क्रमांक 3441010२/डिजा अभि/2015

कार्यालय प्रमुख अभियंता
जल संसाधन विभाग,
जल संसाधन भवन, तुलसी नगर, भोपाल

दूरभाष क्र. 0755–2552646, 2552878 फैक्स नं. 0755–2552406,
E-mail.encwrdbpl@mp.nic.in

पत्र क्र. 3441010२/डिजा अभि/2015 भोपाल, दिनांक २०/08/2019

प्रति,

समस्त मुख्य अभियंता/परियोजना संचालक,

.....

जल संसाधन विभाग, भोपाल ।

विषयः–बोधी कार्यालय में चैकलिस्ट अनुसार डिजाइन एवं ड्राइंग प्रस्तुत करने बाबत्।

संदर्भः–अतिरिक्त मुख्य सचिव महो. की अध्यक्षता में दिनांक 07/08/2019 को ठेंकेदारों की समीक्षा बैठक में समय सीमा में डिजाइन एवं ड्राइंग का परीक्षण करने निर्देश बाबत्।

उपरोक्त विषयांतर्गत लेख है, कि अतिरिक्त मुख्य सचिव महोदय की अध्यक्षता में दिनांक 07/08/2019 को सम्पन्न हुई ठेकेदारों की समीक्षा बैठक में डिजाइन एवं ड्राइंग का परीक्षण समय सीमा में करने बोधी कार्यालय को निर्देशित किया गया है। डिजाइन एवं ड्राइंग बोधी कार्यालय को प्रस्तुत करते समय आवश्यक जानकारी/अभिलेखों व आवश्यक प्रमाण पत्र के अभाव में परीक्षण में अनावश्यक रूप से विलम्ब होता है बांध, नहर एवं गैट की डिजाइन एवं ड्राइंग प्रस्तुत करने हेतु चेकलिस्ट संलग्न है। बोधी कार्यालय में डिजाइन एवं ड्राइंग प्रस्तुत करते समय चेकलिस्ट अनुसार जानकारी प्रत्येक प्रस्ताव में चेकलिस्ट सहित प्रेषित करेंगे।

सहपत्रः– उपरोक्तानुसार

1. चेकलिस्ट–1 (बाँध)
2. चेकलिस्ट–2 (बाँध)
3. चेकलिस्ट–3 (बाँध)
4. चेकलिस्ट–1 (नहर)
5. चेकलिस्ट–2 (नहर)
6. चेकलिस्ट – 1 (गेट)

19/8/19
(एम. एस. डाबर)
प्रमुख अभियंता
जल संसाधन, विभाग, भोपाल

पत्र क्र. 3441010२/डिजा अभि/2015 भोपाल, दिनांक २० /08/2019

प्रतिलिपिः–

मुख्य अभियंता, बोधी जल संसाधन विभाग, भोपाल की ओर सूचनार्थ प्रेषित।

19/8/19
(एम. एस. डाबर)
प्रमुख अभियंता
जल संसाधन, विभाग, भोपाल

क्रमांक 3441010 2/डिजा निर्देश/2015

कार्यालय प्रमुख अभियंता
जल संसाधन विभाग,
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पत्र क्र. 3441010 2/डिजा निर्देश /2015 भोपाल, दिनांक 20/08/2019

प्रति,

समस्त मुख्य अभियंता/परियोजना संचालक,
.....
जल संसाधन विभाग, भोपाल ।

विषयः–बोधी कार्यालय में चैकलिस्ट अनुसार डिजाइन एवं ड्राइंग प्रस्तुत करने बाबत्।

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सहपत्रः– उपरोक्तानुसार

1. चेकलिस्ट–1 (बाँध)
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4. चेकलिस्ट–1 (नहर)
5. चेकलिस्ट–2 (नहर)

20/8/19
(एम. एस. डाबर)
प्रमुख अभियंता
जल संसाधन, विभाग, भोपाल

पत्र क्र. 3441010 2/डिजा निर्देश/2015 भोपाल, दिनांक 20/08/2019

प्रतिलिपिः–

मुख्य अभियंता, बोधी जल संसाधन विभाग, भोपाल की ओर सूचनार्थ प्रेषित।

20/8/19
(एम. एस. डाबर)
प्रमुख अभियंता
जल संसाधन, विभाग, भोपाल

Checklist -1 (Canal)

Checklist For Administrative Approval of new "Pressurized Micro Irrigation Schemes"

S. No.	Particulars	Remarks
1	Salient features of the project.	Enclosed
2	Technical Note duly recommended by the Chief Engineer	Enclosed
3	Detailed Index Map of the project on a scale of 1:50000 showing maximum command level, CCA/GCA, DC/BPT, PH, RM and GM up to 4800 Ha boundary.	Enclosed
4	Certificate stating that CCA/GCA data has been duly checked as per land records.	Enclosed
5	Certificate stating that the proposed locations of PH and DC/BPT have been verified by field inspection.	Enclosed
6	Letter issued by Hydrology Directorate stating yield available at site and NZE level. In case of existing old projects revised hydrology is	Enclosed
7	Duty calculation as per CWR considering 2 consecutive fortnights with highest average.	Enclosed
8	DDA certificate approving cropping pattern adopted.	Enclosed
9	CWR for approved cropping pattern	Enclosed
10	Working table calculations with 75% dependable yield	Enclosed
11	Original and 50 year revised Area-Elevation-Capacity table, duly signed by EE & SDO	Enclosed
12	Detailed Power Calculation	Enclosed
	a.) MDDL proposed	.....m
	b.) Maximum Command Level to be irrigated	.....m
	c.) Power Required	.....MW

Note: Please ensure that the Index, page numbering has been done and documents and drawings have been signed by the competant

Sub Divisional Officer

Executive Engineer

Superintending Engineer

Chief Engineer

Checklist for Approval During Construction

A. Submission For Approval of Pipe Distribution Network

S. No.	Particulars	Remarks
1	Salient features of the project.	Enclosed
2	Technical Note duly recommended by the Chief Engineer	Enclosed
3	Index Map showing location of approach, PH, DC/BPT, CCA/GCA boundary, RM etc. on topo sheet of 1:50000 scale.	Enclosed
4	Certificate stating that CCA/GCA data has been duly checked as per land records.	Enclosed
	a.) GCA as per agreement	.....Ha
	b.) CCA as per agreement	.....Ha
	c.) CCA available within GCA as per survey	.....Ha
	d.) Additional area proposed, if any	.....Ha
	e.) CCA/GCA ratio	.....%
5	**Network Planning**	
	a.) Hydraulic Calculations up to 30Ha/40Ha chak (Soft copy to be submitted separately)	
	b.) CCA in which 25m exit gradient is not available at 30 Ha chak	.....Ha
	c.) Pipe lengths in which velocity is less than 0.6m/s as percent of total pipe length	.....%
	d.) Pipe lengths in which velocity is more than 2.1m/s as percent of total pipe length	.....%
	e.) Complete Network Diagram up to 30 Ha mentioning Area, GL, Discharge and Head available above GL	Enclosed
	f.) Sample Planning for 30 Ha Chak to 1 Ha Chak	Enclosed
6	Certificate stating that the submission is as per tender conditions and Pipe classification, hydraulics, lengths, diameters, ground levels, chak sizes and network layout have been checked by the competant officers.	Enclosed
7	**Water Availability**	
	a.) 75% dependable independent yield	.....MCM
	b.) Live Storage	.....MCM
	c.) Dead Storage	.....MCM
8	**Water Balance**	
	a.) Water Required for Irrigation	.....MCM
	b.)Water Required for Drinking	.....MCM

	c.)Water Required for Industrial use	.....MCM
	d.) Water Required for Environmental Release	.....MCM
	e.) Water lost due to Evaporation	.....MCM
9	**Hydraulic Parameters**	
	a.) Duty stated in AA	.....lps/Ha
	b.) Duty as per agreement	.....lps/Ha
	c.) Design Head	.....m
10	**Power Requirement**	Enclosed
	a.) Power allocated as per Agreement	.....MCM
	b.) Power required including auxullary power	.....MCM
	c.) Power required for additional area (State whether proportionate increase in power is as per agreement or not	.....MCM

B. Submission For Approval of Structures

1	**Pumps & Pump House**	
	a.) No. of .....(pump type) pumps, (Main+Standby)	.....+.....
	b.) Pump Floor Level	.....m
	c.) MWL	.....m
	d.) FRL	.....m
	e.) MDDL	.....m
	f.) Pump Characteristics Curves as supplied by Manufacturer	Enclosed
	g.) Geotechnical report of the site	Enclosed
	h.) Pump and motor Efficiency as per tender	.....%,.....%
	i.) Pump and motor Efficiency adopted in design	.....%,.....%
	Hydraulic Design	
	a.) Approach channel to PH	Enclosed
	b.) Forebay, if provided	Enclosed
	c.) Sump Well	Enclosed
	Structural Design	
	a.) Pump House	Enclosed
	b.) Forebay Side Walls	Enclosed
2	**Rising Main/Gravity Main**	
	a.) Design report as per AWWA M11	Enclosed
	b.) Surge Analysis Report for RM, System under Direct Pumping	Enclosed
	c.) Design/Drawings of Thrust Blocks	Enclosed

3	**DC/BPT**	
	a.) Detention time adopted	.....min
	b.) Height	.....m
	c.) Structural Design Report	

Note: Please ensure that the Index, page numbering has been done and documents and drawings have been signed by the competant authority.

Sub Divisional Officer

Executive Engineer

Superintending Engineer

Chief Engineer

Check list - 1 (Dam)

SUBMISSION OF GENERAL ARRANGEMENT DRAWING AND DESIGNS

FOR CONSTRUCTION PURPOSE

Sr. No.	Particulars	Remarks
1	a) Index map showing location of Dam, Basin	Enclosed
	b) Technical Note	Enclosed
	c) Geological report dully recommended by competent authority and Geologist	Enclosed
2	Hydrology is approved by Chief Engineer (Bodhi) Letter No.....Date	Enclosed
3	Salient Data, (Approved)	
	a) Catchment Area	..... SqKm)
	b) River Slope	1 in .....
	c) 75% Dependable Yield	.....Mcum
	d) Net 75% Dependable yield after considering Upstream and Downstream uses	..... Mcum
	e) 100 Year Flood	.....Cumecs
	f) SPF	.....Cumecs
	g) PMF	.....Cumecs
	h) Ares capacity table	
	i) Gross Storage	..... Mcum
	j) Live Storage	..... Mcum
	k) Dead Storage	..... Mcum
	l) New Zero Elevation	.....m
4	Following have been approved by the competent authority :-	
	a) Dam Alignment	Yes
	b) Spillway / Waste weir location / L- section of spill channel	
	c) Principal Levels (As given below)	
	i)TBL	.....m
	ii)MWL	.....m
	iii)FRL	.....m

	iv) MDDL	.....m
5	Following calculations have been done as per relevant IS codes and are enclosed	
	a) Flood routing	Yes
	b) Free Board Computation	Yes
	c) Tail Water Level computation	Yes
	d) Hydraulic Calculation	Yes
	e) Discharging capacity of over flow section	Yes
	f) Provision of 10 % standby gates has been made	Yes
	g) Energy Dissipation Arrangement	Yes
	h) Spillway profile	Yes
6	Possibilities of hydro power potential is assessed	.....MW
7	Provision of sluice has been made for maintaining environmental flow	Yes
8	Following dully signed drawings are enclosed :-	Yes
	a) Basin Plan	Yes
	b) L- Section with same Horizontal and Vertical Scale dully marked with bore holes , strata and geological features	Yes
	c) Plan and Elevation	Yes
	d) Drawings of wrap-around on both side	
7	Certificates :-	
	a) It is certified that the proposal is as per terms of contract agreement.	
	b) It is certified that the proposal is based on dully checked survey and geological investigations.	
	c) It is certified that the proposal is as per the provisions of M .P. Works Department Manual.	

Note – i) Please ensure that the Index, page numbering has been done and documents and drawings have been signed by the competent authority.

ii)Please provide linked excel sheet for the design calculations and soft copies of drawings

Sub Divisional Officer **Executive Engineer**

Superintending Engineer **Chief Engineer**

Check list - 2 (Dam)

Submission of Non Over Flow and Over Flow Drawing and Design for construction purpose

Sr. No.	Particulars	Remarks
1	General Arrangement Drawing is recommended by the Chief Engineer (Bodhi) Letter No.....Date	Enclosed
2	Seismic zone has been considered for stability calculation.	Zone -....
3	Foundation investigation has been done and accordingly foundation has been approved by the competent authority.	Yes
	Safe bearing capacity	.....ton per sqm
	Cohesion	.....ton per sqm
4	Stability analysis for following components have been carried out as per relevant IS codes . Maximum section has been considered for stability calculation and same is enclosed.	
	a) Maximum NOF section	Yes
	b) Maximum OF section	Yes
	c) Maximum U/S and D/S training wall section	Yes
5	Structural calculation of following components have been carried out as per relevant IS codes and same is enclosed	
	a) Spillway Bridge	Yes
	b) Pier and Abutments	Yes
	c) Crest reinforcement	Yes
	d) Energy Dissipation Arrangement	Yes
	e) U/S and D/S training wall	Yes
	f) Gallery	Yes
	g) Sump well	Yes
	h) Elevator shaft	
6	Zoning of concrete in NOF and OF has been done as per relevant IS code.	
7	Drawings of following components have been dully signed and enclosed	Yes
	a) Max. NOF section	Yes
	b) Max. OF section	Yes
	c) Crest reinforcement	Yes
	d) Energy Dissipation Arrangement	Yes
	e) U/S and D/S training wall	Yes
	f) Gallery	Yes

	g) Sump well	Yes
8	Certificates :-	
	a) It is certified that the proposal is as per terms of contract agreement.	
	b) It is certified that the proposal is based on dully checked survey and geological investigations.	
	c) It is certified that the proposal is as per the provisions of M .P. Works Department Manual.	

Note - i) Please ensure that the Index, page numbering has been done and documents and drawings have been signed by the competent authority.

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Sub Divisional Officer **Executive Engineer**

Superintending Engineer **Chief Engineer**

Check list - 3 (Dam)

Submission of Earthen Embankment Drawing and Design for construction purpose

Sr. No.	Particulars	Remarks
1	General Arrangement Drawing is recommended by the Chief Engineer (Bodhi) Letter No.....Date	Enclosed
2	Classifications of soil has been done and accordingly following soils have been provided in different zone.	
	Hearting	
	Casing	
3	Following 75% dependable values have been adopted for stability calculation;	Yes
	Casing	
	MDD	.....gm/cc
	Cohesion	.....kg/sqcm
	Angle of repose	.....Degree
	Hearting	
	MDD	.....gm/cc
	Cohesion	.....kg/sqcm
	Angle of repose	.....Degree
4	Stability analysis of earthen dam for maximum height has been done on the basis of 75 % dependable values of soil sample and as per relevant IS codes and safe. Stability calculation is enclosed.	Yes
5	Drawing of max .height of earthen dam along with L-section, dully signed is enclosed.	Yes
6	Certificates :-	
	a) It is certified that the proposal is as per terms of contract agreement.	
	b) It is certified that the proposal is based on dully checked survey and geological investigations.	
	c) It is certified that the proposal is as per the provisions of M .P. Works Department Manual.	

Note - i) Please ensure that the Index, page numbering has been done and documents and drawings have been Signed by the competent authority.

ii) Please provide linked excel sheet for the design calculations and soft copies of drawings.

Sub Divisional Officer **Executive Engineer**

Superintending Engineer **Chief Engineer**

Cheklist Gate- 1

Check list for checking design & Drawing of Gate

1. Gate Size, Quantity and types -
2. Name of Project -
3. Name of Basin –

RADIAL GATE

1. The design of the gate involves following parameters for radial gate:

- Location of the trunnions.
- Radius of the gate.
- Location of the sill
- Location and type & hoist.

2. Design and drawing of following parts:

- Skin plate and stiffeners.
- Arms
- Trunnion pin
- Trunnion bush or bearing
- Trunnion brackets
- Trunnion or yoke girder.
- Load carrying anchors.
- Anchorage girder.
- Trunk block (if inclined arms are used)
- Trunnion tie (if inclined arms are used)
- Seals
- Seal seat, seal base and sill beam
- Guide roller
- Anchor bolts.
- Calculation of C.G. of Gate
- Calculation of hoisting capacity with type.

VERTICAL LIFT GATE (SLUICE, BARRGE, STOP LOG GATE)

1. Design and drawing of fallowing components.
   a. Skin Plate and stiffeners.
   b. Vertical and horizontal stiffener and main girders.
   c. Wheels and wheel tracks.
   d. Seals and Accessories.
   e. Guide rollers/Guide Shoes
   f. Wheel track and track base
   g. Guides
   h. Seal Seat Seal Base and sill beam.
   i. Anchorages

j. Calculation of C.G. of gate
k. Calculation of hoist capacity
l. Calculation of uplift and down ward pull (for sluice)

ROPE DRUM HOIST/GRANTRY/MONO RAIL

1. All technical details
2. Design and drawing of following components

MECHNICAL PARTS

1. Wire Rope
2. Drum
3. Groves on drum
4. Pulleys
5. Gearing
6. Speed Reducers/Chain
7. Shafts
8. Couplings
9. Gear Boxes

ELECTRICAL PARTS

1. Motor
2. Electro-magnetic brake
3. Limit Switches
4. Hoist Limit Switch
5. Gate Position indicator
6. Control Equipment
7. Manual Operation for electrically operated hoist.
8. Hoist Bridge Hoist supporting structure and plate form.

OTHER COMPONENT

1. Design and drawing of lifting beam.
2. Design and drawing of rail.
3. Design and drawing of legs, wheels and structures for granty with counter weight.
4. Design and drawing of trestle assembly with mono rail beam and mono rail.
5. Design and drawing of Walk Way Bridge.

Note:- ALL DATA OF DESIGN ARE TO BE COMPARED WITH G.A.D. OF BODHI IS COMPULSORY BEFORE APPROVAL OF DESIGN AND DRAWING.

Dy. Diretor, Gate
BODHI