS: REVISION NUMBERS FOR THE CURRENT DETECTOR HARDWARE AND SOFTWARE COMPONENTS IN OPERATION; TITLE AND COMMENTS FOR THE DETECTOR CONFIGURATION; DATE AND TIME THE LAST DETECTOR CONFIGURATION WAS DOWNLOADED TO THE SENSOR: DATE AND TIME THE OPERATION LOG WAS LAST CLEARED; DATE AND TIME COMMUNICATIONS WERE OPENED OR CLOSED WITH THE SENSOR; DATE AND TIME OF THE LAST POWER-UP; AND TIME-STAMPED, SELF-DIAGNOSED HARDWIRE AND SOFTWARE ERRORS THAT AID IN SYSTEM MAINTENANCE AND TROUBLESHOOTING.

PROVIDE A VIDED DETECTION SYSTEM THAT WILL ALLOW FOR COMPLETE CONTROL OF THE SENSORS, DETECTION PROGRAMMING, ZOOM CAPABILITIES, AND VIEWING A LIVE VIDEO IMAGE.

PROVIDE A VIDEO DETECTION SYSTEM THAT INCORPORATES A VIDEO SERVER THAT CONNECTS DIRECTLY TO A 10/100BT ETHERNET NETWORK AND ACCOMMODATES ALL MPEG4 VIDEO STREAMS UP TO 5 MB/SECOND. ALL VIDEO DETECTION SENSORS SHALL BE CONNECTED TO NETWORK FOR REMOTE VIEWING AND MONITORING.

PROVIDE AND INSTALL IN THE CABINET AN INTERFACE PANEL (ATIP) THAT SUPPORTS 3-WIRE BRANCH CABLE CONNECTIONS TO EACH SENSOR, THE PANEL SHALL SUPPORT AND INTERFACE UP TO 8 IMAGE SENSORS VIA BROADBAND OVER POWER (BoP) TECHNOLOGY.

CONNECT THE ETHERNET PORTS FROM THE INTERFACE PANEL (ATIP) TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED IN THE CONTROLLER CABINET USING PROPERLY RATED CAT5E CABLES AND RJ45 CONNECTORS.

PROVIDE AND INSTALL IN EACH CABINET AN ACCESS POINT (ATAP) DETECTOR PORT MASTER THAT FULLY SUPPORTS UP TO 8 IMAGE SENSORS AND PROVIDES THE INTERFACE FROM EACH SENSOR TO THE TRAFFIC CONTROLLER. THE ACCESS POINT (ATAP) SHALL INCLUDE 24 CONTACT CLOSURE OUTPUTS, 16 CONTACT CLOSURE INPUTS AND SHALL FULLY SUPPORT NEMA TS2 SDLC DETECTOR COMMUNICATIONS.

PROVIDE ADDITIONAL INTERFACE PANELS (ATIP) AND ACCESS POINTS (ATAP) AS NEEDED TO FULLY SUPPORT THE REQUIRED NUMBER OF SENSORS AS SHOWN IN THE PLANS.

CONSTRUCTION - LOCATE AND MOUNT DETECTOR IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. PROVIDE SUFFICIENT NUMBER OF VIDEO SENSORS TO PROCESS VEHICLE PRESENCE, PASSAGE, AND SYSTEM DETECTOR ZONES AS INDICATED IN THE PLANS. RELOCATION OF SENSORS, ADDITIONAL JUNCTION BOXES, CONDUIT, AND CABLE NEEDED TO DETECT PULSE, PASSAGE AND SYSTEM DETECTION ZONES ARE INCIDENTAL TO THE COST OF THE PROJECT.

THE CONTRACTOR SHALL SET UP EACH DETECTION UNIT FOR VEHICLE DETECTION. THE SYSTEM SHALL BE SET UP TO RETRIEVE COUNT INFORMATION FROM EACH DETECTION UNIT ON 15 MINUTE INTERVALS, AND MAKE SUCH REPORTS TO THE INTERSECTION TIMER. THE CONTRACTOR SHALL SET THE TIMER UP TO RETRIEVE THE VEHICLE DETECTION REPORTS AND LOG ALL SUCH INFORMATION, PRIOR TO THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN SHALL BE MADE AT THE CONTRACT PRICE BID FOR VIDEO DETECTION SYSTEM COMPLETE AND IN PLACE TESTED AND ACCEPTED INCLUDING PRICE FOR NECESSARY VIDEO SENSORS, INTERFACE PANELS (ATIP) , ACCESS POINT (ATAP) , AND ALL ASSOCIATED WIRING AND CONNECTIONS INSTALLED IN THE CABINET TO MAKE A COMPLETE FUNCTIONING SYSTEM. PAYMENT SHALL ALSO INCLUDE SOFTWARE INSTALLED ON THE CITY'S TRAFFIC ENGINEERING COMPUTERS.

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
   - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
   - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
   - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
   - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.
   - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
   - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.
   - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
     - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
     - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - III. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

4. GROUND ROD.
   - A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 6 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

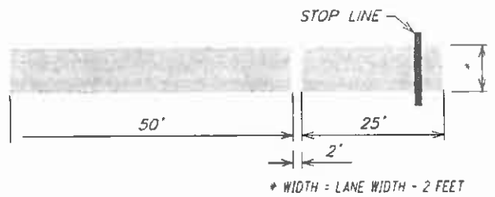
6. POWER SERVICE AND DISCONNECT SWITCH.
   - A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.
   - B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
     - I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
     - II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

VEHICLE DETECTION

STOP LINE DETECTION

THE DETECTION ZONE WILL BE LOCATED 5' IN FRONT OF THE STOP LINE. THE LENGTH AND SPACING SHALL BE AS SHOWN BELOW.



* WIDTH = LANE WIDTH - 2 FEET

GUARANTEE

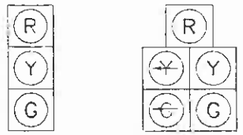
THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. THE CONTRACTOR AND/OR SUPPLIER SHALL BE RESPONSIBLE FOR NEW EQUIPMENT WARRANTY FOR A ONE (1) YEAR PERIOD. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OR EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR. THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR UNITS, INTERCONNECTION ITEMS. CUSTOMARY MANUFACTURER'S GUARANTEES SHALL BE TURNED OVER TO THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF ALL EQUIPMENT.

CALCULATED JAW
CHECKED DLW

SIGNAL NOTES

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

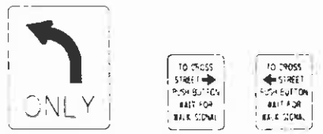
SIGNAL INDICATIONS (LED), 12"



N1, N2
S1, S2
E2
W2
NE1, NE2

E1
W1

SIGNS



R3-5L
30"x36"
SN1, SN2

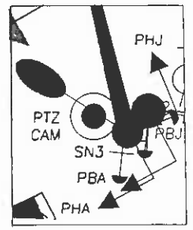
R10-4A
12"x9"
SN4, SN6, SN8, SN10, SN12

R10-3A
12"x9"
SN3, SN5, SN7, SN9, SN11

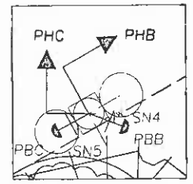
PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, TYPE D (GREEN)

16"x18" LED
PHA-PHJ

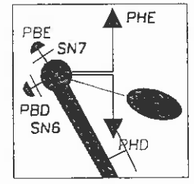
POLE DETAILS



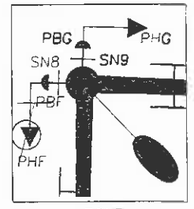
POLE 1-1



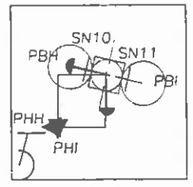
LIGHT POLE 1-1



POLE 1-2



POLE 1-3



LIGHT POLE 1-2

LEGEND

- SIGNAL POLE
- PEDESTRIAN POLE
- PULL BOX
- CONTROLLER W/ PULL BOX
- PED BUTTON (PBA-PBH)
- PED SIGNAL (PHA-PHH)
- LIGHT POLE
- 3 SECTION SIGNAL
- 3 OR 4 SECTION SIGNAL WITH ARROW
- 5 SECTION SIGNAL
- SIGN
- DETECTION ZONE
- PROP LUMINAIRE
- PROP. PRE-EMPTION DETECTOR
- PROP. CAMERA

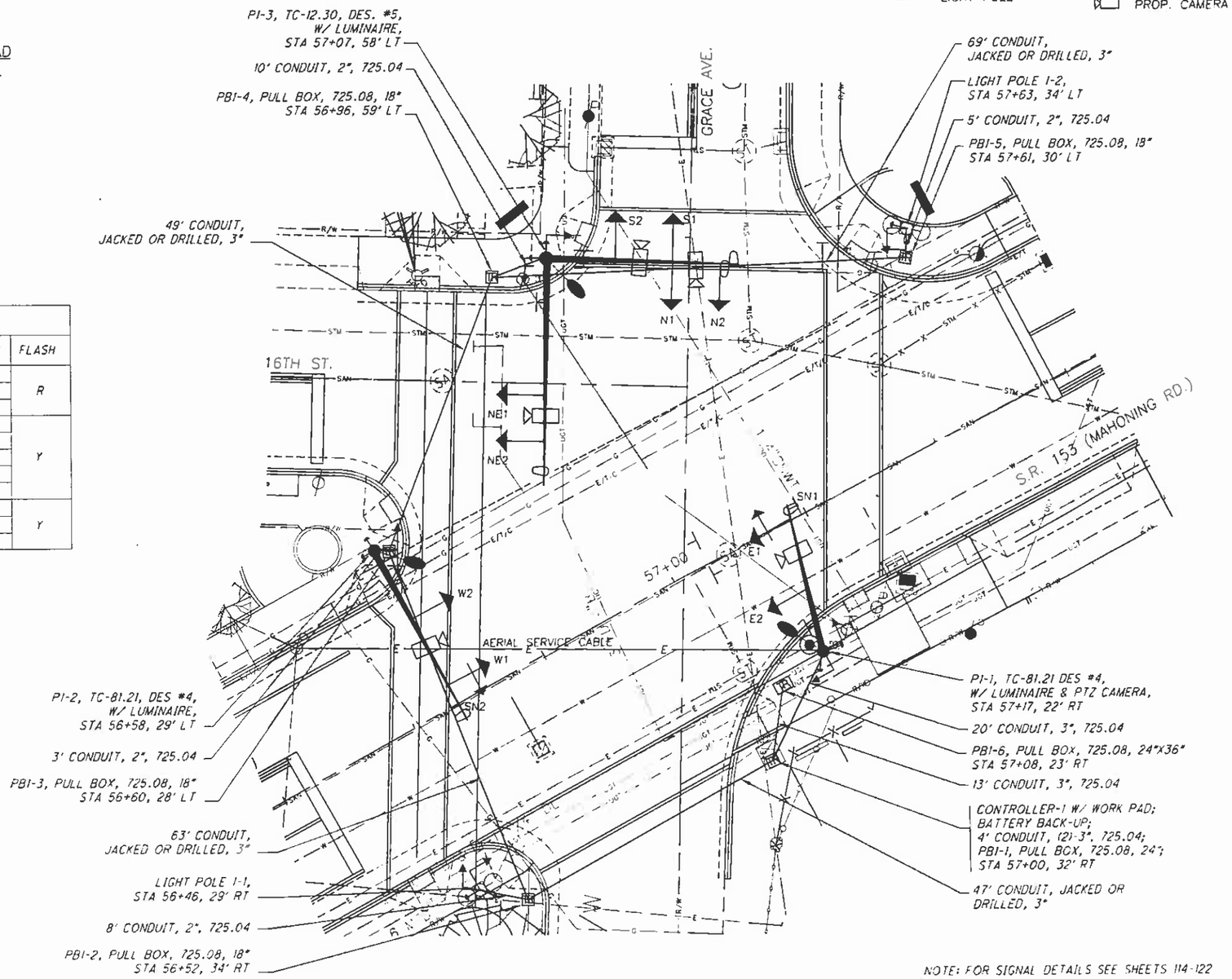
FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
NE1, NE2 (NEB)	P	Φ 9 R	R
	Y	Φ 9 Y	
	G	Φ 9 G	
N1, N2 (NB)	R	Φ 8 R	R
	Y	Φ 8 Y	
	G	Φ 8 G	
E1 (EBLT)	P	Φ 2 R	Y
	Y	Φ 2 Y	
	R	Φ 2 R	
	⊣	Φ 5 Y	
	⊖	Φ 5 G	
E2 (EB)	R	Φ 2 R	Y
	Y	Φ 2 Y	
	G	Φ 2 G	

SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
S1, S2 (SB)	R	Φ 4 R	R
	Y	Φ 4 Y	
	G	Φ 4 G	
W1 (WBLT)	R	Φ 6 R	Y
	Y	Φ 6 Y	
	R	Φ 6 R	
	⊣	Φ 1 Y	
	⊖	Φ 1 G	
W2 (WB)	R	Φ 6 R	Y
	Y	Φ 6 Y	
	G	Φ 6 G	

PHASE DIAGRAM

Φ 1 + Φ 5	Φ 2 + Φ 6	Φ 4 + Φ 8	Φ 9
	PED, PED	PED, PED	
EBL & WBL	EB & WB	NB & SB	NEB
ACTUATED	RECALL	ACTUATED	ACTUATED



NOTE: FOR SIGNAL DETAILS SEE SHEETS 114-122

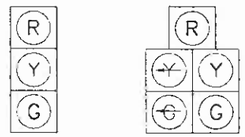
HORIZONTAL SCALE IN FEET
0 10 20

CANCELLED JAW
CHECKED DLW

SIGNAL PLANS
MAHONING ROAD AND GRACE AVENUE

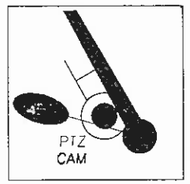
MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT

SIGNAL INDICATIONS (LED), 12"

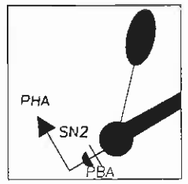


E2, S1, S2, W1, W2 — E1

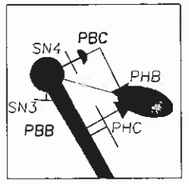
POLE DETAILS



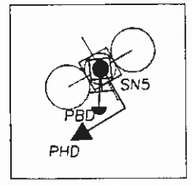
POLE 2-1



POLE 2-2



POLE 2-3



LIGHT POLE 2-1

SIGNS

R3-5L
30"x36"
SN1

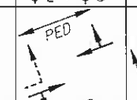
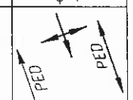
R10-4A
12"x9"
SN3

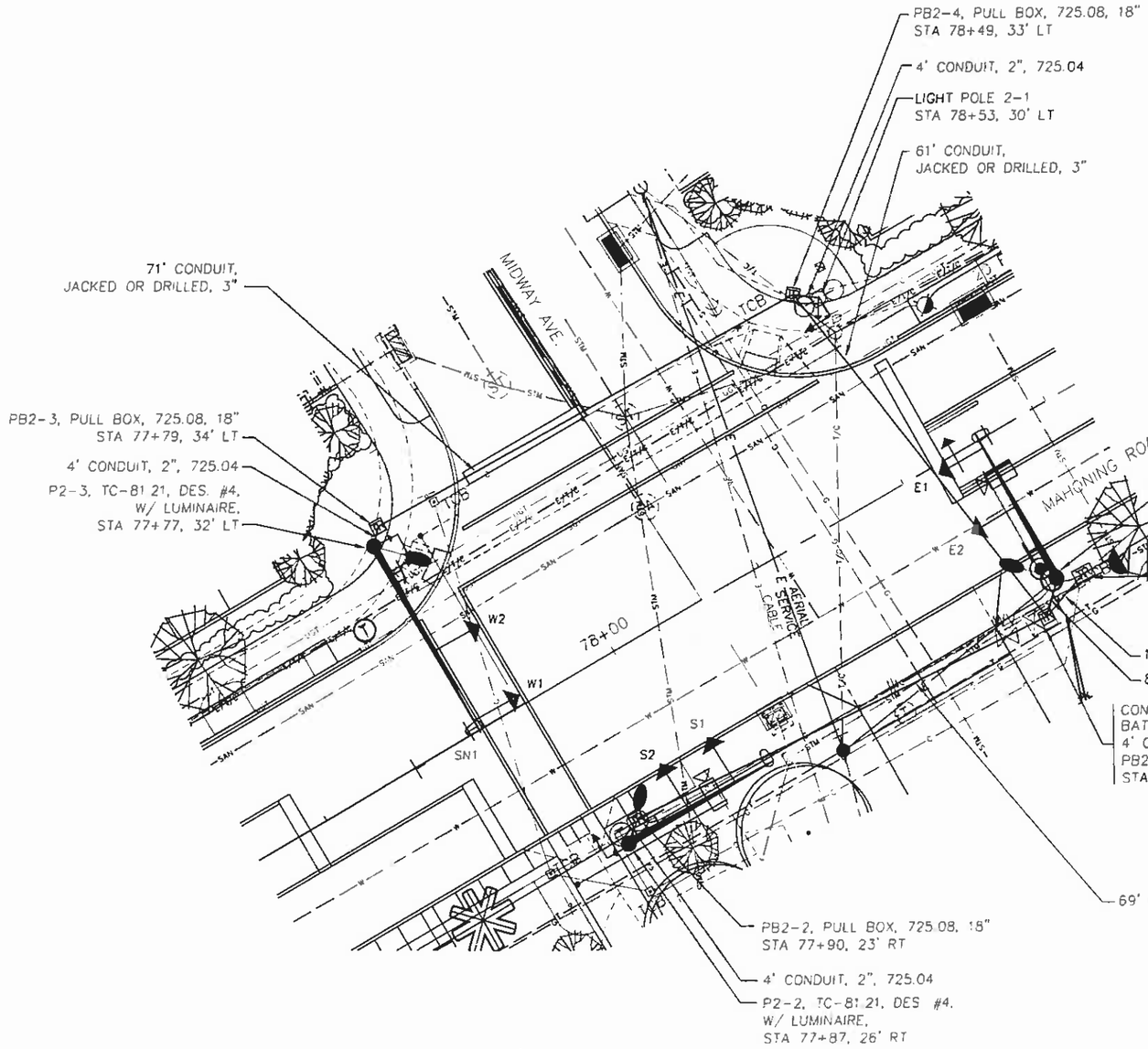
R10-3A
12"x9"
SN2, SN4, SN5

PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, TYPE D (GREEN)

16"x18" LED
PHA-PHD

FIELD WIRING HOOK-UP CHART							
SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH	SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
E1 (EB L T)	R	Φ 2 R	Y	S1, S2 (SB)	R	Φ 4 R	R
	Y	Φ 2 Y			Y	Φ 4 Y	
	R	Φ 2 R			G	Φ 4 G	
	~~+~~	Φ 5 Y		W1, W2 (WB)	R	Φ 6 R	Y
	~~G~~	Φ 5 G			Y	Φ 6 Y	
E2 (EB)	R	Φ 2 R	Y		G	Φ 6 G	
	Y	Φ 2 Y					
	G	Φ 2 G					

PHASE DIAGRAM		
Φ 2 + Φ 5	Φ 2 + Φ 6	Φ 4
		
EB	EB & WB	SB
ACTUATED	RECALL	ACTUATED



NOTE: FOR SIGNAL DETAILS SEE SHEETS 114-122

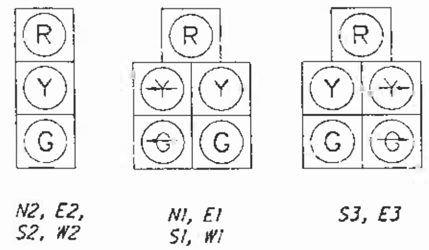
HORIZONTAL SCALE IN FEET 0 10 20

CALCULATED JAW CHECKED DLW

SIGNAL PLANS
MAHONING ROAD AND MIDWAY AVENUE

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT

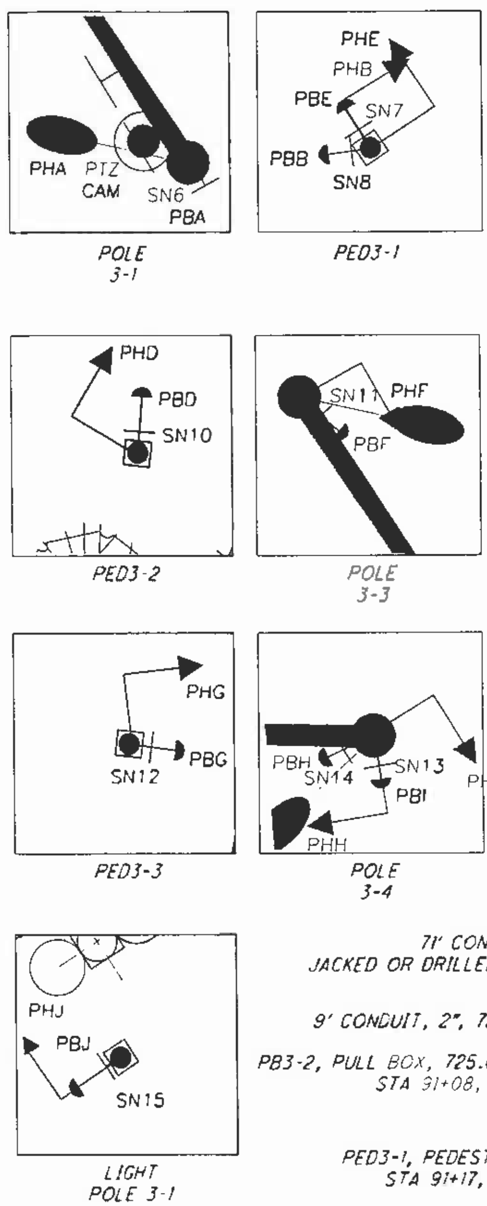
SIGNAL INDICATIONS (LED), 12"

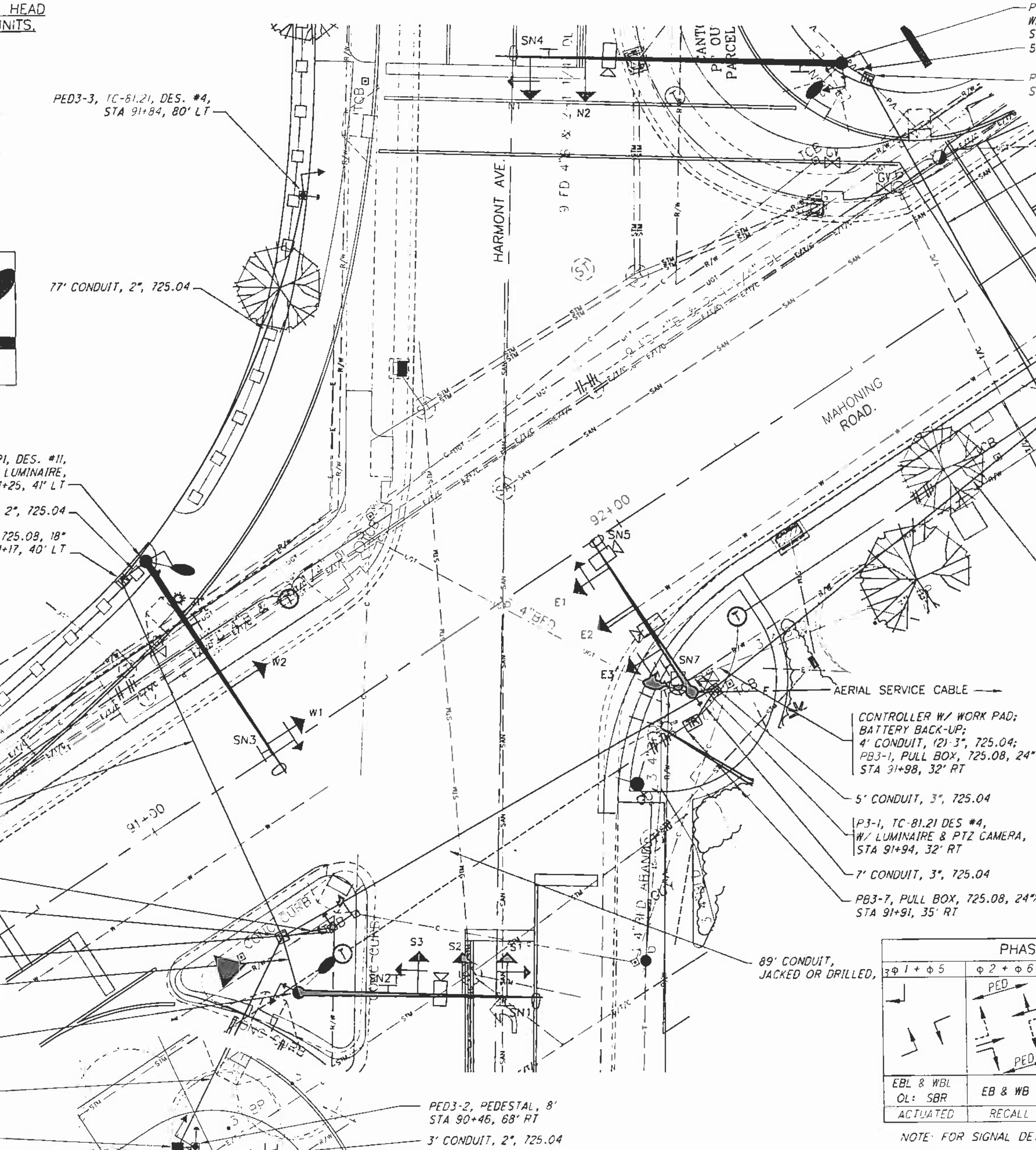


PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, TYPE D (GREEN)

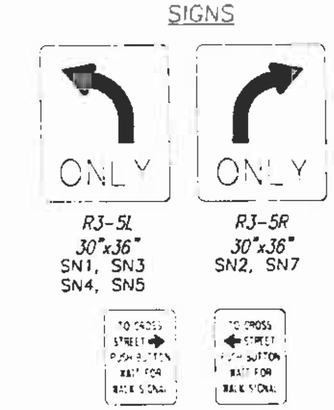
16"x18" LED
PHA–PHH

POLE DETAILS





SIGNS



R3-5L 30"x36" SN1, SN3 SN4, SN5

R3-5R 30"x36" SN2, SN7

R10-4A 12"x9" SN9, SN14

R10-3A 12"x9" SN6, SN8, SN10, SN12, SN13, SN15

PHASE DIAGRAM

$\phi 1 + \phi 5$	$\phi 2 + \phi 6$	$\phi 3 + \phi 7$	$\phi 4 + \phi 8$
EBL & WBL OL: SBR	EB & WB	NBL & SBL OL: EBRT	NB & SB
ACTUATED	RECALL	ACTUATED	ACTUATED

NOTE: FOR SIGNAL DETAILS SEE SHEETS 114–122

HORIZONTAL SCALE IN FEET 0 10 20

CALCULATED JAW CHECKED DLW

SIGNAL PLANS
MAHONING ROAD AND HARMONT AVENUE

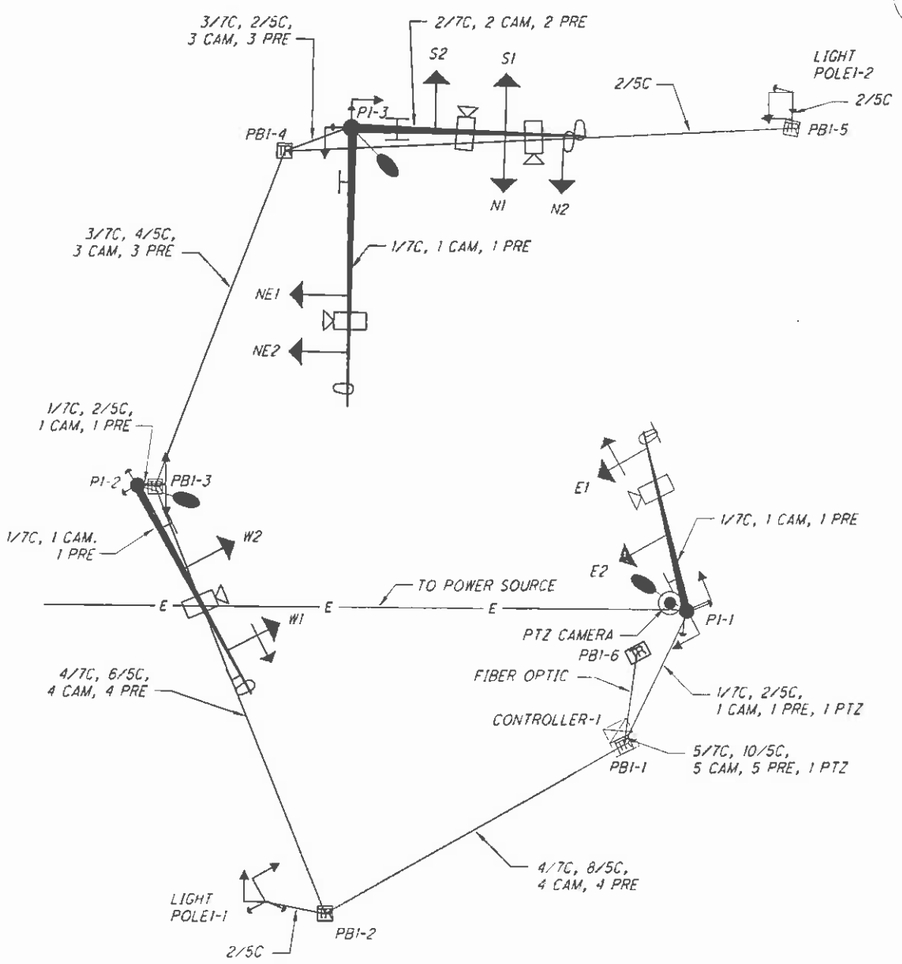
MAHONING ROAD NE, S.R. 153 ECONOMIC DEVELOPMENT PROJECT

LEGEND

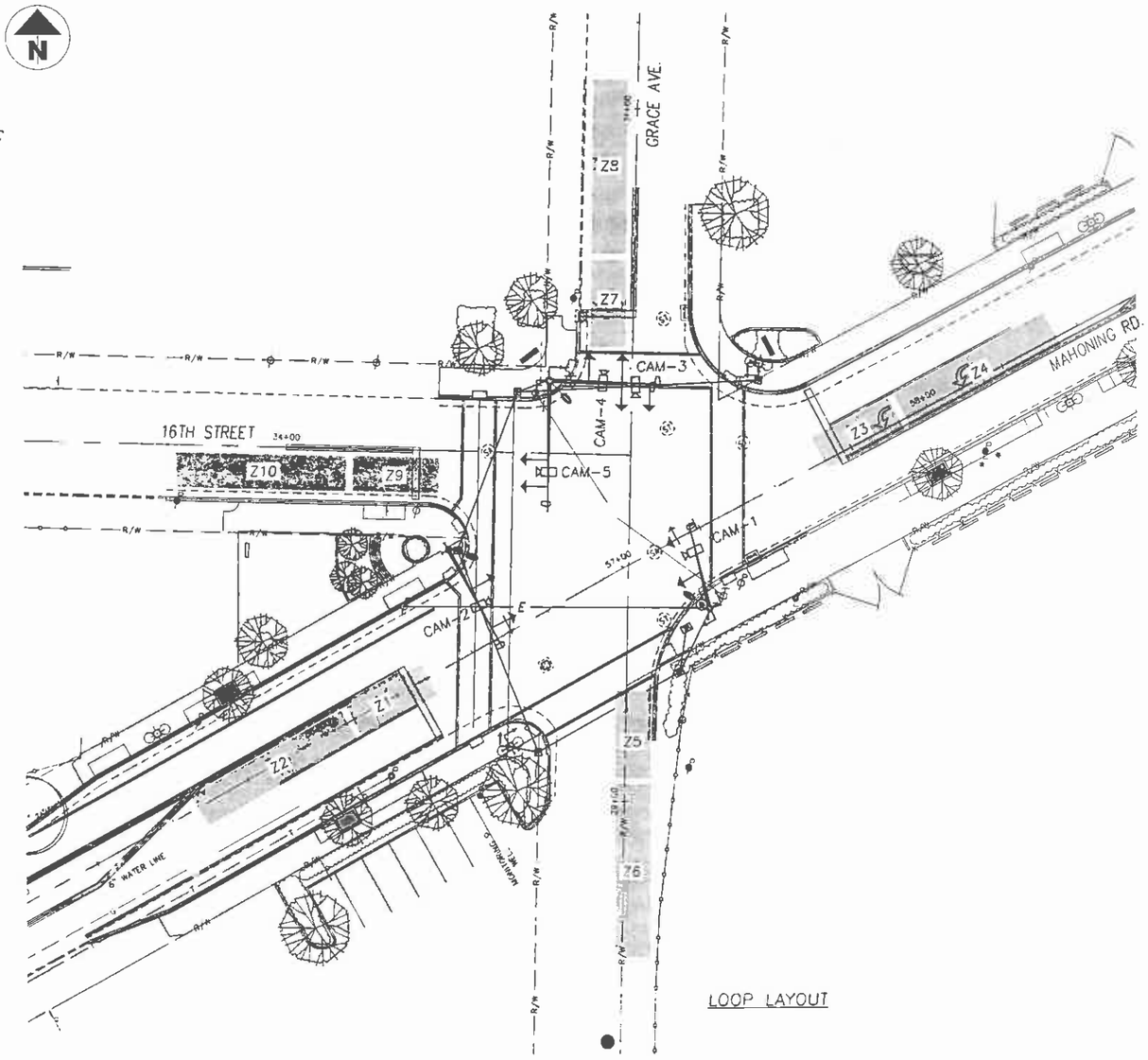
	SIGNAL POLE	→	3 SECTION SIGNAL	7C	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
	PEDESTRIAN POLE	⊣	3 OR 4 SECTION SIGNAL WITH ARROW	5C	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
	PULL BOX	⊣	5 SECTION SIGNAL	CAM	VIDEO DETECTION CAMERA CABLE
	CONTROLLER W/ PULL BOX	⊣	SIGN	PRE	PRE-EMPTION CABLE
	PED BUTTON (PBA-PBH)		DETECTION ZONE	PTZ	PAN-TILT ZOOM CAMERA CABLE
	PED SIGNAL (PHA-PHH)		PROP. LUMINAIRE		
	LIGHT POLE		PROP. PRE-EMPTION DETECTOR		
			PROP. CAMERA		

LOOP DETECTOR UNIT SUMMARY

INT	ZONE	ZONE DETECTION TYPE	CAMERA	DETECTOR TYPE	PRESENCE/ PULSE	CONNECT TO PHASE	LOCK/ NON-LOCK	MOVEMENT	DELAY	EXT	REMARKS
MAHONING ROAD & GRACE AVENUE	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	Φ5	NON-LOCK	EB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z2			VIDEO	PRESENCE	Φ5	NON-LOCK	EB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	Φ1	NON-LOCK	WB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z4			VIDEO	PRESENCE	Φ1	NON-LOCK	WB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-3	VIDEO	PRESENCE	Φ8	NON-LOCK	NB	15		DELAY INHIBITED DURING GREEN PHASE
	Z6			VIDEO	PRESENCE	Φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-4	VIDEO	PRESENCE	Φ4	NON-LOCK	SB	15		DELAY INHIBITED DURING GREEN PHASE
	Z8			VIDEO	PRESENCE	Φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE	CAM-5	VIDEO	PRESENCE	Φ9	NON-LOCK	NEB	15		DELAY INHIBITED DURING GREEN PHASE
	Z10			VIDEO	PRESENCE	Φ9	NON-LOCK	NEB	10		DELAY INHIBITED DURING GREEN PHASE



WIRING DIAGRAM



LOOP LAYOUT

CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS
MAHONING ROAD AND GRACE AVENUE

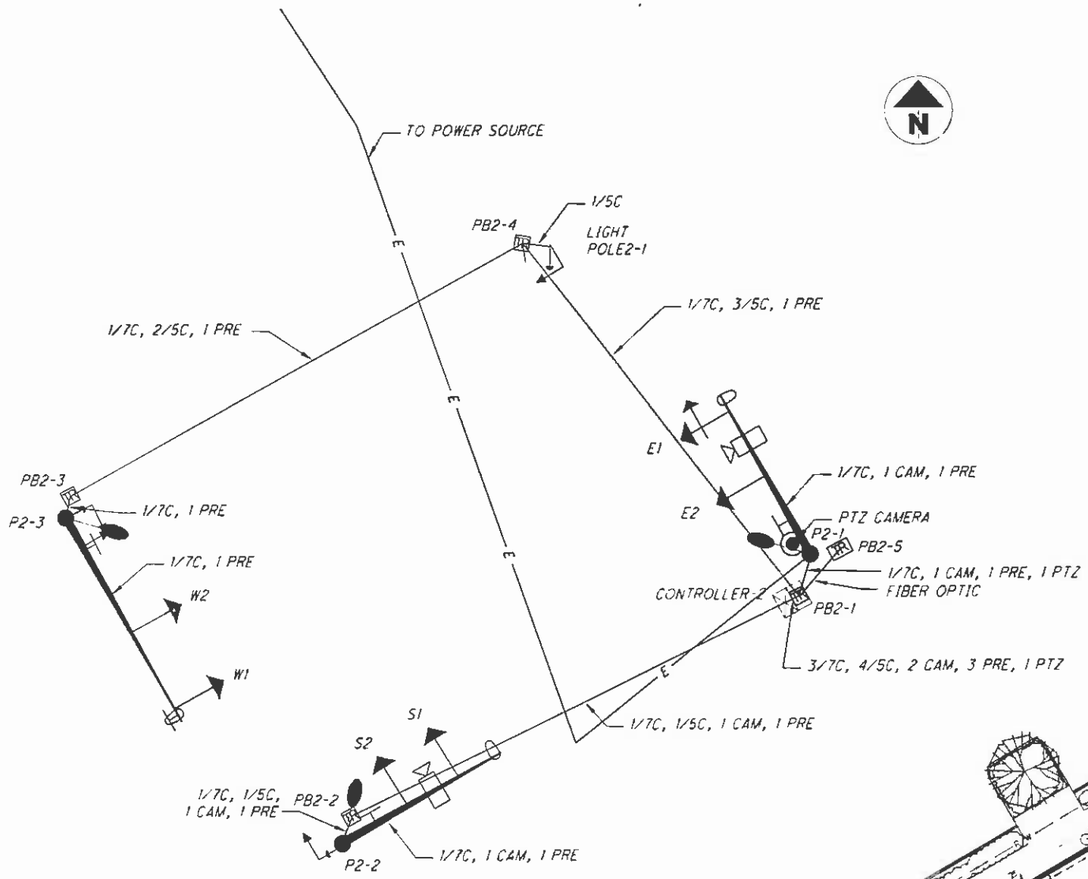
MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT

LEGEND

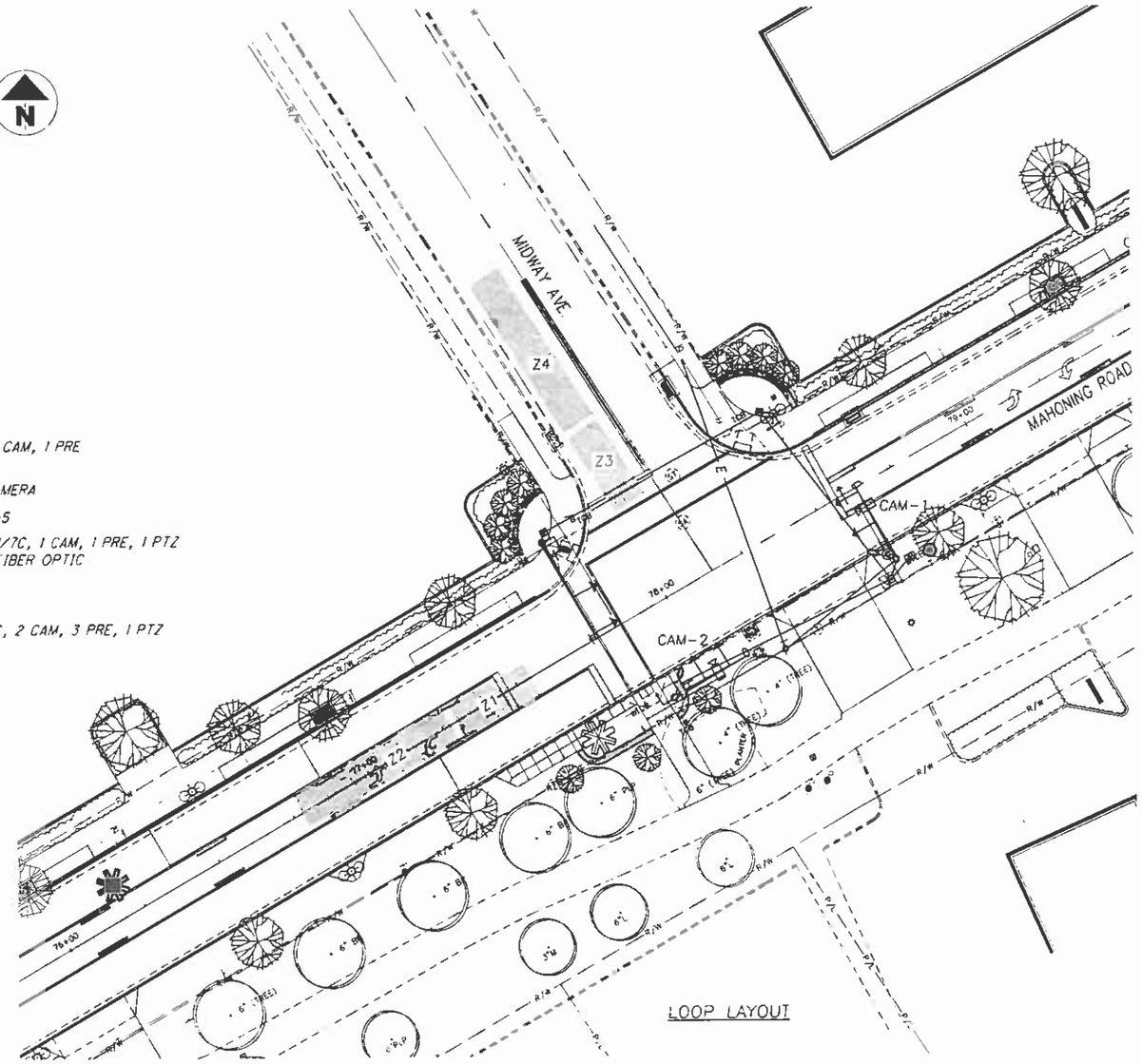
SIGNAL POLE	3 SECTION SIGNAL	7C	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
PEDESTRIAN POLE	3 OR 4 SECTION SIGNAL WITH ARROW	5C	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
PULL BOX	5 SECTION SIGNAL	CAM	VIDEO DETECTION CAMERA CABLE
CONTROLLER W/ PULL BOX	SIGN	PRE	PRE-EMPTION CABLE
PED BUTTON (PBA-PBH)	DETECTION ZONE	PTZ	PAN-TILT ZOOM CAMERA CABLE
PED SIGNAL (PHA-PHH)	PROP. LUMINAIRE		
LIGHT POLE	PROP. PRE-EMPTION DETECTOR		
	PROP. CAMERA		

LOOP DETECTOR UNIT SUMMARY

INT	ZONE	ZONE DETECTION TYPE	CAMERA	DETECTOR TYPE	PRESENCE/ PULSE	CONNECT TO PHASE	LOCK/ NON-LOCK	MOVEMENT	DELAY	EXT	REMARKS
MAHONING ROAD & MIDWAY AVENUE	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z2			VIDEO	PRESENCE	φ5	NON-LOCK	EB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE	CAM-2	VIDEO	PRESENCE	φ4	NON-LOCK	SB	15		DELAY INHIBITED DURING GREEN PHASE
	Z4			VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE



WIRING DIAGRAM



LOOP LAYOUT

CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS
MAHONING ROAD AND MIDWAY AVENUE

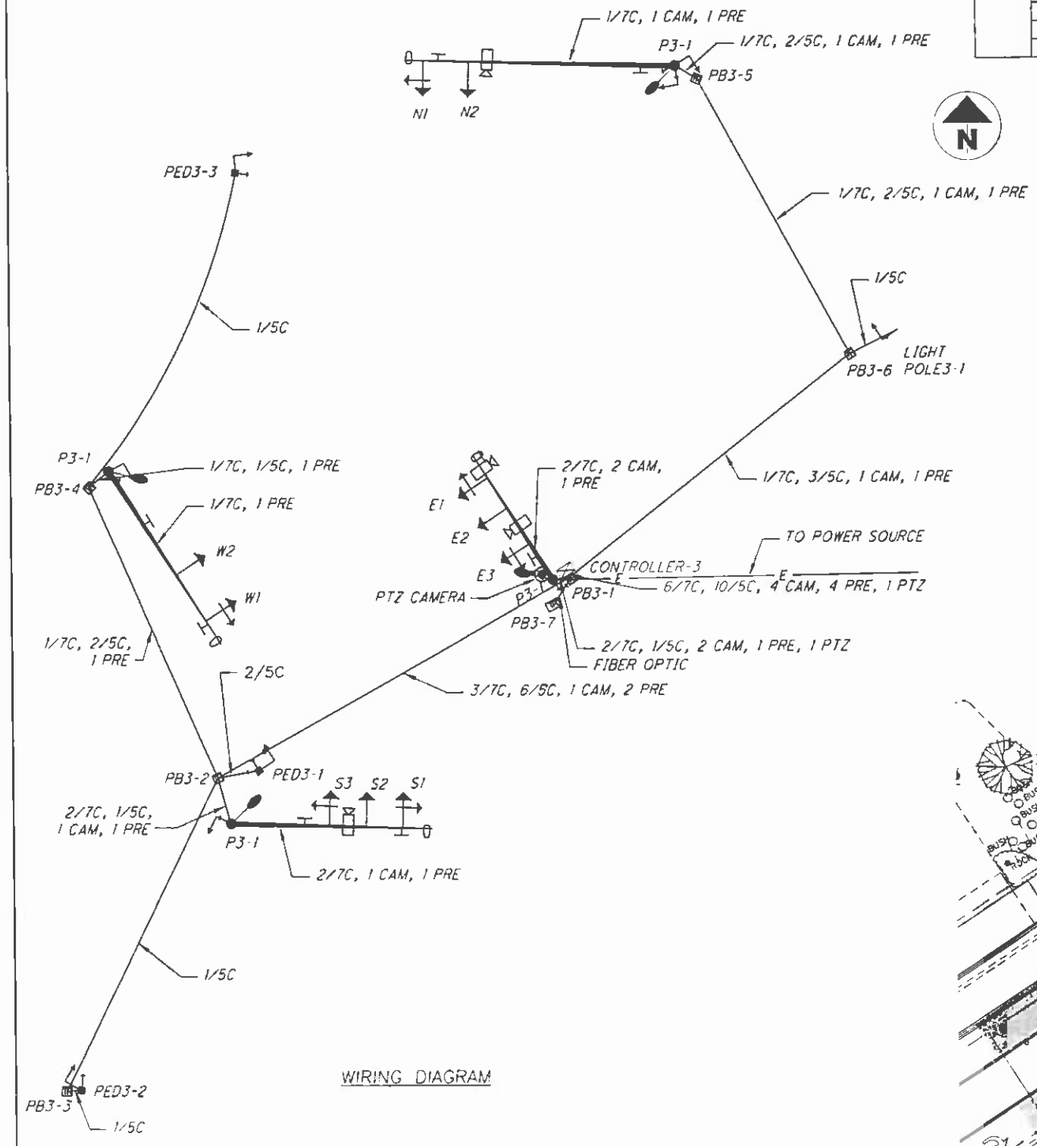
MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

LEGEND

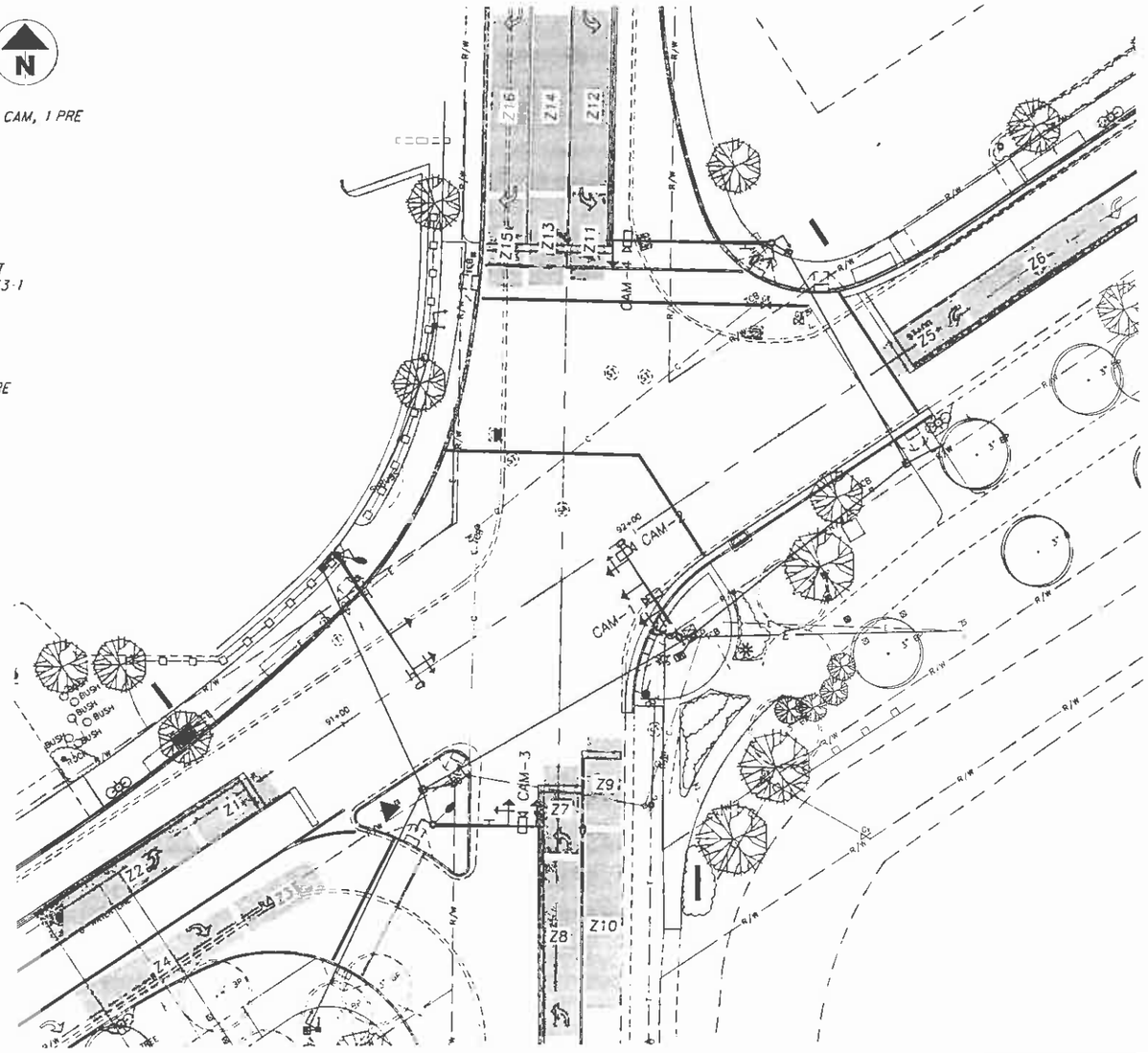
SIGNAL POLE	3 SECTION SIGNAL	7C	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
PEDESTRIAN POLE	3 OR 4 SECTION SIGNAL WITH ARROW	5C	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG
PULL BOX	5 SECTION SIGNAL	CAM	VIDEO DETECTION CAMERA CABLE
CONTROLLER W/ PULL BOX	SIGN	PRE	PRE-EMPTION CABLE
PED BUTTON (PBA-PBH)	DETECTION ZONE	PTZ	PAN-TILT ZOOM CAMERA CABLE
PED SIGNAL (PHA-PHH)	PROP. LUMINAIRE		
LIGHT POLE	PROP. PRE-EMPTION DETECTOR		
	PROP. CAMERA		

LOOP DETECTOR UNIT SUMMARY

INT	ZONE	ZONE DETECTION TYPE	CAMERA	DETECTOR TYPE	PRESENCE/ PULSE	CONNECT TO PHASE	LOCK/ NON-LOCK	MOVEMENT	DELAY	EXT	REMARKS
MAHONING ROAD & HARMONT AVENUE	Z1	STOP LINE	CAM-1	VIDEO	PRESENCE	φ5	NON-LOCK	EB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z2			VIDEO	PRESENCE	φ5	NON-LOCK	EB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z3	STOP LINE		VIDEO	PRESENCE	φ2	NON-LOCK	EB-RT	15		DELAY INHIBITED DURING GREEN PHASE
	Z4			VIDEO	PRESENCE	φ2	NON-LOCK	EB-RT	10		DELAY INHIBITED DURING GREEN PHASE
	Z5	STOP LINE	CAM-2	VIDEO	PRESENCE	φ1	NON-LOCK	WB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z6			VIDEO	PRESENCE	φ1	NON-LOCK	WB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z7	STOP LINE	CAM-4	VIDEO	PRESENCE	φ3	NON-LOCK	NB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z8			VIDEO	PRESENCE	φ3	NON-LOCK	NB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z9	STOP LINE		VIDEO	PRESENCE	φ8	NON-LOCK	NB	15		DELAY INHIBITED DURING GREEN PHASE
	Z10			VIDEO	PRESENCE	φ8	NON-LOCK	NB	10		DELAY INHIBITED DURING GREEN PHASE
	Z11	STOP LINE	CAM-3	VIDEO	PRESENCE	φ7	NON-LOCK	SB-LT	10		DELAY INHIBITED DURING GREEN PHASE
	Z12			VIDEO	PRESENCE	φ7	NON-LOCK	SB-LT	5		DELAY INHIBITED DURING GREEN PHASE
	Z13	STOP LINE		VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z14			VIDEO	PRESENCE	φ4	NON-LOCK	SB	10		DELAY INHIBITED DURING GREEN PHASE
	Z15	STOP LINE		VIDEO	PRESENCE	φ4	NON-LOCK	SB-RT	15		DELAY INHIBITED DURING GREEN PHASE
	Z16			VIDEO	PRESENCE	φ4	NON-LOCK	SB-RT	10		DELAY INHIBITED DURING GREEN PHASE



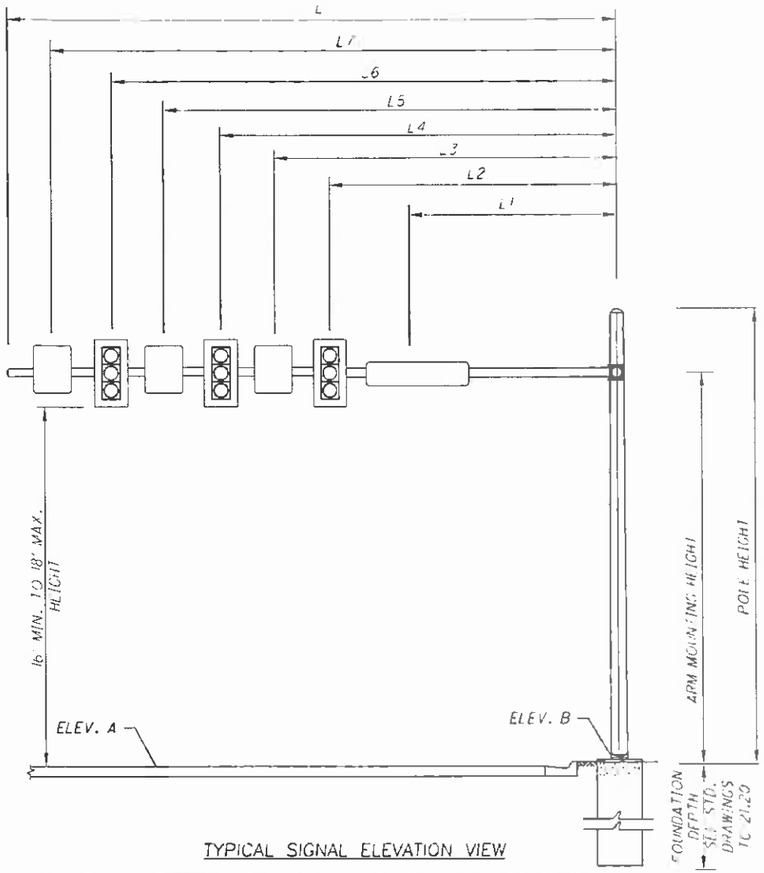
WIRING DIAGRAM



CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS
MAHONING ROAD AND HARMONT AVENUE

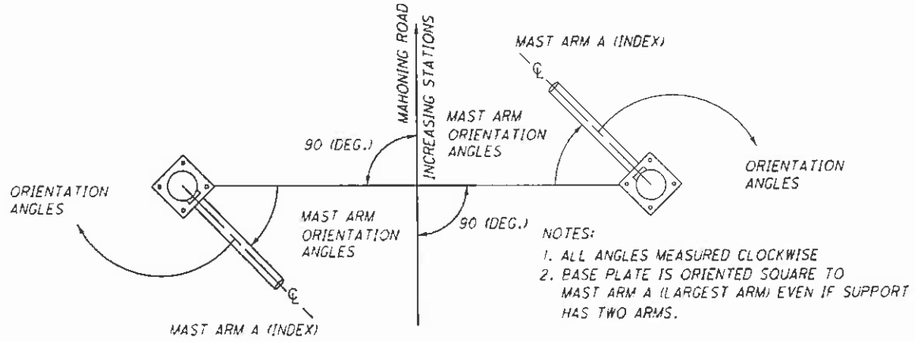
MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT



TYPICAL SIGNAL ELEVATION VIEW

NOTE: THE ABOVE DETAIL SHOWS A TYPICAL ARRANGEMENT THAT DOES NOT NECESSARILY MATCH EVERY APPLICATION AS SHOWN IN THE PLANS. DIMENSION L1 IS THE DISTANCE FROM THE POLE TO THE SIGNAL, SIGN OR CAMERA LOCATED CLOSEST TO THE POLE. DIMENSIONS L2 THROUGH L7 ARE THE DISTANCES FROM THE POLE TO EACH ADDITIONAL SIGNAL, SIGN OR CAMERA, IN INCREASING ORDER. SEE WIRING LAYOUT FOR THE ORDER OF MOUNTED ITEMS ON EACH INDIVIDUAL MAST ARM.

POLE ORIENTATION PLAN VIEW



NOTES:
1. ALL ANGLES MEASURED CLOCKWISE
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM A (LARGEST ARM) EVEN IF SUPPORT HAS TWO ARMS.

TYPICAL SIGNAL ELEVATION VIEW

SIGNAL SUPPORT TYPE														ELEVATION		MAST ARM A ORIENTATION ANGLE (DEGREES)	ORIENTATION ANGLES (DEG.) FROM MAST ARM A						
SUPPORT NO.	SUPPORT DES. #TC-81.21	SUPPORT DES. #TC-12.30	POLE HEIGHT (FT.)	MAST ARM DES. #TC-81.20	ARM MOUNTING HT. (FT.)	L (FT)	L1 (FT)	L2 (FT)	L3 (FT)	L4 (FT)	L5 (FT)	L6 (FT)	L7 (FT)	A	B		MAST ARM B	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	CONTROLLER	LUMINAIRE BRACKET	HANDHOLE	CABLE ENTRANCE (12" FROM TOP)
P1-1	4		32			25	6	11	22	24						14		81/165	123/200		315	180	
LIGHT1-1																		0/300	140/270				
P1-2	4		32			32	6	13	25	30						0		299/299	90/180		315	180	
P1-3		5	32	4		38	7	23	31							29		90/180	90/180		315	180	
				4		32	6	11	21	21	29						270						
LIGHT1-2																		29/118	132/310				
P2-1	4		32			25	6	12	22							0					315	180	
P2-2	4		32			25	6	11	19							90		180	180		315	180	
P2-3	4		32			32	6	18	30	31						0		0/270	0/270		315	180	
LIGHT2-1																		0	25				
P3-1	4		32			32	5	6	9	18	26	31				0		0	180		315	180	
PED3-1			8															0/90	0/291			180	
P3-2	11		32			45	5	17	21	29	36	38				124		203	203		315	180	
PED3-2			8															334	37			180	
P3-3	11		32			45	6	27	39	40						0		274	344		315	180	
PED3-3			8															206	310			180	
P3-4	13		23			60	6	47	52	56						124		147/259	259/334		315	180	
LIGHT3-1																		270	270				

NOTE: MAST ARM MOUNTING HEIGHT SHALL BE DETERMINED BY CONTRACTOR DEPENDENT UPON MANUFACTURER.

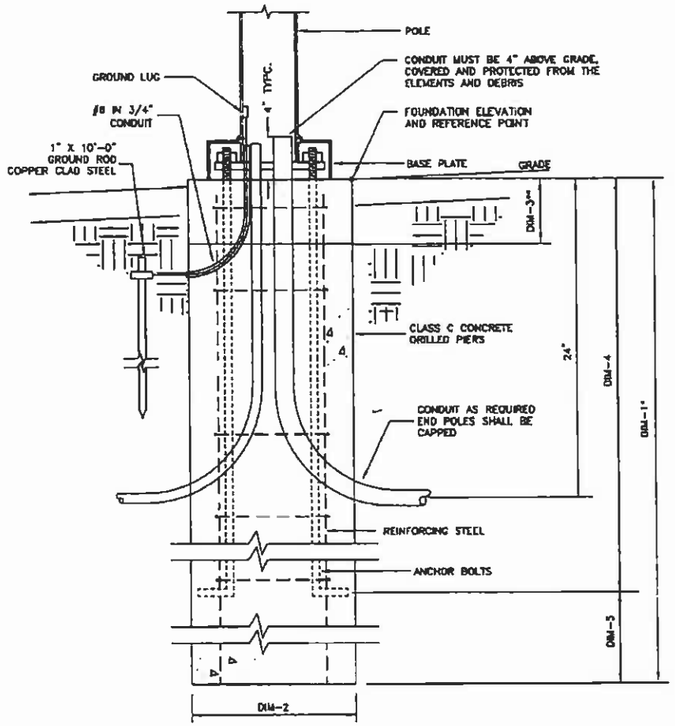
FIELD WIRING HOOK-UP CHART (MAHONING RD. & HARMONT AVE.)

SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH	SIGNAL HEAD	INDICATION	TERMINAL HEAD	FLASH
N1 (NBLT)	R	Φ 8 R	R	S1 (SBLT)	R	Φ 4 R	R
	Y	Φ 8 Y			Y	Φ 4 Y	
	R	Φ 8 R			R	Φ 4 R	
	~~Y~~	Φ 3 Y			~~Y~~	Φ 7 Y	
	~~G~~	Φ 3 G			~~G~~	Φ 7 G	
N2 (NB)	R	Φ 8 R	R	S2 (SB)	R	Φ 4 R	R
	Y	Φ 8 Y			Y	Φ 4 Y	
	G	Φ 8 G			G	Φ 4 G	
E1 (EBLT)	R	Φ 2 R	Y	S3 (SBRT)	R	Φ 4 R	R
	Y	Φ 2 Y			Y	Φ 4 Y	
	R	Φ 2 R			R	Φ 4 R	
	~~Y~~	Φ 5 Y			~~Y~~	Φ 5 Y	
	~~G~~	Φ 5 G			~~G~~	Φ 5 G	
E2 (EB)	R	Φ 2 R	Y	W1 (WBLT)	R	Φ 6 R	Y
	Y	Φ 2 Y			Y	Φ 6 Y	
	G	Φ 2 G			R	Φ 6 R	
E3 (EBRT)	R	Φ 2 R	Y		~~Y~~	Φ 1 Y	
	Y	Φ 2 Y			~~G~~	Φ 1 G	
	R	Φ 2 R		W2 (WB)	R	Φ 6 R	Y
	~~Y~~	Φ 3 Y			Y	Φ 6 Y	
	~~G~~	Φ 3 G			G	Φ 6 G	

CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT



NOSTALGIC FOUNDATION DETAIL

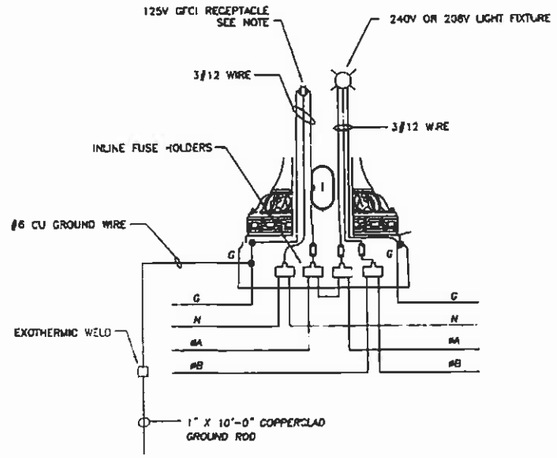
NO SCALE

NOTES:

1. ALL FOUNDATIONS SHALL BE DRILLED PIERS TO AVOID DISTURBING SURROUNDING SOIL. A TEMPORARY STEEL CASING MAY BE REQUIRED. IF UTILITIES OR ANOTHER CONFLICT IS IN CLOSE PROXIMITY TO THE FOUNDATION, THEN THOSE FOUNDATIONS MAY HAVE TO BE EXCAVATED BY HAND.
2. ANCHOR BOLT PATTERN SHALL BE PROVIDED BY POLE MANUFACTURER (U.M.C.).
3. REINFORCING STEEL SHALL BE ASSEMBLED IN CAGES USING #4 TIES.
4. FOUNDATION TOP SHALL BE ROUND AND LEVEL FOR DECORATIVE HOUSING.

* MINIMUM DEPTH MAY VERY BASED ON SOIL CONDITION.
** ONLY APPLICABLE IN SIDEWALK AREAS.
   A. TUBE TO BE PLACED W/TOP AT LEAST 1" ABOVE PROJECTED FINISHED SIDEWALK GRADE.
   B. FOUNDATION TO BE POURED TO A MIN. 8" BELOW PROJECT FINISHED SIDEWALK GRADE.
   C. ONCE SIDEWALK IS PROVIDED AND/OR FINAL FINISHED GRADE ESTABLISHED, TUBE SHALL BE CUT TO PROPER ELEVATION AND FOUNDATION CAP POURED AND LEVELED WITHIN THE TUBE.
      1. CUT AND REMOVE EXPOSED TUBE TO FINISHED GRADE AFTER CONCRETE IS CURED.

FOUNDATION	DIM-1*	DIM-2	DIM-3**	DIM-4	DIM-5
SIGNAL	9'-0"	36"	N/A	84"	24"
LUMINARIES	6'-0"	30"	8"	32"	40"
PEDESTRIAN	4'-0"	24"	8"	30"	18"



POLE WIRING DIAGRAM

NO SCALE

NOTE:

1. THE COST FOR WIRING TO ALL NOSTALGIA LUMINARIES AND RECEPTACLES SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS. ALL WIRING IN POLES AND CONDUITS TO LIGHTS AND RECEPTACLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

2. ALL WIRING INTO EACH NOSTALGIA POLE BASE SHALL BE NO. 6 AWG WIRE AND CONNECTED TO IN-LINE FUSE HOLDERS. THE COST FOR THIS WIRE SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS.

3. IN-LINE FUSE HOLDERS SHALL BE BUSSMAN (HEB-AW-RYC). INSTALL FUSES IN PHASE LINES AND SOLID LINK IN NEUTRAL (HET-AW-RYC) FOR GROUND USE SPLIT BOLT CONNECTOR. COPPER GROUND CABLE SHALL BE EXOTHERMICALLY WELDED TO THE GROUND ROD. RUN CABLE FREE END THROUGH 3/4" EMT AND CONNECTED AS SHOWN IN THE POLE WIRING DIAGRAM. THE COST FOR THE IN-LINE FUSE HOLDERS AND ALL RELATED ITEMS SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS.

4. THE POLE RECEPTACLE SHALL BE ALTERNATELY WIRED TO PHASE A AND PHASE B AS SHOWN IN THE POLE WIRING DIAGRAM.

5. FOR LIGHTS, USE 5 AMP FUSES. FOR RECEPTACLES, USE 10 AMP FUSES. AMP RATINGS SHALL BE BASED UPON 75 DEGREE C RATINGS.

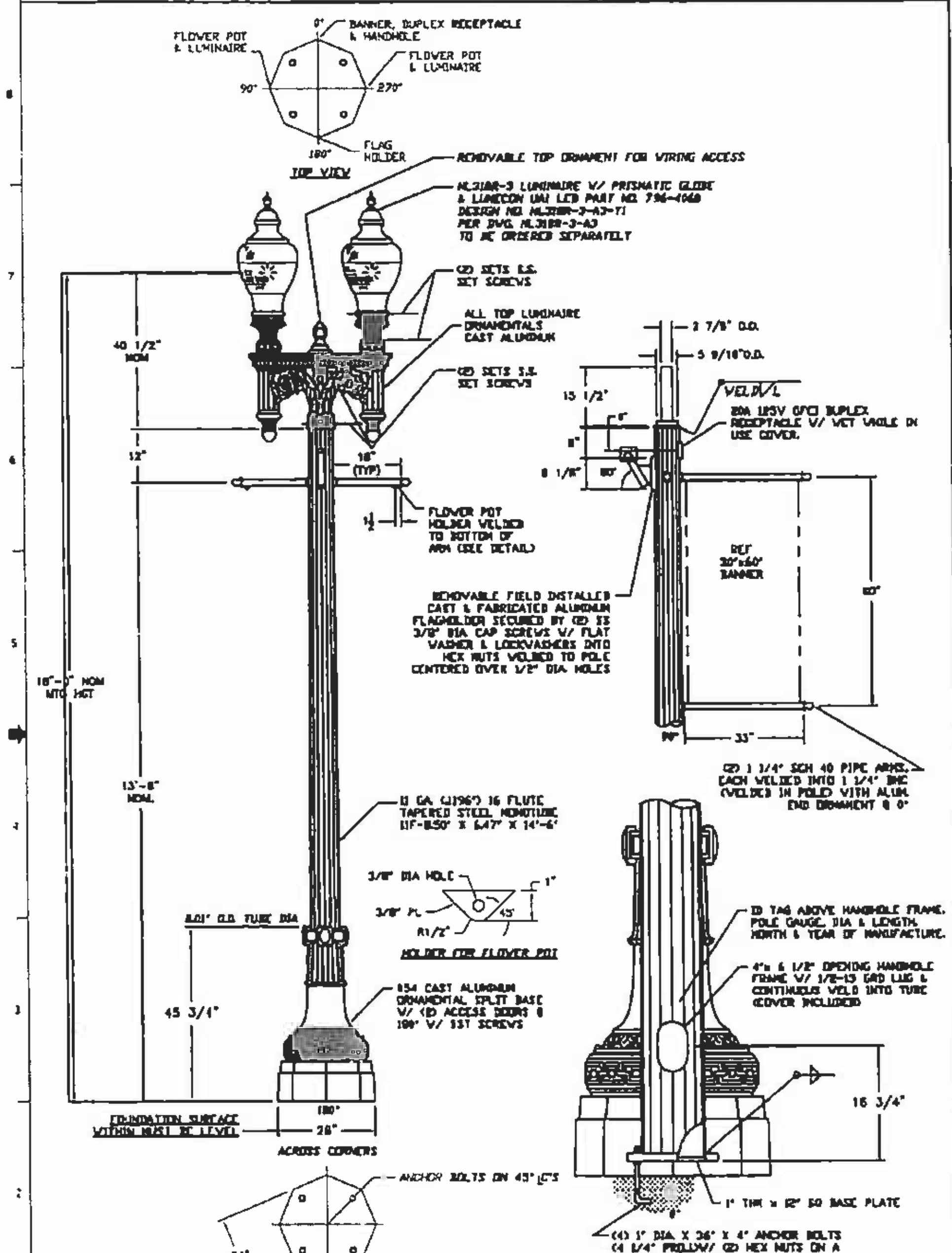
6. UNLESS OTHERWISE NOTED IN THESE PLANS, ALL WIRING SHALL BE MINIMUM NO. 12 AWG, COPPER, 600 VOLT RATED WITH THE EXCEPTION OF NO. 14 AWG. COPPER SHALL BE PERMISSIBLE FOR CONTROL CIRCUITRY. THE FOLLOWING SHALL APPLY TO ALL WIRING:

A. ALL WIRING SHALL BE STRANDED "THHN/THWN".
B. UNDERGROUND BRANCH CIRCUIT WIRING SHALL BE "XHHW".

CALCULATED JMF
CHECKED DLW

SIGNAL DETAILS
NOSTALGIC FOUNDATION DETAILS

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT



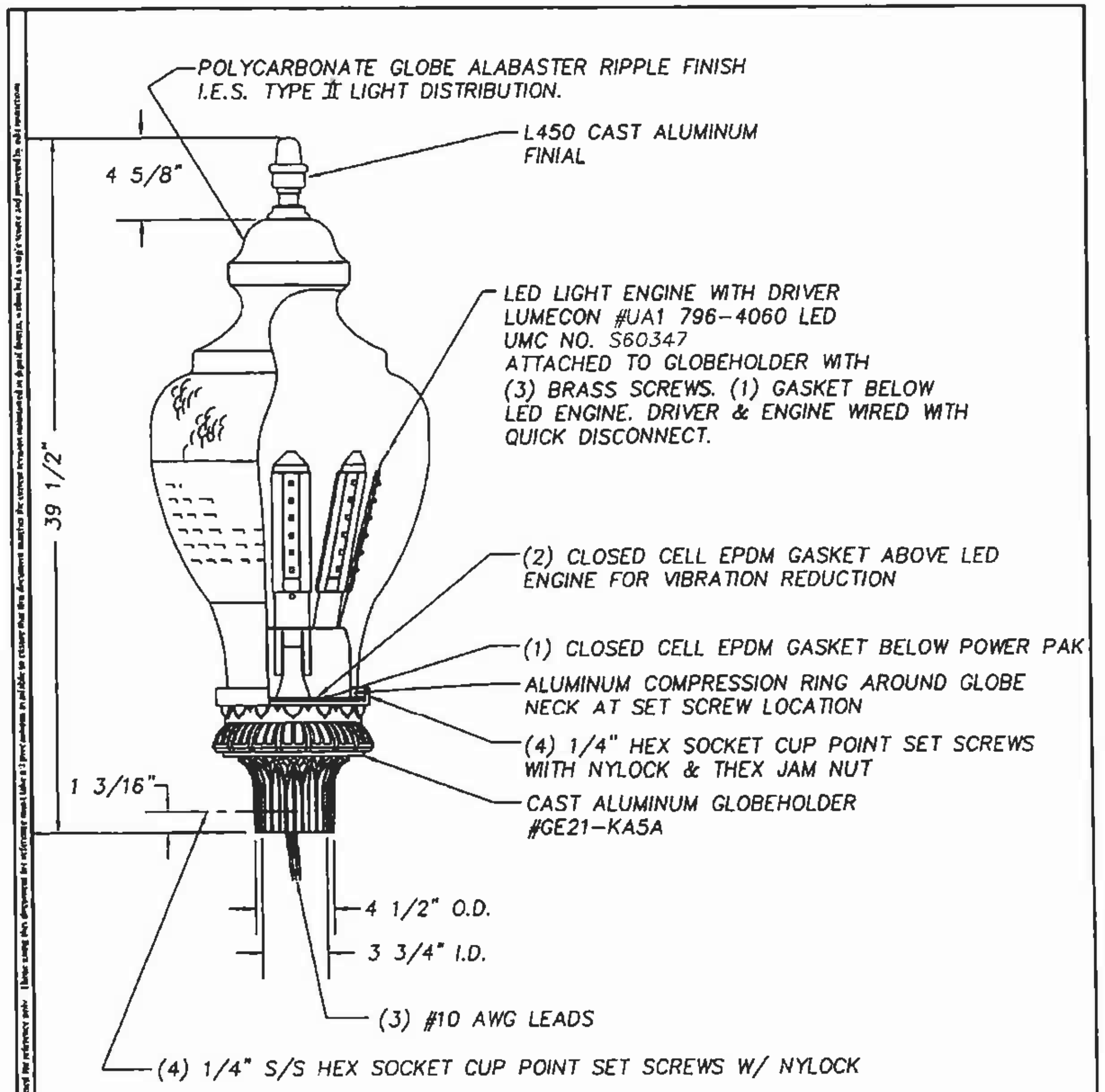
NOTES:
1. POLE ARRANGED FOR BUT LESS BANNER ARMS AND FLOWER BOWL ARMS.
2. (4) 1 1/4" PIPE PLUGS INCLUDED.
3. HD GALV & POWDER COATED FINISH, CITY OF CANTON CBD GREEN.

STATE: OHIO	REQ# / SO#: REQ	REV	DESCRIPTION
PROJECT NAME: STADIUM DRIVE/FULTON ROAD CITY SCAPE, CANTON		REVISIONS	

ORNAMENTAL LIGHTING STANDARD WITH FLAGHOLDER, DUPLEX RECEPTACLE & COUPLINGS FOR ARMS
DESIGN NUMBER N2473-54-B33-Y1

Union Metal Corporation

N2473-54-B33 REV



NOTES:
1. GLOBEHOLDER & FINIAL POWDER COATED CITY OF CANTON CBD GREEN.
2. GLOBE STREET SIDE POSITIONED BETWEEN TWO LED BARS. STREET SIDE OF LUMINAIRE MARKED ON OUTSIDE OF GLOBEHOLDER.

STATE: OHIO	REQ# / SO#: NOH32578	REV	DESCRIPTION	DATE	BY
PROJECT NAME: STADIUM DRIVE/FULTON ROAD CITY SCAPE		REVISIONS			

NOSTALGIA LUMINAIRE NL318R WITH LED & GE21 KA5A GLOBEHOLDER

Union Metal Corporation

This document and the contents herein are proprietary and the property of Union Metal Corporation. This document is not to be copied, reproduced or used for any reason except for the purpose for which it was issued without the express written consent of Union Metal Corporation. Furthermore Union Metal Corporation reserves the right to recall this document and all copies at any time, for any reason.

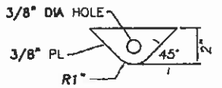
DESIGNED BY	CHECKED BY	DATE	SCALE	ENG REF
MB	JLRS	3/3/10	1 1/2"=1'-0"	NL318R-3-Y5
NL318R-3-A3			REVISION R0	SHEET 1 OF 1

CALCULATED JAW
CHECKED DLW

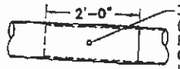
SIGNAL DETAILS
NOSTALGIC DETAILS

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT PROJECT

NOTE:
SEE 50312-B19 - SHT. 2 OF 5
FOR TOP ORIENTATION VIEW



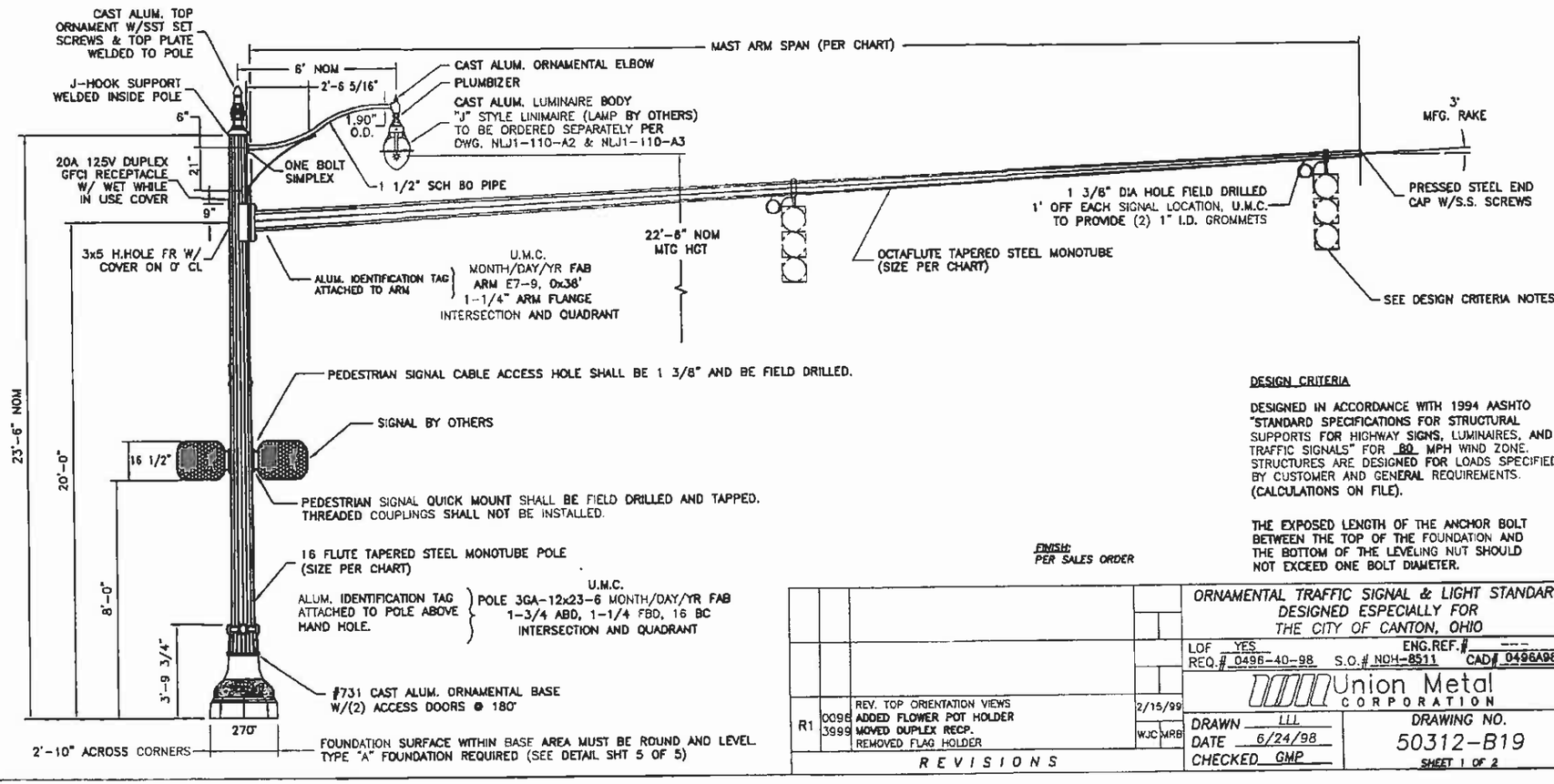
HOLDER FOR FLOWER POT



3/4" DIA GALV STUD WITH (2) "ANCO" LOCKNUTS, FACTORY DRILL 1" HOLE IN OUTBOARD TUBE, FIELD DRILL INBOARD TUBE TO ASSURE SNUG FIT.

TELESCOPIC FIELD JOINT FOR 48' ARM ONLY

MATERIAL SPECIFICATIONS
TUBES: CHEM. & PHYSICAL PROP. OF ASTM A595 GR A
PLATE,BAR: ASTM A709 GR 36
ANCHOR BOLTS: ASTM F1554 GR55 TOP END GALV TO A153
ANCHOR BOLT NUTS: ASTM A563 GR A GALV TO A153
MISC. HDWE: (STN STL) AISI 300 SERIES (18-8)
POLE TOP: CAST ALUMINUM-AA319F
TRAFFIC ARM CONN. BOLTS: ASTM-A325
H.H. FRAME: ASTM-A576
H.H. COVER: C1010 STEEL
PEDESTAL BASE: CAST ALUMINUM SPLIT BASE:A319F
STEEL PIPE: ASTM-A53 GR B OR A501
GALV & FINISH PAINT PER SALES ORDER.



FINISH:
PER SALES ORDER

DESIGN CRITERIA

DESIGNED IN ACCORDANCE WITH 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" FOR 80 MPH WIND ZONE. STRUCTURES ARE DESIGNED FOR LOADS SPECIFIED BY CUSTOMER AND GENERAL REQUIREMENTS. (CALCULATIONS ON FILE).

THE EXPOSED LENGTH OF THE ANCHOR BOLT BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT SHOULD NOT EXCEED ONE BOLT DIAMETER.

R1	0098 3999	REV. TOP ORIENTATION VIEWS ADDED FLOWER POT HOLDER MOVED DUPLEX RECP. REMOVED FLAG HOLDER	2/15/99	WJC MRB

REVISIONS

ORNAMENTAL TRAFFIC SIGNAL & LIGHT STANDARD
DESIGNED ESPECIALLY FOR
THE CITY OF CANTON, OHIO

LOF YES ENG.REF.# ---
REQ.# 0498-40-98 S.O.# NOH-8511 CAD# 0498A98

Union Metal CORPORATION

DRAWN LLL
DATE 6/24/98
CHECKED GMP

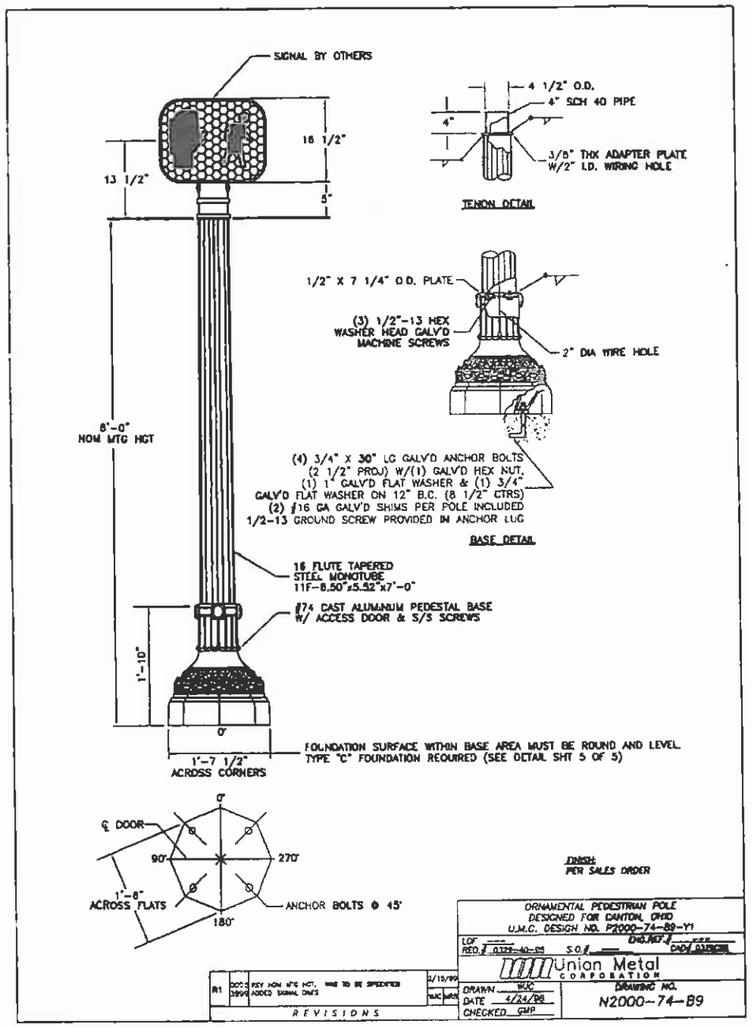
DRAWING NO.
50312-B19
SHEET 1 OF 2

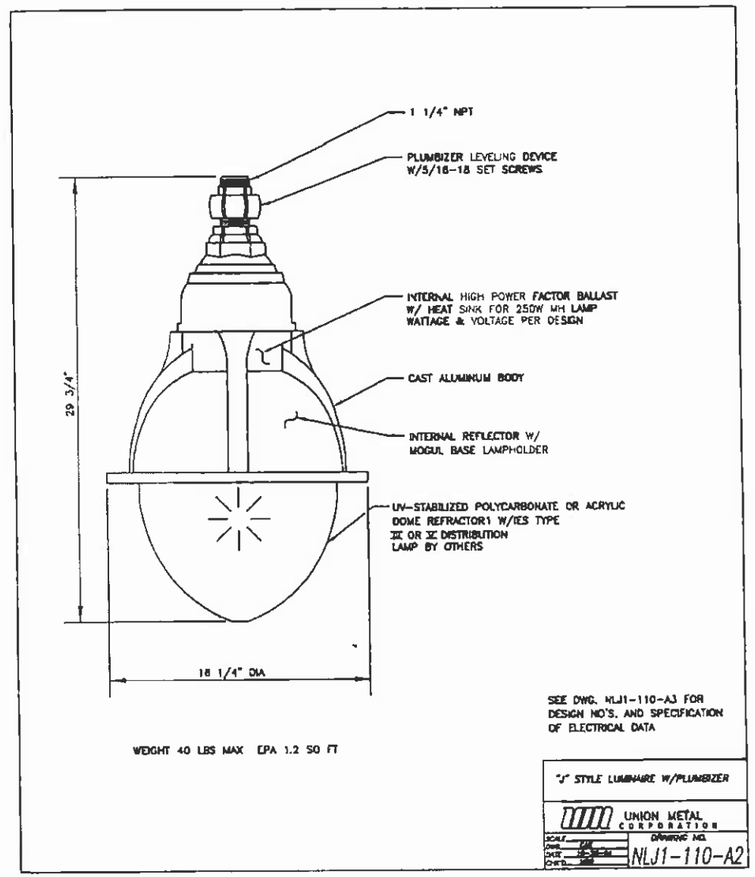
CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS
NOSTALGIC DETAILS

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

121
122





CALCULATED JAW
CHECKED DLW

SIGNAL DETAILS
NOSTALGIC DETAILS

MAHONING ROAD NE, S.R. 153
ECONOMIC DEVELOPMENT
PROJECT

122
122