

**Government of Himachal Pradesh
Public Works Department.**

No. PWD(C)F(1)-1/2026 (E-320141) Dated Shimla-2, the

8th July, 2026.

NOTIFICATION

The State Government has notified the Road Drainage Policy, vide Notification No. PWD(C)F(1)-1/2026 (E-320141) dated 19.02.2026 for the Public Works Department of Himachal Pradesh to address systemic issues affecting road infrastructure in Himachal Pradesh by establishing a consistent and technically reliable framework for drainage planning, execution and maintenance. Now, the Governor, Himachal Pradesh is pleased to issue guidelines for preparation of proposals for Road Drainage Improvement Works under budgetary head “Drainage-Improvement” under Major Head 5054-Roads and Bridges, as following:-

1. Introduction and Background:

The State of Himachal Pradesh has experienced repeated and severe monsoon-induced road damage in recent years. The monsoon seasons of 2023 and 2025 were particularly destructive, resulting in widespread pavement failures, slope instability, culvert choking and collapse of road sections across multiple districts. A significant proportion of this damage was directly attributable to inadequate, undersized or poorly channelized drainage systems.

The financial burden of post-monsoon restoration has increased substantially, highlighting the need to shift from reactive repair-based approaches to preventive and hydrology-based drainage planning. In view of this, the Government has notified the Drainage Policy for HPPWD Roads and has created a separate budgetary head titled “Drainage-Improvement” under Major Head 5054 – Roads and Bridges for systematic drainage correction works on existing roads.

These guidelines provide the procedural framework for preparation of Proposals and Detailed Project Reports (DPRs) for works to be executed under this head. The principles relating to identification of drainage issues, hydrological assessment and design solutions described herein shall also be incorporated, wherever applicable, in DPRs for new road works and up-gradation proposals.

2. Identification and Prioritization of Stretches:

- 2.1 Drainage improvement works shall be undertaken in a corridor-based manner rather than in fragmented segments.
- 2.2 Each proposal shall cover a continuous road stretch of not less than 10 km and up to 25 km.
- 2.3 Identification and Prioritization of road stretches shall be in accordance with the Drainage Policy.
- 2.4 In the first phase, proposals shall be restricted to Major District Roads (MDRs), considering their economic importance, higher traffic volumes and critical connectivity function.

- 2.5 Within MDRs, priority may be accorded to stretches exhibiting one or more of the following characteristics:
- Passage through densely inhabited areas, roadside markets or settlements.
 - Chronic water-logging or repeated slope instability.
 - Documented history of substantial monsoon-related restoration expenditure, particularly during 2023 and 2025.
 - Recurrent culvert choking, erosion or pavement damage attributable to drainage deficiencies.
- 2.6 The objective at this stage will be to identify stretches where systematic drainage intervention is likely to substantially reduce recurring damage.

3. Selection of Road Stretches for Detailed Hydrological Survey and DPR:

- 3.1 Divisions shall prepare Preliminary Project Reports (PPRs) for identified stretches. The PPR shall not contain detailed cost estimates and shall serve only for prioritization and approval for detailed DPR preparation.
- 3.2 Each PPR shall include:
- A brief history of the stretch, including justification and necessity for drainage improvement.
 - Description of observed drainage issues.
 - Site photographs clearly highlighting deficiencies such as water stagnation, culvert choking, slope slips, erosion or shoulder failure.
 - Indicative length of the proposed stretch.
- 3.3 The purpose of the PPR is to enable the competent authority to evaluate comparative urgency across proposals.
- 3.4 Selection of stretches for detailed DPR preparation shall be undertaken by Technical Committee.
- 3.5 The timeline for submission of PPRs from Divisions shall be fourteen (14) days from issuance of directions.

4. Detailed Hydrological Survey and Gap Analysis:

- 4.1 Upon approval of the stretch, a detailed hydrological survey shall be undertaken.
- 4.2 Hydraulic requirements of both longitudinal drains and cross-drainage structures shall be determined in accordance with IRC: SP:42 (Guidelines for Road Drainage) and IRC: SP:48 (Hill Road Manual). Discharge calculations shall be based on rainfall intensity, catchment area, runoff characteristics and terrain slope.
- 4.3 The adequacy of existing drainage structures shall be assessed against calculated discharge and observed field performance.
- 4.4 Gap identification shall be undertaken using the Drainage Checklists. This analysis will be utilized for identifying —

- Locations where cross-drainage capacity is inadequate.
- Sections where roadside drains are absent, undersized or hydraulically ineffective.
- Points of uncontrolled discharge causing erosion.
- Habitation stretches requiring structural covered drains.
- Areas of seepage or subsurface moisture affecting pavement performance.
- Zones where absence of catch-water interception contributes to slope instability.

4.5 The DPR must directly link each proposed intervention to a documented drainage gap.

5. Scope of Works to be Included in DPR:

Design solutions shall conform to the Drainage Policy as well as Relevant Codes, Standards and Guidelines. The following principles based on the Drainage Policy are given as a general guide for proposal formulation:

5.1 Roadside Drainage:

- U-shaped drains shall normally be proposed in place of V-shaped drains, except where the existing V-shaped drain is demonstrably adequate and certified as hydraulically sufficient by field officers.
- In habitation areas, U-shaped drains shall be mandatorily covered. Covers shall be designed to safely carry pedestrian and vehicular loads. Precast RCC covers of M-30 grade with provision for water ingress openings and periodic access for cleaning shall be preferred. Covers shall be openable at suitable intervals.
- In non-covered stretches, appropriate delineators or safety devices shall be installed to ensure traffic safety.
- A toe wall of minimum 60 cm height shall be integrated on the hill side to prevent erosion and silt ingress. Where geological strata are weak, the height may be increased up to 1.0 metre based on site conditions.

5.2 Cross-Drainage (C/D) Up-gradation:

- Pipe culverts that demonstrate repeated choking or hydraulic inadequacy shall be replaced with suitably designed prefabricated box culverts with enhanced discharge capacity as per policy guidelines.
- Additional cross-drainage structures may be proposed where longitudinal flow concentration indicates inadequate spacing.
- Where site conditions justify, causeways may be considered as an alternative solution.
- Upstream and downstream channelization, including lined approaches, energy dissipation arrangements and scour protection, shall be incorporated wherever uncontrolled flow is causing erosion or slope instability leading to safety hazard for road or adjoining properties.

5.3 Road Surface and Shoulder Treatment:

- Paved shoulders shall be provided, particularly on the drain side, to prevent infiltration, erosion and sediment entry into drains. Materials such as cement concrete, paver blocks or stone pitching may be adopted depending upon site requirements. Shoulders adjoining newly constructed drains shall be mandatorily paved.
- Minor re-grading may be included to correct sag points, restore camber or improve runoff distribution where existing geometry leads to water stagnation.

- Subsurface drainage systems may be proposed where pavement distress is attributable to seepage or high ground water.
- As an exceptional measure, rigid pavement options such as cement concrete pavement, CGBM or interlocking paver blocks with frequent small cross drains may be adopted in constrained situations where conventional drainage solutions are infeasible. Such proposals must be supported by a detailed justification note.
- Except in locations involving re-grading or subsurface drainage treatment, bituminous layers including renewal coats shall not be included in DPRs under this head.

5.4 Slope Interception Measures:

- Catch-water drains may be proposed in sliding or seepage zones to intercept hill runoff before it reaches the roadway. This is particularly relevant where slope protection measures are being undertaken under other heads such as PDNA.
- However, slope protection works themselves shall not be included in DPRs prepared under the Drainage-Improvement head.

6. Administrative and Execution Requirements:

- Administrative Approval for the DPR shall be accorded by the competent authority based on the estimated project cost.
- The identified stretch shall be treated as a single integrated proposal. Splitting of works for convenience or phased sanction is not permitted.
- Where channelization works, catch-water drains or discharge arrangements require entry onto private land, necessary 'No Objection Certificates' shall be obtained from concerned landowners prior to execution.

7. Concluding Principle:

- 7.1 The objective of proposals under the Drainage-Improvement head is to systematically reduce monsoon-related damage by scientifically managing surface and subsurface water along identified corridors.
- 7.2 Each DPR must demonstrate that the hydrological behaviour of the selected stretch has been properly assessed and that the proposed measures collectively improve drainage resilience and long-term road performance.

8. Checklists:

- Checklist for Drainage Audit (**Annexure-I**).
- Checklist for Drainage for new Roads/Up-gradation (**Annexure-II**).
- Checklist for Preliminary Proposal (**Annexure-III**).

Annexure-I

CHECKLIST FOR DRAINAGE AUDIT			
PROJECT INFORMATION			
Division			
Sub-Division			
Section			
Name of Road			
Date of Inspection			

S. No.	Gap / Observation	Response (Yes / No)	If Yes	
			R/D (Chainage From – To)	Length (m) / Count
PART 1 — ROADSIDE DRAINS				
1.1	Is there any reach where roadside drain is missing?			
1.2	Is there any reach where the existing drain is silted up, blocked, or choked with debris/vegetation?			
1.3	Is there any reach where the drain is damaged, broken, or structurally distressed?			
1.4	Is there any reach where the drain is under-sized for the catchment discharge?			
1.5	Is there any reach where the drain has adverse / flat / reverse longitudinal gradient causing stagnation?			
1.6	Is there any reach where the drain invert level is higher than the surrounding ground, preventing inflow?			
1.7	Is there any reach where the drain is not integrated with a natural outfall / CD structure / water body?			
1.8	Is there any reach where drain outfall discharges onto private land, causing erosion or disputes?			
1.9	Is there any reach where the drain is encroached upon by structures, dumping?			
1.10	Is there any reach where the drain is unlined and showing scour / erosion of bed and sides?			
1.11	Is there any reach where catch pits / inlets are missing, damaged, or non-functional?			
1.12	Is there any reach in built-up / habitation area where covered drain is required but not provided?			
1.13	Is there any reach where drainage continuity is broken at junctions, property entrances etc.?			
1.14	Is there any reach where drain is also required to be provided on valley side of road?			
PART 2 — CROSS DRAINAGE (CD) STRUCTURES EXCEPT BRIDGES				
2.1	Is there any natural drainage channel along the road where a CD structure is missing?			

2.2	Is there any stretch where a new CD structure is required (over and above the existing ones)?			
2.3	Is there any existing CD structure that is closed, blocked, or non-functional?			
2.4	Is there any CD structure not performing satisfactorily (under-sized, silted up, damaged)?			
2.5	Is there any CD structure whose catch pit is in poor condition or missing?			
2.6	Is there any CD structure where downstream channelization is required to carry the discharge safely?			
2.7	Is there any CD structure where upstream discharge concentration / training works are required?			
2.8	Is there any stretch where a CD structure is required and feasible with suitable channelization but is currently not provided?			
2.9	Is there any stretch where a large CD structure is not possible due to habitation / productive land on both sides?			

PART 3 — ROAD GEOMETRY & PAVEMENT

3.1	Are there any sag points along the road where there is water stagnation?			
3.2	Are there concentrated outfall points due to road geometry?			
3.3	Is there repeated pavement distress due to subsurface water?			
3.4	Is there erosion of shoulders or edge breaks?			
3.5	Are shoulders at the correct level w.r.t. carriageway (not higher, blocking runoff)?			
3.6	Is there vegetation overgrowth on shoulders obstructing flow toward drains?			
3.7	Is the shoulder cross-slope adequate (sloped away from carriageway, not ponding water back onto it)?			
3.8	Are there settlement, cracks, or other signs of distress on the shoulder?			
3.9	Is drainage continuity maintained across road junctions / property entrances?			

3.10	At bridge / culvert approaches — any scour, settlement, or ponding observed?			
------	--	--	--	--

SIGNATURES AND CERTIFICATION				
	Designation	Name	Signature	Date
1	Junior Engineer (JE)			
2	Assistant Engineer (AE)			
3	Executive Engineer (EE)			

Annexure-II

DRAINAGE CHECKLIST FOR NEW ROADS/ UPGRADATION			
SECTION 1: LAND AVAILABILITY RELATED TO DRAINAGE			
S. No.	Checklist Item	Yes / No	Remarks
1	Whether Panchayat resolution obtained for location of proposed cross drainage structures and non obstruction of longitudinal as well as transverse road drainage ?		
2	Whether NOC obtained from Private land owners for channelization work required outside PWD / Government land?		
3	Are there any stretches where tarring work is proposed to be withheld due to obstruction in longitudinal or transverse drainage by private land owners?		
SECTION 2: ROAD SIDE DRAINS			
S. No.	Checklist Item	Yes / No	Remarks
1	Whether drain section is hydraulically designed for design discharge?		
2	Whether hydraulic continuity of drain (in terms of both outfall point and longitudinal slope) is ensured?		
3	Whether U-shaped drain is covered / proposed to be covered in all built-up areas?		
4	Whether guard stones / delineators are proposed in open U-shaped drain sections?		
5	Whether cover is suitably designed based on road requirements?		
6	Whether inspection / cleaning chambers / openable covers are proposed at frequent locations where covered drains are proposed?		

7	Whether it is certified that existing V-shaped drain where being retained) is performing satisfactorily and does not require replacement?		
8	Whether toe protection measures are proposed with drain based on slope characteristics?		
9	Whether paved shoulder on drain side is proposed in sections for new drain construction?		
10	Whether any valley-side drain is required and proposed?		

SECTION 3: CROSS DRAINAGE STRUCTURES

S. No.	Checklist Item	Yes / No	Remarks
1	Whether new CD structure proposed at all required locations?		
2	Whether upstream discharge channelization required and proposed at required locations?		
3	Whether downstream discharge channelization / energy dissipation structure proposed at required location?		
4	Whether upgradation of CD structure proposed where not performing satisfactorily?		
5	Whether reconstruction of catch pits in rectangular shape proposed where required?		
6	Whether it is certified that Cross drainage structure as proposed are sufficient as per requirement		
7	Whether it is certified that pipe culverts proposed to be retained are performing satisfactorily?		
8	Whether small cross drains proposed at frequent intervals where large structure is not feasible?		

SECTION 4: ROAD GEOMETRY AND SHOULDERS

S. No.	Checklist Item	Yes / No	Remarks
1	Whether profile correction proposed for the sag points along the road where there is water stagnation?		
2	Whether all concentrated outfall points arising due to road geometry avoided by proposing suitable road profile correction/ valley side drains?		
3	Are sub-surface drainage works or water resistant technologies like CGBM / concrete pavements proposed in location where there is repeated pavement distress due to subsurface water?		

4	Paving/ concreting /stone-pitching of shoulders proposed in all habitation areas or in sharper gradients.		
5	Is drainage continuity maintained across road junctions / property entrances by proposing U-shaped Drain and steel grating?		
6	Whether Catch water drains required due to sliding zone and proposed at required location?		

SIGNATURES AND CERTIFICATION

	Designation	Name	Signature	Date
1	Junior Engineer (JE)			
2	Assistant Engineer (AE)			
3	Executive Engineer (EE)			

Annexure-III

PRELIMINARY PROPOSAL CHECKLIST					
Road Name:		Division / Sub-Division:			
Date of Inspection:					
From Chainage:		To Chainage:			
Sr. No.	Checklist Item / Description	Total Length/ Nos.	Indicative Remedial Measures as per Drainage policy	Remedial Measures Proposed as per site Requirement and feasibility	Remarks / Field Notes
A. ABSENCE / INADEQUACY OF DRAINAGE STRUCTURES					
1	Absence of side drains		U-shape Drains to be proposed. To be covered with Precast R.C.C. covers(preferable) or steel grating in habitation area and guide stone/delineators to be proposed elsewhere		
2	Absence of cross-drainage (C/D) structures – culverts, causeways at natural drainage crossings		R.C.C. Box Culvert to be proposed with Rectangular Catch pits. Causeways where flow is seasonal and sediment load is very high		

3	Inadequate waterway of existing Drains		Replace with Hydraulically designed U-shape drains.		
4	Inadequate waterway of existing C/D structures (undersized relative to catchment discharge)		Replace with RCC Box Culvert designed for double the design discharge.		

B. OUTFALL & DISCHARGE MANAGEMENT

5	Concentrated outfall points discharging unprotected onto hill slope or embankment face		Improve Road Geometry to redirect the discharge/ chaneelize the discharge to nearest natural drainage channel	
6	Downstream erosion / scour channel visible at culvert outlets		Channelization of discharge, energy dissipation and scour protection works.	
7	Inadequate or absent catch-pits		Square or rectangular Catchpits to enable mechanical cleaning.	
8	Flow of surface water uncontrolled at road bifurcation / T-junction / Y-junction points		Steel gratings designed for traffic load with RCC U shape drains at intersection for catching the discharge	
9	Non-availability of suitable outfall due to built-up / habitation on both sides of road		Concrete pavement or Interlocking paver blocks with Small Cross drains to remove the road water in small quantities at small intervals	

B. ROAD GEOMETRY & SURFACE DRAINAGE DEFECTS

10	Ponding of water on carriageway due to reverse camber, inadequate cross-fall or depression		Re-grading/ profile correction of road to remove such points	
11	Incorrect level / camber of unpaved shoulders causing water to flow back onto carriageway		shoulders to be reconstructed with appropriate level and cross slope.	
12	Scouring / erosion of unpaved shoulders due to uncontrolled sheet flow		Shoulders to be paved/ concretized or stone pitched	
E. SUBSURFACE DRAINAGE				
13	Subsoil water flow surfacing on road / softening sub-grade		Subsurface drainage / new water resistant technologies like CGBM	
14	Repeated blockage of drains due to weak strata / hill-side slips feeding debris into drains		Provide Toe wall of suitable height (minimum 60 cm) on hill side of drain	
15	Slide-prone zones / active slip areas where catchwater drains are required to intercept surface runoff		Catch water rains may be proposed on the top of such zones.	
GENERAL OBSERVATIONS / ADDITIONAL ITEMS NOTED DURING INSPECTION:				
SIGNATURES AND CERTIFICATION				
	Designation	Name	Signature	Date
1	Junior Engineer (JE)			
2	Assistant Engineer (AE)			
3	Executive Engineer (EE)			

By Order
(Sd/-)
Principal Secretary (PW) to the
Government of Himachal Pradesh