



GOVERNMENT OF ODISHA  
DEPARTMENT OF WATER RESOURCES

# **ANNUAL REPORT 2016**

QUALITY CONTROL DIVISION  
LOWER INDRA IRRIGATION PROJECT  
KHARIAR

**DELEGATION ENHANCES  
EFFICIENCY**

## FORWARD

It is a matter of great pleasure & Satisfaction for me that the “**Annual Report-2016**” could be brought out for the first time for the year 2015-16. The important features which find place in the report are primarily based on the observations and test results.

The Central laboratory needs to be procured new equipments in place of old one, because most of the equipments are not in good condition. Regular seminar, technical papers, discussion & training workshop should be carried instead of mostly concentrating on the routine Quality control tests. The technical staff requires regular training for a better exposure and a positive atmosphere for research oriented activities.

Chief Research Officer  
L.I Quality Control Division  
Khariar

## INTRODUCTION

Quality Control Division, Khariar is situated on Khariar block in Nuapada district. Sub-Division- I, Sub-Division -II and Sub-Division -III are situated at Dam site of Lower Indra Irrigation Project. The Central Laboratory is also situated on the downstream of lower Indra irrigation Project. It is about 25 kms away from Khariar & 65km from Kantabanji railway station.

This Division Established on 09.11.2001 with central laboratory with the prime objective of testing of construction materials for Lower Indra Irrigation Project.

At Present this Division is involved in Quality Control & Assurance activity of works under Executive Engineer Lower Indra Dam Division, Tikhali , Executive Engineer Lower Indra Canal Division , Khariar and Executive Engineer Lower Indra Canal Division -II, Bangomunda R& R and C &B Division, Khariar under Chief Engineer , Lower Indra Irrigation Project.

The Sub-Divisions are looking after the quality control work like Left Spillway, Right Spillway ,Earth dam, Dykes, Head regulator, canal lining, V.R Bridge, cross Drainage work ,Canals and Embankment road at different sites of Lower Indra Irrigation Project

The Central laboratory envisages the activities of the at Present

1. Concrete Section.
2. Soil section

## ORGANIZATION SETUP

This Division is headed by a Chief Research Officer under the Administrative control of Chief Engineer, Lower Indra Irrigation Project. The Chief Research Officer is assisted by three Assistant Research Officers. Besides, other important technical staff are Assistant Engineer-2nos, Technical Assistant-3nos, Embankment Inspector-3nos, Assistant Embankment Inspector-2 nos, Junior Laboratory Assistant-1no, Laboratory Attendant-2nos and total number of non technical ministerial staff of 4 nos including the Head-Clerk-Cum Accountant.

### PRESENT STATUS OF QUALITY CONTROL DIVISION, KHARIAR STAFF POSITION

#### TECHNICAL HEAD

#### SANCTION STRENGTH

#### **1. CRO**

**1NO**

- i. Er. Sunil Kumar Pradhan .(Additional charge)

#### **2. ASSISTANT RESEARCH OFFICER**

**3NO**

- i. Er. Rajiba Kumar Sethi.
- ii. Er. Prince Kumar.
- iii. Er. Susanta Muna (Additional Charge)
- iv. Er. Prasanta Kumar Rout (Deputed to Angul Irrigation Circle)

#### **3. JUNIOR RESEARCH OFFICER/ (A.E.)**

**2NO**

- i. Er. Bibhuti Bhusan Ratha (Deputed to Sundergarh Irrigation Circle)
- ii. Er. Pramod Kumar Patel (Deputed to Sundergarh Irrigation Circle)

#### **4. JUNIOR RESEARCH OFFICER/ (J.E.)**

**NIL**

- i. Er. Mansing lamay. (Deputed From R&R, C&B Division ,Khariar)
- ii. Er. Bane Chhatria. (Contractual)(Deputed From O/o C.E L.I.I.P, Khariar)
- iii. Er. Jayanarayan Nayak. (Contractual) (Deputed From R&R, C&B Division , Khariar)

**5. TECHNICAL ASSISTANT            3NOS**

- i. Sri Prasanta Kumar Mohanty.
- ii. Sri Uttam Kumar Sahu.
- iii. Sri Kamal Lochan Panthia

**6. EMBANKMENT INSPECTOR            3NOS**

- i. Vacant
- ii. Vacant
- iii. Vacant

**7. ASSISTANT EMBANKMENT INSPECTOR            2NOS**

- i. Vacant
- ii. Vacant

**8. JUNIOR LABORATORY ASSISTANT            1NOS**

- i. Sri Dillip Kumar Pradhan.

**9. LABORATORY ATTENDANT            2NOS**

- i. Sri Durga Charan Soren .
- ii. Vacant

**NON-TECHNICAL STAFF (MINISTERIAL STAFF)**

**1. HEAD CLERK            1NO**

- i. Sri Minaketan Majhi.

**2. SENIOR CLERK            1NO**

- i. Padma Lochan Nanda (Deputed to O/o C.E L.I.I.P, Khariar)

**3. JUNIOR CLERK            2NO**

- i. Vacant
- ii. Vacant

**4. PEON****7Nos**

- i. Smt. Kuntala Naik .
- ii. Sri Laxman Behruk .
- iii. Sri Santosh Swain.
- iv. Sri Chitaranjan Rout.
- v. Vacant
- vi. Vacant
- vii. Vacant

**5. CONTI KHALASI IN LIEU OF PEON 3Nos**

- i. Sri Kesab Sabar.
- ii. Sri Tamildhar Bag.
- iii. Sri Manohar Dhangda Majhi.

**6. NIGHT WATCH MAN CUM SWEEPER 1No**

- I. Smt.Pramila Pangi.

**WORKCHARGED STAFF**

- i. Kailash Chandra Pradhan. (Lab. Attendant)
- ii. Sukru sahuo . (Lab. Attendant)
- iii. Simanchal Subudhi . (Watchman)
- iv. Jagabandhu Khila . (Watchman)
- v. Dhana Anka . (Watchman)
- vi. Dambaru Pujari . (Khalasi)
- vii. Udaya Nag. (Helper)
- viii. Arakhita Swain . (Helper)
- ix. Laxman Khosla . (Watchman)
- x. Narasingha Bhatra (Watchman)

# **SOIL SECTION**

## **1.1 Soil Laboratory**

This section is well equipped to take up most of the test relating to engineering properties of soil for use in dams, Roads and for foundation of bridges, water storage structures etc.

## **1.2 Activity of Soil section:**

A good number of disturbed soil sample from Executive Engineer Lower Indra Dam Division, Tikhali , Executive Engineer Lower Indra Canal Division, Khariar, Executive Engineer Lower Indra Canal Division -II, Bangomunda received during this financial year to conduct various tests. The Tests, normally taken up in this section are as follows,

- i. Liquid Limit
- ii. Plastic limit
- iii. Classification of Soil
- iv. Compaction test
- v. Swelling Pressure

The activities of this section in respect of number of different tests undertaking during financial year 2015-16 are presented in form of statement.



# **CONCRETE SECTION**

## **2.1 Concrete Laboratory**

This section is fully equipped to conduct most of the normal routine tests relating to the physical and engineering properties of cement, Coarse aggregate and fine aggregates. Besides, the gradation of aggregates, compressive strength and concrete mix design are also undertaken by this division.

## **2.2 Activities of concrete section:**

During this Period this division has done numbers of tests for cement, sand, chips, metals, mix design of various grade of concrete. The statistics of the number of different tests carried out during the year 2015-16 is shown in the statement in table no-2. The routine tests for these construction materials were conducted as per the IS: specification and the test were conducted as per specification. Beside these testing of the cube strength of 15 cmx15cmx15cm concrete cubes and concrete mix design for different grades were also conducted.

## **2.3 Aggregates**

### **Fine Aggregate (Sand)**

The tests like Silt content, sieve analysis are mainly conducted for sand as per the recommendation in IS 383-1970. Most of the sand samples belong to Zone-II & Zone-III are being used.

### **Coarse Aggregate**

Gradation for Coarse aggregate were mostly 40mm down & 20mm down & road metal of Grade-I, Grade-II, Grade-III is done .In addition to the Gradation test, the other physical tests conducted for coarse aggregate in accordance with I.S 383 -1970 and I.S 2386 Part-I to VII of 1975 are as under

- i. Impact test
- ii. Abrasion test
- iii. Crushing value
- iv. Elongation Index
- v. Flakiness Index
- vi. Specific gravity
- vii. Water absorption
- viii. Soundness

## **2.4 Bricks & Rock sample**

Water absorption and Compressive Strength test are carried out for testing of Bricks as Per IS : 1077-1986. Rock sample used for Rip-Rap work also tested as Per IS: 1121-1974.

## **2.5 Cement**

Test for Physical properties of OPC, PPC & PSC cement are carried out in this section. Physical tests conducted for Cement are as follows:-

- i. Initial setting Time
- ii. Final Setting time
- iii. Consistency
- iv. Soundness
- v. Compressive Strength
- vi. Specific gravity
- vii. Fineness

## **2.6 Compressive Strength**

Compressive strength of Concrete cube of size 15cmx15cmx15cm & cement cube of 7.06cmx7.06cmx7.06cm for both 7days & 28 days are tested.

## **2.7 Mix Design**

This Section has carried out Mix Design for M15, M20, M25, M30 grade of Concrete as per the Guide Lines prescribed in IS:-456-2000, & IS: 10262-1982 in accordance with the requirements .

The activities of this section in respect of number of different tests undertaking during financial year 2015-16 are presented in form of statement,

<b>PARTICULARS OF WORKS MONITORED BY QUALITY CONTROL STAFF OF QUALITY CONTROL DIVISION KHARIAR FOR THE YEAR 2015-16</b>			
SL NO	NAME OF WORK	AGRREMENT NO	STATUS
1	Construction of Spillway of LIIP.	13F2/05-06	Ongoing
2	Construction Of Earth dam from RD 00 to 225. m	06F2/03-04	Ongoing
3	Construction of 7.5m inside dia RCC Intake well	07F2/14-15	Ongoing
4	Concrete Lining of Kikirbeda Distributary off taking at RD 7115m including Service road of LMc of L.I.I.P	04F2/14-15	Ongoing
5	Concrete lining of vulnerable reaches within RD 1.0Km to 6.0Km of LMC of LIIP.	02F2/14-15	Completed
6	Slope Protection of LMC From RD 0m to 750m of LIIP.	30F2/2009-10	Completed
7	Construction of Lining work from RD 00 to 8 km Of RMC		Completed
8	Aqueduct at RD 3285m of Duajhar Distributary.		
9	Excavation & Construction of Alanda Distributary with all its structures off taking at RD 49.38 of LMC of LIIP	9F2/13-14	Completed
10	Excavation & Construction of Diaton Branch canal From RD 9.5km to 15.96 with all its structures off taking at RD 49.38 of LMC of LIIP	35F2/13-14	Completed
11	Construction of Aqueduct At RD 29453m of LMC.		Completed
12	Excavation & Construction of Badatunda Distrybutary canal From RD 00km to 6825 km with all its structures off taking at RD 35259 of LMC of LIIP		Ongoing
13	Construction of Additional structure & Balance work from 29km to 36 km.		Ongoing
14	Excavation & Construction of Diaton Branch canal From RD 0km to 6.5Km with all its structures off taking at RD 49.38 of LMC of LIIP	01F2/15-16	Ongoing
15	Excavation & Construction of Mamiya Distributary canal From RD 0km to 6.5Km with all its structures off taking at RD 49.38 of LMC of LIIP	02F2/15-16	Ongoing
16	Excavation & Construction of Diaton Branch canal From RD 6.5km to 9.5 with all its structures off taking at RD 49.38 of LMC of LIIP	03F2/15-16	Ongoing
17	Construction of Head regulator for Branch Canal, Distributary & Sub-minor off taking from LMC of LIIP		Completed