Montana Department of Transportation	Date Issued: September 27, 2021
	Date Effective: September 27, 2021
CONSTRUCTION MEMO	Related Specifications: 101.03, 107.02, 107.08, 107.27
Subject: Motor Carrier Services Construction Guide Update	

To: District Construction Engineers

From: Jake Goettle, P.E.
Construction Engineer

Date: September 27, 2021

Subject: Motor Carrier Services Construction Guide Update

This Construction Memo is an update to the previous subject memo and develops guidance to assist Motor Carrier Services (MCS) during construction activities and provide for the uniform application and enforcement of the project's specifications and laws in regard to load restrictions, diesel fuel used on projects, permits, licenses and taxes. These items are to be discussed at the Preconstruction conference. One of the reasons for these requirements is to prevent damage to the new project.

To provide uniformity and reduce the potential for errors, please find the attached Preconstruction Instructions that are to be discussed at Preconstruction meetings. Load limit restrictions must be enforced on all Structures, new and existing Portland cement concrete roadways, completed and accepted gravel surfaces, treated base courses, bituminous surfacing lifts and courses, including plant mix base, plant mix surfacing, and seal and cover. These guidelines are to be used in conjunction with the following specifications:

- Subsection 101.03 Definition of Structures
- Subsection 107.02 Permits, Licenses, and Taxes
- Subsection 107.08 Load Restrictions
    - Measure and analyze truck legal load limits by the bridge formula before hauling any material over existing or newly paved roadways and bridges.
    - Retain a copy of the appropriate drawing in each truck.
    - The weight on a truck in excess of the maximum legal weight as determined above will be deducted from the quantity considered for payment.
- Subsection 107.27 Diesel Fuel Used on the Project

To ensure all needed project information is communicated between the Districts and MCS,

please provide the following:

- Define the Project Limits in the Preconstruction Conference.
- Provide a contact list of District and Project Personnel to MCS at the Preconstruction Conference.
- Provide MCS with aggregate source locations and haul roads to be used during construction.
- 10 days prior to executing a project width restriction; notify MCS Permitting in Helena and the District MCS of the width restriction and its effective date.
    - Update the road report to include the start date of the width restriction.

For assistance or questions related to MCS Inspections, please contact the District MCS Office or the District's Construction Engineering Services Reviewer.

JG/pj

CC: Dwane Kailey, PE
Engineering Bureau Chiefs
CES Bureau
EPMs
District Office Engineers
Lab Supervisors
Eric Belford-MCS
Brad Marten-MCS
Val Wilson, Legal
Chris Nygren, Legal
FHWA Operations Engineers

MCS Preconstruction Outline

Utilize this outline in conjunction with the following pages to fully cover:

- MCS operations within and beyond construction operations;
- Explain DOT and MCS expectations; and
- Supply the contractor and subcontractor with their legal obligations in regard to those areas enforced by Motor Carrier Services Officers (size, weight, licensing, and fuel taxation).

Pages 4 and 5 – This is a list of definitions utilized throughout this document. These definitions will be of value in helping the contractor to understand their role in legal operations, when and where the rules apply, and define the boundaries of operation and enforcement.

Pages 5 and 6 – Detail the Size and Weight limitations and MCS's role in enforcement. Also included are any exemptions the contractor may utilize during the construction project, within the construction zone.

Page 7 – Details the licensing and registration requirements and the requirements/restrictions to Gainful Occupation of vehicle use on the construction project.

Pages 7 and 8 – Detail the regulations, restrictions and exemptions for the use of fuels on the construction project.

Pages 9 and 10 – Lists the information and phone numbers for the construction personnel to use in order to contact MCS Weigh Stations, Patrol Officers, Captains, and the Helena MCS Office.

Pre-Construction Instructions

This document provides for the cooperative uniform application and enforcement of the project specifications and laws between Construction, MCS and the contractor in regards to load restrictions, diesel fuel used on projects, permits, licenses and taxes. These items are to be discussed at the Pre-construction conference. As clarification use the following definitions.

Bituminous surfacing courses: A mixture of graded aggregate and asphalt, which is used as a wearing course. This treatment is usually placed in two or more specified thicknesses.

Bituminous surfacing lifts: A mixture of graded aggregate and asphalt, which is used as a wearing course. This treatment is placed in a specified thickness.

Blue tops/Finish Grade: Grade stakes for subgrade and aggregate surfacing used in highway construction. With the incorporation of the Finished Grade Control in the Standard Specifications, physical blue top stakes are not required and the point when the grade is complete will need to be communicated from Construction to MCS.

Cement Treated Base (CTB): A compacted mixture of graded aggregate, cement, and water, which is used as a base course for the construction of highways, airport runways and taxiways.

Completed and accepted gravel surfaces: Aggregate surface, used as a surface or base course, that is graded to the typical cross section and profile grade and meets both moisture and density requirements. When the surface is complete and accepted Construction is to inform MCS.

Construction zone: An area on a public highway or on the adjacent right-of-way where construction, repair, maintenance, or survey work is being performed by the department of transportation, a local authority, a utility company, or a private contractor under contract with the department of transportation or a local authority. A construction zone may include a work zone. (See 61-8-314 MCA)

Open grade friction course: An asphalt pavement surface course that has a porous texture, which allows the rapid drainage of water through the course and out the shoulder. (*Currently not used by MDT*)

Plant mix base: A compacted mixture of graded aggregate and asphalt, which is the lower or underlying pavement course atop the subbase or subgrade and under the top or wearing course.

Plant mix surfacing*:* Is a mixture of graded aggregate and asphalt, which is used as a wearing course. This definition is used interchangeably with ***Bituminous surfacing.***

Prime/aggregate treatment: A fluid asphalt of low viscosity (highly liquid) that penetrates into a non-bituminous surface (gravel) upon application. It is used to prepare an untreated base for an asphalt surface. Aggregate treatment may be a combination of dust palliative and tack coat that is used as a bonding layer between the gravel surface and new plant mix surface.

Project limits: An area where work is to be performed as specified in the contract documents. A

specified area where the construction, repair, maintenance, or survey work is actually taking place.

Structure: Bridges, culverts, catch basins, drop inlet, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other features that may be encountered in the work. Defined in Standard Specification 101.03.

Tack coat: A combination of asphalt cement, water and a small quantity of emulsifying agent. It is used to ensure a good bond between the surface being paved and the overlaying new course.

***Treated base course*:** The layer immediately beneath the surface course. It provides additional load distribution and contributes to drainage and frost resistance. Base courses are usually constructed out of aggregate, hot mix asphalt or cement treated base.

Work zone: The area where the construction, repair, maintenance, or survey work is actually taking place. The boundaries of the work zone must be clearly identified by the posting of signs. (See 61-8-314 MCA)

** Note: Where referenced the above will appear in *italics*.

SIZE

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits, authorizations, and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Oversize permits are not required within the confines of the *construction zone* but are required outside the confines of the *construction zone*.

Sign Trailers Pulled Behind Light Vehicles

Within the confines of a *construction zone*, a vehicle may pull the necessary number of signs as required to meet the current MDT Detailed Drawings requirements for work zones. In order for this policy to apply, the *construction zone* must have in place initial *construction zone* signs at the beginning and end of the *project limits*.

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WEIGHT

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Overweight permits are not required within the confines of the *construction zone* but are required outside the confines of the *construction zone*. However, the requirements of 107.08, Load Restriction, and 61-10-107, Maximum Gross Weight, must be met to transport equipment across structures within and outside of the construction zone.

107.08 (Standard Specifications) Load restrictions.

Do not exceed legal load restrictions when hauling material and equipment on public roadways and bridges within and beyond the *project limits* and on all new and existing Portland cement concrete

roadways, *completed and accepted gravel surfaces, treated base courses*, *bituminous surfacing lifts and courses*, including *plant mix base*, *plant mix surfacing*, and *seal and cover*.

Do not place loads on a concrete pavement, *treated base*, or *structure* before the curing period has been achieved.

Repair damaged roadways and *structures* resulting from construction operations at Contractor expense.

Measure and analyze truck legal load limits by the bridge formula before hauling any material over existing or newly paved roadways and bridges. Furnish a drawing showing distances between axles, truck tare weight, and the overall length of each truck prior to hauling or placing operations.

Show a minimum of two applications using the bridge formula on the drawing. Include on the first application the overall length between axles. For the second application, do not consider the steering axle, and add the value obtained from the bridge formula to the anticipated load on the steering axle. Use the lesser of the two values obtained as the legal load. Retain a copy of the appropriate drawing in each truck. Do not exceed established legal load weights for single axle and tandem axles.

If raising a retractable or tag axle results in the truck being over the maximum legal weight, only raise the axles when backing to unload at a chip spreader, windrow, or plant mix paver. Back the minimum distance possible while over legal weight restrictions. Do not exceed the legal weight on the steering axle by more than 25 percent or tandem axles by more than 50 percent while backing with the retractable or tag axles lifted.

The weight on a truck in excess of the maximum legal weight as determined above will be deducted from the quantity considered for payment.

Comply with this provision and all applicable laws, rules, and regulations related to operation of motor vehicles on public roads.

Trucks operated on public roads may be checked by the Department's Motor Carrier Services and fines levied for exceeding legal loads.

Do not use existing bridges, new bridges, or bridges to be removed but still in use by the public as work platforms, work bridges, or to support or move equipment without the Engineer's written approval.

Approval will be granted only where load analysis and review of traffic control, safety, and convenience show it to be in the public interest.

No additional compensation will be considered or allowed for any violation of these provisions.

61-10-107 (MCA) Maximum gross weight.

(1) An axle may not carry a load in excess of 20,000 pounds, and no two consecutive axles more than 40 inches or less than 96 inches apart may carry a load in excess of 34,000 pounds. An axle load is the total load transmitted to the road by all wheels whose centers are included between two parallel transverse vertical planes 40 inches apart, extending across the full width of the vehicle. For purposes of this section, axles 40 inches or less apart are considered to be a single axle. The maximum gross weight allowed on a vehicle, group of axles, or combination of vehicles must be determined by the formula:

$$W = 500((LN/(N - 1)) + 12N + 36)$$

in which W equals gross weight, L equals wheel base in feet, and N equals number of axles, except that two consecutive sets of tandem axles may carry a gross load of 34,000 pounds each if the overall distance between the first and last axles of the consecutive sets of tandem axles is 36 feet or more. The maximum gross weight allowed on a vehicle may not exceed the weight limits adopted by the department. The department shall adopt rules for weight limits based upon the most recent version of 23 CFR, part 658, appendix c, for vehicles operating in Montana.

(2) (a) Notwithstanding a vehicle's conformance with the requirements of subsection (1), except for the steering axle, all axles weighing over 11,000 pounds must have at least four tires or have wide-base tires. The maximum load on an axle, other than a steering axle, equipped with wide-base tires is limited to 500 pounds for each inch of tire width.

(b) The provisions of subsection (2)(a) do not apply to passenger buses.

(c) For the purposes of this section, wide-base tires are tires that are 14 or more inches in nominal width. The maximum tire weight limit is computed for wide-base tires based on the number of inches shown on the tire marking, or if the tire marking is shown by metric size, the tire weight limit is computed

by conversion of the metric size.

(3) This section does not apply to highways that are a part of the national system of interstate and defense highways (as referred to in 23 U.S.C. 127) when application of this section would prevent this state from receiving federal funds for highway purposes.

The following special provision will be added to contracts that have a bridge within the project limits:

1. CONSTRUCTION EQUIPMENT ON STRUCTURES (REVISED 7-16-20)

A. Description: Requirements associated with the operation of equipment on structures.

B. Definition. The following definition applies to this special provision:

- Equipment. Any vehicle or machine weighing more than 5000 pounds.

C. Construction Requirements. Do not use bridges as work platforms, work bridges, or to support or move equipment without the Project Manager's written approval. The Project Manager may require a full Engineering Submittal at their sole discretion.

1) For bridges having no posted load restrictions and no removal of deck concrete (not milled), provide a full Engineering submittal for approval for all equipment utilizing outriggers on the structure and for any equipment not already approved under one of the following conditions:

a) Legal Loads. A vehicle that is a legal load as defined by Montana Code Annotated (MCA).

b) Pre-Approved Equipment. The equipment is currently listed on MDT's Approved Construction Equipment List (ACEL) and will be operated according to any conditions stated in the ACEL.

2) For bridges with a posted load restriction or if bridge deck concrete is partially milled or removed, submit a full Engineering submittal for approval for any of the following cases:

a) Equipment weight exceeds 25 tons.

b) Vehicle weight and configuration does not satisfy the posted load restriction.

c) More than one piece of equipment will be simultaneously located on a span.

d) Concrete removal results in debonding of the top mat of deck reinforcing steel.

e) Repairs to bridge beams or truss members are specified in the contract and repairs are not complete.

f) Equipment outriggers will be used.

3) Full Engineering Submittal requirements. Submit an engineering analysis and report performed by a Professional Engineer registered in Montana.

a) Engineering analysis. Clearly describe loading conditions and assumptions and provide calculations. Investigate an envelope within which the equipment may function without damaging the structure or endangering workers or the public. MDT proposes the following topics, at a minimum. Provide additional information when necessary.

(1) Load Cases.

(a) Minimum suggested live load vehicles are Type 3 and Type 3S2 trucks in live load combinations from AASHTO "Manual for Condition Evaluation of Bridges."

(b) Consider all loads on the bridge including axle loads, outriggers, equipment dynamic forces, and wind forces on the load, the boom, and the equipment. Consider deflection and secondary force effects. Include traffic live load if the structure will carry traffic during equipment operations.

(c) Investigate different loading combinations for all configurations. Include the distribution of dead load and changing center-of-gravity of the equipment with and without load at different boom extensions, rotations, and elevations.

(2) Structural Effects. Identify critical members. Determine any conditions under which the equipment cannot safely operate.

b) Written Report. Provide a report containing a narrative summarizing the results of the analysis. Describe special measures necessary to protect the structure through all phases of the equipment's positioning and use. Include drawings as necessary and indicate any minimum equipment clearances to relevant portions of the structure and to traffic flow. Estimate the work's duration.

c) MDT will consider equipment submitted under this contract for addition to the ACEL.

D. Method of Measurement. Work associated with this provision is not measured for payment.

E. Basis of Payment. Include all costs associated with the requirements of this provision in the cost of other items.

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LICENSING / REGISTRATION

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits, authorizations and licenses pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Maximum GVW fees must be paid on all vehicles.

61-3-701 (MCA) Out-of-state vehicles used in gainful occupation to be registered -- reciprocity.

(1) Before a motor vehicle that is registered in another jurisdiction may be operated on the highways of this state for hire, compensation, or profit or before the owner or user of the vehicle uses the vehicle if the owner or user is engaged in gainful occupation or business enterprise in the state, including highway work, the owner of the vehicle shall register the vehicle at the office of a county treasurer or an authorized agent of the department. Upon satisfactory evidence of ownership submitted to the county treasurer or the department's authorized agent and the payment of fees in lieu of taxes or registration fees, if appropriate, as required by 15-8-201, 15-8-202, 15-24-301, 61-3-529, and 61-3-537, the treasurer or authorized agent shall enter the vehicle for registration purposes only on the electronic registry maintained by the department under 61-3-101.

(2) Upon payment of the fees or taxes, the treasurer or the department's authorized agent shall issue to the vehicle owner a registration receipt and the proper license plates or other identification markers. The license plates or identification markers must at all times be displayed upon the vehicle when operated or driven upon roads and highways of this state during the registration period indicated on the receipt.

(3) The registration receipt does not constitute evidence of ownership but must be used only for registration purposes. A Montana certificate of title may not be issued for a vehicle registered under this section.

(4) This section is not applicable to a vehicle covered by a valid and existing reciprocal agreement or declaration entered into under Montana law.

61-3-702 (MCA) Foreign vehicles to display number plates.

All foreign registered and licensed motor vehicles shall also carry in plain sight thereon the license plates or device from such other state or foreign country.

61-3-703 (MCA) Purpose.

Sections 61-3-701 and 61-3-702 shall be solely for the purpose of taxation, registration, and identification of vehicles operated in this state that have paid a license in another state or foreign country, and otherwise than as herein specifically set forth shall not be construed as a repeal of any laws or parts of laws having to do with the registration or licensing of automobiles within the state.

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FUEL

Any contractors/sub-contractors working on a public road project must use only tax-paid fuel. MCS Officers will continue to check for compliance.

Any Public Road Projects

All contractors/sub-contractors participating on any MDT projects will not store or use dyed diesel in equipment, vehicles and stationary engines. Contractors or sub-contractors who use or store dyed diesel on any MDT project are in violation of MDT's contract and may be suspended for up to 6 months from participating in future MDT contracts.

When equipment and/or Special Mobile (SM)-plated vehicles are moved onto any public road project and contain dyed diesel you must declare and pay the tax on the fuel:

> Obtain a Declaration of Dyed Fuel form on MDT's web page http://www.mdt.mt.gov/publications/forms.shtml#fuel or call MDT at 406 444-0806 to request a form. Complete the form, keep a copy for your records. Send the form with the tax due to MDT

Once the equipment or SM-plated vehicles are on the project, they must be refueled with tax paid (clear) diesel.

Violations will be issued to the prime contractor's supervising project manager

Production of Material

Project Pit/Quarry: Equipment and vehicles used in the development and production of materials in a pit/quarry for a specific contract must use tax paid (clear) diesel. This pit/quarry is considered part of the project site and must conform to contract requirements of the project.

Permanent Pit/Quarry: This is a pit/quarry that is a permanent physical place where materials are produced and supplied to various projects. A permanent pit/quarry that supplies a public road project may use only tax paid (clear) diesel fuel in equipment and vehicles.

Any tax paid (clear) diesel used in a non-taxable manner qualifies for a refund (see definitions non-taxable).

Material used for construction, reconstruction, or improvement in connection with work performed on any public road project must be produced using tax paid (clear) diesel.

Contacts Updated 9-7-21	MCS Enforcement Contacts	Location	Office Ph #	Cell Ph #	Fax #
HEADQUARTERS					
	Russ Christoferson - BUREAU CHIEF		444-0454	431-1269	444-6136
	Chris Williams - Major		444-7629	431-2400	444-6136
DISTRICT 1 (Missoula)					
	CAPTAIN PAT METZGER		678-4260	544-3736	678-4261
	LT Mike Lyles			249-7680	
PATROL OFFICERS					
	Stan Decker	Thompson Falls		788-0258	
	ERIC MILLER	KALISPELL		249-3929	
	JOSH WILLIAMS	KALISPELL-LIBBY		531-2933	
	BOB ANDRESS	MISSOULA		531-2934	
	KEITH KOMINEK	MISSOULA		670-0351	
	JASON ATMILLER	PLAINS		871-6032	
WEIGH STATIONS					
	CLEARWATER		244-5460		244-5777
	HAUGAN		678-4257		678-4317
	HAUGAN		678-4258		
DISTRICT 2 (BUTTE)					
	CAPTAIN MIKE POOLE		533-3692	490-1658	494-4396
	Vacant				
PATROL OFFICERS	SGT DAN CARROLL			490-8699	
	Walt Gordon	BOZEMAN		431-6479	
	JOHATHAN LARSON	BOZEMAN		581-9712	
	Brad Billington	BUTTE		579-3441	
	ADAM ROMKEMA	ENNIS		291-3188	
	MYRLIN SCHATZ	HELENA		431-6069	
WEIGH STATIONS					
	BUTTE		533-3699		
	LIMA		276-3429		
DISTRICT 3 (GREAT FALLS)					
	CAPTAIN Jim Kinsey		455-8330	431-0806	453-8737
	LT Mike Lyles			249-7680	
PATROL OFFICERS					
	DAVID CASSIDY	GREAT FALLS		750-2713	
	Sara Lubke	US 2 Hi-Line		399-0562	
	MERLIN FRYDENLUND	SHELBY		450-2501	
	Brian Brown	Great Falls		390-3020	
WEIGH STATIONS					
	ARMINGTON JUNCTION		738-4261		738-4262
	COUTTS (Alberta)		(403) 344-5063		(403) 344-3044
	HAVRE		265-9033		265-8676
DISTRICT 4 (GLENDIVE)					
	CAPTAIN Brian Dandrea		233-3629	670-0349	
	LT BRIAN BEAR		345-8249	633-5876	
PATROL OFFICERS					
	Burt Peigneux	Malta		465-6351	
	SPIRO MACK	COLSTRIP		670-0350	
	Vacant	CULBERTSON		941-2629	
	MARIAH PERRY	BROADUS		852-3509	
	Mandy Nard	Glendive		839-2066	
	Jacob Feist	Glendive		250-2066	
WEIGH STATIONS					
	BROADUS		436-2531		436-2813
	CULBERTSON		787-5323		787-6113
	WIBAUX		345-8254		345-8293
DISTRICT 5 (BILLINGS)					
	CAPTAIN Kevin Adkins		657-0201	6700348	657-0931
PATROL OFFICERS					
	Vacant	BILLINGS		471-6283	
	Seth Scheller	BILLINGS		860-8648	
	Tony Hardcastle	BILLINGS		670-1619	
	CHRIS GRAHAM	LEWISTOWN		366-0635	
WEIGH STATIONS					
	BILLINGS EB		657-0204		657-0934
	BILLINGS WB		657-0203		657-0933
	BILLINGS BARN		657-0202		657-0932