

**PROPOSAL  
FOR SUPPLYING  
BOX CULVERT**

**TUSCOLA COUNTY  
BOARD OF COUNTY ROAD COMMISSIONERS**

**1733 S. MERTZ RD.  
CARO, MI 48723**

***LETTING DATE - FEBRUARY 16, 2012***

***8:30 A.M.***

**COMPANY:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

**SIGN & PRINT:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**PHONE & FAX:** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_

**Bid Price:**

**Leonard Road over Tuttleville Drain, Akron Twp, Sec. 35  
Precast Concrete Box Culvert 44' of 11' span x 8' rise  
50' East of Clark Road**

**\$ \_\_\_\_\_ LSUM**

TUSCOLA COUNTY  
ROAD COMMISSION

PROPOSAL FOR SUPPLYING  
BOX CULVERT

Page 1 of 2

Sealed proposals will be received by the Tuscola County Road Commission at their office at 1733 S. Mertz Rd., Caro, Michigan, 48723 until 8:30 a.m., Thursday, February 16, 2012 at which time and place proposals will be publicly opened and read for the listed box culvert in Tuscola County, Michigan.

To: Board of Tuscola County Road Commissioners  
“An Equal Opportunity Employer”  
1733 S. Mertz Rd.  
Caro, MI 48723

The bidder has examined the proposal, specifications, plans, and the location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance.

Materials To Be Supplied:

This bid is for Precast, Concrete Box Culvert as described on the cover sheet. The box shall be manufactured according to Sections 401 and 904 of the 2003 MDOT Standard Specifications for Construction. The Culvert must meet AASHTO HS-20 loading. Shop Drawings must be submitted to the Engineer prior to construction of the box. Bid price shall also include the mastic and geotextile fabric materials necessary to connect and seal the segments of the box culvert together.

Delivery to Site:

Delivery to the site must be coordinated with the Engineer and the Contractor installing the culvert. The Fabricator shall take full responsibility of obtaining necessary permits and transport to said location on agreed upon date. Any delay on the fault of the Fabricator causing down time for the Contractor may result in penalties.

The successful bidder hereby proposes to furnish all necessary materials and provide delivery to the job site, at requested time.

TUSCOLA COUNTY  
ROAD COMMISSION

PROPOSAL FOR SUPPLYING  
BOX CULVERT

Page 2 of 2

Payment and Award:

Award of project will be by Board decision. Payment will be made by the Tuscola County Road Commission once an invoice is submitted, following successful delivery of the box culvert to the site.

NON-COMPLIANCE WITH PROJECT SPECIFICATION PROVISIONS

Any variation from the specifications of the project herein without written approval from the Tuscola County Road Commission and/or its authorized representative may result in, at the discretion of the Road Commission, the voiding and/or canceling of the acceptance of any bid and/or contract, resulting from this project.

**The Board reserves the right to accept or reject any or all proposals and to re-advertise or to accept the proposal that, in their opinion, is in the best interest of Tuscola County.**

Plans

The plan sheets showing location and layout can be viewed on our website [www.tuscolaroad.org](http://www.tuscolaroad.org), or a full set of plans may be viewed at or purchased from the Tuscola County Road Commission's Caro Office. Call to request at 989.673.2128.

TRAFFIC DATA	
LEONARD ROAD OVER TUTTLEVILLE DRAIN	
PRESENT AVERAGE DAILY TRAFFIC	150 (2011)
FUTURE AVERAGE DAILY TRAFFIC	270 (2031)
POSTED SPEED	NOT POSTED
DESIGN SPEED	55 MPH
% COMMERCIAL	15%
DESIGN LOADING	HL-93 MOD.

PLAN INDEX	
1.	TITLE SHEET
2.	PLAN OF SITE
3.	APPROACH SECTIONS
4.	PLAN OF STRUCTURE
5.	DETAILS OF STRUCTURE
6.	DETAILS OF STRUCTURE
7.	QUANTITIES AND REINFORCEMENT

STANDARD PLANS	
R-82-D	BEDDING AND FILLING AROUND PIPE CULVERTS
R-96-D	SOIL EROSION & SEDIMENTATION CONTROL MEASURES
R-100-F	SEEDING AND TREE PLANTING
** WZD-125-E	TEMPORARY TRAFFIC CONTROL DEVICES
* DENOTES SPECIAL DETAIL INCLUDED IN PLANS	
** DENOTES SPECIAL DETAIL INCLUDED IN PROPOSAL	

# TUSCOLA COUNTY ROAD COMMISSION

PLAN AND PROFILE OF PROPOSED  
STRUCTURE REPLACEMENT AND APPROACHES  
ON  
LEONARD ROAD OVER TUTTLEVILLE DRAIN  
(AKRON TOWNSHIP, SECTION 35, T15N-R8E)

**GENERAL NOTES:**  
THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AS MODIFIED BY THE PROPOSAL, SUPPLEMENTAL SPECIFICATIONS AND THE PLANS HEREIN, IS INCORPORATED INTO THIS CONTRACT.

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

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

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION FOR HL-93 MODIFIED LOADING. LOAD AND RESISTANCE FACTOR DESIGN METHOD WAS USED FOR THIS STRUCTURE. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH.

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS, 2004.

ALL EXPOSED CONCRETE CORNERS THAT ARE SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS, EXCEPT AS OTHERWISE NOTED.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2.....  $f'_c = 3000$  psi  
STEEL REINFORCEMENT: .....  $f_y = 60,000$  psi

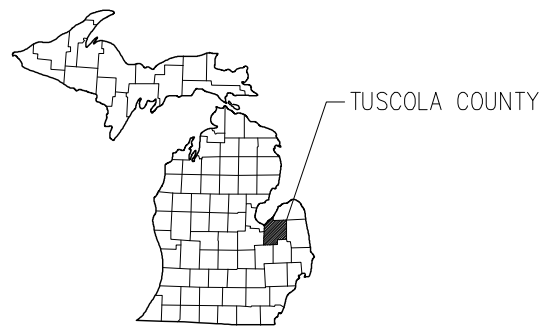
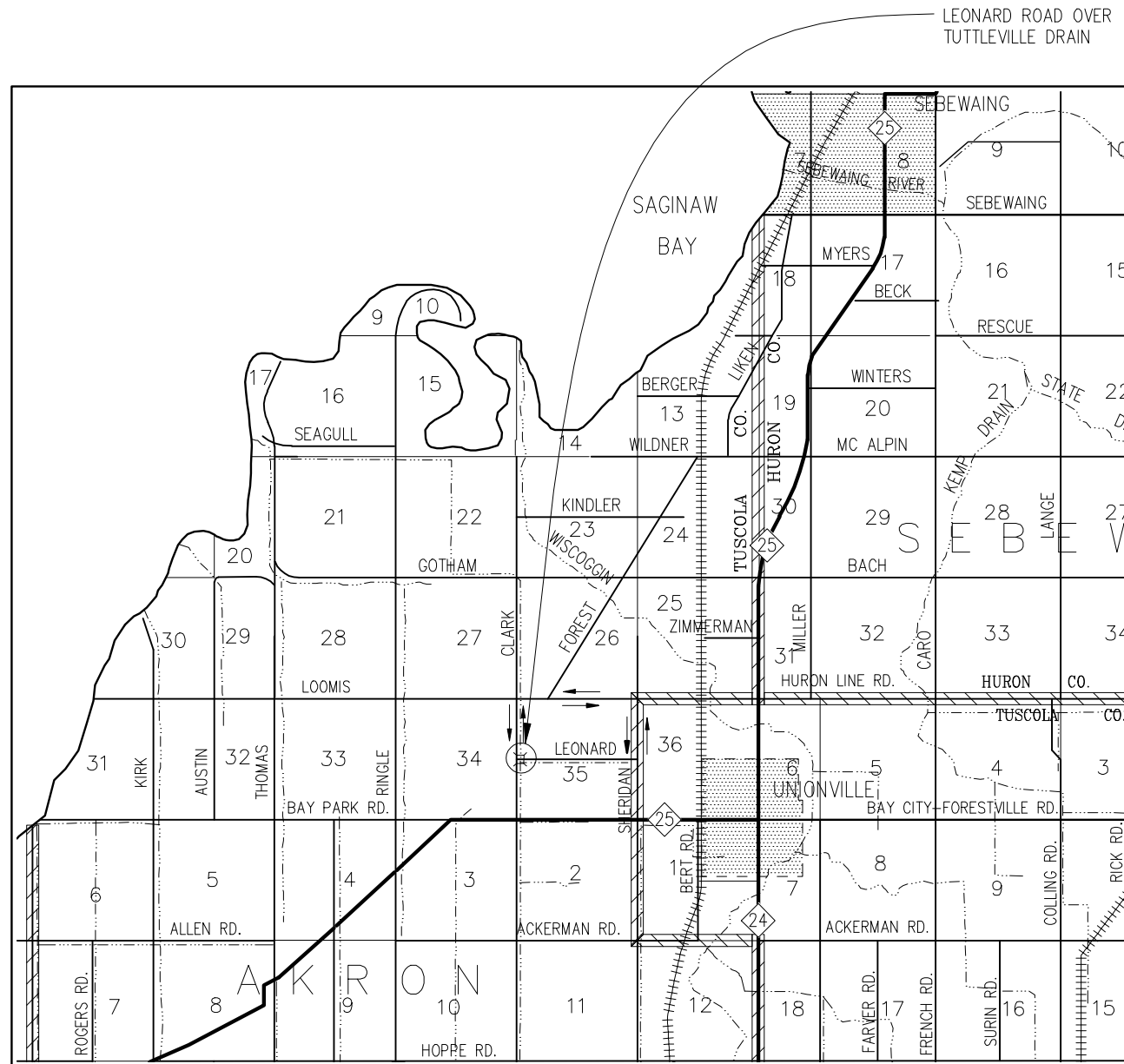
THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK, AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO INSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL MISS DIG AT 800-482-7171 A MINIMUM OF THREE WORKING DAYS PRIOR TO EACH EXCAVATION IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING MEMBERS WILL THEN BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.

THE CONTRACTOR IS TO EXERCISE CARE TO AVOID EXCESSIVE SILTING OF THE STREAM DURING CONSTRUCTION; PROVISIONS WILL BE MADE FOR CONTROL OF EROSION ON SHOULDERS AND SLOPES BY MEANS OF SEEDING, SODDING OR OTHER ACCEPTABLE METHODS ALLOWED BY M.D.E.Q. PERMIT.

OLD PLANS DO NOT EXIST FOR THIS STRUCTURE.

⇌ DENOTES DETOUR ROUTE



CONTRACT FOR: BRIDGE, AND APPROACHES		
COUNTY ROAD COMMISSION APPROVAL		
CHAIRMAN	JOHN G. LAURIE	DATE
VICE CHAIRMAN	GARY PARSELL	DATE
MEMBER	MICHAEL ZWERK	DATE
MEMBER	JULIE MATUZAK	DATE
MEMBER	PAT SHERIDAN	DATE
HIGHWAY ENGINEER	MICHELE ZAWERUCHA, P.E.	DATE
PREPARED UNDER THE SUPERVISION OF:		
SCOTT J. PAWLOSKI, P.E. REGISTERED PROFESSIONAL ENGINEER REGISTRATION NUMBER: MI 39181 R.S. SCOTT ASSOCIATES, INC. - AGENT		
DATE		



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

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

TUSCOLA COUNTY ROAD COMMISSION  
LEONARD ROAD OVER TUTTLEVILLE DRAIN  
AKRON TOWNSHIP  
SECTION 35, T15N - R8E

TITLE SHEET

BY	DATE	W.O. 79-292	SHEET NO.
KJO	01/12		OF 7
CHK	DATE		
SJP	01/12		

**DESCRIPTION OF EXISTING BRIDGE**

THE EXISTING STRUCTURE IS A 41'x10.67'x6.17' CSP ARCH CULVERT WITH BROKEN CONCRETE SLAB HEADWALLS. TO BE REMOVED

**BENCH MARKS**

BM 1  
RR SPIKE IN PP EL. 99.37  
STA. 1+13.39 58.7' LT.

BM 2  
RR SPIKE IN PP EL. 98.17  
S89°45'44"W 86.5'  
FROM SEC. COR.

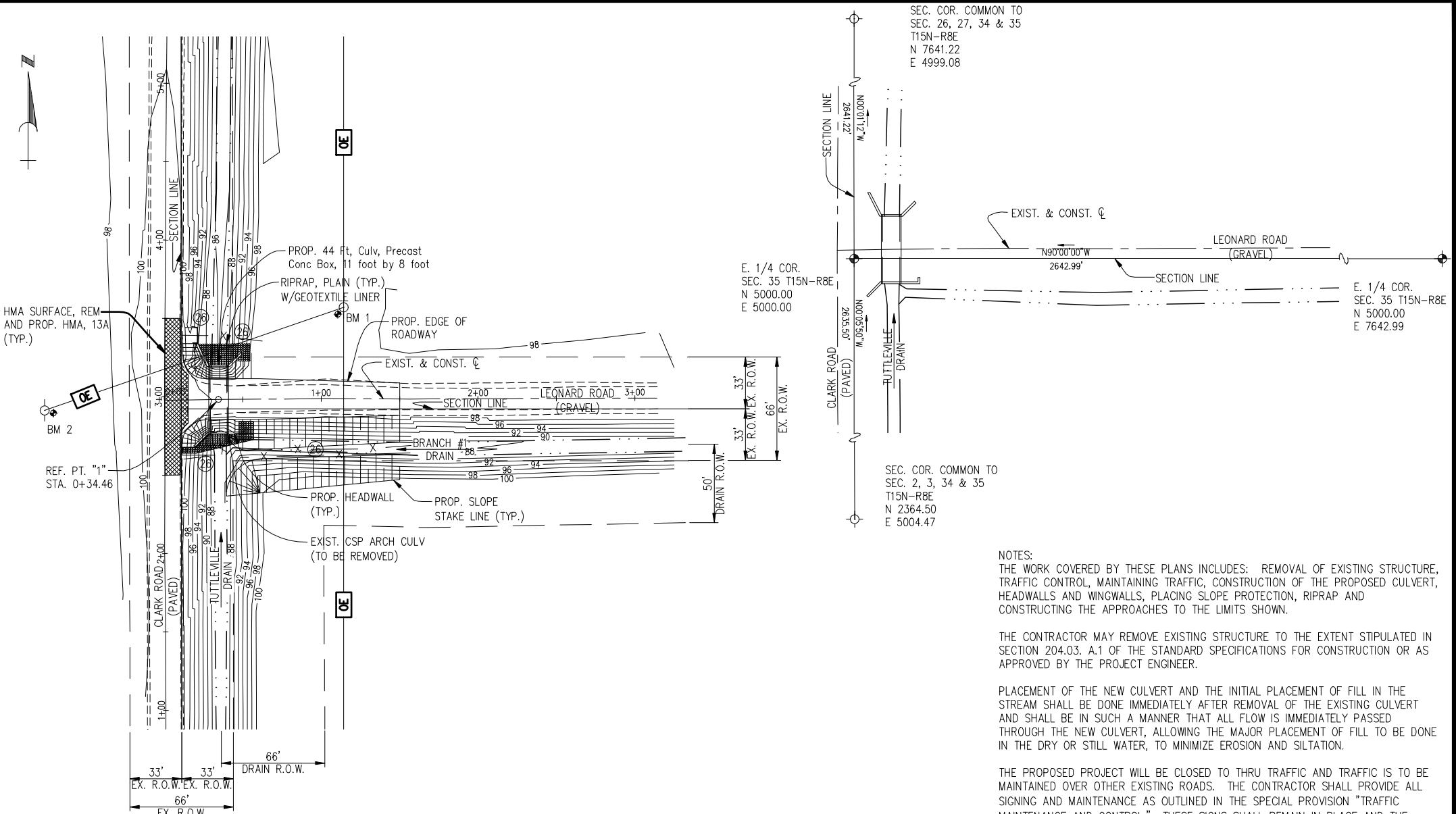
**SUMMARY OF HYDRAULIC ANALYSIS**

FLOOD DATA	DISCHARGE (CFS)	EXISTING		PROPOSED		CHANGE IN W.S. EL. 130 FT U/S OF PROPOSED STRUCTURE (FT)	
		WATER SURFACE EL. AT U/S FACE OF STRUCTURE (FT)	VELOCITY IN D/S CHANNEL (FT/S)	WATER SURFACE EL. AT U/S FACE OF STRUCTURE (FT)	VELOCITY IN D/S CHANNEL (FT/S)		WATERWAY AREA AT D/S FACE (SFT)
50-YEAR	380	92.80	3.88	93.29	3.97	77.78	-0.64
100-YEAR	450	92.98	4.13	94.23	4.24	81.25	-0.85

MAXIMUM BRIDGE AREA BELOW LOW CHORD IS 86 SQUARE FEET

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS 4.4 SQUARE MILES.

THE WATER SURFACE AND/OR ENERGY GRADE ELEVATIONS SHOWN ON THE ABOVE HYDRAULIC TABLE ARE TO BE USED FOR COMPARISON PURPOSES ONLY AND ARE NOT TO BE USED FOR ESTABLISHING A REGULATOR FLOODPLAIN. THE ELEVATIONS MAY BE USED PROVIDED THEY ARE VERIFIED WITH THE LAND AND WATER MANAGEMENT DIVISION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.



SEC. COR. COMMON TO SEC. 26, 27, 34 & 35  
T15N-R8E  
N 7641.22  
E 4999.08

E. 1/4 COR. SEC. 35 T15N-R8E  
N 5000.00  
E 5000.00

E. 1/4 COR. SEC. 35 T15N-R8E  
N 5000.00  
E 7642.99

SEC. COR. COMMON TO SEC. 2, 3, 34 & 35  
T15N-R8E  
N 2364.50  
E 5004.47

**NOTES:**  
THE WORK COVERED BY THESE PLANS INCLUDES: REMOVAL OF EXISTING STRUCTURE, TRAFFIC CONTROL, MAINTAINING TRAFFIC, CONSTRUCTION OF THE PROPOSED CULVERT, HEADWALLS AND WINGWALLS, PLACING SLOPE PROTECTION, RIPRAP AND CONSTRUCTING THE APPROACHES TO THE LIMITS SHOWN.

THE CONTRACTOR MAY REMOVE EXISTING STRUCTURE TO THE EXTENT STIPULATED IN SECTION 204.03. A.1 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OR AS APPROVED BY THE PROJECT ENGINEER.

PLACEMENT OF THE NEW CULVERT AND THE INITIAL PLACEMENT OF FILL IN THE STREAM SHALL BE DONE IMMEDIATELY AFTER REMOVAL OF THE EXISTING CULVERT AND SHALL BE IN SUCH A MANNER THAT ALL FLOW IS IMMEDIATELY PASSED THROUGH THE NEW CULVERT, ALLOWING THE MAJOR PLACEMENT OF FILL TO BE DONE IN THE DRY OR STILL WATER, TO MINIMIZE EROSION AND SILTATION.

THE PROPOSED PROJECT WILL BE CLOSED TO THRU TRAFFIC AND TRAFFIC IS TO BE MAINTAINED OVER OTHER EXISTING ROADS. THE CONTRACTOR SHALL PROVIDE ALL SIGNING AND MAINTENANCE AS OUTLINED IN THE SPECIAL PROVISION "TRAFFIC MAINTENANCE AND CONTROL." THESE SIGNS SHALL REMAIN IN PLACE AND THE ROAD CLOSED TO THRU TRAFFIC UNTIL SUCH TIME AS THE ENGINEER APPROVES OPENING THE ROAD TO TRAFFIC.

EXISTING SIGNS WITHIN THE LIMITS OF WORK SHALL BE SALVAGED AND STOCKPILED ON SITE. EXISTING SIGNS WHICH CAN BE USED FOR PERMANENT TRAFFIC CONTROL AT COMPLETION OF CONSTRUCTION SHALL BE RE-ERECTED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY AND ALL PERMITS REQUIRED UNDER THE SOIL EROSION AND SEDIMENT CONTROL ACT (PART 91 OF PUBLIC ACT 451) OR ANY OTHER LEGALLY MANDATED PERMITS FOR OFF-SITE DISPOSAL OF SPOILS GENERATED BY THIS WORK.

THE WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF THE WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.

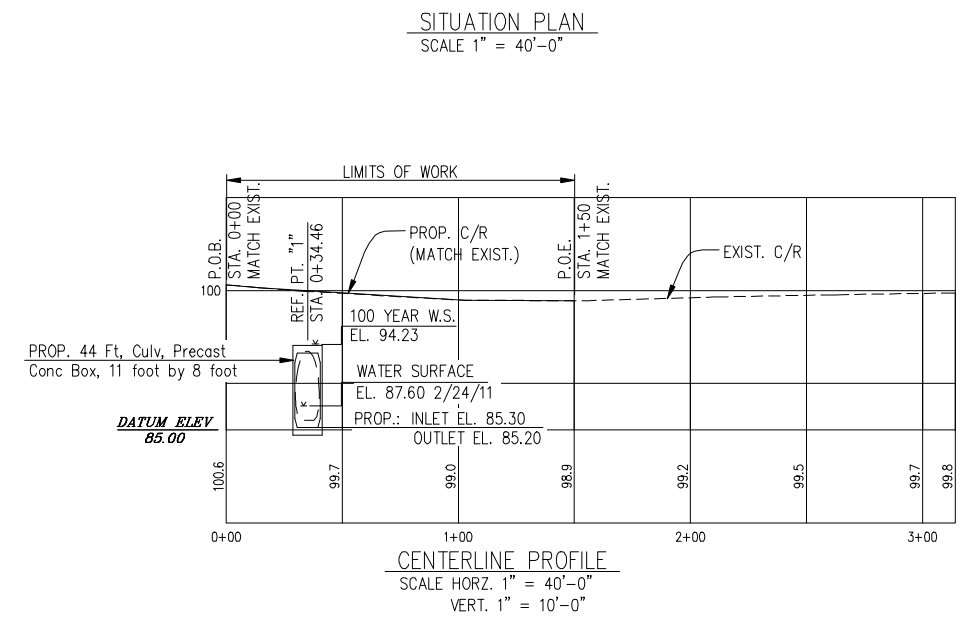
TEMPORARILY STORED EXCAVATED MATERIAL SHALL NOT BE ALLOWED TO ERODE INTO THE WATERCOURSE.

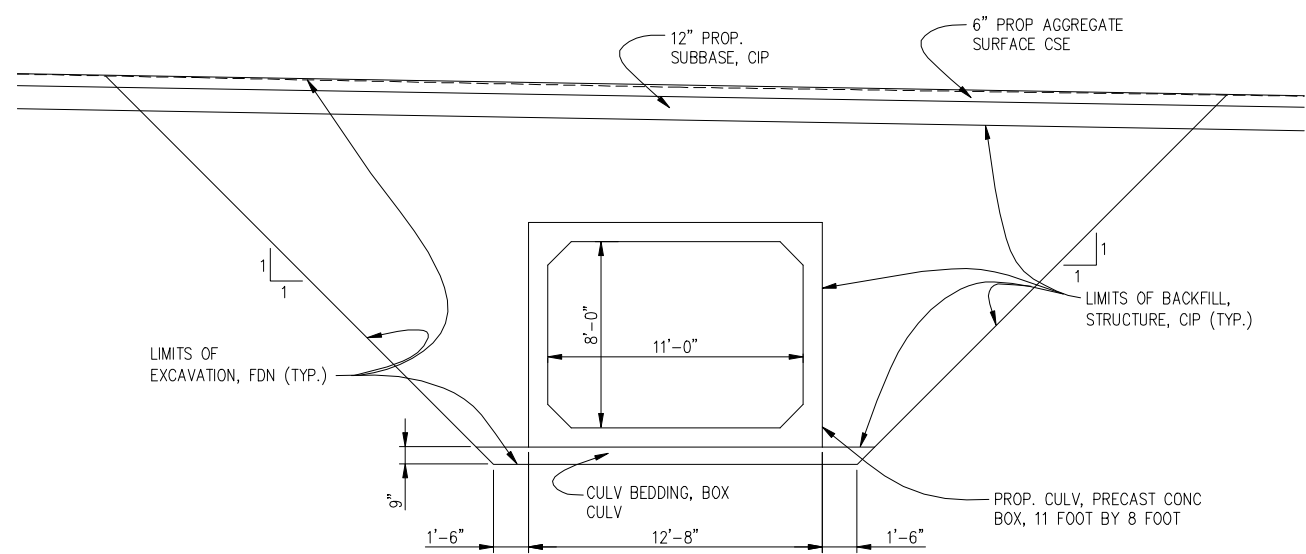
PLAN ELEVATIONS REFER TO LOCAL DATUM.

ALL OFFSET DIMENSIONS ARE TAKEN FROM THE CONSTRUCTION CENTERLINE.

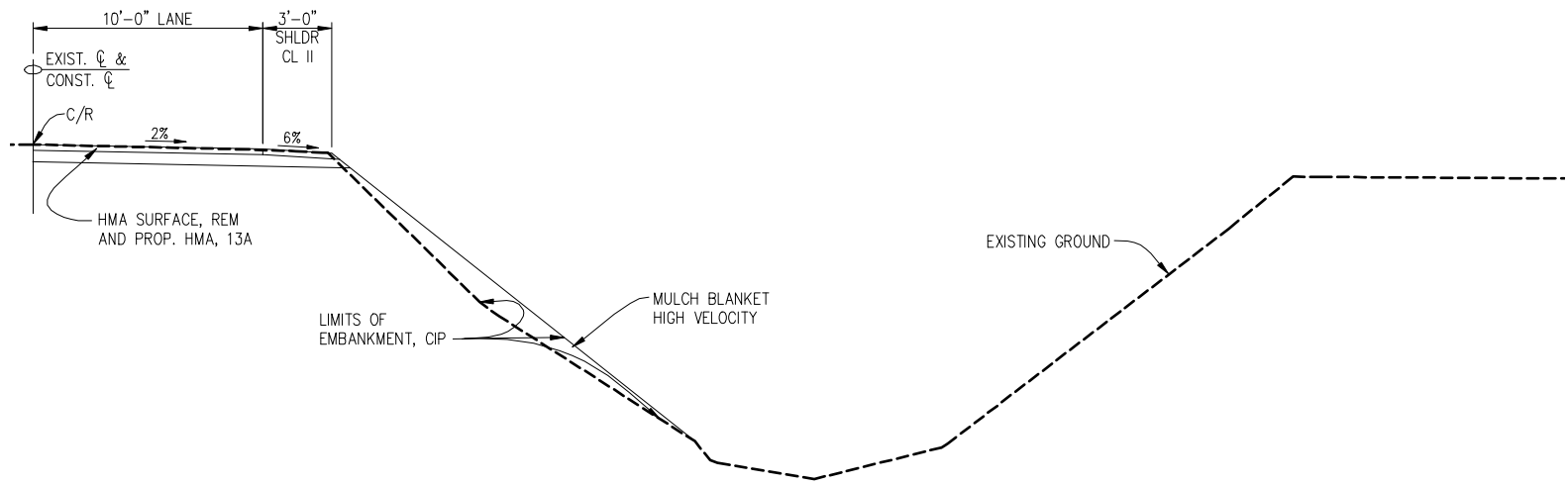
PUMPING AND WATER CONTROL DURING CONSTRUCTION IS INCLUDED IN PAYMENT WITH OTHER ITEMS OF WORK.

Ⓣ REFERS TO LEGEND IN STANDARD PLAN R-96-SERIES.

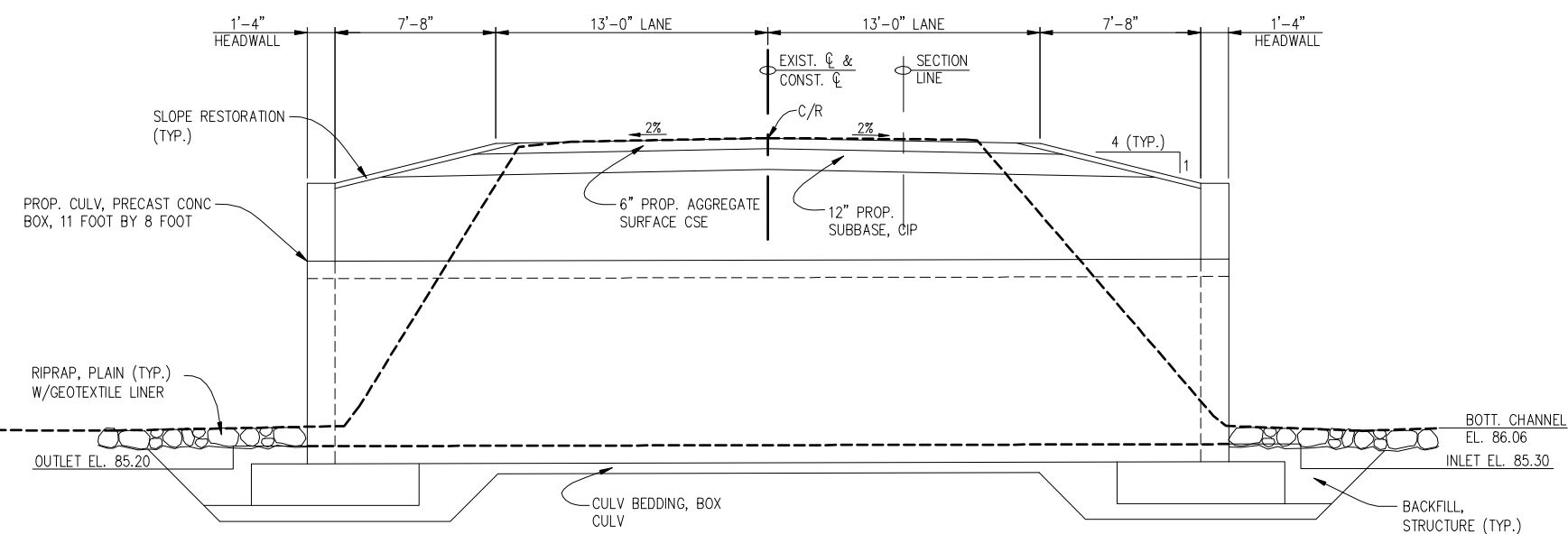




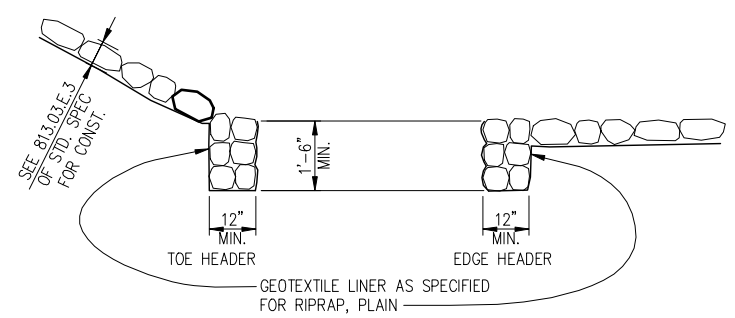
TYPICAL CULVERT SECTION



TYPICAL APPROACH SECTION  
(CLARK ROAD)

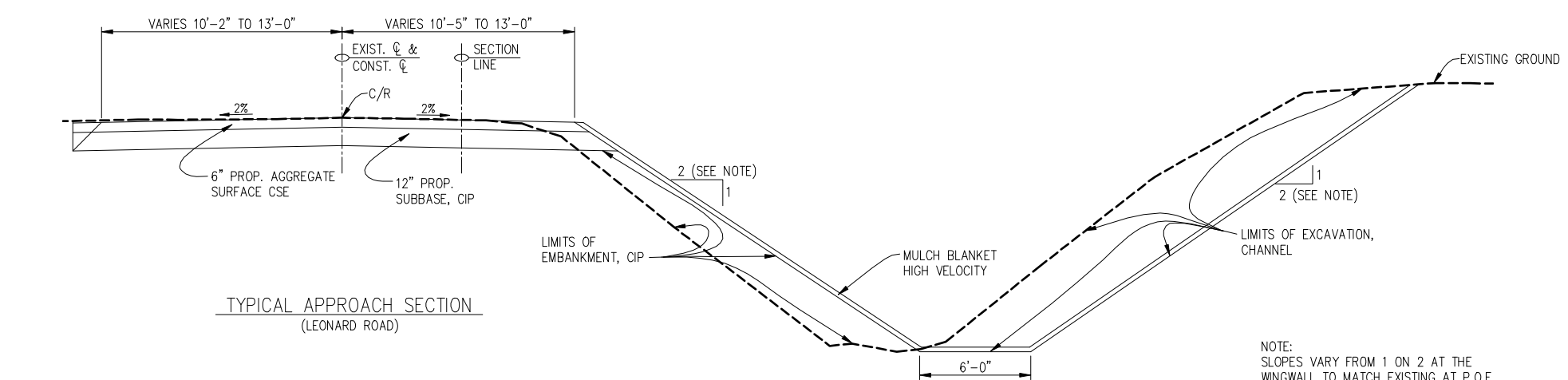


TYPICAL SECTION THROUGH CULVERT



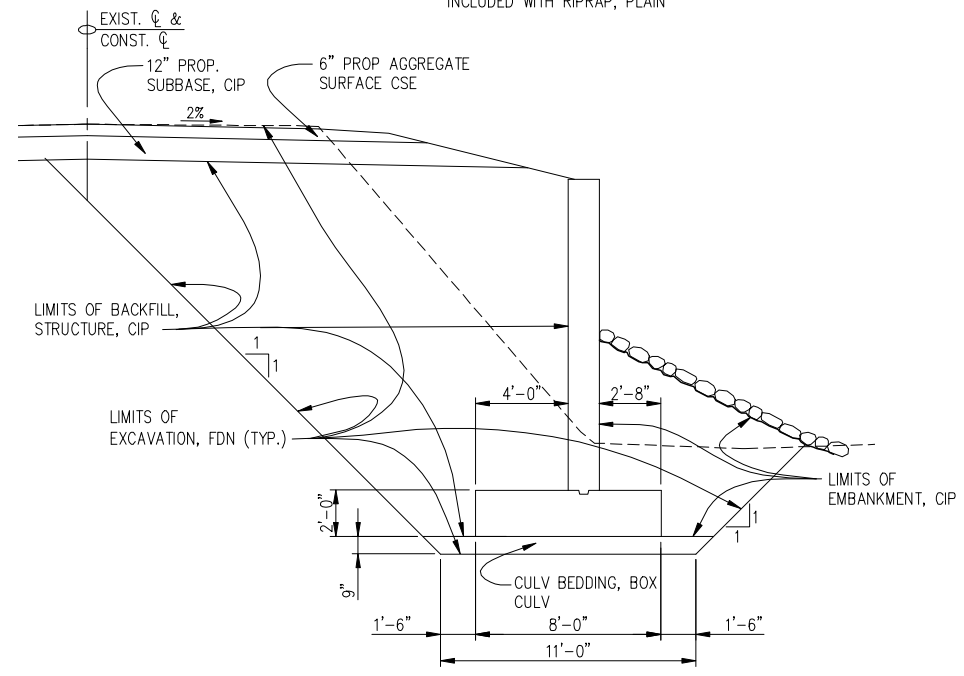
RIPRAP HEADER DETAILS

NOTE:  
HEADERS AND GEOTEXTILE LINERS ARE INCLUDED WITH RIPRAP, PLAIN



TYPICAL APPROACH SECTION  
(LEONARD ROAD)

NOTE:  
SLOPES VARY FROM 1 ON 2 AT THE WINGWALL TO MATCH EXISTING AT P.O.E.



WINGWALL SECTION



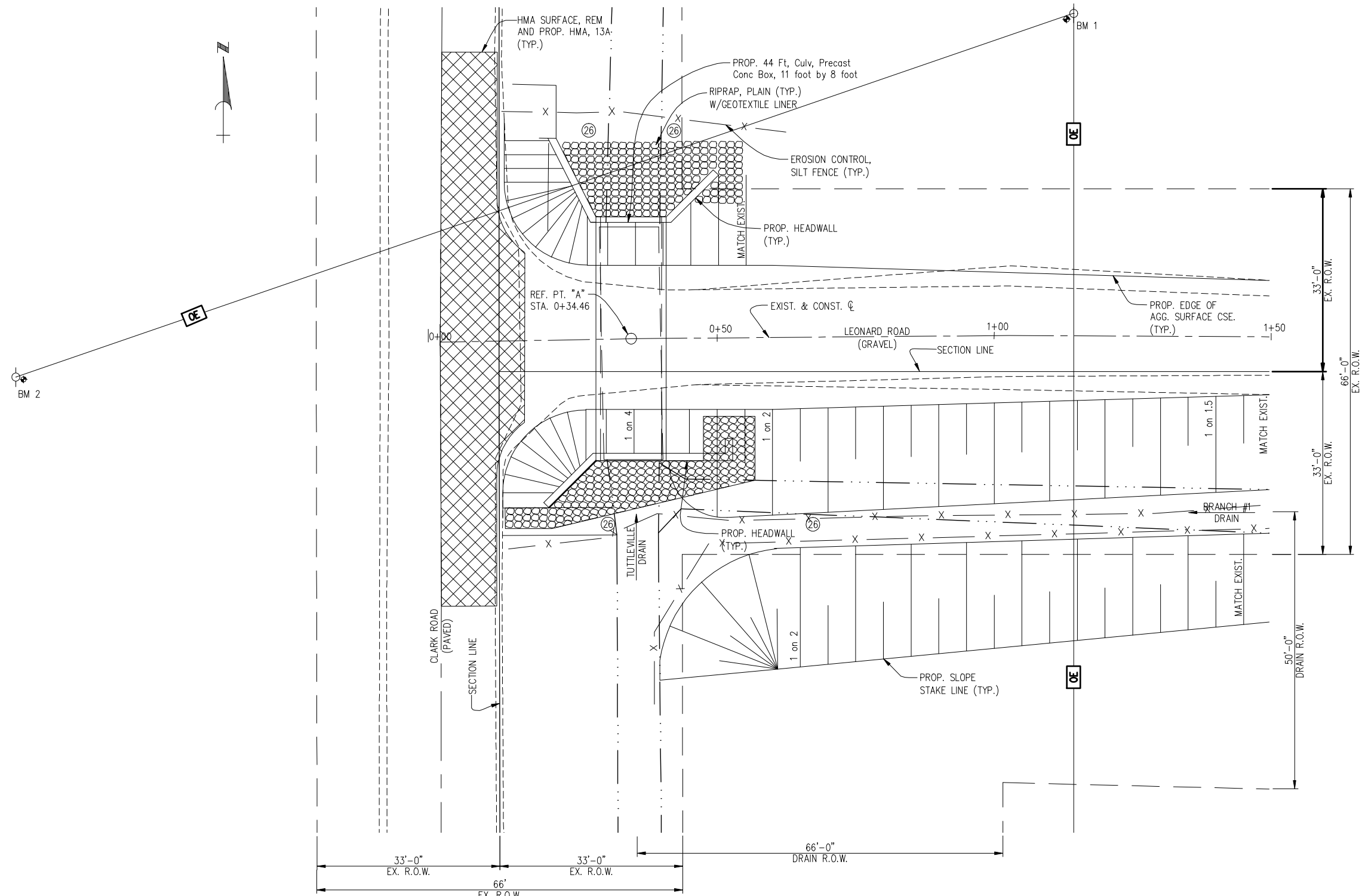
**R. S. SCOTT ASSOCIATES, INC.**  
ENGINEERING • ARCHITECTURE • SURVEYING

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

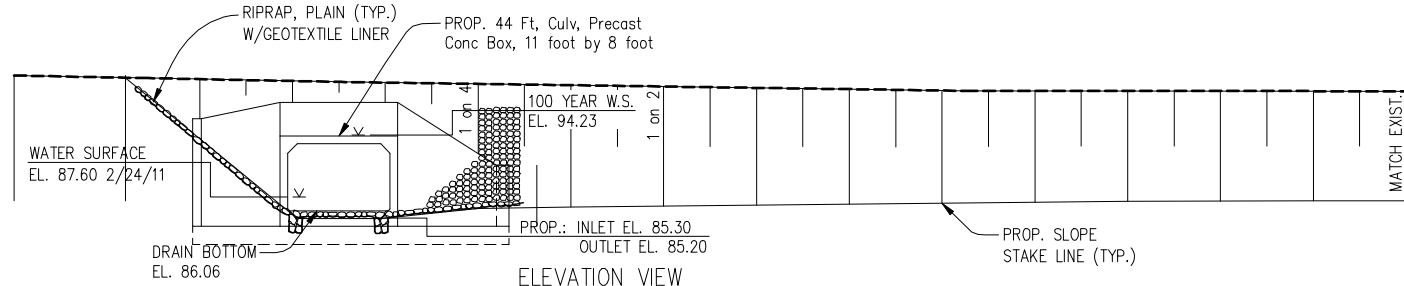
**TUSCOLA COUNTY ROAD COMMISSION**  
LEONARD ROAD OVER TUTTLEVILLE DRAIN  
AKRON TOWNSHIP  
SECTION 35, T15N - R8E

**APPROACH SECTIONS**

BY	DATE	W.O. 79-292	SHEET NO.
JMK	01/12		3
CHK	DATE		
SJP	01/12	OF 7	



PLAN VIEW



ELEVATION VIEW

NOTES:  
 ALL OFFSET DIMENSIONS ARE TAKEN FROM THE CONSTRUCTION CENTERLINE.  
 GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN PAYMENT FOR RIPRAP.



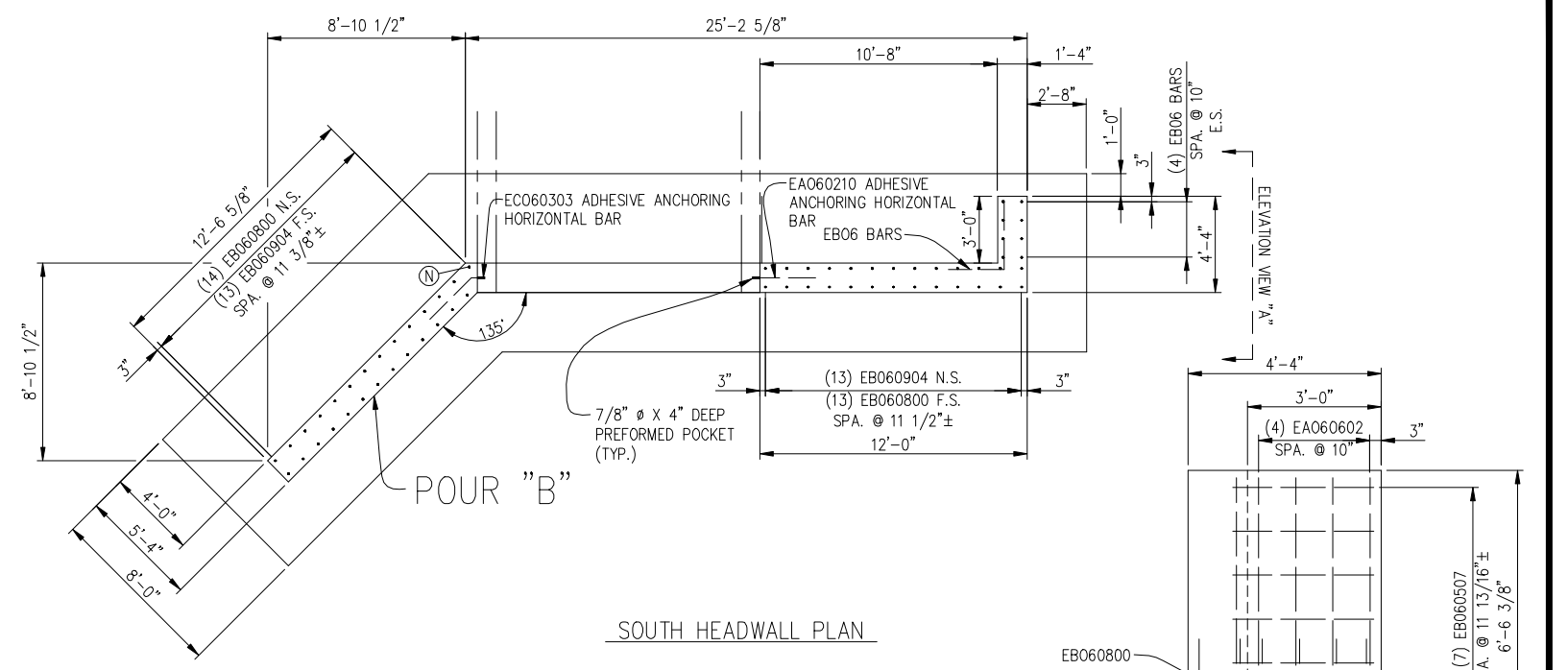
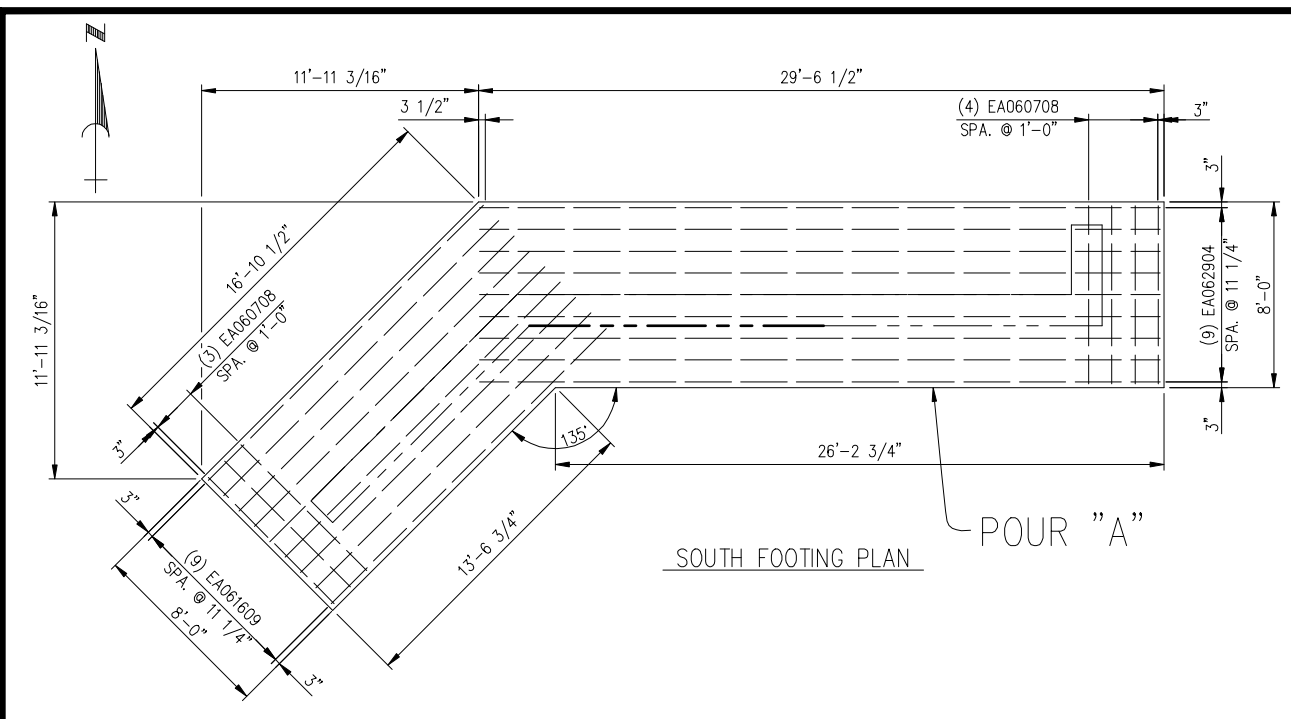
**R. S. SCOTT ASSOCIATES, INC.**  
 ENGINEERING • ARCHITECTURE • SURVEYING

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

**TUSCOLA COUNTY ROAD COMMISSION**  
 LEONARD ROAD OVER TUTTLEVILLE DRAIN  
 AKRON TOWNSHIP  
 SECTION 35, T15N - R8E

**PLAN OF STRUCTURE**

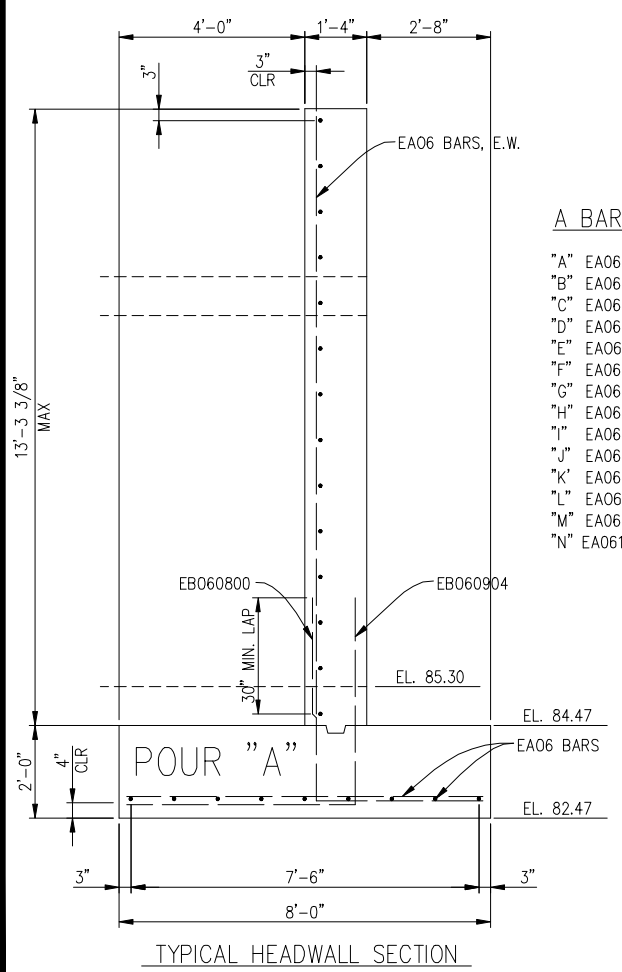
BY	DATE	W.O. 79-292	SHEET NO.
JMK	01/12		
CHK	DATE	OF	
SJP	01/12		7



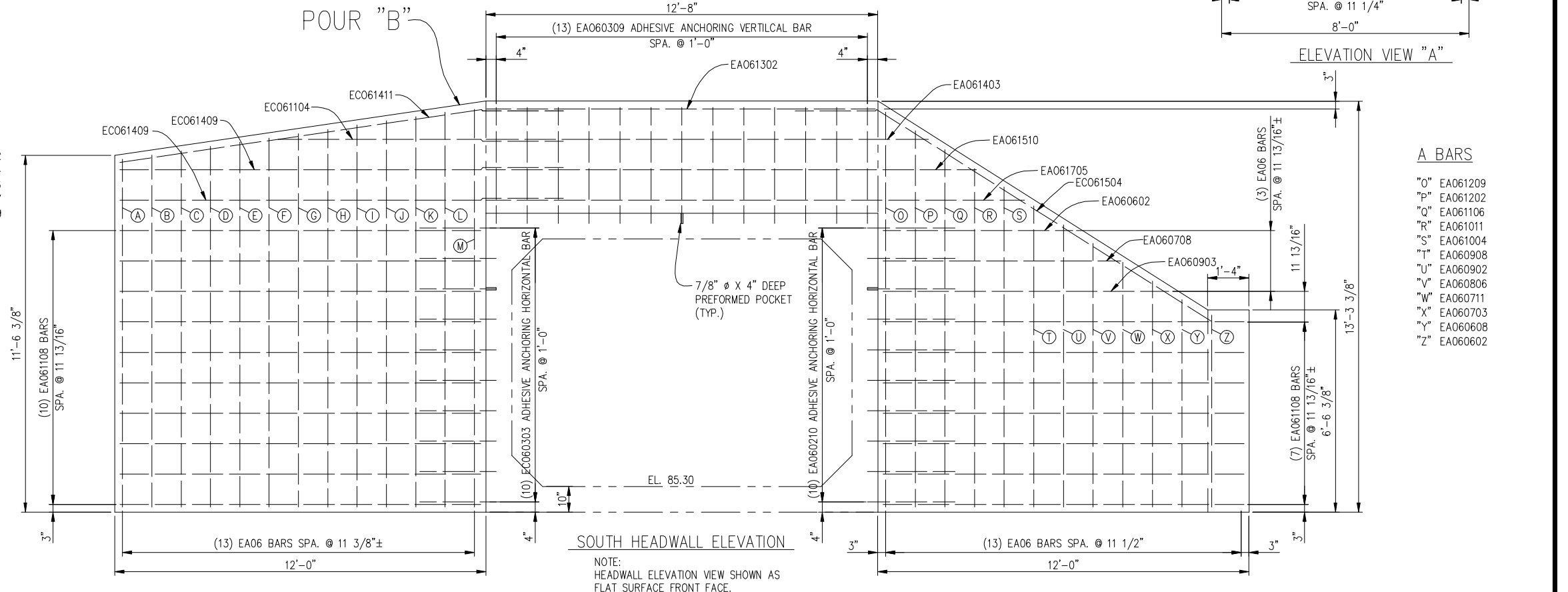
**SUBSTRUCTURE CONCRETE (S2)**

LOCATION	HEADWALL	UNIT
POUR "A"	25.6	CYD
POUR "B"	16.6	CYD
SUBTOTAL	42.2	CYD

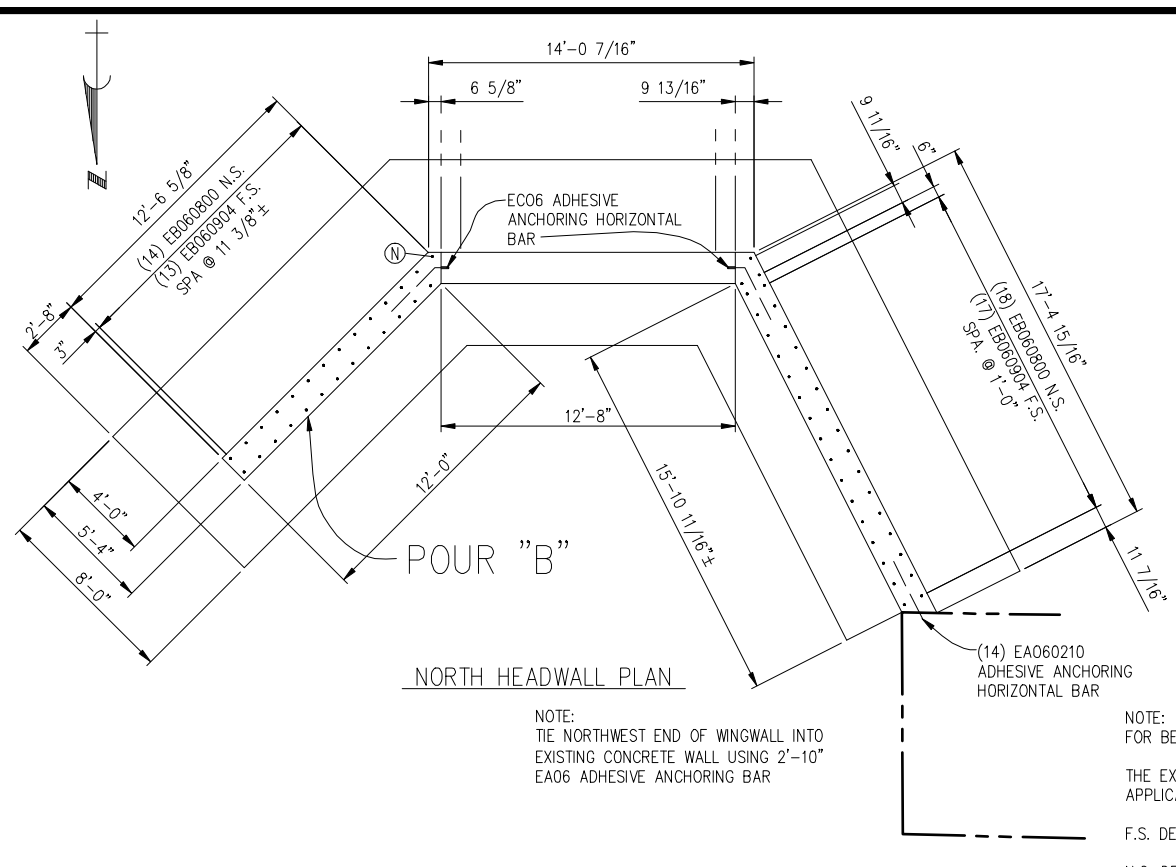
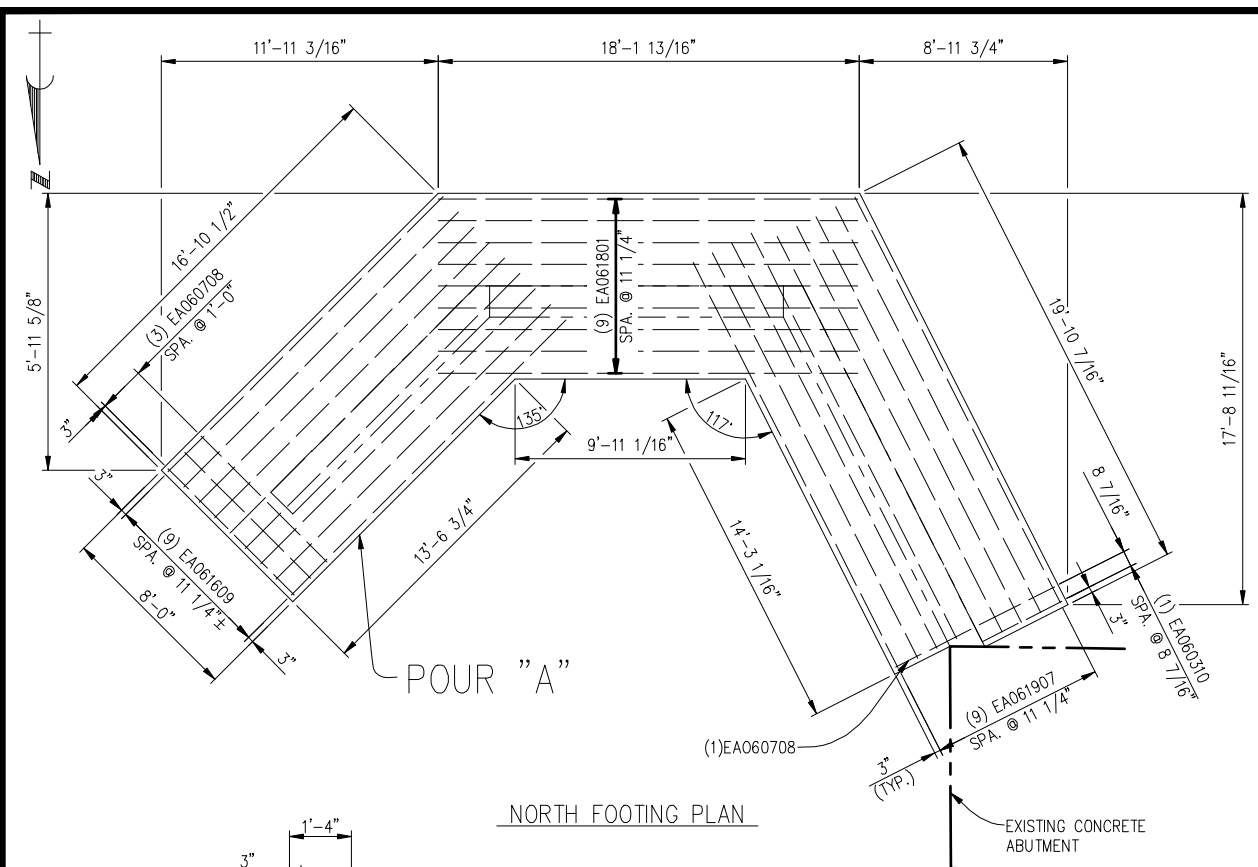
NOTES:  
 FOR BEVEL AND MOLDING DETAILS SEE STANDARD B-103 SERIES.  
 THE EXPOSED TOPS OF SUBSTRUCTURE UNITS ARE TO BE GIVEN AN APPLICATION OF WATER REPELLENT TREATMENT.  
 F.S. DENOTES FAR SIDE.  
 N.S. DENOTES NEAR SIDE.  
 E.S. DENOTES EACH SIDE.



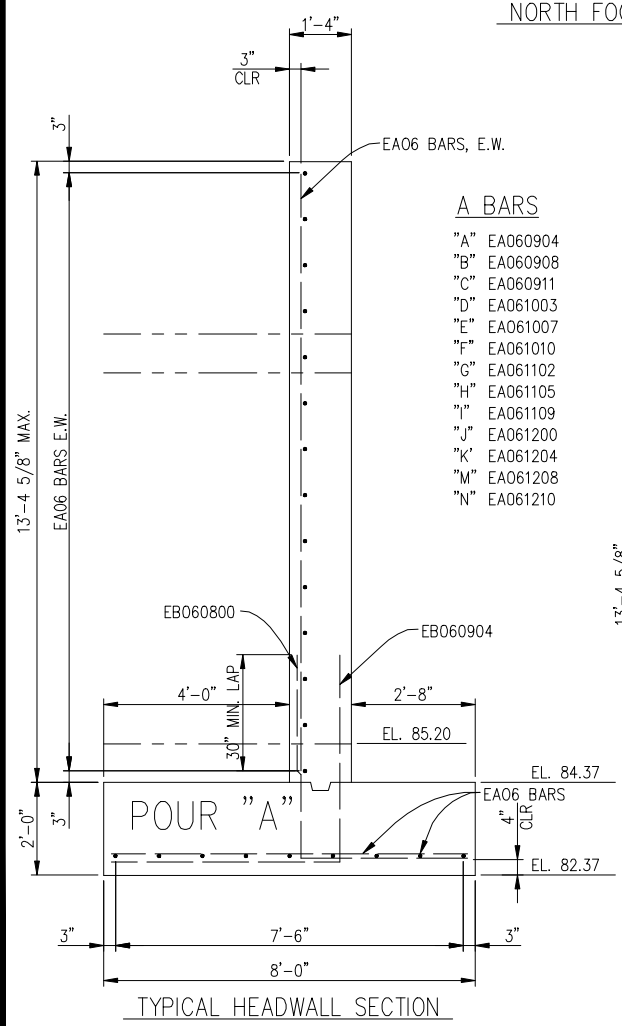
- A BARS**
- "A" EA061102
  - "B" EA061104
  - "C" EA061106
  - "D" EA061108
  - "E" EA061109
  - "F" EA061111
  - "G" EA061201
  - "H" EA061202
  - "I" EA061204
  - "J" EA061206
  - "K" EA061207
  - "L" EA061209
  - "M" EA061210
  - "N" EA061211



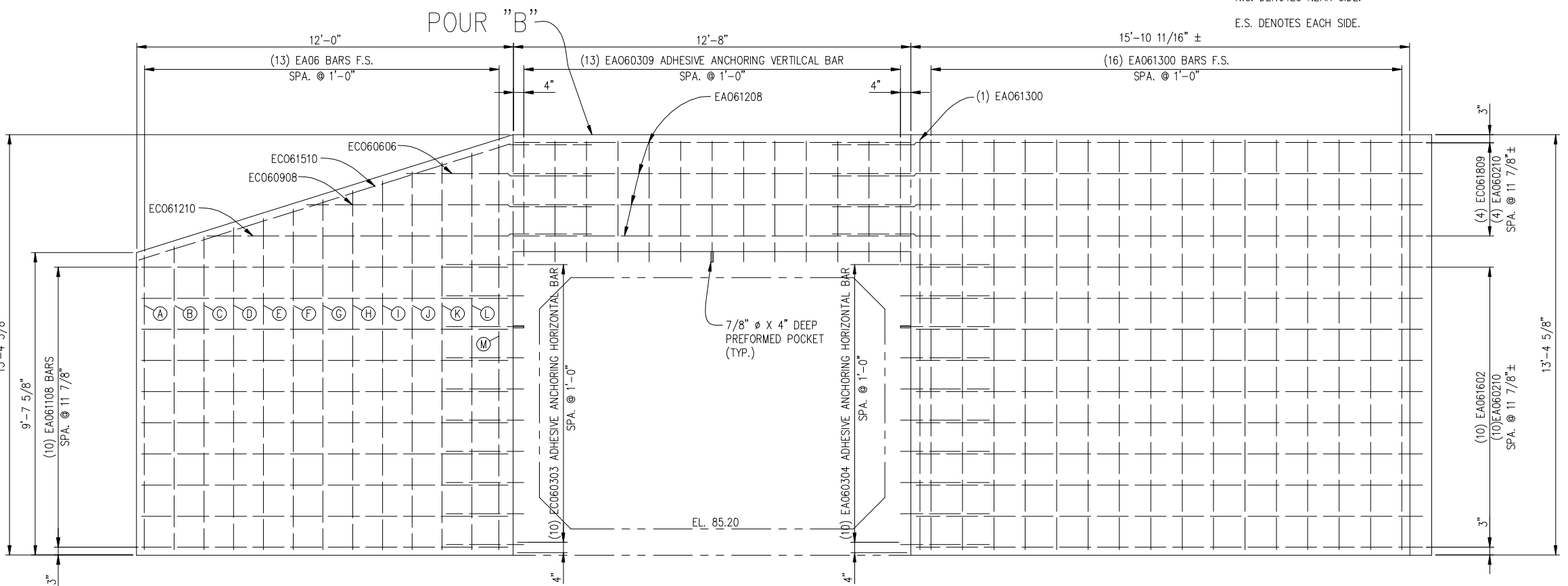
- A BARS**
- "O" EA061209
  - "P" EA061202
  - "Q" EA061106
  - "R" EA061011
  - "S" EA061004
  - "T" EA060908
  - "U" EA060902
  - "V" EA060806
  - "W" EA060711
  - "X" EA060703
  - "Y" EA060608
  - "Z" EA060602



SUBSTRUCTURE CONCRETE (S2)		
LOCATION	HEADWALL	UNIT
POUR "A"		27.5 CYD
POUR "B"		20.8 CYD
SUBTOTAL		48.3 CYD



- A BARS**
- "A" EA060904
  - "B" EA060908
  - "C" EA060911
  - "D" EA061003
  - "E" EA061007
  - "F" EA061010
  - "G" EA061102
  - "H" EA061105
  - "I" EA061109
  - "J" EA061200
  - "K" EA061204
  - "L" EA061208
  - "M" EA061210



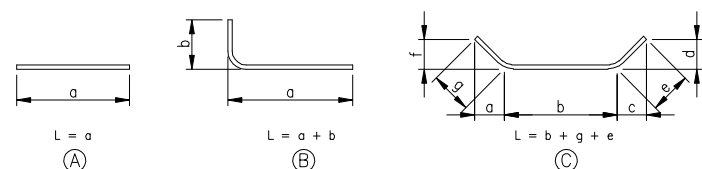
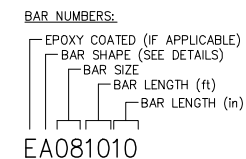
**NORTH HEADWALL ELEVATION**  
 NOTE:  
 WINGWALL ELEVATION VIEW SHOWN AS  
 FLAT SURFACE FRONT FACE.

NOTE:  
 FOR BEVEL AND MOLDING DETAILS SEE STANDARD PLAN B-103-SERIES.  
 THE EXPOSED TOPS OF SUBSTRUCTURE UNITS ARE TO BE GIVEN AN  
 APPLICATION OF WATER REPELLENT TREATMENT PENETRATING.  
 F.S. DENOTES FAR SIDE.  
 N.S. DENOTES NEAR SIDE.  
 E.S. DENOTES EACH SIDE.

STEEL REINFORCEMENT, EPOXY COATED - SOUTH HEADWALL													
MARK	DIMENSIONS								SIZE	LENGTH	NO. REQ'D	TOTAL WT.	
	a	b	c	d	e	f	g	h					
EA060708	7'-8"								#6	7'-8"	7	81	
EA061609	16'-9"								#6	16'-9"	9	226	
EA062904	29'-4"								#6	29'-4"	9	397	
EB060800	4'-5"	3'-7"							#6	8'-0"	31	372	
EB060904	4'-5"	4'-11"							#6	9'-4"	30	421	
EA060210	2'-10"								#6	2'-10"	10	43	
EA060309	3'-9"								#6	3'-9"	13	73	
EA061102	11'-2"								#6	11'-2"	1	17	
EA061104	11'-4"								#6	11'-4"	1	17	
EA061106	11'-6"								#6	11'-6"	1	17	
EA061108	11'-8"								#6	11'-8"	1	18	
EA061109	11'-9"								#6	11'-9"	1	18	
EA061111	11'-11"								#6	11'-11"	1	18	
EA061201	12'-1"								#6	12'-1"	1	18	
EA061202	12'-2"								#6	12'-2"	1	18	
EA061204	12'-4"								#6	12'-4"	1	19	
EA061206	12'-6"								#6	12'-6"	1	19	
EA061207	12'-7"								#6	12'-7"	1	19	
EA061209	12'-9"								#6	12'-9"	1	19	
EA061210	12'-10"								#6	12'-10"	1	19	
EA061211	12'-11"								#6	12'-11"	1	19	
EA061209	12'-9"								#6	12'-9"	1	19	
EA061202	12'-2"								#6	12'-2"	1	18	
EA061106	11'-6"								#6	11'-6"	1	17	
EA061011	10'-11"								#6	10'-11"	1	16	
EA061004	10'-4"								#6	10'-4"	1	16	
EA060908	9'-8"								#6	9'-8"	1	15	
EA060902	9'-2"								#6	9'-2"	1	14	
EA060806	8'-6"								#6	8'-6"	1	13	
EA060711	7'-11"								#6	7'-11"	1	12	
EA060703	7'-3"								#6	7'-3"	1	11	
EA060608	6'-8"								#6	6'-8"	1	10	
EA060602	6'-2"								#6	6'-2"	5	46	
EA061108	11'-8"								#6	11'-8"	17	298	
EA061302	13'-2"								#6	13'-2"	1	20	
EA061403	14'-3"								#6	14'-3"	1	21	
EA061510	15'-10"								#6	15'-10"	1	24	
EA061705	17'-5"								#6	17'-5"	1	26	
EA060602	6'-2"								#6	6'-2"	1	9	
EA060708	7'-8"								#6	7'-8"	1	12	
EA060903	9'-3"								#6	9'-3"	1	14	
EB060507	3'-1"	2'-5"							#6	5'-7"	7	59	
EC060303	0'-4 7/16"	2'-8"	0"	0"	0"	0'-4 7/16"	0'-7"		#6	3'-3"	10	49	
EC061409	1'-9 3/16"	12'-3"	0"	0"	0"	1'-9 3/16"	2'-6"		#6	14'-9"	2	44	
EC061104	1'-9 3/16"	8'-10"	0"	0"	0"	1'-9 3/16"	2'-6"		#6	11'-4"	1	17	
EC061411	1'-9"	12'-5"	0"	0"	0"	1'-9 7/16"	2'-6"		#6	14'-11"	1	22	
EC061504	2'-3"	12'-10"	0"	0"	0"	1'-4"	2'-6"		#6	15'-4"	1	23	
TOTAL SOUTH HEADWALL											2713		

STEEL REINFORCEMENT, EPOXY COATED - NORTH HEADWALL													
MARK	DIMENSIONS								SIZE	LENGTH	NO. REQ'D	TOTAL WT.	
	a	b	c	d	e	f	g	h					
EA060310	3'-10"								#6	3'-10"	1	6	
EA060708	7'-8"								#6	7'-8"	4	46	
EA061609	16'-9"								#6	16'-9"	9	226	
EA061801	18'-11"								#6	18'-11"	9	256	
EA061907	19'-7"								#6	19'-7"	9	265	
EB060800	4'-5"	3'-7"							#6	8'-0"	32	385	
EB060904	4'-5"	4'-11"							#6	9'-4"	30	421	
EA060210	2'-10"								#6	2'-10"	14	60	
EA060309	3'-9"								#6	3'-9"	13	73	
EA060904	9'-4"								#6	9'-4"	1	14	
EA060908	9'-8"								#6	9'-8"	1	15	
EA060911	9'-11"								#6	9'-11"	1	15	
EA061003	10'-3"								#6	10'-3"	1	15	
EA061007	10'-7"								#6	10'-7"	1	16	
EA061010	10'-10"								#6	10'-10"	1	16	
EA061102	11'-2"								#6	11'-2"	1	17	
EA061105	11'-5"								#6	11'-5"	1	17	
EA061109	11'-9"								#6	11'-9"	1	18	
EA061200	12'-0"								#6	12'-0"	1	18	
EA061204	12'-4"								#6	12'-4"	1	19	
EA061208	12'-8"								#6	12'-8"	1	19	
EA061210	12'-10"								#6	12'-10"	1	19	
EA061300	13'-0"								#6	13'-0"	18	351	
EA061108	11'-8"								#6	11'-8"	10	175	
EA061208	12'-8"								#6	12'-8"	4	76	
EA061602	16'-2"								#6	16'-2"	10	243	
EC060303	0'-5 11/16"	2'-7"	0"	0"	0"	0'-5 11/16"	0'-8"		#6	3'-3"	10	49	
EC060304	0'-4"	2'-8"	0"	0"	0"	0'-7 15/16"	0'-9"		#6	3'-4"	10	50	
EC061210	1'-9 3/16"	10'-4"	0"	0"	0"	1'-9 3/16"	2'-6"		#6	12'-10"	1	19	
EC060908	1'-9 3/16"	7'-2"	0"	0"	0"	1'-9 3/16"	2'-6"		#6	9'-8"	1	15	
EC060606	1'-9 3/16"	4'-0"	0"	0"	0"	1'-9 3/16"	2'-6"		#6	6'-6"	1	10	
EC061510	1'-9 3/16"	17'-0"	0"	0"	0"	2'-2 3/4"	2'-6"		#6	15'-10"	1	24	
EC061809	1'-9 9/16"	16'-3"	0"	0"	0"	2'-2 3/4"	2'-6"		#6	18'-9"	4	113	
TOTAL NORTH HEADWALL											3081		

NOTES:  
 TOLERANCES IN CUTTING AND BENDING BARS ARE AS ESTIMATED IN THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE AND DETAILING MANUAL OF THE AMERICAN CONCRETE INSTITUTE.  
 ALL BENDS IN REINFORCING STEEL TO BE MADE ABOUT A PIN OF THE MINIMUM DIAMETER ALLOWED BY SPECIFICATIONS.



**Your bid will not be accepted unless the enclosed agreement is signed and returned with your bid.**

**AGREEMENT**

This agreement made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
by and between the Board of Tuscola County Road Commissioners and \_\_\_\_\_  
\_\_\_\_\_.

1. \_\_\_\_\_ hereby agrees to undertake the following work  
in the status of an independent contractor performing the following job:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Said contractor, \_\_\_\_\_, shall at all times exercise extreme care and shall assume any and all liability for property damage or bodily injury resulting from the above operation by this employees, agents, assigns, sub-contractors and anyone else acting under his control or direction; and will indemnify, hold harmless and defend the Tuscola County Road Commission, its Commissioners or employees from any and all claims for property damage or bodily injury arising out of this Agreement.

3. Said contractor, \_\_\_\_\_, while engaged in said job shall maintain and furnish certificates of insurance, naming the Tuscola County Road Commission and Commissioners as **an additional insured** under the policy, with policy limits of \$500,000/\$1,000,000 for property damage and bodily injury, and **shall** furnish the Tuscola County Road Commission copies of said certificates of insurance prior to commencing any work on said project. Additionally, said contractor, \_\_\_\_\_, shall furnish prior to start of said job with the Board of Tuscola County Road Commissioners, a policy of insurance certifying he carries and has in effect worker's compensation insurance on all those required to be covered under Michigan law.

4. The address of the Board of Tuscola County Road Commissioners is 1733 S. Mertz Rd., Caro, MI 48723.

Witnessed:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Board of Tuscola County Road Commissioners

\_\_\_\_\_  
Contractor

TUSCOLA COUNTY  
ROAD COMMISSION  
“AN EQUAL OPPORTUNITY EMPLOYER”

SPECIAL PROVISION  
FOR  
MAINTAINING TRAFFIC  
1 of 1

GENERAL

Traffic shall be maintained in accordance with Sections 103.05, 103.06, 812, and 922 of the 2003 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, including any Supplemental Specifications, and as herein specified.

CONSTRUCTION INFLUENCE AREA

The construction influence area (CIA) shall consist of the width of the project right-of-way from 3,500 feet before the project P.O.B. to 3,500 feet beyond the project P.O.E. and 500 feet in all directions along all cross roads.

TRAFFIC CONTROL DEVICES

All traffic control devices and their usage shall conform to the Michigan Manual on Uniform Traffic Control Devices (MMUTCD), 2005 edition as amended, and as herein specified.

Sign covers shall be placed over existing regulatory, warning and construction signs that are not applicable during construction.

Signing for a lane closure shall be according to attached MDOT Maintaining Traffic Typical Figure M0150a. The use of the speed limit signs, R 2-1, will be as needed.

Sheeting shall conform to Engineer grade reflective sheeting and must meet the requirements for ASTM D 4956 Type I engineer grade sheeting, as per section 922.02B, of the 2003 Standard Specifications for Construction.

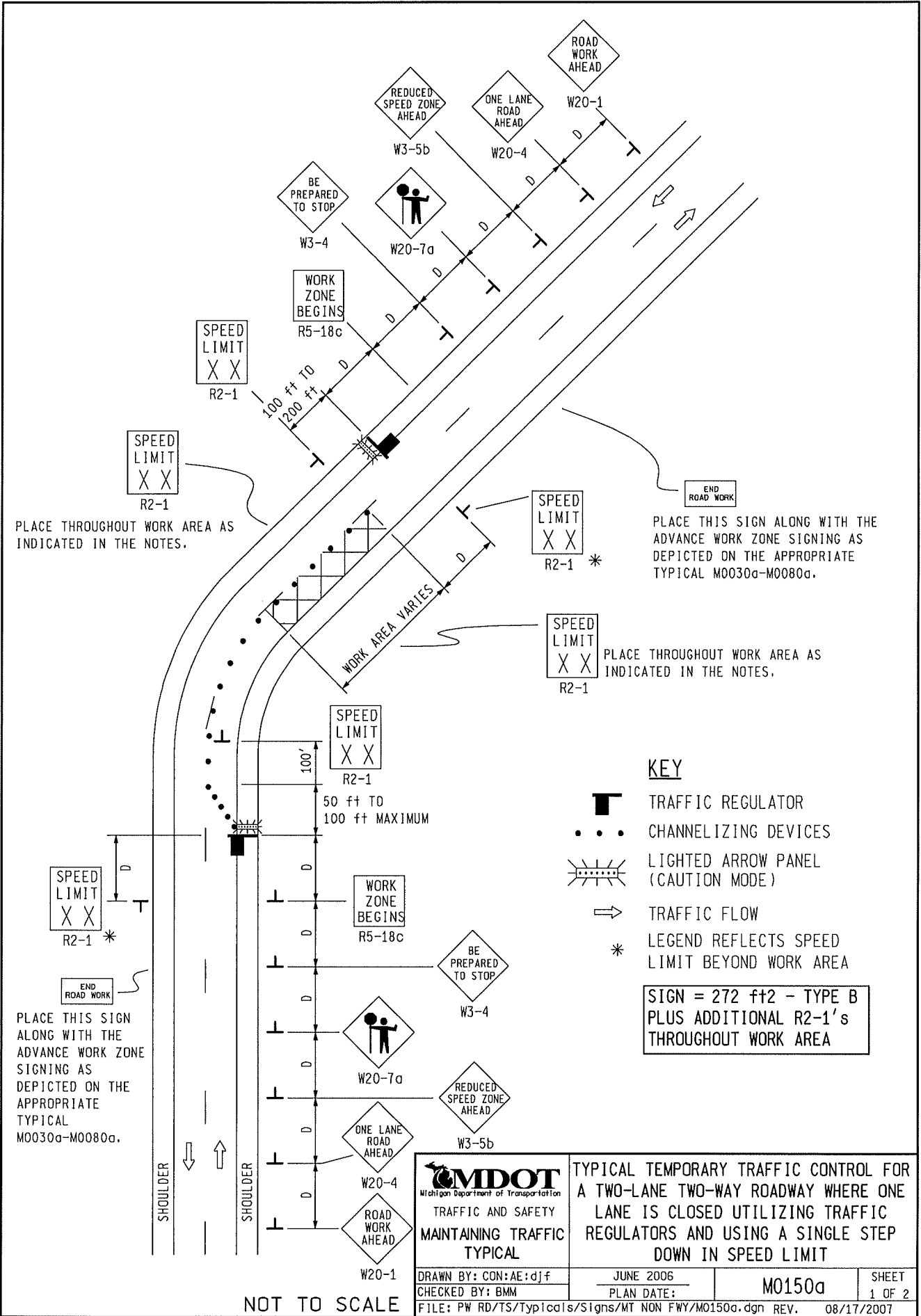
TRAFFIC RESTRICTIONS

Work shall be conducted during daylight hours only. No work shall be conducted on Sundays unless approved by the Engineer.

The maximum distance between the traffic regulators shall be no more than 2 miles in length. All sequences of more than 2 miles in length will require written permission from the Engineer before proceeding.

PAYMENT

Payment for Maintaining Traffic shall be included in other Bid unit prices. There will be no separate payment for Maintaining Traffic.



PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

**KEY**

- TRAFFIC REGULATOR
- CHANNELIZING DEVICES
- LIGHTED ARROW PANEL (CAUTION MODE)
- TRAFFIC FLOW
- LEGEND REFLECTS SPEED LIMIT BEYOND WORK AREA

**SIGN = 272 ft<sup>2</sup> - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA**

 Michigan Department of Transportation <b>TRAFFIC AND SAFETY</b> <b>MAINTAINING TRAFFIC TYPICAL</b>		<b>TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT</b>	
DRAWN BY: CON:AE:djf		JUNE 2006	
CHECKED BY: BMM		PLAN DATE:	
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn		M0150a	SHEET 1 OF 2
		REV. 08/17/2007	

NOT TO SCALE


## NOTES

- 1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS  
SEE **M0020a** FOR "D" VALUES.
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- 3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- 4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, CHANNELIZING DEVICES SHALL BE LIGHTED PLASTIC DRUMS.
6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE 2005 EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.
9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.
- 9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.
10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."
11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.
- 12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.
13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.
14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.
15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.
- 16A. ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT, AND AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED ARE MORE THAN TWO MILES APART.
- 16B. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.
- 16E. WHEN EXISTING SPEED LIMITS ARE REDUCED MORE THAN 10 MPH, THE SPEED LIMIT SHALL BE STEPPED DOWN IN NO MORE THAN 10 MPH INCREMENTS.
- 28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

### SIGN SIZES

DIAMOND WARNING - 48" x 48"  
 RECTANGULAR REGULATORY - 48" x 60"  
 R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT		
DRAWN BY: CON:AE:djff	JUNE 2006	M0150a	SHEET
CHECKED BY: BMM	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn REV. 08/17/2007			

TUSCOLA COUNTY ROAD COMMISSION  
TITLE IV COMPLIANCE  
APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor shall comply with the Regulations relative to non-discrimination in Federally-assisted programs of the Department of Transportation, Title 49, code of Federal Regulations, Part 21 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulation, including employment practices when the contractor covers a program set forth in Appendix B of the Regulations.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the **Tuscola County Road Commission** to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses this information, the contractor shall so certify to the State highway department, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.
5. **Sanctions for Non-compliance:** In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the **Tuscola County Road Commission** shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
  - (a) Withholding of payments to the contractor under the contract until the contractor complies, and/or
  - (b) Cancellation, termination or suspension of the contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs(1) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issues pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the **Tuscola County Road Commission** may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the **Tuscola County Road Commission** to enter into such litigation to protect the interests of the County, and, in addition, the contractor may request the State highway department to enter into such litigation to protect the interests of the State and/or the United States to enter into such litigation to protect the interests of the United States.

“The **TUSCOLA COUNTY ROAD COMMISSION**, in accordance with Title VI of the Civil Rights Act of 1964, 78-252, 42 U.S.C. 2000d-222d-4, the Civil Rights Act of 1987, P.L. 100-259, and Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, Part 21, Non-discrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprise firms will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of Race, Color, Sex, Age, National Origin, or Handicap in consideration for an award. For additional compliance information, please see Appendix A.”