

# 9 | Pollution Prevention/Good Housekeeping Maintenance Activities BMPs Program







*BMPs are implemented during rockfall mitigation off Pali Highway, Kaneohe, Hawaii.*

The Pollution Prevention/Good Housekeeping (PP/GH) Program is designed to develop and maintain a system maintenance program to reduce, to the MEP, the discharge of pollutants from facilities, roads, parking lots, baseyards, and maintenance facilities, and the MS4.

The PP/GH Maintenance Activities BMPs Program (Maintenance Activities Program) is designed to minimize, to the MEP, the discharge of pollutants from routine municipal maintenance activities.

The Maintenance Activities Program includes the following control measures:

1. Implement BMPs in accordance with the *Maintenance Activities BMPs Field Manual*.
2. Operate Flood Control Project activities at the Punahou Pump Station.
3. Train staff on proper BMP implementation and pollution prevention strategies.

The Maintenance Activities Program is administered in accordance with the MS4 NPDES Permit requirements referenced in Table 9-1.

**Table 9-1. MS4 NPDES Permit Requirements for the Maintenance Activities Program.**

MS4 NPDES Permit Reference	SWMPP Section
<b>Part D.1.f</b> —The Permittee shall further develop and maintain a system maintenance program to reduce to the MEP the discharge of pollutants from all Permittee-owned facilities, roads, parking lots, baseyards, maintenance facilities, and the MS4. The program shall include:	
<b>Part D.1.f.(4)</b> BMPs and Field Manual for municipal maintenance activities – The Permittee shall implement the BMPs as identified in the field manual titled "Maintenance Activities Best Management Practices Field Manual" (Field Manual) for all municipal maintenance activities. The Field Manual shall be updated as necessary and include written procedures to minimize pollutant discharge for maintenance activities which have the potential to discharge pollutants to the MS4.	Section 9.1
<b>Part D.1.f.(5)</b> Pump Station – The Permittee shall implement the flood control project activities described in its ongoing SWMP, including monthly inspection and maintenance of the Interstate H-1 Punahou Pump Station.	Section 9.2
<b>Part D.1.h.(5)</b> Maintenance Activities BMPs Program Plan – The Permittee shall further develop and provide annual training to all DOT-HWYS staff responsible for conducting maintenance activities, on proper municipal maintenance activities to prevent storm water pollution. The training shall cover the Field Manual, identify potential sources of pollution, general BMPs that can be used to reduce and/or eliminate such sources, and specific BMPs for their activities. The training shall incorporate components of the public education campaign and educate staff that they serve a role in protecting water quality. Staff shall be made aware of the NPDES permit, the overall SWMP, and the applicable BMPs Program(s).	Section 9.3



## 9.0 Program Organization

To fulfill the MS4 NPDES Permit requirements of the Maintenance Activities Program, the following organizational structure has been established, as shown in Figure 9-1.

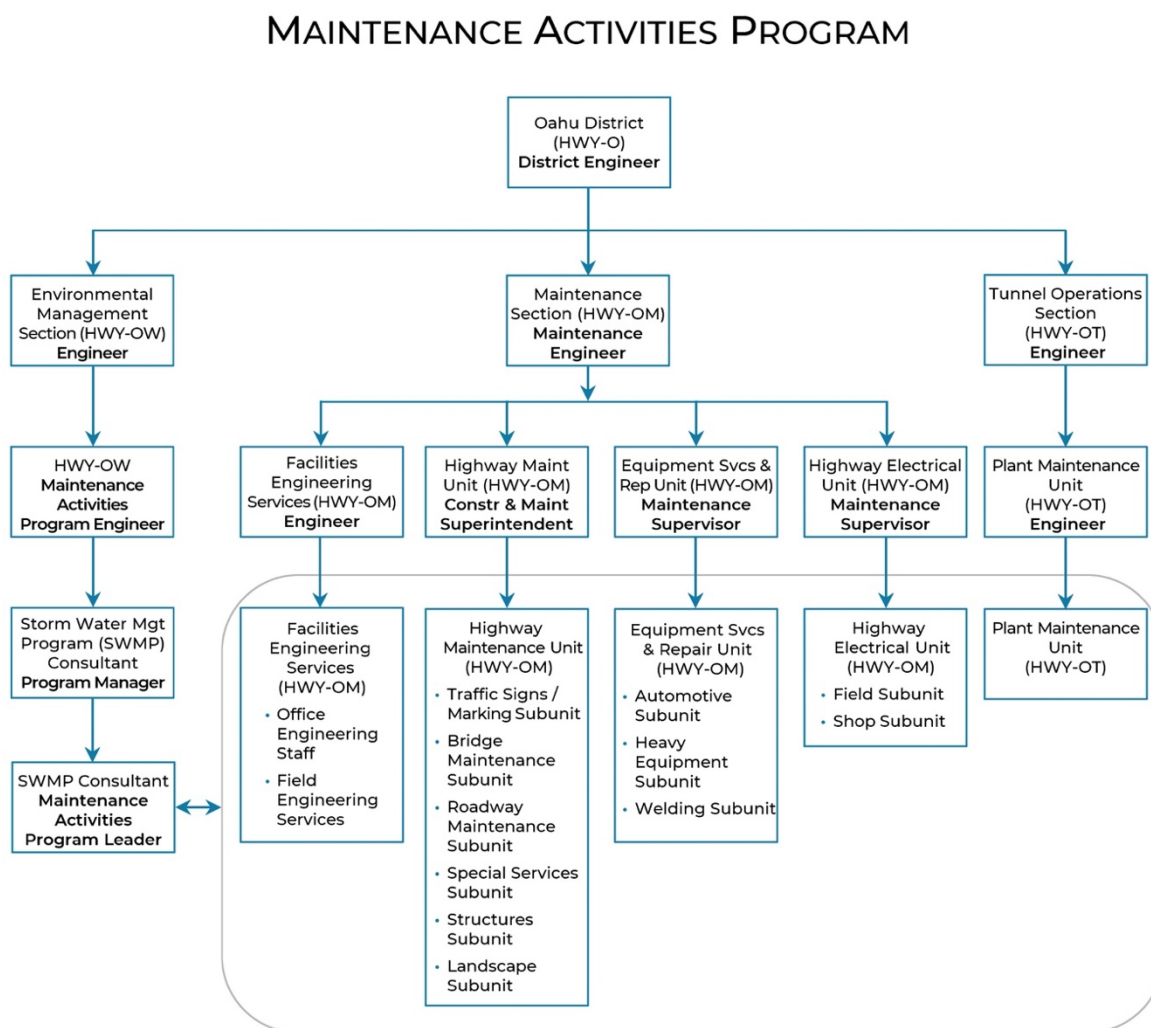


Figure 9-1. Maintenance Activities Program Organizational Chart.

## 9.1 Maintenance Activities BMPs | MS4 NPDES Permit Part D.1.f.(4)

DOT-HWYS implements BMPs in accordance with its *Maintenance Activities BMPs Field Manual* (Appendix I.1) for all maintenance activities. The *Maintenance Activities BMPs Field Manual* includes written procedures to minimize pollutant discharge for

maintenance activities which have the potential to discharge pollutants to the MS4. The manual is updated as necessary, and updates are provided in the Annual Report.

The *Maintenance Activities BMPs Field Manual* is available on the DOT-HWYS website, [www.stormwaterhawaii.com](http://www.stormwaterhawaii.com). Additionally, booklets of the *Maintenance BMPs Field Manual* are provided to HWY-OM and HWY-OT field staff to keep in their offices and vehicles for quick and easy reference. Posters of the manual are located in high visibility areas in and around the baseyard.

Service contractors who perform maintenance activities (e.g., landscape maintenance, street sweeping, etc.) are required to perform operations in accordance with the Maintenance Activities Program's standards, training, and required BMPs.

Maintenance activities include, but are not limited to:

- Buried utility repair and installation BMPs
- Concrete work BMPs
- Curb and gutter replacement BMPs
- Debris handling BMPs
- Landscaping BMPs
- Landslide response BMPs
- Painting BMPs
- Paving BMPs
- Tidal sand response BMPs
- Sawcutting BMPs
- Spill response BMPs
- Storm drain cleaning BMPs
- Stream cleaning BMPs
- Street sweeping BMPs
- Vehicle cleaning and washing BMPs

Routine maintenance projects are scheduled or cyclical projects performed to preserve the life of a system; to restore the original function or delay the deterioration of an existing asset without substantially increasing its structural capacity; or to maintain the original line and grade, hydraulic capacity or original purpose of a facility, system or asset, in which maintenance activities do not go beyond the original footprint of the previous structure. Examples of routine maintenance projects include, but are not limited to, the replacement or repair of guard rails, sidewalks, street signs, fences, curbs, and highway lighting poles; repaving without disturbing the base course; tunnel washing; rock fall mitigation; and landscaping maintenance.

The requirements and pollution prevention procedures for maintenance construction activities, which are not considered routine maintenance, are described in Chapter 4 Construction Site Runoff Control Program.

*Special Services Crew remove debris from a culvert off Farrington Highway, Makaha, Oahu.*



The teams highlighted in Figure 9-2 are responsible for implementing the control measures described in this section.

## MAINTENANCE ACTIVITIES PROGRAM

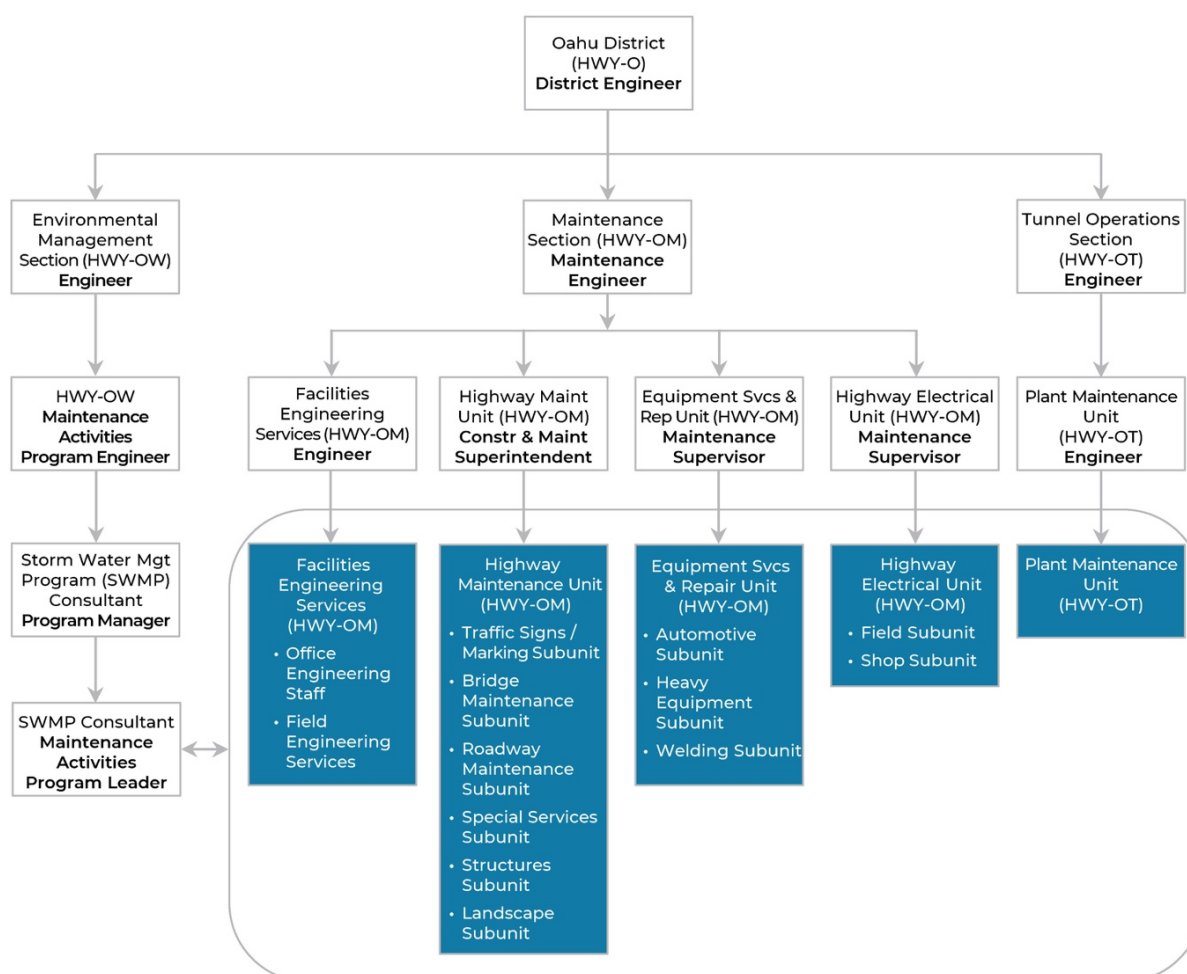


Figure 9-2. Maintenance Activities Program Organizational Chart for Roles and Responsibilities Related to Maintenance Activities BMPs.

## 9.2 Flood Control Projects | MS4 NPDES Permit Part D.1.f.(5)

DOT-HWYS operates the Punahou Pump Station, a flood control facility located on the H-1 Freeway, near the Punahou Street overpass. The pump station services a low point in the freeway where gravity drainage from a section of the roadway is not possible. The pump station is used to dewater sump areas on the roadway that collect water.



The drainage area of the pump station encompasses approximately a half-mile section of the H-1 Freeway. Although the H-1 Freeway is swept routinely, sweeping does not remove all debris from the roadway, and potential pollutants may collect within the freeway's storm drainage system and the four inlets discharging to the pump station. Metal grates cover the drain inlets to keep out larger-sized debris. Within the wet well, there is a trash rack to further screen out debris that may be carried through the drain inlets and drain pipes (Figure 9-3). Water from the pump station is pumped to a nearby storm drain manhole and then to a covered concrete drainage canal through which Makiki Stream flows as it passes beneath the H-1 Freeway.

Inspections and pump station maintenance are performed at least monthly by the HWY-OT Plant Maintenance Unit. During inspections, the pump is tested to ensure that it is operating correctly.

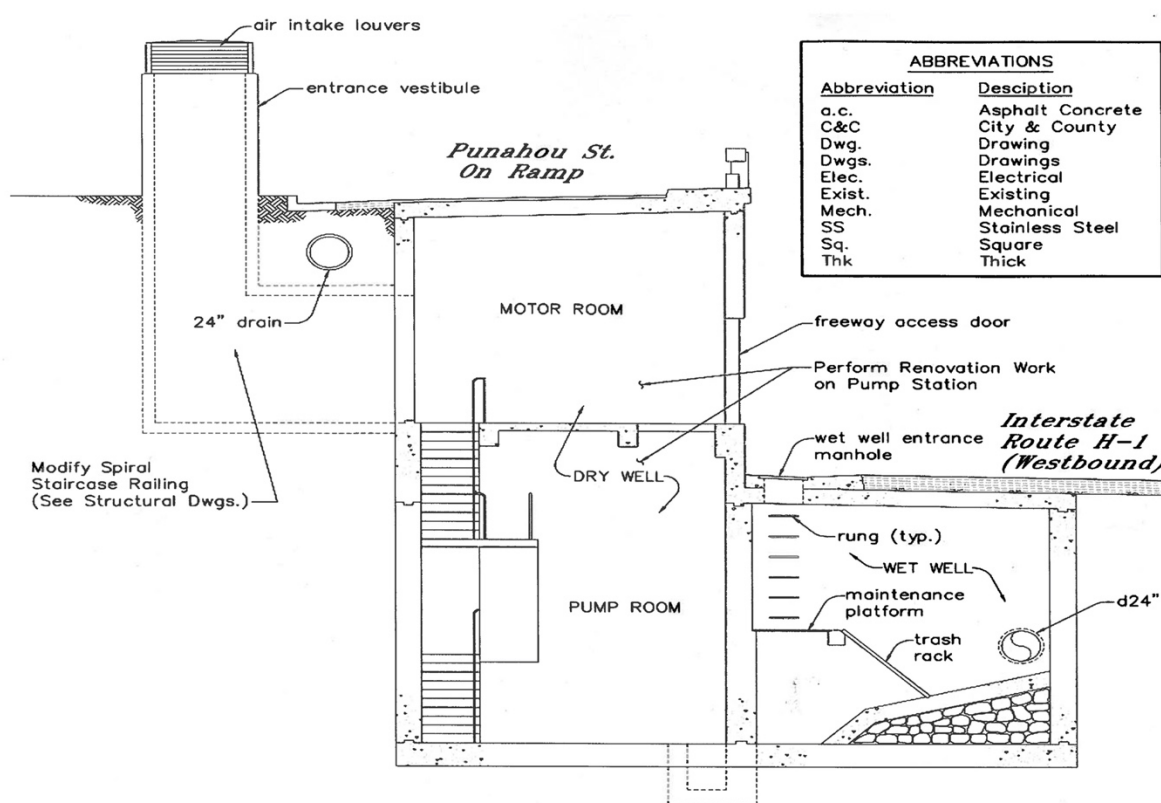


Figure 9-3. Design Details of the Punahou Pump Station.



The procedures for inspecting and maintaining the Punahou Pump Station are provided below:

- Inspections are performed to determine if cleaning or repairs are required.
- Emergency call dialer operation is tested and verified.
- Fuel supply lines and day tanks for emergency back-up diesel engines are checked for leaks.
- Current fuel supply level is verified and logged.
- Pump station is swept and cleaned.
- Sump pump inlet is cleaned and the pump is tested for proper operation.
- Pumping equipment leaks of oil or petroleum products are contained using drip pans or absorbent material, and equipment is repaired to prevent further leaks.
- During maintenance and repair of the pump station, all waste oil is removed and placed in an approved container for disposal. Waste oil is not stored or left at the pump station.
- Logs of pump station inspections and cleanings are maintained and included as an appendix in the Annual Report.

Accumulated debris is removed from the pump station wet well as needed. All materials removed are properly disposed of. Debris removal and pump station cleaning reduces the amount of pollutants discharged to the MS4.

*Accumulated debris is removed from the Punahou Pump Station wet well.*



The individuals and team highlighted in Figure 9-4 are responsible for implementing the control measures described in this section.

## MAINTENANCE ACTIVITIES PROGRAM

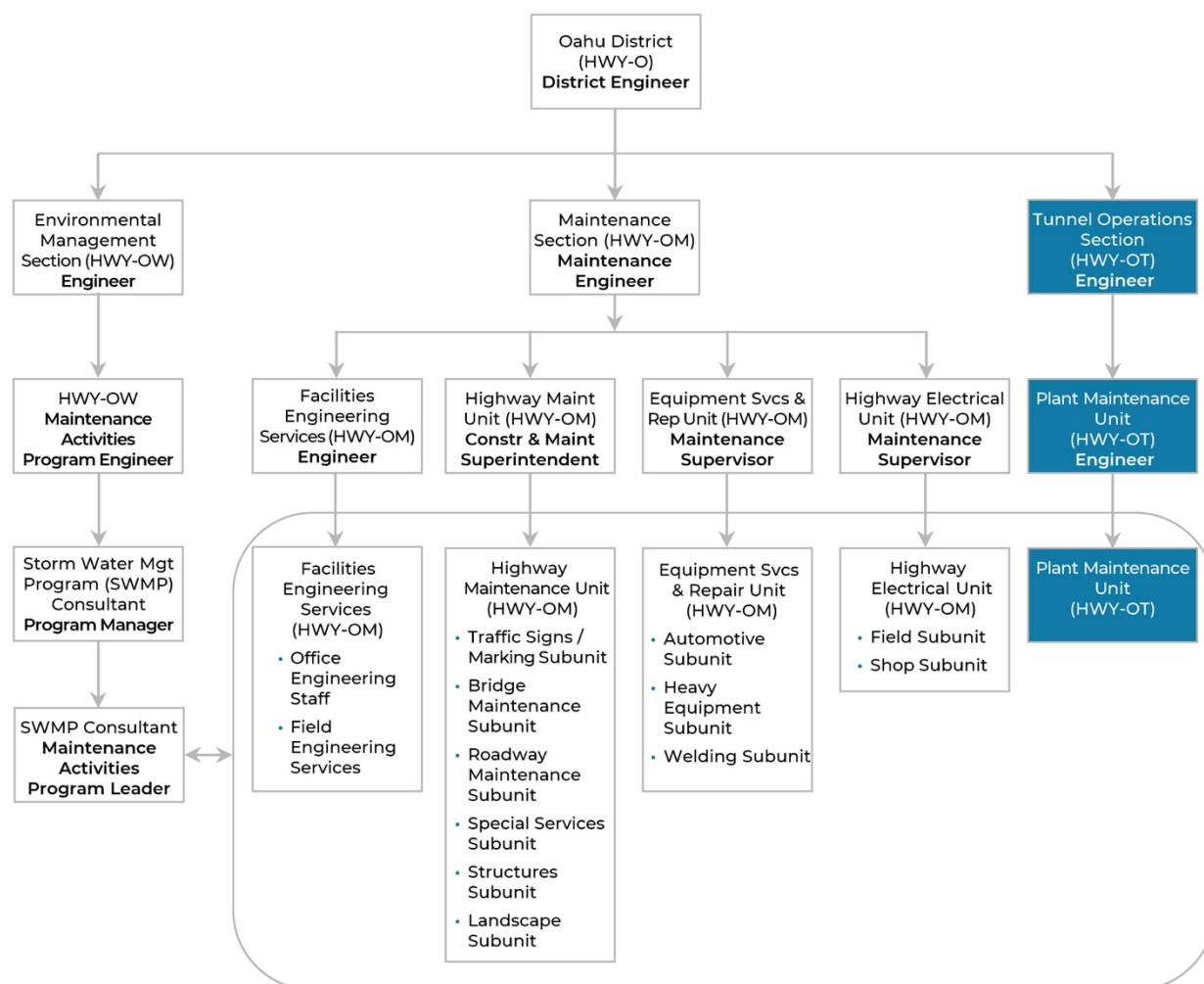


Figure 9-4. Maintenance Activities Program Organizational Chart for the Roles and Responsibilities Related to Flood Control Projects.



### 9.3 Training | MS4 NPDES Permit Part D.1.h.(5)

DOT-HWYS provides annual Maintenance Baseyard Storm Water Training for HWY-OM and HWY-OT staff responsible for conducting maintenance activities. Training is conducted for each maintenance crew to address proper BMP implementation for general maintenance activities and for activities specific to each crew's responsibilities.



*The Maintenance Baseyard Storm Water Training Champions Plaque is awarded to the maintenance baseyard crew with the highest average quiz score.*

The Maintenance Baseyard Storm Water Training outline is provided in Appendix G.2.

Staff that regularly conduct operations at maintenance baseyards are trained on the implementation of their respective baseyard's Storm Water Pollution Control Plan (SWPCP).

Following the annual Maintenance Baseyard Storm Water Training, a post-training quiz is provided for HWY-OM and HWY-OT personnel to assist in reinforcing training objectives and intended outcomes. The post-training quiz is conducted as an extension of the training where problem-solving and collaboration among the crew is encouraged. Scores from HWY-OM and HWY-OT quizzes are recorded and the crew (e.g., Maintenance Subunit) with the highest average score on the quiz receives the Maintenance Baseyard Storm Water Training Champions Plaque as a reward for their efforts.



The individuals highlighted in Figure 9-5 are responsible for implementing the control measures described in this section.

## MAINTENANCE ACTIVITIES PROGRAM

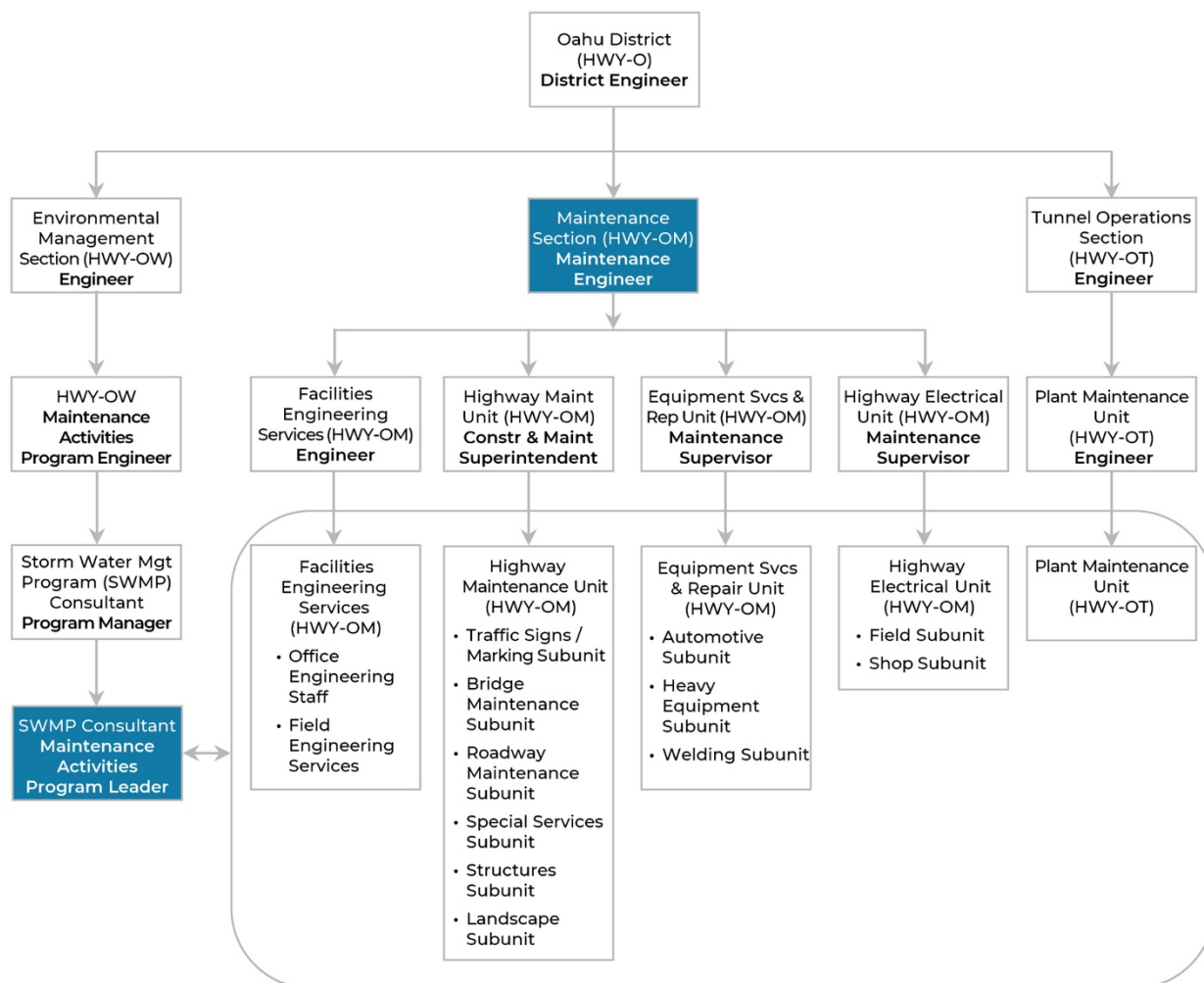


Figure 9-5. Maintenance Activities Program Organizational Chart for the Roles and Responsibilities Related to Training.

### 9.4 Monitoring Program Effectiveness

The *Program Effectiveness Strategy* (Appendix A.3, Table 12) provides the measurable standards and/or milestones for each Program BMP, including the outcome level, data collection method, and assessment parameter.