**GENERAL NOTES**

**UTILITIES**

**MISS DIG/UNDERGROUND UTILITY NOTIFICATION**

Contact MISS DIG System, Inc. for the protection of underground utilities and in conformance with MCL 460.721 et seq, by phone at 811 or 800-482-7171 or via the web at <http://www.missdig811.org/>, a minimum of 3 working days prior to excavating, excluding weekends and holidays.

**--INCLUDE THE SP FOR PROTECT INTELLIGENT TRANSPORTATION SYSTEM INFRASTRUCTURE (20IT800(A085)) AND/OR THE SP FOR MARKING MICHIGAN DEPARTMENT OF TRANSPORTATION UTILITY TYPE FACILITIES (20TM800(A355)) AS NEEDED--**

**ROW / REAL ESTATE**

**PROPERTY OWNERS**

The names of property owners shown on the plans are for information only, and their accuracy is not guaranteed.

**LAWN SPRINKLER SYSTEMS AND LANDSCAPING**

Notify owners of existing lawn sprinkler systems and/or landscaping (in writing with a copy sent to the Engineer) two weeks in advance of any work to be done that will affect those systems and/or landscaping. If the property owner fails to relocate the lawn sprinkler system prior to the Contractor beginning work, and if the Contractor cuts the system during the construction, cap the system pipe and witness the location of the cap with a wooden stake for the property owner’s use. Place the salvaged sprinkler heads on the property owner’s property. If the property owner fails to relocate the landscaping prior to the Contractor beginning work, carefully salvage the landscaping items and stockpile them on the property owner’s property for the property owner. This work is included in other items of the project. Any other modification to the lawn sprinkler systems and/or landscaping, is the responsibility of the owner and is not part of this contract.

**SURVEY**

**PRESERVATION OF BOUNDARY MONUMENTS**

Preserve all corners within the project limits, whether shown or not. Adjust monument boxes as required.

**STATIONING *--- USE ONLY ON PROJECTS WITHOUT SURVEY ---***

Stationing on this project was taken from old plans and is not necessarily accurate.

**OLD PLANS**

**OLD ROAD PLANS**

The following old road plans were referred to in the design of this project.

**--INCLUDE CS, JN, YEAR AND SHORT DESCRIPTION--**

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

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

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

**DETAILED GRADES**

**GRADES FOR INTERSECTIONS**

Determine intersection grades before construction is started.

SIGNALIZED SIDE ROAD TO TRUNKLINE INTERSECTIONS:

Carry the normal edge of pavement grade of the trunkline across the intersection whenever possible. Establish the side road approach grade and crown to provide drainage and suitable rideability.

SIGNALIZED TRUNK LINE TO TRUNKLINE INTERSECTIONS:

Establish the grade of each trunkline to provide drainage and rideability of each trunkline. Vary the crown of each trunkline to best fit the longitudinal grades of each trunkline.

UNSIGNALIZED SIDE ROAD TO TRUNKLINE INTERSECTIONS:

Carry the normal edge of pavement grade of the trunkline across the intersection and establish the side road approach grade and crown to provide drainage.

**SIDEWALK AND CURB RAMP GRADES**

After staking the sidewalk and curb ramps contact the Engineer to verify the grades and authorize construction.

**EARTHWORK**

**EARTHWORK – OPTION 1**

Earthwork quantities are computed based upon limited survey information. These quantities are for bidding purposes only and will be adjusted by the Engineer based upon actual field measurements.

**EARTHWORK – OPTION 2**

Earthwork quantities are computed by the average end area method based upon ground and LiDAR survey information.

**EARTHWORK – OPTION 3**

Earthwork quantities are computed by the average end area method based upon ground survey information.

**EARTHWORK – OPTION 4**

Earthwork quantities are computed by the prismoidal method based upon ground and LiDAR survey information.

**SLOPES – Use on urban projects or where residential mowing will done after the project is completed**

Construct Class A slopes on this project.

**EARTH DISTURBANCE LIMITS**

Limit earth disturbance to 10’ beyond the slope stake line or to the ROW line whichever is less except areas adjacent to wetlands where the limits of earth disturbance are at the slope stake line. The plans include restoration measures for the approved areas of disturbance. Submit an earth change plan to the Engineer to review and approve for any work beyond the approved areas of disturbance. Costs for obtaining and executing an approved earth change plan, including restoration are the Contractor’s responsibility.

**SOIL EROSION MEASURES**

Place appropriate soil erosion and sedimentation control measures prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodible slopes as directed by the Engineer. Protect critical ditch grades with either sod or seed/mulch or mulch blanket as directed by the Engineer.

**PEAT EXCAVATION AT CULVERTS**

At the time of peat excavation, widen the specific swamp treatment at culverts to provide a stable foundation for the entire length of culvert, including headwalls and end sections.

**BASES**

**AGGREGATE BASE**

Use aggregate \_\_\_\_\_\_, for aggregate bases unless otherwise specified.

**DRAINAGE**

**DRAINAGE MARKER POSTS**

Do not place drainage marker posts in medians less than 150’ wide.

**ILLICIT CONNECTIONS TO STORM WATER SYSTEM**

Reconnect existing storm conveyance systems not shown on the plans with minimal interruption in service. Report any suspect illicit discharge observed including size, type, and location by station and offset to the Engineer prior to reconnecting and proceed as directed.

**TEMPORARY BULKHEADS**

Use temporary bulkheads as needed for part width construction of culverts and sewers. Costs associated with temporary bulkheads are included in the items for the culverts and sewers.

**CULVERT END SECTIONS**

Where culvert work does not specify material, steel end sections may require the toe plate extension per the notes on Standard Plan R-88 series. Concrete end sections require a concrete footing specified on Standard Plan R-86 series which will be paid for separately as Culv End Sect, Footing.

**PAVEMENT**

**SOIL BORINGS AND/OR PAVEMENT CORES**

The soil boring logs and/or pavement cores represent point information. No inference should be made that subsurface or pavement conditions are the same at other locations.

**CONCRETE HAND FINISHING**

Strike off, consolidate, and hand finish concrete pours using hand methods on variable width lanes and lanes formed by flexible forms for short radius curves, as directed by the Engineer.

**BRIDGE APPROACHES**

**SHOULDER TRANSITION AT BRIDGES WITH EROSION CONTROL CURB AND GUTTER**

Transition the normal shoulder width with erosion control curb and gutter (Type D) to the shoulder width at the bridge approach curb and gutter in 12.5’ (one guardrail beam length) prior to the bridge approach curb and gutter.

**BRIDGE**

**BRIDGE LEAD PAINT ---NOT NEEDED ON BRIDGE PROJECTS---**

If existing bridge beams are steel, the bridge paint may contain lead.

**NOISE WALLS**

**UTILITY CLEARANCE**

Increase the minimum depth of embedment for the wall footings to 6' at locations where the wall is within 10' of a water main running parallel to the wall. Provide a minimum of 1' of clearance between existing utilities and the bottom wall footings at utility crossings. Contact the Engineer immediately to determine whether structural design changes are needed.

**DEPTH OF EMBEDMENT**

Adjust the footing depth of embedment if the wall heights vary from those shown on the plans. Generally, an increase in wall height of 2' will require an additional 1' of embedment. Contact the Engineer immediately to determine whether structural design changes are needed.

**NOISE WALL ALIGNMENT & PROFILE**

Use the standard spacing shown on the typical for any column spacing which is not dimensioned on the plans. Adjust the wall alignment to avoid existing vegetation or utilities as directed by the Engineer. The existing ground profile shown on the plans is the best information available. Adjust the top of wall profile if the existing ground profile varies from those shown on the plans.

**GUARDRAIL**

**SALVAGED BEAM GUARDRAIL**

Neatly stockpile salvaged guardrail beam elements, posts and hardware at an approved location on the project for pickup by \_\_\_\_\_\_\_\_\_\_\_\_\_.

**GUARDRAIL AT BRIDGE APPROACH**

Extend guardrail parallel to the existing bridge railing until past the bridge approach curb & gutter before flaring to shoulder.

**GUARDRAIL CONNECTIONS TO EXISTING GUARDRAIL**

Field drill connections of proposed guardrail to existing guardrail. Payment for this work is included in the pay item of the proposed guardrail.

**FENCING**

**RIGHT OF WAY FENCE**

Check the Right of Way as actually acquired before placing fence along the ROW.

**FENCE AT LIVESTOCK GRAZING LOCATIONS**

Construct permanent Right of Way fence as the first operation in cases where the Right of Way cuts across livestock grazing areas. Place temporary fencing, when ordered by the Engineer.

**TURF ESTABLISHMENT**

**SEED MIXTURE**

Use symbol \_\_\_\_\_\_\_ for the permanent turf seed mixture.

**REST AREA AND/OR LANDSCAPING**

Do not operate heavy equipment or perform work outside the site slope stake lines in the wooded portion of the site.

Do not store equipment within the drip line of existing and retained trees.

Do not remove or damage tree branches. Contact Roadside Development or the Region Resource Specialist for proper branch removal methods prior to pruning for clearance.

Trenching within the drip line of existing or protected trees is prohibited unless directed and approved by the Engineer.

Promptly repair and restore all property damage at no expense to MDOT.

Do not use cereal rye seeding on this project.

Protect existing sidewalks from damage.

Plant material, soil, fertilizer, and mulch will be inspected/approved by the Engineer/Region Resource Specialist or the Landscape Architect prior to installation. Plant inspection may occur at the nursery source or when plants arrive on site.

Adjust final staking to avoid conflicts with utilities and legally permitted billboards. Do not plant within the legal bounds of billboards. If billboard conflicts occur consult the Engineer.

**SIGNS**

**EXISTING SIGN RELOCATION**

Salvage and reset any permanent signs requiring relocation due to Contractor operations at locations designated by the Engineer. Replace signs and posts damaged during the removal and storage operations with new signs and posts. The cost of this work is the Contractor’s responsibility.

Contact Mike Kovalchick, (888) 645-6467 from Michigan Logos, at least two weeks prior to construction to remove / relocate Michigan Logo or tourist oriented directional signs.

**PLAN SCALE**

The final plans submitted with the proposal are not to scale. Fabricate proposed signs and structures shown on plan sheets in accordance with Typical Plans, Standards, and/or Details at locations described.

**SIGN LAYOUT**

Use the current English edition of "Standard Highway Signs" manual or details in plans for proposed sign layouts. Use the "SignCAD" software to determine the legend length.

**SHEETING**

Splice sheeting used for Type l signs with a 3-inch overlap.

**SIGN INSTALLATION**

Place nylon washers between the steel washer and the sign face sheeting. The nylon washers are to be considered part of the attaching devices and hardware. Use nylon washers with a 3/8‑inch inner diameter, a 7/8-inch outer diameter and a 1/16-inch thickness.

**OVERHEAD STRUCTURES**

Determine and verify, with the Engineer, the actual heights of new overhead sign structures prior to fabricating end support structures.

Report all cantilevers and trusses installed or removed by the Project Engineer on Form 467, Cantilever and Truss Installation or Removal, and send completed form to: MDOT Operations Field Services Division Statewide Sign Shop, 6333 Lansing Rd, Lansing, Michigan 48917.

**REMOVAL & SALVAGE**

Maintain existing overhead signs until the new signs are installed.

Carefully remove, haul and stockpile the Type I Signs (aluminum extruded sections), cantilevers, trusses, bridge connections, steel breakaway columns and all attaching or fastening devices for these items that are the property of MDOT at: MDOT Operations Field Services Division Statewide Sign Shop, 6333 Lansing Rd, Lansing, Michigan 48917.

Include the costs for temporary stock piling (on site), loading, unloading and hauling of these items in the Pay Item Transporting Salv MDOT Materials.

Remove and return to MDOT, the Adopt-A-Highway bottom panel signs called for removal in the project to MDOT at no additional charge to the department. Do not return to MDOT, the Adopt-A-Highway top panel signs called for removal in the project.

**MDOT SUPPLIED SIGNS**

Send a request to the Engineer to order MDOT supplied signs from the MDOT Operations Field Services Division Statewide Sign Shop allowing 90 days for the signs to be fabricated. When notified that fabrication is complete pick up and transport the signs from the MDOT Operations Field Services Division Statewide Sign Shop located at 6333 Lansing Rd, Lansing, Michigan 48917 within 30 days. Include the cost associated with picking up the signs from the sign shop in the item Installing MDOT Supplied Sign, Type \_\_.

**BRIDGE SIGN CONNECTION REMOVAL**

Remove weld projections left on the beam from previous welded bridge sign connections that conflict with new bridge sign connections according to Section 810.03 of the Standard Specifications for Construction. Included the cost of this work in other contract pay item/s, specifically - Bridge Sign Connection, Type \_\_\_\_, Rem as called for on plans.

**GUARDRAIL REMOVAL**

Remove guardrail after all signs, supports and foundations behind the guardrail have been removed, unless otherwise approved by the Engineer.

**BRIDGE MOUNTED SIGNS**

Determine the bridge under clearance using Form 1190, Structure Clearance Measurements. Provide a W12-3 sign with a dimension 2 inches less than actual clearance for all bridges with an under clearance of 16 feet or less.

**MALI SIGNS**

Install I13-2 (mali) signs on the right support of two support installations unless otherwise noted on the plans.

**SIGNALS**

**MAINTAINING AGENCY CONTACT INFORMATION**

**OMIT AGENCIES THAT DO NOT APPLY**

* MDOT - Statewide Signal Shop: (517-242-1486)
* Wayne County Department of Public Services: (734-955-2346)
* Macomb County Department of Roads: (586-463-0061)
* Road Commission of Oakland County: (248-858-7250)
* City of Grand Rapids: (616-456-4355 or 616-456-3492) for projects within Kent County
* City of Ann Arbor: (734-794-6361)
* Lansing Board of Water & Light: (517-702-6324) for signals within the Cities of Lansing & East Lansing

**NOTIFICATIONS TO MAINTAINING AGENCIES**

Contact MDOT (and any other maintaining agency) seven working days prior to start of construction and seven working days prior to signal activation.

**WOOD POLE INSTALLATION**

Install wood poles so as not to interfere with traffic or future construction stages.

**CONTINUOUS TRAFFIC SIGNAL OPERATION**

Place proposed traffic signal into operation at time of removal of existing traffic signal facilities. Contact MDOT (and any other maintaining agency) if unable to maintain the traffic signal in an operable condition at all times.

**UNDERGROUND UTILITY SEPARATION**

Maintain a minimum clearance of 3'-6" horizontal & 1'-0" vertical between proposed facilities & existing underground water facilities.

**SIGNAL EQUIPMENT DISPOSAL**

Disposal of all traffic signal equipment is included in the removal pay items and includes the following:

* Notification to MDOT (and any other maintaining agency) that traffic signal equipment is being removed.
* Temporary storage of equipment in a dumpster on site (or as directed by the Engineer) allowing MDOT (and any other maintaining agency) 48 hours to salvage any equipment.
* Proper disposal of any equipment containing environmentally sensitive materials (mercury relay switches for example)
* Disabling or destruction of all remaining equipment to the satisfaction of the engineer such that it cannot be reused or resold.
* Proper disposal of all remaining equipment.

**PLAN DEVIATIONS DURING CONSTRUCTION**

Obtain approval from the MDOT Traffic Signals Unit in Lansing, MI; (517-881-0187) prior to changing the plan location of supporting structures, signal head placement or traffic signal equipment.

**HAND PATCHING – TO BE USED ONLY ON STAND ALONE SIGNAL PROJECTS with appropriate REGION**

**Superior**

Use HMA, 5EML with binder Type PG 58-22 for Hand Patching with a variable application rate. Apply binder coat at 0.05-0.15 gallons per square yard.

**North**

Use HMA, 5EML with binder Type PG 64-28 for Hand Patching with a variable application rate. Apply binder coat at 0.05-0.15 gallons per square yard.

**Bay, Grand, Metro, & University**

Use HMA, 5EMH with binder type PG 64-22 for Hand Patching with a variable application rate. Apply binder coat at 0.05-0.15 gallons per square yard.

**Southwest**

Use HMA, 5EMH with binder Type PG 64-28 for Hand Patching with a variable application rate. Apply binder coat at 0.05-0.15 gallons per square yard.

**POLE BAND CLAMP ACCEPTANCE**

The current basis of acceptance for this material is now part of the QPL (Qualified Products List). This can be found in the Materials Acceptance Requirements table, published in the MQAP and repeated for convenience in the Materials Service Guide.

**SIGNAL HEAD LANDING POINT**

Ensure each traffic signal head assembly has its own landing point with all neutrals connected together with a metal type jumper.

**ENVIRONMENTAL**

**PROTECTED TURTLES**

Historical records for protected turtles exist within or near this project. These turtle species warrant special consideration as they are rare in Michigan. In the event turtles are observed within the construction zone, move the turtle(s) into adjacent vegetative cover, away from physical work activities. If possible, take a photo and immediately contact Jeff Grabarkiewicz, MDOT Ecologist, at (517) 335-2633 to confirm identification.

**PROJECT SPECIFIC NOTES**

**(THESE MAY INCLUDE ANY OF THE STANDARD NOTES THAT MAY HAVE BEEN MODIFIED)**