

Recent PHD Changes and Enhancements

November 2023

PHD went through an LPI process (Lean Process Improvement) to streamline the PHD data entry process and to be more efficient. In addition, PHD admins frequently get comments and suggestions from PHD users (Data Entry and Data Owners, and MDOT personnel who use PHD data). Most of the following changes and enhancements result from the LPI process's recommendation and/or users' suggestions. The new PHD [User Guide](#) reflect these new changes, and more details are available in the user guide.

1) Job Type Naming Update

- MAP jobs are now called JobNet Jobs (programmed jobs in JobNet that are let through the MDOT bid letting system)
- Non-MAP jobs are now called Non JobNet Jobs (maintenance-funded work, TWA, Direct Forces Work, Warranty Work, and Permits)

The image shows two side-by-side screenshots of the 'Enter Job Information' form. The left screenshot shows the 'Is JobNet Job' field with the 'Yes' radio button selected and the 'JobNet Job ID' field as a text input. The right screenshot shows the 'Is JobNet Job' field with the 'No' radio button selected and the 'Non JobNet Job ID' field as a text input. Both screenshots include 'Next Step' and 'Cancel' buttons at the bottom.

2) Fix Life entry at job creation

- Fix Life is now a required input for Non JobNet (Non-MAP) jobs
- At job creation, and once a WTC is selected, the Fix Life will be auto-filled. Users can still change the auto-filled Fix Life value.
- Click on the 'Fix Life Guide' link to review the appropriate Fix Life per project type. Consult the appropriate Pavement Management Engineer for further guidance or confirmation.

The image shows a screenshot of the 'Job Details' form. It displays the following information: 'Non JobNet Job ID' is M1458974; 'Non JobNet Job Type' is 'Maintenance "M" Funded'; 'Work Type Code' is '140 - Two Course Asphalt Resurfacing'; and 'Fix Life' is '18 Year(s)' with a blue link labeled 'Fix Life Guide'.

3) Creating a placeholder segment with new upcoming framework PR# and/or changed MPs

- In the past, PHD will not allow the creation of any segment with a new PR number and/or recently changed MPs (outside of the current framework limits), such as a new ramp, new roundabout, or other types of alignment changes.
- This is due to the available PR framework in PHD (refers to the linear referencing system (LRS)), which is always one version older than the current framework in MDOT's [PR Finder](#). Usually, PHD data entry is delayed until the following year (for most new/changed segments) until the new framework is available.

⚠ The specified milepoints exceeds the segment length of 0.121.

Create PR Segment [Job # - 124046]				
Latest PR Version	PR Number *	BMP *	EMP *	
23	6200141		0	1.45

- Now, users can create and edit those segments by selecting a 'Future' PR version. Users can **only** create, edit, and complete those segments with the Future framework, instead of waiting until the following year, and **save the job as Draft**. Users **cannot finalize** the job **until the new framework is available** the following year.

Create PR Segment [Job # - 124046]				
Latest PR Version	PR Number *	BMP *	EMP *	
Future	6200141		0	1.45

4) Informational Text for Layer Description and Attribute Locations

For each layer in PHD, informational text was added to guide the user about (1) layer description, and (2) where to locate layer attributes using the construction-related documents.

Select a Layer [Job # - 124046 / PR # - 1590804/ MP :0 ... 0.03]

Layer :

The application of a polymer modified asphalt emulsion with a cover aggregate. A single or a double chip seal can be used.

Locate layer attributes using the following construction-related documents:

- For Emulsified Asphalt Supplier and Emulsion Type, use Material Source List (MSL) (Form 0501).
- For Number of Courses, use Inspector's Daily Reports (IDRs) (Form 1122B) or 'As Built' Plans & Proposal.
- For Aggregate Class and Source (pit number), use Aggregate Inspection Daily Report (Form 1900) or Material Source List (MSL) (Form 0501).

Pavement Attributes - Chip Seal

* Emulsion :

* Emulsified Asphalt Supplier :

* Number of Courses : [Numeric Value]

Select New Aggregate

* Aggregate :

Source : -

Aggregate Summary

Aggregate	Source
Empty - Add Aggregates	

5) Quick Layers Updated Functions and Renamed to Layers Library

- Quick Layers are now called Layers Library
- Now, the Layers Library applies to the user and not just a single project, so users can save and apply saved layers (and their attributes) in the same project **and also** in different projects for the same user. This is helpful for Data Entry users who are assigned multiple jobs with the same layer (and its attributes), such as the same HMA JMF, chip seal process, etc.
- Users can apply saved layers through the Layers Library Overview (job's main screen), similar to the old "Quick Layers Overview". But now, users can also apply saved layers while working within a Lane/Shoulder by selecting an already saved layer in the "Layers Library".

The screenshot displays the software interface for managing layers. On the left, the 'PR Segment List' table shows project details. Below it, the 'Lanes and Shoulders' section lists lane configurations. The 'Layers List' table, highlighted with a red box, contains the following data:

#	Layer Name	User Specified Name	Data Entry Status
4	HMA Top Course	HMA_85541 #2	Complete
3	HMA Top Course	Top_85541	Complete
2	HMA Level Course	Level_85541	Complete
1	Cold Milling	Milling	Complete

On the right, the 'Lane Details [Lane #2.0]' section shows configuration options for a lane, including Surface Type (HMA full depth), Width (12 ft), Lane Type (Mainline), and Year (2016). Below this, the 'Select New Layer' section features a dropdown menu. A red box highlights the 'Select a Layer from the Layers Library' dropdown, which shows a list of available layers: HMA Top Course (HMA_85541 #2), HMA Top Course (Top_85541), HMA Level Course (Level_85541), and Cold Milling (Milling).

6) New/updated Layers and attributes in PHD

- HMA Skip Patching: To be used for intermittent asphalt resurfacing repair (asphalt patches). No segmentation is required for segments with HMA Skip Patching layer, since using the layer will indicate this is not a continuous HMA layer for the entire segment.
- Void Reducing Asphalt Membrane: VRAM is a mix of asphalt binder and modifiers applied underneath the longitudinal construction joint of an asphalt pavement layer to achieve higher densities and prevent moisture infiltration. No need to select a specific product/brand (like JBand).
- Overband Crackfill: the "Overband Crackfill PreTreatment" and "Overband Crackfill Stand Alone" layers have been replaced with one layer "Overband Crackfill". There is no need to identify if this is a pre-treatment or a stand-alone layer as this will be identified if other layers are added.
- Micro-surface: the micro-surface (Rut Fill Layer) has been archived, and an attribute was added to the "Micro-surface" layer to designate "Rut Fill Layer" (a Y/N question).
- All HMA layers: Two new attributes were added, as follows, and can be found in the HMA Job Mix Formula (JMF) (see the example).
 - The "Asphalt % (Total)" which is the percent of total asphalt binder in the mixture (virgin/new binder + recycled binder from RAP), and
 - The "Asphalt Binder %Added (Virgin)" which is the percent of virgin/new asphalt binder in the mixture.

JOB MIX FORMULA (JMF) HMA FIELD COMMUNICATION



This form 1911 applies only to the project listed below and is not transferable to other projects.

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CONTROL SECTION 06071		JOB NO. 208813A		PROJECT ENGINEER Kirk Habowski - Bay City TSC			DATE EFFECTIVE 08/07/2023	
CONTRACTOR Rieth-Riley Construction Co., Inc.				PLANT LOCATION Houghton Lake			PLANT NO. 390-21	
TYPE OF MIXTURE 5EML		MIX DESIGN NO. 23MD262		TESTING OPTION vacuum extraction		PLANT CERTIFICATION DATE 04/26/2023	CONTRACTOR'S QC PLAN TO PROJECT ENGINEER	<input type="checkbox"/> YES <input type="checkbox"/> NO
STAND. SPEC. DATE 2020	MIX SP. PROV. DATE 2020 Std. Spec.	CC/QA SP. PROV. DATE 501R-03 9/17/21	VMA 15.77	VFA 80.97	% AIR VOIDS 3.00	ANGULARITY 42.9	DUST CORR.	
Gmm 2.459	Gmb 2.385	Gb 1.030	Gse 2.705	Gsb 2.657	FINES/ASPHALT RATIO 1.05	COMPACTION TEMP. 284 - 293 F	MIXING TEMP. 304 - 316 F	
MIX/AGG. GRADATION, %				MIX/AGG. PROPORTION, %				
				MATERIAL/PRODUCER		PIT NO.	PERCENT	
ASPHALT, %		6.16		Sand		72-006	30.0	
P 1-1/2" (37.5 mm)		100.00		LWCD		60-018	9.0	
P 1" (25.0 mm)		100.00		H2		49-065	16.0	
P 3/4" (19.0 mm)		100.00		1/8-(Dust) C		72-027	8.0	
P 1/2" (12.5 mm)		100.00		3/8-1/8 C		72-027	16.0	
P 3/8" (9.5 mm)		97.20						
P No. 4 (4.75 mm)		83.00						
P No. 8 (2.36 mm)		65.20						
P No. 16 (1.18 mm)		49.20						
P No. 30 (600 µm)		38.10						
P No. 50 (300 µm)		18.50		RECLAIMED	RAP (Yard 4.93% AC)			21.0
P No. 100 (150 µm)		8.00		FILLER				
P No. 200 (75 µm)		5.80		ASPHALT BINDER	GRADE PG 64-28	CERTIFIED SUPPLIER/LOCATION/CERT # Interstate / Manistee / ABS 5560	% ADDED	5.12
CRUSHED 1 FACE		92.9		AWI (Spec.) 260.0	AWI (Actual) 282.0			
CRUSHED 2 FACES				<input checked="" type="checkbox"/> QUALITY ASSURANCE TESTING	<input type="checkbox"/> REGULAR TESTING			
BOND COAT		PRODUCER/LOCATION LTBC-2 Bit-Mat Products / Bay City, MI				CERTIFIED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		

REMARKS:
Warm Mix utilizing Water Foaming for bitumen Introduction but produced at regular mixing