



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097. 13 DPWH
03-69-2016

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DEPARTMENT ORDER)
NO. 64)
Series of 2016)
03.09.16

SUBJECT: Assignment, Utilization, Funding, Operation, Maintenance and Monitoring of Highway Maintenance Equipment and Other Related Purposes

In order to rationalize the custody, equitable allocation, proper maintenance, optimum utilization, and for transparency and accountability of the equipment end users, in support to infrastructure development projects, including quick response to calamities and other related emergency situations, the following measures are hereby prescribed for the compliance of all concerned:

Section A. Short Title. – This Department Order shall be the consolidation of Department Order Nos. 54 and 54-A, both Series of 1991, and shall be known as the “Management of Highway Maintenance Equipment and Other Related Purposes.”

Section B. Background. – This Department Order is initiated for the institutionalization of the minimum fleet assignment, optimized availability and utilization, sustained funding and maintenance, and accurate and timely monitoring of Highway Maintenance Equipment thru an enhanced delegation of functions and responsibilities to the Regional Office (RO) including its Equipment Management Division (EMD) and Area Equipment Sections (AESs), and the District Engineering Office (DEO) and its Equipment Services Unit (ESU).

Section C. Definition of Terms. – For purposes of this Department Order, the following terms or words and phrases shall mean or be understood as follows:

1. *Annual Maintenance Work Program and Performance Budget (AMWP/PB)* – refers to the planning tool (Refer to Annex C) that documents and communicates the objectives for roadway maintenance¹. The performance budget is expressed in pesos required for labor, equipment and material for the number of workdays in each activity and summarized to express the total funds required for the annual work program².
2. *Highway Maintenance Equipment (HME)* – refers to equipment required to perform highway maintenance activities including quick response operations during calamities and emergency situations. The HME is classified into Basic Highway Maintenance Equipment, Specialized Equipment and Miscellaneous Equipment. The HME fleet shall include those equipment classes listed in ISO 22242:2005 or the “Road Construction and Road Maintenance Machinery and Equipment -- Basic Types -- Identification And Description.”
3. *Basic Highway Maintenance Equipment (BHME)* – refers to the HME essential to the execution of the mandated maintenance activities of the DEO. The BHME is classified into Major BHME and Minor BHME.

¹ Philippine Highway Maintenance Management Manual. 2nd ed. 2014. p. 1-3.

² Philippine Highway Maintenance Management Manual. 2nd ed. 2014. p. 4-7.

4. *Quick Response Equipment (QRE)* – refers to the HME tagged with the primary purpose of restoring to normal traffic flow and safely passable affected national roads, i.e., primary, secondary and tertiary roads, after calamities and emergency situations. These are the pre-positioned HME (based on natural and man-induced risk mapping), ensured to be available at any given time and reliable, and deployed immediately by the ROs and DEOs to the affected location/s.
5. *Specialized Equipment (SE)* – refers to the HME with seasonal utilization and thus, pooled at the RO's Base and Area Shops, whichever is applicable, and shall be assigned to DEOs on a shared-use basis.
6. *Miscellaneous Equipment (ME)* – refers to all other HME as provided in Annex A of this Department Order.
7. *Equipment Availability (EA)* – refers to the operational availability where a proportion of time during a mission or time period that the equipment is available for use, and includes all experienced sources of downtime, such as administrative downtime, logistic downtime, etc. It is the probability that an equipment will operate satisfactorily at a given point in time when used in an actual or realistic operating and support environment. This is what the end user actually experiences.
8. *Equipment Utilization (EU)* – the extent of use of particular item of plant, vehicle or equipment³. The measurement of utilization is taken over a calendar year. This is a key measurement for the Department's fleet performance and deriving the Return on Investment (ROI).
9. *Equipment Reliability (ER)* – the ability of an item or equipment to perform a required function under stated conditions for a specified period of time⁴.
10. *Equipment Demand Management (EDM)* – refers to the strategic approach in the management of demand for equipment, motor vehicles and other equipment support services from various Department end users, which may lead to either acquisition or leasing.

Section D. Assignment of Highway Maintenance Equipment

1. The minimum fleet assignment of BHME obtained from the 2014 Philippine Highway Maintenance Management Manual (PHMMM)⁵ jointly prepared by Japan International Cooperation Agency (JICA) and the Department of Public Works and Highways (DPWH) shall be provided by this Department.

1.1 Listed hereunder is the minimum fleet assignment of Major BHME per DEO Classification:

Basic Highway Maintenance Equipment	Minimum Fleet Assignment		
	First Class DEO	Second Class DEO	Third Class DEO
Service Vehicle (H1M ⁶)	3	2	2
Dump Truck (H3L ⁷ and H3H ⁸)	2	2	2
Hydraulic Excavator, Wheel-type (F17) or ⁹ Front End Loader (L2L ¹⁰ or L2H ¹¹)	1	1	1

³ Section 1. Institute of Public Works and Engineering Australia Plant and Vehicle Management Manual. 3rd ed. 2012. p. 1.1.

⁴ Dictionary of Military and Associated Terms. US Department of Defense. 2005.

⁵ DPWH guidebook in the preparation of annual maintenance work program and performance budget, as well as scheduling, directing, control, monitoring, and evaluation of highway maintenance activities.

⁶ Equipment Code for Service Vehicle identified as BHME.

⁷ Equipment Code for Dump Truck with a Dump Body Capacity below 5 cu.m.

⁸ Equipment Code for Dump Truck with a Dump Body Capacity of 5 cu.m. and above.

⁹ Each DEO shall be assigned with either a Hydraulic Excavator, Wheel-type (F17) OR a Front End Loader (L2L or L2H). DEOs in proximity, i.e., within 50 km radius, shall be strategically assigned with either equipment types

Basic Highway Maintenance Equipment	Minimum Fleet Assignment		
	First Class DEO	Second Class DEO	Third Class DEO
Vibratory Road Compactor (Z18)	1	1	1

1.2 The following HME shall be pooled at the RO's Base and Area Shops on a shared-use basis:

Highway Maintenance Equipment	Minimum Fleet Assignment	
	Base Shop	Area Shop
Stake Truck (H2)	1	1
Loader-Excavator (LX ¹²)	1	0
Road Grader (N1 ¹³)	1	1
Prime Mover (H4 ¹⁴) with Trailer (J1)	1	0

2. Equipment not included among the HME herein defined may be requested for inclusion by the District Engineer (DE), thru the Regional Director (RD), with the joint recommendation of the Director, Bureau of Equipment (BOE) and the Director, Bureau of Maintenance (BOM), to be approved by the Secretary, this Department.

2.1 The BOE shall be authorized to reclassify the HME herein defined as to BHME or SE thru subsequent Memoranda signed by the Undersecretary for Technical Services.

2.2 Likewise, the BOE shall provide Equipment Codes for new/turned-over equipment thru subsequent Memoranda signed by the Director, BOE.

3. The minimum fleet assignment of BHME shall be continuously assessed and adjusted by the BOE, in coordination with the BOM, in accordance with the road maintenance requirements and the advancement in the technology.

3.1 The BOE shall recommend the updated minimum fleet assignment to the Management Committee and shall initiate the release of Memoranda approved by the Chairman, Management Committee.

4. The BOE shall provide a utilization benchmark for all Major BHME (Refer to Annex B) and for other equipment requiring a minimum utilization benchmark. This benchmark shall be updated every three (3) years based on equipment utilization and minimum road maintenance requirements, among others, thru the release of subsequent Memoranda signed by the Undersecretary for Technical Services.

5. There shall be two (2) categories for Service Vehicles:

5.1 Road Maintenance Service Vehicle – these are vehicles intended to be used for road works and maintenance activities, and conveyance of maintenance personnel prescribed in the PHMMM.

each, i.e., one DEO shall have F17 while the other shall have L2L or L2H. Exemptions include DEOs in Island Provinces where those DEOs, e.g., Guimaras DEO, Marinduque DEO, Romblon DEO, Siquijor DEO and the like, shall be assigned with both F17 and L2 (L2L or L2H).

¹⁰ Equipment Code for Front End Loader with a Bucket Capacity below 1.7 cu.m.

¹¹ Equipment Code for Front End Loader with a Bucket Capacity of 1.7 cu.m and above.

¹² Loader-Excavator (LX) shall be assigned on the condition that existing Hydraulic Excavator, Wheel-type (F17) AND Front End Loader (L2L or L2H) shall be pulled out from the DEO.

¹³ DEOs with longer unpaved roads and shoulders shall be prioritized in the assignment of Road Graders (N1).

¹⁴ Assignment of Prime Movers (H4) shall be subject to the approved DPWH Equipment Re-fleeting Program.

5.2 Non-Road Maintenance Service Vehicle – these are vehicles being utilized for the conveyance of Department Officials, field personnel, logistics and others required for the performance of their duties and responsibilities, which use has been authorized by existing policies, rules and laws.

Section E. Funding and Maintenance

1. The 15%¹⁵ of the Equipment Item, hereinafter referred to as the Equipment Maintenance Fund (EMF), under the approved Net AMWP/PB¹⁶ of the DEO shall be used strictly and exclusively for the Preventive Maintenance (PM) and Corrective Maintenance (CM) Programs of the BHME.

1.1 PM and CM Programs charged against the EMF shall cover maintenance parts and consumables including filters, oils, lubricants, and outsourced labor incurred during Emergency Maintenance as defined under Department Order No. 123, Series of 2015, with Subject: "Revised Policies and Procedures on the Reimbursement of Expenses for Maintenance of Equipment and Motor Vehicles."

1.2 Items needed for the operation of the BHME such as fuel, batteries and tires shall not be charged against the EMF.

1.2.1 Procurement of fuel and batteries shall be charged against the remaining 85% of the Equipment Item.

1.2.2 Procurement of tires shall be charged against the programmed Maintenance and Other Operating Expenses (MOOE) of that Office as predicted based on utilization rate and actual wear condition.

1.3 All BHME PM/CM activities shall be covered by a Job Order supported by pertinent documents. The DE shall approve disbursement vouchers chargeable against the EMF of the DEO. Copy of monthly Statement of Disbursements and Balances of EMF shall be furnished the Area Equipment Section (AES) concerned for information and guidance.

1.3.1 For CM activities, equipment end users of that Office shall file first and complete a Job Request as a requirement for the preparation of Job Order.

1.3.2 For PM activities, Annual BHME PM Plan and Consolidated PM Job Orders shall be prepared and submitted by the DEO to the RD, thru the EMD, on or before the 15th day of November. The EMD shall consolidate, evaluate and recommend for approval by the RD both the Annual Plan and PM Job Orders for implementation in the following year.

1.4 Maintenance activities using the EMF shall be performed only on authorized BHME with DPWH Property Number. Authorized BHME shall be recorded in the Subsidiary Ledger for Equipment. Any expenditure for PM/CM not included under the BHME Category in the inventory of Property, Plant and Equipment Ledger Cards (PPELC) using the funds intended exclusively for BHME use shall be in violation of this Department Order.

¹⁵ The 15% is the ceiling amount.

¹⁶ The amount of which shall be reflective of the RO's allocated budget under the "Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Routine Maintenance of National Roads and Bridges" which is released under the General Appropriations Act (GAA) for that Fiscal Year.

- 1.4.1 The DE, thru the RD, shall request authority to disburse the balance of the EMF for a Fiscal Year for realignment and endorsement to the Department of Budget and Management (DBM) for approval.
- 1.5 All transactions of BHME PM/CM Program cost, including the procurement of maintenance parts, shall be recorded in the PPELC in accordance with the New Government Accounting System (NGAS). All Purchase Requests (PRs) from the DEOs shall be coursed thru the AES concerned for the procurement of equipment parts and accessories in accordance with Department Order No. 30, Series of 2015, with Subject: "Involvement of Specialized Offices in the Procurement of Goods" and other government procurement rules and regulations. In addition, the AES shall be included in the team that shall conduct the final inspection and acceptance of the delivered goods.
2. PM and CM Programs as well as procurement of fuel, batteries and tires for SE, ME and QRE pooled at the Base and Area Shops shall be charged against the programmed MOOE of the RO where such equipment are booked.
 - 2.1 PM and CM Programs for SE, ME and QRE deployed at other DEOs shall be charged against the EMF of the accountable Office where such equipment are booked. Items needed for the operation of the equipment such as fuel shall be charged against the remaining 85% of the Equipment Item of the requisitioning DEO.
3. The AES under the EMD of the RO and the ESU under the Maintenance Section of the DEO shall be jointly responsible in undertaking the PM Program (PMs 2, 3, and 4) of all equipment, including non-BHME, assigned to the DEO concerned, according to schedule.
 - 3.1 In addition, the ESU shall be solely responsible in undertaking the PM 1, as monitored and certified by the AES, while the operator/driver shall ensure the upkeep of the BHME thru a daily equipment routine maintenance prescribed under Department Order No. 11, Series of 2016, with Subject: "Routine Maintenance for Service Vehicles and Most Commonly Used Equipment Manual."
 - 3.2 Outside repair is allowed, provided, it is compliant to the provisions of Department Order No. 123, Series of 2015.
 - 3.3 Funds for the operation, maintenance and repair of non-BHME units assigned to the DEO shall be programmed and charged under the MOOE of that DEO.
4. The EMD may undertake equipment rehabilitation, whenever necessary, upon the joint approval by the RD and the Director, BOE.
 - 4.1 Rehabilitation of equipment shall not be funded by the EMF.

Section F. Responsibilities of the RD and the Chief, EMD

1. The RD, thru the Chief, EMD, shall issue the pre-approved BHME allocation to all DEOs based on the equipment utilization, demand and requirement submitted by the Maintenance Division of the RO.

2. In accordance with Department Order No. 15, Series of 2015, with Subject: "Guidelines to ensure disaster preparedness of DPWH Field Offices in promptly responding to typhoons and other calamities including criteria in the release of Calamity Funds", the RD, thru the Chief, EMD, shall coordinate with the BOM and the BOE, and shall be responsible in the immediate pre-positioning of available equipment within the Region for prompt response during disaster, calamity and emergency-related situations to affected DEOs including those deemed urgent/necessary for augmentation purposes.
 - 2.1 Pooling/pre-positioning of available equipment to affected DEOs before the onslaught of a disaster shall be supported by a duly accomplished and approved Requisition for Issuance of Equipment (RIE) (Refer to Annex D), previously Equipment Rental Request Order (ERRO)¹⁷.
 - 2.1.1 All QRE within the Region and adjacent Provinces shall be mandatorily dispatched to affected locations including those forecasted to be affected due to disaster such as typhoons. Regional Quick Response Teams shall be constituted for this purpose.
 - 2.1.2 Failure or refusal to deploy all operational QRE to affected DEOs shall be dealt with administratively.
 - 2.2 In accordance with Department Order No. 151, Series of 1990, with Subject: "Updated Guidelines in the Equipment Leasing Operation with Schedules of Rental Rates", the equipment may be issued to affected DEOs during emergency posing danger to life and property even without prior approval of the RIE, provided, that subject equipment shall be exclusively used for the purposes as requested and same shall be returned to the issuing Office after the completion of the purpose.
3. The RD, thru the evaluation, analysis and recommendation of the Chief, EMD, shall direct the inter-DEO transfer and repositioning of BHME to ensure strategic Region-wide equipment allocation/distribution and utilization.
4. Issuance of Equipment Deadline Order (EDO) shall be evaluated and endorsed by the Chief, EMD for the approval by the RD for any violation of existing policies, including DPWH Memorandum dated April 20, 2015, with Subject: "Upkeep and Cleanliness of all DPWH Equipment", on the usage of DPWH equipment, such as, but not limited to:
 - a. Abuse in operation
 - b. Improper or poor maintenance
 - c. Excessive dilapidation and/or gross untidiness/messiness of equipment/vehicle
 - d. Unnecessary or questionable repairs
 - e. Status "A" (awaiting assignment) for four (4) consecutive months
 - f. Status "Dj" or "Dn" (awaiting major or minor repair, respectively) for two (2) consecutive months
 - g. Non-working odometer or hour meter for one (1) month
 - h. Unauthorized usage including improper usage
 - i. Non-wearing of prescribed Personal Protective Equipment (PPE) for drivers and operators
 - j. Unregistered with the Land Transportation Office (LTO) or unauthorized plate numbers

¹⁷ The RIE replaces the ERRO in accordance with the recent non-functioning of Leasing/Rentals within the Department.

- k. Absence of a copy of Acknowledgment Receipt for Equipment (ARE) with Quick Response (QR) Code
 - l. Absence of or tampered official decal for BHME or QR Code for QRE
 - m. Non-reporting of monthly utilization and maintenance activities and associated costs for two (2) consecutive months
- 4.1 Units issued with an approved EDO shall be pooled at the RO's Base and Area Shops, whichever is applicable, and shall be reallocated to other DEOs who shall shoulder the restoration of the unit into good running condition upon transfer of equipment accountability.
5. The RD shall ensure that sufficient funding is programmed under the MOOE and Engineering and Administrative Overhead (EAO) of the Region for the logistics operations such as, but not limited to, fuel and transportation expenses of all AESs under its jurisdiction. This is to ensure effective and efficient delivery of technical assistance such as that required by existing policies including, but not limited to, Department Order Nos. 30, 102 and 123, all Series of 2015, and for calamity-related activities for additional manpower and supervision.
6. The RD shall manage strategically the Equipment Demand of the Region and the equitable distribution/allocation, correct requirements and right fleet size of both the RO and the DEOs.
- 6.1 For any Equipment Demand in the RO or DEO, either lacking in quantity or not yet in the fleet of the Department, that may lead to either acquisition or lease, shall be coursed thru the BOE. The RD, thru the EMD, shall accomplish first the Equipment Demand Analysis and Request Form (Refer to Annex E).
7. The RD shall ensure that reasonable facility maintenance of Base and Area Shops shall be programmed annually under the MOOE of the RO to ensure effective and efficient delivery of technical assistance. This includes, but not limited to, electricity and water bills, telephone lines, and internet and intranet connections.
- 7.1 In accordance with Department Order No. 78, Series of 2014, with Subject: "Guidelines for the Evaluation of the Request for the Release of Funds for the Relocation/Transfer and Facilities Improvement of DPWH Offices", all funding requests for the repair/rehabilitation/restoration of Base and Area Shops shall be endorsed by the RD supported by pertinent documents to the Chairman, Committee on Relocation/Transfer and Facilities Improvement of DPWH Offices.
8. The RD, upon the evaluation and screening of the EMD, shall be responsible in and accountable for the hiring of competent operator/driver in accordance with Department Order No. 24, Series of 2007, with Subject: "Amended Omnibus Levels of Authorities of Officials of the Department of Public Works and Highways."
- 8.1 In accordance with the Memorandum of Understanding (MOU) entered into by and between the DPWH and the Technical Education and Skills Development Authority (TESDA) on June 26, 2006, the RD shall ensure that all Heavy Equipment Operators and Mechanics shall be certified accordingly by the TESDA with a National Certificate II (NC-II). This is in accordance with the continuing efforts to improve the personnel of this Department as reiterated in the DPWH Memorandum dated

July 16, 2013, with Subject: "Training of Unskilled Heavy Equipment Operators and Mechanics Under the Technical Education and Skills Development Authority (TESDA) and the DPWH."

Section G. Responsibilities of the DE

1. The DE shall monitor the entire DEO fleet operations and maintenance for direct control and supervision.
 - 1.1 The DE, thru the ESU, shall ensure that all Equipment Logbooks are thoroughly and accurately accomplished by end users, and that the concerned AES is furnished with Tear Sheets of every Equipment Logbook on a weekly basis. Likewise, the DE shall ensure that actual equipment utilization, repair and maintenance records indicated in the Equipment Logbook are consistent with the records of the AES.
2. The DE, thru the District Maintenance Engineer, shall be responsible for the proper scheduling and deployment of necessary equipment in accordance with the Quincenal/ Semi-monthly Work Schedule (Refer to Annex F) of the DEO.
 - 2.1 Likewise, the DE shall be responsible in ensuring that all BHME are properly/safely operated and that the PM Program is planned and scheduled (Refer to Annex G) without conflict with the scheduled activities under the AMWP.
3. The DE, thru the RD, shall submit to the BOE the duly accomplished Leased Equipment List (Refer to Annex H) for equipment leased from private lessors.
 - 3.1 In accordance with Department Order No. 36, Series of 2004, with Subject: "Revised Guidelines in Equipment Leasing Operation with Schedules of Rental Rates", the DE shall secure a certification from the EMD that subject equipment intended to be leased from private lessors is not available at the Base and Area Shops. In addition, an Equipment Inspection Report shall be secured from the EMD confirming that the subject equipment is in good running condition.
 - 3.2 Leasing of equipment from private lessors shall be subject to the provisions of Department Order No. 36, Series of 2004.

Section H. Responsibilities of the Area Equipment Engineer (AEE)

1. The AES, in close coordination with the EMD, shall determine the priorities in the maintenance, repair and rehabilitation of the BHME as recommended by the DE concerned.
2. The AES shall assist the ESU concerned in undertaking the planned PM activities (PMs 2, 3, and 4) including emergency repairs based on the records maintained by the AES and in consonance with the ESU's equipment utilization, maintenance and repairs record. All documents necessary for these activities shall be promptly prepared by the AES and the DEO concerned.
3. For the procurement of parts and consumables including filters, tires, batteries, oils and lubricants, the AEE shall assist the DEO concerned in the preparation of its Annual Program of Work (POW) for equipment maintenance which shall serve as the reference

for the Quarterly Preventive Maintenance Plan and Schedule, and the updating of the Project Procurement Management Plan (PPMP) for the BHME of the DEO. Procurement funds shall be appropriated accordingly.

- 3.1 The AEE shall serve as a provisional member of the Technical Working Group (TWG) of the Bids and Awards Committee (BAC) of the DEO concerned.
- 3.2 Requisition and Issue Slip (RIS) for Supplies and Materials, particularly, spare parts and accessories, oils and lubricants, shall be approved, provided, it is supported by a duly accomplished and approved Job Order.
4. The EMD shall lead the Regional Inspectorate Team¹⁸ and conduct regular equipment inspection on-site or during field operations, and may issue an EDO approved by the RD, for any violation of existing policies on the usage of DPWH equipment.
 - 4.1 In the same way, the BOE Inspectorate Team shall conduct spot monitoring in coordination with the Regional Inspectorate Team and may issue an EDO approved by the Director, BOE for any violation found.

Section I. Responsibilities of the Equipment Services Unit Engineer (ESUE)

1. The ESU shall ensure the upkeep of all BHME in the DEO.
2. The ESUE shall be a Registered Mechanical Engineer in accordance with DPWH Memorandum dated August 16, 2012, with Subject: "New Position Charts of ROs (ROs) and District Engineering Offices (DEOs) as a result of Rationalization Plan (RP) pursuant to E.O. No. 366, Series of 2004", and pursuant to Republic Act No. 8495, "An Act Regulating the Practice of Mechanical Engineering in the Philippines" shall perform the duties and responsibilities appurtenant to the position.
3. The ESUE shall prepare the Annual PM Plan and PM Job Orders for the entire DEO equipment fleet based on the current fleet and maintenance fund allocation.
 - 3.1 The Plan and Consolidated PM Job Orders of the DEO shall be verified by the AEE concerned and submitted by the DE to the RD, Attention: Chief, EMD for review and approval, every 15th day of November for use in the succeeding Calendar Year.

Section J. Utilization of the EMF and Submission of Pertinent Reports for Effective Monitoring

1. The EMD shall monitor, evaluate and submit a quarterly report, thru the RD, to the Director, BOE, on the actual utilization of the EMF, for review and evaluation of the effectiveness and efficiency of the implementation of PM/CM Program of the AES in their areas of coverage.
 - 1.1 The BOE shall, in turn, furnish this report to the BOM after assessing that such expenditures are indeed reflected in the records of the AES concerned.
2. The RD shall submit the Equipment Status, Preventive Maintenance and Utilization Report (ESPMUR), consolidated by the EMD, on or before the 15th day of the succeeding month to the BOE.

¹⁸ The Regional and BOE Inspectorate Teams are constituted based on the DPWH Memorandum dated April 20, 2015, with Subject: "Upkeep and Cleanliness of all DPWH Equipment."

- 2.1 Prior to the submission of the consolidated ESPMUR to the BOE, the EMD shall secure the validation of the District ESPMUR thru the AES concerned.
- 2.2 Monthly expenditures for PM, CM and Capital Projects for maintenance shall be strictly recorded in the ESPMUR.
- 2.3 The District ESPMUR shall be supported by the Tear Sheet of the Equipment Logbook. The Equipment Logbook shall be duly accomplished by the end user and retained in the equipment.
3. The DE, thru the District Maintenance Engineer, shall submit the Equipment Demand, Availability and Utilization Report (EDAUR) on or before the 15th day of the succeeding month to the BOE, Attention: Equipment Planning Division (EPD), for information, guidance and/or appropriate action.
 - 3.1 The EMD shall consolidate and evaluate the District EDAUR, together with the supporting documents submitted by the DE, and shall endorse this to the BOE.
 - 3.2 The District EDAUR shall be supported by the Quincenal/Semi-monthly Work Schedule and the Leased Equipment List, among others, which shall be the bases for the Equipment Demand Requirements of the DEO. In accordance with Department Order No. 41, Series of 2016, with Subject: "Amended Policy Guidelines on the Maintenance of National Roads and Bridges", inspection conducted at least twice a week by the Maintenance Point Persons and rectification/repair works scheduled by the District Maintenance Engineer in accordance with the response time allowed for each defect, shall both form part of the Equipment Demand Requirements of the DEO.
 - 3.3 The EDAUR shall serve as a basis for equipment planning and programming, including acquisition and distribution/allocation.
4. The BOE shall annually calculate ROI of HME and submit a report to the Undersecretary for Technical Services. Depreciation and other related factors shall be considered in the computation.
5. The DE shall submit Quarterly Preventive Maintenance Plan and Schedule (PMs 1, 2, 3, and 4), prepared by the ESU and verified by the AES concerned, for the entire DEO equipment fleet, to the RD, Attention: EMD, for review and endorsement to BOE, Attention: Equipment Operation and Maintenance Division (EOMD) for information, guidance and/or appropriate action.
6. New guidelines on reporting format and procedures including equipment information management shall be issued by the BOE consistent with this Department Order. This includes the ESPMUR, EDAUR and the preparation of PM Plans and Schedules for all equipment, for standard implementation and effective monitoring.

Section K. Distinguishing Marks. – A 10-inch-diameter reflectorized decal sticker (Refer to Annex I) of the DPWH shall be applied on the right and left side of the BHME body, whenever and wherever applicable. The same sticker shall be applied on the right and left side of the QRE body with the inclusion of a QR Code to be applied on the QRE cabin.

Section L. Sanctions. – Any violation of the provisions of this Department Order shall be dealt with administratively or criminally, if so warranted.

This Order shall take effect immediately and shall supersede Department Order Nos. 54 and 54-A, both Series of 1991, and other issuances inconsistent herewith.


ROGELIO L. SINGSON
Secretary

Department of Public Works and Highways
Office of the Secretary



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**Department of Public Works and Highways
 HIGHWAY MAINTENANCE EQUIPMENT LIST**

BASIC HIGHWAY MAINTENANCE EQUIPMENT

I. Major Basic Highway Maintenance Equipment

EQUIPMENT TYPE	EQUIPMENT CODE
Service Vehicle	H1M ¹
Stake Truck	H2 ²
Dump Truck	H3L ³
	H3H ⁴
Hydraulic Excavator, Wheel-type	F17
Front End Loader	L2L ⁵
	L2H ⁶
Loader-Excavator	LX ⁷
Road Grader	N1 ⁸
Vibratory Road Compactor	Z18

II. Minor Basic Highway Maintenance Equipment

EQUIPMENT TYPE	EQUIPMENT CODE
Sinker Drill (Jack Hammer)	A2
Asphalt Kettle	B5
Road Maintainer	H11
Chainsaw	T1
Vibratory Plate Compactor	Z19
Grass Cutter	Z23

QUICK RESPONSE EQUIPMENT

EQUIPMENT TYPE	EQUIPMENT CODE
Service Vehicle	H1M
Stake Truck	H2
Dump Truck	H3L
	H3H
Maintenance Shop Truck	H7
Truck Mounted Flood Mitigation Equipment	H17
Hydraulic Excavator, Wheel-type	F17
Front End Loader	L2L
	L2H
Loader-Excavator	LX
Grader	N1
Chainsaw	T1

¹ Includes pick-ups, maintenance crew cabs and any service vehicle used in the implementation of road maintenance activities consistent with Section D.5.1 of this Department Order.

² Stake Trucks (H2) shall be pooled at the Regional Office's Base and Area Shops on a shared-use basis.

³ Equipment Code for Dump Truck with a Dump Body Capacity below 5 cu.m.

⁴ Equipment Code for Dump Truck with a Dump Body Capacity of 5 cu.m. and above.

⁵ Equipment Code for Front End Loader with a Bucket Capacity below 1.7 cu.m.

⁶ Equipment Code for Front End Loader with a Bucket Capacity of 1.7 cu.m and above.

⁷ Loader-Excavator (LX) shall be assigned to a DEO on the condition that the existing Hydraulic Excavator, Wheel-type (F17) AND Front End Loader (L2L or L2H) shall be pulled out from that DEO.

⁸ Road Graders (N1) shall be pooled at the Regional Office's Base and Area Shops on a shared-use basis. DEOs with longer unpaved roads and shoulders shall be prioritized in the assignment of N1.

SPECIALIZED EQUIPMENT

EQUIPMENT TYPE	EQUIPMENT CODE
Air Compressor	A1
Prime Mover with Trailer	H4 and J1
Water Tank Truck	H6
Maintenance Shop Truck	H7
Street Sweeper	H20
Generator Set	G1
Trailer Mounted Tower Floodlighting Equipment	J6
Traffic Lane Marker	Z15
Pavement Marking Remover	Z15R

MISCELLANEOUS EQUIPMENT

EQUIPMENT TYPE	EQUIPMENT CODE
Asphalt Paver	B3
Bridge Inspection Equipment	H16
Sewer Jet Cleaner, Combination	H19 ⁹
Road Milling Machine	Z24

⁹ Combination of Vacuum and High-Pressure Sewer Jet Cleaner

**Department of Public Works and Highways
 ANNUAL UTILIZATION BENCHMARKS**

Major Basic Highway Maintenance Equipment

EQUIPMENT TYPE	EQUIPMENT CODE	BENCHMARK¹
Service Vehicle ²	H1M	16,000 km ³
Stake Truck	H2	7,500 km
Dump Truck	H3L	15,000 km
	H3H ⁴	20,000 km
Hydraulic Excavator, Wheel-type ⁵	F17	500 hrs
Front End Loader ⁶	L2L	500 hrs
	L2H	500 hrs
Loader-Excavator	LX	600 hrs
Road Grader ⁷	N1	500 hrs
Vibratory Road Compactor	Z18	375 hrs

The Annual Utilization Benchmark is derived from the 2012 Institute of Public Works and Engineering Australia (IPWEA) Plant and Vehicle Management Manual, 3rd ed.

EQUIPMENT	ENGINE HOUR/KILOMETER TRAVELLED
Grader	1,000 hr
Backhoe Loader	800 hr
Loader	800 hr
Excavator (15 ton)	1,000 hr
Excavator (8 ton)	800 hr
Heavy Duty Truck	35,000 km
Medium Duty Truck	20,000 km
Light Duty Truck	10,000 km
Rubber-tired Roller	500 hr
Vibrating Drum Roller	500 hr
Mini Bus	20,000 km

The national benchmark figures are provided by the IPWEA National Panel of Fleet Managers. Utilization benchmark data should only be used as a guide to flag the need to look at utilization at the operational level. There will be cases where items are essential for the job regardless of utilization.

Source: Section 2. Plant and Vehicle Management Manual. 3rd ed. 2012.

¹ With the exemption of the Heavy-duty Dump Truck (H3H), Light and Heavy-duty Front End Loader (L2L and L2H, respectively), Hydraulic Excavator, Wheel-type (F17), and Road Grader (N1), a factor of 75% of the IPWEA benchmark figures was considered based on a two-year-history (CY 2014-2015) of actual utilization of the DPWH equipment fleet.

² Utilization benchmark is based on a maximum payback period of two (2) years in consonance with the estimated useful life of motor vehicles pegged at seven (7) years as stated under COA Circular No. 2003-007 dated December 11, 2003.

³ Utilization benchmark for Non-Road Maintenance Service Vehicles (H1) shall be 10,000 km annually.

⁴ The equivalent annual kilometer travelled to perform Equipment Preventive Maintenance 4 was considered.

⁵ Utilization benchmark is based on a two-year-history (CY 2014-2015) of actual utilization of F17.

⁶ Utilization benchmark is based on a two-year-history (CY 2014-2015) of actual utilization of L2.

⁷ Utilization benchmark is based on a two-year-history (CY 2014-2015) of actual utilization of N1.

**Department of Public Works and Highways
 Annual Maintenance Work Program and Performance Budget¹**

Philippine Highway Maintenance Management Manual - 2nd Edition

4-21

REGION	M_ WORK PROGRAM PERFORMANCE BUDGET SUMMARY										SHEET OF
	PREPARED BY				SUBMITTED BY			APPROVED BY			TA 41a
DISTRICT	ENGINEER				DISTRICT ENGINEER			REGIONAL DIRECTOR			
WORK CATEGORY	% TOTAL		% TOTAL		MAN-DAYS	PERFORMANCE BUDGET PESOS				TOTAL	
	MAN-DAYS	PESOS	MAN-DAYS	PESOS		LABOR	EQUIP-MENT	MATE-RIALS	CONTRACTUAL & OTHER EXP.*		
PAVEMENT MAINTENANCE											
REGRAVELING											
BRIDGE AND STRUCTURE MAINTENANCE											
SHOULDER MAINTENANCE											
DRAINAGE MAINTENANCE											
VEGETATION CONTROL											
TRAFFIC SERVICES MAINTENANCE											
EMERGENCY PENSTATEMENT											
ADMINISTRATION											
TOTAL											

Annual Maintenance Work Program Performance Budget Summary
 Figure 4.10

* Where Applicable

¹ Source: Section 4. Philippine Highway Maintenance Management Manual, 2nd ed. 2014.

REQUISITION FOR ISUANCE OF EQUIPMENT

TO: The Regional Director
 DPWH Region ____

Date: _____
 RIE No.: _____

FROM: _____

Please arrange the issuance of the following Equipment for use in the project _____
 _____ located at _____.

Number of Units	Description	Requisition Period	REMARKS

Requested By:

Availability of Equipment:

 (Name and Position)

 (Name and Position)

Recommending Approval:

Approved By:

 Chief, Equipment Management Division

 Regional Director

TO: _____

Date: _____

Please issue to _____ the equipment requested above for the specified requisition periods.

This will authorize _____ to sign responsibility receipt.

Approved By:

 Regional Director

E08-14010-01-Rev 01

Operating Requirements		
10	What other items of plant or equipment will be required to support the item	
Servicing Requirements		
11	Will the item be maintained in-house or by an external operator?	
In House		
12	If in-house, what staff resources are required for servicing and repairs?	
13	Are the in-house resources sufficiently skilled?	
14	Is there a contractor available to undertake servicing repairs?	
Contractor		
15	What is the minimum lease a contractor would expect -- on site, off site charges?	
16	What will it cost to manage the lease? How much?	
17	What replacement service will the operator offer if the unit supplied breaks down?	
18	Will the contractor charge by flat rate or hour meter or a combination of both?	
19	Who is responsible for mechanical failures?	
20	Who is responsible for wear items like blades and tips?	
Operating Cost		
21	What is the estimated annual ownership? Include operating costs.	
	Driver/Operator Costs	
22	What is the estimated annual driver/operator cost?	
	Internal Rental Rate	
23	What is the estimated fully-maintained and fully-operated rate?	Fully-Maintained: Fully-Operated:
Cost Comparison		
24	Total Contractor Cost	
25	Total Day Labor Cost	
26	Annual Cost Difference	

**Department of Public Works and Highways
 Quincenal/Semi-monthly Work Schedule¹**

NUMBER OF WORKMEN	DAYS IN PERIOD	SUBTOTAL MAN-DAYS AVAIL.	EST MAN-DAYS LEAVE	TOTAL MAN-DAYS AVAIL.	SEMI-MONTHLY SCHEDULE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS HIGHWAY MAINTENANCE				SCHEDULED BY: 4/14/1982 J. Fernandez	
					DISTRICT CITY	AREA	SCHEDULING PERIOD		APPROVED BY: 4/15/1982 F. Flores	
12	X	136	13	143	San Carlos	2	4/17/1982	4/30/1982		
ACT NO	ACTIVITY NAME	NO OF WORK DAYS SCHEDULED	CREW SIZE	MAN DAYS SCHED	DATES SCHEDULED	EQUIPMENT TO BE ASSIGNED	MATERIALS TO BE ASSIGNED	SUPERVISING FOREMAN	REMARKS	
R.S NO	ROAD NAME KMS									
111	Pothole Patching - premix	2	5	10	18-19	Fera Handtools	Premix - 6m ² Emul Asph	M. Gonzales	Km 504.2 to 506.5 Use stockpile Premix	
01	San Francisco - San Carlos									
123	Conc Surf Replacement	10	7	70	18, 19, 20, 21, 22, 23, 25, 26, 27, 28	Dump, Air Comp, Conc. Mixer, Compactor handtools	Aggregate - 10 m ² F. Cement - 70 sa	R. Falato	Km 512 to 520.5 Area: narrow = 3.6 & 4.8 lanes Purchase aggregate, hotmix, asphalt	
01	San Francisco - San Fernando									
131	Unpaved Shldr. Repair	4	4	16	20, 21, 22, 23	Dump Truck, Hand Tools	Screened Quality Mat ¹ - 8 m ²	Joe Lopez	Km 515.5 to 525 Repair holes both sides for grader reshaping	
02	San Jose - San Carlos									
133	Reshape Shoulders	5	2	10	25 to 26	Grader Hand Tools	-	Joe Lopez	Km 515.5 to 525 Laborer needed	
02	San Jose - San Carlos									
111	Pothole Patching - premix	4	5	20	25 to 26	Dump, Hand Tools	Premix - 16m ² Emul Asph	M. Gonzales	Km 565.5 to 516 Patch edge failures	
01	San Francisco - San Carlos									
142	Clean culverts and Repair	2	2	6	29, 30	Hand Tools	-	Joe Lopez	Km 515.5 to 525. 2 crews 4:30	
01	San Francisco - San Carlos									
144	Clean culverts and Repair	10	2	20	25 to 30	Hand Tools	Aggregate	M. Gonzales	Km 515.5 to 525	
01	San Francisco - San Carlos									
111	Stockpile Aggregate	2	1	2	25 to 26	Dump	-	M. Gonzales	Selected sites: Km 515.5 - 525	
01	San Francisco - San Carlos									

Philippine Highway Maintenance Management Manual - 2nd Edition

Figure 5.2
 Quincenal/Semi-monthly Schedules

¹ Source: Section 5. Philippine Highway Maintenance Management Manual. 2nd ed. 2014.

**Department of Public Works and Highways
 Preventive Maintenance Schedule**

BOE-15351-01-Rev00



Republic of the Philippines
 Department of Public Works and Highways
 Regional Office No. ____
 Equipment Management Division
 (Location)

Area Equipment Section No. ____ / Equipment Operations Section
 (or _____ Engineering District - Equipment Services Unit)

Day of the Month
 PM No. (for Non-colored copy)

PREVENTIVE MAINTENANCE SCHEDULE
 January - June CY 20__

PM Sequence: 1-1-1-1-2-1-1-1-1-3-1-1-1-1-2-1-1-1-1-4

Item No.	DPWH No.	Plate No.	January				February				March				April				May				June							
			Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4	Wk1	Wk2	Wk3	Wk4				
<i>Service Vehicle</i>																														
1	H01-2452	SEF-146	6:PM1				4:PM1				2:PM2				6:PM1				4:PM1				1:PM1							
2	H01-2333	SEF-853	6:PM1				4:PM1				2:PM1				6:PM1				4:PM1				1:PM1							
3	H01-3452	SEF-564	7:PM1				5:PM1				3:PM1				7:PM1				4:PM1				3:PM1							
4	H01-1352	SGH-674	8:PM1				5:PM1				3:PM1				6:PM1				4:PM1				1:PM1							
5	H01-5674	FTY-464	8:PM4				6:PM1				2:PM1				6:PM1				4:PM1				1:PM1							
<i>Dump Truck</i>																														
1	H03-0562	BOE-366		12:PM1				11:PM1				11:PM1				13:PM1				12:PM1				9:PM1						
2	H03-0145	GKH-422		14:PM1				12:PM1				11:PM1				14:PM1				13:PM1				10:PM1						
3	H03-0149	ESS-455		14:PM1				12:PM1				12:PM1				15:PM1				14:PM1				11:PM1						

Prepared by:

Verified by:

Approved by:

 Chief, AES or EOS
 (Engineer II, ESU)

 Chief, EMD
 (or Chief, DEO Maintenance Section)

 Regional Director
 (or District Engineer)

DISTINGUISHING MARKS

BASIC HIGHWAY MAINTENANCE EQUIPMENT

QUICK RESPONSE EQUIPMENT



10.0 "

