

624-M-024 HERBICIDE TREATMENT

(Revised 09-01-05)

The Standard Specifications are revised as follows:

SECTION 624, BEGIN LINE 1, INSERT AS FOLLOWS:

SECTION 624 – HERBICIDE TREATMENT

624.01 Description

This work shall consist of furnishing and applying a herbicide on both sides of roadways and on turfed medians between pavements for the routes shown on the plans.

10 *The operation will require one application of herbicide, to be placed on the dates and in the areas shown on the plans. The acreage (hectares) of the area to be sprayed has been predetermined by the Department. The Contractor shall examine the area in detail to determine the type of equipment required for specified applications.*

MATERIALS

624.02 Materials

The herbicide to be applied shall consist of a specified formulation. Such mixture shall consist of one unit of the specified formulation. A pre-mixed formula containing specified minimum acid equivalents may be used. The rate of application shall be one unit of mixture per 1 ac (0.4 ha) for the formulation specified.

20 *Tests of the herbicide material will not be required. However, a type B certification in accordance with 916.01 and 916.02(b) shall be provided. All herbicide material to be used shall be in accordance with the requirements of the Indiana Herbicide Law. Such material shall be registered with the Indiana State Chemist located at the Purdue University Department of Biochemistry, West Lafayette. All containers shall be factory sealed when delivered to the project site. A specimen label and a Material Safety Data sheet for each chemical shall be present on the spray truck at all times.*

CONSTRUCTION REQUIREMENTS

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624.03 Equipment

All equipment shall be subject to approval by a Department licensed pesticide applicator prior to the use of such equipment. All spray equipment shall be in good working order during the contract time. Leaky valves and hose connections will not be permitted. On-pavement spraying equipment shall be pneumatic tired units. The truck shall be equipped with a computerized injection system rate monitoring system that uses a radar speed sensing unit. An instruction manual for the computer shall be in the truck at all times.

40 *The Contractor shall provide OSHA approved safety goggles, respirators, and rubber gloves for employees. The safety equipment shall be used during the mixing of the herbicide formulation and may be worn during the application. The Contractor's employees shall not smoke cigarettes or other tobacco products while mixing or spraying*

herbicide. An OSHA approved hard hat shall be worn during the spray operation by the applicator if the applicator is outside the vehicle passenger compartment.

624.04 Maintenance of Traffic

50 *All slow moving equipment operated on the pavement or shoulder shall be equipped with a flashing arrow sign type A as set out in 923.04. Reserve power, minimum operation time, and photo controlled transfer relay will not be required. The lights shall flash in the direction in which traffic is to proceed. The flashing arrow sign shall be installed on the rear of the equipment with the bottom edge of the sign located at 8 ft (2.5 m) above the pavement.*

60 *Protection of the traveling public and of the herbicide crew shall be provided during the herbicide operation through the use of traffic control devices in accordance with 107.12. Flaggers shall be provided for traffic control as necessary. Each vehicle in the herbicide operation shall display the slow moving vehicle emblems when operating at speeds of 25 mph (40 km/h) or less. The slow moving vehicle emblems shall be removed when the vehicles are operating at speeds greater than 25 mph (40 km/h).*

All amber flashing warning lights and amber strobe lights mounted on the vehicles used in the herbicide operation shall be in accordance with 801.14, with the minimum of one flashing amber warning light or amber strobe light which is visible in all directions.

70 *The herbicide application vehicle shall have a rear facing type A or type C flashing arrow sign, an amber flashing warning light mounted near the center of the truck bed, and an amber strobe light mounted on each rear corner of the truck bed. The amber flashing warning light and amber strobe light shall be mounted on retractable supports and shall be operated at a maximum height of 12 ft (3.7 m) above the pavement unless otherwise directed.*

A rear escort vehicle shall follow the herbicide application vehicle at a distance of 1,000 ft (300 m) and may operate in the travel lane or on the paved shoulder.

The rear escort vehicle shall be equipped with a rear facing flashing arrow sign type C mounted above a rear facing WS21-5-A “Shoulder Work” sign.

80 **624.05 Herbicide Application**

The herbicide formulation shall be sprayed on the full widths of medians of 60 ft (18 m) or less. The herbicide shall also be applied on outside shoulders, inside shoulders of medians wider than 60 ft (18 m), and shoulders adjacent to ramps to a width of 25 ft (8 m). The application will not require off-road application equipment.

90 *Vegetation around guardrail, bridge cones, sign posts, delineators, and areas inaccessible to mowing equipment shall be sprayed. Slopes which are too steep or otherwise inaccessible to mounted spray equipment shall be treated with a handgun mounted on a hose of sufficient length to assure acceptable coverage. Deciduous trees, evergreen trees, shrubs planted or maintained by the State, and desirable volunteer*

woody vegetation growing on the roadside shall not be sprayed. Areas designated as Prairie Restoration Areas shall not be sprayed.

Damage shall be prevented to residential planting, vegetable or flower gardens, susceptible rose hedges or similar landscape material, farm crops, or other desirable broadleaf plants adjacent to the roadside. All damage caused by the spraying operation shall be satisfactorily repaired.

100 Proper speed of the equipment making the application will be determined by the rate of discharge and area of coverage. However, equipment speed shall not exceed 20 mph (32 km/h). All work shall be performed between the hours of 6:00 a.m. and 6:00 p.m., or as otherwise directed.

110 The Engineer will seal all partially filled or otherwise unsealed containers of chemicals upon completion of daily operations. Work shall not be done unless the Engineer is present. Effort shall be made to stop work at least one hour before rain. Work shall not resume until all free water has stopped dripping from the plants. Work shall also be suspended if the wind velocity is high enough to carry the spray outside of the target area. The Contractor shall supply all labor, equipment, materials, and supervision to properly carry out the work. The Contractor shall have proof of holding a valid Indiana Pesticide Operator's license. At least one person with a valid Indiana Pesticide Applicator's License shall be present with each piece of spray equipment at all times.

624.06 Method of Measurement

This work will be measured by the acre (hectare). The areas for measurement will be those specified and tested.

624.07 Basis of Payment

120 This work will be paid for at the contract unit price per acre (hectare) for herbicide treatment.

Approximately 15 days following the completion of the application, an inspection of the work will be made to determine areas that were skipped, missed, or otherwise did not receive adequate treatment to acquire results comparable with the rate of kill obtained in the overall spraying operations. Both the Department and the Contractor shall be represented on all inspection teams. These areas will be identified by the Engineer. Respraying shall be performed within 14 calendar days after notification.

Payment will be made under:

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Pay Item	Pay Unit Symbol
Herbicide Treatment	ACRE (ha)

The cost of furnishing and applying all materials, labor, equipment, and necessary incidentals shall be included in the cost of this work. Repair to damaged desirable vegetation or respraying of missed or inadequately sprayed areas shall be done with no additional payment.

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624.08 Liquidated Damages

Liquidated damages, if applicable, will be charged in accordance with 108.09. Such charges will apply to each application. The charges for each application will be based on the total contract price.

Final acceptance will be made when it has been determined that respraying will not be required, or when all required respraying is completed.
