



# Pavement Historical Database (PHD)

## *User Guide*

2023

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# Chapter 1. General Information

## 1.1 Introduction

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### System Definition

The Pavement Historical Database (PHD) is a centralized electronic data warehouse designed to store “As Built” pavement typical section information and materials data on Michigan’s state-owned roads (trunkline). The data can be quickly and easily searched, sorted, and exported, without the need to review each project’s plans, proposal, contract modifications, and other construction-related documents.

Compared to the originally planned or designed records, “As Built” information represents existing pavement typical sections, materials, suppliers, job completion date, etc., which reflect any changes made during construction. These changes include, among others; changes in the road location, length, and alignment; changes in pavement cross-section and/or quantity, and changes in materials used and/or their sources/suppliers.

PHD uses the project-specific Physical Road (PR) Number and milepoints as a linear referencing system. With data stored in this manner, the system can be queried using a variety of filter criteria, including specific route segments, specific materials, and suppliers.

## 1.2 PHD Purpose and Uses

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### Pavement Performance Monitoring & Data Analysis

- The Michigan Department of Transportation (MDOT) pavement performance monitoring process includes, among other outcomes, the determination of Fix Live (anticipated pavement life *excluding* maintenance) and Service Live (anticipated pavement life *including* maintenance) for each programmed job. The MDOT’s Pavement Analysis, Valuation, Examination, and Tracking (PAVETrack) application monitors, analyzes, and reports on the historical performance of MDOT pavements. All are used in the MDOT’s Life-Cycle Cost Analysis (LCCA) process.
- PHD is the primary source of all new R&R and CPM project segments that are brought into PAVETrack to be monitored and included in future analyses. PHD is the source for “As Built” pavement and material information for let jobs and non-let jobs, which may or may not match the project as it was initially designed or planned. In particular, non-let jobs (such as some maintenance projects, Transportation Work Authorizations (TWA), Direct Forces Work, Warranty work, and Permits) are only comprehensively tracked in PHD.
- PHD can also aid in tracking actual job completion dates, or the specific segment completion date for multi-year projects.

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## Highway Performance Monitoring System (HPMS) reporting

- HPMS is the official federal government source of data on the extent, condition, performance, use, and operating report characteristics of the nation's highways. HPMS report is required annually for all states for apportioning Federal-aid highway funds.
- PHD is a data source for the HPMS report for the state of Michigan. The HPMS report includes pavement-related data such as lane and shoulder surface type, pavement cross-section, total thickness, last overlay thickness, base type and thickness, median type and width, year of last construction, year of last improvement, etc.

## Pavement Management Process Plan (PaveMaPP)

- PaveMaPP is the source of pavement condition data for the Michigan Trunkline Highway System and the current source of compiled/reported Remaining Service Life (RSL) estimates. PHD is PaveMaPP's source of pavement surface type and non-let jobs' location, timing, work type, and Fix Life attributes for use in RSL estimation/reporting.

## Project Scoping, Estimating, Design, Maintenance, and Forensic Analysis

- PHD provides readily available data (reports and exports) to aid in the Scoping Process for MDOT projects, including cost estimating, initial design, and past maintenance activities.

## Materials and Work Type Trend Analysis

- The PHD database can be used in researching individual state routes, specific pavement work types (reconstruction, overlays, pavement repairs, etc.), as well as performing materials trend analysis. For example, PHD can provide lane miles of Crack Seal or Chip Seal in certain years at a certain location (Region, TSC, or County), can track paved lane and shoulder widths for a particular Region, TSC, or County, and can track the use of particular asphalt binders (PG grade and source) within a Region, TSC, or route.
- In PHD, the search for material information and quantities, or any other historical records, can be performed using various search criteria, such as **by location** (including Region, TSC, County, and Route); by **PR number, Control Section (CS) number, and milepoints**; by MDOT's **Job Number; by layer type** (including HMA Top/Leveling/Base, concrete, pavement repair, joint repair, etc.); and **by material type and source** (such as including binder PG and source, mix type and JMF#, cement type and source, aggregate type and source, emulsion type and supplier, crack sealing product, cold milling type and texture, etc.).

## Permanent Database for the Michigan Trunkline Highway System

- Due to the State of Michigan's Data Retention & Disposal Schedules, including MDOT's Data Retention Cycle, some construction-related data might be lost or not easily accessible after several years. PHD is a centralized electronic data warehouse designed to permanently store "As Built" pavement typical section information and materials data. The data can be quickly and easily searched, sorted, and exported.

## 1.3 System Information

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### PHD Access

The PHD application is accessed through the State of Michigan MILogin website. After signing in to MILogin, PHD can be selected from the user's list of MDOT subscribed applications. MILogin can be accessed from the following URLs:

- For MDOT Employees: <https://miloginworker.michigan.gov/uisecure/selfservice>
- For Consultants: <https://milogintp.michigan.gov/eai/tplogin/authenticate?URL=/>

Follow these steps to request access to PHD:

- 1) Log-in to MILogin. If you do not have a MILogin account (a consultant), click the **'Create an Account'** button at the bottom of the login screen, and follow all subsequent instructions and steps.
- 2) After logging into MILogin, select **Find Services** on the opening screen. On the new page:
  - a. In the **Filter by Departments** drop-down list, select Michigan Department of Transportation.
  - b. Select MDOT Pavement Historical Database, and then click **Request Service**.
- 3) A PHD System Administrator will review your request. Meanwhile, to grant access, users must receive approval per the following:
  - a. An E-mail from your supervisor (for MDOT users), or MDOT Region or TSC representative (for consultant users), must be sent to the PHD System Administrator indicating that there is a business need to gain access to PHD.
  - b. The E-mail should include the User Role and Assignment Location of the subscribing PHD user. For Consultant Users, the E-mail should also include the job number the consultant personnel will be entering.
  - c. Consultant access will be granted in accordance with the ["MDOT Pavement Historical Database \(PHD\) Consultant Request/Approval Protocol"](#) document.
- 4) The PHD Administrator will review the request and confirm the request with the user role and assignment location. After this is complete, MDOT Pavement Historical Database will be shown in the user's MILogin Application Portal for use. If after 24 hours, you still do not have access to PHD, contact the PHD System Administrator.

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### Assignment Location

The Assignment Location indicates the user's TSC, Region, or Statewide jurisdiction. Creating jobs, editing data, reassigning, and finalizing jobs are limited to within the Assignment Location granted by Administrators. Users with TSC access may reassign or complete segment data entry for those within their Region. For example, a user with granted access to the Brighton TSC can create and enter jobs within the University Region.

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## PHD User Roles

PHD data entry can be performed by **MDOT employees** and **contracted Consultants**. Users are assigned different access levels to PHD functions based on their roles and responsibilities. Users will be assigned one of the following user roles:

- Read Only user: can **only view** PHD data and reports.
- Data Entry user: authorized to **create, enter, and modify** jobs data in PHD. Data Entry users can finalize PHD jobs for review by a Data Owner but cannot finalize PHD jobs for submittal into the PHD database. Data Entry users can also **view** PHD data and reports.
- Data Owner user: authorized to **create, enter, and modify** jobs data in PHD. Data Owners **approve and finalize** PHD jobs completed by Data Entry users for submittal into the PHD database. These users can **reassign** PHD jobs to different Data Entry users. Data Owner users can also **view** PHD data and reports.
- Administrator: has **access** to administrative functions in PHD. Administrators **approve and manage** user access and define units, attributes, and layers available in the PHD system.

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## PHD Contacts

PHD is managed by the Pavement Management Section of the Construction Field Services Division. The following system administrators can be contacted for further information:

- **Fawaz Kaseer**: E-mail ([kaseerf@michigan.gov](mailto:kaseerf@michigan.gov)) – Phone # (517) 599-1498
- **Justin Schenkel**: E-mail ([schenkelj@michigan.gov](mailto:schenkelj@michigan.gov)) – Phone # (517) 242-2788

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## User Guide Structure

This manual consists of **Seven Chapters** and is intended as a comprehensive PHD User Guide.

[Chapter 1](#) defines PHD and details its purpose and uses.

[Chapter 2](#) discusses PHD jobs and job preparation (prior to the PHD data entry process)

[Chapter 3](#) introduces the PHD system, including PHD interface and navigation.

[Chapter 4](#) and [Chapter 5](#) show the steps to create and modify jobs in PHD and enter “As Built” data, for both Standard jobs and Simplified CPM format jobs. [Data Entry](#) and [Data Owner](#) users are the main intended audience for these two chapters.

[Chapter 6](#) shows the steps to review, edit and/or reassign, and finalize PHD jobs. [Data Owner](#) users are the intended audience for this chapter.

[Chapter 7](#) details the steps to querying the database, exporting PHD data, and generating PHD reports.

[Appendix A](#) provides answers to common questions asked by PHD users.

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## Additional Support

Additional resources, training materials, and support documents can be obtained from the [PHD Informational website for MDOT employees \(internal\)](#), and [PHD Informational website for consultants \(public\)](#). Training and instructional videos designed to help those entering PHD data are also available on the [PHD Informational website](#).

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## Chapter 2. PHD Job Organization and Preparation

### 2.1 PHD Job Data Organization

#### PHD Jobs & Data Hierarchy

All projects with pavement work, including paving and repair work, on MDOT trunkline that are 0.1 mile or longer **are to be entered into PHD**. This includes reconstruction projects, rehabilitation projects, Capital Preventive Maintenance (CPM) projects, and other repair work projects. For each road segment, "As Built" information is entered into the PHD, such as lane details, layers, binder type and source, aggregates type and aggregate sources, and work done on shoulders and/or curbs and gutters. Projects or repair work less than 0.1 mile in total length, can be optionally entered at the user's discretion.

In PHD, projects are entered via their unique job number with their data entered and organized as follows:

- 1) Jobs are made of **Segments**.
- 2) Segments are made of **Lanes/Shoulders, Curb & Gutter, and Median**.
- 3) Lanes/Shoulder, Curb & Gutter are made of **Layers**.
- 4) Layers are made of **attributes**.

**Table 2-1** details PHD data hierarchy and examples of required inputs.

**Table 2-1. PHD Data Hierarchy**

Order of Entry	Data Entry Level	Example PHD Inputs*
1	Job Details	Job ID, Job Type, Work Type Code, Fix Life, Open to Traffic Date, Segments PR and Milepoints
2	Segment Details	Number of Lanes, Shoulder Sides, Curb & Gutter Sides, Median Type and Width
3	Lanes/Shoulder, Curb & Gutter Details	Surface Type, Lane Type and Width, Paving Year, Lane Layers, Repair Work Type, Shoulder Total and Paved Widths, Shoulder Surface Type, Shoulder Layers, Curb Type
4	Layers/Repair Work Attributes	HMA Application Rate, Asphalt Binder PG and Source, Mix Design (JMF) Number, Aggregate Type and Source, Concrete Thickness, Cement Content, Cement Type and Supplier, Silane Material, Emulsion Type and Supplier, Asphalt Repair Mastic Product, Cold Milling Depth and texture

\* These are just some examples of the required inputs and not a complete list.



## 2.1.1 Job Details

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### Job Types

Projects are defined and entered in PHD as “JobNet Job” or “Non JobNet Job”, depending on whether it was let, or not let, through MDOT’s bid letting system. Job type affects PHD data entry only at job creation. Otherwise, modifying data in PHD is the same for both “JobNet Jobs” and “Non JobNet Jobs”.

#### JobNet Jobs

JobNet Jobs (formerly known as MAP jobs) are projects that occur on the MDOT trunkline and have an MDOT Job Number with information stored in the MDOT Program Development Portal (JobNet/SMART). Almost all the programmed jobs (in JobNet) are let through the MDOT bid letting system.

At PHD job creation, **Work Type Code** (WTC) and **Fix Life** are automatically generated from the JobNet database. **Preliminary segment information (PR numbers and milepoints)** is also generated from the JobNet database. However, modifications to those segments or additional segments may still be needed depending on the “As Built” project information.

#### Non JobNet Jobs

Non JobNet Jobs (formerly known as non-MAP jobs) are projects that occur on the MDOT trunkline that do not have information stored in the JobNet database (i.e., not let through the MDOT bid letting system). Non JobNet Jobs include work performed by/through maintenance-funded work, Transportation Work Authorizations, Direct Forces Work, Warranty Work, Permits, and Historic Projects.

Since Non JobNet Jobs are not stored in the JobNet database, work type code and fix life information must be manually entered at job creation. Likewise, preliminary segment information is not automatically generated, so all segment data requires manual entry.

#### CPM Jobs

Jobs that have Work Type Codes from 400 to 499 are CPM work type jobs. Data entry for these types of jobs can be relatively time-consuming due to the CPM variety of fixes and various locations. To streamline and reduce the data entry needs, for CPM jobs, users can select the Simplified CPM format option at job creation. The simplified CPM format option can be used for **JobNet Jobs** and **Non JobNet Jobs**. However, the simplified CPM format should not be used if the project includes any HMA paving.

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### Job ID

For JobNet Jobs, the PHD Job ID is simply the numeric portion of the Job Number from the JobNet database (5 or 6 digit job number).

For Non JobNet Jobs, the PHD Job ID is determined by the user when the job is created. **Table 2-2** defines the types of Non JobNet projects and Job ID naming convention guidelines.

If an incorrect job ID was used when creating a Non JobNet job, the user can change/rename the Non JobNet job ID later, without losing entered data. For JobNet jobs, the user cannot change the job ID once created. Please contact the PHD Administrator to correct the job ID.

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**Table 2-2. Non JobNet Jobs ID Naming Conventions**

<b>Job Type</b>	<b>Definition</b>	<b>PHD Job ID Naming Convention</b>
<b>Maintenance</b>	Maintenance-funded work <b>not</b> let through MDOT (not programmed in JobNet), performed by MDOT or another agency.	Use the prefix “M” followed by the <b>job number</b> .  <u>Example:</u> <b>M21550</b>
<b>TWA</b>	Transportation Work Authorization funded projects. Usually for projects bid through the county/city.  Some TWA project information is available in the MDOT’s MLAP (Maintenance Local Agency Payments) database. The MLAP database can be accessed from the MDOT MILogin Application Portal.	Use the prefix “TWA” followed by the <b>TWA number</b> . The MDOT Region financial analyst can provide the number or assign a number if unavailable in the MLAP database.  <u>Example:</u> <b>TWA226101</b>
<b>Warranty</b>	Work performed under the terms of a project warranty. Some warranty project information is available in the MDOT’s SWAD/QUADS database [Statewide Warranty Administration Database (SWAD) and Quality Assurance Database System]. The SWAD/QUADS database can be accessed from the MDOT MILogin Application Portal.	Use the prefix “W” followed by the original <b>5 or 6 digit job number</b> .  <u>Example:</u> <b>W40542</b>
<b>Direct Forces Work</b>	Work performed by MDOT employees (maintenance crew facility and/or a maintenance garage) or contract county forces.  Direct Forces project information is usually tracked by the Region (in Excel Spreadsheets).	Create a direct force work reference number for PHD use only. Use the following conventions: <b>DYYYYCNrouteBMP</b> .  <ol style="list-style-type: none"> <li>1. The prefix “D”, followed by four digits representing the <b>year</b>.</li> <li>2. The two-digit <b>county number</b>.</li> <li>3. The <b>route name</b>. Use an alphanumeric with a hyphen as a separator; for example, “US-31” or “US-31BR”.</li> <li>4. The <b>PR beginning milepoint</b> (including the decimal point).</li> </ol> <u>Example:</u> <b>D202132M-1388.954</b> (There is a 20-character limit)
<b>Historic</b>	Projects let and constructed by MDOT prior to the implementation of MDOT’s JobNet database and MDOT’s Architecture Project (MAP) database.	Use either the <b>project number from the title sheet</b> of the historical plans or other available records.  <u>Example:</u> <b>53201</b>
<b>Permit</b>	Work constructed by others under permit, such as widenings for commercial driveways or utilities work.	Use the prefix “P” followed by the <b>last 10 digits of the permit number</b> . The TSC permit agent will be able to provide this information.  <u>Example:</u> <b>P0003090010</b>

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## Job Segmentation

As previously noted, each job is made of segment(s). Segmentation is the process of dividing the road into several segments (or subsegments), so that pavement-related data can be entered for each segment separately. PHD uses the segment-specific **PR Number** and **milepoints** (to the thousandth decimal) to define each segment's limits. Subsegments should be created when the geometry of the lanes or the shoulders, or the attributes of the layers making up the section change.

The segmentation process is very important and critical for the PHD database. When exporting PHD data, and generating PHD reports, it is important to report any material-related information, or geometry-related information, on a segment basis, not at the general project level. For example, when using different HMA mixes (or different asphalt binders PG) in the same project, it is important to identify what mix type (or binder type) was used in each different segment.

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## Segmentation Rules

There is no minimum length requirement for a segment. However, new segments or subsegments **should be created** whenever the lane or shoulder attributes making up the section change if the change is **longer than 0.1 mile**. This includes changes in the following:

- PR number
- Lane(s) details (number of lanes, lane width, year paved, etc.)
- Shoulders/curb & gutter details
- Pavement cross-section (layers, layer details, or material changes (attributes))
- Median information (type or major width change)
- Multiple years of construction

Any changes less than 0.1 mile in length can be entered as a new subsegment **or** can be entered with the adjacent segment at the user's discretion. **The exception** is segments involving additional lanes less than 0.1 mile (turn lanes, for example). These should be entered as new or subsegments and not included in adjacent segments.

Note that the first two rules (changes in PR number and changes in lane(s) details) are the primary reasons for segmentation in PHD. When a **JobNet Job** is created in PHD, segment information (PR numbers and milepoints) will be automatically generated (imported from the JobNet database), and will consider any changes in PR number and lane(s) details. However, if there are any other changes (as shown in the list of rules above) or the automated lane subsegmentation is incorrect, then the user needs to create subsegments or modify existing segments. For **Non JobNet Jobs**, preliminary segment information will **not** be generated, so all segment data needs to be entered by the user.

**NOTE:** Although segment information (PR numbers and milepoints) will be automatically generated in PHD for **JobNet Jobs** at job creation, modifications to those segments (or additional segments) may still be needed since auto segmentation is based on the **originally planned or designed records (from JobNet database)**. PHD entry should always be based on **"As Built" information**. For example, an asphalt mill and fill project could be programmed to be from 0 to 2.3 milepoints, but the "As Built" information could indicate a shorter mill and fill length (0 to 1.9 milepoints).

**Segmentation Example 1**

Figure 2-1 shows a road portion divided into three segments due to changes in PR number (PR#1, PR#2, and PR#3). PR#1 segment is divided into two segments (① and ②) due to changes in the cement supplier. PR#2 segment is also divided into two segments (③ and ④) due to changes in the number of lanes (3-lane vs. 2-lane segment). PR#3 segment is also divided into two segments (⑤ and ⑥) due to changes in the coarse aggregate supplier. If segment ⑤ is less than 0.1 mile, it can optionally be combined with the adjacent segment (⑥). The segmentation due to changes in PR number and the number of lanes is automated in PHD for JobNet jobs, at job creation. Newly created segments will be automatically subsegmented per the number of lanes (regardless of JobNet or Non JobNet job type).

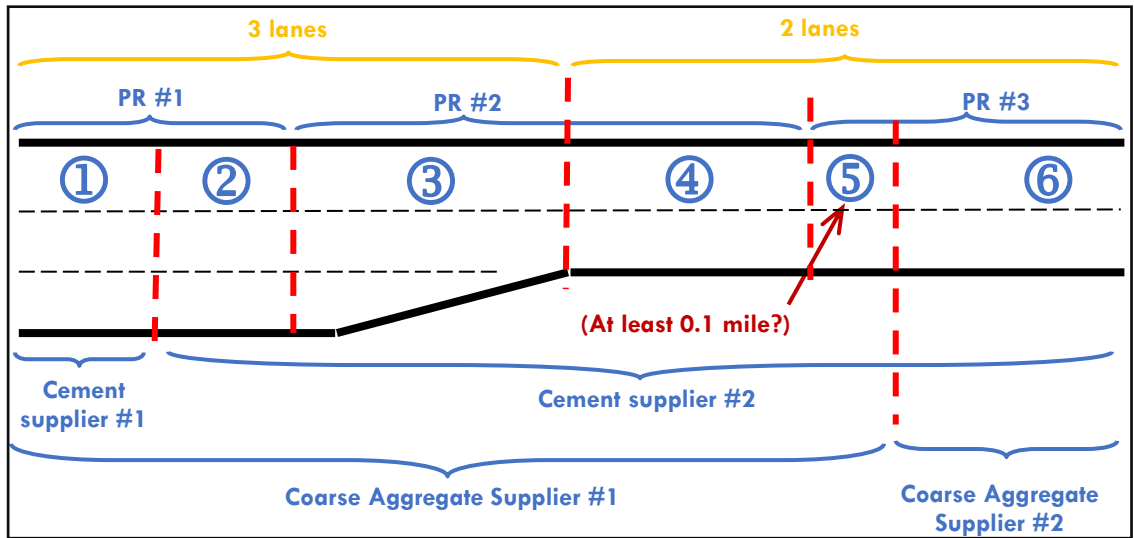


Figure 2-1. Segmentation Example 1

**Segmentation Example 2**

Figure 2-2 shows a road portion divided into two segments due to changes in PR number (PR#1 (ramp) and PR#2). PR#1 is only one segment (①). PR#2 is divided into two segments (② and ③) due to changes in the number of lanes (3-lane segment and 2-lane segment).

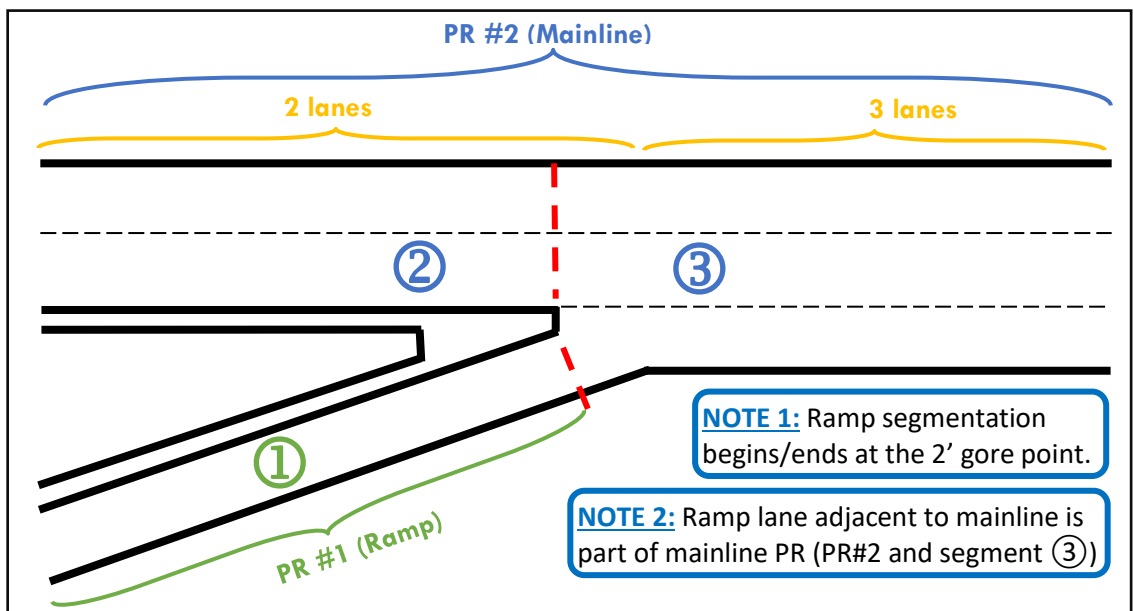


Figure 2-2. Segmentation Example 2

## 2.1.2 Segment Details

### Lane & Shoulder Numbering

As mentioned previously, each segment is made of Lanes/Shoulders, Curb & Gutter, and Median. Like segmentation, there are certain rules for lane numbering, as follows:

- Lanes are always numbered right to left, facing toward increasing milepoints in the PR segment (regardless of traffic direction).
- Lane 1 is the **right-most through lane** of the PR segment.
- Increasing lane numbers 2, 3, etc., are lanes **left of Lane 1**.
  - ❖ Examples: passing lane, center turn lane, or an opposing traffic lane (if it is the same PR number, i.e., undivided roadway).
- Decreasing lane numbers 0, -1, etc. are lanes **right of Lane 1**.
  - ❖ Examples: ramp lane, passing flare, right turn lane.
- The begin/end taper point is the start/end of the lane.
- Typically, divided roadways have a different PR number for each bound, so they are numbered separately.

**NOTE:** Although Lane numbering is automated for newly created segments and **JobNet Jobs** at job creation, modifications (adding/deleting lane(s), or change lane numbering) may still be needed.

Like lane numbering, right and left shoulders are established facing toward increasing milepoints in the PR segment (regardless of traffic direction).

### Lane Numbering Example (Divided Roadway)

Figure 2-3 shows lane numbering (①, ②, and ③) and shoulder numbering (R and L) for two PR segments separated by a median (Divided Roadway). Note that Lane ③ begins at the start of the taper, and Lane ① ends at the end of the taper.

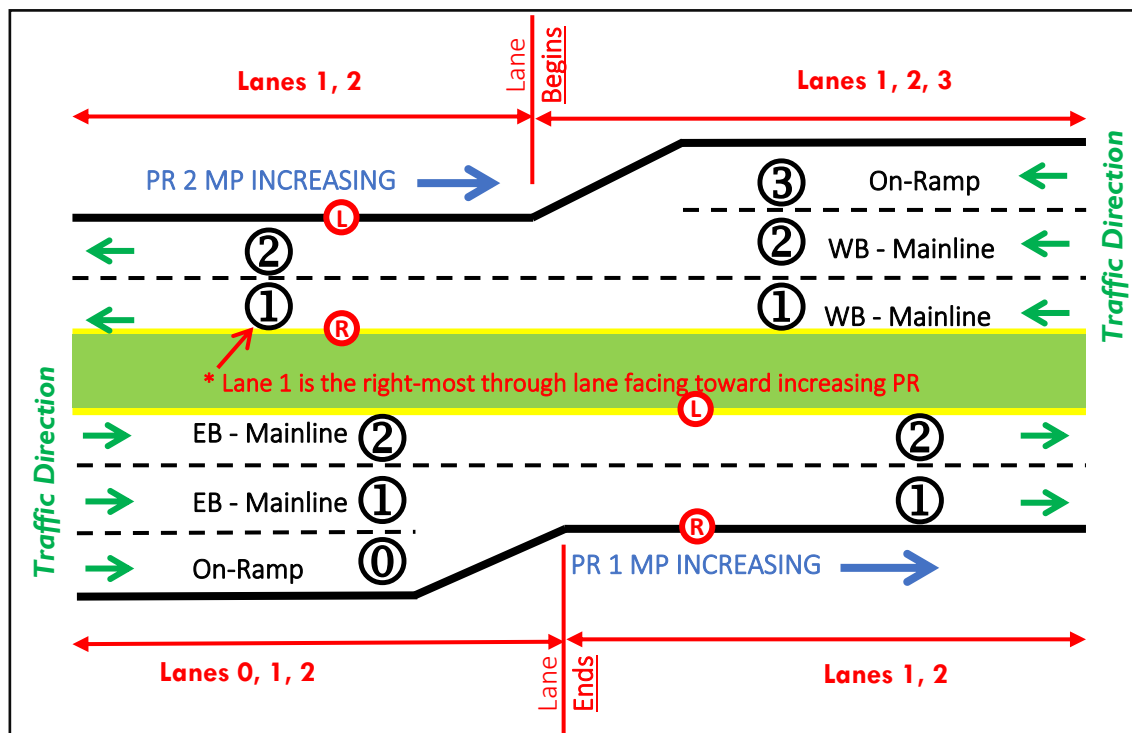


Figure 2-3. Lane Numbering Example 1 (Divided Roadway)

### Lane Numbering Example (Undivided Roadway)

Figure 2-4 shows lane numbering (①, ②, ③, and ④) and shoulder numbering (Ⓜ and Ⓛ) for undivided PR segments (Undivided Roadway).

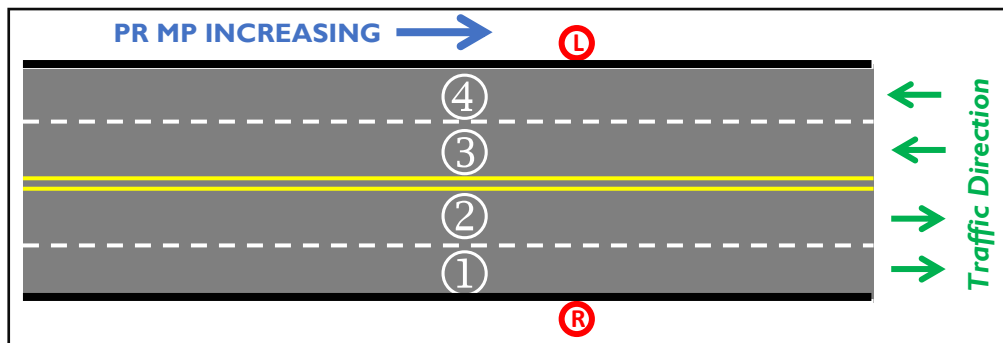


Figure 2-4. Lane Numbering Example 2 (Undivided Roadway)

### Median Information

In PHD, median information is required for each segment. This information includes a Median Type and Width. Examples of Median Types (selectable options in PHD) include Undivided, Concrete Barrier, Guardrail, Graded with ditch, N/A (i.e., Ramp), etc. Note that Median Type “N/A (i.e., Ramp)” should only be used for one-way segments that do not have a median (such as ramps). Two-way segments without medians should use the selection “Undivided”.

For segments with varying median width, the median width in PHD is the **predominant** median width including **inner shoulders** (if any). For example, see Figure 2-5.

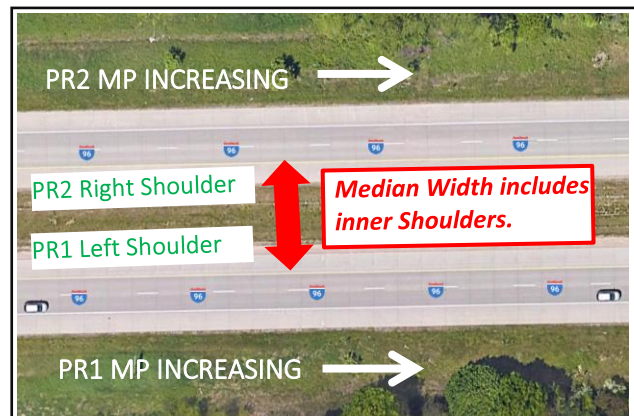


Figure 2-5. Median width in PHD

**NOTE:** Segmentation is **not required** based on small changes in **Median Width**. However, segmentation is **required** based on significant changes in Median Width and/or changes in **Median type** (i.e., going from a divided to undivided median).

### 2.1.3 Lanes/Shoulder, Curb & Gutter Details

#### Lane, Shoulder, and Curb & Gutter Details

Lanes and shoulders are as defined by the roadway pavement markings. If work has occurred on a particular lane, then the user needs to enter its width, lane type (function), surface type (which describes the pavement cross-section), and layers. Similarly, if work has occurred on a shoulder side, the user needs to identify whether it has corrugations (rumble strips), has parking, its paved and total widths, surface type, and layers. If a curb & gutter side has been constructed or replaced, then its type needs to be selected.

## 2.1.4 Layer Details

### Lane & Shoulder Layers

A layer is a single thickness of a paved/placed material or repair work. Examples of paved/placed material include HMA Top/Leveling/Base courses, concrete pavement, chip seal, etc. Examples of repair work include asphalt joint/crack repair, concrete pavement repairs (Detail 7's & 8's), HMA cold milling, Overband Crackfill, etc.

**NOTE 1:** In PHD, layers should be entered in order of construction. For example, layers for **Crush & Shape and Asphalt Resurfacing job (with milling)** should be entered in the following order from bottom (layer 1) to top (layer 4): **Layer 1** is Cold Milling, **Layer 2** is Crushed and Shaped HMA, **Layer 3** is HMA Leveling Course, and **Layer 4** is HMA Top Course.

**NOTE 2:** Only the layers paved/placed in the current job should be entered. **Existing layers or layers paved/placed in other jobs** should not be entered with the current job.

### Layers Input Examples

Figure 2-6 shows a pavement cross-section of a "Milling and Two Course Asphalt Resurfacing" project. In this case, the following layers will be entered in PHD in the following order from bottom to top: **Cold Milling**, **HMA Leveling Course (4EML)**, and **HMA Top Course (5EML)**. Any existing HMA and aggregate base layers should not be entered in the current job in PHD.

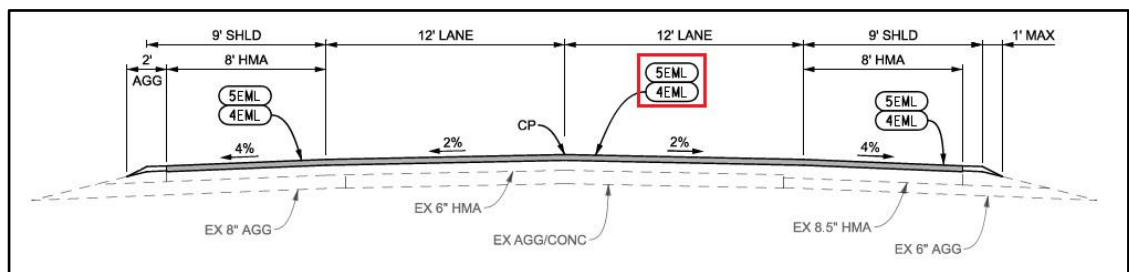


Figure 2-6. Layers Input Example 1

Figure 2-7 shows a pavement cross-section of an asphalt reconstruction project. Note that only the auxiliary lane and the right shoulder need to be entered in PHD, with the following layers: **Sand Subbase**, **Aggregate Base**, **HMA Base Course (3EMH)**, **HMA Leveling Course (4EMH)**, and **HMA Top Course (5EMH)**. Existing lanes and shoulders should **not** be entered with the current job.

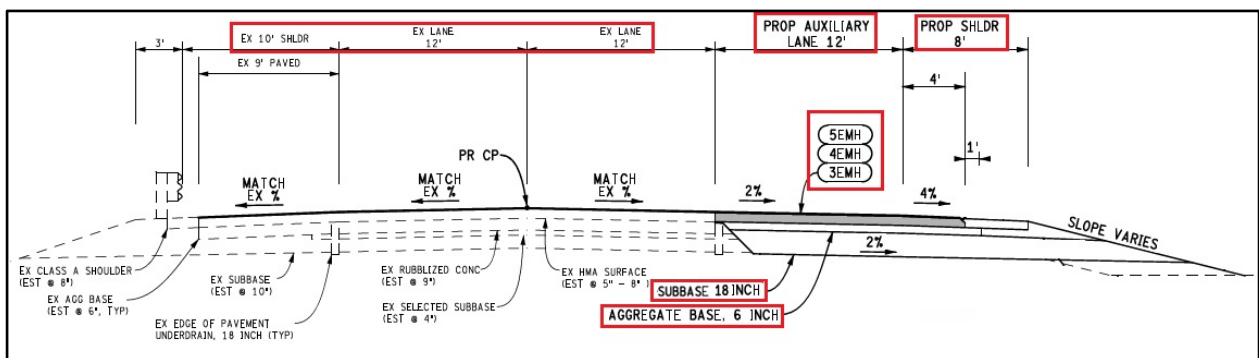


Figure 2-7. Layers Input Example 2



## 2.1.5 Layer Attributes

**Layer Attributes** Each layer contains a unique set of attributes to characterize and/or define the material or repair work. Examples of HMA layer attributes include HMA Application Rate, Asphalt Binder PG and Source, Mix design Number, and Aggregate Type and Source. Examples of concrete layer (PCC Pavement) attributes include Concrete Thickness, Cement Content, and Cement Type and Supplier. Users need to select (or enter) as many pavement attributes as possible, even if only some of the attributes are required.

### Attributes Input Example

Figure 2-8 shows different layers from an HMA reconstruction job, with the required attributes. A comprehensive list of all layers and their associated attributes can be found in the [Data Entry Items](#) document available on the [PHD Informational website](#).







Layers		Attributes		
	HMA Top Course	<input checked="" type="checkbox"/> AWI ( <b>only Top Course</b> ) <input checked="" type="checkbox"/> Application Rate <input checked="" type="checkbox"/> Asphalt Binder <input checked="" type="checkbox"/> Asphalt Binder Supplier <input checked="" type="checkbox"/> Aggregate Class	<input checked="" type="checkbox"/> Mix Type <input checked="" type="checkbox"/> Mix Design Number <input checked="" type="checkbox"/> Warm Mix? <input checked="" type="checkbox"/> Shingles used?	
	HMA Leveling Course		<input checked="" type="checkbox"/> Thickness <input checked="" type="checkbox"/> Aggregate Class <input checked="" type="checkbox"/> Aggregate Source	<input checked="" type="checkbox"/> Aggregate Source
	HMA Base Course			
	Aggregate Base Course	<input checked="" type="checkbox"/> Yes / No		
	Subbase			
	Roadway Embankment			

Figure 2-8. Layers attributes Example

## 2.2 Job Preparation

**Job Preparation** Before entering job data details in PHD, Data Entry users should obtain project construction records. Below is a list of the **most common** construction records required for PHD entry. Other construction-related documents and forms might be required as well.

- Project plans and proposal which include project location (PR numbers and milepoints), typical sections, work items, etc. “As Built” plans are preferable, but if project information is being entered soon after construction, these might not be available.
- Contract modifications to check for material changes made during construction.
- HMA Job Mix Formulas (JMF) (MDOT Form 1911) and concrete JMF (MDOT Form 1976).
- Report Of Quality Assurance Testing (MDOT Form 1903B) and Weekly Summary Of Certified Concrete (MDOT Form 1155).
- Material Source List (MSL) (MDOT Form 0501), and the Material Certifications, Certificate of Compliance, and/or Certificate of Analysis.
- Testing orders for surface seals and crack treatments.
- Delivery tickets (HMA, concrete, aggregate, etc.).
- Inspector’s Daily Reports (IDRs) (MDOT Form 1122B), Inspector’s Report of Concrete Placed (MDOT Form 1174R), and/or Aggregate Inspection Daily Report (MDOT Form 1900).
- Record of Soils Recommendations (MDOT Form 0583)

**NOTE:** If the construction documents for **Non JobNet Jobs** are unavailable or incomplete, contact personnel who have direct knowledge of the work done and gather project related documentation. Enter as much accurate information as is available.



**Table 2-3** details the *most common* required inputs in PHD and the main source for such inputs. The complete list of PHD data sources is available in the [PHD Attribute Locations](#) document, which is available on the [PHD Informational website](#). Several resources can be used to find information needed for data entry, including the following:

- ❖ **ProjectWise:** MDOT’s electronic document tool used to manage documentation for construction projects. Consultants can be granted limited access to MDOT’s ProjectWise folders to gather construction-related documents. Most construction records required for PHD entry (mentioned above) can be gathered from ProjectWise.
- ❖ **MDOT PR Finder:** an online mapping application that helps to identify the PR number and milepoints for all roads in the state of Michigan. This website is open to the public.
- ❖ **MDOT [Construction Contract Inquiry \(CCI\)](#):** an online database with project-specific information, such as contract-level information, contract modifications, and contractor payments that reflect “As Built” information. CCI database is open to the public.
- ❖ **[Google Maps/Google Earth](#):** tools for aerial imagery. In many cases, the Google aerial imagery is captured recently (and after the project’s completion date). In this case, certain pavement features can be verified, such as the number of lanes, lane type, lane width, shoulder width, median type and width, and others.

Before starting the data entry process, check the following:

- Check if the project qualifies as a “Special Project Type” such as *CPM Emerging Technology* or *Pavement Demonstration projects*. If yes, this should be indicated at job creation. Typically, the TSC and Region Offices know if the project meets this designation.
- Check if the project qualifies for the Simplified CPM format (projects with WTC 400-499). See [Chapter 5](#) for further details. This format requires less data entry, thus requires less time, and can be utilized for either **JobNet Jobs** or **Non JobNet Jobs**. The simplified CPM format should **not** be used if the project includes any HMA paving.

**Table 2-3. Most common required inputs in PHD and the main source for such inputs**

<b>Data Entry Level</b>	<b>Required PHD Inputs*</b>	<b>Data Source</b>
<b>Job Details</b>	Work Type Code, Fix Life	<i>For JobNet Jobs</i> - automatically generated in PHD <i>For Non JobNet Jobs</i> - Project plans & proposal
	Non JobNet Job Type	<i>Only for Non JobNet Jobs</i> - see <b>Table 2-2</b>
	Special Project Type	Project plans & proposal
	Open to Traffic Date	Inspector’s Daily Reports (IDRs)
	Segment information (PR#, BMP, and EMP)	<i>For JobNet Jobs</i> - automatically generated, but modifications may still be needed depending on the Project plans & proposal <i>For Non JobNet Jobs</i> - Project plans & proposal
<b>Segment Details</b>	Number of Lanes, Shoulder Details, Median Type and Width	<i>For Non JobNet Jobs</i> - Project plans & proposal
<b>Lanes/Shoulder, Curb &amp; Gutter Details</b>	Lane Surface Type (pavement cross-section), Lane Width, Lane Type, and Lane Layers	Project plans & proposal
	Shoulder Surface Type (pavement cross-section), Shoulder and Curb & Gutter Details, Shoulder Layers	

**Table 2-4. Most common required inputs in PHD and the main source for such inputs (continued)**

<b>Data Entry Level</b>	<b>Required PHD Inputs*</b>	<b>Data Source</b>
<b>Layers/ Repair Work Attributes</b>	<b>HMA Layers</b>	
	Application Rate	Project plans & proposal, IDRs (Form 1122B)
	AWI, Asphalt Binder, Asphalt%/Added, Asphalt Binder Cert. Supplier, Mix Design No., Mix Type, Shingles & Warm Mix use	JMF (Form 1911), Report of Quality Assurance (Form 1903B), IDRs (Form 1122B)
	Aggregate class and Source (pit) number	JMF (Form 1911)
	<b>Concrete Layer (PCC Pavement)</b>	
	Cement Content, Supplier, and Type; Fly Ash Content; GGBFS	JMF (Form 1976), Weekly Summary of Certified Concrete (Form 1155)
	Thickness, Transverse joints sealed (yes/no)	IDRs (Form 1122B)
	Transverse joint spacing	MDOT Std Plan R-43
	Aggregate class and Source (pit) number	JMF (Form 1976), Certified Concrete Form (1155)
	<b>Aggregate Base Course, Subbase Layer</b>	
	Thickness	IDRs (Form 1122B), Project plans & proposal
	Aggregate class and Source (pit) number	Aggregate Inspection Daily Report (Form 1900), MSL (Form 0501)
	<b>Crushed and Shaped HMA, Rubblized Concrete Pavement</b>	
	Thickness	IDRs (Form 1122B), Project plans & proposal
	<b>Chip Seal Layer, Micro-surface Layer, Scrub Seal Layer, Slurry Seal Layer</b>	
	Emulsion Type and Supplier	MSL (Form 0501), Material Certifications, Certificate of Compliance, and/or Certificate of Analysis
	Number of courses	IDRs (Form 1122B)
	Aggregate class and Source (pit) number	Aggregate Inspection Daily Report (Form 1900), MSL (Form 0501)
	<b>Joint/Crack Repair Mastic</b>	
	Asphalt Repair Mastic Product	MSL (Form 0501)
	<b>Concrete Pavement Repairs (Detail 7's &amp; 8's)</b>	
	Detail 7's placed (yes/no), Detail 8's placed (yes/no)	IDRs (Form 1122B), Project plans & proposal
	Detail 7 and Detail 8 mix type	JMF (Form 1911), Quality Assurance Report (Form 1903B)
	<b>Cold Milling</b>	
	Cold Milling Depth, Texture, and Type	IDRs (Form 1122B), Project plans & proposal

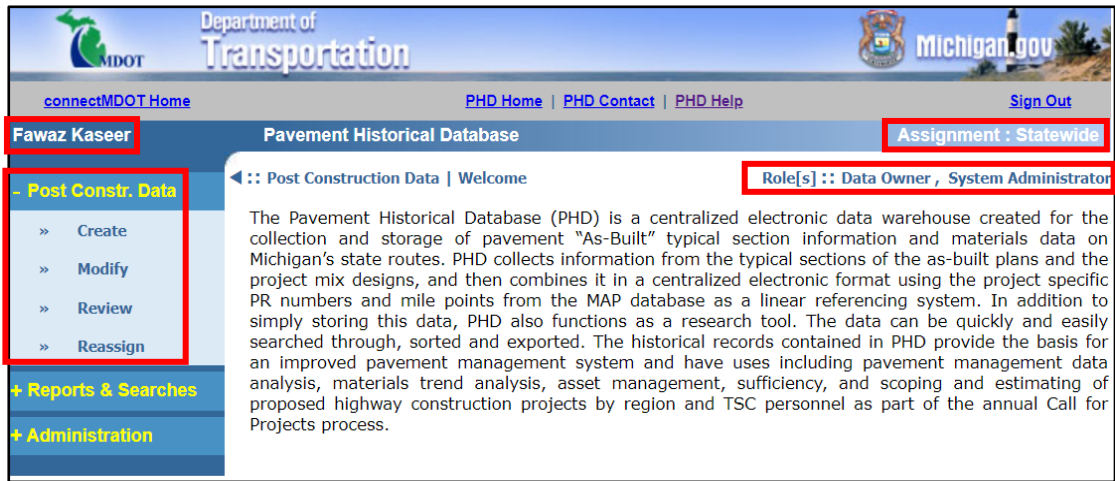
\* These are the most common required inputs in PHD and do not represent the full list. The complete list of PHD data source is available in the [PHD Attribute Locations](#) document, that is available on the [PHD Informational website](#).

# Chapter 3. Introduction to the PHD System

## 3.1 PHD User Interface and Navigation

### User Interface

PHD is a web-based application hosted through the State of Michigan MILogin website, and opens in a web browser (e.g., Microsoft Edge, Google Chrome), as shown in **Figure 3-1**. Upon opening the PHD application, the “Welcome” screen is displayed. The Navigation Panel on the left side of the window contains the available menus (Post Construction Data, Reports & Searches, and Administration) and their secondary menus. The top of each page in PHD retains the same “header”. The header displays the user’s name, the user’s role (Read Only, Data Entry, or Data Owner), and the user’s location assignment (Statewide, Region, or TSC). The header also contains clickable links to additional resources, such as [PHD Help](#) (displays the PHD User Guide in a new window). Users should click on **Sign Out** when exiting the application.



**Figure 3-1. PHD Interface and Welcome Screen**

### Main and Secondary Menus

The Navigation Panel on the left side of the window contains the main menus (*Post Construction Data*, *Reports & Searches*, and *Administration*) and their submenus, which serve as navigation links to the PHD screens. Menu availability is based on the assigned [user role](#). **Figure 3-2** displays all main menus and submenus.

- Post Constr. Data	- Reports & Searches	- Administration
» Create	» Export Data	» View/Modify User
» Modify	» Search Segment(s)	» Create Unit
» Review	» Construction History	» View/Modify Unit
» Reassign	» Material Information	» Create Attribute
» Layers Library	» Material Quantity	» View/Modify Attribute
	» Network Inventory	» Create Layer
	» Work Type	» View/Modify Layer
	» MAP Reconciliation	» Delete Job
		» Unlock Report
		» HPMS Report

**Figure 3-2. PHD Menu**

## Back, Cancel, & Save

Back, Cancel, and Save buttons are displayed throughout many different screens in PHD. It is important to understand the functionality of each of these buttons, as explained below:

- Back
  - Returns to the previous screen.
  - **WARNING:** Any changes made since the last save may still appear if the screen is reentered, but they are **not saved**. Data will be lost if a project is exited without saving the changes.
- Cancel
  - Leaves the current job and returns to the initial submenu screen.
  - **WARNING:** Entered data will be lost if it is not saved.
- Save
  - Saves the data entered on the current screen.
  - **WARNING:** Selecting save does not save data on other screens. For example, multiple lanes can be created and edited. Selecting save does not save all lanes, only the current lane on the screen. Save often and make sure to save before moving to a new screen.

## 3.2 Page Headers

### Active Screen Display

The Active Screen display, located below the header and next to the Navigation Panel, indicates the main menu and active submenu the user is in. In **Figure 3-3**, the main menu is Post Construction Data, and the active submenu is Modify List.

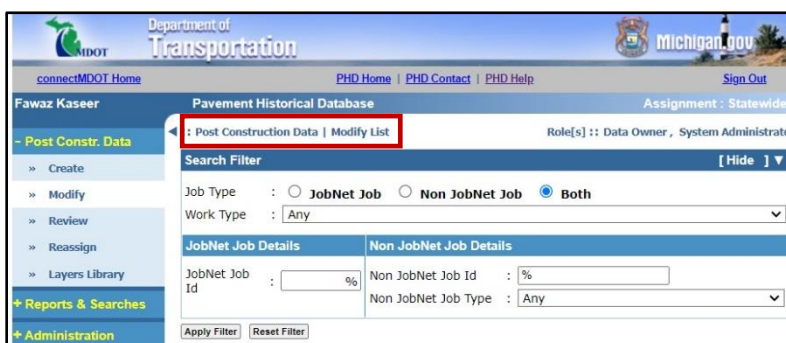


Figure 3-3. Active Screen Display: Menu & Submenu

### Project & Segment Display

The active project and its identifiers (job number, PR number, and beginning and ending milepoints of the active segment) are displayed below the Active Screen display, as shown in **Figure 3-4**.



Figure 3-4. Project and Segment Display

### 3.3 Screen Prompts

#### Required Fields

A red asterisk designates a required field, as shown in **Figure 3-5**. Required fields need to be completed before going to other screens or saving data.

**\* = Required Fields**

**Enter Job Information**

\* Is JobNet Job :  Yes  No

\* JobNet Job ID :

Next Step Cancel

**Figure 3-5. Required Fields**

#### Error & Confirmation Messages

**Red error** messages designate a warning or a notification, so inputs must be corrected before going to other screens or saving data. Conversely, a **green confirmation** message will appear when a record is successfully saved, updated, or completed, as shown in **Figure 3-6**.

**Project ID [1548754] already exists in PHD.**

**Enter Job Information**

\* Is JobNet Job :  Yes  No

\* JobNet Job ID :

Next Step Cancel

**Job [FKAPP026952] has been saved as a Draft.**

**PR Segment List**

#	PR Number	PR(v)	BMP	EMP	Route
<input checked="" type="radio"/> 1	1725010	22	0	4.36	M-65
<input type="radio"/> 2	1891001	22	0	0.079	M-72
<input type="radio"/> 3	1891001	22	0.079	6.93	M-72

Segment Details Copy Segment Details Create Segment

**Figure 3-6. Error and Confirmation Messages**

#### Screen Tips

Hovering the mouse (cursor) over a command button triggers a visual screen tip, as shown in **Figure 3-7**.

**Select New Layer**

Layer :

Add Layer

**Shoulder Sections**

#	Layer Name	Data Entry Status
1	<a href="#">HMA Top Course</a>	Draft

Click to add the selected layer to the shoulder & enter the layer details

**Figure 3-7. Screen Tips**

### 3.4 List Features

#### Sort Lists

Lists can be sorted, in ascending or descending orders, by the column header. A triangle symbol in the column header displays the current sort header criterion. For example, the table in **Figure 3-8** is sorted by the Job ID in ascending order. The table can be sorted by a different column (by PR BMP, for example) by clicking the desired column header. The arrow will then appear in the newly selected column. The currently sorted column can also be sorted in the other direction by clicking on the arrow.

Road Name	Job ID ▲	PR Number	PR BMP	PR EMP	Open to Traffic Date
E I 696	47171	<a href="#">710701</a>	0	1.192	11/23/2010 [a]
E I 696	47171	<a href="#">710701</a>	1.192	1.351	11/23/2010 [a]
E I 696	118417	<a href="#">710701</a>	0	1.25	10/15/2013 [a]
E I 696	118747	<a href="#">710701</a>	1.195	8.599	08/04/2013 [f]
E I 696	132113	<a href="#">710701</a>	1.19	9.861	11/04/2018 [a]

Figure 3-8. Sort List

#### Search Filter

Lists can be filtered to display a limited list of items containing specified details. **Figure 3-9** shows an example of the search filter in the **Modify** submenu. Entering the % symbol in text box filters serves as a “wildcard”. **Table 3-1** includes some examples of using the wildcard.

**Search Filter**
[ Hide ] ▼

Job Type :  **JobNet Job**    **Non JobNet Job**    **Both**

Work Type :  ▼

JobNet Job Details	Non JobNet Job Details
JobNet Job Id : <input type="text" value=""/> %	Non JobNet Job Id : <input type="text" value=""/> %
	Non JobNet Job Type : <input type="text" value="Any"/> ▼

Figure 3-9. Search Filter

Table 3-1. Wildcard Descriptions

Wild Card	Description
8%	Returns any number, word, or phrase beginning with an “8”
%8	Returns any number, word, or phrase containing “8”
8%3	Returns any number, word, phrase beginning with “8” and including a “3”

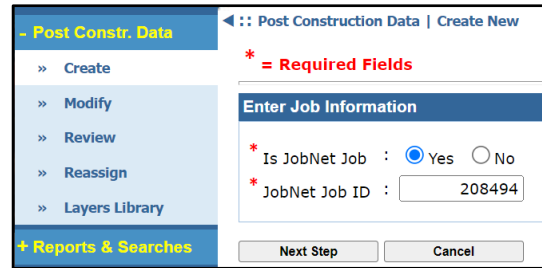
# Chapter 4. Create and Modify Jobs in PHD

## 4.1 Create Jobs in PHD

### Create JobNet Jobs

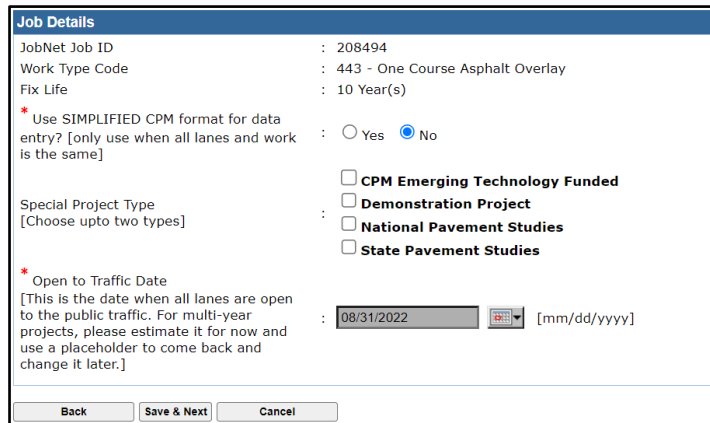
Follow the steps below to create JobNet Jobs:

- 1) Click **Create** from the **Post Construction Data** menu (in the left navigation bar).
- 2) Enter the Job ID, omitting the phase identifier suffix (i.e., omit the letter “A” in 208494A or “CON” in 208494CON, and enter the JobNet ID 208494).



The screenshot shows the 'Post Constr. Data' menu on the left with options: Create, Modify, Review, Reassign, Layers Library, and Reports & Searches. The main window is titled 'Post Construction Data | Create New' and contains a form for 'Enter Job Information'. The form has a legend for required fields (marked with a red asterisk) and two input fields: 'Is JobNet Job' with radio buttons for 'Yes' (selected) and 'No', and 'JobNet Job ID' with a text box containing '208494'. 'Next Step' and 'Cancel' buttons are at the bottom.

- 3) Click **Next Step**, and fill out/select the required fields in the **Job Details** screen.
  - If the jobs qualify for **Simplified CPM Format**, then select “**Yes**” for Simplified CPM Format. For more details, see [Chapter 5](#) for Simplified CPM Format Jobs.
  - If applicable, select the appropriate **Special Project Type**.



The 'Job Details' form shows the following information: JobNet Job ID: 208494; Work Type Code: 443 - One Course Asphalt Overlay; Fix Life: 10 Year(s); 'Use SIMPLIFIED CPM format for data entry?' with radio buttons for 'Yes' and 'No' (selected); 'Special Project Type' with checkboxes for 'CPM Emerging Technology Funded', 'Demonstration Project', 'National Pavement Studies', and 'State Pavement Studies'; and 'Open to Traffic Date' with a date picker set to 08/31/2022. 'Back', 'Save & Next', and 'Cancel' buttons are at the bottom.

**NOTE 1:** To qualify as a **Special Project**, the job needs to be one of the following: (1) a Pavement Demonstration Program project, (2) a CPM Emerging Technology Program project, (3) a state pavement study [must include a study number], and (4) a federal pavement study [must include a study number].

**NOTE 2:** **Open to Traffic Date** is the date when all lanes are open to public traffic. For multi-year projects or projects not yet complete, an estimated date can be used as a placeholder, which can be changed later (before finalizing).

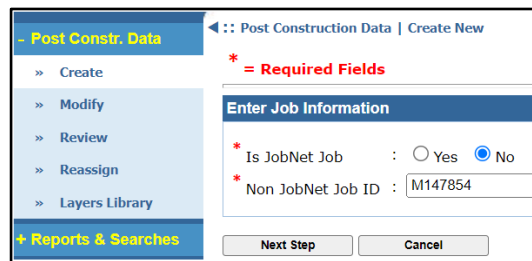
- 4) Click **Save & Next** to continue. The **Road Segment List** screen opens and displays a list of all road segments (in the **PR Segment List** tab) identified from the JobNet database. These segments can be adjusted, or new segments can be created as needed.



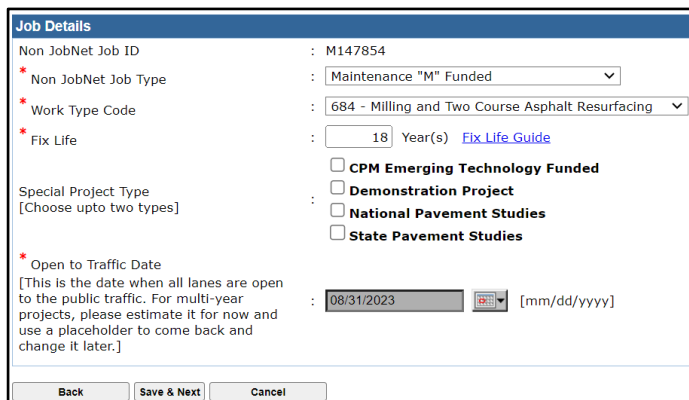
## Create Non JobNet Jobs

Follow the steps below to create Non JobNet Jobs:

- 1) Click **Create** from the **Post Construction Data** menu (in the left navigation bar).
- 2) Click **“No”** for the **“Is JobNet Job”** and enter the Job ID. Follow the guidelines listed in **Table 2-2** for the Non JobNet Naming Convention.



- 3) Click **Next Step**, and fill out/select the required fields in the **Job Details** screen.
  - Select the **Non JobNet Job Type** and the **Work Type Code (WTC)** which most closely matches the work performed as part of this Non JobNet job.
  - Once a WTC is selected, the Fix Life will be auto-filled. If the Fix Life per project is a range of low and high values, PHD will auto-populate the highest value. The user may enter a different value as needed. 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.
  - If the jobs qualify for **Simplified CPM Format**, then select **“Yes”** for Simplified CPM Format. For more details, see [Chapter 5](#) for Simplified CPM Format for PHD Jobs.
  - If applicable, select the appropriate **Special Project Type**.



**NOTE 1:** To qualify as a **Special Project**, the job needs to be one of the following: (1) a Pavement Demonstration Program project, (2) a CPM Emerging Technology Program project, (3) a state pavement study [must include a study number], and (4) a federal pavement study [must include a study number].

**NOTE 2:** **Open to Traffic Date** is the date when all lanes are open to the public traffic. For multi-year projects or projects not yet complete, an estimated date can be used as a placeholder, which can be changed at a later (before finalizing).

- 4) Click **Save & Next** to continue. The **Road Segment List** screen opens, but segment data is not pulled into PHD as it is with JobNet Jobs, so all segments must be manually created.



## 4.2 Modify Jobs in PHD

### Modify Submenu

Once a job has been created, it can be later edited/modified (unless it has been Finalized). Begin editing a job **(1)** immediately after the PHD job is created from the **Create** submenu, or **(2)** by selecting a previously created job from the **Modify** submenu. Select the **Modify** submenu from the **Post Construction Data** menu (in the left navigation bar). The Modify List screen will display, and will be populated with jobs created by (or assigned to) the current user. Select a job to enter/modify the data. Once selected, the job's **Road Segment List** screen will open.

JobNet Job ID	Non JobNet Job ID	Non JobNet Job Type	Work Type
109854	—	—	110—Non-Freeway Sign Replacement
124046	—	—	120—Intersection Improvements
132102	—	—	160—Reconstruction
201214	—	—	167—Crush & Shape & Asphalt Resurfacing
208494	—	—	443—One Course Asphalt Overlay

### Road Segment List

In the **Road Segment List**, the **PR Segment List** displays a list of all road segments in the selected job, including segment-specific location information such as PR number, BMP, EMP, Route, and data Status.

The **Road Segment List** is the main page for completing the data entry for any specific job. Users can enter **Segment Details**, **Create Segments**, **Delete Segments**, and **Copy Segment Details** from one segment to another. Users can also **Change the PR Segment Mile Points** for any segment, and can **Create Sub Segments** (i.e., splitting the segment into two or more subsegments).

For the Data status in the **PR Segment List**, please note it always starts at the “Draft” status for each segment, and once the data entry for each segment is saved as complete, it will change to “Complete” status. The job cannot be finalized until all segments show a “Complete” status.

#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	1175102	22	0	5.284	M-26	2 Way	Active	Draft
2	1270204	22	5.519	6.569	M-26	2 Way	Active	Draft
3	1270204	22	6.569	6.652	M-26	2 Way	Active	Draft
4	1270204	22	6.652	6.696	M-26	2 Way	Active	Draft
5	1270204	22	6.696	7.669	M-26	2 Way	Active	Draft
6	1270204	22	8.957	10.431	M-26	2 Way	Active	Draft
7	1270204	22	10.431	15.522	M-26	2 Way	Active	Draft
8	1270708	22	11.775	13.305	M-38	2 Way	Active	Draft

**NOTE:** As mentioned previously, preliminary segment information (PR numbers and milepoints) will be generated for JobNet Jobs. However, modifications to those segments or additional segments may still be needed depending on the “As Built” project information. For Non JobNet Jobs, preliminary segment information is not automatically generated, so all segment data needs to be entered. Please follow the [Segmentation Rules](#) in Chapter 2 when creating or modifying segments.

## 4.2.1 Create and Modify Segments

### Create Segments

Follow the steps below to create segments in PHD:

- 1) Click **Create Segment** under the **PR Segment List** screen.
- 2) Enter PR Number, BMP, and EMP, and click **Create**.

\* = Required Fields

Create PR Segment [ Job # - 208494 ]				
Latest PR Version	PR Number *	BMP *	EMP *	
23	1270708	13.305	15.966	

Create    Create and Add One More    Back

**NOTE 1:** If the milepoints overlap another segment, or if the milepoints exceed the milepoint range of the PR number, an error message will occur. Therefore, make sure that correct PR number and milepoints were entered.

**NOTE 2:** Use [PR Finder](#) as a resource to identify the PR number and milepoints for all roads in the state of Michigan.

- 3) If the project has a new ramp, roundabout, or alignment changes, the new PR number cannot be entered with the latest PR Version. To enter such segments, follow the steps below:

- Select **“Future”** under the Latest PR Version, and **Create** the segment. The **Framework Status** of such a segment in the PR Segment List will show as **“Inactive”**.

\* = Required Fields

Create PR Segment [ Job # - 208494 ]				
Latest PR Version	PR Number *	BMP *	EMP *	
Future	1690708	0	5.899	

Create    Create and Add One More    Back

- Complete the data entry for any **“Inactive”** segment(s) and save it as **“Complete”**.

PR Segment List										[ Hide ]
#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status		
1	1690708	0	5.899				Inactive	Draft		
2	1270708	23	0.422	6.569	Greenland Rd		Active	Draft		
3	1270204	23	5.519	6.569	M-26	2 Way	Active	Draft		

- After completing the data entry for all other segments, save the entire job as **“Draft”**. Users cannot finalize the job until the **Framework Status** shows an **“Active”** status.
- In the next year’s PHD data entry cycle, and when the new (or changed) alignment is reflected in the PR framework, create again the same segment. The **Framework Status** of such a segment in the PR Segment List will show as **“Active”**.
- Copy segment details of the **“Complete”** and/or **“Inactive”** segment to the newly created **“Active”** segment. Delete the **“Inactive”** segment. Please refer to the [Copy Segment Details](#) section for more information. Information on Deleting a segment can be found on the next page.

## Change Segment Milepoints

Follow the steps below to change the milepoints for any segment:

- 1) Select a segment from the **PR Segment List** pane. Milepoints are displayed in the **Change PR Segment Mile Points** pane.
- 2) Modify the BMP and/or EMP in the **Change PR Segment Mile Points** pane text box(es) and click **Apply Milepoint Changes** to update the road segment.

Change PR Segment Mile Points			
#	PR Number	BMP	EMP
2	1175102	<input type="text" value="0"/>	<input type="text" value="5.284"/>

## Create PR Sub Segments

To divide an existing segment into two or more smaller segments:

- 1) Select a segment from the **PR Segment List** pane.
- 2) Enter the Number of Sub Segments desired, (at least 2) in **Create PR Sub Segments** pane text box and Click **Create Sub Segments**.
- 3) Manually enter the BMP and EMP for each subsegment. Click **Create Sub Segments**.

Create PR Sub Segments	
No. of Sub Segments :	<input type="text" value="3"/> [At least 2]

PR Sub Segment Summary				Add an additional PR Sub Segment	
<input type="checkbox"/>	1	1175102	<input type="text" value="0"/>	<input type="text" value="1.500"/>	
<input type="checkbox"/>	2	1175102	<input type="text" value="1.500"/>	<input type="text" value="4.555"/>	
<input type="checkbox"/>	3	1175102	<input type="text" value="4.555"/>	<input type="text" value="5.284"/>	

PR BMP :  PR EMP :

## Delete Segments

Follow the steps below to delete any segment:

- 1) Under the **PR Segment List** pane, click **Delete Segment(s)**.
- 2) Select the segment(s) to be deleted. Click **Confirm**.

PR Segment Details [ Job # - 208494 ]									
#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status	
<input checked="" type="checkbox"/>	1	1690708	0	5.899			Inactive	Draft	
<input type="checkbox"/>	2	1175102	22	0	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	3	1270204	22	5.519	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	4	1270204	22	6.569	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	5	1270204	22	6.652	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	6	1270204	22	6.696	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	7	1270204	22	8.957	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	8	1270204	22	10.431	M-26	2 Way	Active	Draft	
<input type="checkbox"/>	9	1270708	22	11.775	M-38	2 Way	Active	Draft	

## 4.2.2 Edit Segment Details

### Segment Details

To enter the **Segment Details** screen, and begin adding and/or editing Segment Details, select the radio button of a segment from the **PR Segment List** pane, then click **Segment Details**. The **Segment Overview** screen displays (for the selected segment), and users can:

- Click **Lane Details** to add, remove, and define segment lanes (see section [4.2.2.1](#)).
- Click **Shoulder, Curb & Gutter Details** to add, remove, and define shoulders or curb & gutter (see section [4.2.2.2](#)).
- Select **Median Type & Width**, and enter segment comments in the **Segment Comments box** (see sections [4.2.2.3](#) and [4.2.2.4](#)).

The screenshot shows the 'Segment Details' window for Job # -208494 / PR # - 1175102 / MP : 0 ... 5.284. It contains several overview sections:

- Segment Shoulder Overview:** A table with columns 'Left' and 'Right'. 'Work Done' is 'Yes' for both, and 'Status' is 'Draft' for both.
- Segment Lane(s) Overview:** A table with columns 'Lane #', 'Work Done', and 'Status'. Lane 2.0 has 'Work Done' 'Yes' and 'Status' 'Draft'. Lane 1.0 has 'Work Done' 'Yes' and 'Status' 'Draft'.
- Segment Curb & Gutter Overview:** A table with columns 'Left' and 'Right'. 'Work Done' is 'No' for both, and 'Status' is 'Draft' for both.
- Median Overview:** A dropdown menu for 'Median Type' set to 'Undivided'.
- Segment Comments:** A text box for entering comments (max 250 characters).

Buttons at the bottom include 'Back', 'Save Segment', 'Save Segment As Draft', 'Segment Summary', and 'Cancel'.

### 4.2.2.1 Lane Details

### Segment Lane(s)

In the **Segment Details** screen, and under the **Segment Lane(s) Overview**, the number of lanes will be shown if available from the MDOT's Road Asset Inventory database. If lanes are not automatically populated or if incorrect, then the user needs to create or delete the lanes as needed. Use the following steps to add and/or edit Lane Details:

- 1) Click **Lane Details** button from the **Segment Overview** screen. Segment lanes and their details will be shown (if lane(s) are previously added).
- 2) **Add Lane – Left Lane, or Right Lane** to create new lanes. Please review the [Lane & Shoulder Numbering guidelines](#). Left Lane and Right Lane indicate which side of the currently selected lane the new lane will be added.
- 3) If a lane exists in the system, but no work has been done on the lane in this job, select **“No”** in the **Work Done** option.
- 4) Select different lanes (within the same segment) by using the **Select Lane** drop-down list in the **Segment Lanes** pane to edit details or add layers for that lane.
- 5) Enter lane details such as the Surface Type, Width, and Lane Type in the **Lane Details** pane. Please note the following:

The screenshot shows the 'Segment Lanes' pane. It includes a 'Select Lane' dropdown menu set to 'Lane #1.0', a 'Work Done' section with radio buttons for 'Yes' (selected) and 'No', and a 'Selected Lane' field showing '1.0'. Below these are buttons for 'Add Left Lane', 'Add Right Lane', 'Copy Lane', and 'Remove Lane'. A note explains that lanes are numbered right to left facing toward increasing mileposts.

- For the lane **Surface Type (pavement cross-section)**, all existing layers underneath the top surface placed with the project should be considered. Consider the following scenarios:

The screenshot shows the 'Lane Details [ Lane #1.0 ]' pane. It contains the following fields:

- Surface Type (pavement cross-section):** HMA over existing HMA
- Width:** 11 ft
- Lane Type:** Select Lane Type
- Year [Paved/Placed]:** 2023 [YYYY]
- Partial Width Paving?:** Yes (radio button), No (radio button, selected)

## Examples of Surface Type in PHD

- If the entire pavement was replaced in this job with asphalt, then the surface type is **(HMA Full Depth)**. Similarly, if the entire concrete pavement was replaced in this job with new Jointed Plain Concrete Pavement (JPCP), then the surface type is (JPCP).
- If an HMA overlay occurred in a lane with existing HMA but without any existing concrete pavement, then the surface type is **(HMA over existing HMA)**.
- If an unbonded concrete overlay occurred in a lane with existing concrete, then the surface type is **(Unbonded Concrete Overlay on Existing Conc)**. Note that if an HMA separator layer is used, this would still be considered **(Unbonded Concrete Overlay on Existing Conc)**.
- If an HMA overlay occurred in a lane with existing concrete pavement (regardless of directly or indirectly below the new overlay), then the surface type is **(HMA over existing Jointed Conc)**.

Please note that for a cross-section that is made up of existing concrete, a very thick aggregate overlay, and new HMA pavement, the surface type is considered **(HMA Full Depth)**. The existing concrete is deep enough that it does not significantly affect the surface HMA pavement. A note can be added to the Project or Segment Comment box to indicate this deep existing concrete.

- If HMA layers constructed in a lane with Rubblized Concrete, then the surface type is **(HMA Full Depth)**.
- For Micro-Surface, Chip Seal, etc., if the thickness  $\geq 0.5$ " , then this is considered as a structural layer, and the surface type is **HMA over existing HMA/Conc**. If the thickness  $< 0.5$ " , then this is **NOT** considered as a structural layer, and the surface type is determined considering the existing layers only. Even if the layer is not considered a structural layer, it must still be entered into PHD as a layer.

➤ For the **Lane Width**, if only a partial width of this lane was paved and not fully paved by the end of the project, select **"Yes"** for "Partial Width Paving?", and select the partial paving width from the list.

- 6) Add layers to the selected lane in the **Lane Section** pane. To enter a new layer, select a layer from the drop-down list, and then click **Add Layer**.

Users can also select a layer from the Layers Library. Please refer to the [Layers Library](#) section for more information.

#	Layer Name	Data Entry Status	<input type="checkbox"/>
2	HMA Top Course	Draft	<input type="checkbox"/>
1	Cold Milling	Draft	<input type="checkbox"/>

Move Up Move Down Remove

Select New Layer

Layer :

Add Layer

Select a Layer from the Layers Library

Layer :

Add Layer

- 7) Re-order the layers, if necessary, by selecting the check box of the layer(s), and then clicking on **Move Up** or **Move Down**. Similarly, layers can be removed from this list.

**NOTE 1:** Layers required for entry include all new materials and milling/repair work to existing layers.

**NOTE 2:** Only the layers paved/placed in the current job should be entered. Existing layers or layers paved/placed in other jobs should **not** be entered with the current job.

**Lane Layer(s)** For each layer added in the **Lane Section** pane, use the following steps to edit Lane Layer(s):

- 1) Click on an added layer in the Lane Section pane, and the **Layer Details** screen will appear. In the **Pavement Attributes** pane, select or enter each material attribute.

Select a Layer [ Job # - 208494 / PR # - 1270204/ MP # :5.519 ... 6.569 ]

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	

- 2) Select different layers that were previously added (within the same lane) by selecting a layer from the layer drop-down list in the **Layers Details** pane to enter/edit attributes for that layer.
- 3) Enter/edit the attributes for each layer. A description box is shown at the top of the Layer Details screen, which includes the definition for each layer and where to locate layer attributes using the construction-related documents. A comprehensive list of all layers and their associated attributes can be found in the [Data Entry Items](#) available on the [PHD Informational website](#). **Table 2-3** summarizes the main source for each attribute per different layers.

**NOTE:** If the **Layer Details** screen displays the **Select New Aggregate** or **Aggregate Summary** panes, then select the aggregate used in the layer from the drop-down list. If an aggregate is not shown in the drop-down list, select **“Other Aggregate”**, then enter the aggregate name in the new text box (for example, ‘Man Sand’). Then, enter the associated pit source number, and click on **Add Aggregate**.

**NOTE:** Aggregates in a completed layer can be added to another (draft) layer. In the completed layer, click **Add Aggregates** in the **Aggregate Summary** box, then select the aggregate(s) to add and select the draft layer(s) to add the selected aggregate(s) to. **Note that** if the draft layer already contains aggregates, they will remain and the selected aggregates will be added.

- 4) Click **Complete Layer** to save layer details, if all the required attributes were entered. The layer’s Data Entry Status (in the **Lane Section** pane) will be in a “Complete” status.

**NOTE:** If only some of the required attributes were entered, users can click **Save Layer as Draft** to save the layer in a “Draft” status to complete to the layer at a later time. However, the user cannot complete and save the lane details (as Complete) until all layers show a “Complete” status.

## Copy Lane Layers to Shoulders

Lane layers (in a “Complete” status) can be copied to the shoulders if lane and shoulder layers in a segment are identical or have similar layers/attributes. Any existing shoulder layers, of the shoulder being copied to, will be overwritten when using the copy lane layers to shoulder function. Follow the steps below to copy lane layers to shoulders:

- 1) In the **Lane Summary** screen, click **Copy Lane Layers to Shoulder(s)** at the bottom of the screen.
- 2) Select to copy to Both, Left, or Right shoulder.

## Save Lane Details

In the **Lane Summary** screen, click **Save Lane** to save the selected lane as Complete. A lane can only be saved (as Complete) after all its details are entered and layers are in “Complete” status. If Lane Details are incomplete (or only some layers were entered), users can click **Save Lane as Draft** to save the lane in a “Draft” status and complete the entry later.

## Copy Lane Details

Lane details of a Complete lane can be copied to other lanes in “Draft” status. This can reduce data entry and save users time if lanes are identical or have similar details/layers. All lane information of the Draft lane(s) being copied to will be overwritten when using the copy lane function. Follow the steps below to copy lane details:

- 3) In the **Segment Overview** screen, click the **Copy Lane** button below the **Segment Lanes** pane.
- 4) Select the option to copy **Lane Details** and/or **Lane Layers** of the lane.
- 5) In the **Completed Lanes [Copy From]** pane, select a Completed lane to copy from (only one lane can be copied from).
- 6) In the **Incomplete Lanes [Copy To]** pane, select the Draft (or incomplete) lane(s) to copy to (multiple lanes can be selected to copy to). Then Click **Copy**.

## Remove a Lane

In the **Segment Lanes** screen, select a lane to be removed, and click **Remove Lane**.

Note that lanes can only be removed from the outside. For example, if there are four lanes: 1, 2, 3, and 4, lanes 2 and 3 cannot be removed. The way to remove Lane 3 is to first remove Lane 4 and then remove Lane 3. Alternatively, Lanes 1 and 2 could be removed and then remove Lane 3.

If work was done on Lane 4 but not Lane 3 (for example), do **not** use the **Remove Lane** option. Instead, select “No” for “**Work Done**” in the Segment Lanes pane of Lane 3.



## 4.2.2.2 Shoulder, Curb & Gutter Details

### Shoulder Details and Layers

In the **Segment Overview** screen, click **Shoulder, Curb & Gutter Details**. The Shoulder, Curb & Gutter Details screen will display, including the **Left Side** and **Right Side** tabs. Left and right shoulders are established facing toward increasing milepoints in the PR segment (regardless of traffic direction), as described in the [Lane & Shoulder Numbering guidelines](#).

If shoulders are not automatically populated or incorrect, then the user needs to add or delete them as needed. Use the following steps to add and/or edit Shoulder Details:

- 1) Choose either the Left or Right shoulder, and Click **“Yes”** for **Work Done** if work has been done on the selected shoulder. Otherwise, click **“No”** to indicate no work has been done.
- 2) Select and enter shoulder details such as the Surface Type, Paved and Total Widths, if it has corrugations (rumble strips), and if parking is present in the Shoulder Details pane.

**NOTE:** There are three possible different **Width** inputs for shoulders. The **Total Width** is the width of both paved shoulder and aggregate-based shoulder. The **Paved Width** is the width of the paved shoulder only (in the current job). If the **“Partial Width Paving”** is selected, a third option will appear **“Partial Paving Width”** which is the width of the paved shoulder that was paved in this job (i.e., the remaining paved width is existing shoulder).

- 3) Add layer(s) to the selected shoulder side. To enter a new layer, select a layer from the drop-down list, and then click **Add Layer**. Users can also select a layer from the Layers Library. Please refer to the [Layers Library](#) section for more information.

Follow the steps outlined in [Lane Layers](#) to add and edit layer details in the selected shoulder.

The screenshot shows the 'Shoulder Details' screen for 'Left Side'. It includes radio buttons for 'Work Done', 'Has Corrugations(Rumble Strip)', 'Is Parking Lane', and 'Partial Width Paving?'. It also has input fields for 'Paved Width' (5 Feet) and 'Total Width' (8 Feet), and a dropdown for 'Shoulder Surface Type' (HMA over existing HMA). Below these are two sections: 'Select New Layer' with a dropdown and 'Add Layer' button, and 'Shoulder Sections' table.

#	Layer Name	Data Entry Status
2	HMA Top Course	Draft
1	HMA Level Course	Draft

### Curb & Gutter Details

In the **Shoulder, Curb & Gutter Details** screen click **“Yes”** for **Work Done** if curb & gutter work has been done on the selected shoulder, and then select **Curb Type**.

The screenshot shows the 'Curb & Gutter Details' screen. It has radio buttons for 'Work Done' (Yes) and a dropdown menu for 'Curb Type'. The dropdown menu is open, showing options: 'Select Curb Type', 'Asphalt Curb & Gutter', 'Concrete Curb & Gutter', and 'Valley Concrete Curb & Gutter'. There is also a 'Back' button.

### Save Shoulder, Curb & Gutter Details

In the **Shoulder, Curb & Gutter Details** screen, click **Save Shoulder, Curb & Gutter** to save the selected shoulder (Left or Right) as **“Complete”**. A shoulder can only be saved (as Complete) after all its details and layers are in **“Complete”** status. If shoulder details/layers are incomplete (or only some layers were entered), users can click **Save Shoulder as Draft** to save in a **“Draft”** status and complete the entry later.



---

## Copy Shoulder, Curb & Gutter Details

Shoulder details of a Complete shoulder can be copied to another shoulder in “Draft” status. This can reduce data entry and save users time if shoulders are identical or have similar details/layers. All shoulder information of the Draft shoulder(s) being copied to will be overwritten when using the copy shoulder function. Follow the steps below to copy shoulder details:

- 1) In the **Shoulder, Curb & Gutter Details** screen, click the **Copy Shoulder and/or Curb & Gutter** button.
- 2) Select option(s) to copy **Shoulder Details**, **Shoulder Layers**, and/or **Curb & Gutter Details**.
- 3) Click **Copy to Right/Left Shoulder**.

The image shows two screenshots from a software interface. The top screenshot is a dialog box with three buttons at the top: 'Back', 'Save Shoulder, Curb & Gutter', and 'Cancel'. Below these are two buttons: 'Copy Shoulder and/or Curb & Gutter' (highlighted with a red box) and 'Save Shoulder As Draft'. The bottom screenshot is titled 'Copy Options' and contains a table with three rows. The first row is 'Select Option' with an unchecked checkbox. The second row is 'Shoulder Details' with a checked checkbox. The third row is 'Shoulder Layers' with a checked checkbox. The fourth row is 'Curb & Gutter Details' with an unchecked checkbox. At the bottom of the 'Copy Options' screen are two buttons: 'Back' and 'Copy to Right Shoulder'.

---

### 4.2.2.3 Median Entry

#### Medians

In the **Segment Details** screen, select the Median Type and enter Median Width, if applicable. Median Type “Other” allows the user to enter a unique median type (not in the selectable list of Median Types) in a new text box below. Review the [Median Information](#) section for more information regarding Median Type and Width.

---

### 4.2.2.4 Segment Comments, Segment Summary, and Saving a Segment

#### Segment Comments

To detail additional information that cannot be entered in either the **Lane Details** or **Shoulder, Curb & Gutter Details** areas, use the **Segment Comments** box. For example, if the project has a variable thickness for the subbase layer, users can use the average or the predominant thicknesses (in the Layer Details), and insert a **Segment Comment** to indicate that the thickness is variable (or within a specific range).

---

#### Segment Summary

To view a summary of segment-level information for the currently active segment, users can click **Segment Summary**. The summary is in PDF format and can be saved or printed.

---

## Save Segment Details

In the **Segment Overview** screen, and after completing all the Lanes and Shoulder, Curb & Gutter Details within the segment, click **Save Segment** to save the selected segment as “Complete”.

A segment can only be saved (as Complete) after all its Lanes and Shoulder, Curb & Gutter Details are in “Complete” status. If not, users can click **Save Segment as Draft** to save the segment in a “Draft” status and complete the entry later.

The screenshot shows the 'Segment Overview' interface with several panels:

- Segment Shoulder Overview:** A table with columns 'Left' and 'Right'. 'Work Done' is 'Yes' for both, and 'Status' is 'Complete' for both.
- Segment Lane(s) Overview:** A table with columns 'Lane #', 'Work Done', and 'Status'. Lane 2.0 has 'Work Done: Yes' and 'Status: Complete'. Lane 1.0 has 'Work Done: Yes' and 'Status: Complete'.
- Segment Curb & Gutter Overview:** A table with columns 'Left' and 'Right'. 'Work Done' is 'No' for both, and 'Status' is 'Complete' for both.
- Median Overview:** A dropdown menu for 'Median Type' set to 'Undivided'.
- Segment Comments:** A text area with a character limit of 250.
- Buttons:** 'Back', 'Save Segment' (highlighted in red), 'Save Segment As Draft', 'Segment Summary', and 'Cancel'.

After saving the segment, users can return to the **PR Segment List** (that displays a list of all road segments in the selected job) to continue working on other segments.

The Data status in the **PR**

**Segment List** will indicate a “Complete” status for each segment saved with complete Lanes, Shoulder, and Median Details. The job cannot be finalized until all segments show a “Complete” status.

#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	1270708	23	0	0.422	Greenland Rd		Active	Complete
2	1270708	23	0.422	0.513	M-38	2 Way	Active	Complete
3	1270708	23	0.513	13.237	M-38	2 Way	Active	Draft
4	1270708	23	13.237	13.305	M-38	2 Way	Active	Draft

## 4.2.3 Copy Segment Details

### Copy Segment Details

Segment details of a Complete segment can be copied to other segment(s) in “Draft” status. This can reduce data entry and save users time if segments are identical or have similar details. All segment information of the Draft segment(s) being copied to will be overwritten when using the copy segment function. Follow the steps below to copy segment details:

- 1) In the **Road Segment List** screen, and under **PR Segment List** pane, click **Copy Segment Details** button.
- 2) Select a Completed Segment to copy its details, and the Incomplete Segment(s) to copy the details to (multiple segments can be copied to).
- 3) Click **Copy Details**.

The screenshot shows the 'PR Segment List' interface with the 'Copy Segment Details' button highlighted in red. Below it are two additional tables:

**Completed Segments [ Copy From ]**

#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	1270204	22	5.519	6.569	M-26	2 Way	Active	Complete
2	1270204	22	6.569	6.652	M-26	2 Way	Active	Complete
3	1270204	22	6.652	6.696	M-26	2 Way	Active	Draft
4	1270204	22	6.696	7.669	M-26	2 Way	Active	Draft

**Incomplete Segments [ Copy To ]**

#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
3	1270204	22	6.652	6.696	M-26	2 Way	Active	Draft
4	1270204	22	6.696	7.669	M-26	2 Way	Active	Draft

## 4.2.4 Project Comments, Project Summary, and Saving/Finalizing a Job

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### Project Comments

To detail additional information that cannot be entered in the [Segment Overview](#) screen, use the **Project Comments** box. These comments can capture project-level information that is not specific to a segment.

---

### Project Summary

To view a summary of project-level information (including all entered segments and their lanes, shoulders, medians, and layers), users can click **Project Summary**. The summary is in PDF format and can be saved or printed.

---

### Save/Finalize a Job

In the [Road Segment List](#) screen, after completing all the segment details, click **Finalize Job** to finalize the job and send it to the PHD Data Owner for review and approval. An automated E-mail notification is sent to Data Owners (within the Region of that user's assigned location) when a Data Entry user submits a job for review.

**NOTE:** Once finalized, the job cannot be seen or edited by the Data Entry user unless later the job is saved as a draft by a Data Owner and reassigned back to the Data Entry user.

A project can only be finalized after all its segments are in "Complete" status. If not, users can click **Save Job as Draft** and complete the entry later. To continue entry in this job in the future, use the [Modify](#) submenu in the left navigation bar and select the job.

**NOTE 1:** If the user is a **Data Owner**, accessing the job in the [Review](#) submenu and saving it as a "Draft" will move it to that Owner's [Modify](#) submenu.

**NOTE 2:** Once finalized by the **Data Owner**, the job cannot be accessed for editing, unless a **PHD Administrator** unlocks the finalized job, and reassign it to the Data Owner or Data Entry user.

## 4.2.5 Layers Library

### Layers Library Overview

Layers (in a “Complete” or “Draft” status) can be saved in the **Layers Library** list (formerly known as **Quick Layers**), and later can be applied throughout the same job (into different lanes and shoulders) or a different job assigned to the same user. This can reduce data entry and save users time when a layer and its attributes apply in different segments/lanes/shoulders throughout the same or different job.

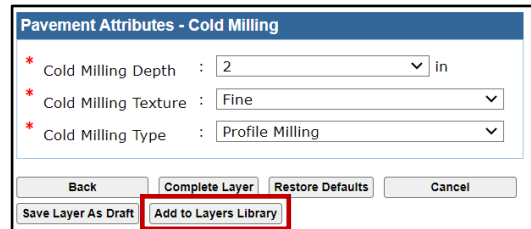
There are two methods to create/add layers to the **Layers Library** list *and* apply those layers to different segments, lanes, and/or shoulders within the same job: (1) from the **Layer Details** and **Lane Summary** screens, and (2) from the **Layers Library Overview** screen within the **Road Segment List** screen. Layers can also be created (but not applied to different segments, lanes, or shoulders) through the **Layers Library** submenu. The **Layers Library** submenu is where all layers are saved, to be used across different jobs (assigned to the same user).

### 4.2.5.1 Creating/Adding Layers to the Layers Library list

#### (1) Adding from Layer Details Screen

Layers can be added to the **Layers Library** list “on the fly” as they are created in the **Layer Details** screen. Follow the steps below:

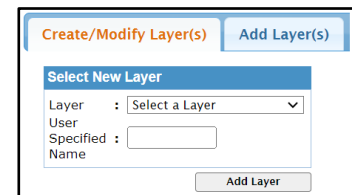
- 1) In the **Lane Summary** screen and under the **Lane Section** pane, select a created layer to be added to the **Layers Library** list.
- 2) Click **Add to Layers Library** and enter a unique **User Specified Name** (for user reference – no required conventions). Once added, the layer will be shown in the **Layers Library Overview** screen within the **Road Segment List** screen, and also shown in the **Layers Library** submenu.



#### (2) Adding from Layers Library Overview Screen

Layers can be created/added to the **Layers Library** list (and modified) from the **Layers Library Overview** screen within the **Road Segment List** screen. Follow the steps below:

- 1) In the **Road Segment List** screen, click **Layers Library Overview**.
- 2) Under the **Create/Modify Layers** tab, select a new layer from the drop-down menu, and enter a **User Specified Name** in the text box. There is no technical convention for this name. Users are encouraged to enter an easily recognizable name.



- 3) Click **Add Layer**, and the added layer will be displayed in the **Layers List** pane to the right of the **Select New Layer** pane. Data Entry Status is “Draft”.

4) In the **Pavement Attributes** pane, select or enter each material attribute.

5) Click **Save Layer**, and the **Data Entry Status** of the layer in the **Layers List** pane will be saved as “Complete” (if all required inputs for the lane are entered) or “Draft” (if some required inputs for the lane are missing).

#	Layer Name	User Specified Name	Data Entry Status
1	Cold_Milling	Milling	Complete

6) Repeat Steps 2 – 5 to create additional layers. All layers will be displayed in the **Layers List** pane. Be sure to click **Save Layer** after changes are made.

7) To modify a layer, select the layer from the **Layers Lists** pane, and edit the layer **User Specified Name** and/or attributes.

8) Once all desired layers have been created, edited, and saved, click **Save** at the bottom of the screen. Note that each layer needs to be saved, and the page itself needs to be saved to ensure that all layers are fully saved. Clicking **Back** will return to the **Road Segment List** screen and all entered layers will be lost.

### (3) Adding from Layers Library submenu

Layers can be created/added to the **Layers Library** list (and modified) from the **Layers Library** submenu, under the Post Construction Data menu from the Navigation Panel on the left side of the main PHD window. This menu is independent of any job for the same user. Follow the same steps described in [Adding from Layers Library Overview Screen](#).

## 4.2.5.2 Applying/Adding Layers from the Layers Library list

### (1) From Lane Summary Screen

Layers saved in the **Layers Library** list (in a “Complete status”) can be added to any Lane and/or Shoulder. Follow the steps below:

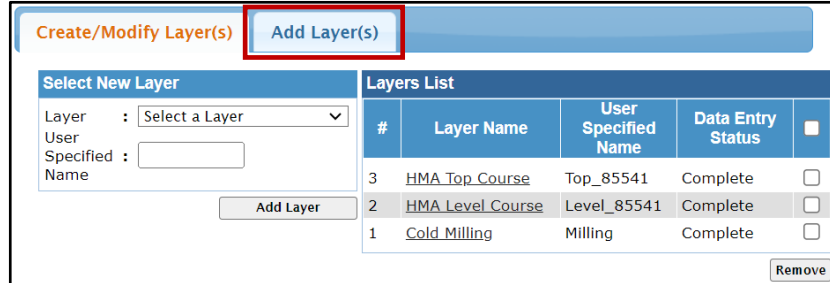
- 1) In the **Lane Summary** screen, and under the **Select a Layer from the Layers Library**, select a layer from the drop-down menu. These are the same layers listed in the **Layers Library** list that are in “Complete status.”
- 2) Click **Add Layer**. The layer will be shown under the **Lane Section** pane.
- 3) Click **Save Lane** (if all required inputs for the lane are entered) or **Save Lane as Draft** (if some required inputs for the lane are missing).

#	Layer Name	Data Entry Status
1	HMA Top Course	Complete

**(2) From Layers Library Overview Screen**

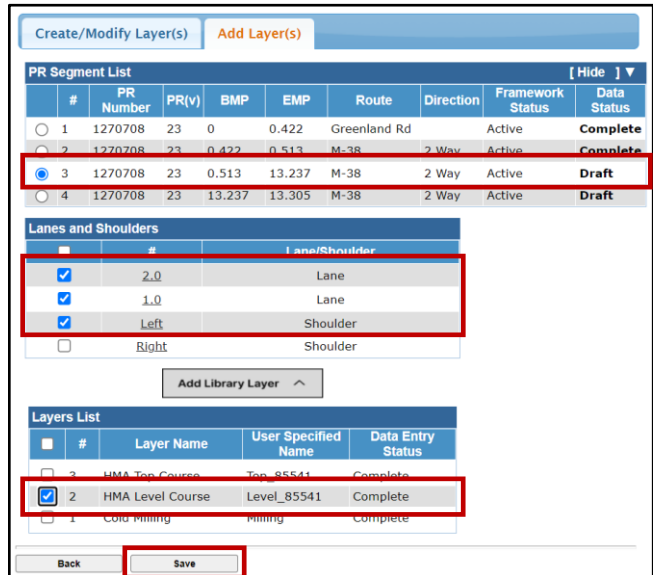
Follow the steps below to apply/add layer(s) saved in the **Layers Library** list to any Lanes and/or Shoulder, within any Segment, in the current job. Follow the steps below:

- 1) In the **Road Segment List** screen, click **Layers Library Overview**.
- 2) Click the **Add Layer(s)** tab, then click **“OK”** for the warning message to ensure all entered layer data is saved before navigating away from the screen.



- 3) In the **PR Segment List** pane, select the segment that contains the lane(s) and/or shoulder(s) to add layer(s) to.

- 4) In the **Lanes and Shoulders** pane, select the **lane(s) and/or shoulder(s)** to add layer(s) to. Multiple lane(s) and/or shoulder(s) can be selected.



- 5) Clicking on each individual Lane or Shoulder will display the existing layers in the selected lane or shoulder in the **Lane/Shoulders Section** pane.

- 6) In the **Layers List** pane, select a layer or more to apply to the selected lane(s) and/or shoulder(s) (from step 4), then click **Add Library Layer** (located above the Layers List pane) to apply the selected layer(s). Click **Save**.

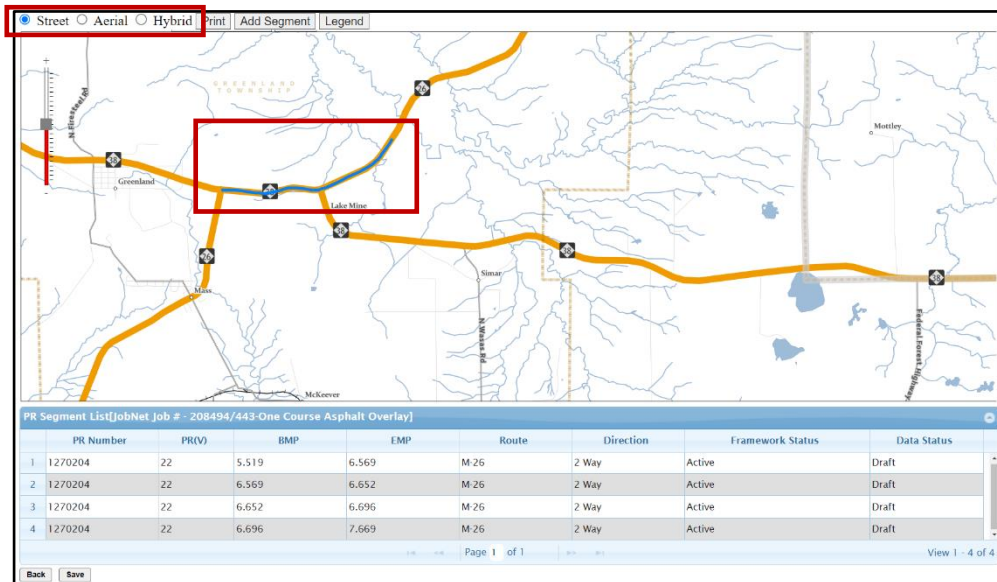
- 7) Repeat **Steps 3 – 6** to add more layers to lane(s) and/or shoulder(s) in other segments. Note that users need to continuously click **Save** after adding layers(s) to lane(s) and/or shoulder(s) within a segment, before moving to the other segment.

## 4.2.6 View Map

### View Map Function

The View Map function is an alternative way to create, modify, and remove segments. Instead of showing all the job segments in **Road Segment List**, segments can be visually displayed on a map and added by clicking without needing to know or search PR numbers for roadways.

In the **Road Segment List** screen, click **View Map** to enter the map. The map screen will appear, with a list of segments at the bottom of the screen (**PR Segment List**) that are highlighted in blue on the routes on the map. If a segment is selected from the **PR Segment List**, the selected segment is highlighted in green, and the remaining segments are still highlighted in blue. The map can be displayed in three different view types: Street, Aerial, and Hybrid. At the top of the map screen, select the Radio button for the desired view type.



The screenshot shows the View Map interface. At the top, there are radio buttons for 'Street', 'Aerial', and 'Hybrid', with 'Street' selected. To the right are buttons for 'Print', 'Add Segment', and 'Legend'. The map displays a network of roads with a segment highlighted in blue. Below the map is a table titled 'PR Segment List[JobNet Job # - 208494/443-One Course Asphalt Overlay]'. The table has columns for PR Number, PR(V), BMP, EMP, Route, Direction, Framework Status, and Data Status. The data is as follows:

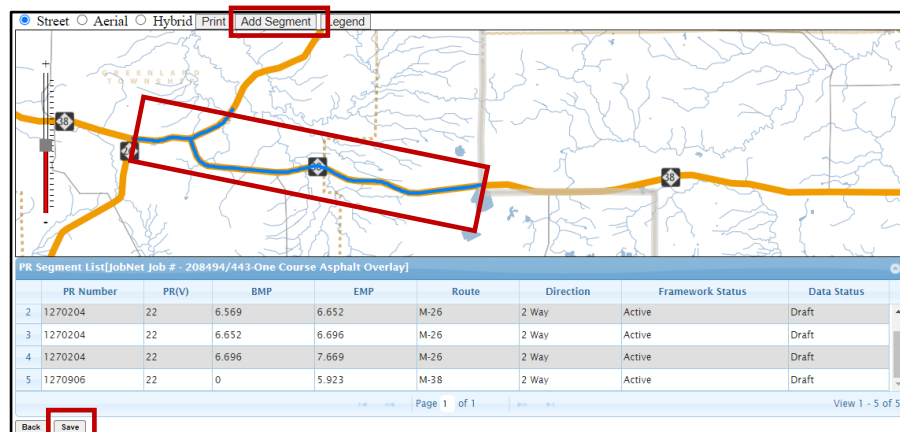
	PR Number	PR(V)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	1270204	22	5.519	6.569	M-26	2 Way	Active	Draft
2	1270204	22	6.569	6.652	M-26	2 Way	Active	Draft
3	1270204	22	6.652	6.696	M-26	2 Way	Active	Draft
4	1270204	22	6.696	7.669	M-26	2 Way	Active	Draft

At the bottom of the screen, there are 'Back' and 'Save' buttons, and a page indicator 'Page 1 of 1' and 'View 1 - 4 of 4'.

### Add Segments

Follow the steps below to add a segment in View Map:

- 1) Click **Add Segment** in the **View Map** screen.
- 2) Click on a road within the map to add a point. The entire length of the selected PR will be highlighted in blue and will be added to the segment list at the bottom of the screen.
- 3) Click **Save** to save changes, or **Back** to undo.



The screenshot shows the View Map interface with the 'Add Segment' button highlighted in red. The map shows a road network with a segment highlighted in blue. Below the map is a table titled 'PR Segment List[JobNet Job # - 208494/443-One Course Asphalt Overlay]'. The table has columns for PR Number, PR(V), BMP, EMP, Route, Direction, Framework Status, and Data Status. The data is as follows:

	PR Number	PR(V)	BMP	EMP	Route	Direction	Framework Status	Data Status
2	1270204	22	6.569	6.652	M-26	2 Way	Active	Draft
3	1270204	22	6.652	6.696	M-26	2 Way	Active	Draft
4	1270204	22	6.696	7.669	M-26	2 Way	Active	Draft
5	1270906	22	0	5.923	M-38	2 Way	Active	Draft

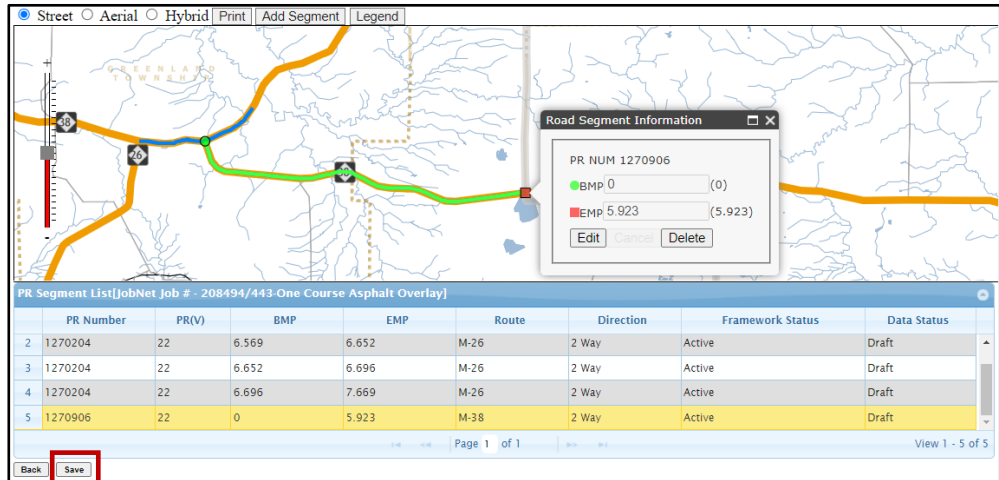
At the bottom of the screen, there are 'Back' and 'Save' buttons, and a page indicator 'Page 1 of 1' and 'View 1 - 5 of 5'.



## Change Segment Milepoints

Follow the steps below to change segment milepoints in View Map:

- 1) Select a segment, either by clicking on a segment from the map or by selecting a segment from the **PR Segment List** at the bottom of the screen. The **Road Segment Information** box will appear.
- 2) Click **Edit** and change the BMP and/or EMP. Note that the minimum BMP and maximum EMP for the PR are shown in parentheses to the right. Entered milepoint values cannot go outside these boundaries.
- 3) Click **Save** to save changes.



## Delete Segments

Follow the steps below to delete a segment in View Map:

- 1) Select a segment, either by clicking on a segment from the map or by selecting a segment from the **PR Segment List** at the bottom of the screen. The **Road Segment Information** box will appear.
- 2) Click **Delete**.
- 3) Click **Save** to save changes.

## Saving or Undo Changes in View Map

Users should always click on **Save** after changing the segment milepoint or after deleting a segment. Clicking on **Back** will return to the **Road Segment List** screen, and any changes made will not be saved.



# Chapter 5. Simplified CPM Format Jobs

## 5.1 Simplified CPM Jobs in PHD

### Simplified CPM Information

Jobs that have Work Type Codes from 400 to 499 are **Capital Preventative Maintenance (CPM)** type jobs, such as Asphalt Crack Treatments, Sealing Concrete Joints, and others. Data entry for these types of jobs can be relatively time-consuming due to the CPM variety of fixes and various locations. To streamline and reduce the data entry needs for CPM jobs, users can select the Simplified CPM format option at job creation (for JobNet and Non JobNet jobs).

**NOTE:** The Simplified CPM format:

- Requires segment layer information only.
- Does **not** require segmentation (dividing into several subsegments) based on lane or shoulder changes.
- Does **not** allow entry of lanes and their details.
- Does **not** allow entry of shoulder details (still requires shoulder layer(s)/work item(s)).
- Does **not** allow entry of median information.

**NOTE:** The Simplified CPM format should **not** be used:

- in projects where lanes have different paved or placed work.
- In projects involving HMA paving (like one course HMA paving) since PHD will not be able to calculate the total HMA tonnage when the Simplified CPM format is used.

Creating, modifying, and finalizing Simplified CPM format jobs is very similar to the standard jobs. Refer to [Chapter 4](#) for more details. Chapter 5 will briefly discuss CPM format jobs' data entry process, and will highlight the differences with the standard jobs entry.

## 5.2 Create Simplified CPM Jobs

### Create Simplified CPM Jobs

Follow the steps below to create Simplified CPM Jobs (JobNet or Non JobNet Jobs):

- 1) Click **Create** from the **Post Construction Data** menu (in the left navigation bar).
- 2) Select **“Yes”** or **“No”** for JobNet Job or Non JobNet Job.

- 3) Enter the JobNet Job ID or the Non JobNet Job ID (follow the guidelines listed in **Table 2-2** for the Non JobNet Naming Convention).

- 4) Click **Next Step**, and fill out/select the required fields in the **Job Details** screen.

- Select **“Yes”** for **Use Simplified CPM Format**.
- If applicable, select the appropriate **Special Project Type**.

The screenshot shows the 'Job Details' form with the following fields and values:

- Non JobNet Job ID: M208785
- Non JobNet Job Type: Maintenance "M" Funded
- Work Type Code: 456 - Asphalt Crack Treatment
- Fix Life: 3 Year(s)
- Use SIMPLIFIED CPM format for data entry?: Yes (selected)
- Special Project Type: [Choose upto two types] (checkboxes for CPM Emerging Technology Funded, Demonstration Project, National Pavement Studies, State Pavement Studies)
- Open to Traffic Date: 08/31/2022

**NOTE 1:** To qualify as a **Special Project**, the job needs to be one of the following: (1) a Pavement Demonstration Program project, (2) a CPM Emerging Technology Program project, (3) a state pavement study [must include a study number], and (4) a federal pavement study [must include a study number].

**NOTE 2:** **Open to Traffic Date** is the date when all lanes are open to the public traffic. For multi-year projects, please estimate it for now and use a placeholder to come back and change it later.

- Click **Save & Next** to continue. If this is a JobNet Job, the **Road Segment List** screen opens and displays a list of all road segments (in the **PR Segment List** tab). If a Non JobNet job, the **Road Segment List** screen will not be populated with road segments, and users need to create each segment.

**NOTE:** After the Simplified CPM format job is created, it will remain in the selected CPM format and cannot be changed later. If the incorrect format is selected in error, contact the PHD Administrator to delete the job and begin again.

### 5.3 Modify Simplified CPM Jobs

#### Modify Simplified CPM Jobs

Similar to standard format jobs, once a Simplified CPM format job has been created, it can be later edited/modified (1) immediately after the PHD job is created from the **Create** submenu, or (2) by selecting a previously created job from the **Modify** submenu.

#### Road Segment List

Similar to standard format jobs, the **PR Segment List** (within the **Road Segment List**) displays a list of all road segments in the selected job. Users can enter **Segment Details**, **Create Segments**, **Delete Segments**, and **Copy Segment Details** from one segment to another. Users can also **Change the PR Segment Mile Points** for any segment, and can **Create Sub Segments** (i.e., dividing the segment into two or more subsegments). Refer to the following sections in [Chapter 4](#) for more details: [Create Segments](#), [Change Segment Milepoints](#), [Create PR Sub Segments](#), and [Delete Segments](#).

The screenshot shows the 'Job Details' interface for a CPM job. At the top, it says 'Job Details [ CPMTest / 440 - Single Course Chip Seal ]' with a '[ Show ] ▲' button. Below this is an 'Edit Job Details' button. The main section is the 'PR Segment List' table, which has columns for #, PR Number, PR(v), BMP, EMP, Route, Direction, Framework Status, and Data Status. The table contains five rows of data, with the first row selected. Below the table are buttons for 'Segment Details', 'Copy Segment Details', 'Create Segment', 'Delete Segment(s)', and 'View Map'. There is also a 'Quick Layer Overview' button. Below the table, there are two sections: 'Change PR Segment Mile Points' with input fields for PR Number, BMP, and EMP, and 'Create PR Sub Segments' with a 'No. of Sub Segments' input field and a 'Create Sub Segments' button. At the bottom, there is a 'Project Comments' text area and buttons for 'Back', 'Finalize Job', 'Save Job as Draft', 'Cancel', and 'Project Summary'.

#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	349804	22	0	3	US-127	NB	Active	Draft
2	349804	22	3	3.2	US-127	NB	Active	Draft
3	368910	22	0	4.555	US-127	NB	Active	Draft
4	368910	22	4.555	8.235	US-127	NB	Active	Draft
5	368910	22	8.235	11	US-127	NB	Active	Draft

## 5.3.1 Edit Segment Details

### Segment Details

Select the radio button of a segment from the **PR Segment List** pane, then click **Segment Details**. The **Segment Overview** screen displays and users can:

- Add **Segment Layers**, including the year in which they were **Paved/Placed** (see section [5.3.1.1](#)).
- Click **Shoulder, Curb & Gutter Details** to define shoulders or curb & gutter (see section [5.3.1.2](#)).

The screenshot shows the 'Segment Details' interface for Job # - TEE / PR # - 405903 / MP : 0 ... 0.461. It features several panels:
 

- Segment Shoulder Overview:** A table with columns for 'Left' and 'Right' under 'Work Done' and 'Status'. 'Work Done' is 'Yes' and 'Status' is 'Draft' for both sides.
- Segment Curb & Gutter Overview:** A similar table where 'Work Done' is 'No' and 'Status' is 'Draft' for both sides.
- Segment Sections:** A table with columns for '#', 'Layer Name', 'Data Entry Status', and a checkbox. It lists one layer: 'Conc Pavt Repairs (Full Depth)' with status 'Draft'.
- Select New Layer:** A dropdown menu currently showing 'Select a Layer'.
- Select a Layer from the Layers Library:** Another dropdown menu showing 'Select a Layer'.
- Year [Paved/Placed]:** A text input field with a placeholder '[yyyy]'.
- Segment Comments:** A text area for notes, limited to 250 characters.
- Buttons:** 'Back', 'Save Segment', 'Save Segment As Draft', 'Segment Summary', 'Cancel', and 'Copy Segment Layers to Shoulders'.

- Enter segment comments in the **Segment Comments box** (see section [5.3.1.3](#)).

**NOTE:** Unlike the standard format, the Simplified CPM **Segment Overview** screen does not have a **Lane Details** button, as individual lane details are not entered for Simplified CPM projects. Similarly, the Simplified CPM **Segment Overview** screen does not have the Median information box.

### 5.3.1.1 Segment Layers and Year Paved/Placed

#### Segment Layer(s)

In the **Segment Overview** screen, the **Segment Sections** pane displays the layers and layer status (Draft or Complete) for the selected segment. Layers can be created, imported from **Layers Library**, re-ordered, or removed in this pane. Layer details can be added or edited after a layer is created or selected from the pane, similar to standard format jobs. Refer to [Lane Layer\(s\)](#) in Chapter 4 for more details.

Users need to enter the year in which the layers were paved/placed. The segment can be saved anytime by clicking **Save Segment as Draft**. Once all the layers in a segment are in “Complete” status, the segment can be saved as Complete by clicking **Save Segment**.

The screenshot shows the 'Segment Sections' pane with the following details:
 

- Table:**

#	Layer Name	Data Entry Status	
1	Conc Pavt Repairs (Full Depth)	Draft	<input type="checkbox"/>
- Buttons:** 'Move Up', 'Move Down', 'Remove'.
- Select New Layer:** A dropdown menu showing 'Conc Pavt Repairs (Full Depth)'.
- Select a Layer from the Layers Library:** A dropdown menu showing 'Select a Layer'.
- Year [Paved/Placed]:** A text input field with a placeholder '[yyyy]'.

## 5.3.1.2 Shoulder, Curb & Gutter Details

### Shoulder Layers

In the **Segment Overview** screen, click **Shoulder, Curb & Gutter Details**. The **Shoulder, Curb & Gutter Details** screen will display, including the Left Side and Right Side tabs. Left and right shoulders are established facing toward increasing milepoints in the PR segment (regardless of traffic direction), as described in the [Lane & Shoulder Numbering guidelines](#).

Shoulder details that are required for standard format jobs are not shown because these details are not needed for Simplified CPM format jobs. Only shoulder layers are needed for the Simplified CPM format. Layers can be added or edited after a Layer is created or selected from the pane, similar to standard format jobs.

The **Curb & Gutter Details** pane is the same for Simplified CPM and standard format jobs.

### Save Shoulder, Curb & Gutter Details

In the **Shoulder, Curb & Gutter Details** screen, click **Shoulder, Curb & Gutter** to save the selected shoulder (Left or Right) as Complete. A shoulder can only be saved (as Complete) after all its layers are in “Complete” status. If shoulder layers are incomplete (or only some layers were entered), users can click **Save Shoulder as Draft** to save in “Draft” status and complete the entry later.

### Copy Shoulder, Curb & Gutter Details

Shoulder layers of a Complete shoulder can be copied to another shoulder in “Draft” status. This can reduce data entry and save users time if shoulder layers are identical or have similar layers. All shoulder layers of the Draft shoulder(s) being copied to will be overwritten when using the copy shoulder function. Follow the steps below to copy shoulder details:

- 1) In the **Shoulder, Curb & Gutter Details** screen, click the **Copy Shoulder, Curb & Gutter** button.
- 2) Select option(s) to copy **Shoulder Layers**, and/or **Curb & Gutter Details**.
- 3) Click **Copy to Right/Left Shoulder**.

### 5.3.1.3 Segment Comments, Segment Summary, and Saving a Segment

#### Segment Comments and Segment Summary

Similar to standard format jobs, users can use the **Segment Comments** box to detail additional information that cannot be entered in either the **Segment Layers** or **Shoulder, Curb & Gutter Details** areas. Similarly, users can click **Segment Summary** to view a summary of segment-level information for the currently active segment.

#### Save Segment Details

Similar to standard format jobs, a segment can only be saved (as Complete) after all its Layers and Shoulder, Curb & Gutter Details are in “Complete” status. If not, users can click **Save Segment as Draft** to save the segment in “Draft” status and complete the entry later.

The screenshot shows a software interface for segment management. It features several sections:
 

- Segment Shoulder Overview:** A table with columns for 'Left' and 'Right' under 'Work Done' and 'Status'. Both are marked as 'Complete'.
- Segment Curb & Gutter Overview:** A similar table with 'Work Done' and 'Status' both marked as 'No'.
- Shoulder, Curb & Gutter Details:** A form with a 'Year [Paved/Placed]' field set to '2022'.
- Segment Sections:** A table listing layers with columns for '#', 'Layer Name', and 'Data Entry Status'. Three layers are listed: 'Concrete Penetrating Sealer', 'Conc Pavt Crack/Joint Sealing', and 'Joint/Crack Repair Mastic', all with 'Complete' status.
- Select New Layer:** A dropdown menu for selecting a layer.
- Select a Layer from the Layers Library:** Another dropdown menu.
- Segment Comments:** A text area for entering comments, with a note '(max 250 characters)'. The 'Save Segment' button is highlighted with a red box.

After saving the segment, users can return to the **PR Segment List** to continue working on other segments. The Data status in the **PR Segment List** will indicate a “Complete” status for each segment saved with complete Layers and Shoulder Details. The job cannot be finalized until all segments show a “Complete” status.

#	PR Number	PR(V)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	349804	22	0	3	US-127	NB	Active	Complete
2	349804	22	3	3.2	US-127	NB	Active	Draft
3	368910	22	0	4.555	US-127	NB	Active	Draft
4	368910	22	4.555	8.235	US-127	NB	Active	Draft

### 5.3.2 Copy Segment Details

#### Copy Segment Details

Similar to standard format jobs, segment details of a Complete segment can be copied to other segment(s) in “Draft” status. This can reduce data entry and save users time if segments are identical or have similar details. All segment information of the Draft segment(s) being copied to will be overwritten when using the copy segment function. Refer to [Copy Segment Details](#) in Chapter 4 for more details.

### 5.3.3 Layers Library

#### Layers Library Overview

Similar to standard format jobs, layers (in a “Complete” or “Draft” status) can be saved in the **Layers Library** list (formerly known as Quick Layers), and later can be applied throughout the same job (into different segments and shoulders) or a different job assigned to the same user. This can reduce data entry and save users time when a layer and its details apply in different segments and/or shoulders throughout the same, or different, job. Refer to the [Layers Library](#) section in Chapter 4 for more details.

## 5.3.4 Project Comments, Project Summary, and Saving/Finalizing a Job

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### Project Comments and Project Summary

Similar to standard format jobs, users can use the **Project Comments** box to detail additional information that cannot be entered in the **Segment Overview** screen. Similarly, users can click **Project Summary** to view a summary of project-level information (including all entered segments and their layers).

---

### Save/Finalize a Job

Similar to standard format jobs, and after completing all the segment details, click **Finalize Job** (in the **Road Segment List** screen) to finalize the job and sending it to the PHD Data Owner for review and approval. An automated E-mail notification is sent to Data Owners (within the Region of that user's assigned location) when a Data Entry user submits a job for review.

**NOTE:** Once finalized, the job cannot be seen or edited by the Data Entry user unless later the job is saved as a "Draft" by a Data Owner and reassigned back to the Data Entry user.

A project can only be finalized after all its segments are in "Complete" status. If not, users can click **Save Job as Draft** and complete the entry later. To continue entry in this job in the future, use the **Modify** submenu in the left navigation bar and select the job.

**NOTE 1:** If the user is a **Data Owner**, accessing the job in the **Review** submenu and saving it as a "Draft" will move it to that Owner's **Modify** submenu.

**NOTE 2:** Once finalized by the **Data Owner**, the job cannot be accessed for editing, unless a **PHD Administrator** unlock the finalized job, and reassign it to the Data Owner or Data Entry user.

# Chapter 6. Review and Reassign

## 6.1 Introduction

### PHD Quality Assurance

Quality assurance is a critical step to ensure proper and complete data entry. Therefore, a Review stage is integrated into PHD, where jobs submitted by Data Entry users are reviewed by Data Owner users. Once a Data Entry user submits a job for review (by selecting the Finalize Job button), the job will be relocated to the **Review** submenu, and the Review stage can begin.

Jobs in the **Review** submenu are only visible to Data Owner users (jobs within their Assignment Location jurisdiction). Jobs in the **Review** submenu will look and operate the same as Draft jobs from the **Modify** submenu.

**NOTE:** E-mail notifications are sent to all Data Owner users (within the Region of a specific Assignment Location jurisdiction) when a Data Entry user from that jurisdiction submits a job for review. Data Owner users must have active communication with Data Entry users and should regularly check the list of jobs in the **Review List** screen for new jobs ready for review.

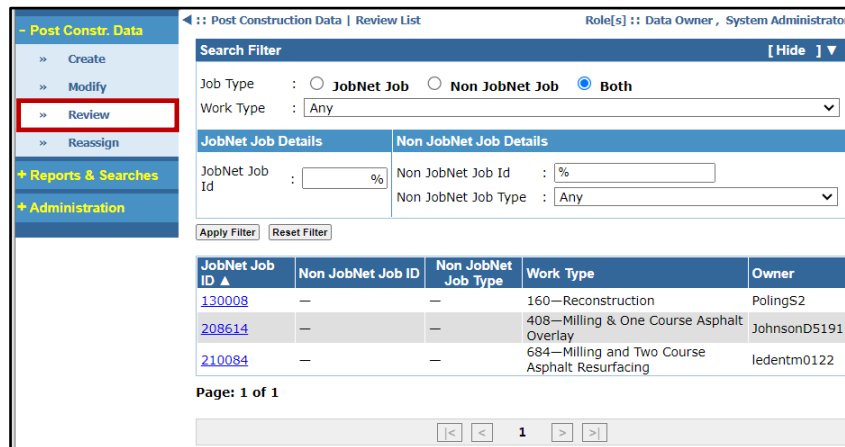
## 6.2 Data Review Process

### Review Submenu

Data Owners can select the **Review** submenu from the **Post Construction Data** menu to locate jobs that were finalized by Data Entry users and are ready for review.

The **Review List** screen will display JobNet and Non JobNet jobs available for review, that are within the Data Owner user Assignment Location jurisdiction. A sample Review List screen is shown below.

Data Owner users are responsible for job **review, editing and/or reassignment, and finalizing.**





## 6.2.1 Data Review

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### Data Review Tips

Data Owners should review all segments, lanes and shoulders, layers, and their attributes in a job. [Project Summary](#) and [Segment Summary](#) reports are very helpful to view a summary of project and segment-level information for a job. Common entry errors to look for include:

- 1) Incorrect project PR numbers and milepoints.
- 2) Segments input in the wrong direction. Please review the [Segmentation Rules](#) for more details.
- 3) Over and/or under-segmentation. Please review the [Segmentation Rules](#) for more details.
- 4) Omitted and/or missing items:
  - Missing segment(s), such as ramps.
  - Missing layer and/or work items, such as scratch (wedging) course, ASCRL mix, etc.
  - Missing lanes, shoulder, or curb & gutter.
  - Missing non-required layer attributes that are known/obtainable.
  - Missing aggregates from a mix design.
  - Missing warm mix designation.
- 5) Incorrect layer inputs, such as layers in the wrong order (upside down), and extra/duplicated layers. Please review [Lane & Shoulder Layers](#) for more details.
- 6) Incorrect lane numbering, such as lane 1 is not designated as a mainline lane, or lanes 0, -1, etc., are designated as mainline lanes. Please review [Lane & Shoulder Numbering](#) for more details.
- 7) Incorrect Lane/Shoulder, Curb & Gutter information, such as Surface Type (please review [Examples of Lane Surface Types](#)), Lane/shoulder Widths, and Lane Type.
- 8) Common copying errors, such as copying lane details to the incorrect lane number.

## 6.2.2 Data Edit and Reassignment

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### Edit or Reassignment Process

If errors or missing data are identified during job review, Data Owner users have two options:

- Make the appropriate edits to the job, or
- Send the job back to the Data Entry user to make edits to the job. Use the following steps:
  - 1) Click on **Save Job As Draft** (in the job **Road Segment List** screen) to send the job back to “Draft” Status. The job will appear in the Data Owner user’s list of jobs in the **Modify** submenu.
  - 2) Use the **Reassign** submenu to assign it to the Data Entry user for edit. In the **Reassign** submenu, and under the ‘Assign To’ column header, select the new user from the drop-down list, then click **Update**. Multiple jobs can be reassigned simultaneously (for the same or different users).

**NOTE:** Automated notifications are not sent when a job is reassigned. Data Owner users must directly notify the user that they have reassigned a job to.

Role[s] :: Data Owner , System Administrator

Search Filter [ Hide ]

Job Type :  JobNet Job  Non JobNet Job  Both

Work Type : Any

JobNet Job Details

JobNet Job ID : %

Non JobNet Job Details

Non JobNet Job ID : %

Non JobNet Job Type : Any

Apply Filter Reset Filter

JobNet Job ID ▲	Non JobNet Job ID	Non JobNet Job Type	Work Type	Current User	Assign To
33799	—	—	160— Reconstruction	Hamlin Alison	-Select User- ✓
37795	—	—	213— Interchange Redesign & Upgrading	Loree Jonathan	-Select User- ✓
45790	—	—	164—Asphalt Reconstruction	Loehle William	-Select User- ✓

Update

### 6.2.3 Finalizing a Job

When a job is complete and reviewed for possible errors and/or data omissions, Data Owner users should finalize the job by clicking on **Finalize Job** (in the job **Road Segment List screen**). The job is submitted as a finalized job in the PHD database and its associated segments and their data can be searched for in the **Reports & Searches** menu.

**NOTE:** Once a job is finalized in the database, the job cannot be accessed for edit unless a request is made to the PHD Administrator to unlock the job.

### 6.3 Data Review Resources

The [PHD Review Checklist](#) document available on the PHD informational website can be used as a guide in the Data Owner’s review process. A list of data that should be entered in PHD, the [Data Entry Items in PHD](#) document, can also be used.

### 6.4 Central Office Quality Assurance Process

In addition to the Data Review process by Data Owners, PHD Administrators also perform a QA process, which consists of two parts.

**Part 1** checks for “Completeness”. I.e., check if all pavement jobs (for the specific construction season) were entered. The PHD database is compared to the JobNet Database and other MDOT databases, and if discrepancies are found, PHD Administrators will contact the TSC/Region to enter/complete the missing jobs.

**Part 2** checks for “Accuracy”. I.e., checks if PHD jobs were entered correctly. Randomly sampled PHD jobs (for each Region) are selected for additional review, and PHD data is compared to construction records. Possible errors are sent to the Data Entry and Data Owner users to verify/correct the entered PHD data.

# Chapter 7. PHD Reports and Searches

## 7.1 Introduction

---

As mentioned in [Chapter 1](#), PHD is designed to store “As Built” pavement typical section information and materials data on Michigan’s state-owned roads (trunkline). The **Reports & Searches** menu is available to transpose stored data into the form of different exports and reports. Therefore, project data can be quickly and easily searched, sorted, and exported, without the need to review each project’s plans, proposal, contract modifications, and other construction-related documents. These exports and reports can be used to improve pavement management systems by analysis of output trends, quantities, or historical records, and can also aid scoping, sufficiency, and estimating. The complete list of PHD uses is available in Chapter 1 ([PHD Purpose and Uses](#)).

After Data Owner users have finalized jobs, their segment data can be searched and output in report form using the **Reports & Searches** menu. All PHD users have access to this menu.



## 7.2 Export Data Submenu

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### Export Filter and Details

The **Export Data** submenu allows users to search for existing pavement segments and provides an external output [Excel file](#) (CVS format) for saving and data processing.

The **Export Data** submenu includes the **Export Filter** and the **Export Data Details** pane. In the **Export Filter** pane, output data can be filtered by location (Region, TSC, and County) and date (open to traffic date). In the **Export Data Details** pane, users can specify **Segment Identifiers** and **Export Type**, such as job details, lanes/shoulders and their layers, median information, etc. Once an **Export Type** is selected, additional selectable sub-items (data columns) will appear in the pane.

Table 7-1 outlines the **Export Types** and their associated selectable items.

**Export Types**

**Table 7-1. Summary of Export Types and Selectable Items**

Export Type	Selectable Items (Column Headers)
<b>Job Details</b>	<ul style="list-style-type: none"> <li>• Non JobNet Job Type</li> <li>• Special Project Type</li> <li>• National Pavement Study Number</li> <li>• State Pavement Study Number</li> <li>• Work Type Code</li> <li>• Work Type Code Description</li> <li>• Date (Open to Traffic)</li> <li>• Date Type</li> <li>• Fix Life</li> <li>• Project Comment</li> </ul>
<b>Lane: Layers &amp; Details</b>	<ul style="list-style-type: none"> <li>• Year (Constructed)</li> <li>• Lane Number</li> <li>• Lane Surface Type</li> <li>• Lane Width</li> <li>• Lane Type</li> <li>• Layer Number</li> <li>• Layer Name</li> <li>• Attributes (Name &amp; Value)</li> </ul>
<b>Lane: Aggregates</b>	<ul style="list-style-type: none"> <li>• Year (Constructed)</li> <li>• Lane Number</li> <li>• Lane Surface Type</li> <li>• Layer Number</li> <li>• Layer Name</li> <li>• Aggregate Name</li> <li>• Source/Pit Number</li> </ul>
<b>Shoulder: Layers &amp; Details</b>	<ul style="list-style-type: none"> <li>• Side Indicator</li> <li>• Surface Type</li> <li>• Corrugations (Rumble Strip)</li> <li>• Parking Lane</li> <li>• Paved Width</li> <li>• Total Width</li> <li>• Paved Thickness</li> <li>• Paving Width</li> <li>• Layer Number</li> <li>• Layer Name</li> <li>• Attributes (Name &amp; Value)</li> </ul>
<b>Shoulder: Aggregates</b>	<ul style="list-style-type: none"> <li>• Side Indicator</li> <li>• Surface Type</li> <li>• Layer Number</li> <li>• Layer Name</li> <li>• Aggregate Name</li> <li>• Source/Pit Number</li> </ul>
<b>Curb &amp; Gutter: Details</b>	<ul style="list-style-type: none"> <li>• Side Indicator</li> <li>• Attributes (Name &amp; Value)</li> </ul>
<b>Median: Details</b>	<ul style="list-style-type: none"> <li>• Median Type</li> <li>• Median Width</li> </ul>

Below is an export output example for the following search criteria:

- **Export Filter:** Grand Region – 2015 to 2022
- **Export Type:** Job Details

	C	D	E	F	H	I	J	K	L	M	O	P	Q	R
	PR Number	PR BMP	PR EMP	Road Name	County	TSC	Region	JobNet Job ID	Non JobNet Job ID	Non JobNet Job Type	Work Type Code	Work Type Description	Date (Open to Traffic)	Fix Life
1	405205	0.268	0.353	US-BR-131	Kent	Grand Rapids	Grand	122656			450	Full Depth Concrete Pavement Repair	10/29/2016	6
2	3411717	0.697	0.698	S US 131/W M	Kent	Grand Rapids	Grand	123213			457	Concrete Joints Reseal	10/2/2015	3
3	405307	0.091	0.166	CONN-44	Kent	Grand Rapids	Grand	126134			408	Milling & One Course Asphalt Overlay	10/29/2016	5
4	405310	0	0.219	US-BR-131	Kent	Grand Rapids	Grand	126134			408	Milling & One Course Asphalt Overlay	10/29/2016	5
5	405310	0.343	0.459	US-BR-131	Kent	Grand Rapids	Grand	126134			408	Milling & One Course Asphalt Overlay	10/29/2016	5
6	525709	6.229	6.23	M-20	Mecosta	Cadillac	Grand	128672			456	Asphalt Crack Treatment	9/19/2017	2
7	407204	8.803	12.17	Broadmoor Av	Kent	Grand Rapids	Grand		TWA165043	TWA	450	Full Depth Concrete Pavement Repair	9/30/2016	5
8	407204	14.45	14.53	Broadmoor Av	Kent	Grand Rapids	Grand		P41051-031246	Permit	172	Right Turn Lane	6/8/2015	10
9	742501	0	0.101	W I 96	Ottawa	Muskegon	Grand		TWA225059	TWA	408	Milling & One Course Asphalt Overlay	9/29/2022	4
10	742501	0.101	0.299	W I 96	Ottawa	Muskegon	Grand		TWA225059	TWA	408	Milling & One Course Asphalt Overlay	9/29/2022	4
11	4110410	0.132	0.133	Hall/N US 131	Kent	Grand Rapids	Grand	122656			450	Full Depth Concrete Pavement Repair	10/29/2016	6
12	411109	0.068	0.069	S US 131/W B	Kent	Grand Rapids	Grand	122656			450	Full Depth Concrete Pavement Repair	10/29/2016	6
13	411201	0.125	0.126	S US 131/Cent	Kent	Grand Rapids	Grand	122656			450	Full Depth Concrete Pavement Repair	10/29/2016	6
14	3540055	1.304	7.219	120th Ave	Mecosta	Cadillac	Grand		W122622	Warranty	405	Overband Crack Fill	8/15/2017	0
15	423610	19.82	19.82	M-37	Kent	Grand Rapids	Grand	122658			408	Milling & One Course Asphalt Overlay	8/22/2017	10
16	1203310	10.4	10.51	S Sheridan Rd	Montcalm	Cadillac	Grand		M31725	Maintenance	160	Reconstruction	8/30/2017	14
17	1203310	10.51	10.62	S Sheridan Rd	Montcalm	Cadillac	Grand		M31725	Maintenance	160	Reconstruction	8/30/2017	14

## 7.3 Search Segment(s) Submenu

### Overview

The **Search Segment(s)** submenu allows users to quickly search for finalized PHD project data within the PHD interface. Four different search options are available to locate the specifically desired information. Once the segment or segments are located, more specific single segment information is available, including work type, open to traffic date, lane, shoulder, layers, and other job details. This can save users time and can aid in project planning and scoping processes.

### Search Segment Criteria

The four search types (defined by the four panes shown on the **Search** screen) are listed below. These search type panes cannot be used in combination with each other. Users should only make selections or enter data in one pane per search.

- **General Criteria**

- This allows users to search by location information, including Region, TSC, County, and Route.
- This search also allows users to search for segments with specified comments from the Segment or Project Comment boxes.
- Attribute Characteristic/Aggregate Characteristic selection allows users to search for Layers, Layer Attributes, Attribute Values, Layer Aggregates, or Aggregate Sources.

- **PR Criteria**

- This allows users to search by PR Number and Milepoint limits. The results will list segments that have **any** section within the specified PR milepoints.

- **CS Criteria**

- This allows users to search by CS Number and Milepoint limits. The results will list segments that have **any** section within the specified CS milepoints.

- **Job Number Criteria**

- This allows users to search by job number. The results will list all segments associated with the specified job number.

The screenshot displays the 'Search Segment(s)' submenu interface. On the left is a navigation menu with categories: '+ Post Constr. Data', 'Reports & Searches', and '+ Administration'. The 'Search Segment(s)' option is highlighted. The main content area shows four search panes, each with a 'Hide' button and a dropdown arrow:

- General Criteria:** Includes dropdowns for Region, TSC, County, and Route; a text input for Comments; and radio buttons for 'Attribute Characteristic' (selected) and 'Aggregate Characteristic'. Below is an 'Attribute Characteristic' section with dropdowns for Layer and Attribute, and a text input for Attribute Value.
- PR Criteria:** Includes text inputs for PR Number, PR BMP, and PR EMP.
- CS Criteria:** Includes text inputs for CS Number, CS BMP, and CS EMP.
- Job Number Criteria:** Includes a text input for Job Number.

At the bottom of the search area are buttons for 'View Segments' and 'Reset Filter'.

## View Segments

After selecting and/or entering the filters identifiers for the **Criteria** search option, select the **View Segments** button at the bottom of the screen to view search results.

Segments matching the search criteria will be listed in the **View Segments** screen. The segments can be identified and sorted by the column headers. Segments are unique to the jobs they were created in. Each segment can be selected to view its lane and shoulder details. Access details by clicking on the **PR Number** of the desired segment. Subsequently, the **Segment Details** screen will display.

The following is an example of the **View Segments** screen from a **PR Criteria Search**:

Road Name	Job ID	PR Number	PR BMP	PR EMP	Open to Traffic Date
E I 69	Suff_PR962706_BMP25.596	<a href="#">962706</a>	26.584	26.603	10/01/2014 [d]
E I 69	85489	<a href="#">962706</a>	26.661	26.981	10/31/2015 [a]
E I 69	85489	<a href="#">962706</a>	26.565	26.661	10/31/2015 [a]
E I 69	85489	<a href="#">962706</a>	26.981	27.059	10/31/2015 [a]
I-69	Suff_PR962706_BMP25.596	<a href="#">962706</a>	25.97	26.588	10/01/2014 [d]

[a] - Open to Traffic Date / [b] - Let Date / [c] - A Phase start date / [d] - Sufficiency Year\_Imp / [e] - AASHTOWare Project Open to Traffic Date / [f] - AP All Contract Work Completed Date

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## Segment Details

By selecting the **PR Number** of one of the segments from the **View Segments** screen, the **Segment Details** screen will display. This screen displays the **Road Segment** pane and Lane Summary/Shoulder/Curb & Gutter tabs. View Lane Details by selecting the **Lane Summary tab**, view Shoulder Details by selecting the **Shoulder tab**, and view Curb Details by selecting the **Curb Gutter tab**. The Road Segment pane displays general segment information, such as PR# and MP, Route, and Median Details. Note that Simplified CPM jobs/segments will not have lanes, so only layers will be shown.

The following is an example of the **Segment Details** screen:

Road Segment [ PR # - 962706 / MP : 26.661 ... 26.981 ] [ Hide ] ▼						
Job & Physical Reference (PR) Details				Locale Information		
PR Version	:	22	Route	:	I-69	
PR Number	:	962706	County	:	St. Clair	
PR BMP	:	26.661	TSC	:	Huron	
PR EMP	:	26.981	Region	:	Bay	
Segment Comments	:					
Median Details						
Median Type	:	Graded with ditch				
Median Width	:	100.0				
Lane Summary	Shoulder	Curb Gutter				
Lane Number	Width (in Feet)	Surface Type	Year (Constructed)	Lane Type	Partial Paving	Paving Width (in Feet)
<a href="#">1.0</a>	12.0 ft	JPCP-Jointed Plain Concrete Pvmt	2015	Mainline	No	N/A
<a href="#">2.0</a>	12.0 ft	JPCP-Jointed Plain Concrete Pvmt	2015	Mainline	No	N/A
Back						

## 7.4 Reports

---

### PHD Reports

The following reports can be generated in PHD through the **Reports & Searches** menu:

1. **Construction History Report:** shows all data entry on a specified roadway.
2. **Material Information Report:** lists segments with specific layer attribute(s) and/or aggregate within specified location limits.
3. **Material Quantity Report:** compares HMA and PCC quantities placed during a specified time period within specified location limits.
4. **Network Inventory Report:** provides lane or shoulder miles of rigid, flexible, and composite pavement as specified by location, year, and trunkline type (freeway or non-freeway).
5. **Work Type Report:** shows segments with a selected Work Type Code for a specified location, year range, layer, layer attribute, and/or layer attribute.
6. **MAP Reconciliation Report:** lists projects from the JobNet database that are not yet entered into PHD.

### 7.4.1 Construction History Report

---

#### Overview

The **Construction History Report** shows all data entry on a specified roadway, including **Job Details** (Job ID, WTC, Fix Life, Open to Traffic Date, Segments PR and MPs), **Segment Details** (Number of Lanes, Shoulder Details, Curb & Gutter Details, Median Type and Width, etc.), **Lanes/Shoulder, Curb & Gutter Details** (Surface Type, Lane Type and Width, Lane Layers, Shoulder Total and Paved Widths, Shoulder Surface Type, etc.), and **Layers/ Repair Work Attributes**. The Construction History Report is particularly useful for scoping and estimating future road projects. This report outputs in PDF format and Excel file (CVS format) for saving and data processing.

#### Search Options

Four different search options are available and listed below. These search type panes cannot be used in combination with each other. Users should only make selections or enter data in one pane per search.

- **Report Data Filter**
  - This allows users to search by location information, including Region, TSC, County, Route, and PR Numbers. Information will be separated by job numbers, to the most recent 3 projects. Thus, older projects are not displayed.
- **Specific PR (Physical Reference) and Specific CS (Control Section) Segment Details**
  - This allows users to search by PR/CS Numbers and Milepoint limits. The results will list segments that have any section within the specified PR/CS milepoints, so the retrieved segment(s) may actually be longer than the specified limits. Information will be separated by job numbers, to the most recent 3 projects. Thus, older projects are not displayed.
- **Specific Job Details**
  - This allows users to search by job number. The results will list all segments associated with the specified job number.



+ Post Constr. Data    < Reports | Construction History Report Filter    Role[s] :: Data Owner, System Administrator

- Reports & Searches

- » Export Data
- » Search Segment(s)
- » Construction History
- » Material Information
- » Material Quantity
- » Network Inventory
- » Work Type
- » MAP Reconciliation

+ Administration

**Report Data Filter**  
 Region :     TSC :     County :   
 Route :     PR Numbers :

**Specific PR (Physical Reference) Segment Details**  
 PR Number :     PR BMP :     PR EMP :

**Specific CS (Control Section) Segment Details**  
 CS Number :     CS BMP :     CS EMP :

**Specific Job Details**  
 Job Number :

**Report Format**  
 PDF     Excel

Below is an export output example for the following search criteria:

- **Specific Job Details:** Job Number – 108909
- **Report Format:** PDF

Construction History Report									
<b>Job Summary</b>									
Job Number	Work Type	Fix Life (Yrs)	Cost <sup>(1)</sup> / Lane Mile (\$)	Date	Notes	Special Project Type	Pavement Study Number		
108909	408 - Milling & One Course Asphalt Overlay	7		07/19/2013 <sup>(2)</sup>		N/A	N/A		
<small>(1) - Construction Cost or A Phase CTD from MPFINS / <sup>(2)</sup> - Open to Traffic Date / <sup>(3)</sup> - Let Date / <sup>(4)</sup> - A Phase start date / <sup>(5)</sup> - Sufficiency Year, Imp / <sup>(6)</sup> - AASHTOWare Project Open to Traffic Date / <sup>(7)</sup> - AP All Contract Work Completed Date</small>									
Segment Details									
Region	TSC	County	Route	PR Number	PR BMP	PR EMP			
Grand	Grand Rapids	Kent	M-57	410710	5.107	5.209			
Lane [1.0], Lane Type [Mainline], Sectional Details [Surface Type:Flexible / Width: 12.00 ft / Partial Width Paving: No / Paving Width: N/A]									
Year Constructed	Pavement	Attribute	Value	Aggregate	Pit / Source				
2013	HMA Top Course	AWI (Actual)	264	Man Sand	41-117				
		Application Rate	170 Pounds Per Square Yard	3/8 x 4	41-117				
		Asphalt Binder	PG 58-28	2NS	41-117				
		Asphalt Binder Certified Supplier	Michigan Paving & Materials Co., Monroe, MI	Reclaimed	41-000				
		Mix Design No. (Case Sensitive)	13MD241	Gray Sand	93-031				
		Mix Type - HMA Top Course	5E3						
		Shingles Used	N						
		Warm Mix	N						
		<b>Shoulder, Curb &amp; Gutter Details</b>							
		Pavement Type	Attribute	Left Side	Right Side				
Shoulder	Corrugations (Rumble Strip)	N	N						
	Shoulder Parking Lane	N	N						
	Shoulder Paved Width	3 Feet	3 Feet						
	Shoulder Total Width	8 Feet	8 Feet						
	Paved Surface Type	Flexible	Flexible						
Left Side Shoulder Layers									
Pavement	Attribute	Value	Aggregate	Pit / Source					
HMA Top Course	AWI (Actual)	264	Man Sand	41-117					
	Application Rate	170 Pounds Per Square Yard	3/8 x 4	41-117					
	Asphalt Binder	PG 58-28	2NS	41-117					
	Asphalt Binder Certified Supplier	Michigan Paving & Materials Co., Monroe, MI	Gray Sand	93-031					
	Mix Design No. (Case Sensitive)	13MD241	Reclaimed	41-000					
	Mix Type - HMA Top Course	5E3							
	Shingles Used	N							
	Warm Mix	N							
	Warm Mix Water Fanning	N							
	Warm Mix Additive Used								
Cold Milling	Cold Milling Depth	1.5 Inches							
	Cold Milling Type	Uniform Depth of Milling per Plan							
Right Side Shoulder Layers									
Pavement	Attribute	Value	Aggregate	Pit / Source					

## 7.4.2 Material Information Report

### Overview

The **Material Information Report** lists segments with specific layer attribute(s) and/or aggregate during a specified time period and within specified location limits. Layers and their attributes or aggregate can be searched by location information, including Region, TSC, County, Route, and PR Numbers.

The **Material Information Report** is particularly useful for researching specific materials, performing material cost analyses, and obtaining historical reference information. This report outputs in PDF format and Excel file (CVS format) for saving and data processing.

To generate the report, users need to select the location information and time period from the **Geographic Filter**, select the **Filter Type** (Aggregate Filter or Attribute Filter), select the Layer and its attributes or aggregate, and **Add the Attribute Filter** (if Attribute Filter selected). If Attribute Filter is selected, individual or multiple attribute/value/comment filters can also be used. Once all selections and filters are made, select **Generate Report**.

Users can also use the **Sort Definition** pane to define the order of the segments in the report list (sorted by Job Number, Route, County, and/or Work Type Code), and use **Report Format** to select the format of the output file (PDF or Excel file).

Below is an export output example for the following search criteria:

- **Geographic Filter:** North Region – from 2010 to 2022
- **Layer:** Chip Seal
- **Attribute:** Emulsified Asphalt Supplier - Michigan Paving & Materials Co., Monroe, MI.
- **Report Format:** Excel

Report Criteria									
Pavement	Attribute	Attribute Value							
Chip Seal	Emulsified Asphalt Supplier	Michigan Paving & Materials Co., Monroe, MI							
Material Information Report									
Job Number	Route	County	PR Number	PR BMP	PR EMP	Date	RSL	RSL Year	Work Type
120249	M-75	Charlevoix	1242004	0.27	3.642	7/23/14	0	0	400 - "Multiple Course Chip Seal"
120249	M-75	Charlevoix	1242004	3.642	4.26	7/23/14	0	0	400 - "Multiple Course Chip Seal"
120249	M-75	Charlevoix	1242004	3.642	4.26	7/23/14	0	0	400 - "Multiple Course Chip Seal"
120333	M-33	Ogemaw	1005503	20.471	21.905	7/6/15	0	0	440 - "Single Course Chip Seal"
120333	M-33	Ogemaw	1005503	0	7.824	7/6/15	0	0	440 - "Single Course Chip Seal"
120333	M-33	Ogemaw	1005503	0	7.824	7/6/15	0	0	440 - "Single Course Chip Seal"
123277	M-33	Oscoda	1335006	5.079	10.865	6/26/15	0	0	440 - "Single Course Chip Seal"
123277	M-33	Oscoda	1335006	5.079	10.865	6/26/15	0	0	440 - "Single Course Chip Seal"
124929	M-33	Ogemaw	1005503	11.009	17.203	7/6/15	0	0	440 - "Single Course Chip Seal"
124929	M-33	Ogemaw	1005503	11.009	17.203	7/6/15	0	0	440 - "Single Course Chip Seal"
128572	M-72	Kalkaska	1097603	1.439	1.633	8/29/17	0	0	400 - "Multiple Course Chip Seal"
128572	M-72	Kalkaska	1097603	10.698	11.427	8/29/17	0	0	400 - "Multiple Course Chip Seal"
204228	M-204	Leelanau	1147907	3.388	3.64	10/10/2019	0	0	443 - "One Course Asphalt Overlay"

## 7.4.3 Material Quantity Report

### Overview

The **Material Quantity Report** compares HMA and PCC quantities placed during a specified time period and within specified location limits. HMA and PCC quantities are calculated by lane miles, volume, and area. This report outputs in PDF format and Excel file (CSV format) for saving and data processing.

Below is an export output example for the following search criteria:

- **Region/TSC:** Metro – All TSCs
- **Time Period:** 2012 to 2022
- **Report Format:** PDF

Material Quantity Report							
Report Criteria							
Region	TSC	From Year	To Year				
Metro	All TSCs	2012	2022				
Report Data							
Region	TSC	Lane Miles (miles)		Volume (cu. yds) / Tonnage (tons)		Area (sq. yds)	
		PCC	HMA	PCC	HMA	PCC	HMA
Metro	Detroit	37.32	233.64	79,426.53	154,927.81	254,941.87	1,649,430.76
Metro	Macomb	118.32	615.74	233,181.65	509,131.70	829,804.93	4,298,763.90
Metro	Oakland	46.59	256.49	112,853.37	195,120.71	333,513.07	1,754,264.87
Metro	Taylor	153.83	36.63	340,010.53	34,768.91	1,097,276.11	260,377.29
Metro Region Totals		356.06	1,142.50	765,472.08	893,949.13	2,515,535.99	7,962,836.82

## 7.4.4 Network Inventory Report

### Overview

The **Network Inventory Report** provides lane or shoulder miles of rigid, flexible, and composite pavement as specified by location, year, and trunkline type (freeway or non-freeway). The lane-mile quantities are derived from the accumulation of all entered information (in PHD) to the end of the year specified. Please note that the report doesn't necessarily show the entire network for the given search criteria – it only shows what has been entered/reported in PHD.

The **Network Inventory Report** is particularly useful for locating and quantifying trunkline pavement types. Additionally, this report can also indicate pavement type trends. This report outputs in PDF format.

To generate the report, select from the **Report Data Filter** pane the location (Region, TSC, County, and Route), year, trunkline type (freeway or non-freeway), and Lane or Shoulder search. Note that the year entry will report quantity data for all constructed segments that occurred prior to December 31st of that entered year. Use the **Report Detail Level** pane to select the report level of detail. By selecting a more specific level, the report will output more information to identify that specified level. For example, if **Route** is the selected level of detail, lane miles for all trunkline routes will be shown within the selected Region/TSC/County.

Role[s] :: Data Owner , System Administrator

**Report Data Filter**

Region : All Regions

TSC : All TSCs

County : All Counties

Route : All Routes

End of Year : 2023 [yyyy]

Route Type :  Freeway  
 Non Freeway  
 Both

Report Type :  Lane Miles by Surface Type  
 Shoulder Miles by Surface Type

**Report Detail Level**

Region  
 TSC  
 County  
 Route

Generate Report    Reset Filter

Below is an export output example for the following search criteria:

- **Region/TSC/County:** Southwest – All TSCs and Counties
- **Time Period:** End of 2022
- **Route Type:** Both Freeways and Non-Freeways
- **Report Type:** Lane Miles by Surface Type

**Network Inventory Report - Lane Miles by Surface Type - County Level**

Region	TSC	County	Route	Lane Miles				
				Flexible	Rigid	Composite	Other	
Southwest	Coloma(inactive)	Berrien	All	0.000	1.119	0.000	0.000	
		Van Buren	All	0.000	0.562	0.000	0.000	
	Coloma(inactive) TSC Totals			0.000	1.681	0.000	0.000	
	Kalamazoo		Berrien	All	307.016	260.209	262.002	0.000
			Cass	All	166.029	0.328	118.947	7.838
			Kalamazoo	All	159.436	114.331	325.343	0.000
			Van Buren	All	229.647	88.747	87.247	0.000
	Kalamazoo TSC Totals			862.128	463.615	793.539	7.838	
	Marshall		Branch	All	40.252	131.430	92.658	0.000
			Calhoun	All	236.100	140.802	344.783	0.292
			St. Joseph	All	180.297	4.052	190.113	0.000
	Marshall TSC Totals			456.649	276.284	627.554	0.292	
	Southwest Region Totals			1318.777	741.580	1421.093	8.130	
	State Totals			1318.777	741.580	1421.093	8.130	

## 7.4.5 Work Type Report

### Overview

The **Work Type Report** shows segments with a selected Work Type Code (WTC) for a specified location, year range, and/or layer. The listed segments can be sorted by Region, TSC, year, and/or Work Type Code in ascending or descending orders.

The **Work Type Report** is particularly useful to determine where and how often specific types of work and pavement are being applied throughout the state. This report outputs in PDF format and Excel file (CVS format) for saving and data processing.

To generate the report, select from the **Report Data Filter** pane the Work Type, Region/TSC, and year range [**From Year** starts from January 1<sup>st</sup> of the entered year, and **To Year** ends on December 31<sup>st</sup> of the entered year]. If a **layer is selected**, the report output will show all projects with the selected Work Type **and** have the selected layer. If a **layer is not selected**, the report output will show all projects with the selected Work Type **regardless** of layer type.

Below is an export output example for the following search criteria:

- **Work Type:** Reconstruction
- **Region/TSC:** Bay – All TSCs
- **Time Period:** 2020 - 2022
- **Layer:** PCC Pavement

Work Type Report									
Job Number	Region	TSC	Route	PR Number	PR BMP	PR EMP	Lane Miles	Date	Work Type
130024	Bay	Huron	I-69	962902	11.921	12.046	0.38	2021-12-09	160 - Reconstruction
130024	Bay	Huron	Riley Center/E I 69 RAMP	1847306	0	0.4	0.40	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	7.974	8.062	0.26	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	11.015	11.16	0.43	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	11.553	11.921	0.74	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	12.046	12.406	0.72	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	6.947	7.053	0.32	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	7.053	7.974	1.84	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	8.062	11.015	5.91	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	11.16	11.553	0.79	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962706	7.957	8.082	0.38	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	I-69	962902	5.856	6.947	2.18	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	W I 69/Riley Center RAMP	1847308	0	0.385	0.39	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	W I 69/Riley Center RAMP	1847308	0.385	0.626	0.48	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	Kinney/W I 69 RAMP	1847403	0	0.45	0.45	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	Riley Center/W I 69 RAMP	1847307	0	0.392	0.39	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	W I 69/Kinney RAMP	1847402	0	0.309	0.31	2021-12-09	160 - "Reconstruction"
130024	Bay	Huron	W I 69/Kinney RAMP	1847402	0.309	0.419	0.22	2021-12-09	160 - "Reconstruction"

## 7.4.6 MAP Reconciliation Report

### Overview

The **MAP Reconciliation Report** shows projects from the JobNet database that have not yet entered into PHD. These projects can be filtered by location, JobNet Job Type, Funding Template, Work Type Code, and letting year range.

The **MAP Reconciliation Report** can help Data Entry users locate projects for data entry. It can also help Data Owners verify that all JobNet jobs are entered. The report can also help locate older projects that may have been overlooked. This report outputs in PDF format.

**NOTE 1:** The MAP Reconciliation Report considers JobNet projects as entered in PHD when a job is created. Therefore, projects not shown as missing might not be finalized in the PHD database. It is possible that these projects are still in a user's **Modify** or **Review** areas.

**NOTE 2:** Depending on the Funding Template in the Data Filter, the MAP Reconciliation Report may include some non-pavement related jobs (that should not be entered in PHD). Users should carefully review the report to ignore these jobs.

To generate the report, users must select **Location Information** (Region/TSC), **JobNet Job Type** (Trunkline, Multi-Modal, Maintenance, or Local), **Funding Template** (multiple selection by holding the ctrl key, usually select **Freeway Resurfacing Program**, **Non-Freeway Resurfacing Program (NFRP)**, **Road - Capital Preventive Maintenance**, and **Road - Rehabilitation and Reconstruction**). Users can also search based on **Work Type** and **Letting Period**.

Role[s] :: Data Owner , System Administrator

Report Data Filter

Locale Information

Region : North

TSC : Traverse City

Report Detail Level

Region Level  TSC Level

JobNet Job Type

Trunkline  Multi-Modal  Maintenance  Local

Funding Template [ Multiple Select ]

Work Type [ Multiple Select ]

Letting Period

From : 01/01/2020 [mm/dd/yyyy]

To : 12/31/2022 [mm/dd/yyyy]

Generate Reset Filter

Below is an export output example for the following search criteria:

- **Region/TSC:** North – Traverse City
- **JobNet Job Type:** Trunkline
- **Funding Template:** Road - Rehabilitation and Reconstruction
- **Work Type:** All Work Types
- **Letting Period:** 01/01/2020 to 12/31/2022

MAP Reconciliation Report - TSC Level						
Report Filter Criteria						
Region	TSC	JobNet Job Type	Work Type(s)	Funding Template(s)	Time Period	
North	Traverse City	Trunkline	All	Road - Rehabilitation and Reconstruction	01/01/2020 - 10/31/2022	
Report Data						
Region	TSC	No. of Outstanding MAP Jobs (Jobs not yet in PHD)			Percentage of existing MAP Jobs in PHD	
North	Traverse City	5			54.55% - [ 6 / 11 ]	
Job Number	Major Route	Major County	Major Work Type	Funding Template	Is Let Job?	Let Date
216186	M-55	Wexford	112 - Traffic Signals	Road - Rehabilitation and Reconstruction	N	Not Available
205228	Old 55	Wexford	164 - Asphalt Reconstruction	Road - Rehabilitation and Reconstruction	Y	10/02/2020
200954	US-31	Benzie	684 - Milling and Two Course Asphalt Resurfacing	Road - Rehabilitation and Reconstruction	Y	10/01/2021
131656	US-31	Benzie	684 - Milling and Two Course Asphalt Resurfacing	Road - Rehabilitation and Reconstruction	Y	10/01/2021
129932	M-37	Grand Traverse	167 - Crush & Shape & Asphalt Resurfacing	Road - Rehabilitation and Reconstruction	Y	01/08/2021



# Appendix A. Frequently Asked Questions

## A.1 Introduction

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In Appendix A, users can find answers to commonly asked questions by PHD Data Entry and Data Owner users. If users have specific questions for PHD interface; data collection, preparation, or entry; or exporting PHD data, they are encouraged to search within this Appendix. If users cannot find the answer, please contact PHD Administrators or the Region's designated PHD liaison.

### PHD Administrators:

Fawaz Kaseer, at [KaseerF@michigan.gov](mailto:KaseerF@michigan.gov) or 517-599-1498

Justin Schenkel, at [schenkelj@michigan.gov](mailto:schenkelj@michigan.gov) or 517-242-2788

### Region designated PHD liaisons:

**Grand Region:** Bill Loehle

**Metro Region:** Marji Zabel

**North Region:** Margaret Szajner

**Bay Region:** Tyler Lemieux

**Southwest Region:** Kyle Rudlaff

**Superior Region:** Alison Hamlin

**University Region:** Robert Green

The following seven sections list the commonly asked questions (and answers) related to the PHD data entry process.

- [Data Collection Resources](#)
- [General Data Entry](#)
- [Job Details](#)
- [Segment Details](#)
- [Lane Details](#)
- [Shoulder/Curb & Gutter Details](#)
- [Layers & Layer Attributes](#)

## A.2 Data Collection Resources

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### What resources can be used to find information needed for data entry?

The following resources, databases, or programs may be used to aid in finding data for entry:

- ❖ **ProjectWise:** an MDOT's electronic document tool used by both internal MDOT staff and external partners (like consultants) to manage documentation for construction projects. Most construction records required for PHD entry can be gathered from ProjectWise.
- ❖ **MDOT [PR Finder](#):** an online mapping application that helps to identify the PR number and milepoints for all roads in the state of Michigan. This website is open to the public.
- ❖ **MDOT [Construction Contract Inquiry \(CCI\)](#):** an online database with project-specific information, such as contract-level information, contract modifications, and contractor payments that reflect "As Built" information. CCI database is open to the public.

- 
- ❖ [Google Maps/Google Earth](#): tools for aerial imagery. In many cases, the Google aerial imagery is captured recently (and after the project's completion date). In this case, certain pavement features can be verified, such as the number of lanes, lane type, lane width, shoulder width, median type and width, and others.

The following construction-related documents and forms may be used to aid in finding data for entry:

- Project plans and proposal which include project location (PR numbers and milepoints), typical sections, work items, etc. "As Built" plans are preferable, but if project information is being entered soon after construction, these might not be available.
- Contract modifications to check for material changes made during construction.
- HMA Job Mix Formulas (JMF) (MDOT Form 1911) and concrete JMF (MDOT Form 1976).
- Report Of Quality Assurance Testing (MDOT Form 1903B) and Weekly Summary Of Certified Concrete (MDOT Form 1155).
- Material Source List (MSL) (MDOT Form 0501), and the Material Certifications, Certificate of Compliance, and/or Certificate of Analysis.
- Testing orders for surface seals and crack treatments.
- Delivery tickets (HMA, concrete, aggregate, etc.).
- Inspector's Daily Reports (IDRs) (MDOT Form 1122B), Inspector's Report of Concrete Placed (MDOT Form 1174R), and/or Aggregate Inspection Daily Report (MDOT Form 1900).
- Record of Soils Recommendations (MDOT Form 0583)

**NOTE:** In case the construction documents for **Non JobNet Jobs** are unavailable or incomplete, contact personnel who have direct knowledge of the work done and gather project related documentation. Enter as much accurate information as is available.

### **What methods are being used around the state for capturing data? Is there a template for station to mile-point conversions?**

There is not an official form to fill in to capture PHD data. Some use spreadsheets for various input items such as materials data and station to mile point conversions. Some use project plans to visually lay out sub-segments with color coding.

The [PHD Data Spreadsheet](#), which is available on the [PHD informational website](#), can be used for PHD data collection and can help format and organize PHD data. This spreadsheet can also be used to convert stationing to mile-points. The beginning mile-point in reference to the beginning station is needed for proper conversion. Also, station equations would need to be manually applied within the spreadsheet.

## A.3 General Data Entry

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### Do very short projects have to be entered into PHD?

Projects shorter than 0.1 mile are optional. Some short projects are required to be entered, such as when lanes are added or reconstructed (turn lanes, for example).

### Why don't I see the measurement/layer/attribute I need to enter in the drop-down choices?

Contact the PHD Administrator to see if the desired measurement/layer/attribute can be added.

### Can I add additional information that cannot be entered in any PHD screen?

Yes. To detail additional information that cannot be entered within a segment, Lane, or Shoulder details screens, users can use the [Segment Comments](#) box or [Project Comments](#) box.

### Should I always have to save data before exiting any screen within PHD?

Yes. Users must save the data (save as a "Draft" or "Complete" status) before exiting any screen (segment, lane, shoulder, layer, etc.). Without saving, data will be lost when using **Back**, **Cancel**, or even **navigating to a different submenu**. Similarly, data will be lost if a project is exited for any reason, including network or connection issues.

### Can I enter additional data after I click on finalize? How do I correct a project that has been finalized?

After a project has been finalized by a Data Entry person, it goes to a Data Owner for review. If the Data Owner has **not** finalized it, they can reassign it to the Data Entry person so that data may be added or corrected. If the Data Owner **has** finalized the project, it has to be unlocked by the PHD Administrator. Please contact the PHD Administrator (with the Job ID identified) to unlock it.

### Should I finalize a multi-year project after the first year?

No. Save the job in "Draft" status. When the project construction is complete (the following year(s)), complete the data entry in PHD, and then finalize the job.

### Should I enter pavement projects outside of the paved shoulder (i.e., sidewalks, non-motorized path, or Portable Intermittent Truck Weigh Stations (PITWS))?

Work outside of the shoulder or curb and gutter is not included in PHD, (except for median information). However, items such as non-motorized paths within the shoulder or lanes must be included but are not separated. The width should be included in other adjacent lanes or shoulders. A comment can then be added to the Project Comment and/or Segment Comment boxes.

Pavement projects outside of the shoulder/curb and gutter (like the PITWS) cannot be entered, but can be noted by adding a note in the Project and/or Segment Comment boxes.

## A.4 Job Details

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### **How do I enter projects that have more than one job number?**

Enter the work associated with each job number separately. This will be especially important if PHD reports are created/exported based on a job number or when information related to specific job numbers is needed. An example of this is mainline work is done under one job number and shoulder work is done under another job number. Another example is an intersection improvement done under one job number and work outside the intersection done under another job number. **DO NOT** enter projects or job numbers with non-pavement work such as landscaping, freeway lighting, signage, etc.

### **How do I assign Job ID at job creation? If I used an incorrect job ID at job creation, can I change it later?**

For JobNet Jobs, the PHD Job ID is simply the numeric value of the Job Number from the JobNet database (5 or 6 digit job number). For Non JobNet Jobs, **Table 2-2** defines the types of Non JobNet projects and Job ID naming convention guidelines.

For Non JobNet jobs, if an incorrect job ID was used when creating the job, users can edit/change the Non JobNet job ID later, without losing entered data. For JobNet jobs, users cannot change the job ID once created. Users must contact the PHD Administrator to correct the job ID.

### **CPM projects (such as crack seal) can cover a very large number of miles. This can take a lot of time to enter due to the large number of segments. Can this be simplified?**

Yes. CPM projects can be “simplified” by selecting ‘Yes’ for Simplified CPM Format, on the job creation screen. The project must be a CPM project with Work Type Code 400 to 499. Simplified CPM jobs require segment layer information only, and do not require segmentation based on lane or shoulder changes, do not allow entry of lanes and their details, and do not allow entry of median information. This process will streamline PHD CPM entry and make CPM projects much easier to enter. Note that the Simplified CPM prompt can only be selected once, and will remain in the Simplified format for the duration of data entry. If the CPM project includes HMA layers and/or different work/layers in each lane, the Simplified CPM Format should not be used.

### **Why won't PHD allow me to create a project with a segment outside of my TSC/region jurisdiction (a multi-region project)?**

In general, Data Entry users can only create projects and segments within the limits of their Region. If a project crosses multiple regions, contact the PHD Administrator. The PHD Administrator can assign the Data Entry User a ‘Statewide’ access in PHD, so the user can create and work on multi-region projects.

### **How should I flag a demonstration or experimental project? For example, I have one using crumb rubber, or a different special material type.**

If applicable, check the appropriate Special Project Type(s), in the Job Details box (at job creation). Add notes to the [Segment Comments](#) box or [Project Comments](#) box to indicate crumb rubber use or any different special material type.

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## What is the Open to Traffic date?

It is the date when **all** the lanes have been opened to traffic. At PHD job creation, if the project is not yet complete, enter an approximate placeholder and update the date when the project is complete.

## Can I change the Fix Life when creating a job in PHD?

For JobNet jobs, users **cannot** change the Fix Life, because it is automatically generated from the JobNet database.

For Non JobNet Jobs, and once a WTC is selected, the Fix Life will be auto-filled. However, users **can** change the Fix Life. Click on the **Fix Life Guide link** within PHD to review the appropriate Fix Life per work type. Consult the appropriate Pavement Management Engineer for further guidance or confirmation.

## When creating a project in PHD, if the information pulled from the JobNet database is wrong, is there a way to correct the data in JobNet and then have PHD pull the correct data?

PHD pulls information from the JobNet database (the Planning Database) only at PHD job creation. Changes to JobNet database will not be reflected in PHD after job creation; therefore, corrections need to be made in JobNet prior to job creation in PHD.

In PHD, only PR and milepoint information from the JobNet database **can** be corrected in PHD after job creation. Other information like WTC and Fix Life **cannot** be corrected in PHD.

## A.5 Segment Details

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### If PHD automatically generated the segments (PR numbers and milepoints), should I always keep those segments in the PHD job?

At PHD job creation for JobNet jobs, preliminary segment information (PR numbers and milepoints) is generated and is based on the originally planned or designed records (from JobNet database). However, modifications to those segments or additional segments may still be needed since PHD entry should always be based on "As Built" information. For example, an asphalt mill and fill project could be programmed to be from 0 to 2.3 milepoints, but the "As Built" information could indicate a shorter mill and fill length (0 to 1.9 milepoints, for example).

### Is there a minimum length of a segment?

No, there's **no** minimum length, but segments less than 0.1 mile may be entered with the adjacent segment at the user's discretion (and Segmentation Rules can be waived). **The exception** is segments involving additional lanes less than 0.1 mile (turn lanes, for example). These **should** be entered as new or subsegments and not included in adjacent segments to capture that additional lane mileage.

### Do Maintenance Crossovers and Temporary roads/routes have to be entered?

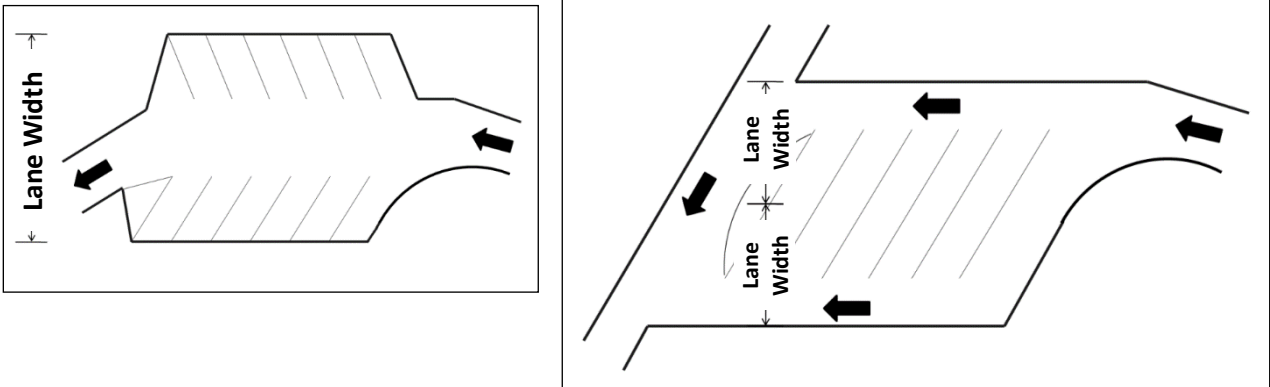
Crossovers, short roadways that connect both sides of a divided highway, should **not** be entered in PHD. Temporary roads, constructed along a temporary alignment solely for use during construction, should **not** be entered in PHD, since these are not part of the MDOT trunkline.

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**Since the PR numbers for the rest areas include the parking area, does the parking area need to be entered?**

Yes. Enter the parking area as a lane and select the Lane Type “**Rest Area Parking Lane**”. Consider each driving path as a separate lane and include parking spaces in the lane width. **Note that** ramps usually have their own PR number and should **not** be included in this area.

Please note that this is different from how standard segments (mainline lanes) consider parking, which includes parking on the shoulder. Please review [What is included within the Shoulder width?](#) for standard segment parking entry.



**Entering ramps takes a lot of time. Do they have to be entered? If yes, how?**

Yes, ramps are important assets and must be entered and tracked in PHD. The ramp is entered under its own PR number, and the ramps PR number begins or ends at the 2’ gore point, so portions of the ramp that are next to the mainline should be entered with the mainline. Please see the ramps [Segmentation Example](#).

**During construction, the length of a ramp was increased. In PHD, when I enter the new milepoints, I get an error that they are outside the limits of the PR (exceeds the segment length). What should I do?**

PHD looks at the latest official PR Framework to make sure entered PR numbers and milepoints exist [PR framework refers to the linear referencing system (LRS)]. When the milepoints for a PR change (this can be checked using [MDOT's PR Finder](#)), that needs to be reflected in the next version of the Framework. This typically happens around **October** each year. Since PHD data is typically entered before that (by **January** of the same year), the error message occurs.

In this case, create the segment using the current PR milepoints limits, and save the segment (and the job) in “Draft” status, until the new Framework version is released. However, if the milepoints for the PR did not change between the current and next version of the Framework, and when the difference is small and within the 0.1 mile, then limits of the PR in PHD can be used (not the actual PR limits), and a note/comment should be added to the [Segment Comments](#) box. When the difference is greater than 0.1 mile, please notify the PHD Administrator.

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**During construction, a new ramp or new roundabout was constructed. In PHD, when I enter the PR number for the new ramp/roundabout, I get an error. What should I do?**

PHD looks at the latest official PR Framework to make sure entered PR numbers and milepoints exist [PR framework refers to the linear referencing system (LRS)]. When a new PR is created (this can be checked using [MDOT's PR Finder](#)), that needs to be reflected in the next version of the Framework. This typically happens around **October** each year. Since PHD data is typically entered before that (by **January** of the same year), the error message occurs.

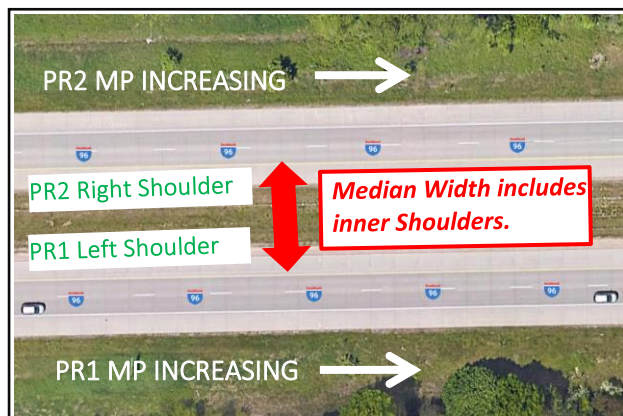
In this case, and in the [Create Segment](#) screen, select **Future** under the **Latest PR Version**. Users can create a placeholder segment with any PR number and milepoint (without any restrictions). However, the Framework Status of such segment in the **PR Segment List** will show as “Inactive” status. Users can complete the data entry for any “Inactive” segment (such as lanes, shoulders, layers, etc.), but need to save the job in a “Draft” status [since users cannot finalize the job until the Framework Status shows an “Active” status]. In the next year’s PHD data entry cycle, and when the new alignment (a new ramp, a new roundabout, etc.) is reflected in the PR framework, create the same segment again. The Framework Status of such segment in the PR Segment List will show as “Active”. Then, Copy segment details of the “Complete” and/or “Inactive” segment to the newly created “Active” segment. Delete the “Inactive” segment. Please refer to the [Create and Modify Segments](#) section for more information.

**How do I enter Median information? For segments with varying median width, what should I enter?**

In the [Segment Overview](#) screen, select the Median Type (and Median Width, if applicable). Examples of Median Types (selectable options in PHD) include Undivided, Concrete Barrier, Guardrail, Graded with ditch, N/A (i.e., Ramp), etc. The Median Type “**N/A (i.e., Ramp)**” should only be used for one-way segments that do not have a median (such as ramps). Two-way segments without medians should use the selection “**Undivided**”.

For segments with varying median width, the median width in PHD is the **predominant** median width including **inner shoulders** (if any). For example, see the figure below. Please note that Segmentation is **not required** based on small changes in Median Width. However, segmentation is **required** based on significant changes in Median Width and/or changes in Median type (i.e., going from a divided to undivided median).

Median information is **only** required for standard jobs and is **not** needed/shown for Simplified CPM Format Jobs.



## A.6 Lane Details

### Why do I have to enter data for each lane separately?

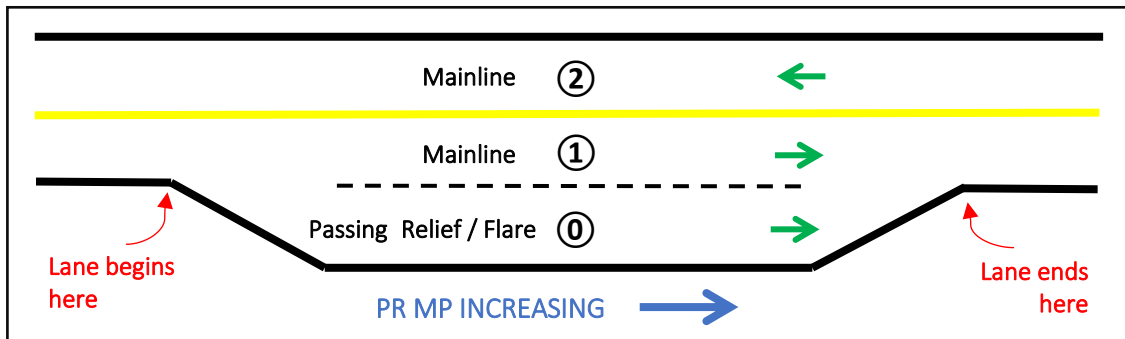
PHD is designed to capture occasional differences between lanes, including differences in Lane Type (Mainline, Left/Right Turns, Passing Flare, etc.) and Paving Year. Some PHD reports require individual lane details to provide the correct information, such as the quantities of HMA and concrete placed which is provided by the Material Quantity Report. Another example is for tracking the actual paving date (for each lane) for multi-year projects, which is important to determine Fix Lives and Service Lives as part of the MDOT's Life-Cycle Cost Analysis (LCCA) process.

In PHD, and when different lanes share similar details and layers, users can use the [Copy Lane](#) function to copy lane details and/or layers of a "Complete" Lane to another lane. This can reduce data entry and save users time if lanes are identical or have similar details.

Unlike the standard format, the Simplified CPM Format Jobs do not show different lanes, since jobs with WTC 400 to 499 (Capital Preventive Maintenance jobs) usually have the same fixes/repairs across all lanes.

### When should a tapered lane be considered a "lane" in PHD and have its own data entered?

A lane begins at the start of the taper and ends at the end of the taper. The full length between the begin/end taper points should be considered as the total lane length. The varying width from 0' to 12' within the tapered length is not separately accounted for. Please follow the [Lane & Shoulder Numbering guidelines](#).



### How should I number each lane in PHD? Should I specify the Lane Type?

Lanes are always numbered right to left, facing toward increasing milepoints in the PR segment (regardless of traffic direction). Lane 1 is the **right-most through lane** of the PR segment, and increasing lane numbers 2, 3, etc., are lanes **left of Lane 1** (such as a passing lane, center turn lane, or an opposing traffic lane (if it is the same PR number, i.e., undivided roadway)). Decreasing lane numbers 0, -1, etc., are lanes **right of Lane 1** (such as ramp lane, passing flare, right turn lane). Typically, divided roadways have a different PR number for each bound, so they are numbered separately. Please review the [Lane & Shoulder Numbering guidelines](#) for more information and examples. One exception for the rules above is for a ramp when it is a separate entity (i.e., the entire PR number represents only the ramp). In this case, the ramp is numbered as Lane 1.

Lane Type is a required input in PHD. Select the lane type from the drop-down list under the **Lane Details** screen. Examples of lanes type include Mainline, Left/Right Turns, Off/On Ramps, Passing Flare, Weave, etc.

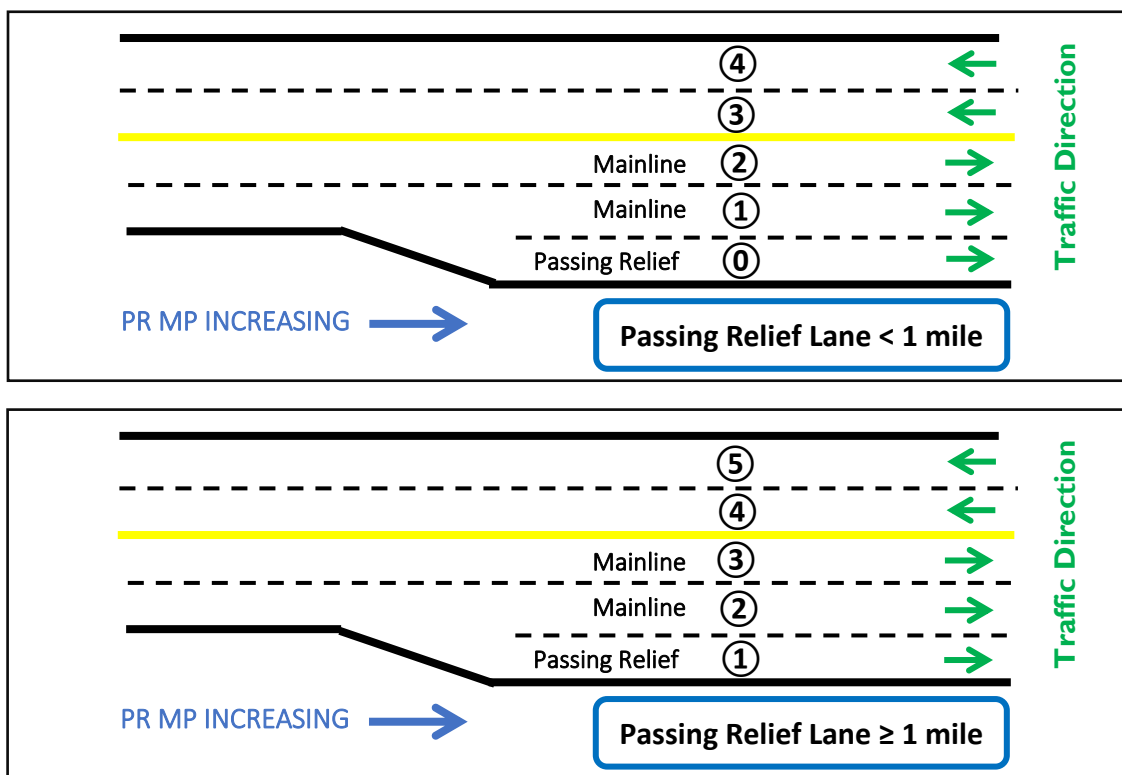


**For Lane Type, what is the difference between “Passing Relief” and “Passing Flare”? How should be numbered?**

Passing Flares can be constructed to facilitate traffic flow, particularly in rural areas, where there is no need for added through lanes. They allow traffic to flow around left-turning vehicles without significantly reducing speed on the main roadway.

Passing Relief lanes (usually on two-lane rural roads) provide passing opportunities that would otherwise be scarce where there are extensive no-passing zones, high opposing traffic volumes, or both. According to MDOT’s Road Design Manual, Passing Relief lanes must be 12’ wide and are longer than passing flares. Passing Flares can be less than 12’ wide.

Please follow the [Lane & Shoulder Numbering guidelines](#) when numbering Passing Flares and Passing Relief lanes. For a Passing Relief Lane of one mile and longer, the Lane can be numbered similarly to a mainline (as Lane 1 - the right-most through lane of the PR segment). If a Passing Relief Lane is less than one mile, the Lane can be numbered with decreasing lane numbers 0, -1, etc. (right of Lane 1), similar to ramp lane, right turn lane, etc. Passing Relief Lanes on the left side should just be numbered in the standard increasing number protocol.



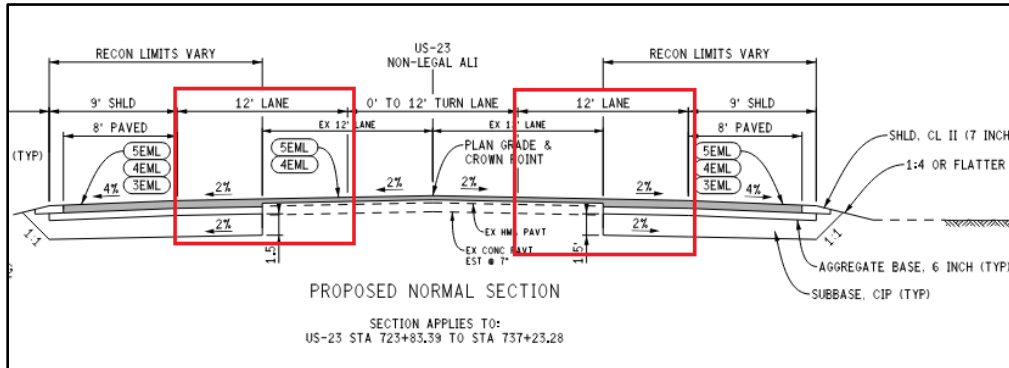
**How do I enter lane width if the project paves only part of the lane width (partial paving)? For example, I have a project to widen an existing road, and part of the width is paved and part is existing pavement.**

If the [Lane Details](#) screen, select “Yes” for “Partial Width Paving?”, and select the partial paving width from the list.

## How do I enter a lane or layer that is split but with different layers?

If both layers were placed as part of the same job, then the layer (to be entered in PHD) should be whichever layer makes up a majority of the width of the lane.

If the widths are identical, a 50/50 split, and part of the width is paved and part is existing pavement, then the layer should be entered as the material placed on the job. If the widths are identical, a 50/50 split, and both were placed as part of the job, then you may enter the option with the greatest number of layers. For example, for the project shown in the figure below, the inside turn lane layers (in PHD) will be (milling and two course HMA). The outside lanes' layers (in PHD) will be HMA full depth (Subbase + Base + three HMA layers) (i.e., do not consider the milling and two HMA layers).



## What does the Lane Type 'Buffer Space' mean?

It will identify the lane type as a 'paved area where crossing or travel is prohibited by a pattern of pavement markings.' Select this Lane Type in these situations, but make sure to evaluate the other Lane Types to verify that this is the proper selection.

## For Surface Type (pavement cross-section), do I only consider the top layer?

No. **All** existing layers underneath the top surface placed with the project should be considered. This applies to each Lane and Shoulders since it is possible for Lanes and Shoulders (within the same segment) to have different existing layers. Consider the examples below:

- If the entire asphalt pavement was replaced in this job, then the surface type is (HMA Full Depth).
- If an HMA overlay occurred in a lane with existing HMA (but without any existing concrete pavement), then the surface type is (HMA over existing HMA).
- If an HMA overlay occurred in a lane with existing concrete pavement (regardless of directly or indirectly below the new overlay), then the surface type is (HMA over existing Jointed Conc).
- For Micro-Surface, Chip Seal, etc., if the thickness  $\geq 0.5$ ", then this is considered as a structural layer, and the surface type is HMA over existing HMA/Conc.
- For Micro-Surface, Chip Seal, etc., if the thickness  $< 0.5$ ", then this is **NOT** considered as a structural layer, and the surface type is determined considering the existing layers only. Please note that even if the layer is **not** considered a structural layer, it must still be entered into PHD as a layer.

An exception for the examples above is a cross-section that has existing concrete, but is buried by a very thick aggregate overlay, and surfaced with a new HMA pavement. This can be considered (HMA Full Depth) since the existing concrete is deep enough that it does not significantly affect the surface HMA pavement. A note can be added to the [Segment Comments](#) box to indicate this deep existing concrete.

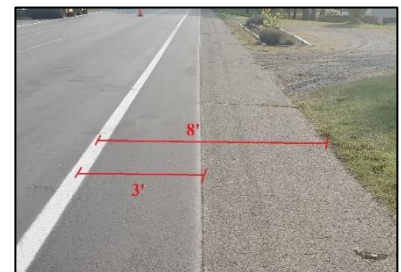
## A.7 Shoulder/Curb & Gutter Details

### What is included within the Shoulder width? What are the shoulder's Total Width, Paved Width, and Partial Width Paving?

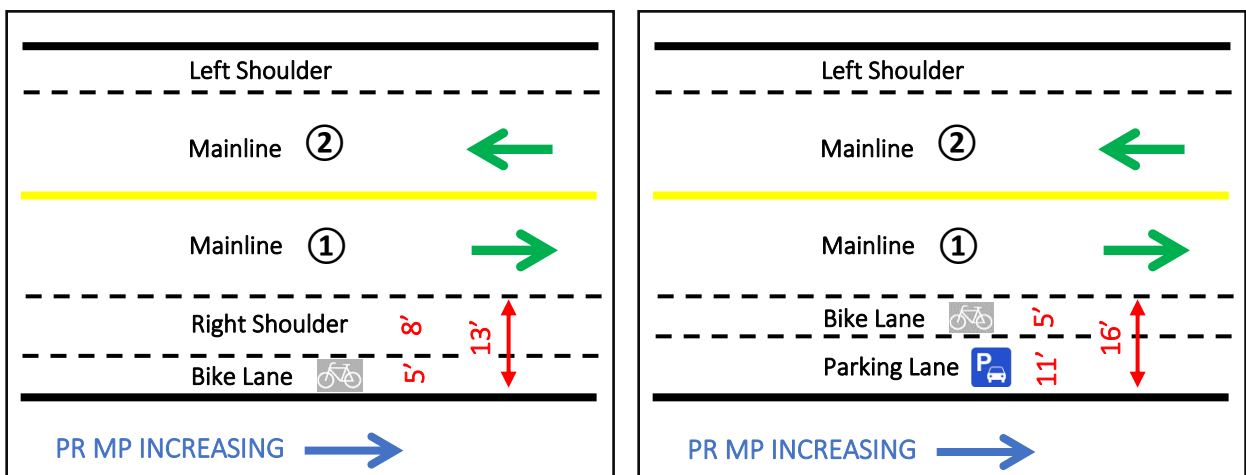
Shoulder in PHD is measured from the **edge of the vehicle travel lane** to the **break point** of the shoulder (end of placed aggregate material). There are three possible different **Width** inputs for shoulders:

- 1) The **"Total Width"** is the width of both the paved shoulder and the aggregate-based shoulder.
- 2) The **"Paved Width"** is the width of the paved shoulder (paved shoulder width in the current job).
- 3) The **"Partial Paving Width"** is the width of the paved shoulder that was paved in this job (i.e., the remaining paved width is the existing shoulder).

The example picture shows a shoulder with **8' paved width** and **3' Partial Paving Width** (paved in the current PHD job). **The total Width is also 8'** because there is no aggregate-based shoulder.



The shoulder does not include curb & gutter, with the exception of valley curb & gutter (include valley curb & gutter width with the 'Paved Width'). The shoulder also includes any bike lanes and/or parking (if adjacent to the travel lanes). For example, if a 5' bike lane is adjacent to the 8' shoulder, then the shoulder's width is 13' (left image below). If a 5' bike lane is adjacent to the 11' parking lane, then the shoulder's width is 16' (right image below). Please review the [Lane & Shoulder Numbering guidelines](#) for more information and examples.



### How do I enter information when there is shoulder work, but no work in the existing parking area?

Enter the shoulder's **Partial Paving Width** and **information** of the work completed. Enter also the current **"Total Width"** and **"Paved Width"** for the shoulder and parking area.

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## How do I enter a shoulder-widening project? What if work was done to the existing shoulder before it was widened – do we collect this information?

Enter the new “**Total Width**” and “**Paved Width**” for the shoulder and enter the “**Partial Paving Width**” (the width of the paved shoulder in the widening project). Add the shoulder Layers for the work done to widen the shoulder. In the Segment or Project Comments box, indicate the original width of the shoulder before it was widened.

If work was done to the **existing shoulder** before it was widened (ex. cold milling), add a comment to the Segment or Project Comments box to indicate what work was done to the **existing shoulder** before it was widened. Also, add a comment to indicate the original width of the shoulder before it was widened.

## How do I enter shoulder-only projects without deleting lanes and leaving them undefined?

For projects with shoulder-only work, the user can enter the shoulder information without creating lanes. If the lanes were automatically created for JobNet jobs, users need to indicate no work on any lane within the segment by selecting “**No**” for **Work Done**.

## How do I enter information about intermittent curb and gutter?

If more than 5% of the total length of the curb and gutter is replaced (within a segment), then identify the segment(s) containing this work and select “**Yes**” for **Work Done** in the Curb and Gutter area for each segment affected. Be sure to select the left or right side as appropriate. In the **Segment Comments** box, indicate that curb and gutter replacement is intermittent.

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## A.8 Layers & Layer Attributes

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### Do I have to enter layers in the existing cross-section?

No. Only layers paved/placed in the current job should be entered. **Existing layers** or **layers paved/placed in other jobs** should not be entered with the current job. However, **repairs** and/or **pre-overlay work** on the existing layers must be entered (diamond grinding, milling, etc.). The existing layers do, however, need to be taken into consideration when entering the **Surface Type (pavement cross-section)** for the lanes and shoulders.

### Do I have to enter layers in a certain order?

Yes. In PHD, layers should be entered in order of construction/operation. Consider the following examples:

- A **Crush & Shape and Asphalt Resurfacing job (with milling)** should be entered in the following order from the bottom (layer 1) to the top (layer 4): **Layer 1** is “Cold Milling”, **Layer 2** is “Crushed and Shaped HMA”, **Layer 3** is “HMA Leveling Course”, and **Layer 4** is “HMA Top Course”.
- A **Concrete Pavement Repair and Asphalt Resurfacing job (with milling after the concrete repair)** should be entered in the following order from the bottom (layer 1) to the top (layer 4): **Layer 1** is “Conc. Pav. Repair”, **Layer 2** is “milling”, and **Layer 3** is “HMA Top Course”.

## How do I enter Polymer Slab Stabilization projects?

This would be entered by using the ‘**Pavement Jacking**’ layer. Individual PHD segmentation is unnecessary if there are several small gaps in pavement jacking. Instead, just use the limits of the stabilization/jacking and add a note in the **Segment Comments** box to indicate that work is intermittent.

## How do I enter Void Reducing Asphalt Membrane (VRAM) material (such as JBand) in PHD?

Within the lane in which VRAM was applied, add the (Void Reducing Asphalt Membrane) layer, and select if this VRAM was applied on both edges of the lane (left & right) or only on one edge. No need to select any brand (like JBand).

## How do I enter high stress HMA?

The inclusion of the correct asphalt binder (PG70-22P, PG70-28P, etc.) identifies it as a high stress HMA.

## In HMA layers, what is a Warm Mix? What are Shingles? How to report the use of Reclaimed asphalt?

Warm Mix Asphalt (WMA) is a general term for technologies that reduce the temperature needed to produce and compact asphalt mixtures to construct pavements. The use of WMA in HMA pavement layer should be identified when the mixture uses a water-injection foaming device, water-foaming additive, or chemical additive to reduce the pavement temperature. The use of Warm Mix Asphalt can be indicated in the HMA Job Mix Formula (JMF) (under the “**REMARKS**” section), or can be indicated in the “Pre-Production Meeting Agenda” form. If used, select ‘**Yes**’ for “**Warm Mix?**” in the **Pavement Attribute**, then select the Water Foaming and/or Additive used.

Recycled Asphalt Shingles (RAS) is a general term for recycling roofing shingles in new asphalt pavements. If the HMA Job Mix Formula (JMF) indicates the use of recycled shingles, select ‘**Yes**’ for “**Shingles used in the mix?**” in the **Pavement Attribute**.

Reclaimed Asphalt Pavement (RAP) is the term given to removed and/or reprocessed pavement materials containing asphalt and aggregates. Most new asphalt pavements in Michigan contain recycled RAP material, and it is detailed in the HMA Job Mix Formula (JMF) under “**RECLAIMED**” section. Since users are required to enter “**Asphalt%**” and “**% Added**” from the JMF (in the **Pavement Attribute** screen), no further input is required regarding RAP use.

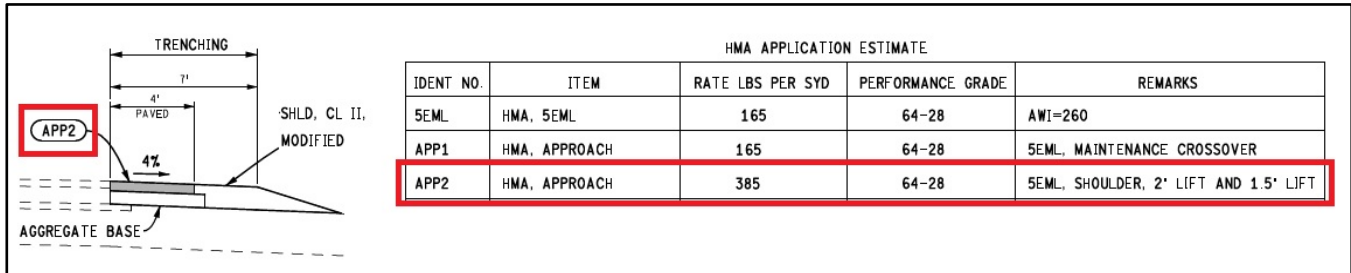
Gmm	Gmb	Gb	Gse	Gsb	FINES/ASPHALT RATIO	COMPACTION TEMP.	MIXING TEMP.
2.455	2.381	1.034	2.712	2.644	0.94	296	316
MIX/AGG. GRADATION, %				MIX/AGG. PROPORTION, %			
ITEM	PERCENT	MATERIAL/PRODUCER	PIT NO.	PERCENT			
ASPHALT,%	6.46	2NS	39-69	28.0			
P 1-1/2" (37.5 mm)	100.00	Slag Sand	92-0031	19.0			
P 1" (25.0 mm)	100.00	Man Sand	39-69	25.0			
P 3/4" (19.0 mm)	100.00	#11	92-46	11.0			
P 1/2" (12.5 mm)	100.00						
P 3/8" (9.5 mm)	99.10						
P No. 4 (4.75 mm)	78.00						
P No. 8 (2.36 mm)	57.00						
P No. 16 (1.18 mm)	44.20						
P No. 30 (600 µm)	32.20						
P No. 50 (300 µm)	18.00	RECLAIMED	032-76	17.0			
P No. 100 (150 µm)	8.20	FILLER					
P No. 200 (75 µm)	5.20	ASPHALT BINDER	GRADE 64-28	CERTIFIED SUPPLIER/LOCATION/CERT # Marathon/Detroit/ABS3505	% ADDED	5.56	

## Do I have to enter scratch (wedging) courses? How do I enter those with variable thickness?

Yes. Enter/add an “**HMA Wedge Course**” layer. Use the average or the predominant thicknesses and insert a [Segment Comment](#) to indicate that the thickness is variable (or within a specific range).

## If a project has an HMA layer with more than one lift, how do I enter the thickness (application rate)?

Enter the application rate per Lift. Consider the example in the Figure below. The “HMA Application Estimate” Table indicates two lifts (2” and 1.5”) for the shoulder mix (APP2). The user should enter each lift as a separate layer in the shoulder: a 2” layer (5EML HMA Level Course with a 220 Application Rate) followed by a 1.5” layer (5EML HMA Top Course with a 165 Application Rate).



## How do I specify that a project used intermittent asphalt resurfacing repair (HMA skip patching)? Should I split the segment at each patch (segmentation)?

Enter/add an “HMA Skip Patching” layer to indicate any intermittent asphalt resurfacing repair (HMA patches). Do not split the segment at each patch. When the “HMA Skip Patching” layer is used, PHD will not consider this a continuous HMA layer in the specified segment (PR# and milepoints), so no segmentation is required.

## How do I specify that a project used crumb rubber in the binder?

This can be indicated in the [Segment Comments](#) or [Project Comments](#) boxes.

## How do I enter paving that extends over the gutter pan of the curb?

Record this information by adding a note to the [Segment Comments](#) or the [Project Comments](#) boxes.

## Why don't I see a certified supplier, an emulsion type, a silane material type, etc., in the drop-down choices? Can I request deleting a supplier/product that no longer exists?

Contact the PHD Administrator to see if the desired measurement/layer/attribute can be added.

Old suppliers/products that no longer exist will not be deleted from the drop-down choices in PHD. These suppliers/products may still be in use for old projects that still need to be added, or edited.

## For the concrete layer (PCC pavement layer), why don't I see the specific Cement Content (#/cyd) in the drop-down choices? For example, 325 #/cyd.

Certain values are determined (or pre-calculated) based on MDOT specifications, past projects, or experience. For example, cement content is based on the unit bag weight which is 94 lbs. One common Cement Content value is 329 #/cyd (3.5 bags × 94 lbs), so 325 is not available. The users can use 329 #/cyd (in lieu of the actual 325 #/cyd used in the concrete JMF) because it is close enough to the actual value. However, if the user needs to enter a value in which no close option is available in the drop-down choices, please contact the PHD Administrator to see if the desired value can be added to the drop-down choices.

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## How do I enter Crack Sealing and/or Crack Filling, and how are these different? How do I enter work done on longitudinal and/or transverse joints/cracks?

The **“HMA Crack Treatment”** layer in PHD represents crack sealing work (with or without crack filling) for asphalt pavements (used for “working” cracks). Crack sealing is attained by the saw/rout and seal method. The required inputs in PHD are the **Cut and Seal Method**, **Crack Seal Product Name**, and **Crack Seal Manufacturer**. If Overband is also used (crack filling), then the **Overband Crack Fill Product** is also required.

The **“Overband CrackFill”** layer in PHD indicates work that consists of cleaning the crack in the HMA pavement surface and placing the specified materials into and above the crack to substantially reduce infiltration of water and to reinforce the adjacent pavement (used for “non-working” cracks). This could also be a pre-treatment for Chip Seals, Micro Surfacing, and Hot-Mix overlays. The required input in PHD is the **Overband Crack Fill Product**.

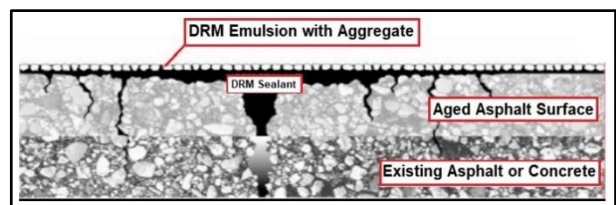
In projects with crack sealing and/or crack filling, if all lanes and/or longitudinal joints are being worked on, then the job can be created as a **Simplified CPM project**. Simply add the appropriate layer and add Project or Segment Comment(s) to describe the work in more detail (to identify transverse and/or longitudinal work).

However, if work isn’t on/between all lanes, then create the job as a standard PHD job and use the following methods to add **“HMA Crack Treatment”** or **“Overband CrackFill”** layers:

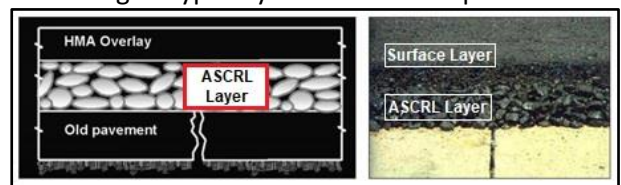
- For the **longitudinal joint**, the user should add the lowest lane number adjacent to the longitudinal joint and add information to that lane.
- For **transverse joints**, add the lanes that the transverse joints go through and add information to all associated lanes.

## What is “Crack Relief Interlayer/DRM”? is it the same as “Asphalt Stabilized Crack Relief Layer (ASCRL)”?

The **“Crack Relief Interlayer”**, sometimes called DRM (Distress Resistant Membrane), is a layer consisting of sealant, emulsion, and aggregate used to prevent reflective cracks in asphalt pavements. It is a one pass system in which the sealant, emulsion, and aggregate are applied in succession. The sealant is spread into a thin film using a spreader box to fill the crack area. Next, the emulsion is sprayed on top of the sealant using several spray nozzles, and finally the aggregate is fed into a spreader and spread evenly on top of the emulsion. In PHD, select and add the **“Crack Relief Interlayer/DRM”**, and enter the thickness of the layer.



**Asphalt Stabilized Crack Relief Layer (ASCRL)** is an HMA mixture primarily used as a base course in a multi-course overlay of concrete pavement to delay reflective cracking. It typically contains less asphalt cement and aggregate fines than a standard HMA base course. In PHD, there is no ASCRL layer. Instead, users can enter an HMA Base or Level course, and select ASCRL as the mix type.





## How do I enter Cape Seal Treatment?

A Cape Seal is a combination of a chip seal followed by a micro-surface, which can be used to effectively treat pavements with a higher level of distress, including higher levels of cracking and raveling. To enter this into PHD, add a **Chip Seal** layer and then add a **Micro-Surface layer** (showing the Micro-Surface layer on top).

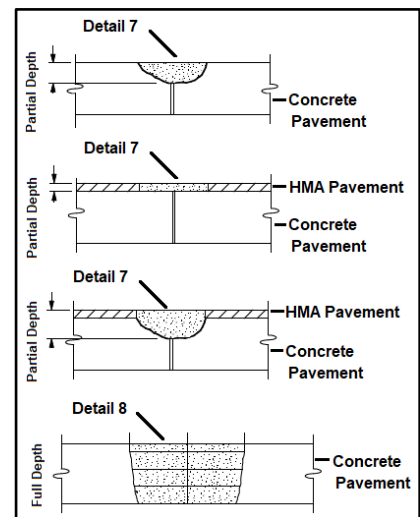
## Can there be a drop-down for bond coat type?

The inclusion of bond coat type was determined to be a nonessential entry item.

## How do I enter Detail 7s and 8s? How do these treatments differ between HMA and Concrete layers?

Detail 7 (surface repair for joints or cracks) and Detail 8 (full-depth repair for joints or cracks) are common treatments for joints and cracks of concrete pavements. In PHD, add the layer **“Conc Pavt Repairs (Det 7 & 8)”**, and answer **“Yes”** for each type used on the project and enter the mix type used.

PHD doesn't have a selection for detail 7's & 8's in HMA layers. If Detail 7 is used for an existing full-depth HMA pavement (with no underlying concrete), the Data Entry user can add Detail 7s using the **“Conc Pavt Repairs (Det 7 & 8)”** layer, and add a segment comment to note the following: *Detail 7 repairs conducted on full-depth HMA (no concrete within cross-section)*.



## How do I enter crushed & shaped HMA? What thickness should I enter?

Add the layer **“Crushed and Shaped HMA”**. For thickness, use the thickness of crushed HMA plus the thickness of existing aggregate below to be mixed with this layer (typically around 1 inch). If the existing HMA is cold milled before crushing, then subtract this milled thickness from the existing HMA thickness to be used for the **“Crushed and Shaped HMA”** thickness.

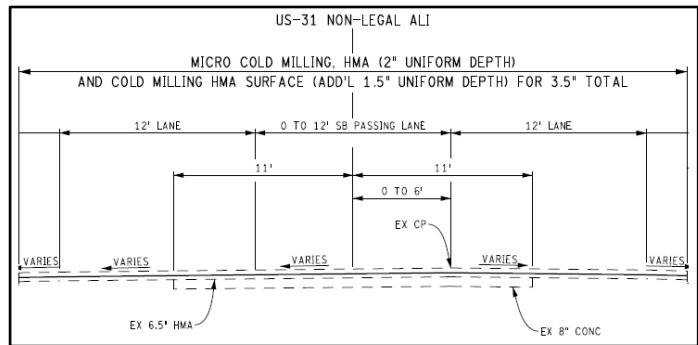
If the thickness of the existing HMA is variable, use the predominant or average thickness. However, if the HMA thickness is variable in the job, but consistent within certain segments, then the segment should be split ([segmentation](#)) so that each of the distinct thicknesses is entered for the **“Crushed and Shaped HMA”** layer.



## Do I have to enter HMA milling? How do I enter two milling layers?

Yes. HMA milling work is required in PHD. Add the **“Cold Milling”** layer, and select the milling depth, milling texture, and milling type.

Some projects may include two milling activities (see example). In this case, add each milling as a separate layer in PHD, or combine both in one layer (use total milling depth) if both milling works have the same texture and type.



## What qualifies as an aggregate and should be added to the layer(s)?

### Why don't I see the aggregate names from the HMA Job Mix Formula (JMF) in the list of aggregate types?

Add all aggregates included in the layer, except those labeled as “Plant” (ex. Lime Dust, Fibers, etc.) or RAP. RAP does not need to be identified in PHD, even if added in the HMA JMF.

For HMA layers, non-standard aggregate names can be added by selecting **“Other Aggregate”** from the list of aggregates. A new text box will appear titled **“Other”**. Enter the non-standard aggregate name in the text box, and then add the Source (Pit No.).

Gmm	Gmb	Gb	Gse	Gsb	FINES/ASPHALT RATIO	COMPACTION TEMP.	MIXING TEMP.
2.455	2.381	1.034	2.712	2.644	0.94	296	316
MIX/AGG. GRADATION, %			MIX/AGG. PROPORTION, %				
ITEM	PERCENT		MATERIAL/PRODUCER	PIT NO.	PERCENT		
ASPHALT,%	6.46		2NS	39-69	28.0		
P 1-1/2" (37.5 mm)	100.00		Slag Sand	92-0031	19.0		
P 1" (25.0 mm)	100.00		Man Sand	39-69	25.0		
P 3/4" (19.0 mm)	100.00		#11	92-46	11.0		
P 1/2" (12.5 mm)	100.00						
P 3/8" (9.5 mm)	99.10						
P No. 4 (4.75 mm)	78.00						
P No. 8 (2.36 mm)	57.00						
P No. 16 (1.18 mm)	44.20						
P No. 30 (600 µm)	32.20						
P No. 50 (300 µm)	18.00	RECLAIMED		032-76	17.0		
P No. 100 (150 µm)	8.20	FILLER					
P No. 200 (75 µm)	5.20	ASPHALT BINDER	GRADE 64-28	CERTIFIED SUPPLIER/LOCATION/CERT # Marathon/Detroit/ABS3505	% ADDED 5.56		

## How do I enter borrow materials as an aggregate?

A “borrow pit” is a hole, pit, or excavation that has been dug for the purpose of removing gravel, clay, soil or sand to be used in a construction project.

In PHD, users can select the aggregate class from the drop-down list (or select **“Other”** and enter a non-standard aggregate name). Borrow materials **do not** have a Pit No. Therefore, to enter the borrow materials source, enter the county number for the county where the material originated in the first box. In the second box, enter 000. For the example on the right (CLIIAA material from Osceola County), use 67-000.

**MDOT's 1901 Form**

**ANALYSIS REPORT**

SPEC. <b>CLIIAA</b>	PRODUCER <b>Nivee Pit</b>	PROGRAM NO. <b>117357</b>
ITS CUMULATIVE	TEST NO. <b>2</b>	CONTROL SECTION <b>67</b>
ED	PASSING	DATE <b>17.10.04</b>
	Initial Weight of Sample	<b>565 gm</b>
	Weight After Washing	<b>536 gm</b>
	Loss By Washing (Clay & Silt)	<b>0.5 29 gm 5.1 %</b>

**Select New Aggregate**

\* Aggregate :

Source :  -

---

### **How do I enter recycled materials as an aggregate?**

To enter recycled materials (including crushed concrete), locate the associated county and pit number. This information can be located per acceptance testing of the recycled material.

Note that this material, unlike a borrow material, is tested and identified with a pit number because the recycled material needs to be approved for use.

### **How do I enter Dock aggregate? What is the DOCK aggregate source/pit number?**

Aggregates identified as “Dock” are those that were shipped into and stored at a dock. Dock aggregate comes from the prequalified aggregate list, so it does have an actual name and source/pit number. The aggregate tickets should provide the actual name and number information.

### **Why can't aggregate information be optional rather than required? What if aggregate information is unknown?**

PHD Sponsors and MDOT personnel who use PHD data have previously supported requiring aggregate information. This information has been used to compare pavement condition data for segments with different aggregates/sources. If aggregate information is unknown or not attainable, “**Unknown**” is an option for the aggregate class. Users still need to enter the Pit No. (entering in the first box the county number for the county where the material originated and entering 000 in the second box). For example, use 67-000 (material from Osceola County – county code is 67).

### **Why don't I see some layers that used to be available in PHD, such as Cobblestone, Corduroy, and Slurry Seal?**

Since some layers were not constructed (and thus, not being used in PHD) in the last 10 years, those layers have been archived. If one or more of these layers are needed (in PHD), please contact PHD Administrators to add the layer(s) to the list of available layers in PHD.