

**CHECKLIST FOR SUBMISSION & SCRUTINY OF DETAILED PROJECT REPORT
(STORM WATER DRAINAGE SYSTEM) (SWD)**

(to be filled in and certified by the highest city –level Officials, both technical and administrative, such as Chief Engineer/City Engineer/ Municipal Commissioner)

Instructions:

1. The DPR shall be formulated as per the guidelines given in Chapter-3 of the Manual on Sewerage and Sewage Treatment published by the Ministry and as per the Department procedures.
2. DPR shall be technically sanctioned by the Competent Authority the State Govt./ULB before forwarding it to the Ministry.
3. Each and every page has to be signed at the bottom by the officials.
4. Each field has to be filled in appropriately as 'yes', 'no', 'not required', 'not done', 'not used' etc. No field has to be left blank. Give explanatory comments wherever 'no' is indicated.
5. Non- definite entries such as 'will be done later', 'will be furnished later' etc. will not be accepted.

CERTIFICATE:

This is to certify that that the undersigned have read the contents of the check list fully and have responsibly made the entries true to the best of knowledge and understanding. In case the information furnished in the check list enclosed is found to be incorrect for any reason, whatsoever, the undersigned may be held liable for disciplinary action as per applicable Government rules.

Certified that

- (i) The designs and drawings have been approved by the Competent Authority.
- (ii) The detailed estimates and cost estimates are as per the current schedule of rate and/or rate analysis and latest pro-forma invoices (current market rates).
- (iii) The DPR has been technically sanctioned by the Competent Authority in the State Govt./ULB.

1

Signed:

Signed:

Name:

Name:

Designation:

Designation:

**CHECKLIST FOR SUBMISSION & SCRUTINY OF DPR
(STORM WATER DRAINAGE SYSTEM) (SWD)**

S. No	Description	Write 'Yes' or 'No' etc in the column below If Yes, give Page No./DPR volume reference. If No, reasons thereof
GENERAL COMPONENTS		
1	Name of the town/city/District/State for which scheme has been formulated with name of the scheme (a) Name of the City/Town: (b) Name of the District: (c) Name of the State : (d) Name of the Scheme:	
2	Date of DPR appraised by State Level Nodal Agency (SLNA) and whether a copy of appraisal report (duly authenticated by the competent authority) has been forwarded with DPR. (a) Date of appraisal: (b) Name of the appraisal agency: (c) Original Estimated cost:	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	(d) Appraised cost: (e) Major comments/observations made by appraisal agency.	
3	Whether the commitment to launch the scheme immediately after approval of Govt. of India / Administrative approval of the scheme is appended in DPR.	
4	(a) Whether Project formulation justification (need for the project) has been furnished in DPR. Please justify the need of the project. Justification: (b) Whether executive summary of the project is furnished in the DPR	
5	Whether linkages of this scheme have been established with other ongoing STORM water drainage schemes being funded by the Central/State Govt./other agencies, if any. Please furnish the details.	
6	Whether the map showing administrative and political jurisdiction of the project area has been given in DPR. Area within Municipal limit : sq.km. Extent of area considered in the DPR :sq.km.	

3

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	Additional area (beyond Municipal limit) considered in the DPR and justify the reasons: .....sq.km	
7	Whether the land use pattern of the city / town / project area as per the approved Master Plan has been given in DPR.	
8	Whether the DPR including the design, drawings, cost estimates, analysis of rates has been authenticated by Competent Authority of State Govt./ ULB and Quasi-Technical sanction of DPR / Technical & Financial Verification Certificate has been attached with DPR	
9	In case any proposed pumping main for storm drainage lines is crossing Railway line/ Highway & their bridge (wherever applicable), whether the clearance from concerned authority such as State Pollution Control Board (SPCB), Highways, PWD, Railways has been obtained and copies of the permission and their estimate for the same has been provided in DPR. If not, the present status of action initiated may be furnished below.	
10	Whether the provision for separate electric feeder line to the storm water pumping stations (to take care of frequent power failure and voltage fluctuation problem) from HT line and an agreement between Electricity Department and Urban Local Bodies (ULBs) has been furnished in the DPR	
11	Whether the commitment from Electricity Department for un-interrupted power supply (for pumping stations) is obtained	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
12	Whether the topographic map of the city/town/project area to the scale has been given in DPR/Zone wise maps to scale showing all streets.	
13	Whether soil investigation report – bore hole logs at least at a grid of 1 km x 1 km or Geological Survey Data has been forwarded with DPR.	
14	Whether Contour map of the project area has been annexed with the DPR.	
15	Whether resolution from the ULB for meeting the regular expenditure on O&M of the storm water drainage system is enclosed in DPR.	
ENGINEERING COMPONENTS		
1	Storm water drainage network detailing	
	<p>Total length of drain & other infrastructure</p> <p>(Total length and drains which are in good condition and can be integrated with proposed planned drainage system):</p> <p>Tertiary drain :Km (total) .....KM (drains in good condition)</p> <p>Secondary drain :Km (total) .....KM (drain in good condition)</p>	

Signed:
Name:
Designation:

Signed:
Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	Primary drain :Km (total) .....KM (drain in good condition) SWD Pumping Stations: Nos..... Capacity of Pumps.....Length of Pumping Mains..... Km	
	Proposals for Rehabilitation Tertiary drain :Km Secondary drain :Km Primary drain :Km SWD Pumping Stations: Nos..... Capacity of Pumps.....Length of Pumping Mains..... Km	
	Proposals for new construction Tertiary drain :Km Secondary drain :Km Primary drain :Km	

Signed:
 Name:
 Designation:

Signed:
 Name:
 Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	SWD Pumping Stations: Nos..... Capacity of Pumps.....Length of Pumping Mains..... Km	
2	Total length of road :Km	
3	Please furnish various project components (major components)	
4	<p>Project Area and population</p> <p>(i) Please furnish the details of city/project area,</p> <p>(a) Area of the town/city (municipal limit): .....Sq. km</p> <p>(b) Extent of the project area considered in the DPR: .....sq. km</p> <p>(c) Additional Area(beyond municipal limit) considered in the DPR:.....sq.km</p> <p>(d) No. of Households (as per 2001 and 2011 census):</p> <p>(ii) Whether population projection has been adopted as per CPHEEO Manual and given in DPR</p>	

Signed:
Name:
Designation:

Signed:
Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	<p>(a) City population</p> <p>As per 2001 Census :.....lakhs</p> <p>As per 2011 Census :lakhs</p> <p>Initial stage : lakhs +floating population (if any)-----lakh (.....AD)</p> <p>Intermediate stage : lakhs+ floating population (if any)-----lakh (.....AD)</p> <p>Ultimate stage : lakhs+ floating population (if any)-----lakh (.....AD)</p> <p>Population growth rate adopted: %/ year (based on the past 5-6 decadal growth rate)</p> <p>Demographic Method adopted and justification :</p>	
	(b) Whether the population projection has been made in consonance with the Developmental Master Plan	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	<p>(c) Project Area</p> <p>Initial stage : lakhs</p> <p>Intermediate stage : lakhs</p> <p>Ultimate stage : lakhs</p> <p>Population growth rate adopted: %/ year (based on the past 5-6 decadal growth rate)</p> <p>(d) No. of wards (within municipal limit) :</p>	
5	Whether the development master plan with land use pattern, identification of existing and future roads/streets, water bodies such as lakes and ponds, natural drains and rivers has been furnished for the urban agglomeration	
6	<p>If yes, give the master plan year.</p> <p>If no, give present status of master plan preparation;</p>	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description						Write 'Yes' or 'No' etc in the column below			
							If Yes, give Page No./DPR volume reference. If No, reasons thereof			
7	Land use patterns, present and proposed.									
	Land Use		Master Plan		City/ULB Area		Project Area			
			Present Master Plan: Year	Proposed Master Plan: Year	Present Area (Year)	Proposed Area (Year)	Present Area (Year)			Proposed Area (Year)
	Total Area	Hectares (Ha)	.....	.....	.....	.....	.....			.....
		%	100%	100%	100%	100%	100%			100%
	Residential area	Ha								
		%								
	Area under Roads >3m wide	Ha								
		%								
	Area under Roads & streets <3 m wide	Ha								
		%								
	Markets (wholesale, vegetable, grain, other)	Ha								
		%								
	Area under Ralways, Airports	Ha								
		%								
Institutional Area	Ha									
	%									

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description								Write 'Yes' or 'No' etc in the column below	
									If Yes , give Page No./DPR volume reference. If No , reasons thereof	
	Industrial Area	Ha								
		%								
	Green, open, park, agricultural area	Ha								
		%								
	Lakes, Ponds	Ha								
		%								
	Natural drains, subdrain, nallahs, rivers	Ha								
		%								
	Give Coefficients of Imperviousness adopted for design for various land uses:									
	Land use classification		Coefficient of Imperviousness as per Manual / Derived			Coefficient of Imperviousness as per DPR				
	Residential		0.60 to 0.75							
	Roads, paved surface of footpaths		1.00							
	Commercial		0.70 to 0.90							
	Paved markets		1.00							
Unpaved markets		0.40 to 0.70								
Mixed type markets		0.40 to 0.90								
Mixed Development		0.60 to 0.90								
Industrial		0.60 to 0.90								
Institutional		0.60 to 0.90								
Large establishments										

Signed:

Signed:

Name:

Name:

Designation:

Designation:

S. No	Description			Write 'Yes' or 'No' etc in the column below
				If Yes, give Page No./DPR volume reference. If No, reasons thereof
	PSUs	0.60 to 0.90		
	Railways	0.60 to 0.90		
	Airports	0.60 to 0.90		
	Lakes, ponds	1.00(considering FSL)		
8	List out all natural drains in the city/project / master plan area. Give the names (IDs)and length Natural storm water drains (use additional sheets if required):			
	S No	Name / ID	Length, Km	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below																										
		If Yes, give Page No./DPR volume reference. If No, reasons thereof																										
9	Give width-wise detailing of natural storm water drains(use additional sheets if required):																											
	<table border="1"> <thead> <tr> <th>S No</th> <th>Width</th> <th colspan="2">Length, Km</th> </tr> </thead> <tbody> <tr> <td></td> <td>Upto 2m</td> <td colspan="2"></td> </tr> <tr> <td></td> <td>>2m upto 5m</td> <td colspan="2"></td> </tr> <tr> <td></td> <td>>5m upto 10m</td> <td colspan="2"></td> </tr> <tr> <td></td> <td>>10m upto 30m</td> <td colspan="2"></td> </tr> <tr> <td></td> <td>>30m(give further widths if necessary)</td> <td colspan="2"></td> </tr> </tbody> </table>	S No	Width	Length, Km			Upto 2m				>2m upto 5m				>5m upto 10m				>10m upto 30m				>30m(give further widths if necessary)					
	S No	Width	Length, Km																									
		Upto 2m																										
		>2m upto 5m																										
		>5m upto 10m																										
		>10m upto 30m																										
	>30m(give further widths if necessary)																											
10	Whether the storm water drainage network has been divided into basins, sub-basins, catchments and overlaid on the development master plan? Give details.																											
11	Division of area into catchments and sub-catchments(use additional sheets if required):																											
	Whether the Master Plan Area/Project Area has been divided into catchments and sub-catchments for Storm Water Management	Yes/No																										
	Total no. of catchments (storm water drainage Zones)																											
	Name/No. of catchment (zones)	1	2	3 etc																								
	Area under catchment (various zones), Ha.																											
	No. of sub-catchments (sub-zones) under each zone																											
	Describe boundaries of each catchment (use separate pages) Ridge/Road/Rly. Line etc.																											

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below	
		If Yes, give Page No./DPR volume reference. If No, reasons thereof	
	Give name/no. of each sub-catchment, its boundaries and arial extent (use separate pages)		
	Give land-use classification for each catchment and sub-catchment with totals ((use additional sheets if required))		
	Whether Catchment areas which are out of municipal limit likely to contribute in the project area has been taken into account		
12	Details of each sub-catchment (use additional sheets if required):		
	Name/ID No of sub-catchment		
	Total area		
	Define boundaries		
	Land use classification		
	Area under..... Residential		
	.....Roads etc.		
	.....Institutional		
	.....Industrial		
	.....Lakes/Ponds		
	.....Any other (add rows)		
	Total of above		
	Name/ID of main drain of sub-catchment		

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below	
		If Yes, give Page No./DPR volume reference. If No, reasons thereof	
	Total length of main drain		
	Width-wise length of main drain (proposed)		
	<2m		
	>2m – upto 5m		
	>5m- 10 m		
	>10m-30m		
	>30m		
	Total of above		
	Whether boundary of main drain demarcated and protected	Yes/No	
	Length of main drain protected		
	Length of main drain not protected		
	Action, if any for full protection		
	Whether drain outfall free or obstructed?		
	Invert level of drain outfall		
	Upstream invert levels of drain At 30m above outfall, +60m, +90m and so on....		
	Invert at outfall		
	at + 30m		
	at +60m		
	at +90m		
	at +120m : etc		
	Storm water disposal body HFL		

Signed:

Signed:

Name:

Name:

Designation:

Designation:

S. No	Description		Write 'Yes' or 'No' etc in the column below																						
			If Yes , give Page No./DPR volume reference. If No , reasons thereof																						
	Normal water level																								
	Bed level																								
	Whether drain trained/untrained																								
	Trained length																								
	Untrained length																								
	Any constrictions like culvert																								
	Identify each such culvert																								
	Drain -- Bed surface material & condition																								
	Manning's 'n' value																								
	Sidewalls material & condition																								
	'n' value																								
Combined 'n' value at every multiple 0.1 m depth of flow																									
13	Coefficient of Roughness for use in Manning's Formula: (in the DPR column, fill values only for the material used and mark others as 'not used')																								
	<table border="1"> <thead> <tr> <th></th> <th>Type of Material</th> <th></th> <th>'n' as per Manual</th> <th>'n' as per DPR Design</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1</td> <td rowspan="2">Salt glazed Stoneware Pipes</td> <td>a) Good</td> <td>0.012</td> <td></td> </tr> <tr> <td>b) Fair</td> <td>0.015</td> <td></td> </tr> <tr> <td rowspan="2">2</td> <td rowspan="2">Cement Concrete Pipes(with collar joints)</td> <td>a) Good</td> <td>0.013</td> <td></td> </tr> <tr> <td>b) Fair</td> <td>0.015</td> <td></td> </tr> </tbody> </table>			Type of Material		'n' as per Manual	'n' as per DPR Design	1	Salt glazed Stoneware Pipes	a) Good	0.012		b) Fair	0.015		2	Cement Concrete Pipes(with collar joints)	a) Good	0.013		b) Fair	0.015			
	Type of Material		'n' as per Manual	'n' as per DPR Design																					
1	Salt glazed Stoneware Pipes	a) Good	0.012																						
		b) Fair	0.015																						
2	Cement Concrete Pipes(with collar joints)	a) Good	0.013																						
		b) Fair	0.015																						

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description				Write 'Yes' or 'No' etc in the column below	
					If Yes , give Page No./DPR volume reference. If No , reasons thereof	
3	Spun Concrete Pipes (RCC & PSC) with socket & spigot joints (Design value)		0.011			
4	Masonry	a) Neat Cement Plaster	0.018			
		b) Sand & cement plaster	0.015			
		c) Concrete –steel troweled	0.014			
		d) Concrete – Wood troweled	0.015			
		e) Brick in good condition	0.015			
		f) Brick in rough condition	0.017			
		g) Masonry in bad condition	0.020			
5	Stone Work	a) Smooth dressed Ashlar	0.015			
		b) Rubble set in cement	0.017			
		c) Fine, well packed gravel	0.020			
6	Earth	a) Regular surface in good condition	0.020			
		b) In ordinary condition	0.025			
		c) With stones and weeds	0.030			
		d) In poor condition	0.035			
		e) Partially obstructed with debris or weeds	0.050			
7	Steel	a) Welded	0.013			
		b) Riveted	0.017			
		c) Slightly tuberculated	0.020			
		d) With spun cement mortar lining	0.011			
8	Cast Iron	a)Unlined	0.013			

Signed:

Signed:

Name:

Name:

Designation:

Designation:

S. No	Description				Write 'Yes' or 'No' etc in the column below
					If Yes , give Page No./DPR volume reference. If No , reasons thereof
			b)With spun cement mortar lining	0.013	
	9	Asbestos Cement		0.011	
	10	Plastic (smooth)		0.011	
14	Whether the authenticated data of autographic rainfall data for the project area for the last 25 to 50 years has been obtained from India Meteorological Department and furnished in the DPR? Whether it has been analysed as described in the CPHEEO Manual and the intensity – duration – frequency (IDF) curve for the project area has been drawn? Give details as per the model below:				
15	Rainfall Data & Analysis (use additional sheets if required):				
	No. of years of autographic rainfall				
	Data from IMD(India Meteorological Department)				
	Whether autographic rainfall data analysed and arranged in duration (minutes) and intensify (mm/hr)				
	Duration-wise compilation of rainfall data (refer Manual)				
	Frequency of storms of different duration				
	Total no. of rainfall events of 5 min duration (arranged in ascending intensity)				
	Similarly, events of 10 min duration (arranged in ascending intensity)				
	Similarly, events of 15 min duration				
	20 min duration				
	30 min duration				
	40 min duration				

Signed:

Signed:

Name:

Name:

Designation:

Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below If Yes, give Page No./DPR volume reference. If No, reasons thereof															
	60 min duration																
	90 min duration																
	120 min duration																
	150 min duration																
	180 min duration, etc																
	Storm Frequency (or Storm Return Period / Flooding design interval):																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">Land Use Classification</th> <th style="width: 20%;">Storm frequency as per Manual</th> <th style="width: 35%;">As per DPR Design</th> </tr> </thead> <tbody> <tr> <td>a) Residential Areas</td> <td></td> <td></td> </tr> <tr> <td> i) Peripheral areas</td> <td>Twice a year</td> <td></td> </tr> <tr> <td> ii) Central and comparatively high priced areas</td> <td>Once a year</td> <td></td> </tr> <tr> <td>b) Commercial and High-priced areas</td> <td>Once in 2 years</td> <td></td> </tr> </tbody> </table>		Land Use Classification	Storm frequency as per Manual	As per DPR Design	a) Residential Areas			i) Peripheral areas	Twice a year		ii) Central and comparatively high priced areas	Once a year		b) Commercial and High-priced areas	Once in 2 years	
Land Use Classification	Storm frequency as per Manual	As per DPR Design															
a) Residential Areas																	
i) Peripheral areas	Twice a year																
ii) Central and comparatively high priced areas	Once a year																
b) Commercial and High-priced areas	Once in 2 years																

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below If Yes, give Page No./DPR volume reference. If No, reasons thereof							
		Analysis of Frequency of Storms (Rainfall Events)(Historical data)							
	Duration of rainfall, in minutes	No. of storms of particular duration of the intensity(mm /hr) given below or more during the data period							
		20	30	35	40	45	50	60	Etc.
	5								
	10								
	15								
	20								
	30								
	40								
	60								
	90								
	120								
	150								
	180								
	etc								

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below																		
		If Yes, give Page No./DPR volume reference. If No, reasons thereof																		
	<p>Time (Duration) – Intensity values of storms from step curve.(for use in log-log graph)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><i>i</i> (mm/hr)</th> <th><i>t</i> (min)</th> </tr> </thead> <tbody> <tr><td>20</td><td></td></tr> <tr><td>30</td><td></td></tr> <tr><td>35</td><td></td></tr> <tr><td>40</td><td></td></tr> <tr><td>45</td><td></td></tr> <tr><td>50</td><td></td></tr> <tr><td>55</td><td></td></tr> <tr><td>60</td><td></td></tr> </tbody> </table> <p>Derived values of <i>i</i> & <i>t</i> from log-log graph of above table. $i = a/t^n$ Derived value of 'a' = Derived value of 'n' = Storm Intensity Equation $i = a/t^n$ $i = \dots\dots\dots$</p> <p>Time of concentration:</p>	<i>i</i> (mm/hr)	<i>t</i> (min)	20		30		35		40		45		50		55		60		
<i>i</i> (mm/hr)	<i>t</i> (min)																			
20																				
30																				
35																				
40																				
45																				
50																				
55																				
60																				

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below																		
		If Yes, give Page No./DPR volume reference. If No, reasons thereof																		
	<p>As per Kirpitch Formula $T_c = [(0.885 L^3)/H]^{0.385}$ Where T_c = time of concentration, minutes L = Length of overland flow in kilometres from critical (farthest) point to the inlet of drain. H = Fall in level from critical point to the inlet of drain in metres.</p> <p>Whether the IDF (Intensity-Duration-Frequency) curve has been drawn –Yes/No</p>																			
16	<p>Whether the provision of the land / land acquisition for the SWD pumping station/mains , SWD network, if any, has been made as per 30 years requirement and future expansion in the DPR</p> <p>(a) Total requirement of land for:</p> <table style="margin-left: 200px;"> <tr> <td>SWD Pumping Station</td> <td>:</td> <td>Hectares</td> </tr> <tr> <td>Laying of SWD pumping mains</td> <td>:</td> <td>Hectares</td> </tr> <tr> <td>SWD network</td> <td>:</td> <td>Hectares</td> </tr> <tr> <td></td> <td>-----</td> <td></td> </tr> <tr> <td style="text-align: center;">Total</td> <td>:</td> <td>Hectares</td> </tr> <tr> <td></td> <td>-----</td> <td></td> </tr> </table> <p>(b) Whether land in possession with Implementing Agency : Hectares</p>	SWD Pumping Station	:	Hectares	Laying of SWD pumping mains	:	Hectares	SWD network	:	Hectares		-----		Total	:	Hectares		-----		
SWD Pumping Station	:	Hectares																		
Laying of SWD pumping mains	:	Hectares																		
SWD network	:	Hectares																		

Total	:	Hectares																		

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	(c) Whether Govt. land is yet to be transferred to the Implementing Agency and specify time required for transfer :Hectare, months (d) Whether private land under acquisition and time required for acquisition: .....Hectare, months (e) Status of action initiated for transfer of Govt. land and acquisition of private land (please specify) :	
17	Whether all components of storm water drainage system such as inlets, catch pits, SWD pipelines/drains, points of confluence and natural drains with outfalls have been designed as per the CPHEEO Manual and detailed drawings have been provided in the DPR	
18	Give Design values and infrastructure proposals for each component(use additional sheets)	
19	Whether the Computer Aided Design of SWD system has been furnished in DPR. Please enclose design input files (sheets) and output files (sheets) separately	
20	Whether the rising main of SWD system, if any, has been designed for catchment flows with respect to time of concentration and checked for minimum velocity of 0.6 m/s and maximum velocity of 3 m/s?	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
21	Whether node spacing while designing have been adopted as per CPHEEO Manual ?	
22	Whether the designs of SWD pipes/drains have been checked for minimum self-cleaning velocity of 0.6 m/s by providing proper slope	
23	Whether surge / water hammer analysis for rising main has been calculated and furnished in the DPR	
24	Whether the provision for rising main units, wherever needed, such as thrust blocks, anchor blocks, expansion joints, scour / drain valves, air/vacuum releases valves and surge protection devices has been provided in the DPR	
25	Whether drawings to scale of L-sections of SWD drains/pipelines with all details such as ground level, crown level, invert level, depths of excavation, bedding details etc., have been furnished in DPR	
26	Whether the configuration of the pumps proposed in SWD/drainage pumping stations is in conformity with the general guidelines of CPHEEO Manual for conveying maximum design flood, need for standby and operational capability above high flood level (HFL)	
27	Whether the pipe material has been selected considering the topography, efficiency in service, ease of laying and economy in DPR	
28	Whether bedding conditions for different reaches of the proposed SWD pipelines/drains have been designed in the DPR as per CPHEEO Manual with reference to soil characteristics	

24

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	Class A Bedding: Length proposed .....Km in soils of Classification	
	Class B Bedding: Length proposed .....Km in soils of Classification	
	Class C Bedding: Length proposed .....Km in soils of Classification	
29	Whether a detailed note on performance of existing SWD/drainage network and pumping station, if any has been furnished in the DPR	
30	Whether SWD system has provision for flood diversion to water bodies and for enabling ground water recharge	
31	Whether the ULBs certificate to the effect that no municipal sewage shall be discharged into the SWD system has been provided in the DPR	
32	Whether Bill of Qualities (BOQ) and cost estimates of individual components of sewerage system prepared as per latest SOR and copy of latest Schedule of Rates (SOR) and Pro-forma invoices have been annexed with DPR. (a) Schedule of Rates adopted (please specify the year): -----year (b) In case the SOR adopted is old, please specify the cost index for escalation approved by State Govt.	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
	(c) Any price escalation proposed in cost estimates as notified by State Govt. (d) Whether analysis of rate has been worked out for all the items and appended with DPR (e) Whether Bill of Quantities of individual component has been furnished in DPR (f) Whether lump sum(LS) provision for any item has been proposed, please specify	
33	Whether detailed drawing, estimation & detailed BOQ for ancillary works such as boundary wall / fencing, approach & internal road, external electrification, buildings, site development / landscaping etc. has been provided in the DPR for any SWD Pumping Station	
	Give the General Abstract Cost Estimate and Component-wise or package-wise Abstract Cost Estimate: (use additional sheets if required)	
34	Whether provision for DG set has been made in the DPR to tide over interruptions in power supply, if any	
35	If yes, whether the calculations to arrive at the capacity of the same has been mentioned in the technical reports	
36	Whether provision for road restoration has been made as per CPWD/ State PWD/ Urban Local Body	

Signed:

Signed:

Name:

Name:

Designation:

Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below													
		If Yes , give Page No./DPR volume reference. If No , reasons thereof													
	norms														
	Give the List of Tender Packages made for 'notice inviting tender' (Use additional sheets if required) . Furnish the title-wise Tender packages and their value.														
	Calculate service level benchmark as per MoUD. Please furnish SLB.														
	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Indicator</th> <th>Benchmark</th> <th>After implementation of the project</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Coverage</td> <td>100%</td> <td></td> </tr> <tr> <td>2.</td> <td>Incidence of water logging</td> <td>0 numbers</td> <td></td> </tr> </tbody> </table>	Sl. No.	Indicator	Benchmark	After implementation of the project	1.	Coverage	100%		2.	Incidence of water logging	0 numbers			
Sl. No.	Indicator	Benchmark	After implementation of the project												
1.	Coverage	100%													
2.	Incidence of water logging	0 numbers													
37	Whether project implementation period of project has been furnished in DPR Specify the implementation period:.....year														
38	Whether detailed BAR Chart and PERT/CPM network showing implementation schedule has been furnished in DPR														

Signed:

Name:
Designation:

Signed:

Name:
Designation:

S. No	Description	Write 'Yes' or 'No' etc in the column below
		If Yes, give Page No./DPR volume reference. If No, reasons thereof
39	Whether Internal rate of return (IRR) / Economic rate of return (ERR) has been furnished in DPR	
40	Whether traffic diversion/ control arrangements for public and workers' safety, arising out of construction phase of storm water drainage works have been furnished in the DPR	
41	Whether Institutional and financial status of Project Executing Agency (PEA) has been reported in DPR	
42	Whether Operation & Maintenance cost and revenue generation details (O & M Framework – existing & proposed) has been furnished in DPR (a) Existing & proposed tariff / cess / charges, if any (please furnish separately for residential/commercial/institutional/Industries) (b) Existing and proposed annual O&M cost:.....lakh /.....lakh (c) Existing and proposed annual revenue (or General Budget) :.....lakh/.....lakh	
43	Whether Service Level Benchmarking has been furnished in DPR	
44	Whether Environmental and social problems (if applicable) has been furnished in DPR	
45	Whether Rehabilitation and Resettlement plan (if applicable) has been given in DPR	
46	Whether all the hard copies of the DPR furnished along with soft copies/	
47	Period of completion of the project	

Signed:

Name:
Designation:

Signed:

Name:
Designation:

This part to be filled-in by the Ministry		
Sl. No	Description	Remarks
1	Details of project area (State/District/City/Town)	
2	Whether the SLNA/SLSC recommendation is attached with DPR	
3	Project cost recommended by SLNA/SLSC	
4	Period of project implementation	
5	Date of receipt of first DPR	
6	Date of final acceptance of DPR	
7	Date of checklist confirmation	
8	Date of first information sent to the State Govt. on scrutiny of check list	
9	Date of receipt of DPR after reformulation (revision) if applicable	
10	Date of DPR sent to the Appraisal Agency (CPHEEO)	
11	Date of Comments / appraisal report of appraisal agency	
12	Date of comments conveyed by the Admn. Division to the State Govts. & ULBs for revision of DPR, if any	
13	Date of Receipt of Revised DPR for appraisal	

(Signature of Verifying Officer)

NOTE: The DPR should be forwarded to the Ministry along with the complete checklist duly filled in without which DPR shall not be processed and shall be returned to the State Government.

29

Signed:

Signed:

Name:

Name:

Designation:

Designation: