

## APPENDIX C

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### SAFETY

#### C.1 Safety Guidelines

The purpose of this appendix is to provide general guidance to the professional providing surveying services to the Michigan Department of Transportation. It is not intended to be an all inclusive capsule of federal, state and local laws, regulations or policies. The surveyor/consultant is responsible for providing and maintaining a safe working environment and to develop and maintain training programs and policies for compliance. The following Internet sites may be of assistance.

The Occupational Safety and Health Act of 1970 as amended on July 15, 1998.

[http://www.osha-slc.gov/OshAct\\_toc/OshAct\\_toc\\_by\\_sect.html](http://www.osha-slc.gov/OshAct_toc/OshAct_toc_by_sect.html)

OSHA Home Page

<http://www.osha.gov>

The Michigan Occupational Safety and Health Act

<http://www.michiganlegislature.org/law>

MIOSHA Checklist

[http://www.ci.holland.mi.us/michiefs/SOP\\_pages/MIOSHA.htm](http://www.ci.holland.mi.us/michiefs/SOP_pages/MIOSHA.htm)

Michigan Department of Consumer and Industry Services

<http://www.commerce.state.mi.us/services.htm>

#### C.2 Employer Responsibility

1. Provide all employees, the appropriate personal protective equipment, in accordance with this policy, to safely accomplish each task assigned.
2. Require employees to wear personal protective equipment prescribed by all applicable MIOSHA Standards, rules, etc., and good safety practices.

3. Ensure that equipment which is worn in direct contact with the skin is sanitized before being reused by others.

### **C.3 Supervisor Responsibility**

1. Ensure that personal protective equipment is issued to employees.
2. Ensure that training is provided on the use of the personal protective equipment.
3. Enforce the use of the personal protective equipment.
4. Monitor the condition of an employee's personal protective equipment and arrange for replacement.
5. Monitor the treatment, cleaning, and the storage of personal protective equipment.
6. Ensure that work areas under their control are signed and or marked as to the wearing of personal protective equipment.
7. Ensure that prescription forms are made available for employees needing prescription safety glasses and the submitted forms are timely processed.
8. Ensure that protective equipment records are maintained.

### **C.4 Employee Responsibility**

1. Comply with all safety policies/regulations/standards, and practices of MIOSHA and the Michigan Department of Transportation.
2. Wear personal protective equipment in all designated areas (labs, field activities, etc.) or when otherwise directed to do so. Properly care for, clean, and store their personal protective equipment.
3. Immediately report to supervisor if personal protective equipment is lost, damaged or needs replacing for any reason.
4. Request guidance from their supervisor when in doubt on the proper use or application of the personal protective equipment.

### **C.5 Safety Equipment**

#### **C.5.1 Eye Protection**

Eye protection is a device used to protect eyes from injury by physical and chemical agents or by radiation (i.e. safety eye glasses, goggles, face shield).

The use of safety sun glasses is prohibited inside buildings or other areas where there is insufficient lighting. The use of photo-sensitizing lenses for safety glasses is not permitted by Michigan Occupational Safety and Health Act (MIOSHA). Safety glasses worn by employees must meet the current American National Standards Institute (ANSI) Z87.1 standards.

Eye protection must be worn outdoors while engaging in, inspecting, or observing any work activities, in building areas marked requiring eye protection, and in any activity where there is a chance of an eye injury.

Safety glasses must be equipped with side shields to eliminate the possibility of projectiles from entering the sides of the glasses.

Depending on the type of work being performed, safety glasses with side shields may not be enough protection. Examples of hazards requiring the use of face shields and/or goggles along with the safety glasses and side shields include the following:

1. Chemical splashes and vapors in areas where chemicals are mixed and poured, and where batteries are handled.
2. Flying fragments, large chip, particles, sand and dirt from work involving chipping, grinding, machining, masonry, and sanding.
3. Brush, limbs, and objects from work involving brush cutting, clearing and debris pickup, a mesh window in place of a face shield can be worn.
4. Burns from hot sparks in work involving pouring hot materials, electrical work, gas cutting, and welding.

When grinding, chipping, or cutting, approved goggles must be worn to eliminate any flying fragments from finding an opening into the eye.

When cutting or welding metal, welding goggles or a welding helmet with a tinted window must be worn.

### **C.5.2 Head Protection**

As defined by MIOSHA, a safety hard hat is a helmet which is held in place on the head by approved suspension and is worn to provide protection for the head against impact, flying or falling objects, electrical shock, or any combination thereof. The hard hat must be certified by the manufacturer that it complies with ANSI Standard Z89.1.

Head protection must be worn outdoors while engaging in, inspecting or observing work activities, in building areas marked as requiring head protection, and by all personnel engaged in any activity where there is a hazard from falling or flying objects, or other harmful contacts or exposures to head injury.

Hard hats do not have to be worn when inside a vehicle, but must be worn when operating equipment. Bump caps (which offer limited protection) are authorized only for mechanic foremen and mechanics while working in shop areas.

Hard hats must not be deliberately damaged, physically altered, or painted (shell becomes brittle) and must be worn as intended. No other head gear may be worn under a safety hard hat, except for an approved hard hat liner.

### **C.5.3 Foot Protection**

Foot or toe protection is a device such as, but not limited to, safety toe footwear, toe protectors, or foot guards that protect the foot or toes against injury. Safety toe footwear consist of a steel cap built in the boot or shoe. All approved safety toe foot wear will bear a mark to show the manufacture's name or trademark, and have the ANSI label Z41.1-75 affixed to the footwear.

Foot protection must be worn by all personnel engaging in , inspecting or observing field operation; in building areas requiring foot protection, and in any activity where there is a hazard for foot injury. Employees requiring foot protection must wear safety toe leather boots with a six inch or higher top. **NO ATHLETIC STYLE SAFETY FOOTWEAR IS PERMITTED.**

Additional foot protection, such as metatarsal guards, may be required when operating air hammers and other work which could cause injury to other areas of the foot. Footwear shall be maintained without holes due to rips or tears which will reduce the intended protection. When a hazard is created by chemicals or other irritants which could cause injury or impairment to the feet by absorption, rubber boots must be worn over the safety footwear. When working with hazardous substances , Material Safety Data Sheets (MSDS) should be consulted as to any recommendations for foot protection.

### **C.5.4 Hand Protection**

Hand protection are devices used to protect the hands from cuts, bruises, abrasions, dusts, vapors, moisture of hazardous substances and corrosive liquids. Generally, unless an entanglement hazard exists, employees should wear department issued leather-faced gloves when performing general work with the hands.

Loose fitting or gauntlet gloves shall not be worn around equipment which could catch on the glove, (examples being brush chippers, drills, or other rotating/moving pieces of equipment). When working with liquids or doing electrical work, appropriate rubber gloves shall be worn. Electrical work requires rubber insulating gloves and is covered in MIOSHA Construction Standard, Part 6 as to type and testing requirements. Guidance for using rubber/neoprene gloves when handling chemicals can be found in the Material Safety Data Sheet (MSDS) for the particular substance.

### **C.5.5 Hearing Protection**

Employees who are subjected to intense noise levels must wear hearing protection; however, anyone with a hearing loss must wear appropriate hearing protection to conserve their hearing. When operating equipment such as air hammers and chain saws, or any other equipment which is louder than normal city noises, hearing protection must be worn. There are basically two types of hearing protection provided by the Department; ear muffs and ear plugs. These protectors are rated by their noise attenuation and expressed as to the amount of decibels that can be reduced. For additional protection, ear plugs and ear muffs can be worn in conjunction.

### **C.5.6 Safety Vests**

The Department issues a safety vest that is fluorescent orange with reflective stripes and must be worn when:

1. Regulating traffic as described in the Michigan Manual of Uniform Traffic Control Devices, Part VI 6F-3 (Flagging).
2. Performing, inspecting, or observing work within the right of way of the road.
3. Performing or inspecting work that would cause the employee to periodically be exposed to vehicle traffic or construction equipment.

### **C.5.7 Chain Saw Chaps or Leggings**

Employees must wear chain saw chaps or leggings when operating a chain saw, except when operating from a bucket of an aerial lift.

### **C.5.8 Respirators**

Respiratory protective devices vary in design, equipment specification, application and protection capability. Proper selection depends on the substance involved, conditions of exposure, human

capabilities and equipment fit.

Refer to the general respiratory policy for more detailed information.

### **C.5.9 Protective Clothing**

Protective clothing ranges from the clothes you wear to work to a special chemical resistant body suit. The type of protective clothing that is to be worn, depends on the weather, the materials being used and the job being performed. When working with hazardous materials, a review of the MSDS for any matter to which you are exposed will help to determine what protective clothing should be used.

Clothing with a high content of polyester and nylon, should not be worn near a source of flame, spark, a hot surface, or material that could ignite or melt the clothing.

Generally, it is good to cover as much of the body as possible to protect against scrapes, burns, punctures or even the harmful affects of sun. All employees should wear a shirt and full length pants. Employees should not wear clothes such as shorts or cut-offs, skirts, tank top shirts, halter tops, clothes with holes in them, clothes with flammable materials (oil and grease) on them. Loose fitting clothes should not be worn when working with or near machinery.

The above list is not meant to be all inclusive of the prohibited clothing, but is an illustration of the types of clothing that is not suitable for the activities we perform.

Other personal protective equipment may be required for specific jobs. Be certain that you review any concerns regarding the appropriateness of the personal protective equipment to be used with your supervisor.

### **C.6 Permits**

Public Act 200 of 1969 provides the Michigan Department of Transportation authorization to require permits for working in state rights of way. Permits may be obtained on a regional or statewide basis. Regional permits may be obtained from the appropriate regional office or Transportation Service Center (TSC). Regions and TSC's are identified in [Annex A](#) to this appendix.

Regional permits fall under the following categories: Region Wide Permits for Surveys, Region Wide

Permits for Soil Borings, Region Wide Permits for Surveys and Soil Borings. Systems for permitting may vary from region to region.

### **C.6.1 How to Obtain**

Annual statewide permits may be obtained at the following address:

#### **Michigan Department of Transportation**

**Utilities/Permits Section**

**P.O. Box 30050**

**Lansing, Michigan 48909**

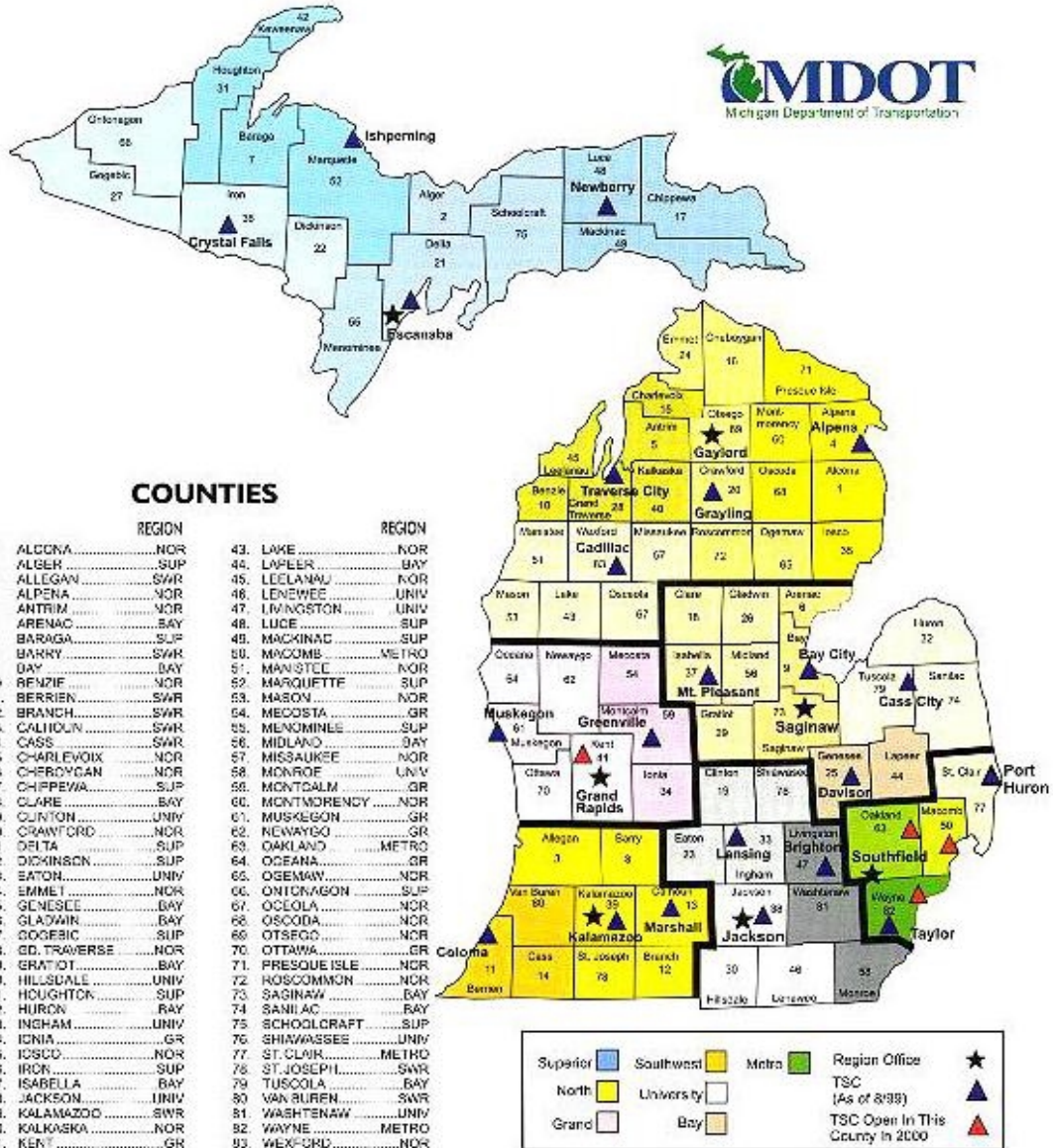
**Phone: (517) 373-2209**

Permit applicants should note the following:

- Utilities/Permits section should be contacted for insurance requirements.
- The state and respective counties or local governments may need to be named as insured.
- Advance notice of permitted activity along with a traffic control plan must be submitted prior to beginning work.
- Copies of the Permit, the Advance Notice of Permitted Activity and the Traffic Control Plan must be on site in the vehicle.
- County and local governments may require additional permits. It is the responsibility of the applicant to conform to county and local permit requirements.

# ANNEX A, APPENDIX C : REGIONAL MAP

## MDOT Regions and Transportation Service Centers



(Information subject to change without notice.)

Prepared by: Space and Technology  
 2000-01-10  
 2000-01-10



## ANNEX A, APPENDIX C: MDOT REGIONS AND TSC LOCATIONS

### **SUPERIOR REGION** - 1818 Third Avenue North, Escanaba, Michigan 49829 - Phone: 906-786-1800

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Crystal Falls TSC	Phone: 906-875-6644	Construction Permits:	Bill Santilli
120 Tobin - Alpha Road	Fax: 906-875-6264	Outdoor Advertising Permits:	Jeff Chernach
Crystal Falls, Michigan 49920		Transport Permits:	Julie Hammill/Candy Armstrong
		Utility Coordination:	Bill Santilli
		Secretary:	Julie Hammill
Escanaba TSC	Phone: 906-786-1800	Construction Permits:	Jim Belanger
1818 Third Avenue North	Fax: 906-786-1816	Outdoor Advertising Permits:	Jim Belanger
Escanaba, Michigan 49829	Toll Free: 888-414-6368	Transport Permits:	Patty Heslip
		Utility Coordination:	Jim Belanger
		Secretary:	June Pearson
Ishpeming TSC	Phone: 906-485-4270	Construction Permits:	Chuck Lindstrom
100 S. Westwood Drive	Fax: 906-485-4878	Outdoor Advertising Permits:	*
Ishpeming, Michigan 49849		Transport Permits:	Marion Johnson
		Utility Coordination:	Chuck Lindstrom
		Secretary:	Marion Johnson/Connie Isaacson
Newberry TSC	Phone: 906-293-5168	Construction Permits:	Lou Oberle
Junction M-28 & M-123	Fax: 906-293-3331	Outdoor Advertising Permits:	Lou Oberle
P.O. Box 395		Transport Permits:	Flora McEvers
Newberry, Michigan 49868		Utility Coordination:	Lou Oberle
		Secretary:	Cyndi Carmody

\* *Jeff Chernach, Crystal Falls TSC, handles outdoor advertising permits for the Ishpeming TSC.*

### **NORTH REGION** - 2927 D & M Drive, Gaylord, Michigan 49735 - Phone: 517-731-5090

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Alpena TSC	Phone: 517-356-2231	Construction Permits:	Steve Conradson/Rick Ferguson
3022 South US-23	Fax: 517-354-4142	Outdoor Advertising Permits:	Rick Ferguson
Alpena, Michigan 49707		Transport Permits:	Janet Lee
		Utility Coordination:	Steve Conradson
		Secretary:	Janet Lee

Cadillac TSC 100 E. Chapin, P.O. Box 130 Cadillac, Michigan 49601	Phone: 231-775-3487 Fax: 231-775-0301 Toll Free: 800-943-6368	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Dan Baker Dan Baker Dawn Morris Dan Lund Dawn Morris
Grayling TSC 1680 Hartwick Pines Road Grayling, Michigan 49738	Phone: 517-344-1802 Fax: 517-344-8403	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Don Hadd Don Hadd Wilma Genzink Jay Gailitis Wilma Genzink
Traverse City TSC 2084 US-31 South, Suite B Traverse City, Michigan 49684	Phone: 231-941-1986 Fax: 231-941-1512 Toll Free: 888-457-6368	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Greg Swanson Greg Swanson * Paul Wisniewski Paul Wisniewski

\* Dawn Morris, Cadillac TSC, handles transport permits for the Traverse City TSC.

**GRAND REGION - 1420 Front Street, NW, Grand Rapids, Michigan 49504 - Phone: 616-451-3091**

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Grand Region 1420 Front Street, NW Grand Rapids, Michigan 49504	Phone: 616-451-3091 Fax: 616-451-0707	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Ken Holifield Ken Holifield Kathy Teitsma Mike Lamancusa Lucy Read
Greenville TSC 919 W. Washington Greenville, Michigan 48838	Phone: 616-754-3619 Fax: 616-754-3544	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Mike Scheurer * Mary Hansen ** Mike Scheurer
Muskegon TSC 2225 Olthoff Drive Muskegon, Michigan 49444	Phone: 231-777-3451 Fax: 231-777-3621	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Tim Terry/Alan Ferrier Alan Ferrier Kathy Bolthouse ** Kathy Bolthouse

\* Ken Holifield, Grand Region office, handles outdoor advertising permits for the Greenville TSC.

\*\* Mike Lamancusa, Grand Region office, handles the utility coordination for the Greenville and Muskegon TSCs.

**BAY REGION** - 55 E. Morley Drive, P.O.Box 14949, Saginaw, Michigan 48601 - Phone: 517-754-7443

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Bay City TSC 2590 E. Wilder Road Bay City, Michigan 48706	Phone: 517-671-1555 Fax: 517-671-1530	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Dwight Hankins Ponce Esparza Marilyn Drake Don Matula Marilyn Drake
Cass City TSC 6867 E. Cass City Road Cass City, Michigan 48726	Phone: 517-872-3007 Fax: 517-872-4464	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Mark Kleikamp * Nancy Keyes Mark Kleikamp Nancy Keyes
Davison TSC 9459 Lapeer Road Davison, Michigan 48423	Phone: 810-653-7470 Fax: 810-653-1248	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Steve Gasser * Desira Robere Dewane Petzold/John Plamondon Desira Robere
Mt. Pleasant TSC 1601 N. Mission Street Mt. Pleasant, Michigan 48858	Phone: 517-773-7756 Fax: 517-775-6329	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Ben Burrows * Nancy Brackett Kim Zimmer Nancy Brackett

\* Ponce Esparza, Bay City TSC, handles all advertising permits for the Bay Region.

**SOUTHWEST REGION**- 1501 E. Kilgore Road, Kalamazoo, Michigan 49001 - Phone: 616-337-3900

Coloma TSC 3880 Red Arrow Highway Benton Harbor, Michigan 49022	Phone: 616-849-1165 Fax: 616-849-1227	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Brett Arrans (excluding permits for utility * companies & commercial driveways) * * *
Kalamazoo TSC 1501 E. Kilgore Road Kalamazoo, Michigan 49001	Phone: 616-337-3917 Fax: 616-337-3916	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Bob Coy - 616-337-3926 / Gary Malcom - 616-337-3921 Lew Fudge - 616-337-3928 Sharon Holt Steve Serdel - 616-337-3933

Marshall TSC	Phone: 616-789-0592	Construction Permits:	Tom Katsul (excluding permits for utility
315 Green Street, P.O.Box 47	Fax: 616-789-0688	Outdoor Advertising Permits:	* companies & commercial driveways)
Marshall, Michigan 49068		Transport Permits:	Kari King
		Utility Coordination:	*
		Secretary:	

\* At this time, permits are not being issued at this location. Please contact the Kalamazoo TSC.

Note: Bob Coy and Gary Malcom, Kalamazoo TSC, handle all construction permits for utility companies and commercial driveways.

**UNIVERSITY REGION** - 301 E. Louis Glick Highway, Jackson, Michigan 49201 - Phone: 517-780-7500

Brighton TSC	Phone: 810-227-4681	Construction & Adopt-a	
10321 E. Grand River, Suite 500	Fax: 810-227-7929	Highway Permits:	Marie Wilson (excluding permits for utility companies)
Brighton, Michigan 48116		Outdoor Advertising Permits:	Marie Wilson
		Transport Permits:	Marie Wilson
		Utility Coordination:	*
		Secretary:	

Jackson Garage	Phone: 517-783-2871	Construction & Adopt-a	
800 Chanter Road	Fax: 517-783-2236	Highway Permits:	
Jackson, Michigan 49201		Outdoor Advertising Permits:	
		Transport Permits:	Pam Pacyna
		Utility Coordination:	John Lonskey
		Secretary:	Pam Pacyna

Jackson TSC	Phone: 517-780-7540	Construction & Adopt-a	
2750 N. Elm Road	Fax: 517-780-5454	Highway Permits:	Doug Jordan (excluding permits for utility companies)
Jackson, Michigan 49201		Outdoor Advertising Permits:	Doug Jordan - 517-780-5103
		Transport Permits:	**
		Utility Coordination:	*
		Secretary:	

Lansing TSC	Phone: 517-324-2260	Construction & Adopt-a	
1019 Trowbridge Road	Fax: 517-324-0294	Highway Permits:	John Gustina (driveway permits) - 517-324-2266
East Lansing, Michigan 48823			John Kimble (adopt-a-highway permits)-517-324-2272
		Outdoor Advertising Permits:	John Kimble-517-324-2272
		Transport Permits:	John Gustina
		Utility Coordination:	*
		Secretary:	

\* John Lonskey, Jackson Garage, handles all utility coordination and the issuance of construction permits for utility companies for the University Region.

\*\* At this time, transport permits are not being issued at this location. Please contact Pam Pacyna at the Jackson Garage.

**METRO REGION** -18101 W. Nine Mile Road, Southfield, Michigan 48075 - Phone: 248-483-5100

Metro Region 18101 W. Nine Mile Road Southfield, Michigan 48075	Phone: 248-483-5100 Fax: 248-569-3103	Construction Permits: Outdoor Advertising Permits: Transport Permits: Utility Coordination: Secretary:	Johanna Schwensen (Macomb county South of 14 Mile Road/ Oakland county) - ext. 127 Linda Zimmerman (Macomb County North of 14 Mile Road/St. Clair County) - ext. 130 Veena Jasuja - ext 126 Rita Screws (Macomb/Oakland Counties) - ext. 128 Veena Jasuja (St. Clair/Wayne Counties) - ext. 126
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**METRO REGION** - (Continued)

Detroit TSC 19707 Frazho Road St. Clair Shores, Michigan 48081	Phone: 810-772-3737 Fax: 810-772-5020	Construction Permits: * Outdoor Advertising Permits: * Transport Permits: * Permits Supervisor: * Utility Coordination: * Secretary: *
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Macomb TSC 27435 Mound Road Warren, Michigan 48092	Phone: 810-751-6240 Fax: 810-751-2201	Construction Permits: * Outdoor Advertising Permits: * Transport Permits: * Permits Supervisor: * Utility Coordination: * Secretary: *
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Oakland TSC 22170 W. Nine Mile Road Southfield, Michigan 48034	Phone: 248-350-3429 Fax: 248-350-3980	Construction Permits: * Outdoor Advertising Permits: * Transport Permits: * Permits Supervisor: * Utility Coordination: * Secretary:
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Port Huron TSC 3050 Commerce Drive Fort Gratiot, Michigan 48059	Phone: 810-385-3343 Fax: 810-385-4548	Construction Permits: Chuck Bergmann Outdoor Advertising Permits: * Transport Permits: * Permits Supervisor: * Utility Coordination: * Secretary:
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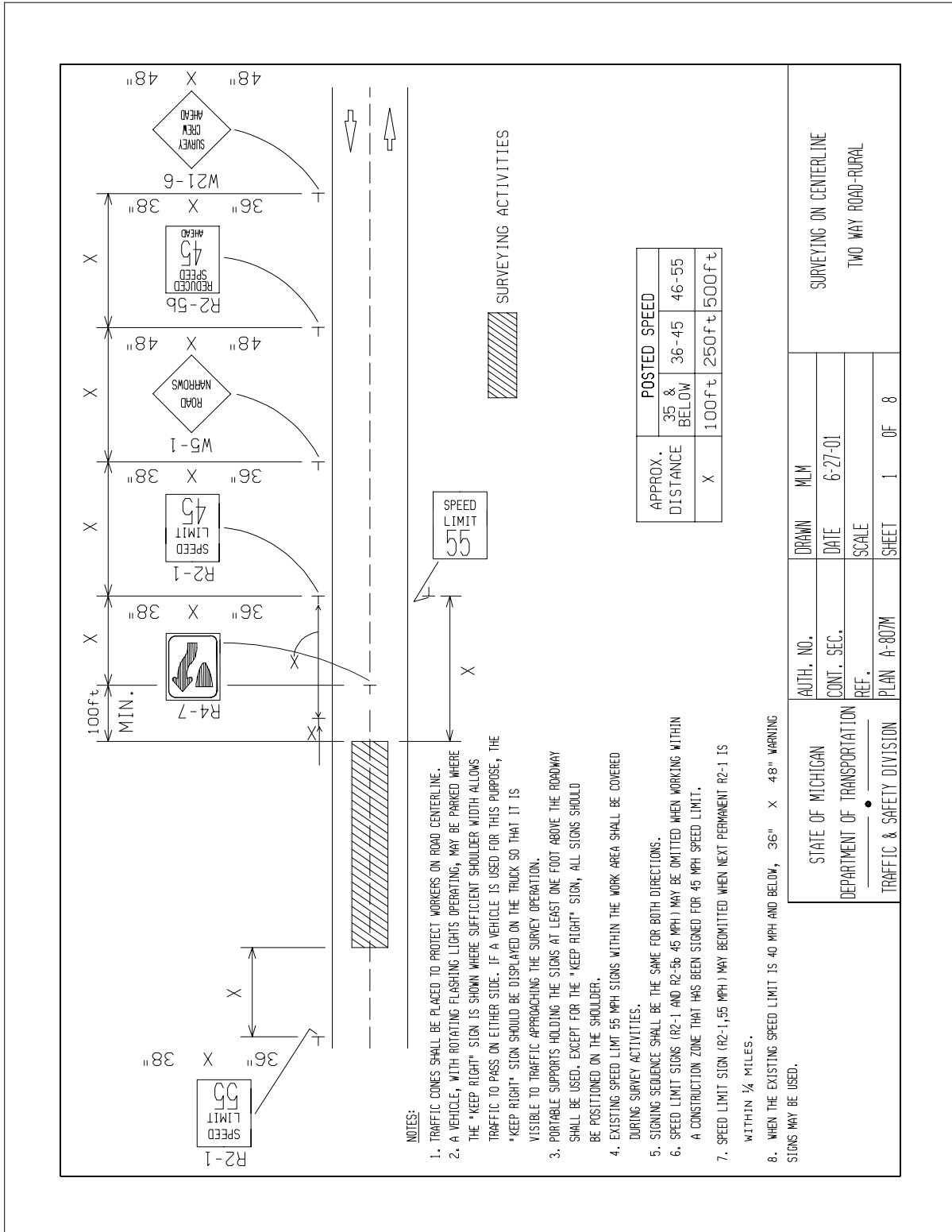
Taylor TSC  
25185 Goddard  
Taylor, Michigan 48180-3923

Phone: 313-375-2400  
Fax: 313-295-0822

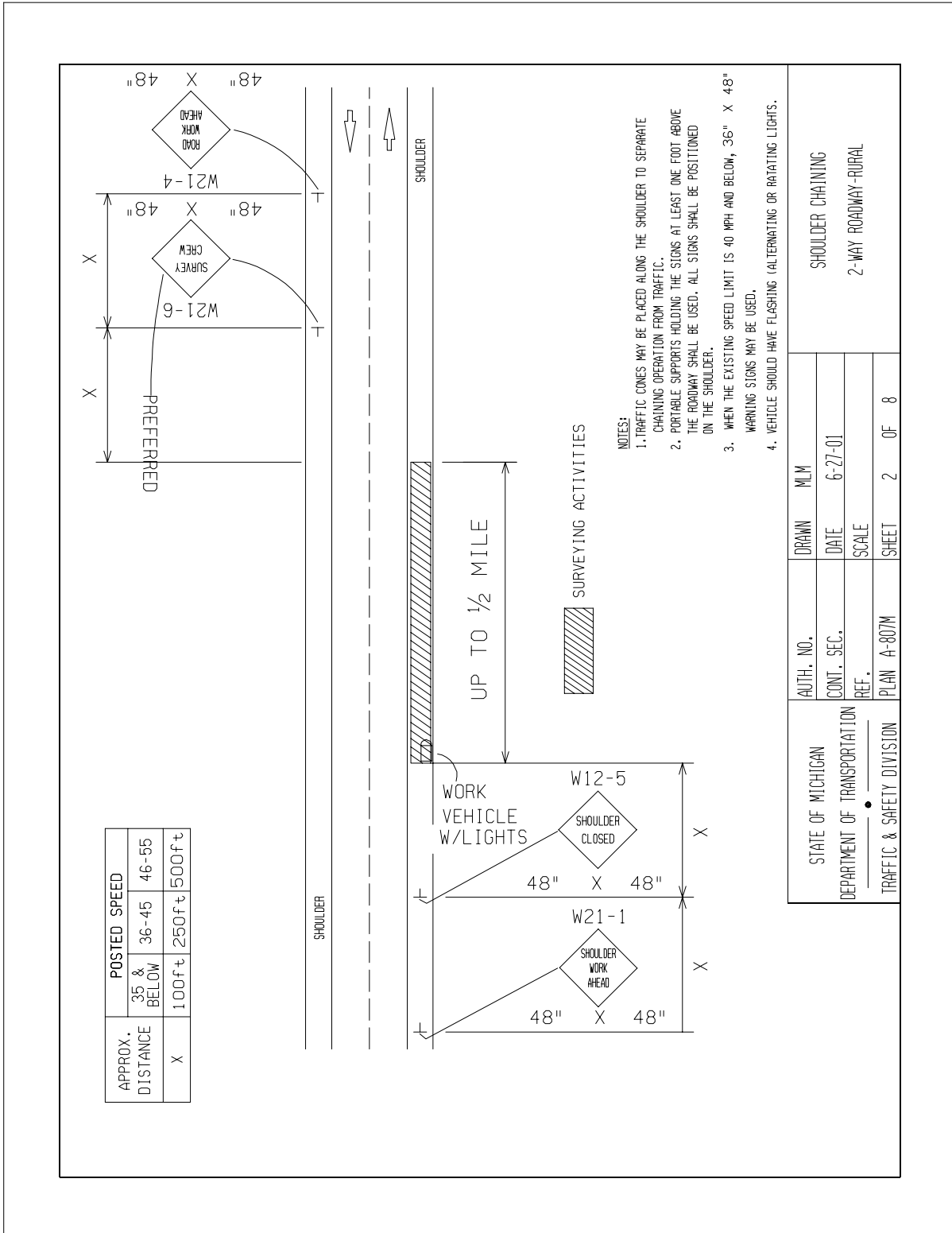
Construction Permits: John Watson (Wayne county/  
8 Mile Road [M-102]) - 313-375-2433  
Outdoor Advertising Permits: \*  
Transport Permits: John Watson - 313-375-2433  
Utility Coordination: \*  
Secretary:

\* *Please contact the Metro office.*

# ANNEX B , APPENDIX C : SIGNING DIAGRAMS

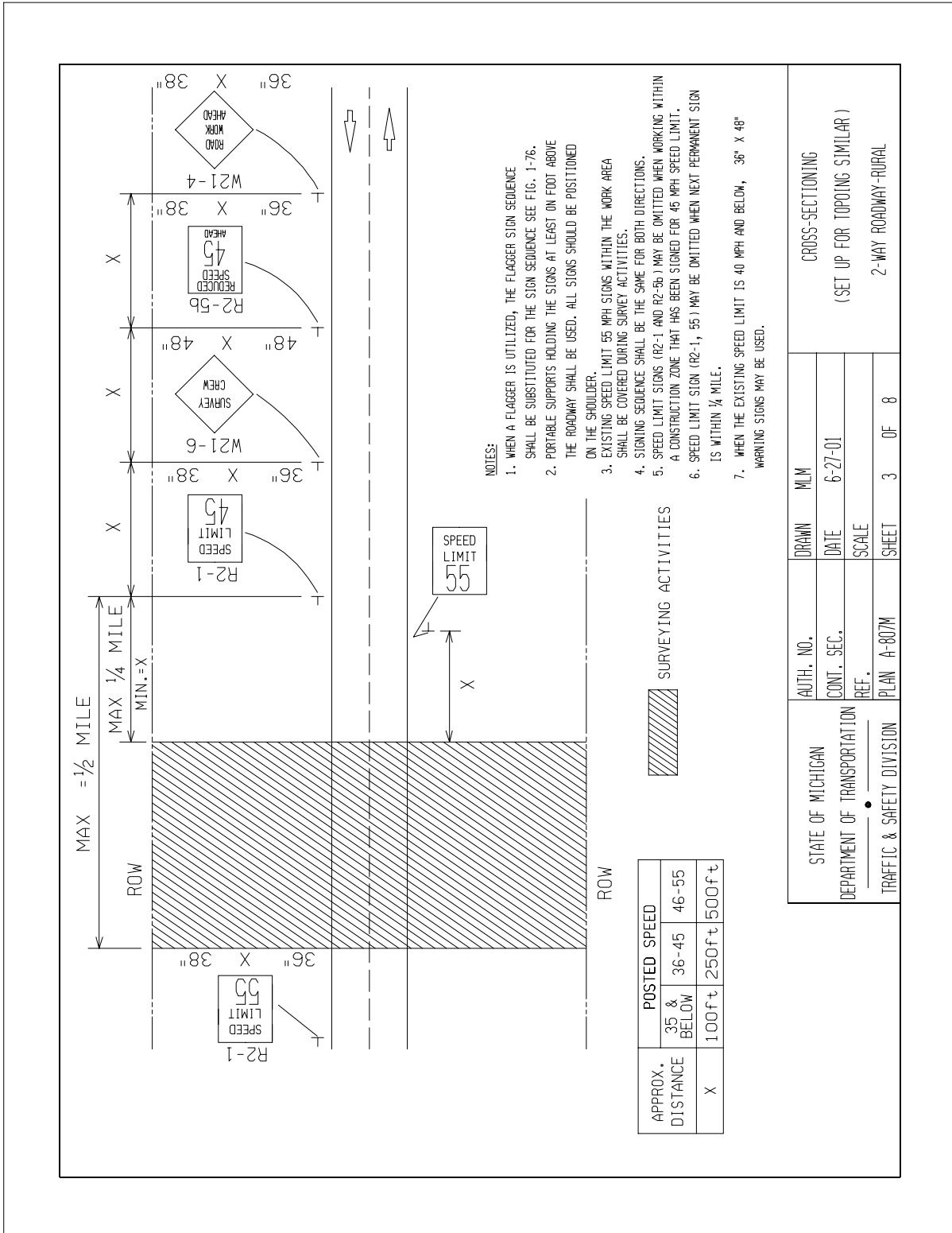


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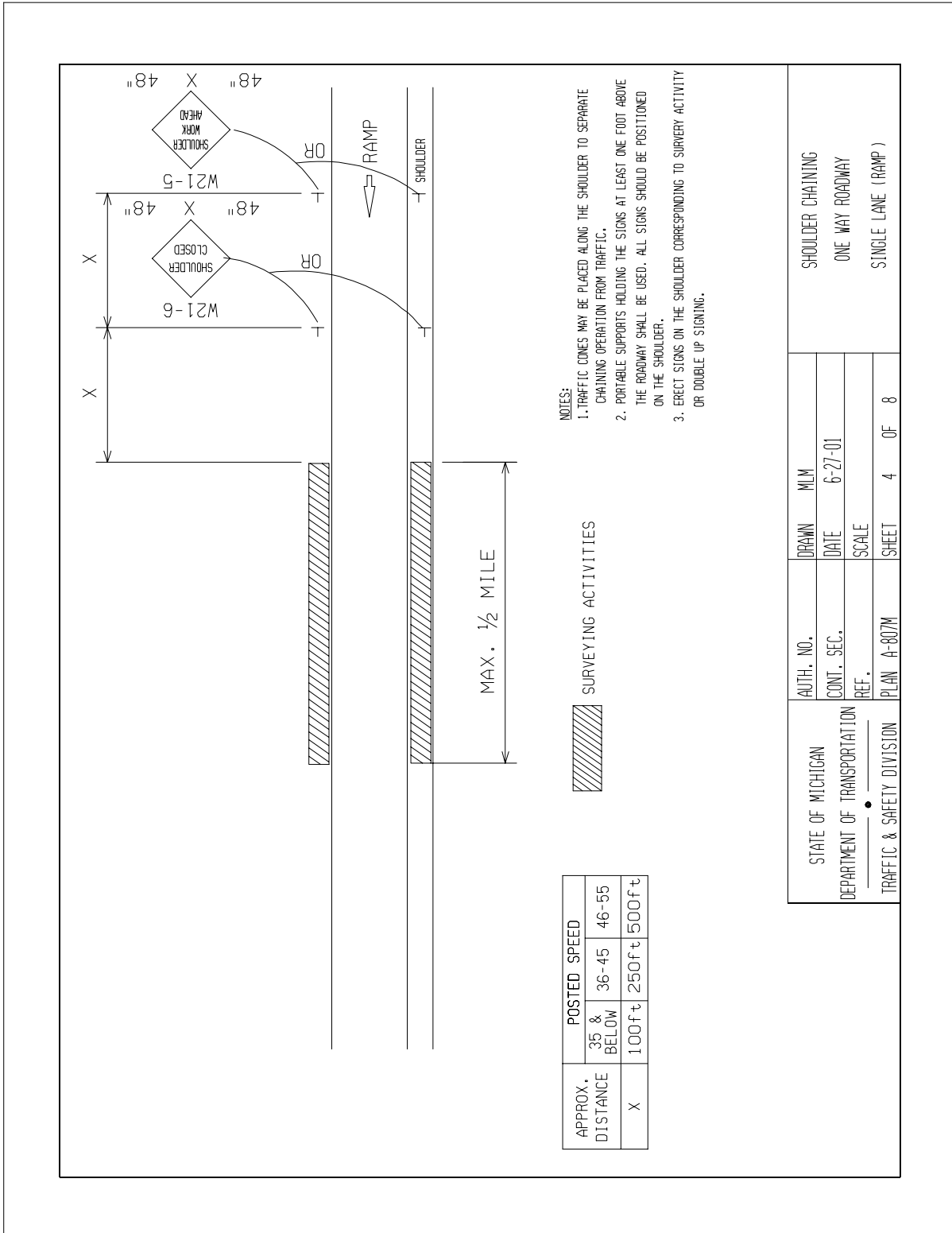




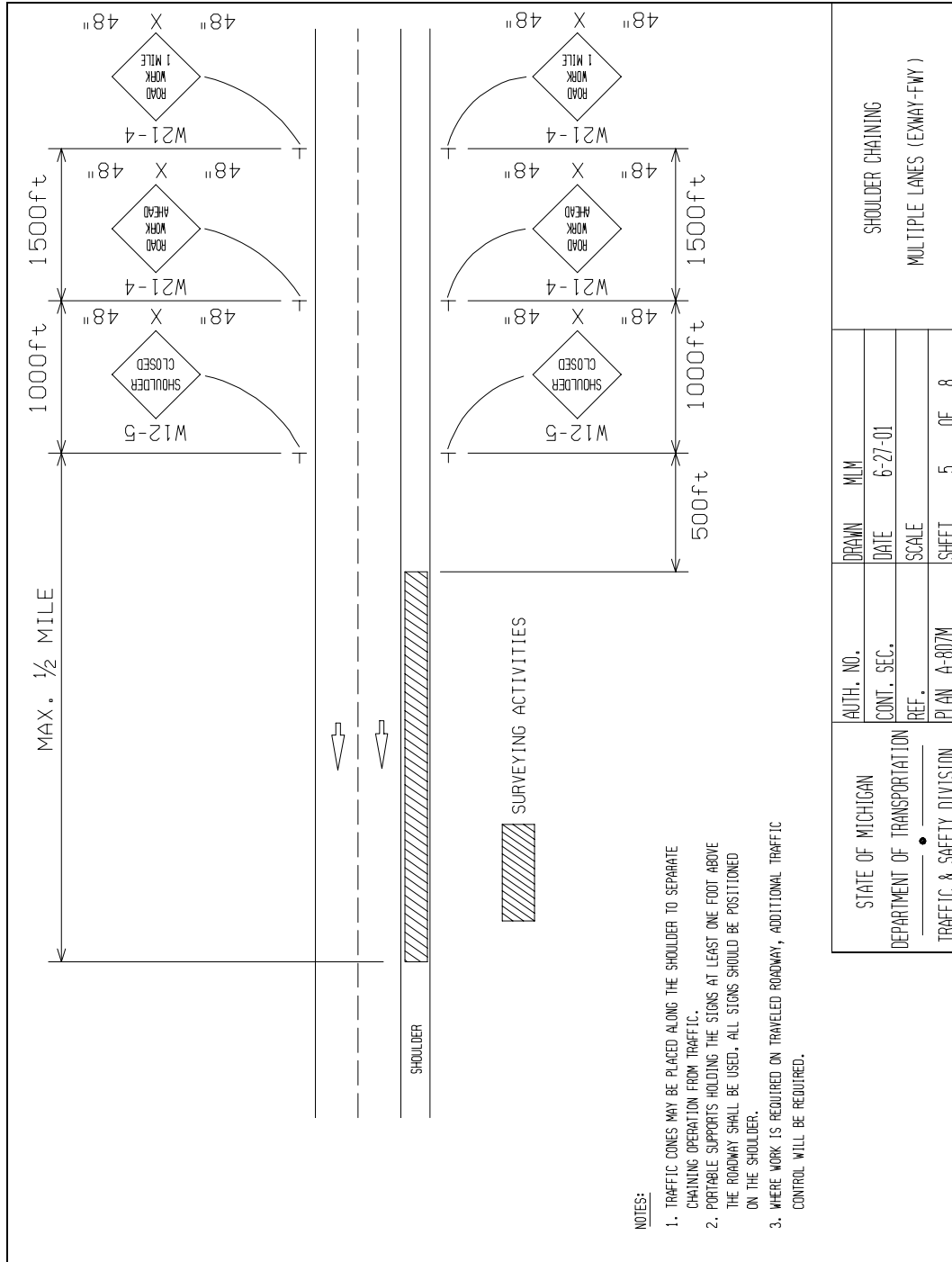
# ANNEX B , APPENDIX C : SIGNING DIAGRAMS



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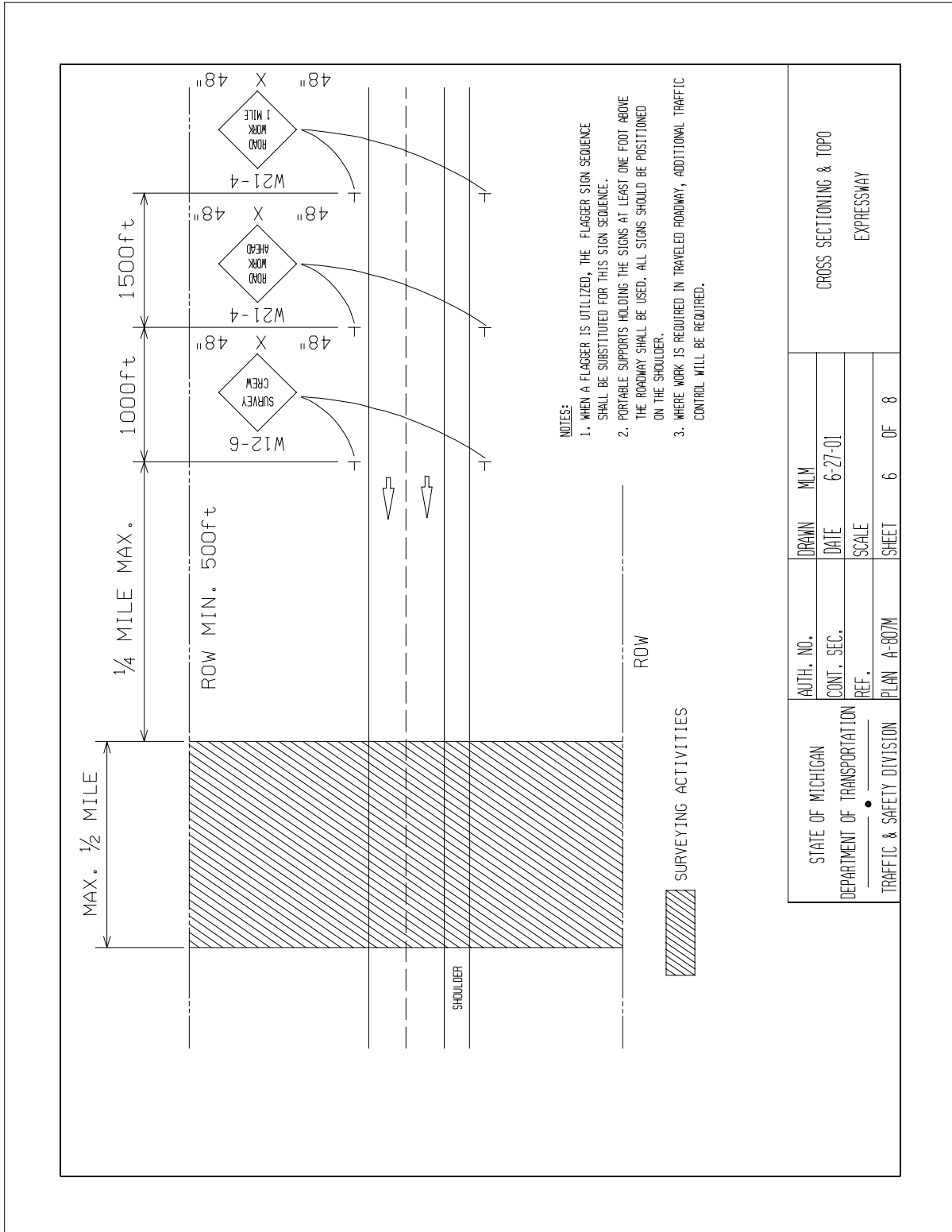


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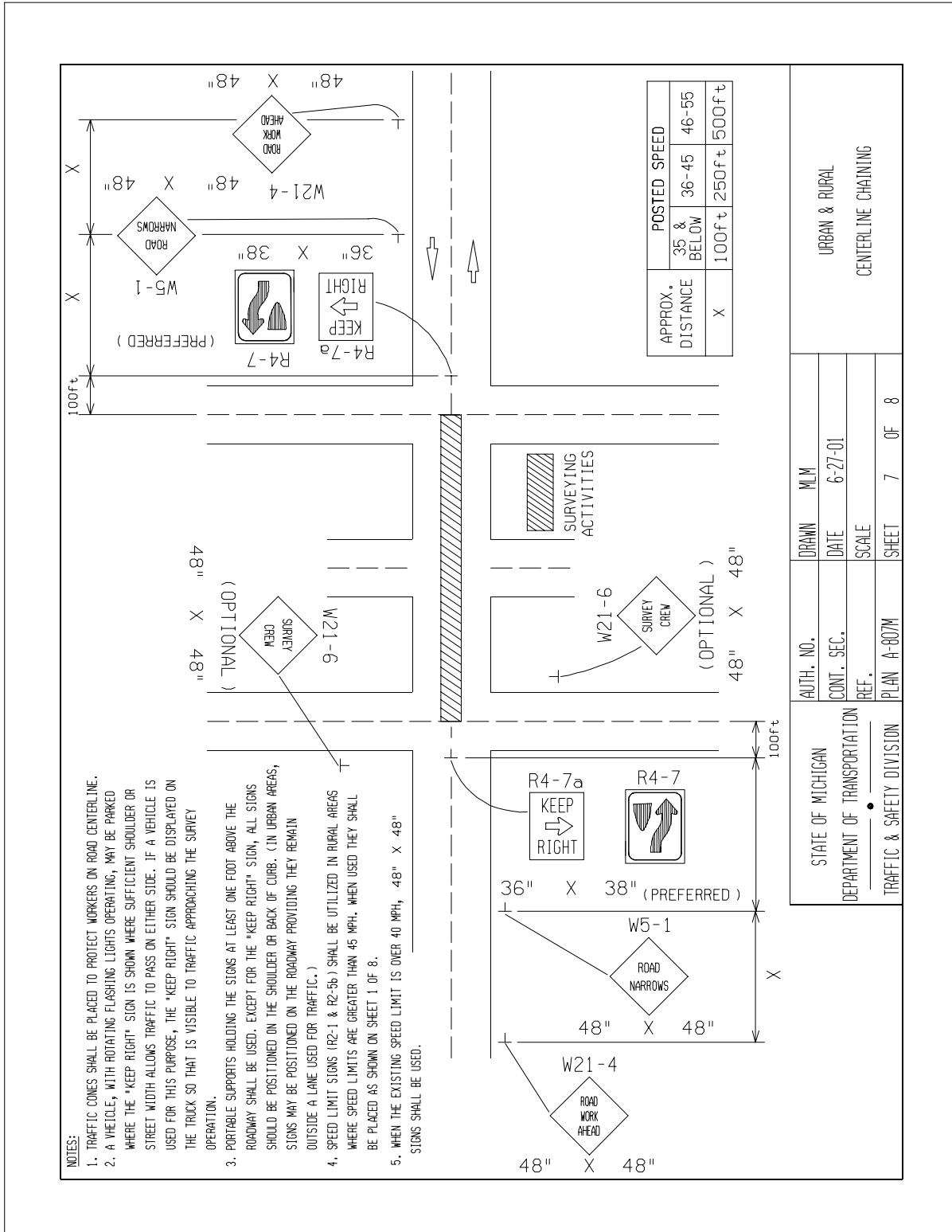
1. TRAFFIC CONES MAY BE PLACED ALONG THE SHOULDER TO SEPARATE CHAINING OPERATION FROM TRAFFIC.
2. PORTABLE SUPPORTS HOLDING THE SIGNS AT LEAST ONE FOOT ABOVE THE ROADWAY SHALL BE USED. ALL SIGNS SHOULD BE POSITIONED ON THE SHOULDER.
3. WHERE WORK IS REQUIRED ON TRAVELED ROADWAY, ADDITIONAL TRAFFIC CONTROL WILL BE REQUIRED.

STATE OF MICHIGAN	AUTH. NO.	DRAWN	MJM	SHOULDER CHAINING
DEPARTMENT OF TRANSPORTATION	CONT. SEC.	DATE	6-27-01	MULTIPLE LANES (EXWAY-FWY)
TRAFFIC & SAFETY DIVISION	REF.	SCALE		
PLAN A-807M		SHEET	5 OF 8	

# ANNEX B , APPENDIX C : SIGNING DIAGRAMS



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